CITY OF DUPONT

Department of Community Development
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PLANNING DIVISION
REPORT AND RECOMMENDATION TO THE HEARING EXAMINER

Project: Type III Site Plan and Tree Modification Permit Request - DuPont Industrial Park

File Number: PLNG2018-008, -009, -047

Date of Report: May 8, 2019

From: Lisa Klein, AHBL (planning consultant to the City)

Via: *Jeffrey S. Wilson*

Jeffrey S. Wilson, AICP
Director/SEPA Responsible Official

Public Hearing: May 15, 2019, at 9:00 am

SUMMARY OF REQUEST: City approval is required for a Type III Site Plan Review and Tree Modification for removal of landmark Oregon white oak tree(s) (PLNG2018-047) for the development of DuPont Industrial Park.

PROJECT DESCRIPTION: Construct one office/warehouse buildings totaling approximately 249,500 square feet on an approximate 25.29 acres of vacant land. The proposal includes the dedication of public right-of-way to extend Sequalitchew Drive to the north through the property to connect and provide access to the property north of the subject site. This will effectively create two parcels, one on each side of the proposed right-of-way. Following dedication the east parcel will be approximately 5 acres and the west parcel will be approximately 16.91 acres. The proposed building and all associated improvements are located on the west side of Sequalitchew Drive with no improvements planned to the east. The project will include grading, drive aisles and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, and franchise utility improvements. Tree removal is proposed, which includes removal of landmark Oregon white oak trees located within the proposed right-of-way of Sequalitchew Drive and development footprint. Removal of landmark Oregon white oak trees requires a Type III permit for Tree Modification.

The proposal will also include the relocation of a portion of the existing Sequalitchew Creek Trail that is currently and temporarily (informally) located on the subject property, to the location of an existing public trail easement. The new trail segment will be paved and fenced, restricting public

access outside of its path, and dedicated to the City for ongoing ownership and maintenance.

The property is the location of a designated historical marker for the 1838 Methodist/Episcopal Mission; additionally other important historic and/or cultural events have occurred on or in the vicinity of the subject site. As part of the development proposal, the applicant will dedicate approximately 1.53 additional acres or public right-of-way to the City and construct a historical commemorative area adjacent to the new trail segment for public viewing to recognize and promote the historical and cultural events which occurred in the vicinity.

The property is known to contain contaminated soil above current MTCA Method A cleanup levels for unrestricted land use which limits the property to commercial and/or industrial use only (parks are not permitted). It is subject to the terms of a Consent Decree between Washington State Dept. of Ecology and Weyerhaeuser Company and DuPont Company entered by Thurston County Superior Court on July 22, 1991 pertaining to cleanup of the contamination on the property. It is also subject to a Restrictive Covenant which limits the use of the property.

LOCATION: 1700 Center Drive, tax parcel no. 011926-2019, in the NW ¼ of Sec. 26, Twn. 19N, Rg 1E, W.M. in Pierce County, Washington.

APPLICANT: Eric Cederstrand, DuPont Industrial Partners, LLC

APPLICANT'S AGENT: Dan Balmelli, Barghausen Consulting Engineers, Inc.

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SUMMARY OF RECOMMENDATION: Staff recommends:

(1) Type III Site Plan Review - staff recommends approval of the application subject to conditions listed in Section F.

(2) Type III Tree Modification – staff recommends denial of the Type III Tree Modification request to remove landmark Oregon white oak trees No.12 and No. 65 and approval subject to conditions to remove landmark Oregon white oak tree cluster No. 9 located within the proposed Sequalitchew Drive right-of-way alignment.

A. SUMMARY OF RECORD

See the list of attachments provided in Section G, which includes the submittal plans and documents received for processing the application, public comments received on the application during the City review

process and historical agreements and documents affecting the cultural resources, soil contamination and use of the site (Attachments 1 – 14).

B. FINDINGS OF FACT

Land Use Process

1. The application was originally submitted on January 26, 2018 and additional information provided on May 23, 2018, July 16, 2017 and August 13, 2018. (Attachments 1 – 4)

2. The application was deemed complete and a Notice of Complete Application was issued August 20, 2018. (Attachment 9a).

3. A Notice of Application with Optional DNS was issued on August 22, 2018. The site was posted and the Notice was published in the News Tribune. (Attachment 9b)

4. The Notice was later withdrawn and re-issued on August 27, 2018, to include additional agencies. The end of the comment period was September 12, 2018. (Attachment 9c)

5. Several comments were received during the comment period (see Attachment 11). The comments were reviewed and considered in the preparation of the SEPA Determination and this Staff Report and Recommendation. The comments covered topics such as Sequalitchew Creek, traffic, noise and light impacts and others. The majority of the comments were related to the protection of cultural and historic resources. The applicant convened a group of stakeholders and interested citizens to discuss the concerns. The applicant proposed mitigation for impacts to the cultural and historic resources that are summarized in the SEPA MDNS. (Attachment 9c)

6. The City issued a SEPA Mitigated Determination of Non-significance (MDNS) on February 22, 2019. The appeal period ended on March 6, 2019. (Attachment 9d)

7. Two appeals of the SEPA Determination were filed prior to the deadline. All pleadings and documents regarding the appeal are located in City File Nos. PLNG019-009 and PLNG2019-010.

8. Notice of Public Hearing was published in the News Tribune and posted onsite on April 29, 2019. The notice was also mailed to property owners located within 300 feet of the subject property per DMC 25.175.030(2)(b). (Attachment 9e).

9. The applicant revised the proposal in response to public comments and meetings with a stakeholder group specific to the protection of cultural resources. In addition to the Sequalitchew Drive right-of-way, the applicant will dedicate approximately 1.53 acres of additional public right-of-way for a future historical commemorative area that will incorporate signage and other methods describing the area history. The requirements to dedicate and improve the area for public use are included in the SEPA MDNS. (Attachments 5a and 5b)

10. The applicant originally proposed two buildings totaling 255,000 square feet and subsequently revised the proposal to change the two-building configuration to one building, which is approximately 5,500 SF less than the original proposal. The revised, single building proposal is contained within a similar development footprint as the two-building proposal, however the building has been shifted westerly away from the Sequalitchew Drive right-of-way and further from the only residential area within the vicinity. (Attachments 6a and 6b)

11. The site is located within the Manufacturing and Research Park (MRP) Zoning District (DMC Chapter 25.45). The property used to be located within the Mineral Resource Overlay District but that designation was removed with a change to the City's Zoning Map in 2018 (Ordinance 18-1033). The City's 2017 Comprehensive Plan Land Use Map Designates the property's future land use as Manufacturing and Research and it is located in the Sequalitchew Village planning area.

12. DMC 25.45.040 requires Site Plan approval for projects on sites greater than 15 acres be processed as a Type III application. DMC Chapter 25.150 Site Plan Review states that in order to obtain site plan

approval, all of the development regulations and criteria specified in the district applicable to the property must be satisfied in addition to any general development requirements in DMC Chapters 25.75 through 25.95 and 25.105 through 254.125. The required analysis is provided in Section D.

13. Chapter 25.120 requires the retention of landmark Oregon white oak trees. The proposal seeks to remove three landmark Oregon white oak trees, two of which are located in the path of the proposed Sequalitchew Drive extension (Tree Nos. 9 and 12 per the August 9, 2019 Washington Forestry Consultants Tree Retention Plan Report, Attachment 4c) and one is located at the west end of the proposed development footprint (Tree No. 65). DMC 25.120.050 requires approval for removal of landmark Oregon white oak trees to be processed with a Type III procedure. The Tree Modification request is evaluated in Section D.2.

Historical Background

14. The property has been documented to be the location of historic events which may have occurred on or near the property. More detailed discussion of the history is provided in Sections C.5 (Comprehensive Plan, Cultural Resources Chapter) and D.1.c (Chapter 25.80 Cultural, Historic and Archaeologic Resources, below. As such there are numerous agreements, covenants and studies completed to date for the documentation and protection of the cultural resources. The SEPA MDNS also provides for monitoring during construction by a professional archaeologist and the Nisqually Tribe and implementation of an Inadvertent Discover Plan should any new artifacts be found. A summary of the historical documents and agreements is provided in Attachment 13a.

15. The site is the former location of the DuPont Powder Works Company and is located within the Tacoma Asarco smelter plume boundary. Excavation and remediation of contaminated soils has been completed at the project site in accordance with the terms outlined in the 1991 Department of Ecology Consent Decree No. 91-2-01703-1. The cleanup of the soils has resulted in residual concentrations in portions of the property of hazardous substances which exceed the soil and groundwater cleanup levels specified in the Washington Model Toxics Control Act ("MTCA"). Land use of the property is therefore limited to industrial purposes per the 1999 Department of Ecology Restrictive Covenant (Recording #9910290750). The SEPA MDNS requires the applicant provide the City with a No Further Action letter from Department of Ecology prior to commencing construction.

C. CONSISTENCY WITH CITY OF DUPONT COMPREHENSIVE PLAN

The City's Comprehensive Plan provides a vision for the community with guiding concepts, goals, policies and implementation actions. Below is an analysis of the consistency of the DuPont Industrial development proposal with the Comprehensive Plan. The analysis provides the relevant goals and policies for the vision and guiding concepts found in the Introduction Chapter as well as the Land Use, Economic Growth and Development, Natural Environment, and Cultural Resources and Historic Preservation Chapters.

1. Chapter 1 - Introduction

The Comprehensive Plan's stated vision for the City is:

> *"The City of DuPont is a model small city known for its planned setting and hometown sense of community; a place that blends its natural beauty, rich Northwest history, and vibrant economy with a proactive approach to its future."*

The Plan lists 14 guiding concepts, including:

- *There is a balance of housing, jobs and services.*
- *There is a civic center containing government, recreational and cultural services.*
- *Various uses are planned to fit and reinforce the basic community pattern and architectural style.*

- *You feel oriented, can find and enjoy the commercial area, and the community's various parts including natural areas.*
- *Environmentally sensitive areas are preserved.*
- *Heritage of the early settlements (American Indian, Hudson Bay, and DuPont Company) is featured with development, not obscured.*

Staff Analysis and Conclusion: The DuPont Industrial proposal is consistent with the City's vision and guiding concepts. It provides a balance of jobs and economic development while protecting the City's natural and cultural resources. The development is located outside of Sequalitchew Creek's 100-foot buffer and sets aside more than 1.5 acres for a historic commemorative area. The proposed industrial/warehouse use is one of the various uses anticipated for the City. The property's heritage is featured with the development and not obscured through the creation of the historic commemorative area located along the public Sequalitchew Creek Trail corridor.

2. Chapter 3 - Land Use Chapter

The Land Use Chapter provides policy guidance on preserving the small town postcard character, while suggesting individual actions the City and community can take to accommodate growth and development. The land use chapter breaks down the City into various planning districts and land use designations. The subject site/property is located within an area designated as Sequalitchew Village with a land use designation of Manufacturing and Research. The Manufacturing and Research area is described as follows:

> *"The district allows for light manufacturing and high technology industries such as biotechnology, computer technology and communications equipment uses. Land uses with any significant adverse impacts, such as excessive noise or emission of significant quantities of dirt, dust, odor, radiation, glare, or other pollutants, are prohibited. This district also provides in limited locations small-scale retail."*

A summary of the description of the Sequalitchew Village planning area is described as follows (emphasis added):

> *"This village is planned as a mixture of residential types and densities in the northern two-thirds of the area, and manufacturing and research park uses in the southern one-third. It is named for the creek and canyon which form its southern border."*
>
> *"One of the features of this village is the north side of the Sequalitchew Creek Canyon. This is a natural area that can be traversed on an old narrow gauge railway roadbed that ran from the DuPont Company area to Puget Sound. Public access along the canyon and the Puget Sound beach will be developed in the future as designated in the Parks Master Plan. Significant efforts to preserve the trail corridor and surrounding area are anticipated and expected in the future. Any future development located adjacent to Sequalitchew Creek, or its associated nature trail must be done with significant care to protect and preserve the full length of the Sequalitchew Creek Trail in a natural and uninterrupted state. It is anticipated that future modifications to Pedestrian trail connections near Sequalitchew Creek and Center Drive are likely, these connections should enhance the natural elements of the existing trail and improve pedestrian access from Center Drive to the mouth of Sequalitchew Creek.*
>
> *In addition to trails that will connect this village with other neighborhoods, a seven to ten acre community urban design feature is located within this area, just north of Sequalitchew Creek and west of Center Drive in the vicinity of the historic 1838 Methodist/Episcopal Mission site. The intent of this feature is to emphasize and preserve historic elements through the development of a community focal point involving water, nature, and linkage between Sequalitchew Village and the villages south of the creek."*

The Land Use Chapter includes the following goals and policies relevant to the proposal (emphasis added):

> *LU1.3: Direct DuPont's growth in a manner that balances a small town character with sound economic development.*

Goal LU-2: Encourage economic development that is balanced with maintaining the small town character of the city.

Goal LU-3: Promote a sense of community health by protecting natural features, preserving historical sites, reducing the necessity for driving, making walking an enjoyable alternative and making transit use practical.

> *LU-3.1: Maintain the visual quality of the City as seen from Puget Sound, the Nisqually National Wildlife Refuge and public roads. Provide scenic viewpoints to reinforce attractive community features and highlight natural and cultural amenities such as Puget Sound and the Nisqually Delta.*
>
> *LU-3.2: Establish and prioritize multi-modal linkages, provide recreational spaces, and trails for pedestrians and bicycles between villages.*
>
> *LU-3.3: Provide paved and lighted, pedestrian accessible corridors to link adjacent villages that enhance pedestrian safety and promote connectivity from one village to another. Lighting should be minimized when adjacent to the wetlands in order to preserve the natural character and to protect habitat function.*
>
> *LU-3.4: Provide land use regulations that give opportunities for the community to have fair access to livelihood, education, and resources.*
>
> *LU 3.6: Employ practices that protect the long-term integrity of the natural environment, adjacent land uses, and the long-term productivity of resource lands.*

Staff Analysis and Conclusion: The proposal is consistent with the type of development and use envisioned for the Manufacturing and Research Park District located within the southern third of the Sequalitchew Village Planning area. As conditioned, the proposal protects and preserves the full length of the Sequalitchew Creek Trail. The developer will construct a new segment of the trail within an existing trail easement on their property and then dedicate the property to the City for ongoing ownership and maintenance. Pedestrian access will be improved from the new trail segment with a new/widened entrance, paved surface for accessibility, pedestrian crossing and signage directing users to the trail. A new public parking area with dedicated accessible stalls will also be provided. The user experience on the trail will be enhanced with the addition of the historic commemorative area and interpretive signage along the trail. The new trail segment will be fenced to keep users within the path and out of sensitive or potentially contaminated areas. This is consistent with Goal LU-3 in that it promotes a sense of community health by protecting natural features, preserving historical sites, etc. It is consistent with policies LU 3.2 and LU 3.3 in that it establishes a paved trail for pedestrians that links the Civic Center and Sequalitchew Village planning areas. Lighting of the trail is not provided to protect habitat in the adjacent Sequalitchew Creek riparian corridor.

The Land Use Element describes a new community urban design feature in the vicinity of the historic 1838 Methodist/Episcopal Mission site with the intent to emphasize and preserve historic elements through the development of a community focal point. According to the Parks Recreation and Open Space Plan (see that section below) a future park is planned north of Sequalitchew Creek but near the mouth of the creek, not on the subject property. There are no future park sites identified for the subject property in the City's adopted Comprehensive Parks Plan. The plan to dedicate 1.53 acres of additional public right-of-way as a historic commemorative area that will display the Methodist/Episcopal Mission marker and provide interpretive signage regarding other historic and cultural events from the area, meets the intent to emphasize and preserve historic elements through the development of a community focal point.

Per policy L1.1, the proposal is defined by natural features, parks, open spaces and streets. The property is bounded along the south and west by steep slopes but located outside of any steep slope protective buffer, and is bounded on the south by the Sequalitchew Creek Trail. The two parcels are created by the dedication of right-of-way for the proposed Sequalitchew Drive.

Per policy LU1.3 and Goal LU-2, the proposal balances small town character with sound economic development. The warehouse use is not located adjacent to residential property and as conditioned, the use should not be visible or audible from the trail.

As conditioned, the proposal is consistent with policy LU 3.6 in that it protects the long term integrity of the natural environment and does not impact adjacent land uses. The proposal creates an intervening vacant parcel of land between the development and the nearest adjacent use (Creekside Apartments).

3. Chapter 4 - Economic Growth and Development Chapter

This chapter acknowledges that the City must leverage its historical, natural, and commercial assets to attract future economic development and maintain high quality services for a growing population. To meet the Puget Sound Regional Council's employment targets, the Plan states that:

> *"DuPont will need to add 6,584 jobs by the year 2035. DuPont aspires to those jobs filling professional office, high-tech, military-defense, medical, light manufacturing, warehousing, and retail sectors, providing employment that will fit within the regional context and also be suitable for employing DuPont residents."*

The Economic Growth and Development Chapter includes the following goals and policies relevant to the proposal (emphasis added):

> *Goal ED-1: Recruit, grow and retain a diverse spectrum of commercial and industrial development projects to increase employment opportunities and provide a stable, sustainable tax base for municipal services.*
>
> > *ED 1: Ensure land use designations provide for an appropriate mix of allowed uses including office, industrial, and retail which are necessary for the long-term economic health and sustainability of the city.*
>
> *Goal ED-2: Ensure the public interest is being served by balancing financial growth with less tangible quality of life elements such as public security and environmental health.*
>
> > *ED 2.1: Identify, and consider public-private partnership investments that enhance the overall wellbeing of the citizens.*
> >
> > *ED 2.2: Recognize and balance the long-term interests of the citizens with the fiscal benefits of business growth.*
> >
> > *ED 2.4: Encourage a variety of marketing and tourism efforts.*
>
> *Goal ED.3: Continue strengthening DuPont's regional reputation as a welcoming, attractive and business-friendly City.*
>
> > *ED 3.1: Support local business development efforts, programs, and property investment projects.*
>
> *Goal Ed-5: Encourage a variety of marketing and tourism efforts that build on the City's assets.*
>
> > *Ed 5.1: Recognize, support, and enhance DuPont's unique historic landmarks by encouraging historic preservation planning.*
> >
> > *ED 5.4: Recognize, support and enhance DuPont's unique and precious natural features by encouraging restoration, protection, and preservation.*

The Economic Growth and Development Chapter includes the following implementation actions relevant to the proposal (emphasis added):

EDA-2: Prepare strategic road maps for non-residential development properties, conducting detailed market analysis, building partnerships with stakeholders, and establishing collaborative investment and development action steps to realize planning objectives. These properties include:

- *Sequalitchew Village to strengthen relationships with existing property owners and position the property for future development in a manner to fulfill economic and environmental objectives.*

Staff Analysis and Conclusion: The proposal is consistent with the Economic Development Chapter in that it seeks to add warehousing sector jobs, providing employment that will fit within the regional context and also be suitable for employing DuPont residents. In keeping with a key implementation goal for the Sequalitchew Village planning area (EDA-2), the proposal will position the property to fulfill economic and environmental objectives.

In keeping with policy ED 2.1 the proposal will dedicate and develop a historic commemorative area for the overall wellbeing of the citizens. The proposal, as conditioned, balances the long-term interests of the citizens with the fiscal benefits of business growth (policies ED.2.1 and 2.2). The City is leveraging its resources by including the dedication area into the proposal.

Policy ED 2.4 and goal ED-5 encourages a variety of marketing and tourism efforts. The Sequalitchew Creek Trail is a tourism draw for the City. Augmenting the trail with the historic area will enhance use and tourism efforts. The incorporation of ADA accessible parking area and paving on the new trail segment for the public furthers this goal in that the historical area will be accessible to all.

The development of the historic commemorative area enhances DuPont's unique historic landmarks by encouraging historic preservation planning, consistent with policy Ed 5.1.

As conditioned, the proposal seeks to protect DuPont's "unique and precious natural features" by encouraging restoration, protection, and preservation of these areas (policy ED 5.4).

4. Chapter 5 - Natural Environment

This chapter establishes policy guidance to integrate the natural and built systems, ensuring that DuPont's development and operations are compatible with its ecological, geological and topographical context. The chapter describes Sequalitchew Creek and its de-listing as a shoreline of the state because it fell under the 20cfs threshold mandated by the Shoreline Management Act.

Natural Environment goals and policies relevant to the proposal are (emphasis added):

Goal NE-1: Protect DuPont's natural environment by meeting the needs of today's citizens without compromising the needs of future generations.

NE 1.1: Preserve environmentally sensitive areas and those that are valuable natural and aesthetic resources to the City.

NE 1.2: Institute and regularly update measures which promote development and construction practices that minimize impacts on the environment.

Goal NE-2: Exercise responsible environmental stewardship by considering long range implications of the city policies on the environment, and directing development towards areas of the City where natural systems and amenities present the fewest environmental constraints.

NE 2.1: Limit uses (public and private) within environmentally sensitive areas where the uses are likely to negatively impact the environmental resource and promote passive uses in areas where such impacts are adequately mitigated.

NE 2.2: Maintain unique physical features and environmentally sensitive areas within the City as passive open space areas in order to ensure their protection while providing for access and enjoyment.

NE 2.3: Protect and retain significant trees and vegetation in public and privately dedicated areas.

NE 2.4: Landscaping in public places and rights of way should consist of species that are drought resistant and low maintenance such as native plant species.

NE 2.6: Ensure that the Sequalitchew Nature Trail's natural character is preserved and or enhanced by any development project that is located on, around, near or adjacent to the trail from beginning to end through site design efforts such as reduced lighting and noise, and enhanced vegetation preservation etc.

Goal NE-3: Protect water resources for present and future generations.

NE 3.1: Strive to ensure standards are consistent with the most current draft of Department of Ecology and Pierce County guidelines related to grading, stormwater, and erosion control.

NE 3.2: Protect the quantity of ground waters by encouraging stormwater systems that maximize aquifer recharge and establish site development guidelines to control stormwater runoff from impervious surfaces.

Goal NE-4: Minimize adverse effects of development on the environment.

NE 4.1: Ensure all development meets or exceeds applicable federal, state, regional, and local air quality standards.

NE 4.3: Site preparation activities should be designed to minimize extensive grading and to retain a portion of significant trees and vegetation. Development standards should implement guidelines and define extensive grading to clarify the circumstances when extensive grading may be appropriate.

Goal NE-5: Restore historic stream flows, improve habitat conditions, and promote long term preservation efforts within the City.

NE 5.3: Maintain important wildlife habitats and function wildlife corridors to link important natural areas such as Edmond Marsh and Sequalitchew Creek.

NE 5.5: Recognize that the Oak Savannah is a unique habitat within the City and region and preserve the highest value oak groupings in the area as open space.

Staff Analysis and Conclusion: The proposal is compliant with Goal NE-1, policies NE 1.1, NE 1.2, NE 2.1, in that it is largely located outside of critical areas and, with the exception of a very small new segment of the Sequalitchew Creek Trail, is also located outside of critical area buffers. The small trail portion located within the creek buffer will be required to demonstrate no net loss of habitat and provide an equivalent buffer expansion area. The trail alignment was previously established with an easement and the trail itself meets the needs of today's citizens.

The proposal incorporates native plants in its planting palette (NE 2.4) and, as conditioned, retains significant trees and vegetation in excess of the code requirement (NE 2.3).

The proposal is required to comply with the most recent Department of Ecology Stormwater Manual, as adopted by the City, which is designed to minimize adverse effects of stormwater runoff on the environment (NE 3.2 and NE-4). As conditioned, grading will be minimized to retain significant trees (NE 4.3).

While there are no "Oak Savannah's" on the property, landmark Oregon white oak trees are preserved to the greatest extent possible while providing access to the property and the Sequalitchew Village to the north (NE 5.5).

5. Chapter 6 - Cultural Resources and Historic Preservation

The City chose to include a Cultural Resources and Historic Preservation element in its comprehensive plan because of the high importance residents place on its deep and more recent history. This chapter of the comprehensive plan provides a description of the history of the city but does not inventory resources. The history describe include that of the early Native Americans, followed by the Hudson's Bay Company, Fort Nisqually, DuPont Powder Works plant, City incorporation, Weyerhaeuser's purchase of property and plans for a 3,000-acre community, called Northwest Landing to include a mix of uses. The chapter provides guiding concepts for cultural resources, including:

"Heritage of the early settlements (American Indian, Hudson Bay, and DuPont Company) is featured with development, not obscured."

Cultural resources goals and polices are (emphasis added):

Goal CR-1: Protect cultural resources by continuing to implement regulations that insure cultural resources will not be destroyed, damaged, or disregarded during the planning and development process.

CR-1.1: Work with federal and state agencies to utilize historic preservation planning and funding resources.

CR-1.2: Encourage protection and preservation of cultural resources as well as efforts to promote awareness of the community's natural and historic assets.

CR-1.4: Encourage identification, protection, preservation and or restoration of cultural resource sites of documented significance as outlined in the:

- *Memorandum of Agreement among the Washington State Historical Preservation Office, the Weyerhaeuser Real Estate Company, and the City of DuPont dated August 7, 1989 including any subsequent amendments.*
- *Memorandum of Agreement among the Weyerhaeuser Company, Weyerhaeuser Real Estate Company, City of DuPont, the Nisqually Point Defense Fund, Committee for the Preservation of the Nisqually Mission Historical Site, the Nisqually Delta Association, and the DuPont Historical Society, dated December 12, 2000.*

CR-1.6: Seek ways to capitalize on DuPont's unique cultural and historic resources to enhance tourism and local education opportunities.

Implementation Actions ordered by priority and urgency are provided as follows (emphasis added):

CRA-1: Implement a coordinated program of promotional and interpretive signage to identify significant historical sites and points of interest as well as an oversight and management program to coordinate overall promotion and maintenance of significant historic sites.

CRA-2: Create an education program focused on natural and historic treasures to increase awareness and understanding and appreciation of the community and its visitors.

CRA-4: Coordinate with the Historic Society to identify and implement specific efforts to preserve DuPont's cultural and historic resources. Explore the potential for a variety of historic preservation tools such as becoming a Certified Local Government, identifying a National Historic District, and looking into the Main Street Association.

Staff Analysis and Conclusion: The proposal is consistent with the goals and policies of the Cultural Resources & Historic Preservation Chapter. The plan to relocate the Methodist/Episcopal Mission marker and create a historic commemorative area where the public can view and learn about the area's cultural and historic heritage is in keeping with the mission to feature the heritage of the early settlements with development, not obscure it. It is also consistent with policy CR 1.2 and implementation measures CRA-1 and CRA-2 in that the historic commemorative area will promote awareness and education of the community's natural and historic assets, and policy CR 1.6 which seeks

to enhance tourism and local education opportunities. The Sequalitchew Creek Trail is a regional trail that draws visitors from outside the City and the addition of the historic commemorative area to the trail will enhance tourism and local education opportunities.

The City encouraged the applicant to convene a stakeholders group for purposes of seeking comments. The group that was invited included representatives of the Nisqually Tribe, Washington State Department of Archaeology and Historic Preservation (DAHP), the DuPont Historical Society, Nisqually Delta Association, Buffalo Soldiers, Methodist/Episcopal Mission, and others. As a result of the meetings, a larger cultural resource commemorative area was provided. The inclusion of the DuPont Historical Society is consistent with implementation measure CRA-4.

The requirements of the MOAs described in policy CR-1.4 are included as mitigation measures in the SEPA MDNS.

Policy CR-1.5 seeks to a wide range of funding sources to ensure the financial viability of the mission of promoting and protection of the City's cultural and historic resources. The dedication of land and development of the historic commemorative area will be funded by the developer but maintained in perpetuity by the City, resulting in a pseudo public/private partnership.

The SEPA requirement that site disturbing activities be monitored by a professional archaeologist and the Nisqually Tribe be invited to observe as well, will ensure that any remaining cultural resources artifacts be protected during development (Goal CR-1, policies CR-1.2,).

6. Chapter 9 – Transportation

The Transportation Chapter provides an overview of functional classifications of city roadways, level of service standards, and conditions for transit, walking and biking. A Transportation Project List is provided. There are no roadway projects listed within the vicinity of the proposal.

Relevant goals and policies of the Transportation Chapter are (emphasis added):

T 5.8: Require the construction of roads within the City to be concurrent with new development.

T 5.9: Use sound and environmentally responsible design principles in road construction.

T 5.10: Promote the design of roadways to minimize impacts upon the hydrologic system, including surface and ground water.

T 5.11: Provide for internal access roads within commercial and industrial areas to achieve convenient access and minimize pedestrian/ vehicular conflicts.

T 5.12: Restrict freight traffic to identified corridors within DuPont, managing that traffic to minimize negative impacts to adjoining residential areas.

T 5.13: Continue to include emergency service providers in review of roadway designs to ensure safe emergency vehicle passage. Design considerations include turn- arounds, travel lane widths, maximum road grades, parking locations, and avoiding dead-end street lengths and cul-de-sacs.

T 5.14 - Guide the development of new streets and maintenance of existing streets to form a well-connected network that provides for safe, direct, and convenient access to the existing roadway network for automobiles, transit vehicles, bicycles, and pedestrians. Transportation investments should reinforce the City's vision of connecting to downtown DuPont and JBLM.

Staff Analysis and Conclusion: The proposal is consistent with the Transportation Chapter by dedicating land for future road right-of-way, designing the road to current City standards and managing stormwater runoff in accordance with the most recent adopted stormwater manual (T5.8, T5.9, 5.10). The proposal provides internal access roads (drive aisles) (T 5.11). The city Fire Department has reviewed the proposal and provided comments to ensure that safe emergency vehicle access is provided (T 5.13). The completion of the new segment of the Sequalitchew Creek Trail will allow for long-needed emergency access to the Puget Sound shoreline.

Center Drive has signage restricting truck traffic to avoid the residential areas. (T5.12)

7. Chapter 10 – Capital Facilities & Utilities

The Washington state Growth Management Act (GMA) requires jurisdictions fully planning under the GMA to include a capital facilities plan (CFP) element in their comprehensive plans (RCW 36.70A.070(3)). The capital facilities element is required before a jurisdiction can impose GMA impact fees upon development and projects must be included in the CFP before funding can be allocated. The capital facilities plan implements the land use element of the comprehensive plan and these two elements, including the financing plan within the capital facilities element, must be coordinated and consistent.

The Capital Facilities and Utilities Chapter plans for public facilities for the City's population with a priority to provide the facilities to the adopted level of service for each type. The Chapter provides a 6 year Capital Facilities Plan (CFP) and a 20-year Capital Improvement Program (CIP) for capital projects and city expenditures. New transportation projects required for new development will be developer funded (emphasis added).

CF Goal 1: To plan for the provision and development of roads, water system, wastewater and storm drainage systems, parks, civic facilities, schools, and police and fire protection that are adequate to meet the needs of the City at full development. The funding of those capital facilities requiring concurrency shall be the responsibility of the developer.

CF 1.1: Each application shall be evaluated for Concurrency. Concurrency for the provision of roads, water system extensions, waste water system extensions, schools, fire protection, and parks shall mean that they are in place at the time of occupancy of the housing and/or businesses to be served.

CF 1.2: Require all development projects, both public and private, to demonstrate there are adequate public facilities and infrastructure to support the project or to demonstrate how such facilities will be provided as part of the project.

CF 1.7: The City will place substantive reliance on the following facilities plans when reviewing development proposals and undertaking public improvements:

- *DuPont Water Comprehensive Plan*
- *DuPont Storm Drainage Plan*
- *DuPont Street Standards*
- *Pierce County Sewer Plan*
- *DuPont Fire Service: Resource Allocation and Public Fire Safety Plan*
- *DuPont Capital Facilities Plan*

CF 1.9: Require new developments to incorporate appropriate on-site stormwater facilities or connect to regional facilities in order to prevent pollution, siltation, erosion, flooding and other surface water degradation.

CF 1.18: Continue to use and adopt updated Washington DOE standards for stormwater runoff.

CF 1.23: Trails, parks, and open space should be required in residential and commercial planning and should connect to the City's trail system and neighboring local trails. Trail and park locations may be determined during the land use review process.

CF – 7.10: Ensure that future development pays a proportionate share of the cost of new facilities which it requires. Future development may also pay a portion of the cost to replace obsolete or worn-out facilities, but impact fees will not be used to pay for such costs. Future development's payments may take the form of voluntary contributions for the benefit of any public facility, impact fees (Fire and Rescue facilities not part of a fire district, parks, open space, and recreational

facilities, Streets, and schools), mitigation payments, capacity fees, dedications of land, provision of public facilities, and future payments of users fees, charges for services, special assessments and taxes.

Staff Analysis and Conclusion: The proposal is required to obtain a Transportation Concurrency Certificate prior to building permit approval (Condition 33), consistent with CF Goal 1and policy CF 1.1. Demonstration of available capacity (policy CF 1.2) was provided at the time of application when the applicant submitted a Water Certificate Application and Pierce County Sewer Application. Each City Department has reviewed the DuPont Industrial proposal against city facilities plans and provided comments or conditions to apply to the proposal (policy CF 1.7). The proposal is designed to the current City-adopted stormwater manual, and incorporates on-site stormwater facilities to prevent degradation to adjacent properties (policies CF 1.9 and CF 1.18). The proposal plans to connect to the City' trail system, per CF 1.23, by constructing a segment of the Sequalitchew Creek Trail. The Capital Facilities Plan does not include funding for new park facilities located on or near the subject property, with the exception of Sequalitchew Creek Trail maintenance. The proposal is paying its proportionate share of the cost of new facilities it requires, including fire impact fees, stormwater fees, as well as dedication of land for the historic commemorative area for public viewing.

8. Appendix D – 2014 Parks, Recreation and Open Space Plan

The City's Parks Recreation and Open Space (PROS) Plan is dated May 2014 and provided in Appendix D of the Comprehensive Plan. It inventories existing facilities, identifies level of service standards and prioritizes new park facilities. Relevant goals in the PROS Plan include the following (emphasis added):

Establishes a long term goal to provide a park on the north side of Sequalitchew Creek to highlight unique cultural sites and improve community connections to Puget Sound.

Establishes a short term and ongoing goal of implementing historical/cultural interpretive signs system wide.

Establishes a short term and ongoing goal to secure a formalized agreement for public access to the Puget Sound along the Sequalitchew Creek corridor.

Establishes a short term goal to provide viewpoints and overlooks along the trail system, with the highest priority viewpoints along Puget Sound, and overlooks of historic sites another high priority.

Section 2.5, Cultural Resources, states the following (emphasis added):

The City of DuPont and the former DuPont Powder Works site rest upon land that has a diverse and multi-layered history - history worthy of interpretation by cultural and historical specialists, as well as presentation in a variety of community forums. Interpretive history can be featured throughout the City's park system by including interpretive signage along trails and sites, incorporating historic structures and landscapes into trail systems or park inventories, and providing recreational programs that educate the public about a community's past.

Relevant Goals and Objectives include the following (emphasis added):

Goal 3: Integrate natural resources and open spaces, including Sequalitchew Creek, Edmond Marsh, and Puget Sound, into the park system.

Goal 4: Recognize cultural and historical resources as an essential part of DuPont's identity and heritage.

Goal 5: Provide a comprehensive network of trails and pathways to improve community walkability, connectivity, and park access.

Goal 8: Encourage and pursue partnerships to maximize local resources for parks and recreation.

Objective 3B: Coordinate the trail system with natural area preservation areas, responding to environmental conditions and preservation priorities while providing public access where feasible.

Objective 8E: Encourage a "good neighbor" relationship with residents and businesses located adjacent to parks, trail, and natural areas.

New park needs were developed based on the Needs Assessment. The assessment determined that historical and cultural interpretation can be incorporated throughout the park and trail system and on City-owned land. This may be done through interpretive signage and facilities, art, and historical markers.

A proposed new park is identified on the Proposed Parks & Facilities Map (page 54) as P20. It is described as a park site north of the mouth of Sequalitchew Creek and the land would be secured from the owner of the aggregate mining parcels to the north. No parks are identified on the subject property other than the Sequalitchew Creek Trail.

Table 7.3 in Chapter 7, Implementation, lists the projects in the proposed 6-year Capital Improvement Plan. Improvements to Sequalitchew Creek Trail are included and described as follows: "Develop the trail corridor along Sequalitchew Creek from Center Drive to Puget Sound. The total length of the trail is 1.4 miles. It is presumed the funding is to improve or maintain existing trail segments.

Staff Analysis and Conclusion: The proposal is consistent with the City's PROS Plan. The new trail segment and historic commemorative area will be used by residents and others outside of the city in a way that is currently not available due to the Methodist/Episcopal Mission marker being located within private property. The dedication and development of the historic commemorative area along the new segment of the Sequalitchew Creek Trail is in keeping with Goal 4 in that it recognizes cultural and historical resources as an essential part of DuPont's identity and heritage. In keeping with Goal 8 and Objective 1G, the proposal is an example of maximizing local resources for parks and recreation to meet community needs.

The future park identified in the PROS plan is located to the west of the subject property on land that is zoned Community Park. Although the PROS Plan does not identify a future park located on the subject property, the PROS plan identifies goals and priorities for education of the important historic and cultural resources in the City through viewpoints and interpretive signage, which the proposal is providing. It should be noted that the Consent Decree (Attachment 2k) and Restrictive Covenants (Attachments 12b and 12c) restrict the subject property from being used for a park. There are also no funds identified in the City Capital Facilities Plan for purchase of the subject property for any use, including park.

Objective 8E encourages being a good neighbor between residents and businesses located adjacent to the trail. The City interprets this as applying to minimizing impacts of businesses to nearby trails and parks such as for light and noise. The SEPA MDNS includes mitigation measures for these items.

D. CONSISTENCY WITH CITY OF DUPONT DEVELOPMENT REGULATIONS

The following presents staff consistency review and analysis with DMC Chapters 25.45, 25.75 through 25.95 and 25.105 through 25.125.

1. PLANNING DEPARTMENT REVIEW – SITE PLAN REVIEW

a. Chapter 25.45 Manufacturing/Research Park District

1) The described uses of the property are office/warehouse. These uses are allowed in the MRP Zoning District. DMC 25.45.020 restricts uses to those that do not create significant noise, risk of explosion, or radioactive release, or air or water pollution and are designed for a campus-like setting with architectural detailing as required by DMC 25.45.030(5) and landscaping.

Staff Analysis and Conclusion: The proposed uses are allowed in the MRP District. Each application for building permit should be reviewed to ensure that the use does not create significant noise, a risk of explosion or radioactive release, or air or water pollution. See responses to architectural details and landscaping below. (Condition 28)

2) Lot Area/Lot Coverage: The DMC has no minimum lot area or maximum lot area coverage requirement.

Staff Analysis and Conclusion: This requirement is met.

3) Building Front Setbacks: DMC 25.45.030 (3) requires a front yard setback of 25 feet.

Staff Analysis and Conclusion: The front yard setback applies to the property line shared with Sequalitchew Creek Drive. The building is setback over 200 feet. In addition, there are no other walls or fences greater than six feet in height or other structures located within the front yard setback. The front setback requirement is met. The plans submitted for site development and building permit will be reviewed to confirm that all walls and fences within the setback are less than 6 feet. (Condition 16)

4) Building Side Setbacks: Side yard setbacks are 15 feet.

Staff Analysis and Conclusion: The side setback requirements apply to the north and south property lines. At its closest point, the building is setback over 50 feet from the current south property line and 40 feet from the north property line. While the proposed new south property line (created by the dedication of property to the City for the historic commemorative area) is not shown on the plans, it appears as though the proposed setback will exceed the required 15 feet. The plans submitted for site development and building permit will be reviewed to confirm that all walls and fences within the setback are less than 6 feet. The requirement appears to be met, however setbacks will be reviewed with the site development and building permit applications to confirm it meets the requirements. (Condition 16)

5) Building Rear Setbacks: Rear yard setbacks are 15 feet.

Staff Analysis and Conclusion: The rear yard is the west property line. At its closest point, the building is setback more than 75 feet. The landscape plans appear to indicate a 5-foot tall wall is provided within the setback area. The plans submitted for site development and building permit will be reviewed to confirm that all walls and fences within the setback are less than 6 feet. (Condition 16)

6) Building Height: Shall not exceed 65 feet within 100 feet of a public street and no taller than 70 feet when set back 100 feet or more from a public street.

Staff Analysis and Conclusion: The buildings are set back more than 100 feet from a public street, and are therefore allowed to be the maximum of 70 feet in height. Building height details were not provided, but the elevations scale to be approximately 37 feet in height, far less than the maximum allowed. Building height will be assessed at the time of building permit for compliance with DMC 25.45.030(4).

7) Blank walls (DMC 25.45.030.3(5)): Blank walls greater than 50 feet in length along the front and side of a building shall be softened with one or more of the following design options (i) large caliper trees of 10 through 14 feet tall adjacent to the building, (ii) large-scale trees planted 10 to 20 feet away, (iii) wood trellises on the building, or (iv) by similar means. Entrances shall be emphasized with architecturally distinctive materials, such as a covered walk, gabled roof, landscaping, or similar means. Earth berming at the base of the façade is encouraged for large-scale structures. Building designs for multiphase campuses are encouraged to be of similar character.

Staff Analysis and Conclusion: The blank wall requirements apply to the south and east elevations which face/ are visible from the public rights of way of Sequalitchew Trail and Sequalitchew Drive. The west and north elevations will not be visible to the public and therefore the blank wall requirements do not apply to the west and north elevations.

South elevations - The south elevation of the building is approximately 950 feet in length and anchored on each end with prominent architectural entries including glazing with 4-inch steel

channels, storefront doors, and distinctive canopies for weather protection. A total of four colors are provided at the building entries. Landscaping at the southeast entry is comprised of a mix of shrubs and ground cover and four, 2-inch caliper western red maple trees. The grade change at the entry is accommodated with a small berm.

The majority of the south elevation is a long expanse of dock doors with blank walls greater than 50 feet. The lower 2/3 of the building is painted a dark gray and the upper third is a light gray. The span is broken up at intervals with a vertical trim element that is dark gray and a small area in blue. The distance between the vertical elements varies between 95 and 158 feet where there is no architecturally distinctive treatment provided. These areas are "blank walls" and are required to be softened with the menu of landscape design options provided in DMC 25.45.030(3)(b); however they are not provided likely due to the prevalence of dock doors. Therefore architectural treatments to address the blank walls will be required.

Staff sees several options for meeting the blank wall requirements, which are required for the eastern 200 feet of the building that will be visible from Sequalitchew Creek Trail as follows:

(a) The elevations provided with the original two-building application provided roof modulation and integration of color in vertical bands that served to break up the blank walls. The addition of these architectural elements could be added to the current proposal. Alternatively, color or textural changes within the upper one-third of the building at intervals of 50 feet or less are another architectural treatment option to consider for meeting the blank wall requirements.

(b) Alternatively, there is a potential that the building may not be fully visible from Sequalitchew Creek Trail once other required plantings are provided. Buildings that are not visible from the public right-of-way are not required to meet the blank wall requirements. SEPA Mitigation Measure No. 10 requires additional plantings be provided between the south property line and the 10-foot grading buffer. City code also requires a moderate landscape screening buffer per DMC 25.90.030(3) (see Section D.1.d.3, below). It is possible that the combination of these two requirements, together with the site topography, will fully screen the building from view from the trail.

In lieu of addressing the blank wall requirements in the eastern 200 feet of the building, the applicant could prepare a 3D rendering of the site and trail depicting the topography and future building so that the visibility of the building from the trail can be addressed at a preliminary level. Those portions that are determined visible will then be required to either address the blank wall requirements or augment planting to fully screen the building from view.

(c) Another option for assessing the building's visibility from the trail and whether additional architectural or landscaping is required to meet the City's blank wall requirements is to assess the view of the building from the trail when the new trail alignment is constructed. The applicant and City will walk the new trail segment when it is constructed and conduct a visual inspection to determine the visible areas of the building and the optimal requirements to screen those visible areas from the menu of options described above. (Condition 9)

<u>East Elevations</u> - The east elevation is approximately 360 feet in length and capped on each end with prominent building entries. The entries feature glazing with 4-inch steel channels, storefront doors, and distinctive steel canopies for weather protection. A total of four colors are provided at the building entries. There are no segments of blank walls greater than 50 feet in length. Landscaping is provided with a combination of shrubs and groundcover in 5-foot wide strip. The east elevation is compliant with the blank wall requirements.

8) <u>Parking and loading</u>: Parking and loading areas shall be provided, as required by DMC Chapter 25.95. Parking and loading shall be located at the rear of buildings or separated from public rights-of-way by a moderate screen.

Staff Analysis and Conclusion: Parking and loading are located in the front, sides and rear of the building. The parking lots are required to be separated from the right-of-way by a moderate screen. The moderate screening requirement is more specifically detailed in DMC 25.90.030(3). See Section D.1.d.3, below which provides an analysis of the plans consistency with the screening requirement.

9) Landscaping: See Landscaping DMC 25.90, below.

10) Exterior Mechanical Devices: All HVAC equipment, pumps, heaters, and other mechanical equipment shall be fully screened from view from all public rights-of-way.

Staff Analysis and Conclusion: No exterior mechanical equipment is shown on the submitted plans. Building permit applications shall be assessed for compliance with the provisions for screening mechanical equipment. (Condition 31)

11) Outdoor Storage: Outdoor storage shall not cover more than 2 percent of the total site area and shall be screened from the street by a 100 percent sight obscuring fence or wall. The City defines outdoor storage in DMC 25.10.150.070 as follows:

> *"The storage of fuel, raw materials, products, and equipment outside of an enclosed building. Mechanical equipment necessary for the operation of the building shall be excluded from the definition."*

Staff Analysis and Conclusion: The outdoor trailer storage areas are not regulated by the City's parking requirements (Chapter 25.95) and do not meet the city's definition for outdoor storage. They are not, therefore, included in the overall area limitation of 2 percent. To meet the intent of outdoor storage screening and tree retention adjacent to public streets (see Section D.2.b, below), the two trailer storage areas located on the eastern end of the western parcel shall be relocated behind (i.e. west of) the front building elevation.

There are no outdoor storage areas shown on the plans. Building permit applications shall be assessed for compliance with the provisions for size and screening of outdoor storage, if provided. (Condition 32)

12) Trash Enclosures: Trash enclosures are required to comply with DMC Chapter 25.100 Recycling.

Staff Analysis and Conclusion: The applicant submitted an email dated May 22, 2018 indicating that LeMay (the service provider) has reviewed and approved the design of the trash enclosures. Trash enclosure locations, however, were revised when the applicant modified the two building proposal to the one building proposal. No details on the enclosures were provided to determine if the design and dimension requirements are met. The design requirements for trash enclosures will be reviewed at the time of site development and building permit application for compliance with DMC 25.100. In addition, the applicant shall provide an updated approval from the service provider. (Condition 12.a and 15a-d)

13) Signage: Signage shall comply with the requirements of DMC Chapter 25.115 (see below). No application or details was submitted for review.

Staff Analysis and Conclusion: Applications for sign permits shall be assessed for compliance with DMC Chapter 25.115. (Condition 3)

14) Noise: Noise levels shall not exceed the maximum allowed in DMC Chapter 9.09 (Sound and Vibration). Chapter 9.09 regulates the maximum permissible noise levels permitted within the City of DuPont. DMC 9.09.040 provides specific noise limitations broken down into the following classes. EDNA means environmental designation for noise abatement:

Class A EDNA (residential areas),

Class B EDNA (commercial areas), and

Class C EDNA (industrial areas)

EDNA of Noise Source	EDNA of Receiving Property		
	Class A	**Class B**	**Class C**
Class A	55 dBA	57 dBA	60 dBA
Class B	57	60	65
Class C	60	65	70

Between the hours of 10 pm and 7 am the noise limitations of the foregoing table shall be reduced by 10 dBA for receiving property within Class A EDNAs. DMC 9.09.040(3) also provides allowances for exceeding the noise limitations for short periods of time.

Staff Analysis and Conclusion: It would appear that the proposal is required to meet the noise level limitations for Class B, commercial. When a tenant is specified the appropriate standards will be applied. The property is bounded to the north and west by industrial property, to the south by open space/recreational property (Sequalitchew Creek and Trail) and to the east by residential property. Staff assumes the maximum permissible noise levels to the open space/recreational property is the same as for residential property. Accordingly, the maximum dBA during the hours of 7 am and 10 pm are 60 dBA for the Class A western residential and southern open space/recreational property; and 70 dBA for the Class C northern and western industrial property.

The application does not include information pertaining to anticipated noise levels. The SEPA MDNS (Attachment 9.d) includes Findings regarding potential noise impacts and mitigation measures #3, #8 and #22 to address the impacts. The SEPA mitigation measures include:

> *MM#3 – A noise study is required to address potential noise impacts to the trail users and wildlife from development. A sound wall and additional landscaping may be required as well as other operational limitations to ensure noise-generating activities are restricted to the interior of the building only. Truck back-up beepers are required to be minimized to the greatest extent possible while ensuring safety and meeting federal requirements.*
>
> *MM#8 - Mitigating measures may be an outcome of the study, to ensure that all noise emanating from the site does not impact users of the Sequalitchew Creek Trail and will comply with City standards. Mitigation measures may include landscaping, berming, or a solid wall, as determined by the study.*
>
> *MM#22 – Construction vehicles shall be turned off when not in use.*

Staff will review site development and building permit applications for compliance with DMC 25.45.020(1)(a)(i), Chapter 9.09 and the SEPA MDNS. (Condition 1 and 28).

15) Air and Odors: Air emissions shall meet applicable regulations of the Puget Sound Air Pollution Control Authority, and no visible, frequent smoke, dust, or gases shall be emitted.

Staff Analysis and Conclusion: Emission of offensive gases or vapors shall not be permitted to exceed the odor threshold, as measured at any point along the lot on which the use or structure is located. The SEPA checklist submitted with the application indicates that long-term air emissions are not anticipated to increase from current conditions, other than that associate with vehicle and truck emissions. Each user will be assessed at the time of building permit for compliance with this requirement. (Condition 28)

16) Lighting: Outdoor lighting shall be designed to minimize light escapement beyond the site.

Staff Analysis and Conclusion: Lighting details were not provided. The SEPA MDNS requires that lights have full cut-offs and shields and be directed downward and inward. It also requires a photometric analysis be provided demonstrating no light spill to the trail or outside of the developed portion of the property caused by onsite development. Exceptions shall be made for impacts caused by the street lighting of Sequalitchew Drive that is necessary for safety. Depending on the results of the photometric analysis, the height of light poles may need to be limited on the southern boundaries of the property. (Condition 1 and 28)

17) Hazardous Substances or Waste Storage: No more than 20,000 pounds of hazardous substances or hazardous wastes may be stored onsite, and no hazardous substances or wastes may be stored onsite, except that which is delivered for onsite operations or produced onsite. The SEPA Checklist submitted with the application did not identify the potential for storage of hazardous substances or waste.

Staff Analysis and Conclusion: The SEPA Checklist submitted with the application did not identify the potential for storage of hazardous substances or waste. Each user should be assessed at the time of building permit for compliance with this requirement. (Condition 28)

18) Abutting a Main Street: Warehouses shall not be located abutting a main street, including the access road from Center Drive to Sequalitchew Village.

Staff Analysis and Conclusion: Staff interprets "including the access road from Center Drive to Sequalitchew Village" as being the proposed Sequalitchew Drive extension. "Abut" is defined in DMC 25.10.010.005 as "contiguous with or touching property lines or right-of-way." The proposed warehouse building does not "abut" Sequalitchew Drive. It is setback from the right-of-way a distance of over 200 feet and separated by parking and landscaping. This interpretation is consistent with other applications for warehouse structures located along "main streets" in other areas of the City. Therefore, the location of the warehouse building is not in conflict with this requirement.

19) DMC 25.45.040 requires site plan approval for all development projects in the MRP District following the procedures in DMC 25.175.010. For projects over 15 acres the Type III approval process shall be followed.

Staff Analysis and Conclusion: The Site Plan Review process is documented by this Report. Final approval will be granted by the City's Hearing Examiner, in accordance with the Type III procedural requirements. The requirement is met.

b. Chapter 25.75 Commute Trip Reduction

Commute Trip Reduction (CTR) is applicable to new businesses that employ more than 100 persons. The City requires implementation of a commute trip reduction program in accordance with RCW 70.94.521 through 70.94.551.

Staff Analysis and Conclusion and Conclusion: The Land Use Application states that approximately 90 persons would be employed. If at any time the number of employees exceeds 90 the employer will need to adhere to the requirements of Chapter 25.75. (Condition 13b)

c. Chapter 25.80 Cultural, Historical and Archaeological Resources

1) Chapter 25.80 encourages the identification, protection, preservation and/or restoration of cultural resource sites of documented significance. Important cultural resource sites are identified so that they may be incorporated into open space areas and connected to the recreational trail system.

Staff Analysis and Conclusion: The property has been documented to be the location of important historic events. As such there are numerous agreements, covenants and studies that

have been completed for the documentation and protection of the cultural resources. A summary of the documents and agreements is provided in Attachment 12a.

The City issued a SEPA MDNS for the proposal on February 20, 2019, which is incorporated herein into the recommended conditions of approval on the proposal (Condition 1). The SEPA determination includes specific mitigation measures designed to protect, preserve and collect any potential cultural resources that may be remaining on site as well as provide for commemoration of the history of the site and immediate vicinity. These include mitigation measures number 4, 5a-e, 13, 23, 24 and 28, summarized as follows: (See also Attachment 9d)

MM #4 - Dedicate 1.53 acres of land for the development of a public historic commemorative area consistent with the Right-of-way Dedication Exhibit dated November 28, 2018 (Attachment 5b).

MM#5a-c - Provide a public parking area, benches and fence the area with a 4-foot split rail fence.

MM#5d - Relocate the Methodist/Episcopal Mission marker to the historical commemorative area and provide an area for a future historical school house. The marker must be located greater than 50 feet from a road structure or utilities.

MM#5e - Coordinate with the DuPont Historical Society and DAHP for the relocation/removal of the narrow gauge railroad track that is located on the property.

MM#13 and 24 - Require the contractor to follow the requirements of the Unanticipated Cultural Resources Discovery Plan provided in the Parus Report (Attachment 2h).

MM#23 a-f - Fully implement the Memorandum of Agreement (MOA) dated August 7, 1989 regarding the discovery of cultural resources, including requiring a professional archaeologist monitor the soil disturbance activities and notify/allow the Nisqually Indian Tribe to be present. Any artifacts found are to be donated per the terms of the MOA and a closing report hall be provided by the archaeologist.

MM#28 - Construct a minimum of 6 placards adjacent to the trail in the historic commemorative area commemorating each of the historical and cultural events/time periods which occurred on and near the site. The signage, fencing and seating will become the personal property of the City and will be maintained by the City.

2) DMC 25.80.020 lists four designated cultural resource sites within the city, one of which is the Methodist/Episcopal Mission.

<u>Staff Analysis and Conclusion</u>: The Methodist/Episcopal Mission marker is located on the subject property approximately 270 feet west of the western future right-of-way of Sequalitchew Drive and 137 feet south of the northern property line. It is in an area on private property where it cannot be viewed by the public. The marker is located within the planned building footprint. It is depicted on Sheet C3of the Civil Plans prepared by Barghausen Consulting Engineers signed on August 13, 2018. (Attachment 4.d)

The marker is proposed to be moved to the south in an area to be dedicated to the City where it can remain in perpetuity and be viewed by the public. Staff finds no restriction on marker relocation in the code. In addition to the marker, the City requires that interpretive signage be provided describing the historical events and details of the Mission site, as well as fencing and benches. The relocation of the marker, dedication of property to the City, and details for the historic commemorative area requirements are detailed in the SEPA Determination (see above, Attachment 9d and Condition 1).

3) DMC 25.80.030 states that no structures, roads, or utilities are permitted within 50 feet of the markers identifying cultural resource sites designated under DMC 25.80.020. Structures are defined in DMC 25.10.190.165 as follows: "anything constructed or erected, the use of which

requires location on the ground or attachment to something having location on the ground, but not including fences and walls less than six feet in height."

Staff Analysis and Conclusion: The proposal seeks to relocate the Methodist/Episcopal Mission marker to a location where it can be viewed along with interpretive signage in perpetuity by the public. City code does not prohibit marker relocation. The applicant shall provide a 50-radius around the relocated marker on the plans demonstrating that there are no structures, roads, or utilities inside the radius. (Condition 13a)

4) DMC 25.80.040 requires the city to maintain a map showing potential cultural resource areas and review every development proposal to ensure appropriate measures are taken to protect such areas. Auger tests may be required before construction and representatives from the State Historical Preservation Office or the Nisqually Indian Tribe may be invited to observe any tests and construction work. If auger or historical data indicate probable presence of cultural resources which may be disturbed by excavation, the mayor or his or her designee shall meet with the developer and may impose conditions on any plat, site plan or permit to assure that such resources are protected, preserved or collected.

Staff Analysis and Conclusion: There is not one adopted historic resource map for the entire City. The last Cultural Resources study for the property was completed by Parus Consulting, Inc. dated April 14, 2011 (Parus Report) (Attachment 2h). The Parus Report provides a good map in Figure 2 that depicts the cultural resources areas and sites in the vicinity of the subject property. The Parus Report provides a peer review of prior cultural resources studies completed for the site or the surrounding area. Staff has reviewed the development proposal recognizing the lasting cultural resources affecting the site to ensure appropriate measures are taken to protect such resources.

The Parus Report lays out the historical events that occurred in the area and on the site. The report includes a description of a pedestrian survey and examination of subsurface sediments that was completed in a series of 125 shovel test probes and 22 geotechnical exploration pits. The work was monitored by the Nisqually Tribe.

The report concluded that no surface evidence of the cultural resources remains, "no historic properties will be affected by implementation" of the project and "no further cultural resources action is warranted" (page 32). With regard to the Methodist/Episcopal Mission, the report concludes as follows (page 28):

> *"No evidence was discovered during this investigation of the exact location of the 1840-1842 Methodist/Episcopal Mission building or of any undisturbed archaeological deposits or features related to the mission, the HBC/PSAC era, or any other archaeological period."*

The Parus Report reaches a similar conclusion regarding the 9th U.S. Cavalry Bivouac Site (page 28):

> *"No additional evidence of the 9th U.S. Cavalry 1904 encampment or of any undisturbed archaeological deposits or features was discovered during this investigation."*

The Parus Report concludes that although the Methodist/Episcopal Mission site has been determined eligible for National Register of Historic Places (NRHP) listing under Criterion A for its association with important events and also contributes to the proposed Nisqually-Sequalitchew Historic District, the site (45P166) is not eligible under Criterion D (data potential). The 9th U.S. Cavalry Buffalo Soldiers Bivouac site is similarly eligible for Criterion A and not eligible for Criterion D. Other sites and isolates were identified and evaluated and determined ineligible for listing. The Parus Report did not state if ineligibility in one category or another meant the potential for listing on the NRHP was not possible. It should be noted that

no comments were received from Washington Department of Archaeology and Historic Preservation regarding the NRHP listing.

While the project area is considered highly sensitive for prehistoric, ethno-historic, and historic-era resources, the site has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1990s, followed by subsurface archaeological investigation and artifact collection between 1989 and 2005 and environmental remediation in 1999 and 2000. Because the potential for discovery of buried archaeological materials, features or deposits is considered low, the Parus Report concludes that no further cultural resource action is warranted. The Parus Report includes an Unanticipated Cultural Resources Discovery Plan as Appendix E should cultural resources be encountered during construction or ground-disturbing activities. The City requires construction monitoring by a professional archaeologist and the Nisqually Tribe (their option) and implementation of the Inadvertent Discovery Plan. These are included as SEPA Mitigation Measures Nos. #13 and 24 – and #23 a-f.

Additional archaeological review may be required for the eastern portion of the site that is not proposed for development at this time. No clearing, grading or other activities may occur on the eastern parcel since it will be segregated from the site proposed for development. The small gauge railroad track located on the eastern parcel shall remain in place until development of that parcel is proposed and after consultation with DAHP and the DuPont Historical Society.

As conditioned and mitigated, the proposal is compliant with Chapter 25.80 and consistent with the conclusions of the last Cultural Resources study completed for the subject property (Attachment 2h).

d. Chapter 25.90 Landscaping

1) Substantive Requirement-Proportion of landscape areas - DMC 25.90.020(2)(c) requires that 20 percent of the site be landscape area.

Staff Analysis and Conclusion: The Architectural Site Plan (Attachment 6a) indicates that 20 percent of the usable area will be provided as landscape area. It states that the usable area is 16.3 acres and that 20 percent is 142,036 square feet.

When the Sequalitchew Drive and historical commemorative area right-of-way is dedicated to the City, the westerly lot that will contain the development proposal will be 16.91 acres. After dedication of 1.53 acres for public right-of-way and historic commemorative area, the usable area will be 15.37 acres and twenty percent of that will be 3.07 acres or 133,903.4 square feet.

The landscape plan differs from the Architectural Site Plan in that it depicts an additional trailer storage area adjacent to Sequalitchew Drive. Sheet L2 of the landscape plans shades additional trailer storage area as though it is to be hydro-seeded. It is not clear if that area is included in the landscape area calculation or not.

At the time of site development permit the landscape area calculation should be further clarified and all plans corrected for consistency. All plans shall be updated to demonstrate that the total landscape area under the future/final condition is met. The landscape area associated with the easterly lot will be evaluated upon application for development of that parcel. (Condition 2 and 12b)

2) Substantive Requirement-Landscaping Interior Parking Lots - DMC 25.90.030(2) requires that the interior of surface parking lots with 10 or more stalls be landscaped with at least one tree per six stalls.

Staff Analysis and Conclusion: The Architectural Site Plan indicates that 215 standard vehicle parking stalls are provided plus 65 trailer stalls. The Tree Retention Plan Sheet T2 (Attachment 8a) provides that 98 standard vehicle parking spaces are proposed, which require one tree per four stalls for a total of 25 parking lot trees. The Landscape Plans (Attachment 8b) do not

provide the parking lot tree calculation but the Planting Schedule on Sheet L2 provides a total of 66 trees over the entire site (it is not clear how many of these are parking lot trees). The parking lot landscaping is prevalent in the standard parking areas and minimized in the trailer parking areas to avoid conflicts with the larger turning radii and size of the trailers. The correct number of parking spaces and corresponding parking lot tree quantities should be corrected on the Landscape Plans and demonstrate that at least the minimum is provided per DMC 26.90.030(2). (Condition #12c)

3) Substantive Requirement-Landscaping Buffers DMC 25.90.030(3) requires that a moderate buffer be provided between parking lots and any adjacent public right-of-way.

Staff Analysis and Conclusion: Sequalitchew Drive and Sequalitchew Trail are both adjacent public rights of way (the eastern portions of the trail are adjacent to the subject property). The vehicle parking area located east of the east/front building façade is required to be screened by a moderate buffer from Sequalitchew Drive. The two trailer storage areas located on the east end of the western parcel, which are not the same as vehicle parking areas, shall be relocated to the west of the east elevation (see Section D.1.a(11), above and D.2.b, below). Depending on their new location, they may be required to be screened from the trail. It is to be noted that the Architectural Site Plan (Attachment 6a) does not depict one of the trailer storage areas.

A moderate buffer is defined in DMC 25.10.020 as follows:

"'Buffer' means a strip of trees, shrubs, and ground cover of sufficient height, width, and density to screen, within three years of planting, an unsightly or nuisance-generating land use from a more sensitive land use, even in the winter months. The minimum visual screening is …50 percent for moderate buffers….Berms, grade separation, walls, and fences may be incorporated to achieve up to 50 percent of the minimum screening."

Eastern vehicle parking lot moderate buffer - The northeastern parking lot is diagonal in shape, which provides for a triangular shaped landscape buffer that varies in width from 10 to 150 feet. The landscaping plans provide a single row of seven 2.5-inch caliper Oregon white oak trees adjacent to the right-of-way with the remaining area to be hydro-seeded/lawn. All existing trees in the buffer are shown to be removed. The plans do not meet the moderate buffer requirements. The existing trees in this area are required to be retained (see Section D.2.b, below) and additional trees, shrubs and groundcover added. The landscape plans shall be revised to meet the moderate buffer screening requirement and include the existing trees to be retained. Staff will review the revised landscape plans and determine if additional planting is required to meet the required screening. (Condition 12d)

Eastern trailer storage area moderate buffer: This area depicts approximately eight trailer storage spaces between the vehicle parking area and Sequalitchew Drive. On Sheet L2 (Attachment 8.b) the trailer storage area is depicted as it is proposed to be hydro seeded so it is unclear of the intent. The trailer parking area is required to be removed/relocated from the front of the building (see Section D.1.a(11), above and D.2.b, below) and planted to meet the screening requirements. (Condition 12e)

Southeastern trailer storage area moderate buffer: The southeastern trailer storage/parking area provides a landscape buffer width of approximately 20 to 55 feet adjacent to Sequalitchew Drive. The landscape plan provides only hydro-seeding/lawn in this area. The plantings do not meet the moderate buffer requirements. The trailer storage area is required to be removed/relocated from the front of the building (see Section D.1.a(11), above and D.2.b, below).

The landscape plans depict a stormwater pond south of the southeastern trailer storage area. The pond is not depicted on the Architectural Site Plan, or the Civil Plans (Civil plans depict underground storm chambers) so it is not clear of the intent. If a pond is located within visibility of the public, it shall be screened with landscaping and fencing. (Condition 12f)

South/Central trailer parking buffer: The southern perimeter of the property contains trailer storage/parking areas. No landscape buffer is proposed, however the area is currently heavily vegetated with mature trees many of which are proposed to be retained. The area is on a bench and downslope a vertical drop that ranges between approximately 28 to 45 feet from the southern perimeter of the trailer storage area to the Sequalitchew Creek Trail. The western end of the trailer storage area will likely be visible from the Trail. Additional screening vegetation should be added in the open area east of the trailer storage as depicted in Figure 1, below. (Condition 12g)

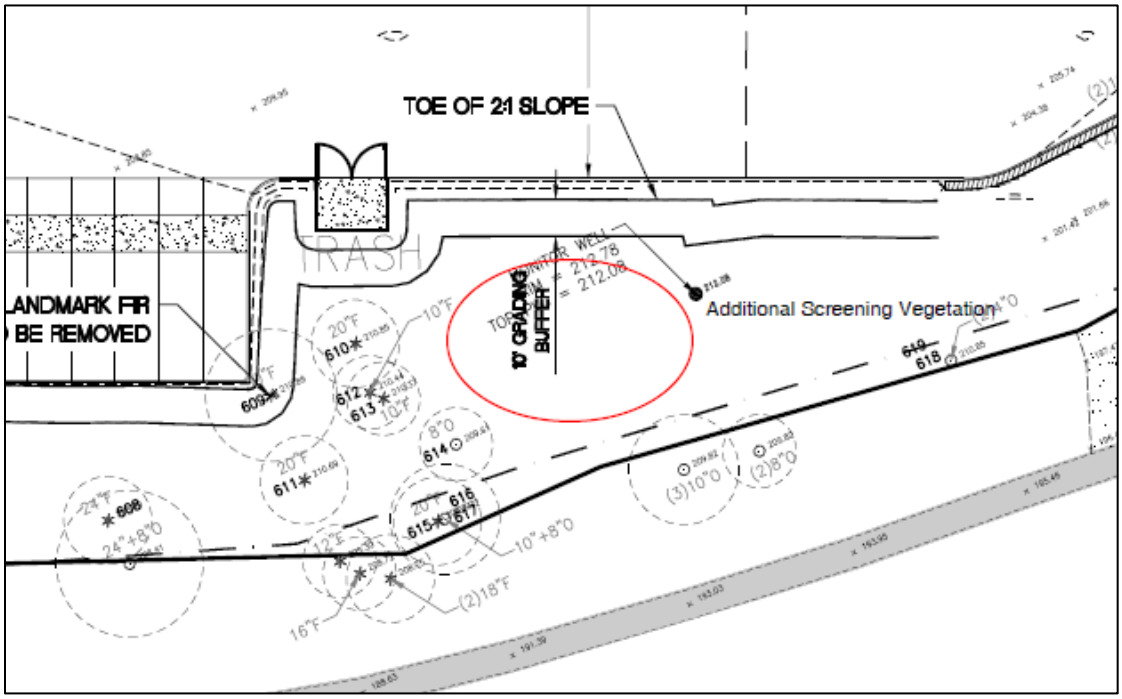


Figure 1 - Additional Screening Area (Sheet L1 of Landscape Plans)

4) Per DMC 25.90.030(3)(b), trash receptacles are required to be screened from high-use areas.

Staff Analysis and Conclusion: The east side of the trash receptacle may be visible from the Sequalitchew Creek Trail. No screening is provided for the trash receptacle. The plans shall be revised to provide screening along the east side of the enclosure. (Condition 12a)

5) DMC 25.90.040 requires that the landscaping require minimal irrigation. A statement is required as to the techniques proposed to conserve water and the amount of irrigation required in gallons per square foot of landscaping (excluding retained).

Staff Analysis and Conclusion: Irrigation plans were not provided. An irrigation plan meeting the requirements of DMC 25.90.040 will be required at the time of site development permit. (Condition 12h. and 12i)

e. Chapter 25.95 Off-Street Parking

1) DMC 25.95.030 requires a minimum of 0.3 and a maximum of 1 parking space per worker at maximum shift.

Staff Analysis and Conclusion: The SEPA Checklist submitted with the application indicates 90 people will be employed by the project, but does not indicate the number of workers at maximum shift. The Architectural Site Plan provides that a total of 215 vehicle parking spaces are provided and 65 trailer parking spaces. The City does not include the trailer parking spaces in the total code required parking calculation.

If 90 employees are the number of workers at maximum shift, the code required parking range is between a minimum of 30 and maximum of 90 parking spaces, which is less than the proposed 215 spaces. A total of 215 vehicle spaces would permit a maximum shift of between 215 – 720 workers. The applicant shall clarify the employee count and demonstrate that it can meet the City's parking requirements per DMC 25.95.030, which may require a reduction to the maximum quantity of parking or a variance application per DMC 25.160. Each user should be required to provide an employee maximum shift count at the time of building permit demonstrating they are within the code required parking range or adjust the amount of parking to meet City code. Any parking spaces removed should be planted depending upon the location. Any parking required by the SEPA MDNS (such as for the historic commemorative area) is not to be included in the development proposal's code –required parking calculation. (Condition 13b)

2) DMC 25.95.040 requires that off-street parking be located within a 500-foot walking distance from an entrance to the building served, and that it not be located in required front yard or within 5 feet of any property line.

Staff Analysis and Conclusion: The building provides main entrances at both ends of the east elevation, one at the south corner of the west elevation and one at the west corner of the south elevation. All standard vehicle parking spaces are located within 500 feet of these entrances. The parking distance requirement is met.

3) DMC 25.05.050 provides dimensional requirements for parking lots and spaces.

Staff Analysis and Conclusion: Parking aisle and stall dimensions appear compliant with code dimensional requirements and will be reviewed again for compliance at the time of site development or building permit application. (Condition 13f)

4) DMC 25.95.060 requires that at least one of every 20 employee parking spaces be reserved for high-occupancy vehicles.

Staff Analysis and Conclusion: High-occupancy vehicle spaces are not noted on the civil site plan. Quantities and locations will be reviewed for compliance with the site development permit. (Condition 13g)

5) DMC 25.95.070 pertains to loading area requirements.

Staff Analysis and Conclusion: The project provides over 50 loading docks along the south elevation, however dimensions are not provided. Loading areas will be reviewed at the time of civil and building permit application for compliance with the City requirements for loading areas (DMC 25.95.070). (Condition 13h)

f. Chapter 25.105 Critical Areas

1) Chapter 25.105 establishes regulations to protect the public health, safety and welfare by preventing the adverse environmental impacts to properties which contain or are adjacent to critical areas. This chapter applies to the following four types of critical areas within the City: wetlands and lakes; fish and wildlife habitat conservation areas; landslide and erosion hazard areas; and aquifer recharge areas.

Staff Analysis and Conclusion:

The subject property contains the following regulated critical areas:

Fish and Wildlife Habitat Conservation Area - Sequalitchew Creek's 100-foot stream buffer and Priority Habitat Species. The development footprint is located outside of the 100 foot stream buffer, with the exception of a small segment of new trail construction that is located within an existing trail easement. The property is mapped by Washington Department of Fish and Wildlife as containing Priority Habitat Species for three bat species (all of DuPont is mapped as containing habitat). In addition, the nearby Sequalitchew Creek

contains Priority Habitat fish species: Coho salmon, Cutthroat trout, Resident coastal cutthroat trout, and Summer chum salmon.

<u>Geologically Hazardous Areas</u> – Steep slopes are located along the southern and western perimeters. Portions of the new trail segment are located within and adjacent to the steep slopes. Additional geotechnical analysis is required to determine if the slopes are a landslide hazard or erosion hazard area.

On December 11, 2018, the City Council adopted Ordinance 18-1054. This ordinance repealed and replaced the City's prior Sensitive Area regulations with new Chapter 25.105 Critical Area Regulations. The application submitted prior to the adoption of the new ordinance; however critical area regulations do not vest. Therefore, the new regulations are to be applied to the proposal. The SEPA Environmental Review process was used as a means to bridge the shortfalls in the application caused by the change in regulations and the Findings and Mitigation Measures were based on the newly adopted regulations. Therefore, we have repeated/included the SEPA Mitigation Measures in this Chapter 25.105 Critical Areas Consistency Analysis.

Per DMC 25.105.020(3), compliance with Chapter 25.105 constitutes adequate mitigation of impacts to sensitive areas pursuant to the State Environmental Policy Act. Per DMC 25.105.040(4) nothing in these regulations or the decisions made pursuant to these regulations affects the authority of the city to review, condition, and deny projects under the State Environmental Policy Act, Chapter 43.21C RCW.

The City issued a SEPA MDNS for the proposal on February 20, 2019, which is incorporated herein into the recommended conditions of approval on the proposal (Condition 1). The SEPA determination includes many mitigation measures designed to protect and preserve onsite and adjacent critical areas. These include mitigation measures number 1, 6a, 6e, 7a, 7c, 7d, 15-18, and 25-26, summarized as follows: (See also Attachment 9d)

MM #1 – The May 2018 Geotechnical Report Addendum shall be amended to provide recommendations for trail construction within the steep slope buffer.

MM#6a – The new trail segments design and construction shall follow any recommendations provided in the Critical Areas Report for protecting Sequalitchew Creek Trail and area wildlife from being impacted.

MM#6e – Signage shall be placed on either side of the trail denoting "Environmentally Sensitive Area, Do Not Enter" at intervals to be approved by the City.

MM#7a - A Critical Areas Report shall be prepared by a qualified professional to address and calculate the stream buffer disturbance/expansion area required by trail construction and provide recommendations to ensure no net loss of stream buffer functions due to approved alterations. The report shall also address priority habitats and species within and adjacent to the development area including nests, if found.

MM#7c - No disturbance or activity shall occur in the stream buffer, with the exception of the proposed trail construction, trail fencing and signage and the installation, maintenance and monitoring of the mitigation plantings (as recommended by a qualified biologist and as approved by the City).

MM#7d - The following best management practices are required to minimize development impacts to Sequalitchew Creek and shall be provided for in the TESC and final design.

i. All new, untreated runoff shall be routed away from the stream and slopes.

ii. *Channelized flow from landscaping shall be prevented from entering the stream buffer.*

iii. *New runoff from impervious surfaces and new landscaping shall be infiltrated, treated, detained and/or dispersed. No runoff from the trail may cause erosion.*

iv. *Dust control measures shall be in place prior to construction.*

MM#15 - A temporary erosion control plan will be prepared per City of DuPont standards and implemented for the project to reduce and control erosion impacts. The recommendations in the Department of Ecology letter dated September 12, 2018 shall be addressed.

MM#17 - five-year maintenance, monitoring and contingency plan shall be prepared by a qualified biologist for the stream buffer enhancement plantings.

MM#18 - The applicant shall post a maintenance and monitoring financial guarantee in a form and amount determined sufficient to guarantee satisfactory performance of the mitigation plan. The city shall release the security upon determining that the effectiveness and success of the mitigation plan has been completed satisfactorily.

MM#25 - Installation of the stream buffer expansion area plantings shall be completed no later than 30 days of completion of trail construction. An extension of an additional 30 days may be granted due to conditions outside of applicant control, such as weather. The extension is to be approved by the City.

MM#26 - The trail construction shall follow any recommendations provided in the Critical Areas Report for protecting Sequalitchew Creek Trail and area wildlife from being impacted.

2) DMC 25.105.050(2) Fish and Wildlife Habitat Conservation Areas (FWHCAs)

a) DMC 25.105.050(2) provides regulations for the protection of Fish and Wildlife Habitat Conservation Areas (FWHCAs), which are defined as follows in DMC 25.105.030.140 (abbreviated to relevant sections):

- Areas with which state or federally endangered, threatened, and sensitive species have a primary association.
- Lands and waters containing documented habitats for plant and animal species listed in the Washington Department of Fish and Wildlife's Priority Habitats and Species Program List.
- Streams and waters of the state that provide habitat to endangered or threatened species, or certain species that have been identified as being sensitive to habitat manipulation, as defined in WAC 222-16-030.

<u>Staff Analysis and Conclusion</u>: As described above, there are two FWHCA's either on or near the subject property, the Sequalitchew Creek buffer and Priority Habitats and Species.

b) DMC 25.105.050(2)(g) states that a 100-foot buffer is required on each side of a stream as measured from the ordinary high water mark (OHWM). DMC 25.105.050(2)(a) provides the regulations for alterations to streams and stream buffers. DMC 25.105.050.(2)(a)(iii)(B) states that public and private trails may be allowed in the stream buffers only upon adoption of administrative rules that require the trail surface be made of impervious surface if required to provide for emergency access to remote areas and requires that buffer expansion is provided equal to the amount of buffer disturbance. A Critical Areas Report will be required to be prepared by a qualified professional to address the requirements of DMC 25.105.050(2)(a)(i). There shall be no net loss of stream functions on a development

proposal site and no impact on stream functions above or below the site due to approved alterations.

Staff Analysis and Conclusion: A small segment of the trail is proposed within the required 100-foot Sequalitchew Creek stream buffer. The area is located in the far southeast portion of the site. The trail is proposed to be paved with asphalt to accommodate emergency access to the Puget Sound shoreline. City code allows for the paved trail within the buffer as long as an equivalent amount of buffer expansion is provided. A Critical Areas Report will be required to address the disturbance/expansion areas and provide recommendations to ensure no net loss of stream functions due to approved alterations. Alternatively, while permissible, the applicant shall consider relocating the trail outside of the trail easement (within or adjacent to the 1.53 acres to be dedicated to the City for the historic commemorative area) and stream buffer. If the trail is outside of the stream buffer, a critical area report and expansion area plantings are not required (this is consistent with SEPA mitigation measure 7.b). The required TESC plan will provide mitigation measures to ensure construction activities do not cause erosion impacts to the stream. These requirements are included in the SEPA MDNS as mitigation measures 7a-d. (Condition 1)

c) DMC 25.105.050(2)(d) provides the regulations for development in fish and wildlife habitats and separates the performance standards into Terrestrial Habitats and Species and Marine Habitats and Species. DMC 25.105.050.(2)(e) requires that a habitat management plan shall be required for any development in or adjacent to areas identified as habitat for endangered, threatened or sensitive species and for breeding or nesting habitat of terrestrial priority species. Development in or adjacent to areas used by state priority species shall be designed, located and constructed in consideration of Washington Department of Fish and Wildlife (WDFW) habitat recommendations, and consistent with best management practices (BMPs), including measures to avoid impacts due to construction noise, light and timing.

Staff Analysis and Conclusion: Per the SEPA MDNS Findings #6 Animals, there are several terrestrial state priority habitat and species mapped by WDFW as being located within the City limits. Per SEPA MDNS MM#7a , the applicant shall submit a Critical Area Report that meets the requirements of DMC 25.105(2), and address priority habitats and species within and adjacent to the development area including nests, prior to site issuance of site development permits. If nests are found, the proposal shall meet the recommendations provided by WDFW. (Condition 14b).

d) DMC 25.105.050.(2)(f) provides the performance standards for marine habitats and species states that a habitat management plan shall be required for any development likely to cause impacts to marine habitat and environmental processes. The plan shall incorporate mitigation recommendations consistent with Washington Department of Fish and Wildlife habitat recommendations.

Staff Analysis and Conclusion: The SEPA MDNS Findings #6 Animals states that there are several marine state priority habitat and species located nearby within Sequalitchew Creek. Per SEPA MDNS MM#7a, the applicant shall submit a Critical Area Report that meets the requirements of DMC 25.105(2), and address priority habitats and species within and adjacent to the development area prior to site issuance of site development permits (Condition 14b).

3) DMC 25.105.050(3) Geologically Hazardous Areas

a) DMC 25.105.050(3) provides regulations to development within or near geological hazardous area in order to protect the public health, safety and welfare of the community. Geologically hazardous areas include erosion hazard areas, landslide hazard areas, steep slopes, and seismic hazard areas, which are defined as follows in DMC 25.105.030 (abbreviated to relevant sections):

- Erosion hazard areas are those areas containing soils which, according to the USDA Soil Conservation Service, may experience severe to very severe erosion.
- Landslide hazard areas are those areas potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors, including historic slope failures.
- Steep slopes are slopes steeper than 15 %, hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and Springs or ground water seepage.
- Seismic hazard areas are those areas subject to severe risk of damage because of seismic induced ground shaking, slope failure, settlement, soil liquefaction or surface faulting.

Staff Analysis and Conclusion: The applicant submitted an October 2011 Geotechnical Report and May 11, 2018 Addendum (Attachment 1g and 2g). The geotechnical reports are not compliant with the new critical area ordinance. Therefore, the May 11, 2018 Geotechnical Addendum shall be amended to meet current critical area regulations and provide recommendations for trail construction within the landslide hazard area setbacks per SEPA MDNS MM#1 prior to issuance of site development permits. (Condition 10a -b)

The geotechnical reports do not clearly identify what geological hazards are present on the property. The SEPA MDNS Findings, Earth, made the following statement regarding geological hazardous areas:

> *The site is largely flat in the central areas and contains steep slopes greater than 40% along the south. The steep slopes are classified as a critical slope/geologic hazard area and require a 50-foot setback from the top of the slope. All industrial development is located outside of the setback with the exception of a retaining wall foundation. A portion of the relocated trail (in existing easement area) falls within the 50-foot slope setback.*

The geotechnical report must address all requirements of DMC 25.105.050(3). This includes a qualified professional determining the location of landslide areas within or adjacent to the proposal, the size of the landslide setback, and providing recommendations for trail and wall construction within landslide hazard area setbacks prior to issuance of site development permit. (Condition 10a - b)

b) DMC 25.105.050(3)(b)(i) provides standards for proposals located within or adjacent to landslide hazard areas. DMC 25.105.050(3)(b)(i)(A)(III) states that trails may be allowed only if the applicant demonstrates that no other feasible alternative exists, including through the provisions of Chapter 8.24 RCW. If it is determined that the proposal is within 300-feet of an active landslide hazard area then the geotechnical report shall address DMC 25.105.050(3)(b)(i)(B) standards. Additionally, DMC 25.105.050(3)(c)(i) states that the size of the landslide setback shall be based on findings of a qualified professional within the geotechnical report.

Staff Analysis and Conclusion: Per SEPA MDNS findings and submitted geotechnical reports, the proposal is located within or adjacent to steep slopes. The October 2011 Geotechnical Report or the May 11, 2018 Addendum, do not address the landslide hazard area requirements of DMC 25.105.050(3)(b). Therefore, the geotechnical reports shall be amended to meet current critical area regulations prior to issuance of site development permits. (Condition 10a - b)

c) DMC 25.105.050(3)(b)(ii) provides standards for proposals located within or adjacent to erosion hazard areas. DMC 25.105.050(3)(b)(ii)(D) states that trails may be allowed when no feasible alternative alignment is available. Trail facilities shall be designed such that the structure will not be susceptible to damage from active erosion. DMC 25.105.050(3)(c)(ii)

states that the size of the erosion setback shall be based on findings of a qualified professional and shall protect critical areas and processes and minimize the risk of property damage, death or injury resulting from erosion over the life of the development, typically identified as 100 years.

Staff Analysis and Conclusion: The proposal is potentially located within or adjacent to erosion hazard areas. The October 2011 Geotechnical Report and May 11, 2018 Addendum, does not address the erosion hazard area requirements of DMC 25.105.050(3)(b). Therefore, the geotechnical report shall be amended to meet current critical area regulations prior to issuance of site development permits. (Condition 10a - b)

4) DMC 25.105.070(2) Exceptions provides that construction of new transportation corridors, such as roads, sidewalks and trails; utilities; recreation facilities such as viewing platforms; etc. may be allowed when it can be demonstrated that no feasible alternative exists and that there is no net loss in a critical area's functional value. An alternative site for the proposed activity shall be considered feasible if it is available and the proposed activity can be carried out after taking into consideration costs, technology, infrastructure and logistics in light of overall project purposes.

   Staff Analysis and Conclusion: Portions of the proposed new trail segment are located within the 100-foot buffer of Sequalitchew Creek and may qualify for an exception per DMC 25.105.070(2). The proposed alignment is logically located within an existing easement that was established in 2010; however it is possible that the trail alignment could be adjusted to fall outside the buffer and easement. The applicant shall evaluate the potential for relocation of the trail to an area outside the critical area and buffer, but within the proposed right-of-way dedication area. If relocation is not feasible, provide the City with a response to the criteria listed in DMC 25.105.070(2)(a). If the trail is relocated outside the critical area and its buffer, or it is demonstrated that it qualifies for an exception, pursuant to DMC 25.105.070(2), a Critical Area Permit is not required. (Condition 14b)

5) DMC 25.105.080 requires any development proposal within a critical area or its buffer prepare a Critical Areas Report.

   Staff Analysis and Conclusion: If new construction is proposed within a critical area, critical area buffer, the applicant shall submit a Critical Area Report that meets the requirements of DMC 25.105 with the application for site development permits. The City will review the critical area report and determine whether the proposal meets the criteria for an exception per DMC 25.105.070(2) or if a Critical Area Permit is required. If it is determined that a Critical Area Permit is required, the Critical Area Permit shall be submitted and approved prior to issuance of site development permits. (Condition 14a).

6) DMC 25.105.100 requires that the owner of any property containing critical areas or buffers on which a development project is submitted shall file for record with Pierce County a notice approved in form by the city. Such notice shall provide notice in the public record of the presence of any critical areas or buffers. The owner shall submit proof to the city that the notice has been filed for record within 30 days after the approval of a development permit. The subject property has critical areas and associated buffers located on the property.

   Staff Analysis and Conclusion: Proof of critical area notice filed with Pierce County will be required within 30 days after approval of site development permit. (Condition 14c)

g. Chapter 25.110 Setbacks – Street Corners

DMC 25.110 requires projects on corner lots have no building, structure, sign, berm, or planting between three to eight feet above street surface within the vision clearance triangle. DMC defines that vision clearance triangle as "the area enclosed on two sides by the intersecting public right-of-way lines and on the third by an imaginary line connecting those points on said right-of-way lines that are 30 feet from their point of intersection."

Staff Analysis and Conclusion: The proposal is not located on a street corner; therefore the provisions of DMC 25.110 do not apply.

h. Chapter 25.115 Transportation Concurrency Review

Transportation Concurrency Review requires a concurrency test with regards to transportation impacts. Projects requiring site plan review are also required to undergo Transportation Concurrency Review. Per DMC 25.115.020 the city shall not issue a development permit until the test has been conducted and a certificate of concurrency has been issued. Per DMC 25.115.040 the finding of concurrency may occur at the building permit application phase.

Staff Analysis and Conclusion: The project will be required to be in full compliance with the Transportation Concurrency requirements at the time of building permit application. (Condition 33)

i. Chapter 25.116 Sign Code

DMC 25.116 requires an application for sign permit.

Staff Analysis and Conclusion and Conclusion: A sign permit application was not submitted with the Land Use Application and is required for any building or other monument signage in accordance with the requirements of DMC 25.116. The analyses and recommendations in this Staff Report do not include an analysis of the conformity of proposed signage with the City's Sign Code. A future sign permit application will evaluate the signage for compliance with DMC 25.116. (Condition 3)

j. Chapter 25.120 Tree Retention

See Section 2, below for a full consistency analysis of compliance with Chapter 25.120.

k. Chapter 25.125 Wireless Communications Facilities

Chapter 25.125 provides standards for wireless communication facilities.

Staff Analysis and Conclusion and Conclusion: *The application does not contain a request for a wireless communication facility. Chapter 25.125 is not applicable.*

2. PLANNING DEPARTMENT REVIEW – TREE MODIFICATION (PLNG2018-047)

Chapter 25.120 Tree Retention applies to all new development projects that require site plan approval. The City regulates trees based on type and size and defines trees as either Landmark Tree or Specimen Tree as defined in DMC 25.10.120L and DMC 25.10.190S.

"Landmark tree: means an existing healthy, well-formed tree which poses no safety hazard due to potential collapse and that is of the following species, trunk type, and minimum diameter measured at breast height:

Table 2 – Landmark Tree Per DMC 25.10.120L		
Trunk-Type	Oregon white oak, pacific yew, or madrona	Douglas fir, western red cedar, western hemlock, or big leaf maple
Single Trunk	24 inches	30 inches
Multi-trunk (sum of diameters)	30 inches	45 inches

"Specimen tree," per DMC 25.10.190S, means an existing healthy tree which poses no safety hazard due to potential collapse and is of the following species and minimum diameter measured at breast height; provided, that the measure of multi-trunk trees shall be the sum of the diameters:

- Douglas fir, western red cedar, western hemlock, or big leaf maple: 15 inches.
- Oregon white oak, Pacific yew, or madrona: 12 inches.
- Historic fruit trees: no size limit.

Staff Analysis and Conclusion: The trees on the DuPont Industrial property were evaluated by Washington Forestry Consultants (WFC) and described in their Tree Retention Plan Report (WFC Tree Report) dated August 9, 2018 (Attachment 4c). WFC identified 682 healthy significant trees located in the project area, including 76 Landmark trees. The report states that the proposal will retain 316 trees within 3 tree retention areas. The WFC Tree Report used the two-building (i.e. old site plan) for the tree calculations and needs to be updated for the one-building proposal as it is anticipated that the tree removal and retention numbers will be different, potentially retaining more trees. (Condition 11a)

The locations of the trees are also depicted on the Tree Retention, Removal and Replacement Plan Sheets T1-T3 prepared by Barghausen Consulting Engineers dated January 30, 2019 (Barghausen Tree Plans) (Attachment 8a). The Barghausen Tree plans are updated to reflect the one building proposal. Sheet T-3 provides a listing of the trees by size and type, however type is often noted as DEC (deciduous), which could mean oak, maple or other tree types and the numbers assigned to the trees do not correlate with the WFC Tree Report numbers. The Barghausen Tree Plans and the WFC Tree Report shall be updated to accurately reflect the tree types by species and match the tree identification numbers. The WFC Tree Report shall confirm in writing that they have reviewed the revised Barghausen Tree Plans and find them consistent with the revised WFC Tree Report. (Condition 11d)

a. DMC 25.120.030(2): Requires all landmark Oregon white oak trees be retained along with native understory within a protection zone one and one-half times the radius of the oak's canopy, unless the landmark oaks are within a proposed street right-of-way which is integral to the neighborhood and cannot reasonably be moved, or unless overall neighborhood densities cannot be met. In such cases, up to 30 percent of the landmark oak trees may be removed when consistent with the standards in the table of DMC 25.120.040(1).

   Staff Analysis and Conclusion: The WFC Tree Report describes that one 42-inch diameter landmark oak tree is to be removed that is located on the western edge of the proposed Sequalitchew Drive right-of-way. Attachment 2 in the WFC Tree Report depicts the location of all landmark trees to be removed and retained by tree number. The specific landmark Oregon white oak tree is identified as Tree #12.

   Attachment 3 in the WFC Tree Report is a table listing 82 of the landmark trees and it describes their species, diameter at breast height, condition and whether or not they are to be retained. It is not clear why the table lists 82 landmark trees and the report narrative describes that there are 76 landmark trees. The table lists a total of three landmark Oregon white oak trees to be removed. In addition to #12; it also lists Trees #9 and #65. Tree #9 is listed as a multi-trunk tree and is located near the center line of the proposed Sequalitchew Drive. Tree #65 is located near the southwest corner of the property at the edge of the planned trailer storage area. Tree #9 is incorrectly called out as a single 18-inch Oregon white oak tree on Sheet T2 of the Barghausen Tree Plans. Just below that tree call out is a notation for the landmark oak tree cluster that is assumed to be Tree #9. We are not able to locate Tree #65 on the Barghausen Tree Plans due to the typing as deciduous and the overlapping clusters of trees in that area. The WFC Tree Report shall be updated to incorporate the one building site plan, correct/clarify the discrepancy in total landmark trees and describe all landmark Oregon white oak trees that are to be removed. The Barghausen Tree Plans shall be updated to call out the location of Tree #9 and Tree #65. For the evaluation of the Tree Modification Request, staff assumes that the request is to remove all three landmark Oregon white oak trees (Trees #9, #12 and #65). (Condition 11a and 11d)

   The Sequalitchew Drive right-of-way is integral to the neighborhood, in that it is planned to provide a future connection to the properties to the north, however its specific alignment is not permanently or formally established on a City planning document. On January 29, 2019 the City requested the applicant provide an explanation as why the right-of-way cannot reasonably be moved to accommodate retention of the oak tree. The City did not receive an explanation or response. Without proof that the right-of-way cannot be moved to retain the tree, staff assumes that Tree #12 can be retained. Therefore the request for removal of the landmark oak Tree #12 (as depicted in the

WFC Tree Report) should be denied and the right-of-way alignment adjusted accordingly for long term retention and protection of the landmark tree.

Tree #9 is located well within the Sequalitchew Drive right-of-way alignment. It does not appear that the right-of-way could be adjusted to save the tree while providing the require curve radius and design requirements per city road design standards. If the applicant can provide justification for the tree removal that demonstrates to the City's satisfaction that the alignment cannot reasonably be modified to retain the tree, the removal of landmark Oregon white oak tree #9 will be allowed.

Tree #65 appears to be located on the southwestern edge of the trailer storage parking area. It appears as though a reduction in one or more trailer parking spaces would be sufficient to save the tree. Staff recommend, therefore that the request to remove Tree #65 be denied. (Condition 11c, 12j and 13i)

See Section (i) below which describes the consistency with table of DMC 25.120.040(1).

b. DMC 25.120.030(2): At least half of all other (non-oak) landmark trees shall be retained. In the MRP District landmark trees which are in the building footprint, parking lot or storm retention area may be removed; provided that tree retention is achieved along street boundaries and when abutting a residential district.

Staff Analysis and Conclusion: Staff interprets that the "other (non-oak)" tree retention requirement for projects within the MRP District is to retain the trees along street boundaries and when abutting a residential district. It is not logical to require MRP District properties to retain half of all other (non-oak) landmark trees while at the same time allowing for their removal within building footprint, parking lot or storm retention areas as there may be circumstances when the majority of all of the trees could be within the development footprint and you could never achieve the 50 percent retention.

Tree Retention abutting residential districts - The western parcel proposed for development of the industrial warehouse building does not abut a residential district. The eastern parcel is adjacent to a residential district to the east (Creekside Apartments) where there are trees and an existing berm or stockpile near the property line. A 25-foot buffer along this eastern property line is depicted on the civil plans but not depicted on the landscape plans. The 25-foot buffer shall be provided on the landscape plans. No clearing, cutting, or trenching or soil disturbing activities will be allowed within the eastern parcel until such time that a development proposal is submitted, reviewed and approved by the City. (Condition 2 and 12n)

Tree retention along street boundaries - Both the western and eastern parcels created by the proposal are required to retain trees along street boundaries, i.e. Sequalitchew Drive. A development proposal is not provided at this time for the eastern parcel, therefore all trees on the eastern parcel will be required to be retained until a future development application is received and assessed for tree retention. Minor adjustments may be allowed, subject to City approval to accommodate the right-of-way alignment. (Condition 2)

The plans do not depict tree retention along street boundaries for the western parcel. The city requires tree retention along street boundaries in areas not encumbered by driveways, building footprint, parking lot or storm retention per DMC 25.120.030(2). The applicant shall revise the Landscape Plans, Barghausen Tree Retention, Removal and Replacement Plan and WFC Tree Retention Report to provide tree retention within the landscape buffer areas along street boundaries and meet the tree retention requirements of DMC 25.120.030(2). The civil plans will also need to address tree retention to show that no clearing or grading will occur in that area. Walls may be provided but they shall be no more than 6 feet in height within the setback areas and shall not encroach within the tree root protection radius. Where there are no trees present the grades can be changed, but supplemental plantings are required to meet the moderate screening buffer requirements described in Section D.1.d.3, above. (Condition 11b, 12k, and 13j)

c. DMC 25.120.030(3)(a) requires a minimum of one and one-half trees per acre be retained.

Staff Analysis and Conclusion: The property comprises 25.29 acres, which requires a minimum of 38 trees be retained. Per the WFC Tree Report, the proposal will retain 316 trees, well exceeding the code requirement. The WFC Tree Report does not depict the current site plan and should be updated to accurately reflect the development proposal and update the tree retention numbers demonstrating compliance with DMC 25.120.030(3)(a). (Condition 11a)

d. DMC 25.120.030(4) allows trees retained that are within oak management mapping units to be counted toward the total trees per acre requirement in DMC 25.120.030(3)(a).

Staff Analysis and Conclusion: Staff has reviewed the City's Oak Management Mapping Units map. Although parcel lines are not provided on the Oak Management Map, it appears as though the southeastern portion of the site is located within oak management mapping unit MO-13, see a portion of the map in Figure 2, below. This unit is associated with the riparian corridor of Sequalitchew Creek. The trees in this area will either be retained because they are within the area to be dedicated to the City for the historical commemorative area, or they must be removed for the new Sequalitchew Drive right-of-way. The retained trees are counted toward the total trees per acre requirement in DMC 25.120.030(3)(a). The proposal is compliant.

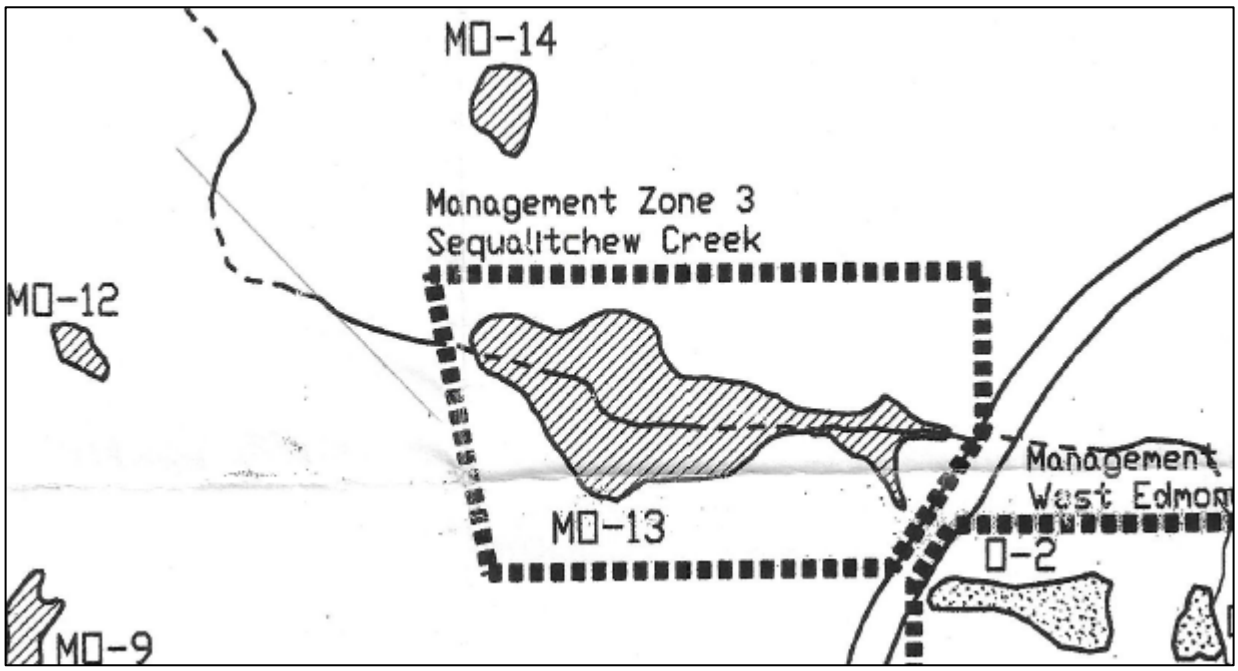


Figure 2- Oak Woodland Management Zone Map

e. DMC 25.120.030(5) requires no clearing, grading, trenching, cutting, impervious surfacing, or other construction within the drip line of any tree to be retained, or within one and one-half times the radius of the canopy in the case of oak trees to be retained, nor shall grades be lowered or raised so near as to jeopardize said trees; unless there is no other alternative and the intrusion is the minimum possible as determined by the administrator. Temporary barriers shall be installed around trees requiring protection during construction.

Staff Analysis and Conclusion: The tree protection measures shall be provided on the civil and landscape site development permit plans. (Condition 5, 12l and 13k)

f. DMC 25.120.030(6) requires all landscape plans include the location, size, and species of all landmark, historic, and specimen trees; which trees are to be retained; and how retained trees will be protected during development.

Staff Analysis and Conclusion: The Barghausen Tree Retention, Removal and Replacement Plans (Attachment XX) provide the location, size, and some tree species but not all. The landscape and civil construction plans should be revised to include both the City-required tree protection measures as well as those listed in the WFC Tree Report. (Condition 11d, 12l and 13k)

g. DMC 25.120.030(7) requires that all trees that are to be retained remain protected for their life, except as noted in subsection (8) of this section. The code stipulates that the "plat or site plan" on which the tree is located shall contain the following note: "This plat is also subject to an approved tree retention plan which requires that certain trees be preserved. That plan, which is binding on all owners, is on file with the City Planning Department." To further inform future lot owners, a copy of the approved tree retention plan shall be provided each owner at closing on each lot.

Staff Analysis and Conclusion: It appears this requirement applies to both plats and site plans. The addition of the note should be added to the Barghausen Tree Retention Plan. In addition, the City will require the Tree Retention Area to be described and depicted in an easement to be record and run with the title on the property. (Condition 5 and 11e)

h. DMC 25.120.030(8) requires that retained trees not be removed unless the administrator determines in writing that they have become hazardous or diseased or threaten to damage public or private property. Whoever removes a street tree or required tree shall replace it with a tree approved by the city.

Staff Analysis and Conclusion: This note shall be added to the Barghausen Tree Retention Plan and Tree Retention easement. (Condition 5 and 11e)

i. DMC 25.120.040 provides regulations for the various Oak Management Mapping Units in the City. Mapping Unit MO-13 appears to be located adjacent to Sequalitchew Creek and a portion may fall on the southeastern portion of the subject property. 80% of the trees in MO-13 are required to be retained in "one contiguous block including the entire western portion thereof".

Staff Analysis and Conclusion: The Oak Management Map is vague in the boundaries of the oak management mapping units, however it does appear that the Sequalitchew Creek riparian corridor adjacent to the south of the subject property is within mapping unit MO-13 and some of this unit may extend to the southeastern portion of the property. See Figure 2, above. Much of the area is within the area to be dedicated to the City for the future historic commemorative area and the trees are to be preserved. Some of the area appears to be within the future road right-of-way for Sequalitchew Drive. It is not possible to calculate the actual boundaries of the unit and therefore it is not possible to calculate if the 80% requirement will be met. Staff interprets the proposed tree retention that is planned for the southern portion of the property as meeting the intent of DMC 25.120.040, therefore the proposal is compliant.

j. DMC 25.120.040(3) – (10) also provides several tree protection measures such as fencing during construction, and no cuts, fills, or trenching shall occur in oak preserves. Grading near oak preserves shall utilize natural contours when possible to avoid creating pedestals or bodies where oaks are growing. Oaks in preserves shall not be irrigated unless an arborist experienced with oaks determines that, due to drought, they need deep watering around the drip line.

Staff Analysis and Conclusion: The oak preserve protection measures provided in DMC 25.120.040(3) – (10) shall be added to the Barghausen Tree Plans and the landscape plans. (Condition 5, 11g and 12o)

k. DMC 25.120.050 provides that anyone with an ownership interest in land may request a modification from the provisions of the tree retention chapter based on special circumstances pertaining to that land or the trees on it. Such requests shall be addressed, in writing, with full documentation and justification, to the administrator, who shall grant or deny based on DMC 25.120.010. Such request shall be processed with a Type III procedure per DMC 25.175.010(4).

<u>Staff Analysis and Conclusion</u>: The applicant submitted a Type III land use application for the removal of one landmark Oregon white oak tree located within the alignment of the new Sequalitchew Drive extension. In the analysis of section (x) above, staff has concluded that there are actually three Oregon white oak landmark trees within the development footprint that need to be removed. The overall intent of the City's tree retention requirements is to protect natural habitats, air quality, and groundwater recharge; improve the appearance of the community; provide shade and wind protection; reduce stormwater discharge; and conserve water supplies. The City seeks to balance tree retention without reducing developmental densities indicated in the comprehensive plan. Staff is not able to recommend approval of the tree modification request for Trees #12 and #65, however staff does recommend removal of Tree #9, if it can be demonstrated that it cannot reasonably be saved while provided the planned roadway extension. (Condition 11c, 12j and 13i)

3. ENGINEERING DEPARTMENT REVIEW

The City Engineer has reviewed the application and provided comments and condition in the letter dated February 21, 2018, August 20, 2018 which have been incorporated in the summary of record and made conditions of approval, where warranted (Attachment 10a). Comments were also received from Fred Foreman of the Water Quality Department on March 4, 2018 and August 13, 2019 and have been incorporated in the summary of record and made conditions of approval, where warranted (Attachment 10b).

4. FIRE DEPARTMENT REVIEW

The City Fire Marshal has reviewed the application and provided comments and condition in the memorandum dated Feb. 14, 2108, 2018, August 22, 2018 and January 18, 2019, which have been incorporated in the summary of record and made conditions of approval, where warranted. (Attachment 10c)

5. BUILDING DEPARTMENT REVIEW

The City Building Official has reviewed the application and provided comments and condition in the memorandum dated February 21, 2018, August 20, 2018, which have been incorporated in the summary of record and made conditions of approval, where warranted. (Attachment 10d)

6. TRAFFIC REVIEW

The City's Traffic Engineering Consultant, Gerilyn Reinhart, has reviewed the Traffic Impact Analysis submitted with the application and provided comments dated February 12, 2018, June 6, 2018, December 10, 2018 and January 13, 2019, which have been incorporated in the summary of record and made conditions of approval or SEPA mitigation measures, where warranted. (Attachment 10e)

E. CONCLUSIONS

The proposal has also been reviewed and found compliant with Site Plan Review criteria in DMC 25.150 and should be approved subject to the recommended conditions of approval. The proposal has not been found to be compliant with the Tree Retention requirements in DMC 25.120. The request for removal of one landmark Oregon white oak tree should, therefore, be denied.

In accordance with DMC 25.175.040, subject to the recommended conditions below, the Site Plan is consistent with the DMC and existing ordinances concerning public utilities, traffic, facilities, and services, and provides access, landscaping, screening, building placement, parking lot layout, and protection of sensitive areas.

F. RECOMMENDATION

Based on the findings and conclusions in this report, DuPont staff recommends:

Type III Site Plan Review - approval of the application subject to conditions.

Type III Tree Modification – staff recommends denial of the Type III Tree Modification request to remove landmark Oregon white oak trees No.12 and No. 65 and approval subject to conditions to remove landmark Oregon white oak tree cluster No. 9 located within the proposed Sequalitchew Drive right-of-way alignment.

The recommended conditions of approval are:

1. The SEPA MDNS issued on February 20, 2019 (Attachment 9d) is incorporated herein by reference and all SEPA Mitigation Measures included in the MDNS are hereby adopted in full and included as Conditions of Approval.

2. No development proposal is provided for the eastern residual parcel created by the dedication of Sequalitchew Drive. The area shall remain intact in its existing condition. No clearing, grading, tree removal or other land disturbing activity shall occur in this area until such time a development proposal is submitted, reviewed and approved by the City. Minor tree removal may be allowed due to the alignment of Sequalitchew Drive when the applicant demonstrates that there is no alternative. Removal of the narrow gauge railroad track on that parcel may only occur after consultation with DAHP and the DuPont Historical Society.

3. A sign permit will be required that meets the requirements of DMC 25.116.

4. Per DMC 25.45.030.3(13), air emissions shall meet applicable regulations of the Puget Sound Air Pollution Control Authority, and no visible, frequent, smoke, dust, or gases shall be emitted.

5. All existing trees within the tree retention areas shall be retained on an ongoing basis unless deemed unsafe or unhealthy by an arborist and with City Community Development Director approval. The tree retention areas shall be depicted and legally described in an easement to be recorded with the Pierce County Auditor. All tree protection requirements provided in DMC 25.120 and the WFC Tree Report shall be included in the easement. Any unhealthy or unsafe trees that are removed are to be replaced.

6. Construction of the development proposal must commence within 24 months from the date of the City's final decision on the site plan, otherwise the site plan approval expires.

7. Per DMC 25.75, at the time an individual business meets or exceeds 100 employees, the County Commute Trip Reduction (CTR) Department is to be notified within 30 days. The employer shall make a good faith effort, as defined in RCW 70.94.534(2) and DMC Chapter 25.75, to develop and implement a CTR program that will encourage their employees to reduce vehicle miles traveled per employee and single occupancy vehicle trips. The requirements of the CTR program are provided in DMC Chapter 25.75.

8. Trucks and vehicles are prohibited from parking on all public rights of way while waiting to access the property, unless temporary approval is granted by the City.

9. Revisions are required to the south elevation of the building or south side of the site to address the City's blank wall requirements in DMC 25.45.030(5). There are several options to address the blank walls, as follows:

a. Additional architectural treatments may be provided to the south elevation from building segments B – E as shown on Sheet A3.3 of the Architectural Plans (Attachment XX). Options include roof modulation and integration of color in vertical bands; or adding color or textural changes within the upper one-third of the building at intervals of 50 feet or less. The applicant may propose other architectural treatments to reduce the areas of blank walls to 50 feet or less.

b. As an alternative to (a), the applicant may provide a 3D rendering of the building and site topography to further assess visibility of the building from the trail and focus the blank wall requirements to a more defined/visible area. The areas where the building may be visible from the trail shall either be augmented with architectural elements as described in (a), or with additional screening landscaping between the trail and the building.

c. As an alternative to (a) and (b), or potentially subsequent to (b), the applicant and City shall meet at the site after the new trail segment has been constructed to assess building visibility from the trail. Balloons may need to be floated in the location of the south elevation to assess the location, mass and scale of the building. The ability to see/view the building from the trail shall be assessed as well as optimal locations for new vegetation to be added as required per SEPA Mitigation Measure No. 10. If it is determined that as a result of the additional vegetation that the south elevation will not be visible from the trail, the additional blank wall treatments listed in (a) or screening landscaping as described in DMC 25.45.030(5) will not be required.

Prior to issuance of Site Development Permits

10. Geotechnical Report Requirements:

a. The 2011 Geotechnical Report was completed in accordance with the 2005 Washington State Department of Ecology Stormwater Management Manual. The City of DuPont has adopted the 2012 Washington State Department of Ecology Stormwater Management Manual, amended 2014. The May 11, 2018 memo shall be updated to identify the City's current stormwater manual and to update any stormwater recommendations from the 2011 report.

b. The 2011 Geotechnical Report was completed prior to the adoption of an updated DMC Chapter 25.105. The report shall be updated meeting the requirements of DMC 25.105.050(3) and the SEPA MDNS.

c. On-site infiltration tests are required for validation of the design infiltration rate.

11. Tree Retention Plan Revisions. The WFC Tree Retention Report and the Barghausen Tree Retention Removal and Replacement Plans shall be updated to incorporate the following revisions:

a. The WFC Tree Retention Report shall be updated to include the recent site plan. The narrative and table in Attachment 3 shall be consistent.

b. Tree retention is required along street boundaries per DMC 25.120.030(2). On the western parcel existing trees shall be retained in the landscape area between Sequalitchew Drive and the vehicle parking area. All trees within the eastern parcel shall be retained until a development proposal is provided and approved for that parcel. Minor tree removal on the eastern parcel may be allowed subject to City approval for the Sequalitchew Drive alignment.

c. Tree #12 and #65 shall be retained. Tree cluster #9 may be removed if it is demonstrated that the right of way cannot reasonably be moved to retain the tree.

d. The Barghausen Tree Plans and the WFC Tree Report shall be consistent in tree types, tree removal and retention, and matching tree identification numbers. The WFC Tree Report shall confirm in writing that they have reviewed the revised Barghausen Tree Plans and find them consistent with the revised WFC Tree Report.

e. Per DMC 25.120.030(7), a note shall be added to the Barghausen Tree Plans as follows: "This plan is subject to an approved tree retention plan which requires that certain trees be preserved. That plan, which is binding on all owners, is on file with the City Planning Department".

f. Per DMC 25.120.030(8), a note shall be added to the Barghausen Tree Plans as follows: "Retained trees are not to be removed unless the City administrator determines in writing that they have become hazardous or diseased or threaten to damage public or private property. Whoever removes a street tree or required tree shall replace it with a tree approved by the city." The tree retention areas shall be depicted and legally described in an easement to be recorded with the Pierce County Auditor. All tree protection requirements provided in DMC 25.120 and the WFC Tree Report shall be included in the easement.

g. The Oak Preserve protection measures listed in DMC 25.120.040(3) – (10) shall be added to the Barghausen Tree Plans and described in the Tree Retention Easement.

12. Landscape Plan Revisions:

a. The trash enclosure shall be screened with moderate buffer plantings per DMC 25.90.030(3)(b).

b. Provide the landscape area calculation demonstrating that at least 20 percent of the site will be landscaped per DMC 25.90.020(2)(c). The 20 percent shall be provided for each final lot configuration.

c. Provide the correct number of parking spaces and required parking lot trees on the plans demonstrating compliance with DMC 25.90.030(2).

d. The landscape area between the eastern vehicle parking lot and Sequalitchew Drive shall be landscaped to meet the moderate landscape buffer requirements of DMC 25.90.030(3). Additional shrubs, trees and groundcover are required to infill the area around the existing trees, which are to remain. The applicant shall provide the City with a revised landscape plan that provides the tree retention and supplemental plantings for City review. The City will then determine if additional plantings are required.

e. No trailer storage is allowed east of the front/east building elevation. The eastern trailer storage area depicted on the landscape plans (north of the drive aisle) shall be removed and replaced with landscaping that meets the requirements of a moderate landscape screen per DMC 25.90.030(3).

f. The southeastern trailer storage area shall be replaced with moderate buffer landscaping. If the intent is to provide a stormwater pond in the area, it shall be fenced and screened with landscaping.

g. Additional screening vegetation shall be added in the area depicted on Figure 1 in Section D.1.d.3, to screen the southern trailer storage area from the trail.

h. Irrigation plans shall be provided. Irrigation water use, in accordance with DMC 25.90.040 shall be identified on the Landscape Plans. Irrigation meter sizes and locations shall be labeled on the Landscape Plans.

i. Any removed parking spaces shall be replaced with plantings, the type and quantity shall be determined by staff based on the location of the removed spaces.

j. Tree #12 and #65 shall be retained with no clearing or grading within the tree protection radius. Tree cluster #9 may be removed if it is demonstrated that the right of way cannot reasonably be moved to retain the tree.

k. Tree retention is required along street boundaries per DMC 25.120.030(2). On the western parcel existing trees shall be retained in the landscape area between Sequalitchew Drive and the vehicle parking area. All trees within the eastern parcel shall be retained until a development proposal is provided and approved for that parcel. Minor tree removal on the eastern parcel may be allowed subject to City approval for the Sequalitchew Drive alignment.

l. Add the City code-required tree protection measures to the civil and landscape site development permit plans. They are provided in DMC 25.120.030(5) and DMC 25.120.040(3) – (10). Also include the tree protection measures provide in the WFC Tree Retention Plan Report.

m. Trees shall be located outside of utility easements and alignments.

n. Add the 25-foot buffer that is depicted on the civil plans along the eastern property boundary (adjacent to residential area) to the landscape plans.

o. The Oak Preserve protection measures listed in DMC 25.120.040(3) – (10) shall be added to the Barghausen Tree Plans.

13. Civil Plan Revisions:

a. DMC 25.80.030 requires that no structures, roads, or utilities are permitted within 50 feet of the markers identifying cultural resource sites designated under DMC 25.80.020. This pertains to the relocation of the Methodist/Episcopal Mission marker which is to be relocated within the historical

commemorative area. The final design plans for the dedication area shall provide a 50-foot radius from the marker demonstrating that no structures, roads or utilities are located within it in compliance with DMC 25.80.030.

b. Provide the parking calculation on the civil and architectural plans. The calculation shall be based on DMC 25.95.030, which requires a minimum of 0.3 and maximum of 1 parking space per worker at maximum shift. If the number of employees at maximum shift requires a different quantity of parking spaces, the parking shall be modified accordingly or the applicant shall apply for a variance from DMC 25.95.030 per DMC Chapter 25.160 and demonstrate the variance criteria can be met. The parking spaces provided to serve the historic commemorative area are not to be included in the parking area calculation for the proposal.

c. The site plan shall include supplemental exhibits to demonstrate that the City Fire Department's large apparatus can navigate the site (lane width, radius), including access to FDCs and hydrants. The Fire Department will confirm the adequacy of vehicle access points.

d. The functional classification for the proposed Sequalitchew Drive extension is an arterial. The road cross-section shall meet City Public Works Standards and should match the existing road cross-section.

e. A pedestrian crossing of Sequalitchew Drive shall be included near the proposed trail head/historic commemorative area.

f. Parking aisle and stall design shall meet the requirements of DMC 25.95.050.

g. High occupancy vehicle spaces shall be provided on the plans per DMC 25.95.060.

h. Loading areas shall meet the design requirements of DMC 25.95.070.

i. The site plan shall be modified to retain Tree #12 and #65 with no clearing or grading within their tree protection radius. Tree cluster #9 may be removed if it is demonstrated that the right of way cannot reasonably be moved to retain the tree. Provide an exhibit demonstrating how the alignment could be modified to retain the tree while meeting the City's road standards.

j. Tree retention is required along street boundaries per DMC 25.120.030(2). On the western parcel the existing trees shall be retained in the landscape area between Sequalitchew Drive and the vehicle parking area. Walls may be required for tree retention, however, they can be no greater than six feet in height within setbacks and shall not encroach within the tree protection radius. Where there are no trees, the area may be graded.

k. Add the City code-required tree protection measures to the civil and landscape site development permit plans. They are provided in DMC 25.120.030(5) and DMC 25.120.040(3) – (10). Also include the tree protection measures provide in the WFC Tree Retention Plan Report.

l. The civil construction drawings shall contain the following note: "This project is subject to an approved tree retention plan which requires that certain trees be preserved. That plan, which is binding on all owners, is on file with the City Planning Department." To further inform future lot owners, a copy of the approved tree retention plan shall be provided each owner at closing on each lot.

m. All comments on the civil engineering design plans dated August 13, 2018 detailed in the Gray & Osborne comment letter dated August 20, 2018 shall be addressed (Attachment 10.a).

n. The site plan should reflect all easements, site restrictions, and encumbrances from the short plat and any other recorded documents. Proposed site improvements, within the easements on the project sites, shall comply with the conditions of said easements.

o. Label the 15-foot-wide water easements dedicated to the City. The easements shall be dedicated to the City following construction and prior to final acceptance of this project.

p. The Applicant should identify the proposed land subdivision for creation of the lots and dedication of the Sequalitchew Drive right-of-way to the City. The proposed lots and tracts should be labeled.

14. Conditions for the protection of Critical Areas:

a. If new trail construction is located within the 100-foot Sequalitchew Creek stream buffer, a Critical Areas Report shall be prepared meeting the requirements of DMC 25.105.050(2) and the SEPA MDNS. The City will review the report and determine if it meets the criteria for an exception per DMC 25.105.070(2) or if it requires a Critical Area Permit. If it is determined that a Critical Area Permit is required, the Critical Area Permit shall be submitted and approved prior to issuance of site development permits.

b. The applicant shall evaluate the potential for relocation of the trail to an area outside the critical area and buffer, but within the proposed right-of-way dedication area. If relocation is not feasible, provide the City with a response to the criteria listed in DMC 25.105.070(2)(a).

c. If any component of the development proposal is located in a Geologic Hazard Area, as determined by the revised Geotechnical Report prepared in accordance with DMC 25.105.050(3), the potential impacts and recommendations of the geotechnical engineer shall be provided. The City will review the report and determine if it meets the criteria for an exception per DMC 25.105.070(2) or if it requires a Critical Area Permit.

d. Habitat Management Plan for Marine and Terrestrial Priority Habitat Species shall be prepared meeting the requirements of DMC 25.105.050(2)(e) and (f) prior to issuance of site development permits. The City will review the report and determine if it meets the criteria for an exception per DMC 25.105.070(2) or if a Critical Area Permit is required.

e. The applicant shall file for record with Pierce County a notice in form approved by the City providing notice of the presence of any critical area or buffer. The owner shall submit proof to the city that the notice has been filed for record within 30 days after the approval of a development permit.

15. The following conditions pertain to the Trash Enclosure:

a. Provide the design and dimension details to the building or civil plans depicting compliance with DMC 25.100.050.

b. The location of the trash enclosure was revised since submittal of the LeMay approval letter. Provide approval from the service provider of the new location.

c. Per DMC 25.100.050(3), the trash enclosure shall be sized for both general refuse and recycling bins. Trash enclosures shall be surfaced with concrete with a concrete apron and at the same grade as the service vehicle access. Refuse enclosures shall be sized to provide space for the storage of recycled materials, compost, and solid waste in conformance with WAC 51-50-009.

d. The trash enclosure shall be screened per the requirements of DMC 25.90.030(3)(b).

16. All walls and fences located within the building setback area shall be less than 6 feet in height.

17. The submitted Water Availability Form is incomplete. The form shall identify the proposed peak water demand for the domestic and irrigation water uses.

18. Per DMC 13.05.100, Emergency Vehicle Access Standards Section H (Dead End Road Access). An approved area for turning around fire apparatus shall be required at the end of Sequalitchew Dr.

19. Per DMC 13.05.100, Emergency Vehicle Access Standards Section I (Gates). Number one thru six shall be followed if gates are installed.

20. The project activities shall comply with the requirements of the Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater

discharges associated with construction activity will be required for this project prior to issuance of a grading permit.

21. In accordance with Section 2.21 Street Frontage Improvements, all commercial and residential developments, plats, or short plats shall install frontage improvements at the time of construction as required by the City. Such improvements include curb and gutter, sidewalk, street, storm drainage, street lighting systems, utility relocations, landscaping and irrigation (2.21.1) and all frontage improvements shall be made across the full frontage of property from centerline to right-of-way line (2.21.2). For purposes of this short plat, the proposed 85-foot wide right-of-way is classified as an arterial with features and dimensions as defined in the City's Public Work Standards.

22. A parking lot lighting plan, which includes a photometric exhibit showing the lighting levels within the parking lot, will be required to demonstrate that parking areas are lit in accordance with City code requirements and lighting shall not escape property boundaries. The Applicant should note that DMC 25.70.070 allows 25-foot-tall lighting fixtures in parking lots, except at entries and for parking adjacent to buildings, where lighting remains restricted to 15 feet in height.

23. The parking lot shall be designed in accordance with DMC 25.70.030 and Ordinance No. 03-752, which includes, but limited to, screening as approved by the City. The minimum stall widths shall be 8.75 feet (basic) and 9 feet (parallel to an access aisle). Add the dimensions to the parking lots on all sides of Building 'A' and to the west side of Building 'B' to demonstrate compliance.

24. An analysis of sight distance triangles to verify that safe stopping and turning movements to and from the site at all points of access to the site shall be provided.

25. The City's Stormwater System Development Charge (SDC) will apply to this project. The Stormwater SDC is $1,000 per 1,900 square feet of impervious surface.

26. The submitted Pierce County Utilities information appears acceptable for Land Use Application approval. Documentation of Pierce County Public Works and Utilities approval of the Sanitary Sewer Plans for this project will be required prior to issuance of a construction permit.

27. All comments on the December 23, 2017 Stormwater Site Plan that are provided in the Gray & Osborne comment letter dated August 20, 2018 (Attachment 10a) shall be addressed.

Prior to issuance of Building Permits

28. The applicant shall submit the proposed uses with each building permit and/or tenant improvement application to ensure consistency with the performance standards in DMC 25.45. Each application for building permit shall be reviewed independently to ensure that the use does not create significant noise, a risk of explosion or radioactive release, or air or water pollution, per DMC 25.45.020(1)(a)(i) or DMC 25.45.030(12) – (16).

29. Staff will review each building permit application to ensure the use will comply with the noise limitations established in Chapter 9.09.

30. Revisions are required to the south elevation of the building or south side of the site to address the City's blank wall requirements in DMC 25.45.030(5). There are several options to address the blank walls, as follows:

a. Additional architectural treatments may be provided to the south elevation from building segments B – E as shown on Sheet A3.3 of the Architectural Plans (Attachment XX). Options include roof modulation and integration of color in vertical bands; or adding color or textural changes within the upper one-third of the building at intervals of 50 feet or less.

b. As an alternative to (a), the applicant may provide a 3D rendering of the building and site topography to further assess visibility of the building from the trail and focus the blank wall requirements to a smaller area. The areas where the building may be visible from the trail shall either be augmented with architectural elements as described in (a), or with additional screening landscaping between the trail and the building.

c. As an alternative to (a) and (b), or potentially subsequent to (b), the applicant and City shall meet at the site after the new trail segment has been constructed to assess building visibility from the trail. Balloons may need to be floated in the location of the south elevation to assess the location, mass and scale of the building. The ability to see/view the building from the trail shall be assessed as well as optimal locations for new vegetation to be added as required per SEPA Mitigation Measure No. 10. If it is determined that as a result of the additional vegetation that the south elevation will not be visible from the trail, the additional blank wall treatments listed in (a) or screening landscaping as described in DMC 25.45.030(5) will not be required.

31. No exterior mechanical equipment are depicted on the plans. If added, all HVAC, equipment, pumps, heaters and other mechanical devices shall be fully screened from view from all public rights-of-way, including Sequalitchew Drive and the Sequalitchew Creek Trail.

32. No outdoor storage areas are depicted on the plans. If added, no more than 2 percent of the total site area may be covered with outdoor storage. Outdoor storage shall be screened from the street by a 100 percent sight obscuring fence or wall.

33. The project will be required to apply for and obtain a Transportation Concurrency certificate, as provided in DMC 25.115, at the time of building permit application.

34. An automatic fire sprinkler system shall be installed. The system shall comply with NFPA 13 Standard for Automatic Fire Sprinkler System. Three (3) sets of plans, hydraulic calculations, and material specification sheets for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval and permits issued prior to commencing work. Separate Permit Required.

35. If a fire pump is required. The system shall comply with NFPA 20. Three (3) sets of plans and material specification sheets for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval and permits issued prior to commencing work. Separate Permit Required.

36. An automatic fire alarm system shall be installed. The system shall comply with NFPA 72 Standard for Fire Alarm System. Three (3) sets of plans, material specifications sheet for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval and permits issued prior to commencing work. Separate Permit Required.

37. A Knox key box system shall be required. Knox applications may be picked up at the DuPont Fire Department located at 1780 Civic Drive DuPont, WA 98327. A key shall be required to be placed in the Knox key box.

38. Fire extinguishers are required to be installed as directed by City of DuPont Fire Department. Prior to installation, the client is directed to request a fire inspection to confirm the locations of the fire extinguishers.

39. The proposed structures must be designed to meet the requirements of the building construction codes in effect at the time of building permit submittal. The following codes are currently enforced by the City of DuPont: the 2015 International Building Code, the 2015 International Residential Code, the 2015 International Fire Code, the 2015 International Mechanical Code, the 2015 International Fuel Gas Code, the 2015 Uniform Plumbing Code (each as amended and adopted by the State of Washington); and the 2015 Washington State Energy Code.

40. The project (or each project) will be required to receive all land use and civil construction approvals prior to issuance of building permits for the proposed structures.

41. All applicable Fire Impact and Storm System Development Charge fees assessed for the proposed development will be required to be paid prior to the issuance of building permit(s) associated with the proposed project.

42. Also prior to issuance of a building permit for the structure, the applicant shall provide a copy of Pierce County Sewer Service Permits for City record. This permit (and authorization to connect to sewer service) is/may be independent from any sewer system extension that may also apply to the project. All sewer connection and permitting requirements must be coordinated with the utility purveyor. Please note that Pierce County Sewer Utility requires a pre-treatment review and approval be completed prior to their issuance of sewer extension or sewer service connection permit(s). Each subsequent tenant, for multi-tenant buildings, must also complete a separate pre-treatment review and provide copy of sewer service permitting, where applicable, prior to obtaining a building permit for associated improvements.

43. Fire Suppression and Fire Alarm permits associated with the structure(s) must be obtained through DuPont Fire Department prior to initiating any such work. All alarms systems will be required to obtain an alarm registration permit with the city, prior to full activation of the alarm system for operation; forms may be obtained at city hall.

44. Fire flow requirements and requirements for on –site hydrants and site access provisions will be determined by the DuPont Fire Chief or designee. Such requirements may be subject to additional review and requirements as future submittals come forward.

45. Addressing for building(s) within the project area will be assigned as the project scope progresses, and may be obtained from the building department as needed. Please note that in establishing and providing this information, the department will need to verify a clear scope and layout for the proposal – as minor adjustments to primary access points, inter-relation of use(s) of the buildings, or changes in building frontage may affect preliminary addressing assignment(s).

46. In conformance with IBC Section 427, new buildings serving Group B, Group R-1 hotel and motel only, and Group R-2 occupancies, served by 20 or more parking spaces, shall provide a minimum of 5% of the parking spaces with electric vehicle charging infrastructure in compliance with IBC Sections 427.3, 427.4 and 427.5.

47. Accessible parking spaces shall be provided in compliance with IBC Section 1106. Quantity of required stalls shall conform with Table 1106.1, except as required by IBC Sections 1106.2 through 1106.4 and locations as specified in Section 1106.6 as amended by the Washington State Building Code Council.

48. The Applicant shall furnish meter sizing calculations for domestic and fire water services. The sprinkler system design, including confirmation of the provided sizing for the fire line components shall be reviewed and approved by the City Building Department and Fire Department as part of the building permit process. Each fire line connection to a City water main will require a double detector check valve assembly (DDCVA) in an underground vault and a Fire Department Connection (FDC) within 50 feet of a fire hydrant. The double detector check valve assemblies (DDCVA) shall be located in underground vaults outside of the building to allow direct access by City staff.

49. The City Fire Department shall confirm that the number and location of existing and proposed fire hydrants on or near the project site are adequate for purposes of providing the required fire flow for the proposed building.

During Construction

50. A certified arborist shall monitor construction activities in the vicinity of the tree protection areas. The City may elect to also require the City arborist to monitor construction in these areas. The applicant will be responsible for payment of the fees should the City arborist also be onsite to monitor construction activities.

Prior to the issuance of a Certificate of Occupancy

51. Prior to Fire Department approval for occupancy, an underground fire line shall be installed. The system shall comply with NFPA 24 Standard for Installation of Private Fire Service Mains. Three (3) sets of plans, material specifications sheets for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval, and permits issued prior to commencing work. The FDC shall be a minimum of 50 feet or 1&1/2 times the height of the structure away from the

building. The FDC shall be within 50 feet of a hydrant and be 5 inch with a locking cap. (Fire Department approval for location) Separate Permit required.

52. All new building shall have approved emergency responder radio coverage per section 510 of the 2015 International Fire Code.

53. Following construction, a City of DuPont Agreement for Inspection and Maintenance of Privately Maintained Storm Drainage Facilities will be required for any onsite storm water system.

54. This project is subject to the Geographic Information System (GIS) requirements as stated in the City of DuPont Municipal Code, Chapter 24.10, and Ordinance No. 97-559.

G. SUMMARY OF RECORD

1. The following plans and documents were submitted for City review on January 26, 2018. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Land Use Application Form stamped received on January 26, 2018.

b. Transmittal Letter prepared by Barghausen Consulting Engineers dated January 26, 2018.

c. Stormwater Site Plan prepared by Barghausen Consulting Engineers dated December 23, 2017.

d. Vicinity Map prepared by Barghausen Consulting Engineers dated December 19, 2017.

e. Pierce County Public Works ELobby Receipt for Request for Sewer Service Availability dated January 26, 2018.

f. Authorization to Act as Agent signed by DuPont Industrial Partners dated November 27, 2017.

g. Geotechnical Engineering Report for Lot X prepared by GeoEngineers dated May 10, 2011.

h. Import Fill Source Sampling letter prepared by GeoEngineers dated June 27, 2012.

2. The following plans and documents were submitted for City review on May 23, 2018. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Response to Comments Letter prepared by Barghausen Consulting Engineers dated May 23, 2018.

b. Buildings A and B Color Scheme prepared by Helix Design Group dated March 30, 2018.

c. Perspective Illustration prepared by Helix Design Group dated March 30, 2018.

d. Letter to City of DuPont from Dept. of Archaeology & Historic Preservation dated May 4, 2011.

e. Updated Title Report dated April 2, 2018.

f. Revised Traffic Impact Analysis prepared by Heath Associates, Inc. dated March 2018.

g. Geotechnical Report Addendum for Lot Y prepared by GeoEngineers dated May 11, 2018.

h. Archeological Survey, Testing and Monitoring Report prepared by Parus Consulting, Inc. dated April 1, 2011.

i. Resubmitted 300-foot radius Map.

j. Resubmitted Mailing Labels.

k. Consent Decree Dept. of Ecology v. Weyerhaeuser Company and DuPont Company dated July 17, 1991, no. 912017031.

l. Resubmitted Water Availability Form prepared by Barghausen Consulting Engineers undated.

m. Pierce County Planning & Public Works Sewer Availability letter dated March 28, 2018.

n. DuPont Industrial Partners letter to Dept. of Archaeology & Historic Preservation dated June 8, 2011.

o. Waste Connections (LeMay) email approving Trash Enclosure location dated May 22, 2018.

3. The following plans and documents were submitted for City review on July 16, 2018. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Transmittal and Comment Response Letter prepared by Barghausen Consulting Engineers dated July 16, 2018.

b. Revised SEPA Checklist prepared by Barghausen Consulting Engineers dated July 13, 2018.

4. The following plans and documents were submitted for City review on August 13, 2018. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Land Use Application Form (for Tree Removal) stamped received on August 13, 2018.

b. Comment Response Letter prepared by Barghausen Consulting Engineers dated August 14, 2018.

c. Revised Tree Retention Plan prepared by Washington Forestry Consultants dated August 9, 2018.

d. Revised Civil Plan Set Sheets C1 – C13 prepared by Barghausen Consulting Engineers signed on August 13, 2018.

5. The following plans and documents were submitted for City review on December 5, 2018. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Email with Proposed Mitigation Measures from Dan Balmelli dated December 5, 2018.

b. Right of Way Dedication Exhibit prepared by Barghausen Consulting Engineers plotted November 28, 2018.

6. The following plans and documents were submitted for City review on Dec. 10, 2018. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Revised Site Concept Plan, prepared by Craft Architects dated May 11, 2018.

b. Letter with description of revised proposal from Avenue 55 dated December 10, 2018.

7. The following plans and documents were submitted for City review on January 9, 2019. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Revised Exterior Elevations (3 sheets) prepared by Craft Architects dated January 7, 2019.

8. The following plans and documents were submitted for City review on January 30, 2019. If a plan was later revised, earlier versions are not included in the Summary of Record (i.e. only the final version is included):

a. Revised Tree Retention, Removal and Replacement Plan Sheets T1-T3 prepared by Barghausen Consulting Engineers plotted January 30, 2019.

b. Revised Landscape Plan Sheets L1-L4 prepared by Barghausen Consulting Engineers plotted January 30, 2019.

9. The following Notices were issued by the City during application review:

a. Notice of Complete Application dated August 20, 2018.

b. Notice of Application & Optional DNS dated August 22, 2018.

c. Revised Notice of Application & Optional DNS dated August 27, 2018, including affidavit of posting the site and posting at City Hall notice board.

d. SEPA MDNS issued on February 20, 2019.

e. Notice of Public Hearing published and posted April 29, 2019, with newspaper confirmation affidavit of posting onsite, affidavit for posting on City Notice Board and affidavit of mailing.

10. The following comments were provided on the proposal by City staff and consultants:

a. Gray & Osborne comment letters dated February 21, 2018 and August 20, 2018.

b. Fred Foreman, City of DuPont Water Quality Department comments dated March 4, 2018 and August 13, 2019.

c. City Fire Marshal comment memorandums dated Feb. 14, 2018, August 22, 2018, and January 18, 2019.

d. City Building Official comments dated February 21, 2018 and August 20, 2018.

e. City's Traffic Engineering Consultant, Gerilyn Reinhart comments dated February 12, 2018, June 6, 2018, December 10, 2018 and January 13, 2019.

11. The following public comments were received during the Notice of Application/Optional SEPA DNS Comment period:

a. Jackie Jones Hook (Buffalo Soldiers Museum) email dated September 12, 2018.

b. Bridget King letter dated September 11, 2018.

c. Diana Barbera email dated September 9, 2018.

d. Jim Lewis email dated August 25, 2018.

e. Maria Gudaitis email dated September 12, 2018.

f. Kate Walsh email dated September 10, 2018.

g. DuPont Historical Society (Carol F. Estep) letter dated August 27, 2018.

h. Department of Ecology Southwest Regional Office letter dated September 12, 2018.

i. Jackie Wall (Nisqually Indian Tribe) letter August 28, 2018.

j. Jackie Jones Hook (Buffalo Soldiers Museum) email dated September 4, 2018.

k. Sam Merrill (Black Hills Audubon) email dated September 12, 2018.

l. Steve Thompson email dated September 12, 2018.

m. Jim Dimond email dated August 28, 2018.

n. Lizzy Sandstrom (Puget Sound Clean Air Agency) email dated September 4, 2018.

o. Maxine Dunkelman email dated September 11, 2018.

p. Cynthia Callahan (Tacoma Pierce County Health Department) letter dated September 7, 2018.

q. Karen Nolan email dated September 12, 2018.

r. Carol McDowell email dated September 8, 2018

s. Nisqually Delta Association letter dated September 12, 2018

t. Janine Gates email dated September 5, 2018

12. The following applicable historical information is provided to supplement the record. Other historical documents are included within the applicant's submittal items or received as part of public comment or the appeals filed:

a. Summary of Historical Resources prepared by Lisa Klein, planning consultant to the City.

b. Declaration of Restrictive Covenant dated December 23, 1997, recording no. 9712230865, regarding remedial action under the Washington Model Toxics Control Act.

c. Declaration of Restrictive Covenant dated October 29, 1999, recording no. 9910290750, regarding remedial action under the Washington Model Toxics Control Act.

d. Notice of Historic District Designation dated December 20, 2000 (recording number 200101120143) and First Amendment dated March 27, 2006 (recording no. 200606120310).

e. Declaration of Restrictive Covenant dated July 25, 2006, recording no. 200607251020, regarding remedial action under the Washington Model Toxics Control Act.

f. Declaration of Public Trail Easement and Trail Construction Easement dated September 30, 2010, recording no. 201009301052.

g. MOA between DAHP, WRECO and City dated August 7, 1989.

h. MOA between WRECO, Nisqually Point Defense Fund, Committee for the Preservation of the Nisqually Mission Historical Site, Nisqually Delta Assn. and the DuPont Historical Society dated December 19, 2000.

13. The following public comments were received outside of the Notice of Application/Optional SEPA DNS comment period and prior to the public hearing:

a. Email from Joe Cushman of Nisqually Tribe received September 13, 2018.

b. Email from Dennis Wardlaw of Dept. of Archaeology and Historic Preservation received September 14, 2018.

c. Email from Wyatt Golding dated February 20, 2019 with inquiries on the appeal process.

d. Email from Krista Novak dated February 20, 2019 with comments on the proposal.

e. Email from Dennis Wardlaw of Dept. of Archaeology and Historic Preservation received February 27, 2019.

f. Email from Kate Walsh received May 4, 2019 with comments on the proposal.

g. Email from Kate Walsh received May 6, 2019 with comments on the proposal.

H. PARTIES OF RECORD

Parties of record include any agencies or individuals who commented on the application. They are:

Name	Email Address	Address	Comment Format
Rev. Dr. James Lewis	Revjlewis43@gmail.com		Email
Carol Estep DuPont Historical Society	estepcarol@gmail.com	207 Barksdale Ave	Letter
Jim Dimond	shinodad@gmail.com		Email
Jackie Wall, THPO Nisqually Indian Tribe	Wall.jackie@nisqually-nsn.gov		Email
Janine Gates	Ja9gates@aol.com		Email
Lizzy Sandstrom Puget Sound Clean Air Agency	lizzys@pscleanair.org		Email
Eric Cederstrand, Commencement Bay Dev	Eric@combaydev.com		

Dan Balmelli, Barghausen Consulting Engineers	dbalmelli@barghausen.com		
Tom Skjervold Nisqually Delta Association	Tskjervold@gmail.com	P O Box 7444 Olympia, 98501	Letter
Carol McDowell	Barista43@comcast.net		Email
Diana Barbera	dbarbera@mindspring.com	1829 Hoffman Hill BLVD	Email
Sara Bird, Tacoma-Pierce County Health Dept.	sbird@tpchd.org		Email
Cynthia Callahan, Tacoma-Pierce County Health Dept.	ccallahan@tpchd.org		Email
Kate Walsh	3mcwals@gmail.com	2180 Palisade	Email
Roger Westman	rswestman@msn.com		Email
Maxine Dunkelman	maxdunk@comcast.net		Email
Bridget King	Bkking3@hotmail.com	1473 Kittson St.	Email
Steve Thompson	Stevethompson440@comcast.net		Email
Jackie Jones-Hook	jjoneshook@aol.com		Email
Sam Merrill	Sammerrill3@comcast.net		Email
Karen Nolan	fraukln@yahoo.com		Email
Maria Gudaitis	mariagudaitia@gmail.com		Email
ECY RE SWRO SEPA	swrosepacoordinator@ecy.wa.gov		Email
Krista Novak	kristamnovak@yahoo.com	1449 Kittson St	Listed on email from B. King
Maria Gudaitis		507 Louviers Ave	“”
Jessica Fester		504 DuPont Ave	“”
R. Suzette Frederick		1148 Aldrich Pl	“”
Ronald Frederick		1148 Aldrich Pl	“”
Dennis Clarke		2237 Anderson Ave	“”
Kathy Clarke		2237 Anderson Ave	“”
Cara Mitchell		2221 McDonald Ave	“”
Laurie Foster		1975 A Gary Oaks Ave	“”
Kelvin Brown	Kelvinator46@gmail.com		Lay Pastor
Joe Cushman	Cushman.joe@nisqually-nsn.gov		email
Dennis Wardlaw	Dennis.wardlaw@dahp.wa.gov		email

c: File No. PLNG2018-08, -09, -047
Applicant:
Eric Cederstrand, DuPont Industrial Partners, LLC (ecederstrand@neilwalter.com)
Drew Zaborowski (dzaborowski@avenue55.net)
Applicant's Representative:
Dan Balmelli, Barghausen Consulting Engineers, Inc., dbalmelli@barghausen.com
City of DuPont TRC Members:
Dominic Miller, P.E., Gray & Osborne, Inc. (City Engineer)
Mike Turner, City of DuPont Fire Department (Fire Marshal)
Bill Anderson, City of DuPont Building Department (Building Official)
Lisa Klein, AHBL, Land Use Consultant to the City of DuPont

RECEIVED
JAN 26 2018
CITY OF DUPONT

City of DuPont
Planning Division
Land Use Application

1700 Civic Drive
DuPont, WA 98327
www.dupontwa.gov

Phone: (253) 912-5393
Fax: (253) 964-1455

City File Number: PLNG 2018-008 & 009

All information listed in this application, or by applicable ordinance, must be submitted in order for a land use application to be determined complete. Only a complete land use application will be processed for conformance with adopted policies and requirements.

General Information:

Project name: DuPont Industrial Park

Applicant name: Eric Cederstrand / DuPont Industrial Partners, LLC

Address: 1201 Pacific Avenue Suite 1501, Tacoma, WA 98042

Phone number: 253 396-4860 Fax number:

Applicant's representative: Barghausen Consulting Engineers

Address: 18215-72nd Avenue South, Kent, WA 98032

Phone number: (425) 251-6222 Fax number: (425) 251-8782

Description of proposal. Be specific.

Construction of 2 office/warehouse buildings on an approximately 21-acre vacant parcel of land. Site work improvements will include grading, paved truck parking and maneuvering areas, water and sanitary sewer extensions, stormwater facility and landscaping.

Site Information:

Assessor's Parcel Number(s): 011926-2019

Area of site in square feet: 844,295

Area of streets and alleys: 28,230

Area of storm drainage improvements and conveyance lines: 548,794

Area of open space and neighborhood green tracts: N/A

Area of critical areas and buffers: N/A

Area of building floors: 258,400

Area of impervious surfaces: 548,794

Area of landscaping: 44,180

Building height: approximately 40-foot

Number of dwelling units: N/A

Number of employees: 99

Number of disabled, compact and standard parking stalls: 95 standard stalls / 4 ADA accessible stalls / 0 compact

Description and area of all proposed tracts: 0

Attachment 1.a. Land Use Application Form stamped received on January 26, 2018

Required Plans, Information and Fee:

(Quantity and minimum scale of each item or drawing is indicated in parenthesis. Plans shall be no larger than 24 by 36 inch sheet size)

1. ☐ Vicinity Map (include as part of site plan).
2. ☐ Site Plan drawn at 1 inch = 20 feet extending 100 feet beyond the property lines (eight copies).
3. ☐ Landscape Plans identifying: location, size and species of all landmark, historic and specimen trees; trees to be retained, specific tree protection measures drawn at 1 inch = 20 feet (seven copies).
4. ☐ Grading Plan with estimated dimensions and quantities of work involved drawn at 1 inch = 20 feet horizontal with 2' contour intervals (seven copies).
5. ☐ Storm Drainage and Utility Plan drawn at 1 inch = 20 feet (seven copies).
6. ☐ Preliminary Stormwater Management Report and calculations (three copies).
7. ☐ Roadway cross sections, (seven copies of single line drawing with dimensions).
8. ☐ One each 8 by 11 inch reduction of all drawings.
9. ☐ Average daily trips generated by the proposal based on the International Transportation Engineers Trip Generation Manual (two copies).
10. ☐ Building Elevations drawn at ¼ inch = 1 foot or larger. Identify building materials and colors (eight copies).
11. ☐ Title report of subject lot that is less than 30 days old to identify all encumbrances (two copies).
12. ☐ Draft of proposed covenants, conditions and restrictions related to the maintenance of open space or commonly owned improvements, if applicable (two copies).
13. ☐ Letter of Sewer Availability from Pierce County (two copies).
14. ☐ Letter of Water Availability from City of DuPont (two copies).
15. ☐ One site drawing showing the refuse enclosure(s) that is approved via signature and date by LeMay, Inc. Contact person is Charlie Maxwell, Public Relations Director, 253-537-8687.
16. ☐ Completed Environmental Checklist (two copies).
17. ☐ Completed Land Use Application (one copy).
18. ☐ Completed Agent Affidavit (one copy).
19. ☐ Filing fee(s).

Note:

Fill out and return this application with all material listed in the Required Plans, Information and Fee section. Submittal of all required plans, information and fees constitutes a complete application. You will be contacted by the City within 28 days of formal application submittal regarding whether the application is complete. Site work may not start until all necessary permits have been obtained. Paper or electronic drawings of the proposal may be requested for presentation purposes.

Daniel K. Balmelli 1-24-2018 Daniel K. Balmelli, P.E. / Barghausen Engineer

(Applicant Signature) (Date) (Print name)

BARGHAUSEN CONSULTING ENGINEERS, INC.

CIVIL ENGINEERING, LAND PLANNING, SURVEYING

January 26, 2018

City of DuPont
Planning Division
1700 Civic Drive
DuPont, WA 98327
Attn: Mr. Jeff Wilson, Planning Director

RECEIVED
JAN 26 2018
CITY OF DUPONT

RE: SEPA Environmental Review Application Package for
DuPont Industrial Park located at
1700 Center Drive, DuPont, Pierce County, Washington
Tax Parcel No: 011926-2019
Our Job No. 18666

On behalf of DuPont Industrial Partners, Barghausen Consulting Engineers, Inc. is submitting the SEPA and Land Use application documents to begin review of the proposed DuPont Industrial Park project located on an approximate 21-acre located to the west of Center Drive and to the west of the proposed extension of Sequalitchew Drive. The proposed development consists of the construction of two new office/warehouse buildings along with the associated grading activities, paved parking and truck maneuvering areas, landscaping, storm water facility, water and sanitary sewer extensions, franchise utility improvements and roadway improvements, if required.

The following plans and documents are enclosed for review:

1. Eight (8) each Vicinity Map (8½ x 11)
2. Eight (8) each Preliminary Architectural Site Plan (400z)
3. Seven (7) sets Landscape Planting Plans
4. Seven (7) sets Preliminary Civil Engineering Design Plans
5. Three (3) each Preliminary Stormwater Site Plan
6. One (1) each Plan Sheet Reductions to 8-1/2 x 11
7. Two (2) each Traffic Impact Analysis
8. Eight (8) each Preliminary Building Elevations and Renderings (A300) + (8) Build. Rendering (8½ x 11)
9. Two (2) each Title Report
10. Two (2) each Geotechnical Information Report
11. Two (2) each Fill Source Sampling Report
12. Two (2) each copy of request to Pierce County for Sewer Service Availability
13. Two (2) each City of DuPont Water Availability Form
14. One (1) each copy of Trash Enclosure Location Approval from Lemay, Inc. (Plan)

Attachment 1.b. Transmittal Letter prepared by
Barghausen Consulting Engineers dated January 26, 2018

18215 72ND AVENUE SOUTH KENT, WA 98032 (425) 251-6222 (425) 251-8782 FAX
BRANCH OFFICES • TUMWATER, WA • KLAMATH FALLS, OR • LONG BEACH, CA • ROSEVILLE, CA • SAN DIEGO, CA
www.barghausen.com

15. Two (2) each Environmental Checklist - $1,500
16. One (1) each Land Use Application for Type II Review $3000
17. One (1) each Authorization to Act as Agent Affidavit
18. One (1) set Mail Labels for Property Owners in 300-foot Radius
19. One (1) each 300-foot Radius Map Exhibit
20. One (1) each CD Containing PDF Document Files
21. One (1) each Check SEPA and Type II Land Use Review Application Fees $4,500

We believe that the enclosed plans and documents compile a complete application package to begin the SEPA Environment review process for DuPont Industrial Park project. Please review at your earliest convenience and please feel free to contact me if you have any questions or need any additional information. Thank you.

Sincerely,

Daniel K. Balmelli

Daniel K. Balmelli, P.E.
Executive Vice President

BSD/dm/bd
18666c.001.doc
enc: As Noted
cc: Eric Cederstrand, DuPont Industrial Partners
Costa Philippides, Barghausen Consulting Engineers, Inc.
Betsy Dyer, Barghausen Consulting Engineers, Inc.

STORMWATER SITE PLAN

Proposed DuPont Industrial Warehouse

DuPont, Washington



01/23/2018

Prepared for:
Commencement Bay Development, LLC
1940 East D Street, Suite 108
Tacoma, WA 98421
(253) 396-4860

December 23, 2017
Our Job No. 18666

Attachment 1.c. Stormwater Site Plan prepared by Barghausen Consulting Engineers dated December 23, 2017

CIVIL ENGINEERING, LAND PLANNING, SURVEYING
18215 72ND AVENUE SOUTH KENT, WA 98032 (425) 251-6222 (425) 251-8782 FAX
BRANCH OFFICES ♦ TUMWATER, WA ♦ LONG BEACH, CA ♦ ROSEVILLE, CA ♦ SAN DIEGO, CA
www.barghausen.com

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

This 25.3-acre site is located in a portion of the Northwest quarter of Section 26, Township 19 North, Range 1 East, Willamette Meridian, Pierce County, Washington. Of these 25.3 acres, 14.92 acres will be cleared, graded, and developed into a commercial building site. There no known wetlands on the site.

All Minimum Requirements apply to this project site and the following pages of this report delineate how those Minimum Requirements are met with this overall project development. Flow control is being provided through three Stormtech Chambers on site, which will infiltrate, since the soils have high permeability according to the geotechnical report included in section 7.0 of this report. Water quality is provided through three modular wetland systems as developed by Bio Clean Environmental Services, Inc. which has General Use Level Designation for Enhanced, Phosphorus, and Basic Water Quality Menus.

According to the topographic survey, there are no upstream basins that contribute runoff to this project.

Three Stormtech Chambers are proposed for this project: one for the western portion of the project, one for the eastern portion of the project, and one for the proposed half street of Sequalitchew Road. These three Stormtech Chambers allow for approximately 52,300 cubic feet of live storage, which is consistent with the requirements of Pierce County for flow control based on a site of this size. The conveyance system for this project will be sized based on the Santa Barbara Urban Hydrograph (SBUH) methodology for the 100-year storm in all conveyance elements without surcharging any manholes or catch basins.

1.0 ANALYSIS OF THE MINIMUM REQUIREMENTS

FIGURE 1.1 - MINIMUM REQUIREMENTS SUMMARY

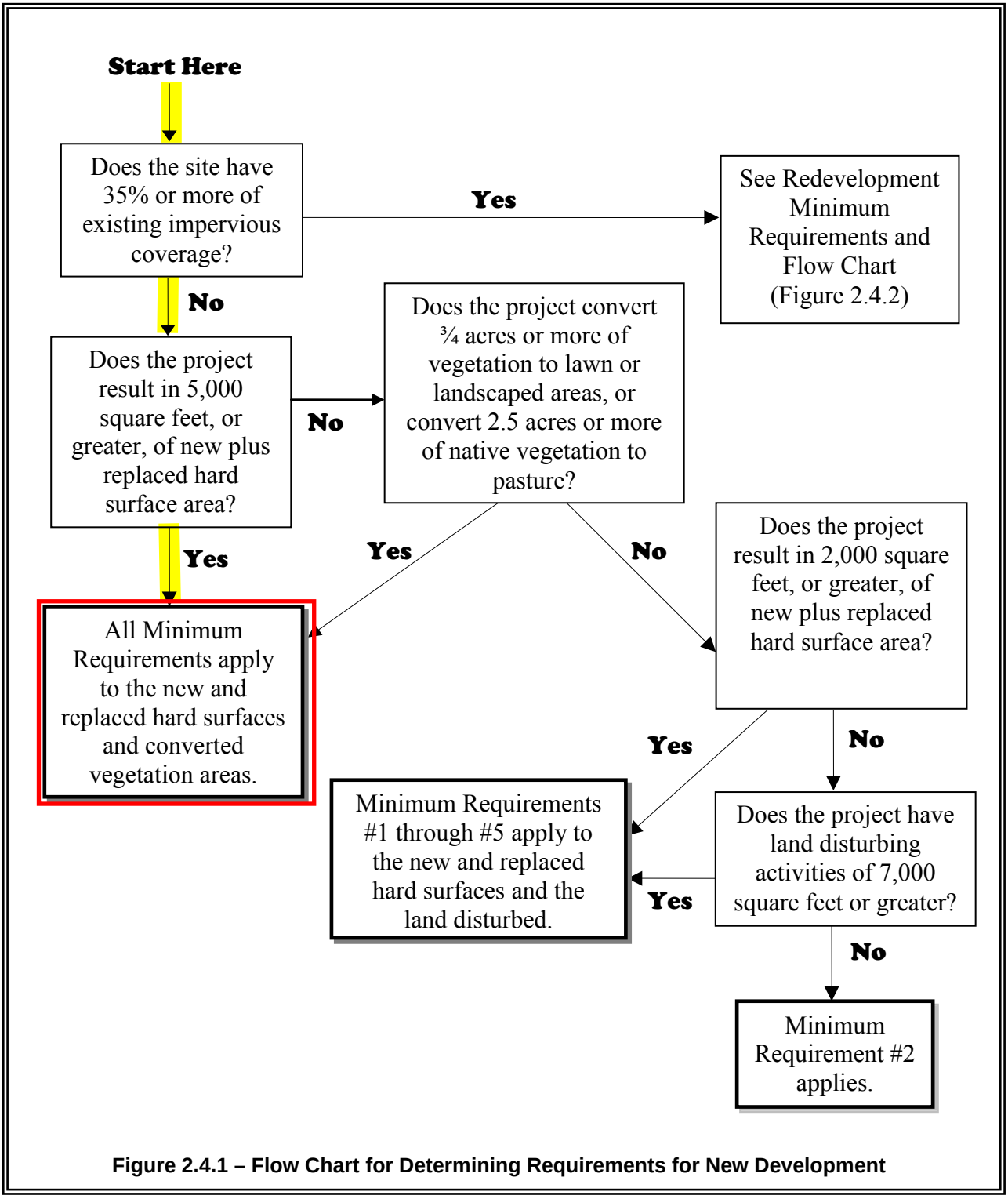


Figure 2.4.1 – Flow Chart for Determining Requirements for New Development

1.0 ANALYSIS OF THE MINIMUM REQUIREMENTS

Per Figure 1.1, which is the Minimum Requirements for New Development Projects, all the Minimum Requirements 1 through 9 apply to this project. The following is a list of each of the Minimum Requirements and how this Stormwater Site Plan and site development project meet those requirements.

Minimum Requirement No. 1: Preparation of Stormwater Site Plan.

Response: This document hereby meets the requirements for preparing a Stormwater Site Plan.

Minimum Requirement No. 2: Stormwater Pollution Prevention Plan.

Response: Please see Section 6.0 of this report for the Stormwater Pollution Prevention Plan prepared for this project.

Minimum Requirement No. 3: Source Control of Pollution.

Response: All known, available, and reasonable Source Control BMPs applicable to this project site will be applied to this project site once it is determined what type of development it will be. At time it is known to be a warehouse type facility and at a minimum, the owner will be educated about the proper use of pesticides and fertilizers, the parking lot will be swept on a regular basis, and the trash enclosures will be covered.

Minimum Requirement No. 4: Preservation of Natural Drainage Systems and Outfalls.

Response: This site currently infiltrates, as it is undeveloped land. Because the development will infiltrate all stormwater runoff, the existing drainage system is preserved with the proposed infiltrating Stormtech Chambers.

Minimum Requirement No. 5: On-Site Stormwater Management.

Response: The soils report in section 7.0 of this report shows infiltration rates between 2 inches per hour and 9 inches per hour for the site to the east of this site. Using this range, the average infiltration rate, or 5 inches per hour, was used as the approximate infiltration rate for this site. This infiltration rate suggests that infiltration is feasible for this project.

Minimum Requirement No. 6: Runoff Treatment.

Response: Minimum Requirement No. 6 is met for this project by utilizing the Enhanced Water Quality Menu in the form of a modular wetland system as meeting the Enhanced Water Quality Menu of the Department of Ecology with a General Use Level Designation (GULD).

Minimum Requirement No. 7: Flow Control.

Response: As mentioned previously, flow control is applied to this site in the form of infiltrating StormTech Chambers. The flowrates for the site are 100% infiltration and the flowrates for the 5-year through the 50-year 24-hour storm decreased, meeting the Stream Protection Standard of 50 percent of the 2-year pre-developed discharge rate up to the full 50-year peak flow matching durations between pre-developed and post-developed conditions. This is in accordance with page 2-11 of Volume I of the General Requirements of Flow Control in the Pierce county manual dated 2015. The geotechnical engineer has indicated infiltration is feasible in the geotechnical report in section7.0 of this report.

Minimum Requirement No. 8: Wetlands Protection.

Response: There are no known wetlands on this site or adjacent to this site.

Minimum Requirement No. 9: Operation and Maintenance.

Response: An Operations and Maintenance Manual is included in this report, and meets the requirements of the 2015 stormwater manual for Pierce County.

2.0 PROJECT OVERVIEW

2.0 PROJECT OVERVIEW

The site is located within a portion of the Northwest quarter of section 26, Township 19 North, Range 1 East, Willamette Meridian, Pierce County, Washington. More particularly, the address of this site is 1700 Center Drive DuPont, WA 98327

This project is proposing two warehouse buildings: one with a footprint of approximately 130,000 square feet, and the other with a footprint of approximately 126,600 square feet. A half street is also proposed to connect into the existing portion of Sequalitchew road to the southeast of the site. The remaining eastern side of Sequalitchew road will be constructed during the development of the eastern side of the site. This project also proposes sidewalks, asphalt pavement, landscaping area, and retaining walls. These improvements will total 13.48 acres of impervious surfaces, of which 6.3 acres will be asphalt pavement. The remaining area of the site will be pervious surfaces in the form of landscaping and undisturbed land, which totals 11.82 acres.

Additionally, three infiltration galleries, a stormwater conveyance system, and three modular wetlands are also proposed for this site. Sewer and water systems, as well as other utility services will also be included in this project.

3.0 EXISTING CONDITIONS SUMMARY

3.0 EXISTING CONDITIONS SUMMARY

Under existing conditions the eastern and western portions of the site are thickly forested. The center of the site is an open area of gravel with downward slopes of approximately 3:1. To the west of the gravel area, the site is relatively flat, other than a few areas of moderate slopes. On the east of the gravel area, the site is moderately steep, where it generally slopes downward to the southwest at a minimum of 7% and at most 30% on the far east side of the site. Overall, it appears this site slopes downward to the southwest.

Per the geotechnical report for the adjacent site, there was no groundwater at depths of 12 feet, and groundwater levels are expected to be well below this.

4.0 OFF-SITE ANALYSIS REPORT

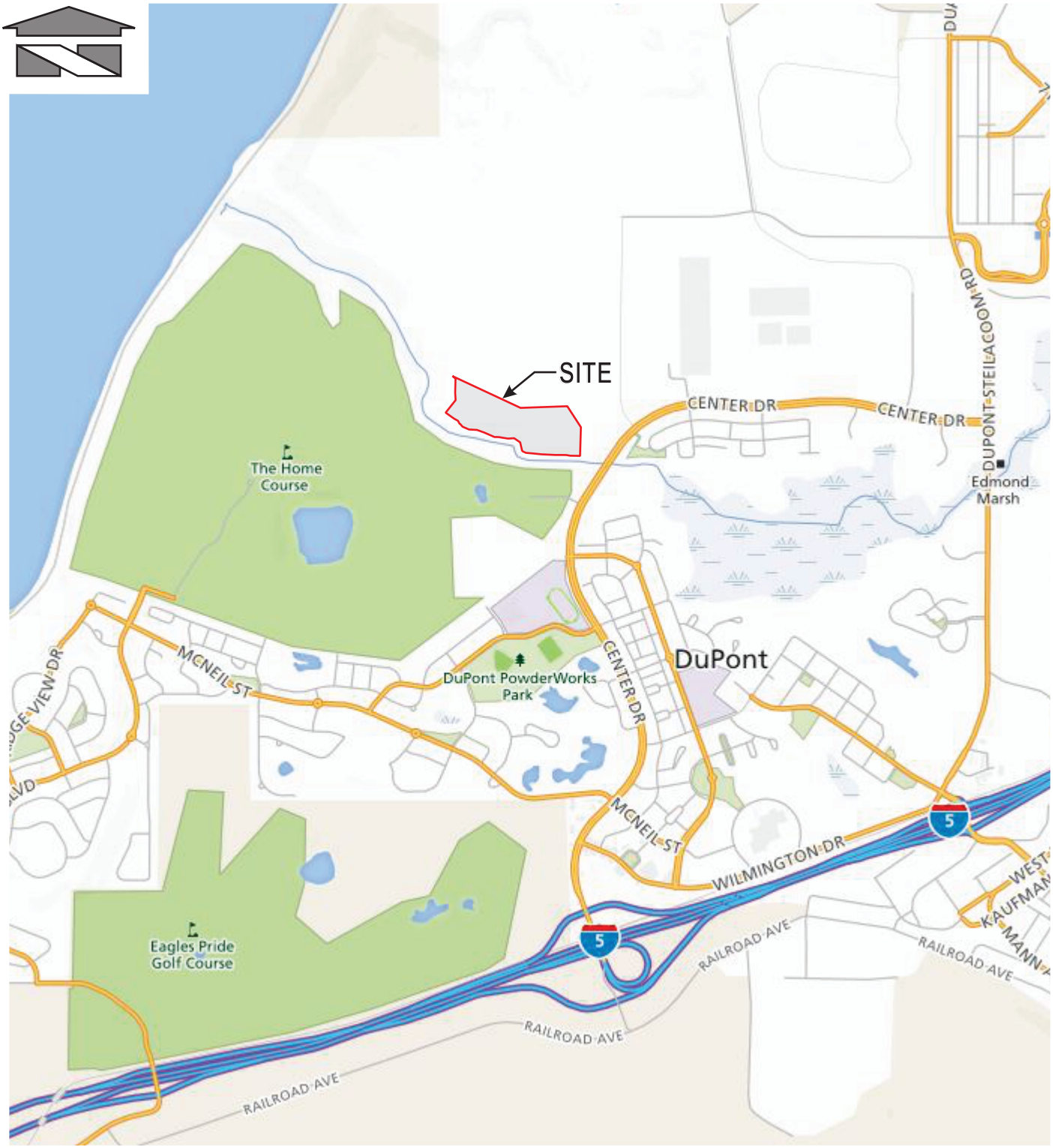
4.0 OFF-SITE ANALYSIS REPORT

An Off-Site Analysis Report will be included with the final Stormwater Site Plan.

Upstream Basin Analysis

There do not appear to be any upstream basins that contribute runoff to this project.

VICINITY MAP



REFERENCE: Rand McNally (2017)

Scale:
Horizontal: **N.T.S.** Vertical: **N/A**

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KENT, WA 98032
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For:
Dupont Industrial Warehouse
Dupont, Washington

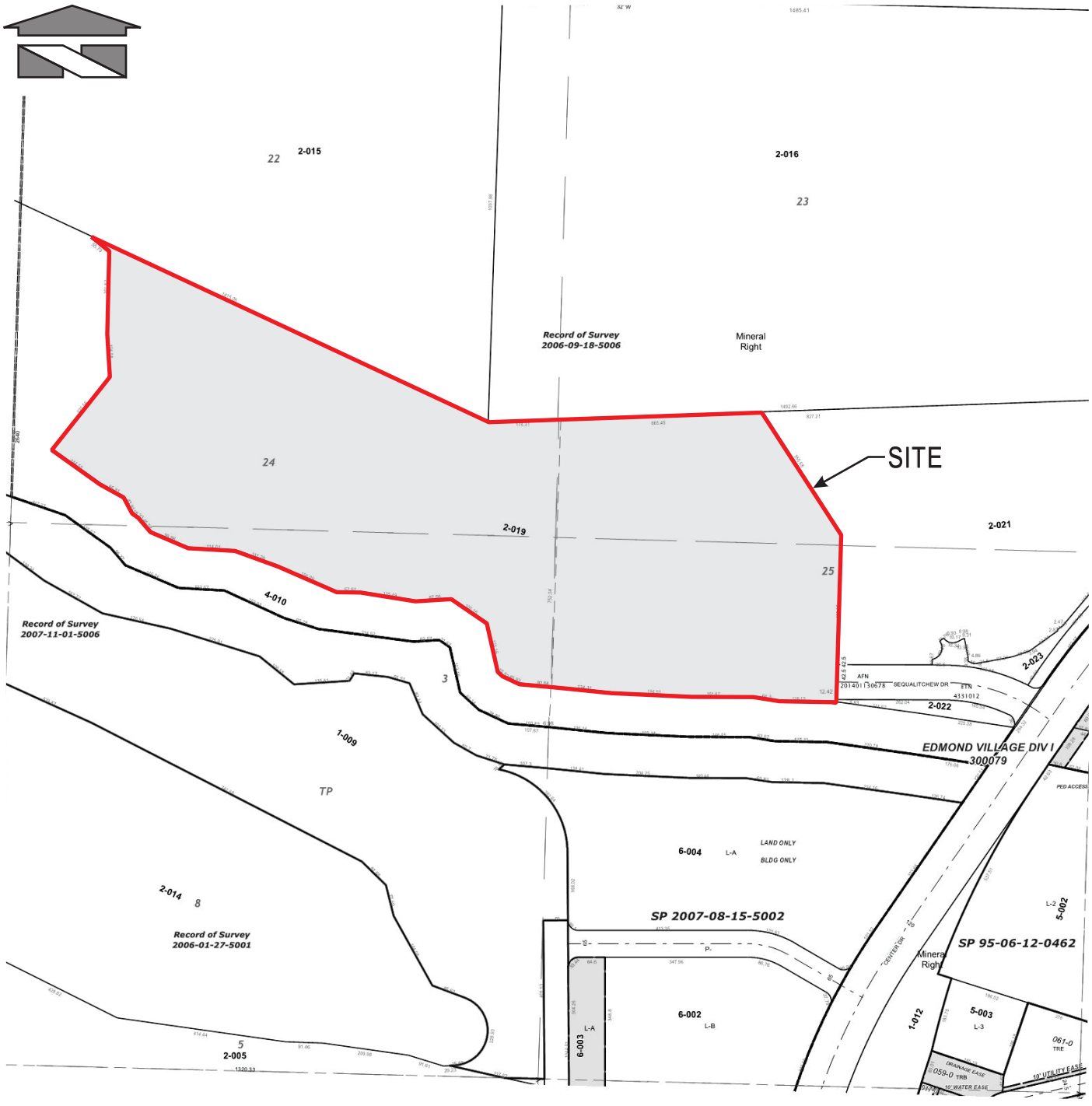
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VICINITY MAP

Job Number
18666

DATE: 12/19/17

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ASSESSOR'S MAP

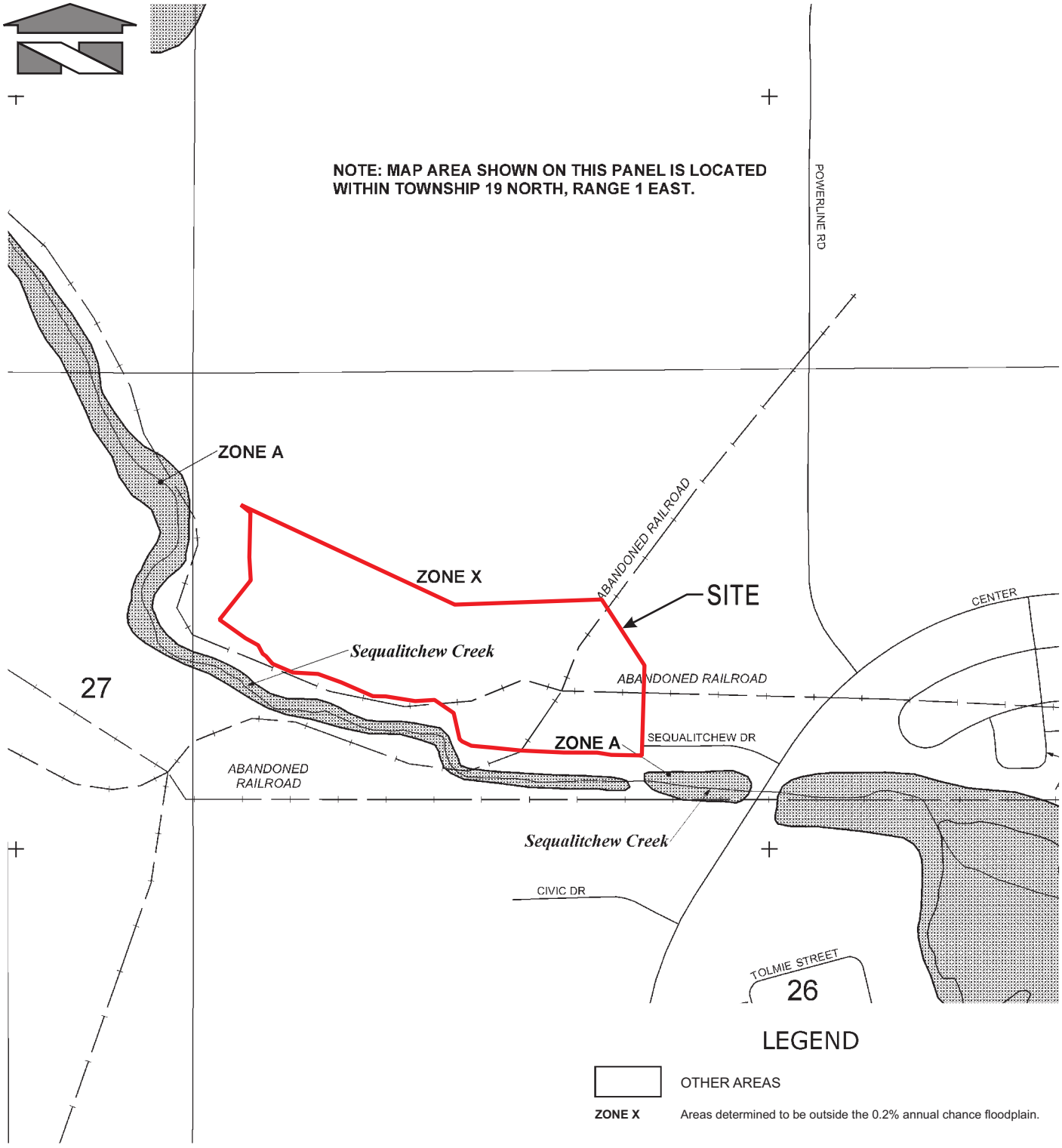


REFERENCE: Pierce County Department of Assessments (Dec. 2015)

Scale: Horizontal: **N.T.S.** Vertical: **N/A**	*For:* Dupont Industrial Warehouse Dupont, Washington	Job Number 18666
BARGHAUSEN CONSULTING ENGINEERS, INC. 18215 72ND AVENUE SOUTH KENT, WA 98032 (425) 251-6222 (425) 251-8782 CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES	*Title:* ASSESSOR MAP	DATE: 12/19/17

P:\18000s\18666\exhibit\graphics\18666 amap.cdr

FEMA MAP



REFERENCE: Federal Emergency Management Agency (Portion of Map 53053C0507E, March 2017)

Scale:
Horizontal: **N.T.S.** Vertical: **N/A**

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For:
Dupont Industrial Warehouse
Dupont, Washington

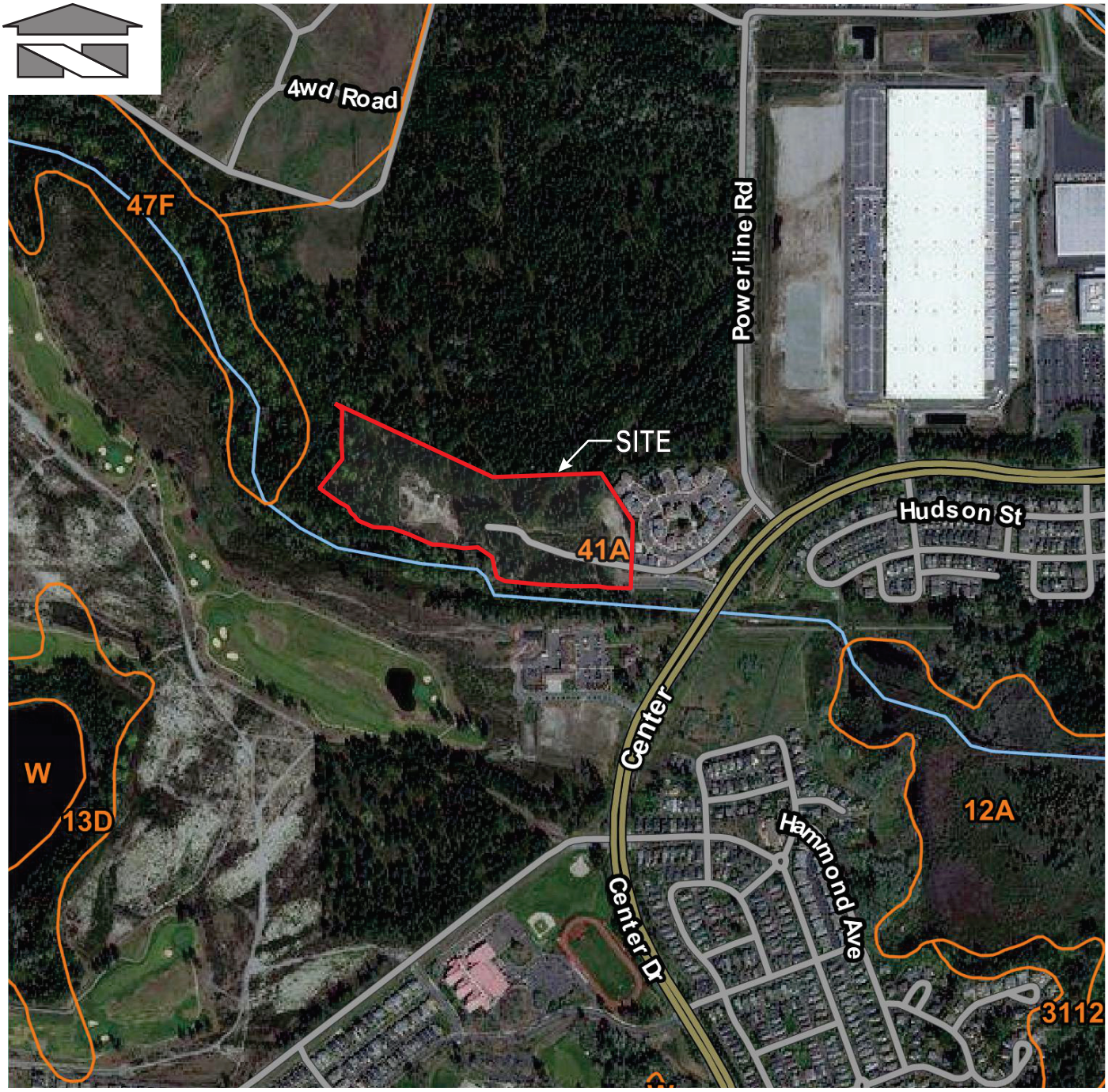
Title:
FEMA MAP

Job Number
18666

DATE: 12/19/17

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SOILS MAP



REFERENCE: USDA, Natural Resources Conservation Service

LEGEND:

41A = Spanaway gravelly sandy loam

Scale:

Horizontal: **N.T.S.** Vertical: **N/A**

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For:

Dupont Industrial Warehouse
Dupont, Washington

Title:

SOIL SURVEY MAP

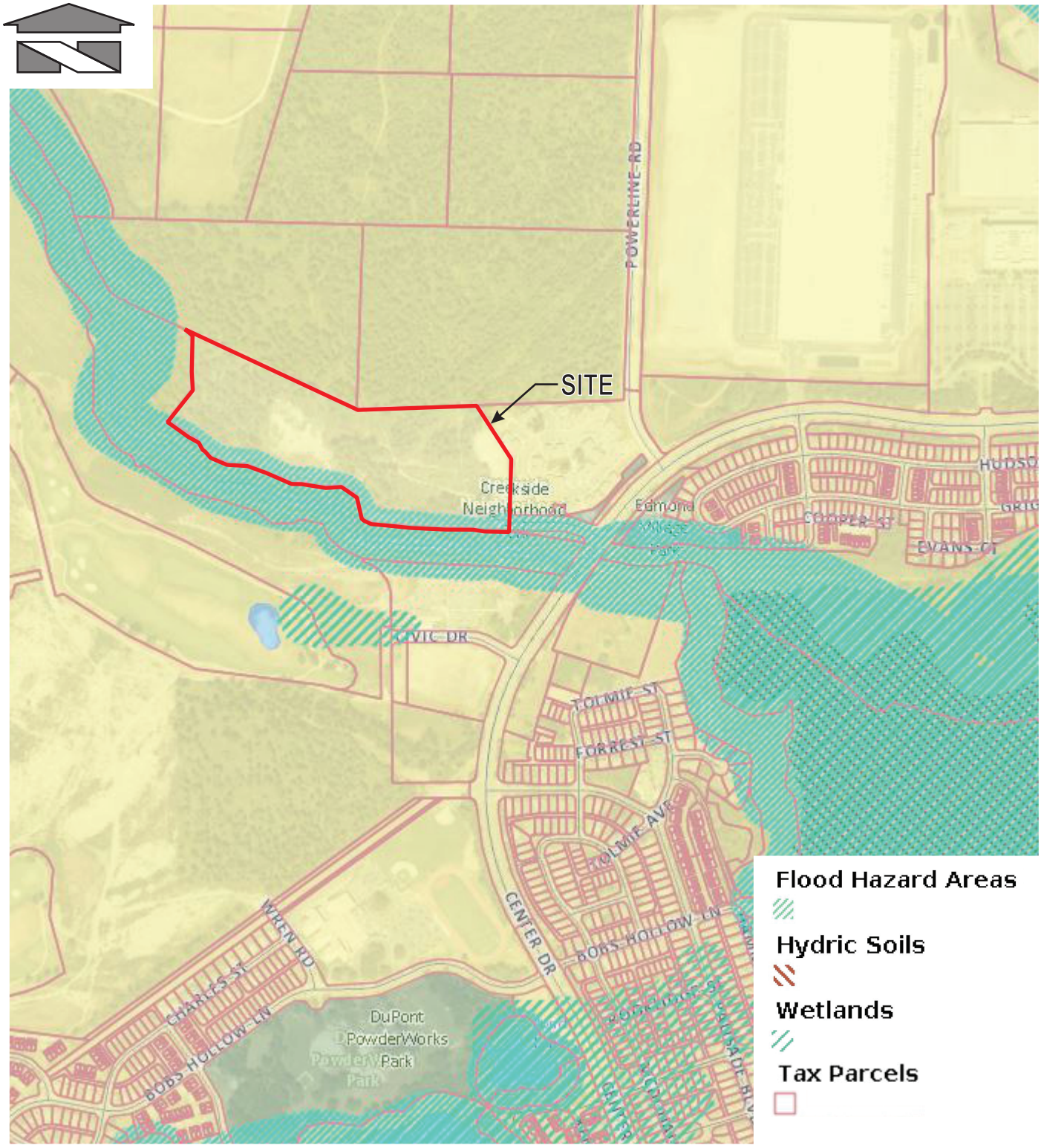
Job Number

18666

DATE: 12/19/17

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SENSITIVE AREAS MAP



REFERENCE: Pierce County PublicGIS

Scale:
Horizontal: **N.T.S.** Vertical: **N/A**

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For:
Dupont Industrial Warehouse
Dupont, Washington

Job Number
18666

Title:
SENSITIVE AREAS MAP

DATE: 12/19/17

P:\18000s\18666\exhibit\graphics\18666 sens.cdr

5.0 PERMANENT STORMWATER CONTROL PLAN

5.0 PERMANENT STORMWATER CONTROL PLAN

Part A Existing Site Hydrology

The existing site is approximately 25.3 acres of forested land. There is an existing gravel area near the center of the site, which depresses at a slopes ranging from 30% to 45%. There are existing1:1 slopes to the south of the property. The majority of the site is moderately steep, with slopes ranging from 2% to 20%. The east side of the site has slopes ranging from 13% to 70%. The site generally slopes southwest. This site lies within Spanaway gravelly sandy loam, according to the USDA Web Soil survey.

As required by the Pierce County Stormwater Management and Site Development Manual, the flow control facility was sized using the WWHM 2012 model. For this development, only the developed 14.92 acres were considered to contribute runoff to the Stormtech chambers. This area includes the developed half street of Sequalitchew Road to the east and excludes all areas that will not be graded. This site was modeled as forested conditions for the pre-developed condition.

Part B Developed Site Hydrology

This site will consist of approximately 13.48 acres of impervious surfaces and 11.82 acres of pervious landscaping areas. Of the impervious areas, 5.89 acres is roof area, while the remaining 7.59 acres will consist of asphalt pavement and sidewalk areas. Because roof area is a non-pollution generating surface, the runoff will be discharged directly into the infiltrating Stormtech Chambers, bypassing the water quality systems.

Part C Performance Standards and Goals

This project will use the Stream Bank Protection flow control standard, and the standard for water quality is the Enhanced Water Quality standard as adopted from the Department of Ecology criteria, which is to utilize a modular wetland system which has General Use Level Designation from the Department of Ecology for Enhanced Water Quality. For conveyance, the Storm Shed3G model with Santa Barbara Urban Hydrograph (SBUH) methodology will be used in the final report to size all the conveyance elements for the 100-year event.

Part D Low Impact Development Features

Flow Control BMP features on this project site include the three infiltrating Stormtech chambers for this site.

Part E Flow Control System

The proposed Stormtech Chambers will provide flow control for this site. Schematics of these chambers will be provided in the final Stormwater Site Plan.

Part F Water Quality System

There will be three water quality systems for this project; one for each proposed infiltrating Stormtech Chamber. Details for each system will be included in the final Stormwater Site Plan. These water quality devices will be sized to treat the 2-year release from detention with a 6-inch drop through the water quality vault.

Part G Conveyance System Analysis and Design

As mentioned previously, the conveyance system will be sized to convey the 100-year event per the requirements of the Pierce County manual with a 5-minute time of concentration and a Manning's 'n' value in the pipes of 0.013 with a 100-year precipitation and all pipes conveyed the flow contributing to them without overtopping any manholes or catch basins.

FLOW CONTROL AND WATER QUALITY SIZING CRITERIA

FLOW CONTROL AND WATER QUALITY SIZING CRITERIA

West Side

Pre-Developed:

C, Forest, Flat = 6.17 Acres

TOTAL = 6.17 Acres

Developed:

C, Lawn, Flat = 0.12 Acre

Roof Tops Flat = 2.98 Acres

Parking = 3.07 Acres

Total = 6.17 Acres
Contributing to Detention

East Side

Pre-Developed:

C, Forest, Flat = 6.78 Acres

TOTAL = 6.78 Acres

Developed:

C, Lawn, Flat = 0.35 Acre

Roof Tops Flat = 2.90 Acres

Parking = 3.53 Acres

Total = 6.78 Acres
Contributing to Detention

Sequalitchew Road

Pre-Developed:

C, Forest, Flat	=	1.18 Acres
TOTAL	=	1.18 Acres

Developed:

C, Lawn, Flat	=	0.36 Acre
C, Roads, Flat	=	0.69 Acres
Sidewalks, Flat	=	0.13 Acres
Total Contributing to Detention	=	1.18 Acres

BASIN MAP

OVERALL BASIN MAP
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=50'
0 25 50 100

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

CB #6
CB #7
CB #5
CB #4
CB #3
CB #2
CB #1
CB #8
CB #9
CB #10
CB #11
CB #12
CB #13
WO DEVICE #1
188'X37'
INFILTRATION GALLERY
BOTTOM EL= 201.00
CB #15
CB #16

BASIN 1
6.19 AC

BUILDING 'A'
130,000 SF
FF=214.0

CB #22
CB #21
CB #20
CB #19
CB #18
CB #17
CB #R1
CB #23
CB #24
CB #25
CB #26
CB #27
CB #28
CB #29
CB #30
WO DEVICE #2
CB #31
181'X41'
INFILTRATION GALLERY
BOTTOM EL= 200.50
CB #32
CB #R2
CB #R3
CB #R4
WO DEVICE #3
95'X10'
INFILTRATION GALLERY
BOTTOM EL= 201.00
CB #R6

TPN 0119262019
1700 CENTER DRIVE

BASIN 2
6.78 AC

BUILDING 'B'
126,600 SF
FF=215.0

TPN 0119262016
1700 CENTER DRIVE

BASIN 3
1.18 AC

SEQUALITCHEW ROAD

TPN 0119224010
1700 CENTER DRIVE

No.	Date	By	Chkd.	Appr.	Revision

Title: OVERALL BASIN MAP FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES
STATE OF WASHINGTON
18537
REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=50' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

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18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet 1 of 2

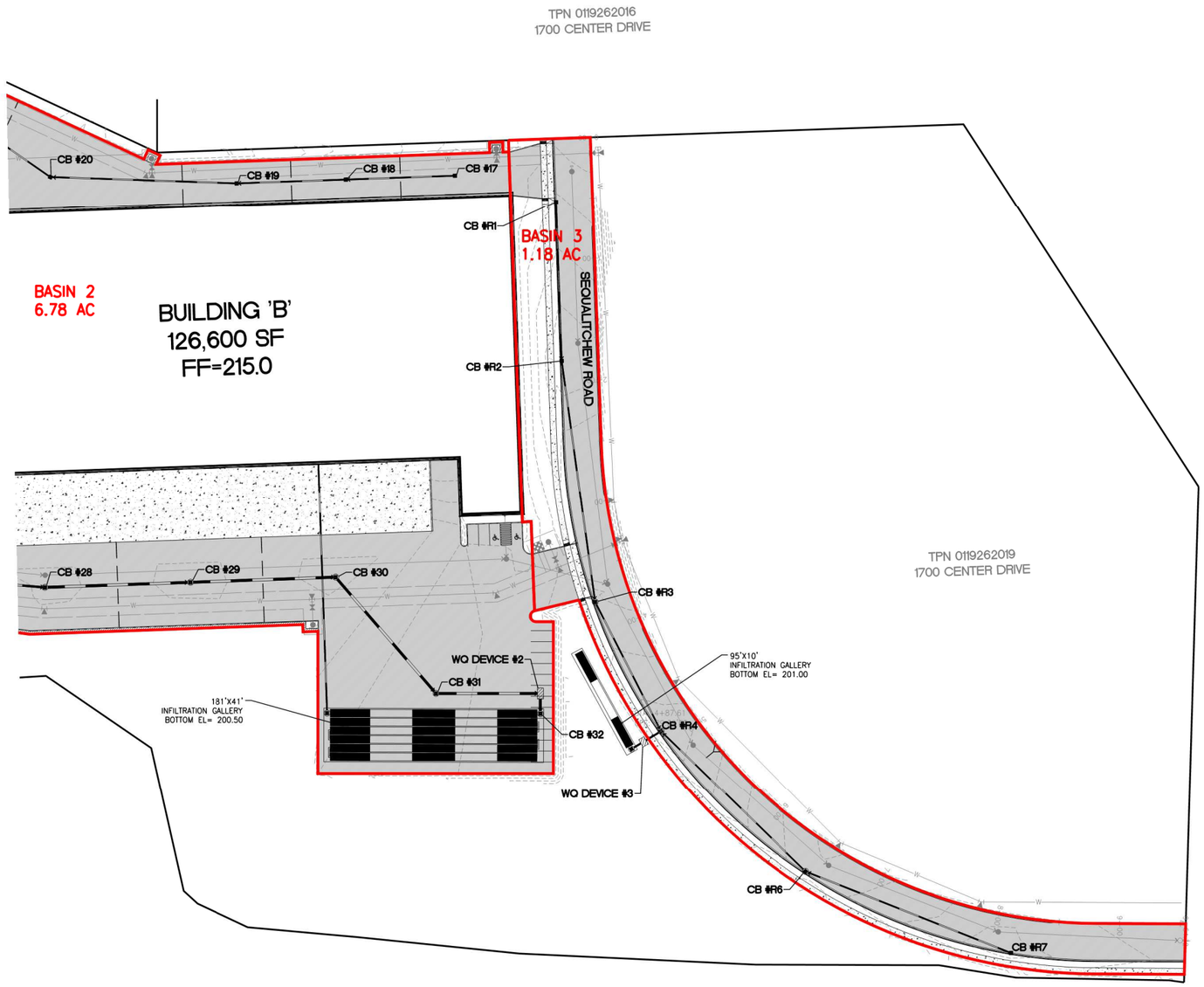
SEQUALITCHEW ROAD BASIN MAP
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=50'
0 25 50 100

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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No.	Date	By	Ckd.	Appr.	Revision

Title: SEQUALITCHEW ROAD BASIN MAP FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES
STATE OF WASHINGTON
35374
REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=50' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN ENGINEERS, INC. CONSULTING ENGINEERS
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KENT, WA 98032
(425)251-6222
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet 2 of 2

CONVEYANCE BASIN MAP
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=50'
0 25 50 100

APPROVED FOR CONSTRUCTION

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BASIN 6 0.12 AC
BASIN 7 0.19 AC
BASIN 8 0.22 AC
BASIN 9 0.13 AC
BASIN 5 .08 AC
BASIN 4 .08 AC
BASIN 3 .08 AC
BASIN 2 .08 AC
BASIN 1 .09 AC
BASIN 27 2.98 AC
BUILDING 'A' 130,000 SF FF=214.0
BASIN 25 0.16 AC
BASIN 24 0.15 AC
BASIN 23 0.31 AC
BASIN 22 0.07 AC
BASIN 21 0.07 AC
BASIN 20 0.07 AC
BASIN 19 0.52 AC
BASIN 10 0.91 AC
BASIN 11 0.42 AC
BASIN 12 0.80 AC
BASIN 26 0.16 AC
BASIN 27 0.31 AC
BASIN 28 2.90 AC
BASIN 13 0.40 AC
BASIN 14 0.63 AC
BASIN 15 0.37 AC
BASIN 16 1.20 AC
BASIN 18 0.36 AC

CB #1 CB #2 CB #3 CB #4 CB #5 CB #6 CB #7 CB #8 CB #9 CB #10 CB #11 CB #12 CB #13 CB #15 CB #16 CB #17 CB #18 CB #19 CB #20 CB #21 CB #22 CB #23 CB #24 CB #25 CB #26 CB #27 CB #28 CB #29 CB #30 CB #31 CB #32 CB #R1 CB #R2 CB #R3 CB #R4 CB #R6

WQ DEVICE #1
188'X37' INFILTRATION GALLERY BOTTOM EL= 201.00
WQ DEVICE #2
181'X41' INFILTRATION GALLERY BOTTOM EL= 200.50
WQ DEVICE #3
95'X10' INFILTRATION GALLERY BOTTOM EL= 201.00

TPN 0119262016
1700 CENTER DRIVE

TPN 0119262019
1700 CENTER DRIVE

TPN 0119224010
1700 CENTER DRIVE

SEQUALITCHEW ROAD

No.	Date	By	Ckd.	Appr.	Revision

Title: CONVEYANCE BASIN MAP FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES 36374 STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=50' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

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KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES
BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 18666
Sheet 1 of 2

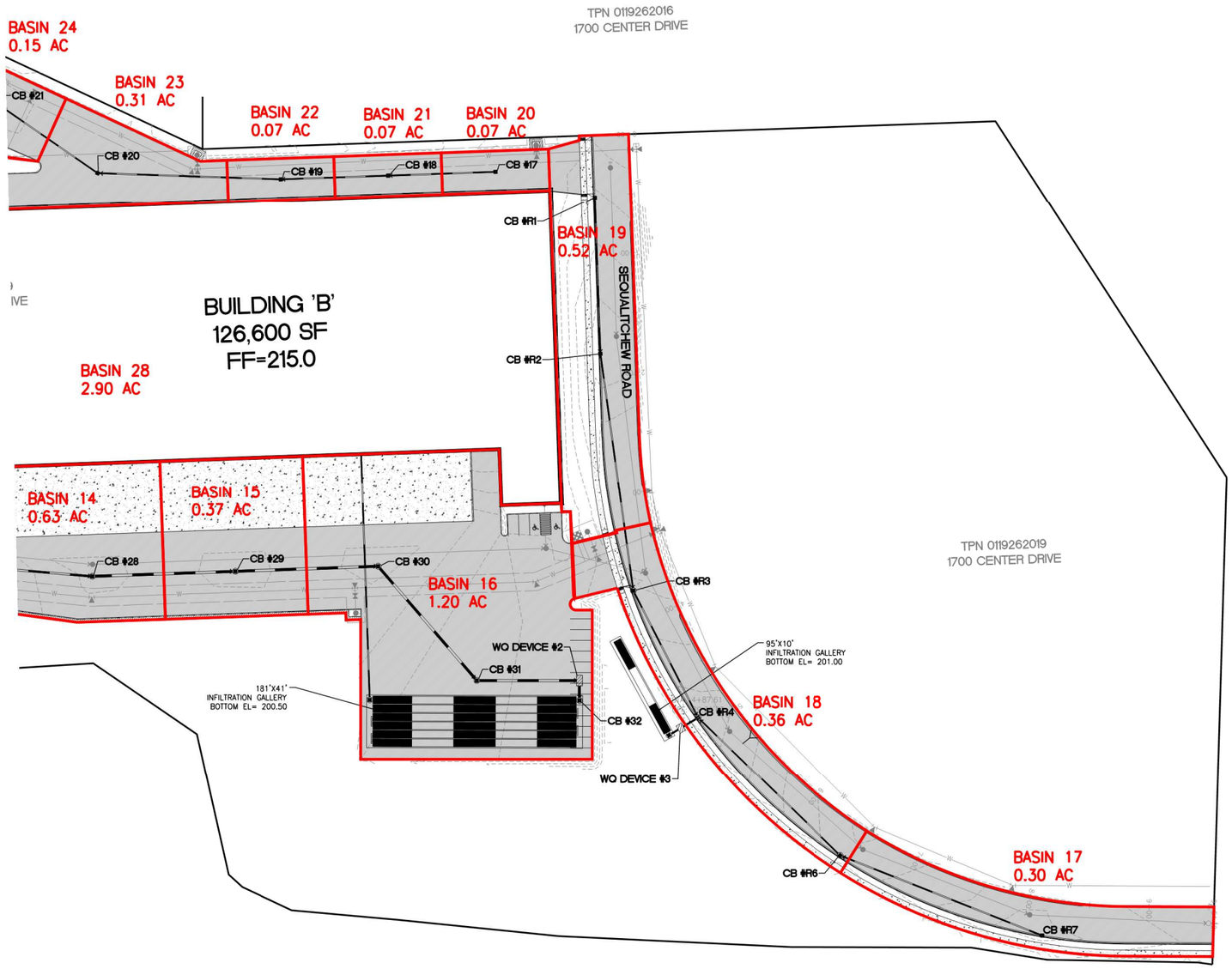
SEQUALITCHEW ROAD CONVEYANCE BASIN MAP
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=50'
0 25 50 100

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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No.	Date	By	Ckd.	Appr.	Revision

Title: SEQUALITCHEW ROAD CONVEYANCE BASIN MAP FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES
STATE OF WASHINGTON
18371
REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=50' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

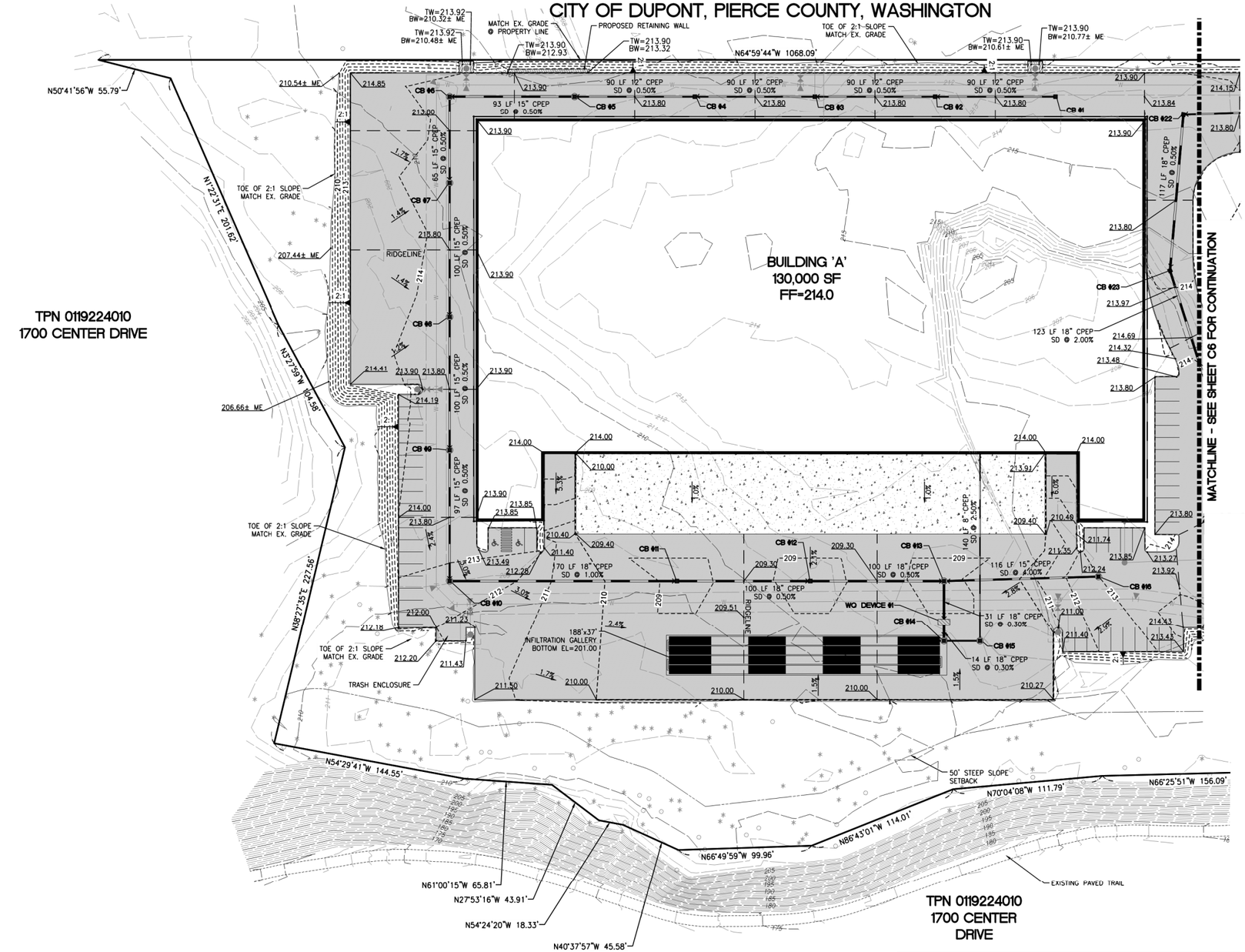
Job Number 18666

Sheet 2 of 2

GRADING PLAN

PRELIMINARY GRADING AND STORM DRAINAGE PLAN-WEST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80



CB #1, TYPE 1, w/ STANDARD GRATE RIM = 213.35 IE=210.24 (12" NW)

CB #2, TYPE 1, w/ STANDARD GRATE RIM = 213.35 IE=209.79 (12" NW) IE=209.79 (12" SE)

CB #3, TYPE 1, w/ STANDARD GRATE RIM = 213.35 IE=209.34 (12" NW) IE=209.34 (12" SE)

CB #4, TYPE 1, w/ STANDARD GRATE RIM = 213.35 IE=208.89 (12" NW) IE=208.89 (12" SE)

CB #5, TYPE 2-48" w/ STANDARD GRATE RIM = 213.35 IE=208.44 (15" NW) IE=208.44 (12" SE)

CB #6, TYPE 2-48" w/ STANDARD GRATE RIM = 213.32 IE=207.97 (15" SW) IE=207.97 (15" SE)

CB #7, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=207.64 (15" NE) IE=207.64 (15" SW)

CB #8, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=207.14 (15" NE) IE=207.14 (15" SW)

CB #9, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=206.64 (15" NE) IE=206.64 (15" SW)

CB #10, TYPE 2-48" w/ STANDARD GRATE RIM = 212.69 IE=206.15 (15" NE) IE=206.15 (18" SE)

CB #11, TYPE 1, w/ STANDARD GRATE RIM = 208.65 IE=204.45 (18" NW) IE=204.45 (18" SE)

CB #12, TYPE 1L, w/ STANDARD GRATE RIM = 208.65 IE=203.95 (18" NW) IE=203.95 (18" SE)

CB #13, TYPE 2-48" w/ STANDARD GRATE RIM = 208.65 IE=203.45 (18" NW) IE=203.45 (15" SE) IE=203.45 (18" SW)

CB #14, TYPE 2-48" w/ STANDARD GRATE RIM = 209.32 IE=202.00 (18" NE) IE=202.00 (12" NW) IE=202.00 (12" SE)

CB #15, TYPE 2-48" w/ SOLID LOCKING LID RIM = 209.32 IE=203.34 (12" NW) IE=203.34 (8" NE)

CB #16, TYPE 2-48" w/ STANDARD GRATE RIM = 213.02 IE=208.07 (15" NW)

CB #22, TYPE 1, w/ STANDARD GRATE RIM = 213.16 IE=209.37 (18" SW) IE=209.37 (12" SE)

CB #23, TYPE 1, w/ STANDARD GRATE RIM = 213.50 IE=208.79 (18" NE) IE=208.79 (18" S)

HORIZONTAL DATUM - BASIS OF BEARINGS

THE BEARING OF THE LINE BETWEEN THE FOUND MONUMENT ID'S WSDOT 5552-WSDOT 776 BEARING TAKEN AS SOUTH 73° 08' 35" WEST

VERTICAL DATUM - NGVD29

PROJECT BENCHMARK

WSDOT MONUMENT DESIGNATION 5552 APPROXIMATELY 300' EAST OF THE SOUTHWEST CORNER OF SITE. NGVD29 ELEVATION WAS DERIVED BY CONVERTING PUBLISHED WSDOT NAVD88 ELEVATION USING CORPSCON SOFTWARE. (NAVD88= NGVD+3.44')
NGVD29 ELEV. = 259.173 FEET

UTILITY CONFLICT NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 811 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

811 Know what's **below.** **Call** before you dig.

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WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E., P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

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Title: PRELIMINARY GRADING AND STORM DRAINAGE PLAN-WEST FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILLIPPIDES — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=40' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

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Job Number 18666 Sheet C5 of 13

H:\Projects\18666\Preliminary\18666-pgm.dwg Date/Time: 1/22/2018 3:08 PM Scale: 1" = 1' LDUDON Xref: -----

PRELIMINARY GRADING AND STORM DRAINAGE PLAN-EAST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

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TOE OF 2:1 SLOPE MATCH EX. GRADE
98 LF 12" CPEP SD @ 0.50%
98 LF 12" CPEP SD @ 0.50%
CB #21
PROPOSED RETAINING WALL
TW=214.88 BW=212.97± ME
TW=214.88 BW=212.77± ME
154 LF 12" CPEP SD @ 0.50%
CB #20
CB #19
90 LF 12" DI SD @ 0.50%
CB #18
CB #17
TW=214.90 BW=213.80± ME
TW=214.90 BW=213.81± ME
S87°59'34"W 665.45'
PROPOSED 45' DRIVEWAY
CB #11
SEQUALITCHEW ROAD
TOE OF 2:1 SLOPE MATCH EX. GRADE
N35°00'08"W 355.68'
MATCHLINE - SEE SHEET C5 FOR CONTINUATION
123 LF 18" CPEP SD @ 2.00%
TPN 0119262019
1700 CENTER DRIVE
HISTORICAL MONUMENT TO BE RELOCATED
BUILDING 'B'
126,600 SF
FF=215.0
CB #24
109 LF 18" CPEP SD @ 0.50%
CB #25
100 LF 18" CPEP SD @ 0.50%
CB #12
13 LF 12" CPEP SD @ 1.00%
NOT A PART
THIS PORTION TO BE DEVELOPED UNDER A SEPARATE LAND USE APPLICATION AND PERMITS
PROPOSED 5' SIDEWALK
201 LF 12" CPEP SD @ 0.50%
LOT Y
CITY OF DUPONT BOUNDARY LINE ADJUSTMENT NO. BLA 09-01
REC. NO. 200912115001
TOE OF 2:1 SLOPE MATCH EX. GRADE
85 LF 18" CPEP SD @ 0.50%
CB #26
125 LF 18" CPEP SD @ 0.50%
CB #28
CB #29
120 LF 24" CPEP SD @ 0.30%
205 LF 12" CPEP SD @ 0.50%
CB #30
PROPOSED 45' DRIVEWAY
TOE OF 2:1 SLOPE MATCH EX. GRADE
TPN 0119262019
1700 CENTER DRIVE
CB #27
TW=214.35 BW=211.02± ME
TW=214.34 BW=212.47± ME
TW=212.34± ME BW=210.50
TW=210.59 BW=203.63± ME
PROPOSED HALF STREET. EASTERN HALF TO BE COMPLETED BY ADJACENT DEVELOPMENT SEE SHEETS C9 AND C10 FOR DETAILS
WQ DEVICE #2
17 LF 24" CPEP SD @ 0.30% 2.2%
86 LF 24" CPEP SD @ 0.30%
TW=211.04 BW=210.92± ME
181'x44' INFILTRATION GALLERY BOTTOM EL=199.5
80'x10' INFILTRATION GALLERY BOTTOM EL=200.00
119 LF 12" CPEP SD @ 2.00%
CB #33
CB #31
CB #32
CB #14
CB #15
12 LF 15" CPEP SD @ 2.00%
WQ DEVICE #3
17 LF 15" CPEP SD @ 1.00%
163 LF 12" CPEP SD @ 2.00%
SEE SHEETS C9 AND C10 FOR FULL SEQUALITCHEW ROAD CONTINUATION
N89°05'40"W 57.87'
N80°54'14"W 135.48'
S86°29'27"W 87.56'
N55°38'11"W 105.16'
N21°41'18"W 121.91'
EX. MONITOR WELL RIM=212.78 TOP PVC=212.08
EXISTING PAVED TRAIL
50' STEEP SLOPE SETBACK
LOT LINE
SEQUALITCHEW CREEK TRAIL
PARK
TOE OF 2:1 SLOPE MATCH EX. GRADE
CB #16
182 LF 12" CPEP SD @ 0.50%
EXISTING SLOPE
N47°28'29"W 15.52'
N64°55'26"W 45.93'
N84°52'39"W 90.84'
N84°13'45"W 134.11'
N87°20'08"W 194.51'
TPN 0119224010
1700 CENTER DRIVE

CB #17, TYPE 1, w/ STANDARD GRATE RIM = 214.40 IE=211.97 (12" W)

CB #18, TYPE 1, w/ STANDARD GRATE RIM = 214.40 IE=211.52 (12" W) IE=211.52 (12" E)

CB #19, TYPE 1, w/ STANDARD GRATE RIM = 214.40 IE=211.07 (12" W) IE=211.07 (12" E)

CB #20, TYPE 1, w/ STANDARD GRATE RIM = 214.09 IE=210.30 (12" NW) IE=210.30 (12" E)

CB #21, TYPE 1, w/ STANDARD GRATE RIM = 213.51 IE=209.81 (12" NW) IE=209.81 (12" SE)

CB #22, TYPE 1, w/ STANDARD GRATE RIM = 213.16 IE=209.37 (18" SW) IE=209.37 (12" SE)

CB #23, TYPE 1, w/ STANDARD GRATE RIM = 213.50 IE=208.79 (18" NE) IE=208.79 (18" S)

CB #24, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=206.33 (18" N) IE=206.33 (18" S)

CB #25, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=205.78 (18" N) IE=205.78 (18" SE)

CB #26, TYPE 2-48" w/ STANDARD GRATE RIM = 214.29 IE=205.28 (18" NW) IE=205.28 (18" E)

CB #27, TYPE 2-48" w/ STANDARD GRATE RIM = 213.36 IE=204.86 (18" W) IE=204.86 (18" E)

CB #28, TYPE 2-48" w/ STANDARD GRATE RIM = 209.70 IE=204.24 (18" W) IE=204.24 (24" E)

CB #29, TYPE 2-48" w/ STANDARD GRATE RIM = 209.70 IE=203.88 (24" W) IE=203.88 (24" E)

CB #30, TYPE 2-48" w/ STANDARD GRATE RIM = 209.70 IE=203.52 (24" W) IE=203.52 (24" SE)

CB #31, TYPE 2-48" w/ SOLID LOCKING LID RIM = 212.40 IE=203.14 (24" NW) IE=203.14 (24" E)

CB #32, TYPE 2-48" w/ STANDARD GRATE RIM = 213.52 IE=201.50 (24" N)

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VERTICAL DATUM - NGVD29

PROJECT BENCHMARK

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Title: GRADING AND STORM DRAINAGE PLAN-EAST FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES — STATE OF WASHINGTON — 18537 — REGISTERED PROFESSIONAL ENGINEER
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Job Number 18666
Sheet C6 of 13

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FLOW CONTROL CALCULATIONS

WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
Detention Calculations-West Basin
01/17/2018

General Model Information

Project Name:	18666 FC West-5
Site Name:	
Site Address:	
City:	
Report Date:	1/17/2018
Gage:	
Data Start:	10/01/1901
Data End:	09/30/2059
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2017/04/14
Version:	4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	6.19
Pervious Total	6.19
Impervious Land Use	acre
Impervious Total	0
Basin Total	6.19

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	0.12
Pervious Total	0.12

Impervious Land Use	acre
ROOF TOPS FLAT	2.98
PARKING FLAT	3.09
Impervious Total	6.07
Basin Total	6.19

Element Flows To:

Surface	Interflow	Groundwater
Vault 1	Vault 1	

Mitigated Routing

Vault 1

Width: 234.328368467818 ft.
Length: 36.7779950510029 ft.
Depth: 4 ft.
Infiltration On
Infiltration rate: 5
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 2463.825
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 2463.825
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 3 ft.
Riser Diameter: 18 in.
Element Flows To:
Outlet 1 Outlet 2

Vault Hydraulic Table

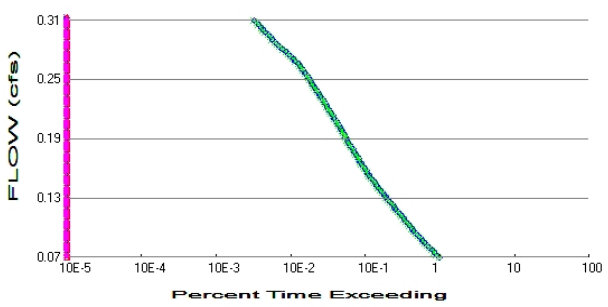
Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.197	0.000	0.000	0.000
0.0444	0.197	0.008	0.000	0.997
0.0889	0.197	0.017	0.000	0.997
0.1333	0.197	0.026	0.000	0.997
0.1778	0.197	0.035	0.000	0.997
0.2222	0.197	0.044	0.000	0.997
0.2667	0.197	0.052	0.000	0.997
0.3111	0.197	0.061	0.000	0.997
0.3556	0.197	0.070	0.000	0.997
0.4000	0.197	0.079	0.000	0.997
0.4444	0.197	0.087	0.000	0.997
0.4889	0.197	0.096	0.000	0.997
0.5333	0.197	0.105	0.000	0.997
0.5778	0.197	0.114	0.000	0.997
0.6222	0.197	0.123	0.000	0.997
0.6667	0.197	0.131	0.000	0.997
0.7111	0.197	0.140	0.000	0.997
0.7556	0.197	0.149	0.000	0.997
0.8000	0.197	0.158	0.000	0.997
0.8444	0.197	0.167	0.000	0.997
0.8889	0.197	0.175	0.000	0.997
0.9333	0.197	0.184	0.000	0.997
0.9778	0.197	0.193	0.000	0.997
1.0222	0.197	0.202	0.000	0.997
1.0667	0.197	0.211	0.000	0.997
1.1111	0.197	0.219	0.000	0.997
1.1556	0.197	0.228	0.000	0.997
1.2000	0.197	0.237	0.000	0.997
1.2444	0.197	0.246	0.000	0.997
1.2889	0.197	0.255	0.000	0.997
1.3333	0.197	0.263	0.000	0.997
1.3778	0.197	0.272	0.000	0.997

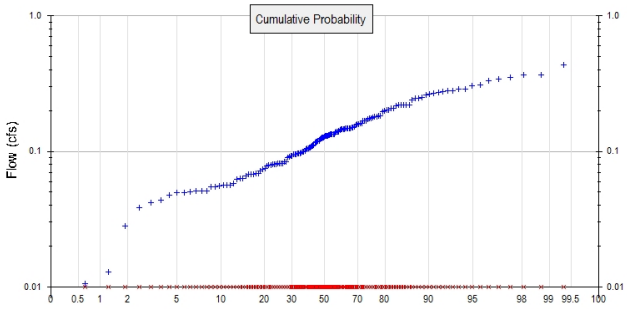
1.4222	0.197	0.281	0.000	0.997
1.4667	0.197	0.290	0.000	0.997
1.5111	0.197	0.299	0.000	0.997
1.5556	0.197	0.307	0.000	0.997
1.6000	0.197	0.316	0.000	0.997
1.6444	0.197	0.325	0.000	0.997
1.6889	0.197	0.334	0.000	0.997
1.7333	0.197	0.342	0.000	0.997
1.7778	0.197	0.351	0.000	0.997
1.8222	0.197	0.360	0.000	0.997
1.8667	0.197	0.369	0.000	0.997
1.9111	0.197	0.378	0.000	0.997
1.9556	0.197	0.386	0.000	0.997
2.0000	0.197	0.395	0.000	0.997
2.0444	0.197	0.404	0.000	0.997
2.0889	0.197	0.413	0.000	0.997
2.1333	0.197	0.422	0.000	0.997
2.1778	0.197	0.430	0.000	0.997
2.2222	0.197	0.439	0.000	0.997
2.2667	0.197	0.448	0.000	0.997
2.3111	0.197	0.457	0.000	0.997
2.3556	0.197	0.466	0.000	0.997
2.4000	0.197	0.474	0.000	0.997
2.4444	0.197	0.483	0.000	0.997
2.4889	0.197	0.492	0.000	0.997
2.5333	0.197	0.501	0.000	0.997
2.5778	0.197	0.510	0.000	0.997
2.6222	0.197	0.518	0.000	0.997
2.6667	0.197	0.527	0.000	0.997
2.7111	0.197	0.536	0.000	0.997
2.7556	0.197	0.545	0.000	0.997
2.8000	0.197	0.554	0.000	0.997
2.8444	0.197	0.562	0.000	0.997
2.8889	0.197	0.571	0.000	0.997
2.9333	0.197	0.580	0.000	0.997
2.9778	0.197	0.589	0.000	0.997
3.0222	0.197	0.597	0.052	0.997
3.0667	0.197	0.606	0.273	0.997
3.1111	0.197	0.615	0.587	0.997
3.1556	0.197	0.624	0.970	0.997
3.2000	0.197	0.633	1.404	0.997
3.2444	0.197	0.641	1.877	0.997
3.2889	0.197	0.650	2.374	0.997
3.3333	0.197	0.659	2.882	0.997
3.3778	0.197	0.668	3.386	0.997
3.4222	0.197	0.677	3.871	0.997
3.4667	0.197	0.685	4.326	0.997
3.5111	0.197	0.694	4.737	0.997
3.5556	0.197	0.703	5.097	0.997
3.6000	0.197	0.712	5.401	0.997
3.6444	0.197	0.721	5.649	0.997
3.6889	0.197	0.729	5.848	0.997
3.7333	0.197	0.738	6.014	0.997
3.7778	0.197	0.747	6.249	0.997
3.8222	0.197	0.756	6.425	0.997
3.8667	0.197	0.765	6.597	0.997
3.9111	0.197	0.773	6.764	0.997
3.9556	0.197	0.782	6.927	0.997

4.0000	0.197	0.791	7.086	0.997
4.0444	0.197	0.800	7.242	0.997
4.0889	0.000	0.000	7.394	0.000

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 6.19
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.12
Total Impervious Area: 6.07

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.130441
5 year	0.202927
10 year	0.242314
25 year	0.282402
50 year	0.306229
100 year	0.325822

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1902	0.096	0.000
1903	0.080	0.000
1904	0.130	0.000
1905	0.063	0.000
1906	0.028	0.000
1907	0.200	0.000
1908	0.148	0.000
1909	0.147	0.000
1910	0.202	0.000
1911	0.132	0.000

1912	0.434	0.000
1913	0.208	0.000
1914	0.051	0.000
1915	0.084	0.000
1916	0.130	0.000
1917	0.043	0.000
1918	0.139	0.000
1919	0.103	0.000
1920	0.133	0.000
1921	0.148	0.000
1922	0.149	0.000
1923	0.120	0.000
1924	0.055	0.000
1925	0.068	0.000
1926	0.126	0.000
1927	0.082	0.000
1928	0.101	0.000
1929	0.207	0.000
1930	0.133	0.000
1931	0.123	0.000
1932	0.096	0.000
1933	0.093	0.000
1934	0.273	0.000
1935	0.127	0.000
1936	0.110	0.000
1937	0.176	0.000
1938	0.107	0.000
1939	0.007	0.000
1940	0.119	0.000
1941	0.057	0.000
1942	0.179	0.000
1943	0.092	0.000
1944	0.169	0.000
1945	0.149	0.000
1946	0.081	0.000
1947	0.051	0.000
1948	0.281	0.000
1949	0.240	0.000
1950	0.068	0.000
1951	0.084	0.000
1952	0.366	0.000
1953	0.330	0.000
1954	0.119	0.000
1955	0.097	0.000
1956	0.048	0.000
1957	0.169	0.000
1958	0.353	0.000
1959	0.218	0.000
1960	0.058	0.000
1961	0.219	0.000
1962	0.118	0.000
1963	0.056	0.000
1964	0.062	0.000
1965	0.246	0.000
1966	0.069	0.000
1967	0.105	0.000
1968	0.108	0.000
1969	0.107	0.000

1970	0.168	0.000
1971	0.265	0.000
1972	0.172	0.000
1973	0.219	0.000
1974	0.118	0.000
1975	0.278	0.000
1976	0.147	0.000
1977	0.050	0.000
1978	0.248	0.000
1979	0.068	0.000
1980	0.140	0.000
1981	0.134	0.000
1982	0.055	0.000
1983	0.220	0.000
1984	0.089	0.000
1985	0.146	0.000
1986	0.131	0.000
1987	0.249	0.000
1988	0.158	0.000
1989	0.142	0.000
1990	0.161	0.000
1991	0.126	0.000
1992	0.180	0.000
1993	0.174	0.000
1994	0.262	0.000
1995	0.050	0.000
1996	0.287	0.000
1997	0.110	0.000
1998	0.131	0.000
1999	0.011	0.000
2000	0.100	0.000
2001	0.051	0.000
2002	0.182	0.000
2003	0.158	0.000
2004	0.146	0.000
2005	0.268	0.000
2006	0.081	0.000
2007	0.081	0.000
2008	0.139	0.000
2009	0.095	0.000
2010	0.081	0.000
2011	0.065	0.000
2012	0.095	0.000
2013	0.074	0.000
2014	0.055	0.000
2015	0.106	0.000
2016	0.042	0.000
2017	0.201	0.000
2018	0.366	0.000
2019	0.341	0.000
2020	0.111	0.000
2021	0.181	0.000
2022	0.075	0.000
2023	0.152	0.000
2024	0.286	0.000
2025	0.134	0.000
2026	0.219	0.000
2027	0.079	0.000

2028	0.068	0.000
2029	0.149	0.000
2030	0.276	0.000
2031	0.091	0.000
2032	0.050	0.000
2033	0.080	0.000
2034	0.079	0.000
2035	0.311	0.000
2036	0.162	0.000
2037	0.039	0.000
2038	0.129	0.000
2039	0.013	0.000
2040	0.072	0.000
2041	0.097	0.000
2042	0.303	0.000
2043	0.146	0.000
2044	0.197	0.000
2045	0.134	0.000
2046	0.157	0.000
2047	0.116	0.000
2048	0.150	0.000
2049	0.134	0.000
2050	0.096	0.000
2051	0.140	0.000
2052	0.080	0.000
2053	0.144	0.000
2054	0.183	0.000
2055	0.057	0.000
2056	0.063	0.000
2057	0.099	0.000
2058	0.125	0.000
2059	0.221	0.000

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.4342	0.0000
2	0.3659	0.0000
3	0.3655	0.0000
4	0.3531	0.0000
5	0.3409	0.0000
6	0.3301	0.0000
7	0.3112	0.0000
8	0.3027	0.0000
9	0.2867	0.0000
10	0.2863	0.0000
11	0.2806	0.0000
12	0.2780	0.0000
13	0.2758	0.0000
14	0.2731	0.0000
15	0.2682	0.0000
16	0.2649	0.0000
17	0.2616	0.0000
18	0.2490	0.0000
19	0.2475	0.0000
20	0.2456	0.0000
21	0.2404	0.0000
22	0.2207	0.0000

23	0.2195	0.0000
24	0.2195	0.0000
25	0.2194	0.0000
26	0.2189	0.0000
27	0.2183	0.0000
28	0.2081	0.0000
29	0.2072	0.0000
30	0.2022	0.0000
31	0.2010	0.0000
32	0.2002	0.0000
33	0.1972	0.0000
34	0.1827	0.0000
35	0.1819	0.0000
36	0.1810	0.0000
37	0.1799	0.0000
38	0.1790	0.0000
39	0.1759	0.0000
40	0.1744	0.0000
41	0.1717	0.0000
42	0.1690	0.0000
43	0.1687	0.0000
44	0.1682	0.0000
45	0.1616	0.0000
46	0.1607	0.0000
47	0.1583	0.0000
48	0.1579	0.0000
49	0.1573	0.0000
50	0.1522	0.0000
51	0.1499	0.0000
52	0.1491	0.0000
53	0.1488	0.0000
54	0.1487	0.0000
55	0.1484	0.0000
56	0.1483	0.0000
57	0.1472	0.0000
58	0.1466	0.0000
59	0.1462	0.0000
60	0.1456	0.0000
61	0.1455	0.0000
62	0.1437	0.0000
63	0.1420	0.0000
64	0.1402	0.0000
65	0.1397	0.0000
66	0.1394	0.0000
67	0.1385	0.0000
68	0.1344	0.0000
69	0.1343	0.0000
70	0.1342	0.0000
71	0.1340	0.0000
72	0.1331	0.0000
73	0.1327	0.0000
74	0.1316	0.0000
75	0.1308	0.0000
76	0.1305	0.0000
77	0.1302	0.0000
78	0.1301	0.0000
79	0.1289	0.0000
80	0.1268	0.0000

81	0.1263	0.0000
82	0.1258	0.0000
83	0.1250	0.0000
84	0.1232	0.0000
85	0.1196	0.0000
86	0.1191	0.0000
87	0.1188	0.0000
88	0.1185	0.0000
89	0.1178	0.0000
90	0.1158	0.0000
91	0.1112	0.0000
92	0.1102	0.0000
93	0.1100	0.0000
94	0.1076	0.0000
95	0.1074	0.0000
96	0.1072	0.0000
97	0.1057	0.0000
98	0.1055	0.0000
99	0.1030	0.0000
100	0.1011	0.0000
101	0.0995	0.0000
102	0.0987	0.0000
103	0.0973	0.0000
104	0.0966	0.0000
105	0.0964	0.0000
106	0.0962	0.0000
107	0.0957	0.0000
108	0.0951	0.0000
109	0.0948	0.0000
110	0.0930	0.0000
111	0.0921	0.0000
112	0.0911	0.0000
113	0.0894	0.0000
114	0.0838	0.0000
115	0.0838	0.0000
116	0.0819	0.0000
117	0.0813	0.0000
118	0.0811	0.0000
119	0.0809	0.0000
120	0.0806	0.0000
121	0.0803	0.0000
122	0.0798	0.0000
123	0.0796	0.0000
124	0.0788	0.0000
125	0.0785	0.0000
126	0.0749	0.0000
127	0.0740	0.0000
128	0.0716	0.0000
129	0.0689	0.0000
130	0.0683	0.0000
131	0.0681	0.0000
132	0.0679	0.0000
133	0.0678	0.0000
134	0.0654	0.0000
135	0.0635	0.0000
136	0.0626	0.0000
137	0.0621	0.0000
138	0.0581	0.0000

139	0.0566	0.0000
140	0.0566	0.0000
141	0.0565	0.0000
142	0.0552	0.0000
143	0.0548	0.0000
144	0.0547	0.0000
145	0.0509	0.0000
146	0.0509	0.0000
147	0.0508	0.0000
148	0.0502	0.0000
149	0.0496	0.0000
150	0.0496	0.0000
151	0.0477	0.0000
152	0.0434	0.0000
153	0.0421	0.0000
154	0.0386	0.0000
155	0.0280	0.0000
156	0.0129	0.0000
157	0.0105	0.0000
158	0.0067	0.0000

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0652	54276	0	0	Pass
0.0677	50160	0	0	Pass
0.0701	46581	0	0	Pass
0.0725	43312	0	0	Pass
0.0750	40265	0	0	Pass
0.0774	37451	0	0	Pass
0.0798	34913	0	0	Pass
0.0823	32553	0	0	Pass
0.0847	30321	0	0	Pass
0.0871	28260	0	0	Pass
0.0896	26426	0	0	Pass
0.0920	24786	0	0	Pass
0.0944	23285	0	0	Pass
0.0969	21928	0	0	Pass
0.0993	20631	0	0	Pass
0.1017	19435	0	0	Pass
0.1042	18304	0	0	Pass
0.1066	17219	0	0	Pass
0.1090	16166	0	0	Pass
0.1115	15163	0	0	Pass
0.1139	14266	0	0	Pass
0.1163	13462	0	0	Pass
0.1188	12687	0	0	Pass
0.1212	11939	0	0	Pass
0.1236	11246	0	0	Pass
0.1261	10587	0	0	Pass
0.1285	9972	0	0	Pass
0.1310	9385	0	0	Pass
0.1334	8864	0	0	Pass
0.1358	8332	0	0	Pass
0.1383	7867	0	0	Pass
0.1407	7474	0	0	Pass
0.1431	7030	0	0	Pass
0.1456	6620	0	0	Pass
0.1480	6282	0	0	Pass
0.1504	5978	0	0	Pass
0.1529	5712	0	0	Pass
0.1553	5447	0	0	Pass
0.1577	5198	0	0	Pass
0.1602	4949	0	0	Pass
0.1626	4708	0	0	Pass
0.1650	4513	0	0	Pass
0.1675	4340	0	0	Pass
0.1699	4153	0	0	Pass
0.1723	3958	0	0	Pass
0.1748	3770	0	0	Pass
0.1772	3577	0	0	Pass
0.1796	3416	0	0	Pass
0.1821	3267	0	0	Pass
0.1845	3134	0	0	Pass
0.1869	3027	0	0	Pass
0.1894	2932	0	0	Pass
0.1918	2813	0	0	Pass

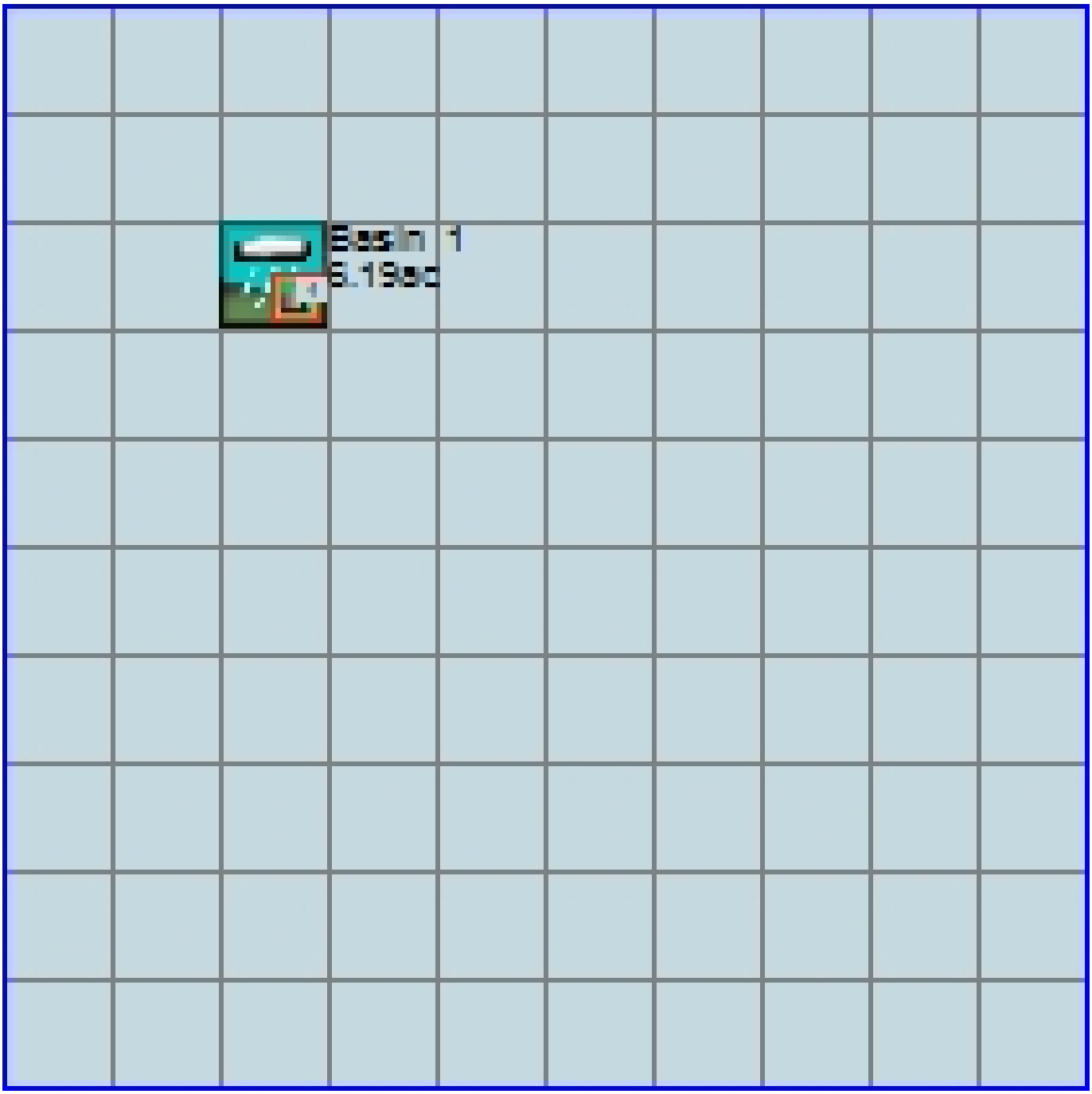
0.1942	2683	0	0	Pass
0.1967	2559	0	0	Pass
0.1991	2451	0	0	Pass
0.2015	2361	0	0	Pass
0.2040	2257	0	0	Pass
0.2064	2140	0	0	Pass
0.2089	2040	0	0	Pass
0.2113	1952	0	0	Pass
0.2137	1860	0	0	Pass
0.2162	1779	0	0	Pass
0.2186	1695	0	0	Pass
0.2210	1619	0	0	Pass
0.2235	1561	0	0	Pass
0.2259	1485	0	0	Pass
0.2283	1407	0	0	Pass
0.2308	1340	0	0	Pass
0.2332	1275	0	0	Pass
0.2356	1218	0	0	Pass
0.2381	1164	0	0	Pass
0.2405	1105	0	0	Pass
0.2429	1055	0	0	Pass
0.2454	1007	0	0	Pass
0.2478	963	0	0	Pass
0.2502	919	0	0	Pass
0.2527	873	0	0	Pass
0.2551	814	0	0	Pass
0.2575	774	0	0	Pass
0.2600	738	0	0	Pass
0.2624	694	0	0	Pass
0.2648	637	0	0	Pass
0.2673	601	0	0	Pass
0.2697	553	0	0	Pass
0.2721	517	0	0	Pass
0.2746	478	0	0	Pass
0.2770	434	0	0	Pass
0.2795	394	0	0	Pass
0.2819	363	0	0	Pass
0.2843	339	0	0	Pass
0.2868	310	0	0	Pass
0.2892	297	0	0	Pass
0.2916	273	0	0	Pass
0.2941	252	0	0	Pass
0.2965	237	0	0	Pass
0.2989	223	0	0	Pass
0.3014	206	0	0	Pass
0.3038	195	0	0	Pass
0.3062	180	0	0	Pass

LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Vault 1 POC	☐	2242.18			☐	100.00			
Total Volume Infiltrated		2242.18	0.00	0.00		100.00	0.00	0%	No Treat. Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Passed

Appendix

Predeveloped Schematic



Mitigated Schematic



Disclaimer

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WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
Detention Calculations-East Basin
01/17/2018

General Model Information

Project Name:	18666 FC East-5
Site Name:	
Site Address:	
City:	
Report Date:	1/17/2018
Gage:	
Data Start:	10/01/1901
Data End:	09/30/2059
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2017/04/14
Version:	4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	6.78
Pervious Total	6.78
Impervious Land Use	acre
Impervious Total	0
Basin Total	6.78

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	0.35
Pervious Total	0.35

Impervious Land Use	acre
ROOF TOPS FLAT	2.9
PARKING FLAT	3.53
Impervious Total	6.43
Basin Total	6.78

Element Flows To:

Surface	Interflow	Groundwater
Vault 1	Vault 1	

Mitigated Routing

Vault 1

Width: 180.737575679214 ft.
Length: 51.489193071404 ft.
Depth: 4 ft.
Infiltration On
Infiltration rate: 5
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 2647.832
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 2647.832
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 3 ft.
Riser Diameter: 18 in.
Element Flows To:
Outlet 1 Outlet 2

Vault Hydraulic Table

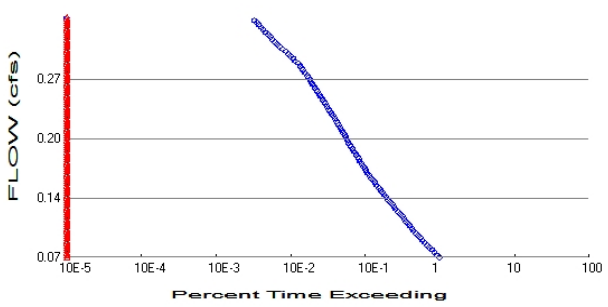
Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.213	0.000	0.000	0.000
0.0444	0.213	0.009	0.000	1.077
0.0889	0.213	0.019	0.000	1.077
0.1333	0.213	0.028	0.000	1.077
0.1778	0.213	0.038	0.000	1.077
0.2222	0.213	0.047	0.000	1.077
0.2667	0.213	0.057	0.000	1.077
0.3111	0.213	0.066	0.000	1.077
0.3556	0.213	0.076	0.000	1.077
0.4000	0.213	0.085	0.000	1.077
0.4444	0.213	0.094	0.000	1.077
0.4889	0.213	0.104	0.000	1.077
0.5333	0.213	0.113	0.000	1.077
0.5778	0.213	0.123	0.000	1.077
0.6222	0.213	0.132	0.000	1.077
0.6667	0.213	0.142	0.000	1.077
0.7111	0.213	0.151	0.000	1.077
0.7556	0.213	0.161	0.000	1.077
0.8000	0.213	0.170	0.000	1.077
0.8444	0.213	0.180	0.000	1.077
0.8889	0.213	0.189	0.000	1.077
0.9333	0.213	0.199	0.000	1.077
0.9778	0.213	0.208	0.000	1.077
1.0222	0.213	0.218	0.000	1.077
1.0667	0.213	0.227	0.000	1.077
1.1111	0.213	0.237	0.000	1.077
1.1556	0.213	0.246	0.000	1.077
1.2000	0.213	0.256	0.000	1.077
1.2444	0.213	0.265	0.000	1.077
1.2889	0.213	0.275	0.000	1.077
1.3333	0.213	0.284	0.000	1.077
1.3778	0.213	0.294	0.000	1.077

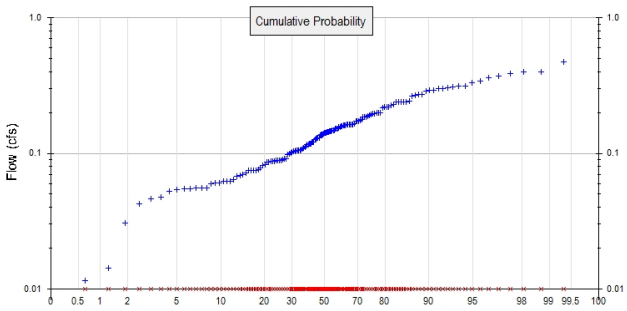
1.4222	0.213	0.303	0.000	1.077
1.4667	0.213	0.313	0.000	1.077
1.5111	0.213	0.322	0.000	1.077
1.5556	0.213	0.332	0.000	1.077
1.6000	0.213	0.341	0.000	1.077
1.6444	0.213	0.351	0.000	1.077
1.6889	0.213	0.360	0.000	1.077
1.7333	0.213	0.370	0.000	1.077
1.7778	0.213	0.379	0.000	1.077
1.8222	0.213	0.389	0.000	1.077
1.8667	0.213	0.398	0.000	1.077
1.9111	0.213	0.408	0.000	1.077
1.9556	0.213	0.417	0.000	1.077
2.0000	0.213	0.427	0.000	1.077
2.0444	0.213	0.436	0.000	1.077
2.0889	0.213	0.446	0.000	1.077
2.1333	0.213	0.455	0.000	1.077
2.1778	0.213	0.465	0.000	1.077
2.2222	0.213	0.474	0.000	1.077
2.2667	0.213	0.484	0.000	1.077
2.3111	0.213	0.493	0.000	1.077
2.3556	0.213	0.503	0.000	1.077
2.4000	0.213	0.512	0.000	1.077
2.4444	0.213	0.522	0.000	1.077
2.4889	0.213	0.531	0.000	1.077
2.5333	0.213	0.541	0.000	1.077
2.5778	0.213	0.550	0.000	1.077
2.6222	0.213	0.560	0.000	1.077
2.6667	0.213	0.569	0.000	1.077
2.7111	0.213	0.579	0.000	1.077
2.7556	0.213	0.588	0.000	1.077
2.8000	0.213	0.598	0.000	1.077
2.8444	0.213	0.607	0.000	1.077
2.8889	0.213	0.617	0.000	1.077
2.9333	0.213	0.626	0.000	1.077
2.9778	0.213	0.636	0.000	1.077
3.0222	0.213	0.645	0.052	1.077
3.0667	0.213	0.655	0.273	1.077
3.1111	0.213	0.664	0.587	1.077
3.1556	0.213	0.674	0.970	1.077
3.2000	0.213	0.683	1.404	1.077
3.2444	0.213	0.693	1.877	1.077
3.2889	0.213	0.702	2.374	1.077
3.3333	0.213	0.712	2.882	1.077
3.3778	0.213	0.721	3.386	1.077
3.4222	0.213	0.731	3.871	1.077
3.4667	0.213	0.740	4.326	1.077
3.5111	0.213	0.750	4.737	1.077
3.5556	0.213	0.759	5.097	1.077
3.6000	0.213	0.769	5.401	1.077
3.6444	0.213	0.778	5.649	1.077
3.6889	0.213	0.788	5.848	1.077
3.7333	0.213	0.797	6.014	1.077
3.7778	0.213	0.807	6.249	1.077
3.8222	0.213	0.816	6.425	1.077
3.8667	0.213	0.826	6.597	1.077
3.9111	0.213	0.835	6.764	1.077
3.9556	0.213	0.845	6.927	1.077

4.0000	0.213	0.854	7.086	1.077
4.0444	0.213	0.864	7.242	1.077
4.0889	0.000	0.000	7.394	0.000

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 6.78
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.35
Total Impervious Area: 6.43

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.142874
5 year	0.222269
10 year	0.26541
25 year	0.309319
50 year	0.335418
100 year	0.356878

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1902	0.105	0.000
1903	0.087	0.000
1904	0.143	0.000
1905	0.069	0.000
1906	0.031	0.000
1907	0.219	0.000
1908	0.162	0.000
1909	0.161	0.000
1910	0.221	0.000
1911	0.144	0.000

1912	0.476	0.000
1913	0.228	0.000
1914	0.056	0.000
1915	0.092	0.000
1916	0.143	0.000
1917	0.048	0.000
1918	0.153	0.000
1919	0.113	0.000
1920	0.145	0.000
1921	0.163	0.000
1922	0.163	0.000
1923	0.131	0.000
1924	0.060	0.000
1925	0.074	0.000
1926	0.138	0.000
1927	0.090	0.000
1928	0.111	0.000
1929	0.227	0.000
1930	0.146	0.000
1931	0.135	0.000
1932	0.106	0.000
1933	0.102	0.000
1934	0.299	0.000
1935	0.139	0.000
1936	0.121	0.000
1937	0.193	0.000
1938	0.117	0.000
1939	0.007	0.000
1940	0.130	0.000
1941	0.062	0.000
1942	0.196	0.000
1943	0.101	0.000
1944	0.185	0.000
1945	0.163	0.000
1946	0.088	0.000
1947	0.056	0.000
1948	0.307	0.000
1949	0.263	0.000
1950	0.075	0.000
1951	0.092	0.000
1952	0.401	0.000
1953	0.362	0.000
1954	0.130	0.000
1955	0.107	0.000
1956	0.052	0.000
1957	0.185	0.000
1958	0.387	0.000
1959	0.239	0.000
1960	0.064	0.000
1961	0.240	0.000
1962	0.129	0.000
1963	0.062	0.000
1964	0.068	0.000
1965	0.269	0.000
1966	0.075	0.000
1967	0.116	0.000
1968	0.118	0.000
1969	0.118	0.000

1970	0.184	0.000
1971	0.290	0.000
1972	0.188	0.000
1973	0.240	0.000
1974	0.130	0.000
1975	0.304	0.000
1976	0.161	0.000
1977	0.054	0.000
1978	0.271	0.000
1979	0.074	0.000
1980	0.154	0.000
1981	0.147	0.000
1982	0.060	0.000
1983	0.240	0.000
1984	0.098	0.000
1985	0.159	0.000
1986	0.143	0.000
1987	0.273	0.000
1988	0.173	0.000
1989	0.155	0.000
1990	0.176	0.000
1991	0.138	0.000
1992	0.197	0.000
1993	0.191	0.000
1994	0.287	0.000
1995	0.055	0.000
1996	0.314	0.000
1997	0.120	0.000
1998	0.143	0.000
1999	0.012	0.000
2000	0.109	0.000
2001	0.056	0.000
2002	0.199	0.000
2003	0.173	0.000
2004	0.160	0.000
2005	0.294	0.000
2006	0.089	0.000
2007	0.089	0.000
2008	0.152	0.000
2009	0.104	0.000
2010	0.089	0.000
2011	0.072	0.000
2012	0.104	0.000
2013	0.081	0.000
2014	0.060	0.000
2015	0.116	0.000
2016	0.046	0.000
2017	0.220	0.000
2018	0.400	0.000
2019	0.373	0.000
2020	0.122	0.000
2021	0.198	0.000
2022	0.082	0.000
2023	0.167	0.000
2024	0.314	0.000
2025	0.147	0.000
2026	0.240	0.000
2027	0.086	0.000

2028	0.075	0.000
2029	0.163	0.000
2030	0.302	0.000
2031	0.100	0.000
2032	0.054	0.000
2033	0.087	0.000
2034	0.086	0.000
2035	0.341	0.000
2036	0.177	0.000
2037	0.042	0.000
2038	0.141	0.000
2039	0.014	0.000
2040	0.078	0.000
2041	0.106	0.000
2042	0.332	0.000
2043	0.160	0.000
2044	0.216	0.000
2045	0.147	0.000
2046	0.172	0.000
2047	0.127	0.000
2048	0.164	0.000
2049	0.147	0.000
2050	0.105	0.000
2051	0.153	0.000
2052	0.088	0.000
2053	0.157	0.000
2054	0.200	0.000
2055	0.062	0.000
2056	0.070	0.000
2057	0.108	0.000
2058	0.137	0.000
2059	0.242	0.000

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.4756	0.0000
2	0.4008	0.0000
3	0.4004	0.0000
4	0.3867	0.0000
5	0.3734	0.0000
6	0.3615	0.0000
7	0.3408	0.0000
8	0.3316	0.0000
9	0.3140	0.0000
10	0.3135	0.0000
11	0.3074	0.0000
12	0.3045	0.0000
13	0.3021	0.0000
14	0.2992	0.0000
15	0.2937	0.0000
16	0.2901	0.0000
17	0.2865	0.0000
18	0.2727	0.0000
19	0.2711	0.0000
20	0.2690	0.0000
21	0.2633	0.0000
22	0.2417	0.0000

23	0.2404	0.0000
24	0.2404	0.0000
25	0.2403	0.0000
26	0.2398	0.0000
27	0.2391	0.0000
28	0.2279	0.0000
29	0.2269	0.0000
30	0.2214	0.0000
31	0.2202	0.0000
32	0.2193	0.0000
33	0.2160	0.0000
34	0.2001	0.0000
35	0.1992	0.0000
36	0.1983	0.0000
37	0.1970	0.0000
38	0.1960	0.0000
39	0.1927	0.0000
40	0.1910	0.0000
41	0.1881	0.0000
42	0.1851	0.0000
43	0.1848	0.0000
44	0.1843	0.0000
45	0.1770	0.0000
46	0.1760	0.0000
47	0.1734	0.0000
48	0.1729	0.0000
49	0.1723	0.0000
50	0.1668	0.0000
51	0.1642	0.0000
52	0.1633	0.0000
53	0.1630	0.0000
54	0.1629	0.0000
55	0.1625	0.0000
56	0.1624	0.0000
57	0.1612	0.0000
58	0.1606	0.0000
59	0.1601	0.0000
60	0.1595	0.0000
61	0.1594	0.0000
62	0.1574	0.0000
63	0.1555	0.0000
64	0.1535	0.0000
65	0.1530	0.0000
66	0.1526	0.0000
67	0.1517	0.0000
68	0.1472	0.0000
69	0.1471	0.0000
70	0.1470	0.0000
71	0.1468	0.0000
72	0.1458	0.0000
73	0.1453	0.0000
74	0.1442	0.0000
75	0.1433	0.0000
76	0.1430	0.0000
77	0.1426	0.0000
78	0.1425	0.0000
79	0.1412	0.0000
80	0.1389	0.0000

81	0.1384	0.0000
82	0.1378	0.0000
83	0.1369	0.0000
84	0.1349	0.0000
85	0.1310	0.0000
86	0.1305	0.0000
87	0.1302	0.0000
88	0.1298	0.0000
89	0.1291	0.0000
90	0.1269	0.0000
91	0.1218	0.0000
92	0.1207	0.0000
93	0.1204	0.0000
94	0.1179	0.0000
95	0.1177	0.0000
96	0.1175	0.0000
97	0.1158	0.0000
98	0.1156	0.0000
99	0.1129	0.0000
100	0.1107	0.0000
101	0.1090	0.0000
102	0.1081	0.0000
103	0.1066	0.0000
104	0.1058	0.0000
105	0.1056	0.0000
106	0.1053	0.0000
107	0.1048	0.0000
108	0.1041	0.0000
109	0.1039	0.0000
110	0.1019	0.0000
111	0.1009	0.0000
112	0.0998	0.0000
113	0.0980	0.0000
114	0.0918	0.0000
115	0.0918	0.0000
116	0.0897	0.0000
117	0.0891	0.0000
118	0.0888	0.0000
119	0.0886	0.0000
120	0.0883	0.0000
121	0.0880	0.0000
122	0.0874	0.0000
123	0.0872	0.0000
124	0.0864	0.0000
125	0.0860	0.0000
126	0.0821	0.0000
127	0.0811	0.0000
128	0.0785	0.0000
129	0.0754	0.0000
130	0.0748	0.0000
131	0.0746	0.0000
132	0.0744	0.0000
133	0.0743	0.0000
134	0.0716	0.0000
135	0.0695	0.0000
136	0.0686	0.0000
137	0.0681	0.0000
138	0.0636	0.0000

139	0.0620	0.0000
140	0.0620	0.0000
141	0.0619	0.0000
142	0.0604	0.0000
143	0.0601	0.0000
144	0.0599	0.0000
145	0.0558	0.0000
146	0.0558	0.0000
147	0.0557	0.0000
148	0.0550	0.0000
149	0.0544	0.0000
150	0.0543	0.0000
151	0.0523	0.0000
152	0.0476	0.0000
153	0.0461	0.0000
154	0.0423	0.0000
155	0.0307	0.0000
156	0.0142	0.0000
157	0.0115	0.0000
158	0.0073	0.0000

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0714	54293	0	0	Pass
0.0741	50160	0	0	Pass
0.0768	46575	0	0	Pass
0.0794	43312	0	0	Pass
0.0821	40260	0	0	Pass
0.0848	37456	0	0	Pass
0.0874	34913	0	0	Pass
0.0901	32553	0	0	Pass
0.0928	30321	0	0	Pass
0.0954	28265	0	0	Pass
0.0981	26426	0	0	Pass
0.1008	24819	0	0	Pass
0.1034	23302	0	0	Pass
0.1061	21922	0	0	Pass
0.1088	20664	0	0	Pass
0.1114	19429	0	0	Pass
0.1141	18282	0	0	Pass
0.1168	17241	0	0	Pass
0.1194	16166	0	0	Pass
0.1221	15141	0	0	Pass
0.1248	14288	0	0	Pass
0.1274	13451	0	0	Pass
0.1301	12692	0	0	Pass
0.1328	11950	0	0	Pass
0.1354	11246	0	0	Pass
0.1381	10593	0	0	Pass
0.1408	9983	0	0	Pass
0.1434	9379	0	0	Pass
0.1461	8864	0	0	Pass
0.1488	8338	0	0	Pass
0.1514	7861	0	0	Pass
0.1541	7474	0	0	Pass
0.1568	7036	0	0	Pass
0.1594	6615	0	0	Pass
0.1621	6282	0	0	Pass
0.1648	5983	0	0	Pass
0.1674	5701	0	0	Pass
0.1701	5447	0	0	Pass
0.1728	5199	0	0	Pass
0.1754	4943	0	0	Pass
0.1781	4708	0	0	Pass
0.1808	4515	0	0	Pass
0.1834	4337	0	0	Pass
0.1861	4160	0	0	Pass
0.1888	3958	0	0	Pass
0.1914	3766	0	0	Pass
0.1941	3586	0	0	Pass
0.1968	3417	0	0	Pass
0.1994	3263	0	0	Pass
0.2021	3136	0	0	Pass
0.2048	3028	0	0	Pass
0.2074	2928	0	0	Pass
0.2101	2815	0	0	Pass

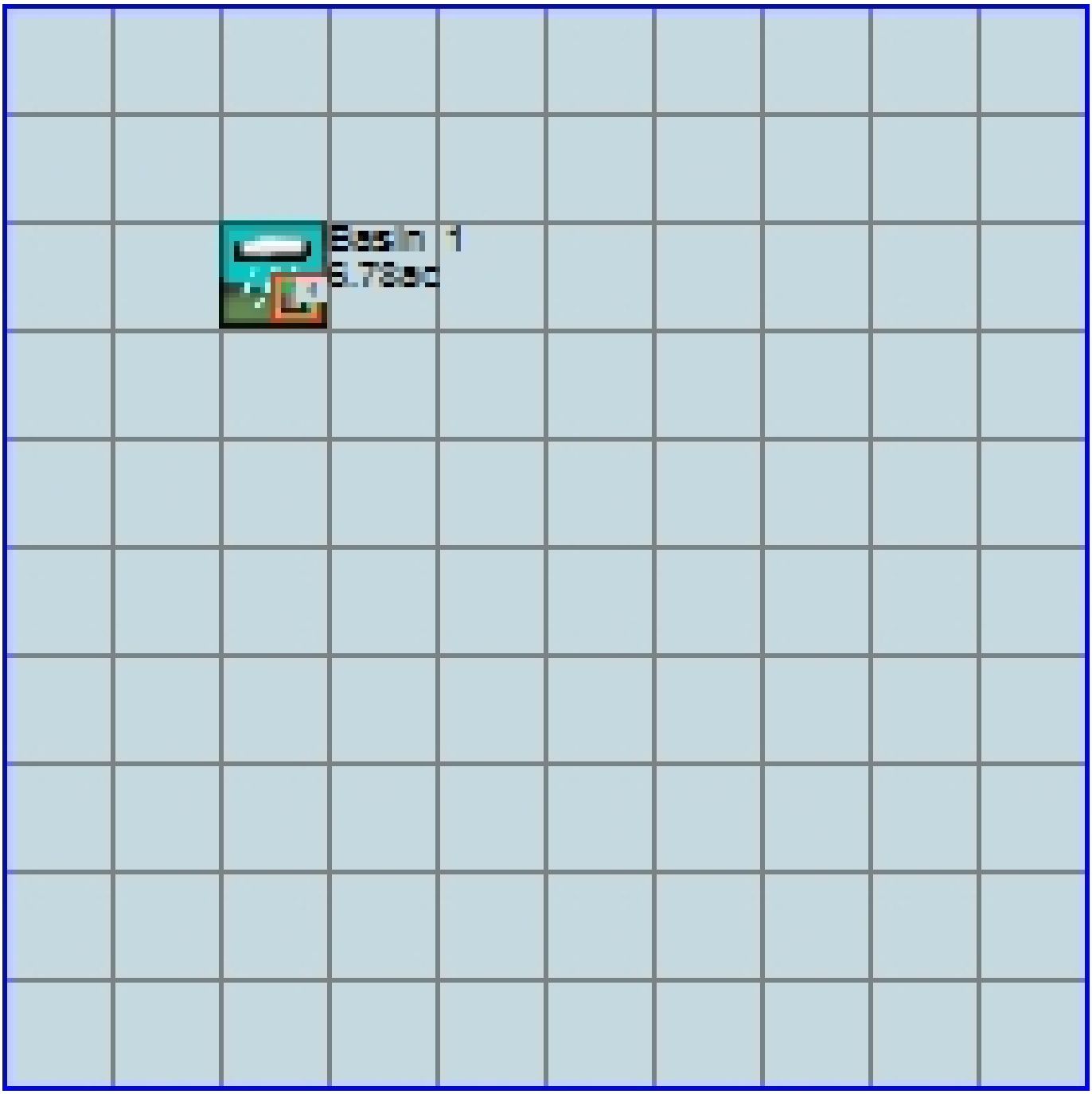
0.2128	2684	0	0	Pass
0.2154	2555	0	0	Pass
0.2181	2454	0	0	Pass
0.2208	2361	0	0	Pass
0.2234	2256	0	0	Pass
0.2261	2143	0	0	Pass
0.2288	2040	0	0	Pass
0.2314	1952	0	0	Pass
0.2341	1862	0	0	Pass
0.2368	1779	0	0	Pass
0.2394	1689	0	0	Pass
0.2421	1619	0	0	Pass
0.2448	1561	0	0	Pass
0.2474	1482	0	0	Pass
0.2501	1409	0	0	Pass
0.2528	1340	0	0	Pass
0.2554	1270	0	0	Pass
0.2581	1218	0	0	Pass
0.2608	1163	0	0	Pass
0.2634	1103	0	0	Pass
0.2661	1057	0	0	Pass
0.2688	1006	0	0	Pass
0.2714	963	0	0	Pass
0.2741	920	0	0	Pass
0.2768	873	0	0	Pass
0.2794	814	0	0	Pass
0.2821	775	0	0	Pass
0.2848	738	0	0	Pass
0.2874	694	0	0	Pass
0.2901	637	0	0	Pass
0.2928	601	0	0	Pass
0.2954	553	0	0	Pass
0.2981	517	0	0	Pass
0.3008	478	0	0	Pass
0.3034	434	0	0	Pass
0.3061	394	0	0	Pass
0.3088	363	0	0	Pass
0.3114	339	0	0	Pass
0.3141	310	0	0	Pass
0.3168	296	0	0	Pass
0.3194	273	0	0	Pass
0.3221	252	0	0	Pass
0.3248	237	0	0	Pass
0.3274	223	0	0	Pass
0.3301	206	0	0	Pass
0.3328	195	0	0	Pass
0.3354	180	0	0	Pass

LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Vault 1 POC	☐	2409.58			☐	100.00			
Total Volume Infiltrated		2409.58	0.00	0.00		100.00	0.00	0%	No Treat. Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Passed

Appendix

Predeveloped Schematic



Mitigated Schematic



Disclaimer

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WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
Detention Calculations-Sequalitchew Road Basin
01/10/2018

General Model Information

Project Name:	18666 FC Road-5
Site Name:	
Site Address:	
City:	
Report Date:	1/17/2018
Gage:	
Data Start:	10/01/1901
Data End:	09/30/2059
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2017/04/14
Version:	4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	1.18
Pervious Total	1.18
Impervious Land Use	acre
Impervious Total	0
Basin Total	1.18

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	0.36
Pervious Total	0.36

Impervious Land Use	acre
ROADS FLAT	0.69
SIDEWALKS FLAT	0.13
Impervious Total	0.82
Basin Total	1.18

Element Flows To:

Surface	Interflow	Groundwater
Vault 1	Vault 1	

Mitigated Routing

Vault 1

Width: 81.3775010581378 ft.
Length: 16.4815192016482 ft.
Depth: 4 ft.
Infiltration On
Infiltration rate: 5
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 391.066
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 391.066
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 3 ft.
Riser Diameter: 18 in.
Element Flows To:
Outlet 1 Outlet 2

Vault Hydraulic Table

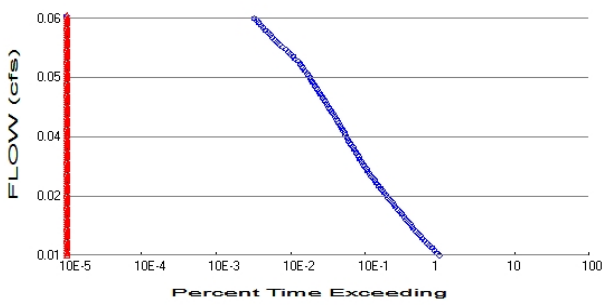
Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.030	0.000	0.000	0.000
0.0444	0.030	0.001	0.000	0.155
0.0889	0.030	0.002	0.000	0.155
0.1333	0.030	0.004	0.000	0.155
0.1778	0.030	0.005	0.000	0.155
0.2222	0.030	0.006	0.000	0.155
0.2667	0.030	0.008	0.000	0.155
0.3111	0.030	0.009	0.000	0.155
0.3556	0.030	0.010	0.000	0.155
0.4000	0.030	0.012	0.000	0.155
0.4444	0.030	0.013	0.000	0.155
0.4889	0.030	0.015	0.000	0.155
0.5333	0.030	0.016	0.000	0.155
0.5778	0.030	0.017	0.000	0.155
0.6222	0.030	0.019	0.000	0.155
0.6667	0.030	0.020	0.000	0.155
0.7111	0.030	0.021	0.000	0.155
0.7556	0.030	0.023	0.000	0.155
0.8000	0.030	0.024	0.000	0.155
0.8444	0.030	0.026	0.000	0.155
0.8889	0.030	0.027	0.000	0.155
0.9333	0.030	0.028	0.000	0.155
0.9778	0.030	0.030	0.000	0.155
1.0222	0.030	0.031	0.000	0.155
1.0667	0.030	0.032	0.000	0.155
1.1111	0.030	0.034	0.000	0.155
1.1556	0.030	0.035	0.000	0.155
1.2000	0.030	0.036	0.000	0.155
1.2444	0.030	0.038	0.000	0.155
1.2889	0.030	0.039	0.000	0.155
1.3333	0.030	0.041	0.000	0.155
1.3778	0.030	0.042	0.000	0.155

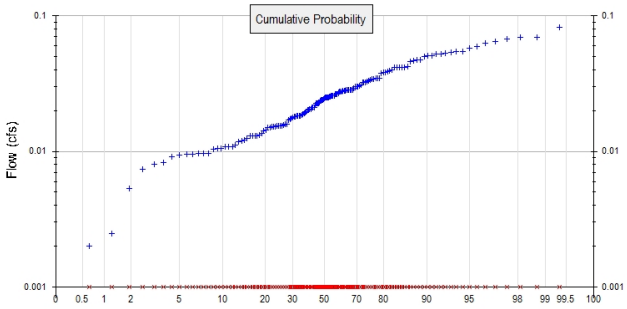
1.4222	0.030	0.043	0.000	0.155
1.4667	0.030	0.045	0.000	0.155
1.5111	0.030	0.046	0.000	0.155
1.5556	0.030	0.047	0.000	0.155
1.6000	0.030	0.049	0.000	0.155
1.6444	0.030	0.050	0.000	0.155
1.6889	0.030	0.052	0.000	0.155
1.7333	0.030	0.053	0.000	0.155
1.7778	0.030	0.054	0.000	0.155
1.8222	0.030	0.056	0.000	0.155
1.8667	0.030	0.057	0.000	0.155
1.9111	0.030	0.058	0.000	0.155
1.9556	0.030	0.060	0.000	0.155
2.0000	0.030	0.061	0.000	0.155
2.0444	0.030	0.062	0.000	0.155
2.0889	0.030	0.064	0.000	0.155
2.1333	0.030	0.065	0.000	0.155
2.1778	0.030	0.067	0.000	0.155
2.2222	0.030	0.068	0.000	0.155
2.2667	0.030	0.069	0.000	0.155
2.3111	0.030	0.071	0.000	0.155
2.3556	0.030	0.072	0.000	0.155
2.4000	0.030	0.073	0.000	0.155
2.4444	0.030	0.075	0.000	0.155
2.4889	0.030	0.076	0.000	0.155
2.5333	0.030	0.078	0.000	0.155
2.5778	0.030	0.079	0.000	0.155
2.6222	0.030	0.080	0.000	0.155
2.6667	0.030	0.082	0.000	0.155
2.7111	0.030	0.083	0.000	0.155
2.7556	0.030	0.084	0.000	0.155
2.8000	0.030	0.086	0.000	0.155
2.8444	0.030	0.087	0.000	0.155
2.8889	0.030	0.088	0.000	0.155
2.9333	0.030	0.090	0.000	0.155
2.9778	0.030	0.091	0.000	0.155
3.0222	0.030	0.093	0.052	0.155
3.0667	0.030	0.094	0.273	0.155
3.1111	0.030	0.095	0.587	0.155
3.1556	0.030	0.097	0.970	0.155
3.2000	0.030	0.098	1.404	0.155
3.2444	0.030	0.099	1.877	0.155
3.2889	0.030	0.101	2.374	0.155
3.3333	0.030	0.102	2.882	0.155
3.3778	0.030	0.104	3.386	0.155
3.4222	0.030	0.105	3.871	0.155
3.4667	0.030	0.106	4.326	0.155
3.5111	0.030	0.108	4.737	0.155
3.5556	0.030	0.109	5.097	0.155
3.6000	0.030	0.110	5.401	0.155
3.6444	0.030	0.112	5.649	0.155
3.6889	0.030	0.113	5.848	0.155
3.7333	0.030	0.115	6.014	0.155
3.7778	0.030	0.116	6.249	0.155
3.8222	0.030	0.117	6.425	0.155
3.8667	0.030	0.119	6.597	0.155
3.9111	0.030	0.120	6.764	0.155
3.9556	0.030	0.121	6.927	0.155

4.0000	0.030	0.123	7.086	0.155
4.0444	0.030	0.124	7.242	0.155
4.0889	0.000	0.000	7.394	0.000

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 1.18
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.36
Total Impervious Area: 0.82

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.024866
5 year	0.038684
10 year	0.046192
25 year	0.053834
50 year	0.058376
100 year	0.062112

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1902	0.018	0.000
1903	0.015	0.000
1904	0.025	0.000
1905	0.012	0.000
1906	0.005	0.000
1907	0.038	0.000
1908	0.028	0.000
1909	0.028	0.000
1910	0.039	0.000
1911	0.025	0.000

1912	0.083	0.000
1913	0.040	0.000
1914	0.010	0.000
1915	0.016	0.000
1916	0.025	0.000
1917	0.008	0.000
1918	0.027	0.000
1919	0.020	0.000
1920	0.025	0.000
1921	0.028	0.000
1922	0.028	0.000
1923	0.023	0.000
1924	0.010	0.000
1925	0.013	0.000
1926	0.024	0.000
1927	0.016	0.000
1928	0.019	0.000
1929	0.039	0.000
1930	0.025	0.000
1931	0.023	0.000
1932	0.018	0.000
1933	0.018	0.000
1934	0.052	0.000
1935	0.024	0.000
1936	0.021	0.000
1937	0.034	0.000
1938	0.020	0.000
1939	0.001	0.000
1940	0.023	0.000
1941	0.011	0.000
1942	0.034	0.000
1943	0.018	0.000
1944	0.032	0.000
1945	0.028	0.000
1946	0.015	0.000
1947	0.010	0.000
1948	0.053	0.000
1949	0.046	0.000
1950	0.013	0.000
1951	0.016	0.000
1952	0.070	0.000
1953	0.063	0.000
1954	0.023	0.000
1955	0.019	0.000
1956	0.009	0.000
1957	0.032	0.000
1958	0.067	0.000
1959	0.042	0.000
1960	0.011	0.000
1961	0.042	0.000
1962	0.022	0.000
1963	0.011	0.000
1964	0.012	0.000
1965	0.047	0.000
1966	0.013	0.000
1967	0.020	0.000
1968	0.021	0.000
1969	0.020	0.000

1970	0.032	0.000
1971	0.050	0.000
1972	0.033	0.000
1973	0.042	0.000
1974	0.023	0.000
1975	0.053	0.000
1976	0.028	0.000
1977	0.009	0.000
1978	0.047	0.000
1979	0.013	0.000
1980	0.027	0.000
1981	0.026	0.000
1982	0.010	0.000
1983	0.042	0.000
1984	0.017	0.000
1985	0.028	0.000
1986	0.025	0.000
1987	0.047	0.000
1988	0.030	0.000
1989	0.027	0.000
1990	0.031	0.000
1991	0.024	0.000
1992	0.034	0.000
1993	0.033	0.000
1994	0.050	0.000
1995	0.010	0.000
1996	0.055	0.000
1997	0.021	0.000
1998	0.025	0.000
1999	0.002	0.000
2000	0.019	0.000
2001	0.010	0.000
2002	0.035	0.000
2003	0.030	0.000
2004	0.028	0.000
2005	0.051	0.000
2006	0.015	0.000
2007	0.016	0.000
2008	0.026	0.000
2009	0.018	0.000
2010	0.015	0.000
2011	0.012	0.000
2012	0.018	0.000
2013	0.014	0.000
2014	0.011	0.000
2015	0.020	0.000
2016	0.008	0.000
2017	0.038	0.000
2018	0.070	0.000
2019	0.065	0.000
2020	0.021	0.000
2021	0.035	0.000
2022	0.014	0.000
2023	0.029	0.000
2024	0.055	0.000
2025	0.026	0.000
2026	0.042	0.000
2027	0.015	0.000

2028	0.013	0.000
2029	0.028	0.000
2030	0.053	0.000
2031	0.017	0.000
2032	0.009	0.000
2033	0.015	0.000
2034	0.015	0.000
2035	0.059	0.000
2036	0.031	0.000
2037	0.007	0.000
2038	0.025	0.000
2039	0.002	0.000
2040	0.014	0.000
2041	0.018	0.000
2042	0.058	0.000
2043	0.028	0.000
2044	0.038	0.000
2045	0.026	0.000
2046	0.030	0.000
2047	0.022	0.000
2048	0.029	0.000
2049	0.026	0.000
2050	0.018	0.000
2051	0.027	0.000
2052	0.015	0.000
2053	0.027	0.000
2054	0.035	0.000
2055	0.011	0.000
2056	0.012	0.000
2057	0.019	0.000
2058	0.024	0.000
2059	0.042	0.000

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.0828	0.0000
2	0.0698	0.0000
3	0.0697	0.0000
4	0.0673	0.0000
5	0.0650	0.0000
6	0.0629	0.0000
7	0.0593	0.0000
8	0.0577	0.0000
9	0.0546	0.0000
10	0.0546	0.0000
11	0.0535	0.0000
12	0.0530	0.0000
13	0.0526	0.0000
14	0.0521	0.0000
15	0.0511	0.0000
16	0.0505	0.0000
17	0.0499	0.0000
18	0.0475	0.0000
19	0.0472	0.0000
20	0.0468	0.0000
21	0.0458	0.0000
22	0.0421	0.0000

23	0.0418	0.0000
24	0.0418	0.0000
25	0.0418	0.0000
26	0.0417	0.0000
27	0.0416	0.0000
28	0.0397	0.0000
29	0.0395	0.0000
30	0.0385	0.0000
31	0.0383	0.0000
32	0.0382	0.0000
33	0.0376	0.0000
34	0.0348	0.0000
35	0.0347	0.0000
36	0.0345	0.0000
37	0.0343	0.0000
38	0.0341	0.0000
39	0.0335	0.0000
40	0.0332	0.0000
41	0.0327	0.0000
42	0.0322	0.0000
43	0.0322	0.0000
44	0.0321	0.0000
45	0.0308	0.0000
46	0.0306	0.0000
47	0.0302	0.0000
48	0.0301	0.0000
49	0.0300	0.0000
50	0.0290	0.0000
51	0.0286	0.0000
52	0.0284	0.0000
53	0.0284	0.0000
54	0.0283	0.0000
55	0.0283	0.0000
56	0.0283	0.0000
57	0.0281	0.0000
58	0.0280	0.0000
59	0.0279	0.0000
60	0.0278	0.0000
61	0.0277	0.0000
62	0.0274	0.0000
63	0.0271	0.0000
64	0.0267	0.0000
65	0.0266	0.0000
66	0.0266	0.0000
67	0.0264	0.0000
68	0.0256	0.0000
69	0.0256	0.0000
70	0.0256	0.0000
71	0.0255	0.0000
72	0.0254	0.0000
73	0.0253	0.0000
74	0.0251	0.0000
75	0.0249	0.0000
76	0.0249	0.0000
77	0.0248	0.0000
78	0.0248	0.0000
79	0.0246	0.0000
80	0.0242	0.0000

81	0.0241	0.0000
82	0.0240	0.0000
83	0.0238	0.0000
84	0.0235	0.0000
85	0.0228	0.0000
86	0.0227	0.0000
87	0.0227	0.0000
88	0.0226	0.0000
89	0.0225	0.0000
90	0.0221	0.0000
91	0.0212	0.0000
92	0.0210	0.0000
93	0.0210	0.0000
94	0.0205	0.0000
95	0.0205	0.0000
96	0.0204	0.0000
97	0.0201	0.0000
98	0.0201	0.0000
99	0.0196	0.0000
100	0.0193	0.0000
101	0.0190	0.0000
102	0.0188	0.0000
103	0.0186	0.0000
104	0.0184	0.0000
105	0.0184	0.0000
106	0.0183	0.0000
107	0.0182	0.0000
108	0.0181	0.0000
109	0.0181	0.0000
110	0.0177	0.0000
111	0.0176	0.0000
112	0.0174	0.0000
113	0.0170	0.0000
114	0.0160	0.0000
115	0.0160	0.0000
116	0.0156	0.0000
117	0.0155	0.0000
118	0.0155	0.0000
119	0.0154	0.0000
120	0.0154	0.0000
121	0.0153	0.0000
122	0.0152	0.0000
123	0.0152	0.0000
124	0.0150	0.0000
125	0.0150	0.0000
126	0.0143	0.0000
127	0.0141	0.0000
128	0.0137	0.0000
129	0.0131	0.0000
130	0.0130	0.0000
131	0.0130	0.0000
132	0.0129	0.0000
133	0.0129	0.0000
134	0.0125	0.0000
135	0.0121	0.0000
136	0.0119	0.0000
137	0.0118	0.0000
138	0.0111	0.0000

139	0.0108	0.0000
140	0.0108	0.0000
141	0.0108	0.0000
142	0.0105	0.0000
143	0.0105	0.0000
144	0.0104	0.0000
145	0.0097	0.0000
146	0.0097	0.0000
147	0.0097	0.0000
148	0.0096	0.0000
149	0.0095	0.0000
150	0.0094	0.0000
151	0.0091	0.0000
152	0.0083	0.0000
153	0.0080	0.0000
154	0.0074	0.0000
155	0.0053	0.0000
156	0.0025	0.0000
157	0.0020	0.0000
158	0.0013	0.0000

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0124	54315	0	0	Pass
0.0129	50221	0	0	Pass
0.0134	46570	0	0	Pass
0.0138	43351	0	0	Pass
0.0143	40310	0	0	Pass
0.0148	37462	0	0	Pass
0.0152	34947	0	0	Pass
0.0157	32564	0	0	Pass
0.0161	30343	0	0	Pass
0.0166	28299	0	0	Pass
0.0171	26432	0	0	Pass
0.0175	24803	0	0	Pass
0.0180	23290	0	0	Pass
0.0185	21939	0	0	Pass
0.0189	20659	0	0	Pass
0.0194	19423	0	0	Pass
0.0199	18299	0	0	Pass
0.0203	17219	0	0	Pass
0.0208	16166	0	0	Pass
0.0213	15141	0	0	Pass
0.0217	14277	0	0	Pass
0.0222	13462	0	0	Pass
0.0226	12665	0	0	Pass
0.0231	11944	0	0	Pass
0.0236	11235	0	0	Pass
0.0240	10565	0	0	Pass
0.0245	9978	0	0	Pass
0.0250	9374	0	0	Pass
0.0254	8853	0	0	Pass
0.0259	8332	0	0	Pass
0.0264	7861	0	0	Pass
0.0268	7462	0	0	Pass
0.0273	7030	0	0	Pass
0.0277	6620	0	0	Pass
0.0282	6271	0	0	Pass
0.0287	5978	0	0	Pass
0.0291	5706	0	0	Pass
0.0296	5437	0	0	Pass
0.0301	5199	0	0	Pass
0.0305	4942	0	0	Pass
0.0310	4706	0	0	Pass
0.0315	4515	0	0	Pass
0.0319	4336	0	0	Pass
0.0324	4159	0	0	Pass
0.0329	3957	0	0	Pass
0.0333	3770	0	0	Pass
0.0338	3577	0	0	Pass
0.0342	3414	0	0	Pass
0.0347	3265	0	0	Pass
0.0352	3134	0	0	Pass
0.0356	3027	0	0	Pass
0.0361	2925	0	0	Pass
0.0366	2814	0	0	Pass

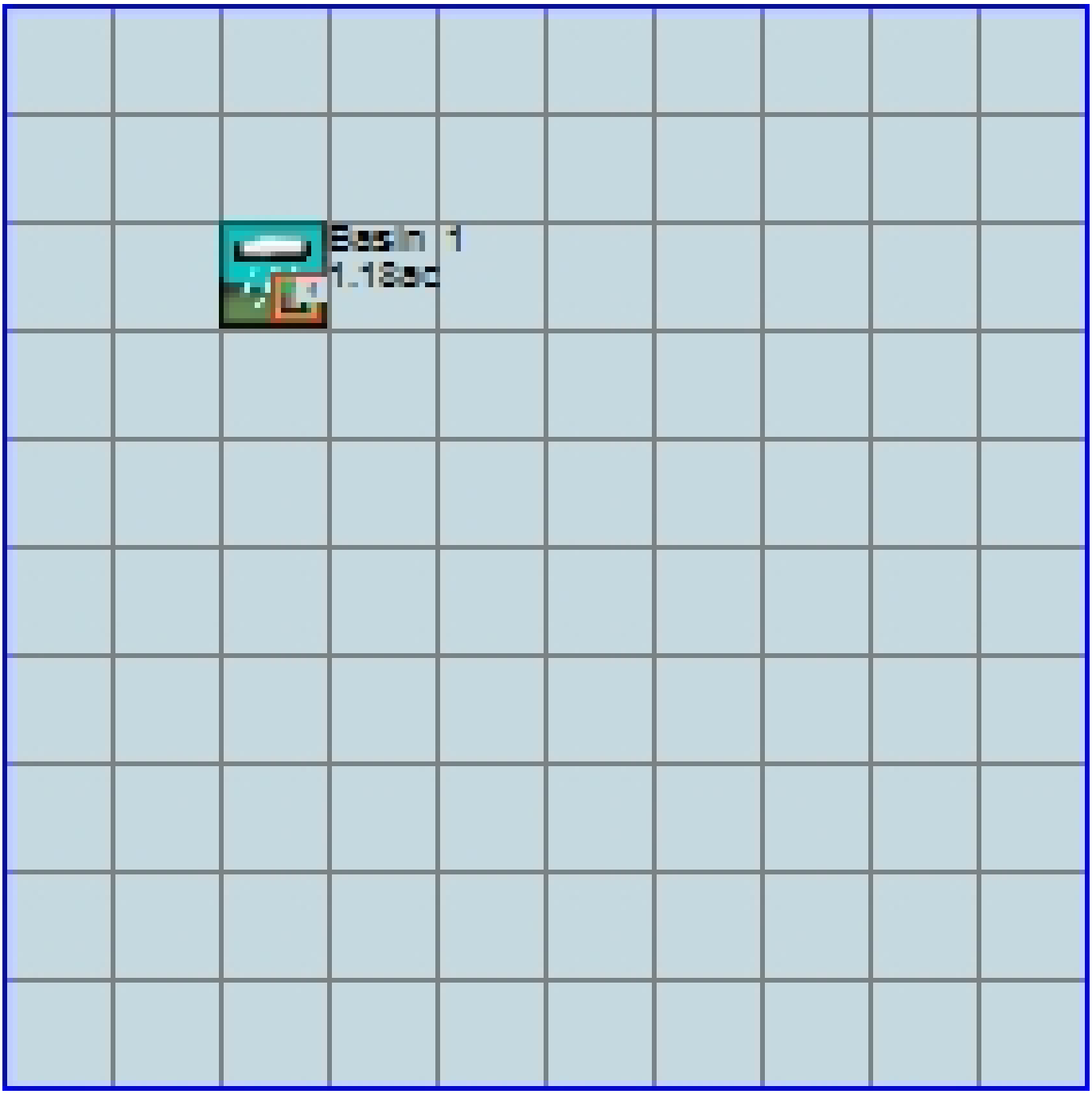
0.0370	2683	0	0	Pass
0.0375	2555	0	0	Pass
0.0380	2451	0	0	Pass
0.0384	2358	0	0	Pass
0.0389	2256	0	0	Pass
0.0393	2143	0	0	Pass
0.0398	2038	0	0	Pass
0.0403	1952	0	0	Pass
0.0407	1859	0	0	Pass
0.0412	1778	0	0	Pass
0.0417	1691	0	0	Pass
0.0421	1619	0	0	Pass
0.0426	1561	0	0	Pass
0.0431	1482	0	0	Pass
0.0435	1407	0	0	Pass
0.0440	1340	0	0	Pass
0.0445	1270	0	0	Pass
0.0449	1218	0	0	Pass
0.0454	1163	0	0	Pass
0.0458	1103	0	0	Pass
0.0463	1055	0	0	Pass
0.0468	1006	0	0	Pass
0.0472	964	0	0	Pass
0.0477	919	0	0	Pass
0.0482	872	0	0	Pass
0.0486	814	0	0	Pass
0.0491	774	0	0	Pass
0.0496	738	0	0	Pass
0.0500	694	0	0	Pass
0.0505	636	0	0	Pass
0.0510	601	0	0	Pass
0.0514	553	0	0	Pass
0.0519	517	0	0	Pass
0.0523	478	0	0	Pass
0.0528	434	0	0	Pass
0.0533	394	0	0	Pass
0.0537	363	0	0	Pass
0.0542	339	0	0	Pass
0.0547	310	0	0	Pass
0.0551	296	0	0	Pass
0.0556	273	0	0	Pass
0.0561	252	0	0	Pass
0.0565	237	0	0	Pass
0.0570	223	0	0	Pass
0.0574	206	0	0	Pass
0.0579	194	0	0	Pass
0.0584	180	0	0	Pass

LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Vault 1 POC	☐	356.05			☐	99.95			
Total Volume Infiltrated		356.05	0.00	0.00		99.95	0.00	0%	No Treat. Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Passed

Appendix

Predeveloped Schematic



Mitigated Schematic



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WATER QUALITY CALCULATIONS

WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
Water Quality Calculations-West Basin
01/22/2018

General Model Information

Project Name:	18666 WQ West
Site Name:	
Site Address:	
City:	
Report Date:	1/22/2018
Gage:	
Data Start:	10/01/1901
Data End:	09/30/2059
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2017/04/14
Version:	4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	3.21
Pervious Total	3.21
Impervious Land Use	acre
Impervious Total	0
Basin Total	3.21

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	0.12
Pervious Total	0.12

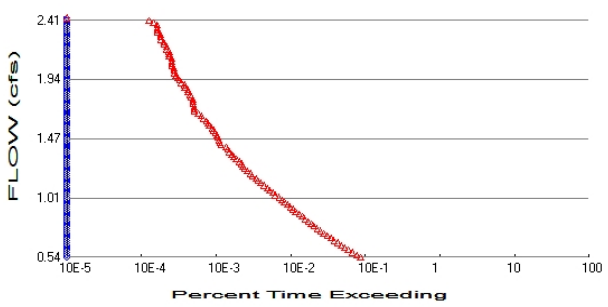
Impervious Land Use	acre
PARKING FLAT	3.09
Impervious Total	3.09
Basin Total	3.21

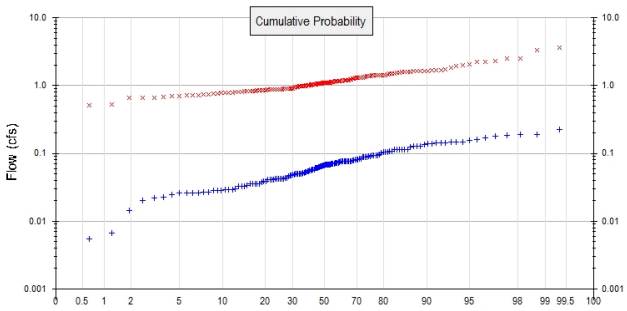
Element Flows To:

Surface	Interflow	Groundwater

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 3.21
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.12
Total Impervious Area: 3.09

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.067644
5 year	0.105234
10 year	0.125659
25 year	0.146447
50 year	0.158804
100 year	0.168964

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	1.087626
5 year	1.461585
10 year	1.733615
25 year	2.106185
50 year	2.40538
100 year	2.723734

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1902	0.050	1.281
1903	0.041	1.420
1904	0.067	1.627
1905	0.032	0.722
1906	0.015	0.806
1907	0.104	1.088
1908	0.077	0.890
1909	0.076	1.093
1910	0.105	1.048
1911	0.068	1.180

1912	0.225	1.978
1913	0.108	0.847
1914	0.026	3.582
1915	0.043	0.732
1916	0.068	1.364
1917	0.023	0.515
1918	0.072	1.092
1919	0.053	0.671
1920	0.069	0.896
1921	0.077	0.768
1922	0.077	1.209
1923	0.062	0.839
1924	0.028	1.577
1925	0.035	0.661
1926	0.066	1.284
1927	0.042	1.047
1928	0.052	0.780
1929	0.107	1.558
1930	0.069	1.623
1931	0.064	0.784
1932	0.050	0.847
1933	0.048	0.839
1934	0.142	1.376
1935	0.066	0.720
1936	0.057	1.012
1937	0.091	1.499
1938	0.056	0.734
1939	0.003	0.922
1940	0.062	1.627
1941	0.029	1.607
1942	0.093	1.219
1943	0.048	1.202
1944	0.087	1.734
1945	0.077	1.307
1946	0.042	1.020
1947	0.026	0.790
1948	0.146	1.089
1949	0.125	1.677
1950	0.035	0.948
1951	0.043	1.435
1952	0.190	1.637
1953	0.171	1.513
1954	0.062	0.885
1955	0.050	0.820
1956	0.025	0.808
1957	0.088	0.876
1958	0.183	1.095
1959	0.113	1.099
1960	0.030	0.864
1961	0.114	2.476
1962	0.061	1.061
1963	0.029	0.786
1964	0.032	2.300
1965	0.127	1.029
1966	0.036	0.858
1967	0.055	1.210
1968	0.056	1.014
1969	0.056	0.915

1970	0.087	1.045
1971	0.137	1.014
1972	0.089	3.351
1973	0.114	1.927
1974	0.061	1.401
1975	0.144	1.465
1976	0.076	1.552
1977	0.026	0.660
1978	0.128	1.127
1979	0.035	1.174
1980	0.073	1.152
1981	0.070	1.087
1982	0.028	0.886
1983	0.114	1.207
1984	0.046	1.200
1985	0.075	1.371
1986	0.068	0.692
1987	0.129	1.208
1988	0.082	0.723
1989	0.074	0.661
1990	0.083	0.876
1991	0.065	1.310
1992	0.093	1.237
1993	0.090	1.414
1994	0.136	0.970
1995	0.026	0.755
1996	0.149	1.016
1997	0.057	0.907
1998	0.068	1.083
1999	0.005	1.166
2000	0.052	1.030
2001	0.026	0.822
2002	0.094	1.517
2003	0.082	0.875
2004	0.076	1.310
2005	0.139	2.502
2006	0.042	1.172
2007	0.042	1.317
2008	0.072	1.083
2009	0.049	0.824
2010	0.042	1.061
2011	0.034	1.113
2012	0.049	1.038
2013	0.038	0.982
2014	0.029	0.943
2015	0.055	1.608
2016	0.022	0.990
2017	0.104	1.592
2018	0.190	0.966
2019	0.177	1.431
2020	0.058	1.163
2021	0.094	0.978
2022	0.039	1.657
2023	0.079	2.043
2024	0.148	2.215
2025	0.070	1.063
2026	0.114	1.168
2027	0.041	1.303

2028	0.035	0.510
2029	0.077	0.842
2030	0.143	1.678
2031	0.047	0.529
2032	0.026	0.893
2033	0.041	1.122
2034	0.041	0.878
2035	0.161	1.094
2036	0.084	0.877
2037	0.020	1.180
2038	0.067	1.132
2039	0.007	2.250
2040	0.037	0.884
2041	0.050	1.122
2042	0.157	1.289
2043	0.076	1.426
2044	0.102	0.983
2045	0.070	0.796
2046	0.082	0.882
2047	0.060	1.085
2048	0.078	0.895
2049	0.069	1.328
2050	0.050	0.995
2051	0.072	1.409
2052	0.042	1.064
2053	0.075	0.905
2054	0.095	1.823
2055	0.029	1.099
2056	0.033	1.419
2057	0.051	0.697
2058	0.065	1.335
2059	0.114	1.665

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.2252	3.5821
2	0.1897	3.3514
3	0.1895	2.5024
4	0.1831	2.4764
5	0.1768	2.2999
6	0.1712	2.2502
7	0.1614	2.2146
8	0.1570	2.0428
9	0.1487	1.9783
10	0.1484	1.9268
11	0.1455	1.8226
12	0.1442	1.7341
13	0.1430	1.6782
14	0.1416	1.6770
15	0.1391	1.6647
16	0.1374	1.6575
17	0.1356	1.6370
18	0.1291	1.6273
19	0.1284	1.6266
20	0.1274	1.6226
21	0.1247	1.6084
22	0.1144	1.6068

23	0.1138	1.5924
24	0.1138	1.5774
25	0.1138	1.5584
26	0.1135	1.5524
27	0.1132	1.5174
28	0.1079	1.5130
29	0.1074	1.4990
30	0.1048	1.4649
31	0.1042	1.4349
32	0.1038	1.4305
33	0.1023	1.4258
34	0.0947	1.4199
35	0.0943	1.4192
36	0.0939	1.4142
37	0.0933	1.4085
38	0.0928	1.4010
39	0.0912	1.3757
40	0.0904	1.3709
41	0.0891	1.3638
42	0.0877	1.3349
43	0.0875	1.3278
44	0.0872	1.3170
45	0.0838	1.3102
46	0.0833	1.3101
47	0.0821	1.3065
48	0.0819	1.3028
49	0.0816	1.2892
50	0.0789	1.2845
51	0.0777	1.2807
52	0.0773	1.2373
53	0.0772	1.2193
54	0.0771	1.2102
55	0.0769	1.2092
56	0.0769	1.2082
57	0.0763	1.2065
58	0.0760	1.2016
59	0.0758	1.1996
60	0.0755	1.1797
61	0.0755	1.1796
62	0.0745	1.1739
63	0.0736	1.1723
64	0.0727	1.1685
65	0.0724	1.1665
66	0.0723	1.1631
67	0.0718	1.1523
68	0.0697	1.1316
69	0.0696	1.1275
70	0.0696	1.1218
71	0.0695	1.1217
72	0.0690	1.1132
73	0.0688	1.0992
74	0.0683	1.0991
75	0.0678	1.0955
76	0.0677	1.0935
77	0.0675	1.0932
78	0.0675	1.0917
79	0.0668	1.0891
80	0.0658	1.0879

81	0.0655	1.0868
82	0.0652	1.0851
83	0.0648	1.0828
84	0.0639	1.0825
85	0.0620	1.0644
86	0.0618	1.0632
87	0.0616	1.0612
88	0.0614	1.0609
89	0.0611	1.0483
90	0.0601	1.0468
91	0.0577	1.0447
92	0.0572	1.0375
93	0.0570	1.0302
94	0.0558	1.0291
95	0.0557	1.0203
96	0.0556	1.0157
97	0.0548	1.0139
98	0.0547	1.0138
99	0.0534	1.0125
100	0.0524	0.9946
101	0.0516	0.9899
102	0.0512	0.9829
103	0.0505	0.9820
104	0.0501	0.9784
105	0.0500	0.9699
106	0.0499	0.9658
107	0.0496	0.9484
108	0.0493	0.9426
109	0.0492	0.9225
110	0.0482	0.9151
111	0.0478	0.9072
112	0.0473	0.9047
113	0.0464	0.8960
114	0.0435	0.8947
115	0.0435	0.8931
116	0.0425	0.8900
117	0.0422	0.8860
118	0.0421	0.8854
119	0.0420	0.8835
120	0.0418	0.8817
121	0.0417	0.8783
122	0.0414	0.8771
123	0.0413	0.8763
124	0.0409	0.8760
125	0.0407	0.8754
126	0.0389	0.8637
127	0.0384	0.8580
128	0.0371	0.8473
129	0.0357	0.8469
130	0.0354	0.8421
131	0.0353	0.8390
132	0.0352	0.8388
133	0.0352	0.8242
134	0.0339	0.8224
135	0.0329	0.8197
136	0.0325	0.8082
137	0.0322	0.8059
138	0.0301	0.7962

139	0.0294	0.7903
140	0.0293	0.7858
141	0.0293	0.7845
142	0.0286	0.7799
143	0.0284	0.7676
144	0.0283	0.7545
145	0.0264	0.7340
146	0.0264	0.7317
147	0.0264	0.7232
148	0.0260	0.7224
149	0.0257	0.7201
150	0.0257	0.6972
151	0.0247	0.6922
152	0.0225	0.6711
153	0.0218	0.6611
154	0.0200	0.6608
155	0.0145	0.6604
156	0.0067	0.5286
157	0.0055	0.5149
158	0.0035	0.5099

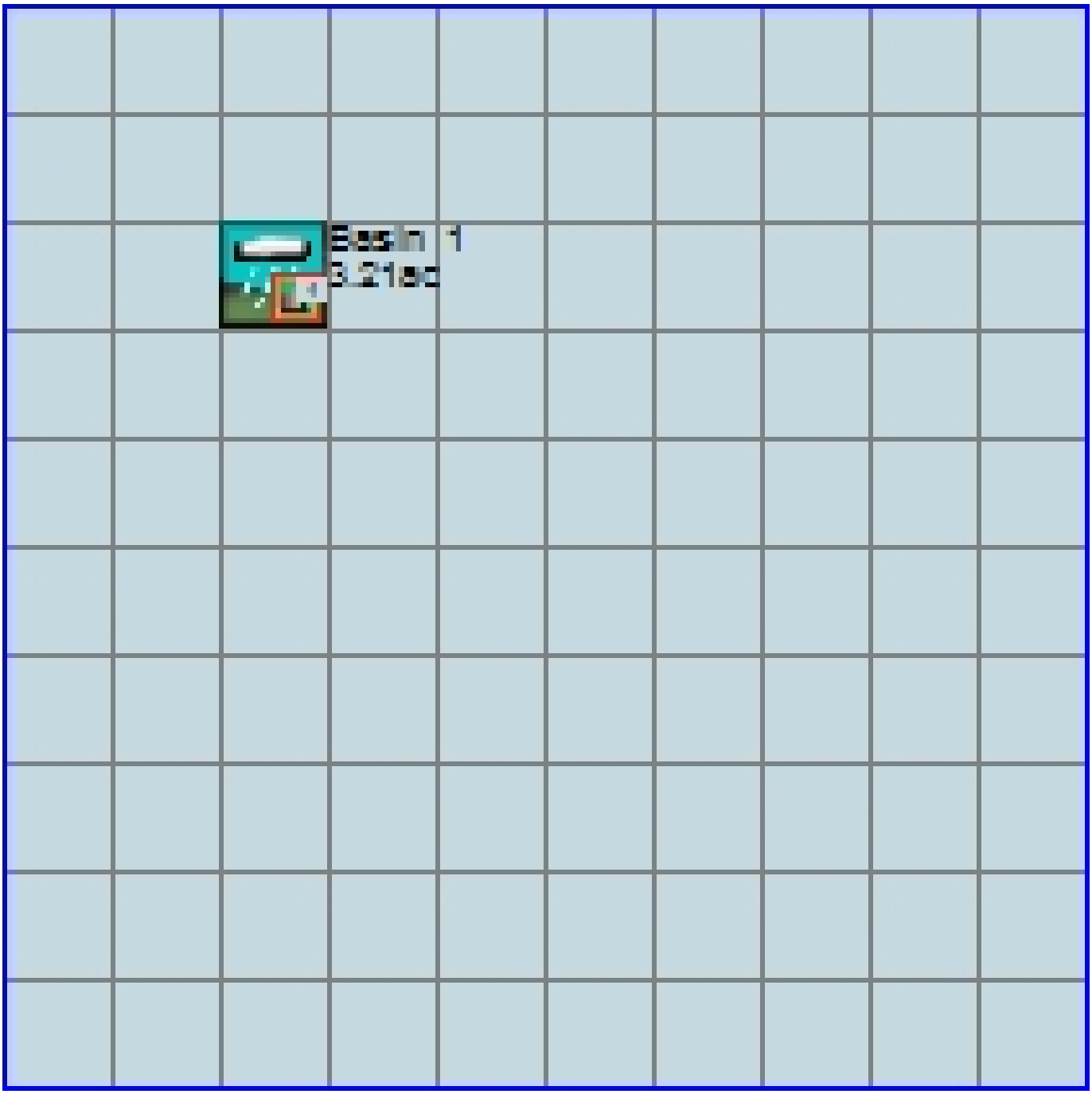
Water Quality

Water Quality BMP Flow and Volume for POC #1

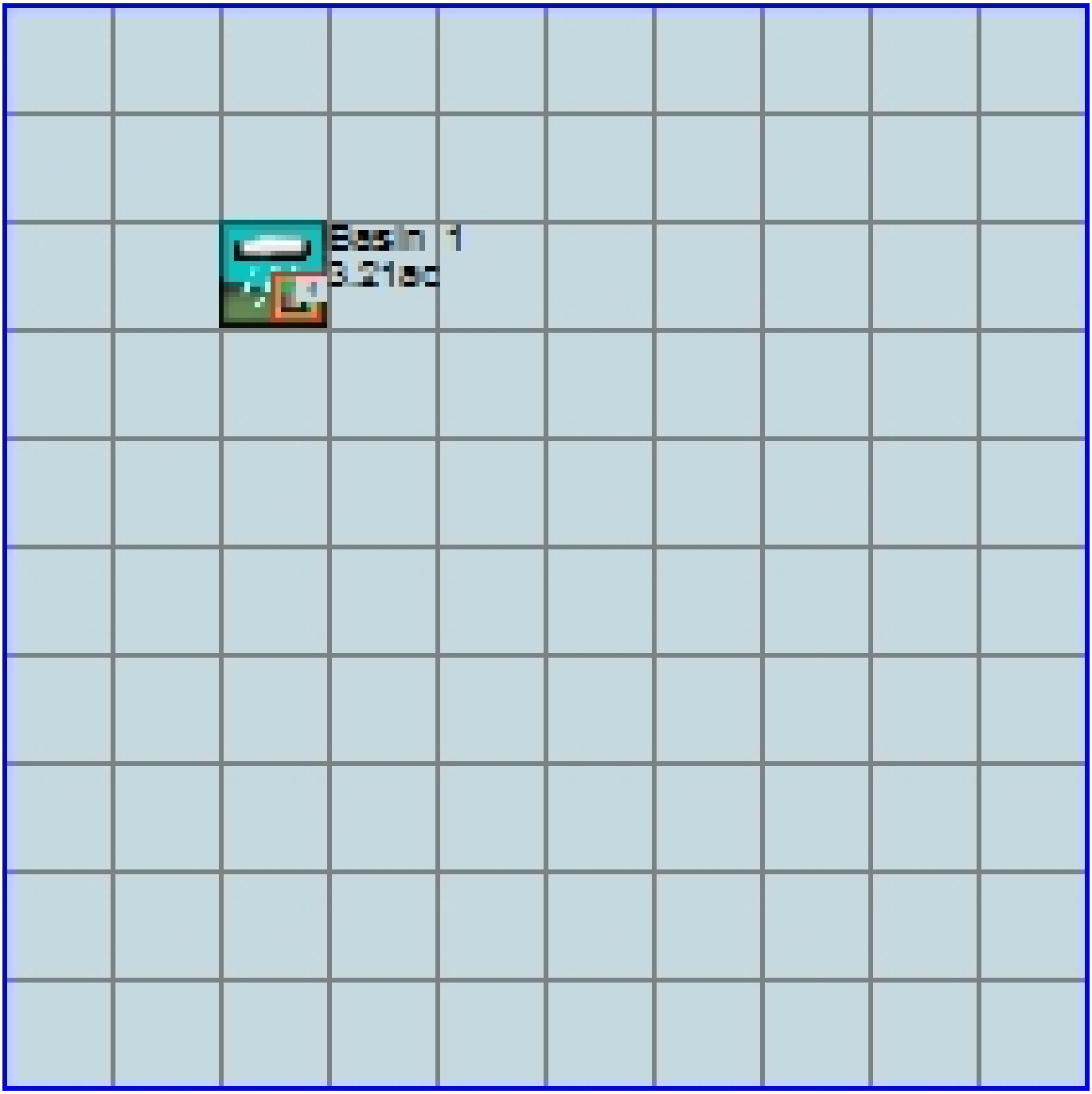
On-line facility volume:	0.3355 acre-feet
On-line facility target flow:	0.4566 cfs.
Adjusted for 15 min:	0.4566 cfs.
Off-line facility target flow:	0.263 cfs.
Adjusted for 15 min:	0.263 cfs.

Appendix

Predeveloped Schematic



Mitigated Schematic



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WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
Water Quality Calculations-East Basin
01/22/2018

General Model Information

Project Name: 18666 WQ East
Site Name:
Site Address:
City:
Report Date: 1/22/2018
Gage:
Data Start: 10/01/1901
Data End: 09/30/2059
Timestep: 15 Minute
Precip Scale: 1.000
Version Date: 2017/04/14
Version: 4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	3.88
Pervious Total	3.88
Impervious Land Use	acre
Impervious Total	0
Basin Total	3.88

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	0.35
Pervious Total	0.35

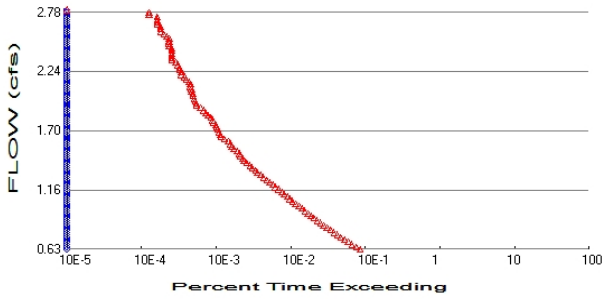
Impervious Land Use	acre
PARKING FLAT	3.53
Impervious Total	3.53
Basin Total	3.88

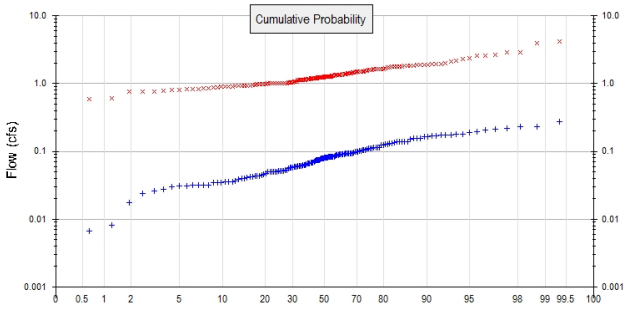
Element Flows To:

Surface	Interflow	Groundwater

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 3.88
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.35
Total Impervious Area: 3.53

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	0.081762
5 year	0.127198
10 year	0.151886
25 year	0.177014
50 year	0.19195
100 year	0.204231

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	1.251039
5 year	1.684211
10 year	1.999754
25 year	2.4324
50 year	2.780184
100 year	3.150525

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	Predeveloped	Mitigated
1902	0.060	1.464
1903	0.050	1.623
1904	0.082	1.896
1905	0.039	0.829
1906	0.018	0.921
1907	0.125	1.261
1908	0.093	1.024
1909	0.092	1.249
1910	0.127	1.204
1911	0.083	1.361

1912	0.272	2.323
1913	0.130	0.968
1914	0.032	4.143
1915	0.053	0.841
1916	0.082	1.559
1917	0.027	0.588
1918	0.087	1.247
1919	0.065	0.772
1920	0.083	1.037
1921	0.093	0.887
1922	0.093	1.406
1923	0.075	0.969
1924	0.034	1.804
1925	0.043	0.760
1926	0.079	1.468
1927	0.051	1.197
1928	0.063	0.898
1929	0.130	1.797
1930	0.083	1.856
1931	0.077	0.902
1932	0.060	0.975
1933	0.058	0.963
1934	0.171	1.602
1935	0.079	0.823
1936	0.069	1.165
1937	0.110	1.712
1938	0.067	0.841
1939	0.004	1.056
1940	0.074	1.860
1941	0.035	1.836
1942	0.112	1.413
1943	0.058	1.382
1944	0.106	2.006
1945	0.093	1.498
1946	0.051	1.181
1947	0.032	0.905
1948	0.176	1.251
1949	0.151	1.917
1950	0.043	1.084
1951	0.053	1.639
1952	0.229	1.928
1953	0.207	1.772
1954	0.075	1.019
1955	0.061	0.937
1956	0.030	0.923
1957	0.106	1.006
1958	0.221	1.272
1959	0.137	1.279
1960	0.036	0.989
1961	0.138	2.858
1962	0.074	1.217
1963	0.035	0.898
1964	0.039	2.666
1965	0.154	1.188
1966	0.043	0.986
1967	0.066	1.404
1968	0.067	1.165
1969	0.067	1.053

1970	0.105	1.210
1971	0.166	1.178
1972	0.108	3.890
1973	0.137	2.202
1974	0.074	1.612
1975	0.174	1.720
1976	0.092	1.805
1977	0.031	0.757
1978	0.155	1.317
1979	0.043	1.351
1980	0.088	1.329
1981	0.084	1.246
1982	0.034	1.017
1983	0.138	1.394
1984	0.056	1.386
1985	0.091	1.595
1986	0.082	0.798
1987	0.156	1.380
1988	0.099	0.831
1989	0.089	0.759
1990	0.101	1.010
1991	0.079	1.513
1992	0.113	1.414
1993	0.109	1.616
1994	0.164	1.126
1995	0.031	0.867
1996	0.180	1.175
1997	0.069	1.043
1998	0.082	1.253
1999	0.007	1.333
2000	0.062	1.186
2001	0.032	0.940
2002	0.114	1.777
2003	0.099	1.008
2004	0.091	1.502
2005	0.168	2.868
2006	0.051	1.341
2007	0.051	1.516
2008	0.087	1.242
2009	0.060	0.942
2010	0.051	1.218
2011	0.041	1.272
2012	0.059	1.193
2013	0.046	1.135
2014	0.035	1.077
2015	0.066	1.880
2016	0.026	1.131
2017	0.126	1.826
2018	0.229	1.128
2019	0.214	1.673
2020	0.070	1.346
2021	0.113	1.129
2022	0.047	1.901
2023	0.095	2.334
2024	0.179	2.584
2025	0.084	1.215
2026	0.138	1.336
2027	0.049	1.489

2028	0.043	0.583
2029	0.093	0.971
2030	0.173	1.918
2031	0.057	0.607
2032	0.031	1.021
2033	0.050	1.282
2034	0.049	1.003
2035	0.195	1.272
2036	0.101	1.002
2037	0.024	1.348
2038	0.081	1.315
2039	0.008	2.572
2040	0.045	1.015
2041	0.061	1.289
2042	0.190	1.473
2043	0.092	1.629
2044	0.124	1.129
2045	0.084	0.916
2046	0.099	1.014
2047	0.073	1.240
2048	0.094	1.022
2049	0.084	1.518
2050	0.060	1.147
2051	0.088	1.636
2052	0.050	1.216
2053	0.090	1.034
2054	0.115	2.131
2055	0.035	1.256
2056	0.040	1.623
2057	0.062	0.797
2058	0.078	1.525
2059	0.138	1.902

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	**Predeveloped**	**Mitigated**
1	0.2722	4.1431
2	0.2293	3.8897
3	0.2291	2.8681
4	0.2213	2.8575
5	0.2137	2.6662
6	0.2069	2.5843
7	0.1951	2.5718
8	0.1897	2.3342
9	0.1797	2.3233
10	0.1794	2.2016
11	0.1759	2.1310
12	0.1743	2.0058
13	0.1729	1.9276
14	0.1712	1.9182
15	0.1681	1.9172
16	0.1660	1.9020
17	0.1640	1.9013
18	0.1561	1.8959
19	0.1552	1.8802
20	0.1540	1.8597
21	0.1507	1.8561
22	0.1383	1.8362

23	0.1376	1.8256
24	0.1376	1.8048
25	0.1375	1.8035
26	0.1372	1.7972
27	0.1368	1.7771
28	0.1304	1.7722
29	0.1299	1.7196
30	0.1267	1.7125
31	0.1260	1.6730
32	0.1255	1.6393
33	0.1236	1.6363
34	0.1145	1.6295
35	0.1140	1.6233
36	0.1135	1.6230
37	0.1128	1.6162
38	0.1122	1.6123
39	0.1103	1.6019
40	0.1093	1.5949
41	0.1077	1.5590
42	0.1060	1.5251
43	0.1057	1.5178
44	0.1055	1.5159
45	0.1013	1.5125
46	0.1007	1.5024
47	0.0992	1.4976
48	0.0990	1.4889
49	0.0986	1.4733
50	0.0954	1.4675
51	0.0940	1.4635
52	0.0935	1.4135
53	0.0933	1.4125
54	0.0932	1.4055
55	0.0930	1.4039
56	0.0929	1.3937
57	0.0923	1.3861
58	0.0919	1.3819
59	0.0916	1.3805
60	0.0913	1.3608
61	0.0912	1.3511
62	0.0901	1.3478
63	0.0890	1.3464
64	0.0879	1.3406
65	0.0876	1.3365
66	0.0874	1.3328
67	0.0868	1.3293
68	0.0842	1.3168
69	0.0842	1.3146
70	0.0841	1.2894
71	0.0840	1.2816
72	0.0835	1.2787
73	0.0832	1.2719
74	0.0825	1.2717
75	0.0820	1.2717
76	0.0818	1.2612
77	0.0816	1.2558
78	0.0816	1.2531
79	0.0808	1.2508
80	0.0795	1.2491

81	0.0792	1.2474
82	0.0788	1.2463
83	0.0783	1.2420
84	0.0772	1.2399
85	0.0750	1.2180
86	0.0747	1.2175
87	0.0745	1.2160
88	0.0743	1.2147
89	0.0739	1.2103
90	0.0726	1.2042
91	0.0697	1.1966
92	0.0691	1.1928
93	0.0689	1.1883
94	0.0675	1.1855
95	0.0673	1.1808
96	0.0672	1.1776
97	0.0662	1.1750
98	0.0661	1.1650
99	0.0646	1.1648
100	0.0634	1.1468
101	0.0624	1.1353
102	0.0619	1.1310
103	0.0610	1.1293
104	0.0605	1.1286
105	0.0604	1.1283
106	0.0603	1.1256
107	0.0600	1.0835
108	0.0596	1.0768
109	0.0594	1.0557
110	0.0583	1.0534
111	0.0577	1.0435
112	0.0571	1.0366
113	0.0561	1.0342
114	0.0525	1.0240
115	0.0525	1.0225
116	0.0514	1.0205
117	0.0510	1.0186
118	0.0508	1.0168
119	0.0507	1.0149
120	0.0505	1.0142
121	0.0504	1.0102
122	0.0500	1.0075
123	0.0499	1.0058
124	0.0494	1.0034
125	0.0492	1.0024
126	0.0470	0.9891
127	0.0464	0.9856
128	0.0449	0.9749
129	0.0432	0.9711
130	0.0428	0.9690
131	0.0427	0.9683
132	0.0426	0.9627
133	0.0425	0.9416
134	0.0410	0.9396
135	0.0398	0.9367
136	0.0393	0.9234
137	0.0389	0.9215
138	0.0364	0.9158

139	0.0355	0.9053
140	0.0355	0.9020
141	0.0354	0.8979
142	0.0346	0.8977
143	0.0344	0.8866
144	0.0343	0.8669
145	0.0319	0.8411
146	0.0319	0.8409
147	0.0319	0.8310
148	0.0315	0.8290
149	0.0311	0.8228
150	0.0311	0.7983
151	0.0299	0.7966
152	0.0272	0.7724
153	0.0264	0.7597
154	0.0242	0.7586
155	0.0176	0.7571
156	0.0081	0.6066
157	0.0066	0.5883
158	0.0042	0.5827

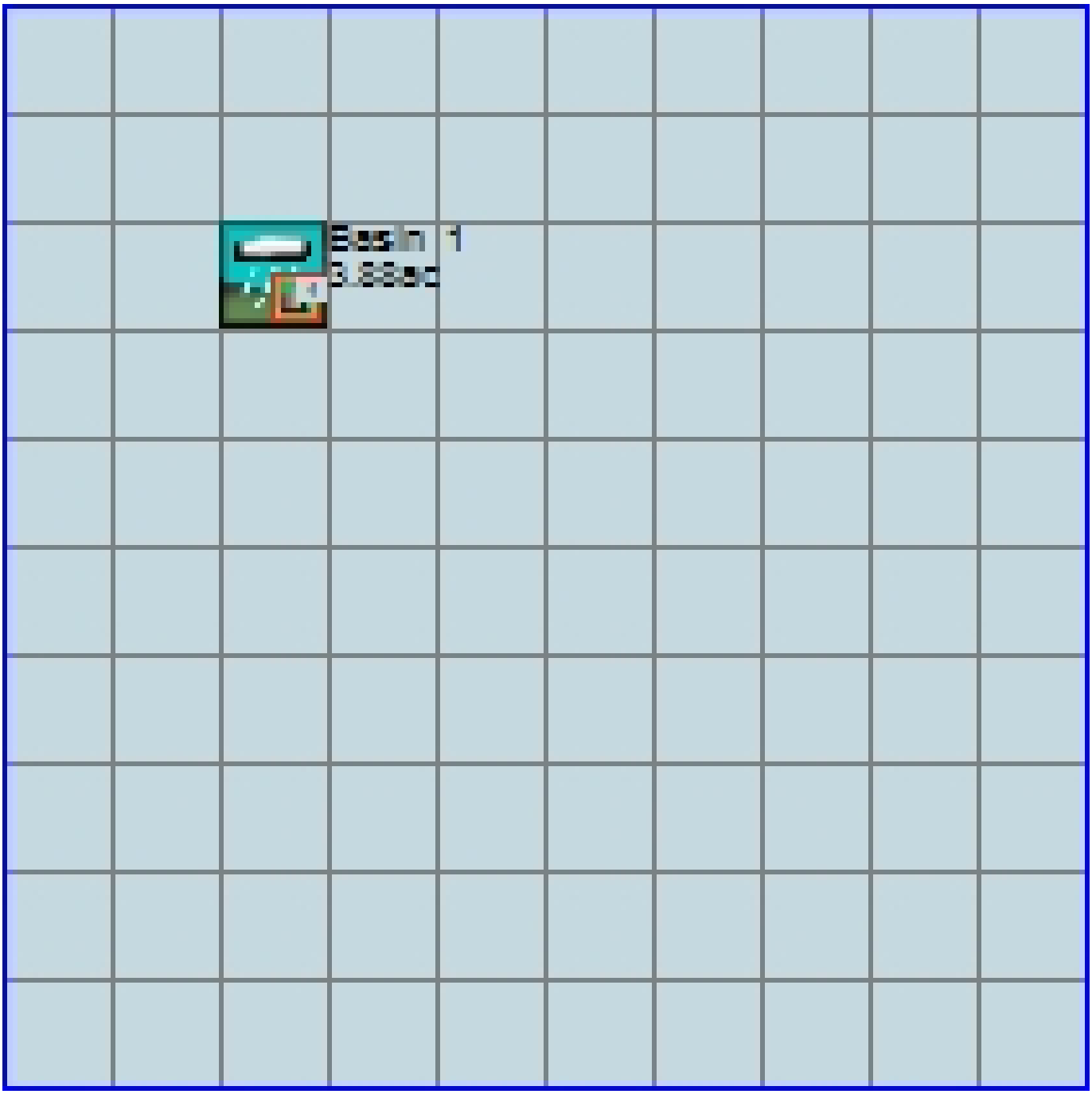
Water Quality

Water Quality BMP Flow and Volume for POC #1

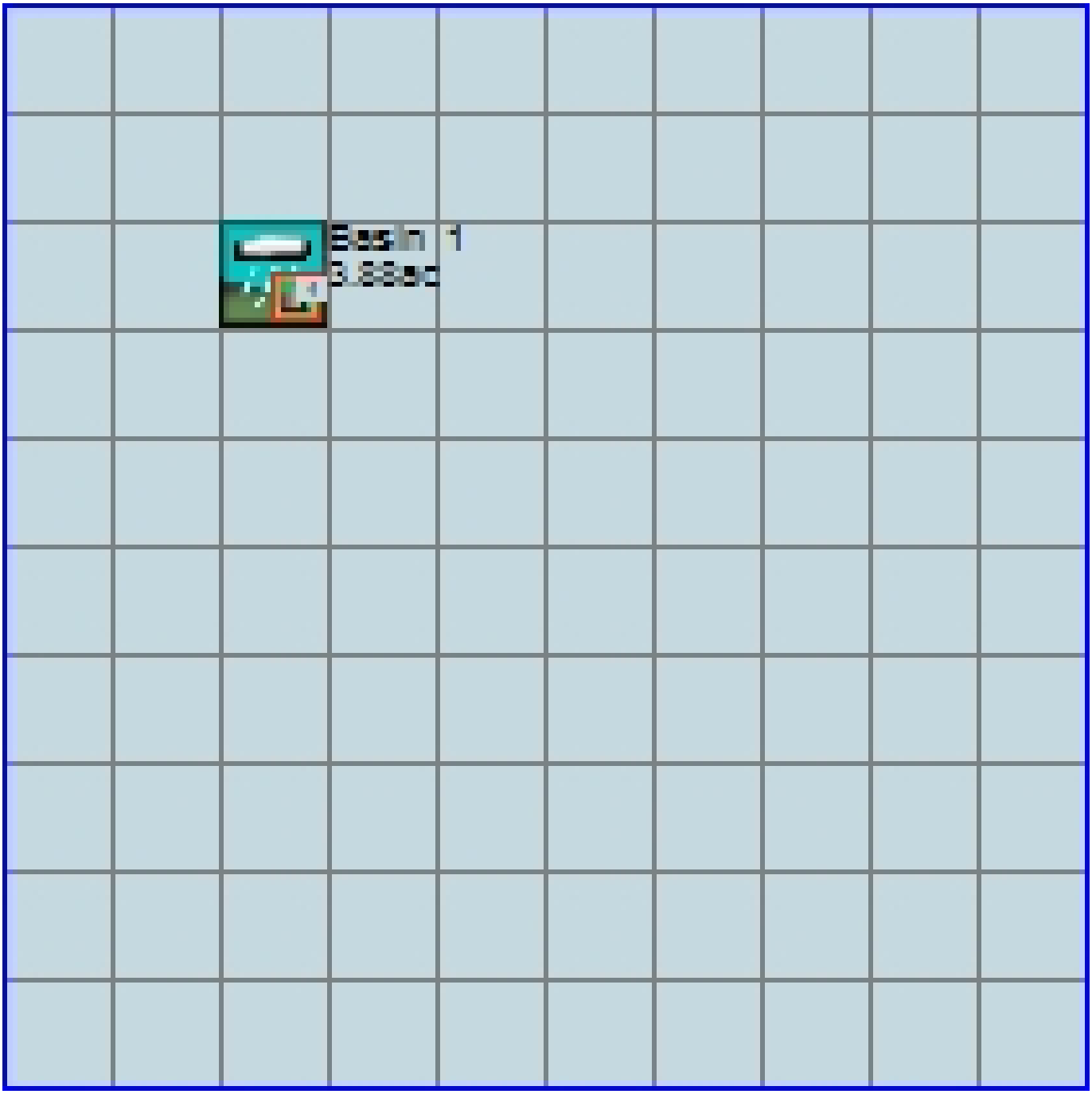
On-line facility volume:	0.3902 acre-feet
On-line facility target flow:	0.5207 cfs.
Adjusted for 15 min:	0.5207 cfs.
Off-line facility target flow:	0.2995 cfs.
Adjusted for 15 min:	0.2995 cfs.

Appendix

Predeveloped Schematic



Mitigated Schematic



Disclaimer

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WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
Water Quality Calculations-Sequalitchew Road Basin
01/22/2018

General Model Information

Project Name:	18666 WQ Road
Site Name:	
Site Address:	
City:	
Report Date:	1/22/2018
Gage:	
Data Start:	10/01/1901
Data End:	09/30/2059
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2017/04/14
Version:	4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	1.18
Pervious Total	1.18
Impervious Land Use	acre
Impervious Total	0
Basin Total	1.18

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	0.36
Pervious Total	0.36

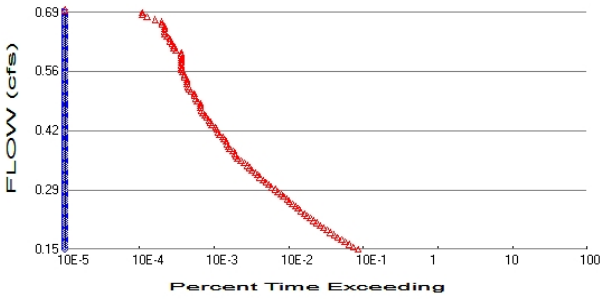
Impervious Land Use	acre
ROADS FLAT	0.69
SIDEWALKS FLAT	0.13
Impervious Total	0.82
Basin Total	1.18

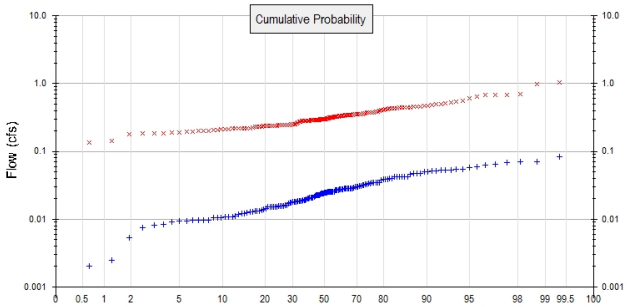
Element Flows To:

Surface	Interflow	Groundwater

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 1.18
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.36
Total Impervious Area: 0.82

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.024866
5 year	0.038684
10 year	0.046192
25 year	0.053834
50 year	0.058376
100 year	0.062112

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0.301781
5 year	0.411021
10 year	0.491314
25 year	0.602201
50 year	0.691907
100 year	0.787916

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1902	0.018	0.341
1903	0.015	0.378
1904	0.025	0.489
1905	0.012	0.197
1906	0.005	0.215
1907	0.038	0.317
1908	0.028	0.247
1909	0.028	0.290
1910	0.039	0.300
1911	0.025	0.333

1912	0.083	0.641
1913	0.040	0.226
1914	0.010	1.029
1915	0.016	0.202
1916	0.025	0.363
1917	0.008	0.137
1918	0.027	0.290
1919	0.020	0.187
1920	0.025	0.258
1921	0.028	0.219
1922	0.028	0.358
1923	0.023	0.239
1924	0.010	0.421
1925	0.013	0.183
1926	0.024	0.341
1927	0.016	0.279
1928	0.019	0.217
1929	0.039	0.440
1930	0.025	0.434
1931	0.023	0.217
1932	0.018	0.236
1933	0.018	0.230
1934	0.052	0.412
1935	0.024	0.191
1936	0.021	0.281
1937	0.034	0.398
1938	0.020	0.198
1939	0.001	0.248
1940	0.023	0.434
1941	0.011	0.427
1942	0.034	0.354
1943	0.018	0.333
1944	0.032	0.498
1945	0.028	0.355
1946	0.015	0.294
1947	0.010	0.214
1948	0.053	0.299
1949	0.046	0.447
1950	0.013	0.252
1951	0.016	0.381
1952	0.070	0.523
1953	0.063	0.469
1954	0.023	0.246
1955	0.019	0.218
1956	0.009	0.215
1957	0.032	0.240
1958	0.067	0.322
1959	0.042	0.327
1960	0.011	0.233
1961	0.042	0.701
1962	0.022	0.290
1963	0.011	0.209
1964	0.012	0.670
1965	0.047	0.293
1966	0.013	0.236
1967	0.020	0.354
1968	0.021	0.280
1969	0.020	0.255

1970	0.032	0.303
1971	0.050	0.299
1972	0.033	0.984
1973	0.042	0.512
1974	0.023	0.390
1975	0.053	0.460
1976	0.028	0.460
1977	0.009	0.179
1978	0.047	0.343
1979	0.013	0.327
1980	0.027	0.337
1981	0.026	0.296
1982	0.010	0.242
1983	0.042	0.344
1984	0.017	0.342
1985	0.028	0.408
1986	0.025	0.195
1987	0.047	0.321
1988	0.030	0.200
1989	0.027	0.184
1990	0.031	0.247
1991	0.024	0.372
1992	0.034	0.328
1993	0.033	0.376
1994	0.050	0.284
1995	0.010	0.208
1996	0.055	0.292
1997	0.021	0.252
1998	0.025	0.313
1999	0.002	0.310
2000	0.019	0.287
2001	0.010	0.218
2002	0.035	0.470
2003	0.030	0.244
2004	0.028	0.357
2005	0.051	0.679
2006	0.015	0.313
2007	0.016	0.367
2008	0.026	0.295
2009	0.018	0.219
2010	0.015	0.290
2011	0.012	0.295
2012	0.018	0.287
2013	0.014	0.281
2014	0.011	0.250
2015	0.020	0.493
2016	0.008	0.263
2017	0.038	0.433
2018	0.070	0.295
2019	0.065	0.439
2020	0.021	0.336
2021	0.035	0.276
2022	0.014	0.452
2023	0.029	0.543
2024	0.055	0.680
2025	0.026	0.282
2026	0.042	0.313
2027	0.015	0.347

2028	0.013	0.136
2029	0.028	0.238
2030	0.053	0.447
2031	0.017	0.144
2032	0.009	0.237
2033	0.015	0.298
2034	0.015	0.233
2035	0.059	0.325
2036	0.031	0.233
2037	0.007	0.313
2038	0.025	0.334
2039	0.002	0.599
2040	0.014	0.243
2041	0.018	0.310
2042	0.058	0.347
2043	0.028	0.379
2044	0.038	0.271
2045	0.026	0.221
2046	0.030	0.245
2047	0.022	0.288
2048	0.029	0.238
2049	0.026	0.354
2050	0.018	0.280
2051	0.027	0.416
2052	0.015	0.283
2053	0.027	0.241
2054	0.035	0.559
2055	0.011	0.292
2056	0.012	0.380
2057	0.019	0.188
2058	0.024	0.354
2059	0.042	0.442

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.0828	1.0292
2	0.0698	0.9835
3	0.0697	0.7011
4	0.0673	0.6799
5	0.0650	0.6786
6	0.0629	0.6701
7	0.0593	0.6412
8	0.0577	0.5990
9	0.0546	0.5590
10	0.0546	0.5429
11	0.0535	0.5231
12	0.0530	0.5119
13	0.0526	0.4983
14	0.0521	0.4928
15	0.0511	0.4886
16	0.0505	0.4699
17	0.0499	0.4689
18	0.0475	0.4603
19	0.0472	0.4598
20	0.0468	0.4518
21	0.0458	0.4471
22	0.0421	0.4469

23	0.0418	0.4422
24	0.0418	0.4396
25	0.0418	0.4394
26	0.0417	0.4343
27	0.0416	0.4339
28	0.0397	0.4326
29	0.0395	0.4274
30	0.0385	0.4209
31	0.0383	0.4156
32	0.0382	0.4118
33	0.0376	0.4082
34	0.0348	0.3979
35	0.0347	0.3901
36	0.0345	0.3809
37	0.0343	0.3797
38	0.0341	0.3793
39	0.0335	0.3782
40	0.0332	0.3763
41	0.0327	0.3721
42	0.0322	0.3670
43	0.0322	0.3635
44	0.0321	0.3580
45	0.0308	0.3565
46	0.0306	0.3545
47	0.0302	0.3544
48	0.0301	0.3541
49	0.0300	0.3538
50	0.0290	0.3537
51	0.0286	0.3475
52	0.0284	0.3466
53	0.0284	0.3439
54	0.0283	0.3435
55	0.0283	0.3424
56	0.0283	0.3411
57	0.0281	0.3406
58	0.0280	0.3374
59	0.0279	0.3360
60	0.0278	0.3339
61	0.0277	0.3334
62	0.0274	0.3330
63	0.0271	0.3284
64	0.0267	0.3273
65	0.0266	0.3270
66	0.0266	0.3249
67	0.0264	0.3221
68	0.0256	0.3209
69	0.0256	0.3172
70	0.0256	0.3133
71	0.0255	0.3132
72	0.0254	0.3127
73	0.0253	0.3125
74	0.0251	0.3100
75	0.0249	0.3099
76	0.0249	0.3032
77	0.0248	0.3001
78	0.0248	0.2992
79	0.0246	0.2988
80	0.0242	0.2977

81	0.0241	0.2958
82	0.0240	0.2955
83	0.0238	0.2951
84	0.0235	0.2948
85	0.0228	0.2942
86	0.0227	0.2926
87	0.0227	0.2921
88	0.0226	0.2918
89	0.0225	0.2904
90	0.0221	0.2904
91	0.0212	0.2900
92	0.0210	0.2900
93	0.0210	0.2883
94	0.0205	0.2870
95	0.0205	0.2867
96	0.0204	0.2844
97	0.0201	0.2825
98	0.0201	0.2822
99	0.0196	0.2812
100	0.0193	0.2812
101	0.0190	0.2802
102	0.0188	0.2797
103	0.0186	0.2789
104	0.0184	0.2763
105	0.0184	0.2707
106	0.0183	0.2628
107	0.0182	0.2579
108	0.0181	0.2552
109	0.0181	0.2517
110	0.0177	0.2516
111	0.0176	0.2502
112	0.0174	0.2477
113	0.0170	0.2474
114	0.0160	0.2471
115	0.0160	0.2459
116	0.0156	0.2446
117	0.0155	0.2438
118	0.0155	0.2434
119	0.0154	0.2423
120	0.0154	0.2410
121	0.0153	0.2398
122	0.0152	0.2389
123	0.0152	0.2379
124	0.0150	0.2376
125	0.0150	0.2374
126	0.0143	0.2360
127	0.0141	0.2355
128	0.0137	0.2335
129	0.0131	0.2332
130	0.0130	0.2329
131	0.0130	0.2295
132	0.0129	0.2261
133	0.0129	0.2210
134	0.0125	0.2189
135	0.0121	0.2186
136	0.0119	0.2184
137	0.0118	0.2180
138	0.0111	0.2174

139	0.0108	0.2171
140	0.0108	0.2151
141	0.0108	0.2145
142	0.0105	0.2135
143	0.0105	0.2087
144	0.0104	0.2079
145	0.0097	0.2022
146	0.0097	0.1996
147	0.0097	0.1984
148	0.0096	0.1975
149	0.0095	0.1953
150	0.0094	0.1912
151	0.0091	0.1879
152	0.0083	0.1870
153	0.0080	0.1836
154	0.0074	0.1828
155	0.0053	0.1793
156	0.0025	0.1445
157	0.0020	0.1367
158	0.0013	0.1356

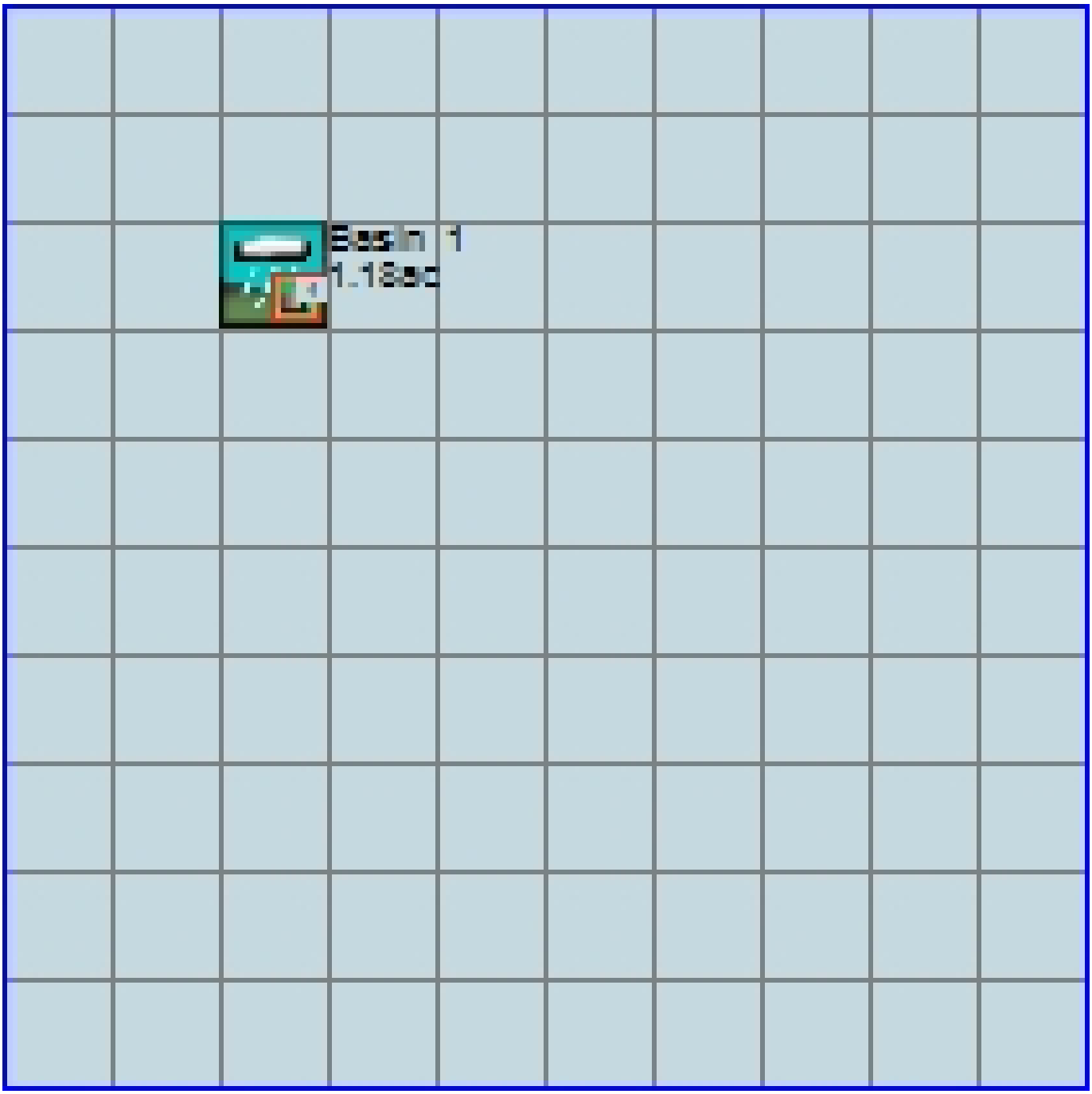
Water Quality

Water Quality BMP Flow and Volume for POC #1

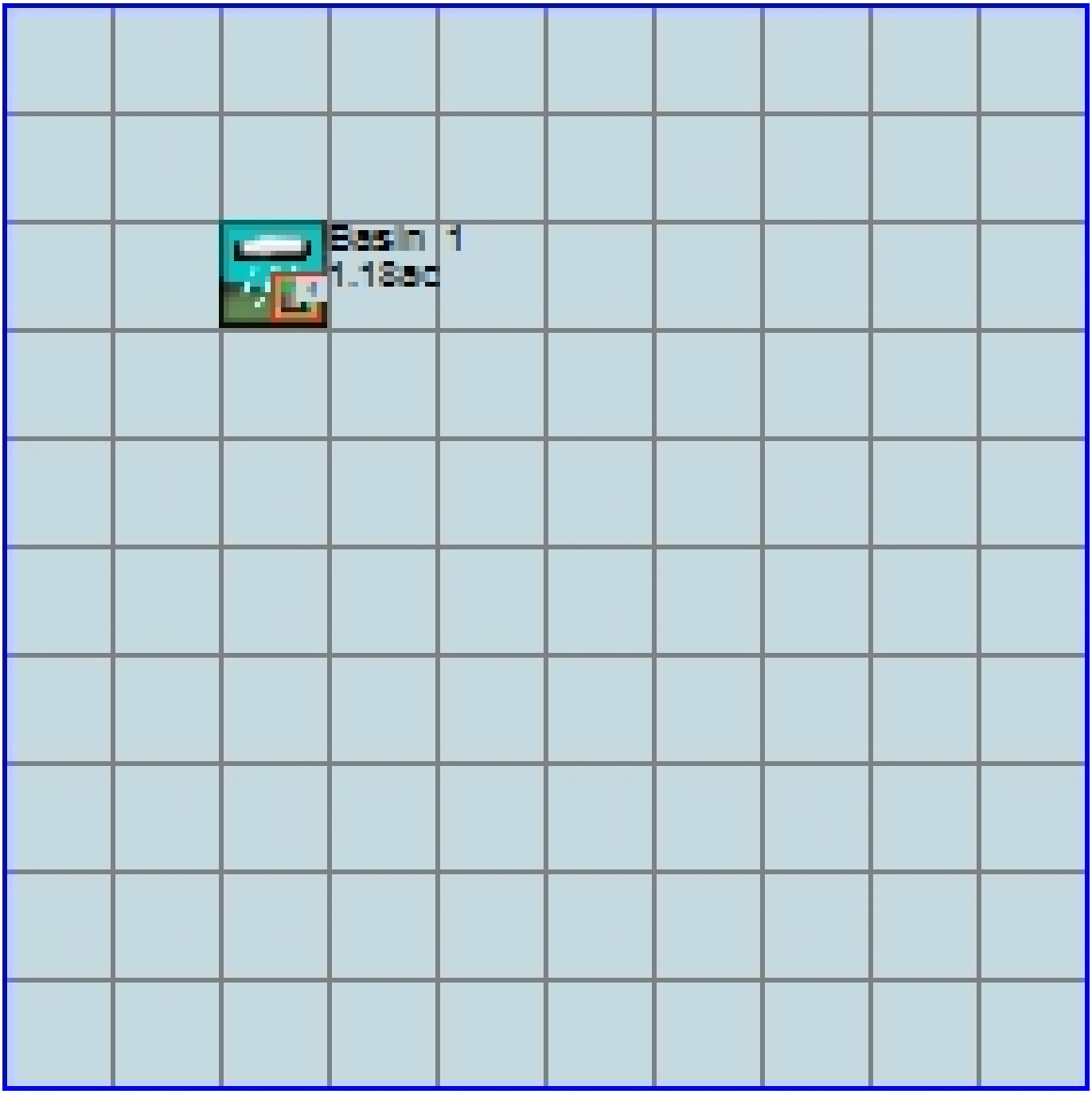
On-line facility volume:	0.098 acre-feet
On-line facility target flow:	0.1198 cfs.
Adjusted for 15 min:	0.1198 cfs.
Off-line facility target flow:	0.0686 cfs.
Adjusted for 15 min:	0.0686 cfs.

Appendix

Predeveloped Schematic



Mitigated Schematic



Disclaimer

Legal Notice

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PIPE CONVEYANCE BASIN MAP

CONVEYANCE BASIN MAP
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=50'
0 25 50 100

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

BASIN 6 0.12 AC
BASIN 7 0.19 AC
BASIN 8 0.22 AC
BASIN 9 0.13 AC
BASIN 5 .08 AC
BASIN 4 .08 AC
BASIN 3 .08 AC
BASIN 2 .08 AC
BASIN 1 .09 AC
BASIN 27 2.98 AC
BUILDING 'A' 130,000 SF FF=214.0
BASIN 25 0.16 AC
BASIN 24 0.15 AC
BASIN 23 0.31 AC
BASIN 22 0.07 AC
BASIN 21 0.07 AC
BASIN 20 0.07 AC
BASIN 19 0.52 AC
BASIN 10 0.91 AC
BASIN 11 0.42 AC
BASIN 12 0.80 AC
BASIN 26 0.16 AC
BASIN 27 0.31 AC
BASIN 28 2.90 AC
BASIN 13 0.40 AC
BASIN 14 0.63 AC
BASIN 15 0.37 AC
BASIN 16 1.20 AC
BASIN 18 0.36 AC

CB #1 CB #2 CB #3 CB #4 CB #5 CB #6 CB #7 CB #8 CB #9 CB #10 CB #11 CB #12 CB #13 CB #15 CB #16 CB #17 CB #18 CB #19 CB #20 CB #21 CB #22 CB #23 CB #24 CB #25 CB #26 CB #27 CB #28 CB #29 CB #30 CB #31 CB #32 CB #R1 CB #R2 CB #R3 CB #R4 CB #R6

WQ DEVICE #1
188'X37' INFILTRATION GALLERY BOTTOM EL= 201.00
WQ DEVICE #2
181'X41' INFILTRATION GALLERY BOTTOM EL= 200.50
WQ DEVICE #3
95'X10' INFILTRATION GALLERY BOTTOM EL= 201.00

TPN 0119262016
1700 CENTER DRIVE

TPN 0119262019
1700 CENTER DRIVE

TPN 0119224010
1700 CENTER DRIVE

SEQUALITCHEW ROAD

No.	Date	By	Ckd.	Appr.	Revision

Title: CONVEYANCE BASIN MAP FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES 36374 STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=50' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES
BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 18666
Sheet 1 of 2

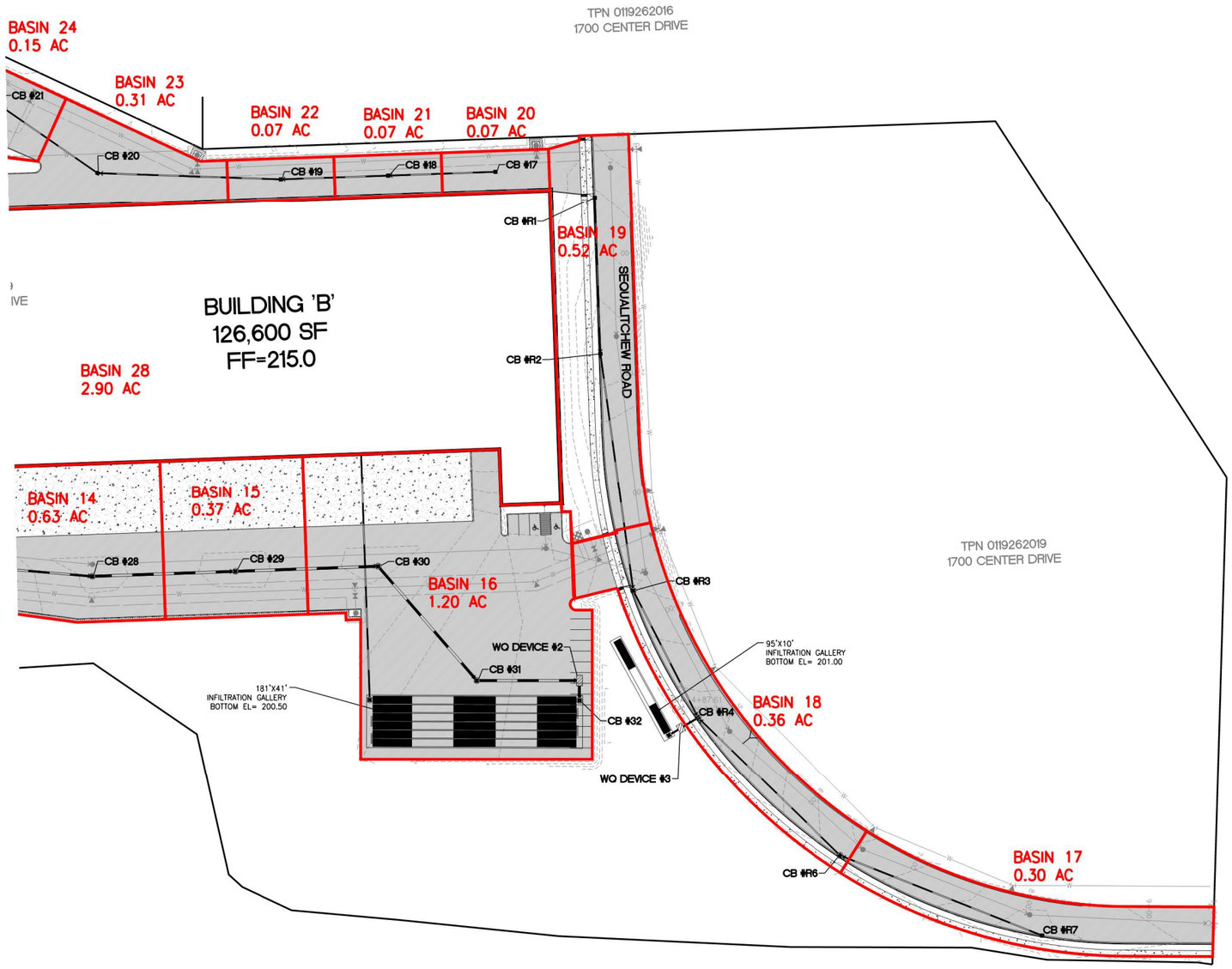
SEQUALITCHEW ROAD CONVEYANCE BASIN MAP
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=50'
0 25 50 100

APPROVED FOR CONSTRUCTION

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CITY OF DUPONT

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No.	Date	By	Ckd.	Appr.	Revision

Title: SEQUALITCHEW ROAD CONVEYANCE BASIN MAP FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES
STATE OF WASHINGTON
18371
REGISTERED PROFESSIONAL ENGINEER
01/23/18

Scale: Horizontal 1"=50' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

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18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet 2 of 2

PIPE CONVEYANCE CALCULATIONS

Pipe Conveyance Calculations will be included in the final Stormwater Site Plan.

6.0 STORMWATER POLLUTION PREVENTION PLAN

6.0 CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

Construction Stormwater General Permit

Stormwater Pollution Prevention Plan (SWPPP)

for

Proposed DuPont Industrial Warehouse

Prepared for:

The Washington State Department of Ecology

Southwest Regional Office

Permittee / Owner	Developer	Operator / Contractor
Commencement Bay Development, LLC 1940 East D Street, Suite 108 Tacoma, WA 98421 (253) 396-4860	Commencement Bay Development, LLC 1940 East D Street, Suite 108 Tacoma, WA 98421 (253) 396-4860	TBD

6700 Fort Dent Way Tukwila, WA

Certified Erosion and Sediment Control Lead (CESCL)

Name	Organization	Contact Phone Number
TBD by contractor	TBD	TBD

SWPPP Prepared By

Name	Organization	Contact Phone Number
Costa Philippides	Barghausen Consulting Engineers, Inc.	(425) 251-6222

SWPPP Preparation Date

January 9, 2018

Project Construction Dates

Activity / Phase	Start Date	End Date
Phase 1	May 2018	May 2019

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G. Contaminated Site Information
H. Engineering Calculations

List of Acronyms and Abbreviations

Acronym / Abbreviation	Explanation
303(d)	Section of the Clean Water Act pertaining to Impaired Waterbodies
BFO	Bellingham Field Office of the Department of Ecology
BMP(s)	Best Management Practice(s)
CESCL	Certified Erosion and Sediment Control Lead
CO_2	Carbon Dioxide
CRO	Central Regional Office of the Department of Ecology
CSWGP	Construction Stormwater General Permit
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ERO	Eastern Regional Office of the Department of Ecology
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
GULD	General Use Level Designation
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
NWRO	Northwest Regional Office of the Department of Ecology
pH	Power of Hydrogen
RCW	Revised Code of Washington
SPCC	Spill Prevention, Control, and Countermeasure
su	Standard Units
SWMMEW	Stormwater Management Manual for Eastern Washington
SWMMWW	Stormwater Management Manual for Western Washington
SWPPP	Stormwater Pollution Prevention Plan
TESC	Temporary Erosion and Sediment Control
SWRO	Southwest Regional Office of the Department of Ecology
TMDL	Total Maximum Daily Load
VFO	Vancouver Field Office of the Department of Ecology
WAC	Washington Administrative Code
WSDOT	Washington Department of Transportation
WWHM	Western Washington Hydrology Model

1 Project Information

Project/Site Name: DuPont Industrial Warehouse
Street/Location: 1700 Center Drive
City: DuPont State: WA Zip code: 98327
Subdivision: N/A
Receiving waterbody: N/A

1.1 Existing Conditions

Total acreage (including support activities such as off-site equipment staging yards, material storage areas, borrow areas).

Total acreage:	25.3
Disturbed acreage:	14.92
Existing structures:	0
Landscape topography:	The existing site is approximately 25.3 acres of forested land. There is an existing gravel area near the center of the site, which depresses at a slopes ranging from 30% to 45%. There are existing1:1 slopes to the south of the property. The majority of the site is moderately steep, with slopes ranging from 2% to 20%. The east side of the site has slopes ranging from 13% to 70%. The site generally slopes southwest. This site lies within Spanaway gravelly sandy loam, according to the USDA Web Soil survey.
Drainage patterns:	The site currently infiltrates, as it is undeveloped land.
Existing Vegetation:	The site is a grassy area with several trees throughout the site.
Critical Areas (wetlands, streams, high erosion risk, steep or difficult to stabilize slopes):	There are no known sensitive areas on this site, according to Pierce County PublicGIS.

List of known impairments for 303(d) listed or Total Maximum Daily Load (TMDL) for the receiving waterbody: This does not apply to this project

Table 1 includes a list of suspected and/or known contaminants associated with the construction activity.

Table 1 – Summary of Site Pollutant Constituents

Constituent (Pollutant)	Location	Depth	Concentration
Hydraulic Fluid	Spill from equipment maintenance	Surface	

1.2 Proposed Construction Activities

Description of site development (example: subdivision):
The proposed conditions for this site will include one commercial building with asphalt parking.

Description of construction activities (example: site preparation, demolition, excavation):
This project is proposing two warehouse buildings: one with a footprint of approximately 130,000 square feet, and the other with a footprint of approximately 126,600 square feet. A half street is also proposed to connect into the existing portion of Sequalitchew road to the southeast of the site. The remaining eastern side of Sequalitchew road will be constructed during the development of the eastern side of the site. This project also proposes sidewalks, asphalt pavement, landscaping area, and retaining walls. These improvements will total 13.48 acres of impervious surfaces, of which 6.3 acres will be asphalt pavement. The remaining area of the site will be pervious surfaces in the form of landscaping and undisturbed land, which totals 11.82 acres.

Description of site drainage including flow from and onto adjacent properties. Must be consistent with Site Map in Appendix A:
The existing sites surrounding this project are undeveloped, so they are expected to infiltrate all stormwater. The surrounding properties also generally slope away from this site, so there are no upstream basins that contribute runoff to this site.

Description of final stabilization (example: extent of revegetation, paving, landscaping):
At the completion of construction of the proposed site, the site wil be approximately 53% impervious surfaces with 46% pervious areas. The buildings will be approximately 23 percent of the site, while roughly 25% of the site will be paved.

Contaminated Site Information:
Proposed activities regarding contaminated soils or groundwater (example: on-site treatment system, authorized sanitary sewer discharge):
With the construction activities of this site, contaminated groundwater is not anticipated to be encountered, as the site will be covered in clean, imported fill. If contaminated groundwater is encountered, the groundwater will be pumped to a Baker Tank where it will be treated and discharged to the sanitary sewer.

2 Construction Stormwater Best Management Practices (BMPs)

The SWPPP is a living document reflecting current conditions and changes throughout the life of the project. These changes may be informal (i.e., hand-written notes and deletions). Update the SWPPP when the CESCL has noted a deficiency in BMPs or deviation from original design.

2.1 The 13 Elements

2.1.1 Element 1: Preserve Vegetation / Mark Clearing Limits

To protect adjacent properties and to reduce the area of soil exposed to construction, the limits of construction will be clearly marked before land-disturbing activities begin. Areas that are to be preserved, as well as all sensitive areas and their buffers, shall be clearly delineated, both in the field and on the plans. A silt fence will be installed around the perimeter of the project site to mark the limits of construction as well as protect surrounding properties from any possible sediment laden runoff. As this site has contaminated soils present, the existing topsoils will be left in place with imported clean fill placed on top.

List and describe BMPs:

- High Visibility Plastic or Metal Fence (BMP C103)

Installation Schedules: TBD

Inspection and Maintenance plan:

Silt Fence Maintenance

- Repair any damage immediately.
- Intercept and convey all evident concentrated flows uphill of the silt fence to a sediment pond.
- Check the uphill side of the fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence or remove the trapped sediment.
- Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
- Replace filter fabric that has deteriorated due to ultraviolet breakdown.

Responsible Staff: Contractor/CESL

2.1.2 Element 2: Establish Construction Access

Construction access or activities occurring on unpaved areas shall be minimized, yet where necessary, access points shall be stabilized to minimize the tracking of sediment onto public roads, street sweeping, and street cleaning shall be employed to prevent sediment from entering state waters. One stabilized construction entrance will be installed to the northeast entrance to the project site. Wheel washing will occur onsite in order to prevent sediment from leaving the site, especially from any possible contaminated soils on the site. A wheel wash will also be installed because the volume of import required for grades to this site and therefore expected traffic on and off the site. Street sweeping and street cleaning may be necessary if the stabilized construction access is not effective. The roads shall be swept daily should sediment collect on them. All wheel wash wastewater shall be controlled on-site and will not be discharged into waters of the State.

List and describe BMPs:

- Stabilized Construction Entrance/ Exit (BMP C105)

Installation Schedules: TBD

Inspection and Maintenance plan:

Stabilized Construction Entrance Maintenance

- Quarry spalls shall be added if the pad is no longer in accordance with the specifications.
- If the entrance is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. This may include replacement/cleaning of the existing quarry spalls, street sweeping, an increase in the dimensions of the entrance, or the installation of a wheel wash.
- Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping. The sediment collected by sweeping shall be removed or stabilized on site. The pavement shall not be cleaned by washing down the street, except when high efficiency sweeping is ineffective and there is a threat to public safety. If it is necessary to wash the streets, the construction of a small sump to contain the wash water shall be considered. The sediment would then be washed into the sump where it can be controlled.
- Perform street sweeping by hand or with a high efficiency sweeper. Do not use a non-high efficiency mechanical sweeper because this creates dust and throws soils into storm systems or conveyance ditches.
- Any quarry spalls that are loosened from the pad, which end up on the roadway shall be removed immediately.
- If vehicles are entering or exiting the site at points other than the construction entrance(s), fencing (see BMP C103) shall be installed to control traffic.
- Upon project completion and site stabilization, all construction accesses intended as permanent access for maintenance shall be permanently stabilized.

Responsible Staff: Contractor/CESL

2.1.3 Element 3: Control Flow Rates

In order to protect the properties and waterways downstream of the project site, stormwater discharges from the site will be controlled by construction of a temporary sediment pond and a temporary sediment trap as one of the first items of construction as well as a silt fence around the property boundary. Stormwater during construction will be captured through v-ditches with rock check dams in order to control the flow of stormwater runoff before reaching the sediment trap or sediment pond. The sediment trap and sediment pond are located at low points on the site with adequate surface area for sediment settlement per the DOE requirements from BMP C240 and C241. Because the site has been designed to minimize cut into the contaminated soils on site, it is less of a concern that contaminated soils will be tracked offsite.

Detention facilities must be functioning property before construction of site improvements.

Will you construct stormwater retention and/or detention facilities?
☒ Yes ☐ No

Will you use permanent infiltration ponds or other low impact development (example: rain gardens, bio-retention, porous pavement) to control flow during construction?
☐ Yes ☒ No
List and describe BMPs:

- Sediment Trap (BMP C240)
- Check Dams (BMP C207)

Installation Schedules: TBD

Inspection and Maintenance plan:

Sediment Pond/Trap Maintenance

- Sediment shall be removed from the trap/pond when it reaches 1-foot in depth.
- Any damage to the pond embankments or slopes shall be repaired.

Check Dam Maintenance

- Check dams shall be monitored for performance and sediment accumulation during and after each runoff producing rainfall.
- Sediment shall be removed when it reaches one half the sump depth.
- Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam.
- If significant erosion occurs between dams, install a protective riprap liner in that portion of the channel

Responsible Staff: Contractor/CESL

2.1.4 Element 4: Install Sediment Controls

All stormwater runoff from disturbed areas shall pass through an appropriate sediment removal BMP before leaving the construction site or prior to being discharged to the downstream drainage course. Constructing the sediment control ponds and traps is one of the first steps of grading and must be done before other land disturbing activities take place. Rock check dams and v-ditches will be used to convey stormwater runoff into the sediment pond and sediment trap to settle out sediment as well. Infiltration is not feasible for stormwater discharge from this site, as contaminated soils are present below ground. There are no juvenile Salmonids attempting to enter off-channel areas or drainages within the vicinity. The combination of a sediment trap and pond alone are expected to be adequate for sediment control on the site because most of the site work will not cut into existing contaminated soils. The surface area requirements for the TESC pond and trap are met with the designed TESC plan and it is not expected that further treatment or other sediment controlling measures are necessary.

However, if the proposed sediment controls are ineffective as determined by the CESCL, they will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix B.

List and describe BMPs:

- Silt Fence (BMP C233)
- Temporary Sediment Trap (BMP C241)
- Check Dams (BMP C207)

Installation Schedules: TBD

Inspection and Maintenance plan:

Silt Fence Maintenance

- Repair any damage immediately.
- Intercept and convey all evident concentrated flows uphill of the silt fence to a sediment pond.
- Check the uphill side of the fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence or remove the trapped sediment.
- Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
- Replace filter fabric that has deteriorated due to ultraviolet breakdown.

Sediment Pond/Trap Maintenance

- Sediment shall be removed from the trap/pond when it reaches 1-foot in depth.
- Any damage to the pond embankments or slopes shall be repaired.

Check Dam Maintenance

- Check dams shall be monitored for performance and sediment accumulation during and after each runoff producing rainfall.
- Sediment shall be removed when it reaches one half the sump depth.
- Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam.
- If significant erosion occurs between dams, install a protective riprap liner in that portion of the channel.

Responsible Staff: Contractor/CESL

2.1.5 Element 5: Stabilize Soils

Exposed and unworked soils shall be stabilized with the application of effective BMPs to prevent erosion throughout the life of the project. Temporary seeding shall occur on all areas to remain unworked pursuant to below. In general, cut and fill slopes will be stabilized as soon as possible and soil stockpiles will be temporarily covered with plastic sheeting. All stockpiled soils shall be stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels. To the northwest of the site, there is an area that will be used for stockpiling any contaminated soils uncovered during the project. These stockpiles will be covered with plastic sheeting while being stored and waiting for testing to determine any present contaminants before disposal or reuse depending on the testing outcome. To minimize the amount of soil exposed through the life of the project, grading will be completed within a reasonable time frame after the preloading of the building footprints is completed. To minimize soil compaction, a construction entrance will be used as well as keeping heavy equipment and machinery off unpaved areas as much as possible.

West of the Cascade Mountains Crest

Season	Dates	Number of Days Soils Can be Left Exposed
During the Dry Season	May 1 – September 30	7 days
During the Wet Season	October 1 – April 30	2 days

Soils must be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

Anticipated project dates: Start date: October 2017 End date: October 2018

Will you construct during the wet season?
☒ Yes ☐ No

List and describe BMPs:

- Temporary and Permanent Seeding (BMP C120)
- Mulching (BMP C121)
- Dust Control (BMP C140)

Installation Schedules: TBD

Inspection and Maintenance plan: Temporary and Permanent Seeding Maintenance

- Reseed any seeded areas that fail to establish at least 80 percent cover (100 percent cover for areas that receive sheet or concentrated flows). If reseeding is ineffective, use an alternate method such as sodding, mulching, or nets/blankets. If winter weather prevents adequate grass growth, this time limit may be relaxed at the discretion of the local authority when sensitive areas would otherwise be protected.
- Reseed and protect by mulch any areas that experience erosion after achieving adequate cover. Reseed and protect by mulch any eroded area.
- Supply seeded areas with adequate moisture, but do not water to the extent that it causes runoff.

Mulching Maintenance

- The thickness of the cover must be maintained.
- Any areas that experience erosion shall be remulched and/or protected with a net or blanket. If the erosion problem is drainage related, then the problem shall be fixed and the eroded area remulched.

Dust Control Maintenance

- Respray area as necessary to keep dust to a minimum.

Responsible Staff: Contractor/CESL

2.1.6 Element 6: Protect Slopes

All cut and fill slopes will be designed, constructed, and protected in a manner that minimizes erosion. It is required that any temporary pipe slope drains must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. For modeling the condition with the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas have been modeled as “landscaped area”. Scouring will be reduced by using v-ditches with rock check dams to convey stormwater to the sediment pond and trap on site. However, if the proposed BMPs to protect slopes are ineffective as determined by the CESCL, they will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix B.

Will steep slopes be present at the site during construction?
☒ Yes ☐ No

List and describe BMPs:

- Temporary and Permanent Seeding (BMP C120)

Installation Schedules: TBD

Inspection and Maintenance plan:

Temporary and Permanent Seeding Maintenance

- Reseed any seeded areas that fail to establish at least 80 percent cover (100 percent cover for areas that receive sheet or concentrated flows). If reseeding is ineffective, use an alternate method such as sodding, mulching, or nets/blankets. If winter weather prevents adequate grass growth, this time limit may be relaxed at the discretion of the local authority when sensitive areas would otherwise be protected.
- Reseed and protect by mulch any areas that experience erosion after achieving adequate cover. Reseed and protect by mulch any eroded area.
- Supply seeded areas with adequate moisture, but do not water to the extent that it causes runoff.

Check Dam Maintenance

- Check dams shall be monitored for performance and sediment accumulation during and after each runoff producing rainfall.
- Sediment shall be removed when it reaches one half the sump depth.
- Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam.

- If significant erosion occurs between dams, install a protective riprap liner in that portion of the channel.

Responsible Staff: Contractor/CESL

2.1.7 Element 7: Protect Drain Inlets

All storm drain inlets and culverts made operable during construction shall be protected to prevent unfiltered or untreated water from entering the drainage conveyance system. However, the first priority is to keep all access roads clean of sediment and keep wash water separate from entering storm drains until treatment can be provided. Storm Drain Inlet Protection (BMP C220) will be implemented for all drainage inlets and culverts that could potentially be impacted by sediment-laden runoff on and near the project site. The temporary sediment pond and trap on site will function to settle out sediment particles before discharge to the existing storm system in order to prevent sediment from entering the system. If this is deemed ineffective by the CESCL, additional BMPs may be necessary, as listed in Appendix B. Inlet protection is the last component of a treatment train and protection of drain inlets include additional sediment and erosion control measures. Inlet protection devices will be cleaned (or removed and replaced), when sediment has filled the device by one third (1/3) or as specified by the manufacturer.

List and describe BMPs:

- Storm Drain Inlet Protection (BMP C220)

Installation Schedules: TBD

Inspection and Maintenance plan:

Storm Drain Inlet Protection Maintenance

- Inspect catch basin filters frequently, especially after storm events. Clean and replace clogged inserts. For systems with clogged stone filters: pull away the stones from the inlet and clean or replace. An alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.
- Inlets to be inspected weekly and a minimum of daily during storm events

Responsible Staff: Contractor/CESL

2.1.8 Element 8: Stabilize Channels and Outlets

Where site runoff is to be conveyed in channels, or discharged to a stream or some other natural drainage point, efforts will be taken to prevent downstream erosion. For construction stormwater conveyance, v-ditches with rock check dams will be installed to stabilize channels. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent streambanks, slopes, and downstream reaches shall be provided at the outlets of all conveyance systems. The project site is located west of the Cascade Mountain Crest. As such, all temporary on-site conveyance channels shall be designed, constructed, and stabilized to prevent erosion from the expected peak 10 minute velocity of flow from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area".

Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches, will be installed at the outlets of all conveyance systems.

List and describe BMPs:

- Check Dams (BMP C207)

Installation Schedules: TBD

Inspection and Maintenance plan:

Check Dam Maintenance

- Check dams shall be monitored for performance and sediment accumulation during and after each runoff producing rainfall. Sediment shall be removed when it reaches one half the sump depth.
- Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam.
- If significant erosion occurs between dams, install a protective riprap liner in that portion of the channel.

Responsible Staff: Contractor/CESL

2.1.9 Element 9: Control Pollutants

The following pollutants are anticipated to be present on-site:

Table 2 – Pollutants

Pollutant (List pollutants and source, if applicable)
Hydraulic fluid- May be present on sie with construct ion equipment.
Diesel – May be present on site with construction equipment.
Motor Oil – May be presne on site with construction equipment.

All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of stormwater. Good housekeeping and preventative measures will be taken to ensure that the site will be kept clean, well organized, and free of debris. If required, BMPs to be implemented to control specific sources of pollutants are discussed below. Vehicles, construction equipment, and/or petroleum product storage/dispensing:

- All vehicles, equipment, and petroleum product storage/dispensing areas will be inspected regularly to detect any leaks or spills, and to identify maintenance needs to prevent leaks or spills.
- On-site fueling tanks and petroleum product storage containers shall include secondary containment.
- Spill prevention measures, such as drip pans, will be used when conducting maintenance and repair of vehicles or equipment.
- In order to perform emergency repairs on site, temporary plastic will be placed beneath and, if raining, over the vehicle.
- Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.

Demolition:

- Dust released from demolished sidewalks, buildings, or structures will be controlled using Dust Control measures (BMP C140).
- Storm drain inlets vulnerable to stormwater discharge carrying dust, soil, or debris will be protected using Storm Drain Inlet Protection (BMP C220 as described above for Element 7).
- Process water and slurry resulting from sawcutting and surfacing operations will be prevented from entering the waters of the State by implementing Sawcutting and Surfacing Pollution Prevention measures (BMP C152).

Concrete and grout:

- Process water and slurry resulting from concrete work will be prevented from entering the waters of the State by implementing Concrete Handling measures (BMP C151).

List and describe BMPs:

- Concrete Handling (BMP C151)

Installation Schedules: TBD

Inspection and Maintenance plan:

Concrete Handling Maintenance

- Check containers for holes in the liner daily during concrete pours and repair the same day.

Responsible Staff: Contractor/CESL

Will maintenance, fueling, and/or repair of heavy equipment and vehicles occur on-site?
☒ Yes ☐ No

In order to prevent spills and minimize risk, the following list should be applied

- Temporary storage area should be located away from vehicular traffic, near the construction entrance(s), and away from waterways or storm drains.
- Material Safety Data Sheets (MSDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers.
- Hazardous material storage on-site should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- During the wet weather season (Oct 1 – April 30), consider storing materials in a covered area.
- Materials should be stored in secondary containments, such as earthen dike, horse trough, or even a children's wading pool for non-reactive materials such as detergents, oil, grease, and paints. Small amounts of material may be secondarily contained in "bus boy" trays or concrete mixing trays.
- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and, when possible, and within secondary containment.
- If drums must be kept uncovered, store them at a slight angle to reduce ponding of rainwater on the lids to reduce corrosion. Domed plastic covers are inexpensive and snap to the top of drums, preventing water from collecting.

Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be stored in temporary secondary containment facilities.

List and describe BMPs:

- Material Delivery, Storage and Containment (BMP C153)

Installation Schedules: TBD

Inspection and Maintenance plan: The spill kit should include, at a minimum:

- 1-Water Resistant Nylon Bag
- 3-Oil Absorbent Socks 3”x 4’
- 2-Oil Absorbent Socks 3”x 10’
- 12-Oil Absorbent Pads 17”x19”
- 1-Pair Splash Resistant Goggles
- 3-Pair Nitrile Gloves
- 10-Disposable Bags with Ties
- Instructions

Responsible Staff: Contractor/CESL

Will wheel wash or tire bath system BMPs be used during construction?
☐ Yes ☒ No

If yes, provide disposal methods for wastewater generated by BMPs.

If discharging to the sanitary sewer, include the approval letter from your local sewer district under Correspondence in Appendix C.

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: N/A

Will pH-modifying sources be present on-site?
☐ Yes ☒ No

Table 3 – pH-Modifying Sources

☒	None
☐	Bulk cement
☐	Cement kiln dust
☐	Fly ash
☐	Other cementitious materials
☐	New concrete washing or curing waters
☐	Waste streams generated from concrete grinding and sawing
☐	Exposed aggregate processes
☐	Dewatering concrete vaults

☐	Concrete pumping and mixer washout waters
☐	Recycled concrete
☐	Recycled concrete stockpiles
☐	Other (i.e., calcium lignosulfate) [please describe:]

Describe BMPs you will use to prevent pH-modifying sources from contaminating stormwater.

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: N/A

Concrete trucks must not be washed out onto the ground, or into storm drains, open ditches, streets, or streams. Excess concrete must not be dumped on-site, except in designated concrete washout areas with appropriate BMPs installed.

Will uncontaminated water from water-only based shaft drilling for construction of building, road, and bridge foundations be infiltrated provided the wastewater is managed in a way that prohibits discharge to surface waters?
☐ Yes ☒ No

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: N/A

2.1.10 Element 10: Control Dewatering

All dewatering water from open cut excavation, tunneling, foundation work, trench, or underground vaults shall be discharged into a controlled conveyance system prior to discharge to the downstream drainage course. Channels will be stabilized, per Element #8. Clean, non-turbid dewatering water will not be routed through stormwater sediment ponds, and will be discharged to systems tributary to the receiving waters of the State in a manner that does not cause erosion, flooding, or a violation of State water quality standards in the receiving water. Highly turbid dewatering water from soils known or suspected to be contaminated, or from use of construction equipment, will require additional monitoring and treatment as required for the specific pollutants based on the receiving waters into which the discharge is occurring. Such monitoring is the responsibility of the contractor. Because there are contaminated soils on site, any cut into these will be closely monitored and all cut soils will be stockpiled for testing before appropriate disposal or reuse. The dewatering water from excavation will be tested and treated if the testing shows contamination.

However, the dewatering of soils known to be free of contamination will trigger BMPs to trap sediment and reduce turbidity. At a minimum, geotextile fabric socks/bags/cells will be used to filter this material.

If BMP C250: Construction Stormwater Chemical Treatment and BMP C251: Construction Stormwater Filtration are required for treatment, approval from Ecology is required prior,

Table 4 – Dewatering BMPs

☐	Infiltration
☒	Transport off-site in a vehicle (vacuum truck for legal disposal)
☐	Ecology-approved on-site chemical treatment or other suitable treatment technologies
☐	Sanitary or combined sewer discharge with local sewer district approval (last resort)
☐	Use of sedimentation bag with discharge to ditch or swale (small volumes of localized dewatering)

List and describe BMPs:

- Construciton Stormwater Chemical Treatement (BMP C250)
- Construction Stormwater Filtration (BMP C251)

Installation Schedules: TBD

Inspection and Maintenance plan:

Construction Stormwater Chemical Treatment Maintenance

Monitoring: At a minimum, the following monitoring shall be conducted. Test results shall be recorded on a daily log kept on site. Additional testing may be required by the NPDES permit based on site conditions.

Operational Monitoring:

- Total volume treated and discharged.
- Flow must be continuously monitored and recorded at not greater than 15-minute intervals.
- Type and amount of chemical used for pH adjustment.
- Amount of polymer used for treatment.
- Settling time.

Compliance Monitoring:

- Influent and effluent pH, flocculent chemical concentration, and turbidity must be continuously monitored and recorded at not greater than 15-minute intervals. pH and turbidity of the receiving water.

Biomonitoring:

Treated stormwater must be non-toxic to aquatic organisms. Treated stormwater must be tested for aquatic toxicity or residual chemicals. Frequency of biomonitoring will be determined by Ecology.

Residual chemical tests must be approved by Ecology prior to their use.

If testing treated stormwater for aquatic toxicity, you must test for acute (lethal) toxicity. Bioassays shall be conducted by a laboratory accredited by Ecology, unless otherwise approved by Ecology. Acute toxicity tests shall be conducted per the CTAPE protocol.

Discharge Compliance: Prior to discharge, treated stormwater must be sampled and tested for compliance with pH, flocculent chemical concentration, and turbidity limits. These limits may be established by the Construction Stormwater General Permit or a site-specific discharge permit. Sampling and testing for other pollutants may also be necessary at some sites. pH must be within the range of 6.5 to 8.5 standard units and not cause a change in the pH of the receiving water of more than 0.2 standard units. Treated stormwater samples and measurements shall be taken from the discharge pipe or another location representative of the nature of the treated stormwater discharge. Samples used for determining compliance with the water quality standards in the receiving water shall not be taken from the treatment pond prior to decanting. Compliance with the water quality standards is determined in the receiving water.

Operator Training: Each contractor who intends to use chemical treatment shall be trained by an experienced contractor . Each site using chemical treatment must have an operator trained and certified by an organization approved by Ecology.

Standard BMPs: Surface stabilization BMPs should be implemented on site to prevent significant erosion. All sites shall use a truck wheel wash to prevent tracking of sediment off site.

Sediment Removal and Disposal:

- Sediment shall be removed from the storage or treatment cells as necessary. Typically, sediment removal is required at least once during a wet season and at the

decommissioning of the cells. Sediment remaining in the cells between batches may enhance the settling process and reduce the required chemical dosage.
- Sediment that is known to be non-toxic may be incorporated into the site away from drainages.

Construction Stormwater Filtration Maintenance

Rapid sand filters typically have automatic backwash systems that are triggered by a pre-set pressure drop across the filter. If the backwash water volume is not large or substantially more turbid than the untreated stormwater stored in the holding pond or tank, backwash return to the untreated stormwater pond or tank may be appropriate. However, other means of treatment and disposal may be necessary.

- Screen, bag, and fiber filters must be cleaned and/or replaced when they become clogged.
- Sediment shall be removed from the storage and/or treatment ponds as necessary. Typically, sediment removal is required once or twice during a wet season and at the decommissioning of the ponds.

Responsible Staff: Contractor/CESL

2.1.11 Element 11: Maintain BMPs

All temporary and permanent Erosion and Sediment Control (ESC) BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function.

Maintenance and repair shall be conducted in accordance with each particular BMP specification (see *Volume II of the SWMMWW or Chapter 7 of the SWMMEW*).

Visual monitoring of all BMPs installed at the site will be conducted at least once every calendar week and within 24 hours of any stormwater or non-stormwater discharge from the site. If the site becomes inactive and is temporarily stabilized, the inspection frequency may be reduced to once every calendar month.

All temporary ESC BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Trapped sediment shall be stabilized on-site or removed. Disturbed soil resulting from removal of either BMPs or vegetation shall be permanently stabilized.

Additionally, protection must be provided for all BMPs installed for the permanent control of stormwater from sediment and compaction. BMPs that are to remain in place following completion of construction shall be examined and restored to full operating condition. If sediment enters these BMPs during construction, the sediment shall be removed and the facility shall be returned to conditions specified in the construction documents.

2.1.12 Element 12: Manage the Project

The project will be managed based on the following principles:

- Projects will be phased to the maximum extent practicable and seasonal work limitations will be taken into account.
- Inspection and monitoring:
    - Inspection, maintenance and repair of all BMPs will occur as needed to ensure performance of their intended function.
    - Site inspections and monitoring will be conducted in accordance with Special Condition S4 of the CSWGP. Sampling locations are indicated on the Site Map. Sampling station(s) are located in accordance with applicable requirements of the CSWGP.
- Maintain an updated SWPPP.
    - The SWPPP will be updated, maintained, and implemented in accordance with Special Conditions S3, S4, and S9 of the CSWGP.

As site work progresses the SWPPP will be modified routinely to reflect changing site conditions. The SWPPP will be reviewed monthly to ensure the content is current.

Table 5 – Management

☒	Design the project to fit the existing topography, soils, and drainage patterns
☒	Emphasize erosion control rather than sediment control
☒	Minimize the extent and duration of the area exposed
☒	Keep runoff velocities low
☒	Retain sediment on-site
☒	Thoroughly monitor site and maintain all ESC measures
☒	Schedule major earthwork during the dry season
☐	Other (please describe)

Table 6 – BMP Implementation Schedule

Phase of Construction Project	Stormwater BMPs	Date	Wet/Dry Season
TBD			

2.1.13 Element 13: Protect Low Impact Development (LID) BMPs

Low Impact Developed (LID) BMPs are practices that emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration integrated into project design. The idea behind these is to emphasize conservation, use of on-site natural features, and site planning to minimize impervious surfaces, native vegetation loss, and stormwater runoff. At this time, there are no LID BMPs in place, however the following shall apply in the event of additional LID BMPs added to the project:

- Permittees must protect all Bioretention and Rain Garden facilities from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the facilities to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden Bioretention/Rain Garden soils, and replacing the removed soils with soils meeting the design specification.
- Permittees must maintain the infiltration capabilities of Bioretention and Rain Garden facilities by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.
- Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements.
- Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.
- Permittees must keep all heavy equipment off existing soils under LID facilities that have been excavated to final grade to retain the infiltration rate of the soils.

3 Pollution Prevention Team

Table 7 – Team Information

Title	Name(s)	Phone Number
Certified Erosion and Sediment Control Lead (CESCL)	TBD	
Resident Engineer	Costa Philippides	(425) 251-6222
Emergency Ecology Contact	TBD	TBD
Emergency Permittee/ Owner Contact	TBD	TBD
Non-Emergency Owner Contact	TBD	TBD
Monitoring Personnel	TBD	TBD
Ecology Regional Office	Northwest Regional Office	425-649-7000

4 Monitoring and Sampling Requirements

Monitoring includes visual inspection, sampling for water quality parameters of concern, and documentation of the inspection and sampling findings in a site log book. A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Stormwater sampling data

File a blank form under Appendix D.

The site log book must be maintained on-site within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

Numeric effluent limits may be required for certain discharges to 303(d) listed waterbodies. See CSWGP Special Condition S8 and Section 5 of this template.

4.1 Site Inspection

Site inspections will be conducted at least once every calendar week and within 24 hours following any discharge from the site. For sites that are temporarily stabilized and inactive, the required frequency is reduced to once per calendar month.

The discharge point(s) are indicated on the Site Map (see Appendix A) and in accordance with the applicable requirements of the CSWGP.

4.2 Stormwater Quality Sampling

4.2.1 Turbidity Sampling

Requirements include calibrated turbidity meter or transparency tube to sample site discharges for compliance with the CSWGP. Sampling will be conducted at all discharge points at least once per calendar week.

Method for sampling turbidity:

Table 8 – Turbidity Sampling Method

☒	Turbidity Meter/Turbidimeter (required for disturbances 5 acres or greater in size)
☐	Transparency Tube (option for disturbances less than 1 acre and up to 5 acres in size)

The benchmark for turbidity value is 25 nephelometric turbidity units (NTU) and a transparency less than 33 centimeters.

If the discharge's turbidity is 26 to 249 NTU **or** the transparency is less than 33 cm but equal to or greater than 6 cm, the following steps will be conducted:

1. Review the SWPPP for compliance with Special Condition S9. Make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

2. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.
3. Document BMP implementation and maintenance in the site log book.

If the turbidity exceeds 250 NTU **or** the transparency is 6 cm or less at any time, the following steps will be conducted:

1. Telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) within 24 hours.
    - **Central Region** (Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima): (509) 575-2490 or http://www.ecy.wa.gov/programs/spills/forms/nerts_online/CRO_nerts_online.html
    - **Eastern Region** (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400 or http://www.ecy.wa.gov/programs/spills/forms/nerts_online/ERO_nerts_online.html
    - **Northwest Region** (King, Kitsap, Island, San Juan, Skagit, Snohomish, Whatcom): (425) 649-7000 or http://www.ecy.wa.gov/programs/spills/forms/nerts_online/NWRO_nerts_online.html
    - **Southwest Region** (Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum,): (360) 407-6300 or http://www.ecy.wa.gov/programs/spills/forms/nerts_online/SWRO_nerts_online.html
2. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period
3. Document BMP implementation and maintenance in the site log book.
4. Continue to sample discharges daily until one of the following is true:
    - Turbidity is 25 NTU (or lower).
    - Transparency is 33 cm (or greater).
    - Compliance with the water quality limit for turbidity is achieved.
        - 1 - 5 NTU over background turbidity, if background is less than 50 NTU
        - 1% - 10% over background turbidity, if background is 50 NTU or greater
    - The discharge stops or is eliminated.

4.2.2 pH Sampling

pH monitoring is required for "Significant concrete work" (i.e., greater than 1000 cubic yards poured concrete over the life of the project). The use of recycled concrete or engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD] or fly ash) also requires pH monitoring.

For significant concrete work, pH sampling will start the first day concrete is poured and continue until it is cured, typically three (3) weeks after the last pour.

For engineered soils and recycled concrete, pH sampling begins when engineered soils or recycled concrete are first exposed to precipitation and continues until the area is fully stabilized.

If the measured pH is 8.5 or greater, the following measures will be taken:

1. Prevent high pH water from entering storm sewer systems or surface water.
2. Adjust or neutralize the high pH water to the range of 6.5 to 8.5 su using appropriate technology such as carbon dioxide (CO_2) sparging (liquid or dry ice).
3. Written approval will be obtained from Ecology prior to the use of chemical treatment other than CO_2 sparging or dry ice.

Method for sampling pH:

Table 9 – pH Sampling Method

☒	pH meter
☐	pH test kit
☐	Wide range pH indicator paper

5 Discharges to 303(d) or Total Maximum Daily Load (TMDL) Waterbodies

5.1 303(d) Listed Waterbodies

Is the receiving water 303(d) (Category 5) listed for turbidity, fine sediment, phosphorus, or pH?

☐ Yes ☒ No

List the impairment(s):

N/A

5.2 TMDL Waterbodies

Waste Load Allocation for CWSGP discharges:

N/A

List and describe BMPs:

N/A

Discharges to TMDL receiving waterbodies will meet in-stream water quality criteria at the point of discharge.

The Construction Stormwater General Permit Proposed New Discharge to an Impaired Water Body form is included in Appendix F.

6 Reporting and Record Keeping

6.1 Record Keeping

6.1.1 Site Log Book

A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Sample logs

6.1.2 Records Retention

Records will be retained during the life of the project and for a minimum of three (3) years following the termination of permit coverage in accordance with Special Condition S5.C of the CSWGP.

Permit documentation to be retained on-site:

- CSWGP
- Permit Coverage Letter
- SWPPP
- Site Log Book

Permit documentation will be provided within 14 days of receipt of a written request from Ecology. A copy of the SWPPP or access to the SWPPP will be provided to the public when requested in writing in accordance with Special Condition S5.G.2.b of the CSWGP.

6.1.3 Updating the SWPPP

The SWPPP will be modified if:

- Found ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site.
- There is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

The SWPPP will be modified within seven (7) days if inspection(s) or investigation(s) determine additional or modified BMPs are necessary for compliance. An updated timeline for BMP implementation will be prepared.

6.2 Reporting

6.2.1 Discharge Monitoring Reports

Cumulative soil disturbance is less than one (1) acre; therefore, Discharge Monitoring Reports (DMRs) will not be submitted to Ecology because water quality sampling is not being conducted at the site.

6.2.2 Notification of Noncompliance

If any of the terms and conditions of the permit is not met, and the resulting noncompliance may cause a threat to human health or the environment, the following actions will be taken:

1. Ecology will be notified within 24-hours of the failure to comply by calling the applicable Regional office ERTS phone number (Regional office numbers listed below).
2. Immediate action will be taken to prevent the discharge/pollution or otherwise stop or correct the noncompliance. If applicable, sampling and analysis of any noncompliance will be repeated immediately and the results submitted to Ecology within five (5) days of becoming aware of the violation.
3. A detailed written report describing the noncompliance will be submitted to Ecology within five (5) days, unless requested earlier by Ecology.

Anytime turbidity sampling indicates turbidity is 250 NTUs or greater, or water transparency is 6 cm or less, the Ecology Regional office will be notified by phone within 24 hours of analysis as required by Special Condition S5.A of the CSWGP.

- **Central Region** at (509) 575-2490 for Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, or Yakima County
- **Eastern Region** at (509) 329-3400 for Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, or Whitman County
- **Northwest Region** at (425) 649-7000 for Island, King, Kitsap, San Juan, Skagit, Snohomish, or Whatcom County
- **Southwest Region** at (360) 407-6300 for Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, or Wahkiakum

Include the following information:

1. Your name and / Phone number
2. Permit number
3. City / County of project
4. Sample results
5. Date / Time of call
6. Date / Time of sample
7. Project name

In accordance with Special Condition S4.D.5.b of the CSWGP, the Ecology Regional office will be notified if chemical treatment other than CO_2 sparging is planned for adjustment of high pH water.

A. Site Map

B. BMP Detail

Please see following pages for appropriate BMP details.

Below is a list of Alternative BMPs the be used if the BMPs listed in the body of this document are deemed ineffective by the CESCL.

Element #1 - Mark Clearing Limits
BMP C101: Preserving Natural Vegetation
BMP C102: Buffer Zones
BMP C103: High Visibility Fence

Element #2 - Establish Construction Access
BMP C107: Construction Road/Parking Area Stabilization

Element #3 - Control Flow Rates
BMP C203: Water Bars
BMP C209: Outlet Protection
BMP C235: Wattles

Element #4 - Install Sediment Controls
BMP C231: Brush Barrier
BMP C232: Gravel Filter Berm
BMP C234: Vegetated Strip
BMP C235: Wattles
BMP C250: Construction Stormwater Chemical Treatment
BMP C251: Construction Stormwater Filtration
Other Proprietary Sediment Control Technologies

Element #5 - Stabilize Soils
BMP C122: Nets and Blankets
BMP C124: Sodding
BMP C125 Compost
BMP C126: Topsoiling
BMP C127: Polyacrylamide for Soil Erosion Protection
BMP C130: Surface Roughening
BMP C131: Gradient Terraces

Element #6 - Protect Slopes
BMP C121: Mulching
BMP C122: Nets and Blankets
BMP C131: Gradient Terraces
BMP C200: Interceptor Dike and Swale
BMP C201: Grass-Lined Channels
BMP C203: Water Bars
BMP C204: Pipe Slope Drains
BMP C205: Subsurface Drains
BMP C206: Level Spreader
BMP C208: Triangular Silt Dike (Geotextile-Encased Check Dam)

Element #7 - Protect Drain Inlets
BMP C220: Storm Drain Inlet Protection

Element #8 - Stabilize Channels and Outlets
BMP C122: Nets and Blankets
BMP C202: Channel Lining
BMP C209: Outlet Protection

Element #9 - Control Pollutants
BMP C152: Sawcutting and Surface Pollution Prevention
BMP C153: Material Delivery, Storage, Containment
BMP C154: Concrete Washout Area
BMP C250: Construction Stormwater Chemical Treatment
BMP C251: Construction Stormwater Filtration
BMP C252: High pH Neutralization Using Co_2
BMP C253: pH Control for High pH Water
Source Control BMPs As Appropriate

Element #10 - Control Dewatering
BMP C203: Water Bars
BMP C226: Vegetative Filtration

Element #11 - Maintain BMPs
BMP C150: Materials on Hand
BMP C160 Erosion and Sedimentation Control Lead

Element #12 - Manage the Project
BMP C150: Materials on Hand
BMP C160: Erosion and Sediment Control Lead
BMP C162: Scheduling

Element #13: Protect Low Impact Development
BMP C102: Buffer Zone
BMP C103: High Visibility Fence
BMP C200: Interceptor Dike and Swale
BMP C201: Grass-Lined Channels
BMP C207: Check Dams
BMP C208: Triangular Silt Dike (TSD) (Geotextile-Encased Check Dam)
BMP C231: Brush Barrier
BMP C233: Silt Fence
BMP C234: Vegetated Strip

C. Correspondence

Any pertinent correspondence regarding this project will be included in this section.

D. Site Inspection Form

Please see the following pages for the site intspection form.

E. Construction Stormwater General Permit (CSWGP)

The CSWGP will be included in the final SWPPP.

F. 303(d) List Waterbodies / TMDL Waterbodies Information

There are no 303(d) List Waterbodies in this project, so this section is not required.

G. Contaminated Site Information

There is no contaminated site at this time.

H. Engineering Calculations

Please see the following for calculations.

WWHM2012

PROJECT REPORT

18666- DuPont Industrial Warehouse
TESC Calculations
01/22/2018

General Model Information

Project Name:	18666 ESC
Site Name:	
Site Address:	
City:	
Report Date:	10/16/2017
Gage:	
Data Start:	10/01/1901
Data End:	09/30/2059
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2017/04/14
Version:	4.2.13

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	16.47
Pervious Total	16.47
Impervious Land Use	acre
Impervious Total	0
Basin Total	16.47

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C, Lawn, Flat	3.09
Pervious Total	3.09

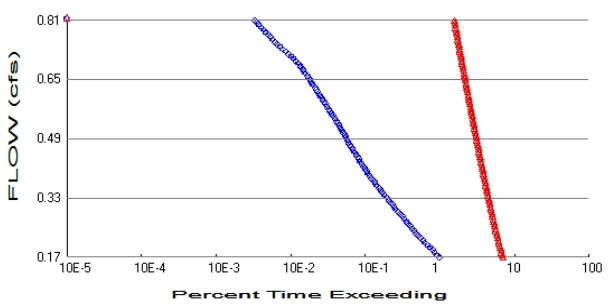
Impervious Land Use	acre
ROOF TOPS FLAT	5.93
DRIVEWAYS FLAT	7.32
SIDEWALKS FLAT	0.13
Impervious Total	13.38
Basin Total	16.47

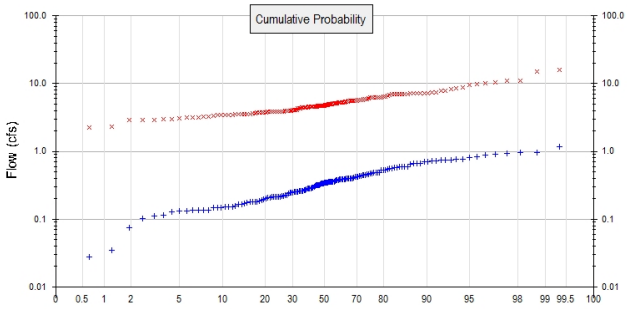
Element Flows To:

Surface	Interflow	Groundwater

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 16.47
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 3.09
Total Impervious Area: 13.38

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.347069
5 year	0.539937
10 year	0.644734
25 year	0.751399
50 year	0.814797
100 year	0.866929

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	4.81235
5 year	6.506667
10 year	7.74501
25 year	9.447484
50 year	10.819265
100 year	12.282768

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1902	0.255	5.551
1903	0.212	6.159
1904	0.346	7.491
1905	0.167	3.173
1906	0.075	3.500
1907	0.533	4.934
1908	0.395	3.941
1909	0.390	4.736
1910	0.538	4.619
1911	0.350	5.268

1912	1.155	9.435
1913	0.554	3.677
1914	0.135	16.126
1915	0.223	3.231
1916	0.346	5.918
1917	0.116	2.230
1918	0.371	4.730
1919	0.274	2.975
1920	0.353	4.037
1921	0.395	3.441
1922	0.396	5.527
1923	0.318	3.761
1924	0.145	6.849
1925	0.180	2.919
1926	0.336	5.564
1927	0.218	4.542
1928	0.269	3.459
1929	0.551	6.952
1930	0.354	7.055
1931	0.328	3.467
1932	0.257	3.752
1933	0.247	3.686
1934	0.727	6.323
1935	0.337	3.119
1936	0.293	4.482
1937	0.468	6.491
1938	0.285	3.207
1939	0.018	4.017
1940	0.316	7.061
1941	0.151	6.965
1942	0.476	5.516
1943	0.245	5.313
1944	0.449	7.808
1945	0.397	5.719
1946	0.215	4.602
1947	0.136	3.452
1948	0.747	4.796
1949	0.640	7.278
1950	0.181	4.107
1951	0.223	6.214
1952	0.974	7.783
1953	0.878	7.080
1954	0.317	3.920
1955	0.259	3.553
1956	0.127	3.500
1957	0.450	3.851
1958	0.939	4.990
1959	0.581	5.038
1960	0.155	3.769
1961	0.584	11.067
1962	0.314	4.660
1963	0.150	3.404
1964	0.165	10.427
1965	0.654	4.609
1966	0.183	3.780
1967	0.281	5.498
1968	0.286	4.473
1969	0.286	4.059

1970	0.448	4.727
1971	0.705	4.624
1972	0.457	15.249
1973	0.582	8.348
1974	0.315	6.210
1975	0.740	6.900
1976	0.392	7.101
1977	0.132	2.892
1978	0.659	5.229
1979	0.181	5.204
1980	0.373	5.220
1981	0.357	4.764
1982	0.146	3.893
1983	0.584	5.410
1984	0.238	5.383
1985	0.387	6.284
1986	0.347	3.088
1987	0.663	5.234
1988	0.420	3.189
1989	0.378	2.903
1990	0.427	3.908
1991	0.335	5.864
1992	0.479	5.358
1993	0.464	6.131
1994	0.696	4.412
1995	0.134	3.327
1996	0.763	4.575
1997	0.293	4.014
1998	0.348	4.886
1999	0.028	5.054
2000	0.265	4.565
2001	0.136	3.562
2002	0.484	7.097
2003	0.421	3.881
2004	0.388	5.742
2005	0.714	10.949
2006	0.216	5.093
2007	0.216	5.840
2008	0.369	4.749
2009	0.253	3.570
2010	0.215	4.664
2011	0.174	4.821
2012	0.252	4.584
2013	0.197	4.414
2014	0.147	4.082
2015	0.281	7.481
2016	0.112	4.287
2017	0.535	6.974
2018	0.973	4.483
2019	0.907	6.663
2020	0.296	5.250
2021	0.482	4.367
2022	0.199	7.271
2023	0.405	8.852
2024	0.762	10.246
2025	0.358	4.604
2026	0.584	5.079
2027	0.210	5.648

2028	0.182	2.210
2029	0.396	3.757
2030	0.734	7.279
2031	0.243	2.322
2032	0.132	3.870
2033	0.212	4.858
2034	0.209	3.804
2035	0.828	5.007
2036	0.430	3.804
2037	0.103	5.110
2038	0.343	5.164
2039	0.034	9.758
2040	0.191	3.893
2041	0.257	4.953
2042	0.805	5.588
2043	0.389	6.181
2044	0.525	4.334
2045	0.357	3.523
2046	0.419	3.901
2047	0.308	4.701
2048	0.399	3.878
2049	0.357	5.760
2050	0.256	4.434
2051	0.372	6.427
2052	0.214	4.609
2053	0.382	3.925
2054	0.486	8.482
2055	0.151	4.761
2056	0.169	6.169
2057	0.263	3.021
2058	0.333	5.781
2059	0.587	7.211

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	1.1553	16.1263
2	0.9736	15.2494
3	0.9725	11.0672
4	0.9395	10.9492
5	0.9071	10.4270
6	0.8782	10.2462
7	0.8280	9.7584
8	0.8054	9.4351
9	0.7627	8.8520
10	0.7616	8.4820
11	0.7466	8.3481
12	0.7397	7.8076
13	0.7339	7.7832
14	0.7267	7.4914
15	0.7135	7.4814
16	0.7048	7.2786
17	0.6960	7.2776
18	0.6625	7.2706
19	0.6586	7.2114
20	0.6535	7.1008
21	0.6397	7.0969
22	0.5872	7.0798

23	0.5841	7.0613
24	0.5839	7.0551
25	0.5838	6.9736
26	0.5824	6.9652
27	0.5808	6.9520
28	0.5536	6.9000
29	0.5512	6.8486
30	0.5379	6.6628
31	0.5349	6.4913
32	0.5326	6.4269
33	0.5248	6.3231
34	0.4861	6.2837
35	0.4839	6.2141
36	0.4816	6.2096
37	0.4787	6.1813
38	0.4762	6.1694
39	0.4682	6.1592
40	0.4641	6.1314
41	0.4570	5.9175
42	0.4498	5.8643
43	0.4488	5.8401
44	0.4476	5.7813
45	0.4299	5.7600
46	0.4275	5.7422
47	0.4213	5.7186
48	0.4201	5.6481
49	0.4186	5.5883
50	0.4051	5.5637
51	0.3989	5.5510
52	0.3967	5.5270
53	0.3959	5.5164
54	0.3957	5.4984
55	0.3948	5.4101
56	0.3945	5.3830
57	0.3917	5.3579
58	0.3902	5.3134
59	0.3890	5.2677
60	0.3875	5.2503
61	0.3872	5.2340
62	0.3824	5.2289
63	0.3777	5.2197
64	0.3729	5.2041
65	0.3717	5.1636
66	0.3708	5.1099
67	0.3686	5.0926
68	0.3576	5.0788
69	0.3574	5.0537
70	0.3571	5.0383
71	0.3566	5.0067
72	0.3543	4.9896
73	0.3530	4.9532
74	0.3503	4.9336
75	0.3481	4.8864
76	0.3473	4.8579
77	0.3465	4.8206
78	0.3463	4.7957
79	0.3429	4.7638
80	0.3374	4.7608

81	0.3361	4.7491
82	0.3347	4.7360
83	0.3325	4.7297
84	0.3277	4.7268
85	0.3183	4.7013
86	0.3169	4.6636
87	0.3162	4.6598
88	0.3153	4.6236
89	0.3136	4.6192
90	0.3082	4.6093
91	0.2959	4.6086
92	0.2932	4.6044
93	0.2926	4.6016
94	0.2864	4.5842
95	0.2859	4.5747
96	0.2853	4.5651
97	0.2812	4.5416
98	0.2807	4.4833
99	0.2741	4.4820
100	0.2690	4.4733
101	0.2648	4.4341
102	0.2626	4.4138
103	0.2590	4.4116
104	0.2570	4.3672
105	0.2566	4.3336
106	0.2559	4.2873
107	0.2545	4.1072
108	0.2530	4.0819
109	0.2524	4.0592
110	0.2475	4.0371
111	0.2450	4.0169
112	0.2425	4.0135
113	0.2380	3.9413
114	0.2231	3.9250
115	0.2230	3.9199
116	0.2180	3.9075
117	0.2164	3.9010
118	0.2158	3.8928
119	0.2153	3.8925
120	0.2146	3.8805
121	0.2137	3.8781
122	0.2123	3.8702
123	0.2117	3.8513
124	0.2098	3.8039
125	0.2089	3.8036
126	0.1994	3.7800
127	0.1970	3.7691
128	0.1906	3.7605
129	0.1832	3.7569
130	0.1818	3.7525
131	0.1813	3.6858
132	0.1806	3.6774
133	0.1805	3.5698
134	0.1739	3.5619
135	0.1689	3.5527
136	0.1666	3.5233
137	0.1653	3.5003
138	0.1545	3.4997

139	0.1506	3.4669
140	0.1506	3.4589
141	0.1503	3.4519
142	0.1468	3.4408
143	0.1459	3.4043
144	0.1454	3.3269
145	0.1355	3.2312
146	0.1355	3.2066
147	0.1353	3.1893
148	0.1335	3.1731
149	0.1320	3.1192
150	0.1319	3.0882
151	0.1270	3.0205
152	0.1156	2.9754
153	0.1119	2.9193
154	0.1028	2.9032
155	0.0745	2.8915
156	0.0344	2.3215
157	0.0280	2.2302
158	0.0178	2.2098

Appendix

Predeveloped Schematic



Mitigated Schematic



Disclaimer

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7.0 SPECIAL REPORTS AND STUDIES

7.0 SPECIAL REPORTS AND STUDIES

The following pages are the geotechnical report by GeoEngineers for the adjacent site to the east.

Geotechnical Engineering Services

DuPont Apartment Complex/Lot X
DuPont, Washington

for
Creekside DuPont Partners, LLC

May 10, 2011

GeoEngineers
Earth Science + Technology

Geotechnical Engineering Services

DuPont Apartment Complex/Lot X
DuPont, Washington

for
Creekside DuPont Partners, LLC

May 10, 2011

GeoEngineers

1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

30 YEARS 2010

Geotechnical Engineering Services

DuPont Apartment Complex/Lot X
DuPont, Washington

File No. 16785-002-00

May 10, 2011

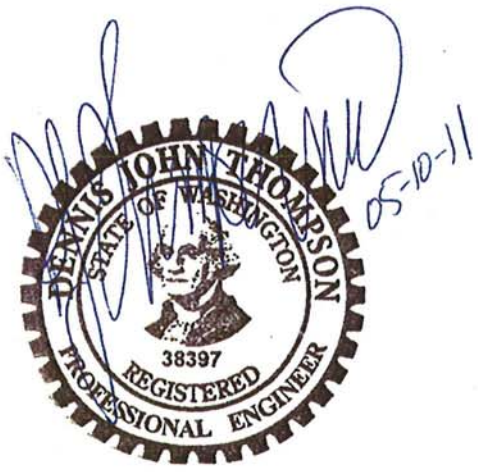
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DJT:GHS:tt

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GeoEngineers

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INTRODUCTION AND PROJECT UNDERSTANDING

GeoEngineers is pleased to present this proposal to provide geotechnical engineering services to support development and construction of the apartment complex to be constructed at 14464 Center Drive in DuPont, Washington, otherwise referred to as Lot X. A Vicinity Map is included as Figure 1. Our understanding of the project is based on our discussion with you and the project civil engineer (Barghausen Consulting Engineers), project architect (BCRA), and our review of preliminary site plans and a topographic survey.

The final site layout and number of apartment units has not been determined. At this time, proposed plans might include construction of approximately 180 apartment units in 14 to 15 buildings. Balanced cuts and fills are anticipated. We understand the buildings will be constructed near existing grade and deep excavations are not anticipated. Additional improvements will include construction of parking areas and installation of underground utilities. Stormwater will be conveyed to on-site infiltration galleries or ponds. Stormwater facilities will be designed in accordance with the 2005 Washington State Department of Ecology (Ecology) Stormwater Management Manual.

SCOPE OF SERVICES

The purpose of our services is to conduct subsurface investigations to use as a basis for developing geotechnical recommendations for the proposed site improvements. Our specific scope of services includes:

1. Reviewing readily available published geologic data, select in-house files, and existing subsurface information on soil and groundwater conditions in the site vicinity.
2. Coordinating clearance and location of existing utilities in the project area. We contacted the Washington Utilities Coordinating Council "One Call" service prior to beginning explorations.
3. Exploring subsurface conditions at the project site by observing nine test pits. The explorations extended to depths between 10 and 12 feet below surrounding grade.
4. Performing laboratory tests on selected soil samples obtained from the explorations to assist in evaluating the physical and engineering properties of the site soils. Laboratory testing consisted of eight moisture content and grain size analyses.
5. Providing a general discussion of site soil and groundwater conditions based on our review, explorations and testing.
6. Evaluating the results of the sieve analyses with the infiltration criteria presented in the 2005 Ecology Stormwater Management Manual. We include preliminary infiltration rates for the samples tested.
7. Providing recommendations for site preparation and earthwork. We discuss clearing and stripping, temporary and permanent slopes, suitability of on-site soils for use as structural fill, including constraints for wet weather construction, specifications for imported soil for use as structural fill, and fill placement and compaction requirements.

8. Providing general recommendations for site drainage and control of groundwater.
9. Classifying the Seismic Site Class and soil profile in accordance with Table 1613.5.2 of the International Building Code (IBC) and providing our opinion of soil liquefaction susceptibility based on the results of our review and explorations.
10. Providing recommendations for design of shallow foundations and conventional below grade and retaining wall structures. We provide allowable soil bearing pressures, settlement (total and differential) estimates, lateral earth pressures (active and passive) and coefficient of friction for evaluating sliding resistance. We discuss suitable foundation material and bearing surface preparation, including removal of uncontrolled fill, soft, organic or otherwise unsuitable material, and backfill compaction.
11. Providing recommendations for support of on-grade floor slabs including capillary break, vapor retarder, underslab drainage, and modulus of subgrade reaction, as appropriate.
12. Providing recommendations for asphalt concrete pavement (ACP) design, including base and subbase requirements for proposed parking areas. We provide typical minimum ACP section recommendations based on our experience. We can provide other recommendations based on actual traffic data, if requested.

SITE CONDITIONS

Published Literature

Based on review of geologic maps in our files, Vashon recessional outwash sand and gravel is the dominant, near-surface, geologic material mapped in the immediate project area. This material is commonly known as Steilacoom gravel. Vashon recessional outwash was deposited by melt water streams in front of the most recent glacier during its retreat from the Puget Sound region approximately 10,000 to 15,000 years ago. These deposits generally consist of permeable sand, or sand and gravel. Cobbles and boulders can also be encountered in this deposit, depending on the depositional history. Glacial till and/or advance outwash is commonly encountered at depth below the recessional outwash.

The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey of Pierce County Area, Washington, maps the project area as Spanaway gravelly sandy loam (41A). This soil unit is described as being formed in glacial outwash. It is further described as somewhat excessively drained with moderately rapid permeability, slow surface runoff and little erosion hazard.

Surface Conditions

The project area is located west of the intersection of Center Drive and Power Line Road in DuPont, Washington. Power Line Road and Center Drive make up the eastern boundary of the site. Sequalitchew Creek flows along the southern boundary of the site. A chain link fence is located along the northern and western edges of the site.

The project area is irregular in shape and is flat or slightly sloping down to the southwest. A gravel road extends generally east-west in the southern part of the site. Overhead power lines extend

north-south within the property near the eastern border of the site. Sewer, power and water manholes and junction boxes were observed within the property near the intersection of Center Drive and Power Line Road. Vegetation in the approximate southeast half of the property is low growing and sparse to moderately thick and is mostly grasses and scotch broom. The approximate northwest half of the property is densely forested with large evergreen fir trees and some oak trees. We did not observe standing water or indications of wet surface conditions during our time on site.

Subsurface Explorations

Our understanding of subsurface conditions at the project site is based on conditions disclosed in nine test pits excavated at the approximate locations shown in Figure 2. Details of the exploratory program, laboratory testing program and test pit logs completed for this study are presented in Appendix A.

Subsurface Conditions

We observed approximately 3 inches of forest duff or sod at the surface in all of the explorations with the exception of test pit TP-3. From the surface to a depth of 1 foot in test pit TP-3 we observed fill consisting of gravel with silt and sand. Underlying the duff or fill, we observed a weathered zone of soil, consisting of silty sand with gravel and traces of organic material in a medium dense condition. Underlying the weathered zone we typically observed glacial outwash consisting of gravel with sand and trace silt and variable cobbles. Exceptions to this include test pit TP-1 where gravel with silt and sand was observed below a depth of 7½ feet and in test pit TP-9 where sand with gravel and trace silt was observed from below a depth of 7 feet. The outwash was observed to be in a dense condition. Caving was typically noted below a depths of about 4 feet.

No groundwater seepage was observed during exploration. Groundwater conditions should be expected to vary as a result of season, precipitation and other factors. Based on our observations and previous explorations completed in the project vicinity, static groundwater elevation is expected to be well below the depths of the test pit explorations completed for this project.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the results of our study, it is our opinion that the site is generally suitable for the proposed development with regard to geotechnical considerations. A summary of the primary geotechnical considerations for the proposed development is provided below, and is followed by our detailed recommendations

- Organic-rich surficial material should be stripped from all areas to be improved.
- Granular soils were generally encountered; however, we did observe that some of the near-surface site soil has a higher fines (silt and clay-sized particles passing the U.S. Standard No. 200 sieve) content. Soil with a higher fines content is more sensitive to small changes in moisture content and may be difficult, if not impossible, to work and compact during wet weather conditions. This material can also be susceptible to disturbance from construction traffic when wet, or if earthwork is performed during wet weather.

- The proposed structures may be satisfactorily supported on continuous and isolated shallow foundations supported on the medium dense or dense native soils or on structural fill that extends to native soil.
- Floor slabs may be supported on compacted fill or native soils.
- The glacial outwash deposits can contain cobbles and boulders. The contractor should be prepared for this possibility.
- On-site stormwater infiltration appears feasible based on the subsurface conditions observed. We provide preliminary infiltration rate recommendations below.

Stormwater Infiltration

General

Soil consisting of gravel with sand or gravel with silt and sand was typically encountered below a depth of 1 to 2 feet in the explorations completed in the project area. In general, it is our opinion that the natural soils encountered in our explorations should have adequate permeability to infiltrate stormwater from the site. We did not encounter groundwater seepage, staining or other indications of seasonal shallow groundwater in the explorations.

Soil Infiltration Rates

Stormwater infiltration rates for the site soils were established based on the 2005 Ecology Stormwater Management Manual for Western Washington Volume III in conjunction with the sieve analysis results presented in Appendix A, Figures A-11 and A-12.

TABLE 1. SOIL INFILTRATION RATES[1]

Test Pit No.	Soil Sample No.	Soil Sample Depth (feet)	Percent Fines[2]	D10 Size (mm)[3]	USCS[4] Soil Classification	Long-term Design Infiltration Rate[6] (Inches per Hour)
1	5	7.5	7.5	0.14	GP-GM	2.0
2	3	5.5	2.6	0.49	GP	9
3	4	5.5	3.8	0.44	GP	9
5	2	3.5	3.0	0.82	GW	9
7	3	5.5	2.5	0.51	GP	9
8	3	7.5	4.7	0.25	GW	3.5
9	3	5.5	1.7	0.48	GP	9
9	4	7.5	2.2	0.25	SP	3.5

Notes:

[1] For selected soil samples.

[2] Fines = Silt and clay-sized particles passing U.S. No. 200 (0.75 mm) sieve.

[3] Based on ASTM C 136 Soil Gradation Test.

[4] Unified Soil Classification System (USCS).

[5] Based on grain-size analysis and the procedures outlined in the 2005 Ecology Stormwater Management Manual for Western Washington Volume III Table 3.8.

These rates are an estimate of subsurface infiltration properties. We expect that the relatively clean gravel soils encountered in the test pits should have adequate permeability and storage capacity to infiltrate stormwater. We did not complete explorations at specific pond locations because this information was not available at the time of our explorations. We recommend that the project plans include provisions for GeoEngineers to observe subsurface explorations during construction to check that the preliminary infiltration rate(s) used for design are appropriate for the conditions encountered. Site- and location-specific testing may also be required by local jurisdictions. It should be noted that infiltration through fill is not permissible according to the 2005 Ecology Stormwater Management Manual for Western Washington Volume III.

Stormwater should be treated in accordance with current regulations prior to infiltration. To help reduce clogging of infiltration facilities, we recommend they be protected during construction with siltation control facilities such as temporary settling basins, silt fences and hay bales. Suspended solids can clog the soil and reduce the infiltration rate. Periodic sweeping of paved areas, during and following construction, will help extend the life of the infiltration facilities. Equipment should not be permitted in the infiltration areas after they are excavated to grade because of the potential for compaction of the subgrade that could reduce the infiltration rate of the soil.

Site Development and Earthwork

General

We anticipate that site development and earthwork will include clearing and stripping of surface vegetation, constructing foundations and then placing and compacting fill and backfill materials. We expect that the majority of site grading can be accomplished with conventional earthmoving equipment. The following sections provide recommendations for stripping, excavation, erosion control, subgrade development, fill materials, fill placement and compaction.

Clearing and Stripping

Based on our observations at the site, we estimate that the depth of stripping could be on the order of 3 to 6 inches. Greater stripping depths may be required to remove localized zones of loose or organic-rich soil. In addition, the primary root systems of shrubs should be completely removed. Stripped material should be transported off site for disposal or processed and used as fill in landscaping areas.

Although we did not encounter boulders during our subsurface investigation, it is our experience they can be present in the glacial deposits in the area. Accordingly, the contractor should be prepared to remove boulders, if encountered during grading or utility excavations. Boulders may be removed from the site or buried in landscape areas. Voids caused by boulder removal should be backfilled with structural fill.

Temporary Excavations, Support and Dewatering

Excavations deeper than 4 feet should be shored or laid back at a stable slope if workers are required to enter. Shoring and temporary slope inclinations must conform to the provisions of Title 296 Washington Administrative Code (WAC), Part N, "Excavation, Trenching and Shoring." Regardless of the soil type encountered in the excavation, shoring, trench boxes or sloped sidewalls will be required under Washington Industrial Safety and Health Act (WISHA). The contract

documents should specify that the contractor is responsible for selecting excavation and dewatering methods, monitoring the excavations for safety and providing shoring, as required, to protect personnel and structures. We provide additional recommendations in regard to temporary and permanent shoring below.

In general, temporary cut slopes should be inclined no steeper than about 1-1/2H to 1V (horizontal to vertical). This guideline assumes that all surface loads are kept at a minimum distance of at least one-half the depth of the cut away from the top of the slope and that seepage is not present on the slope face. Flatter cut slopes will be necessary where seepage occurs or if surcharge loads are anticipated. We observed caving in our explorations; therefore, some sloughing and raveling of cut slopes should be expected. Temporary covering with heavy plastic sheeting should be used to protect these slopes during periods of wet weather.

Based on our explorations, we do not expect groundwater to be a major factor during shallow excavations and earthwork. However, some perched groundwater could occur in the near-surface soil depending on the time of year of construction. We anticipate that groundwater handling needs will typically be lower during the late summer and early fall months. We anticipate that shallow perched groundwater can typically be handled adequately with sumps, pumps, and/or diversion ditches, as necessary. Ultimately, we recommend that the contractor performing the work be made responsible for controlling and collecting groundwater encountered.

Permanent Cut and Fill Slopes

Based on site grades and the proposed construction, we anticipate that only minor cutting and filling will be required for this project. However, if permanent slopes are necessary, we recommend they be constructed at a maximum inclination of 2H to 1V. Where 2H to 1V permanent slopes are not feasible, protective facings and/or retaining structures should be considered.

To achieve uniform compaction, we recommend that fill slopes be overbuilt slightly and subsequently cut back to expose well-compacted fill. Fill placement on slopes steeper than 5H to 1V should be benched into the slope face and include keyways. The configuration of the bench and keyway depends on the equipment being used. Bench excavations should be level and extend into the slope face. We recommend that a vertical cut of about 3 feet be maintained for benched excavations. Keyways should be about 1-1/2 times the width of the equipment used for grading or compaction.

Exposed areas should be re-vegetated as soon as practical to reduce the surface erosion and sloughing. Temporary protection should be used until permanent protection is established.

Surface Drainage

Surface water from roofs, driveways and landscape areas should be collected and controlled. Curbs or other appropriate measures such as sloping pavements, sidewalks and landscape areas should be used to direct surface flow away from the buildings, erosion sensitive areas and from behind retaining structures. Roof and catchment drains should not be connected to wall or foundation drains.

Erosion and Sedimentation Control

Potential sources or causes of erosion and sedimentation can be influenced by construction methods, slope length and gradient, amount of soil exposed and/or disturbed, soil type, construction sequencing and weather. Implementing an erosion and sedimentation control plan will reduce the project impact on erosion-prone areas. The plan should be designed in accordance with applicable city, county and/or state standards. The plan should incorporate basic planning principles, including:

- Scheduling grading and construction to reduce soil exposure.
- Re-vegetating or mulching denuded areas.
- Directing runoff away from denuded areas.
- Reducing the length and steepness of slopes with exposed soils.
- Decreasing runoff velocities.
- Preparing drainage ways and outlets to handle concentrated or increased runoff.
- Confining sediment to the project site.
- Inspecting and maintaining control measures frequently.

Some sloughing and raveling of exposed or disturbed soil on slopes should be expected. We recommend that disturbed soil be restored promptly so that surface runoff does not become channeled.

Temporary erosion protection should be used and maintained in areas with exposed or disturbed soils to help reduce erosion and reduce transport of sediment to adjacent areas and receiving waters. Permanent erosion protection should be provided by paving, structure construction or landscape planting.

Until the permanent erosion protection is established and the site is stabilized, site monitoring may be required by qualified personnel to evaluate the effectiveness of the erosion control measures and to repair and/or modify them as appropriate. Provision for modifications to the erosion control system based on monitoring observations should be included in the erosion and sedimentation control plan.

Subgrade Preparation and Evaluation

Subgrade areas should be thoroughly compacted with heavy, smooth-drum vibratory equipment to a uniformly dense and unyielding condition prior to placement of structural fill or structural elements. We recommend that prepared subgrades be observed by a member of our firm, who will evaluate the suitability of the subgrade and identify any areas of yielding which are indicative of soft or loose soil. The exposed subgrade soil should be proof-rolled with heavy rubber-tired equipment or probed with a 1/2-inch-diameter steel rod, as appropriate depending on prevailing conditions. If soft or otherwise unsuitable areas revealed during probing or proof-rolling cannot be compacted to a stable and uniformly firm condition, we recommend that: 1) the subgrade soils be scarified (e.g., with a ripper or a farmer's disc), aerated and recompacted; or 2) the unsuitable soils be removed and replaced with structural fill, as needed.

Subgrade Protection and Wet Weather Considerations

The wet weather season generally begins in October and continues through May in western Washington; however, periods of wet weather can occur during any month of the year. In our opinion, site grading and fill placement could be considered during wet weather, but it should be noted that some of the soils encountered in our explorations contain a significant amount of fines and will be susceptible to disturbance during extended periods of wet weather. Soil with high fines content is very sensitive to small changes in moisture and is susceptible to disturbance from construction traffic when wet or if earthwork is performed during wet weather. If wet weather earthwork is unavoidable, we recommend that the following steps be taken.

- The ground surface in and around the work area should be sloped so that surface water is directed away from the work area. The ground surface should be graded so that areas of ponded water do not develop. Measures should be taken by the contractor to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from the work area.
- Earthwork activities should not take place during periods of heavy precipitation.
- Slopes with exposed soils should be covered with plastic sheeting.
- The contractor should take necessary measures to prevent on-site soils and other soils to be used as fill from becoming wet or unstable. These measures may include the use of plastic sheeting, sumps with pumps and grading. The site soils should not be left uncompacted and exposed to moisture. Sealing the surficial soils by rolling with a smooth-drum roller prior to periods of precipitation will help reduce the extent to which these soils become wet or unstable.
- Construction traffic should be restricted to specific areas of the site, preferably areas that are surfaced with working pad materials not susceptible to wet weather disturbance.
- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practical.
- Protective surfacing such as placing asphalt-treated base (ATB) or haul roads made of quarry spalls or a layer of free-draining material such as well graded pit-run sand and gravel may be necessary to protect completed areas. Typically, minimum gravel thicknesses on the order of 24 inches are necessary to provide adequate subgrade protection.
- During periods of wet weather, concrete should be placed as soon as practical after preparation of the footing excavations. Foundation bearing surfaces should not be exposed to standing water. Should water infiltrate and pool in the excavation, it should be removed before placing structural fill or reinforcing steel. Subgrade protection for foundations consisting of a lean concrete mat should be considered if footing excavations are exposed to extended wet weather conditions.

Fill Materials

General

Material used for structural fill should be free of debris, organic contaminants and rock fragments larger than 6 inches. The workability of material for use as structural fill will depend on the

gradation and moisture content of the soil. As the amount of fines increases, soil becomes increasingly more sensitive to small changes in moisture content. We recommend that select granular fill or crushed rock be used for structural fill during the rainy season. If prolonged dry weather prevails during the earthwork phase of construction, materials with a somewhat higher fines content may be acceptable. The following paragraphs summarize the material requirements for fill and backfill.

Select Granular Fill

We recommend select granular fill for construction during wet weather conditions, consist of well-graded sand and gravel or crushed rock with a maximum particle size of 6 inches and less than 5 percent fines by weight based on the minus 3/4-inch fraction. Organic matter, debris or other deleterious material should not be present. In our opinion, material conforming to Washington State Department of Transportation (WSDOT) Specification 9-03.9 (Aggregates for Ballast and Crushed Surfacing), 9-03.10 (Aggregate for Gravel Base), or 9-03.14 (Borrow) is suitable for use as import fill material during wet weather with the exception that the fines content should be less than 5 percent based on the minus 3/4-inch fraction. In addition, some larger particle sizes are acceptable, as described above.

On-Site Soil

During dry weather and periods of light rain fall any non-organic on-site soil may be considered for use as fill provided it meets the criteria described above and can be compacted as recommended. When the fines content in the soil exceeds about 5 percent, the soil becomes more sensitive to moisture. Portions of the on-site soil contain enough fines to be moisture sensitive and may not be suitable for use as fill during extended periods of wet weather and/or if exposed to wet conditions. Even when properly compacted, this material can be easily disturbed and will soften when exposed to moisture. Based on our subsurface explorations, on-site material will typically not be suitable for use as drainage material, for use behind retaining walls or as a capillary break material.

Fill Placement and Compaction

General

To obtain proper compaction, fill soil should be compacted near optimum moisture content and in uniform horizontal lifts. Lift thickness and compaction procedures will depend on the moisture content and gradation characteristics of the soil and the type of equipment used. The maximum allowable moisture content varies with the soil gradation and should be evaluated during construction. Silty soil and other fine granular soil may be difficult or impossible to compact during persistent wet conditions. Generally, 12-inch loose lifts are appropriate for steel-drum vibratory roller compaction equipment. Compaction should be achieved by mechanical means. During fill and backfill placement, sufficient testing of in-place density should be conducted to check that adequate compaction is being achieved.

Area Fills and Bases

Fill placed to raise site grades and materials under pavements should be placed on subgrades prepared as previously recommended. In general, area fills and bases should be compacted to at

least 95 percent of the maximum dry density (MDD) determined by ASTM International (ASTM) Test Method D 1557 (modified Proctor).

Trench Backfill

For utility excavations, we recommend that the initial lift of fill over the pipe be thick enough to reduce the potential for damage during compaction but generally should not be greater than about 18 inches. In addition, rock fragments greater than about 1 inch in maximum dimension should be excluded from this lift.

In paved and structural areas, trench backfill should be uniformly compacted in horizontal lifts to at least 95 percent of the MDD in the upper 2 feet below subgrade. Fill placed below a depth of 2 feet from subgrade in paved areas must be compacted to at least 90 percent of the MDD. In nonstructural areas, trench backfill should be compacted to a firm condition that will support construction equipment, as necessary.

Seismic Design Considerations

General

The site is located within the Puget Sound region, which is seismically active. Seismicity in this region is attributed primarily to the interaction between the Pacific, Juan de Fuca, and North American plates. The Juan de Fuca plate is subducting beneath the North American plate. It is thought that the resulting deformation and breakup of the Juan de Fuca plate might account for the deep focus earthquakes in the region. Hundreds of earthquakes have been recorded in the Puget Sound area. In recent history, four of these earthquakes were large events: 1) in 1946, a Richter magnitude 7.2 earthquake occurred in the Vancouver Island, British Columbia area; 2) in 1949, a Richter magnitude 7.1 earthquake occurred in the Olympia area; 3) in 1965, a Richter magnitude 6.5 earthquake occurred between Seattle and Tacoma; and 4) on February 28, 2001, a magnitude 6.8 earthquake occurred at Nisqually near Olympia.

Research is currently underway regarding historical large magnitude subduction-related earthquake activity along the Washington and Oregon coasts. Geologists are reporting evidence that suggests several large magnitude earthquakes (Richter magnitude 8 to 9) have occurred in the last 1,500 years, the most recent of which occurred about 300 years ago. No earthquakes of this magnitude have been documented during the recorded history of the Pacific Northwest. Local design practice in Puget Sound assumes that the magnitude felt from such an earthquake is about the same as from the existing design earthquake because of the distance.

Seismic Design Criteria

Seismic design may be performed using the equivalent static force procedure outlined in the 2009 IBC using the design parameters provided below.

TABLE 2. SEISMIC DESIGN PARAMETERS

2009 IBC
Spectral Response Accel. at Short Periods (SS) = 1.18
Spectral Response Accel. at 1 Second Periods (S1) = 0.42
Site Class = C
Site Coefficient (FA) = 1.0
Site Coefficient (FV) = 1.38

Liquefaction Potential

Liquefaction refers to a condition where vibration or shaking of the ground, usually from earthquake forces, results in development of excess pore pressures in loose, saturated soils and subsequent loss of strength in the deposit of soil so affected. In general, soils that are susceptible to liquefaction include loose to medium dense "clean" to silty sands that are below the water table. In our opinion, the potential for liquefaction at this site is low.

Shallow Foundations

Foundation Support

Proposed structures can be satisfactorily founded on continuous wall or isolated column footings supported on undisturbed native soils, or on structural fill placed over native soils. If the bearing surface is loose or disturbed it must be compacted to a dense, unyielding condition and the loose soil removed and replaced with compacted structural fill. The exterior footings should be established at least 18 inches below the lowest adjacent grade. The recommended minimum footing depth is greater than the anticipated frost depth. Interior footings can be founded a minimum of 12 inches below the top of the floor slab. Isolated column and continuous wall footings should have minimum widths of 24 and 18 inches, respectively.

Bearing Capacity

We recommend that footings founded as recommended be proportioned using an allowable soil bearing pressure of 3,500 pounds per square foot (psf). The allowable soil bearing pressure may be increased to 4,500 psf for footings greater than 4 feet in width. The bearing pressures apply to the total of dead and long-term live loads and may be increased by one third when considering total loads, including earthquake or wind loads. These are net bearing pressures. The weight of the footing and overlying backfill can be ignored in calculating footing sizes.

Footing Bearing Surface Preparation

Footing excavations should be performed using a smooth-edged bucket to limit bearing surface disturbance. The foundation bearing surface should be recompacted as necessary to a dense, non-yielding condition. Loose or disturbed materials present at the base of footing excavations should be removed or compacted. Foundation bearing surfaces should not be exposed to standing water. Should water infiltrate and pool in the excavation, it should be removed before placing structural fill or reinforcing steel.

We recommend that a member from our firm observe foundation excavations before placing reinforcing steel in order to confirm that adequate bearing surfaces have been prepared or provide recommendations for removal of unsuitable soil. Unsuitable bearing materials should be recompacted or removed and replaced with compacted structural fill as recommended by the geotechnical engineer.

Foundation Settlement

We estimate that settlement of footings designed and constructed as recommended will be less than 1 inch, for an assumed loading condition of up to 300 kips per column. Differential settlements between comparably loaded isolated column footings or along 50 feet of continuous footing should be less than 1/2 inch. Settlement is expected to occur rapidly as loads are applied. Settlements could be larger than estimated if footings are placed on loose or disturbed soil.

Lateral Resistance

The ability of the soil to resist lateral loads is a function of frictional resistance, which can develop on the base of footings and slabs and the passive resistance, which can develop on the face of below-grade elements of the structure as these elements tend to move into the soil. For footings and floor slabs founded in accordance with the recommendations presented above, the allowable frictional resistance may be computed using a coefficient of friction of 0.40 applied to vertical dead-load forces. The allowable passive resistance on the face of footings, grade beams or other embedded foundation elements may be computed using an equivalent fluid density of 300 pounds per cubic foot (pcf) for undisturbed on-site soils or structural fill extending out from the face of the foundation element a distance at least equal to two and one-half times the depth of the element.

The passive earth pressure and friction components may be combined provided that the passive component does not exceed two-thirds of the total. The passive earth pressure value is based on the assumptions that the adjacent grade is level and that groundwater remains below the base of the footing throughout the year. The top foot of soil should be neglected when calculating passive lateral earth pressures unless the foundation area is covered with pavement or slab-on-grade. The lateral resistance values include a safety factor of approximately 1.5.

Conventional Subgrade and Retaining Walls

Drainage

Positive drainage is imperative behind any retaining structure. This can be accomplished by providing a zone of free-draining material behind the wall with perforated pipes to collect seepage water. The drainage material should consist of coarse sand and gravel containing less than 5 percent fines based on the fraction of material passing the 3/4-inch sieve. The wall drainage zone should extend horizontally at least 18 inches from the back of the wall.

Perforated smooth-walled rigid PVC pipe having a minimum diameter of 4 inches should be placed at the bottom of the drainage zone along the entire length of the wall, with the pipe invert at or below the elevation of the base of the wall footing. The drainpipes should discharge to a tightline leading to an appropriate collection and disposal system. An adequate number of cleanouts should be incorporated into the design of the drains in order to provide access for regular

maintenance. In general, roof downspouts, perimeter drains or other types of drainage systems should not be connected to retaining wall drain systems.

Design Parameters

The pressures presented assume that backfill placed within 2 feet of the wall is compacted by hand-operated equipment to a density of 90 percent of the MDD and that wall drainage measures are included as previously recommended. For walls constructed as described above, we recommend using an active lateral earth pressure corresponding to an equivalent fluid density of 35 pcf for the level backfill condition. For walls with backfill sloping upward behind the wall at 2H to 1V, an equivalent fluid density of 55 pcf should be used. This assumes that the tops of the walls are not structurally restrained and are free to rotate. For the at-rest condition (walls restrained from movement at the top) an equivalent fluid density of 55 pcf should be used for design. For seismic conditions, we recommend a uniform lateral pressure of 6H (where H is the height of the wall) psf be added to these lateral pressures. Note that if the retaining system is designed as a braced system but is expected to yield a small amount during a seismic event, an active earth pressure condition may be assumed and combined with the uniform seismic surcharge pressure.

The recommended pressures do not include the effects of surcharges from surface loads. If vehicles will be operated within one-half the height of the wall, a traffic surcharge should be added to the wall pressure. The traffic surcharge can be approximated by the equivalent weight of an additional 2 feet of backfill behind the wall. Additional surcharge loading conditions should also be considered on a case-by-case basis.

Retaining walls founded on native soil or structural fill extending to these materials may be designed using the allowable soil bearing values and lateral resistance values presented above in the "Shallow Foundations" section of this report. We estimate settlement of retaining structures will be similar to the values previously presented for building foundations.

Building Pads and Floor Slabs

A modulus of subgrade reaction of 300 pounds per cubic inch (pci) can be used for designing the building floor slab provided that the subgrade consists of dense native soil or structural fill and has been prepared in accordance with the "Site Development and Earthwork" section of this report. Settlement for floor slabs designed and constructed as recommended are estimated to be less than 3/4 inch for a floor load of 500 psf. We estimate that differential settlement of floor slabs will be 1/2 inch or less over a span of 50 feet providing that the fill below the slab is compacted as specified. The subgrade soils are non-expansive, so heave is not anticipated beneath the floor slab.

We recommend that on-grade slabs be underlain by a minimum 6-inch-thick capillary break layer to reduce the potential for moisture migration into the slab. The capillary break material should consist of a well-graded sand and gravel or crushed rock with a maximum particle size of 3/4 inch and less than 5 percent fines. The material should be placed as recommended in the "Fill Placement and Compaction" section of this report. If dry slabs are required (e.g., where adhesives are used to anchor carpet or tile to the slab), a waterproof liner may be placed as a vapor barrier below the slab.

Pavement Recommendations

Asphaltic Concrete Pavement

Pavement subgrades and fill should be prepared and placed as previously described. The crushed rock base course should be moisture conditioned near the optimum moisture content and compacted to at least 95 percent of the MDD determined in accordance with ASTM D 1557 test procedures. An appropriate number of in-place density tests should be conducted on the compacted base course to check that adequate compaction has been obtained. Crushed rock base course should conform to applicable sections of 4-04 and 9-03.9(3) of the WSDOT Standards.

For this project, we based the recommended pavement sections described below on an assumed in-situ California Bearing Ratio (CBR) between 15 and 20. The heavy-duty pavement section thickness is based on a traffic loading of about 1,000,000, 18-kip equivalent single-axle loads (ESALs); we used a design life of 10 years. The standard-duty section is appropriate for areas that will not be exposed to heavy truck loads. Hot mix asphalt (HMA) should conform to applicable sections of 5-04, 9-02 and 9-03 of the WSDOT Standards. The recommended pavement sections assume that final improvements surrounding the pavement will be designed and constructed such that stormwater or excess irrigation water from landscape areas does not infiltrate below the pavement section into the crushed base.

STANDARD-DUTY ASPHALTIC CONCRETE PAVEMENT

- 2 inches of hot mix asphalt.
- 3 inches of crushed surfacing base course and/or top course compacted as recommended.
- 12 inches compacted depth of native subgrades and/or existing fill compacted to 95 percent MDD (ASTM D 1557) and in a firm and unyielding condition.

HEAVY-DUTY ASPHALTIC CONCRETE PAVEMENT

- 3 inches of hot mix asphalt.
- 4 inches of crushed surfacing base course and/or top course compacted as recommended.
- 12 inches compacted depth of native subgrades and/or existing fill at 95 percent MDD (ASTM D 1557) and in a firm and unyielding condition.

LIMITATIONS

We have prepared this report for the exclusive use by Creekside DuPont Partners, LLC and their authorized agents for the DuPont Apartment Complex/Lot X to be located west of the intersection of Center Drive and Power Line Road in DuPont, Washington. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.



T19N, R 1W, Section 26
USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

N
W E
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Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

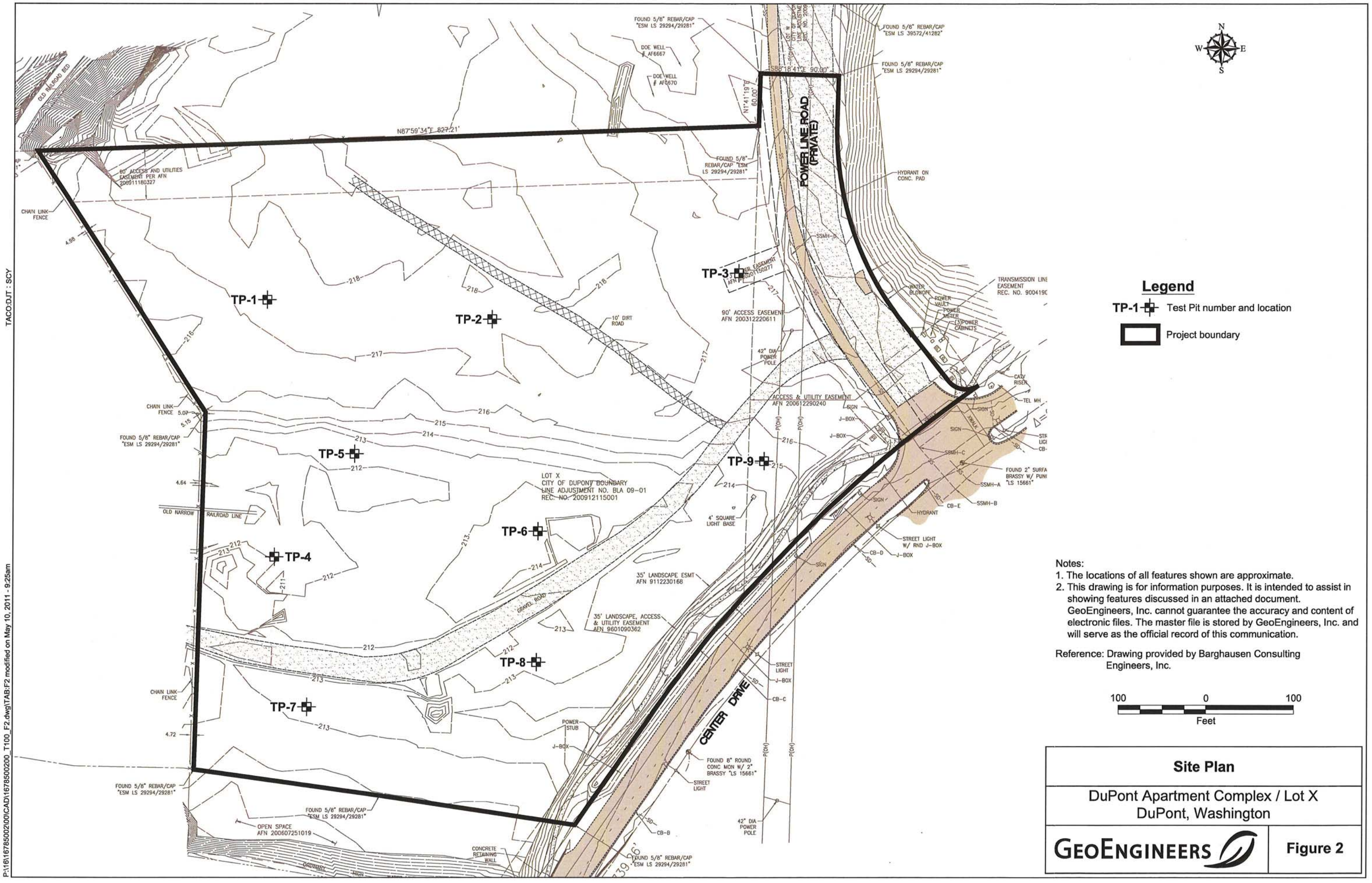
Vicinity Map

DuPont Apartment Complex / Lot X
DuPont, Washington

GeoEngineers

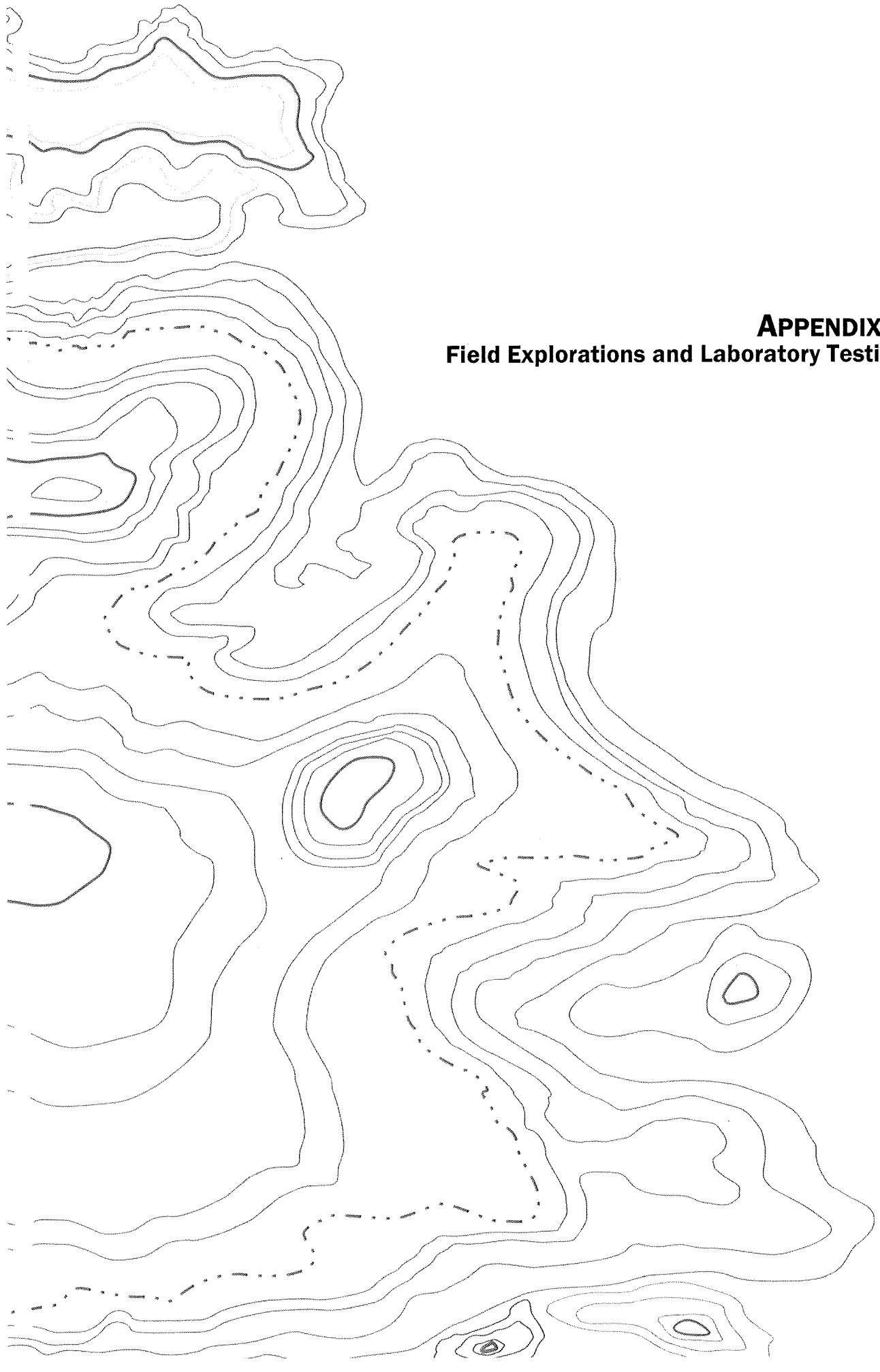
Figure 1

Office: Tacoma Path: W:\Tacoma\Projects\16116785002\GIS\16785000200_F1.mxd Map Revised: 05/11/2011 EL:SCY



TACO:DJT : SCY

P:\1\61\67850\200\CAD\1678500200_T100_F2.dwg\TAB:F2 modified on May 10, 2011 - 9:25am



APPENDIX A
Field Explorations and Laboratory Testing

APPENDIX A
FIELD EXPLORATIONS AND LABORATORY TESTING

Subsurface Explorations

Soil and groundwater conditions at the proposed development site were explored by excavating nine test pits on August 26, 2010. Subsurface exploratory services were subcontracted to GeoEngineers, Inc. The test pit explorations extended to depths between 10 and 12 feet below surrounding site grades.

The locations of the test pits were determined by electronic global positioning system (GPS) where available and by pacing and visual triangulation from existing site features such as roadways and property corners.. The elevations presented on the test pit logs are based on a site plan obtained from Barghausen Consulting Engineers. The locations and elevations of the explorations should be considered approximate. Locations of the explorations are provided on the Site Plan, Figure 2.

Our field representative obtained samples, classified the soils, maintained a detailed log of each exploration and observed groundwater conditions where applicable. The samples were retained in sealed plastic bags to prevent moisture loss. The soils were classified visually in general accordance with the system described in Figure A-1, which includes a key to the exploration logs. Summary logs of the explorations are included as Figures A-2 through A-10. The densities noted on the test pit exploration logs are based on the difficulty of excavation, observations of caving and our experience and judgment.

Laboratory Testing

Soil samples obtained from the test pits were transported to our laboratory and examined to confirm or modify field classifications, as well as to evaluate engineering properties of the soil. Representative samples were selected for laboratory testing. Laboratory testing included moisture content determination conducted in general accordance with ASTM International (ASTM) D 2216 and grain-size analyses conducted in general accordance with ASTM C 136. The sample test depths and moisture content test results are shown on the exploration logs. Sieve analysis results are presented in Figures A-11 and A-12.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	CC	Cement Concrete
	AC	Asphalt Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Measured groundwater level in exploration, well, or piezometer

Groundwater observed at time of exploration

Perched water observed at time of exploration

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE A-1

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
217					DUFF		3 inches duff		
	1	X	1		SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist)		
216					GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
	2	X	2						
215									
	3								
214		X	3						
	4								
213									
	5								
212		X	4						
	6								
211									
	7								
210		X	5 SA		GP-GM		Brown fine to coarse gravel with silt and sand, occasional cobbles (dense, moist)	4	
	8								
209									
	9								
208		X	6						
	10								
207									
	11								
206		X	7						
	12								

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-1

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-2
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002000.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name / Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
217	0				DUFF		3 inches duff		
		X	1		SM		Dark brown silty fine to coarse sand with gravel, occasional cobbles (medium dense, moist)		
216	1				GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
		X	2						
215	2								
214	3								
213	4								
212	5								
		X	3 SA					3	
211	6								
210	7								
209	8								
208	9								
		X	4						
207	10								
206	11								
		X	5						
	12								

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at 8+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-2

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-3
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002OO.GPJ DBTemplate\LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
216	1	X	1		GP-GM		Gray fine to coarse gravel with silt and sand, occasional cobbles (medium dense, moist) (fill)		
215	2	X	2		SM		Dark brown silty fine to coarse sand with gravel, occasional cobbles, trace organics (medium dense, moist)		
214	3				GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
213	4	X	3						
212	5								
211	6	X	4 SA					3	
210	7								
209	8	X	5						
208	9								
207	10								
206	11								
205	12	X	6						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-3

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-4
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002OO.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 10.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
211	1		1		DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel (medium dense, moist)		
					GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
210	2								
209	3								
208	4		2						
207	5								
206	6		3						
205	7								
204	8								
203	9								
202	10		4						

Test pit completed at 10 feet on 8/26/10
No groundwater seepage observed
Minor caving observed at 6+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-4

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-5
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT\GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 10.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
212	0				DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist)		
211	1				GW		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
210	2								
	3	X	1						
209		X	2 SA					2	
208	4								
	5								
207		X	3						
206	6								
	7								
205	8								
204	9								
203	10	X	4						

Test pit completed at 10 feet on 8/26/10
No groundwater seepage observed
Minor caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-5

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-6
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002200.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 10.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
213					SOD		3 inches sod		
					SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist) (topsoil)		
212	1				GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
211	2	X	1						
210	3								
209	4								
208	5	X	2						
207	6								
206	7								
205	8	X	3						
204	9								
	10	X	4						

Test pit completed at 10 feet on 8/26/10
No groundwater seepage observed
Minor caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-6

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-7
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002OO.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
212	1	X	1		DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel (medium dense, moist)		
211	2				GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
210	3	X	2						
209	4								
208	5								
207	6	X	3 SA					3	
206	7								
205	8	X	4						
204	9								
203	10	X	5						
202	11								
201	12	X	6						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-7

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-8
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
212	0				DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist) (topsoil)		
211	1				GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
210	2	X	1						
209	3								
208	4								
207	5	X	2						
206	6								
205	7				GW		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
	8	X	3 SA					4	
204	9								
203	10	X	4						
202	11								
201	12	X	5						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-8

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-9
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	Sample: Testing Sample	Sample: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
					DUFF		3 inches duff		
214	1	X	1		SM		Dark brown silty fine to coarse sand with gravel (medium dense, moist) (topsoil)		
					GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
213	2	X	2						
212	3								
211	4								
210	5								
209	6	X	3 SA					3	
208	7				SP		Brown fine to coarse sand with gravel, trace silt (dense, moist)		
207	8	X	4 SA					5	
206	9								
205	10	X	5						
204	11						Grades to without gravel		
203	12	X	6						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-9

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-10
Sheet 1 of 1

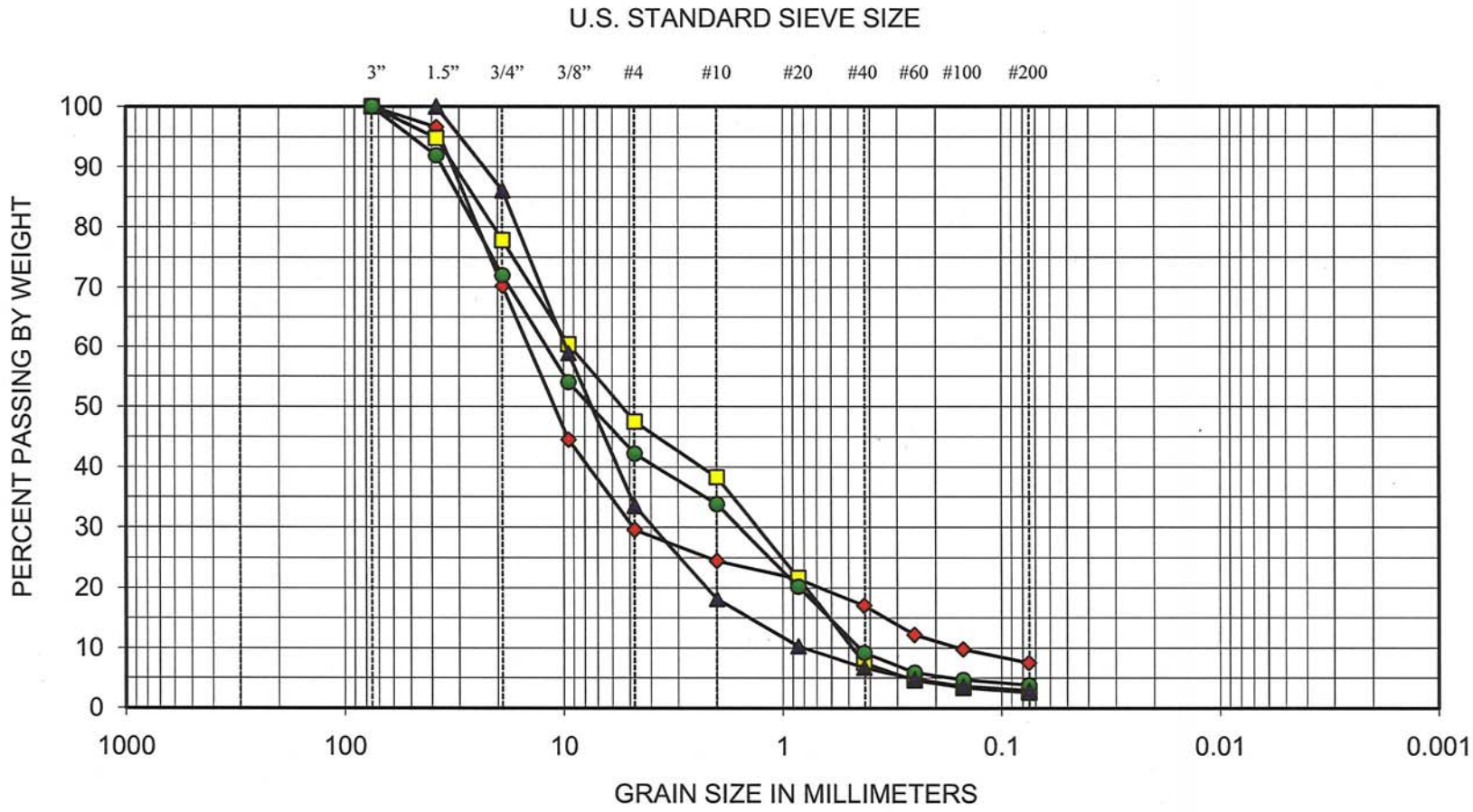
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16785-002-00 MJH:AMD:tt 051011

GeoEngineers

SIEVE ANALYSIS RESULTS

FIGURE A-11



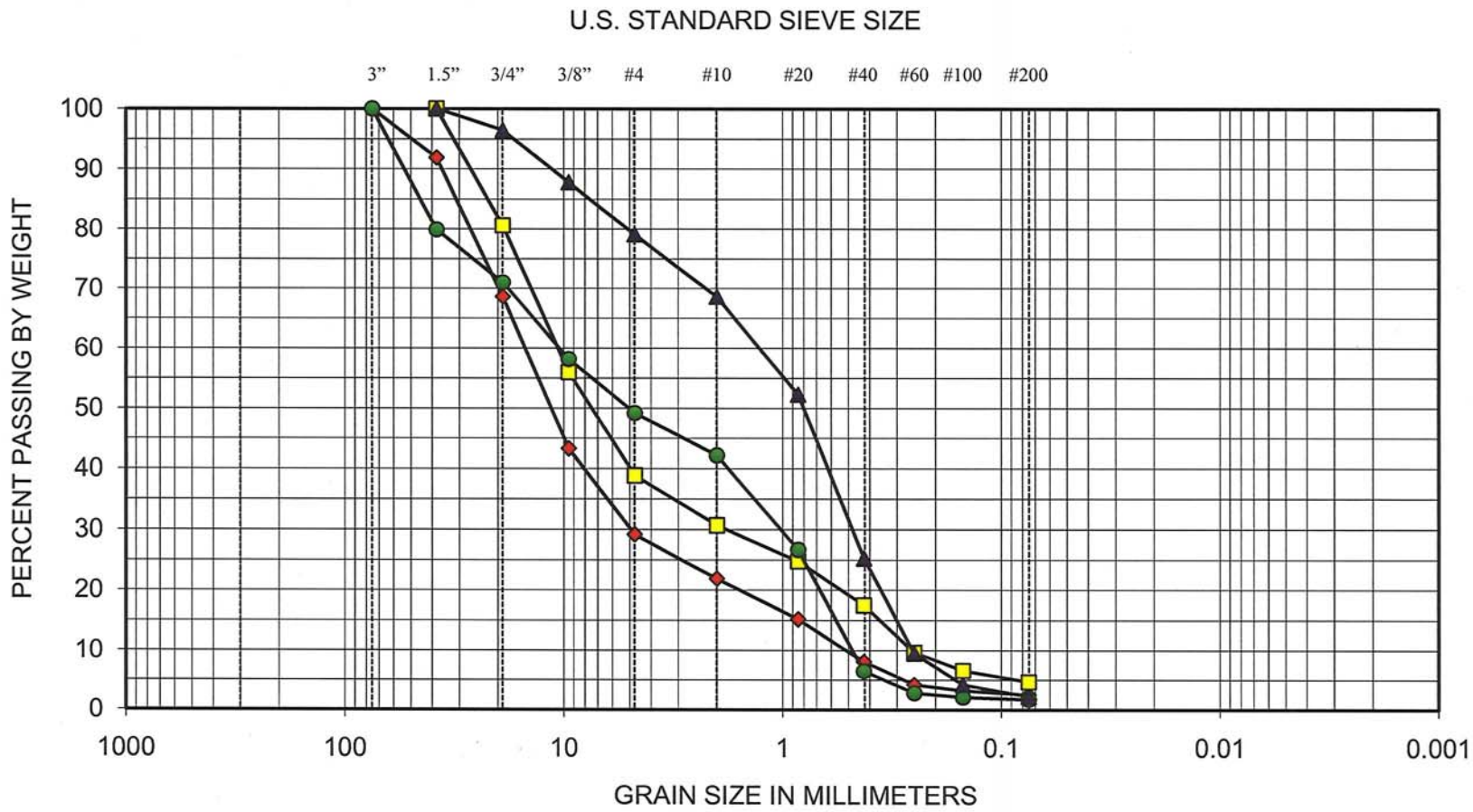
BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	

SYMBOL	EXPLORATION NUMBER	DEPTH (ft)	SOIL CLASSIFICATION
◆	TP-1	7.5	Gravel with silt and sand (GP-GM)
■	TP-2	5.5	Gravel with sand (GP)
●	TP-3	5.5	Gravel with sand (GP)
▲	TP-5	3.5	Gravel with sand (GW)

GEOENGINEERS

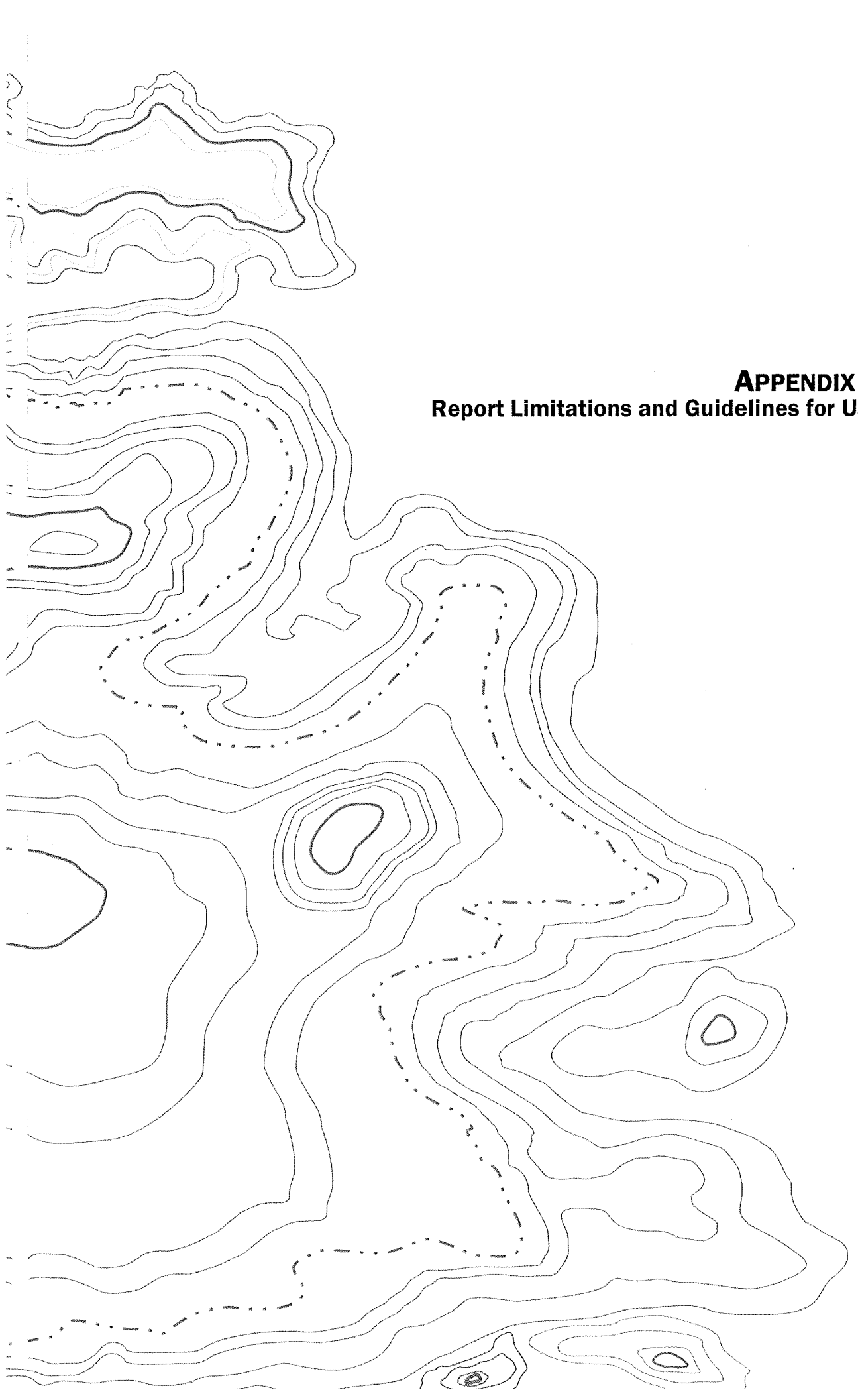
FIGURE A-12

SIEVE ANALYSIS RESULTS



BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	

SYMBOL	EXPLORATION NUMBER	DEPTH (ft)	SOIL CLASSIFICATION
◆	TP-7	5.5	Gravel with sand (GP)
■	TP-8	7.5	Gravel with sand (GW)
●	TP-9	5.5	Gravel with sand (GP)
▲	TP-9	7.5	Sand with gravel (SP)



APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Geotechnical Services are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of Creekside DuPont Partners, LLC and their authorized agents. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, a geotechnical or geologic study conducted for a civil engineer or architect may not fulfill the needs of a construction contractor or even another civil engineer or architect that are involved in the same project. Because each geotechnical or geologic study is unique, each geotechnical engineering or geologic report is unique, prepared solely for the specific client and project site. Our report is prepared for the exclusive use of our Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted geotechnical practices in this area at the time this report was prepared. This report should not be applied for any purpose or project except the one originally contemplated.

A Geotechnical Engineering or Geologic Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the DuPont Apartment Complex/Lot X. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;

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[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

- composition of the design team; or
- project ownership.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying a report to determine if it remains applicable.

Topsoil

For the purposes of this report, we consider topsoil to consist of generally fine-grained soil with an appreciable amount of organic matter based on visual examination, and to be unsuitable for direct support of the proposed improvements. However, the organic content and other mineralogical and gradational characteristics used to evaluate the suitability of soil for use in landscaping and agricultural purposes was not determined, nor considered in our analyses. Therefore, the information and recommendations in this report, and our logs and descriptions should not be used as a basis for estimating the volume of topsoil available for such purposes.

Most Geotechnical and Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

Do not over-rely on the preliminary construction recommendations included in this report. These recommendations are not final, because they were developed principally from GeoEngineers' professional judgment and opinion. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for this report's recommendations if we do not perform construction observation.

Sufficient monitoring, testing and consultation by GeoEngineers should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether or not earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction

observation for this project is the most effective method of managing the risks associated with unanticipated conditions.

A Geotechnical Engineering or Geologic Report Could be Subject to Misinterpretation

Misinterpretation of this report by other design team members can result in costly problems. You could lower that risk by having GeoEngineers confer with appropriate members of the design team after submitting the report. Also retain GeoEngineers to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering or geologic report. Reduce that risk by having GeoEngineers participate in pre-bid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Give Contractors a Complete Report and Guidance

Some owners and design professionals believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering or geologic report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer. A pre-bid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might an owner be in a position to give contractors the best information available, while requiring them to at least share the financial responsibilities stemming from unanticipated conditions. Further, a contingency for unanticipated conditions should be included in your project budget and schedule.

Contractors are Responsible for Site Safety on their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and to adjacent properties.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers

if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic and Environmental Reports Should not be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention, or assessment of the presence of Biological Pollutants in or around any structure. Accordingly, this report includes no interpretations, recommendations, findings, or conclusions for the purpose of detecting, preventing, assessing, or abating Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

8.0 OTHER PERMITS

8.0 OTHER PERMITS

Other permits for this project site include:

- NPDES General Permit from the Department of Ecology for construction on sites with areas of disturbance over an acre of land which this site qualifies for
- Site Development Permit
- Clear and Grade Permit
- Building Permit
- Right-of-Way Use Permit
- Forest Practices Permit
- Water Line Extension Permit
- Sanitary Sewer Extension Permit

9.0 OPERATIONS AND MAINTENANCE MANUAL

No. 2 – Infiltration

Maintenance Component	Defect	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
General	Trash & Debris	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
	Poisonous/Noxious Vegetation	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
	Contaminants and Pollution	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
	Rodent Holes	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1)
Storage Area	Sediment	Water ponding in infiltration pond after rainfall ceases and appropriate time allowed for infiltration. Treatment basins should infiltrate Water Quality Design Storm Volume within 48 hours, and empty within 24 hours after cessation of most rain events. (A percolation test pit or test of facility indicates facility is only working at 90% of its designed capabilities. Test every 2 to 5 years. If two inches or more sediment is present, remove).	Sediment is removed and/or facility is cleaned so that infiltration system works according to design.
Filter Bags (if applicable)	Filled with Sediment and Debris	Sediment and debris fill bag more than 1/2 full.	Filter bag is replaced or system is redesigned.
Rock Filters	Sediment and Debris	By visual inspection, little or no water flows through filter during heavy rain storms.	Gravel in rock filter is replaced.
Side Slopes of Pond	Erosion	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
Emergency Overflow Spillway and Berms over 4 feet in height.	Tree Growth	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
	Piping	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
Emergency Overflow Spillway	Rock Missing	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
	Erosion	See "Detention Ponds" (No. 1).	See "Detention Ponds" (No. 1).
Pre-settling Ponds and Vaults	Facility or sump filled with Sediment and/or debris	6" or designed sediment trap depth of sediment.	Sediment is removed.

No. 3 – Closed Detention Systems (Tanks/Vaults)

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Storage Area	Plugged Air Vents	One-half of the cross section of a vent is blocked at any point or the vent is damaged.	Vents open and functioning.
	Debris and Sediment	Accumulated sediment depth exceeds 10% of the diameter of the storage area for 1/2 length of storage vault or any point depth exceeds 15% of diameter. (Example: 72-inch storage tank would require cleaning when sediment reaches depth of 7 inches for more than 1/2 length of tank.)	All sediment and debris removed from storage area.
	Joints Between Tank/Pipe Section	Any openings or voids allowing material to be transported into facility. (Will require engineering analysis to determine structural stability).	All joint between tank/pipe sections are sealed.
	Tank Pipe Bent Out of Shape	Any part of tank/pipe is bent out of shape more than 10% of its design shape. (Review required by engineer to determine structural stability).	Tank/pipe repaired or replaced to design.
	Vault Structure Includes Cracks in Wall, Bottom, Damage to Frame and/or Top Slab	Cracks wider than 1/2-inch and any evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determines that the vault is not structurally sound. Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or any evidence of soil particles entering the vault through the walls.	Vault replaced or repaired to design specifications and is structurally sound. No cracks more than 1/4-inch wide at the joint of the inlet/outlet pipe.
Manhole	Cover Not in Place	Cover is missing or only partially in place. Any open manhole requires maintenance.	Manhole is closed.
	Locking Mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread (may not apply to self-locking lids).	Mechanism opens with proper tools.
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying normal lifting pressure. Intent is to keep cover from sealing off access to maintenance.	Cover can be removed and reinstalled by one maintenance person.
	Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, misalignment, not securely attached to structure wall, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Catch Basins	See “Catch Basins” (No. 5)	See “Catch Basins” (No. 5).	See “Catch Basins” (No. 5).

No. 4 – Control Structure/Flow Restrictor

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Trash and Debris (Includes Sediment)	Material exceeds 25% of sump depth or 1 foot below orifice plate.	Control structure orifice is not blocked. All trash and debris removed.
	Structural Damage	Structure is not securely attached to manhole wall.	Structure securely attached to wall and outlet pipe.
		Structure is not in upright position (allow up to 10% from plumb).	Structure in correct position.
		Connections to outlet pipe are not watertight and show signs of rust.	Connections to outlet pipe are water tight; structure repaired or replaced and works as designed.
		Any holes--other than designed holes--in the structure.	Structure has no holes other than designed holes.
Cleanout Gate	Damaged or Missing	Cleanout gate is not watertight or is missing.	Gate is watertight and works as designed.
		Gate cannot be moved up and down by one maintenance person.	Gate moves up and down easily and is watertight.
		Chain/rod leading to gate is missing or damaged.	Chain is in place and works as designed.
		Gate is rusted over 50% of its surface area.	Gate is repaired or replaced to meet design standards.
Orifice Plate	Damaged or Missing	Control device is not working properly due to missing, out of place, or bent orifice plate.	Plate is in place and works as designed.
	Obstructions	Any trash, debris, sediment, or vegetation blocking the plate.	Plate is free of all obstructions and works as designed.
Overflow Pipe	Obstructions	Any trash or debris blocking (or having the potential of blocking) the overflow pipe.	Pipe is free of all obstructions and works as designed.
Manhole	See “Closed Detention Systems” (No. 3).	See “Closed Detention Systems” (No. 3).	See “Closed Detention Systems” (No. 3).
Catch Basin	See “Catch Basins” (No. 5).	See “Catch Basins” (No. 5).	See “Catch Basins” (No. 5).

No. 5 – Catch Basins

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is performed
General	Trash & Debris	Trash or debris which is located immediately in front of the catch basin opening or is blocking inletting capacity of the basin by more than 10%.	No Trash or debris located immediately in front of catch basin or on grate opening.
		Trash or debris (in the basin) that exceeds 60 percent of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin, but in no case less than a minimum of six inches clearance from the debris surface to the invert of the lowest pipe.	No trash or debris in the catch basin.
		Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height.	Inlet and outlet pipes free of trash or debris.
		Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	No dead animals or vegetation present within the catch basin.
	Sediment	Sediment (in the basin) that exceeds 60 percent of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin, but in no case less than a minimum of 6 inches clearance from the sediment surface to the invert of the lowest pipe.	No sediment in the catch basin
	Structure Damage to Frame and/or Top Slab	Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch (Intent is to make sure no material is running into basin).	Top slab is free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab. Frame not securely attached	Frame is sitting flush on the riser rings or top slab and firmly attached.
	Fractures or Cracks in Basin Walls/ Bottom	Maintenance person judges that structure is unsound.	Basin replaced or repaired to design standards.
		Grout fillet has separated or cracked wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	Pipe is regrouted and secure at basin wall.
	Settlement/ Misalignment	If failure of basin has created a safety, function, or design problem.	Basin replaced or repaired to design standards.
	Vegetation	Vegetation growing across and blocking more than 10% of the basin opening.	No vegetation blocking opening to basin.
		Vegetation growing in inlet/outlet pipe joints that is more than six inches tall and less than six inches apart.	No vegetation or root growth present.
	Contamination and Pollution	See "Detention Ponds" (No. 1).	No pollution present.

No. 5 – Catch Basins

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is performed
Catch Basin Cover	Cover Not in Place	Cover is missing or only partially in place. Any open catch basin requires maintenance.	Catch basin cover is closed
	Locking Mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.	Mechanism opens with proper tools.
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying normal lifting pressure. (Intent is keep cover from sealing off access to maintenance.)	Cover can be removed by one maintenance person.
Ladder	Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.	Ladder meets design standards and allows maintenance person safe access.
Metal Grates (If Applicable)	Grate opening Unsafe	Grate with opening wider than 7/8 inch.	Grate opening meets design standards.
	Trash and Debris	Trash and debris that is blocking more than 20% of grate surface inletting capacity.	Grate free of trash and debris.
	Damaged or Missing.	Grate missing or broken member(s) of the grate.	Grate is in place and meets design standards.

No. 6 – Debris Barriers (e.g., Trash Racks)

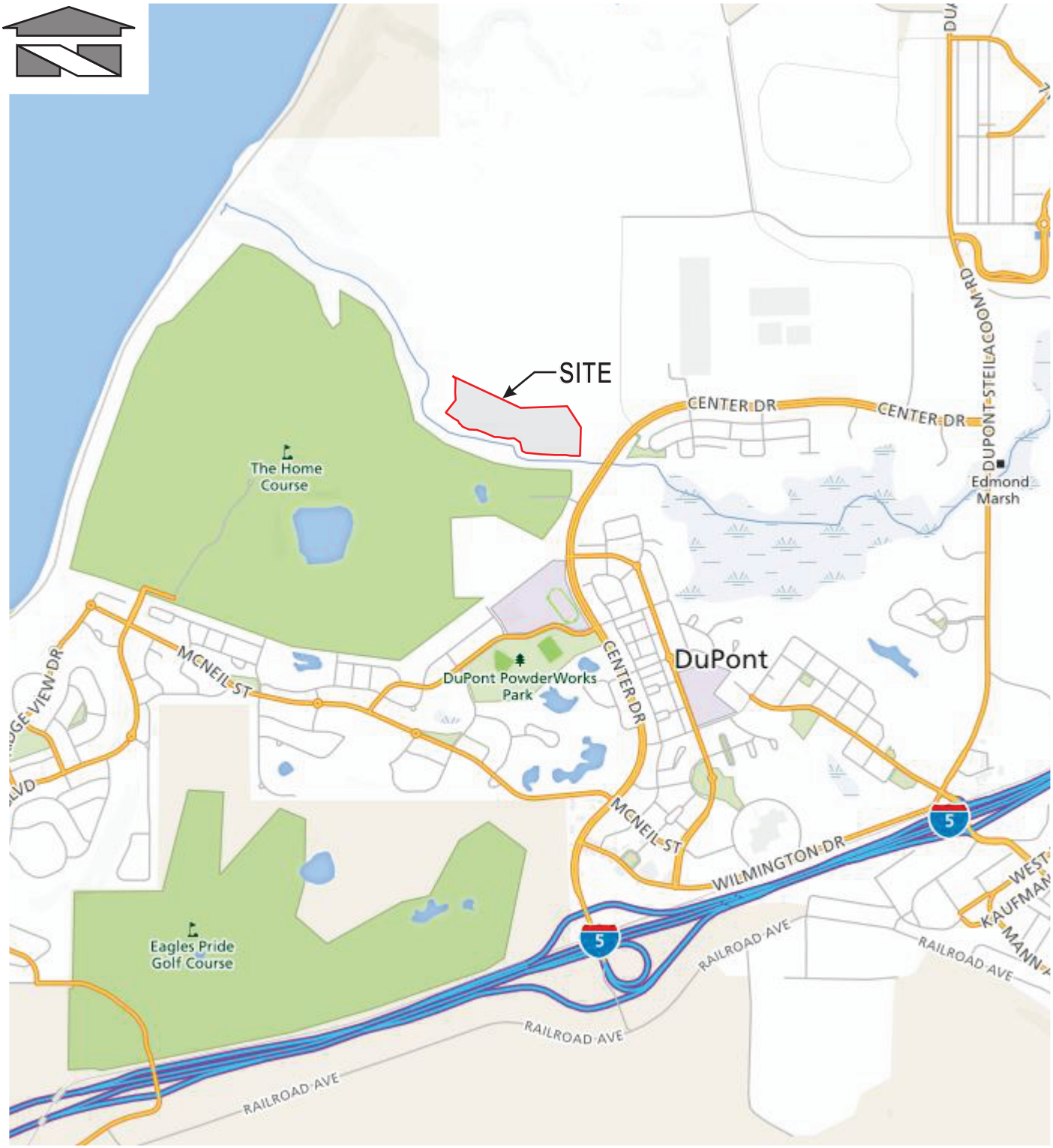
Maintenance Components	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Trash and Debris	Trash or debris that is plugging more than 20% of the openings in the barrier.	Barrier cleared to design flow capacity.
Metal	Damaged/ Missing Bars.	Bars are bent out of shape more than 3 inches.	Bars in place with no bends more than 3/4 inch.
		Bars are missing or entire barrier missing.	Bars in place according to design.
		Bars are loose and rust is causing 50% deterioration to any part of barrier.	Barrier replaced or repaired to design standards.
	Inlet/Outlet Pipe	Debris barrier missing or not attached to pipe	Barrier firmly attached to pipe

No. 15 – Manufactured Media Filters)

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Below Ground Vault	Sediment Accumulation on Media.	Sediment depth exceeds 0.25-inches.	No sediment deposits which would impede permeability of the compost media.
	Sediment Accumulation in Vault	Sediment depth exceeds 6-inches in first chamber.	No sediment deposits in vault bottom of first chamber.
	Trash/Debris Accumulation	Trash and debris accumulated on compost filter bed.	Trash and debris removed from the compost filter bed.
	Sediment in Drain Pipes/Clean-Outs	When drain pipes, clean-outs, become full with sediment and/or debris.	Sediment and debris removed.
	Damaged Pipes	Any part of the pipes that are crushed or damaged due to corrosion and/or settlement.	Pipe repaired and/or replaced.
	Access Cover Damaged/Not Working	Cover cannot be opened; one person cannot open the cover using normal lifting pressure, corrosion/deformation of cover.	Cover repaired to proper working specifications or replaced.
	Vault Structure Includes Cracks in Wall, Bottom, Damage to Frame and/or Top Slab	Cracks wider than 1/2-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determine that the vault is not structurally sound.	Vault replaced or repairs made so that vault meets design specifications and is structurally sound.
		Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks.	Vault repaired so that no cracks exist wider than 1/4-inch at the joint of the inlet/outlet pipe.
	Baffles	Baffles corroding, cracking warping, and/or showing signs of failure as determined by maintenance/inspection person.	Baffles repaired or replaced to specifications.
	Access Ladder Damaged	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structure wall, missing rungs, cracks, and misaligned.	Ladder replaced or repaired and meets specifications, and is safe to use as determined by inspection personnel.
Below Ground Cartridge Type	Media	Drawdown of water through the media takes longer than 1 hour, and/or overflow occurs frequently.	Media cartridges replaced.
	Short Circuiting	Flows do not properly enter filter cartridges.	Filter cartridges replaced.

No. 18 – Catchbasin Inserts

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Sediment Accumulation	When sediment forms a cap over the insert media of the insert and/or unit.	No sediment cap on the insert media and its unit.
	Trash and Debris Accumulation	Trash and debris accumulates on insert unit creating a blockage/restriction.	Trash and debris removed from insert unit. Runoff freely flows into catch basin.
	Media Insert Not Removing Oil	Effluent water from media insert has a visible sheen.	Effluent water from media insert is free of oils and has no visible sheen.
	Media Insert Water Saturated	Catch basin insert is saturated with water and no longer has the capacity to absorb.	Remove and replace media insert
	Media Insert-Oil Saturated	Media oil saturated due to petroleum spill that drains into catch basin.	Remove and replace media insert.
	Media Insert Use Beyond Normal Product Life	Media has been used beyond the typical average life of media insert product.	Remove and replace media at regular intervals, depending on insert product.



REFERENCE: Rand McNally (2017)

Scale:
Horizontal: N.T.S. Vertical: N/A

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425) 251-6222
(425) 251-8782
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

For:
Dupont Industrial Warehouse
Dupont, Washington

Job Number
18666

Title:
VICINITY MAP

DATE: 12/19/17

P:\18000s\18666\exhibit\graphics\18666 vmap.cdr

Attachment 1.d. Vicinity Map prepared by Barghausen Consulting Engineers dated December 19, 2017

Betsy Dyer

From: automailer@co.pierce.wa.us
Sent: Friday, January 26, 2018 12:09 PM
To: Betsy Dyer
Subject: Planning and Public Works eLobby Receipt

Pierce County

Tracking Number:	879263
Parcel Number:	0119262019
Site Address:	1700 CENTER DR
Contact:	Barghausen Consulting Engineers 18215-72nd Ave. S. KENT, WA 98032
E-Mail:	bdyer@barghausen.com
Project Description:	Construction of two new office/warehouse buildings. Need Sewer Service Availability letter for City of DuPont

Documents:

1. Site Plan (always required)
1. Site specific Sewer Information Letter Request (A8) (always required)
1. Water Use Data

Please Note:

This is not an application or permit; it is a receipt acknowledging your electronic submittal. A Planning and Public Works staff member will review the information that you provided and will be in contact with you, usually within 2 working days. You will be asked to either submit additional information to complete the application process or you will be given instructions on how to pay your application fees.

Please do not reply to this email, if you have questions please contact the Development Center at pcpermits@co.pierce.wa.us or Pierce

City of DuPont
1700 Civic Drive • DuPont, WA 98327
Phone: (253) 964-8121 / Fax: (253) 964-1455

AUTHORIZATION TO ACT AS AGENT AFFIDAVIT

I, Eric Cederstrand, Dupont Industrial Partners, as property owner of the following described property

1700 Center Drive
(Property Address)
011926-2019
(Parcel Number)

hereby authorize
Dan Balmelli, Costa Philippides and/or Betsy Dyer, Barghausen Consulting Engineers
(Name)
18215 - 72nd Avenue South, Kent, WA 98032
(Address)
(425) 251-6222 / dbalmelli@barghausen.com costap@barghausen.com / bdyer@barghausen.com
(Phone/Email)

to act as agent on my behalf before the City of DuPont regarding the application to process SEPA, Site Plan Review and civil permits for the DuPont Industrial Park project.

Property Owner Signature — Date

Eric Cederstrand
Print Name

STATE OF WASHINGTON }
COUNTY OF PIERCE }

On this 27 day of NOVEMBER, 20 17, personally appeared before me ERIC CEDERSTRAND known to be the individual(s) described in and who executed the within and foregoing instrument and acknowledged that he/she signed the same as given, as his/her free and voluntary act and deed, for the uses and purposes therein mentioned, and under oath stated that he/she was authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereto set my hand and affixed my official seal the day and year first above written.

Lia M Estigoy
Notary Public
State of Washington
My Appointment Expires 09/09/2018

Notary Public
LIA M ESTIGOY
Print Name
NOTARY PUBLIC in and for the State of Washington
Residing at PIERCE COUNTY
My Commission expires: 09-09-2018

Attachment 1.f. Authorization to Act as Agent signed by DuPont Industrial Partners dated November 27, 2017

Geotechnical Engineering Services

DuPont Apartment Complex/Lot X
DuPont, Washington

for
Creekside DuPont Partners, LLC

May 10, 2011

GeoEngineers
Earth Science + Technology

Attachment 1 g, Geotechnical Engineering Report for Lot X
prepared by GeoEngineers dated May 10, 2011

Geotechnical Engineering Services

DuPont Apartment Complex/Lot X
DuPont, Washington

for
Creekside DuPont Partners, LLC

May 10, 2011

GeoEngineers

1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

30 YEARS 2010

Geotechnical Engineering Services

DuPont Apartment Complex/Lot X
DuPont, Washington

File No. 16785-002-00

May 10, 2011

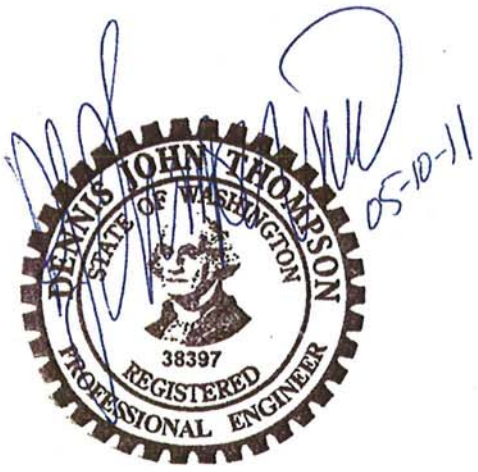
Prepared for:

Creekside DuPont Partners, LLC
1201 Pacific Avenue, Suite 1501
Tacoma, Washington 98402

Attention: Lia Estigoy

Prepared by:

GeoEngineers, Inc.
1101 South Fawcett Avenue, Suite 200
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Dennis (D.J.) Thompson, PE
Senior Geotechnical Engineer

Garry Squires

Garry H. Squires, PE, LG, LEG
Principal

DJT:GHS:tt

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GeoEngineers

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INTRODUCTION AND PROJECT UNDERSTANDING

GeoEngineers is pleased to present this proposal to provide geotechnical engineering services to support development and construction of the apartment complex to be constructed at 14464 Center Drive in DuPont, Washington, otherwise referred to as Lot X. A Vicinity Map is included as Figure 1. Our understanding of the project is based on our discussion with you and the project civil engineer (Barghausen Consulting Engineers), project architect (BCRA), and our review of preliminary site plans and a topographic survey.

The final site layout and number of apartment units has not been determined. At this time, proposed plans might include construction of approximately 180 apartment units in 14 to 15 buildings. Balanced cuts and fills are anticipated. We understand the buildings will be constructed near existing grade and deep excavations are not anticipated. Additional improvements will include construction of parking areas and installation of underground utilities. Stormwater will be conveyed to on-site infiltration galleries or ponds. Stormwater facilities will be designed in accordance with the 2005 Washington State Department of Ecology (Ecology) Stormwater Management Manual.

SCOPE OF SERVICES

The purpose of our services is to conduct subsurface investigations to use as a basis for developing geotechnical recommendations for the proposed site improvements. Our specific scope of services includes:

1. Reviewing readily available published geologic data, select in-house files, and existing subsurface information on soil and groundwater conditions in the site vicinity.
2. Coordinating clearance and location of existing utilities in the project area. We contacted the Washington Utilities Coordinating Council "One Call" service prior to beginning explorations.
3. Exploring subsurface conditions at the project site by observing nine test pits. The explorations extended to depths between 10 and 12 feet below surrounding grade.
4. Performing laboratory tests on selected soil samples obtained from the explorations to assist in evaluating the physical and engineering properties of the site soils. Laboratory testing consisted of eight moisture content and grain size analyses.
5. Providing a general discussion of site soil and groundwater conditions based on our review, explorations and testing.
6. Evaluating the results of the sieve analyses with the infiltration criteria presented in the 2005 Ecology Stormwater Management Manual. We include preliminary infiltration rates for the samples tested.
7. Providing recommendations for site preparation and earthwork. We discuss clearing and stripping, temporary and permanent slopes, suitability of on-site soils for use as structural fill, including constraints for wet weather construction, specifications for imported soil for use as structural fill, and fill placement and compaction requirements.

8. Providing general recommendations for site drainage and control of groundwater.
9. Classifying the Seismic Site Class and soil profile in accordance with Table 1613.5.2 of the International Building Code (IBC) and providing our opinion of soil liquefaction susceptibility based on the results of our review and explorations.
10. Providing recommendations for design of shallow foundations and conventional below grade and retaining wall structures. We provide allowable soil bearing pressures, settlement (total and differential) estimates, lateral earth pressures (active and passive) and coefficient of friction for evaluating sliding resistance. We discuss suitable foundation material and bearing surface preparation, including removal of uncontrolled fill, soft, organic or otherwise unsuitable material, and backfill compaction.
11. Providing recommendations for support of on-grade floor slabs including capillary break, vapor retarder, underslab drainage, and modulus of subgrade reaction, as appropriate.
12. Providing recommendations for asphalt concrete pavement (ACP) design, including base and subbase requirements for proposed parking areas. We provide typical minimum ACP section recommendations based on our experience. We can provide other recommendations based on actual traffic data, if requested.

SITE CONDITIONS

Published Literature

Based on review of geologic maps in our files, Vashon recessional outwash sand and gravel is the dominant, near-surface, geologic material mapped in the immediate project area. This material is commonly known as Steilacoom gravel. Vashon recessional outwash was deposited by melt water streams in front of the most recent glacier during its retreat from the Puget Sound region approximately 10,000 to 15,000 years ago. These deposits generally consist of permeable sand, or sand and gravel. Cobbles and boulders can also be encountered in this deposit, depending on the depositional history. Glacial till and/or advance outwash is commonly encountered at depth below the recessional outwash.

The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey of Pierce County Area, Washington, maps the project area as Spanaway gravelly sandy loam (41A). This soil unit is described as being formed in glacial outwash. It is further described as somewhat excessively drained with moderately rapid permeability, slow surface runoff and little erosion hazard.

Surface Conditions

The project area is located west of the intersection of Center Drive and Power Line Road in DuPont, Washington. Power Line Road and Center Drive make up the eastern boundary of the site. Sequalitchew Creek flows along the southern boundary of the site. A chain link fence is located along the northern and western edges of the site.

The project area is irregular in shape and is flat or slightly sloping down to the southwest. A gravel road extends generally east-west in the southern part of the site. Overhead power lines extend

north-south within the property near the eastern border of the site. Sewer, power and water manholes and junction boxes were observed within the property near the intersection of Center Drive and Power Line Road. Vegetation in the approximate southeast half of the property is low growing and sparse to moderately thick and is mostly grasses and scotch broom. The approximate northwest half of the property is densely forested with large evergreen fir trees and some oak trees. We did not observe standing water or indications of wet surface conditions during our time on site.

Subsurface Explorations

Our understanding of subsurface conditions at the project site is based on conditions disclosed in nine test pits excavated at the approximate locations shown in Figure 2. Details of the exploratory program, laboratory testing program and test pit logs completed for this study are presented in Appendix A.

Subsurface Conditions

We observed approximately 3 inches of forest duff or sod at the surface in all of the explorations with the exception of test pit TP-3. From the surface to a depth of 1 foot in test pit TP-3 we observed fill consisting of gravel with silt and sand. Underlying the duff or fill, we observed a weathered zone of soil, consisting of silty sand with gravel and traces of organic material in a medium dense condition. Underlying the weathered zone we typically observed glacial outwash consisting of gravel with sand and trace silt and variable cobbles. Exceptions to this include test pit TP-1 where gravel with silt and sand was observed below a depth of 7½ feet and in test pit TP-9 where sand with gravel and trace silt was observed from below a depth of 7 feet. The outwash was observed to be in a dense condition. Caving was typically noted below a depths of about 4 feet.

No groundwater seepage was observed during exploration. Groundwater conditions should be expected to vary as a result of season, precipitation and other factors. Based on our observations and previous explorations completed in the project vicinity, static groundwater elevation is expected to be well below the depths of the test pit explorations completed for this project.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the results of our study, it is our opinion that the site is generally suitable for the proposed development with regard to geotechnical considerations. A summary of the primary geotechnical considerations for the proposed development is provided below, and is followed by our detailed recommendations

- Organic-rich surficial material should be stripped from all areas to be improved.
- Granular soils were generally encountered; however, we did observe that some of the near-surface site soil has a higher fines (silt and clay-sized particles passing the U.S. Standard No. 200 sieve) content. Soil with a higher fines content is more sensitive to small changes in moisture content and may be difficult, if not impossible, to work and compact during wet weather conditions. This material can also be susceptible to disturbance from construction traffic when wet, or if earthwork is performed during wet weather.

- The proposed structures may be satisfactorily supported on continuous and isolated shallow foundations supported on the medium dense or dense native soils or on structural fill that extends to native soil.
- Floor slabs may be supported on compacted fill or native soils.
- The glacial outwash deposits can contain cobbles and boulders. The contractor should be prepared for this possibility.
- On-site stormwater infiltration appears feasible based on the subsurface conditions observed. We provide preliminary infiltration rate recommendations below.

Stormwater Infiltration

General

Soil consisting of gravel with sand or gravel with silt and sand was typically encountered below a depth of 1 to 2 feet in the explorations completed in the project area. In general, it is our opinion that the natural soils encountered in our explorations should have adequate permeability to infiltrate stormwater from the site. We did not encounter groundwater seepage, staining or other indications of seasonal shallow groundwater in the explorations.

Soil Infiltration Rates

Stormwater infiltration rates for the site soils were established based on the 2005 Ecology Stormwater Management Manual for Western Washington Volume III in conjunction with the sieve analysis results presented in Appendix A, Figures A-11 and A-12.

TABLE 1. SOIL INFILTRATION RATES[1]

Test Pit No.	Soil Sample No.	Soil Sample Depth (feet)	Percent Fines[2]	D10 Size (mm)[3]	USCS[4] Soil Classification	Long-term Design Infiltration Rate[6] (Inches per Hour)
1	5	7.5	7.5	0.14	GP-GM	2.0
2	3	5.5	2.6	0.49	GP	9
3	4	5.5	3.8	0.44	GP	9
5	2	3.5	3.0	0.82	GW	9
7	3	5.5	2.5	0.51	GP	9
8	3	7.5	4.7	0.25	GW	3.5
9	3	5.5	1.7	0.48	GP	9
9	4	7.5	2.2	0.25	SP	3.5

Notes:

[1] For selected soil samples.

[2] Fines = Silt and clay-sized particles passing U.S. No. 200 (0.75 mm) sieve.

[3] Based on ASTM C 136 Soil Gradation Test.

[4] Unified Soil Classification System (USCS).

[5] Based on grain-size analysis and the procedures outlined in the 2005 Ecology Stormwater Management Manual for Western Washington Volume III Table 3.8.

These rates are an estimate of subsurface infiltration properties. We expect that the relatively clean gravel soils encountered in the test pits should have adequate permeability and storage capacity to infiltrate stormwater. We did not complete explorations at specific pond locations because this information was not available at the time of our explorations. We recommend that the project plans include provisions for GeoEngineers to observe subsurface explorations during construction to check that the preliminary infiltration rate(s) used for design are appropriate for the conditions encountered. Site- and location-specific testing may also be required by local jurisdictions. It should be noted that infiltration through fill is not permissible according to the 2005 Ecology Stormwater Management Manual for Western Washington Volume III.

Stormwater should be treated in accordance with current regulations prior to infiltration. To help reduce clogging of infiltration facilities, we recommend they be protected during construction with siltation control facilities such as temporary settling basins, silt fences and hay bales. Suspended solids can clog the soil and reduce the infiltration rate. Periodic sweeping of paved areas, during and following construction, will help extend the life of the infiltration facilities. Equipment should not be permitted in the infiltration areas after they are excavated to grade because of the potential for compaction of the subgrade that could reduce the infiltration rate of the soil.

Site Development and Earthwork

General

We anticipate that site development and earthwork will include clearing and stripping of surface vegetation, constructing foundations and then placing and compacting fill and backfill materials. We expect that the majority of site grading can be accomplished with conventional earthmoving equipment. The following sections provide recommendations for stripping, excavation, erosion control, subgrade development, fill materials, fill placement and compaction.

Clearing and Stripping

Based on our observations at the site, we estimate that the depth of stripping could be on the order of 3 to 6 inches. Greater stripping depths may be required to remove localized zones of loose or organic-rich soil. In addition, the primary root systems of shrubs should be completely removed. Stripped material should be transported off site for disposal or processed and used as fill in landscaping areas.

Although we did not encounter boulders during our subsurface investigation, it is our experience they can be present in the glacial deposits in the area. Accordingly, the contractor should be prepared to remove boulders, if encountered during grading or utility excavations. Boulders may be removed from the site or buried in landscape areas. Voids caused by boulder removal should be backfilled with structural fill.

Temporary Excavations, Support and Dewatering

Excavations deeper than 4 feet should be shored or laid back at a stable slope if workers are required to enter. Shoring and temporary slope inclinations must conform to the provisions of Title 296 Washington Administrative Code (WAC), Part N, "Excavation, Trenching and Shoring." Regardless of the soil type encountered in the excavation, shoring, trench boxes or sloped sidewalls will be required under Washington Industrial Safety and Health Act (WISHA). The contract

documents should specify that the contractor is responsible for selecting excavation and dewatering methods, monitoring the excavations for safety and providing shoring, as required, to protect personnel and structures. We provide additional recommendations in regard to temporary and permanent shoring below.

In general, temporary cut slopes should be inclined no steeper than about 1-1/2H to 1V (horizontal to vertical). This guideline assumes that all surface loads are kept at a minimum distance of at least one-half the depth of the cut away from the top of the slope and that seepage is not present on the slope face. Flatter cut slopes will be necessary where seepage occurs or if surcharge loads are anticipated. We observed caving in our explorations; therefore, some sloughing and raveling of cut slopes should be expected. Temporary covering with heavy plastic sheeting should be used to protect these slopes during periods of wet weather.

Based on our explorations, we do not expect groundwater to be a major factor during shallow excavations and earthwork. However, some perched groundwater could occur in the near-surface soil depending on the time of year of construction. We anticipate that groundwater handling needs will typically be lower during the late summer and early fall months. We anticipate that shallow perched groundwater can typically be handled adequately with sumps, pumps, and/or diversion ditches, as necessary. Ultimately, we recommend that the contractor performing the work be made responsible for controlling and collecting groundwater encountered.

Permanent Cut and Fill Slopes

Based on site grades and the proposed construction, we anticipate that only minor cutting and filling will be required for this project. However, if permanent slopes are necessary, we recommend they be constructed at a maximum inclination of 2H to 1V. Where 2H to 1V permanent slopes are not feasible, protective facings and/or retaining structures should be considered.

To achieve uniform compaction, we recommend that fill slopes be overbuilt slightly and subsequently cut back to expose well-compacted fill. Fill placement on slopes steeper than 5H to 1V should be benched into the slope face and include keyways. The configuration of the bench and keyway depends on the equipment being used. Bench excavations should be level and extend into the slope face. We recommend that a vertical cut of about 3 feet be maintained for benched excavations. Keyways should be about 1-1/2 times the width of the equipment used for grading or compaction.

Exposed areas should be re-vegetated as soon as practical to reduce the surface erosion and sloughing. Temporary protection should be used until permanent protection is established.

Surface Drainage

Surface water from roofs, driveways and landscape areas should be collected and controlled. Curbs or other appropriate measures such as sloping pavements, sidewalks and landscape areas should be used to direct surface flow away from the buildings, erosion sensitive areas and from behind retaining structures. Roof and catchment drains should not be connected to wall or foundation drains.

Erosion and Sedimentation Control

Potential sources or causes of erosion and sedimentation can be influenced by construction methods, slope length and gradient, amount of soil exposed and/or disturbed, soil type, construction sequencing and weather. Implementing an erosion and sedimentation control plan will reduce the project impact on erosion-prone areas. The plan should be designed in accordance with applicable city, county and/or state standards. The plan should incorporate basic planning principles, including:

- Scheduling grading and construction to reduce soil exposure.
- Re-vegetating or mulching denuded areas.
- Directing runoff away from denuded areas.
- Reducing the length and steepness of slopes with exposed soils.
- Decreasing runoff velocities.
- Preparing drainage ways and outlets to handle concentrated or increased runoff.
- Confining sediment to the project site.
- Inspecting and maintaining control measures frequently.

Some sloughing and raveling of exposed or disturbed soil on slopes should be expected. We recommend that disturbed soil be restored promptly so that surface runoff does not become channeled.

Temporary erosion protection should be used and maintained in areas with exposed or disturbed soils to help reduce erosion and reduce transport of sediment to adjacent areas and receiving waters. Permanent erosion protection should be provided by paving, structure construction or landscape planting.

Until the permanent erosion protection is established and the site is stabilized, site monitoring may be required by qualified personnel to evaluate the effectiveness of the erosion control measures and to repair and/or modify them as appropriate. Provision for modifications to the erosion control system based on monitoring observations should be included in the erosion and sedimentation control plan.

Subgrade Preparation and Evaluation

Subgrade areas should be thoroughly compacted with heavy, smooth-drum vibratory equipment to a uniformly dense and unyielding condition prior to placement of structural fill or structural elements. We recommend that prepared subgrades be observed by a member of our firm, who will evaluate the suitability of the subgrade and identify any areas of yielding which are indicative of soft or loose soil. The exposed subgrade soil should be proof-rolled with heavy rubber-tired equipment or probed with a 1/2-inch-diameter steel rod, as appropriate depending on prevailing conditions. If soft or otherwise unsuitable areas revealed during probing or proof-rolling cannot be compacted to a stable and uniformly firm condition, we recommend that: 1) the subgrade soils be scarified (e.g., with a ripper or a farmer's disc), aerated and recompacted; or 2) the unsuitable soils be removed and replaced with structural fill, as needed.

Subgrade Protection and Wet Weather Considerations

The wet weather season generally begins in October and continues through May in western Washington; however, periods of wet weather can occur during any month of the year. In our opinion, site grading and fill placement could be considered during wet weather, but it should be noted that some of the soils encountered in our explorations contain a significant amount of fines and will be susceptible to disturbance during extended periods of wet weather. Soil with high fines content is very sensitive to small changes in moisture and is susceptible to disturbance from construction traffic when wet or if earthwork is performed during wet weather. If wet weather earthwork is unavoidable, we recommend that the following steps be taken.

- The ground surface in and around the work area should be sloped so that surface water is directed away from the work area. The ground surface should be graded so that areas of ponded water do not develop. Measures should be taken by the contractor to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from the work area.
- Earthwork activities should not take place during periods of heavy precipitation.
- Slopes with exposed soils should be covered with plastic sheeting.
- The contractor should take necessary measures to prevent on-site soils and other soils to be used as fill from becoming wet or unstable. These measures may include the use of plastic sheeting, sumps with pumps and grading. The site soils should not be left uncompacted and exposed to moisture. Sealing the surficial soils by rolling with a smooth-drum roller prior to periods of precipitation will help reduce the extent to which these soils become wet or unstable.
- Construction traffic should be restricted to specific areas of the site, preferably areas that are surfaced with working pad materials not susceptible to wet weather disturbance.
- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practical.
- Protective surfacing such as placing asphalt-treated base (ATB) or haul roads made of quarry spalls or a layer of free-draining material such as well graded pit-run sand and gravel may be necessary to protect completed areas. Typically, minimum gravel thicknesses on the order of 24 inches are necessary to provide adequate subgrade protection.
- During periods of wet weather, concrete should be placed as soon as practical after preparation of the footing excavations. Foundation bearing surfaces should not be exposed to standing water. Should water infiltrate and pool in the excavation, it should be removed before placing structural fill or reinforcing steel. Subgrade protection for foundations consisting of a lean concrete mat should be considered if footing excavations are exposed to extended wet weather conditions.

Fill Materials

General

Material used for structural fill should be free of debris, organic contaminants and rock fragments larger than 6 inches. The workability of material for use as structural fill will depend on the

gradation and moisture content of the soil. As the amount of fines increases, soil becomes increasingly more sensitive to small changes in moisture content. We recommend that select granular fill or crushed rock be used for structural fill during the rainy season. If prolonged dry weather prevails during the earthwork phase of construction, materials with a somewhat higher fines content may be acceptable. The following paragraphs summarize the material requirements for fill and backfill.

Select Granular Fill

We recommend select granular fill for construction during wet weather conditions, consist of well-graded sand and gravel or crushed rock with a maximum particle size of 6 inches and less than 5 percent fines by weight based on the minus 3/4-inch fraction. Organic matter, debris or other deleterious material should not be present. In our opinion, material conforming to Washington State Department of Transportation (WSDOT) Specification 9-03.9 (Aggregates for Ballast and Crushed Surfacing), 9-03.10 (Aggregate for Gravel Base), or 9-03.14 (Borrow) is suitable for use as import fill material during wet weather with the exception that the fines content should be less than 5 percent based on the minus 3/4-inch fraction. In addition, some larger particle sizes are acceptable, as described above.

On-Site Soil

During dry weather and periods of light rain fall any non-organic on-site soil may be considered for use as fill provided it meets the criteria described above and can be compacted as recommended. When the fines content in the soil exceeds about 5 percent, the soil becomes more sensitive to moisture. Portions of the on-site soil contain enough fines to be moisture sensitive and may not be suitable for use as fill during extended periods of wet weather and/or if exposed to wet conditions. Even when properly compacted, this material can be easily disturbed and will soften when exposed to moisture. Based on our subsurface explorations, on-site material will typically not be suitable for use as drainage material, for use behind retaining walls or as a capillary break material.

Fill Placement and Compaction

General

To obtain proper compaction, fill soil should be compacted near optimum moisture content and in uniform horizontal lifts. Lift thickness and compaction procedures will depend on the moisture content and gradation characteristics of the soil and the type of equipment used. The maximum allowable moisture content varies with the soil gradation and should be evaluated during construction. Silty soil and other fine granular soil may be difficult or impossible to compact during persistent wet conditions. Generally, 12-inch loose lifts are appropriate for steel-drum vibratory roller compaction equipment. Compaction should be achieved by mechanical means. During fill and backfill placement, sufficient testing of in-place density should be conducted to check that adequate compaction is being achieved.

Area Fills and Bases

Fill placed to raise site grades and materials under pavements should be placed on subgrades prepared as previously recommended. In general, area fills and bases should be compacted to at

least 95 percent of the maximum dry density (MDD) determined by ASTM International (ASTM) Test Method D 1557 (modified Proctor).

Trench Backfill

For utility excavations, we recommend that the initial lift of fill over the pipe be thick enough to reduce the potential for damage during compaction but generally should not be greater than about 18 inches. In addition, rock fragments greater than about 1 inch in maximum dimension should be excluded from this lift.

In paved and structural areas, trench backfill should be uniformly compacted in horizontal lifts to at least 95 percent of the MDD in the upper 2 feet below subgrade. Fill placed below a depth of 2 feet from subgrade in paved areas must be compacted to at least 90 percent of the MDD. In nonstructural areas, trench backfill should be compacted to a firm condition that will support construction equipment, as necessary.

Seismic Design Considerations

General

The site is located within the Puget Sound region, which is seismically active. Seismicity in this region is attributed primarily to the interaction between the Pacific, Juan de Fuca, and North American plates. The Juan de Fuca plate is subducting beneath the North American plate. It is thought that the resulting deformation and breakup of the Juan de Fuca plate might account for the deep focus earthquakes in the region. Hundreds of earthquakes have been recorded in the Puget Sound area. In recent history, four of these earthquakes were large events: 1) in 1946, a Richter magnitude 7.2 earthquake occurred in the Vancouver Island, British Columbia area; 2) in 1949, a Richter magnitude 7.1 earthquake occurred in the Olympia area; 3) in 1965, a Richter magnitude 6.5 earthquake occurred between Seattle and Tacoma; and 4) on February 28, 2001, a magnitude 6.8 earthquake occurred at Nisqually near Olympia.

Research is currently underway regarding historical large magnitude subduction-related earthquake activity along the Washington and Oregon coasts. Geologists are reporting evidence that suggests several large magnitude earthquakes (Richter magnitude 8 to 9) have occurred in the last 1,500 years, the most recent of which occurred about 300 years ago. No earthquakes of this magnitude have been documented during the recorded history of the Pacific Northwest. Local design practice in Puget Sound assumes that the magnitude felt from such an earthquake is about the same as from the existing design earthquake because of the distance.

Seismic Design Criteria

Seismic design may be performed using the equivalent static force procedure outlined in the 2009 IBC using the design parameters provided below.

TABLE 2. SEISMIC DESIGN PARAMETERS

2009 IBC
Spectral Response Accel. at Short Periods (SS) = 1.18
Spectral Response Accel. at 1 Second Periods (S1) = 0.42
Site Class = C
Site Coefficient (FA) = 1.0
Site Coefficient (FV) = 1.38

Liquefaction Potential

Liquefaction refers to a condition where vibration or shaking of the ground, usually from earthquake forces, results in development of excess pore pressures in loose, saturated soils and subsequent loss of strength in the deposit of soil so affected. In general, soils that are susceptible to liquefaction include loose to medium dense "clean" to silty sands that are below the water table. In our opinion, the potential for liquefaction at this site is low.

Shallow Foundations

Foundation Support

Proposed structures can be satisfactorily founded on continuous wall or isolated column footings supported on undisturbed native soils, or on structural fill placed over native soils. If the bearing surface is loose or disturbed it must be compacted to a dense, unyielding condition and the loose soil removed and replaced with compacted structural fill. The exterior footings should be established at least 18 inches below the lowest adjacent grade. The recommended minimum footing depth is greater than the anticipated frost depth. Interior footings can be founded a minimum of 12 inches below the top of the floor slab. Isolated column and continuous wall footings should have minimum widths of 24 and 18 inches, respectively.

Bearing Capacity

We recommend that footings founded as recommended be proportioned using an allowable soil bearing pressure of 3,500 pounds per square foot (psf). The allowable soil bearing pressure may be increased to 4,500 psf for footings greater than 4 feet in width. The bearing pressures apply to the total of dead and long-term live loads and may be increased by one third when considering total loads, including earthquake or wind loads. These are net bearing pressures. The weight of the footing and overlying backfill can be ignored in calculating footing sizes.

Footing Bearing Surface Preparation

Footing excavations should be performed using a smooth-edged bucket to limit bearing surface disturbance. The foundation bearing surface should be recompacted as necessary to a dense, non-yielding condition. Loose or disturbed materials present at the base of footing excavations should be removed or compacted. Foundation bearing surfaces should not be exposed to standing water. Should water infiltrate and pool in the excavation, it should be removed before placing structural fill or reinforcing steel.

We recommend that a member from our firm observe foundation excavations before placing reinforcing steel in order to confirm that adequate bearing surfaces have been prepared or provide recommendations for removal of unsuitable soil. Unsuitable bearing materials should be recompacted or removed and replaced with compacted structural fill as recommended by the geotechnical engineer.

Foundation Settlement

We estimate that settlement of footings designed and constructed as recommended will be less than 1 inch, for an assumed loading condition of up to 300 kips per column. Differential settlements between comparably loaded isolated column footings or along 50 feet of continuous footing should be less than 1/2 inch. Settlement is expected to occur rapidly as loads are applied. Settlements could be larger than estimated if footings are placed on loose or disturbed soil.

Lateral Resistance

The ability of the soil to resist lateral loads is a function of frictional resistance, which can develop on the base of footings and slabs and the passive resistance, which can develop on the face of below-grade elements of the structure as these elements tend to move into the soil. For footings and floor slabs founded in accordance with the recommendations presented above, the allowable frictional resistance may be computed using a coefficient of friction of 0.40 applied to vertical dead-load forces. The allowable passive resistance on the face of footings, grade beams or other embedded foundation elements may be computed using an equivalent fluid density of 300 pounds per cubic foot (pcf) for undisturbed on-site soils or structural fill extending out from the face of the foundation element a distance at least equal to two and one-half times the depth of the element.

The passive earth pressure and friction components may be combined provided that the passive component does not exceed two-thirds of the total. The passive earth pressure value is based on the assumptions that the adjacent grade is level and that groundwater remains below the base of the footing throughout the year. The top foot of soil should be neglected when calculating passive lateral earth pressures unless the foundation area is covered with pavement or slab-on-grade. The lateral resistance values include a safety factor of approximately 1.5.

Conventional Subgrade and Retaining Walls

Drainage

Positive drainage is imperative behind any retaining structure. This can be accomplished by providing a zone of free-draining material behind the wall with perforated pipes to collect seepage water. The drainage material should consist of coarse sand and gravel containing less than 5 percent fines based on the fraction of material passing the 3/4-inch sieve. The wall drainage zone should extend horizontally at least 18 inches from the back of the wall.

Perforated smooth-walled rigid PVC pipe having a minimum diameter of 4 inches should be placed at the bottom of the drainage zone along the entire length of the wall, with the pipe invert at or below the elevation of the base of the wall footing. The drainpipes should discharge to a tightline leading to an appropriate collection and disposal system. An adequate number of cleanouts should be incorporated into the design of the drains in order to provide access for regular

maintenance. In general, roof downspouts, perimeter drains or other types of drainage systems should not be connected to retaining wall drain systems.

Design Parameters

The pressures presented assume that backfill placed within 2 feet of the wall is compacted by hand-operated equipment to a density of 90 percent of the MDD and that wall drainage measures are included as previously recommended. For walls constructed as described above, we recommend using an active lateral earth pressure corresponding to an equivalent fluid density of 35 pcf for the level backfill condition. For walls with backfill sloping upward behind the wall at 2H to 1V, an equivalent fluid density of 55 pcf should be used. This assumes that the tops of the walls are not structurally restrained and are free to rotate. For the at-rest condition (walls restrained from movement at the top) an equivalent fluid density of 55 pcf should be used for design. For seismic conditions, we recommend a uniform lateral pressure of 6H (where H is the height of the wall) psf be added to these lateral pressures. Note that if the retaining system is designed as a braced system but is expected to yield a small amount during a seismic event, an active earth pressure condition may be assumed and combined with the uniform seismic surcharge pressure.

The recommended pressures do not include the effects of surcharges from surface loads. If vehicles will be operated within one-half the height of the wall, a traffic surcharge should be added to the wall pressure. The traffic surcharge can be approximated by the equivalent weight of an additional 2 feet of backfill behind the wall. Additional surcharge loading conditions should also be considered on a case-by-case basis.

Retaining walls founded on native soil or structural fill extending to these materials may be designed using the allowable soil bearing values and lateral resistance values presented above in the "Shallow Foundations" section of this report. We estimate settlement of retaining structures will be similar to the values previously presented for building foundations.

Building Pads and Floor Slabs

A modulus of subgrade reaction of 300 pounds per cubic inch (pci) can be used for designing the building floor slab provided that the subgrade consists of dense native soil or structural fill and has been prepared in accordance with the "Site Development and Earthwork" section of this report. Settlement for floor slabs designed and constructed as recommended are estimated to be less than 3/4 inch for a floor load of 500 psf. We estimate that differential settlement of floor slabs will be 1/2 inch or less over a span of 50 feet providing that the fill below the slab is compacted as specified. The subgrade soils are non-expansive, so heave is not anticipated beneath the floor slab.

We recommend that on-grade slabs be underlain by a minimum 6-inch-thick capillary break layer to reduce the potential for moisture migration into the slab. The capillary break material should consist of a well-graded sand and gravel or crushed rock with a maximum particle size of 3/4 inch and less than 5 percent fines. The material should be placed as recommended in the "Fill Placement and Compaction" section of this report. If dry slabs are required (e.g., where adhesives are used to anchor carpet or tile to the slab), a waterproof liner may be placed as a vapor barrier below the slab.

Pavement Recommendations

Asphaltic Concrete Pavement

Pavement subgrades and fill should be prepared and placed as previously described. The crushed rock base course should be moisture conditioned near the optimum moisture content and compacted to at least 95 percent of the MDD determined in accordance with ASTM D 1557 test procedures. An appropriate number of in-place density tests should be conducted on the compacted base course to check that adequate compaction has been obtained. Crushed rock base course should conform to applicable sections of 4-04 and 9-03.9(3) of the WSDOT Standards.

For this project, we based the recommended pavement sections described below on an assumed in-situ California Bearing Ratio (CBR) between 15 and 20. The heavy-duty pavement section thickness is based on a traffic loading of about 1,000,000, 18-kip equivalent single-axle loads (ESALs); we used a design life of 10 years. The standard-duty section is appropriate for areas that will not be exposed to heavy truck loads. Hot mix asphalt (HMA) should conform to applicable sections of 5-04, 9-02 and 9-03 of the WSDOT Standards. The recommended pavement sections assume that final improvements surrounding the pavement will be designed and constructed such that stormwater or excess irrigation water from landscape areas does not infiltrate below the pavement section into the crushed base.

STANDARD-DUTY ASPHALTIC CONCRETE PAVEMENT

- 2 inches of hot mix asphalt.
- 3 inches of crushed surfacing base course and/or top course compacted as recommended.
- 12 inches compacted depth of native subgrades and/or existing fill compacted to 95 percent MDD (ASTM D 1557) and in a firm and unyielding condition.

HEAVY-DUTY ASPHALTIC CONCRETE PAVEMENT

- 3 inches of hot mix asphalt.
- 4 inches of crushed surfacing base course and/or top course compacted as recommended.
- 12 inches compacted depth of native subgrades and/or existing fill at 95 percent MDD (ASTM D 1557) and in a firm and unyielding condition.

LIMITATIONS

We have prepared this report for the exclusive use by Creekside DuPont Partners, LLC and their authorized agents for the DuPont Apartment Complex/Lot X to be located west of the intersection of Center Drive and Power Line Road in DuPont, Washington. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.



T19N, R 1W, Section 26
USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

N
W E
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Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

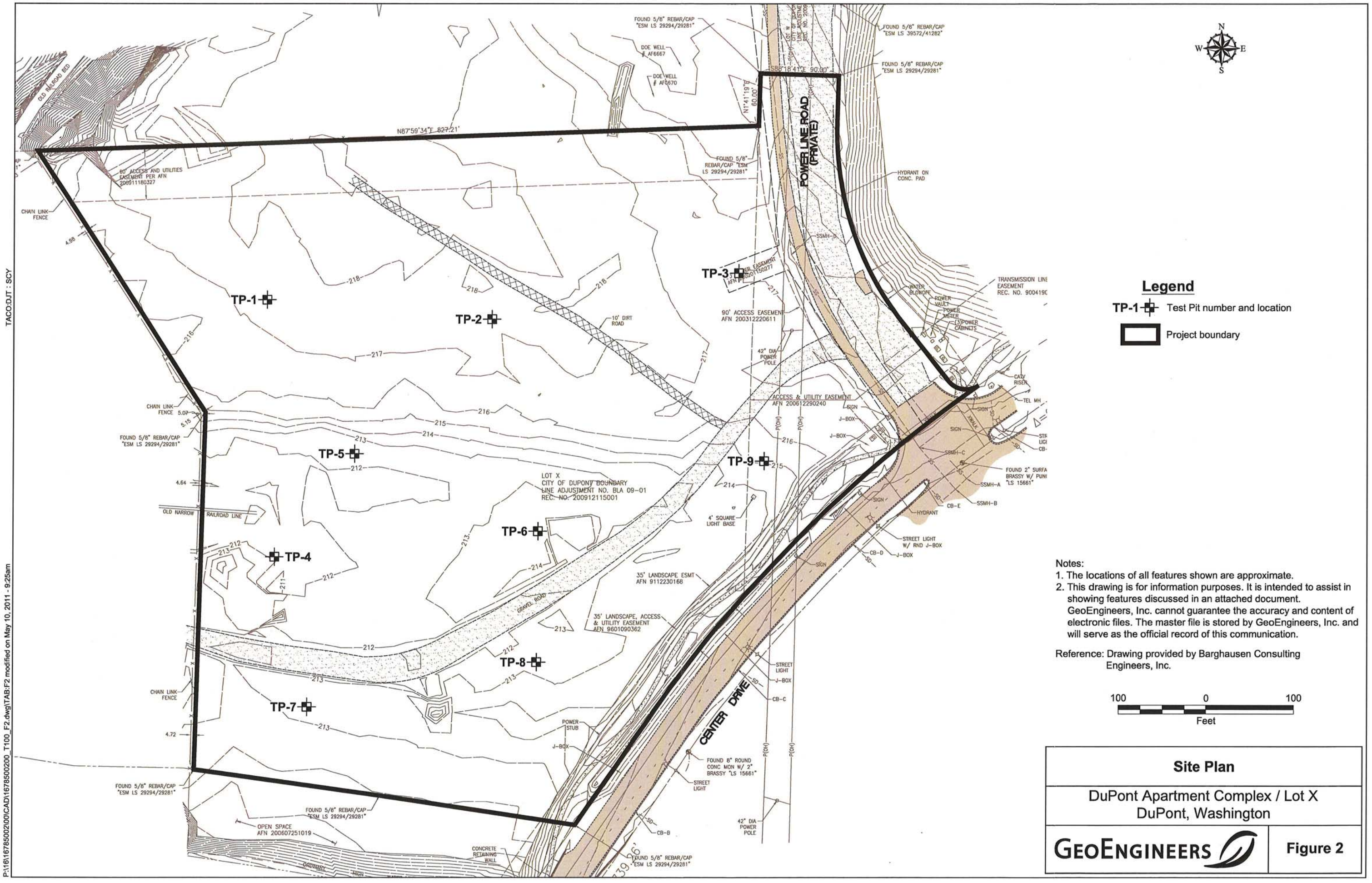
Vicinity Map

DuPont Apartment Complex / Lot X
DuPont, Washington

GeoEngineers

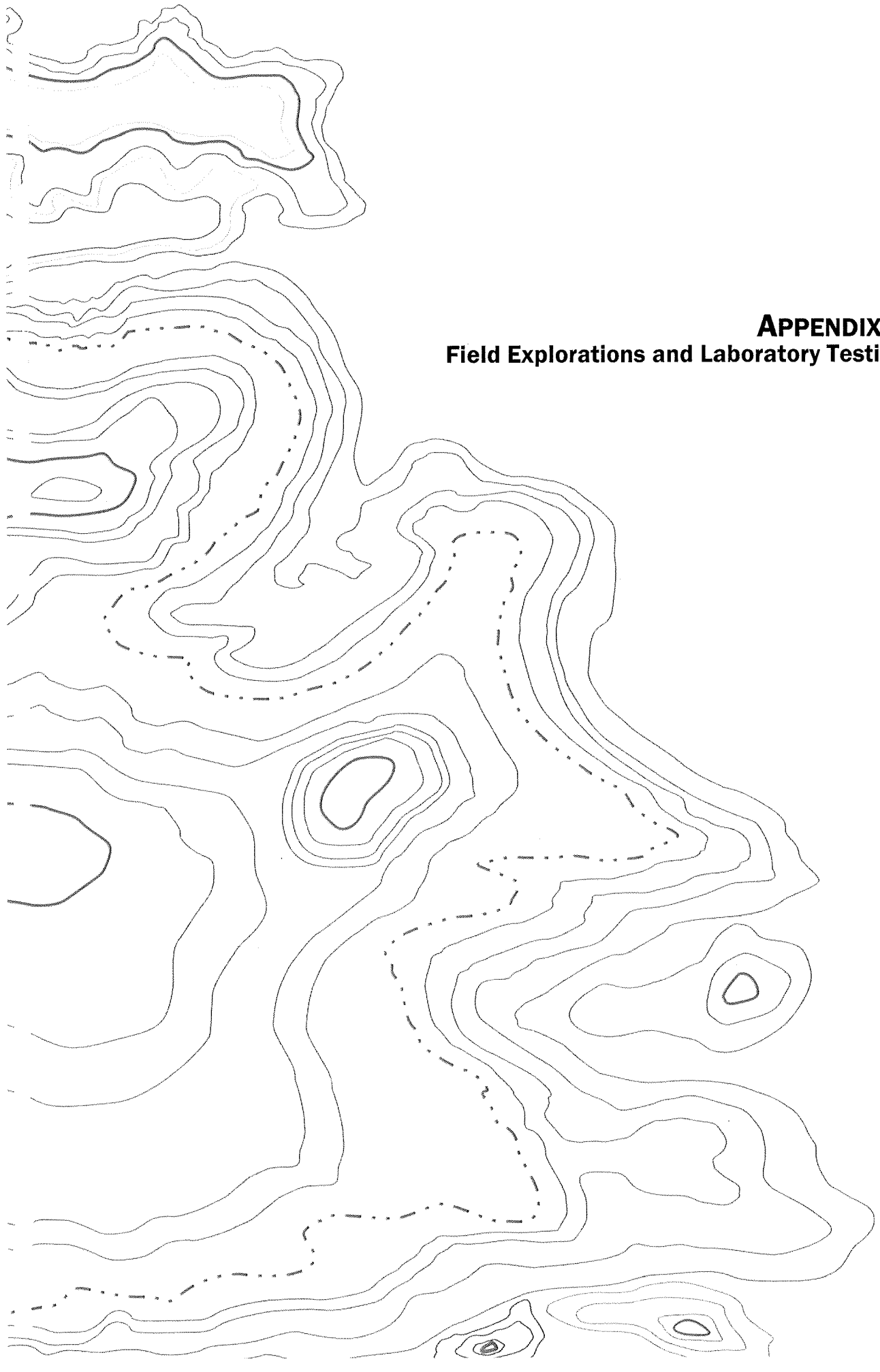
Figure 1

Office: Tacoma Path: W:\Tacoma\Projects\16116785002\GIS\16785000200_F1.mxd Map Revised: 05/11/2011 EL:SCY



TACO:DJT : SCY

P:\1\61\67850\200\CAD\1678500200_T100_F2.dwg\TAB:F2 modified on May 10, 2011 - 9:25am



APPENDIX A
Field Explorations and Laboratory Testing

APPENDIX A
FIELD EXPLORATIONS AND LABORATORY TESTING

Subsurface Explorations

Soil and groundwater conditions at the proposed development site were explored by excavating nine test pits on August 26, 2010. Subsurface exploratory services were subcontracted to GeoEngineers, Inc. The test pit explorations extended to depths between 10 and 12 feet below surrounding site grades.

The locations of the test pits were determined by electronic global positioning system (GPS) where available and by pacing and visual triangulation from existing site features such as roadways and property corners.. The elevations presented on the test pit logs are based on a site plan obtained from Barghausen Consulting Engineers. The locations and elevations of the explorations should be considered approximate. Locations of the explorations are provided on the Site Plan, Figure 2.

Our field representative obtained samples, classified the soils, maintained a detailed log of each exploration and observed groundwater conditions where applicable. The samples were retained in sealed plastic bags to prevent moisture loss. The soils were classified visually in general accordance with the system described in Figure A-1, which includes a key to the exploration logs. Summary logs of the explorations are included as Figures A-2 through A-10. The densities noted on the test pit exploration logs are based on the difficulty of excavation, observations of caving and our experience and judgment.

Laboratory Testing

Soil samples obtained from the test pits were transported to our laboratory and examined to confirm or modify field classifications, as well as to evaluate engineering properties of the soil. Representative samples were selected for laboratory testing. Laboratory testing included moisture content determination conducted in general accordance with ASTM International (ASTM) D 2216 and grain-size analyses conducted in general accordance with ASTM C 136. The sample test depths and moisture content test results are shown on the exploration logs. Sieve analysis results are presented in Figures A-11 and A-12.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	CC	Cement Concrete
	AC	Asphalt Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Measured groundwater level in exploration, well, or piezometer

Groundwater observed at time of exploration

Perched water observed at time of exploration

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE A-1

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
217					DUFF		3 inches duff		
	1	X	1		SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist)		
216					GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
	2	X	2						
215									
	3								
214		X	3						
	4								
213									
	5								
212		X	4						
	6								
211									
	7								
210		X	5 SA		GP-GM		Brown fine to coarse gravel with silt and sand, occasional cobbles (dense, moist)	4	
	8								
209									
	9								
208		X	6						
	10								
207									
	11								
206		X	7						
	12								

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-1

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-2
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002000.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name / Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
217	0				DUFF		3 inches duff		
		X	1		SM		Dark brown silty fine to coarse sand with gravel, occasional cobbles (medium dense, moist)		
216	1				GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
		X	2						
215	2								
214	3								
213	4								
212	5								
		X	3 SA					3	
211	6								
210	7								
209	8								
208	9								
		X	4						
207	10								
206	11								
		X	5						
	12								

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at 8+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-2

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-3
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002OO.GPJ DBTemplate\LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
216	1	X	1		GP-GM		Gray fine to coarse gravel with silt and sand, occasional cobbles (medium dense, moist) (fill)		
215	2	X	2		SM		Dark brown silty fine to coarse sand with gravel, occasional cobbles, trace organics (medium dense, moist)		
214	3				GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
213	4	X	3						
212	5								
211	6	X	4 SA					3	
210	7								
209	8	X	5						
208	9								
207	10								
206	11								
205	12	X	6						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-3

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-4
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002OO.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 10.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
211	1		1		DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel (medium dense, moist)		
					GP		Brown fine to coarse gravel with sand, trace silt, occasional cobbles (dense, moist)		
210	2								
209	3								
208	4		2						
207	5								
206	6		3						
205	7								
204	8								
203	9								
202	10		4						

Test pit completed at 10 feet on 8/26/10
No groundwater seepage observed
Minor caving observed at 6+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-4

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-5
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT\GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 10.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
212	0				DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist)		
211	1				GW		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
210	2								
	3	X	1						
209		X	2 SA					2	
208	4								
	5								
207		X	3						
206	6								
	7								
205	8								
204	9								
203	10	X	4						

Test pit completed at 10 feet on 8/26/10
No groundwater seepage observed
Minor caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-5

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-6
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002200.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 10.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
213					SOD		3 inches sod		
					SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist) (topsoil)		
212	1				GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
211	2	X	1						
210	3								
209	4								
208	5	X	2						
207	6								
206	7								
205	8	X	3						
204	9								
	10	X	4						

Test pit completed at 10 feet on 8/26/10
No groundwater seepage observed
Minor caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-6

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-7
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002OO.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
212	1	X	1		DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel (medium dense, moist)		
211	2				GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
210	3	X	2						
209	4								
208	5								
207	6	X	3 SA					3	
206	7								
205	8	X	4						
204	9								
203	10	X	5						
202	11								
201	12	X	6						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-7

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-8
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
212	0				DUFF		3 inches duff		
					SM		Dark brown silty fine to coarse sand with gravel, trace organics (medium dense, moist) (topsoil)		
211	1				GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
210	2	X	1						
209	3								
208	4								
207	5	X	2						
206	6								
205	7				GW		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
	8	X	3 SA					4	
204	9								
203	10	X	4						
202	11								
201	12	X	5						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-8

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-9
Sheet 1 of 1

Tacoma: Date:5/10/11 Path:P:\16\16785002\GINT\16785002GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_TESTPIT_1P_GEOTEC

Date Excavated: 8/26/2010 Logged By: EAW

Equipment: Case 580 Super M Total Depth (ft) 12.0

Elevation (feet)	Depth (feet)	Sample: Testing Sample	Sample: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
					DUFF		3 inches duff		
214	1	X	1		SM		Dark brown silty fine to coarse sand with gravel (medium dense, moist) (topsoil)		
					GP		Brown fine to coarse gravel with sand, trace silt (dense, moist)		
213	2	X	2						
212	3								
211	4								
210	5								
209	6	X	3 SA					3	
208	7				SP		Brown fine to coarse sand with gravel, trace silt (dense, moist)		
207	8	X	4 SA					5	
206	9								
205	10	X	5						
204	11						Grades to without gravel		
203	12	X	6						

Test pit completed at 12 feet on 8/26/10
No groundwater seepage observed
Moderate caving observed at approximately 4+ feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log of Test Pit TP-9

GeoEngineers

Project: DuPont Apartment Complex/Lot X
Project Location: DuPont, Washington
Project Number: 16785-002-00

Figure A-10
Sheet 1 of 1

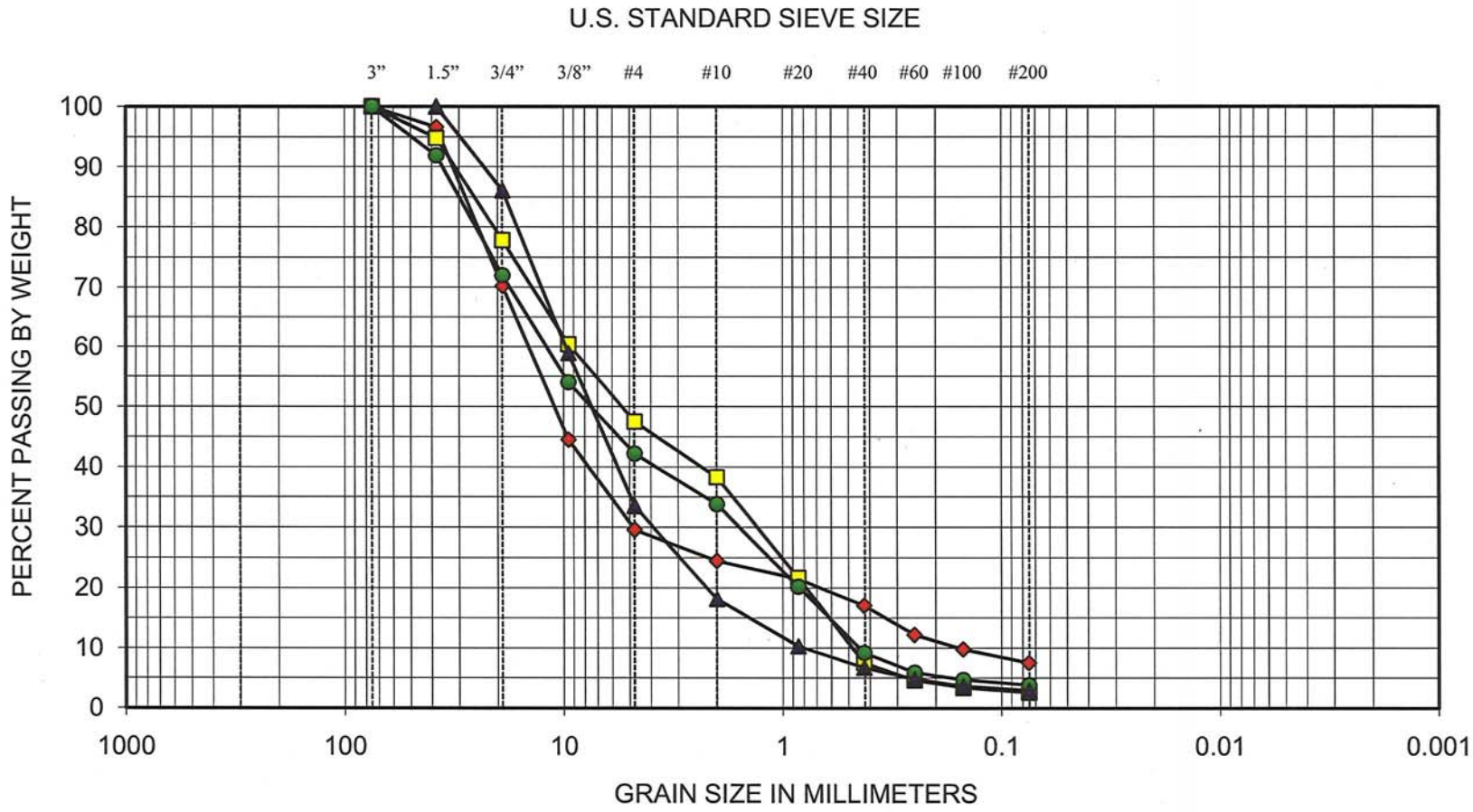
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16785-002-00 MJH:AMD:tt 051011

GeoEngineers

SIEVE ANALYSIS RESULTS

FIGURE A-11



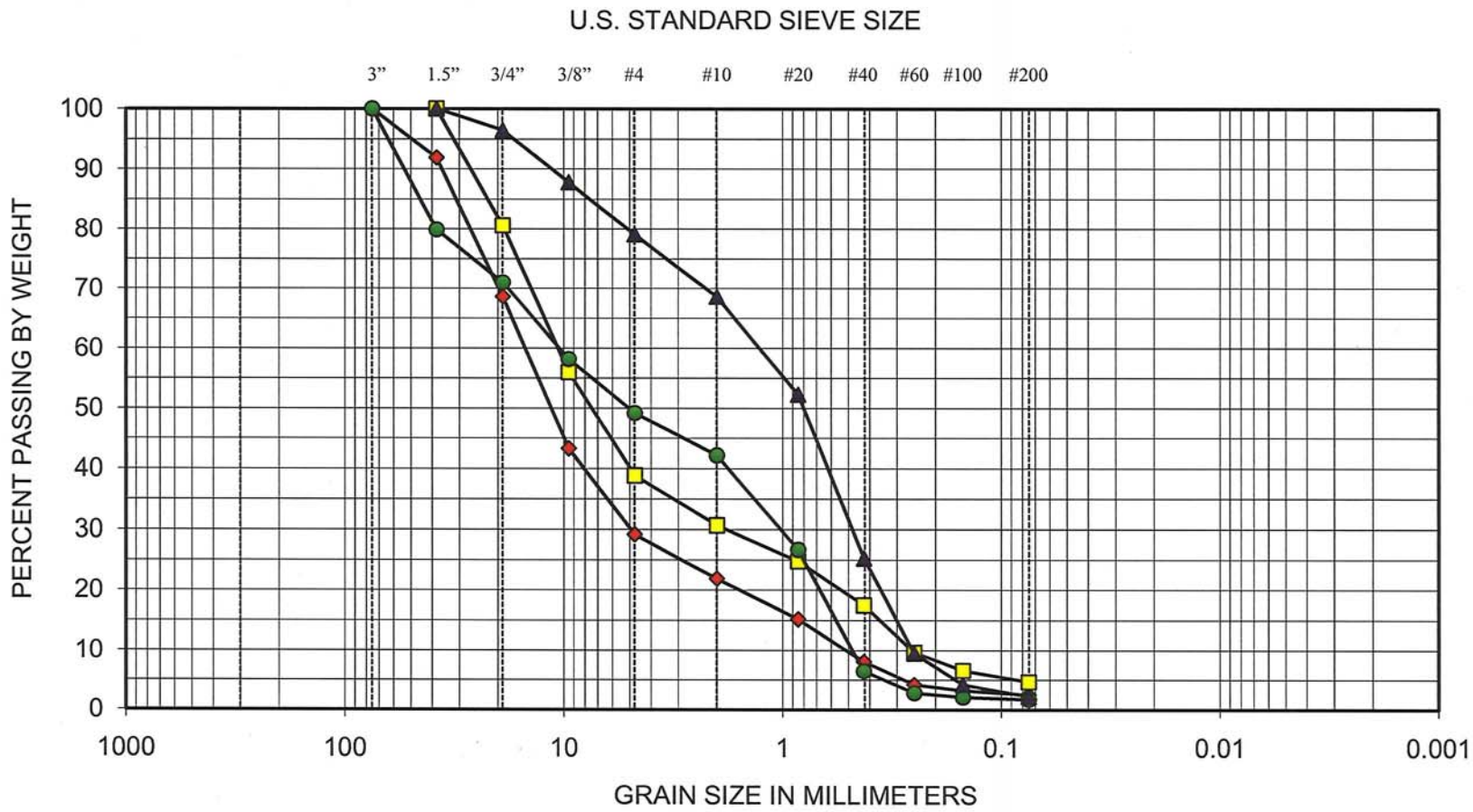
BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	

SYMBOL	EXPLORATION NUMBER	DEPTH (ft)	SOIL CLASSIFICATION
◆	TP-1	7.5	Gravel with silt and sand (GP-GM)
■	TP-2	5.5	Gravel with sand (GP)
●	TP-3	5.5	Gravel with sand (GP)
▲	TP-5	3.5	Gravel with sand (GW)

GEOENGINEERS

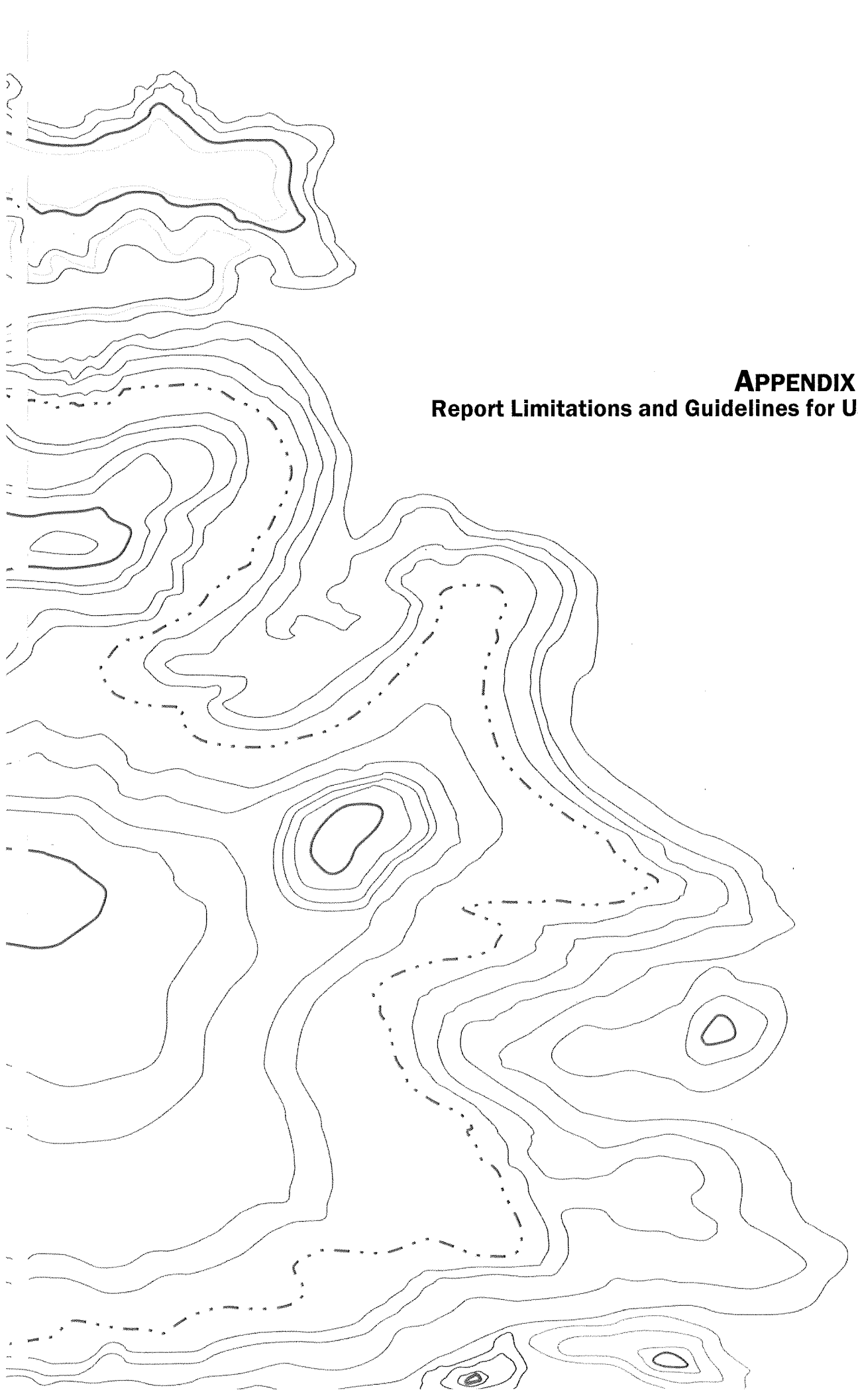
FIGURE A-12

SIEVE ANALYSIS RESULTS



BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	

SYMBOL	EXPLORATION NUMBER	DEPTH (ft)	SOIL CLASSIFICATION
◆	TP-7	5.5	Gravel with sand (GP)
■	TP-8	7.5	Gravel with sand (GW)
●	TP-9	5.5	Gravel with sand (GP)
▲	TP-9	7.5	Sand with gravel (SP)



APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Geotechnical Services are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of Creekside DuPont Partners, LLC and their authorized agents. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, a geotechnical or geologic study conducted for a civil engineer or architect may not fulfill the needs of a construction contractor or even another civil engineer or architect that are involved in the same project. Because each geotechnical or geologic study is unique, each geotechnical engineering or geologic report is unique, prepared solely for the specific client and project site. Our report is prepared for the exclusive use of our Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted geotechnical practices in this area at the time this report was prepared. This report should not be applied for any purpose or project except the one originally contemplated.

A Geotechnical Engineering or Geologic Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the DuPont Apartment Complex/Lot X. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;

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[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

- composition of the design team; or
- project ownership.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying a report to determine if it remains applicable.

Topsoil

For the purposes of this report, we consider topsoil to consist of generally fine-grained soil with an appreciable amount of organic matter based on visual examination, and to be unsuitable for direct support of the proposed improvements. However, the organic content and other mineralogical and gradational characteristics used to evaluate the suitability of soil for use in landscaping and agricultural purposes was not determined, nor considered in our analyses. Therefore, the information and recommendations in this report, and our logs and descriptions should not be used as a basis for estimating the volume of topsoil available for such purposes.

Most Geotechnical and Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

Do not over-rely on the preliminary construction recommendations included in this report. These recommendations are not final, because they were developed principally from GeoEngineers' professional judgment and opinion. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for this report's recommendations if we do not perform construction observation.

Sufficient monitoring, testing and consultation by GeoEngineers should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether or not earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction

observation for this project is the most effective method of managing the risks associated with unanticipated conditions.

A Geotechnical Engineering or Geologic Report Could be Subject to Misinterpretation

Misinterpretation of this report by other design team members can result in costly problems. You could lower that risk by having GeoEngineers confer with appropriate members of the design team after submitting the report. Also retain GeoEngineers to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering or geologic report. Reduce that risk by having GeoEngineers participate in pre-bid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Give Contractors a Complete Report and Guidance

Some owners and design professionals believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering or geologic report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer. A pre-bid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might an owner be in a position to give contractors the best information available, while requiring them to at least share the financial responsibilities stemming from unanticipated conditions. Further, a contingency for unanticipated conditions should be included in your project budget and schedule.

Contractors are Responsible for Site Safety on their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and to adjacent properties.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers

if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic and Environmental Reports Should not be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention, or assessment of the presence of Biological Pollutants in or around any structure. Accordingly, this report includes no interpretations, recommendations, findings, or conclusions for the purpose of detecting, preventing, assessing, or abating Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

#14464

GeoEngineers
1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

June 27, 2012

Creekside DuPont Partners LLC
1201 Pacific Avenue, Suite 1501
Tacoma, Washington 98402

Attention: Lia Estigoy

Subject: Report
Lot X Import Fill Source Sampling (Lot Y Test Pit Explorations)
Creekside Village Development Project
DuPont, Washington
File No. 16785-002-02, Task 300

INTRODUCTION

GeoEngineers performed environmental sampling services for Creekside DuPont Partners LLC (CDP) regarding potential import fill for the Creekside Village Development project (Lot X) in DuPont, Washington. The potential source of the import fill material will be from the Lot Y Industrial Park property (site) located adjacent and west of the Lot X property. The site is located approximately 440 feet west of Center Drive and just north of the Sequalitchew Creek. The location of the site is shown on Figure 1.

CDP plans to excavate up to 16,000 cubic yards (CY) of gravel material from the eastern portion of the site and place the import fill material onto the Lot X property during final grading operations. Washington State Department of Ecology (Ecology) has indicated that the material to be excavated from the site will require testing for arsenic and lead in accordance with the "Tacoma Smelter Plume's Draft Guidance Model Remedies Guidance" dated October 2011 for reuse on the Lot X property.

SCOPE OF SERVICES

The purpose of our environmental services was to collect soil samples from test pits completed by the on-site contractor to evaluate the soil conditions for reuse as import fill on the Lot X property. The specific scope of services is listed below.

1. Update the Health and Safety Plan (HASP) for use by GeoEngineers' personnel during the field activities.
2. Observe the on-site contractor complete five test pits on the eastern portion of the site.

Attachment 1.h. Import Fill Source Sampling letter prepared by GeoEngineers dated June 27, 2012

3. Collect one composite soil sample from each test pit for chemical analysis in accordance with Ecology's "Tacoma Smelter Plume's Draft Guidance Model Remedies Guidance" dated October 2011 – Chapter 10 (Import Fill). Soil samples were collected from approximately 2 to 10 feet below ground surface (bgs) in each test pit.
4. Submit a total of five composite soil samples for analysis of total arsenic and lead by Environmental Protection Agency (EPA) method 6000/7000 series.
5. Evaluate the data with respect to Ecology's "Tacoma Smelter Plume's Draft Guidance Model Remedies Guidance" dated October 2011 criteria for arsenic and lead.
6. Prepare this report that summarizes the results of the soil sampling services.

SOIL SAMPLING AND CHEMICAL ANALYTICAL RESULTS

Five test pits were located within the proposed area where approximately up to 16,000 CY will be excavated from the eastern portion of the site for use as import fill onto Lot X during final grading operations. The proposed excavation area and test pit locations are shown on Figure 2.

The upper 2 feet of soil was removed at each test pit location prior to beginning the sample collection process. Six subsamples were collected at various depths (between 2 and 10 feet bgs) in each test pit. The six subsamples within each test pit were placed into a stainless steel bowl and mixed with a stainless steel spoon to homogenize into a single composite sample. Sampling equipment was decontaminated following sample collection at each test pit. Each composite sample was placed into a laboratory-supplied jar. The samples were placed in coolers with blue ice following collection and transported under standard chain-of-custody protocol to OnSite Environmental, Inc. in Redmond, Washington.

One composite sample (LYIS-1-060512 through LYIS-5-060512) was collected from each test pit on June 5, 2012 for chemical analysis. The composite samples were identified using the following identification system: LYIS-1-060512, where LYIS refers to Lot Y Import Source, -1 is the test pit number and -060512 is the date of sample collection.

The chemical analytical data are summarized in Table 1. A copy of the laboratory report is provided in Appendix A. The analytical results were compared to the arsenic and lead criteria identified in the Tacoma Smelter Plume's Draft Guidance Model Remedies Guidance" dated October 2011.

Analytical results indicate arsenic and lead were not detected in the analyzed composite soil samples from the Lot Y import fill source.

CONCLUSIONS

Arsenic and lead were not detected in the analyzed soil samples and therefore are less than the criteria identified in Ecology's "Tacoma Smelter Plume's Draft Guidance Model Remedies Guidance" document.

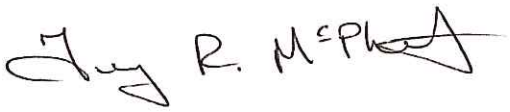
LIMITATIONS

We have prepared this report for use by Creekside DuPont Partners LLC regarding the Creekside Village Development (Lot X) property located north of Sequalitchew Creek and West of Center Drive in DuPont, Washington.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

Sincerely,
GeoEngineers, Inc.



Terry R. McPhetridge, LG, LHG
Associate

TRM:cn

Table 1. Summary of Chemical Analytical Results for Arsenic and Lead - Soil
Figure 1. Vicinity Map
Figure 2. Site Plan Showing Test Pit Locations
Appendix A. Laboratory Results
Appendix B. Report Limitations and Guidelines for Use

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

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TABLE 1

SUMMARY OF CHEMICAL ANALYTICAL RESULTS FOR ARSENIC AND LEAD - SOIL[1]

LOT X IMPORT FILL SOURCE SAMPLING (LOT Y TEST PIT EXPLORATIONS)

CREEKSIDE VILLAGE DEVELOPMENT PROJECT

DUPONT, WASHINGTON

Sample ID[3]	Metals[2] (mg/kg)		Ecology's Draft 'TSPMRG' Criteria for Arsenic[4]	Ecology's Draft 'TSPMRG' Criteria for Lead[4]
	Arsenic	Lead		
LYIS-1-060512	U (11)	U (5.3)		
LYIS-2-060512	U (11)	U (5.5)		
LYIS-3-060512	U (11)	U (5.4)		
LYIS-4-060512	U (11)	U (5.3)		
LYIS-5-060512	U (11)	U (5.3)		
Average Concentration[5]	NA	NA	Less than 20 mg/kg	Less than 250 mg/kg
Highest Concentration[6]	NA	NA	Less than 40 mg/kg	Less than 500 mg/kg

Notes:

[1] Chemical analysis performed by OnSite Environmental, Inc. of Redmond, Washington.

[2] Arsenic and lead analyzed by EPA 6000/7000 series method.

[3] Sample ID LYIS-1-060512 = Lot Y Import Source - test pit number - date collected (month, day, year).

[4] Ecology's 'Tacoma Smelter Plume Draft Model Remedies Guidance' document, dated October 2011.

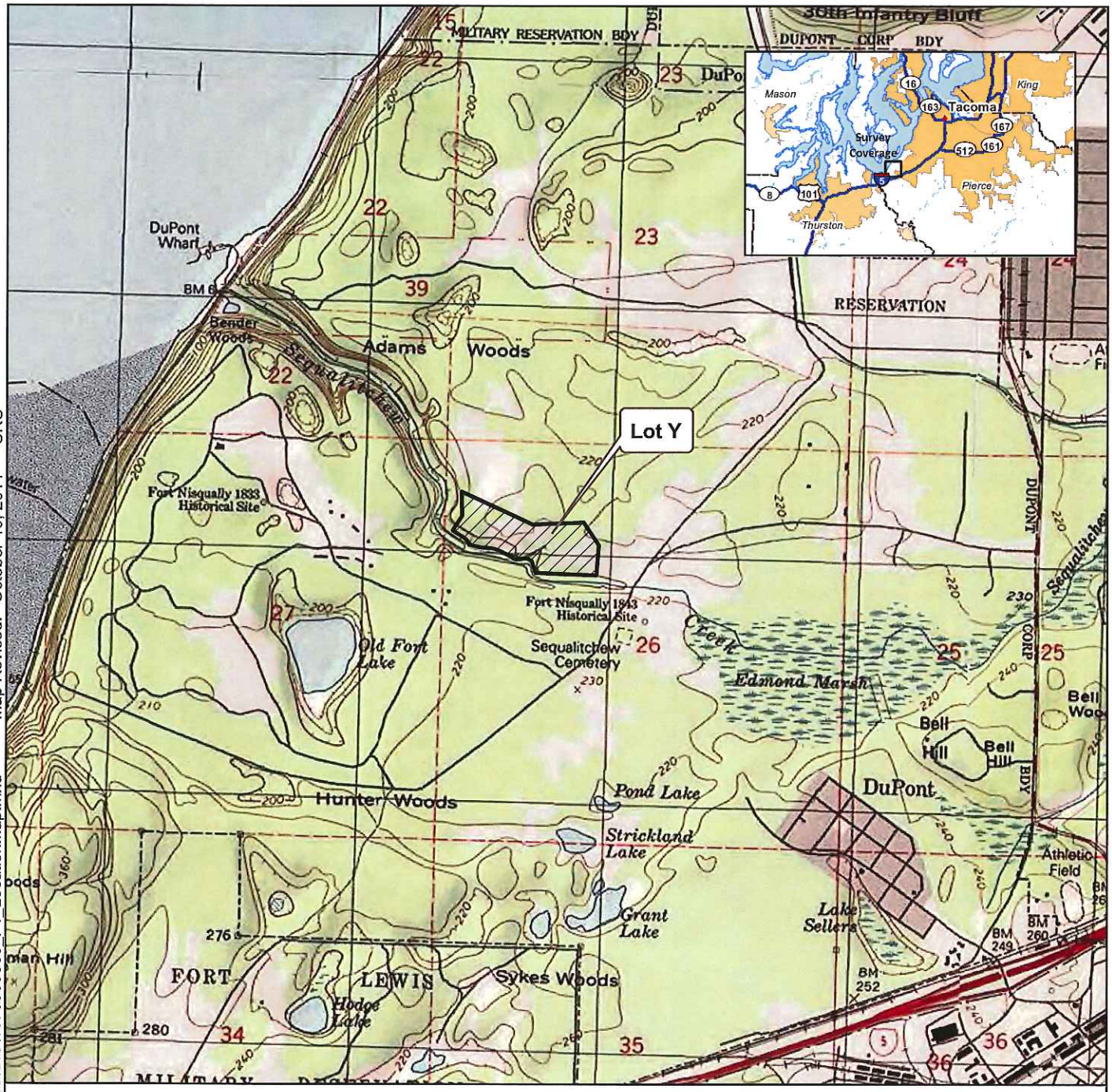
[5] Average concentration is based on the results of the analyzed soil samples. No concentration value was used in samples where arsenic and lead were not detected at the laboratory reporting limit.

[6] No concentration value was used in samples where arsenic and lead were not detected at the laboratory reporting limit.

mg/kg = milligram per kilogram

NA = Not applicable, arsenic and lead were not detected in the analyzed soil samples.

U = Analyte was not detected at or greater than the method reporting limit.



Lot Y

T19N, R 1E, Section 26
USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

1:24,000

2,000 0 2,000
Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

Vicinity Map

Lot Y Industrial Park
DuPont, Washington

GeoEngineers

Figure 1

Office: Tacoma Path: W:\Tacoma\Projects\16\16785003\GIS\16785003000_F1_LocationMap.mxd Map Revised: October 10, 2011 CRC



Lot Y Test Pit Location

Lot Y Property Boundary

Proposed Excavation Area

(Import Fill for Lot X)

N
W E
S

300 0 300

Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005
Bing Aerial from ESRI Data Online.

WGS 1984
North arrow oriented to grid north

Site Plan Showing Test Pit Locations

Lot Y Industrial Park
DuPont, Washington

GeoEngineers

Figure 2

Office: Tacoma Path: \\tac\projects\16\16785003\00\LOTX_GIS\LotY_TestPitLocations.mxd Map Revised: June 27, pdr

APPENDIX A
Laboratory Results

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 7, 2012

Terry McPhetridge
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 16785-002-02 T300
Laboratory Reference No. 1206-029

Dear Terry:

Enclosed are the analytical results and associated quality control data for samples submitted on June 6, 2012.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

Case Narrative

Samples were collected on June 5, 2012 and received by the laboratory on June 6, 2012. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
LYIS-1-060512	06-029-01	Soil	6-5-12	6-6-12	
LYIS-2-060512	06-029-02	Soil	6-5-12	6-6-12	
LYIS-3-060512	06-029-03	Soil	6-5-12	6-6-12	
LYIS-4-060512	06-029-04	Soil	6-5-12	6-6-12	
LYIS-5-060512	06-029-05	Soil	6-5-12	6-6-12	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

TOTAL METALS
EPA 6010B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	06-029-01					
Client ID:	**LYIS-1-060512**					
Arsenic	**ND**	11	6010B	6-6-12	6-6-12	
Lead	**ND**	5.3	6010B	6-6-12	6-6-12	
Lab ID:	06-029-02					
Client ID:	**LYIS-2-060512**					
Arsenic	**ND**	11	6010B	6-6-12	6-6-12	
Lead	**ND**	5.5	6010B	6-6-12	6-6-12	
Lab ID:	06-029-03					
Client ID:	**LYIS-3-060512**					
Arsenic	**ND**	11	6010B	6-6-12	6-6-12	
Lead	**ND**	5.4	6010B	6-6-12	6-6-12	
Lab ID:	06-029-04					
Client ID:	**LYIS-4-060512**					
Arsenic	**ND**	11	6010B	6-6-12	6-6-12	
Lead	**ND**	5.3	6010B	6-6-12	6-6-12	
Lab ID:	06-029-05					
Client ID:	**LYIS-5-060512**					
Arsenic	**ND**	11	6010B	6-6-12	6-6-12	
Lead	**ND**	5.3	6010B	6-6-12	6-6-12	

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

TOTAL METALS
EPA 6010B
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-6-12
Date Analyzed:	6-6-12
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0606SM2

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Lead	6010B	**ND**	5.0

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

TOTAL METALS
EPA 6010B
DUPLICATE QUALITY CONTROL

Date Extracted: 6-6-12
Date Analyzed: 6-6-12

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 06-029-04

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	5.0	

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

TOTAL METALS
EPA 6010B
MS/MSD QUALITY CONTROL

Date Extracted: 6-6-12
Date Analyzed: 6-6-12

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 06-029-04

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**89.4**	89	**93.8**	94	5	
Lead	250	**243**	97	**254**	102	4	

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 7, 2012
Samples Submitted: June 6, 2012
Laboratory Reference: 1206-029
Project: 16785-002-02 T300

% MOISTURE

Date Analyzed: 6-6-12

Client ID	Lab ID	% Moisture
LYIS-1-060512	06-029-01	6
LYIS-2-060512	06-029-02	9
LYIS-3-060512	06-029-03	7
LYIS-4-060512	06-029-04	6
LYIS-5-060512	06-029-05	5

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 06-029

Company: GeoEngineers
Project Number: 16785-002.02 T300
Project Name: DuPont-Creekside
Project Manager: Terry McPhetridge
Sampled by: Paul Robinette

Turnaround Request (in working days)

(Check One)

☐ Same Day ☒ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	No. of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Lead & Arsenic				% Moisture
1	L4IS-1-060512	6/5	1430	S	1																	X				10
2	L4IS-2-060512	6/5	1440	S	1																	X				
3	L4IS-3-060512	6/5	1447	S	1																	X				
4	L4IS-4-060512	6/5	1452	S	1																	X				
5	L4IS-5-060512	6/5	1500	S	1																	X				

	Signature	Company	Date	Time
Relinquished	Paul Robinette	GeoEngineers	6/5	16:24
Received	Andria Brown	GeoEngineers	6/5	16:24
Relinquished	Stephen Walker	GED	6/6	7:30
Received	[illegible]	[illegible]	6-6	7:30
Relinquished	[illegible]	[illegible]	6-6	5PC
Received	[illegible]	OSE	6/6/12	0850
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Environmental Services are Performed for Specific Purposes, Persons and Projects

This report has been prepared for use by Creekside DuPont Partners LLC. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except Creekside DuPont Partners LLC should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for Soil Sampling Services at the Creekside Village Development project (Lot X) located in DuPont, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

If a lending agency or other parties intend to place legal reliance on the product of our services, we require that those parties indicate in writing their acknowledgement that the scope of services provided, and the general conditions under which the services were rendered including the limitation of professional liability, are understood and accepted by them. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

1 Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

Environmental Regulations are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

Subsurface Conditions can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

Topsoil

For the purposes of this report, we consider topsoil to consist of generally fine-grained soil with an appreciable amount of organic matter based on visual examination, and to be unsuitable for direct support of the proposed improvements. However, the organic content and other mineralogical and gradational characteristics used to evaluate the suitability of soil for use in landscaping and agricultural purposes was not determined, nor considered in our analyses. Therefore, the information and recommendations in this report, and our logs and descriptions should not be used as a basis for estimating the volume of topsoil available for such purposes.

Most Environmental Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Do Not Redraw the Exploration Logs

Environmental scientists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in an environmental report should never be redrawn for inclusion in other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations"

provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic and Geoenvironmental Reports Should Not Be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention, or assessment of the presence of Biological Pollutants in or around any structure. Accordingly, this report includes no interpretations, recommendations, findings, or conclusions for the purpose of detecting, preventing, assessing, or abating Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

May 23, 2018

Mr. Jeffrey S. Wilson, AICP
City of DuPont
Department of Community Development
1700 Civic Drive
DuPont, WA 98327

RE: Responses to Notice of Incomplete Application
Type III Site Plan Review and SEPA Environmental Review
DuPont Industrial Park located at
1700 Center Drive, DuPont, Pierce County, Washington
City of DuPont File Nos. PLNG 2018-008, -009
Our Job No. 18666

Dear Mr. Wilson:

We have revised the plans and technical documents for the above-referenced project in accordance with the comments in your Notice of Incomplete Application letter dated February 23, 2018. Enclosed are the following documents for your review and approval:

1. Eight (8) sets revised Preliminary Civil Engineering Design Plans
2. Eight (8) sets revised Preliminary Landscape Planting and Tree Retention Plans
3. Two (2) each Email from LeMay, Inc. confirming Approval of Dumpster Location
4. Eight (8) each revised Architectural Site Plan
5. Eight (8) each revised Building A Elevations
6. Eight (8) each revised Building B Elevations
7. Eight (8) each revised Building B Southwest Perspective
8. Eight (8) each Buildings A and B Color Scheme Elevation
9. Two (2) each revised SEPA Checklist (updates show in bold text)
10. Two (2) each Title Report dated April 2, 2018
11. Two (2) each Site Specific Sewer Information Letter provided by Pierce County
12. Two (2) each Water Availability Letter signed by Applicant
13. One (1) each current Assessor Map with Property Owner 300-foot Radius
14. One (1) each current Property Owner 300-foot Radius List
15. One (1) set Addressed and Stamped Mailing Envelopes

Attachment 2.a. Response to Comments Letter prepared by Barghausen Consulting Engineers dated May 23, 2018

16. Two (2) each Tree Retention Plan prepared by Washington Forestry Consultants
17. Two (2) each Department of Archeologic and Historic Preservation (DAHP) Letter
18. Two (2) each Response to DAHP Letter provided by DuPont Industrial Partners, LLC
19. Two (2) each Consent Decree between Washington State DOE and Weyerhaeuser Company and DuPont Company
20. Two (2) each Cultural Resources Report
21. Two (2) each Geotechnical Engineering Report
22. Two (2) each Addendum to Geotechnical Engineering Report
23. Two (2) each revised Traffic Impact Analysis

The following outline provides each of the comments in italics, along with a narrative response describing how each comment was addressed:

The following items are required to be submitted for the application to be deemed complete:

1. *The Civil plans drawn at l"=40' instead of l"=20 as stated on the application checklist. The scale needs to be revised to 1" = 20'.*

   Response: Per a phone discussion with Jeff Wilson, it has been determined that a 1"=40' scale is acceptable to the city for the civil engineering design plans.

2. *While the attached Architecture Site Plan provides a site drawing of the refuse enclosure, there is no approval from LeMay, Inc. The approval from LeMay is required for a complete application.*

   Also, note that one of the refuse enclosures is not shown on the Civil Plan Set. The Architecture Site Plan and the Civil Site Plan will need to match.

   Response: Ric Thompson of LeMay, Inc. has been contacted per your comment and he has provided additional approval of the dumpster location. A copy of the email correspondence is included with this package. The civil engineering plans have been revised to show the location of the dumpster as requested.

3. *The Preliminary Building Elevations and Renderings are required to identify the building materials and colors of the proposed buildings and compliance with DMC 25.45.030(5).*

   Response: Building elevations have been updated to call out the materials and colors. A rendering of a partial elevation has been included to show the building color scheme for both buildings. A typical perspective has also been included to show how the building entrances are emphasized with steel canopies at the entrances, raised parapets, and varying the wall thickness of the exterior walls. Additional trees have been added between the sidewalk and the east side of building B to soften the east elevation.

4. *The Title Report is dated July 15, 2011. Pursuant the Land Use Application Checklist, the Title Report is required to be less than 30 days old.*

   Response: Copies of the title report current as of April 2, 2018 are enclosed.

5. *The Applicant submitted a copy of the receipt requesting Pierce County for Sewer Service Availability. Pursuant to the Land Use Application Checklist, the Letter of Sewer Availability from Pierce County is required at the time of land use application submittal.*

   Response: A current Site Specific Sewer Information Letter provided by Pierce County is included with this resubmittal.

6. *The Applicant submitted a Letter of Water Availability from City of DuPont without Applicant signature. A signature from the applicant is required for a complete application.*

   Response: A copy of the letter of water availability with applicant signature is attached.

7. *The Applicant submitted a list of property owners and a map that identifies the properties within 300 feet of the project site. The 300-foot property owner map is dated December 24, 2015 and the property owner list provided no date. It is unknown if the property addresses are up to date at this time. The 300-foot property owner map and property owner list must be less than 30 days old. Also, stamped and addressed mailing envelopes were not provided and are required for a complete application.*

   Response: The property owner map exhibit has been prepared using the assessor map currently available through the Pierce County Assessor-Treasurer's office. The property owner information has also been verified using current Pierce County Assessor-Treasurer information. A set of addressed and stamped mailing envelopes for all property owners within the 300-foot radius of the site is enclosed along with the current radius map exhibit and property owner list.

8. *Tree Retention.*

   a. *Pursuant to the February 15, 2017 Pre-Application Meeting Comment Letter Comment 13, 20, and 26, an arborist report describing the number, type, and health of existing trees will be required at the time of Land Use Application for Site Plan Review. This includes identifying the location, size, and species of all landmark, historic, and specimen trees.*

      Response: A Tree Retention Plan by Washington Forestry Consultants has been prepared and the preliminary landscape plans have been revised to correspond to the tree retention information provided in the report and copies of both are included with this resubmittal.

   b. *Oregon White Oaks: DMC 25.120.030(2) requires that all landmark Oregon White Oak trees be retained, along with any native understory with a protection zone one and one-half times the radius of the oak's canopy, unless the landmark oaks are within a proposed street right-of-way which is integral to the neighborhood and cannot reasonably be moved, or unless overall neighborhood densities cannot be met. The site does not meet*

the described exceptions and the proposal seeks to remove landmark Oregon White Oak trees. Your options are to either revise the proposal to not remove any landmark Oregon White Oak trees, or:

i. Submit a letter from a certified arborist that finds the trees are hazardous or diseased as described in 25.120.030(8).

ii. Submit for a Type III Modification to the Tree Retention requirements. The application will need to include a Land Use Application Form, $3,000 fee, together with written documentation and justification based on the purpose for tree retention as described in DMC 25.120.010.

Response: Two Oregon White Oaks will need to be removed as they are within the limits of the road improvements and cannot be retained. There is a third Oregon White Oak #65 shown in the Tree Retention Plan that has been called out to be removed, however, the site plan has been revised so as to be able to retain that tree.

Also, a revision to the Tree Retention, Removal, and Replacement Plan is required to meet DMC 25.120.030 Tree Retention requirements. Specifically, DMC 25.120.030(2) — (9). Revise the tree plan to include a table identifying tree types and sizes for trees to be retained and removed. Revise the plan to identify trees to be removed with an "X", consistent with the note under the Plant Schedule. Trees required to be retained that are proposed to be removed shall be mitigated for by planting an equivalent caliper of like trees, or other alternative as recommended by the arborist.

Response: A Tree Retention Plan has been prepared and the tree retention, removal, and replacement plan included in the preliminary landscape plans has been updated.

9. *Pursuant to the February 15, 2017 Pre-Application Meeting Comment Letter Comment 16, 20, and 26, it is required to verify that the site has been tested to show that average arsenic in soil is less than 20mg/kg, OR no single soil sample has arsenic above 40 mg/kg. A copy of the No Further Action letter issued by Department of Ecology is required prior to issuance of site development permits.*

   Response: The requested testing will be done during the early stages of construction after the clearing and grading has been started as the testing needs to be completed when grades are at or near the designed finish surface. The tests will be provided to Department of Ecology and a copy of the No Further Action Letter will be forwarded to the City.

10. *Pursuant to the February 15, 2017 Pre-Application Meeting Comment Letter Comment 20 and 26, a Cultural Resource Study is required to be submitted for SEPA Review. The SEPA Checklist indicates this has been completed, but a copy was not provided. Also, indicate on the plans where the historical marker is planned to be relocated to. The cultural and archaeological significance of the site needs better explanation and disclosure in the SEPA Checklist. The Cultural Resources Study should provide documentation and plans to preserve, protect and document the significance of the site. The Washington Department of Historic and Archaeologic Preservation should be included in the plans (DAHP). There is a potential that DAHP may require a new Cultural Resources Study be completed prior to any land disturbing activity.*

Response: The complete Cultural Resources Study is attached to this resubmittal. The new location of the historical marker has been included on the plans, and the new location of the marker is now shown on sheet C6.

11. *A "Park" is not an allowed use in the MRP zoning district. It is also not allowed under the Dept. of Ecology Consent Decree. There are alternatives for the area you have designed as Park, such as designating the area as an open space tract, or for preservation under a cultural/historic conservation easement. Please work with City staff to define the area in a manner that meets the intended use and is compliant with code and the Consent Decree.*

    Response: This area is now shown as "open space."

12. *As stated in the pre-application letter, the buffer of Sequalitchew Creek shall be shown on the plans. Per DMC 25.105.040(1)(b), Streams and their buffers: no development may take place in the "top of the upper bank of the stream and the outside edge of its buffer as determined and field marked by a professional biologist, ecologist, or similarly qualified professional". Per DMC 25.105.070(4)(a), a 100-foot buffer is required on each side of a stream bank.*

    Response: A 100-foot stream buffer has been added to the plans.

13. *The City has not yet adopted a new Critical Areas Ordinance and we are not certain when it will be adopted. Please note that if the application is incomplete and the new CAO is adopted, the application will be required to comply with the new regulations.*

    Response: Comment acknowledged.

14. *The Geotechnical Report provided needs to be updated to include the proposed development footprint. The civil plans indicate an encroachment into the required 50-foot slope buffer by an approximate 2-foot wall. The encroachment shall either be removed or the geotechnical report is required to address the requirements of DMC 25.105.070(2)(c).*

    Response: The site plan has been revised to remove the encroachment on the buffer, and an addendum to the original geotechnical engineering report has been prepared to include the proposed development footprint.

15. *The traffic study needs to be revised per the comments submitted separately by email from the City's transportation consultant Geri Reinart dated February 12, 2018.*

    Response: The Traffic Impact Analysis has been revised and copies are included with this resubmittal.

16. *Transportation Concurrency. The City has adopted a new process for evaluating concurrency requirements as required by the State Growth Management Act (DMC 25.115). The trip generation data submitted indicates that the project exceeds 50 or more average trips per day, and is therefore required to meet concurrency requirements. The City will forward the trip generation and project information to our traffic consultant for review and determination of concurrency. The determination required at the time of building application. DMC 25.115.030(1)(b) states that the applicant shall provide the city with all information*

necessary to complete the concurrency evaluation on the propose development and it is the responsibility of the applicant to provide studies, surveys, traffic counts, engineering review or any other items determined to be necessary for the concurrency evaluation. If you would prefer to submit additional traffic study or other information to support the concurrency evaluation, include that with your resubmittal items.

Response: This comment is acknowledged. At this time an additional traffic study is not included, but may be completed and submitted prior to the building application if required by the city.

17. *Please confirm who the responsible party is for payment of invoices.*

Response: The responsible party for payment of invoices is:

DuPont Industrial Partners, LLC
1940 East 'D' Street, Suite 108
Tacoma, WA 98421

18. *Please confirm the trail located south of Building B is located in an easement.*

Response: The existing trail and easement have been clearly identified on the plans.

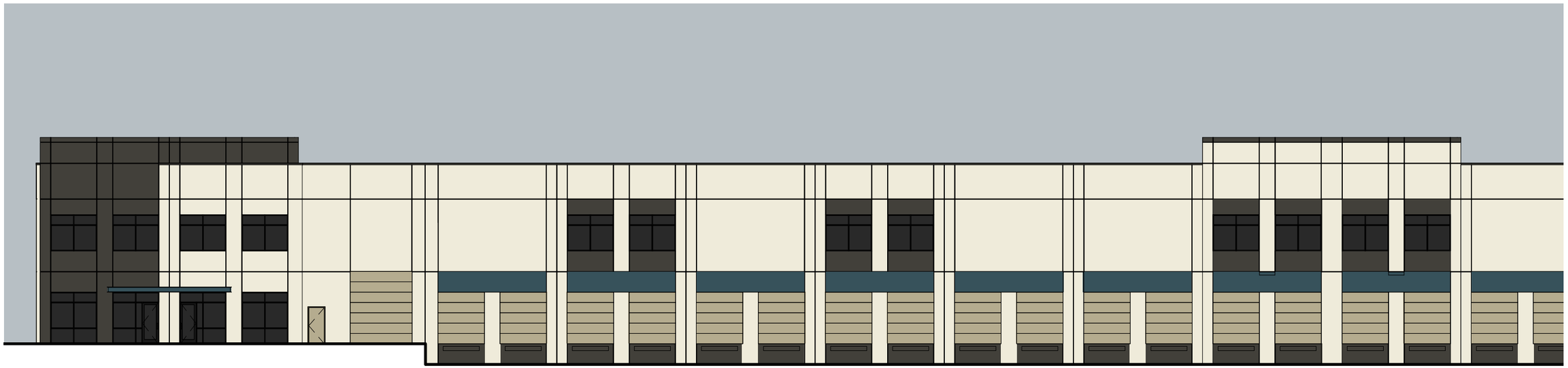
We believe that the above responses, together with the enclosed revised plans and technical documents, address all of the comments in your Notice of Incomplete Application letter dated February 23, 2018. Please review and approve the enclosed at your earliest convenience. If you have questions or need additional information, please do not hesitate to contact me at this office. Thank you.

Sincerely,

Daniel K. Balmelli

Daniel K. Balmelli, P.E.
Executive Vice President

DKB/dm
18666c.002.doc
enc: As Noted
cc: Mr. Eric Cederstrand, DuPont Industrial Partners
Mr. Costa Philippides, Barghausen Consulting Engineers, Inc.
Mr. Tyler Louden, Barghausen Consulting Engineers, Inc.



Building Body Color 1
Sherwin-Williams SW 7632
Modern Gray

Building Body Color 2
Sherwin-Williams SW 7674
Peppercorn

Storefront and Windows
Black

Doors
Sherwin-Williams SW 7635
Palisade

Canopies
AEP-Span Cool Regal Blue

BUILDINGS A & B COLOR SCHEME

Attachment 2.b. Buildings A and B Color Scheme
prepared by Helix Design Group dated March 30, 2018

DUPONT INDUSTRIAL

DESIGN REVIEW

DATE: 03.30.18



Attachment 2.c. Perspective Illustration prepared by Helix Design Group dated March 30, 2018

SOUTHEAST PERSPECTIVE

HELIX DESIGN GROUP, INC.

Helix design group

3/29/2018 8:01:22 AM PROJECT: a18-009 - DUPONT INDUSTRIAL

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

May 4, 2011

Mr. Bill Kingman, Planning Manager
City of Dupont
1700 Civic Drive
Dupont, WA 98237

Re: Lot Y

Dear Mr. Kingman:

We are in receipt of an archaeological survey report entitled *Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, DuPont, Washington* authored by Sikes and Arrington.

We have the following comments and questions:

1. We would like to see and have the opportunity to comment on the project plans when they are submitted. At that time, we will be able to make more substantive comments on the report and the project when we can compare the proposed disturbance areas with the archaeological work that was done.

2. We understand a proposal to move the Methodist Mission marker is a possibility. We will need to discuss that with the Proponents when they have more information about where it will be moved and the interpretive plans they have for it.

3. Sikes and Arrington did find a section of the narrow gauge railroad, which is a historical period archaeological resource. While the segment is recommended as not National Register eligible, further evaluation and context development is needed before we would agree with that recommendation. In view of its association with the historically significant DuPont Works, when site plans are being drafted, we recommend that this track segment (or portions of it) be retained in place and incorporated as project green space and/or as a landscape feature. We would also advise obtaining comments and recommendations by the DuPont Historical Society.

Please feel free to contact me at (360) 586-3083 or by email if you have any questions. We look forward to working further on this project.

Sincerely,

Stephenie Kramer
Assistant State Archaeologist
Email: stephenie.kramer@dahp.wa.gov

cc: Eric Cederstrand
Cindy Arrington
Joe Kalama

Attachment 2.d. Letter to City of DuPont from Dept. of Archaeology & Historic Preservation dated May 4, 2011

ALTA COMMITMENT FOR TITLE INSURANCE

Issued By agent:

CHICAGO TITLE
COMPANY OF WASHINGTON

Commitment Number:

0122188-TC

CHICAGO TITLE INSURANCE COMPANY, a Florida corporation ("Company"), for a valuable consideration, commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the Proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest in the land described or referred to in Schedule A, upon payment of the premiums and charges and compliance with the Requirements; all subject to the provisions of Schedules A and B and to the Conditions of this Commitment.

This Commitment shall be effective only when the identity of the Proposed Insured and the amount of the policy or policies committed for have been inserted in Schedule A by the Company.

All liability and obligation under this Commitment shall cease and terminate six (6) months after the Effective Date or when the policy or policies committed for shall issue, whichever first occurs, provided that the failure to issue the policy or policies is not the fault of the Company.

The Company will provide a sample of the policy form upon request.

This Commitment shall not be valid or binding until countersigned by a validating officer or authorized signatory.

IN WITNESS WHEREOF, CHICAGO TITLE INSURANCE COMPANY has caused its corporate name and seal to be affixed by its duly authorized officers on the date shown in Schedule A.

Chicago Title Insurance Company

By:

President

Countersigned By:

Authorized Officer or Agent

CHICAGO TITLE INSURANCE COMPANY CORPORATE SEAL

Attest:

Secretary

Attachment 2.e. Updated Title Report dated April 2, 2018

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ISSUING OFFICE:	FOR SETTLEMENT INQUIRIES, CONTACT:
Title Officer: Tacoma Commercial Unit Chicago Title Company of Washington 4717 South 19th Street, Suite 101 Tacoma, WA 98405 Main Phone: (253)671-6623 Email: CTIPierceCountyCommercialTitle@ctt.com	Escrow Officer: Shelley Anderson Chicago Title Company of Washington 701 5th Avenue, Suite 2700 Seattle, WA 98104 Phone: 206-628-9746 Fax: 206-628-9739 Main Phone: (206)628-5666 Email: shelley.anderson@ctt.com

SCHEDULE A

ORDER NO. 0122188-TC

1. Effective Date: April 2, 2018 at 08:00 AM

2. Policy or Policies to be issued:

   a. ALTA Owner's Policy 2006

Proposed Insured:	Avenue 55, LLC, a Washington limited liability company		
Policy Amount:	$6,331,446.00		
Premium:		$	7,321.00
Tax:		$	739.42
Rate:	Standard Coverage		
Discount(s):	Prior Title & Short Term		
Total:		$	8,060.42

3. The estate or interest in the land described or referred to in this Commitment is:

   Fee Simple

4. Title to the estate or interest in the land is at the Effective Date vested in:

   DuPont Industrial Partners LLC, a Washington Limited Liability Company

5. The land referred to in this Commitment is described as follows:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

END OF SCHEDULE A

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EXHIBIT "A"

Legal Description

Lot Y of City of Dupont Boundary Line Adjustment No. BLA 09-01, recorded December 11, 2009, under Recording No. 200912115001.

Situate in the County of Pierce, State of Washington.

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SCHEDULE B

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

GENERAL EXCEPTIONS

A. Rights or claims of parties in possession, or claiming possession, not shown by the Public Records.

B. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.

C. Easements, prescriptive rights, rights-of-way, liens or encumbrances, or claims thereof, not shown by the Public Records.

D. Any lien, or right to a lien, for contributions to employee benefit funds, or for state workers' compensation, or for services, labor, or material heretofore or hereafter furnished, all as imposed by law, and not shown by the Public Records.

E. Taxes or special assessments which are not yet payable or which are not shown as existing liens by the Public Records.

F. Any lien for service, installation, connection, maintenance, tap, capacity, or construction or similar charges for sewer, water, electricity, natural gas or other utilities, or for garbage collection and disposal not shown by the Public Records.

G. Unpatented mining claims, and all rights relating thereto.

H. Reservations and exceptions in United States Patents or in Acts authorizing the issuance thereof.

I. Indian tribal codes or regulations, Indian treaty or aboriginal rights, including easements or equitable servitudes.

J. Water rights, claims or title to water.

K. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the Public Records, or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires of record for value the estate or interest or mortgage thereon covered by this Commitment.

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SCHEDULE B
(continued)

SPECIAL EXCEPTIONS

1. Declaration of Public Trail Easement and Trail Construction Easement and the terms and conditions thereof:

   Recording Date: September 30, 2010
   Recording No.: 201009301052

2. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: The City of DuPont
   Purpose: Right of way
   Recording Date: January 30, 2014
   Recording No.: 201401300091
   Affects: Southeast portion of said premises as described and depicted therein

3. Reservation of all coal, oil, gas and mineral rights, and rights to explore for the same contained in the deed

   Grantor: Weyerhaeuser Timber Co., a Washington corporation
   Recording Date: February 2, 1990
   Recording No.: 9002020329

   Said instrument was modified by instruments recorded under Recording Nos. 9405130746 and 9510310902.

   No determination has been made as to the current ownership or other matters affecting said reservations.

4. Covenants, conditions, restrictions, easements and liability for assessments but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

   Recording Date: August 24, 1992
   Recording No.: 9208240297

   Modification(s) of said covenants, conditions and restrictions

   Recording Date: January 10, 1995
   Recording No.: 9501100462

   Modification(s) of said covenants, conditions and restrictions

   Recording Date: March 15, 1995
   Recording No.: 9503150368

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SCHEDULE B
(continued)

Modification(s) of said covenants, conditions and restrictions

Recording Date: January 9, 1996
Recording No.: 9601090368

Modification(s) of said covenants, conditions and restrictions

Recording Date: January 26, 1996
Recording No.: 9601260346

Modification(s) of said covenants, conditions and restrictions

Recording Date: March 12, 1996
Recording No.: 9603120707

Modification(s) of said covenants, conditions and restrictions

Recording Date: September 11, 1996
Recording No.: 9609110555

Modification(s) of said covenants, conditions and restrictions

Recording Date: December 24, 1996
Recording No.: 9612240420

Modification(s) of said covenants, conditions and restrictions

Recording Date: October 17, 1997
Recording No.: 9710170646

Modification(s) of said covenants, conditions and restrictions

Recording Date: March 17, 1998
Recording No.: 9803170310

Modification(s) of said covenants, conditions and restrictions

Recording Date: July 7, 1998
Recording No.: 9807070025

Modification(s) of said covenants, conditions and restrictions

Recording Date: December 20, 1999
Recording No.: 9912200109

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SCHEDULE B
(continued)

Modification(s) of said covenants, conditions and restrictions

Recording Date: December 6, 2000
Recording No.: 200012060263, which is a re-recording of instrument recorded under Recording No. 200011080374

Modification(s) of said covenants, conditions and restrictions

Recording Date: September 18, 2002
Recording No.: 200209180938

Modification(s) of said covenants, conditions and restrictions

Recording Date: December 5, 2005
Recording No.: 200512050081

Modification(s) of said covenants, conditions and restrictions

Recording Date: December 21, 2007
Recording No.: 200712210490

Modification(s) of said covenants, conditions and restrictions

Recording Date: August 15, 2008
Recording No.: 200808150280

Modification(s) of said covenants, conditions and restrictions

Recording Date: June 7, 2010
Recording No.: 201006070536

Modification(s) of said covenants, conditions and restrictions

Recording Date: September 30, 2010
Recording No.: 201009301051

Modification(s) of said covenants, conditions and restrictions

Recording Date: October 6, 2010
Recording No.: 201010060494

Modification(s) of said covenants, conditions and restrictions

Recording Date: March 26, 2013
Recording No.: 201303260080

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SCHEDULE B
(continued)

5. Declaration of Restrictive Covenant regarding remedial action under Washington Model Toxics Control Act, including the terms and provisions thereof:

   Recording Date: December 23, 1997
   Recording No.: 9712230865

6. Declaration of Restrictive Covenant regarding remedial action under Washington Model Toxics Control Act, including the terms and provisions thereof:

   Recording Date: October 29, 1999
   Recording No.: 9910290750

7. Notice Regarding Historic District Designation and Declaration of Covenant, including the terms and provisions thereof:

   Recording Date: January 12, 2001
   Recording No.: 200101120143

   Modification(s) of said notice and covenant:

   Recording Date: June 12, 2006
   Recording No.: 200606120310

8. Covenants, conditions, restrictions, recitals, reservations, easements, easement provisions, dedications, building setback lines, notes, statements, and other matters, if any, but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth on Record of Survey for Boundary Line Adjustment:

   Recording No: 200508245006

9. Covenants, conditions, restrictions, recitals, reservations, easements, easement provisions, dedications, building setback lines, notes, statements, and other matters, if any, but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth on Record of Survey:

   Recording No: 200601275001

10. Declaration of Restrictive Covenant regarding remedial action under Washington Model Toxics Control Act, including the terms and provisions thereof:

    Recording Date: July 25, 2006
    Recording No.: 200607251020

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SCHEDULE B
(continued)

11. Covenants, conditions, restrictions, recitals, reservations, easements, easement provisions, dedications, building setback lines, notes, statements, and other matters, if any, but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth on Record of Survey:

    Recording No: 200609185006

12. Covenants, conditions, restrictions, recitals, reservations, easements, easement provisions, dedications, building setback lines, notes, statements, and other matters, if any, but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth on Record of Survey for Boundary Line Adjustment:

    Recording No: 200912115001

13. Amended and Restated Bylaws for Northwest Landing Commercial Owners Association:

    Recording Date: October 6, 2010
    Recording No.: 201010060495

14. Any unpaid assessments or charges, and liability for future assessments or charges by Northwest Landing Commercial Owners Association.

15. Restated Right of Way Maintenance Agreement and Declaration of Easement and Covenant to Share Costs, including the terms and provisions thereof:

    Recording Date: July 12, 1994
    Recording No.: 9407120218

16. Assignment and Assumption Agreement for the Sand and Gravel Mining Lease, including the terms and provisions thereof:

    Recording Date: January 8, 2007
    Recording No.: 200701080464

17. Any question that may arise due to shifting and changing in the course, boundaries or high water line of Sequalitchew Creek.

18. Any prohibition or limitation of use, occupancy or improvement of the Land resulting from the rights of the public or riparian owners to use any portion which is now or was formerly covered by water.

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SCHEDULE B
(continued)

19. Payment of the real estate excise tax, if required.

The Land is situated within the boundaries of local taxing authority of the City of Dupont.

Present rate of real estate excise tax as of the date herein is 1.78 percent.

Any conveyance document must be accompanied by the official Washington State Excise Tax Affidavit. The applicable excise tax must be paid and the affidavit approved at the time of the recording of the conveyance documents. (NOTE: Real Estate Excise Tax Affidavits must be printed as legal size forms).

An additional $5.00 Electronic Technology Fee must be included in all excise tax payments.

If the transaction is exempt, an additional $5.00 Affidavit Processing Fee is required.

20. General and special taxes and charges, payable February 15, delinquent if first half unpaid on May 1, second half delinquent if unpaid on November 1 of the tax year (amounts do not include interest and penalties):

Year:	2018
Tax Account No.:	011926-2-019
Levy Code:	055
Assessed Value-Land:	$1,263,200.00
Assessed Value-Improvements:	$0.00

General and Special Taxes:	
Billed:	$14,720.03
Paid:	$0.00
Unpaid:	$14,720.03

21. Assessment:

Amount:	$211,027.89
Interest:	5.310%
Annual Installments:	20
Next Installment Due:	March 2, 2019
L.I.D. No.:	90-4
Levied by:	Pierce County
Purpose:	Sewer improvements
Account No.:	0119262019

22. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

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SCHEDULE B
(continued)

23. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below.

    Limited Liability Company: Dupont Industrial Partners LLC

    a. A copy of its operating agreement, if any, and any and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

    b. If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendment thereto with the appropriate filing stamps.

    c. If the Limited Liability Company is member-managed a full and complete current list of members certified by the appropriate manager or member.

    d. If the Limited Liability Company was formed in a foreign jurisdiction, evidence, satisfactory to the Company that it was validly formed, is in good standing and authorized to do business in the state of origin.

    e. If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

24. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below.

    Limited Liability Company: Avenue 55, LLC

    a. A copy of its operating agreement, if any, and any and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

    b. If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendment thereto with the appropriate filing stamps.

    c. If the Limited Liability Company is member-managed a full and complete current list of members certified by the appropriate manager or member.

    d. A current dated certificate of good standing from the proper governmental authority of the state in which the entity was created

    e. If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

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SCHEDULE B
(continued)

25. Your application for title insurance was placed by reference to only a street address or tax identification number. Based on our records, we believe that the legal description in this report covers the parcel(s) of Land that you requested. If the legal description is incorrect, the seller/borrower must notify the Company and/or the settlement company in order to prevent errors and to be certain that the correct parcel(s) of Land will appear on any documents to be recorded in connection with this transaction and on the policy of title insurance.

END OF EXCEPTIONS

NOTES

The following matters will not be listed as Special Exceptions in Schedule B of the policy. There will be no coverage for loss arising by reason of the matters listed below because these matters are either excepted or excluded from coverage or are not matters covered under the insuring provisions of the policy.

Note A: Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

Note B: Note: FOR INFORMATIONAL PURPOSES ONLY:

The following may be used as an abbreviated legal description on the documents to be recorded, per Amended RCW 65.04.045. Said abbreviated legal description is not a substitute for a complete legal description within the body of the document:

Lt Y, Dupont BLA #09-01, Rec #200912115001
Tax Account No.: 011926-2-019

Note C: Note: Any map furnished with this Commitment is for convenience in locating the land indicated herein with reference to streets and other land. No liability is assumed by reason of reliance thereon.

END OF NOTES

END OF SCHEDULE B

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CONDITIONS

1. The term mortgage, when used herein, shall include deed of trust, trust deed, or other security instrument.
2. If the proposed Insured has or acquired actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to the Company in writing, the Company shall be relieved from liability for any loss or damage resulting from any act of reliance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the proposed Insured shall disclose such knowledge to the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions.
3. Liability of the Company under this Commitment shall be only to the named proposed Insured and such parties included under the definition of Insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith (a) to comply with the requirements hereof, or (b) to eliminate exceptions shown in Schedule B, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions and Conditions and the Exclusions from Coverage of the form of policy or policies committed for in favor of the proposed Insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.
4. This Commitment is a contract to issue one or more title insurance policies and is not an abstract of title or a report of the condition of title. Any action or actions or rights of action that the proposed Insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment.
5. *The policy to be issued contains an arbitration clause. All arbitrable matters when the Amount of Insurance is $2,000,000 or less shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. You may review a copy of the arbitration rules at http://www.alta.org.*

END OF CONDITIONS

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RECORDING REQUIREMENTS

Effective January 1, 1997, document format and content requirements have been imposed by Washington Law. Failure to comply with the following requirements may result in rejection of the document by the county recorder or imposition of a $50.00 surcharge.

First page or cover sheet:

3" top margin containing nothing except the return address.

1" side and bottom margins containing no markings or seals.

Title(s) of documents.

Recording no. of any assigned, released or referenced document(s).

Grantors names (and page no. where additional names can be found).

Grantees names (and page no. where additional names can be found).

Abbreviated legal description (Lot, Block, Plat Name or Section, Township, Range and Quarter, Quarter Section for unplatted). Said abbreviated legal description is not a substitute for a complete legal description which must also appear in the body of the document.

Assessor's tax parcel number(s).

Return address (in top 3" margin).

**A cover sheet can be attached containing the above format and data if the first page does not contain all required data.

Additional Pages:

1" top, side and bottom margins containing no markings or seals.

All Pages:

No stapled or taped attachments. Each attachment must be a separate page. All notary and other pressure seals must be smudged for visibility. Font size of 8 points or larger.

WIRE SAFE™ | Inquire before you wire!

WIRE FRAUD ALERT

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the number of relevant parties to the transaction as soon as an escrow account is opened.** DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complain Center:
http://www.ic3.gov

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FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Effective: May 1, 2015; Last Updated: March 1, 2017

At Fidelity National Financial, Inc., we respect and believe it is important to protect the privacy of consumers and our customers. This Privacy Notice explains how we collect, use, and protect any information that we collect from you, when and to whom we disclose such information, and the choices you have about the use of that information. A summary of the Privacy Notice is below, and we encourage you to review the entirety of the Privacy Notice following this summary. You can opt-out of certain disclosures by following our opt-out procedure set forth at the end of this Privacy Notice.

Types of Information Collected. You may provide us with certain personal information about you, like your contact information, address demographic information, social security number (SSN), driver's license, passport, other government ID numbers and/or financial information. We may also receive browsing information from your Internet browser, computer and/or mobile device if you visit or use our websites or applications.	**How Information is Collected**. We may collect personal information from you via applications, forms, and correspondence we receive from you and others related to our transactions with you. When you visit our websites from your computer or mobile device, we automatically collect and store certain information available to us through your Internet browser or computer equipment to optimize your website experience.
Use of Collected Information. We request and use your personal information to provide products and services to you, to improve our products and services, and to communicate with you about these products and services. We may also share your contact information with our affiliates for marketing purposes.	**When Information Is Disclosed**. We may disclose your information to our affiliates and/or nonaffiliated parties providing services for you or us, to law enforcement agencies or governmental authorities, as required by law, and to parties whose interest in title must be determined.
Choices With Your Information. Your decision to submit information to us is entirely up to you. You can opt-out of certain disclosure or use of your information or choose to not provide any personal information to us.	**Information From Children**. We do not knowingly collect information from children who are under the age of 13, and our website is not intended to attract children.
Privacy Outside the Website. We are not responsible for the privacy practices of third parties, even if our website links to those parties' websites.	**International Users**. By providing us with your information, you consent to its transfer, processing and storage outside of your country of residence, as well as the fact that we will handle such information consistent with this Privacy Notice.
The California Online Privacy Protection Act. Some FNF companies provide services to mortgage loan servicers and, in some cases, their websites collect information on behalf of mortgage loan servicers. The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through those websites.	
Your Consent To This Privacy Notice. By submitting information to us or by using our website, you are accepting and agreeing to the terms of this Privacy Notice.	**Access and Correction; Contact Us**. If you desire to contact us regarding this notice or your information, please contact us at privacy@fnf.com or as directed at the end of this Privacy Notice.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Effective: May 1, 2015; Last Updated: March 1, 2017

Fidelity National Financial, Inc. and its majority-owned subsidiary companies providing title insurance, real estate- and loan-related services (collectively, "FNF", "our" or "we") respect and are committed to protecting your privacy. We will take reasonable steps to ensure that your Personal Information and Browsing Information will only be used in compliance with this Privacy Notice and applicable laws. This Privacy Notice is only in effect for Personal Information and Browsing Information collected and/or owned by or on behalf of FNF, including Personal Information and Browsing Information collected through any FNF website, online service or application (collectively, the "Website").

Types of Information Collected

We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- social security number (SSN), driver's license, passport, and other government ID numbers;
- financial account information; and
- other personal information needed from you to provide title insurance, real estate- and loan-related services to you.

Browsing Information. FNF may collect the following categories of Browsing Information:

- Internet Protocol (or IP) address or device ID/UDID, protocol and sequence information;
- browser language and type;
- domain name system requests;
- browsing history, such as time spent at a domain, time and date of your visit and number of clicks;
- http headers, application client and server banners; and
- operating system and fingerprinting data.

How Information is Collected

In the course of our business, we may collect *Personal Information* about you from the following sources:

- applications or other forms we receive from you or your authorized representative;
- the correspondence you and others send to us;
- information we receive through the Website;
- information about your transactions with, or services performed by, us, our affiliates or nonaffiliated third parties; and
- information from consumer or other reporting agencies and public records maintained by governmental entities that we obtain directly from those entities, our affiliates or others.

If you visit or use our Website, we may collect *Browsing Information* from you as follows:

- Browser Log Files. Our servers automatically log each visitor to the Website and collect and record certain browsing information about each visitor. The Browsing Information includes generic information and reveals nothing personal about the user.
- Cookies. When you visit our Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. When you visit a website again, the cookie allows the website to recognize your computer. Cookies may store user preferences and other information. You can choose whether or not to accept cookies by changing your Internet browser settings, which may impair or limit some functionality of the Website.

Use of Collected Information

Information collected by FNF is used for three main purposes:

- To provide products and services to you or any affiliate or third party who is obtaining services on your behalf or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you and to inform you about our, our affiliates' and third parties' products and services, jointly or independently.

When Information Is Disclosed

We may provide your Personal Information (excluding information we receive from consumer or other credit reporting agencies) and Browsing Information to various individuals and companies, as permitted by law, without obtaining your prior authorization. Such laws do not allow consumers to restrict these disclosures. Please see the section "Choices With Your Personal Information" to learn how to limit the discretionary disclosure of your Personal Information and Browsing Information.

Disclosures of your Personal Information may be made to the following categories of affiliates and nonaffiliated third parties:

- to third parties to provide you with services you have requested, and to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to our affiliate financial service providers for their use to market their products or services to you;
- to nonaffiliated third party service providers who provide or perform services on our behalf and use the disclosed information only in connection with such services;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to market financial products or services to you;
- to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoena or court order;
- to lenders, lien holders, judgment creditors, or other parties claiming an interest in title whose claim or interest must be determined, settled, paid, or released prior to closing; and
- other third parties for whom you have given us written authorization to disclose your Personal Information.

We may disclose Personal Information and/or Browsing Information when required by law or in the good-faith belief that such disclosure is necessary to:

- comply with a legal process or applicable laws;
- enforce this Privacy Notice;
- investigate or respond to claims that any material, document, image, graphic, logo, design, audio, video or any other information provided by you violates the rights of a third party; or
- protect the rights, property or personal safety of FNF, its users or the public.

We maintain reasonable safeguards to keep your Personal Information secure. When we provide Personal Information to our affiliates or third party service providers as discussed in this Privacy Notice, we expect that these parties process such information in compliance with our Privacy Notice or in a manner that is in compliance with applicable privacy laws. The use of your information by a business partner may be subject to that party's own Privacy Notice. Unless permitted by law, we do not disclose information we collect from consumer or credit reporting agencies with our affiliates or others without your consent.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of our bankruptcy, reorganization, insolvency, receivership or an assignment for the benefit of creditors. You expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings. We cannot and will not be responsible for any breach of security by a third party or for any actions of any third party that receives any of the information that is disclosed to us.

Choices With Your Information

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you. The uses of your Personal Information and/or Browsing Information that, by law, you cannot limit, include:

- for our everyday business purposes – to process your transactions, maintain your account(s), to respond to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders, or report to credit bureaus;
- for our own marketing purposes;
- for joint marketing with financial companies; and
- for our affiliates' everyday business purposes – information about your transactions and experiences.

You may choose to prevent FNF from disclosing or using your Personal Information and/or Browsing Information under the following circumstances ("opt-out"):

- for our affiliates' everyday business purposes – information about your creditworthiness; and
- for our affiliates to market to you.

To the extent permitted above, you may opt-out of disclosure or use of your Personal Information and Browsing Information by notifying us by one of the methods at the end of this Privacy Notice. We do not share your personal information with non-affiliates for their direct marketing purposes.

For California Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by California law. Currently, our policy is that we do not recognize "do not track" requests from Internet browsers and similar devices.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by Vermont law, such as to process your transactions or to maintain your account. In addition, we will not share information about your creditworthiness with our affiliates except with your authorization. For joint marketing in Vermont, we will only disclose your name, contact information and information about your transactions.

Information From Children

The Website is meant for adults and is not intended or designed to attract children under the age of thirteen (13).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian. By using the Website, you affirm that you are over the age of 13 and will abide by the terms of this Privacy Notice.

Privacy Outside the Website

The Website may contain links to other websites. FNF is not and cannot be responsible for the privacy practices or the content of any of those other websites.

International Users

FNF's headquarters is located within the United States. If you reside outside the United States or are a citizen of the European Union, please note that we may transfer your Personal Information and/or Browsing Information outside of your country of residence or the European Union for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection and transfer of such information in accordance with this Privacy Notice.

The California Online Privacy Protection Act

For some FNF websites, such as the Customer CareNet ("CCN"), FNF is acting as a third party service provider to a mortgage loan servicer. In those instances, we may collect certain information on behalf of that mortgage loan servicer via the website. The information which we may collect on behalf of the mortgage loan servicer is as follows:

- first and last name;
- property address;
- user name and password;
- loan number;
- social security number - masked upon entry;
- email address;
- three security questions and answers; and
- IP address.

The information you submit through the website is then transferred to your mortgage loan servicer by way of CCN.

The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through this website. For example, if you believe that your payment or user information is incorrect, you must contact your mortgage loan servicer.

CCN does not share consumer information with third parties, other than (1) those with which the mortgage loan servicer has contracted to interface with the CCN application, or (2) law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders. All sections of this Privacy Notice apply to your interaction with CCN, except for the sections titled "Choices with Your Information" and "Access and Correction." If you have questions regarding the choices you have with regard to your personal information or how to access or correct your personal information, you should contact your mortgage loan servicer.

Your Consent To This Privacy Notice

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information by us in compliance with this Privacy Notice. Amendments to the Privacy Notice will be posted on the Website. Each time you provide information to us, or we receive information about you, following any amendment of this Privacy Notice will signify your assent to and acceptance of its revised terms for all previously collected information and information collected from you in the future. We may use comments, information or feedback that you submit to us in any manner that we may choose without notice or compensation to you.

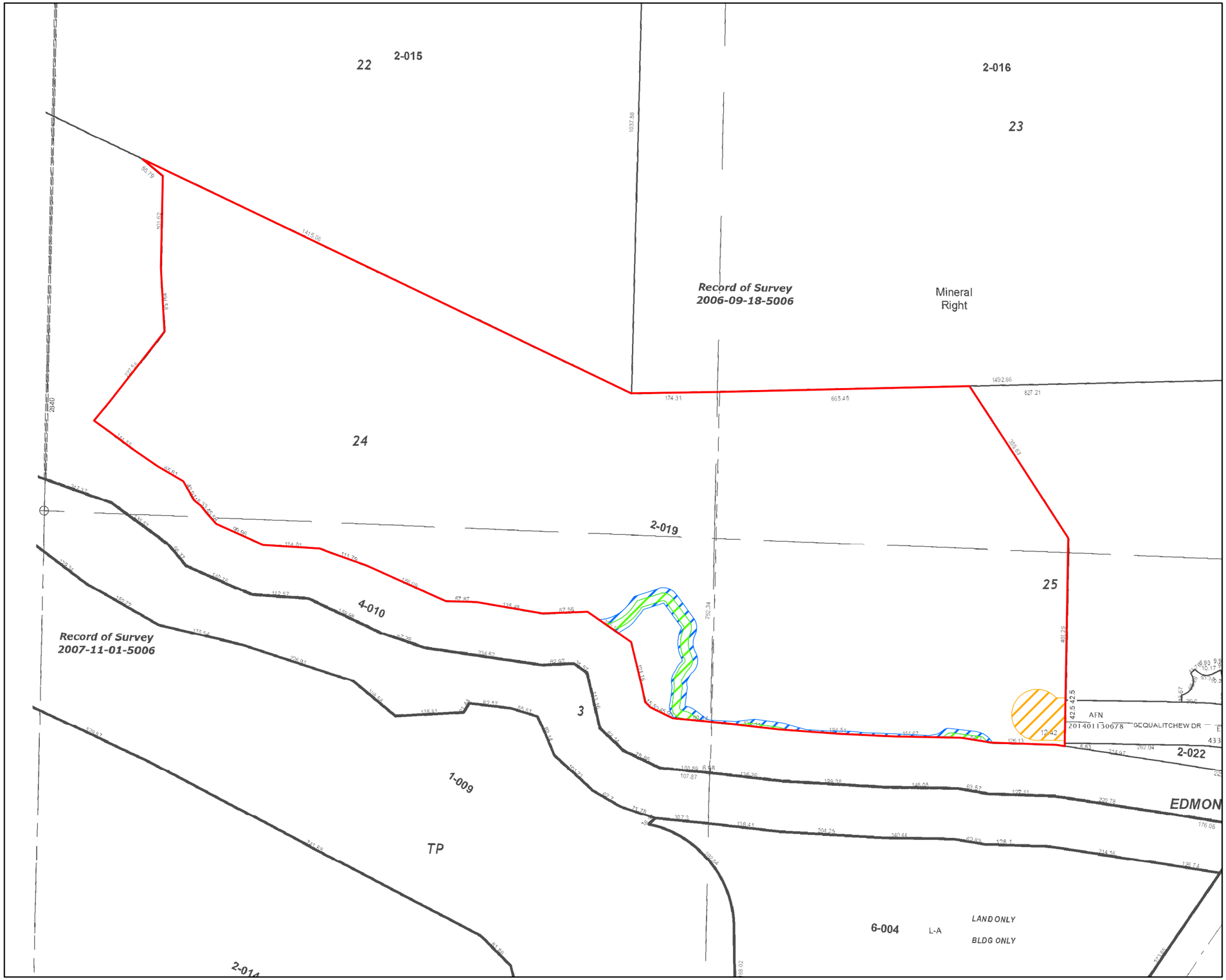
Accessing and Correcting Information; Contact Us

If you have questions, would like to access or correct your Personal Information, or want to opt-out of information sharing with our affiliates for their marketing purposes, please send your requests to privacy@fnf.com or by mail or phone to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer
(888) 934-3354

CHICAGO TITLE
COMPANY OF WASHINGTON

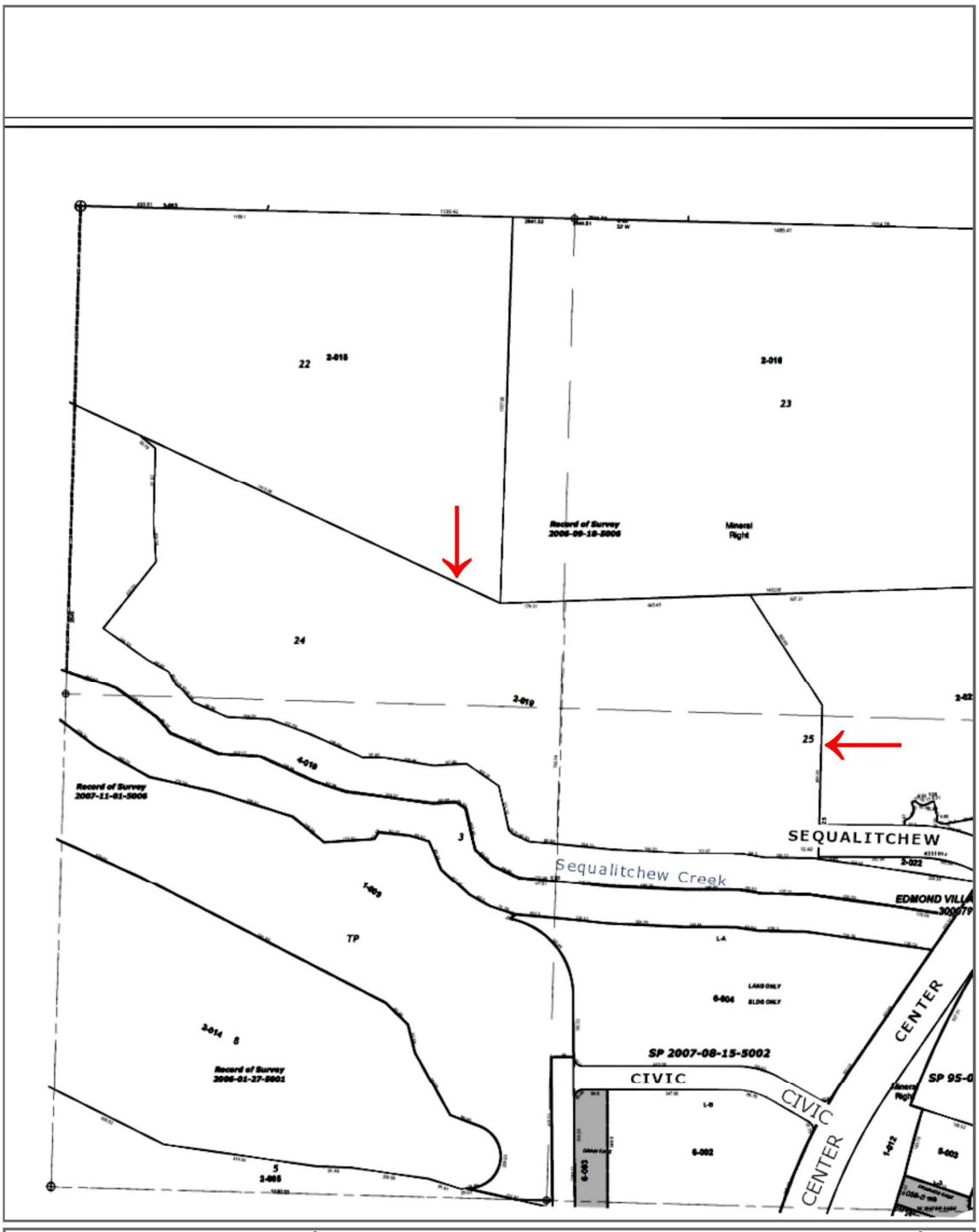
ORDER NO.
0122188-TC
04/13/2018
APN
011926-2-019



Legend

- PIQ
- Item No . 1 - Ease for Public Trail recorded 09/30/2010 # 201009301052 OR
- Item No . 1 - Ease for Trail Construction recorded 09/30/2010 # 201009301052 OR
- Item No . 2 - Ease for Right of Way recorded 01/30/2014 # 201401300091 OR
- Item No . 15 - Ease for Right of Way recorded 07/12/1994 # 9407120218 OR (Unlocatable)

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.



This map/plat is being furnished as an aid in locating the herein described land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

N

201009301052 12 PGS
09/30/2010 03:33:47 PM $73.00
PIERCE COUNTY, WASHINGTON

AFTER RECORDING RETURN TO:
Fikso Kretschmer Smith Dixon PS
2025 First Avenue, Suite 1130
Seattle, Washington 98121
Attn: Bob Fikso

Reference Number of Related Document: N/A
Grantor(s): The Quadrant Corporation
Grantee(s): The Quadrant Corporation
Members of the Public
Abbreviated Legal Description: Lot Y, City of DuPont, BLA No. BLA 09-01, recorded in Pierce County under no. 200912115001
Additional Legal Description is on Page 1 of Document
Assessor's Property Tax Parcel or Account No.: 0119262019

DECLARATION OF PUBLIC TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT

THIS EASEMENT IS EXECUTED IN RELIANCE UPON REVISED CODE OF WASHINGTON ("RCW") SECTION 4.24.210 AND RELATED PROVISIONS AND THE LIMITATIONS OF LIABILITY CONTAINED THEREIN

THIS DECLARATION OF PUBLIC TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT, dated as of September 30, 2010, is made by THE QUADRANT CORPORATION, a Washington corporation ("Quadrant"), for the benefit of itself and of the public.

12233741
Fidelity National Title
Major Accounts
12/74

RECITALS

A. Quadrant owns the real property in the City of DuPont, Washington, described as Lot Y, City of DuPont, Pierce County Boundary Line Adjustment No. BLA 09-01, recorded in Pierce County under no. 200912115001 ("Burdened Property"), generally lying north of Sequalitchew Creek and west of Center Drive.

B. Quadrant has agreed with the City of DuPont ("City") that a 10-foot wide public pedestrian trail ("Trail") will be constructed by Quadrant or its assigns on a portion of the Burdened Property, and on a portion of Lot Z, which is owned by the City and lies to the south of the Burdened Property, as part of the City's Sequalitchew Creek Trail system.

C. Quadrant is making this Declaration to establish a permanent easement for the portion of the Trail on the Burdened Property and a 15- foot wide temporary easement for construction purposes on either side of the permanent easement.

G:\QUADRANT\2.759\DOCS\traileasement01.3(rbf)cl.doc

EXCISE TAX EXEMPT DATE 9-30-10
Pierce County
By _____ Auth. Sig

DECLARATION OF EASEMENTS

1. **Declaration**. Quadrant hereby declares and establishes on the Burdened Property: (i) a perpetual exclusive easement for the Trail ("Trail Easement"), and (ii) a temporary exclusive easement for construction of the Trail on the Trail Easement and on either side of the Trail Easement ("Trail Construction Easement").

2. **Easement Locations; As-Built Description**. The Trail Easement shall be a 15-foot wide right-of-way, in two separate segments, over and across the Burdened Property, substantially as depicted on Exhibit A of this Declaration. The Trail Construction Easement shall consist of the Trail Easement right-of-way and a wider construction zone extending 15 feet northerly of the Trail Easement right-of-way and 5 feet southerly of the Trail Easement right-of-way. Upon completion of construction of the Trail, Quadrant shall have the right to conform the legal description of the Trail Easement to its actual as-built location, and to record an amendment of this Declaration setting forth the conformed as-built legal description. Quadrant shall have the right to record the amendment without the approval or signature of the then-owner of the Burdened Property, and the amendment shall be binding on the owner.

3. **Terms and Conditions of Trail Construction Easement**. The Trail Construction Easement shall be for the benefit of Quadrant and its assigns, for the sole purpose of constructing the Trail improvements, including the use of heavy equipment, the storage of materials, and the alteration of the surface of the Trail Construction Easement area as permitted by applicable permits and approvals for Trail construction. The Trail Construction Easement shall include the right and license for ingress and egress over and across the Burdened Property as reasonably necessary for construction purposes. Quadrant shall be responsible for any damage to the Burdened Property or the improvements thereon arising from its exercise of this right and license of ingress and egress. Quadrant's exercise of its rights under the Trail Construction Easement shall be in accordance with all applicable laws and permits and approvals for Trail Construction, including the approved Construction Plan for the Trail, and shall be at Quadrant's sole risk and expense. The Trail Construction Easement shall commence on the date of this Declaration, and shall terminate upon completion of construction and acceptance of the Trail by the City.

4. **Terms and Conditions of Trail Easement**. Upon completion of construction and acceptance of the trail improvements by the City, the Trail Easement shall be for the benefit of the public, and shall be used exclusively for recreational pedestrian purposes, and for maintenance and repair of the Trail improvements; provided, however, that in connection with the lawful development or use of the Burdened Property, Quadrant or its successors shall have the right to use the Trail Easement for utility crossings or other purposes not inconsistent with those Trail purposes, provided all necessary permits or approvals for the same have been obtained from the City or other authority, and provided that Quadrant or its successors, as the case may be, repair any and all damage to the Trail improvements caused by those other uses.

5. **Termination**. This Declaration and the easements and rights under this Declaration shall terminate upon any dedication to the public of the Trail right-of-way.

6. **Amendment**. Except for the amendment described in Section 2, this Declaration may not be amended except in writing signed by Quadrant and the owner of the Burdened Property and, if necessary following the completion of construction, by the City on behalf of the public.

7. **Assignment; Binding Effect**. Quadrant shall have the right to assign its rights under this Declaration, and from and after the assumption by the assignee of Quadrant's obligations under this Declaration, Quadrant shall have no further obligations under this Declaration. This Declaration shall bind and inure to the benefit of Quadrant and its successors and assigns and shall run with the land until terminated. The Burdened Property shall be held, sold, transferred, conveyed, mortgaged, used and occupied subject to, or together with, as the case may be, this Declaration and the terms and conditions of this Declaration.

8. **Exhibits**. The Exhibit to this Declaration is incorporated into and made a part of this Declaration.

EXECUTED as of the date first written above.

THE QUADRANT CORPORATION

By _____
Jim Sansburn, VP Finance

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

I certify that I know or have satisfactory evidence that Jim Sansburn is the person who appeared before me, and said person acknowledged that said person signed this instrument, on oath stated that said person was authorized to execute the instrument and acknowledged it as the VP Finance of THE QUADRANT CORPORATION, a Washington corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated this 30th day of September, 2010.

_____
Tina Lieu
(print or type name)
NOTARY PUBLIC in and for the State of Washington, residing at Seattle
My Commission expires: 12-09-12

TINA LIEU NOTARY PUBLIC COMMISSION EXPIRES 12-09-12 STATE OF WASHINGTON

EXHIBIT A
OF
DECLARATION OF PUBLIC TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT

DEPICTION OF TRAIL LOCATION

ESM CONSULTING ENGINEERS LLC

Quadrant Corporation
Job No. 129-008-010-0001
September 24, 2010

EXHIBIT A

LEGAL DESCRIPTION FOR TRAIL EASEMENT

That portion of Lot Y of City of DuPont Boundary Line Adjustment No. BLA 09-01 as recorded under Pierce County Recording No. 200912115001, situate in Section 26, Township 19 North, Range 1 East, W.M., City of DuPont, Pierce County, Washington, being a 15 foot wide strip, lying 7.5 feet on each side of the following described centerline:

COMMENCING at the southeasterly corner of said Lot Y;

THENCE along the southerly line of said lot, N 82°02'47" W, 12.42 feet;

THENCE continuing along said southerly line, N 88°58'34" W, 126.13 feet;

THENCE continuing along said southerly line, N 80°55'20" W, 17.69 feet to a point of curvature AND the TRUE POINT OF BEGINNING;

THENCE northwesterly 13.23 feet along the arc of a non-tangent curve to the left, having a radius of 15.00 feet, the radius point of which bears S 56°52'59" W, through a central angle of 50°32'54" to a point of tangency;

THENCE N 83°39'55" W, 54.51 feet to a point of curvature;

THENCE westerly 11.49 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 43°53'06" to a point of tangency;

THENCE S 52°26'59" W, 17.25 feet to a point of curvature;

THENCE westerly 6.96 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 26°36'10" to a point of tangency;

THENCE S 79°03'09" W, 21.43 feet to a point of curvature;

THENCE westerly 3.47 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 13°15'37" to a point of tangency;

THENCE N 87°41'14" W, 63.76 feet;

THENCE N 88°08'52" W, 49.80 feet;

THENCE N 87°10'16" W, 8.74 feet;

THENCE N 85°12'46" W, 35.16 feet;

THENCE N 89°00'21" W, 40.52 feet;

THENCE N 87°38'45" W, 41.81 feet;

THENCE N 74°53'18" W, 47.18 feet;

THENCE N 82°57'56" W, 56.05 feet;

THENCE S 83°01'39" W, 38.54 feet;

THENCE N 87°08'23" W, 49.48 feet to a point of curvature;

THENCE westerly 6.29 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 24°01'47" to a point of tangency;

THENCE N 63°06'36" W, 35.01 feet to a point of curvature;

THENCE westerly 3.49 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 13°20'19" to a point of tangency;

THENCE N 76°26'55" W, 11.03 feet to a point of curvature;

THENCE northerly 22.02 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 84°06'04" to a point of tangency;

THENCE N 07°39'09" E, 31.79 feet to a point of curvature;

THENCE northerly 3.47 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 13°15'16" to a point of tangency;

THENCE N 05°36'07" W, 9.49 feet to a point of curvature;

THENCE northerly 9.18 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 35°04'13" to a point of tangency;

THENCE N 29°28'06" E, 13.26 feet to a point of curvature;

THENCE northerly 13.90 feet along the arc of a tangent curve to the right, having a radius of 45.00 feet, through a central angle of 17°42'00" to a point of reverse curvature;

THENCE northerly 19.82 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 75°42'20" to a point of reverse curvature;

THENCE northerly 52.38 feet along the arc of a tangent curve to the right, having a radius of 55.00 feet, through a central angle of 54°34'17" to a point of reverse curvature;

THENCE northerly 16.48 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 62°56'16" to a point of tangency;

THENCE N 36°54'13" W, 56.43 feet to a point of curvature;

THENCE westerly 18.46 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 70°30'58" to a point of tangency;

THENCE S 72°34'49" W, 44.35 feet;

THENCE S 35°22'49" W, 10.82 feet to a point of curvature;

THENCE westerly 55.16 feet along the arc of a tangent curve to the right, having a radius of 92.00 feet, through a central angle of 34°21'19" to the southerly line of said Lot Y at point lying 44.84 feet northwesterly from the easterly end of that line depicted on said boundary line adjustment with a bearing of N 55°38'27" W.

EXCEPT any portion thereof lying southerly of said southerly line of Lot Y.

See attached Exhibit "B".

Written by : CAF
Checked by: DLR

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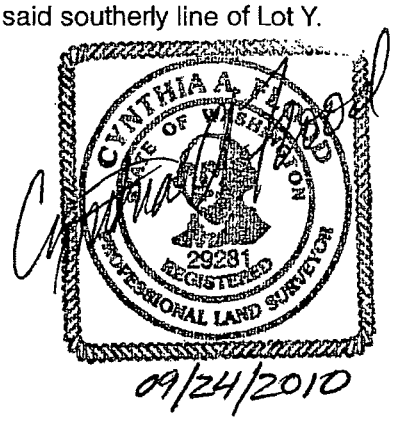
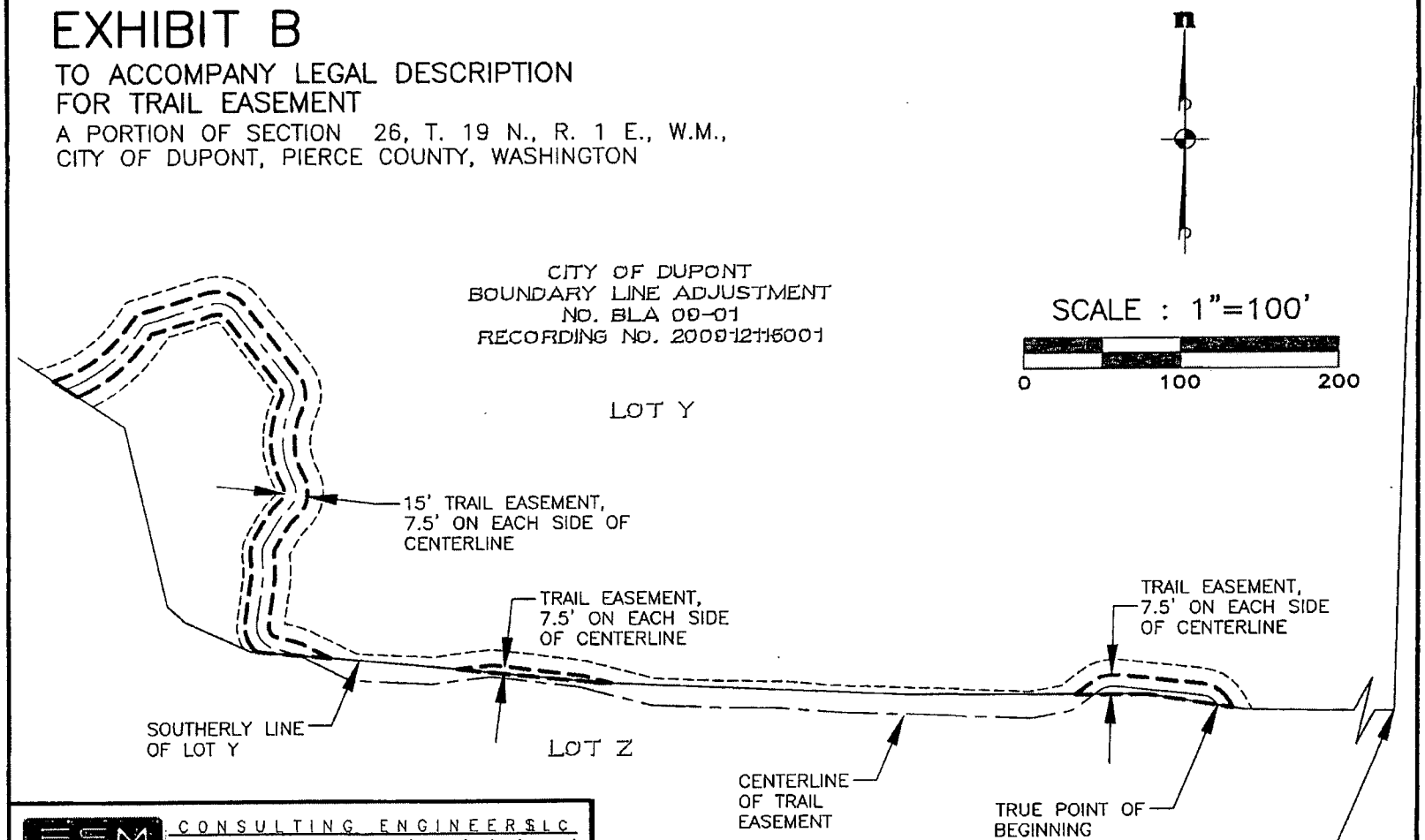


EXHIBIT B

TO ACCOMPANY LEGAL DESCRIPTION
FOR TRAIL EASEMENT
A PORTION OF SECTION 26, T. 19 N., R. 1 E., W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



ESM CONSULTING ENGINEERS, LLC
181 S. 333rd Street
Bldg. C, Suite 210
Federal Way, WA 98003
FEDERAL WAY (253) 838-6113
EVERETT (425) 297-9900
www.esmcivil.com
Civil Engineering | Land Surveying | Land Planning
Public Works | Project Management | Landscape Architecture

JOB NO. 129-008-010-0001
DRAWING NAME : SR-11
DATE : 09-24-2010
DRAWN : C.A.F.
SHEET 1 OF 1

201009301052.008

Quadrant Corporation
Job No. 129-008-010-0001
September 24, 2010

EXHIBIT C

LEGAL DESCRIPTION
FOR TRAIL CONSTRUCTION EASEMENT

That portion of Lot Y of City of DuPont Boundary Line Adjustment No. BLA 09-01 as recorded under Pierce County Recording No. 200912115001, situate in Section 26, Township 19 North, Range 1 East, W.M., City of DuPont, Pierce County, Washington, being a 30 foot wide strip, lying 17.5 feet northerly and easterly of AND 12.5 feet southerly and westerly of the following described centerline:

COMMENCING at the southeasterly corner of said Lot Y;

THENCE along the southerly line of said lot, N 82°02'47" W, 12.42 feet;

THENCE continuing along said southerly line, N 88°58'34" W, 126.13 feet;

THENCE continuing along said southerly line, N 80°55'20" W, 17.69 feet to a point of curvature AND the TRUE POINT OF BEGINNING;

THENCE northwesterly 13.23 feet along the arc of a non-tangent curve to the left, having a radius of 15.00 feet, the radius point of which bears S 56°52'59" W, through a central angle of 50°32'54" to a point of tangency;

THENCE N 83°39'55" W, 54.51 feet to a point of curvature;

THENCE westerly 11.49 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 43°53'06" to a point of tangency;

THENCE S 52°26'59" W, 17.25 feet to a point of curvature;

THENCE westerly 6.96 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 26°36'10" to a point of tangency;

THENCE S 79°03'09" W, 21.43 feet to a point of curvature;

THENCE westerly 3.47 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 13°15'37" to a point of tangency;

THENCE N 87°41'14" W, 63.76 feet;

THENCE N 88°08'52" W, 49.80 feet;

THENCE N 87°10'16" W, 8.74 feet;

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THENCE N 89°00'21" W, 40.52 feet;

THENCE N 87°38'45" W, 41.81 feet;

THENCE N 74°53'18" W, 47.18 feet;

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THENCE northerly 16.48 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 62°56'16" to a point of tangency;

THENCE N 36°54'13" W, 56.43 feet to a point of curvature;

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EXCEPT any portion thereof lying southerly of said southerly line of Lot Y;

ALSO EXCEPT any portion thereof lying within a 15 foot wide strip, lying 7.5 feet on each side of the above described centerline.

See attached Exhibit "B".

Written by: CAF
Checked by : DLR

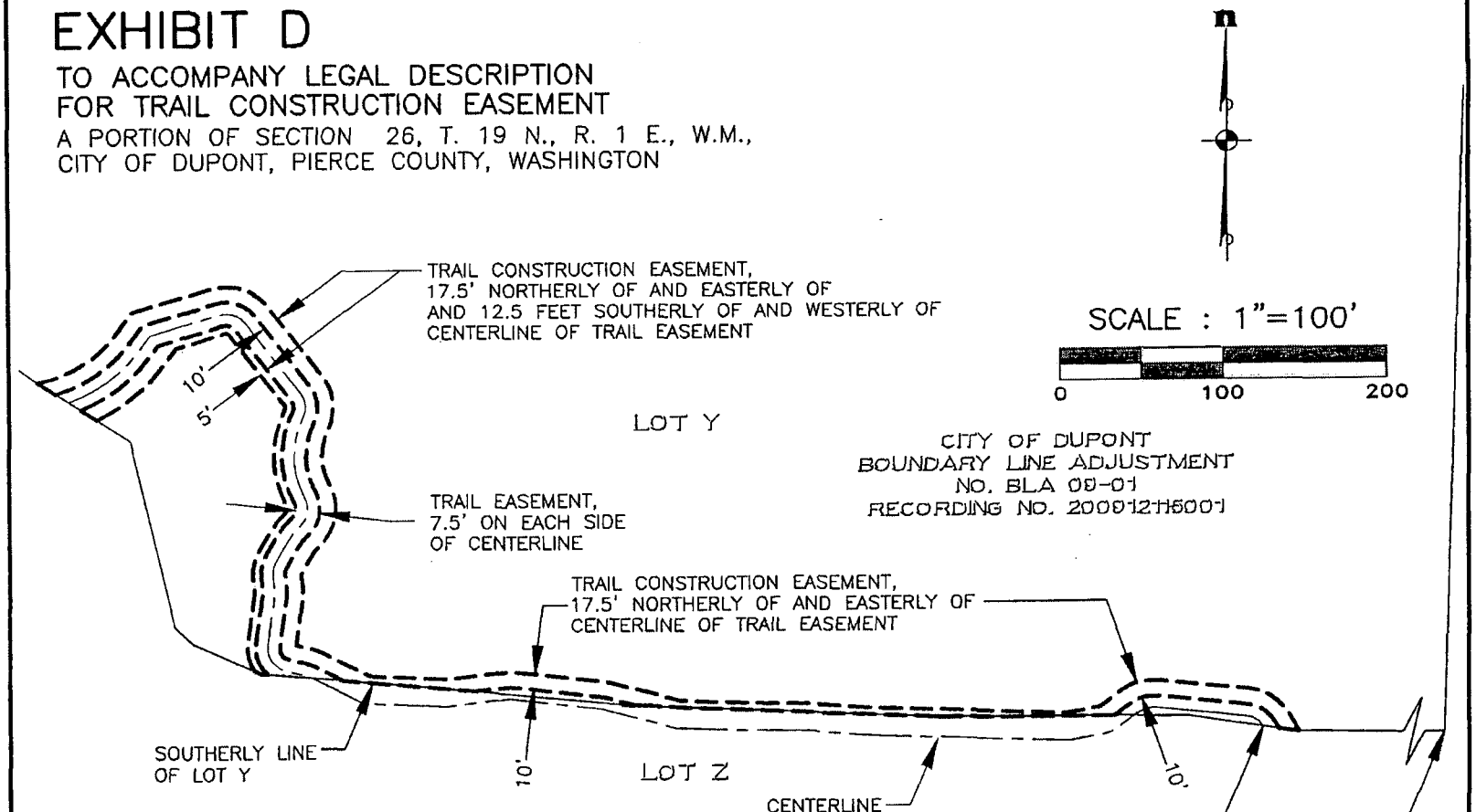
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09/24/2010

EXHIBIT D

TO ACCOMPANY LEGAL DESCRIPTION
FOR TRAIL CONSTRUCTION EASEMENT
A PORTION OF SECTION 26, T. 19 N., R. 1 E., W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



ESM CONSULTING ENGINEERS LLC
181 S. 333rd Street
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EVERETT (425) 297-8900
www.esmcivil.com
Civil Engineering | Land Surveying | Land Planning
Public Works | Project Management | Landscape Architecture

JOB NO. 129-008-010-0001
DRAWING NAME : SR-12
DATE : 09-24-2010
DRAWN : C.A.F.
SHEET 1 OF 1

201009301052.012

201401300091.001

201401300091 RJOHNSO 6 PGS
01/30/2014 08:42:47 AM $77.00
AUDITOR, Pierce County, WASHINGTON

Name & Return Address:

City of DuPont
Attn: Erin Larsen
1700 Civic Drive,
DuPont, WA 98327

Document Title(s) (or transactions contained therein): 1. Temporary cul-de-sac easement
Grantor(s) 1. DuPont Industrial Partners, LLC D Additional Names on Page of Document
Grantee(s) 1. City of DuPont D Additional Names on Page of Document
Legal Description (Abbreviated: i.e. lot, block & subdivision name or number OR section/township/range and quarter/quarter section) A portion of Lot Y of City of DuPont Boundary Line Adjustment BLA 09-01, recorded under Auditor's File Number 200912115001, records of Pierce County, Washington. Complete Legal Description on Pages 4 of Document.
Auditor's Reference Number(s)
Assessor's Tax Parcel/ Account Number(s) 0119262019

EXCISE TAX EXEMPT DATE 1-30-14
Pierce County

By _____ Auth. Sig

TEMPORARY CUL-DE-SAC EASEMENT FOR RIGHT OF WAY

Grantor: DUPONT INDUSTIRAL PARTNERS, LLC

Grantee: CITY OF DUPONT

Legal Description (abbreviated): A PORTION OF LOT Y, CITY OF DUPONT BLA NO. 09-01, PIERCE COUNTY AUDITOR'S FILE NO. 200912115001

Assessor's Tax Parcel ID#: A PORTION OF 0119262019

Reference Nos. of Documents Released or Assigned: N/A

THIS TEMPORARY EASEMENT is made on the 26 day of AUGUST, 2013 ("Effective Date") by DUPONT INDUSTRIAL PARTNERS, LLC, a Washington limited liability company ("Grantor").

1. Grant and Location of Easement. Grantor hereby grants and conveys to the City of DuPont, a municipal corporation ("Grantee"), its successors and assigns, a non-exclusive temporary easement for right of way ("Easement") with immediate right of entry and continued access over, under, and across the real property legally described on Exhibit "A" and depicted on Exhibit "B" (easement area), attached hereto and incorporated herein.

2. Purpose of Easement. The purpose of this Easement is for the maintenance, repair and public use of the Sequalitchew Drive cul de sac right of way.

3. Maintenance of Easement. Grantor and Grantee shall maintain and repair the cul de sac right of way in accordance with that certain Right of Way Maintenance Agreement executed between the parties and recorded under Pierce County Auditor's File No. 201401130682.

4. Interference. Grantor may use the surface above the Easement, PROVIDED that its use does not interfere with or cause damage to the surface area of the cul de sac

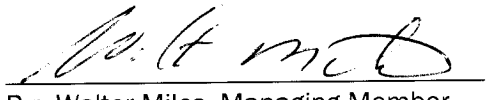
right of way. Grantor may grant other non-exclusive easement rights in and to the Easement PROVIDED that prior to granting another easement, Grantor shall obtain the written consent of Grantee, which consent shall not be unreasonably withheld. If, in exercising any right to use the surface above the Easement or grant other easements, the Easement is disturbed, Grantor shall return the Easement to its condition prior to its disruption, at Grantor's sole cost and expense.

5. Title. The Grantor warrants that the Grantor has good title to the above property.

6. Termination of Temporary Easement. It is the intent of Grantor to dedicate or convey fee simple title to Grantee to the Easement or a replacement easement area at the time that the real property in the vicinity of the easement is platted or subdivided. Upon acceptance by Grantee and conveyance by Grantor of a portion of the real property encumbered by this Easement, this Easement shall terminate and be of no further force or effect.

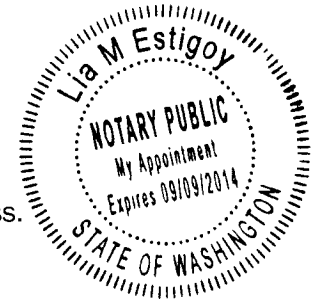
7. Successor and Assigns. This agreement shall run with the property and be binding on the parties, their successors, and assigns.

DUPONT INDUSTRIAL PARTNERS LLC,
a Washington limited liability company



By: Walter Miles, Managing Member

STATE OF WASHINGTON)
) ss.
County of Pierce)



I certify that I know or have satisfactory evidence that WALTER MILES is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the MANAGING MEMBER of CREEKSIDE DUPONT PARTNERS LLC to the be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

GIVEN under my hand and official seal this 26 day of AUGUST, 2013.

Lia M Estigoy

Typed/Printed Name: LIA M ESTIGOY

Notary Public in and for the State of Washington,

Residing at: PIERCE COUNTY

My appointment expires: 9.9.2014

Accepted by the City of DuPont this 27 day of August, 2013.

Mayor, City of DuPont Michael Grayum

EXHIBIT "A"

LEGAL DESCRIPTION

TEMPORARY CUL-DE-SAC EASEMENT

That portion of Lot Y of City of Dupont Boundary Line Adjustment BLA 09-01, recorded under Auditor's File Number 200912115001, records of Pierce County, Washington, being a portion of North half of Section 26, Township 19 North, Range 01 East, Willamette Meridian, more particularly described as follows:

COMMENCING at the Southeast corner of said Lot Y;
THENCE North 01 °40'48" East, 11.84 feet along the East line of said Lot Y to the TRUE POINT OF BEGINNING;
THENCE CONTINUING North 01°40'48" East, 83.03 feet along said East line;
THENCE North 89°43'57" West, 18.08 feet to a point on a non-tangent curve, the radius of which bears South 48°58'03" West;
THENCE Southwesterly along the arc of a curve concave to the Southeast, having a radius of 50.00 feet, through a central angle of 228°42'01", and an arc length of 199.58 feet;
THENCE South 89°43'57" East, 53.60 feet to the TRUE POINT OF BEGINNING.



Project Name: Creekside Village
August 31, 2012

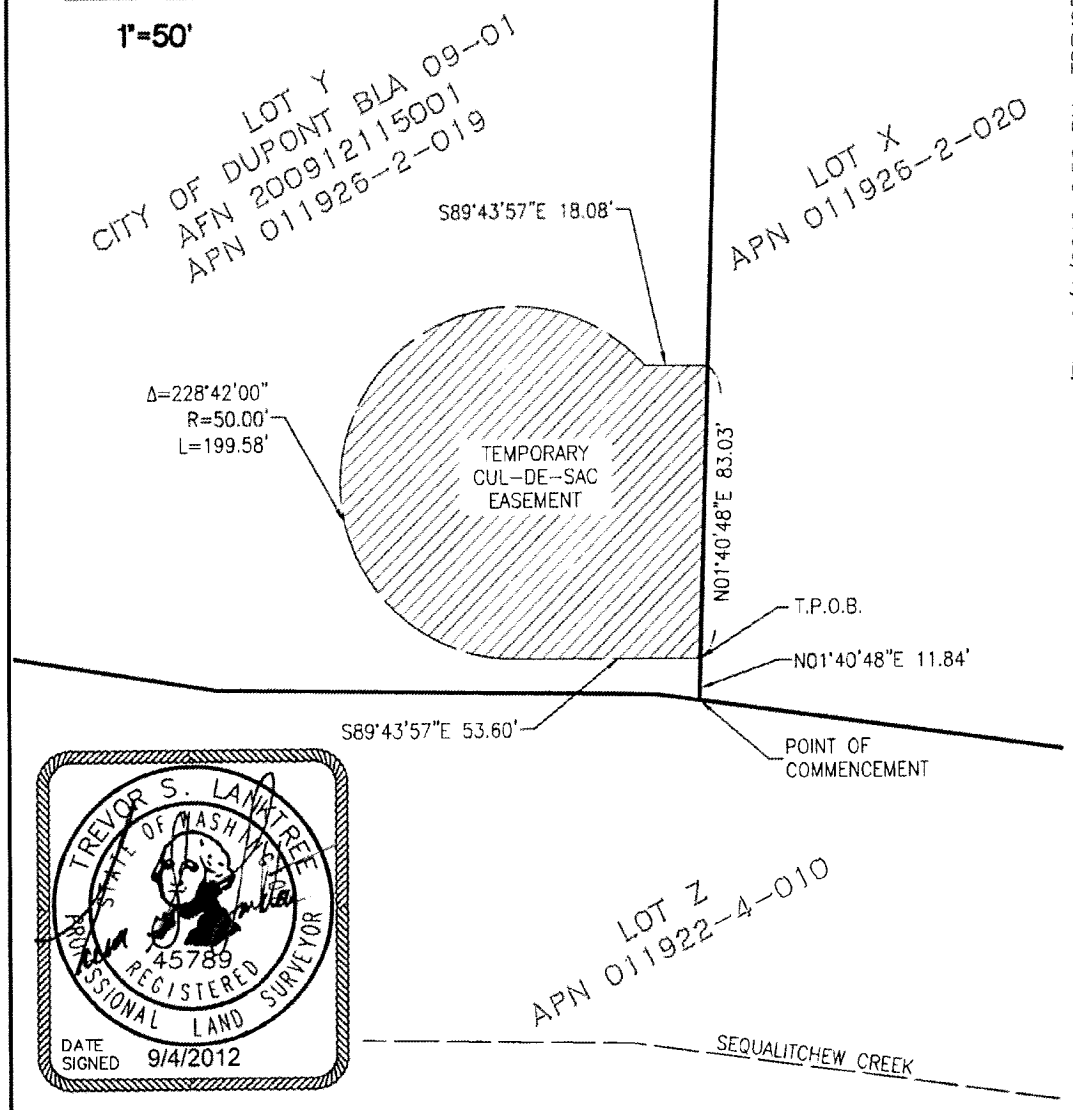
TSL
14464L.003.doc
Exhibit: 14464EXH04-TempCDS.dwg

201401300091.006

EXHIBIT "B"



1"=50'



File:P:\14000s\14464\survey\14464EXH04-Temp CDS.dwg Date/Time:9/4/2012 2:56 PM TREVOR LANKTREE

SCALE: HORIZONTAL 1"=50' VERTICAL N/A	For: CREEKSIDE VILLAGE	JOB NUMBER 14464
BARGHAUSEN CONSULTING ENGINEERS, INC. 18215 72ND AVENUE SOUTH KENT, WA 98032 (425)251-6222 (425)251-8782 FAX CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES		14464L.003.DOC
	Title: TEMPORARY CUL-DE-SAC	SHEET 1 of 1

DESIGNED	DRAWN	CHECKED	APPROVED	DATE
XXX	TSL	TSL	TSL	8/6/12

AUDITOR'S NOTE

LEGIBILITY FOR RECORDING AND COPYING UNSATISFACTORY IN A PORTION OF THIS INSTRUMENT WHEN RECEIVED.

94 JUL 12 AM 9:00

RECORDED
[illegible] SALL-STIPEK
AUDITOR PIERCE CO. WASH

RESTATED RIGHT-OF-WAY MAINTENANCE AGREEMENT

THIS RESTATED RIGHT-OF-WAY MAINTENANCE AGREEMENT amends that right-of-way maintenance agreement executed on November 13, 1990 between the CITY OF DUPONT, WASHINGTON, referred to as "Dupont", and WEYERHAEUSER REAL ESTATE COMPANY, hereinafter referred to as "WRECO", for the operation and maintenance of improvements within the right-of-way and easement areas designated in Ordinances 372, 392 and 408, copies of which are annexed hereto as Exhibit "A".

WITNESSETH:

1. Recitals:

A. Assumption of Responsibility: Responsibility for operation and maintenance of improvements within the areas designated in the ordinances attached as Exhibit "A" has been assumed by the Northwest Landing Commercial Owners' Association, a nonprofit corporation hereinafter referred to as the Commercial Association, pursuant to the Declaration of Covenants, Conditions and Restrictions recorded under Pierce County Auditor's File No. 9208240297, relevant portions of which are attached as Exhibit "B". Pursuant to a Covenant to Share Costs, a copy of which is attached as Exhibit "C", the Northwest Landing Residential Owners' Association, a nonprofit corporation hereinafter referred to as the Residential Association, will participate in such costs. Dupont and WRECO consent to assumption of such obligations by the Commercial Association and Residential Association.

B. Continuing Obligation of WRECO: Nothing herein contained shall relieve WRECO from responsibility for operation and maintenance of improvements subject to this agreement, insofar as WRECO has assumed such responsibility under any recorded covenant. Should any assignee fail within a reasonable time to perform obligations assumed, WRECO will perform such obligations according to the tenor of any such covenant.

C. Additional Areas: By Ordinance 420, a copy of which is attached by Exhibit "D", additional right-of-way and easement areas have been subjected to LID No. 88-1 improvements. Such areas are hereby incorporated in those made subject to this agreement, including subparagraph B. In addition, Palisades Boulevard, as legally described on Exhibit "E," and Wilmington Drive, as legally described on Exhibit "F,"

are hereby made subject to this agreement. Additional areas may be subjected to this agreement by written amendments, signed by the parties.

2. Responsibility for Operation and Maintenance:

A. Acknowledgements: The parties acknowledge the following: Dupont does not now have the financial capacity to maintain the improvements subject to this agreement. In approving LID 88-1, Dupont intended to increase its revenues by attracting development, which will augment Dupont's revenues. It is in the interest of all parties that the Commercial Association and Dupont participate in the operation and maintenance of improvements subject to this agreement, as hereinafter provided. All such improvements are the property of Dupont. Maintenance and operation of improvements subject to this agreement shall conform to legal requirements, good engineering practice, community wide standards and applicable recorded covenants, and shall include the following:

B. Facilities to be Maintained:

(1) Sidewalks: Sidewalk material shall be replaced as necessary to maintain the finished sidewalk elevations.

(2) Landscaping: Landscaping shall be maintained by mowing of lawns, weeding, spraying, fertilizing, watering and draining. The irrigation system shall be operated and maintained, including annual winterizing, as part of the landscaping tasks. Landscape areas shall be maintained free and clear of all debris not an integral part of the landscape improvement.

(3) Roads: Roads shall be maintained by cleaning road surfaces and gutters of debris to insure adequate runoff of storm drainage, and repairing, patching and re-striping of roads as necessary. Roads shall be kept free and clear of ice, snow, and leaves.

(4) Storm Drainage System: The storm drain system shall be kept in good repair, which shall include repairing or replacing culverts, pipes or outfalls as necessary, including control and repair of erosion at outfalls. Maintaining the storm drainage system includes mowing, cleaning debris from ditches, culverts, storm drainage pipes, catch basins and manholes to insure the transmission of storm drainage.

(5) Roadway Lighting: The roadway lighting system shall be operated to include light standard, conduit, power, and associated costs.

(6) Performance by Commercial Association: The Commercial Association shall contract for and obtain the services contemplated by this agreement, pursuant to the Covenant to Share Costs annexed as Exhibit "C", until Dupont assumes the full share of operation and maintenance costs. The cost of supplies and materials, including water and power, shall be included in such maintenance costs.

C. Facilities Excluded: Any water system improvements that have been or will be deeded to Dupont are the sole responsibility of Dupont.

3. Assignment: WRECO assigns its rights, title and interest in the right-of-way agreement dated November 13, 1990 to the Commercial Association. Subject to paragraph 1 (B) hereof, Dupont consents to such assignment.

4. Term: This agreement shall commence effective November 13, 1990 and terminate on November 12, 2000. If Dupont has not fully assumed responsibility for maintenance and operation of all areas subject to this Agreement, and any amendments, by November 12, 1999, the parties agree to negotiate in good faith for the continued maintenance and operation of such areas until Dupont fully assumes its responsibilities hereunder.

5. Assumption of Costs by Dupont: Dupont acknowledges that it has ultimate responsibility for operation and maintenance of improvements within the areas designated in the ordinances attached as Exhibits "A" and "D." Dupont will apply to such maintenance that portion of City Street Fund revenues, received pursuant to RCW 47.24.040, which are attributable to population in the area served by LID 88-1, by payment to the Commercial Association pursuant to paragraph 8 below. In the event that this Agreement is extended to cover additional areas in Northwest Landing, Dupont will similarly apply such funds to all such areas, but without necessarily apportioning monies therein to particular segments of Northwest Landing. The parties acknowledge that commercial development will result in substantial increases to the general fund. As this occurs, the City will consider whether the City Street Fund should be enhanced from other sources to fulfill this responsibility.

6. Utility Connection Reimbursements: Dupont will forward to the Commercial Association, within 30 days of receipt, utility reimbursements provided to Dupont due to utility connections made within the LID No. 88-1 area, including reimbursements from Puget Power and Washington Natural Gas, less reasonable City

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expense for obtaining the reimbursements. Because only Dupont can seek such reimbursements, Dupont will ask for and diligently endeavor to obtain such reimbursements from the utilities on behalf of the Commercial Association. Dupont will report on an annual basis to the Commercial Association the type and amount of reimbursements and the manner in which Dupont has diligently pursued receiving them. The Commercial Association may demand that Dupont request a reimbursement at any time that the Commercial Association believes a reimbursement is due. In such event, Dupont shall seek a reimbursement within thirty (30) days of the demand and shall diligently pursue such reimbursement less reasonable City expense for obtaining the reimbursements.

7. Enforcement: Whenever a default of this agreement is brought to the attention of Dupont the matter will be referred to the Mayor. A written notice describing the operation and maintenance item will be mailed to the Commercial Association requiring correction within a reasonable time to be established in the written notice. In the event the work is not corrected within the time specified in the notice, Dupont shall perform the work necessary to correct the maintenance item and bill the Commercial Association for all reasonable costs incurred by Dupont in this regard. Payment of such costs will be made by the Commercial Association within thirty (30) days of receipt of such billings.

8. Review of Expenses: On or prior to February 1st of each year, commencing on February 1, 1994, the Commercial Association will provide Dupont with invoices for expenses incurred by it under this agreement during the preceding calendar year. By May 1 of each year, Dupont shall pay its share of the operation and maintenance costs for the preceding calendar year to the Commercial Association. Dupont's share will be based on the preceding year's Street Fund revenues as indicated in Section 5, above.

9. Hold Harmless and Indemnity: The Commercial Association and WRECO agree to defend Dupont and save it harmless against any claim of any nature arising from the performance by the Commercial Association of any obligation undertaken under this agreement.

10. Effect. This Restated Right-of-Way Maintenance Agreement wholly supersedes the agreement dated November 13, 1990.

11. Resolution of Disputes: In the event of any dispute arising out of this agreement, the parties agree to participate in good faith in mediation upon the request of the other party prior to commencing any legal action. The Mediator will be selected by the mutual agreement of the parties, but if there is no agreement, then the Mediator

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will be selected under the Mediation Rules of the American Arbitration Association. If agreement is not reached through mediation, then either party may demand arbitration through the services of the American Arbitration Association, Judicial Arbitration and Mediation Services, or Washington Arbitration and Mediation, or any other mutually agreed arbitration forum.

12. Attorney Fees: In the event that suit is brought by either party to enforce any provision hereof, the Court shall award to the prevailing party its attorney fees and costs, including those on appeal.

13. Assignment: Neither party may assign any right hereunder without the written consent of the other party, which consent shall not be unreasonably withheld.

14. Severability: In the event that any portion of this contract is determined to be void or unenforceable, such determination shall not effect the validity of the remaining provisions thereof.

DATED this 26th day of May, 1994.

NORTHWEST LANDING COMMERCIAL OWNERS ASSOCIATION, a Washington Nonprofit Corporation

By: Robert L Shedd
Robert L. Shedd, President

CITY OF DUPONT,
a Municipal Corporation

By: Nicola A. Borgeson
Mayor

By: James J. Dixon
City Attorney

Attest:

J. A. McCament
Secretary/Treasurer

Catherine Harstad-Everett
City Clerk

THE ORIGINAL OF THIS DOCUMENT

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WEYERHAEUSER REAL ESTATE
COMPANY, Land Management Division,
a Washington Corporation

By: James A. Nyberg
James A. Nyberg,
Assistant Vice-President

Attest:

Janet L. Buck

WEYERHAEUSER REAL ESTATE COMPANY CORPORATE SEAL STATE OF WASHINGTON

CONSENT TO ASSIGNMENT

Northwest Landing Residential Owners Association consents to the assignment of rights and responsibilities set forth in this agreement.

NORTHWEST LANDING RESIDENTIAL
OWNERS ASSOCIATION, a Washington
Nonprofit Corporation

By: Robert L Shedd
Robert L. Shedd
Its President

EXHIBIT "A"

ORDINANCE NO. 372

AN ORDINANCE OF THE CITY OF DUPONT, WASHINGTON, ORDERING CERTAIN LOCAL IMPROVEMENTS AND CREATING A LOCAL IMPROVEMENT DISTRICT; PROVIDING FOR THE PAYMENT OF THE COST OF SUCH IMPROVEMENTS BY SPECIAL ASSESSMENTS; CREATING A LOCAL IMPROVEMENT DISTRICT FUND; AND PROVIDING FOR THE ISSUANCE AND SALE OF LOCAL IMPROVEMENT DISTRICT BONDS AND INTERIM FINANCING WARRANTS OR NOTES.

WHEREAS, on September 14, 1988, the City Council of the City of DuPont, Washington (the "City") adopted Resolution No. 111 declaring its intention to order certain local improvements within the City and to create a local improvement district; and

WHEREAS, a hearing was held on October 12, 1988, after notice as provided by law, and after discussion of the proposed improvements and due consideration thereof and all objections thereto, the Council has determined to order the local improvements described below and to create a local improvement district; and

WHEREAS, estimates of the costs and expenses of the proposed improvements, a description of the boundaries of the district, a statement of what portion of the costs and expenses of the improvements would be borne by the property within the proposed district, and a diagram showing the lots, tracts and parcels to be benefited and other information pertaining to the proposed district, have been filed with the City Clerk and certified to the City Council;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF DUPONT, WASHINGTON, DO ORDAIN AS FOLLOWS: 9407120218

EXHIBIT A

Section 1. The City shall acquire, construct and install the following improvements within the following described areas of the City:

-Construction of water supply facilities on Bell Hill, including a 16-inch supply main to Dupont-Steilacoom Road; widening 3500 feet of Dupont-Steilacoom Road to 3 lanes, installation of a 16-inch water main north from Bell Hill, a supply main from Center Drive, and a 12-inch water main south from Bell Hill supply main to Wilmington Drive.

-Construction of 2400 feet of Center Drive as a 4-lane arterial parkway; 1200 feet of Industrial Drive as a 2-lane collector road; 550 feet of a 4-lane access road, 2900 feet of a 2-lane collector road on Bell Hill, 750 feet of 2-lane collector road on the site between Bell Hill and Edmond Marsh; 1200 feet of 2-lane collector road on the site between Center Drive and Edmond Marsh; including power, telephone, gas illumination, water, sewer and landscaping for each roadway.

-Construction of 3 drainage channels for Center Drive south to Edmond Marsh and Center Drive crossing of Sequalitchew Creek.

-Construction of a sanitary sewer collector from Bell Hill to Center Drive, a sewer pump station at Center Drive and 6-inch force main to the Dupont connection to the Department of Defense trunk sewer.

The area in which these improvements will be located is that portion of Sections 23, 24, 25, 26, 35 and 36, Township 19 North, Range 1 East, W.M., Pierce County, Washington, more particularly described as follows:

-COMMENCING at the North quarter corner of said Section 23;

-THENCE along the North-South center of the Section line, South to a point lying 600 feet Southerly when measured at right angles from the North line of said Section 23 and the TRUE POINT OF BEGINNING;

-THENCE continuing along said North-South center of Section line, South to the South quarter corner of said Section 23;

-THENCE along the North-South center of Section line of said Section 26, South to a point of intersection with the proposed Westerly margin of Center Drive;

-THENCE along said Westerly margin, Southerly to a point of intersection with the Northerly margin of Wilmington Drive;.

-THENCE along said Northerly margin, Northeasterly to a concrete monument with brass cap as shown on Record of Survey, Recorded in Volume 473, Page 378 under Recording Number 8803030092;

-THENCE Northwesterly to Fort Lewis Monument Number 270, said point being the Southeast corner of the Northeast quarter of the Northeast quarter of Section 35 and the Southwest corner of that certain tract of land conveyed to the City of Dupont, by Donation Deed, dated January 14, 1977;

-THENCE Northwesterly along the Westerly line of the tract conveyed by said Deed, dated January 14, 1977, to the Southerly line of a tract of land conveyed to the City of DuPont by Donation Deed as recorded under Recording Number 8609160527;

-THENCE Northwesterly, Northeasterly, Southeasterly and Southwesterly along said tract conveyed to the City of DuPont by Donation Deed, to the Northeasterly corner of Block "L" of the Replat of the Village of DuPont, as recorded in Volume 15 of Plats, Page 66, Records of Pierce County, Washington;

-THENCE Southwesterly along the Southeasterly line of said Block "L" to the Northerly margin of Barksdale Avenue;

-THENCE Southeasterly along the said Northerly margin to the Northerly margin of Burlington Northern Railroad;

-THENCE Northeasterly along the said Northerly margin of Burlington Northern Railroad to Fort Lewis Monument Number 268;

-THENCE Northerly to Fort Lewis Monument Number 267;

-THENCE Westerly to Fort Lewis Monument Number 266;

-THENCE Northerly to the Southeast corner of a parcel of land conveyed to the U.S.A. by Deed under Recording Number 8401170062 as Parcel 2-W;

-THENCE West along the South line of said parcel to the West margin of Wilmington Drive;

-THENCE Northeasterly and Northerly along the Westerly margin of Wilmington Drive and the Westerly margin of DuPont-Steilacoom Highway, to the Southerly line of the Puget Sound Outfall Channel as described in Pierce County Auditor's File Number 1674527;

-THENCE Westerly and Northerly along the Southerly and Westerly line of said Puget Sound Outfall Channel to a point said point lying 600 feet when measured at right angles from the North line of said Section 23;

--THENCE Westerly to the TRUE POINT OF BEGINNING.

The foregoing improvements are hereafter referred to as the "Improvements." The above-described trunk and lateral sewers shall be installed complete with all necessary manholes, lampholes, wyes, ties, side sewers and other appurtenances necessary to the proper operation of the sewer system.

Section 2. The plans and specifications for the Improvements are hereby adopted and approved. The Improvements, when completed, shall be in accordance with said plans, the provisions of this ordinance and any other ordinances as may hereafter be adopted in connection herewith; provided, however, that changes in detail of such plans that do not significantly alter the scope or costs of the Improvements will not require further approval.

Section 3. There is hereby established a local improvement district of the City to be known as "Local Improvement District No. 1" (herein referred to as "LID No. 1"). The boundaries of LID No. 1 shall be as described in Exhibit A attached hereto and incorporated herein by this reference.

It is hereby found that the above-described boundaries embrace as nearly as practicable all the property specially benefited by the Improvements.

Section 4. The total cost and expense of the Improvements thereto is estimated to be $ 9,000,000, of which 100% shall be borne by and assessed against the property within LID No. 1

specially benefited by the Improvements. Assessments shall be made against the property with LID No. 1 in accordance with the special benefits accruing to such property.

Section 5. Upon completion of the Improvements, an assessment roll shall be prepared and, after notice and hearing in the manner provided by law, an assessment roll shall be confirmed. Assessments not paid within the 30-day prepayment period provided by law shall be payable in installments and the City shall issue local improvement district bonds payable from such unpaid installments. The number of years said installments shall run, the dates of payment of the same and the rate of interest that the unpaid installments shall bear shall be as hereafter fixed by ordinance.

Section 6. There is hereby created a fund of the City to be known as the "Local Improvement District No. 1 Fund" for the purpose of paying the cost of the Improvements provided for in this ordinance and into which there shall be paid all of the assessments collected in LID No. 1 as and when directed by the ordinance confirming the assessment roll. All moneys received from the sale of bonds, notes and warrants drawn on the LID No. 1 Fund shall be deposited into said Fund, and applied solely in payment of the costs and expenses of the Improvements.

Section 7. Pending the issuance of local improvement district bonds, the City may, for the purpose of meeting any and all costs and expenses of constructing the Improvements for which funds are not otherwise available, as the same are installed prior to the sale of the bonds, issue interim financing warrants

against the LID No. 1 Fund, or issue local improvement district bond anticipation notes pursuant to RCW Ch. 39.50, bearing interest at such rate or rates and with such terms as may hereafter be established by the Council by ordinance. Such interim warrants or notes, together with the interest due thereon to the date of delivery of the bonds, shall be redeemed and retired from the proceeds of the sale of local improvement district bonds or prepayments of assessments. Such warrants or notes shall be issued in an aggregate principal amount not in excess of the cost and expense of the Improvements.

Section 8. Effective Date. This ordinance shall be effective five (5) days from and after the date of its final passage and publication as provided by law.

PASSED by the Council of the City of DuPont, Washington, at a regular meeting thereof held this 12th day of October, 1988.

CITY OF DUPONT,
WASHINGTON

Mayor

ATTEST:

City Clerk

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ORDINANCE NO. 392

AN ORDINANCE of the City of DuPont, Washington amending Ordinance No. 372 to change the description of the improvements to be constructed in Local Improvement District No. 1.

WHEREAS, the City Council of the City of DuPont passed Ordinance No. 372 on October 12, 1988 creating Local Improvement District No. 1 ("LID No. 1"); and

WHEREAS, Weyerhaeuser Real Estate Company, which owns most of the property in LID No. 1, has requested that the improvements to be constructed in LID No. 1 be expanded and has agreed to be assessed 100% of the cost of the additional improvements; and

WHEREAS, Weyerhaeuser Real Estate Company has signed a waiver waiving its right to notice of and a hearing on the changes to the improvements to be constructed in LID No. 1;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF DUPONT, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1 of Ordinance No. 372 is hereby amended to read as follows:

Section 1. The City shall acquire, construct and install the following improvements within the following described areas of the City:

- Construct water supply facilities on Bell Hill including well, reservoir, booster pump station and auxiliary power.

- Widen 3,500 feet of DuPont-Steilacoom Road to 3 lanes, including power, telephone, gas, 16 inch water main north from Bell Hill to Center Drive, 12 inch water main south from Bell Hill to Wilmington Drive, and 6 inch sewer force main from Wilmington Drive to Bell Hill.

- Construct 2,400 feet of Center Drive as 4 lane arterial parkway, including power, telephone, gas, illumination, 16 inch water main, sanitary sewer and landscaping.

- Construct 1,700 feet of International Place as 2 lane collector road, including power, telephone, illumination, 12 inch water main, sanitary sewer and landscaping.

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- Construct 550 feet of Bell Hill entry road as 4 lane access road and 2,900 feet of Bell Hill Loop as 2 lane collector road on Bell Hill (parcel P); 750 feet of Edmond Place as 2 lane collector road on the site between Bell Hill and Edmond Marsh (parcel K); 520 feet of Marshfield Place West and 700 feet of Marshfield Place East as 2 lane collector roads on the site between Center Drive and Edmond Marsh (parcel I); including power, telephone, illumination, water, sewer and landscaping for each roadway.

- Construct 680 feet of Wilmington Drive as 2 lane collector road including curb and gutter, asphalt walk, illumination, water, sewer force main and drainage beginning 2,386 feet southwesterly at Barksdale Ave.

- Construct drainage channels for Center Drive south to Edmond Marsh.

- Construct Center Drive crossing of Sequalitchew Creek, with pedestrian way.

- Construct sanitary sewer collector from Bell Hill and Edmond Place northerly along existing railroad grade to Center Drive, sewer pump station at Center Drive and 6 inch force main northerly along access roads to the Department of Defense trunk sewer.

The foregoing improvements are hereafter referred to as the "Improvements." The above-described trunk and lateral sewers shall be installed complete with all necessary manholes, lampholes, wyes, ties, side sewers and other appurtenances necessary to the proper operation of the sewer system.

This ordinance shall be in full force and effect five days after its passage and publication as provided by law.

PASSED by the Council of the City of DuPont, Washington at its regular meeting on the 9th day of August, 1989.

CITY OF DUPONT, WASHINGTON

By _____
Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
City Attorney

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CITY OF DUPONT

ORDINANCE NO. 408

AN ORDINANCE AMENDING ORDINANCE NO. 392 TO CHANGE THE DESCRIPTION OF THE IMPROVEMENTS TO BE CONSTRUCTED IN LOCAL IMPROVEMENT DISTRICT NO. 1.

WHEREAS, the City Council of the City of DuPont passed Ordinance No. 372 on October 12, 1988 creating Local Improvement District No. 1 ("LID NO. 1"); and

WHEREAS, the City Council of the City of DuPont passed Ordinance No. 392 on August 9, 1989 amending Ordinance No. 372 to change the description of improvements to be constructed and funded under L.I.D. 1

WHEREAS, Weyerhaeuser Real Estate Company, which owns most of the property in LID No. 1, has requested that the improvements to be constructed in LID No. 1 be expanded and has agreed to be assessed 100% of the cost of the additional improvements; and

WHEREAS, Weyerhaeuser Real Estate Company has signed a waiver waiving its right to notice of and a hearing on the changes to the improvements to be constructed in LID No. 1;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF DUPONT, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1 of Ordinance No. 392 is hereby amended to read as follows:

> Section 1. The City shall acquire, construct and install the following improvements within the following described areas of the City:
>
> - Construct water supply facilities on Bell Hill including wells, reservoir, booster pump station and auxiliary power.
>
> - Widen 3,500 feet of DuPont-Steilacoom Road to 3 lanes, including power, telephone, gas, 16 inch water main north from Bell Hill to Center Drive, 12 inch water main south from Bell Hill to Wilmington Drive, and 6 inch sewer force main from Wilmington Drive to Bell Hill.
>
> - Construct 2,400 feet of Center Drive as 4 lane arterial parkway, including power, telephone, gas illumination, 16 inch water main, sanitary sewer and landscaping.

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City of DuPont
Ordinance No. 408

- Construct 1,700 feet of International Place as 2 lane collector road, including power, telephone, gas, illumination, 12 inch water main, sanitary sewer and landscaping.

- Construct 550 feet of Bell Hill entry road as 4 lane access road and 2,900 feet of Bell Hill Loop as 2 lane collector road on Bell Hill (parcel P); 750 feet of Edmond Place as 2 lane collector road on the site between Bell Hill and Edmond Marsh (parcel K); 700 feet of Marshfield Place East as 2 lane collector roads on the site between Center Drive and Edmond Marsh (parcel I); 520 feet of Marshfield Place West as 2 lane collector roads on the site between Center Drive and Edmond Marsh (parcel I); including power, telephone, illumination, water, sewer and landscaping for each roadway.

- Construct 680 feet of Wilmington Drive as 2 lane collector road including curb and gutter, a asphalt walk, illumination, water, sewer force main and drainage beginning 2,386 feet southwesterly at Barksdale Avenue.

- Construct drainage channels for Center Drive south to Edmond Marsh.

- Construct Center Drive crossing of Sequalitchew Creek, with pedestrian way.

- Construct sanitary sewer collector from Bell Hill and Edmond Place northerly along existing railroad grade to Center Drive, sewer pump station at Center Drive and 6 inch force main northerly along access roads to the Department of Defense trunk sewer.

- Construct approximately 800 feet of 12-inch water main from the Bell Hill site west along the existing firebreak road to the northeast corner of the DuPont Village.

- Construct a community on-site wastewater disposal system to serve LID properties. System tentatively to be located on Parcel "C".

- 79% of costs to construct automatic chlorination system in existing DuPont Village water well and reservoir.

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City of DuPont
Ordinance No. 408

The foregoing improvements are hereafter referred to as the "Improvements." The above-described trunk and lateral sewers shall be installed complete with all necessary manholes, lampholes, wyes, ties, side sewers and other appurtenances necessary to the proper operation of the sewer system.

This ordinance shall be in full force and effect five days after its passage and publication as provided by law.

PASSED by the Council of the City of DuPont, Washington at its regular meeting on the 11 day of August, 1990.

MAYOR

ATTEST:

CLERK

THIS IS THE DOCUMENT

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EXCERPTS FROM

DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS

FOR

NORTHWEST LANDING COMMERCIAL PROPERTY

HYATT & RHOADS, P.C.

Attorneys

1200 Peachtree Center South Tower
225 Peachtree Street, N.E.
Atlanta, Georgia 30303
(404) 659-6600

EXHIBIT B

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particular District may also be mandatory members of a District Association; however, there shall be no requirement that a District Association be created for any District except in the case of a District which is developed as a condominium. Any District which does not have a District Association shall have a District Committee, as described in Section 5.3 of the By-Laws, to represent the interests of Owners of Units in such District. Each District may, upon the affirmative vote, written consent, or any combination thereof, of Owners holding a majority of the total votes allocated to Units within the District, require the Commercial Association to provide a higher level of service or special services for the benefit of Units in the District, the costs of which shall be assessed against the benefitted Units in accordance with the formula set out on Exhibit "C."

(b) Establishment. Districts shall be established not later than, and may be modified until, the date of expiration of the Class "B" Control Period. Declarant shall establish and may modify Districts by filing an addendum to this Declaration designating by map or other description all of the Units within each District. After the expiration of the Class "B" Control Period, Declarant may unilaterally amend such addendum as additional property is subjected to this Declaration to change the composition of existing Districts or to establish new Districts to account for the additional property.

After expiration of Declarant's right to submit additional property under Article VIII, the Board shall have the right to file or amend such addendum. Neither recordation nor amendment of such addendum shall constitute an amendment to this Declaration, and no consent or approval of any Person shall be required. Until such time as an addendum is filed, all of the Commercial Properties shall constitute a single District. After an addendum is filed, any and all portions of the Commercial Properties which are not assigned to a specific District shall constitute a single District.

ARTICLE III: RIGHTS AND OBLIGATIONS OF THE COMMERCIAL ASSOCIATION

3.1. Commercial Common Area. The Commercial Association, subject to the rights of the Owners set forth in this Declaration, shall manage and control the Commercial Common Area and all improvements thereon and shall keep it in good, clean, attractive, and sanitary condition, order, and repair under the terms and conditions of this Declaration and consistent with the Community-Wide Standards.

3.2. Personal Property and Real Property for Common Use. The Commercial Association, through action of its Board, may acquire, hold, and dispose of tangible and intangible personal property and real property. Declarant may convey to the Commercial Association improved or unimproved real estate located within the properties described in Exhibits "A" or "B," personal property and easements and other property interests. Such property shall be accepted and thereafter maintained by the Commercial Association at its expense for the benefit of its Members, subject to any restrictions set forth in the conveyance.

3.13. Municipal Services. The Commercial Association may, but is not obligated to, contribute funds to the City of DuPont for the purpose of increasing the city's capacity to provide municipal services, such as police and fire protection services, within Northwest Landing.

ARTICLE IV: MAINTENANCE

4.1. Commercial Association's Responsibility. The Commercial Association shall maintain and keep in good repair the Areas of Common Responsibility, which shall include, but need not be limited to:

(a) all Commercial Common Area;

(b) any additional property included within the Area of Common Responsibility, including such landscaping and other flora, parks, lakes, structures, improvements, streets and bike/pedestrian pathways/trails as may be dictated by this Declaration, any Supplemental Declaration, the Covenant to Share Costs, or any contract or agreement for maintenance thereof entered into by the Commercial Association;

(c) all ponds, streams and wetlands within the Commercial Properties which serve as part of the drainage and storm water retention system for the Commercial Properties, including any retaining walls, bulkheads and dams retaining water in them, and any fountains, lighting, pumps, conduits and similar equipment installed in or used in connection with them; and

(d) any property and facilities owned by Declarant made available on a temporary or permanent basis for the primary use and enjoyment of the Commercial Association and its Members and identified by written notice from Declarant to the Commercial Association until Declarant revokes such privilege of use and enjoyment by written notice to the Commercial Association.

Except as provided above, the Area of Common Responsibility shall not be reduced by amendment of this Declaration or any other means without prior written approval of Declarant so long as Declarant owns any property subject to this Declaration or which may be subjected to this Declaration by Declarant under Section 8.1.

The Commercial Association shall be relieved of its responsibilities under this Section to the extent they are assumed by the City of DuPont or any other local, state or federal government entity, except that the Commercial Association may provide any additional maintenance for the Area of Common Responsibility if the Board determines that such additional maintenance is necessary or desirable to maintain the Community-Wide Standards.

The Commercial Association may assume maintenance responsibility for property within any District, in addition to that designated by any Supplemental Declaration, either by agreement with a District Association or because, in the Board's opinion, the level and quality of service then being provided is not consistent with the Community-Wide Standards. All costs of

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such maintenance shall be assessed as a District Assessment against the Units within such District. The provision of services in accordance with this Section shall not constitute discrimination within a class.

The Commercial Association may maintain other property which it does not own, including, without limitation, property dedicated to the public, if the Board determines that such maintenance is necessary or desirable to maintain the Community-Wide Standards.

Except as otherwise specifically provided, all costs for maintenance, repair and replacement of the Area of Common Responsibility shall be a Common Expense, allocated among all Units as part of the Base Assessment without prejudice to the Commercial Association's right to seek reimbursement from Persons responsible for such work.

4.2. Owner's Responsibility. Each Owner shall maintain its Unit, including, without limitation, all structures, parking areas, and other improvements comprising the Unit consistent with the Community-Wide Standards and all applicable covenants, unless such maintenance responsibility is assumed by or assigned to the Commercial Association or a District Association. In addition to any other enforcement rights, if any Owner fails properly to maintain its Unit, the Commercial Association may perform such maintenance and assess the costs against the Unit and the Owner under Article IX; provided, the Commercial Association shall give the Owner reasonable notice and an opportunity to perform such maintenance, unless the Board determines that maintenance is needed on an emergency basis.

4.3. District's Responsibility. On Board resolution, the Owners of Units within each District shall be responsible for paying, through District Assessments, the costs of operating, maintaining and insuring portions of the Area of Common Responsibility within or adjacent to such District. This may include, for example, the costs of maintenance of any signs, entry features, rights-of-way and greenspace between the District and adjacent public roads, private streets within the District, and lakes or ponds within the District, regardless of ownership and regardless of the fact that such maintenance may be performed by the Commercial Association; provided, however, all Districts which are similarly situated shall be treated the same. All maintenance required of a District Association under this Declaration or any additional covenants or agreements shall be performed consistent with the Community-Wide Standards. If any District Association fails to perform such maintenance, the Commercial Association may perform it and assess the costs against all Units within the District under Article IX.

4.4. Standard of Performance. Unless otherwise specifically provided in this Declaration or in other instruments creating and assigning such maintenance responsibility, responsibility for maintenance shall include responsibility for repair and replacement, as necessary. All maintenance shall be performed consistent with the Community-Wide Standards and all applicable covenants. Neither the Commercial Association, Declarant, any Owner or any District Association shall be liable for any damage or injury occurring on or arising out of the condition of property maintained by the Commercial Association.

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simultaneously submit such property to the provisions of the Residential Declaration. Such withdrawal shall be accomplished by and effective upon filing, in the public records of Pierce County, Washington, a Supplemental Declaration to both this Declaration and the Residential Declaration describing the property being converted to residential use.

8.5. Additional Covenants and Easements. Declarant may unilaterally subject any portion of the property submitted to this Declaration initially or by Supplemental Declaration to additional covenants and easements, including covenants obligating the Commercial Association to maintain and insure such property on behalf of the Owners and obligating such Owners to pay the costs incurred by the Commercial Association through District Assessments. Such additional covenants and easements shall be set forth in a Supplemental Declaration, filed either concurrent with or after the submission of the subject property, and shall require the written consent of the owners of such property if not Declarant.

8.6. Amendment. This Article shall not be amended without the prior written consent of Declarant so long as Declarant owns any property described in Exhibits "A" or "B."

ARTICLE IX: ASSESSMENTS

9.1. Creation of Assessments. There are hereby created four types of assessments for Commercial Association expenses: (a) Base Assessments to fund Common Expenses for the general benefit of all Units; (b) District Assessments for District Expenses benefitting only Units within a particular District or Districts; (c) Special Assessments as described in Section 9.5; and (d) Specific Assessments as described in Section 9.6. Each Owner, by acceptance of a deed or recording of a contract of sale for any portion of the Commercial Properties, is deemed to covenant and agree to pay these assessments as levied from time to time by the Commercial Association.

All assessments, together with interest at a rate set by the Board (not to exceed 18% or the highest rate allowed by Washington law, if less) from the date of delinquency, late charges, costs, and reasonable attorney's fees, shall be a charge and a continuing lien upon each Unit against which the assessment is made until paid, as more particularly provided in Section 9.7. Each such assessment, with interest, late charges, costs of collection, including reasonable attorney's fees, also shall be the personal obligation of the Person who was Owner of such Unit at the time the assessment arose. If title to a Unit is transferred, the grantee shall be jointly and severally liable for assessments and charges due at the time of conveyance, except that a first Mortgagee who obtains title to a Unit by exercising rights under the Mortgage shall not be liable for previously accrued assessments and related charges.

The Commercial Association shall, on request, furnish to any Owner a written certificate setting forth whether assessments have been paid for any particular Unit, on advance payment of a reasonable processing fee as set by the Board.

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Assessments shall be paid in a manner and by dates fixed by the Board. The Board may allow payment of assessments in installments. Unless the Board otherwise provides, the Base Assessment and any District Assessment shall be due in advance on the first day of each fiscal year. If an Owner is delinquent in paying any assessments or charges levied on the Unit, the Board may require all unpaid assessment installments to be paid immediately.

No Owner may exempt itself from liability for assessments by non-use of Commercial Common Area, abandonment of its Unit or any other means. The obligation to pay assessments is a separate and independent covenant of each Owner. No diminution or abatement of assessment or set-off shall be claimed or allowed for any alleged failure of the Commercial Association to take any action required of it or for inconvenience or discomfort arising from repairs or improvements or other actions taken by it.

During the Class "B" Control Period, Declarant may elect annually to pay the Commercial Association either (a) regular assessments on all of its unsold Units, notwithstanding the commencement date under Section 9.8, or (b) the difference between the amount of assessments against all other Units and the necessary expenditures of the Commercial Association during the fiscal year. Unless Declarant otherwise notifies the Board at least 60 days before the beginning of a fiscal year, Declarant shall continue paying on the same basis as the preceding fiscal year. Declarant's obligations hereundor may be satisfied in cash, by "in kind" contributions of services or materials, or by a combination of these.

The Commercial Association is specifically authorized to enter into subsidy contracts or contracts for "in kind" contributions of services and materials with Declarant or others for payment of Common Expenses.

9.2. Computation of Base Assessment. At least 60 days before the beginning of each fiscal year, the Board shall prepare a budget for the estimated Common Expenses of the Commercial Association during the coming year, including capital contributions in accordance with reserve fund budgets prepared under Section 9.4.

The Base Assessments against each Unit shall be calculated in accordance with Exhibit "C," in aggregate amounts reasonably expected to produce income equaling the total budgeted Common Expenses. In determining assessments, the Board may consider other sources of funds, including anticipated receipts under the Covenant to Share Costs.

Declarant may, but is not obligated to, reduce the Base Assessments by paying a subsidy (in addition to any amounts paid by it under Section 9.1), which may be either a contribution, an advance against future assessments due from Declarant, or a loan, in Declarant's discretion. Any such subsidy shall be disclosed as a line item in the Common Expense budget. Payment of any subsidy shall not obligate Declarant to continue subsidies in the future.

The Board shall send to each Owner a copy of the budget and notice of the amount of the Base Assessment against such Owner's Unit at least 30 days before the beginning of the fiscal year. The budget and assessment shall be

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DECLARATION OF EASEMENTS AND COVENANT TO SHARE COSTS

FOR

NORTHWEST LANDING

EXHIBIT C

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DECLARATION OF EASEMENTS AND COVENANT TO SHARE COSTS FOR NORTHWEST LANDING

THIS DECLARATION is made this 20th day of August, 1992, by WEYERHAEUSER REAL ESTATE COMPANY, Land Management Division (hereinafter referred to as "Declarant").

BACKGROUND STATEMENT

Declarant is the owner (or if not the owner, Declarant has the consent of the owner(s) to subject such property to this Declaration) of all that property which is subject to the Declaration of Covenants, Conditions and Restrictions for Northwest Landing Commercial Property, recorded or to be recorded in the Records of Pierce County, Washington (as amended the "Commercial Declaration"; all property subject to the Commercial Declaration is referred to as the "Commercial Property"). Declarant is also the owner (or if not the owner, Declarant has the consent of the owner(s) to subject such property to this Declaration) of all that property which is subject to the Declaration of Covenants, Conditions and Restrictions for Northwest Landing Residential Property, recorded or to be recorded in the Records of Pierce County, Washington (as amended the "Residential Declaration"; all property subject to the Residential Declaration is referred to as the "Residential Property").

Declarant desires to provide for maintenance of certain property benefitting the Residential Property and the Commercial Property, for the sharing of costs benefitting the owners of such property and for an allocation of such costs between the members of the Northwest Landing Residential Owners Association ("Residential Association") and the Northwest Landing Commercial Owners Association ("Commercial Association"). Declarant also desires to provide an easement for access by the Commercial Association over and through the Residential Property to the extent necessary to perform its maintenance responsibilities hereunder.

NOW, THEREFORE, Declarant hereby declares that the Commercial Property, the Residential Property and the property submitted to the terms of this Declaration in accordance with Section 4.3 (collectively the "Properties"), shall be held, sold, and conveyed subject to the covenants, conditions and easements contained herein, which shall run with the title to the Properties and shall bind all parties having any right, title, or interest in the Properties, their heirs, successors, and assigns, and shall inure to the benefit of the Commercial Association, the Residential Association and each owner of the Properties.

ARTICLE I: EASEMENT

Subject to the provisions of this Declaration, Declarant hereby and by recording the Residential Declaration and the recording of any document adding property to the Residential Declaration, grants and conveys to the

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Commercial Association an easement appurtenant to the Commercial Property over the Residential Property for the purpose of maintaining, repairing and replacing the Maintenance Property (as defined below) in accordance with this Declaration.

THE CONTINUED EXISTENCE OF THIS EASEMENT IS EXPRESSLY MADE SUBJECT TO THE CONDITIONS AND RESTRICTIONS CONTAINED HEREIN WHICH SHALL CONSTITUTE COVENANTS RUNNING WITH THE TITLE TO, AND BOTH BENEFITTING AND BURDENING, THE COMMERCIAL PROPERTY AND THE RESIDENTIAL PROPERTY.

ARTICLE II: JOINT MAINTENANCE AND BUDGET

2.1. Maintenance Property. The term "Maintenance Property" means that property more particularly described on Exhibit "1" attached hereto and incorporated herein by this reference. The Maintenance Property is also part of the Area of Common Responsibility under the Commercial Declaration and/or the Residential Declaration.

2.2. Joint Budget. The term "Joint Budget Items" means the expenses associated with maintenance of the Maintenance Property and all other expenses of the associations benefitting both the Residential Property and the Commercial Property as reasonably determined by the Commercial Association's Board.

2.3. Commercial Association Responsibility.

(a) Joint Budget Items. The Commercial Association shall contract for and obtain the services contemplated by the Joint Budget Items and shall have responsibility for the payment of the costs of such items.

(b) Maintenance. The Commercial Association shall maintain, repair, replace, and keep the Maintenance Property in a neat and attractive condition consistent with the Community-Wide Standard established pursuant to the Commercial Declaration.

In the event that all or any part of the Commercial Association's responsibilities under this Section are assumed by any local, state or federal government entity, the Commercial Association shall be relieved of such responsibility to the extent so assumed. The Commercial Association may provide additional or a higher level of maintenance to any affected portion of the Maintenance Property if the Commercial Association's Board determines that such additional maintenance is desirable to maintain the Community-Wide Standard under the Commercial Declaration.

2.4. Insurance. The Commercial Association shall keep in force property and public liability insurance on the Maintenance Property in accordance with the standards for insurance established in the Commercial Declaration. Such insurance shall name the Residential Association as additional insured.

2.5. Right to Request Higher Level of Maintenance. The Residential Association may request at any time that the Commercial Association provide a

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higher level of maintenance as to some or all of the Maintenance Property than that required hereunder and the Commercial Association shall provide such additional maintenance. The Residential Association shall pay all costs resulting from the increase in the level of maintenance.

ARTICLE III: OBLIGATION TO SHARE COSTS

3.1. Responsibility for Assessments. The Residential Association shall pay to the Commercial Association an annual assessment to cover a portion of the costs, including insurance, incurred by the Commercial Association in performing its obligations under Article II of this Declaration. The obligation to pay this assessment shall be mandatory, whether or not the Residential Association agrees with or is satisfied with the manner and extent of performance by the Commercial Association.

3.2. Computation of Assessments. On an annual basis, the Commercial Association shall determine an estimated budget for performing its obligations under this Declaration during the upcoming year, including an appropriate amount to be placed in a reserve fund for capital repairs and replacements. The budget shall be adjusted to reflect any excess or deficiency in the budget assessed for the immediately preceding year, as compared to actual expenses for that period. Each party's annual assessment shall be a pro rata amount of the annual budget as determined by the following formula:

Total Acreage of Commercial Property / (Commercial Property Acreage + Residential Property Acreage)	x Budget	=	Commercial Assessment
Total Acreage of Residential Property / (Commercial Property Acreage + Residential Property Acreage)	x Budget	=	Residential Assessment

For purposes of this formula, the total acreage of the Residential Property and the Commercial Property shall be determined annually as of the date that the budget is adopted.

3.3. Payment of Assessments. Within 30 days of receipt of notice of an annual assessment, the Residential Association shall pay to the Commercial Association the entire amount due, unless the Commercial Association's Board provides for the payment to be made in installments. Any assessment delinquent for a period of more than 30 days may incur a reasonable late charge in an amount determined by the Commercial Association's Board plus interest (at a rate equal to the lesser of 18% per annum or the maximum lawful rate) on the principal amount plus all costs of collection, including, but not limited to, reasonable attorneys' fees actually incurred and any other amounts provided or permitted by law. In the event that the assessment remains unpaid after 90 days, the Commercial Association may institute suit to collect such amounts. All payments shall be applied first to costs and attorneys' fees, then to late charges, then to interest and then to delinquent assessments.

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3.4. Recordkeeping. The Commercial Association shall maintain or cause to be maintained full and accurate books of account with respect to the performance of its responsibilities hereunder. The books and records and related financial statements shall be made available for inspection and copying upon request by the Residential Association during normal business hours. Copying charges shall be paid by the Residential Association when requesting copies. If the Residential Association desires to have the records audited, it may do so at the expense of the Residential Association, and the Commercial Association shall cooperate by making available to the auditors the records, including all supporting materials (e.g. check copies, invoices, etc.), for the year in question.

If the amount of actual expenses for the year is disputed after audit, the Residential Association and the Commercial Association shall cause a second audit to be performed by a mutually acceptable auditor and the decision of the second auditor shall be binding. If the amount as determined by the second auditor varies from the amount asserted by the Commercial Association by five percent or more, the Commercial Association shall pay the entire cost of the second auditor. If the amount as determined by the second auditor varies from the amount asserted by the Commercial Association by two percent or less, then the Residential Association shall pay the entire cost of the second auditor. Otherwise, the cost of the second auditor shall be shared equally by the Commercial Association and the Residential Association. Variances shall be taken into account in the following year's budget as provided above.

ARTICLE IV: GENERAL

4.1. Notice. Any notice shall be served personally (including delivery by commercial courier service) or shall be mailed by registered or certified mail to the president or secretary of the Residential Association or the Commercial Association. All such notices shall, for all purposes, be deemed delivered (a) upon personal delivery (including commercial courier service); or (b) on the third (3rd) day after mailing when mailed by registered or certified mail, postage prepaid, and properly addressed.

4.2. Enforcement. The obligations created hereunder may be enforced by the Declarant, the Commercial Association, the Residential Association and any owner of any portion of the Properties by any means available at law or in equity.

4.3. Amendment.

(a) By Declarant. The Declarant may amend this Declaration unilaterally at any time for the purpose of designating additional property as Maintenance Property or designating certain expenses as Joint Budget Items or deleting any property or Joint Budget Items previously included by filing an amendment to this Declaration in the public records of Pierce County, Washington. The Declarant may also unilaterally amend this Declaration at any time and from time to time if such amendment is necessary to: (i) bring any provision hereof into compliance with any applicable governmental statute or

regulation or judicial determination; (ii) enable any reputable title insurance company to issue title insurance coverage with respect to any portion of the Commercial Property or Residential Property; or (iii) enable any institution or government lender to make, purchase, insure or guarantee mortgage loans on any portion of the Commercial Property or the Residential Property; provided, however, any such amendment shall not adversely affect the title to any property unless the owner consents in writing. Further, so long as the Declarant has an option unilaterally to subject additional property to the Residential Declaration as provided therein, Declarant may unilaterally amend this Declaration for any other purpose, so long as such amendment does not materially adversely affect the substantive rights of any owner of any portion of the Properties, nor adversely affect title to any portion of the Properties without the consent of the affected owner.

(b) By Owners. In addition to the above, this Declaration may be amended upon (i) the approval of owners holding a majority of the total votes in the Commercial Association, (ii) the approval of owners holding a majority of the total votes in the Residential Association and (iii), so long as the Declarant has an option unilaterally to subject additional property to the Residential Declaration as provided in that instrument, the consent of the Declarant. No amendment may remove, revoke, or modify any right or privilege of Declarant without the written consent of Declarant.

(c) Validity of Amendments. Amendments to this Declaration shall become effective when recorded in the public records of Pierce County, Washington, unless a later effective date is specified therein. Any procedural challenge to an amendment must be made within six (6) months of its recordation or such amendment shall be presumed to have been validly adopted. In no event shall a change of conditions or circumstances operate to amend any provisions of this Declaration.

4.4. Duration. The provisions of this Declaration shall run with and bind the land and shall be and remain in effect perpetually to the extent allowed by law.

4.5. Binding Effect. This Declaration shall be binding upon and shall inure to the benefit of every owner of any portion of the Properties.

4.6. Interpretation. This Declaration shall be governed by and construed under the laws of the State of Washington.

4.7. Waiver. No failure of the Residential Association or the Commercial Association to exercise any power under this Declaration or insist upon strict compliance with this Declaration and no custom or practice at variance with the terms of this Declaration shall constitute a waiver of the right to demand exact compliance with the terms of this Declaration.

4.8. Perpetuities. If any of the covenants, conditions, restrictions, or other provisions of this Declaration shall be unlawful, void, or voidable for violation of the rule against perpetuities, then such provisions shall continue only until twenty-one (21) years after the death of

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the last survivor of the now living descendants of Elizabeth II, Queen of England.

4.9. Gender and Grammar. The singular, wherever used herein, shall be construed to mean the plural, when applicable, and the use of the masculine pronoun shall include the neuter and feminine.

4.10. Severability. Invalidation of any provision or application of a provision of this Declaration by any court shall not affect any other provisions or applications.

4.11. Captions. The captions of each Article and Section are inserted only for convenience and do not define, limit, extend, modify or add to the particular Article or Section to which they refer.

IN WITNESS WHEREOF, the undersigned Declarant has executed this Declaration as of the date first above written.

WEYERHAEUSER REAL ESTATE COMPANY, Land Management Division

By: Robert L Shedd
Robert L. Shedd, Vice President

STATE OF WASHINGTON

COUNTY OF KING

On this 20th day of August, 1992 before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Robert L. Shedd to me known to be the Vice President of Weyerhaeuser Real Estate Company, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.

Janet L Buck
NOTARY PUBLIC in and for the State of Washington, residing at Gig Harbor
My Appointment Expires: 5-9-94

2848g - 4/17/92

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Exhibit "1"
MAINTENANCE PROPERTY

The following property shall be included in the Maintenance Property (all parcel references are to the numbered parcels as shown on the attached Exhibit "2" which is incorporated herein by this reference and is intended to show general locations relative to surrounding parcels only):

1. Roads, landscaping along roads, trails and storm sewers. At present the roads include Center Drive, Wilmington Drive, International Place, Davis Place, Bell Hill Loop, Williamson Place, and Manchester Place (see map, Exhibit 2).

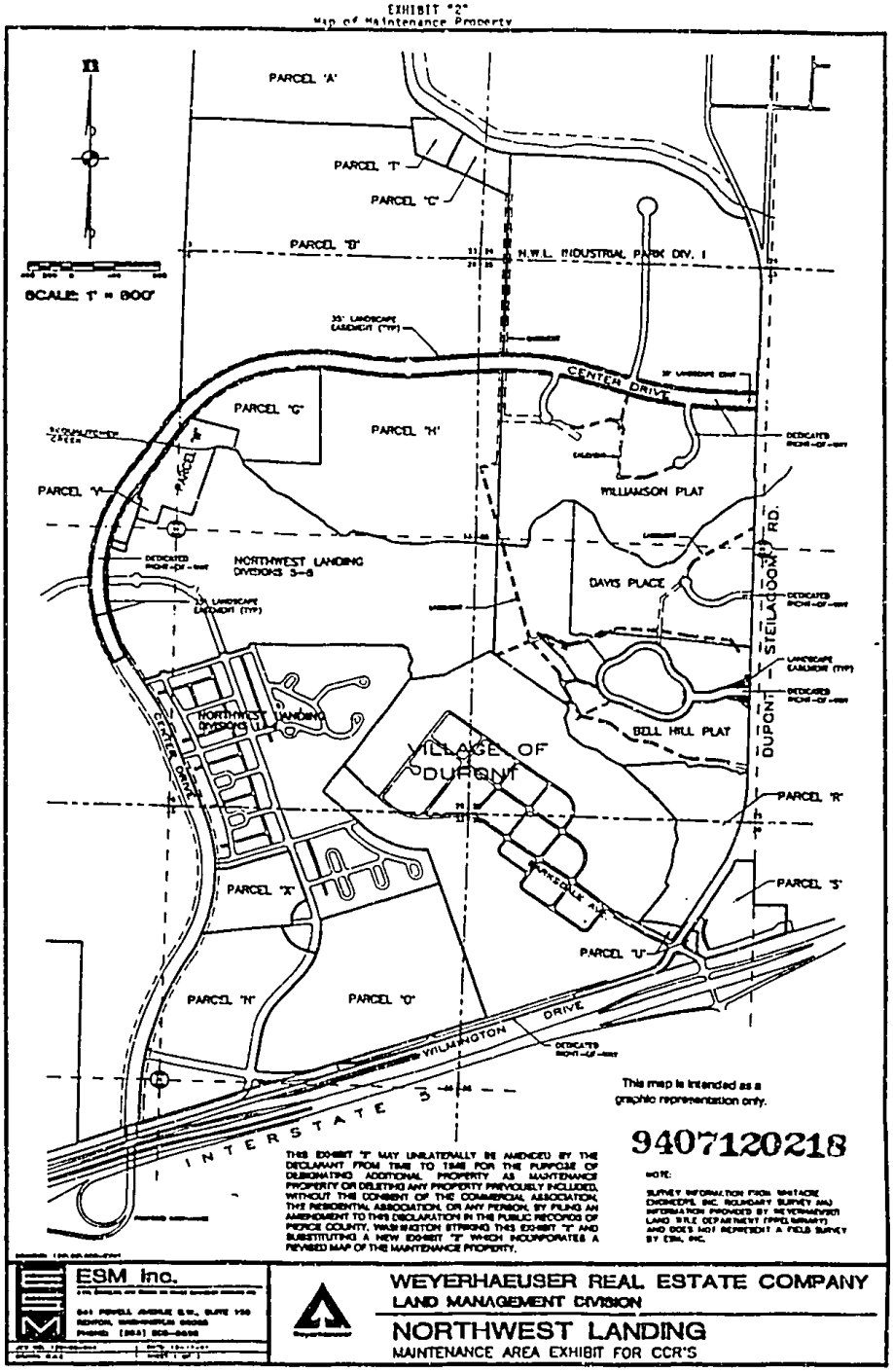
2. All costs of maintaining, repairing and replacing on-premise signs demarking Northwest Landing.

This Exhibit "1" may unilaterally be amended by the Declarant from time to time for the purpose of designating additional property as Maintenance Property or deleting any property previously included, without the consent of the Commercial Association, the Residential Association, or any person, by filing an amendment to this Declaration in the public records of Pierce County, Washington striking this Exhibit "1" and substituting a new Exhibit "1" which incorporates a revised description of the Maintenance Property.

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BK 104 PG 2963

EXHIBIT "2"
Map of Maintenance Property



This map is intended as a graphic representation only.

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THIS EXHIBIT "I" MAY UNILATERALLY BE AMENDED BY THE DECLARANT FROM TIME TO TIME FOR THE PURPOSE OF DESIGNATING ADDITIONAL PROPERTY AS MAINTENANCE PROPERTY OR DELETING ANY PROPERTY PREVIOUSLY INCLUDED, WITHOUT THE CONSENT OF THE COMMERCIAL ASSOCIATION, THE RESIDENTIAL ASSOCIATION, OR ANY PERSON, BY FILING AN AMENDMENT TO THIS DECLARATION IN THE PUBLIC RECORDS OF PIERCE COUNTY, WASHINGTON STRIKING THIS EXHIBIT "I" AND SUBSTITUTING A NEW EXHIBIT "I" WHICH INCORPORATES A REVISED MAP OF THE MAINTENANCE PROPERTY.

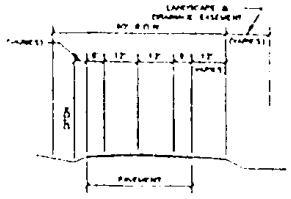
NOTE:
SURVEY INFORMATION FROM WHICHEVER ENGINEERS, INC. BOUNDARY SURVEY AND INFORMATION PROVIDED BY THE WEYERHAEUSER LAND TITLE DEPARTMENT (PRELIMINARY) AND DOES NOT REPRESENT A FIELD SURVEY BY ESM, INC.

ESM Inc.

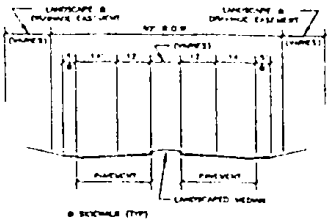
WEYERHAEUSER REAL ESTATE COMPANY
LAND MANAGEMENT DIVISION

NORTHWEST LANDING
MAINTENANCE AREA EXHIBIT FOR CCR'S

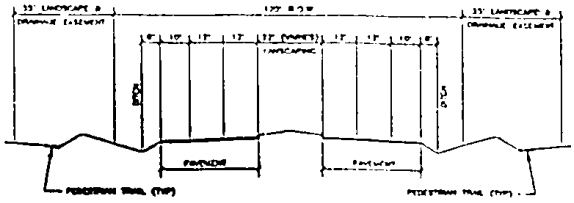
EXHIBIT "2"
Map of Maintenance Property



BELL HILL PLACE



BELL HILL PLACE ENTRY ROAD



CENTER DRIVE – TYPICAL SECTION

THIS EXHIBIT "2" MAY UNILATERALLY BE AMENDED BY THE DECLARANT FROM TIME TO TIME FOR THE PURPOSE OF DESIGNATING ADDITIONAL PROPERTY AS MAINTENANCE PROPERTY OR DELETING ANY PROPERTY PREVIOUSLY INCLUDED, WITHOUT THE CONSENT OF THE COMMERCIAL ASSOCIATION, THE RESIDENTIAL ASSOCIATION, OR ANY PERSON, BY FILING AN AMENDMENT TO THIS DECLARATION IN THE PUBLIC RECORDS OF PIERCE COUNTY, WASHINGTON STATING THIS EXHIBIT "2" AND INCORPORATES A NEW EXHIBIT "2" WHICH INCORPORATES A DESCRIPTION OF THE MAINTENANCE PROPERTY.

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EBM, Inc.

WEYERHAEUSER REAL ESTATE COMPANY
LAND MANAGEMENT DIVISION

NORTHWEST LANDING
MAINTENANCE AREA EXHIBIT FOR CCR'S

DEC 1 7 1991

BK 104 PG 2964

Exhibit "3"
JOINT BUDGET ITEMS

The following are Joint Budget Items under Article II § 2:

1. All amounts contributed to the City of DuPont by the Commercial Property Owners Association to be used for budgeted items such as public safety, fire, police, administration, etc.

This Exhibit "3" may unilaterally be amended by the Declarant from time to time for the purpose of modifying Joint Budget Items without the consent of the Commercial Association, the Residential Association, or any person, by filing an amendment to this Declaration in the public records of Pierce County, Washington striking this Exhibit "3" and substituting a new Exhibit "3" which incorporates a revised list of Joint Budget Items.

QUALITY OF THE DOCUMENT

CITY OF DuPONT

ORDINANCE NO. 420

AN ORDINANCE AMENDING ORDINANCE NO. 392 TO CHANGE THE DESCRIPTION OF THE IMPROVEMENTS TO BE CONSTRUCTED IN LOCAL IMPROVEMENT DISTRICT NO. 1

WHEREAS, the City Council of the City of DuPont passed Ordinance No. 372 on October 12, 1988, creating Local Improvement District No. 1 ("LID No. 1"); and,

WHEREAS, the City Council of the City of DuPont passed Ordinance No. 392 on August 9, 1989 and Ordinance No. 408 on April 11, 1990, amending Ordinance No. 372 to change the description of improvements to be constructed and funded under LID 1; and,

WHEREAS, Weyerhaeuser Real Estate Company, which owns most of the property in LID No. 1, has requested that the improvements to be constructed in LID No. 1 be expanded and has agreed to be assessed 100% of the cost of the additional improvements; and,

WHEREAS, Weyerhaeuser Real Estate Company has signed a waiver waiving its right to notice of and a hearing on the changes to the improvements to be constructed in LID No. 1;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF DUPONT, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1 of Ordinance No. 392, as heretofore amended by Ordinance No. 408, is hereby further amended to read as follows:

Section 1. The City shall acquire, construct and install the following improvements within the following described areas of the City:

- Construct 5,700 feet of Center Drive as a 4-lane arterial to include center median, power, illumination, telephone, cablevision, gas, irrigation, storm drainage and landscaping.

- Construct 1,900 feet of a two-lane collector road including power, illumination, telephone, cablevision, gas and storm drainage, Parcels "H" and "G".

- Construct 3,000 feet of 36-inch diameter sanitary sewer, 2,600 feet of 30-inch diameter sanitary sewer, and 1,500 feet of 8-inch diameter sanitary sewer to include manholes, cleanouts and appurtenances.

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EXHIBIT D

CITY OF DuPONT
ORDINANCE NO. 420

- Construct 3,000 feet of 16-inch diameter water main, 2,600 feet of 12-inch diameter water main, and 1,800 feet of 8-inch diameter water main; to include valves, fittings, thrust blocks and appurtenances.
- Construct 3,000 feet of walkway and a pedestrian wood bridge along the railroad grade east of the Sequalitchew Creek/Center Drive Bridge; also a 100 foot walkway intertie to the West Side of the existing Bell Hill walkway.
- Complete landscaping and irrigation system at the west end of Wilmington Drive.
- Construct an 80 foot diameter cul-de-sac on Barksdale Avenue at the village.
- Modify DuPont/Steilacoom Road by widening and providing a left-hand turn lane to the Pendleton Gate entrance into Fort Lewis.
- Modify the Center Drive bridge crossing of Sequalitchew Creek.

The foregoing improvements are hereafter referred to as the "Improvements". The above-described shall be installed complete with all appurtenances necessary to the proper operation of the various utility systems.

This ordinance shall be in full force and effect five (5) days after its passage and publication as provided by law.

PASSED BY THE DUPONT CITY COUNCIL AND APPROVED BY ME THIS 14 DAY OF November, 1990.

MAYOR

ATTEST:

CLERK

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BK 1041 PG 2968

ESM inc.
A CIVIL ENGINEERING, LAND SURVEY, AND PROJECT MANAGEMENT CONSULTING FIRM

Dupont
Job No. 129-35-921-001
October 22, 1992
Revision of January 21, 1994

LEGAL DESCRIPTION
FOR PALISADES RIGHT-OF-WAY

That portion of the South half of Section 26 AND of the East half of Section 35, Township 19 North, Range 1 East, W.M., City of Dupont, Pierce County, Washington, more particularly described as follows:

BEGINNING at the southeast corner of the northeast quarter of the northeast quarter of said Section 35, said point also being known as Fort Lewis Monument No. 270;

THENCE S 18°18'29" E, along the westerly line of a parcel of land as shown by Record of Survey recorded in Volume 473, Page 378, under Recording No. 8803030092, Records of Pierce County, Washington, 657.86 feet to a point on the northerly right-of-way of Wilmington Drive as conveyed by deed filed under Recording No. 8812220490;

THENCE along the northerly margin of said Wilmington Drive, S 71°38'13" W, 1425.12 feet to the westerly end of said Wilmington Drive as conveyed by Recording No. 8812220490 AND the TRUE POINT OF BEGINNING;

THENCE continuing S 71°38'13" W, 69.64 feet to a point of curvature;

THENCE westerly 625.75 feet along the arc of a tangent curve to the right, having a radius of 1443.50 feet, through a central angle of 24°50'14" to a point of compound curvature;

THENCE northwesterly 40.42 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 92°37'30" to a point of tangency;

THENCE N 09°05'57" E, 338.91 feet to a point of curvature;

THENCE northeasterly 368.02 feet along the arc of a tangent curve to the right, having a radius of 660.00 feet, through a central angle of 31°56'53" to a point of tangency;

THENCE N 41°02'50" E, 272.68 feet to a point of curvature;

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34904 9th Ave. So., Bldg. A • Federal Way, Washington 98003
Federal Way (206) 838-6113 • Tacoma (206) 927-0619 • Seattle (206) 623-5911 • Fax (206) 838-7104

EXHIBIT E

THENCE northerly 610.72 feet along the arc of a tangent curve to the left, having a radius of 740.00 feet, through a central angle of 47°17'11" to a point of non-tangent curvature;

THENCE northerly 105.31 feet along the arc of a non-tangent curve the left, having a radius of 60.00 feet, the radius point of which bears N 49°07'59" W, through a central angle of 100°33'51" to a point of reverse curvature;

THENCE northwesterly 21.00 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 48°07'26" to a point of reverse curvature;

THENCE northerly 138.99 feet along the arc of a tangent curve to the left, having a radius of 1182.41 feet, through a central angle of 06°44'05" to a point of tangency;

THENCE N 18°18'29" W, 56.66 feet to a point of curvature;

THENCE northeasterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE N 18°18'29" W, 48.00 feet to a point of curvature;

THENCE northwesterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears N 18o18'29" W, through a central angle of 90°00'00" to a point of tangency;

THENCE N 18°18'29" W, 335.50 feet to a point of curvature;

THENCE northeasterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE N 18°18'29" W, 44.00 feet to a point of curvature;

THENCE northwesterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears N 13°18'29" W, through a central angle of 90°00'00" to a point of tangency;

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THENCE N 18°18'29" W, 961.69 feet to a point of curvature;

THENCE northerly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of reverse curvature;

THENCE northeasterly 15.16 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 14°28'37" to a point of reverse curvature;

THENCE northeasterly 23.91 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 54°47'50";

THENCE N 18°18'29" W, 48.00 feet to a point of curvature;

THENCE westerly 23.91 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears N 18°18'29" W, through a central angle of 54°47'50" to a point of reverse curvature;

THENCE northwesterly 15.16 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 14°28'37" to a point of reverse curvature;

THENCE northwesterly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of tangency;

THENCE N 18°18'29" W, 666.19 feet to a point of curvature;

THENCE northeasterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE N 18°18'29" W, 48.00 feet to a point of curvature;

THENCE northwesterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears N 18°18'29" W, through a central angle of 90°00'00" to a point of tangency;

THENCE N 18°18'29" W, 494.71 feet to a point of curvature;

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THENCE northerly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of reverse curvature;

THENCE northerly 60.89 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 58°08'52" to a point of reverse curvature;

THENCE northerly 23.91 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 54°47'50";

THENCE N 61°58'50" W, 48.00 feet to a point of curvature;

THENCE southwesterly 23.91 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears N 61°58'50" W, through a central angle of 54°47'50" to a point of reverse curvature;

THENCE westerly 15.16 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 14°28'37" to a point of reverse curvature;

THENCE westerly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of tangency;

THENCE N 61°58'50" W, 152.96 feet to a point of curvature;

THENCE westerly 214.36 feet along the arc of a tangent curve to the left, having a radius of 525.73 feet, through a central angle of 23°21'41" to a point of reverse curvature;

THENCE northwesterly 37.07 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 84°56'51";

THENCE N 37°47'16" W, 47.05 feet to a point of curvature;

THENCE southwesterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 89°36'20" W, through a central angle of 90°00'00" to a point of tangency;

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... VARIETY OF THE DOCUMENT

THENCE S 87°08'06" E, 47.08 feet to a point of curvature;

THENCE northeasterly 42.03 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears N 89°36'20" E, through a central angle of 96°19'04" to a point of compound curvature;

THENCE easterly 179.61 feet along the arc of a tangent curve to the right, having a radius of 465.73 feet, through a central angle of 22°05'46" to a point of tangency;

THENCE S 61°58'50" E, 152.96 feet to a point of curvature;

THENCE southeasterly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of reverse curvature;

THENCE southeasterly 58.32 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 55°41'14" to a point of reverse curvature;

THENCE southeasterly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'48" to a point of tangency;

THENCE S 18°18'29" E, 495.21 feet to a point of curvature;

THENCE southwesterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE S 18°18'29" E, 47.00 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 18°18'29" E, through a central angle of 90°00'00" to a point of tangency;

THENCE S 18°18'29" E, 293.00 feet to a point of curvature;

BK 101 PG 2973

THENCE S 89°36'20" W, 198.01 feet;

THENCE N 85°36'25" W, 119.82 feet;

THENCE S 89°36'20" W, 48.01 feet to a point of curvature;

THENCE westerly 12.12 feet along the arc of a tangent curve to the right, having a radius of 45.00 feet, through a central angle of 15°26'00" to the easterly margin of Center Drive as conveyed by the City of Dupont by deed filed under Pierce County Recording No. 9205210947;

THENCE along said easterly margin, southerly 83.26 feet along the arc of a non-tangent curve to the left, having a radius of 1405.00 feet, the radius point of which bears S 88°41'49" E, through a central angle of 03°23'43" to a point of non-tangent curvature;

THENCE easterly 12.12 feet along the arc of a non-tangent curve to the right, having a radius of 45.00 feet, the radius point of which bears S 15°49'40" E, through a central angle of 15°26'00" to a point of tangency;

THENCE N 89°36'20" E, 73.91 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE N 89°36'20" E, 47.00 feet;

THENCE N 00°23'40" W, 10.00 feet to a point of curvature;

THENCE northeasterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00" to a point of tangency;

THENCE N 89°36'20" E, 194.51 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

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THENCE southwesterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE S 18°18'29" E, 47.00 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 18°18'29" E, through a central angle of 90°00'00" to a point of tangency;

THENCE S 18°18'29" E, 276.69 feet to a point of curvature;

THENCE southerly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of reverse curvature;

THENCE southwesterly 15.59 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 14°53'18" to a point of reverse curvature;

THENCE southwesterly 24.09 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 55°12'31";

THENCE S 18°18'29" E, 47.00 feet;

THENCE easterly 24.09 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 18°18'29" E, through a central angle of 55°12'31" to a point of reverse curvature;

THENCE southeasterly 15.59 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 14°53'18" to a point of reverse curvature;

THENCE southeasterly 21.68 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 49°40'47" to a point of tangency;

THENCE S 18°18'29" E, 227.57 feet to a point of curvature;

THENCE southwesterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE S 18°18'29" E, 47.00 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 18°18'29" E, through a central angle of 90°00'00" to a point of tangency;

THENCE S 18°18'29" E, 297.25 feet to a point of curvature;

THENCE southwesterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE S 18°18'29" E, 42.00 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 18°18'29" E, through a central angle of 90°00'00" to a point of tangency;

THENCE S 18°18'29" E, 247.88 feet to a point of curvature;

THENCE southwesterly 39.27 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 90°00'00";

THENCE S 18°18'29" E, 44.00 feet to a point of curvature;

THENCE southeasterly 39.27 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 18°18'29" E, through a central angle of 90°00'00" to a point of tangency;

THENCE S 18°18'29" E, 336.40 feet to a point of curvature;

THENCE southwesterly 37.48 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 85°53'31" to a point of reverse curvature;

THENCE southwesterly 9.10 feet along the arc of a tangent curve to the left, having a radius of 323.99 feet, through a central angle of 01°36'39";

THENCE S 24°01'28" E, 48.00 feet to a point of curvature;

THENCE southeasterly 41.76 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 24°01'28" E, through a central angle of 95°42'59" to a point of tangency;

THENCE S 18°18'29" E, 55.42 feet to a point of curvature;

THENCE southerly 129.92 feet along the arc of a tangent curve to the right, having a radius of 1122.41 feet, through a central angle of 06°34'51" to a point of compound curvature;

THENCE southerly 22.41 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 51°21'04" to a point of reverse curvature;

THENCE southerly 100.50 feet along the arc of a tangent curve to the left, having a radius of 60.00 feet, through a central angle of 95°58'21" to a point of reverse curvature;

THENCE southeasterly 22.69 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 51°59'56" to a point of compound curvature;

THENCE southerly 185.26 feet along the arc of a tangent curve to the right, having a radius of 670.00 feet, through a central angle of 15°50'32" to a point of compound curvature;

THENCE southwesterly 40.24 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 92°13'16" to a point of tangency;

THENCE N 76°17'11" W, 15.09 feet;

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THENCE S 13°42'49" W, 48.00 feet;

THENCE S 76°17'11" E, 1.36 feet to a point of curvature;

THENCE southeasterly 42.15 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 96°36'05" to a point of compound curvature;

THENCE southwesterly 238.82 feet along the arc of a tangent curve to the right, having a radius of 660.00 feet, through a central angle of 20°43'56" to a point of tangency;

THENCE S 41°02'50" W, 272.68 feet to a point of curvature;

THENCE southwesterly 412.63 feet along the arc of a tangent curve to the left, having a radius of 740.00 feet, through a central angle of 31°56'53" to a point of tangency;

THENCE S 09°05'57" W, 338.91 feet to a point of curvature;

THENCE southwesterly 40.42 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 92°37'41";

THENCE S 11°43'37" W, 80.00 feet;

THENCE southeasterly 15.72 feet along the arc of a non-tangent curve to the left, having a radius of 1523.50 feet, the radius point of which bears N 11°43'37" E, through a central angle of 00°35'28" to a point of reverse curvature;

THENCE southeasterly 38.38 feet along the arc of a tangent curve to the right, having a radius of 25.00 feet, through a central angle of 87°57'47";

THENCE S 80°53'54" E, 60.00 feet to a point of curvature;

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BK104 PG2978

THENCE northeasterly 38.38 feet along the arc of a non-tangent curve to the right, having a radius of 25.00 feet, the radius point of which bears S 80o54'03" E, through a central angle of 87°57'57" to a point of reverse curvature;

THENCE easterly 676.13 feet along the arc of a tangent curve to the left, having a radius of 1523.50 feet, through a central angle of 25°25'41" to a point of tangency;

THENCE N 71°38'13" E, 69.64 feet to the westerly end of said Wilmington Drive as conveyed by deed filed under Recording File No. 8812220490;

THENCE along said westerly line, N 18°21'47" W, 80.00 feet to the TRUE POINT OF BEGINNING.

Containing 11.05 acres.

See attached Exhibit "P-L".

Written by: C.A.G.
Checked by: R.S.M.

L12:129351

CYNTHIA A. GRELLNER
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES 11-01-95

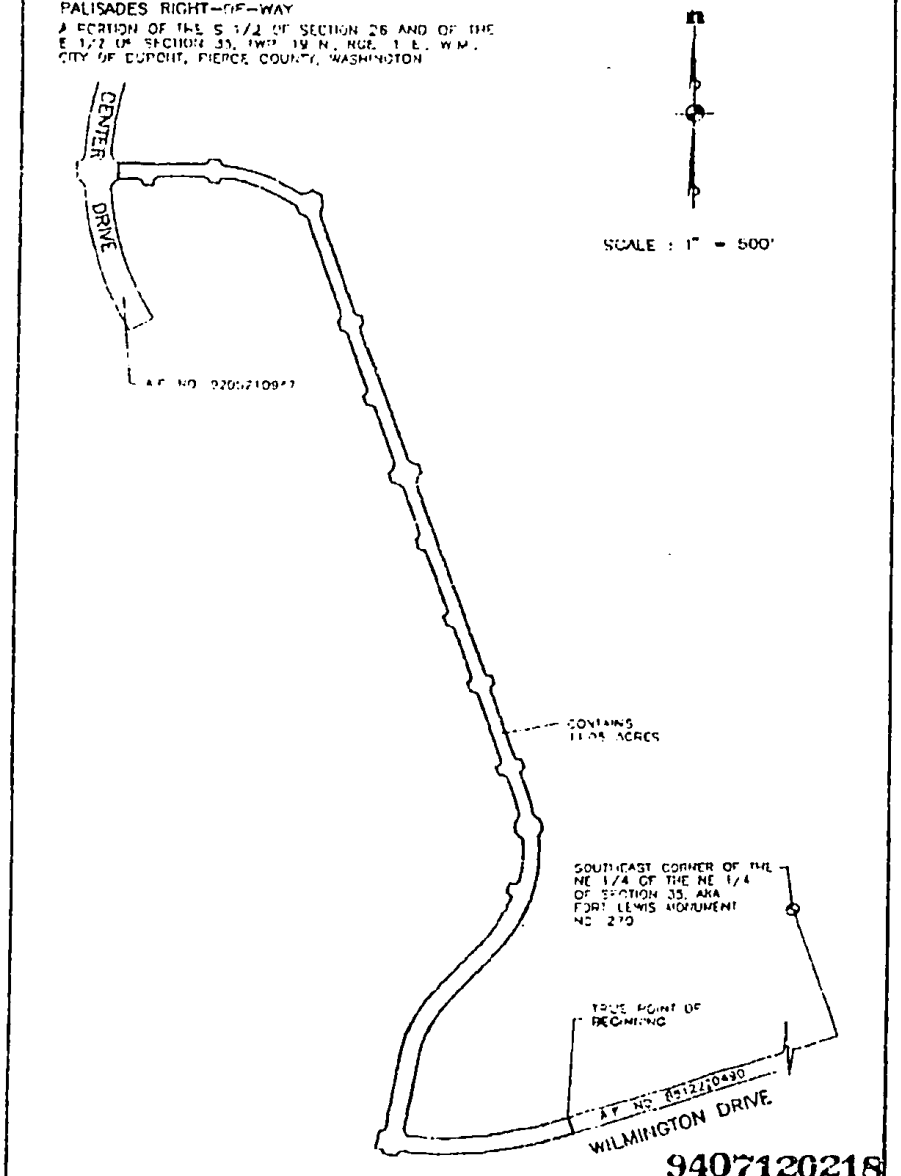
01-21-94

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EXHIBIT "P-L"

TO ACCOMPANY LEGAL DESCRIPTION FOR
PALISADES RIGHT-OF-WAY

A PORTION OF THE S 1/2 OF SECTION 26 AND OF THE E 1/2 OF SECTION 35, TWP 19 N., RGE. 1 E., W.M., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



9407120218

JOB NO. 129-35-921-001
DRAWING NAME : EXH-PL
DRAWN BY : C.A.S.
DATE : 01-21-94
SHEET 1 OF 1

ESM Inc.

LEGAL DESCRIPTION OF WILMINGTON DRIVE AS CONVEYED TO CITY OF DUPONT UNDER BARGAIN AND SALE DONATION DEED RECORDED UNDER PIERCE COUNTY AUDITOR'S FILE NO. 8812220490

PARCEL 1

A strip of land in the South Half of the Northeast Quarter (S½ of NE¼) and the Northwest Quarter of the Southeast Quarter (NW¼ of SE¼) of Section 35, and the Southwest Quarter of Northwest Quarter (SW¼ of NW¼) of Section 36, described as follows:

Beginning at Fort Lewis Monument Number 269, said monument marking the intersection of the West line of said Section 36 and the Northerly margin of the Burlington Northern Railroad Right of Way; Thence South 71°38'25" West along said Northerly margin a distance of 1,149.76 feet; Thence North 18°21'35" West, 80.00 feet; Thence North 71°38'25" East, 1,424.97 feet to an existing concrete monument with a brass cap marking the Southwest corner of the tract of land conveyed to the City of DuPont by Deed dated March 31, 1988, recorded under Auditor's File No. 702783, (said monument being South 18°17'35" East, 657.82 feet from Fort Lewis Monument Number 270); Thence, continuing, North 71°38'25" East, along the South line of said DuPont parcel, 1,156.46 feet; Thence South 18°21'35" East, 20.00 feet to an existing concrete monument; Thence South 71°38'25" West, 269.80 feet to a point of curvature; Thence along a curve to the left, the center of which bears South 18°21'35" East, 80.00 feet distant, through a central angle of 75°31'21", an arc distance of 105.45 feet to a point on said Burlington Northern Railroad margin; Thence South 71°38'25" West, along said Northerly margin, 1,084.41 feet to the True Point of Beginning;

PARCEL 2

A strip of land in the Northwest Quarter (NW¼) of Section 36, more fully described as follows:

Commencing at the Northwest corner of said Section 36; Thence South 00°25'24" East along the West line of said Section 36, a distance of 1,314.18 feet to Fort Lewis Monument Number 270; Thence South 18°17'53" East, 738.12 feet to a point on the Southerly margin of Frontage Road and the Northerly margin of Northern Pacific Railroad Right of Way;
Thence North 71°38'25" East along said margin 2,027.10 feet to a point at the intersection of the centerline of Barksdale Avenue and the Northerly margin of the Northern Pacific Railroad Right of Way;
Thence North 61°51'03" West along said centerline 316.74 feet;
Thence North 28°08'57" East, 30.00 feet to the Northerly margin of Barksdale Avenue;
Thence North 66°50'39" East, 26.84 feet;
Thence North 31°30'00" East, 142.33 feet to the True Point of Beginning;
Thence continuing North 31°30'00" East, 757.43 feet to the Westerly margin of Dupont-Steilacoom Road;
Thence South 21°30'41" West along said Westerly margin 507.33 feet;
Thence South 31°30'00" West, 233.24 feet;
Thence North 74°05'15" West, 91.36 feet to the True Point of Beginning.

Situate in the City of Dupont, County of Pierce, State of Washington.

BK 1041PG2982

Auditor's Note: Map filed in vault in Map File Folder.

2625505

1-2 TRACT

GOVERNOR'S DEED

IN THE MATTER OF SR 5, Fort Lewis Golf Course to DuPont Interchange

KNOW ALL MEN BY THESE PRESENTS, that THE STATE OF WASHINGTON, for and in consideration of MUTUAL BENEFITS hereby conveys and quitclaims unto THE CITY OF DU PONT, a municipal corporation of the State of Washington, all its right, title and interest, in and to the following described real property situated in Pierce County, State of Washington:

That portion of the southwest quarter of the northwest quarter and of the east half of the northwest quarter of Section 36, Township 19 North, Range 1 East, W. M., lying within the Frontage Service Road of and the DU4 Line and AL4 Line connections to State Highway Route 5, Fort Lewis Golf Course to DuPont Interchange, as shown shaded in red on Exhibit "A", being sheet 6 of 6 sheets of that certain map of definite location of said Highway, attached hereto and by this reference made a part hereof.

The grantee herein, its successors or assigns, shall have no right of ingress and egress to, from and between said SR 5 and the lands herein conveyed; nor shall the grantee herein, its successors or assigns, be entitled to compensation for any loss of light, view and air occasioned by the location, construction, maintenance or operation of said highway. EXCEPT that there shall be reasonable access to said Highway by means of said DU4 Line and AL4 Line connections thereto.

The grantee, its personal representatives, successors in interest and assigns, as a part of the consideration hereof, does hereby covenant and agree, as a covenant running with the land, that in the event facilities are constructed, maintained, or otherwise operated on the said property described in this deed, for the accommodation of the traveling public or business users of any Federal-aid highway (such as eating, sleeping, rest, recreation, and vehicle servicing), it will not discriminate on the grounds of race, color, or national origin against such traveling public or highway users in their access to and use of the facilities and services so constructed, maintained or otherwise operated, and that the grantee shall maintain and operate such facilities and services in compliance with all other requirements imposed pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary of Transportation, Part 21 (49 C.F.R. Part 21), and as said Regulations may be amended.

EXCISE TAX PAID $ exempt
REC # 377333 DATE 12-2-95
AUDITOR [illegible] Co Treas
BY [illegible] DEPUTY

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33

EXHIBIT F

BK 1041 PG 2983

2625505

The lands herein described are not required for state highway purposes and are conveyed pursuant to the provisions of RCW 47.12.070.

DATED at Olympia, Washington, this 1st day of August, 1975.

STATE OF WASHINGTON

By: _____
Governor

ATTEST:

By: _____
Secretary of State

APPROVED AS TO FORM:

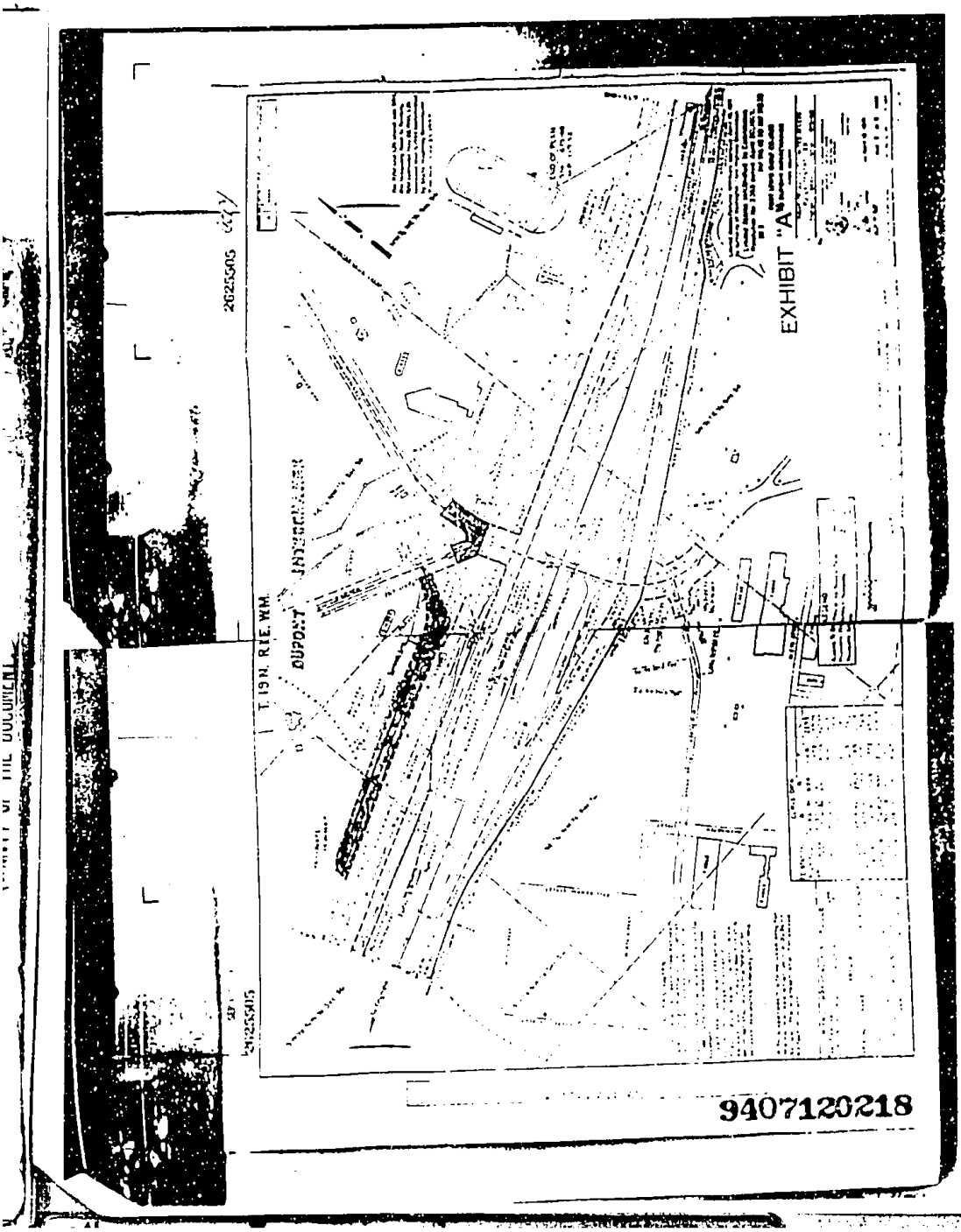
By: _____
Assistant Attorney General

By: _____
The City of DuPont

I.C.f 3-B-02219

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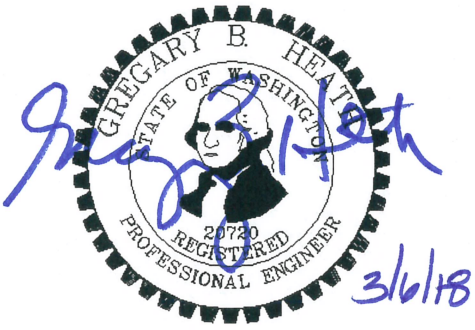
BK1041PG2984



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DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

CITY OF DUPONT, WA



Prepared for: Eric Cederstrand
c/o Dan Balmelli
Barghausen Engineers
18215 72nd Avenue S
Kent, WA 98032

Revised
March 2018

Attachment 2.f. Revised Traffic Impact Analysis
prepared by Heath Associates, Inc. dated March 2018

March 6, 2018

Ms. Geralyn Reinart, P.E.
City of Dupont
1700 Civic Drive
Dupont, WA 98327

Subject: Revisions to DuPont Industrial Traffic Impact Analysis

This letter is in response to your email dated February 12, 2018 regarding the TIA for the DuPont Industrial project. The following addresses each of the bullet points.

1. Table 3, Project Trip Generation, on page 12 now separates truck trips and passenger vehicle trips.

2. The AM and PM trip distributions were revised per comment.

3. Pipeline volumes were received and included in the revised analysis.

4. The provided count at Center Drive & Palisade Boulevard was used for analysis in the revised TIA.

Please call if you require anything further.

Sincerely,

Gregary B. Heath, P.E.

DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

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DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

1. INTRODUCTION

This report summarizes traffic impacts related to the Dupont Industrial project. The general goals of this impact study concentrate on 1) the assessment of existing roadway conditions and intersection congestion, 2) forecasts of newly generated project traffic, 3) estimations of future delay, and 4) recommendations for mitigation. Preliminary tasks include the detailed collection of roadway information, road improvement information, and peak hour traffic counts. A level of service analysis for existing traffic conditions is then made to determine the present degree of intersection congestion. Based on this analysis, forecasts of future traffic levels on the surrounding street system are found. Following this forecast, the future service levels for the key intersections are investigated. As a final step, applicable conclusions and possible on-site or off-site mitigation measures are defined. The findings of this study are intended to ensure safe and efficient progression of vehicular and non-motorist traffic near the site.

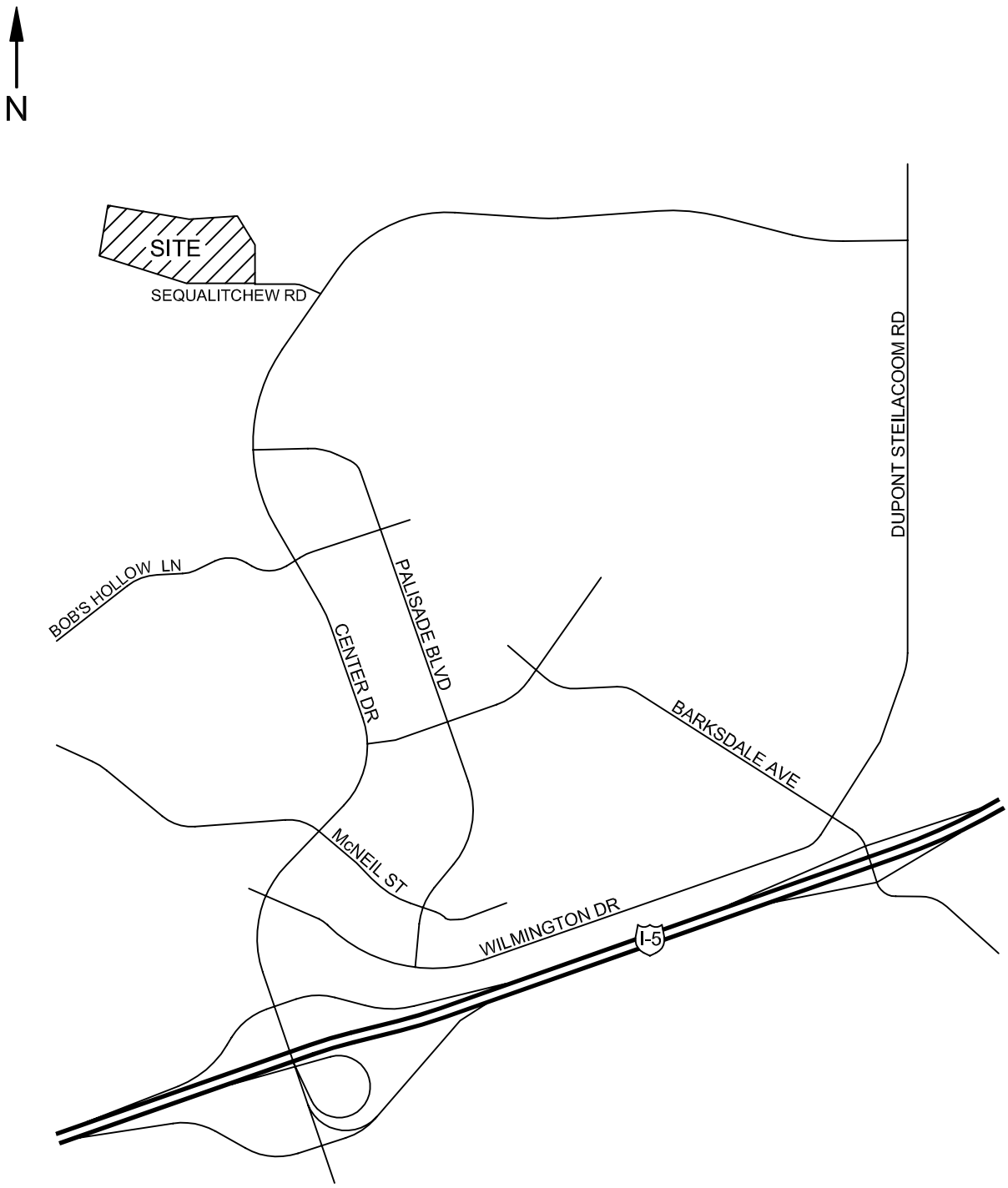
2. PROJECT DESCRIPTION

The Dupont Industrial project proposes to construct two warehouse buildings that will total 255,000 square feet of building space. The site is located on Sequalitchew Road, just west of Center Drive in the City of Dupont. Access to the site will be provided by a single driveway onto Sequalitchew Road. Developments surrounding the site consist of residential developments and other industrial uses. Commercial areas are located south of the site. Buildout of the site is estimated in 2019, which was used as the horizon analysis year. Figure 1, on the following page, shows the site location and the primary arterials. The general configuration of the project is given in the site plan shown in Figure 2.

3. EXISTING CONDITIONS

3.1 Surrounding Roadways

The street network serving the proposed project consists of a variety of roadways. Streets near the site mainly consist of two-lane to multilane arterials. Characteristics for these roadways vary with respect to lane widths, grades, speeds, and function. Differences are based on specific designations and proximity to major employment areas in the region. The major roadways and arterials surrounding the site are listed and described on page 6.

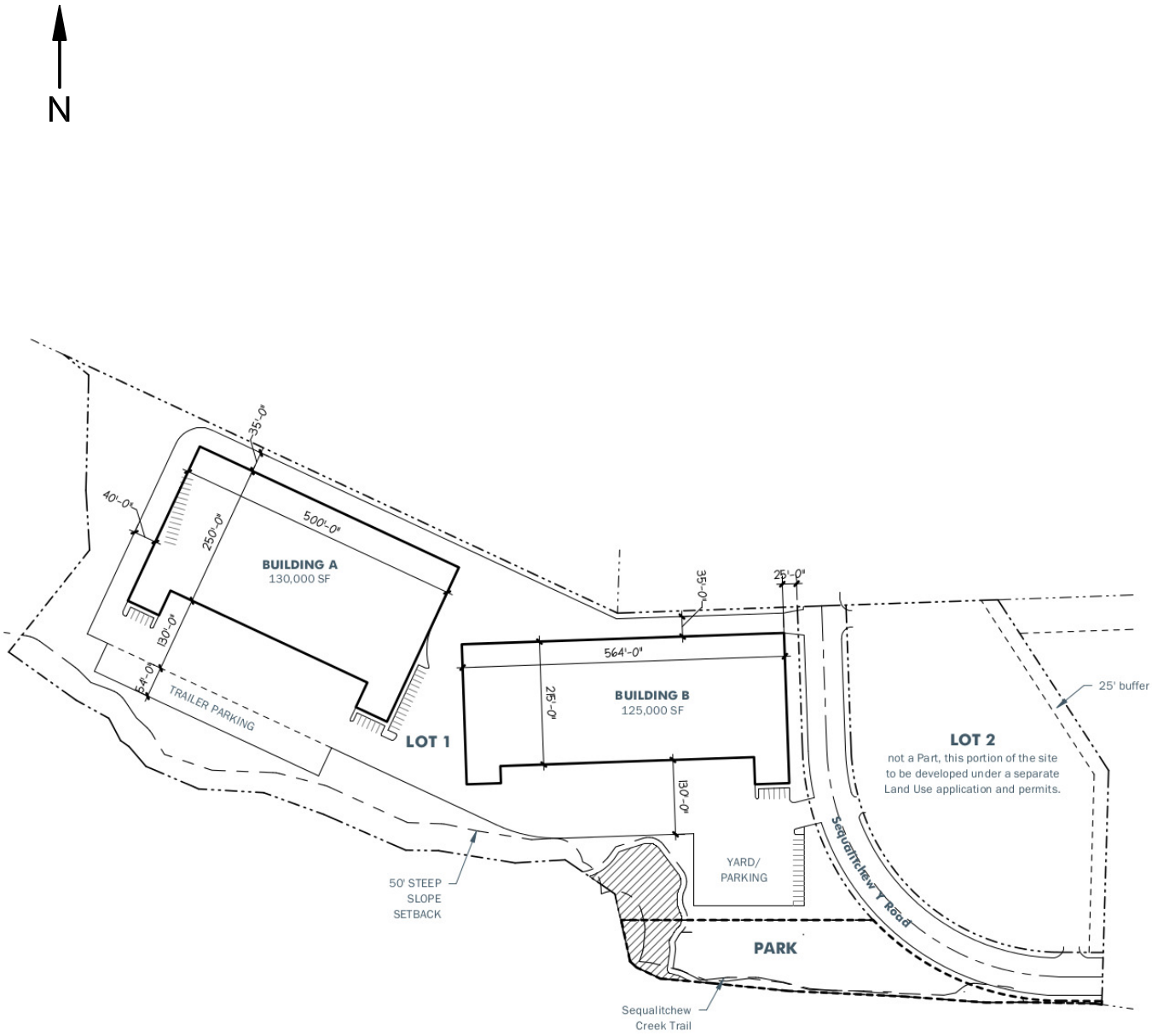


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VICINITY MAP & ROADWAY SYSTEM
FIGURE 1



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SITE PLAN
FIGURE 2

Center Drive is a north-south, multilane major arterial that lies to the east of the site. The speed limit is 35 mph in the area. Paving is asphalt with around 12 foot lanes. The typical cross section of the roadway is two-lanes of travel in either direction with a raised median or two-way left turn lane as well. Turn lanes are typically available at major intersections. Shoulders are paved with the available width allowing bike travel. Sidewalks are also provided in most areas. Grades are level in the area.

Sequalitchew Road is a three lane, east-west roadway that borders the east side of the property. The speed limit is 25 mph. Shoulders are curb, gutter, and sidewalk. Currently there are two eastbound lanes and one westbound lane. Paving is asphalt with around 11 foot lanes. Grades are mild

3.2 Roadway Improvements

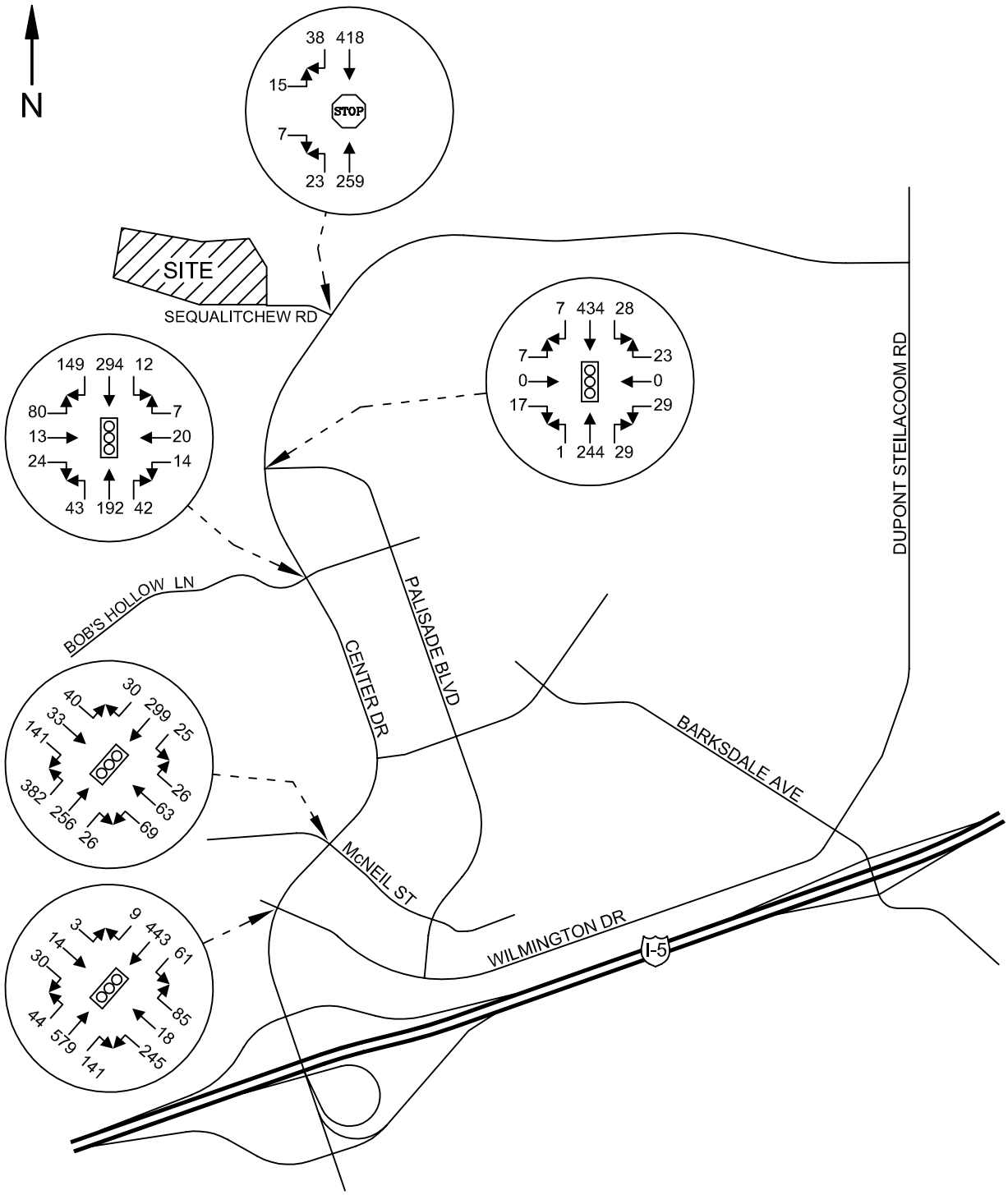
A review of the 2018 to 2023 Six Year Transportation Improvement Program indicates no major roadway improvements are planned in the area. Center Drive is scheduled for a resurfacing project that will not have an impact on roadway capacity once completed.

3.3 Peak Hour Volumes

Field data collected for this study was taken in October of 2017. The traffic counts were taken during the morning peak period between 7 AM and 9 AM and the evening peak period between the hours of 4 PM and 6 PM. These specific peak periods were targeted for analysis purposes since they generally represents the worst case scenario with respect to traffic conditions for developments. Existing AM peak hour volumes for Center Drive & Sequalitchew Road, Center Drive & Bob's Hollow Lane, Center Drive & McNeil Street, and Center Drive & Wilmington Drive can be found in Figure 3. PM peak hour volumes are given in Figure 4. Count data is included in the appendix.

3.4 Non-Motorist Traffic

Observations for pedestrian and bicycle activity were made at the key arterials and intersections of interest. During the peak hours moderate pedestrian volumes were observed. The heaviest pedestrian volumes were observed at the Center Drive & Bob's Hollow Lane intersection given the close proximity to Pioneer Middle School. During the AM peak hour 14 conflicting pedestrian crossings and 4 bikes were observed per hour. The PM peak hour experienced 15 conflicting pedestrian crossings and 11 bikes per hour. Well developed pedestrian facilities help alleviate any potential conflict between motorist and non-motorist traffic.

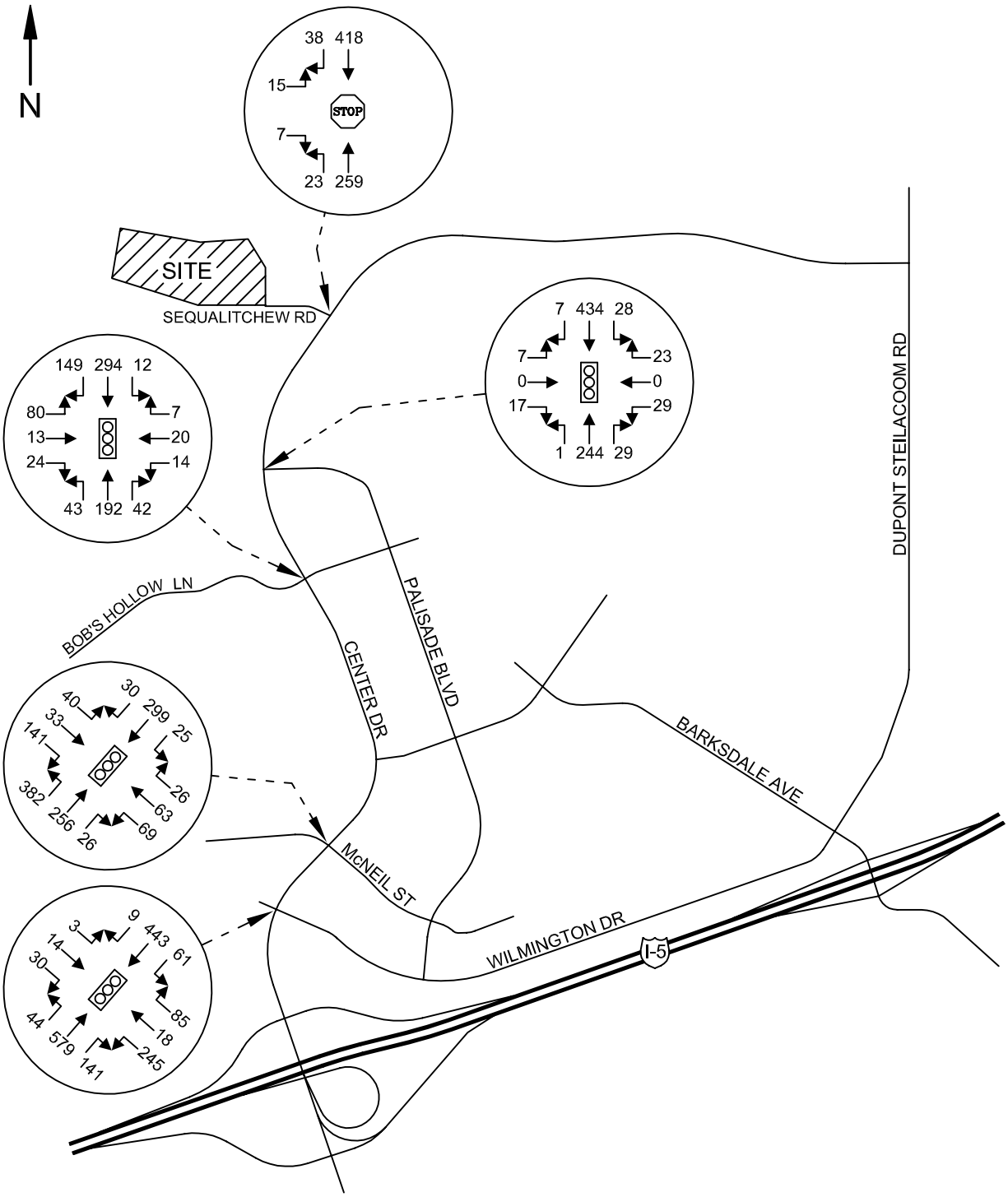


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EXISTING PM PEAK HOUR VOLUMES
FIGURE 4



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EXISTING PM PEAK HOUR VOLUMES
FIGURE 4

3.5 Transit Service

The Dupont Station Park & Ride is served by Sound Transit Route 592. This route runs from Dupont to Seattle on weekdays with morning service to Seattle starting at 4:05 AM and return service beginning from 2:37 PM.

3.6 Existing Level of Service

Peak hour delays were determined through the use of the *Highway Capacity Manual, 6th Edition*. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. LOS is defined for a variety of facilities including intersections, freeways, arterials, etc. A complete definition of level of service and related criteria can be found in the HCM.

The methodology for determining the LOS at signalized intersections strives to determine the volume to capacity (v/c) ratios for the various intersection movements as well as the average control delay for those movements. *Delay* is generally used to measure the degree of driver discomfort, frustration, fuel consumption, and lost time. *Control delay*, in particular, includes movements at slower speeds and stops on intersection approaches as vehicles move up in queue position or slow down upstream of an intersection. Aside from the overall quantity of traffic, three specific factors influence signalized intersection LOS. These include the type of signal operation provided, the signal phasing pattern, and the specific allocation of green time. The methodology for determining the LOS at unsignalized intersections strives to determine the potential capacities for the various vehicle movements and the average total delay for each movement.

The methodology for determining the LOS at unsignalized intersections strives to determine the potential capacities for the various vehicle movements and ultimately determines the average total delay for each movement. *Potential Capacity* represents the number of additional vehicles that could effectively utilize a particular movement, which is essentially the equivalent of the difference between the movement capacity and the existing movement volume. *Total delay* is described as the elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. *Average total delay* is simply the mean total delay over the entire stream. A number of factors influence potential capacity and total delay including the availability/usefulness of gaps.

The range for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the Highway Capacity Manual. Level of service calculations were made through the use

of the Synchro 10 program, which follows procedures of the HCM for signalized and unsignalized intersections. Existing level of service results and accompanying approach delays are shown below in Table 1. Existing delays were found to be mild in the LOS A to LOS C range.

TABLE 1
Existing Level of Service

Intersection	Control	Approach	AM PEAK HOUR		PM PEAK HOUR	
			LOS	Delay	LOS	Delay
Center Drive & Sequalitchew Rd	TWSC	Eastbound	B	10.2	B	11.9
		Northbound LT	A	8.1	A	8.5
Center Drive & Palisade Blvd	Signal	Eastbound	A	0.0	A	0.5
		Westbound	A	17.6	A	10.0
		Northbound	A	3.7	A	4.5
		Southbound	A	4.8	A	5.5
		Overall	A	4.5	A	5.3
Center Drive & Bob's Hollow Ln	Signal	Eastbound	C	24.7	B	17.5
		Westbound	B	11.8	B	13.8
		Northbound	A	9.5	A	5.3
		Southbound	A	7.4	A	5.6
		Overall	B	13.8	A	7.5
Center Drive & McNeil St	Signal	Eastbound	B	10.7	B	13.6
		Westbound	B	16.9	C	30.1
		Northbound	A	9.1	C	21.3
		Southbound	B	10.9	B	19.6
		Overall	B	10.6	C	20.7
Center Drive & Wilmington Rd	Signal	Eastbound	B	10.2	A	9.2
		Westbound	B	19.4	C	23.5
		Northbound	A	5.8	B	12.1
		Southbound	A	8.7	B	10.1
		Overall	A	8.6	B	13.6

3.7 Sight Distance at Access Driveways

Assessments of Center Drive & Sequalitchew Road intersection were made to determine whether or not adequate entering sight distance (ESD) can be provided for project traffic. Sight distance requirements were obtained from the *American Association of State Highway and Transportation Officials* (AASHTO) standards for outbound turning movements. Table 2 summarizes the recommended and available sight distance at the Center Drive & Sequalitchew Road intersection.

Table 2
Entering Sight Distance (ESD)
Measurements given in feet

Roadway	Posted Speed Limit	Direction	Recommended	Available
Center Drive at Sequalitchew Rd	35 mph	North	390	>500
		South	390	>500

4. *FUTURE TRAFFIC CONDITIONS*

4.1 Trip Generation

Trip generation is used to determine the magnitude of project impacts on the surrounding street system. This is usually denoted by the quantity or specific number of new trips that enter and exit a project during a designated time period, such as a specific peak hour (AM or PM) or an entire day. Data presented in this report was taken from the Institute of Transportation Engineer's publication *Trip Generation,* Tenth Edition. The designated land use for this project is defined as Warehouse (LUC 150). Data for the AM and PM peak hours were used for estimation purposes and was applied to the intersection network for future capacity analysis. Table 3 on the following page summarizes the estimated project trip generation. Included are the average daily trips (ADT) and the AM and PM peak hour volumes. ITE average rates were used.

ITE data for the similar use of high-cube warehouse estimates truck traffic at 9 to 29 percent. This means the project could be expected to generate 39 to 129 heavy truck trips on a typical weekday. Heavy truck trips were estimated at 20 percent to for distribution purposes.

Table 3
Project Trip Generation
255,000 s.f. Warehouse

Trip Type	ADT	AM Peak Hour			PM Peak Hour		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Passenger	355	26	8	34	10	29	39
Truck	89	7	2	9	3	7	10
Total	444	33	10	43	13	36	49

4.2 Project Trip Distribution

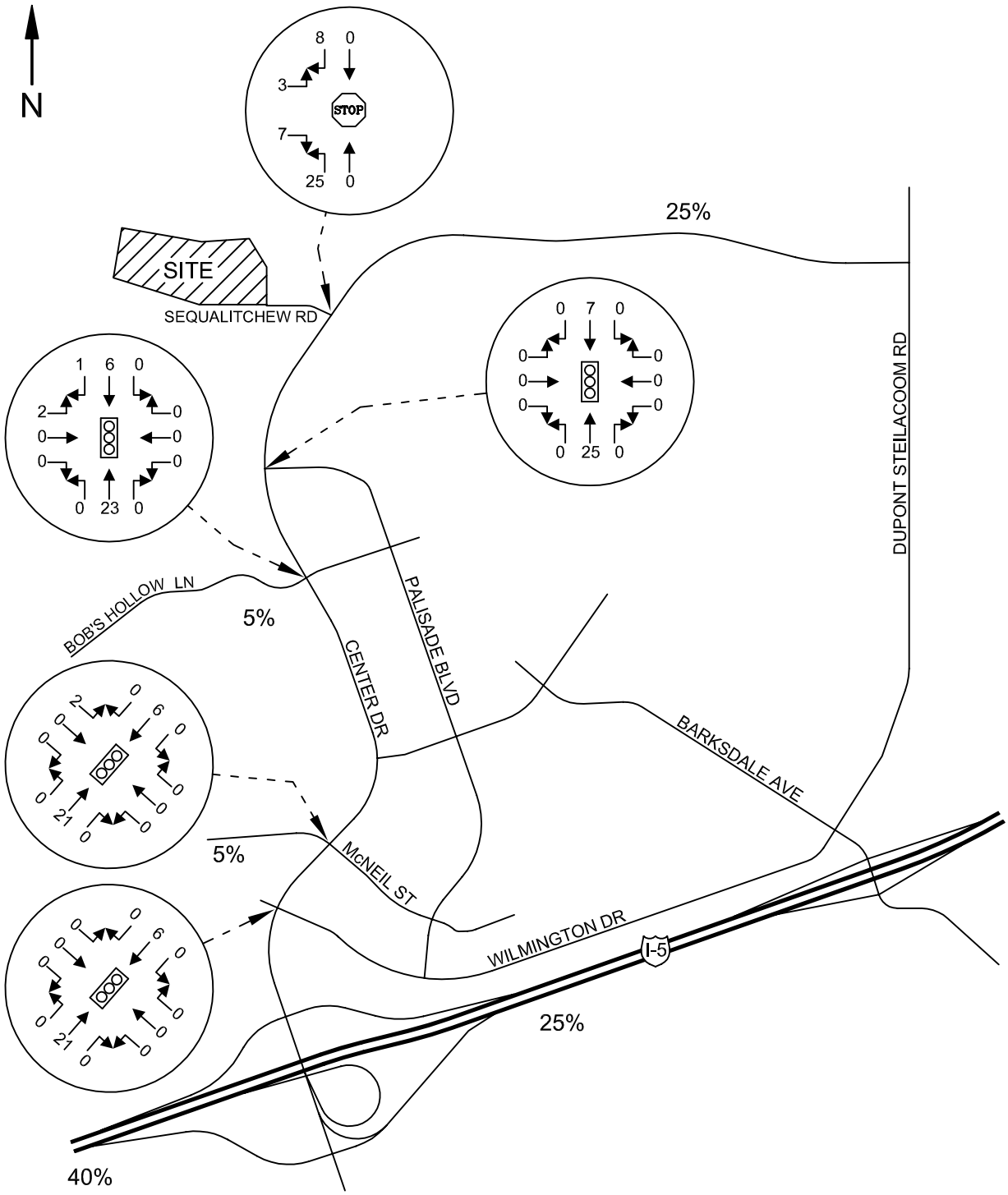
Trip distribution describes the process by which project generated trips are dispersed on the street network surrounding the site. The trips generated by the project are expected to follow the general trip pattern as shown in Figure 5 and Figure 6 on the following pages with Figure 5 giving the AM peak hour trips distribution and Figure 6 giving the PM peak hour distribution. These distribution percentages are based primarily on existing travel patterns and the location of the Interstate 5 interchange on Center Drive. Heavy trucks are restricted on Center Drive between Palisade Blvd and McNeil Street and were therefore modeled traveling east to use DuPont-Steilacoom Road to access I-5.

4.3 Peak Hour Volumes

The estimated buildout year of 2019 was used as the horizon study year in order to assess future impacts. A 2 percent annual background growth rate was applied to the existing volumes to approximate 2019 volumes. Additionally, pipeline volumes were provided by the City of DuPont to include in future estimations. AM and PM pipeline volumes are given in Figure 7 and Figure 8. A list of pipeline volumes and associated volumes can be found in the appendix. Figure 9 shows cumulative 2019 AM volumes without project-generated trips added. Figure 10 shows 2019 AM peak volumes with project traffic included. Figure 11 shows 2019 PM peak volumes without the project and Figure 12 shows 2019 PM volumes with the project.

4.4 Level of Service

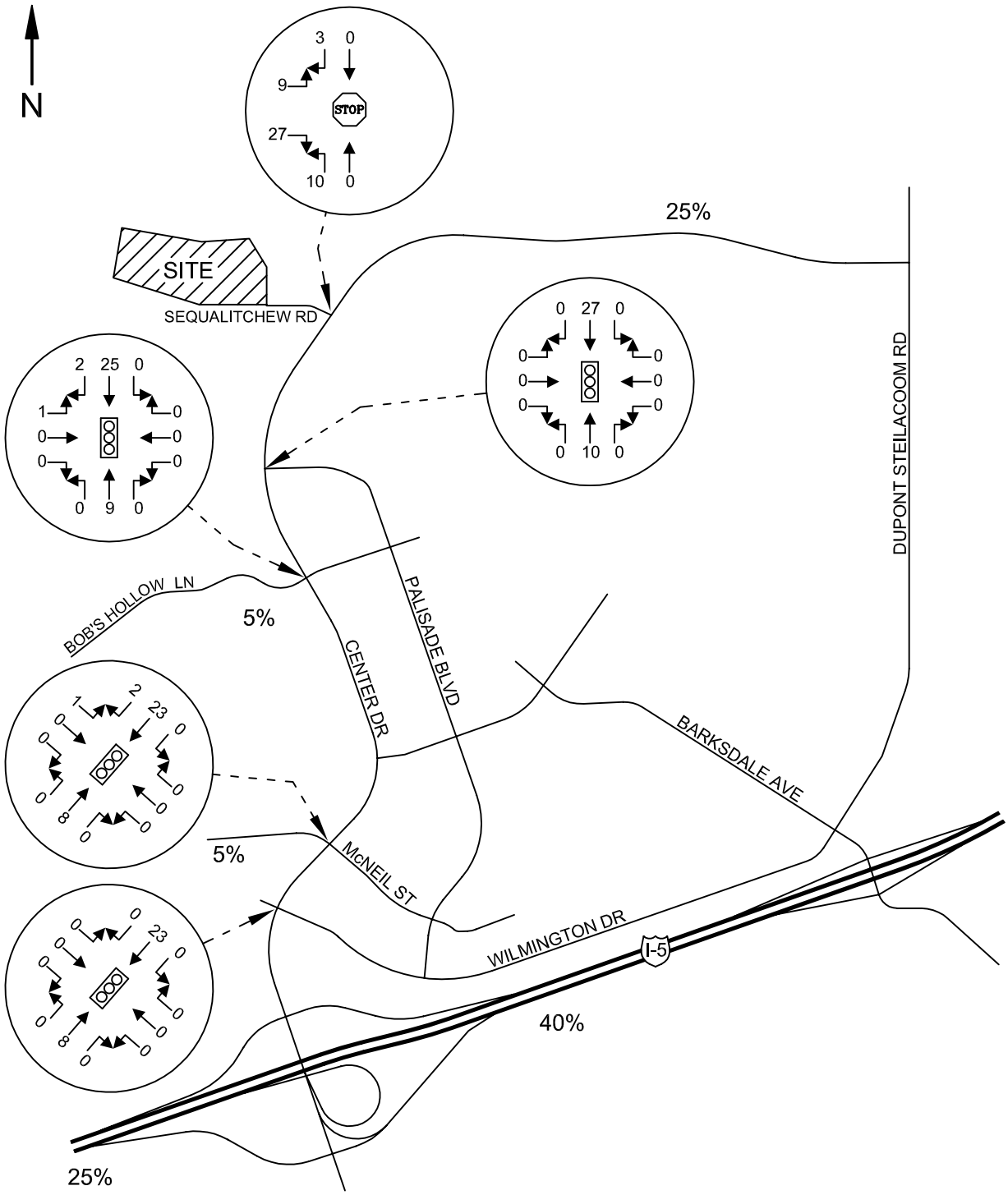
Table 4, on page 21, summarizes future 2019 AM peak hour LOS analysis. Again the analysis program Synchro was used. These volumes represent projected 2019 AM peak hour volumes both without and with project trips included at the studied intersections. Table 5, on page 22, summarizes the PM peak hour.



NEW AM PEAK HOUR TRIPS
INBOUND: 33 VPH
OUTBOUND: 10 VPH

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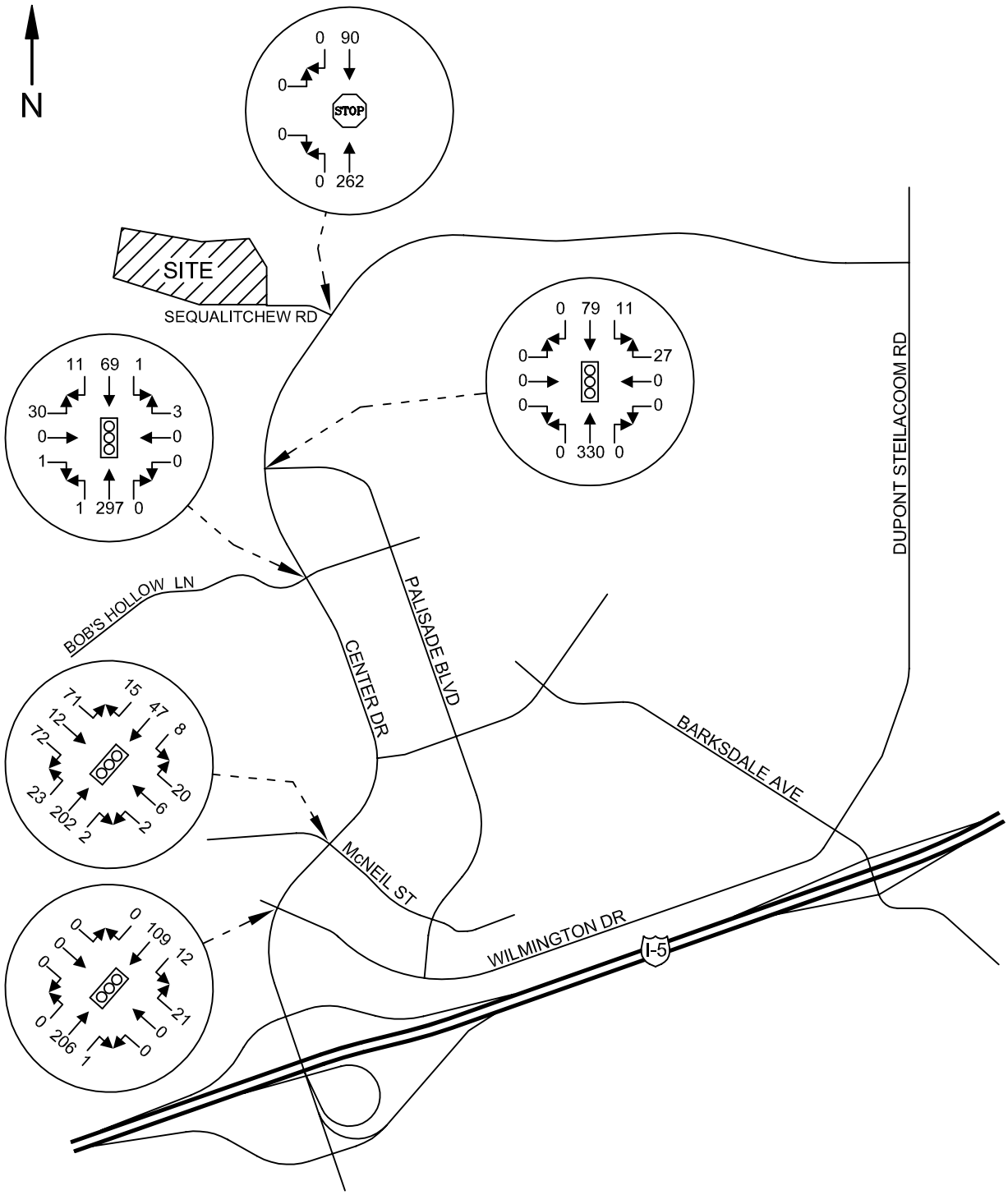
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AM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 5



NEW PM PEAK HOUR TRIPS
INBOUND: 13 VPH
OUTBOUND: 36 VPH

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PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 6

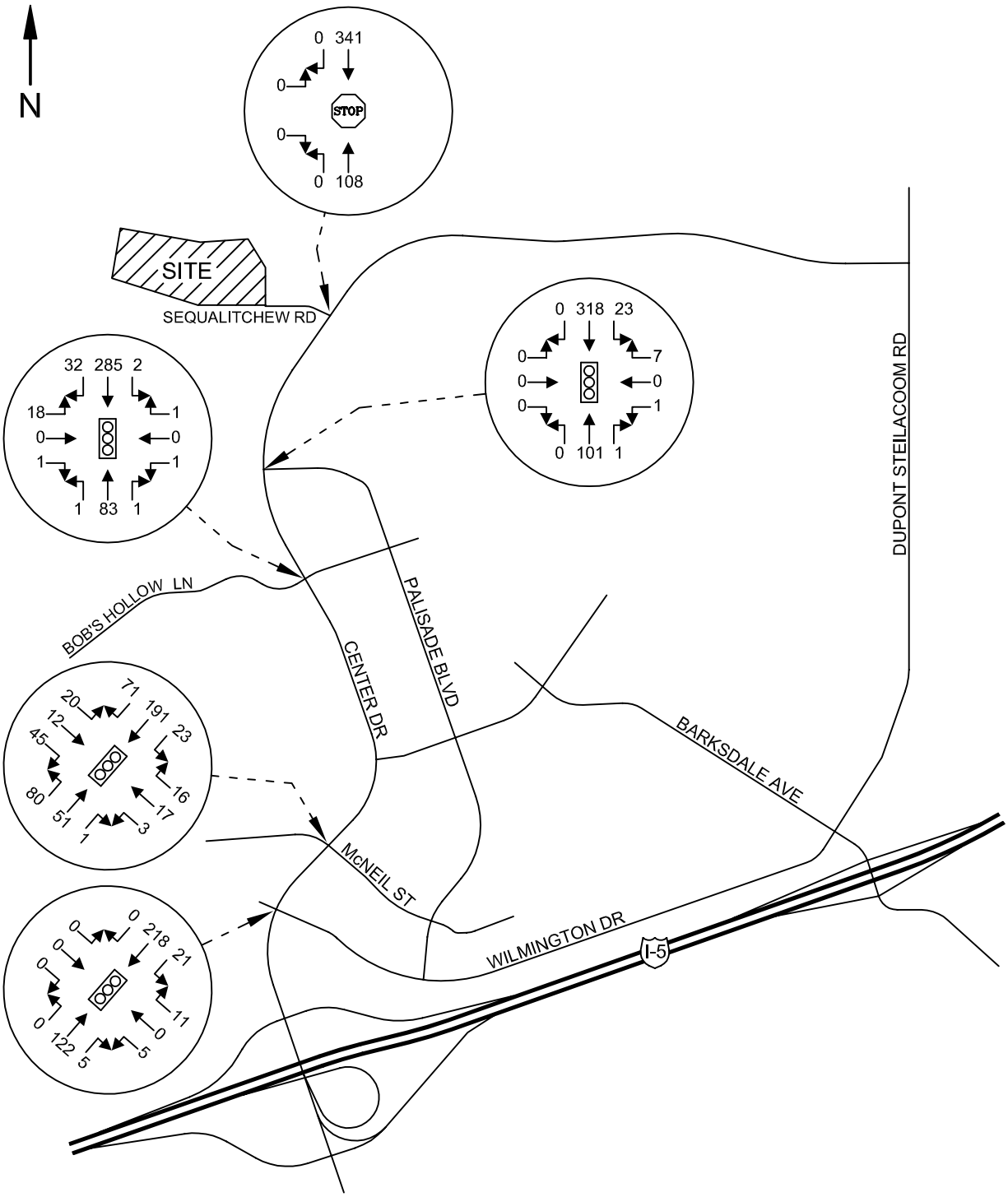


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AM PEAK HOUR PIPELINE VOLUMES
FIGURE 7

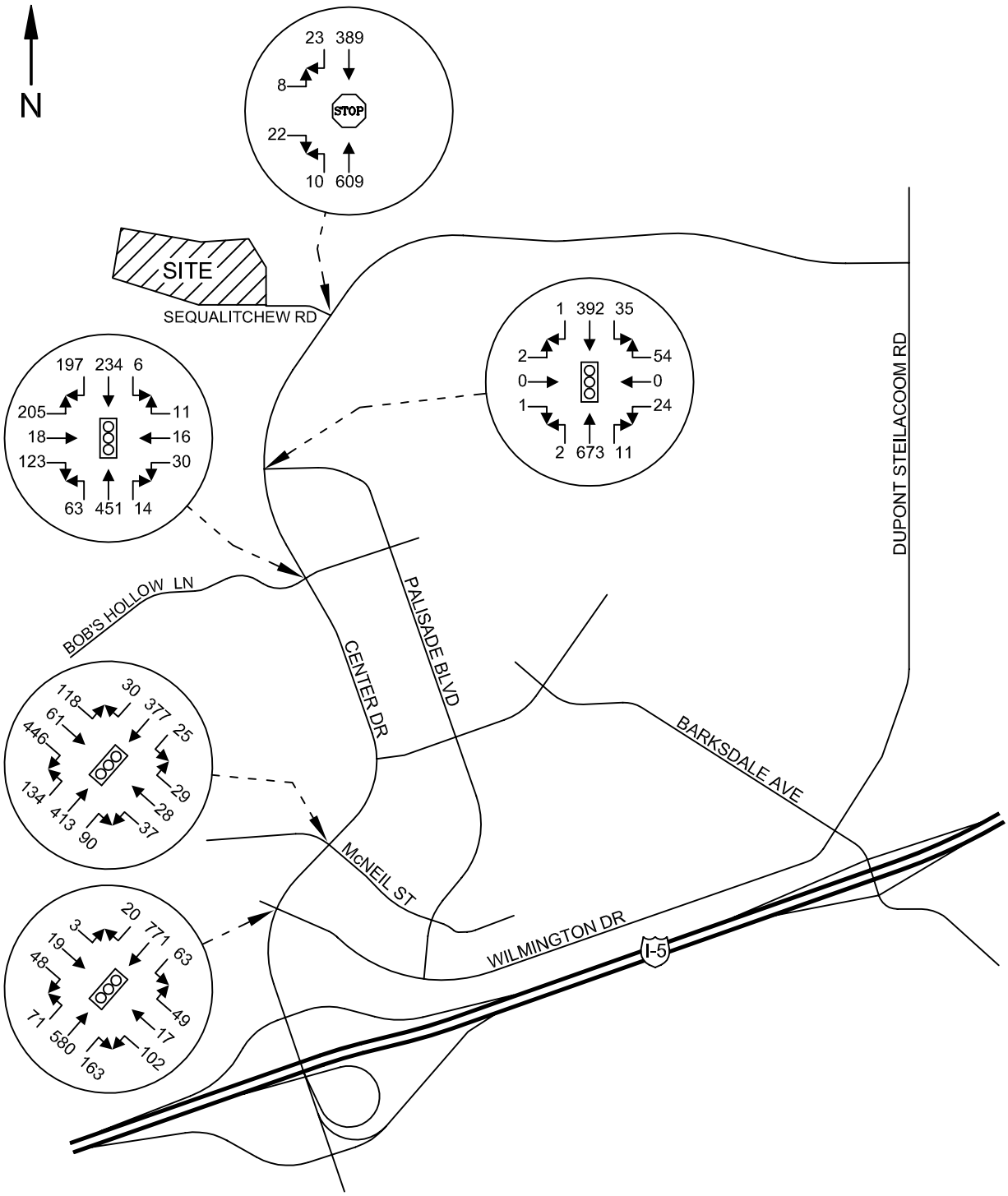


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PM PEAK HOUR PIPELINE VOLUMES
FIGURE 8

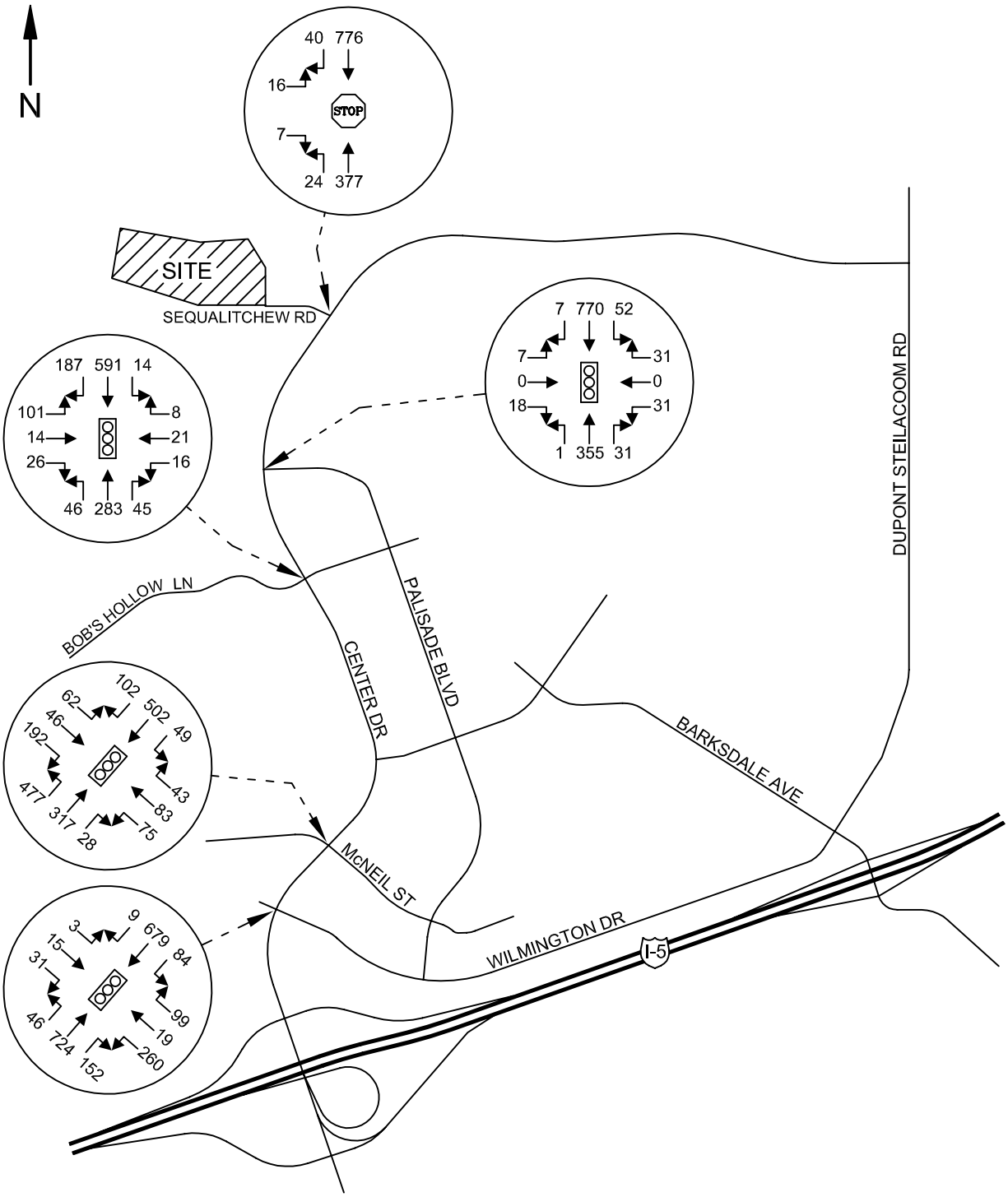


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2019 AM PEAK HOUR VOLUMES WITHOUT PROJECT
FIGURE 9

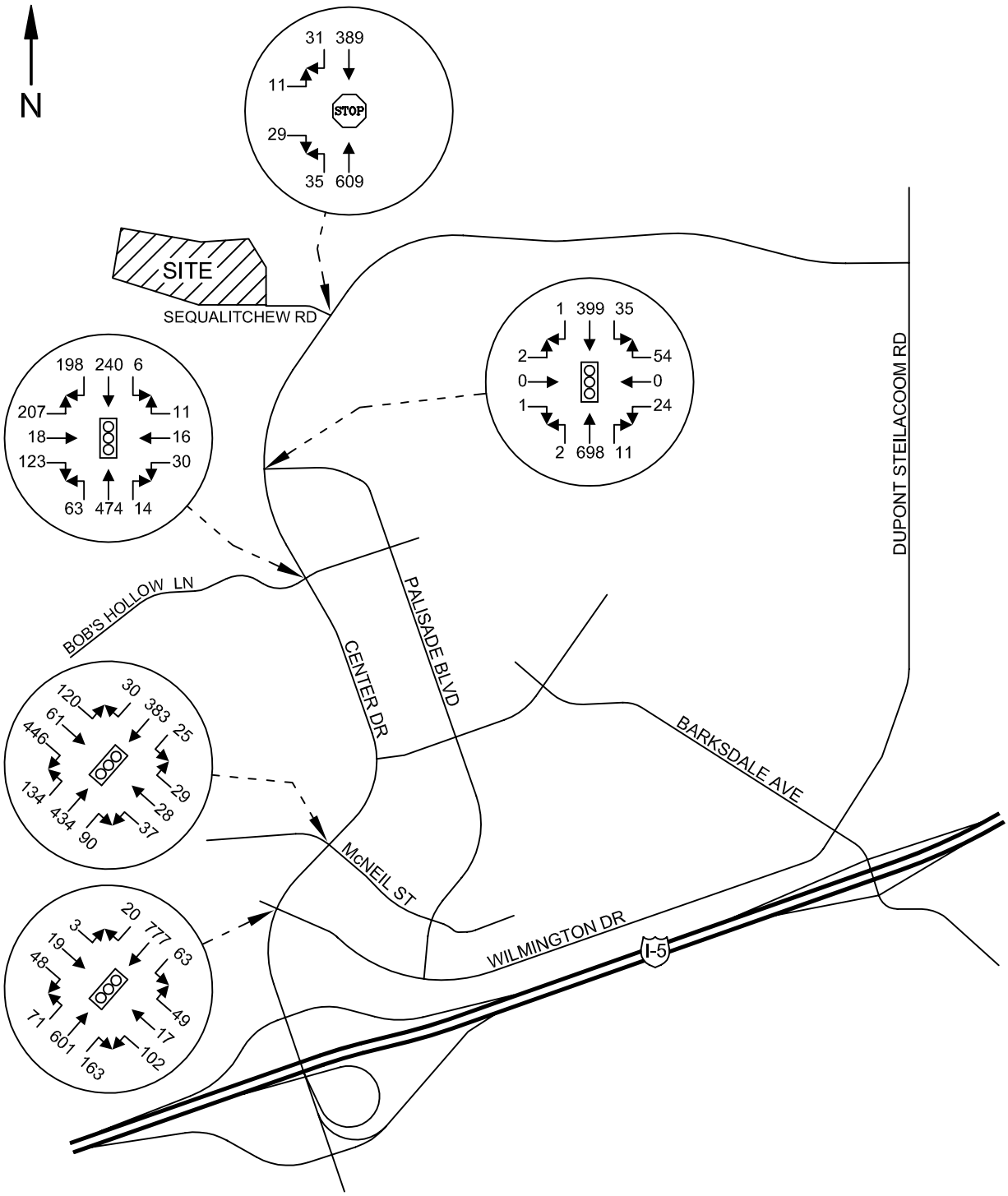


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2019 PM PEAK HOUR VOLUMES WITHOUT PROJECT
FIGURE 10

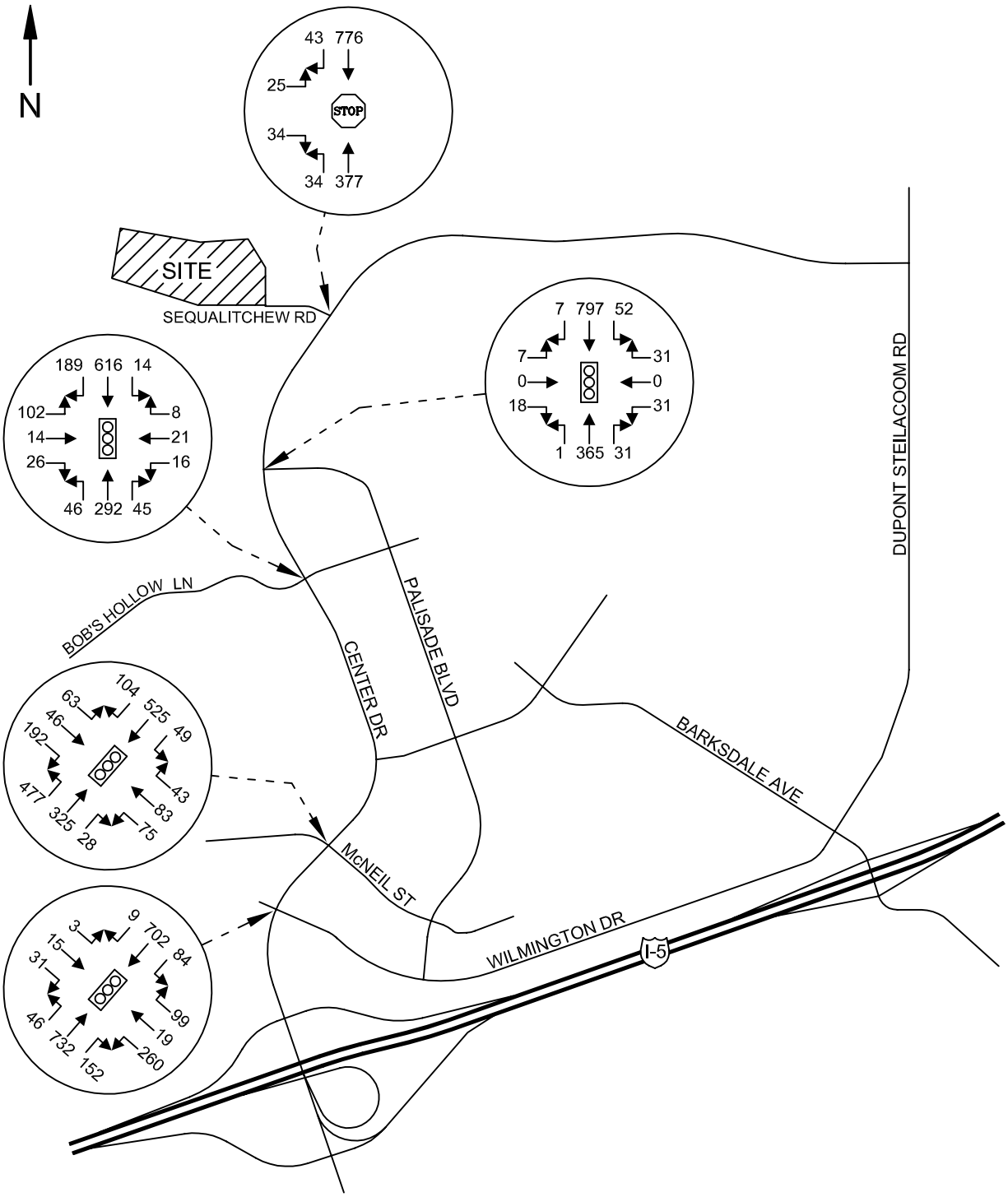


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2019 AM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 11



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2019 PM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 12

TABLE 4

2019 AM Peak Level of Service

Delays given in Seconds Per Vehicle

Intersection	Control	Approach	Without Project		With Project	
			LOS	Delay	LOS	Delay
Center Drive & Sequalitchew Rd	TWSC	Eastbound	B	11.0	B	11.3
		Northbound LT	A	8.4	A	8.5
Center Drive & Palisade Blvd	Signal	Eastbound	A	0.0	A	0.0
		Westbound	A	8.0	A	8.0
		Northbound	A	6.0	A	6.1
		Southbound	A	5.7	A	5.7
		Overall	A	6.0	A	6.0
Center Drive & Bob's Hollow Ln	Signal	Eastbound	C	30.2	C	30.8
		Westbound	B	11.1	B	11.1
		Northbound	B	11.9	B	12.1
		Southbound	A	8.9	A	9.0
		Overall	B	15.5	B	15.7
Center Drive & McNeil St	Signal	Eastbound	B	13.9	B	13.9
		Westbound	B	12.8	B	12.8
		Northbound	B	12.6	B	12.7
		Southbound	B	14.7	B	14.7
		Overall	B	13.6	B	13.6
Center Drive & Wilmington Rd	Signal	Eastbound	B	10.1	B	10.1
		Westbound	B	17.7	B	17.7
		Northbound	A	8.4	A	8.6
		Southbound	A	9.3	A	9.4
		Overall	A	9.7	A	9.8

TABLE 5

2019 PM Peak Level of Service

Delays given in Seconds Per Vehicle

Intersection	Control	Approach	Without Project		With Project	
			LOS	Delay	LOS	Delay
Center Drive & Sequalitchew Rd	TWSC	Eastbound	C	16.1	B	14.9
		Northbound LT	A	9.9	B	10.0
Center Drive & Palisade Blvd	Signal	Eastbound	A	0.6	A	0.6
		Westbound	A	10.0	A	10.0
		Northbound	A	7.0	A	7.0
		Southbound	A	6.1	A	6.2
		Overall	A	6.5	A	6.5
Center Drive & Bob's Hollow Ln	Signal	Eastbound	B	18.6	B	18.7
		Westbound	B	13.2	B	13.1
		Northbound	A	6.3	A	6.3
		Southbound	A	8.8	A	9.0
		Overall	A	9.3	A	9.4
Center Drive & McNeil St	Signal	Eastbound	B	15.8	B	16.0
		Westbound	C	30.9	C	31.0
		Northbound	C	25.3	C	25.2
		Southbound	C	25.4	C	25.8
		Overall	C	24.5	C	24.6
Center Drive & Wilmington Rd	Signal	Eastbound	A	9.0	A	9.0
		Westbound	C	25.1	C	25.1
		Northbound	B	15.2	B	15.3
		Southbound	B	12.7	B	12.9
		Overall	B	15.9	B	16.0

Results show future delays will remain mild in the LOS A to LOS C range without and with project traffic included. No increases in LOS are shown due to project traffic. Overall the local roadway system has the available capacity to support additional traffic.

5. SUMMARY & MITIGATION

The Dupont Industrial project proposes to construct two warehouse buildings that will total 255,000 square feet of building space in the City of Dupont. The site is located on Sequalitchew Road, just west of Center Drive. Access to the site will be provided by a single driveway onto Sequalitchew Road. The site will be a mild generator of new trips in the area with roughly 444 total daily trips expected to be generated on a typical weekday with 43 trips during the AM peak hour and 49 trips during the PM peak hour.

Existing delays at the studied intersections are mild in the LOS A to LOS C range. Future 2019 delays will continue to operate with mild delays at LOS C or better. Project traffic was found to have no significant impact on the area.

Based on the finding of this report, no mitigation measures are required for any impact related to the Dupont Industrial project.

DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

APPENDIX

LEVEL OF SERVICE

The following are excerpts from the *6th Edition of the Highway Capacity Manual*

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service (LOS) is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver's perception of those conditions.

Level-of-Service definitions

The following definitions generally define the various levels of service for arterials.

Level of service A represents primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delay at signalized intersections is minimal.

Level of service B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver in the traffic stream is only slightly restricted and delays are not bothersome.

Level of service C represents stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than in LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the average free-flow speed for the arterial classification.

Level of service D borders on a range in which small increases in flow may cause substantial increases in approach delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free-flow speed.

Level of service E is characterized by significant delays and average travel speeds of one-third the free-flow speed or less. Such operations are caused by some combination of

adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

Level of service F characterizes arterial flow at extremely low speeds, from less than one-third to one-quarter of the free-flow speed. Intersection congestion is likely at critical signalized locations, with long delays and extensive queuing.

These definitions are general and conceptual in nature, and they apply primarily to uninterrupted flow. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them.

For each type of facility, levels of service are defined based on one or more operational parameters that best describe operating quality for the subject facility type. While the concept of level of service attempts to address a wide range of operating conditions, limitations on data collection and availability make it impractical to treat the full range of operational parameters for every type of facility. The parameters selected to define levels of service for each facility type are called "measures of effectiveness" or "MOE's", and represent available measures that best describe the quality of operation on the subject facility type.

Each level of service represents a range of conditions, as defined by a range in the parameters given. Thus, a level of service is not a discrete condition, but rather a range of conditions for which boundaries are established.

The following tables describe levels of service for signalized and unsignalized intersections. Level of service for signalized intersections is defined in terms of average control delay. Delay is a measure of driver discomfort, frustration, fuel consumption and lost travel time, as well as time from movements at slower speeds and stops on intersection approaches as vehicles move up in queue position or slow down upstream of an intersection. Level of service for unsignalized intersections is determined by the computed or measured control delay and is determined for each minor movement.

Signalized Intersections - Level of Service

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤20
C	> 20 and ≤35
D	> 35 and ≤55
E	> 55 and ≤80
F	> 80

Unsignalized Intersections - Level of Service

Level of Service	Average Total Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤15
C	> 15 and ≤25
D	> 25 and ≤35
E	> 35 and ≤50
F	> 50

As described in the Highway Capacity Manual, level of service breakpoints for all-way stop controlled (AWSC) intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from distinct kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an AWSC intersection. Thus a higher level of control delay is acceptable at a signalized intersection for the same level of service.

AWSC Intersections - Level of Service

Level of Service	Average Total Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤15
C	> 15 and ≤25
D	> 25 and ≤35
E	> 35 and ≤50
F	> 50

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APPENDIX A: TRIP GENERATION DATA

Warehousing
(150)

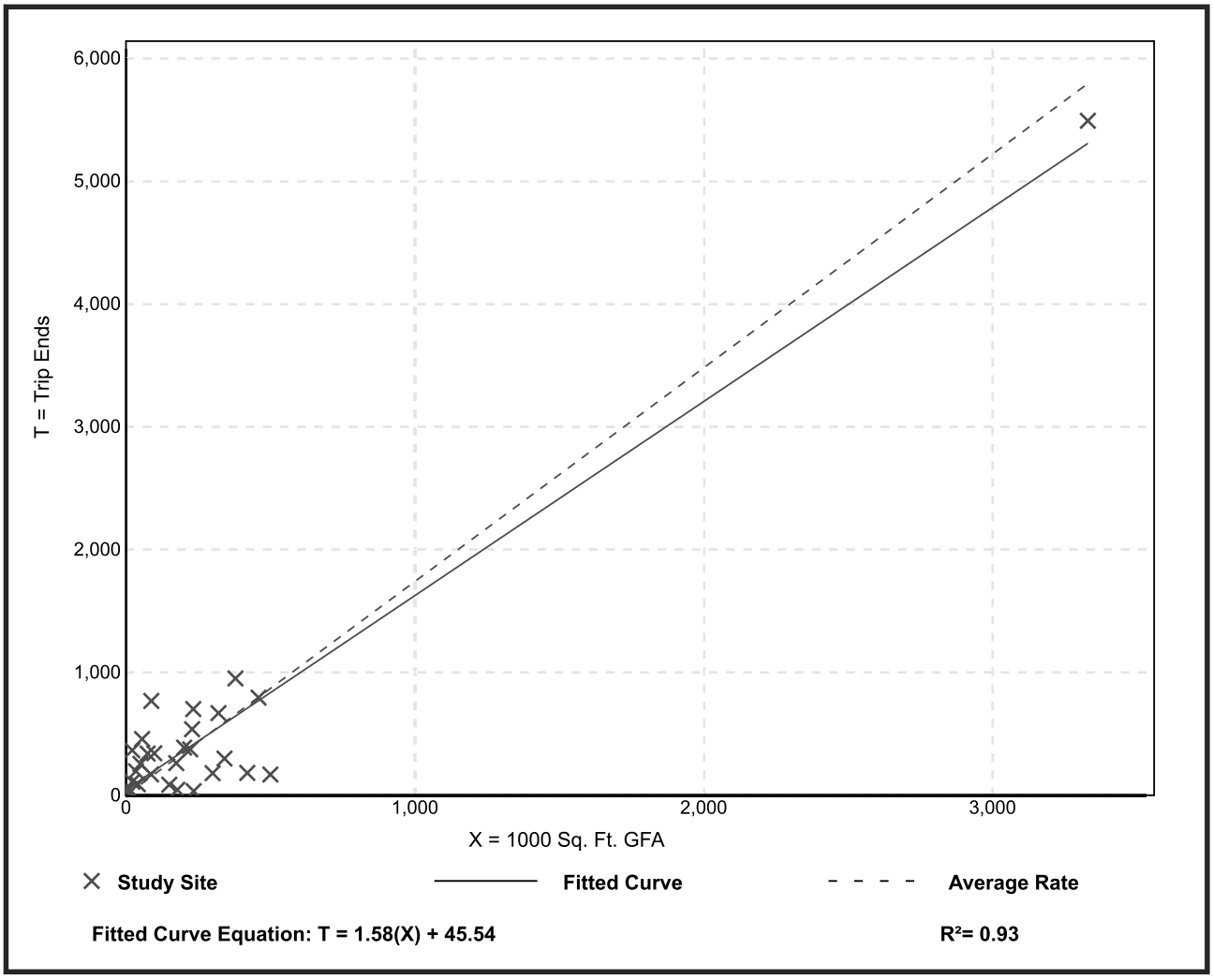
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 29
1000 Sq. Ft. GFA: 285
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

Data Plot and Equation



Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

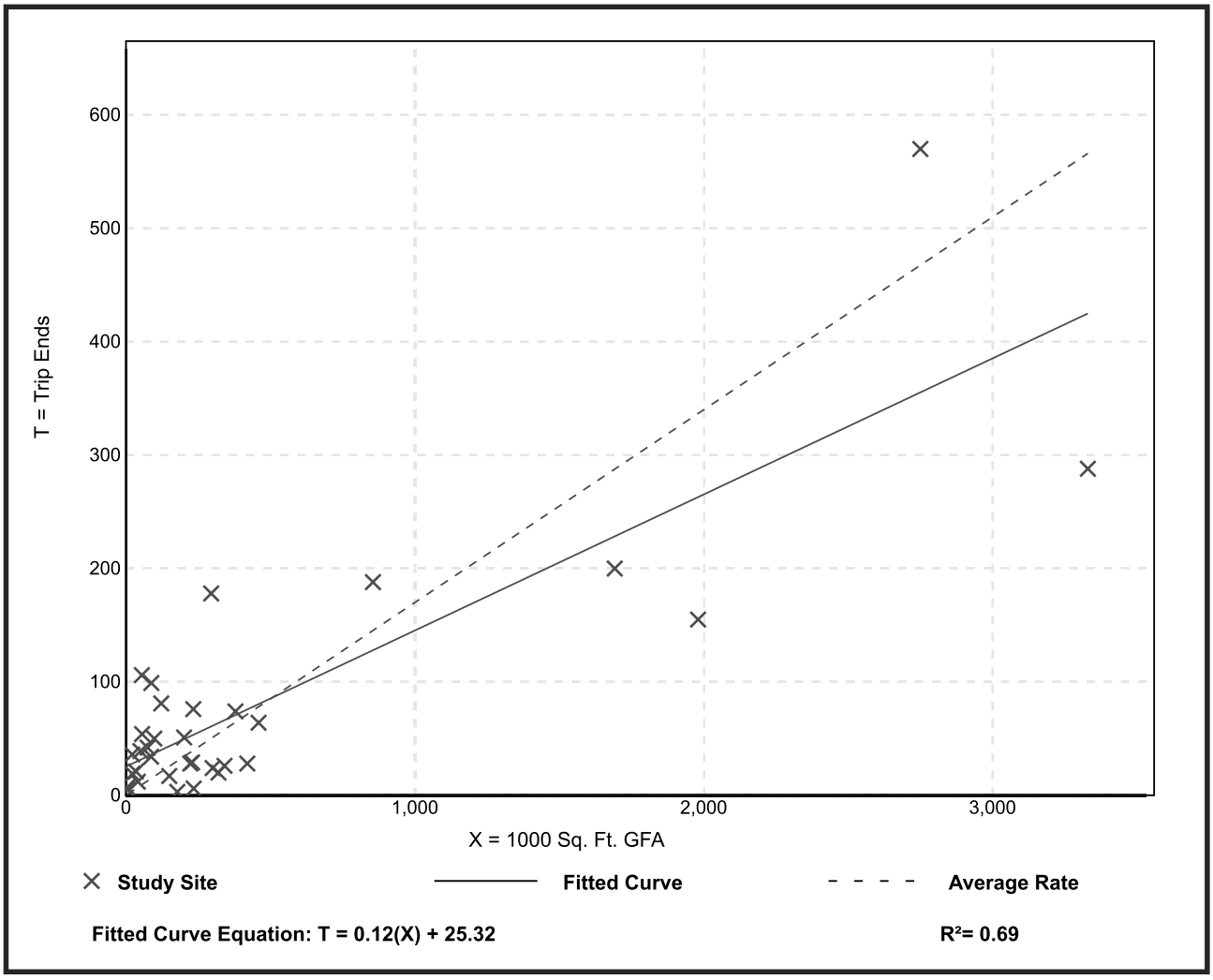
Warehousing
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 34
1000 Sq. Ft. GFA: 451
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

Data Plot and Equation



Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

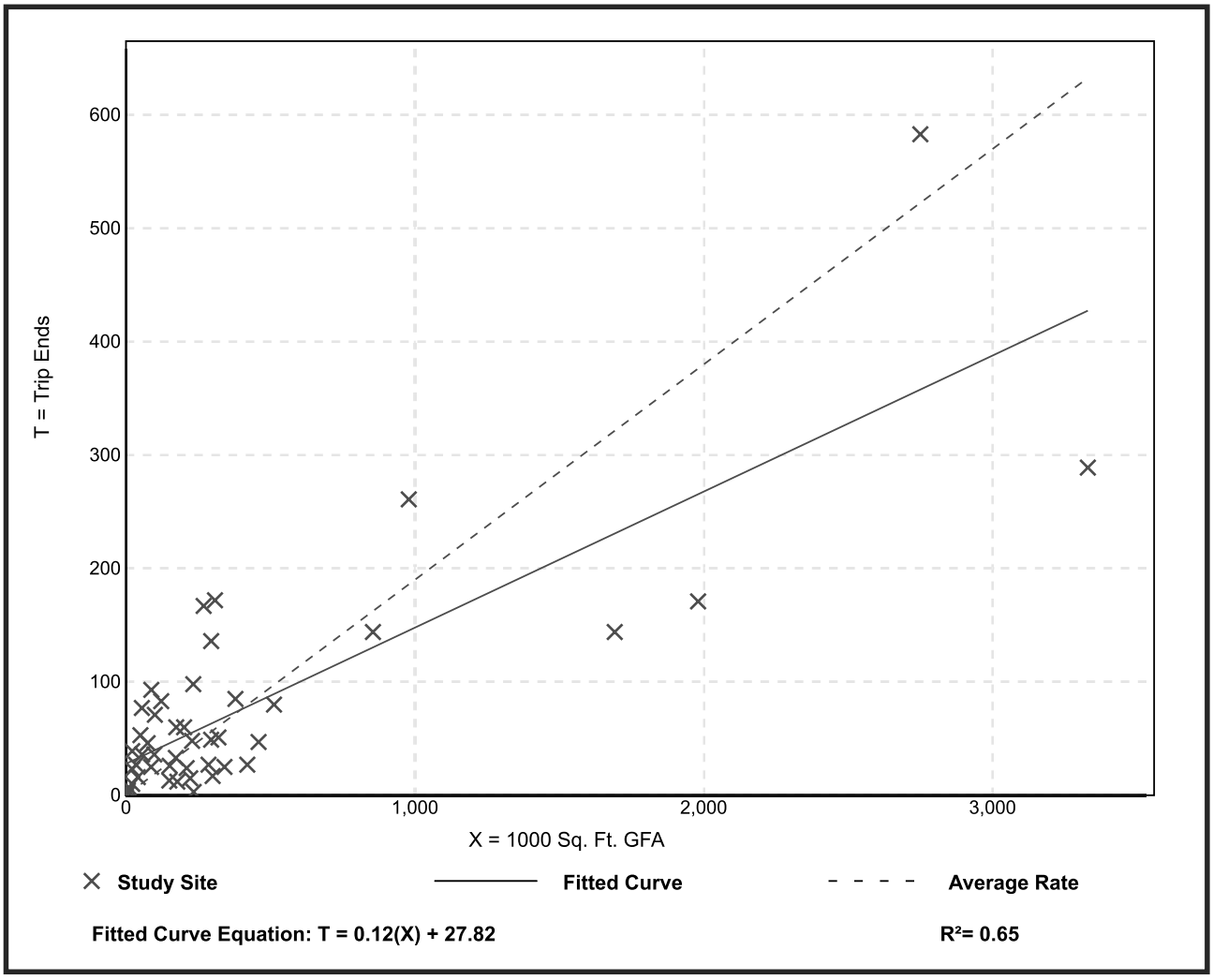
Warehousing
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 47
1000 Sq. Ft. GFA: 400
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



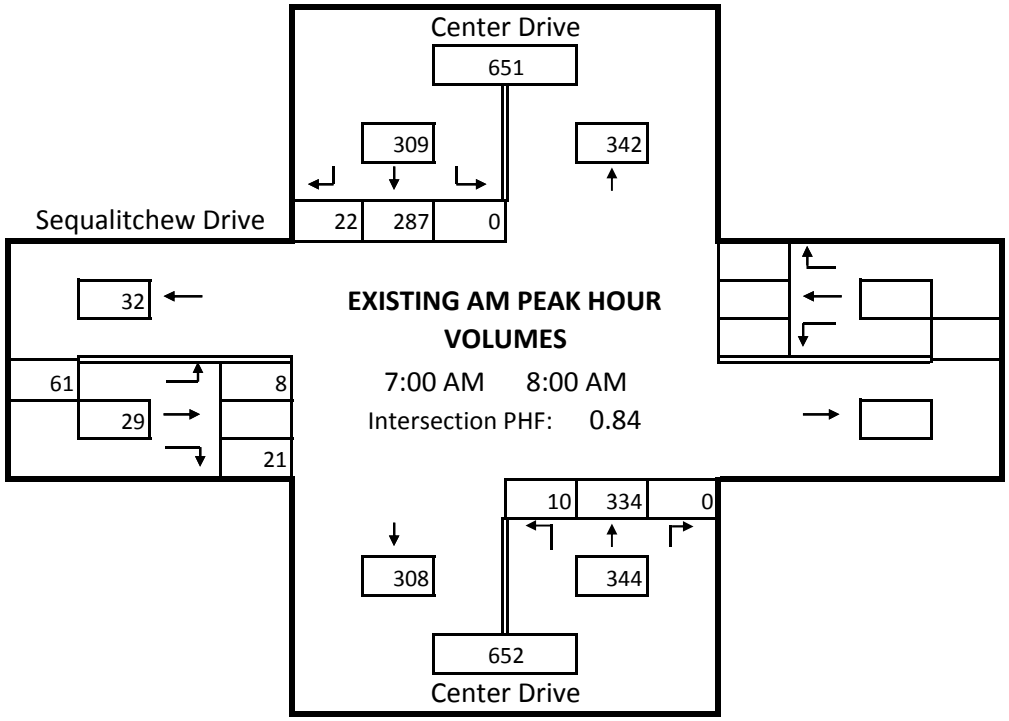
Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

DUPONT INDUSTRIAL
APPENDIX B: COUNT DATA

Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & Sequalitchew Drive — Date of Count: 10/17/2017
Jurisdiction: City of Dupont — Project Number: 4013

Time Period	Soutbound Center Drive				Westbound				Northbound Center Drive				Eastbound Sequalitchew Drive				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
7:00 AM	3	3	36						3		105	1	0	6		1	152
7:15 AM	2	1	43						1		91	1	0	7		3	146
7:30 AM	3	6	98						0		64	6	0	4		3	181
7:45 AM	7	12	110						1		74	2	0	4		1	203
8:00 AM	1	6	54						3		77	4	0	3		1	145
8:15 AM	0	5	38						3		65	2	0	3		12	125
8:30 AM	3	1	39						0		82	0	0	7		11	140
8:45 AM	1	1	32						3		96	4	0	10		8	151
Total	20	35	450						14		654	20	0	44		40	1,243
Peak Hour	**7:00 AM**		**to**	**8:00 AM**													Total
Peak Total	15	22	287						5		334	10	0	21		8	682
Heavy Veh.	4.1%								2.1%				0.0%				
PHF	0.63								0.81				0.73				



Prepared for: **Geralyn Reinart, P.E.**

Traffic Count Consultants, Inc.

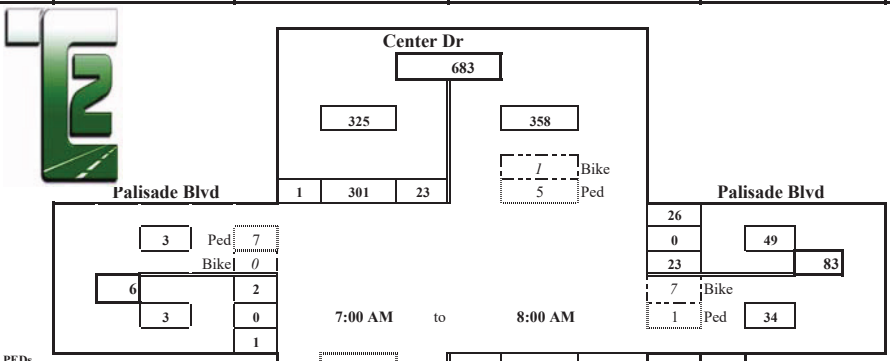
Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Center Dr & Palisade Blvd **Date of Count:** Tues 10/03/2017

Location: DuPont, Washington **Checked By:** Jess

Time Interval	From North on (SB) Center Dr				From South on (NB) Center Dr				From East on (WB) Palisade Blvd				From West on (EB) Palisade Blvd				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	8	50	0	0	0	115	4	0	6	0	10	0	0	0	0	193
7:30 A	1	1	47	0	0	1	71	4	0	5	0	5	0	0	0	0	134
7:45 A	4	4	95	0	0	1	79	2	0	6	0	6	0	1	0	1	195
8:00 A	7	10	109	1	2	0	65	1	0	6	0	5	0	1	0	0	198
8:15 A	0	6	49	1	4	0	68	6	1	10	0	11	0	0	0	1	152
8:30 A	0	5	26	2	3	1	58	3	0	5	0	9	0	0	0	1	110
8:45 A	3	7	48	2	1	1	75	4	0	7	0	6	0	0	1	2	153
9:00 A	1	11	41	0	4	0	96	5	0	5	0	13	1	0	0	1	172
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	16	52	465	6	14	4	627	29	1	50	0	65	1	2	1	6	1307
Peak Hour: 7:00 AM to 8:00 AM																	
Total	12	23	301	1	2	2	330	11	0	23	0	26	0	2	0	1	720
Approach	325				343				49				3				720
%HV	3.7%				0.6%				n/a				n/a				1.9%
PHF	0.68				0.72				0.77				0.38				0.91



792 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.38	n/a
WB	0.77	n/a
NB	0.72	0.6%
SB	0.68	3.7%
T Int.	0.91	1.9%

Check In: 720 Out: 720

PEDs Across:	N	S	E	W	
INT 01			1	2	3
INT 02					0
INT 03				2	2
INT 04	5	2		3	10
INT 05					0
INT 06		1		2	3
INT 07			1		1
INT 08			1	1	2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	5	3	3	10	21

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03		1	3		4
INT 04	1		4		5
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	1	7	0	9

N U's	S U's	E U's	W U's
		0	
		0	
		0	
		0	
		1	
		0	
		1	
		0	
0	0	2	0

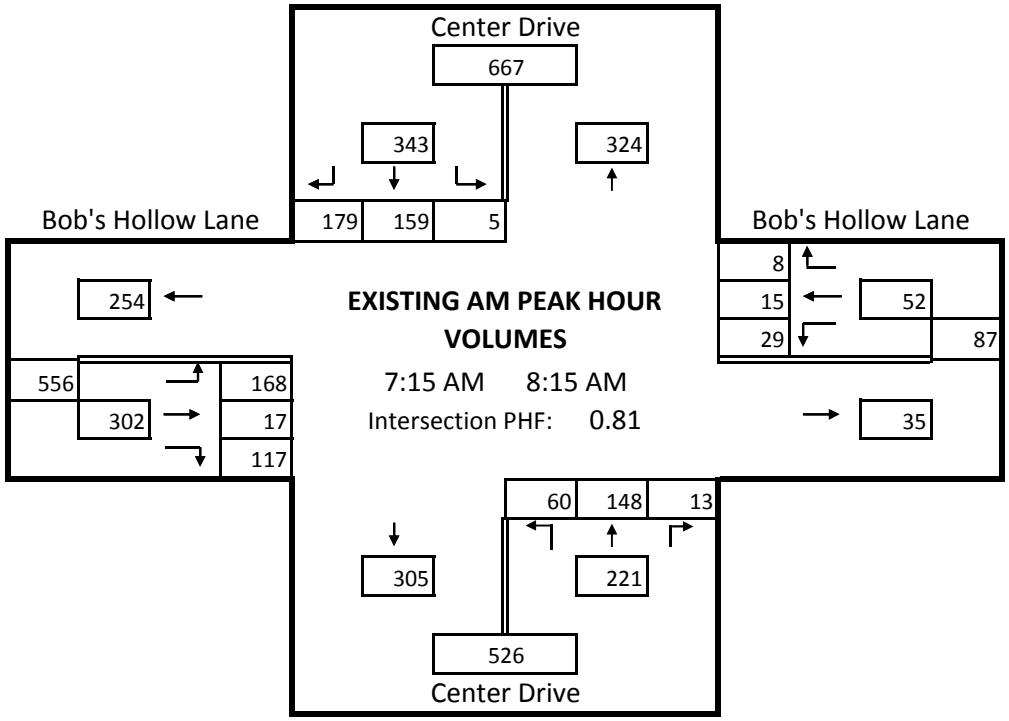
Special Notes

GRT17115TM_04a

Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & Bob's Hollow Lane — Date of Count: 10/17/2017
Jurisdiction: City of Dupont — Project Number: 4013

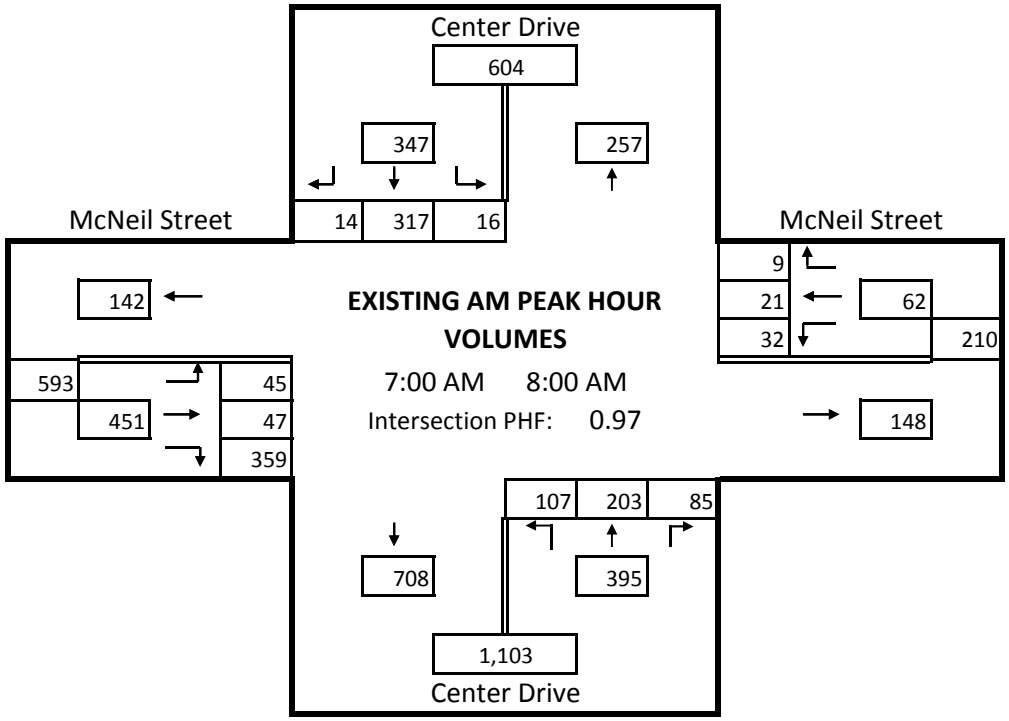
Time Period	Soutbound Center Drive				Westbound Bob's Hollow Lane				Northbound Center Drive				Eastbound Bob's Hollow Lane				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
7:00 AM	0	19	32	1	0	4	1	9	1	1	60	6	2	26	4	44	207
7:15 AM	1	20	34	2	0	2	2	7	0	1	48	7	1	18	1	36	178
7:30 AM	4	59	47	1	0	1	3	10	0	2	37	21	0	17	4	36	238
7:45 AM	4	68	46	2	0	1	6	7	0	5	31	19	3	43	7	49	284
8:00 AM	1	32	32	0	0	4	4	5	2	5	32	13	6	39	5	47	218
8:15 AM	2	7	31	1	0	1	1	6	0	1	43	3	1	6	1	22	123
8:30 AM	3	6	41	0	0	7	0	7	0	3	49	2	0	9	5	35	164
8:45 AM	0	5	25	2	0	1	4	4	4	2	57	3	0	7	21	31	162
Total	15	216	288	9	0	21	21	55	7	20	357	74	13	165	48	300	1,574
Peak Hour	**7:15 AM**		**to**	**8:15 AM**													Total
Peak Total	10	179	159	5	0	8	15	29	2	13	148	60	10	117	17	168	918
Heavy Veh.	2.9%				0.0%				1.6%				2.5%				
PHF	0.74				0.93				0.92				0.76				



Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & McNeil Street
Jurisdiction: City of Dupont
Date of Count: 10/17/2017
Project Number: 4013

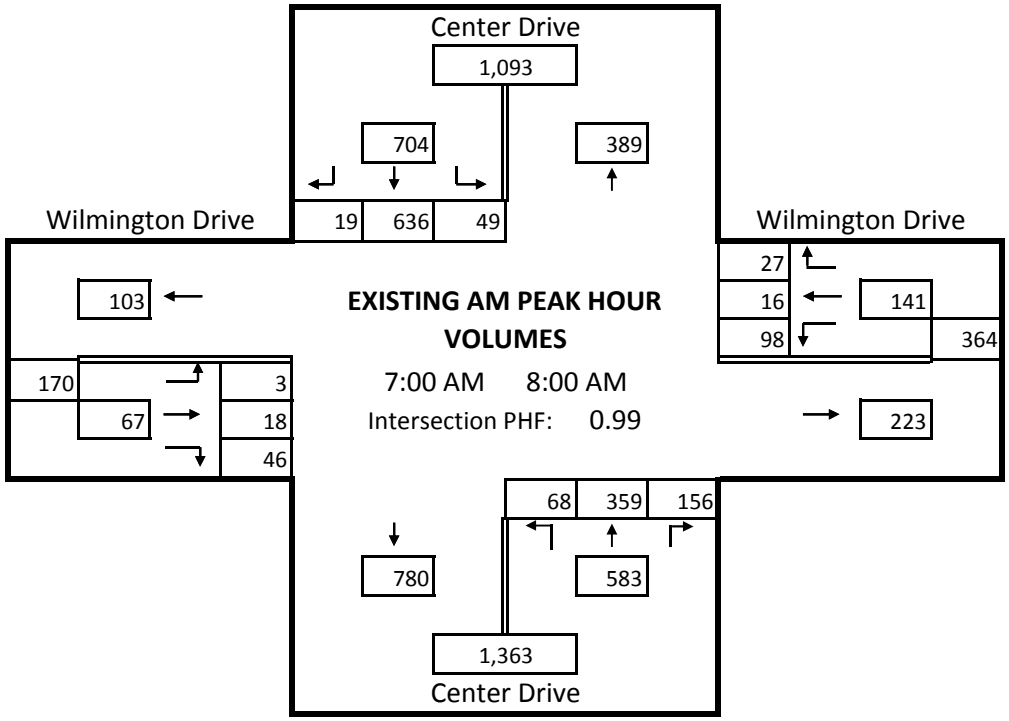
Time Period	Soutbound Center Drive				Westbound McNeil Street				Northbound Center Drive				Eastbound McNeil Street				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
7:00 AM	1	3	80	1	1	2	3	11	0	22	62	14	1	86	12	11	307
7:15 AM	1	2	72	5	1	2	3	7	1	19	49	30	0	103	13	5	310
7:30 AM	1	3	74	3	1	2	3	5	0	28	45	35	0	92	12	11	313
7:45 AM	0	6	91	7	2	3	12	9	1	16	47	28	0	78	10	18	325
8:00 AM	3	10	76	9	1	2	7	2	0	17	42	38	0	50	8	10	271
8:15 AM	0	4	46	7	0	3	7	4	1	11	27	29	0	76	16	21	251
8:30 AM	1	3	54	3	0	7	8	7	1	13	34	17	1	108	21	20	295
8:45 AM	1	3	58	9	0	5	11	14	2	9	36	28	5	88	34	36	331
Total	8	34	551	44	6	26	54	59	6	135	342	219	7	681	126	132	2,403
Peak Hour	**7:00 AM to 8:00 AM**																Total
Peak Total	3	14	317	16	5	9	21	32	2	85	203	107	1	359	47	45	1,255
Heavy Veh.	1.3%				4.3%				0.9%				0.7%				
PHF	0.83				0.65				0.91				0.93				



Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & Wilmington Drive
Date of Count: 10/17/2017
Jurisdiction: City of Dupont
Project Number: 4013

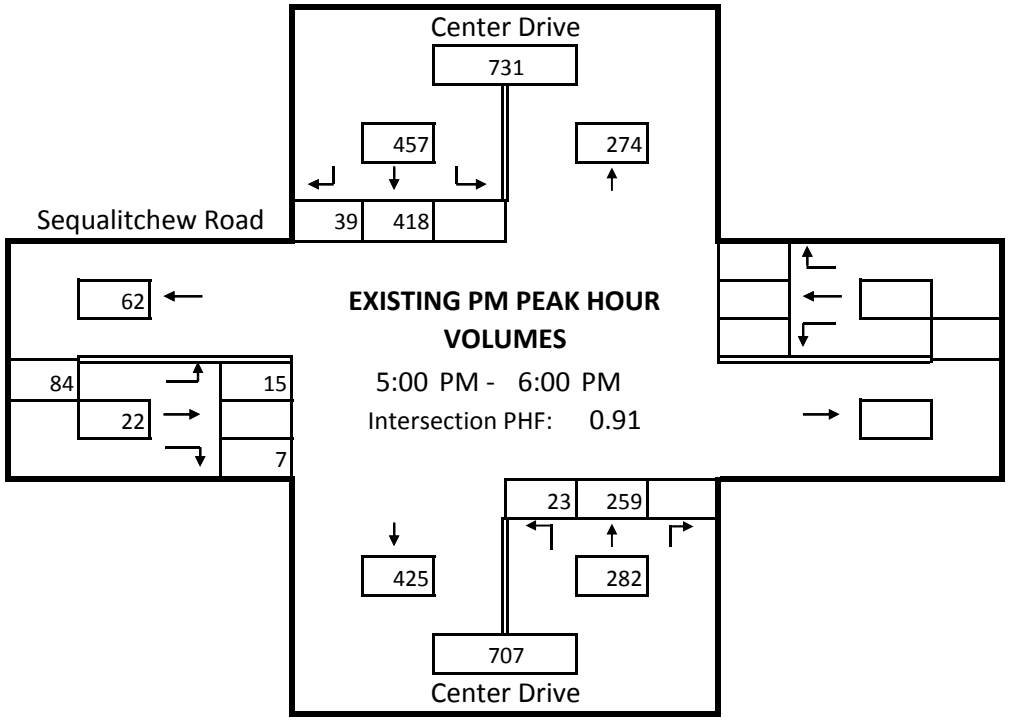
Time Period	Soutbound Center Drive				Westbound Wilmington Drive				Northbound Center Drive				Eastbound Wilmington Drive				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
7:00 AM	2	8	143	12	0	7	4	22	3	45	94	21	0	11	2	0	369
7:15 AM	1	4	167	11	1	4	2	28	3	33	86	11	0	15	7	0	368
7:30 AM	2	3	166	7	2	6	5	22	3	36	98	18	0	12	3	3	379
7:45 AM	2	4	160	19	0	10	5	26	0	42	81	18	0	8	6	0	379
8:00 AM	1	5	130	12	0	6	9	21	0	39	87	15	0	14	3	2	343
8:15 AM	1	5	109	16	0	3	9	28	1	52	61	26	0	16	5	3	333
8:30 AM	1	4	165	14	0	4	4	36	1	37	60	12	1	18	8	2	364
8:45 AM	0	2	141	17	0	11	5	34	2	52	60	12	0	15	2	0	351
Total	10	35	1,181	108	3	51	43	217	13	336	627	133	1	109	36	10	2,886
Peak Hour	**7:00 AM to 8:00 AM**																Total
Peak Total	7	19	636	49	3	27	16	98	9	156	359	68	0	46	18	3	1,495
Heavy Veh.	0.8%				1.0%				1.2%				0.6%				
PHF	0.96				0.86				0.91				0.76				



Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & Sequalitchew Road
Date of Count: 10/17/2017
Jurisdiction: City of Dupont
Project Number: 4013

Time Period	Soutbound Center Drive				Westbound				Northbound Center Drive				Eastbound Sequalitchew Road				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
4:00 PM	0	4	76						0		40	1	0	2		0	123
4:15 PM	0	4	88						0		43	8	0	4		0	147
4:30 PM	0	6	105						0		34	4	0	1		0	150
4:45 PM	0	7	104						0		61	1	0	1		1	175
5:00 PM	0	10	126						1		64	7	0	0		3	210
5:15 PM	0	6	110						0		60	7	0	1		0	184
5:30 PM	0	12	92						0		64	4	0	2		4	178
5:45 PM	0	11	90						1		71	5	0	4		8	189
Total	0	60	791						2		437	37	0	15		16	1,356
Peak Hour	**5:00 PM to 6:00 PM**																Total
Peak Total	0	39	418						2		259	23	0	7		15	761
Heavy Veh.	0.0%								0.4%				0.0%				
PHF	0.84								0.93				0.46				



Prepared for: **Geralyn Reinart, P.E.**

Traffic Count Consultants, Inc.

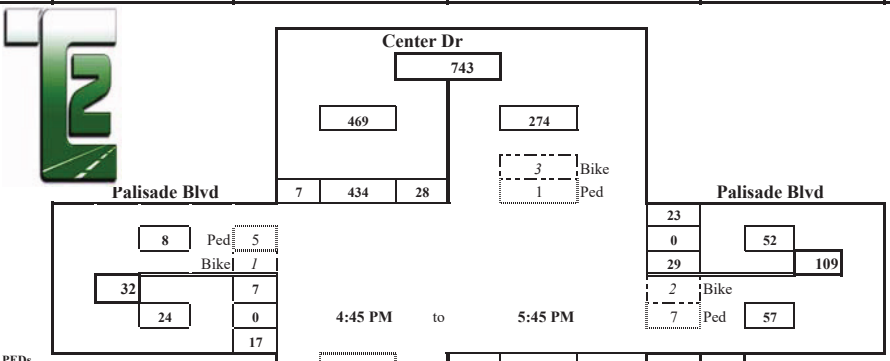
Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Center Dr & Palisade Blvd **Date of Count:** Tues 10/03/2017

Location: DuPont, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Center Dr				From South on (NB) Center Dr				From East on (WB) Palisade Blvd				From West on (EB) Palisade Blvd				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	3	5	89	0	3	1	40	1	0	3	0	4	0	0	0	0	143
4:30 P	0	6	92	0	3	4	49	3	0	3	0	2	0	0	0	0	159
4:45 P	0	5	86	2	0	2	39	4	0	2	0	5	0	1	0	3	149
5:00 P	0	8	134	2	1	0	53	7	0	5	0	7	0	5	0	15	236
5:15 P	1	5	114	0	2	0	57	5	0	3	0	3	0	0	0	0	187
5:30 P	1	11	118	3	2	0	67	7	0	13	0	4	0	2	0	0	225
5:45 P	0	4	68	2	0	1	67	10	0	8	0	9	0	0	0	2	171
6:00 P	0	6	100	0	2	0	69	2	0	4	0	3	0	0	0	1	185
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	5	50	801	9	13	8	441	39	0	41	0	37	0	8	0	21	1455
	Peak Hour: 4:45 PM to 5:45 PM																
Total	2	28	434	7	5	1	244	29	0	29	0	23	0	7	0	17	819
Approach	469				274				52				24				819
%HV	0.4%				1.8%				n/a				n/a				0.9%
PHF	0.81				0.88				0.76				0.30				0.87



PEDs Across:	N	S	E	W	
INT 01			2		2
INT 02					0
INT 03	1		4		5
INT 04		1	1		2
INT 05	1		2	1	4
INT 06			3	4	7
INT 07			1		1
INT 08	2		3	1	6
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	4	1	16	6	27

Special Notes

Bicycles From:	N	S	E	W	
INT 01	2	1		2	5
INT 02					0
INT 03		2			2
INT 04	1	2		1	4
INT 05	1				1
INT 06		2			2
INT 07	1		2		3
INT 08	1	2		1	4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	6	9	2	4	21

944 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.30	n/a
Check	WB	0.76	n/a
In: 819	NB	0.88	1.8%
Out: 819	SB	0.81	0.4%
	T Int.	0.87	0.9%

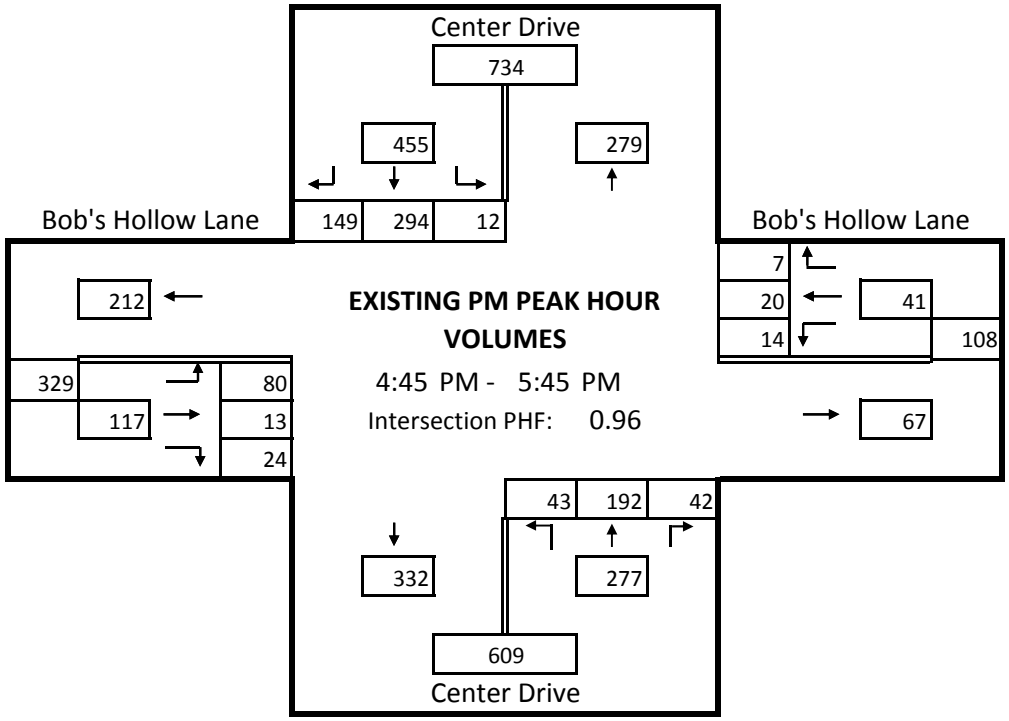
N U's	S U's	E U's	W U's
0			
0			
1			
0			
0			
0			
0			
0			
1	0	0	0

GRT17115TM_04p

Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & Bob's Hollow Lane
Date of Count: 10/17/2017
Jurisdiction: City of Dupont
Project Number: 4013

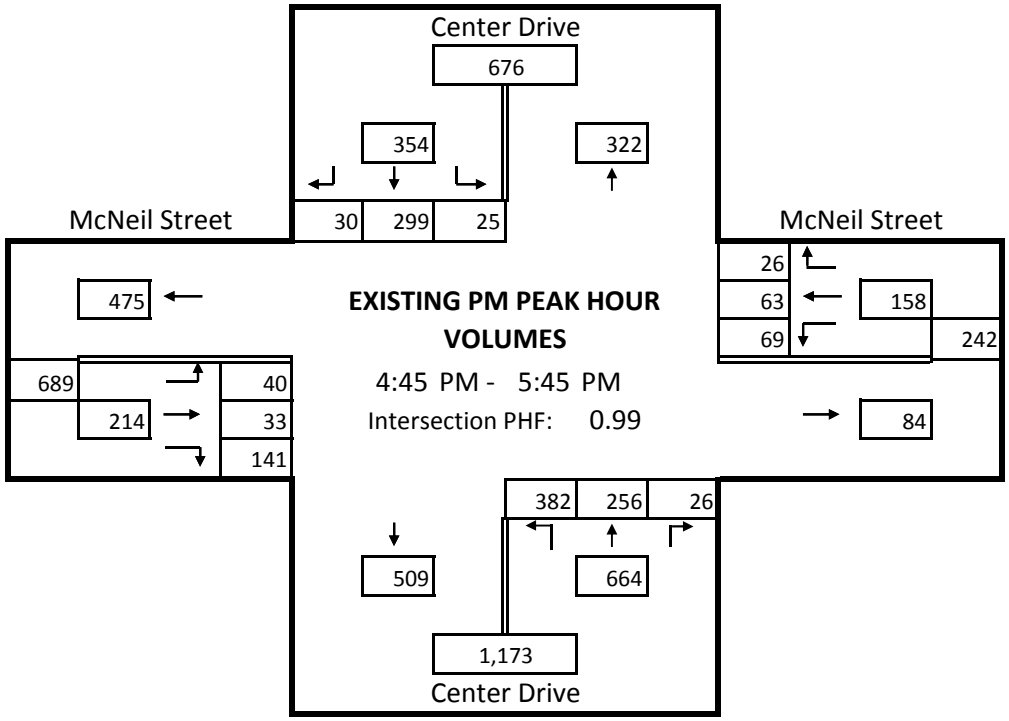
Time Period	Soutbound Center Drive				Westbound Bob's Hollow Lane				Northbound Center Drive				Eastbound Bob's Hollow Lane				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
4:00 PM	0	16	76	2	1	5	4	8	2	6	23	8	0	4	4	16	172
4:15 PM	1	28	65	4	1	1	3	3	0	12	32	3	0	4	4	8	167
4:30 PM	0	32	69	3	0	3	4	4	1	8	31	4	1	5	0	13	176
4:45 PM	0	38	76	1	1	3	2	3	2	11	42	13	1	9	7	18	223
5:00 PM	0	33	82	3	0	1	6	2	1	11	47	12	1	4	3	19	223
5:15 PM	0	46	69	5	1	1	9	6	0	11	46	9	3	7	2	21	232
5:30 PM	0	32	67	3	1	2	3	3	2	9	57	9	0	4	1	22	212
5:45 PM	0	28	60	4	0	3	2	3	0	4	60	7	1	3	2	21	197
Total	1	253	564	25	5	19	33	32	8	72	338	65	7	40	23	138	1,602
Peak Hour	**4:45 PM to 5:45 PM**																Total
Peak Total	0	149	294	12	3	7	20	14	5	42	192	43	5	24	13	80	890
Heavy Veh.	0.1%				6.0%				1.7%				3.5%				
PHF	0.95				0.64				0.92				0.86				



Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & McNeil Street
Date of Count: 10/17/2017
Jurisdiction: City of Dupont
Project Number: 4013

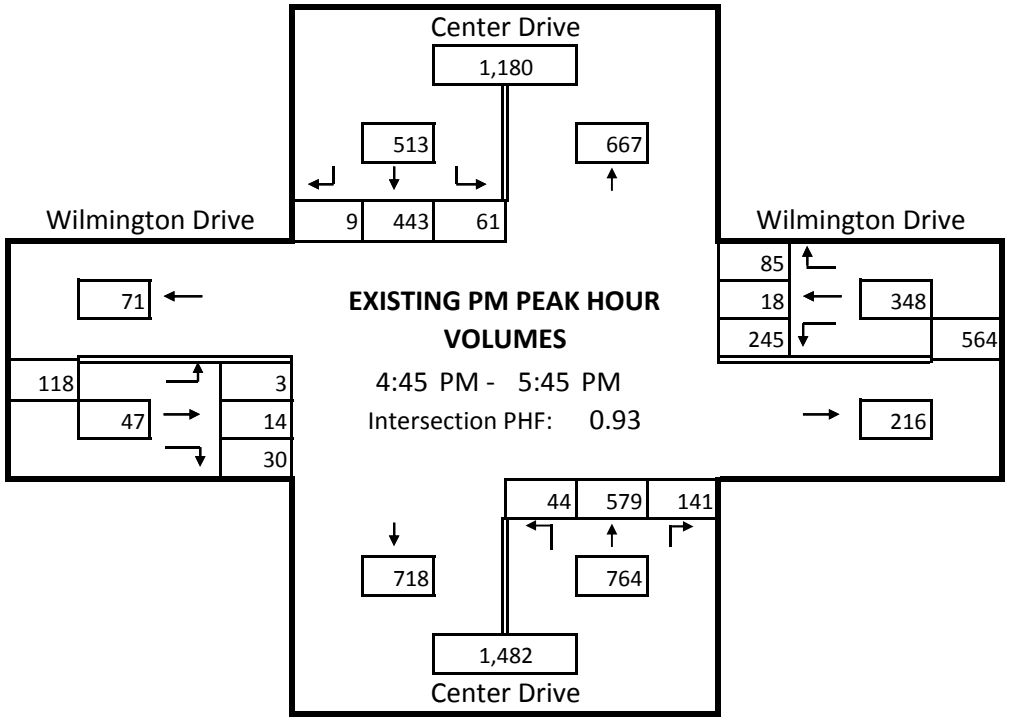
Time Period	Soutbound Center Drive				Westbound McNeil Street				Northbound Center Drive				Eastbound McNeil Street				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
4:00 PM	6	12	75	4	2	2	11	15	7	10	40	78	2	38	8	12	305
4:15 PM	0	7	64	10	3	5	19	26	1	13	39	68	4	29	7	11	298
4:30 PM	0	8	67	8	0	6	21	31	7	10	45	62	2	34	8	6	306
4:45 PM	2	10	73	10	0	6	21	20	1	2	61	90	2	31	8	10	342
5:00 PM	1	6	78	4	0	8	16	20	2	6	60	94	0	44	7	8	351
5:15 PM	0	6	80	7	2	6	11	15	0	10	64	95	2	31	15	10	350
5:30 PM	0	8	68	4	2	6	15	14	1	8	71	103	3	35	3	12	347
5:45 PM	0	5	63	7	0	4	19	16	1	7	66	81	1	30	14	14	326
Total	9	62	568	54	9	43	133	157	20	66	446	671	16	272	70	83	2,625
Peak Hour	**4:45 PM to 5:45 PM**																Total
Peak Total	3	30	299	25	4	26	63	69	4	26	256	382	7	141	33	40	1,390
Heavy Veh.	1.3%				2.7%				1.7%				3.8%				
PHF	0.95				0.84				0.91				0.91				



Heath & Associates, Inc.
2214 Tacoma Road
Puyallup, WA 98371

Project Name: **Dupont Industrial**
Intersection: Center Drive & Wilmington Drive
Jurisdiction: City of Dupont
Date of Count: 10/17/2017
Project Number: 4013

Time Period	Soutbound Center Drive				Westbound Wilmington Drive				Northbound Center Drive				Eastbound Wilmington Drive				
	HV	R	T	L	HV	R	T	L	HV	R	T	L	HV	R	T	L	Total
4:00 PM	1	2	106	12	0	20	3	43	0	30	98	9	0	6	2	1	332
4:15 PM	1	2	116	8	1	15	4	51	2	22	108	9	0	4	0	1	340
4:30 PM	1	2	118	13	0	15	5	60	1	30	106	15	0	10	1	1	376
4:45 PM	1	3	115	7	2	21	4	54	1	41	137	7	0	16	2	1	408
5:00 PM	1	2	126	14	0	14	7	81	2	36	145	14	0	3	6	0	448
5:15 PM	1	3	103	18	1	21	5	36	0	33	153	12	0	3	3	2	392
5:30 PM	0	1	99	22	0	29	2	74	1	31	144	11	0	8	3	0	424
5:45 PM	1	2	104	16	0	24	9	53	1	34	134	14	0	7	2	1	400
Total	7	17	887	110	4	159	39	452	8	257	1,025	91	0	57	19	7	3,120
Peak Hour	**4:45 PM to 5:45 PM**																Total
Peak Total	3	9	443	61	3	85	18	245	4	141	579	44	0	30	14	3	1,672
Heavy Veh.	0.7%				0.6%				0.6%				0.0%				
PHF	0.90				0.83				0.96				0.62				



PIPELINE TRIPS AT CRITICAL INTERSECTIONS – DUPONT INDUSTRIAL (AM PEAK HOUR)

1. Center Drive/Wilmington Drive

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	1	0	4	0	2	16	0
Williamson Pl. (3)	0	0	0	0	0	0	0	12	0	0	3	0
International Place	0	0	0	0	0	0	0	5	0	0	1	0
Patriot's Lndng. (1)	0	0	0	0	0	1	0	17	0	4	50	0
Civic Ctr. Phase 2	0	0	0	0	0	5	0	28	0	3	4	0
Civic Ctr. Phase 3	0	0	0	0	0	1	0	27	0	0	4	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	13	0	101	0	3	24	0
DuPont Storage (1)	0	0	0	0	0	0	0	2	1	0	2	0
Total	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**206**	**1**	**12**	**109**	**0**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

2. Center Drive/McNeil Street

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	2	18	0	1	0	5	0	0	0	0	0
Williamson Pl. (3)	17	0	0	0	0	3	0	12	0	0	3	2
International Place	8	0	0	0	0	1	0	5	0	0	1	3
Patriot's Lndng. (1)	2	8	54	0	3	0	18	0	0	0	0	1
Civic Ctr. Phase 2	3	0	0	0	0	4	0	33	0	3	7	0
Civic Ctr. Phase 3	3	0	0	0	0	2	0	28	0	0	4	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	38	0	0	0	0	8	0	114	0	2	27	9
DuPont Storage (1)	0	2	0	2	2	2	0	0	2	3	0	0
Total	**71**	**12**	**72**	**2**	**6**	**20**	**23**	**202**	**2**	**8**	**47**	**15**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

3. Center Drive/Bob's Hollow Lane

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	7	0	0	0	0	0	0	0	0	0	0	2
Williamson Pl. (3)	0	0	0	0	0	0	0	35	0	0	5	0
International Place	0	0	0	0	0	0	0	15	0	0	4	0
Patriot's Lndng. (1)	5	0	0	0	0	0	0	2	0	0	1	2
Civic Ctr. Phase 2	12	0	0	0	0	0	0	40	0	0	10	6
Civic Ctr. Phase 3	6	0	0	0	0	0	0	33	0	0	4	1
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	3	0	161	0	1	38	0
DuPont Storage (1)	0	0	1	0	0	0	1	1	0	0	2	0
Total	**30**	**0**	**1**	**0**	**0**	**3**	**1**	**297**	**0**	**1**	**69**	**11**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

4. Center Drive/Palisade Blvd.

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	7	0	0	2	0
Williamson Pl. (3)	0	0	0	0	0	3	0	35	0	0	5	0
International Place	0	0	0	0	0	2	0	15	0	0	4	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	7	0	0	3	0
Civic Ctr. Phase 2	0	0	0	0	0	10	0	52	0	7	16	0
Civic Ctr. Phase 3	0	0	0	0	0	4	0	39	0	1	5	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	8	0	164	0	2	39	0
DuPont Storage (1)	0	0	0	0	0	0	0	1	0	1	0	0
Total	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**330**	**0**	**11**	**79**	**0**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

5. Center Drive/Sequalitchew

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	7	0	0	2	0
Williamson Pl. (3)	0	0	0	0	0	0	0	38	0	0	5	0
International Place	0	0	0	0	0	0	0	17	0	0	4	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	7	0	0	3	0
Civic Ctr. Phase 2	0	0	0	0	0	0	0	8	0	0	18	0
Civic Ctr. Phase 3	0	0	0	0	0	0	0	2	0	0	11	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	0	0	172	0	0	41	0
DuPont Storage (1)	0	0	0	0	0	0	0	1	0	0	1	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**262**	**0**	**0**	**90**	**0**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

PIPELINE TRIPS AT CRITICAL INTERSECTIONS – DUPONT INDUSTRIAL (PM PEAK HOUR)

1. Center Drive/Wilmington Drive

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	1	0	18	0	1	8	0
Williamson Pl. (3)	0	0	0	0	0	0	0	3	0	0	12	0
International Place	0	0	0	0	0	0	0	2	0	0	6	0
Patriot's Lndng. (1)	0	0	0	0	0	4	0	57	0	3	33	0
Civic Ctr. Phase 2	0	0	0	0	0	1	0	5	0	2	25	0
Civic Ctr. Phase 3	0	0	0	0	0	0	0	4	0	1	25	0
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	3	0	27	0	12	96	0
DuPont Storage	0	0	0	5	0	2	0	1	5	2	1	0
Total	**0**	**0**	**0**	**5**	**0**	**11**	**0**	**122**	**5**	**21**	**218**	**0**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

2. Center Drive/McNeil Street

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	1	9	0	1	0	19	0	0	0	0	0
Williamson Pl. (3)	3	0	0	0	0	3	0	3	0	3	12	17
International Place	3	0	0	0	0	1	0	2	0	2	6	9
Patriot's Lndng. (1)	2	5	36	0	9	0	61	0	0	0	0	3
Civic Ctr. Phase 2	1	0	0	0	0	2	0	6	0	3	27	3
Civic Ctr. Phase 3	1	0	0	0	0	1	0	4	0	2	26	3
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	10	0	0	0	0	2	0	30	0	7	108	36
DuPont Storage	0	6	0	3	7	7	0	1	1	6	0	0
Total	**20**	**12**	**45**	**3**	**17**	**16**	**80**	**51**	**1**	**23**	**191**	**71**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

3. Center Drive/Bob's Hollow Lane

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	8	0	0	0	0	0	0	0	0	0	0	10
Williamson Pl. (3)	0	0	0	0	0	0	0	9	0	0	32	0
International Place	0	0	0	0	0	0	0	6	0	0	18	0
Patriot's Lndng. (1)	6	0	0	0	0	0	0	2	0	0	3	10
Civic Ctr. Phase 2	3	0	0	0	0	0	0	9	0	0	33	7
Civic Ctr. Phase 3	1	0	0	0	0	0	0	6	0	0	31	5
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	1	0	43	0	2	154	0
DuPont Storage (1)	0	0	1	1	0	0	1	3	1	0	2	0
Total	**18**	**0**	**1**	**1**	**0**	**1**	**1**	**83**	**1**	**2**	**285**	**32**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

4. Center Drive/Palisade Blvd.

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	8	0	0	10	0
Williamson Pl. (3)	0	0	0	0	0	0	0	9	0	3	32	0
International Place	0	0	0	0	0	0	0	6	0	2	18	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	8	0	0	13	0
Civic Ctr. Phase 2	0	0	0	0	0	4	0	12	0	7	40	0
Civic Ctr. Phase 3	0	0	0	0	0	1	0	7	0	4	36	0
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	2	0	44	0	7	156	0
DuPont Storage (1)	0	0	0	1	0	0	0	2	1	0	1	0
Total	**0**	**0**	**0**	**1**	**0**	**7**	**0**	**101**	**1**	**23**	**318**	**0**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

5. Center Drive/Sequalitchew

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	8	0	0	10	0
Williamson Pl. (3)	0	0	0	0	0	0	0	9	0	0	35	0
International Place	0	0	0	0	0	0	0	6	0	0	20	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	8	0	0	13	0
Civic Ctr. Phase 2	0	0	0	0	0	0	0	16	0	0	47	0
Civic Ctr. Phase 3	0	0	0	0	0	0	0	8	0	0	40	0
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	0	0	46	0	0	163	0
DuPont Storage (1)	0	0	0	0	0	0	0	2	0	0	1	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**108**	**0**	**0**	**341**	**0**

(1) – estimated trips; assignment not available or not provided in TIA
(2) – assignment revised to reflect modified trip generation for partial build-out
(3) – modified from original TIA to reflect scaled-back SEPA proposal

DUPONT INDUSTRIAL
APPENDIX C: LEVEL OF SERVICE

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	21	10	334	287	22
Future Vol, veh/h	8	21	10	334	287	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	2	4	4
Mvmt Flow	10	25	12	398	342	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	578	184	368	0	-	0
Stage 1	355	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.14	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.22	-	-	-
Pot Cap-1 Maneuver	451	833	1187	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	446	833	1187	-	-	-
Mov Cap-2 Maneuver	534	-	-	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.2	0
HCM LOS	B		

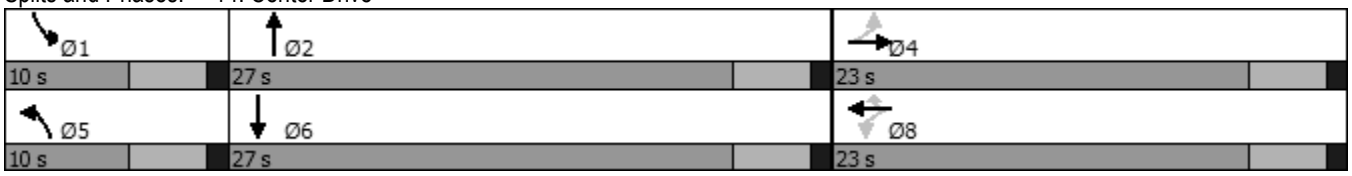
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1187	-	534	833	-	-
HCM Lane V/C Ratio	0.01	-	0.018	0.03	-	-
HCM Control Delay (s)	8.1	-	11.9	9.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	23	0	26	2	330	11	23	301	1
Future Volume (vph)	2	0	1	23	0	26	2	330	11	23	301	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.955				0.850		0.995				
Flt Protected		0.968			0.950		0.950			0.950		
Satd. Flow (prot)	0	1756	0	0	1805	1615	1787	3556	0	1736	3471	0
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	1814	0	0	1900	1615	1787	3556	0	1736	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				109		6			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		449			425			647			561	
Travel Time (s)		10.2			9.7			14.7			12.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	4%	4%	4%
Adj. Flow (vph)	2	0	1	25	0	29	2	363	12	25	331	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	25	29	2	375	0	25	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5	5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		6.2			6.3	6.3	5.5	35.6		5.5	35.6	
Actuated g/C Ratio		0.14			0.14	0.14	0.13	0.82		0.13	0.82	
v/c Ratio		0.01			0.09	0.09	0.01	0.13		0.11	0.12	
Control Delay		0.0			17.6	0.5	18.5	3.7		19.6	3.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.0			17.6	0.5	18.5	3.7		19.6	3.7	
LOS		A			B	A	B	A		B	A	
Approach Delay					8.4			3.7			4.8	
Approach LOS					A			A			A	
Queue Length 50th (ft)		0			5	0	1	0		5	0	
Queue Length 95th (ft)		0			22	0	5	52		24	47	
Internal Link Dist (ft)		369			345			567			481	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		835			808	750	226	2908		219	2838	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.00			0.03	0.04	0.01	0.13		0.11	0.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 43.6			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.13			
Intersection Signal Delay: 4.5		Intersection LOS: A	
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Center Drive

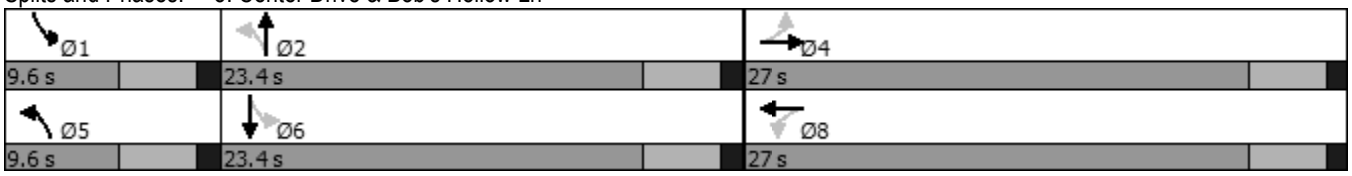


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	17	117	29	15	8	60	148	13	5	159	179
Future Volume (vph)	168	17	117	29	15	8	60	148	13	5	159	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.948			0.979			0.988			0.921	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1702	0	0	1810	0	1770	3497	0	1752	3228	0
Flt Permitted		0.791			0.782		0.471			0.627		
Satd. Flow (perm)	0	1383	0	0	1455	0	877	3497	0	1157	3228	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			10			16			221	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		283			277			824			647	
Travel Time (s)		6.4			6.3			18.7			14.7	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	207	21	144	36	19	10	74	183	16	6	196	221
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	372	0	0	65	0	74	199	0	6	417	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	27.0	27.0		27.0	27.0		9.6	23.4		9.6	23.4	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		16.0%	39.0%		16.0%	39.0%	
Maximum Green (s)	22.5	22.5		22.5	22.5		5.1	18.9		5.1	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		16.2			16.2		24.0	23.1		22.4	19.7	
Actuated g/C Ratio		0.32			0.32		0.48	0.46		0.45	0.39	
v/c Ratio		0.77			0.14		0.14	0.12		0.01	0.30	
Control Delay		24.7			11.8		8.9	9.7		8.4	7.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		24.7			11.8		8.9	9.7		8.4	7.4	
LOS		C			B		A	A		A	A	
Approach Delay		24.7			11.8			9.5			7.4	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		90			13		11	14		1	23	
Queue Length 95th (ft)		147			30		29	40		5	46	
Internal Link Dist (ft)		203			197			744			567	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		678			684		512	1614		578	1401	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.55			0.10		0.14	0.12		0.01	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Center Drive & Bob's Hollow Ln

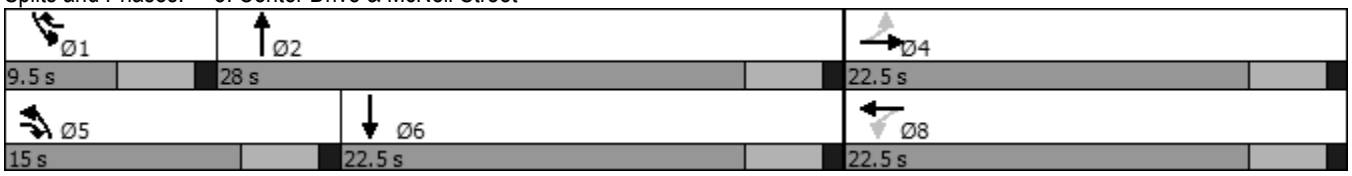


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	47	359	32	21	9	107	203	85	16	317	14
Future Volume (vph)	45	47	359	32	21	9	107	203	85	16	317	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		150	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.956			0.994	
Flt Protected		0.976			0.971		0.950			0.950		
Satd. Flow (prot)	0	1836	1599	0	1774	1553	1787	3417	0	1787	3553	0
Flt Permitted		0.817			0.762		0.950			0.950		
Satd. Flow (perm)	0	1537	1599	0	1392	1553	1787	3417	0	1787	3553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			370			191		88			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			525			746			824	
Travel Time (s)		12.8			11.9			17.0			18.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	46	48	370	33	22	9	110	209	88	16	327	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	370	0	55	9	110	297	0	16	341	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Over	Perm	NA	Over	Prot	NA		Prot	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	15.0	22.5	22.5	9.5	15.0	28.0		9.5	22.5	
Total Split (%)	37.5%	37.5%	25.0%	37.5%	37.5%	15.8%	25.0%	46.7%		15.8%	37.5%	
Maximum Green (s)	18.0	18.0	10.5	18.0	18.0	5.0	10.5	23.5		5.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.1	8.0		8.0	5.2	8.0	31.1		5.2	19.3	
Actuated g/C Ratio		0.18	0.18		0.18	0.12	0.18	0.71		0.12	0.44	
v/c Ratio		0.33	0.62		0.22	0.03	0.34	0.12		0.08	0.22	
Control Delay		21.0	8.0		19.6	0.1	20.8	4.8		22.4	10.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		21.0	8.0		19.6	0.1	20.8	4.8		22.4	10.4	
LOS		C	A		B	A	C	A		C	B	
Approach Delay		10.7			16.9			9.1			10.9	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		23	0		13	0	27	8		4	32	
Queue Length 95th (ft)		58	58		39	0	67	38		19	66	
Internal Link Dist (ft)		483			445			666			744	
Turn Bay Length (ft)			350			150	250			150		
Base Capacity (vph)		654	675		592	352	443	2445		211	1559	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.14	0.55		0.09	0.03	0.25	0.12		0.08	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 44			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 46.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Center Drive & McNeil Street

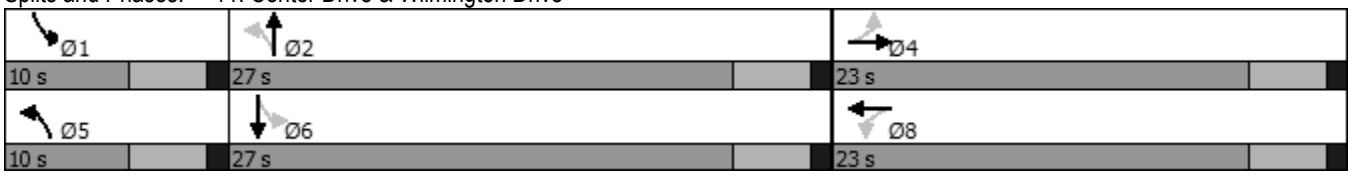


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	18	46	98	16	27	68	359	156	49	636	19
Future Volume (vph)	3	18	46	98	16	27	68	359	156	49	636	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.892			0.906			0.955			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1678	0	1787	1704	0	1787	3413	0	1787	3560	0
Flt Permitted	0.729			0.715			0.367			0.459		
Satd. Flow (perm)	1371	1678	0	1345	1704	0	690	3413	0	863	3560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			27			131			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		328			340			428			746	
Travel Time (s)		7.5			7.7			9.7			17.0	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	3	18	46	99	16	27	69	363	158	49	642	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	64	0	99	43	0	69	521	0	49	661	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	8.9	8.9		8.9	8.9		31.1	30.1		30.2	28.2	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.64	0.62		0.62	0.58	
v/c Ratio	0.01	0.19		0.40	0.13		0.12	0.24		0.08	0.32	
Control Delay	16.3	9.9		23.1	11.0		4.7	5.9		4.5	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.3	9.9		23.1	11.0		4.7	5.9		4.5	9.0	
LOS	B	A		C	B		A	A		A	A	
Approach Delay		10.2			19.4			5.8			8.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	1	5		26	4		6	18		4	64	
Queue Length 95th (ft)	6	29		61	24		20	71		15	114	
Internal Link Dist (ft)		248			260			348			666	
Turn Bay Length (ft)	50			100			100			150		
Base Capacity (vph)	529	676		519	675		569	2174		645	2078	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.09		0.19	0.06		0.12	0.24		0.08	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 48.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Center Drive & Wilmington Drive



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	7	23	259	418	39
Future Vol, veh/h	15	7	23	259	418	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	16	8	25	285	459	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	674	251	502	0	-	0
Stage 1	481	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.12	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.21	-	-	-
Pot Cap-1 Maneuver	393	755	1066	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	384	755	1066	-	-	-
Mov Cap-2 Maneuver	472	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	827	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0.7	0
HCM LOS	B		

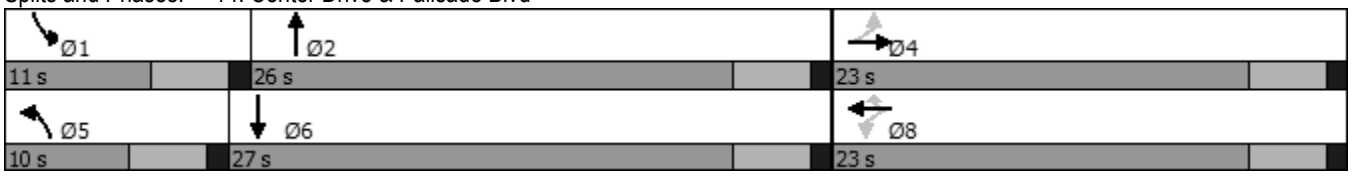
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1066	-	472	755	-	-
HCM Lane V/C Ratio	0.024	-	0.035	0.01	-	-
HCM Control Delay (s)	8.5	-	12.9	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	17	29	0	23	1	244	29	28	434	7
Future Volume (vph)	7	0	17	29	0	23	1	244	29	28	434	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.904				0.850		0.984			0.998	
Flt Protected		0.986			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1805	1615	1770	3483	0	1787	3567	0
Flt Permitted		0.892			0.909		0.950			0.950		
Satd. Flow (perm)	0	1532	0	0	1727	1615	1770	3483	0	1787	3567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				109		23			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		414			417			686			577	
Travel Time (s)		9.4			9.5			15.6			13.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	8	0	20	33	0	26	1	280	33	32	499	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	0	0	33	26	1	313	0	32	507	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	10.0	26.0		11.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	16.7%	43.3%		18.3%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5	5.5	21.5		6.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		6.7			6.7	6.7	5.5	32.4		6.1	32.6	
Actuated g/C Ratio		0.15			0.15	0.15	0.12	0.74		0.14	0.74	
v/c Ratio		0.09			0.13	0.08	0.00	0.12		0.13	0.19	
Control Delay		0.5			17.5	0.4	18.0	4.5		18.7	4.6	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.5			17.5	0.4	18.0	4.5		18.7	4.6	
LOS		A			B	A	B	A		B	A	
Approach Delay		0.5			10.0			4.5			5.5	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		0			8	0	0	11		8	20	
Queue Length 95th (ft)		0			26	0	4	44		27	70	
Internal Link Dist (ft)		334			337			606			497	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		712			732	748	223	2569		266	2640	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.05	0.03	0.00	0.12		0.12	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 44			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.19			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 35.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Center Drive & Palisade Blvd

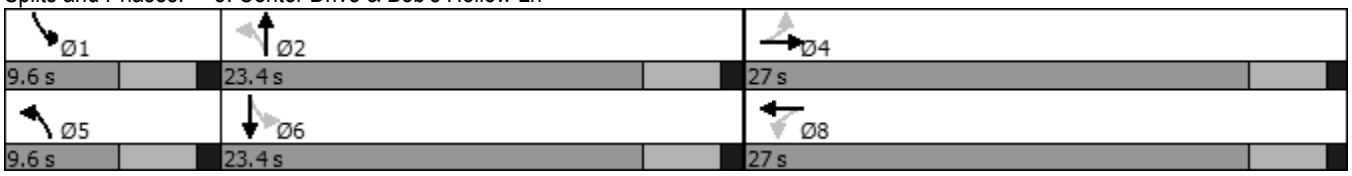


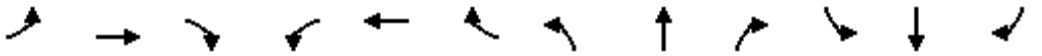
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	13	24	14	20	7	43	192	42	12	294	149
Future Volume (vph)	80	13	24	14	20	7	43	192	42	12	294	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.978			0.973			0.950	
Flt Protected		0.967			0.983		0.950			0.950		
Satd. Flow (prot)	0	1717	0	0	1723	0	1770	3444	0	1787	3396	0
Flt Permitted		0.770			0.890		0.470			0.600		
Satd. Flow (perm)	0	1367	0	0	1560	0	875	3444	0	1129	3396	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			7			44			154	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		283			277			824			686	
Travel Time (s)		6.4			6.3			18.7			15.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	83	14	25	15	21	7	45	200	44	13	306	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	43	0	45	244	0	13	461	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	27.0	27.0		27.0	27.0		9.6	23.4		9.6	23.4	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		16.0%	39.0%		16.0%	39.0%	
Maximum Green (s)	22.5	22.5		22.5	22.5		5.1	18.9		5.1	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.6			8.6		27.1	27.2		26.2	25.4	
Actuated g/C Ratio		0.20			0.20		0.63	0.63		0.61	0.59	
v/c Ratio		0.42			0.14		0.07	0.11		0.02	0.22	
Control Delay		17.5			13.8		4.7	5.4		4.6	5.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.5			13.8		4.7	5.4		4.6	5.6	
LOS		B			B		A	A		A	A	
Approach Delay		17.5			13.8			5.3			5.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		16			6		4	8		1	14	
Queue Length 95th (ft)		58			27		14	38		6	57	
Internal Link Dist (ft)		203			197			744			606	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		732			825		653	2179		763	2058	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.17			0.05		0.07	0.11		0.02	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 43.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Center Drive & Bob's Hollow Ln



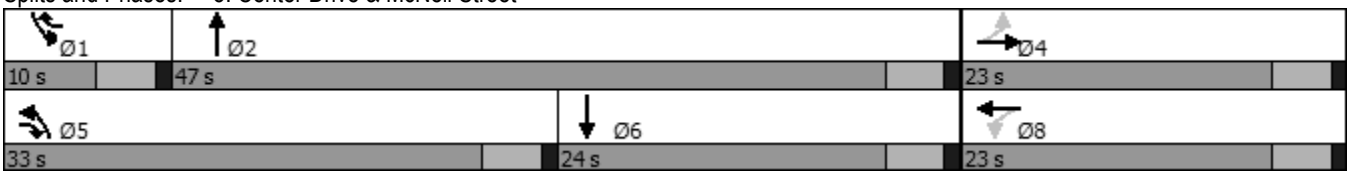


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	33	141	69	63	26	382	256	26	25	299	30
Future Volume (vph)	40	33	141	69	63	26	382	256	26	25	299	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		150	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.986			0.986	
Flt Protected		0.973			0.975		0.950			0.950		
Satd. Flow (prot)	0	1778	1553	0	1799	1568	1770	3490	0	1787	3524	0
Flt Permitted		0.734			0.797		0.950			0.950		
Satd. Flow (perm)	0	1341	1553	0	1470	1568	1770	3490	0	1787	3524	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142			143		20			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			525			746			824	
Travel Time (s)		12.8			11.9			17.0			18.7	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	40	33	142	70	64	26	386	259	26	25	302	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	142	0	134	26	386	285	0	25	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Over	Perm	NA	Over	Prot	NA		Prot	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0	33.0	23.0	23.0	10.0	33.0	47.0		10.0	24.0	
Total Split (%)	28.8%	28.8%	41.3%	28.8%	28.8%	12.5%	41.3%	58.8%		12.5%	30.0%	
Maximum Green (s)	18.5	18.5	28.5	18.5	18.5	5.5	28.5	42.5		5.5	19.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		11.1	19.4		11.4	5.7	19.4	45.4		5.7	25.3	
Actuated g/C Ratio		0.17	0.29		0.17	0.09	0.29	0.68		0.09	0.38	
v/c Ratio		0.33	0.26		0.54	0.10	0.75	0.12		0.16	0.25	
Control Delay		30.5	4.9		35.8	0.7	32.2	6.6		36.0	18.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		30.5	4.9		35.8	0.7	32.2	6.6		36.0	18.3	
LOS		C	A		D	A	C	A		D	B	
Approach Delay		13.6			30.1			21.3			19.6	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)		30	0		57	0	159	25		11	51	
Queue Length 95th (ft)		66	35		109	0	242	51		36	105	
Internal Link Dist (ft)		483			445			666			744	
Turn Bay Length (ft)			350			150	250			150		
Base Capacity (vph)		384	764		421	264	781	2369		152	1339	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.19	0.19		0.32	0.10	0.49	0.12		0.16	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 67			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Center Drive & McNeil Street

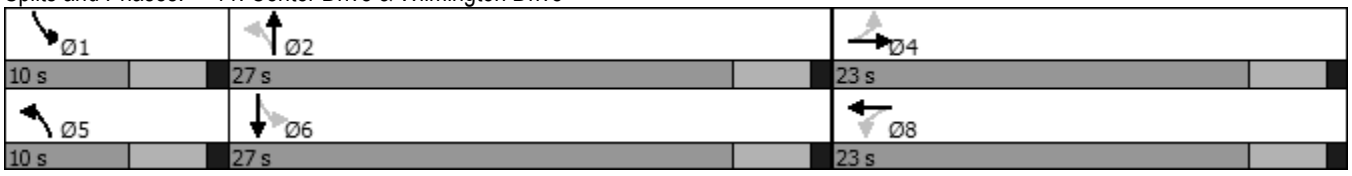


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	14	30	245	18	85	44	579	141	61	443	9
Future Volume (vph)	3	14	30	245	18	85	44	579	141	61	443	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.898			0.876			0.971			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1706	0	1787	1648	0	1787	3471	0	1787	3564	0
Flt Permitted	0.686			0.726			0.475			0.284		
Satd. Flow (perm)	1303	1706	0	1366	1648	0	894	3471	0	534	3564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			91			57			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		328			340			428			746	
Travel Time (s)		7.5			7.7			9.7			17.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	3	15	32	263	19	91	47	623	152	66	476	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	47	0	263	110	0	47	775	0	66	486	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.5	14.5		14.5	14.5		28.2	25.2		29.0	27.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.52	0.46		0.53	0.50	
v/c Ratio	0.01	0.10		0.72	0.22		0.08	0.47		0.16	0.27	
Control Delay	14.7	8.8		30.4	6.8		6.8	12.4		7.4	10.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.7	8.8		30.4	6.8		6.8	12.4		7.4	10.4	
LOS	B	A		C	A		A	B		A	B	
Approach Delay		9.2			23.5			12.1			10.1	
Approach LOS		A			C			B			B	
Queue Length 50th (ft)	1	4		80	5		6	96		9	38	
Queue Length 95th (ft)	6	23		#152	35		19	154		25	97	
Internal Link Dist (ft)		248			260			348			666	
Turn Bay Length (ft)	50			100			100			150		
Base Capacity (vph)	451	611		472	630		556	1638		414	1777	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.08		0.56	0.17		0.08	0.47		0.16	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 54.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 56.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Center Drive & Wilmington Drive



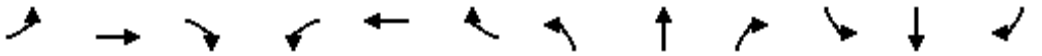
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	22	10	609	389	23
Future Vol, veh/h	8	22	10	609	389	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	2	4	4
Mvmt Flow	10	26	12	725	463	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	864	245	490	0	-	0
Stage 1	477	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.14	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.22	-	-	-
Pot Cap-1 Maneuver	297	762	1070	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	294	762	1070	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1070	-	416	762	-	-
HCM Lane V/C Ratio	0.011	-	0.023	0.034	-	-
HCM Control Delay (s)	8.4	-	13.9	9.9	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

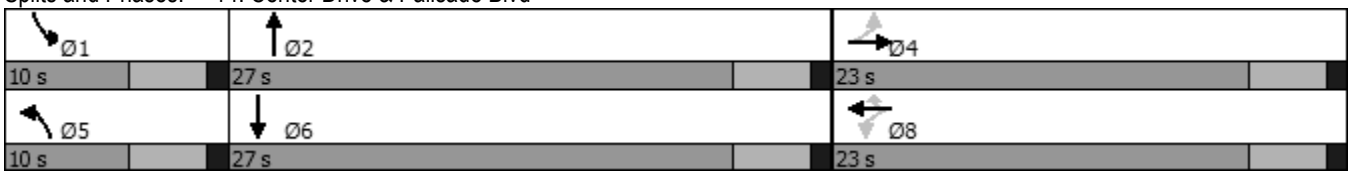


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	24	0	54	2	673	11	35	392	1
Future Volume (vph)	2	0	1	24	0	54	2	673	11	35	392	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.955				0.850		0.998				
Flt Protected		0.968			0.950		0.950			0.950		
Satd. Flow (prot)	0	1756	0	0	1805	1615	1787	3567	0	1736	3471	0
Flt Permitted		0.833					0.950			0.950		
Satd. Flow (perm)	0	1511	0	0	1900	1615	1787	3567	0	1736	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				109		3				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		449			425			647			561	
Travel Time (s)		10.2			9.7			14.7			12.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	4%	4%	4%
Adj. Flow (vph)	2	0	1	26	0	59	2	740	12	38	431	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	26	59	2	752	0	38	432	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5	5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		6.4			6.4	6.4	5.5	32.7		5.5	34.6	
Actuated g/C Ratio		0.14			0.14	0.14	0.12	0.72		0.12	0.76	
v/c Ratio		0.01			0.10	0.18	0.01	0.29		0.18	0.16	
Control Delay		0.0			18.8	3.2	19.5	6.0		21.7	4.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.0			18.8	3.2	19.5	6.0		21.7	4.3	
LOS		A			B	A	B	A		C	A	
Approach Delay					8.0			6.0			5.7	
Approach LOS					A			A			A	
Queue Length 50th (ft)		0			6	0	1	32		9	16	
Queue Length 95th (ft)		0			23	10	5	108		32	61	
Internal Link Dist (ft)		369			345			567			481	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		680			774	723	216	2562		210	2636	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.00			0.03	0.08	0.01	0.29		0.18	0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45.6			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Center Drive & Palisade Blvd



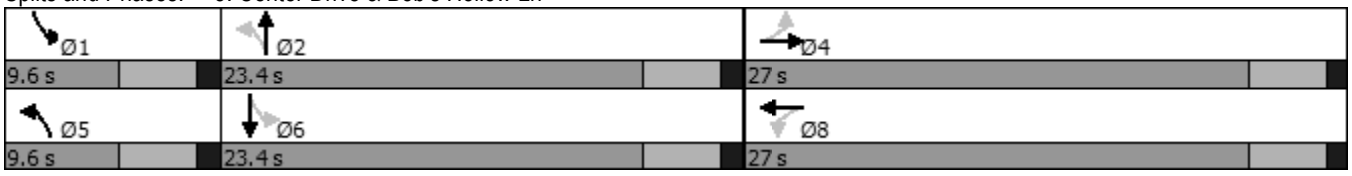
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	18	123	30	16	11	63	451	14	6	234	197
Future Volume (vph)	205	18	123	30	16	11	63	451	14	6	234	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.952			0.973			0.996			0.931	
Flt Protected		0.971			0.975		0.950			0.950		
Satd. Flow (prot)	0	1705	0	0	1802	0	1770	3525	0	1752	3263	0
Flt Permitted		0.777			0.782		0.381			0.429		
Satd. Flow (perm)	0	1365	0	0	1446	0	710	3525	0	791	3263	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			14			5			243	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		283			277			824			647	
Travel Time (s)		6.4			6.3			18.7			14.7	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	253	22	152	37	20	14	78	557	17	7	289	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	427	0	0	71	0	78	574	0	7	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	27.0	27.0		27.0	27.0		9.6	23.4		9.6	23.4	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		16.0%	39.0%		16.0%	39.0%	
Maximum Green (s)	22.5	22.5		22.5	22.5		5.1	18.9		5.1	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		18.5			18.5		23.8	23.0		22.3	19.6	
Actuated g/C Ratio		0.35			0.35		0.45	0.44		0.42	0.37	
v/c Ratio		0.83			0.14		0.18	0.37		0.02	0.39	
Control Delay		30.2			11.1		9.8	12.2		8.7	8.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		30.2			11.1		9.8	12.2		8.7	8.9	
LOS		C			B		A	B		A	A	
Approach Delay		30.2			11.1			11.9			8.9	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)		116			13		14	63		1	40	
Queue Length 95th (ft)		#194			31		30	113		6	62	
Internal Link Dist (ft)		203			197			744			567	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		636			650		429	1544		432	1370	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.67			0.11		0.18	0.37		0.02	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 54.0%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Center Drive & Bob's Hollow Ln



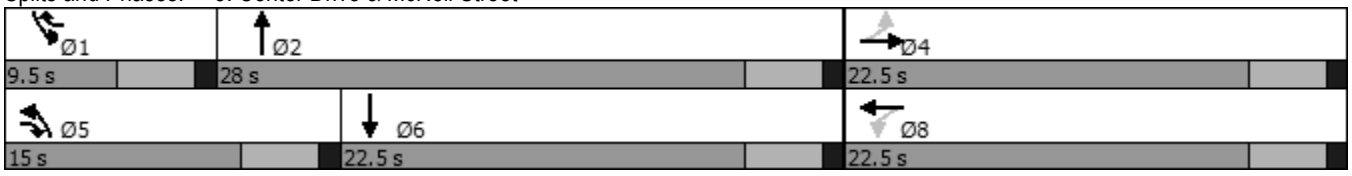
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	61	446	37	28	29	134	413	90	25	377	30
Future Volume (vph)	118	61	446	37	28	29	134	413	90	25	377	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		150	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.973			0.989	
Flt Protected		0.968			0.972		0.950			0.950		
Satd. Flow (prot)	0	1821	1599	0	1776	1553	1787	3478	0	1787	3535	0
Flt Permitted		0.761			0.749		0.950			0.950		
Satd. Flow (perm)	0	1432	1599	0	1368	1553	1787	3478	0	1787	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			460			191		51			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			525			746			824	
Travel Time (s)		12.8			11.9			17.0			18.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	122	63	460	38	29	30	138	426	93	26	389	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	460	0	67	30	138	519	0	26	420	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Over	Perm	NA	Over	Prot	NA		Prot	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	15.0	22.5	22.5	9.5	15.0	28.0		9.5	22.5	
Total Split (%)	37.5%	37.5%	25.0%	37.5%	37.5%	15.8%	25.0%	46.7%		15.8%	37.5%	
Maximum Green (s)	18.0	18.0	10.5	18.0	18.0	5.0	10.5	23.5		5.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		11.8	8.8		11.5	5.2	8.8	28.8		5.2	19.0	
Actuated g/C Ratio		0.23	0.17		0.23	0.10	0.17	0.57		0.10	0.38	
v/c Ratio		0.55	0.70		0.21	0.09	0.44	0.26		0.14	0.31	
Control Delay		24.8	9.5		18.2	0.6	26.0	9.1		26.4	14.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.8	9.5		18.2	0.6	26.0	9.1		26.4	14.0	
LOS		C	A		B	A	C	A		C	B	
Approach Delay		13.9			12.8			12.6			14.7	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		53	0		18	0	40	48		8	48	
Queue Length 95th (ft)		104	#71		44	0	92	93		29	95	
Internal Link Dist (ft)		483			445			666			744	
Turn Bay Length (ft)			350			150	250			150		
Base Capacity (vph)		535	708		511	332	389	2012		185	1344	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.35	0.65		0.13	0.09	0.35	0.26		0.14	0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Center Drive & McNeil Street

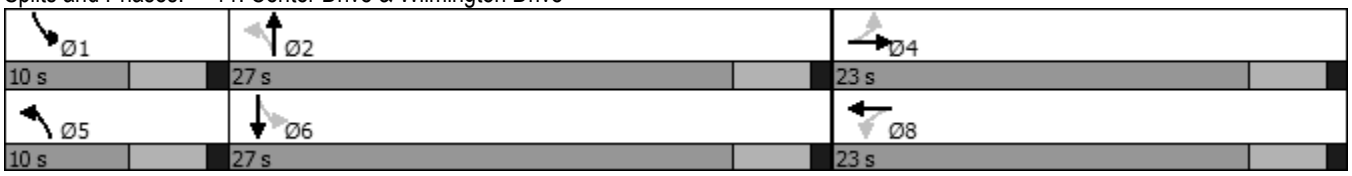


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	19	48	102	17	49	71	580	163	63	771	20
Future Volume (vph)	3	19	48	102	17	49	71	580	163	63	771	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.893			0.889			0.967			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1680	0	1787	1672	0	1787	3456	0	1787	3560	0
Flt Permitted	0.714			0.713			0.312			0.335		
Satd. Flow (perm)	1343	1680	0	1341	1672	0	587	3456	0	630	3560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			49			69			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		328			340			428			746	
Travel Time (s)		7.5			7.7			9.7			17.0	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	3	19	48	103	17	49	72	586	165	64	779	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	67	0	103	66	0	72	751	0	64	799	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.0	9.0		9.0	9.0		29.7	27.7		29.7	27.7	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.62	0.58		0.62	0.58	
v/c Ratio	0.01	0.19		0.41	0.19		0.14	0.37		0.12	0.39	
Control Delay	16.3	9.8		23.0	9.5		5.0	8.8		4.9	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.3	9.8		23.0	9.5		5.0	8.8		4.9	9.7	
LOS	B	A		C	A		A	A		A	A	
Approach Delay		10.1			17.7			8.4			9.3	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	1	5		28	4		6	68		6	82	
Queue Length 95th (ft)	6	29		63	29		21	124		19	143	
Internal Link Dist (ft)		248			260			348			666	
Turn Bay Length (ft)	50			100			100			150		
Base Capacity (vph)	526	687		525	684		502	2022		524	2055	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.10		0.20	0.10		0.14	0.37		0.12	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 48			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Center Drive & Wilmington Drive



Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	7	24	377	776	40
Future Vol, veh/h	16	7	24	377	776	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	18	8	26	414	853	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	449	897	0	-	0
Stage 1	875	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.12	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.21	-	-	-
Pot Cap-1 Maneuver	199	563	759	-	-	-
Stage 1	373	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	563	759	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.1	0.6	0
HCM LOS	C		

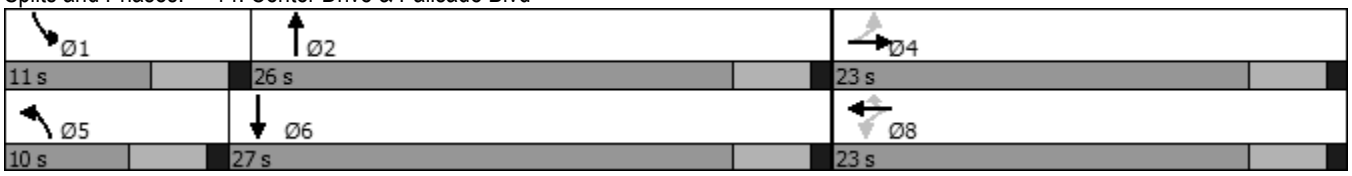
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	759	-	293	563	-	-
HCM Lane V/C Ratio	0.035	-	0.06	0.014	-	-
HCM Control Delay (s)	9.9	-	18.1	11.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	18	31	0	31	1	355	31	52	770	7
Future Volume (vph)	7	0	18	31	0	31	1	355	31	52	770	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.902				0.850		0.988			0.999	
Flt Protected		0.986			0.950		0.950			0.950		
Satd. Flow (prot)	0	1690	0	0	1805	1615	1770	3497	0	1787	3571	0
Flt Permitted		0.894			0.930		0.950			0.950		
Satd. Flow (perm)	0	1532	0	0	1767	1615	1770	3497	0	1787	3571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				109		17			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		414			417			686			577	
Travel Time (s)		9.4			9.5			15.6			13.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	8	0	21	36	0	36	1	408	36	60	885	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	0	36	36	1	444	0	60	893	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	10.0	26.0		11.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	16.7%	43.3%		18.3%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5	5.5	21.5		6.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		6.7			6.8	6.8	5.5	30.6		6.2	35.0	
Actuated g/C Ratio		0.15			0.15	0.15	0.12	0.66		0.13	0.76	
v/c Ratio		0.09			0.14	0.11	0.00	0.19		0.25	0.33	
Control Delay		0.6			19.3	0.7	20.0	7.0		22.0	5.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.6			19.3	0.7	20.0	7.0		22.0	5.1	
LOS		A			B	A	B	A		C	A	
Approach Delay		0.6			10.0			7.0			6.1	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		0			9	0	0	36		15	42	
Queue Length 95th (ft)		0			27	0	4	63		42	132	
Internal Link Dist (ft)		334			337			606			497	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		681			711	715	211	2324		252	2706	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.05	0.05	0.00	0.19		0.24	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 6.5		Intersection LOS: A	
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Center Drive & Palisade Blvd

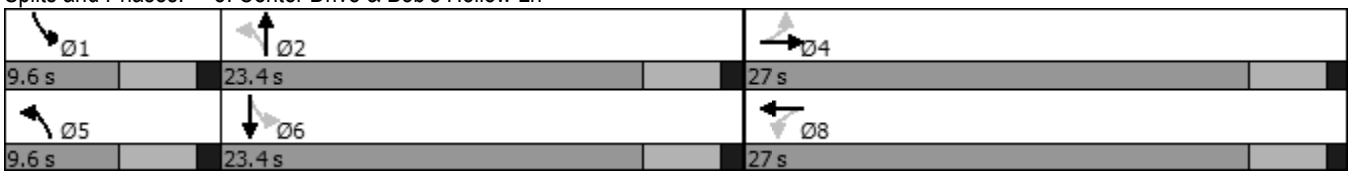


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	14	26	16	21	8	46	283	45	14	591	187
Future Volume (vph)	101	14	26	16	21	8	46	283	45	14	591	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.977			0.979			0.964	
Flt Protected		0.966			0.982		0.950			0.950		
Satd. Flow (prot)	0	1721	0	0	1720	0	1770	3465	0	1787	3446	0
Flt Permitted		0.758			0.888		0.295			0.546		
Satd. Flow (perm)	0	1350	0	0	1555	0	550	3465	0	1027	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			8			31			74	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		283			277			824			686	
Travel Time (s)		6.4			6.3			18.7			15.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	105	15	27	17	22	8	48	295	47	15	616	195
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	0	0	47	0	48	342	0	15	811	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	27.0	27.0		27.0	27.0		9.6	23.4		9.6	23.4	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		16.0%	39.0%		16.0%	39.0%	
Maximum Green (s)	22.5	22.5		22.5	22.5		5.1	18.9		5.1	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.5			9.4		26.3	26.5		25.5	24.8	
Actuated g/C Ratio		0.22			0.22		0.61	0.61		0.59	0.57	
v/c Ratio		0.47			0.14		0.10	0.16		0.02	0.41	
Control Delay		18.6			13.2		5.5	6.4		5.1	8.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		18.6			13.2		5.5	6.4		5.1	8.9	
LOS		B			B		A	A		A	A	
Approach Delay		18.6			13.2			6.3			8.8	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		21			6		4	15		1	43	
Queue Length 95th (ft)		71			28		17	57		8	141	
Internal Link Dist (ft)		203			197			744			606	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		722			824		479	2124		694	1997	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.20			0.06		0.10	0.16		0.02	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 43.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Center Drive & Bob's Hollow Ln



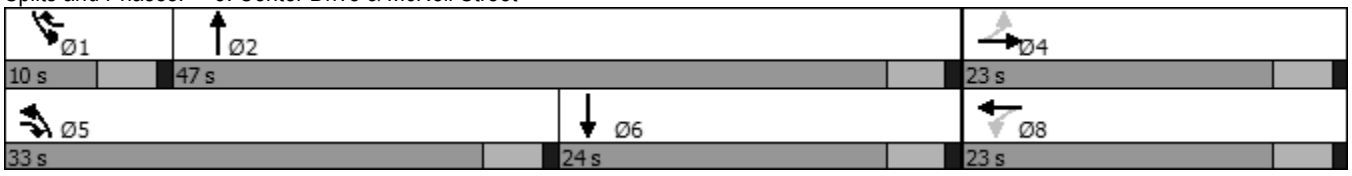
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	46	192	75	83	43	477	317	28	49	502	102
Future Volume (vph)	62	46	192	75	83	43	477	317	28	49	502	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		150	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.988			0.975	
Flt Protected		0.972			0.977		0.950			0.950		
Satd. Flow (prot)	0	1776	1553	0	1802	1568	1770	3497	0	1787	3485	0
Flt Permitted		0.668			0.795		0.950			0.950		
Satd. Flow (perm)	0	1220	1553	0	1467	1568	1770	3497	0	1787	3485	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			143		17			28	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			525			746			824	
Travel Time (s)		12.8			11.9			17.0			18.7	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	63	46	194	76	84	43	482	320	28	49	507	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	194	0	160	43	482	348	0	49	610	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Over	Perm	NA	Over	Prot	NA		Prot	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0	33.0	23.0	23.0	10.0	33.0	47.0		10.0	24.0	
Total Split (%)	28.8%	28.8%	41.3%	28.8%	28.8%	12.5%	41.3%	58.8%		12.5%	30.0%	
Maximum Green (s)	18.5	18.5	28.5	18.5	18.5	5.5	28.5	42.5		5.5	19.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		12.9	23.4		12.9	5.6	23.4	43.0		5.6	22.6	
Actuated g/C Ratio		0.18	0.32		0.18	0.08	0.32	0.59		0.08	0.31	
v/c Ratio		0.50	0.31		0.62	0.17	0.84	0.17		0.36	0.55	
Control Delay		36.1	4.4		38.8	1.5	37.9	7.8		42.2	24.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		36.1	4.4		38.8	1.5	37.9	7.8		42.2	24.0	
LOS		D	A		D	A	D	A		D	C	
Approach Delay		15.8			30.9			25.3			25.4	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)		46	0		69	0	201	35		22	117	
Queue Length 95th (ft)		93	41		128	0	#356	64		57	197	
Internal Link Dist (ft)		483			445			666			744	
Turn Bay Length (ft)			350			150	250			150		
Base Capacity (vph)		314	733		378	252	702	2077		136	1105	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.35	0.26		0.42	0.17	0.69	0.17		0.36	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 72.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 70.0%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Center Drive & McNeil Street



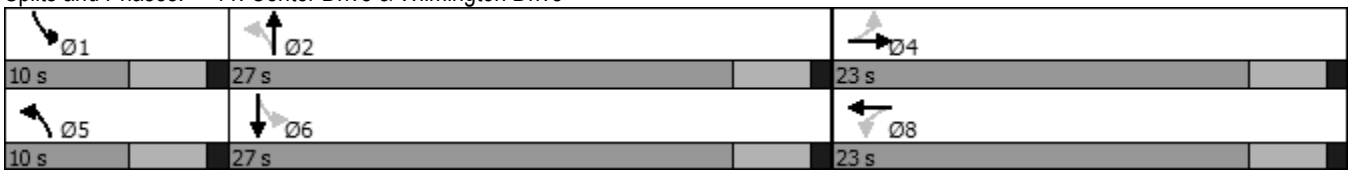
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	15	31	260	19	99	46	724	152	84	679	9
Future Volume (vph)	3	15	31	260	19	99	46	724	152	84	679	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.899			0.874			0.974			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1708	0	1787	1644	0	1787	3481	0	1787	3567	0
Flt Permitted	0.676			0.725			0.323			0.198		
Satd. Flow (perm)	1284	1708	0	1364	1644	0	608	3481	0	372	3567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			106			47			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		328			340			428			746	
Travel Time (s)		7.5			7.7			9.7			17.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	3	16	33	280	20	106	49	778	163	90	730	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	49	0	280	126	0	49	941	0	90	740	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	15.3	15.3		15.3	15.3		28.5	24.3		29.5	26.3	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.51	0.43		0.52	0.47	
v/c Ratio	0.01	0.10		0.76	0.24		0.12	0.62		0.27	0.44	
Control Delay	14.7	8.7		33.5	6.5		7.2	15.6		8.8	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.7	8.7		33.5	6.5		7.2	15.6		8.8	13.2	
LOS	B	A		C	A		A	B		A	B	
Approach Delay		9.0			25.1			15.2			12.7	
Approach LOS		A			C			B			B	
Queue Length 50th (ft)	1	4		87	5		7	134		13	102	
Queue Length 95th (ft)	6	24		#182	37		20	201		32	154	
Internal Link Dist (ft)		248			260			348			666	
Turn Bay Length (ft)	50			100			100			150		
Base Capacity (vph)	423	586		450	613		423	1526		333	1667	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.08		0.62	0.21		0.12	0.62		0.27	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 56.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Center Drive & Wilmington Drive



Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	29	35	609	389	31
Future Vol, veh/h	11	29	35	609	389	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	2	2	4	4
Mvmt Flow	13	35	42	725	463	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	929	250	500	0	-	0
Stage 1	482	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.14	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.22	-	-	-
Pot Cap-1 Maneuver	270	756	1060	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	259	756	1060	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.5	0
HCM LOS	B		

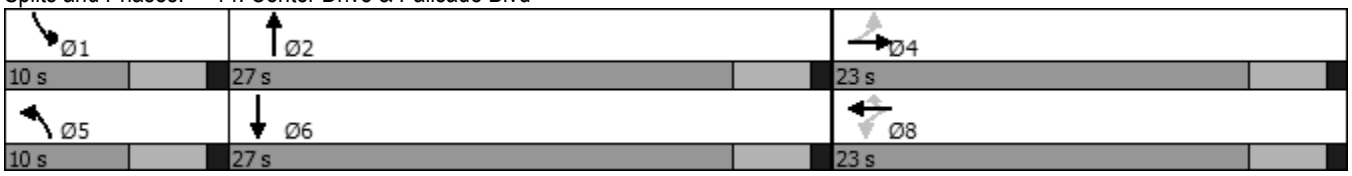
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1060	-	379	756	-	-
HCM Lane V/C Ratio	0.039	-	0.035	0.046	-	-
HCM Control Delay (s)	8.5	-	14.8	10	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

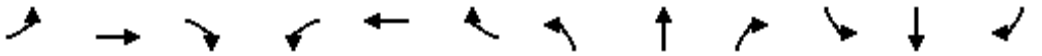
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	24	0	54	2	698	11	35	399	1
Future Volume (vph)	2	0	1	24	0	54	2	698	11	35	399	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.955				0.850		0.998				
Flt Protected		0.968			0.950		0.950			0.950		
Satd. Flow (prot)	0	1756	0	0	1805	1615	1787	3567	0	1736	3471	0
Flt Permitted		0.833					0.950			0.950		
Satd. Flow (perm)	0	1511	0	0	1900	1615	1787	3567	0	1736	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				109		3				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		449			425			647			561	
Travel Time (s)		10.2			9.7			14.7			12.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	4%	4%	4%
Adj. Flow (vph)	2	0	1	26	0	59	2	767	12	38	438	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	26	59	2	779	0	38	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5	5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		6.4			6.4	6.4	5.5	32.7		5.5	34.6	
Actuated g/C Ratio		0.14			0.14	0.14	0.12	0.72		0.12	0.76	
v/c Ratio		0.01			0.10	0.18	0.01	0.30		0.18	0.17	
Control Delay		0.0			18.8	3.2	19.5	6.1		21.7	4.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.0			18.8	3.2	19.5	6.1		21.7	4.3	
LOS		A			B	A	B	A		C	A	
Approach Delay					8.0			6.1			5.7	
Approach LOS					A			A			A	
Queue Length 50th (ft)		0			6	0	1	33		9	16	
Queue Length 95th (ft)		0			23	10	5	113		32	62	
Internal Link Dist (ft)		369			345			567			481	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		680			774	723	216	2562		210	2636	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.00			0.03	0.08	0.01	0.30		0.18	0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45.6			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Center Drive & Palisade Blvd



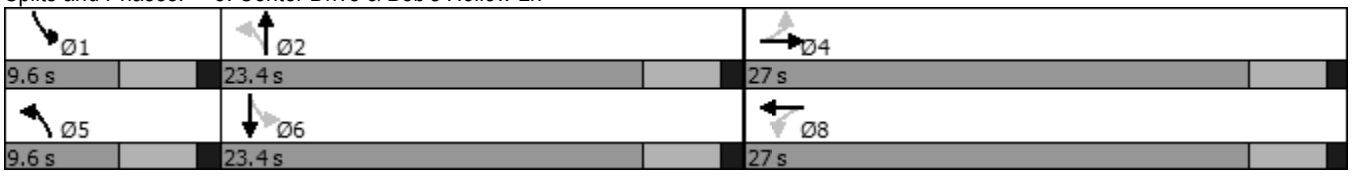


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	18	123	30	16	11	63	474	14	6	240	198
Future Volume (vph)	207	18	123	30	16	11	63	474	14	6	240	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.952			0.973			0.996			0.932	
Flt Protected		0.971			0.975		0.950			0.950		
Satd. Flow (prot)	0	1705	0	0	1802	0	1770	3525	0	1752	3267	0
Flt Permitted		0.776			0.782		0.375			0.409		
Satd. Flow (perm)	0	1363	0	0	1446	0	699	3525	0	754	3267	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			14			5			244	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		283			277			824			647	
Travel Time (s)		6.4			6.3			18.7			14.7	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	256	22	152	37	20	14	78	585	17	7	296	244
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	430	0	0	71	0	78	602	0	7	540	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	27.0	27.0		27.0	27.0		9.6	23.4		9.6	23.4	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		16.0%	39.0%		16.0%	39.0%	
Maximum Green (s)	22.5	22.5		22.5	22.5		5.1	18.9		5.1	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		18.6			18.6		23.8	22.9		22.2	19.5	
Actuated g/C Ratio		0.35			0.35		0.45	0.44		0.42	0.37	
v/c Ratio		0.83			0.14		0.18	0.39		0.02	0.39	
Control Delay		30.8			11.1		9.8	12.4		8.7	9.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		30.8			11.1		9.8	12.4		8.7	9.0	
LOS		C			B		A	B		A	A	
Approach Delay		30.8			11.1			12.1			9.0	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)		118			13		14	67		1	41	
Queue Length 95th (ft)		#200			31		30	119		6	64	
Internal Link Dist (ft)		203			197			744			567	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		633			648		424	1541		419	1369	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.68			0.11		0.18	0.39		0.02	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Center Drive & Bob's Hollow Ln



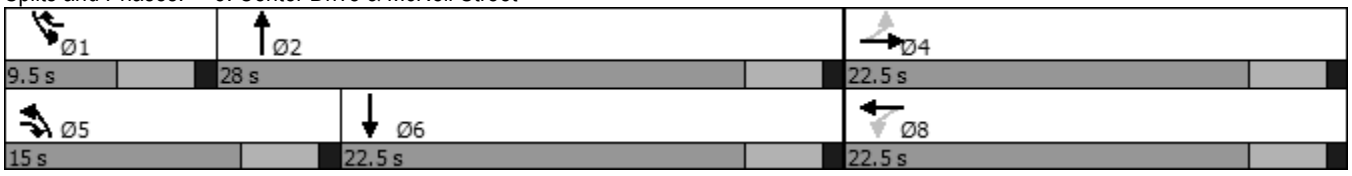
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	61	446	37	28	29	134	434	90	25	383	30
Future Volume (vph)	120	61	446	37	28	29	134	434	90	25	383	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		150	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.974			0.989	
Flt Protected		0.968			0.972		0.950			0.950		
Satd. Flow (prot)	0	1821	1599	0	1776	1553	1787	3481	0	1787	3535	0
Flt Permitted		0.760			0.749		0.950			0.950		
Satd. Flow (perm)	0	1430	1599	0	1368	1553	1787	3481	0	1787	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			460			191		48			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			525			746			824	
Travel Time (s)		12.8			11.9			17.0			18.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	124	63	460	38	29	30	138	447	93	26	395	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	460	0	67	30	138	540	0	26	426	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Over	Perm	NA	Over	Prot	NA		Prot	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	15.0	22.5	22.5	9.5	15.0	28.0		9.5	22.5	
Total Split (%)	37.5%	37.5%	25.0%	37.5%	37.5%	15.8%	25.0%	46.7%		15.8%	37.5%	
Maximum Green (s)	18.0	18.0	10.5	18.0	18.0	5.0	10.5	23.5		5.0	18.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	

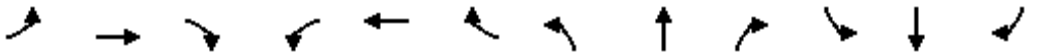
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		11.9	8.8		11.6	5.2	8.8	28.9		5.2	19.1	
Actuated g/C Ratio		0.24	0.17		0.23	0.10	0.17	0.57		0.10	0.38	
v/c Ratio		0.56	0.70		0.21	0.09	0.44	0.27		0.14	0.32	
Control Delay		25.0	9.5		18.2	0.6	26.0	9.2		26.4	14.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		25.0	9.5		18.2	0.6	26.0	9.2		26.4	14.0	
LOS		C	A		B	A	C	A		C	B	
Approach Delay		13.9			12.8			12.7			14.7	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		54	0		18	0	40	51		8	49	
Queue Length 95th (ft)		105	#71		44	0	92	98		29	96	
Internal Link Dist (ft)		483			445			666			744	
Turn Bay Length (ft)			350			150	250			150		
Base Capacity (vph)		534	708		510	332	389	2011		185	1343	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.35	0.65		0.13	0.09	0.35	0.27		0.14	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 54.6%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Center Drive & McNeil Street



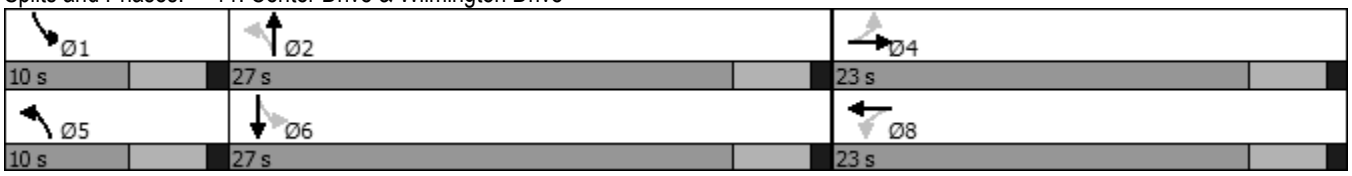


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	19	48	102	17	49	71	601	163	63	777	20
Future Volume (vph)	3	19	48	102	17	49	71	601	163	63	777	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.893			0.889			0.968			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1680	0	1787	1672	0	1787	3460	0	1787	3560	0
Flt Permitted	0.714			0.713			0.309			0.325		
Satd. Flow (perm)	1343	1680	0	1341	1672	0	581	3460	0	611	3560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			49			66			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		328			340			428			746	
Travel Time (s)		7.5			7.7			9.7			17.0	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	3	19	48	103	17	49	72	607	165	64	785	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	67	0	103	66	0	72	772	0	64	805	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.0	9.0		9.0	9.0		29.7	27.7		29.7	27.7	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.62	0.58		0.62	0.58	
v/c Ratio	0.01	0.19		0.41	0.19		0.14	0.38		0.12	0.39	
Control Delay	16.3	9.8		23.0	9.5		5.1	8.9		4.9	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.3	9.8		23.0	9.5		5.1	8.9		4.9	9.7	
LOS	B	A		C	A		A	A		A	A	
Approach Delay		10.1			17.7			8.6			9.4	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	1	5		28	4		6	71		6	83	
Queue Length 95th (ft)	6	29		63	29		21	129		19	145	
Internal Link Dist (ft)		248			260			348			666	
Turn Bay Length (ft)	50			100			100			150		
Base Capacity (vph)	526	687		525	684		499	2023		514	2055	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.10		0.20	0.10		0.14	0.38		0.12	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 48			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 49.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Center Drive & Wilmington Drive



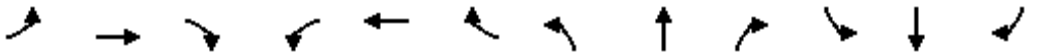
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	34	34	377	776	43
Future Vol, veh/h	25	34	34	377	776	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	27	37	37	414	853	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1158	450	900	0	-	0
Stage 1	877	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.12	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.21	-	-	-
Pot Cap-1 Maneuver	192	562	757	-	-	-
Stage 1	372	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	183	562	757	-	-	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	354	-	-	-	-	-
Stage 2	747	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	757	-	285	562	-	-
HCM Lane V/C Ratio	0.049	-	0.096	0.066	-	-
HCM Control Delay (s)	10	-	19	11.9	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.2	-	-

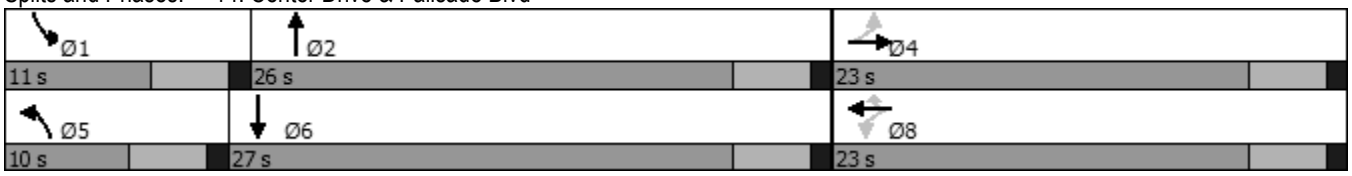


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	18	31	0	31	1	365	31	52	797	7
Future Volume (vph)	7	0	18	31	0	31	1	365	31	52	797	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.902				0.850		0.988			0.999	
Flt Protected		0.986			0.950		0.950			0.950		
Satd. Flow (prot)	0	1690	0	0	1805	1615	1770	3497	0	1787	3571	0
Flt Permitted		0.894			0.930		0.950			0.950		
Satd. Flow (perm)	0	1532	0	0	1767	1615	1770	3497	0	1787	3571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				109		17			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		414			417			686			577	
Travel Time (s)		9.4			9.5			15.6			13.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	8	0	21	36	0	36	1	420	36	60	916	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	0	36	36	1	456	0	60	924	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0	10.0	26.0		11.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	16.7%	43.3%		18.3%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5	5.5	21.5		6.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		6.7			6.8	6.8	5.5	30.6		6.2	35.0	
Actuated g/C Ratio		0.15			0.15	0.15	0.12	0.66		0.13	0.76	
v/c Ratio		0.09			0.14	0.11	0.00	0.20		0.25	0.34	
Control Delay		0.6			19.3	0.7	20.0	7.0		22.0	5.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.6			19.3	0.7	20.0	7.0		22.0	5.1	
LOS		A			B	A	B	A		C	A	
Approach Delay		0.6			10.0			7.0			6.2	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		0			9	0	0	37		15	43	
Queue Length 95th (ft)		0			27	0	4	64		42	138	
Internal Link Dist (ft)		334			337			606			497	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		681			711	715	211	2324		252	2706	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.04			0.05	0.05	0.00	0.20		0.24	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 6.5		Intersection LOS: A	
Intersection Capacity Utilization 45.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Center Drive & Palisade Blvd

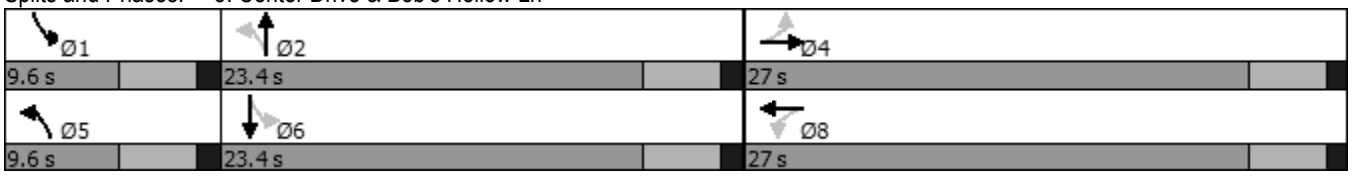


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	14	26	16	21	8	46	292	45	14	616	189
Future Volume (vph)	102	14	26	16	21	8	46	292	45	14	616	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.977			0.980			0.965	
Flt Protected		0.965			0.982		0.950			0.950		
Satd. Flow (prot)	0	1719	0	0	1720	0	1770	3468	0	1787	3449	0
Flt Permitted		0.758			0.888		0.282			0.541		
Satd. Flow (perm)	0	1350	0	0	1555	0	525	3468	0	1018	3449	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			8			30			70	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		283			277			824			686	
Travel Time (s)		6.4			6.3			18.7			15.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	106	15	27	17	22	8	48	304	47	15	642	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	47	0	48	351	0	15	839	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	27.0	27.0		27.0	27.0		9.6	23.4		9.6	23.4	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		16.0%	39.0%		16.0%	39.0%	
Maximum Green (s)	22.5	22.5		22.5	22.5		5.1	18.9		5.1	18.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.5			9.5		26.3	26.4		25.5	24.7	
Actuated g/C Ratio		0.22			0.22		0.61	0.61		0.59	0.57	
v/c Ratio		0.47			0.14		0.10	0.17		0.02	0.42	
Control Delay		18.7			13.1		5.5	6.5		5.2	9.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		18.7			13.1		5.5	6.5		5.2	9.1	
LOS		B			B		A	A		A	A	
Approach Delay		18.7			13.1			6.3			9.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		21			6		4	16		1	45	
Queue Length 95th (ft)		72			28		17	60		8	148	
Internal Link Dist (ft)		203			197			744			606	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		721			823		466	2123		689	1994	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.21			0.06		0.10	0.17		0.02	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 43.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Center Drive & Bob's Hollow Ln

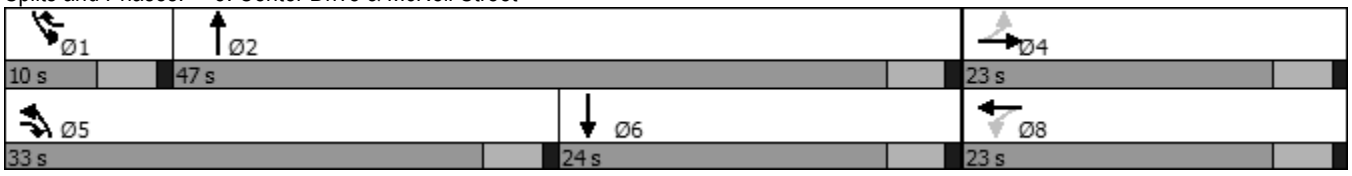


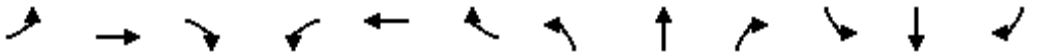
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	46	192	75	83	43	477	325	28	49	525	104
Future Volume (vph)	63	46	192	75	83	43	477	325	28	49	525	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		350	0		150	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.988			0.975	
Flt Protected		0.972			0.977		0.950			0.950		
Satd. Flow (prot)	0	1776	1553	0	1802	1568	1770	3497	0	1787	3485	0
Flt Permitted		0.664			0.794		0.950			0.950		
Satd. Flow (perm)	0	1213	1553	0	1465	1568	1770	3497	0	1787	3485	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			143		17			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		563			525			746			824	
Travel Time (s)		12.8			11.9			17.0			18.7	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	64	46	194	76	84	43	482	328	28	49	530	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	194	0	160	43	482	356	0	49	635	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Over	Perm	NA	Over	Prot	NA		Prot	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0	33.0	23.0	23.0	10.0	33.0	47.0		10.0	24.0	
Total Split (%)	28.8%	28.8%	41.3%	28.8%	28.8%	12.5%	41.3%	58.8%		12.5%	30.0%	
Maximum Green (s)	18.5	18.5	28.5	18.5	18.5	5.5	28.5	42.5		5.5	19.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		12.9	23.4		12.9	5.6	23.4	43.0		5.6	22.6	
Actuated g/C Ratio		0.18	0.32		0.18	0.08	0.32	0.59		0.08	0.31	
v/c Ratio		0.51	0.31		0.62	0.17	0.84	0.17		0.36	0.57	
Control Delay		36.4	4.4		38.9	1.5	37.9	7.9		42.2	24.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		36.4	4.4		38.9	1.5	37.9	7.9		42.2	24.5	
LOS		D	A		D	A	D	A		D	C	
Approach Delay		16.0			31.0			25.2			25.8	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)		47	0		69	0	201	35		22	123	
Queue Length 95th (ft)		94	41		128	0	#356	65		57	206	
Internal Link Dist (ft)		483			445			666			744	
Turn Bay Length (ft)			350			150	250			150		
Base Capacity (vph)		312	733		377	252	702	2077		136	1105	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.35	0.26		0.42	0.17	0.69	0.17		0.36	0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 72.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.6		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Center Drive & McNeil Street



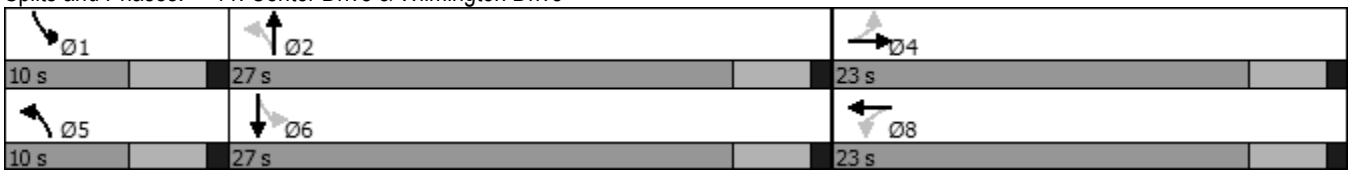


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	15	31	260	19	99	46	732	152	84	702	9
Future Volume (vph)	3	15	31	260	19	99	46	732	152	84	702	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.899			0.874			0.974			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1708	0	1787	1644	0	1787	3481	0	1787	3567	0
Flt Permitted	0.676			0.725			0.310			0.195		
Satd. Flow (perm)	1284	1708	0	1364	1644	0	583	3481	0	367	3567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			106			46			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		328			340			428			746	
Travel Time (s)		7.5			7.7			9.7			17.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	3	16	33	280	20	106	49	787	163	90	755	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	49	0	280	126	0	49	950	0	90	765	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	15.3	15.3		15.3	15.3		28.5	24.3		29.5	26.3	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.51	0.43		0.52	0.47	
v/c Ratio	0.01	0.10		0.76	0.24		0.12	0.62		0.27	0.46	
Control Delay	14.7	8.7		33.5	6.5		7.2	15.7		8.8	13.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.7	8.7		33.5	6.5		7.2	15.7		8.8	13.4	
LOS	B	A		C	A		A	B		A	B	
Approach Delay		9.0			25.1			15.3			12.9	
Approach LOS		A			C			B			B	
Queue Length 50th (ft)	1	4		87	5		7	136		13	107	
Queue Length 95th (ft)	6	24		#182	37		20	203		32	161	
Internal Link Dist (ft)		248			260			348			666	
Turn Bay Length (ft)	50			100			100			150		
Base Capacity (vph)	423	586		450	613		413	1526		331	1666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.08		0.62	0.21		0.12	0.62		0.27	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 56.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Center Drive & Wilmington Drive



GeoEngineers
1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

May 11, 2018

DuPont Industrial Partners, LLC
C/O Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, Washington 98032

Attention: Dan Balmelli, PE

Subject: Report Addendum
Geotechnical Engineering Services
DuPont Industrial Warehouse
DuPont, Washington
File No. 16785-003-01

INTRODUCTION AND PROJECT UNDERSTANDING

This report addendum presents supplemental geotechnical recommendations and considerations for the DuPont Industrial Warehouse (previously titled as Lot "Y" Industrial Park). As part of this addendum, we are addressing comments in the City of DuPont Type III Site Plan Review and SEPA Environmental Review (PLNG 2018-008, -009) letter dated February 23, 2018. We have prepaired a geotechnical study dated October 10, 2011 for this project (October report). We understand that plans are underway to design and construct two (approximately 130,000 square feet each) industrial buildings (Building A and Building B) in the west portion of the site. Finished floor will be near Elevation 214 to 215 feet (NGVD29). Additional improvements will include site grading, installation of utilities, asphalt paving and construction of retaining structures. We include a revised and updated Site Plan with the proposed buildings and construction, attached as Figure 1.

We have reviewed preliminary civil engineering plan sheets C1 through C13 (civil plans). We understand that a retaining wall will be constructed south of Building B. The retaining wall will be located in a current ravine/depression area that will retain fill as part of site grading. The retaining wall is also just north of the border of a 50-foot setback boundary or buffer from the steep slopes located north of the property. The wall foundations of the retaining wall may encroach into the buffer. From the grading plan, it appears that the retaining wall will retain approximately 7 feet of fill at it's deepest point and taper off in the east and west direction.

Attachment 2.g. Geotechnical Report Addendum for Lot Y prepared by GeoEngineers dated May 11, 2018

CONCLUSIONS AND RECOMMENDATIONS

Encroachment Into Buffer Setback Area

Based on our review of proposed plans and subsurface explorations completed as part of our October study, we provide the following:

- It is our opinion that the proposed final site development condition, as reviewed, will not create a hazard to the subject property, surrounding properties, erosion, or sedimentation to off-site properties or bodies of water. The property will be paved and stormwater will be managed and directed into stormwater infiltration galleries. The proposed construction appears to eliminate the potential for erosion and channeling of water onto the slope area.
- Proper erosion and sedimentation will be required during construction. A temporary erosion and sedimentation control (TESC) plan has been developed for the subject site (sheets C2, C3, and C4 of the civil plans). This plan includes TESC measures that surround the proposed retaining structure. Temporary slope inclinations, protection of temporary slopes and erosion control recommendations are provided in our report and should be followed during construction.
- Additional construction recommendations presented in DMC 25.105.04(2)(c) should be implemented during physical grading and site development. These include minimizing erosion and landslide potential and minimizing disruption of the existing topography and natural vegetation. Care should be taken to cut slopes at inclinations recommended in our report and disturb only areas required to complete the work. Contractors completing earthwork should be made aware of the requirements presented in the DMC 25.105.02(2)(c).
- Final erosion control measures, once construction is complete, should include provisions as described in our October report.
- Because the retaining wall will be constructed between a sloping ravine, foundation elements for the retaining wall should be embeded deep enough such that a 2H to 1V (horizontal:vertical) slope from the lowest outermost foundation element is maintained from the toe of surrounding slopes. This may require additional excavation for the foundation and subsequent burying of portions of the retaining wall. Subgrade and bearing surface preparation recommendations presented in our October report should be followed.

UPDATED SEISMIC DESIGN CONSIDERATIONS

During preparation of our report, the 2009 International Building Code (IBC) was cited for seismic design criteria. Based on the 2015 IBC, we still conclude that the site may be characterized as Class C. Seismic design parameters in accordance with the 2015 IBC are provided in Table 1 below.

TABLE 1. 2015 IBC SEISMIC DESIGN VALUES

Site Coefficient	Site Factor	MCE[1] Spectral Response	Design Spectral Response
S_s = 1.304 g	F_a = 1.000	S_{MS} = 1.304 g	S_{DS} = 0.869 g
S_1 = 0.520 g	F_v = 1.300	S_{M1} = 0.676 g	S_{D1} = 0.451 g

Note:

[1] MCE = Maximum Considered Earthquake

Based on our understanding of site conditions, we recommend using a peak ground acceleration (PGA) equal to 0.5g as determined in accordance with Section 11.8.3 of American Society of Civil Engineers (ASCE) Standard 7-10. This is the same value as sited in the 2009 IBC.

USE OF PREVIOUS REPORT

Except as modified herin, we conclude that the recommendations and design considerations presented in our Ocbober 10, 2011 are still appropriate for this site and may be used for this project.

LIMITATIONS

We have prepared this report addendum for DuPont Industrial Partners LLC and Barghausen Engineers Inc. for the DuPont Industrial Warehouse project. The client may distribute copies of this report addendum to owner and owner's authorized agents and regulatory agencies as may be required for the project.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices for geotechnical engineering services in this area at the time this report addendum was prepared. The conclusions, recommendations, and opinions presented in this report addendum are based on our professional knowledge, judgment and experience. No warranty, express or implied, applies to the services or this report addendum.

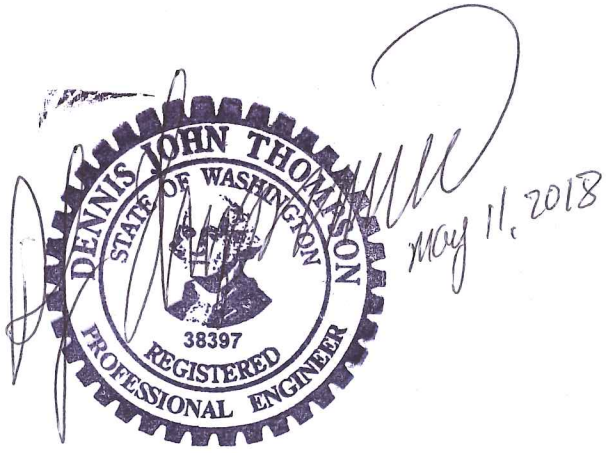
The limitations presented in our October 11, 2011 report apply to this addendum. Please refer to Appendix B titled "Report Limitations and Guidelines for Use" of our October 11, 2011 Geotechnical Engineering Services Report for additional information pertaining to use of this report addendum.

Respectfully Submitted,
GeoEngineers, Inc.

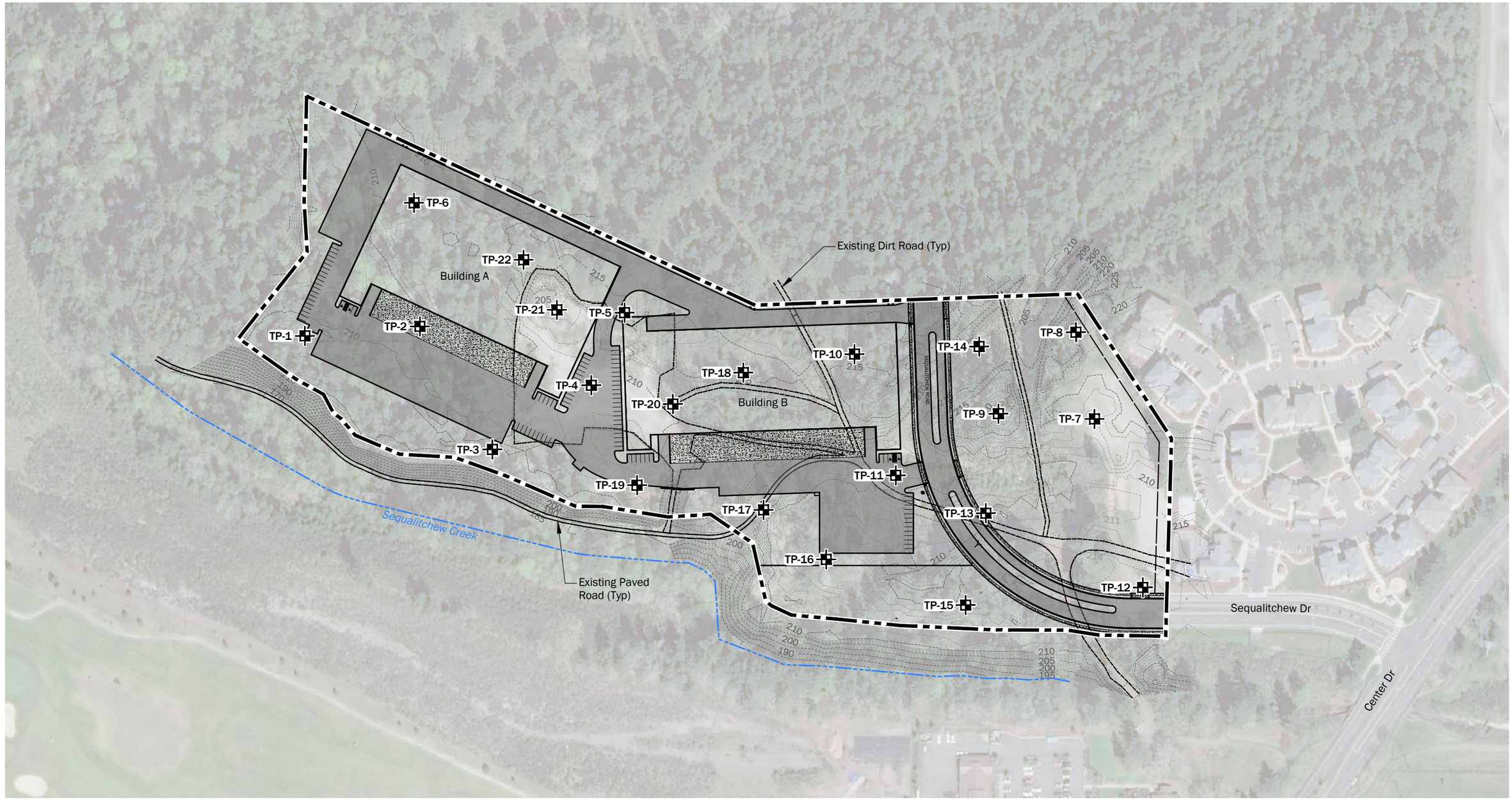
Dennis (DJ) Thompson, PE
Associate

DJT:tt

Attachment:
Figure 1 – Vicinity Map



Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source:
Aerial from Microsoft Bing. Survey background from Barghausen Consulting Engineers, Inc dated 8/8/2011. Proposed Plan from Barghausen Consulting Engineers, Inc dated 9/17/17.

Projection: Washington State Plane, South Zone, NAD83, US Foot

Legend

Site Boundary

TP-X Test Pit

N W E S

200 0 200
Feet

Site Plan

Lot Y Industrial Park
DuPont, Washington

GeoEngineers

Figure 1

P:\16\16785003\CAD\00\GeoTech Report\16785003_F02_Site Plan.dwg TAB:F02 Date Exported: 05/04/18 - 12:49 by cstickel

CULTURAL RESOURCES REPORT COVER SHEET

Author: N. Sikes and C. Arrington
Title of Report: Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455, and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, DuPont, Washington

Date of Report: 4-14-2011

County(ies): Pierce Section: 26 Township: 19 N Range: 01E

Quad: Nisqually (1981) Acres: 25.3

PDF of report submitted (REQUIRED) ☒ Yes

Historic Property Export Files submitted? ☐ Yes ☒ No

Archaeological Site(s)/Isolate(s) Found or Amended? ☒ Yes ☐ No

TCP(s) found? ☐ Yes ☒ No

Replace a draft? ☒ Yes ☐ No

Satisfy a DAHP Archaeological Excavation Permit requirement? ☒ Yes # ☐ No

DAHP Archaeological Site #:

_____
_____
_____
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_____
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_____

- Submission of paper copy is required.
- Please submit paper copies of reports ***unbound.***
- Submission of PDFs is required.
- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

Attachment 2.h. Archeological Survey, Testing and Monitoring Report prepared by Parus Consulting, Inc. dated April 1, 2011

ARCHEOLOGICAL SURVEY, TESTING AND MONITORING AT 45PI66, 45PI455 AND 45PI773, DUPONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT

CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Prepared For:

DuPont Industrial Partners, LLC

1201 Pacific Avenue, Suite 1501

Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA
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PARUS CONSULTING, INC.

1508 Eureka Road, Suite 170

Roseville, CA 95661

Final – April 14, 2011

ABSTRACT

This cultural resources investigation was conducted where DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y in the City of DuPont, Pierce County, Washington. The approximately 25.3-acre project is located on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) situated within the city limits west of Center Drive and north of Sequalitchew Creek. The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The fieldwork included a pedestrian survey and examination of subsurface sediments in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. The work was monitored by a member of the Nisqually Tribe.

No evidence was found of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation. Two surface historic archaeological sites (45PI01224 railroad track segment and 45PI01225 concrete platform) and one isolated kerosene can were identified during the fieldwork within Lot Y, but they are not considered significant. One additional archaeological site (45PI01226 set of bridge abutments) located north of Sequalitchew Creek but immediately outside of Lot Y was also recorded. Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected.

No significant cultural properties will be affected by the project, and no further cultural resource action is warranted at this time. Should cultural resources be discovered during project implementation, an Unanticipated Cultural Resources Discovery Plan is attached as an appendix to this report. This report will be filed with the DAHP and a copy provided to affected Tribes.

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INTRODUCTION

Parus Consulting, Inc. (PCI) was retained by DuPont Industrial Partners, LLC to provide cultural clearance in accordance with prevailing Washington state laws for the proposed Lot Y project in the City of DuPont. An Archaeological Excavation Permit (Permit) was approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54) (Appendix A).

The Permit was required because two historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one prehistoric isolate (45PI773) are located within the Lot Y project area (Figures 1 and 2). In 1993, site 45PI66 was determined eligible for listing on the National Register of Historic Places (NRHP) under Criterion A. Site 45PI455 is considered potentially eligible for NRHP listing. Both sites are considered contributing elements to a proposed Nisqually-Sequalitchew Historic District. Prior archaeological investigations of sites 45PI66 and 45PI455 in 1989 and 2000 included backhoe peels, shovel tests, and block and unit excavations. In addition, a portion of 45PI455 was monitored during a hazardous materials remediation program. No surface evidence of these two sites or the isolate remained within Lot Y.

Two additional historic sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) located within Lot Y were determined not eligible for NRHP listing in 1993. Both sites were completely removed during hazardous materials remediation in 2000.

The services completed by PCI under the Permit include intensive-level pedestrian survey, subsurface testing, monitoring of geotechnical exploration pits, preparation of this report summarizing the cultural resources investigation and related forms recording newly identified resources, and completion of an Unanticipated Cultural Resources Discovery Plan.

PROJECT LOCATION AND DESCRIPTION

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequalitchew Creek. The Lot Y project area is situated within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian) (Figure 1).

The cultural resources excavations were conducted where the private landowner, DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities. Plans also include construction of a trail along the creek to the southwest of the industrial park.

Plans for public access along the creekside trail to be constructed to the south of the industrial park include erection of an interpretive sign explaining the history of the temporary encampment within Lot Y of the 9th U.S. Cavalry Buffalo Soldiers. The content of the sign will include reference to the war games enacted by the large contingent of Buffalo Soldiers from Fort Walla Walla in 1904, and the discovery of the stables area at 45PI455, the 9th U.S. Cavalry Bivouac site along Sequalitchew Creek.

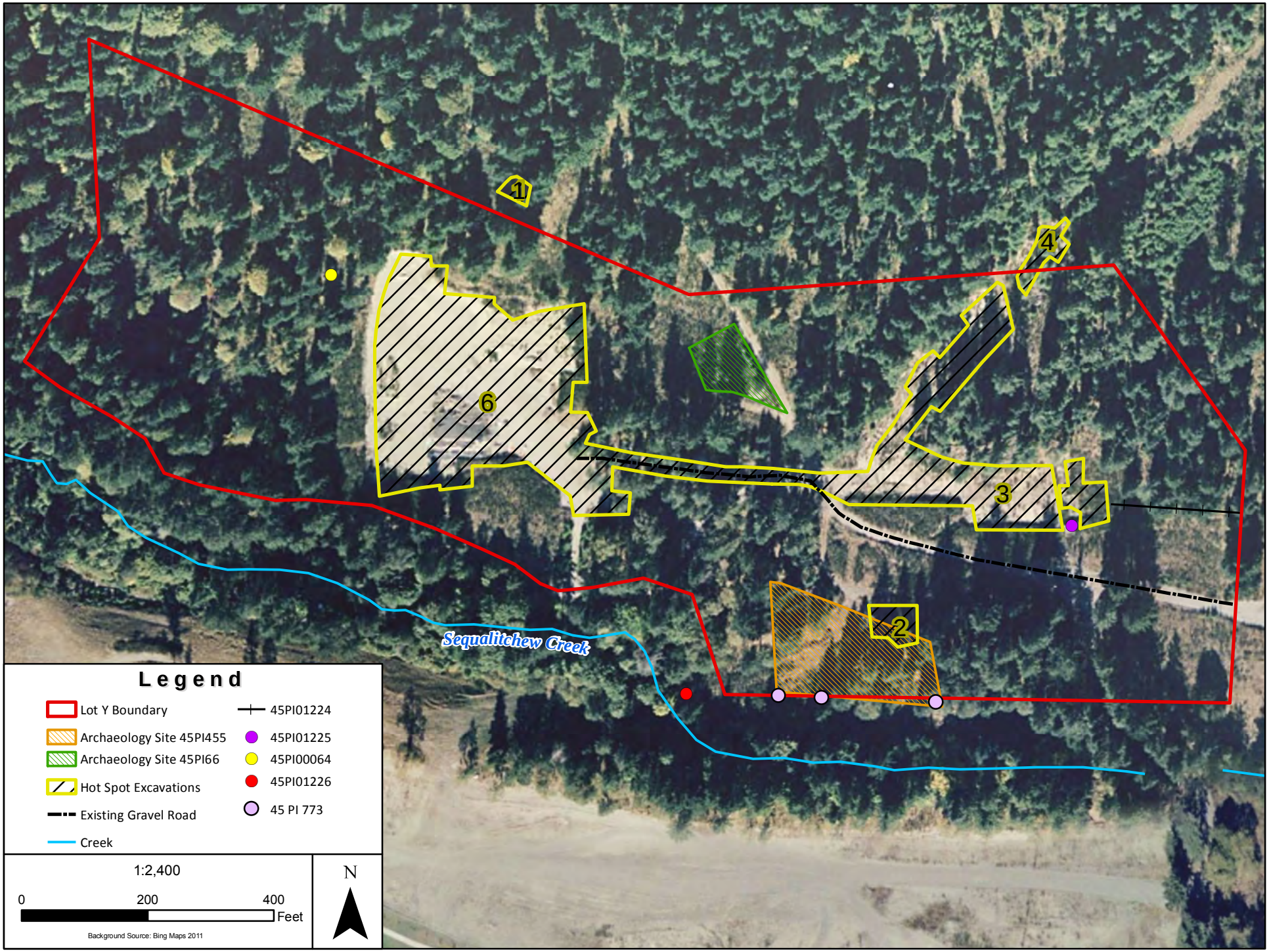
In addition, the existing the historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be retained on the property. The marker will be moved to the trailhead area where the public will have continued access to read about the history of the Mission, the first religious institution on Puget Sound, established in 1840.



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Location Map

PARUS CONSULTING, INC.

Figure 1



Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: Archaeological Resource and Remediation Location Map

PARUS CONSULTING, INC.

Figure 2

REGULATORY SETTING

The Permit was completed pursuant to permit requirements found in the Washington Administrative Code (WAC) 25-48-060. There is no federal involvement in this project. The cultural resources investigation for the proposed project was conducted under prevailing Washington state laws, which serve to protect from known disturbance archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

PROJECT SETTING

ENVIRONMENTAL SETTING AND DEPOSITIONAL CONTEXT

The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 0.8 mile east of the southern part of Puget Sound shoreline and north of Sequalitchew Creek. Sequalitchew Creek drains the Edmond's Marsh area about 0.3 mile southeast of the project, and empties into Puget Sound approximately 1.5 miles northwest of the marsh. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

The geomorphology of the project area is largely the result of Pleistocene glaciations. The last advance of a continental glacier through the Puget Trough began approximately 20,000 years ago when the Cordilleran Ice Sheet moved south from British Columbia. By 15,000 years ago, the Puget Lobe of this ice sheet extended some 19 miles south of the present city of Olympia (Orr and Orr 1996). Similar to other southern Puget Sound lowlands, glacial outwash deposits comprise the area in and around the project region.

Over time, soils forms on the glacial outwash sediments, with the addition of wind-blown volcanic ash. Within the project area are the deep, somewhat excessively drained Spanaway gravelly sandy loam soils (41A), which formed on the gravelly outwash deposits on terraces and plains (Soil Survey Staff 2009). A typical soil profile for this series is an A horizon of gravelly sandy loam (0-14 inches), a B horizon of very gravelly sandy loam (14-18 inches), above a C horizon of extremely gravelly sand (18-60 inches), with the cobble content increasing down profile.

Puget Sound and the Cascade Range, west and east of the project, influence the regional climate. Characteristic climatic conditions for this region include wet, mild winters and warm, dry summers, with the majority of annual precipitation falling as rain between October and March (Franklin and Dyrness 1988). Native vegetation found throughout much of the Puget Trough province is the *Tsuga heterophylla* (western hemlock) forest (Franklin and Dyrness 1973:16–17, 88). In addition to western hemlock, forest trees include Douglas fir (*Pseudotsuga menziesii*), cedar (*Thuja plicata*), and alder (*Alnus rubra*), along with other species in valley bottoms or forest margins and a variety of understory plants, ferns, and mosses. Prairie and marsh vegetation was historically recorded in the project vicinity near Sequalitchew Creek and Edmond's Marsh.

The saltwater and freshwater resources of the Puget Sound, its bays and inlets attracted exploitation and settlement prior to historic logging and development of this rich, ecologically diverse region. Among the wildlife once common to the region are black bear, bobcat, cougar, deer, elk, raccoon, red fox, and snowshoe hare, as well as a variety of waterfowl, fish, and shellfish.

CULTURAL SETTING

Prehistoric Overview

Occupation in western Washington during the prehistoric period is estimated to have occurred as early as 12,000 years ago (Ames and Maschner 1999). Prehistoric material culture in western Washington has been categorized according to "horizons" or "periods" that define technological, economic, social and ideological elements (Ames and Maschner 1999). During the Paleoindian Period (dating to 12,500 BP and earlier), people are thought to have been highly mobile hunter-gatherers whose toolkit included fluted Clovis projectile points.

The Archaic or Early Period (12,500–5,000 BP) saw an increase in sedentism reflected in more kinds of stone tool types and evidence of permanent villages. Within the Puget Sound and Strait of Juan de Fuca, artifacts from this period are referred to as "Olcott" after the type site in Snohomish County (Nelson 1990). Increasing populations, an increase in reliance on marine resources, and more complex socio-economic organization, as well as the appearance of ground stone and bone tools in the archaeological record, characterizes the Middle Period (5,000–2,500 BP) in the Puget Sound (Ames and Maschner 1999; Matson and Coupland 1995). During the last 2,500 years, the Late Period is characterized by the development of craft specialization and social stratification, establishment of permanent winter villages, and an increased reliance on marine resources.

Ethnographic Overview

The project area is located in the traditional territory of the Puyallup Tribe who spoke the Puyallup Nisqually language of the Southern Coastal Salish language family. Their territory encompassed the Puyallup River drainage from Mount Rainier to Commencement Bay, and the uplands east of the Tacoma Narrows (Suttles and Lane 1990). Ethnographies indicate that the Puyallup relied on salmon as a dietary staple and secured additional natural resources from the surrounding saltwater, riverine and upland environmental settings. Their multi-family, plank-house villages were occupied during the winter months and typically situated adjacent to waterways. Smaller, seasonal camps were associated with hunting and gathering a variety of resources, including deer, elk, berries, and roots.

Ethnographic data indicate the Nisqually inhabited the area along the upper part of Sequalitchew Creek (Wessen et al. 2005, 2008). Sequalitchew Village was located at the mouth of the creek and described by the ethnographer as "where Dupont Creek enters the Sequalitcu River" (Smith 1940:8, 13). The village inhabitants would have pursued fishing, hunting and gathering from this winter village and from seasonal camps during the remainder of the year.

As part of the Medicine Creek Treaty of 1854, the Puyallup received a 1,280-acre tract extending along the high bluff from Commencement Bay to Point Defiance. By 1873, the reservation lands had been enlarged to 18,062 acres, and included lands on the southern and eastern side of Commencement Bay (Harmon 1995; Ruby and Brown 1986). Congress later established a commission to authorize sale of tracts with the Puyallup reservation, and by 1895 nearly half the acreage had been sold, including the waterfront properties.

Historic Overview

Euro-American history began in western Washington with the coming of explorers as early as the 16th century. In 1792, the expedition by British explorer George Vancouver first encountered Twana and other Southern Coast Salish when sailing up Hood Canal and Puget Sound. U.S. Navy Lt. Charles Wilkes explored Hood Canal in 1841, and named Suquamish Harbor (later Squamish Harbor) as well as Pit Passage (now Pitt Passage). By 1846, the United States owned what is now western Washington as the U.S.–British boundary was moved north to the 49th parallel. American settlers poured into the area that

was then known as the Oregon Territory, established in 1848, and the Donation Land Claim Act was passed in 1850. The arrival of the first transcontinental railroad in the 1880s served to fuel settlement and economic development.

In the project vicinity, the Hudson's Bay Company (HBC) established a small storehouse for their fur trade near the mouth of Sequalitchew Creek as early as 1832 (Carpenter 1986). The following year they erected a small fort immediately east, and 10 years later in 1843, a much larger fort complex was established approximately 0.75 miles farther east (known as Fort Nisqually). To meet the demands for export of agricultural and dairy products, the company had established the Puget's Sound Agricultural Company (PSAC) by 1838. The 1843 fort was constructed near the buildings and structures comprising this enterprise. Although the treaty with Great Britain had required the removal of the HBC from United States territory, HBC/PSAC traders, farmers and dairymen continued to occupy the 1843 Fort Nisqually complex, to raise crops and to produce dairy products until compensation was received from the U.S. government in 1869. The lands were then titled to the last clerk of the company, Edward Huggins.

During the years between the departure of HBC/PSAC in 1869 and the development of the DuPont Powder Works in 1906, the area was populated by American settlers. The homesteaders used the land for farming and livestock grazing. In 1904, the 9th U.S. Cavalry camped, stabled their horses, and conducted war games near and within the project area on the prairies between Sequalitchew and Steilacoom Creeks (see Moura 1991a:8-9). The troops camped within the project area along Sequalitchew Creek were designated the Second Brigade, Camp Nisqually. Under the command of Colonel Charles H. Noble, the camp contained about 2,000 soldiers from Fort Walla Walla. The 9th U.S. Cavalry troops were African-American, referred to as Buffalo Soldiers.

Two years later, the DuPont Powder Works was established on the land by the E.I. DuPont de Nemours Company (Munyan 1972). In addition to an explosives manufacturing plant, the DuPont facilities included a company town, docks along the Puget Sound shoreline, and a narrow-gauge railroad used to transport their products. The "Old Town" period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). During this period, buildings were frequently constructed and demolished. The construction of roads and the railway network, the annual clearing and burning of underbrush, as well as relatively frequent explosions, resulted in extensive land disturbance.

When DuPont Powder Works closed in 1976, it was purchased by the Weyerhaeuser Company. Many of the production buildings were burned prior to release of the property to Weyerhaeuser to prevent detonation of undetected explosives. During the last 20 years, Quadrant Corporation (formerly Weyerhaeuser Real Estate Company) has developed the planned community known as Northwest Landing in the project vicinity.

Photograph 1 shows the narrow-gauge railroad built by the DuPont Powder Works above the south side of Sequalitchew Creek (outside and south of Lot Y). The train is moving the last load of black powder that had been manufactured by the plant and subsequently stored in a warehouse rented by the city. This last powder run occurred circa 1990 (personal communication, Fred Foreman).



Photograph 1. Last powder run on narrow-gauge (south side of Sequalitchew Creek)

PREVIOUS ARCHAEOLOGIAL RESEARCH

RESEARCH METHODS

A cultural resources search was performed for the project on October 21, 2010 using the DAHP electronic GIS database to gather archaeological information relative to reports and sites within and in the vicinity of the project area. This information was supplemented with archival research into the history of this region and of archaeological investigations in the immediate project vicinity. This assessment considered previous studies, the magnitude and nature of the undertaking, the nature and extent of potential effects on historic properties, and the likely nature and location of currently unknown archaeological resources within the project area.

During the fieldwork program between February 17 and March 4, 2011, PCI archaeologist Cindy Arrington conducted additional archival and oral history research. Archival research at the City of DuPont History Museum included discussions with Museum Director Johanna Jones on the area's history and review of numerous documents and photographs. A map of the DuPont Works drawn by E. Davies and dated March 15, 1955 shows the "Burning Ground" within the Lot Y project area and the system of roads and narrow-gauge and standard-gauge railroad tracks crisscrossing within the plant boundaries. The map also shows two bridges on Sequalitchew Creek immediately south of the project area, which were used by the company's narrow- and standard-gauge railroads. A digital version of this map was provided by Fred Foreman, a lifetime resident of the City of DuPont and a former part-time, summer DuPont Powder Works employee. Mr. Foreman gladly conveyed his enthusiasm and knowledge of the history of this region, and spent time with Ms. Arrington. In addition to the Davies map, Mr. Foreman also provided DVDs of archaeological investigations in 1989 of 1833 Fort Nisqually and of an informal visit to the Methodist Episcopal Mission site (45PI66) during removal of contaminated soil at nearby site 45PI64 (Burning Ground Dump site). Along with photographs obtained from DAHP of the hot spot archaeological monitoring program carried out a decade ago by Daugherty and Condon (2000), the video of hazardous waste removal provided a clearer picture of the landscape within Lot Y prior to re-shaping by heavy mechanical equipment while removing contaminated topsoil.

LOCAL ARCHAEOLOGICAL INVESTIGATIONS

The project vicinity is part of a complex cultural landscape with cultural resources dating from occupation of the area by Native Americans to historic period settlement—beginning in 1832 by the HBC with related agricultural activities started by the PSAC by 1838, and continuing through 70 years of industrial

development by the DuPont Company between 1906 and 1976. The following discussion focuses on studies within the former DuPont Powder Works property, which was acquired in 1976 by the Weyerhaeuser Company from E.I. DuPont de Nemours Company. As indicated in Table 1, several of these prior archaeological investigations have included all or portions of the current project area.

Table 1. Prior Cultural Resources Investigations within or near Project Area

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near Lot Y
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site	Within and near Lot Y
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near Lot Y
1990	Stilson, M. Leland	A Data Recovery Study of 45PI401, Hudson's Bay Dwellings at Northwest Landing, Pierce County, Washington	0.1 mile east
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within
1991	Stilson, M. Leland	A Data Recovery Study of 45PI405, the 1843 Fort Nisqually Village at Northwest Landing, Pierce County, Washington	0.1 mile east
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near Lot Y
2002	Maass, Alex	Interim Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Maass, Alex	2002 Field Season Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Wessen, Gary	Exploring the Boundary and Possible Interpretation of 45PI485	South of creek
2004	Wessen, Gary	Archaeological Testing at 45PI576, Former DuPont Works Site, City of DuPont, Pierce County, Washington	South of creek
2005	Dampf, Steven	Archaeological Monitoring Report for the 2003 and 2004 Field Seasons at the Former Dupont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y
2006	Thompson, Gail	Archaeological Implementation Report for Remediation of Soils at the Former DuPont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y

The first intensive survey of the 3,000 acres comprising the former DuPont Powder Works property was completed over 30 years ago. A total of 26 cultural resources were identified during the survey, including 8 prehistoric and 18 historic sites (Blukis Onat et al. 1977). Blukis Onat and others (1977) studied the prehistoric and ethnohistoric sites identified within the surveyed area, while Stratton and Lindeman (1977) completed archival research on the historic period resources. The 26 sites include 1833 Fort Nisqually (45PI55), 1843 Fort Nisqually (45PI56), and the Sequalitchew Village site (45PI54). The 1833 Fort Nisqually site, located slightly more than 0.5 mile west of Lot Y, was listed on the NRHP in 1974 and is also listed in the Washington Heritage Register (WHR). Located approximately 0.2 mile southeast of Lot Y, the 1843 Fort Nisqually site (45PI56) is considered eligible for NRHP listing. The Sequalitchew

Village site, a historic property, is located at the mouth of Sequalitchew Creek approximately 1.5 miles west of Lot Y and contains remnants of a shell midden. Burials associated with the village were recorded as a separate site (45PI76), since they are located on the opposite, north side of the creek from the village.

As discussed further below, of the 26 sites recorded by Blukis Onat et al. (1977), three are located within Lot Y (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, and 45PI66 Methodist Episcopal Mission Site). An additional 12 sites (2 prehistoric and 10 historic) of those identified during the 1977 survey are located within 0.5 mile of but outside Lot Y.

The extensive disturbance of the entire DuPont property by construction of numerous roadways and narrow-gauge railroad tracks, as well as the operations of the explosives manufacturing plant, was discussed in the report by Blukis Onat et al. (1977:57) and they recommended a more intensive survey might identify additional archaeological sites. Over ten years later, the former DuPont property was resurveyed again as part of the development of a Cultural Resources Management Plan for the Weyerhaeuser Company by Jeanne Welch (Welch 1989a). Each of the archaeological sites identified during the survey by Blukis Onat et al. (1977) was relocated, including the three within Lot Y (45PI63, 45PI64, and 45PI66). More intensive survey was accomplished in 1988 in areas planned by Weyerhaeuser for well or reservoir construction, or for logging, and the work included a testing and evaluation program developed to determine the significance of known cultural resources. Backhoes were used for sod removal in vegetated areas and for exploratory trenching.

The archaeologists also completed a testing program to identify significant cultural resources within the planned corridor for construction of Center Drive (Welch 1989a:4.2, 4.4). Center Drive trends north-south and is located 0.1 mile east of Lot Y. Two sites within the right-of-way of Center Drive on the north and south sides of Sequalitchew Creek were identified (45PI401 and 45PI405) (Welch 1989a, 1989b, 1989c). The sites are located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). Each site contains the remains of HBC/PSAC dwellings, and a large number of historic as well as prehistoric artifacts were recovered from 45PI401 and 45PI405 during initial testing and subsequent data recovery excavations (Welch 1989a; Stilson 1990, 1991). The two sites are located only a short distance from Lot Y, approximately 0.1 mile to the east, and are discussed in more detail below.

Archaeological test excavations within Lot Y were conducted in 1989 by Guy Moura to identify the precise location of the buildings within the Methodist Episcopal Mission Site (45PI66), and to test the significance of Railroad Dump #3 (45PI63) (Moura 1991a; also see Daugherty and Condon 2001:Part I). He was also hired to investigate a third area within Lot Y where historic accounts indicated the 9th U.S. Cavalry had camped during military maneuvers in 1904 (later designated 45PI455) (Moura 1991a, 1991b; also see Daugherty and Condon 2001:Part I). Moura completed a series of backhoe peels, shovel test probes, and block and unit excavations within and near the boundaries of 45PI63, 45PI66, and 45PI455.

Under a Consent Decree signed in 1991 by the Washington State Department of Ecology, E.I. DuPont de Nemours Company and Weyerhaeuser Company, DuPont and Weyerhaeuser were jointly responsible for cleaning up an 841-acre tract, which had been contaminated by the former industrial explosives manufacturing facility (Thompson 2006:4). Archaeological monitoring of soil remediation activities and related archaeological investigations were carried out between 2001 and 2004. Detailed information on the monitoring is contained in reports by Alex Maass (2002, 2003) and Steven Dampf (2005). A large prehistoric chipped stone scatter (45PI576) was identified south of Sequalitchew Creek and south of Lot Y (Thompson 2006:21, 32). Two small projectile points suggest the site was occupied during the past 2,000 years, although the overall assemblage indicates there may be an older component. Because of the low density of artifacts recovered from testing in a highly disturbed setting, the site was recommended ineligible for NRHP listing. Two prehistoric isolates were also recorded south of the creek and

approximately 50 meters east of 45PI576. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes (Thompson 2006:22).

Lot Y was included within the acreage under the Consent Decree requiring remediation of hazardous materials (mainly lead and arsenic contaminated soil) contained within the former DuPont property, and additional archaeological investigations revolved around remedial activities. The removal of contaminated soil in "hot spot" areas within Lot Y was monitored by archaeologists in 1999 and 2000, and included segments of the narrow gauge railroad tracks, Railroad Dump #3 (45PI63), the Burning Ground Dump site (45PI64), and a portion of the 9th U.S. Cavalry Bivouac site (45PI455) (Daugherty and Condon 2000:7) (Figure 2). After clearing and grubbing, excavation of the hot spots generally achieved a depth of 46 centimeters below surface (cmbs) (18 inches). The area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction so the initial excavation area around a hot spot measured at least 50x50 feet.

During remediation activities, a historic debris deposit associated with the 1843 Fort Nisqually complex was identified to the south of Sequalitchew Creek. Southeast of Lot Y and near the two previously recorded HBS/PSAC dwelling sites (45PI401 and 45PI405), the deposit was recorded as 45PI485 (Daugherty and Condon 2000).

A comprehensive document reporting on the subsurface testing or hot spot monitoring at the four known sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455) was completed the following year (Daugherty and Condon 2001:Parts I and II). Part I of that document is Moura's report on the test excavations completed in 1989 at 45PI63, 45PI66, and 45PI455 (also see Moura 1991a, 1991b). Part II of that document reproduced and updated the information at all four sites from the hot spot removal program reported by Daugherty and Condon (2000).

Beginning in 1993, Richard Daugherty evaluated the significance of a number of the archaeological sites within the former DuPont Powder Works property and prepared National Register nomination forms for them. These included the four sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455), as well as the two HBC/PSAC dwelling sites east of Lot Y (45PI401 and 45PI405), discussed below.

In January 2005, during a survey for the proposed expansion of an existing gravel mine, the four sites (45PI63, 45PI64, 45PI66, and 45PI455) previously recorded in the project area were relocated, but no effort was made to further investigate them since each had been previously evaluated (Wessen et al. 2005:15). No potentially significant archaeological sites were newly identified during the surface survey, and it was decided to investigate the areas close to Sequalitchew Creek by subsurface testing. The subsequent recovery of four pieces of chipped stone debitage from a series of shovel test probes was recorded as a prehistoric isolate (45PI773) (Wessen et al. 2005, 2008) (Figure 2).

PREVIOUSLY RECORDED CULTURAL RESOURCES NEAR PROJECT AREA

As noted above, 12 (2 prehistoric and 10 historic) of the 26 sites recorded by Blukis Onat et al. (1977) are located within 0.5 mile of but outside Lot Y (Table 2). As shown in the table, an additional 13 sites (2 prehistoric and 11 historic) and 5 isolates (2 prehistoric and 3 historic) have been previously recorded within 0.5 mile of but outside Lot Y. According to the records, one historic (45PI58) and one prehistoric site (45PI75) may have never existed. The three remaining pre-Contact sites include two burial sites (45PI77, 45PI404) and a chipped stone scatter (45PI576).

The previously recorded historic sites are mainly associated with the HBC/PSAC era and the Old Town period. The Old Town period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). Eight of the historic-era sites are associated with the earlier HBC/PSAC period (1832–1869). These include 1843 Fort Nisqually (45PI56), the remains of

ethnohistoric men's dwelling houses (45PI74), three burial sites (45PI78, 45PI413, 45PI451), two sites with house foundations and artifacts (45PI401, 45PI405), and a debris deposit (45PI485). The artifacts from one site (45PI563) date from both the HBC/PSAC and Old Town periods.

Seven of the previously recorded sites are attributed to the DuPont Powder Works Old Town period. These include a men's boarding house (45PI57), the Old Town dump (45PI59), a domestic trash dump (45PI60), two debris deposits or scatters associated with the narrow gauge railroad that transported the explosives (45PI61, 45PI62), the munitions plant (45PI70), a remnant of a dirt road (45PI441), and a recently recorded non-functional segment of narrow-gauge railroad track and berm (45PI01224). 45PI01224 was identified during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). The narrow-gauge track and berm continue to the west beneath a chain-link fence into Lot Y.

One of the historic period sites is the garbage dump (45PI448) used by the city of DuPont from 1927 to 1946. The two remaining historic-era sites include one with 100 to 200-year old human skeletal fragments (45PI712) and a debris scatter with artifacts ranging in age from 1916 to the mid-1960s (45PI783).

The two prehistoric isolates identified within the 0.5 mile radius were recorded south of Sequalitchew Creek during archaeological monitoring of soil remediation activities within the Consent Decree area (Thompson 2006:22). The isolates are located approximately 50 meters east of 45PI576, a large prehistoric chipped stone scatter south of the creek and south of Lot Y. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes.

The three historic-era isolates were identified recently during the recent survey of Lot X (Sikes and Arrington 2010). The isolates are located approximately 400 feet east of Lot Y. GEO Isolate #1 is a surface pile of 51 railroad spikes; GEO Isolate #2 is a pile of broken, formed aggregate concrete chunks; and GEO Isolate #3 is a scatter of milled lumber.

Of the previously recorded sites within the 0.5 mile radius outside Lot Y, three are considered eligible for NRHP listing: the 1843 Fort Nisqually site (45PI56) and the two HBC/PSAC dwelling sites (45PI401, 45PI405). The latter two sites are also considered contributing elements to the proposed Nisqually-Sequalitchew Historic District (Point Nisqually Defense Fund 2003) (see discussion below).

Outside the 0.5 mile radius, nearby historic properties include 1833 Fort Nisqually (45PI55), the Sequalitchew Village Site (45PI54), the DuPont Village Historic District, and Fort Lewis. Throughout its period of significance (1917–1948), Fort Lewis was one of the preeminent U.S. Army training posts. The DuPont Village Historic District encompasses the 43-acre company town developed by E.I. DuPont de Nemours Company between 1906 and 1915. The district is located less than 1 mile southeast of Lot Y.

Table 2. Previously Recorded Resources within 0.5 Mile of Project Area

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00056	Historic 1843 Fort Nisqually (1832-1869)	HBC/PSAC	Riordan 1977; Daugherty 1993 NRHP form	Eligible
45PI00057	Historic men's boarding house, DuPont era; destroyed	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00058	Site recorded as historic brick yard dump but it never existed	n/a	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00059	Historic Old Town dump, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00060	Historic domestic trash dump, DuPont Powder Works, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00061	Historic railroad or domestic debris deposit	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00062	Historic railroad debris deposit, ca. 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00070	Historic DuPont munitions plant, ca. 1906	Old Town	Riordan 1977	Not determined
45PI00074	Ethnographic men's dwelling houses, 1844-1869, Fort Nisqually	HBC/PSAC	Blukis Onat 1977; Daugherty 1992; Daugherty 1993 NRHP form	Not determined
45PI00075	Site recorded as a prehistoric midden at DuPont crystallizer but it never existed	n/a	Blukis Onat 1977; Daugherty 1993 NRHP form	Not eligible
45PI00077	Old Fort Lake Graves	Pre-Contact	Blukis Onat 1977	Not determined
45PI00078	Historic 1843 Fort Nisqually burial	HBC/PSAC	Blukis Onat 1977	Not determined
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00404	Pre-Contact Nisqually Indian Burial Site	Pre-Contact	Welch 1988; Daughtery and Wessen 1988	Not determined
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00413	Historic Native American cemetery, 1840-1870	HBC/PSAC	Daugherty 1991	Not determined
45PI00441	Historic dirt road remnant, 1846	Old Town	Solimano 1996	Recommended not eligible
45PI00448	Historic City of DuPont garbage dump, 1927-1946	DuPont	Daugherty 1996; Daugherty 1996 NRHP form	Not eligible
45PI00451	Historic Lone Fir grave site, 1850	HBC/PSAC	Daugherty 1997	Not determined
45PI00485	Historic debris deposit, ca. 1840-1870	HBC/PSAC	Daugherty 2000; Wessen 2002	Not determined
45PI00563	Historic debris scatter, 1843-1930s	HBC/PSAC and Old Town	Chesmore 2001, 2002; Wilson 2002 NRHP form	Not eligible
45PI00576	Prehistoric chipped stone scatter	prehistoric	Wessen 2004	Recommended not eligible
45PI00712	Human skeletal fragments, ca. 100-200 yrs old		Wessen 2003	Not determined
45PI00783	Historic debris scatter, 1916-1964		McKillop 2007	Not eligible
45PI1224	Historic railroad track and berm, 1906-1920s	Old Town	Arrington 2010	Not eligible
GEO Isolate #1	Historic isolate (railroad spikes)		Arrington 2010	Not eligible
GEO Isolate #2	Historic isolate (concrete chunks)		Arrington 2010	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
GEO Isolate #3	Historic isolate (milled lumber)		Arrington 2010	Not eligible
HRA 30a-d	Prehistoric isolate (core, 3 flakes)		Thompson 2006	Not eligible
HRA 31a-d	Prehistoric isolate (4 flakes)		Thompson 2006	Not eligible

PREVIOUSLY RECORDED SITES AND ISOLATE WITHIN PROJECT AREA

One prehistoric isolate (45PI773) and four historic archaeological sites (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, 45PI66 Methodist Episcopal Mission Site, and 45PI455 9th U.S. Cavalry Bivouac site) have been previously recorded within the project area (Table 3; Figure 2). One of the historic sites (45PI66) is associated with the HBC/PSAC era (1832-1869) and one (45PI63) with the Old Town period (1906–early 1920s). Site 45PI64 is associated with later operation of the explosives manufacturing plant from the 1930s until the plant closed in 1945. Temporary occupation by the 9th U.S. Cavalry (45PI455) occurred in 1904 between the HBC/PSAC and Old Town periods.

Site 45PI66 has been determined eligible for listing on the NRHP, and site 45PI455 is potentially eligible. These two sites are also encompassed within the proposed Nisqually-Sequalitchew Historic District as contributing elements. The district is still pending approval.

Of the four previously recorded sites within Lot Y, two (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) had been determined not eligible for NRHP listing and were completely removed during hazardous materials remediation in 1999 and 2000 (Daugherty and Condon 2000, 2001). These former sites were located within two of the cleared hot spots (HS-4 and HS-6) shown on Figure 2.

Although not located within Lot Y, this section and Table 3 include discussion of two additional sites that contain artifacts or features representing former HBC/PSAC dwellings associated with 1843 Fort Nisqually. The two sites, 45PI401 and 45PI405, are located on the north and south banks of Sequalitchew Creek approximately 0.1 mile east of Lot Y. The sites also contain a large number of chipped stone artifacts.

The history of archaeological investigations at each of these resources within and near Lot Y is presented below.

Table 3. Previously Recorded Cultural Resources within and near Project Area

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
Sites and Isolate Recorded within Project Area					
45PI00063	Historic debris deposit, two loci along railroad, 1910-1930; removed during soil remediation	Old Town	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2001	Not eligible
45PI00064	Historic DuPont Powder Works burning ground dump, 1930s-1945; removed during soil remediation	DuPont	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Daugherty and Condon, 2000, 2001	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
45PI00066	Historic 1840-1842 Methodist Episcopal Mission	HBC/PSAC	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al. , 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2000, 2001	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00455	Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904;partially removed during soil remediation	Between HBC/PSAC and DuPont	Daugherty, 1997; Daugherty, 1997 NRHP form	Moura, 1991a, 1991b; Daugherty and Condon, 2000, 2001	Potentially eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00773	Prehistoric chipped stone isolate	n/a	Wessen, 2005	Wessen et al., 2005, 2008	Not eligible
Sites Recorded near Project Area					
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869; destroyed during bridge construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1990	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869; destroyed during road partially construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1991	Eligible, included in proposed Nisqually-Sequalitchew Historic District

45PI63 Railroad Dump Site

This site was initially recorded by Timothy Riordan as Railroad Dump #3 during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). The dump is located at the junction of two narrow-gauge railroad tracks from the DuPont Powder Works Old Town period. Recorded in two distinct loci (A and B, each of which was approximately 10 meters in diameter), a dirt road developed after the track was abandoned may have split the debris deposit.

Material from the site mainly dates between 1910 and 1930 (the Old Town period) and includes mainly domestic ceramic and glass fragments, with a few nails and fabric remnants (Daugherty and Condon 2001; Moura 1991a; Daugherty 1993a). Over 260 artifacts were collected in 1989, mainly from the ground surface along the tracks, with only a single 1x1 meter test unit excavated in Area B (Moura 1991a:13-17). Additional artifacts were recovered during subsequent soil remediation activities in loci A and B (Daugherty and Condon 2001:32-46). The recovery of mainly domestic items led Daugherty and Condon (2001:46) to conclude that occupants of Old Town had used 45PI63 as a dump.

In 1993, the State Historic Preservation Officer (SHPO) determined site 45PI63 ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). The site has been extensively looted (Welch 1989a:4.20; Thompson 2006:27), and prior to soil remediation, there had been extensive damage to the site by logging and railroad construction. No treatment measures were required during soil remediation, which removed the entire site (Daugherty and Condon 2001:46). Prior to removal, 45PI63 was located in the area on Figure 2 marked as HS-4.

45PI64 Burning Ground Dump Site

This site was initially recorded by Timothy Riordan during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). At the location of a former black powder manufacture and storage building, site 45PI64 was used as a dump where hazardous and non-hazardous waste from the manufacturing plants at the DuPont Powder Works was discarded and burned. The site was used as a burning ground dump from the 1930s until the black powder mill was closed in 1945. The “Burning

Ground" is clearly shown on the 1955 map of the DuPont Works drawn by E. Davies. Prior to turning the property over to Weyerhaeuser, DuPont systematically dynamited this site to prevent detonation of undetected explosives (Thompson 2006:30).

Due to contamination by hazardous waste, archaeological work within site 45PI64 was not permitted. In 1993, the SHPO determined the site ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). Archaeological monitoring during a program to remove "hot spots" or contaminated soils was conducted at the site in 2000 (Daugherty and Condon 2000), and the entire area (approximately 3,000 square feet) was removed during the subsequent hot-spot treatment program (Daugherty and Condon 2001:47, 50). Prior to removal, 45PI64 was located in the large cleared area marked as HS-6 on Figure 2.

Although former site 45PI64 was near the historical marker for the Methodist Episcopal Mission (45PI66), no evidence of the Mission building or stockade or of prehistoric or historic cultural materials were identified during hot spot removal, with the exception of contaminated, broken tools and hardware from the DuPont operation.

45PI66 Methodist Episcopal Mission Site

Initially recorded during the survey by Blukis Onat et al. (1977), this site has been determined eligible for NRHP listing under Criterion A (association with significant events) (NRHP Determination of Eligibility Form dated September 29, 1993). The site is not considered eligible under Criterion D (data potential) because it has been extensively disturbed by road and railroad construction and there has been little recovery of archaeological material during testing. Site 45PI66 also contributes to the proposed Nisqually-Sequalitchew Historic District (see below).

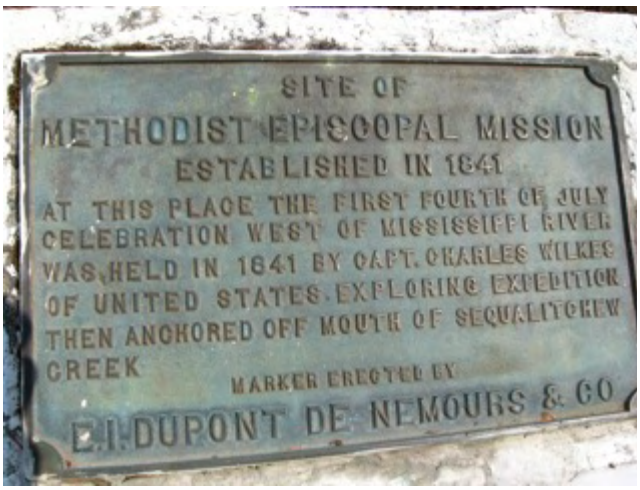
The Methodist-Episcopal Mission and associated school were founded in 1834 on land provided by the HBC. The goal was to convert and educate the Native Americans camping at Fort Nisqually (Carpenter 1986:98-99). Construction of the Mission buildings began in 1839 and a missionary group began services the following year. Several outbuildings and a garden were contained within the Mission grounds, which were surrounded by a stockade and located approximately 0.5 mile from the fort. The Mission building measured 18 feet wide by 32 feet long and 9 feet high, and an addition was constructed on the west side. The Mission was not successful, was abandoned in 1842, and later destroyed by fire. The land was also used for agriculture and in 1904 it was temporarily occupied by the military on training maneuvers. In 1927, the DuPont Company erected a historical marker at the site of the former Mission—the first religious institution on Puget Sound (Photographs 2 and 3).

Archaeological investigations (backhoe peels, shovel tests, 1x2 meter units) around the historical marker were conducted in 1989 (Welch 1989a; Moura 1991a). Some 29 backhoe peels were made in the area surrounding the bronze marker, but no evidence of the former Mission building was uncovered and additional testing was recommended (Welch 1989a:4.1, 4.22). Moura's team recovered chimney stones, 2 square nails, 3 window glass and 9 bottle glass fragments, and a couple pieces of ceramic (Moura 1991a:6-8). Excavation efforts (55 shovel tests and four 1x2 meter units) were stopped by 25 cmbs (0.8 feet) when sterile gravels were encountered, similar to other sites in this vicinity.

Moura (1991a:8) considered the accumulated evidence supported his contention that the Methodist-Episcopal Mission had been found. He also noted that the ashy matrix with brick, bone, and charcoal flecks in the excavation units above 25 cmbs (0.8 feet) at 45PI66 mimics that identified at the nearby HBC/PSAC dwellings site (45PI405) as hearth and chimney remnants, as discussed in the data recovery report on that site by Stilson (1991). Site 45PI405 is associated with the 1843 Fort Nisqually.



Photograph 2. Marker at Methodist-Episcopal Mission Site (45PI66)



Photograph 3. Text of 1927 marker erected by the DuPont Company (plan view)

Eleven years later, contrary to expectations, no evidence of the Mission building or stockade was identified during archaeological monitoring of contaminated soil removal at nearby site 45PI64 (Burning Ground Dump site) (Daugherty and Condon 2000; Daugherty and Condon 2001:47-48). Although chimney stones were identified at 45PI66 during the testing by Moura in 1989, archaeologists have debated about whether the stones and other artifacts identify the exact location of the Mission building. Daugherty and Condon (2001:48), for example, believe Moura's results are equivocal, although they do state "there appears to be little question that the actual location of the Mission is within a few hundred yards or so of the monument" erected by the DuPont Company.

45PI455 9th U.S. Cavalry Bivouac Site

Historic records indicate about 2,000 men were bivouacked at "Camp Nisqually" for a few months in 1904. The 9th U.S. Cavalry (also known as Buffalo Soldiers) practiced mock battles at the edge of the prairie north of Sequalitchew Creek. After the mock battles ended, the camp and surrounding area were cleared and the refuse burned before the troops departed for return to Fort Walla Walla.

Archaeological investigations (backhoe peels, block and unit excavations) within a 120 square meter area conducted by Moura in 1989 recovered over 800 artifacts and 170 small, burned animal bone fragments (deer, sheep/goat food remains) below the surface (Moura 1991a, 1991b). The artifacts include horseshoes, horseshoe nails, horse teeth, harness tackle, square and wire nails, burned bone fragments, a 1901 dime, and a 1903 rifle cartridge, all associated with the cavalry encampment. Liquor bottles and shotgun shells date to late 19th century use of the area, while prehistoric occupation is evidenced by chipped stone tools (2 knives) and debitage (5 flakes) made from a variety of toolstone (petrified wood, chert, and basalt). Two railroad spikes date to after the DuPont Powder Works was established in 1906. Similar to other sites in this vicinity, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1). There was no surface evidence of the site.

A site number (45PI455) was assigned to the 9th U.S. Cavalry Bivouac area following the test excavations completed by Moura in 1989. The site measures approximately 225 by 100 meters (738 by 328 feet), and historic documentation indicates the artifact assemblage represents the temporary stable area (Moura 1991a:12, 1991b:5). In 1998, State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations (letter to Richard Daugherty dated February 17, 1998). Site 45PI455 is also

considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District (see below).

Additional work at site 45PI455 during archaeological monitoring of contaminated soil removal uncovered no further evidence of this brief occupation by the Buffalo Soldiers (Daugherty and Condon 2000, 2001). Although the bivouac area was encompassed within the targeted hot spots (HS-2 on Figure 2), the remediation program did not include the "stable" area excavated by Moura in 1989 (Moura 1991a, 1991b).

45PI773 Prehistoric Chipped Stone Isolate

This chipped stone isolate was recorded in 2005 by Gary Wessen during survey and excavation of subsurface shovel test probes along Sequalitchew Creek for the proposed expansion of an existing gravel mine (Wessen et al. 2005, 2008). The isolate consists of a total of four pieces of debitage (one complete secondary flake and three flake fragments) manufactured from basalt or dacite. The material was encountered within an approximately 40 x 30 meter area, with one artifact close to the surface in a previously disturbed, very dark brown gravelly sandy loam. The remaining three artifacts were recovered potentially in situ between 30 and 50 cmbs (1-1.6 feet) in a dark yellowish brown gravelly sandy loam.

The archaeologists had placed a series of 31 shovel test probes in this area, 26 of which were arranged at 10-meter intervals along a single east-west trending line located approximately 5 meters north of the northern edge of the creek (Wessen et al. 2008:29). The four pieces of chipped stone were recovered from a section of the test line that was approximately 40 meters long. Of the five probes in the section, four contained a flake or flake fragment. None of the four probes contained more than one artifact. Five additional shovel test probes were excavated in three lines extending northward away from the creek, but no artifacts were recovered. Each probe measured approximately 30 to 38 cm in diameter.

The soil profile in the vicinity of the chipped stone isolate is described as having three strata (Wessen et al. 2008:30). The upper stratum is a very dark brown (10YR 2/2) gravelly sandy loam ranging in thickness from 8 to 25 cm. Next is a dark yellowish brown (10YR 3/4) gravelly sandy loam with a thickness of 40 to 50 cm, followed by a dark yellowish brown gravelly sand with cobbles. Small charcoal fragments were recovered from the two sandy loam horizons. In addition to one piece of debitage, the upper horizon contained a small quantity of concrete rubble, one square nail, and a mammal bone fragment, which suggested the stratum had been previously disturbed.

Isolate 45PI773 is located near site 45PI455, the 9th U.S. Cavalry Bivouac site, along the north side of the upper edge of Sequalitchew Creek. It is unknown if the four pieces of debitage recovered at 45PI773 are related to the prehistoric chipped stone artifacts (2 knives and 5 flakes) recovered during the 1989 test excavations at 45PI455 (Moura 1991a, 1991b; Wessen et al. 2008:30). Since little information on prehistoric occupation of this area can be provided by the few pieces of debitage recovered from the discontinuous subsurface probes, isolate 45PI773 was recommended ineligible for NRHP listing (Wessen et al. 2008:32).

Nisqually-Sequalitchew Historic District (proposed)

Proposed by the Point Nisqually Defense Fund (2003), this historic district would cover approximately 360 acres along both sides of Sequalitchew Creek. Thirteen archaeological sites are identified in the NRHP nomination form as contributing elements. These include 45PI66 and 45PI455 within Lot Y, as well as 45PI401 near Lot Y, in the northern extent of the proposed district. The district has not yet been approved. The nomination assumes undisturbed deposits remain at the sites in sufficient quantity and diversity to address research questions related to the history of the district. It is unclear if intact remains

exist at the sites and if so, whether the deposits would contain the data required to address the research questions.

45PI401 HBC/PSAC Dwelling Site

Located approximately 0.1 mile east of Lot Y, site 45PI401 was identified in 1988 on the north bank of Sequalitchew Creek during survey of the right-of-way for then-planned Center Drive (Welch 1989a:4.28). The site had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Data recovery investigations at the site ensued and 5,000 historic and 100 prehistoric artifacts, foundation remains, a shell concentration, and fire pits were identified (Stilson 1990, 1991; Daugherty 1993b). The lithic assemblage includes 10 projectile points, 6 utilized flakes, 1 scraper, 1 ground stone adze blade, and 82 modified or non-utilized flakes (Stilson 1990:47). The investigation covered 450 square feet and included shovel test probes, backhoe peels and trenches, 1x2 meter units, and 1x1 meter units. There was a rapid decrease in the frequency of artifacts as the distance of the shovel test probes, which extended 30 meters to the west, increased away from the site.

Site 45PI401 is the location of former HBC/PSAC dwellings associated with 1843 Fort Nisqually (45PI56). The site is located just outside the west palisade wall of the fort. The two dwellings date from the 1840s to 1850s, and may have been that of a dairyman and of a Nisqually tribal member who was in charge of the dairy after ca. 1850 (Stilson 1990:121). In Stilson's view (1990:119), the large number of lithic artifacts is associated with the Nisqually tribesman employed by PSAC. It is also feasible, however, that the material represents Native American occupation of the area prior to nonindigenous settlement. The site is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. It was destroyed during construction of a bridge over Sequalitchew Creek.

45PI405 HBC/PSAC Dwelling Site

Located approximately 0.1 mile east of Lot Y, site 45PI405 was identified in 1988 on the south bank of Sequalitchew Creek during survey of the right-of-way for Center Drive (Welch 1989a:4.28). The site was also located at the junction of two DuPont Company access roads, and had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Similar to site 45PI401, this site also contains HBC/PSAC structural remains associated with 1843 Fort Nisqually as well as over 53,000 artifacts, including Native American lithics, which were recovered during data recovery investigations (Stilson 1991; Daugherty 1993c). The area investigated totaled 2,756 square feet. The lithic assemblage includes 52 tools/tool fragments and 89 pieces of debitage. Similar to the chipped stone found at 45PI401, the lithics may have been associated with the historic period or perhaps earlier.

Site 45PI405 is located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). It is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. Situated within and straddling Center Drive, the majority of the site was destroyed during construction of the roadway.

TRIBAL CONSULTATION

The inventory for the Permit involved correspondence with cultural representatives or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes (see Appendix B). A phone call was received from Joe Kalama of the Nisqually Tribe expressing their desire to monitor the subsurface investigations. We contacted the Tribe again as the date for the fieldwork approached, and Kareem Gannie served as the project Native American monitor for survey and subsurface testing.

RESEARCH DESIGN

ARCHAEOLOGICAL EXPECTATIONS

Based on the literature review and history of this region, the project area has a high sensitivity for the presence of prehistoric and historic cultural resources. Similarly, the DAHP predictive model shows the area as "Very High Risk." The project area is within the traditional territory of the Nisqually Tribe along Sequalitchew Creek and relatively near the village at the mouth of the creek. Chipped stone tools have been found within Lot Y (45PI773) and in close proximity to the project (45PI401, 45PI405, 45PI576), and Native American burials within a 0.5-mile radius of Lot Y (Tables 2 and 3). The project is also within an area that was settled in the early 1880s during the HBC/PSAC era, an area used in 1904 by the 9th U.S. Cavalry bivouac and war games, the Old Town period of the DuPont Powder Works and its railroad network, and the early years of today's city of DuPont. A variety of historic period artifacts, features or deposits have been previously identified within Lot Y (45PI63, 45PI64, 45PI66, 45PI455) and in close proximity to the project (e.g., 45PI401, 45PI405), and historic period burials found within the 0.5-mile radius (Tables 2 and 3).

The project area has been extensively disturbed throughout the historic period, beginning by construction of the Methodist Episcopal Mission (45PI66) during the HBC/PSAC era and related removal of old growth trees, agricultural practices and cattle grazing, and by construction of the DuPont plant facilities and railroad network (45PI63, 45PI64). Extensive land disturbance during DuPont's Old Town period in the early 1900s resulted from logging, land leveling, the frequent construction and demolition of buildings, road and railway network construction, annual clearing and burning of underbrush, and relatively frequent explosions. Site 45PI64 was the location of a former black powder manufacture and storage building, and the site was also used as a dump where hazardous and non-hazardous waste from the DuPont Powder Works plants was discarded and burned. In addition, many of the production buildings were burned prior to release of the property to Weyerhaeuser after the DuPont Powder Works closed in 1976.

More recently, contaminated soil remediation activities resulted in extensive damage to the landscape within the project area and included complete removal of two of the archaeological sites (45PI63 and 45PI64) and partial removal of a third site (45PI455). Methods used during the remediation program included clearing and grubbing of vegetation subsequent to locating and flagging each hot spot (Daugherty and Condon 2000:7). The excavations generally achieved a depth of 46 cmbs (1.5 feet), and each initial excavation area around a hot spot measured at least 50x50 feet, since the area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction. Figure 2 illustrates the extent of hot spot removal within Lot Y.

Based on existing archaeological data for this area, the types of archaeological materials that might be present in the general vicinity could potentially include the remains of artifacts (e.g., flaked stone tools, tool-making debris, ground stone tools, fire-affected rock), soil discoloration or shell that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., horse paraphernalia, railroad ties, concrete blocks, metal, glass, ceramics). Chipped stone tools, if present, may be related to either the prehistoric or ethnohistoric periods. Historic-period cultural resources, if present, would most likely be related to settlement in the early 1800s during the HBC/PSAC era, the 9th U.S. Cavalry bivouac and war games of 1904, the early years of the DuPont Powder Works (Old Town period), including construction of the narrow-gauge railroad, and the early years of today's city of DuPont.

Considering the gravelly nature of the Spanaway soils and the history of disturbance, it is expected that cultural material, if present, would be discovered above a depth of 25 to 30 cmbs (0.8-1 foot). As discussed above, sterile gravels have been encountered at shallow depths (25-30 cmbs) at archaeological sites in this vicinity, including 45PI66 and 45PI455 within the project area.

OBJECTIVES

As presented in the Permit, the goals of this investigation are to determine if any intact subsurface archaeological deposits from the prehistoric, ethnohistoric, or historic periods remain within the project area, to document them, to add important information to the sites determined eligible (45PI66 Methodist Episcopal Mission site) or considered potentially eligible (45PI455 9th U.S. Cavalry Bivouac site) for NRHP listing, and to assess the potential eligibility for listing on the NRHP of any newly discovered sites. More specifically, based on our knowledge of the prehistory, ethnography, and history of the project vicinity and the results of the prior local archaeological investigations, the following research questions guided the investigation:

1. Is there evidence for the exact location of the 1840–1842 Methodist Episcopal Mission building? Although extensive investigations have taken place within site 45PI66 and chimney stones were recovered, the opinion that the precise location of the Mission was identified is considered equivocal (compare Moura 1991a:8; Daugherty and Condon 2001:48). This site has been determined eligible for NRHP listing under Criterion A, and such evidence (i.e., postholes) would contribute additional important information about the location of the Mission building.

2. Is there additional evidence preserved of the 9th U.S. Cavalry 1904 encampment? Investigation extending outward from the backhoe peels completed in 1989 (Moura 1991a, 1991b) and the soil remediation program in 2000 (Daugherty and Condon 2000, 2001) within site 45PI455 may uncover further evidence of this brief occupation by the Buffalo Soldiers, such as privy holes or trash pits. Such evidence would contribute important information to the potential eligibility of this site for NRHP listing.

3. Is there evidence of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that indicates Native Americans repeatedly occupied the area prior to Euro-American settlement during the historic period, and does the evidence indicate a firm link between previously recorded resources? Such evidence may connect the four pieces of debitage recorded as isolate 45PI773 and recovered from a series of discontinuous subsurface probes (Wessen et al. 2008) to the seven chipped stone artifacts recovered during the 1989 test excavations at site 45PI455, the 9th U.S. Cavalry Bivouac site (Moura 1991a, 1991b).

4. Is there additional evidence for HBC-PSAC activities outside of and not related to previously recorded site 45PI66? If undisturbed deposits or features from this mid-1800s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., post holes, privy holes, wells, trash pits, burials, etc.).

5. Is there additional evidence for Old Town period activities outside of and not related to previously recorded site 45PI63 (Railroad Dump)? If undisturbed deposits or features from this early 1900s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., trash pits, privy holes, wells, burials, etc.).

6. Is there additional evidence for DuPont period activities outside of and not related to previously recorded site 45PI64 (Burning Ground Dump)? If undisturbed deposits or features dating to this period from the 1920s to 1945 exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., burials, trash pits, wells, privy holes, etc.).

FIELD METHODS AND PERSONNEL

All work by PCI for this investigation was conducted by professional archaeologists as defined under RCW 27.53.030(8) and who meet the Secretary of the Interior's Standards (National Park Service [NPS], 1983). PCI archaeologists Cindy Arrington, M.S., and Peter Morris completed the fieldwork, and Dr. Nancy Sikes served as the cultural resources Principal Investigator for the project. Kareem Gannie of the Nisqually Tribe served as the project Native American monitor for survey and subsurface testing.

Field methods approved for this project included intensive-level pedestrian survey followed by subsurface testing, and then monitoring of geotechnical subsurface exploration in the project area. These three phases of fieldwork were conducted by PCI archaeologists on the dates in February and March 2011 shown in Table 4. The methods employed for each field phase are presented separately below.

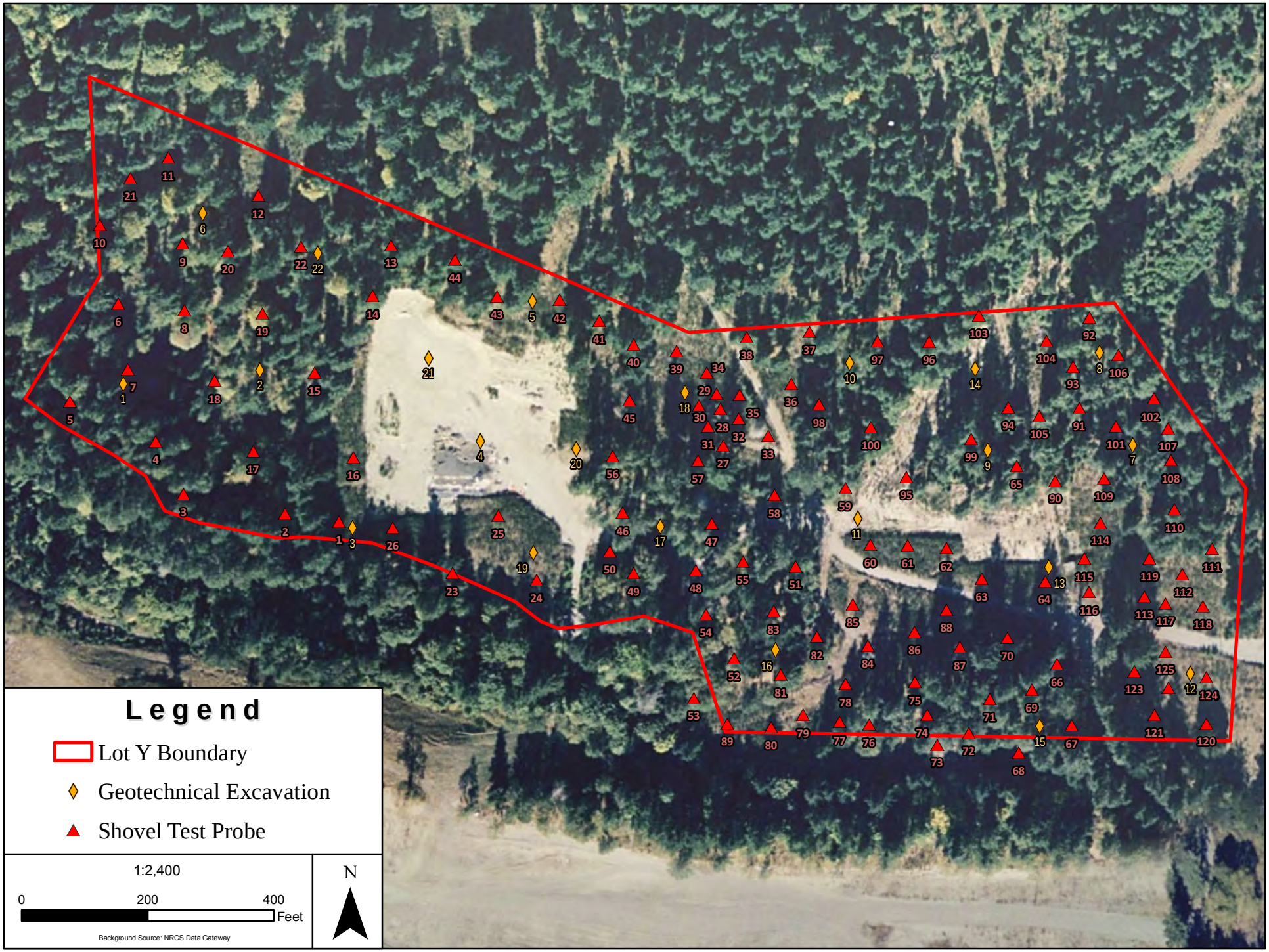
Table 4. Project Field Phase Dates and Personnel

Field Phase	Archaeologist (s)	Date of Fieldwork
Survey	Cindy Arrington and Peter Morris	February 17–18, 2011
Subsurface testing	Cindy Arrington	February 21-28 and March 1-2 2011
Monitoring of geotechnical subsurface exploration	Cindy Arrington	March 3-4, 2011

The pedestrian survey was conducted prior to any subsurface excavations to identify any previously unrecorded archaeological material from the prehistoric, ethnohistoric or historic periods that could potentially be present on the surface of the project area. The intensive-level pedestrian survey encompassed the entire 25.3-acre project area. Transect spacing within the project area was no greater than 15 meters apart and was accomplished on an east-to-west bearing. The 25.3-acres surveyed by PCI archaeologists comprise the maximum physical footprint of potential ground-disturbing activities associated with the proposed construction (Figure 1).

Following the pedestrian survey, a series of 125 shovel test probes (STPs) and 22 geotechnical excavations (GTEs) were excavated within the project area at random intervals as shown on Figure 3. At the request of the City of DuPont and DAHP, no STPs were placed in existing trails, pedestrian paths, or gravel roadways. Additionally, all STPs were backfilled and compacted daily. The STPs and GTEs were accomplished by mechanical excavation using a backhoe with a 2-foot bucket attachment and smooth plate. Dan Andreas of Miles Resources operated the mechanical equipment. PCI archaeologists remained at a safe distance from all mechanical equipment, while continuing to examine the sides of the trenches for cultural resources. All field personnel were aware of prior soil contamination within Lot Y (mainly lead and arsenic) and related remediation completed in 1999 and 2000, and observed standard safety protocols.

Each of the 125 STPs measured 3 feet in length and 2.5 feet in width. STP levels were dug in 7-cm (3-inch) increments or until sterile gravels were encountered. Soils taken from the STPs were screened through 1/8-inch hardware cloth. No STPs were placed in three hot spots (HS-3, HS-4 and HS-6, which include the former locations of 45PI63A, 45PI63B, and 45PI64) where the prior remediation efforts 11 years ago removed contaminated soils and where sterile gravel is now exposed throughout these portions of the project area, as clearly visible on the aerial photograph (compare Figures 2 and 3). Sterile gravel was encountered in 123 of 125 STPs between 35 and 130 cmbs (1.1-4.3 feet); mixed stratigraphy or fill was present in two STPs. Records for the individual STPs, detailing levels, soil texture, color, and comments, are located in Appendix C.



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Subsurface Testing Map

PARUS CONSULTING, INC.

Figure 3

Each of the 22 GTEs measured 3 feet wide by 5 feet long. GTE upper levels were dug in 3-inch (7-centimeter) increments or until sterile gravels were encountered, while lower levels, after encountering sterile gravels, were dug in1-foot increments. Four of the GTEs were excavated within the hot spot removal areas (Figures 2 and 3). Soils taken from the GTEs at 4 feet, 6 feet, and 10 feet were screened through 1/8-inch hardware cloth. Twenty GTEs were excavated to 305 cmbs (10 feet); one GTE with mixed stratigraphy was terminated at 250 cmbs (8.2 feet); one GTE filled with water at 244 cmbs (8 feet). Records for the individual GTEs, detailing levels, soil texture, color, and comments, are located in Appendix C.

All undeveloped ground surface areas within the current project limits were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic debris (e.g., metal, glass, ceramics). Ground disturbances, including a graveled dirt road and dirt two-track, were visually inspected. Climatic conditions varied from sunshine during the first three days of fieldwork to inclement weather (rain, snow, sleet, or hail) during part or all of each succeeding day.

Photographs of the current project area, ground surface visibility, STPs, GTEs, and items of interest were taken with a digital camera. Soil color was recorded using a Munsell© Soil Color Chart. The surveyed acreage and location of the STPs and GTEs were recorded with a handheld Trimble® GeoXT global positioning system (GPS) unit. Field notes and photographs are on file at PCI.

Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected. For all archaeological materials identified during the fieldwork, PCI archaeologists completed the appropriate Washington Archaeological Site Inventory and Isolate forms.

FIELD RESULTS

GENERAL DESCRIPTION AND SUMMARY

The northern, eastern and western sides of the project area are immediately bordered by dense conifer forest (Photograph 4). Elevation within Lot Y increases from 64 meters above mean sea level (msl) by approximately 1 to 3 meters from east to west, and from 61 to 68 meters above msl from south to north. Sequalitchew Creek is located approximately 50 feet outside the entire Lot Y southern boundary at the bottom of a steep embankment. At the time of the pedestrian survey, the creek had a generous water flow.



Photograph 4. Forest to north, east, and west of Lot Y (view to southwest)

The project area contains four cleared hot spots (HS) where the contaminated topsoil was removed during remediation efforts in 1999 and 2000 (Figure 2). HS-6 is a large semi-square clearing that lacks vegetation, and is currently used as a gravel pit. As shown on the figure, a narrow linear extension of HS-6 extends eastward to meet the western extent of HS-3 south of the recorded boundaries of site 45PI66. Vegetation is re-establishing within the HS-2, HS-3, and HS-4 remediation clearings, and includes mostly small conifers, scotch broom and grasses.

A paved walking trail maintained by the City of DuPont and situated outside the southern border of Lot Y parallels the northern side of Sequalitchew Creek. As shown on Figure 2, a dirt road transects a portion of the project area, running east to west, starting at a chain-link fence on the eastern boundary and ending at the eastern edge of HS-6. The road is approximately 1,067 feet long and has a thin gravel coating. An approximately 460-foot long area devoid of vegetation, the previous location of a narrow-gauge railroad track, leads northeast from HS-3 to HS-4. All railroad tracks were removed from the project area between 1995 and 2000 (personal communication, Fred Foreman).

A non-functional segment of a narrow-gauge railroad track bisects the eastern edge of the project area. There is also a concrete loading platform in the eastern portion of the project area. The platform is located approximately where the former sets of narrow gauge and standard gauge railroad tracks crossed each other as shown on the March 15, 1955 map of the DuPont Works drawn by E. Davies. To the south and immediately outside of the current project area is a set of concrete bridge abutments near Sequalitchew Creek. These are the remnants of a narrow-gauge railroad bridge shown on the 1955 map. The track segment, concrete platform, and set of bridge abutments were recorded as archaeological sites (see below).

As detailed below, except for two brick fragments located on the surface and at depth within the boundaries of 45PI66 (Methodist Episcopal Mission site), no evidence was found during this investigation within Lot Y of the previously recorded sites and isolate covered by the excavation permit.

Vegetation within the project area perimeter consists of open, second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the ground in the majority of the project area is very poor, near zero percent, due to a dense coverage of grass, moss, and forest duff (Photograph 5). In the open ground areas in HS-6 and HS-3, visibility is good to excellent, ranging between 30 and 100 percent (Photograph 6).



Photograph 5. Visibility at 0% (view to northeast)



Photograph 6. Visibility at 30-100% (view to northeast)

SUBSURFACE TESTING RESULTS

The subsurface stratigraphy was consistent within 123 of the 125 STPs and all 22 GTEs excavated within the project area (Figure 3). The soil throughout the project area is consistent with the description for the Spanaway series developed on glacial outwash sediments (Soil Survey Staff 2009). There are three soil horizons, though horizon 2 is not present in all STPs or GTEs. The depth of the horizons varies across the Lot Y landscape in relation to the topography and prior human disturbance. Horizon 1 is a moist, very dark brown (10 YR 2/2) gravelly sandy loam with weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots with a very high organic matter content. Horizon 2 is a moist very fine crumb dark gray brown (10 YR 3/2) gravelly sandy loam with little distinction in texture from horizon 1. Horizon 3 is moist and fluctuates between a dark gray brown (2 YR 4/2) and an olive brown (2YR 4/4) gravelly sand with no soil matrix. The single grained, loose sand is the prominent content with some rounded to sub-rounded cobbles; it is also very compact.

Only two of the subsurface units (STPs 28 and 115) contained cultural material. A brick fragment, measuring 3x4x2 inches, was located at 20 cmbs (8 inches) in STP 28 within site 45PI66 (Methodist Episcopal Mission). The brick was not handmade and no maker's marks were located on the fragment. Additionally, a smaller brick fragment was located at ground level within inches of STP 35 (also within 45PI66). STP 115 is located 18.5 feet due east of a concrete platform and the soil is entirely mixed down to a level of 200 cmbs (6.6 feet). A flat iron bar with four bolts protruding was located at 160 cmbs (5.2 feet). The iron bar measured 24 inches long by 3 inches wide and 1/8th inch thick, and has four 3.5-inch metal bolts spaced roughly 7 to 8 inches apart (Photograph 7). The iron bar appears to be associated with the concrete platform, given its close proximity and the paint on the bolt heads matches the metal on the platform.



Photograph 7. Flat iron bar in STP 115 (plan view)

All but two of the 125 STPs (STP 89 and 115) were excavated until sterile gravel was encountered. Although the presence of the Spanaway series soil horizons was consistent, the depth of sterile gravel varied from 35 cmbs to 130 cmbs (1.1-4.3 feet) across the project area. STP 115 had mixed stratigraphy and was excavated to a depth of 200 cmbs (6.6 feet). The soil in STP 89 is a moist, brown (7.5 YR 4/4) silty loam until the typical underlying horizon appears at 110 cmbs (3.6 feet) as a moist, dark green brown (2.5 YR 4/4) gravelly sand. The typical upper horizon of gravelly sandy loam appears to have been removed near STP 89 and replaced with imported soil. The STP was placed 66 feet northeast of the set of bridge abutments. It seems likely that more stable soil was imported for the approach to the narrow-gauge bridge that once crossed Sequalitchew Creek.

Six of the STPs located in the eastern portion of the project (STPs 113, 116-119) near the gravel road each display a gray upper horizon not noted in any other portion of the project area (Photograph 8). The moist, dark gray (2.5 YR 3/1) soil is similar in structure to the typical horizon 1, but is noticeably different in color and is relatively thin (0-25 cm [0-9.8 inches]), and is likely related to prior disturbance.

STPs 120 through 125, located in the southeastern portion of the project area, all show evidence of a grass fire. Small flecks of charcoal are noted in the upper 5 cm of each unit. Of these six STPs, only STP 120—with a total depth of 95 cmbs (3.1 feet) and nearest the creek—contained horizon 2. The profiles in STPs 121 through 125 are restricted to horizon 1 (0-60 cmbs [0-23.6 inches]) and horizon 3 (60-80 cmbs [23.6-31.5 inches]).

With the exception of the brick fragment in STP 28 and the iron bar in STP 115, no cultural material was located in the series of 125 STPs excavated within the project area.



Photograph 8. Upper gray horizon in eastern STPs near gravel road (view to west)

GEOTECHNICAL SUBSURFACE EXPLORATION RESULTS

Of the 22 GTEs placed in the project area (Figure 3), all but two (GTEs 9 and 14) were taken to a depth of 305 cmbs (10 feet). The soils throughout the GTEs are relatively consistent with the Spanaway series (Photograph 9), although only five (GTEs 1, 3, 5, 12, 13, and 15) contain horizon 2.

In the eastern sector of the project area, GTE 9 has mixed stratigraphy and was excavated to a depth of 250 cmbs (8.2 feet). The upper horizon is a thin layer of sand (0-20 cmbs [0-8 inches]) followed by a mix of horizon 1 very dark brown (10 YR 2/2) gravelly sandy loam and sand with very few cobbles. It appears to be imported fill material. This unit is in close proximity to two of the hot spots (HS-3 and HS-4) cleared for soil contamination (compare Figures 2 and 3). In the northeastern sector, GTE 14 was terminated at 244 cmbs (8 feet) when water entered the unit and began to fill rapidly.

No cultural material was located in any of the 22 GTEs excavated within Lot Y.



Photograph 9. Sediments within GTE 16 (plan view)

PREVIOUSLY RECORDED RESOURCES WITHIN PROJECT AREA

The only evidence found during this investigation within Lot Y of the two previously recorded historic archaeological sites (45PI66 and 45PI455) and one prehistoric isolate (45PI773) was the two brick fragments located within the boundaries of 45PI66, the Methodist Episcopal Mission site. In addition, there was no evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed during hazardous materials remediation in 2000.

45PI66 Methodist Episcopal Mission Site

During this field investigation, eight STPs (STPs 28-35) were placed within the previously identified boundary of 45PI66. Two fragmented red brick pieces were located: one fragmented piece in STP 28 at 20 cmbs (8 inches) (Photograph 10) and one at ground level within inches of STP 35. The larger of the two brick fragments (3x4x2 inches in STP 28) was not handmade and had no maker's marks. No other cultural artifacts were identified within the site boundary.



Photograph 10. Brick fragment in STP 28 (plan view)

The soil within the STPs placed within the site boundaries is a shallow (0-25 cm [0-9.8 inch]) moist, very dark brown (10 YR 2/2) gravelly sandy loam with a weak fine granular structure; soft, very friable, nonsticky and nonplastic; with many fine roots and a very high organic matter content. Below the single soil horizon is a moist, dark gray brown (2.5 YR R 4/2) gravelly sand with no soil matrix. Within the single-grained, loose sand are some medium to large rounded to sub-rounded cobbles. This profile description is consistent with that described during the archaeological excavations conducted in 1989 within 45PI66 (Welch 1989a; Moura 1991a). Those excavations were stopped when sterile gravels were encountered at 25 cmbs (0.8 feet).

No evidence was discovered during this investigation of the exact location of the 1840–1842 Methodist Episcopal Mission building or of any undisturbed archaeological deposits or features related to the mission, the HBC/PSAC era, or any other archaeological period. The work further substantiates the opinion that site 45PI66 is not eligible under Criterion D (data potential). The Methodist Episcopal Mission site has, however, been determined eligible for NRHP listing under Criterion A for its association with significant events.

45PI455 9th U.S. Cavalry Bivouac Site

There was no surface evidence of site 45PI455 during this investigation and no cultural material or deposits within a series of 12 STPs (STPs 72-82 and 84) placed within or adjacent to the recorded site boundaries. The soil horizons within the STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 35 and 70 cmbs (1.1-2.3 feet). During test excavations in 1989 when nearly 1,000 artifacts and animal bone fragments were collected, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1).

No additional evidence of the 9th U.S. Cavalry 1904 encampment or of any undisturbed archaeological deposits or features was discovered during this investigation. Since 1998 when State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations, no further evidence of site 45PI455 was uncovered during the remediation program a decade ago (Daugherty and Condon 2000, 2001) or during the current endeavor. Site 45PI455 is thus not considered eligible for NRHP listing under Criterion D (data potential). The 9th U.S. Cavalry Bivouac site is, however, considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District.

45PI773 Prehistoric Chipped Stone Isolate

No cultural material was identified on the surface of 45PI773 or within three STPs (STPs 72, 77, 80) placed during this field investigation within or adjacent to the locations of the shovel test probes excavated in 2005 (Wessen et al. 2005, 2008). The soil horizons within the three STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 22 and 70 cmbs (0.7-2.3 feet). The soil profile in the vicinity of where the four pieces of debitage were encountered in the series of discontinuous subsurface probes was described by Wessen et al. as having three strata (2008:30) with the lower gravelly sand horizon with cobbles at 50 cmbs (1.6 feet).

No evidence was discovered during this investigation of any undisturbed archaeological deposits or features, including no sign of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that might have linked the four pieces of debitage recorded as isolate 45PI773 to the seven chipped stone artifacts recovered during the 1989 test excavations at nearby 45PI455 (9th U.S. Cavalry Bivouac site). PCI agrees with the prior recommendation that isolate 45PI773 is ineligible for NRHP listing.

NEWLY IDENTIFIED RESOURCES WITHIN PROJECT AREA

Four historic period resources were newly identified during the pedestrian survey: three archaeological sites and one isolate (Figure 2). The three sites include a segment of a previously identified narrow-gauge railroad track and grade (45PI01224), a railroad concrete loading platform (45PI01225), and a set of railroad bridge abutments (45PI01226). The isolate (45PI00064) is one galvanized kerosene can. A brief description of the newly identified historic period resources is presented below. Detailed information can be found in the State of Washington Archaeological Site Inventory and Isolate Forms, attached as Appendix D.

No prehistoric or ethnohistoric period resources were newly identified during pedestrian survey of the surface or within the subsurface excavations.

45PI01224 Narrow Gauge Railroad Track

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area (Figure 2; Photograph 11). The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.



Photograph 11. 45PI01224 segment of narrow-gauge track (view to east)

45PI01225 Concrete Loading Platform

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used

for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform (Photograph 12). The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



Photograph 12. Concrete loading platform (view to east)

45PI01226 Railroad Bridge Abutments

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation (Photograph 13). Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek (Figure 2). There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer

piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side (Photograph 14). An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



Photograph 13. Bridge abutment (view to north)



Photograph 14. Wood debris showing cleat (plan view)

45PI00064 Parus Isolate #1 Kerosene Can

A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the "gravel pit" (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact (Photograph 15). The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.



Photograph 15. Kerosene can (plan view)

PROJECT CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

No evidence was found during this investigation within Lot Y of 45PI66 (Methodist Episcopal Mission site), 45PI455 (9th U.S. Cavalry Bivouac site) or 45PI773 (chipped stone isolate), except for two brick fragments located on the surface and at depth within the boundaries of 45PI66. Nor was there any surface or subsurface evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation.

No historic properties will be affected by implementation of the Lot Y project. Although the Methodist Episcopal Mission site has been determined eligible for NRHP listing under Criterion A for its association with significant events and also contributes to the proposed Nisqually-Sequalitchew Historic District, site 45PI66 is not eligible under Criterion D (data potential). Similarly, although the location of the brief occupation by the 9th U.S. Cavalry Buffalo Soldiers is potentially eligible for NRHP inclusion as a contributing element of the proposed Nisqually-Sequalitchew Historic District under Criterion A, site 45PI455 is not considered eligible for NRHP listing under Criterion D. Isolate 45PI773 is considered ineligible for NRHP listing.

The two newly identified sites within Lot Y, 45PI1224 (railroad track segment) and 45PI01225 (concrete platform), and are recommended ineligible for listing on the NRHP or WHR. The kerosene can isolate (45PI00064) is considered ineligible for listing. The third newly identified site, 45PI01226 (bridge abutments; also recommended ineligible for listing on the NRHP or WHR), is located immediately outside the Lot Y project area.

Considering the results of the literature search, local ethnographic settlement and subsistence patterns, the prehistory and history of the vicinity, and DAHP's predictive model, the project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. On the other hand, Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. Based on the lack of cultural deposits in the gravelly sandy loam and gravelly sand subsurface sediments exposed in the series of 125 STPs and 22 GTEs excavated to depths between 35 and 305 cmbs (1.1-10

feet), the potential for discovery of buried archaeological materials, features or deposits by implementation of this project is considered low. Therefore, no further cultural resource action is warranted.

There is always the potential for the existence of buried archaeological materials within the project area, mostly likely restricted to shallow depths above the outwash gravels, and an Unanticipated Cultural Resources Discovery Plan has been prepared for the project and is attached to this report as Appendix E. Pursuant to the Discovery Plan, should cultural resources be encountered during construction or ground-disturbing activities connected with this project, work in the area must be halted and a professional archaeologist, who meets the definition under RCW 27.53.030(8), should be notified immediately to evaluate the resource(s) encountered. Should human skeletal remains be encountered, all activity in the area must halt, the remains protected from further disturbance, and the county coroner and local law enforcement notified immediately (RCW 27.44, 68.50, 68.60).

Resources within this area that might be encountered might include prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden). Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, ceramic artifacts, or other debris older than 50 years.

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APPENDIX A:
Archaeological Excavation Permit No. 2010-54

STATE OF WASHINGTON
DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION
1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

February 7, 2011

Ms. Lia Estigoy
DuPont Industrial Partners, LLC
1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

Nancy E. Sikes and Cindy Arrington
GeoEngineers, Inc.
1101 S. Fawcett Avenue, Suite 200
Tacoma, WA 98402

Dear Ms. Estigoy, Ms. Sikes and Ms. Arrington:

I have reviewed the application you submitted for archaeological excavations at 45PI00066. It is my intention to grant the permit application for excavations at 45PI00066. Please take note of the Special Conditions on the permit.

If you feel aggrieved by this decision you may request an administrative hearing within twenty-one days after receipt of this notice. Your request should be sent to the address listed below.

Director
Department of Archaeology and Historic Preservation
PO Box 48343
Olympia, WA 98504-8343

Sincerely,

Stephenie Kramer
Assistant State Archaeologist
(360) 586-3083
Email: stephenie.kramer@dahp.wa.gov

Enclosure

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343

ARCHAEOLOGICAL EXCAVATION PERMIT
NO: 2010-54

Archaeological sites:	45PI66, 45PI455 and 45PI773, Lot Y
Individual Responsible for carrying out the terms and conditions of the permit:	Lia Estigoy Property Owner
Individual responsible for field investigations:	Nancy Sikes & Cindy Arrington GeoEngineers, Inc.
Nature of work:	Sub-surface survey and geotechnical pits, archaeological testing
Repository in which collected records and data shall be deposited:	Nisqually Tribe & DuPont Historical Museum; cc DAHP on transfer
Date fieldwork to begin:	**Upon receipt; but notify DAHP and Tribes via email before starting**
Date fieldwork shall end:	April 31, 2011
Period of analysis:	Concurrent through May 31, 2011
Date final report due:	May 31, 2011 Per WAC 25-48-041, if the report is late, a Notice of Violation will be issued & a $5000 penalty assessed

Special Conditions:

- Follow protocols stated in permit application of 12/2/10 and email of 2/7/11
- Notify DAHP and Tribes if intact archaeological deposits are observed
- Switch to hand excavation for intact deposits
- Restore trails if units are needed in trail areas
- Be aware of City of DuPont's comments regarding arsenic
- Provide copy of report to DAHP & affected Tribes
- Report must meet DAHP's Survey and Inventory Standards
- Append catalog & BetaAnalytic sheets to report, reference permit number
- If human remains are encountered, stop work, secure the area, notify the county coroner, sheriff, DAHP, & affected Tribes per RCW 27.44.055

Issued this 7th day of February 2011.

Stephenie Kramer
Assistant State Archaeologist

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past, Shape the Future

APPENDIX B:
Correspondence with Local Tribes

Native American Tracking Sheet
DuPont Industrial Partners, LLC
DuPont, WA – Lot Y

GeoEngineers Project No. 16785-003-00

Contact Name	Date Letter Sent Via Email	Comments/Concerns Recommendation
Puyallup Tribe 3009 East Portland Avenue Tacoma, Washington 98404 Judy Wright, THPO Cultural Resources 253-573-7897 Judy.Wright@puyalluptribe.com	**11-8-2010**	No response
Nisqually Tribe 4820 She-Nah-num Drive SE Olympia, Washington 98513 360-456-5221 phone Thor Hoyte, Cultural Resources Hoyte.thor@nisqually-nsn.gov	**11-8-2010**

GeoEngineers
1101 S Fawcett, Suite 200
Tacoma, Washington 98402
253.383.4940

November 8, 2010

Puyallup Tribe
3009 East Portland Avenue
Tacoma, Washington 98404

Attention: Judy Wright, THPO Cultural Resources

Sent via email: Judy.Wright@puyalluptribe.com

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont Washington

Dear Ms. Wright:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26- acres (Figure 1).

Archaeologists have previously recorded and investigated four sites on Lot Y: 45PI63, the Railroad Dump #3 Site; 45PI66, the Methodist Episcopal Mission Site; 45PI455, the 9th Cavalry BivouacSite; and 45PI773, a small lithic scatter. Additionally, Site, 45PI64 The Burning Ground Dump Site, had been recorded in 1977 and additional work done in 2000. The entire site (approximately 3,000 square feet) was removed during a hot spot or contaminated soils treatment program for hazardous substances in 2001. In 1993, the SHPO determined the site ineligible for NRHP listing.

An Application for an Archaeological Excavation Permit is being completed pursuant to permit requirements found in the Washington Administrative Code [WAC] 25-48-060. There is no federal involvement in this project. The work for the proposed project will be conducted under prevailing Washington state laws, which serve to protect from known disturbance of archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

GeoEngineers is in the process of reviewing available background information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource sites, reports, and review pertinent published literature and ethnographies. Results of our investigation will be presented in a technical report.

We are aware that all information regarding cultural resources is within published sources. Should the Tribe have additional information concerning cultural resources, we would like to include it in our study. Please contact me should you wish to provide any comments or additional information. I appreciate your assistance in this matter and look forward to hearing from you. If I can answer any questions you may have, please do not hesitate to contact me at Carrington@geoengineers.com or at 916-765-9381.

Best Regards,



Cindy Arrington
Cultural Resource Specialist

Attachment:
Figure 1

GeoEngineers
1101 S Fawcett, Suite 200
Tacoma, Washington 98402
253.383.4940

November 8, 2010

Nisqually Tribe
4820 She-Nah-num Drive SE
Olympia, Washington 98513

Attention: Thor Hoyte, Cultural Resources

Sent via email: Hoyte.thor@nisqually-nsn.gov

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont Washington

Dear Mr. Hoyte:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26- acres (Figure 1).

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Best Regards,



Cindy Arrington
Cultural Resource Specialist

Attachment:
Figure 1

GeoEngineers
1101 S Fawcett, Suite 200
Tacoma, Washington 98402
253.383.4940

November 8, 2010

Squaxin Tribe
SE 70 Squaxin Lane
Shelton, Washington 98584

Attention: Rhonda Foster, THPO Cultural Resources

Sent via email: rfoster@squaxin.nsn.us

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont Washington

Dear Ms. Foster:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26- acres (Figure 1).

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Best Regards,



Cindy Arrington
Cultural Resource Specialist

Attachment:
Figure 1



Lot Y

T19N, R 1E, Section 26
USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

N
W E
S

1:24,000

2,000 0 2,000
Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
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Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

Location of Lot Y

DuPont Industrial Partners, LLC
Dupont, Washington

GeoEngineers

Figure 1

Office: Tacoma Path: W:\Tacoma\Projects\16\16785003\GIS\16785003_F1_LocationMap.mxd Map Revised: November 8, 2010 CRC

From: Cindy J. Arrington
To: kalama.joe@nisqually-nsn.gov
Subject: RE: Requested information
Date: Friday, November 19, 2010 7:55:00 AM

Good Morning Joe:

I have an upcoming project in DuPont and which requires a Washington Archaeological Excavation permit. It is my clients intention to donate to the Nisqually Tribe ("Tribe") and/or DuPont Historical Museum ("Museum") any archaeological materials collected during the subsurface archaeological excavations planned on their private land ("Lot Y") in the City of DuPont, Pierce County, Washington. The project comprises approximately 26 acres, the property is located west of Center Drive and north of Sequalitchew Creek. It is situated in Section 26 of Township 19 North Range 1 East, on the 1981 Nisqually 7.5-minute USGS topographic map (Willamette Meridian).

Permission for excavation and related removal of archaeological material from Lot Y is being requested in an Archaeological Excavation Permit filed with the Department of Archaeology and Historic Preservation (DAHP) pursuant to permit requirements found in the Washington Administrative Code 25-48-060. As part of that permit, I need to secure curation letters from those individuals we seek to donate the artifacts to, should any artifacts be located/identified. Please note that subsurface testing will not begin until February 2011.

It is our intention that archaeological materials associated with the prehistoric or ethnohistoric periods will be donated to the Tribe for curation, and that historic period archaeological materials will be donated to the Museum for curation. A catalog and copies of records, data, photographs, and other documents derived from the excavation process will accompany any collection donated to either the Tribe or Museum.

If you could please contact me at your earliest convenience so that we may discuss the project.

Cindy J. Arrington, M.S., RPA
Associate
Cultural Resource Specialist

GeoEngineers
t: 916.444.5825
f: 916.441.2532
c 916.765.9381
e: carrington@geoengineers.com

3301 C Street, Suite 200 A
Sacramento, California 95816
www.geoengineers.com

From: Thor Hoyte [mailto:hoyte.thor@nisqually-nsn.gov]
Sent: Wednesday, November 17, 2010 1:59 PM
To: Cindy J. Arrington
Cc: kalama.joe@nisqually-nsn.gov
Subject: Re: Requested information

Sorry. Please contact Joe Kalama, who is on this email.

On Nov 16, 2010, at 12:24 PM, "Cindy J. Arrington" <carrington@geoengineers.com>

wrote:

> Good Afternoon Mr. Hoyte: On November 5, I sent an email requesting your assistance with a project in DuPont, WA. I have not received a reply and have been unable to reach you by phone. If you could contact me at your earliest convenience.
>
> Best regards,

Cindy J. Arrington, M.S., RPA
Associate
Cultural Resource Specialist

GeoEngineers
t: 916.444.5825
f: 916.441.2532
c 916.765.9381
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Confidentiality: This message is confidential and intended solely for use of the individual or entity to whom it is addressed. If you are not the person for whom this message is intended, please delete it and notify me immediately, and please do not copy or send this message to anyone else.

APPENDIX C:
Detailed Subsurface Excavation Records

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 1- 5	2/21/2011	0-17	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		18-60	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, expect for color.
		60-78	None	Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		78-85	None	Moist/VFC/SL/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact. Some large cobbles measuring over 18cm in width.
STP 6-9	2/21/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-49	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		49-77		Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		77-90	None	Moist/GS/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, SC = Silty clay, GS = Gravelly Sand, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 10 - 12	2/21/2011	0-18	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-90	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		90-110	None	Moist/GS/DGB	2.5Y 4/2	Rounded to sub-rounded cobbles, very compact and increased density.
STP 13 - 16	2/21/2011	0-40	None	Moist/SL/VDB	10 YR 2/3	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-60	None	Moist/SL/DGB	10 YR 3/2	Very high in organic matter content, has mellow, sooty feel; gravelly sandy loam with larger cobbles appearing around 45-49cmbs than decreasing by 60cmbs.
		60-85	None	Moist/GS/OB	2.5 Y 5/3	Gravelly sand with no soil matrix. More sand; single grained; loose, than cobbles. Cobbles are rounded to sub-rounded and low density.
STP 17 - 19	2/22/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y Recorder: C. Arrington

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 20-22	2/22/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-80	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
STP 23-27	2/22/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
***STP 27-36**	2/22/2011	0-25	Yes	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		25-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with few rounded to sub-rounded cobbles.
STP 37-44	2/23/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 45	2/23/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

***Note:** STPs 28-35 were placed within the recorded location of Site 45PI66 (Methodist Episcopal Mission). One piece of fragmented red brick was located at 20cmbs in STP 28. A second red brick fragment was located at ground surface in STP 35.

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 46-51	2/25/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 52-52	2/25/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 54	2/25/2011	0-25	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-35	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 55-57	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 58	2/25/2011	0-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-120	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington** **Date:** August 26, 2010

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 59-60	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 61	2/25/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-55	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
		55-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 62	2/25/2011	0-40	None	Moist/VFC/SL/DGB	10 YR 3/2	This layer is typically seen in the second horizon, with the darker (10 YR 2/2) high in organic matter overlying it. No signs of mixing in the stratigraphy.
		40-120	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		120-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 63-65	2/25/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #		Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 66-70	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 71-72	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 73-75	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 76	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #		Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 77	2/26/2011	0-22	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		22-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 78-80	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 81-83	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 84-85	2/26/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-45	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 86-88	2/26/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 89	2/26/2011	0-110	None	Moist/SL/VFC/B	7.5 Yr 4/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic, sooty feel, no cobbles or pebbles. This layer appears to be imported soil. The stratigraphy is uninterrupted until you reach 110 cmbs, where the typical underlying horizon appears. The typical upper horizon; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam appears to have been removed and imported soil placed. This STP was placed near the (66 feet) bridge abutment and could be that more stable soil was imported for the approach to the narrow-gauge bridge.
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 90	2/28/2011	0-15	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		15-40	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		40-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 91	2/28/2011	0-7	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		7-25	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 92-95	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 96	2/28/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 97-98	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 99	2/28/2011	0-10	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 100-101	2/28/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 102	2/28/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 103	3/1/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		20-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 104	3/1/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		5-20	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 105	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		45-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 106	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-70	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		70-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 107-110	3/1/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 111	3/1/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 112	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 113	3/1/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-85	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 114	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-85	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 115	3/1/2011	0-200	Yes	Moist/GS/DG	2.5 Y 3.1	This unit is completely mixed (photo taken #58) the matrix resembles horizon 1 with Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam however, there is no stratigraphic distinction between 0-200 cmbs. A metal artifact was located at 160 cmbs. The artifact is a flat metal bar with 4-bolts protruding from one side.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, DG = Dark Gray

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 116	3/2/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		55-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 117-119	3/2/2011	0-10	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 120		0-20	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Medium to small cobbles rounded and subrounded. Small flecks of charcoal, indicative of a grass fire in the area.
		20-80	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		80-95	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 121-125	3/2/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Small flecks of charcoal, indicative of a grass fire in the area.
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
GTE 1	3/3/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 2	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 3	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 4	3/3/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 5	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 6	3/3/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

Subsurface Testing Record

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Project: DuPont Industrial Partners, LLC, Lot Y Recorder: C. Arrington

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 7	3/3/2011	0-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		55-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 8	3/3/2011	0-90	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		90-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 9	3/3/2011	0-250	None	Moist/SL/VDB		This unit is completely mixed. There is a small (20cmbs) layer of sand on the surface and the rest is a mix between horizon 1 (10 YR 2/2) and sand. Very little cobbles. It appears to be fill material. This unit is in close proximity to a hot spot cleared for soil contamination.
GTE 10	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 11	3/3/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		5-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 12-13	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 14	3/4/2011	0-5	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam. Small to medium cobble and become increasingly more compact.
		5-244	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmbs.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 15	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 16-17	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 18-19	3/4/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmbs.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 20	3/4/2011	0-3	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		3-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 21	3/4/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 22		0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Soils Photograph** **Recorder: C. Arrington**



Photograph 52. Showing horizon 1 (10 YR 2/2)



Photograph 53. Showing horizon 2 (10 YR 3/4)

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Soils Photograph** **Recorder: C. Arrington**



Photograph 44. Showing horizon 3 (2.5Y 4/4)



Photograph 61. Showing gray horizon (2.5 Y 3.1)
Upper most layer in photograph

APPENDIX D:
Site and Isolate Record Forms

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: **PI01224**

***County:** Pierce

***Date:** 7-19-2011 ***Compiler:** C. Arrington

Location Information Restrictions *(Yes/No/Unknown)***:** No

SITE DESIGNATION

Site Name: Narrow gauge railroad and berm

Field/ Temporary ID: GEO-RR10 (**Update**)

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

SITE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description:** **T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): NENW

***UTM:** **Zone** 10 **Easting** 526801 **Northing** 5217214

Latitude: **Longitude:** **Elevation (FT/M):** 220ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

Location Description** *(General to Specific):** This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

Approach *(For Relocation Purposes)***:** From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 736feet from the intersection of Power Road (at the end of gravel just before the chain-link fence) and approximately 22 feet due north of the gravel road.

SITE DESCRIPTION

***Narrative Description:**

This site is an extension of site GEO-RR10 recorded on September 28, 2010 for Creekside DuPont Partners. The site is a non-functional narrow-gauge railroad track situated on an earthen berm bisecting the eastern edge of the project area. The earthen berm is approximately 20 inches in height and roughly 20 feet in width. The narrow gauge tracks extend 207 feet east from the eastern project area boundary (chain link fence) running due west. The site is covered with lichen, and trees growing through the tracks and the berm. Within the project area, the tracks end at an earthen mound that appears to have been dug immediately adjacent to the southeast side of the tracks (burrow pit). The narrow-gauge track and berm continue to the east beneath a chain-link fence for a distance of 98 feet beyond the project area. The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). There was no evidence of artifacts or cultural deposits in association with the tracks or berm, and this site is not recommended eligible for listing on the NRHP or Washington Heritage Register (WHR). The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

***Site Dimensions**

***Length:** 207 feet ***Direction: E/W** x ***Width:** 20 feet ***Direction:** N/S

***Method of Horizontal Measurement:** GPS

***Depth:** Surface * **Method of Vertical Measurement:** GPS

****Vegetation** *(On Site)*: Mostly grasses and scotch broom

Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern

Local: Glacial Plain

Water Resources *(Type)*: Sequalitchew Creek **Distance:** 426 feet SW **Permanence:** year round

***Method of Collection(s):** No materials collected

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area. The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

***Method of Collection(s):** None

Location of Artifacts** *(Temporary/Permanent):** N/A

SITE AGE

***Component:** ***Dates:** 1906-1920s ***Dating Method:**

Phase: **Basis for Phase Designation:**

The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

SITE RECORDERS

Observed by: C. Arrington and Pete Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc. ***Affiliation Phone Number:** 916-782-5818

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661

***Affiliation E-mail:** cindy@parusconsulting.com

Date Revisited: **Revisited By:**

SITE HISTORY

Previous Work *(Done on Archaeological Site)***:**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riorda	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

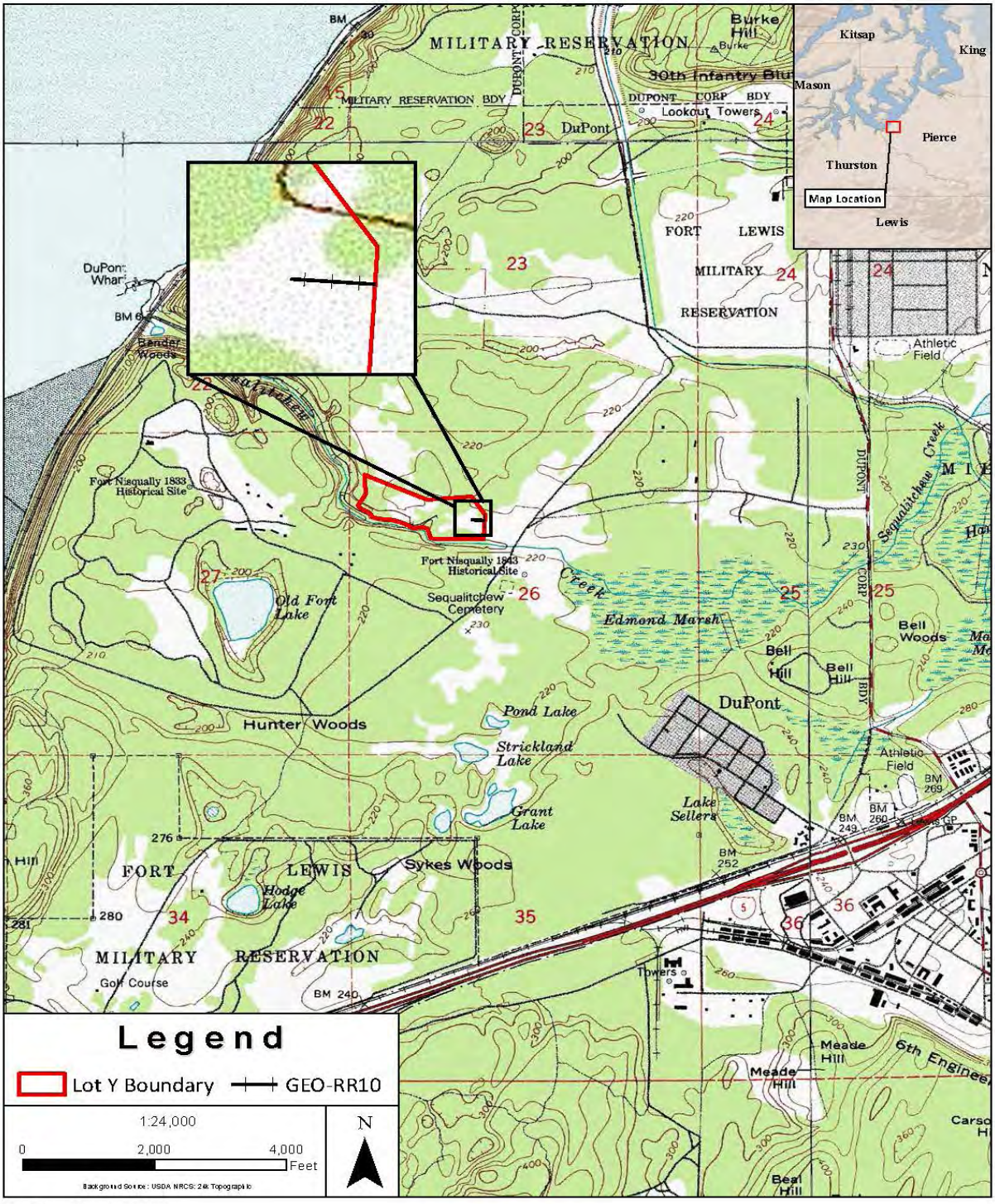
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

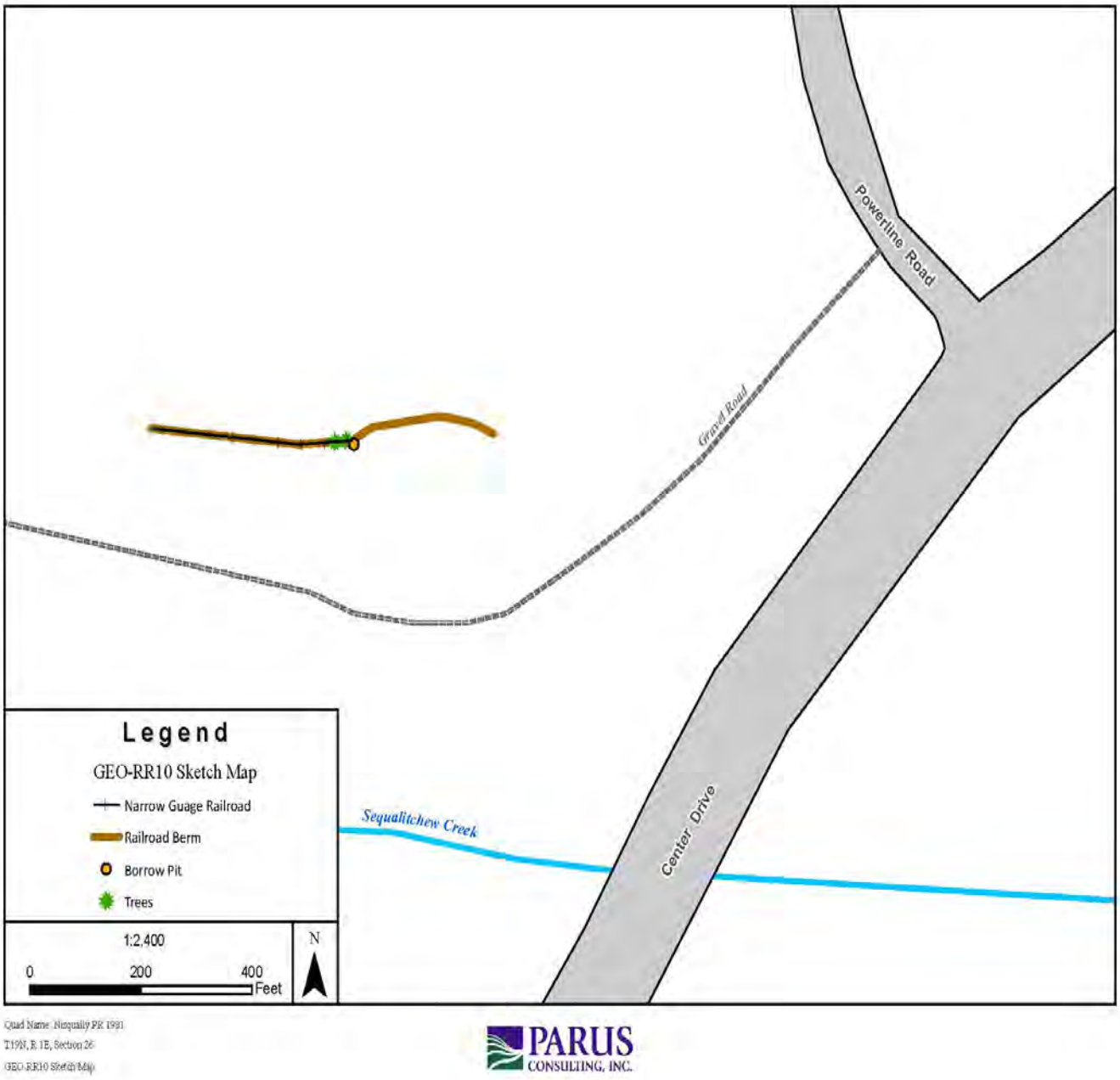
USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: GEO-RR10 Location Map

PARUS CONSULTING, INC.

SKETCH MAP


Powerline Road
Gravel Road
Sequalitchew Creek
Center Drive
Legend
GEO-RR10 Sketch Map
Narrow Guage Railroad
Railroad Berm
Borrow Pit
Trees
1:2,400
0
200
400
Feet
N
Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
GEO-RR10 Sketch Map
PARUS
CONSULTING, INC.

PHOTOGRAPH(S)



Figure 1: Geo RR10 extension (view to east)

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: PI01225

***County:** Pierce

***Date:** 7-19-2011 ***Compiler:** C. Arrington

Location Information Restrictions *(Yes/No/Unknown)***:** No

SITE DESIGNATION

Site Name: Concrete Platform

Field/ Temporary ID: Parus-01-11

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

SITE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description: T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): NENW

***UTM: Zone** 10 **Easting** 526780 **Northing** 5217203

Latitude: **Longitude:** **Elevation (FT/M):** 220ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

Location Description** *(General to Specific):** This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

Approach *(For Relocation Purposes)***:** From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 979 feet from the intersection of Power Road and approximately 76 feet due north of the gravel road.

SITE DESCRIPTION

***Narrative Description:**

The loading platform is located 233 feet west of the eastern boundary of the project area, 76 feet due north of the existing gravel road. The platform is situated in hot spot #3 where the area was cleared of topsoil, using a mechanical backhoe in 2001 due to soil contamination and remediation efforts.

Vegetation within the site area consists of open second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the surrounding ground surface is poor ranging from 10-30 percent.

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

***Site Dimensions**

***Length:** 16 feet ***Direction: E/W** x ***Width:** 16 feet ***Direction:** N/S

***Method of Horizontal Measurement:** Tapped

***Depth:** 6' 5" above ground surface * **Method of Vertical Measurement:** Tapped

****Vegetation** *(On Site)***:** Mostly grasses and scotch broom

Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern

Local: Glacial Plain

Water Resources *(Type)***:** Sequalitchew Creek **Distance:** 384 feet south **Permanence:** year round

***Method of Collection(s):** No materials collected

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform. The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

***Method of Collection(s):** None

Location of Artifacts** *(Temporary/Permanent):** N/A

SITE AGE

***Component:** ***Dates:** 1960s ***Dating Method:**

Phase: **Basis for Phase Designation:**

SITE RECORDERS

Observed by: C. Arrington and Pete Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc. ***Affiliation Phone Number:** 916-782-5818

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661

***Affiliation E-mail:** cindy@parusconsulting.com

Date Revisited: **Revisited By:**

SITE HISTORY

Previous Work *(Done on Archaeological Site)***:**

Year	Au□hor(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I□ Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

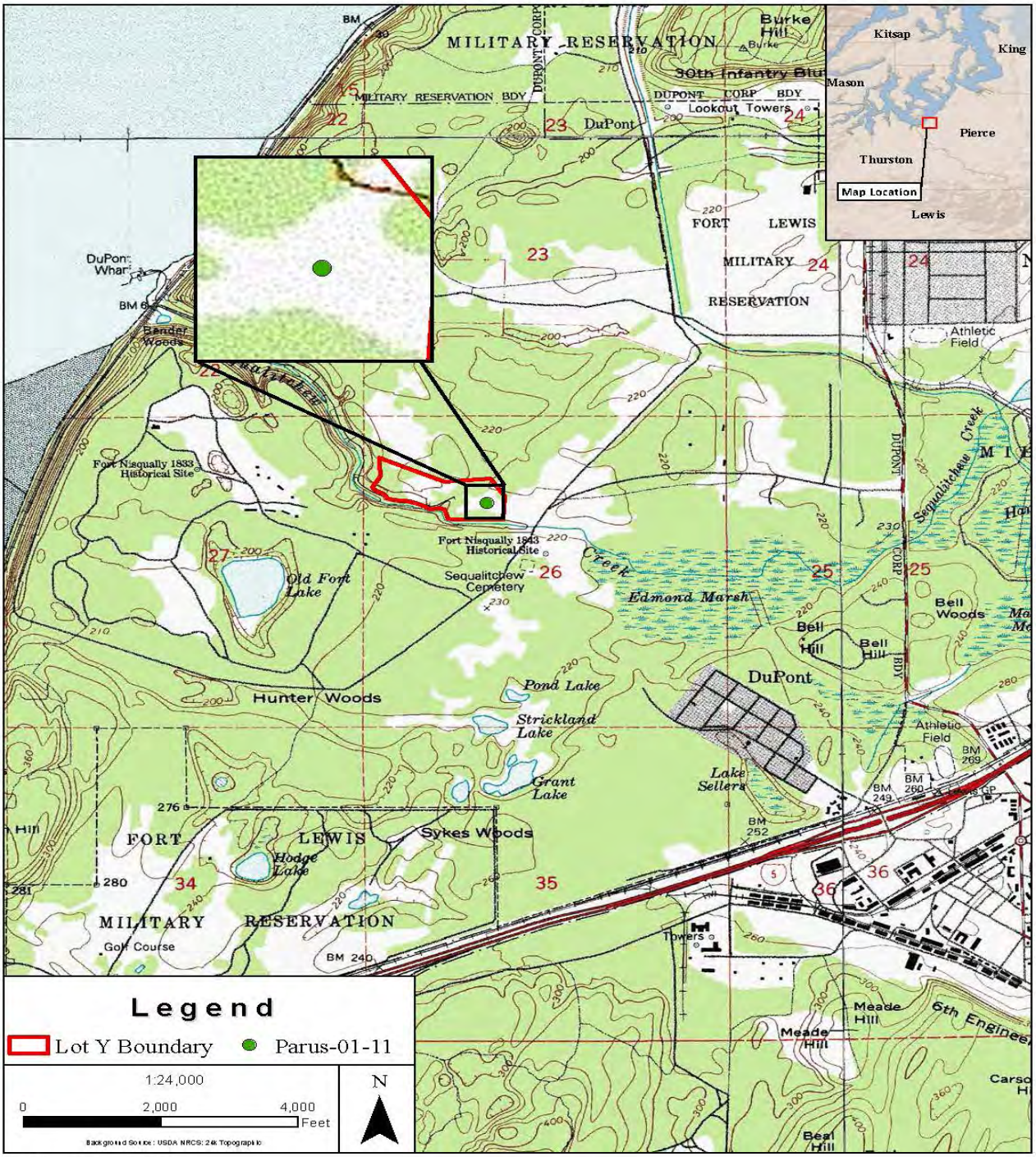
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

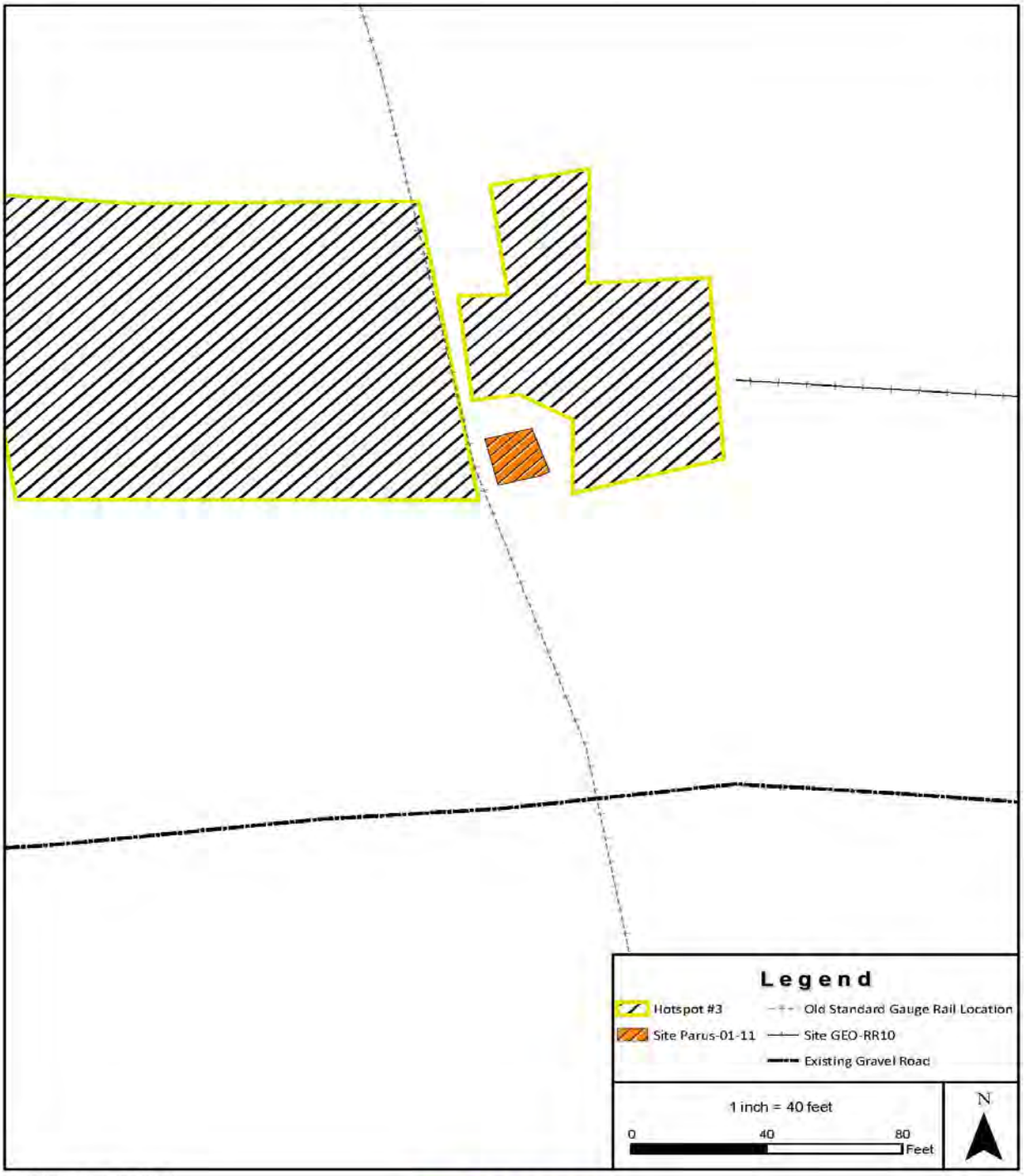
USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-01-11 Location Map

PARUS CONSULTING, INC.

SKETCH MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-01-11 Sketch Map

PARUS CONSULTING, INC.

PHOTOGRAPH(S)



Figure 1: East side of platform (view to west)



Figure 2: North side of platform (view to southwest)

PHOTOGRAPH(S)



Figure 3: West side of platform (view to northeast)



Figure 4: Debris pile on east side of platform (view to north)

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number:PI01226

***County:** Pierce

***Date:** 7-19-2011 ***Compiler:** C. Arrington

Location Information Restrictions *(Yes/No/Unknown)*: No

SITE DESIGNATION

Site Name: Bridge Abutment – Narrow-Gauge Railroad

Field/ Temporary ID: Parus-02-11

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

SITE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description: T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): SWNW

***UTM: Zone** 10 **Easting** 526592 **Northing** 5217123

Latitude: **Longitude:** **Elevation (FT/M):** 222ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

***Location Description** *(General to Specific)*: This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

Approach *(For Relocation Purposes)*: From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The site is located on the south side of the gravel road, 1,348 feet from the intersection of Power Road and approximately 467 feet due south of the gravel road.

SITE DESCRIPTION

***Narrative Description:**

The site, a narrow-gauge railroad bridge (depicted on the E. Davies 1955 map), is located on the north bank of Sequalitchew Creek, 467 feet due south of the gravel road. There are two additional abutments, both an upper and lower, on the south bank of the creek and look to be identical to those located on the north bank.

The abutments are covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses. Visibility on the surrounding ground surface is poor ranging from 0-10 percent.

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

***Site Dimensions**

Upper abutment ***Length:** 128 inches ***Direction: E/W** x ***Width:** 12.5 inches ***Direction:** E/W

Lower abutment ***Length:** 150 inches ***Direction: E/W** x ***Width:** 12 inches ***Direction:** E/W

***Method of Horizontal Measurement:** Tapped

***Depth:** 51 inches for upper and 32 inches for lower above ground surface

* **Method of Vertical Measurement:** Tapped

****Vegetation** *(On Site)*: The abutment is covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern

Local: Glacial Plain

Water Resources *(Type)*: Sequalitchew Creek **Distance:** 35 feet south **Permanence:** year round

***Method of Collection(s):** No materials collected

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation. Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek. There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side. An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

***Method of Collection(s):** None

***Location of Artifacts** *(Temporary/Permanent)*: N/A

SITE AGE

***Component:** *Dates:** 1906-1920s ***Dating Method:**

Phase: **Basis for Phase Designation:**

The narrow-gauge bridge is attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

SITE RECORDERS

Observed by: C. Arrington and P. Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc. ***Affiliation Phone Number:** 916-782-5818

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661

***Affiliation E-mail:** cindy@parusconsulting.com

Date Revisited: **Revisited By:**

SITE HISTORY

Previous Work *(Done on Archaeological Site)***:**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

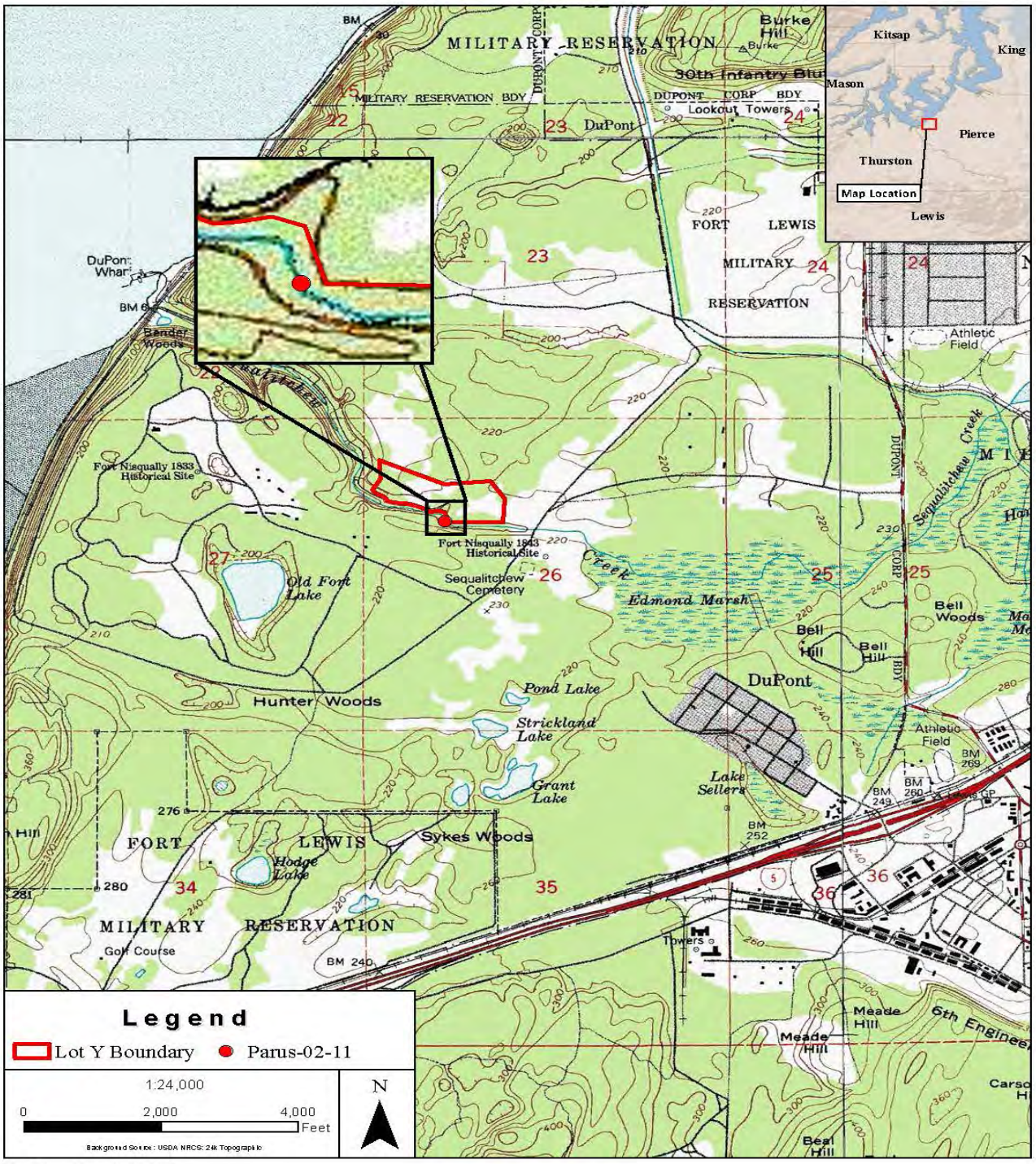
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

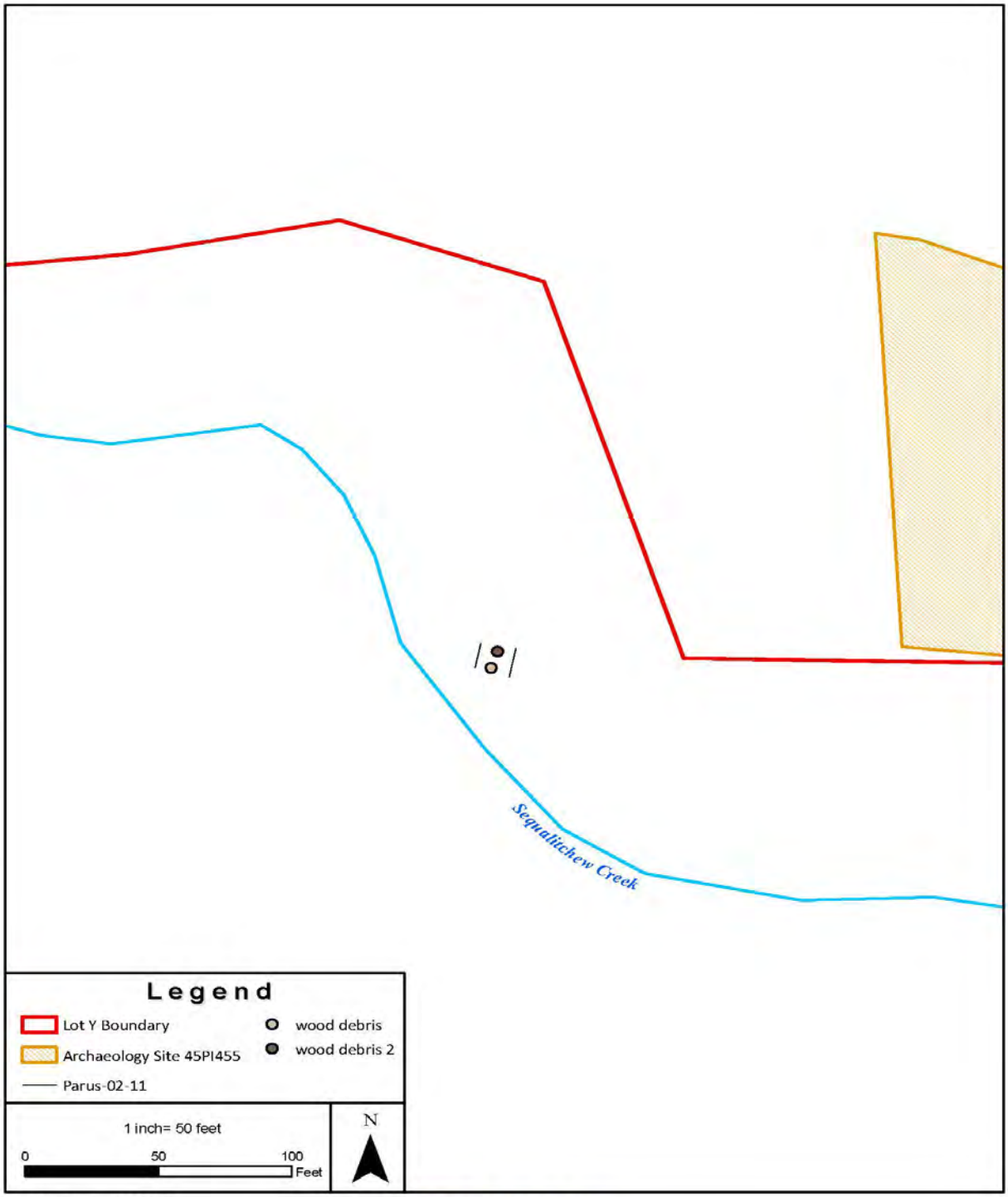
USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-02-11 Location Map

PARUS CONSULTING, INC.

SKETCH MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-02-11 Sketch Map

PARUS CONSULTING, INC.

PHOTOGRAPH(S)



Figure 1: Upper and lower abutments (view to north)



Figure 2: South face of lower abutment (view to north)

PHOTOGRAPH(S)



Figure 3: East side of upper abutment (view to west)

PHOTOGRAPH(S)



Figure 4: Wood debris near lower abutment (plan view)



Figure 5: Wood debris with metal cleat near lower abutment (plan view)

STATE OF WASHINGTON
ARCHAEOLOGICAL ISOLATE INVENTORY FORM

Smithsonian Number: PI00064

***County:** Pierce

***Date:** 2-17-2011 ***Compiler:** C. Arrington

ISOLATE DESIGNATION

Isolate Name: Kerosene Can

Field/ Temporary ID: Parus Isolate #1

Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Pages 19-23):** Historic isolate

ISOLATE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description: T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): NWNW

***UTM: Zone** 10 **Easting** 526413 **Northing** 5217323

Latitude: **Longitude:** **Elevation (FT/M):** 220ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

Location Description** *(General to Specific):** This isolate is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

ISOLATE DESCRIPTION

***Narrative Description:** A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the “gravel pit” (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact. The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.

Vegetation** *(On Site):** Mostly grasses, deciduous and conifer trees, and scotch broom
Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern
Local: Glacial Plain
Water Resources *(Type)***:** Sequalitchew Creek **Distance:** 474 feet South **Permanence:** year round
***Method of Collection(s):** No materials collected

ISOLATE AGE

***Component:** None *__Dates:__ None ***Dating Method:** None
Phase: None **Basis for Phase Designation:** None

ISOLATE RECORDERS

Observed by: C. Arrington & Pete Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc ***Affiliation Phone Number:** 916-765-9381

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA

***Affiliation E-mail:** Cindy@parusconsulting.com

Date Revisited: **Revisited By:**

ISOLATE HISTORY

Previous Work *(Done on Area Where Isolate was Found)***:**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volum I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
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2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

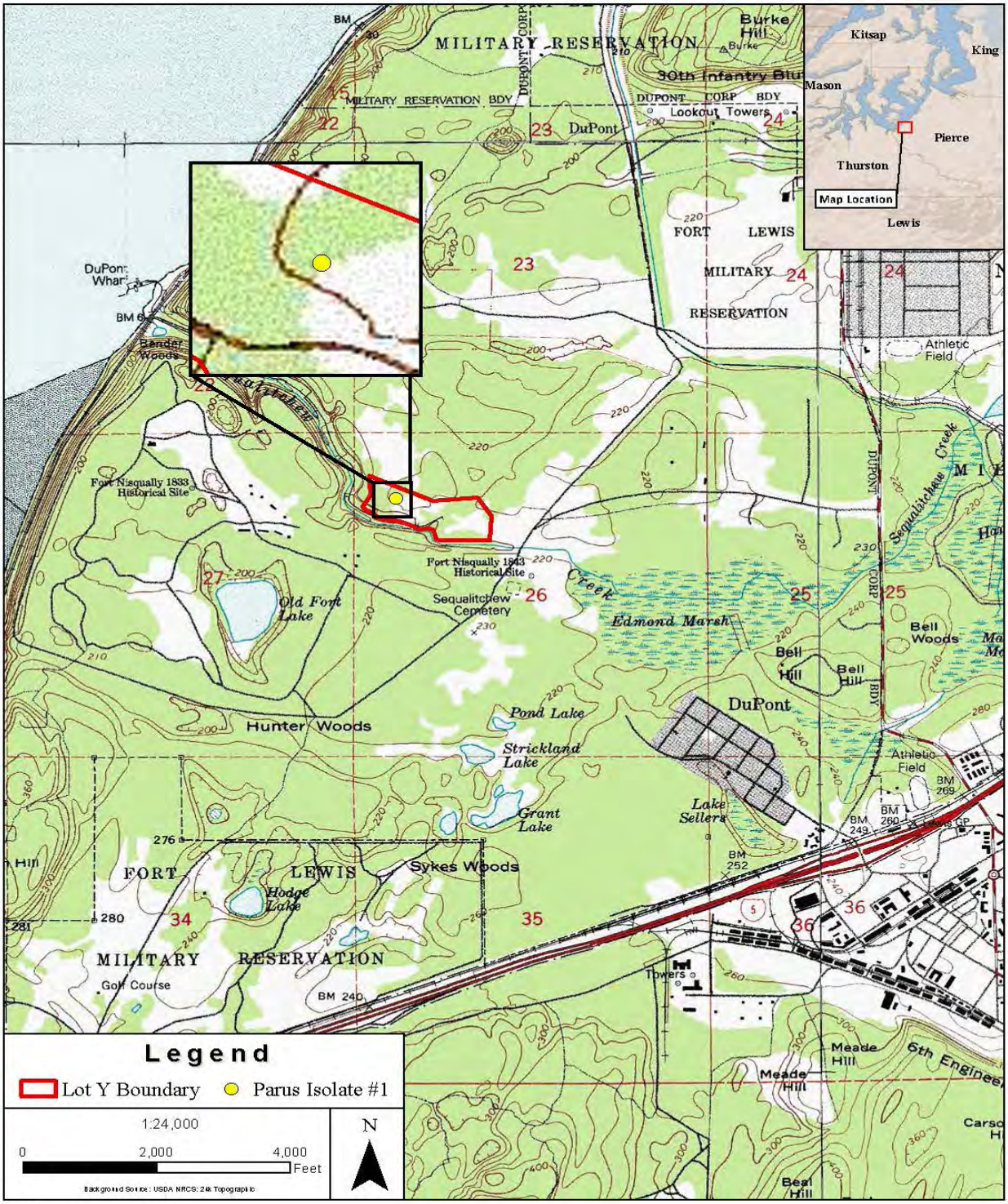
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501, Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus Isolate #1 Location Map

PARUS CONSULTING, INC.

Mandatory Information for Official Smithsonian Number designation.

Revised 2/2010

PHOTOGRAPH(S)



Figure 1 Kerosene can (in situ)



Figure 2 Kerosene can (top missing spout and handle)

PHOTOGRAPH(S)



Figure 3 Kerosene can (side view)



Figure 4 Kerosene can (side view)

APPENDIX E:
Unanticipated Cultural Resources Discovery Plan

UNANTICIPATED CULTURAL RESOURCES DISCOVERY PLAN

FOR

DUPONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT

CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Prepared For:

DuPont Industrial Partners, LLC
1201 Pacific Avenue, Suite 1501
Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA

PARUS CONSULTING, INC.

1508 Eureka Road, Suite 170
Roseville, CA 95661

Final– April 14, 2011

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Project Description, Location and History 1

Potential for Discovery 2

Discovery Procedures 2

Inadvertent Discovery of Archaeological Deposits 2

Inadvertent Discovery of Human Skeletal Remains 3

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INTRODUCTION

DuPont Industrial Partners, LLC (Partners) plans to undertake various ground-disturbing activities during planned construction of a multi-building industrial park on Lot Y in the City of DuPont in Pierce County. This Discovery Plan presents the approach that Partners will use to ensure the protection of cultural resources and describes the steps and actions that must be taken should cultural resources, including human remains, be discovered during ground-disturbing or construction activities for the proposed Lot Y project. This plan provides a brief description of the project, the location of the project, the potential for encountering cultural resources materials or deposits, the discovery procedures that will be employed, and who will be notified if archaeological materials or deposits, or human skeletal remains, are exposed during project implementation.

PROJECT DESCRIPTION, LOCATION AND HISTORY

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequalitchew Creek. Partners plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities.

Plans also include construction of a trail along the creek to the southwest of the industrial park. The existing historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be moved to the trailhead area where the public will have continued access. An interpretive sign explaining the history of the temporary encampment of the 9th U.S. Cavalry Buffalo Soldiers (45PI455) within Lot Y will also be erected.

The Lot Y project area is located within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian). Elevation within Lot Y ranges from 64 to 68 meters (210-223 feet) above mean sea level.

A cultural resources investigation for the Lot Y project was conducted for Partners by Parus Consulting, Inc. (PCI) (Sikes and Arrington 2011). The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The study included background research, correspondence with cultural resources staff or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes, and archaeological survey and excavation. The fieldwork was conducted in February and March 2011 and included examination of the surface and subsurface sediments in a series of shovel test probes and geotechnical exploration pits.

Monitoring of construction activities during project implementation was not recommended. Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. No evidence was found during the 2011 investigation of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed during hazardous

materials remediation. Two surface historic archaeological sites (GEO RR10 railroad track segment and Parus-01-11 concrete platform) were identified within Lot Y during the fieldwork in 2011, but they are not considered significant.

POTENTIAL FOR DISCOVERY

The potential for discovery of buried archaeological materials, features or deposits, or of buried human remains, by implementation of this project is considered low. No significant cultural/archaeological sites are known to remain within the project area, and there has been extensive disturbance to the Lot Y landscape. The nearest known archaeological sites are located on the north bank of Sequalitchew Creek immediately outside of the Lot Y project area (set of concrete bridge abutments) and approximately 0.1 mile east of Lot Y near Center Drive on the north and south banks of the creek (flaked stone artifacts and locations of mid-1850s dwellings near the west palisade wall of 1843 Fort Nisqually).

No significant cultural resources were identified on the surface or within the subsurface sediments exposed in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. Excavated in February and March 2011, the 2.5 foot-wide, 3-foot long shovel test probes ranged from 1.1 to 4.3 feet in depth. The geotechnical exploration pits averaged 10 feet deep, 3 feet wide, and 5 feet long. The subsurface sediments are gravelly sandy loam over gravelly sand with no soil matrix. Except for one brick fragment and a flat iron bar, there was no indication of a midden or other cultural deposits, artifacts or features within the 147 excavation units.

DISCOVERY PROCEDURES

INADVERTENT DISCOVERY OF ARCHAEOLOGICAL DEPOSITS

Archaeological deposits within the proposed Lot Y project are protected by Washington State law: Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), and Archaeological Excavation and Removal Permit (WAC 25-48). Failure to comply with these could constitute a Class C Felony.

If any Partners employee, its contractors or subcontractors believes that he or she has inadvertently uncovered any cultural resource, then all work adjacent to the discovery shall cease, and he or she shall immediately notify the construction foreman, inspector, or on-site Partners representative who shall immediately notify the contact at Partners responsible for on-site activities:

DuPont Industrial Partners, LLC
Lia Estigoy
(253) 396-4860

A cultural resource discovery could consist of:

- Prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden).

- Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, or ceramic artifacts or debris older than 50 years.

For all types and classes of cultural/archaeological material other than human remains (see below), the person responsible for on-site activities shall immediately call the Washington State Department of Archaeology and Historic Preservation (DAHP), which is the state agency with jurisdiction over archaeological discoveries:

Department of Archaeology and Historic Preservation (DAHP)
Gretchen Kaehler, Local Government Archaeologist
Direct line: (360) 586-3083
Cell: (360) 628-2755

The DAHP representative, Ms. Kaehler, will advise Partners (represented by Lia Estigoy) of the specific course of action following the discovery of archaeological materials, deposits or features. For the discovery of human remains, see below. Such actions specified by the DAHP representative could include avoidance of the finds with protection in place, or an archaeological assessment and recovery if avoidance is unfeasible, among other options. Ground-disturbing activity in the vicinity of the find(s) cannot resume until it has been approved by the DAHP representative.

INADVERTENT DISCOVERY OF HUMAN SKELETAL REMAINS

For this project on non-federal and non-tribal lands in the State of Washington, procedures and actions for the inadvertent discovery of human skeletal remains or suspected human remains must comply with RCW 27.44, RCW 68.50 and RCW 68.60. If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity **must** cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the County Coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

Immediate notification by phone shall be made to the County Coroner, local law enforcement and DAHP:

Pierce County Coroner
Dr. Thomas B. Clark III
3619 Pacific Avenue
Tacoma, Washington 98418
Telephone: (253) 798-6494

DuPont Police Department
1780 Civic Drive, Ste. 100
DuPont, Washington 98327
Telephone: 911 or (253) 964-7060

The Pierce County Coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the County Coroner determines the remains are non-forensic, then he or she will report that finding to DAHP who will then take jurisdiction over those remains and report them to the appropriate cemeteries or affected tribes.

The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to the affected parties. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains. Ground-disturbing activity near the human remains may not resume until permission to resume work has been received by Partners from DAHP.

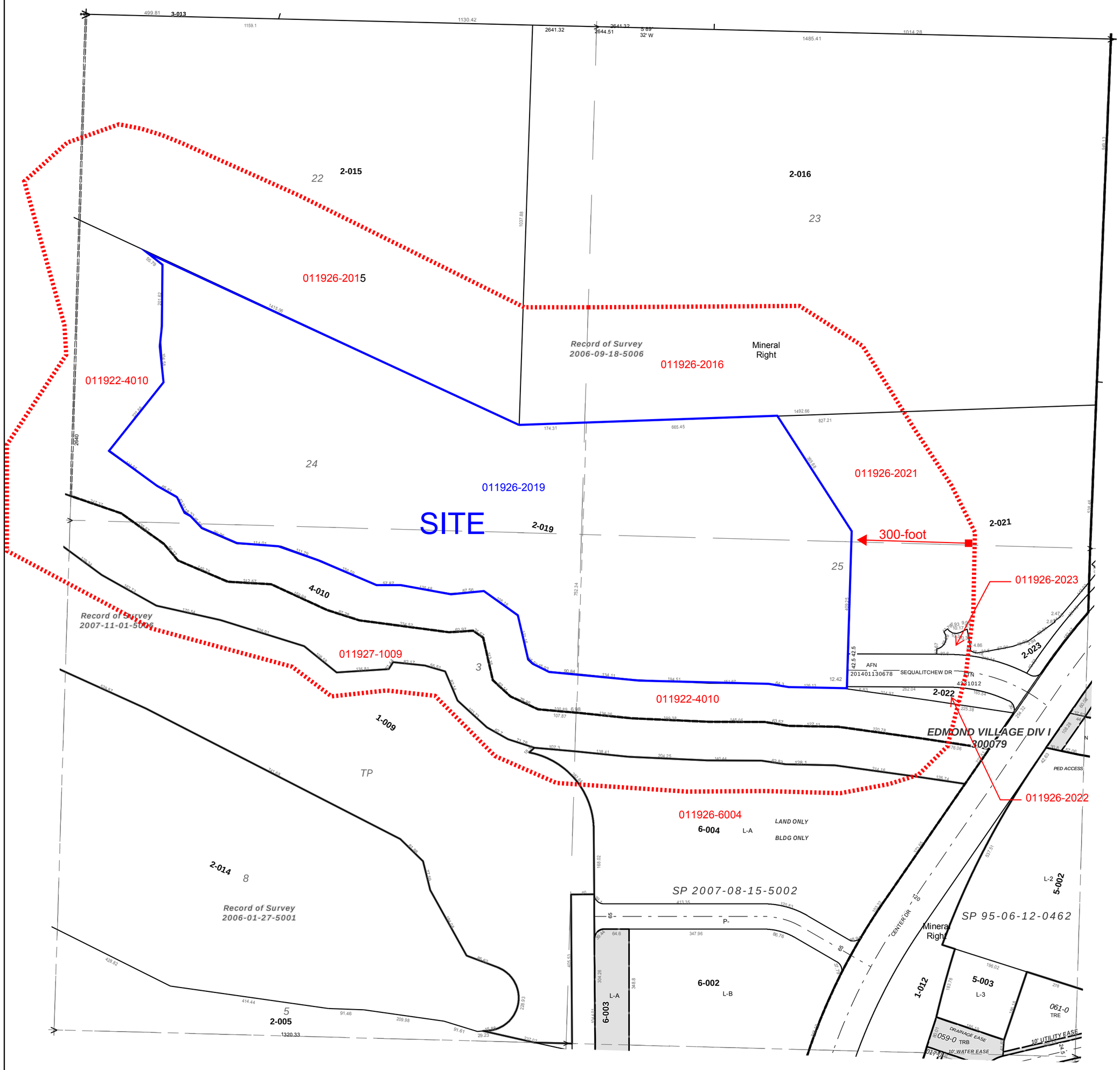
Department of Archaeology and Historic Preservation (DAHP)
Guy Tasa, State Physical Anthropologist
1063 South Capital Way, Suite 106
Olympia, WA 98501
Direct line: (360) 586-3535

SUMMARY

Following the procedures presented in the Discovery Plan will ensure that ground-disturbing and construction activities for implementation of the proposed Lot Y project are in compliance with state and local laws that protect archaeological resources on public lands.

REFERENCES

Sikes, Nancy E., and Cindy J. Arrington
2011 *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington*. Report prepared by Parus Consulting, Inc. for DuPont Industrial Partners, LLC.



Attachment 2.i. Resubmitted 300-foot radius Map

NW 1/4 SEC 26
T19N R1E W.M.

100 0 100 200
Scale 1" = 200'

Washington State Plane Feet, South Zone
Datum: NAD83-91

0119224	0119233	0119234
0119271	0119262	0119261
0119274	0119263	0119264

DATE OF PRODUCTION: 12/24/2015
MAP NUMBER:0119262
From current Pierce County Assessor-Treasurer records as of May 22, 2018

Pierce County
Assessor-Treasurer
2401 South 35th St, Rm 142
Tacoma, Washington 98409

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Legend

- Railroad
- Monument Line
- Private Road
- Public ROW
- Hydrographic
- Encumbrance
- Condominium
- Large Lot
- Record of Survey
- Short Plat
- Plat
- PLSS Boundaries
- City Limits

011926-2015
Weyerhaeuser NR Company
c/o Tax Department
220 Occidental Avenue South
Seattle, WA 98104

011922-4010
City of DuPont
1700 Civil Drive
DuPont, WA 98327-9603

011927-1009
Nisqually Indian Tribe
c/o Financial Services
4820 She Nah Num Drive S.E.
Olympia, WA 98513-9605

011926-6004
City of DuPont
1700 Civic Drive
DuPont, WA 98327-9603

011926-2022
City of DuPont
1700 Civic Drive
DuPont, WA 98327-9603

011926-2023
City of DuPont
1700 Civic Drive
DuPont, WA 98327-9603

011926-2021
M and M Arlington, LLC
2401 – 4th Avenue South, Suite 840
Seattle, WA 98121

011926-201
Weyerhaeuser NR Company
c/o Tax Department
220 Occidental Avenue South
Seattle, WA 98104

Attachment 2.j. Resubmitted
Mailing Labels

Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119262015

05/22/2018 10:23 AM

Property Details		Taxpayer Details	
Parcel Number:	0119262015	**Taxpayer Name:**	WEYERHAEUSER NR COMPANY
Site Address:	1700 CENTER DR	**Mailing Address:**	C/O TAX DEPT 220 OCCIDENTAL AVE S SEATTLE WA 98104
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	8505-QUARRY SAND ROCK		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Industrial	**Taxable Value:**	437,071
Business Name:		**Assessed Value:**	437,071
Last Inspection:	10/31/2017 - Board		

Related Parcels

Group Account Number:	74353
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 26 Township 19 Range 01 Quarter 22 L 22 ROS 2006-09-18-5006 OUT OF 2-012 & 2-013 SEG 2007-0818BL 04-10-07BL

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(253)798-6111 or Fax (253)798-3142
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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119224010

05/22/2018 10:31 AM

Property Details		Taxpayer Details	
Parcel Number:	0119224010	**Taxpayer Name:**	CITY OF DUPONT
Site Address:	1700 CENTER DR	**Mailing Address:**	1700 CIVIC DR DUPONT WA 98327-9603
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	9100-VACANT LAND UNDEVELOPED		

Appraisal Details		Assessment Details	
Value Area:	PI5	**2017 Values for 2018 Tax**	
Appr Acct Type:	Residential	**Taxable Value:**	0
Business Name:		**Assessed Value:**	202,500
Last Inspection:	05/09/2018 - Physical Inspection	**Exemptions:**	Municipal Corp and Misc Taxing Districts

Related Parcels

Group Account Number:	n/a
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 22 Township 19 Range 01 Quarter 34 LOT Z OF BLA 2009-12-11-5001 DESC L 3 OF ROS 2006-01-27-5001 TOG/W THAT POR OF L 24 & 25 OF ROS 206-09-18-5006 DESC AS FOLL BEG AT NWLY COR OF SD L 24 TH S 65 DEG E 346.97 FT TH S 50 DEG 42 MIN 12 SEC E 55.79 FT TH S 01 DEG 22 MIN 15 SEC W 201.62 FT TH S 03 DE 28 MIN 15 SEC E 104.58 FT TH S 38 DEG 27 MIN 19 SEC W 227.56 FT TH S 54 DEG 29 MIN 57 SEC E 144.55 FT TH S 61 DEG 00 MIN 31 SEC E 65.81 FT TH S 27 DEG 53 MIN 32 SEC E 43.91 FT TH S 54 DEG 24 MIN 36 SEC E 18.33 FT TH S 40 DEG 38 MIN 13 SEC E 45.58 FT TH S 66 DEG 50 MIN 15 SEC E 99.96 FT TH S 86 DEG 43 MIN 17 SEC E 114.01 FT TH S 70 DEG 04 MIN 24 SEC E 111.79 FT TH S 66 DEG 26 MIN 07 SEC E 156.09 FT TH S 89 DEG 05 MIN 56 SEC E 57.87 FT TH S 80 DEG 54 MIN 30 SEC E 135.48 FT TH N 86 DEG 29 MIN 11 SEC E 87.56 FT TH S 55 DEG 38 MIN 27 SEC E 105.16 FT TH S 12 DEG 44 MIN 34 SEC E 121.16 FT TH S 47 DEG 28 MIN 45 SEC E 15.52 FT TH S 64 DEG 55 MIN 42 SEC E 45.93 FT TH S 84 DEG 52 MIN 55 SEC E 90.84 FT TH S 84 DEG 14 MIN 01 SEC E 134.11 FT TH S 87 DEG 20 MIN 24 SEC E 194.51 FT TH S 89 DEG 48 SEC 45 MIN E 151.67 FT TH S 80 DEG 55 MIN 20 SEC E 64.3 FT TH S 88 DEG 58 MIN 34 SEC E 126.13 FT TH S 82 DEG 02 MIN 47 SEC E 227.39 FT TH S 81 DEG 24 MIN 09 SEC E 225.38 FT TO NLY MAR OF CENTER DR TH S 34 DEG 35 MIN 24 SEC W 111.26 FT TH N 81 DEG 24 MIN 09 SEC W 176.06 FT TJ 82 DEG 02 MIN 47 SEC W 220.78 FT TH N 88 DEG 58 MIN 34 SEC W 127.11 FT TH N 80 DEG 55 MIN 20 SEC W 63.57 FT TH N 89 DEG 48 MIN 45 SEC W 146.05 FT TH N 87 DEG 20 MIN 24 SEC W 199.38 FT TH N 84 DEG 14 MIN 01 SEC W 136.26 FT TH N 84 DEG 52 MIN 55 SEC W 107.87 FT TH N 64 DEG 55 MIN 42 SEC W 78.86 FT TH N 47 DEG 28 MIN 45 SEC W 62.14 FT TH N 12 DEG 44 MIN 34 SEC W 113.16 FT TH N 55 DEG 38 MIN 27 SEC W 31.57 FT TH S 86 DEG 29 MIN 11 SEC W 62.97 FT TH N 82 DEG 24 MIN 23 SEC W 234.52 FT TH N 72 DEG 20 MIN 47 SEC W 87.28 FT TH N 65 DEG 14 MIN 01 SEC W 159.98 FT TH N 86 DEG 43 MIN 17 SEC W 112.57 FT TH M 60 DEG 50 MIN 15 SEC W 140.76 FT TH N 40 DEG 38 MIN 13 SEC W 56.77 FT TH N 54 DEG 24 MIN 36 SEC W 135.57 FT TH N 70 DEG 55 MIN 03 SEC W 247.37 FT TH N 41 DEG 50 MIN 55 SEC W 94.30 FT TH N 19 DEG 30 MIN 09 SEC W 141.38 FT TH N 09 DEG 58 MIN 47 SEC E 165.75 TH N 60 DEG 10 MIN 47 SEC E 105.65 FT TH N 15 DEG 04 MIN 32 SEC E 149.21 FT TH N 11 DEG 16 MIN 53 SEC W 152.92 FT TH N 47 DEG 21 MIN 46 SEC W 48.16 FT TO POB OUT OF 4-001, 011926-2-017 & 2-018 SEG 2010-0340 DX 2/4/2010

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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119271009

05/22/2018 10:25 AM

Property Details		Taxpayer Details	
Parcel Number:	0119271009	**Taxpayer Name:**	NISQUALLY INDIAN TRIBE
Site Address:	XXX CENTER DR	**Mailing Address:**	C/O FINANCIAL SERVICES 4820 SHE NAH NUM DR SE OLYMPIA WA 98513-9105
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	9170-COMM VAC LAND		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Industrial	**Taxable Value:**	508,900
Business Name:		**Assessed Value:**	508,900
Last Inspection:	09/18/2013 - Physical Inspection		

Related Parcels

Group Account Number:	n/a
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 27 Township 19 Range 01 Quarter 11 PARCEL TP OF ROS 2007-11-01-5006 FOR EX SEG APPROVED SUBD BY CY OF DUPONT COMM DEV 1/8/08 OUT OF 01-19-26-3-015 SEG 2008-0690 JU 3/3/08JU

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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119266004

05/22/2018 10:24 AM

Property Details		Taxpayer Details	
Parcel Number:	0119266004	**Taxpayer Name:**	CITY OF DUPONT
Site Address:	1700 TO 1780 CIVIC DR	**Mailing Address:**	1700 CIVIC DR DUPONT WA 98327-9603
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	6700-GOVERNMENTAL SERVICES		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Commercial	**Taxable Value:**	0
Business Name:	DUPONT CIVIC CENTER LAND ONLY PARCEL	**Assessed Value:**	2,312,700
Last Inspection:	09/12/2013 - Physical Inspection	**Exemptions:**	Municipal Corp and Misc Taxing Districts

Related Parcels

Group Account Number:	73304
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 26 Township 19 Range 01 Quarter 24 & 6-800 L 1 OF S P 2007-08-15-5002 TOG/W EASE & RESTRICTIONS OF REC LAND ONLY OUT OF 6-001 SEG 2010-0107 JU 9/10/09JU

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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119262022

05/22/2018 10:32 AM

Property Details		Taxpayer Details	
Parcel Number:	0119262022	**Taxpayer Name:**	CITY OF DUPONT
Site Address:	XXX CENTER DR	**Mailing Address:**	1700 CIVIC DR DUPONT WA 98327-9603
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	4830-DRAINFLDS CATCH BASINS		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Com Multi Unit	**Taxable Value:**	0
Business Name:		**Assessed Value:**	49,900
Last Inspection:	04/08/2014 - Physical Inspection	**Exemptions:**	Municipal Corp and Misc Taxing Districts

Related Parcels

Group Account Number:	n/a
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 26 Township 19 Range 01 Quarter 24 POR OF LOT X OF BLA 2009-12-11-5001 LY SLY OF FOLL DESC LI COM AT SW COR OF SD LOT X TH N 1 DEG 40 MIN 48 SEC E 5.83 FT TO POB TH S 89 DEG 43 MIN 57 SEC E 262.04 FT TO P OF T TH ELY ALG ARC OF C TO R HAVING RAD OF 367.5 FT THRU C/A OF 25 DEG 48 MIN 31 SEC AN ARC LENGTH OF 165.54 FT TO PT OF COMPOUND CURV TH SELY ALG ARC OF C TO R HAVING RAD OF 25 FT THRU C/A OF 82 DEG 44 MIN 45 SEC AN ARC LENGTH OF 36.10 FT TO S LI OF SD LOT X & TERM OF LI DESC EASE OF REC OUT OF 2-020 SEG 2014-0389 DX4/1/14DX

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Tacoma, Washington 98409
(253)798-6111 or Fax (253)798-3142
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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119262023

05/22/2018 10:31 AM

Property Details		Taxpayer Details	
Parcel Number:	0119262023	**Taxpayer Name:**	CITY OF DUPONT
Site Address:	XXX CENTER DR	**Mailing Address:**	1700 CIVIC DR DUPONT WA 98327-9603
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	7600-PARKS		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Com Multi Unit	**Taxable Value:**	0
Business Name:		**Assessed Value:**	18,000
Last Inspection:	No physical inspection during prior 6 years	**Exemptions:**	Municipal Corp and Misc Taxing Districts

Related Parcels

Group Account Number:	n/a
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 26 Township 19 Range 01 Quarter 24 THAT POR OF LOT X OF BLA 2009-12-11-5001 DESC AS FOLL COM AT SW COR OF SD LOT X TH N 01 DEG 40 MIN 48 SEC E 90.86 FT ALG W LI OF SD LOT X TH S 89 DEG 43 MIN 57 SEC E 229.35 FT TO POB TH N 00 DEG 19 MIN 47 SEC W 13.67 FT TO PT ON NON-TANG CURVE RAD OF WHICH BEARS N 08 DEG 26 MIN 17 SEC W TH NLY ALG ARC OF A CURVE CONCAVE TO W HAVING A RAD OF 28.08 FT THRU A C/A OF 118 DEG 54 MIN 29 SEC & ARC LENGTH OF 58.28 FT TH N 52 DEG 39 MIN 14 SEC E 11.76 FT TH S 44 DEG 01 MIN 17 SEC E 6.93 FT TH S 57 SEC 27 MIN27 SEC E 10.17 FT TH S 83 DEG 24 MIN 52 SEC E 10.34 FT TH N 75 DEG 29 MIN 31 SEC E 10.36 FT TH N 64 DEG 00 MIN 40 SEC E. 9.98 FT TH N 61 DEG 38 MIN 23 SEC E 9.31 FT TH S 11 DEG 10 MIN 50 SEC E 46.97 FT TH S 00 DEG 59 MIN 40 SEC E 9.38 FT TH S 56 DEG 04 MIN 56 SEC E 4.86 FT TO A P OF T TH ELY ALG ARC OF A C TO L HAVING A RAD OF 22.81 FT THRU C/A OF 40 DEG 39 MIN 03 SEC & ARC LENGTH OF 16.18 FT TH N 79 DEG 29 MIN 40 SEC E 34.50 FT TH N 78 DEG 55 MIN 16 SEC E 57.21 FT TH N 71 DEG 17 MIN 32 SEC E 40.02 FT TO A P OF T TH NELY ALG ARC OF A C TO L HAVING A RAD OF 25.00 FT THRU C/A OF 09 DEG 01 MIN 19 SEC & ARC LENGTH OF 3.94 FT TH N 54 DEG 28 MIN 14 SEC E 83.81 FT TH N 30 DEG 21 MIN 05 SEC W 2.87 FT TH N 54 DEG 04 MIN 37 SEC E 14.15 FT TO A P OF T TH NELY ALG ARC OF A C TO L HAVING A RAD OF 10.00 FT THRU A C/A OF 14 DEG 07 MIN 31 SEC & ARC LENGTH OF 2.47 FT TH N 39 DEG 57 MIN 06 SEC E 143.02 FT TO A P OF T TH NLY ALG ARC OF A C TO L HAVING A RAD OF 15.00 FT THRU A C/A OF 86 DEG 18 MIN 50 SEC & ARC LENGTH OF 22.60 FT TH N 46 DEG 10 MIN 12 SEC W 10.29 FT TH N 45 DEG 21 MIN 10 SEC E 159.47 FT TO A PT ON A NON-TANG CURVE RAD OF WHICH BEARS S 49 DEG 58 MIN 55 SEC W TH SELY ALG ARC OF A CURVE CONCAVE TO SW HAVING A RAD OF 312.67 FT THRU A C/A OF 09 DEG 42 MIN 54 SEC & ARC LENGTH OF 53.02 FT TO WLY MAR OF CENTER DR BEING A PT ON A NON-TANG CURVE RAD OF WHICH BEARS S 39 DEG 49 MIN 07 SEC E TH SWLY ALG SD WLY MAR BEING AN ARC OF A CURVE CONCAVE TO SE HAVING A RAD OF 1577.06 FT THRU A C/A OF 15 DEG 40 MIN 31 SEC & ARC LENGTH OF 431.46 FT TH S 34 DEG 35 MIN 40 SEC W 40.63 FT TO A PT ON A NON-TANG CURVE RAD OF WHICH BEARS S 26 DEG 48 MIN 28 SEC W TH WLY ALG ARC OF A CURVE CONCAVE TO S HAVING A RAD OF 452.50 FT THRU A C/A OF 26 DEG 36 MIN 49 SEC & ARC LENGTH OF 210.18 FT TH N 89 DEG 43 MIN 57 SEC W 30.60 FT TO POB EASE OF REC OUT OF 2-020 SEG 2014-0389 DX4/1/14DX

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Pierce County Assessor-Treasurer
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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119262021

05/22/2018 10:24 AM

Property Details		Taxpayer Details	
Parcel Number:	0119262021	**Taxpayer Name:**	M AND M ARLINGTON LLC
Site Address:	1700 CENTER DR	**Mailing Address:**	2401 4TH AVE STE 840 SEATTLE WA 98121
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	1305-MULTI FAM APTS 5 UNITS OR MORE		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Com Multi Unit	**Taxable Value:**	25,926,900
Business Name:	CREEKSIDE VILLAGE	**Assessed Value:**	25,926,900
Last Inspection:	04/08/2014 - Physical Inspection		

Related Parcels

Group Account Number: n/a

Mobile/MFG Home and Personal Property parcel(s) located on this parcel: 1200166485

Real parcel on which this parcel is located: n/a

Tax Description

Section 26 Township 19 Range 01 Quarter 21 LOT X OF BLA 2009-12-11-5001 DESC AS FOLL BEG AT NELY COR OF L 25 OF ROS 2006-09-18-5006 TH S 87 DEG 59 MIN 18 SEC W 827.21 FT TH S 33 DEG 00 MIN 24 SEC E 355.68 FT TH S 01 DEG 40 MIN 32 SEC W 409.25 FT TH S 82 DEG 02 MIN 47 SEC E 214.97 FT TH S 81 DEG 24 MIN 09 SEC E 225.38 FT TO NLY MAR OF CENTER DR TH N 34 DEG 35 MIN 24 SEC E 143.06 FT TO PT OF CURV TH NELY 543.81 ALG C TO R RAD 1560 FT THRU C/A OF 19 DEG 58 MIN 23 SEC TH NWLY 38.17 FT ALG C TO R RAD 25 FT WHICH BEARS N 35 DEG 26 MIN 13 SEC W THRU C/A OF 87 DEG 28 MIN 05 SEC TH N 37 DEG 58 MIN 08 SEC W 85.23 FT TO PT OF CURV TH NWLY 245.69 FT ALG C TO R RAD 355 FT THUR C/A OF 39 DEG 39 MIN 11 SEC TH N 01 DEG 41 MIN 03 SEC E 52.98 FT TH N 88 DEG 18 MIN 57 SEC W 90 FT TH S 01 DEG 41 MIN 03 SEC W 60 FT TO POB EXC FOLL DESC PARCEL THAT POR OF LOT X DESC AS FOLL COM AT SW COR OF SD L X TH N 01 DEG 40 MIN 48 SEC E 90.86 FT ALG W LI OF SD LOT X TH S 89 DEG 43 MIN 57 SEC E 229.35 FT TO POB TH N 00 DEG 19 MIN 47 SEC W 13.67 FT TO PT ON NON-TANG CURVE RAD OF WHICH BEARS N 08 DEG 26 MIN 17 SEC W TH NLY ALG ARC OF A CURVE CONCAVE TO W HAVING A RAD OF 28.08 FT THRU A C/A OF 118 DEG 54 MIN 29 SEC & ARC LENGTH OF 58.28 FT TH N 52 DEG 39 MIN 14 SEC E 11.76 FT TH S 44 DEG 01 MIN 17 SEC E 6.93 FT TH S 57 SEC 27 MIN27 SEC E 10.17 FT TH S 83 DEG 24 MIN 52 SEC E 10.34 FT TH N 75 DEG 29 MIN 31 SEC E 10.36 FT TH N 64 DEG 00 MIN 40 SEC E. 9.98 FT TH N 61 DEG 38 MIN 23 SEC E 9.31 FT TH S 11 DEG 10 MIN 50 SEC E 46.97 FT TH S 00 DEG 59 MIN 40 SEC E 9.38 FT TH S 56 DEG 04 MIN 56 SEC E 4.86 FT TO A P OF T TH ELY ALG ARC OF A C TO L HAVING A RAD OF 22.81 FT THRU C/A OF 40 DEG 39 MIN 03 SEC & ARC LENGTH OF 16.18 FT TH N 79 DEG 29 MIN 40 SEC E 34.50 FT TH N 78 DEG 55 MIN 16 SEC E 57.21 FT TH N 71 DEG 17 MIN 32 SEC E 40.02 FT TO A P OF T TH NELY ALG ARC OF A C TO L HAVING A RAD OF 25.00 FT THRU C/A OF 09 DEG 01 MIN 19 SEC & ARC LENGTH OF 3.94 FT TH N 54 DEG 28 MIN 14 SEC E 83.81 FT TH N 30 DEG 21 MIN 05 SEC W 2.87 FT TH N 54 DEG 04 MIN 37 SEC E 14.15 FT TO A P OF T TH NELY ALG ARC OF A C TO L HAVING A RAD OF 10.00 FT THRU A C/A OF 14 DEG 07 MIN 31 SEC & ARC LENGTH OF 2.47 FT TH N 39 DEG 57 MIN 06 SEC E 143.02 FT TO A P OF T TH NLY ALG ARC OF A C TO L HAVING A RAD OF 15.00 FT THRU A C/A OF 86 DEG 18 MIN 50 SEC & ARC LENGTH OF 22.60 FT TH N 46 DEG 10 MIN 12 SEC W 10.29 FT TH N 45 DEG 21 MIN 10 SEC E 159.47 FT TO A PT ON A NON-TANG CURVE RAD OF WHICH BEARS S 49 DEG 58 MIN 55 SEC W TH SELY ALG ARC OF A CURVE CONCAVE TO SW HAVING A RAD OF 312.67 FT THRU A C/A OF 09 DEG 42 MIN 54 SEC & ARC LENGTH OF 53.02 FT TO WLY MAR OF CENTER DR BEING A PT ON A NON-TANG CURVE RAD OF WHICH BEARS S 39 DEG 49 MIN 07 SEC E TH SWLY ALG SD WLY MAR BEING AN ARC OF A CURVE CONCAVE TO SE HAVING A RAD OF 1577.06 FT THRU A C/A OF 15 DEG 40 MIN 31 SEC & ARC LENGTH OF 431.46 FT TH S 34 DEG 35 MIN 40 SEC W 40.63 FT TO A PT ON A NON-TANG CURVE RAD OF WHICH BEARS S 26 DEG 48 MIN 28 SEC W TH WLY ALG ARC OF A CURVE CONCAVE TO S HAVING A RAD OF 452.50 FT THRU A C/A OF 26 DEG 36 MIN 49 SEC & ARC LENGTH OF 210.18 FT TH N 89 DEG 43 MIN 57 SEC W 30.60 FT TO POB ALSO EXC ANY POR LY S OF FOLL DESC LI COM AT SW COR OF SD LOT X TH N 1 DEG 40 MIN 48 SEC E 5.83 FT TO POB TH S 89 DEG 43 MIN 57 SEC E 262.04 FT TO P OF T TH ELY ALG ARC OF C TO R HAVING RAD OF 367.5 FT THRU C/A OF 25 DEG 48 MIN 31 SEC AN ARC LENGTH OF 165.54 FT TO PT OF COMPOUND CURV TH SELY ALG ARC OF C TO R HAVING RAD OF 25 FT THRU C/A OF 82 DEG 44 MIN 45 SEC AN ARC LENGTH OF 36.10 FT TO S LI OF SD LOTX & TERM OF LI DESC ALSO EXC THAT POR CYD TO CY OF DUPONT FOR SEQUALITCHEW DR PER ETN 4331012 EASE OF REC OUT OF 2-020 SEG 2014-0389 DX4/1/14DX

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Assessor-Treasurer electronic Property Information Profile

Parcel Summary for 0119262016

05/22/2018 10:24 AM

Property Details		Taxpayer Details	
Parcel Number:	0119262016	**Taxpayer Name:**	WEYERHAEUSER NR COMPANY
Site Address:	1700 CENTER DR	**Mailing Address:**	C/O TAX DEPT 220 OCCIDENTAL AVE S SEATTLE WA 98104
Account Type:	Real Property		
Category:	Land and Improvements		
Use Code:	8505-QUARRY SAND ROCK		

Appraisal Details		Assessment Details	
Value Area:	PI6	**2017 Values for 2018 Tax**	
Appr Acct Type:	Industrial	**Taxable Value:**	599,978
Business Name:		**Assessed Value:**	599,978
Last Inspection:	10/31/2017 - Board		

Related Parcels

Group Account Number:	74353
Mobile/MFG Home and Personal Property parcel(s) located on this parcel:	n/a
Real parcel on which this parcel is located:	n/a

Tax Description

Section 26 Township 19 Range 01 Quarter 21 L 23 ROS 2006-09-18-5006 OUT OF 2-012 & 2-013 SEG 2007-0818BL 04-10-07BL

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i DuPont Weyerhaeuser FS 1260 Parcel 1

FILED
JUL 17 1991
SUPERIOR COURT
BETTY J. GOULD
THURSTON COUNTY CLERK

IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
FOR THURSTON COUNTY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY,

v.

WEYERHAEUSER COMPANY and
DUPONT COMPANY

No. ~~91 2 01703 1~~

CONSENT DECREE

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Attachment 2.k. Consent Decree Dept. of Ecology v. Weyerhauser Company and DuPont Company dated July 17, 1991, no. 912017031

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EXHIBITS

Exhibit A	Remedial Investigation/Feasibility Study Final Work Plan
Exhibit B	Schedule
Exhibit C	Site Map (excluding Black Powder Area)
Exhibit D	Black Powder Area Site Map

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INTRODUCTION

A. In entering into this Decree (Decree), the mutual objective of the Washington State Department of Ecology and Weyerhaeuser Company and DuPont Company is to provide for remedial action at a facility where hazardous substances have been deposited, placed, stored, or otherwise disposed of. This Decree requires Weyerhaeuser and DuPont (Defendants) to undertake remedial action which includes completion of a Remedial Investigation (RI), Health Risk Assessment (HRA) and Feasibility Study (FS), with the intent of determining a permanent cleanup option for the entire Site. An interim action will also be completed under this Decree.

B. The Complaint in this action is being filed simultaneously with this Decree. An answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the parties wish to resolve the issues raised by Ecology's complaint. In addition, the parties agree that settlement of these matters without litigation is reasonable and in the public interest and that entry of this Decree is the most appropriate means of resolving these matters.

C. In signing this Decree, Defendants agree to its entry and agrees to be bound by its terms.

D. By entering into this Decree, the parties do not intend to discharge nonsettling parties from any liability

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they may have with respect to matters alleged in the complaint. Defendants and Ecology retain the right to seek to recover response costs expended pursuant to this Decree from any other responsible parties.

E. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown: IT IS HEREBY ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:

I. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the parties pursuant to chapter 90.48 RCW; chapter 70.105 RCW; chapter 70.105D RCW; and the Comprehensive Environmental sponse, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601 et seq.

B. Under chapter 70.105D RCW, the Model Toxics Control Act (MTCA), and CERCLA, whenever Ecology has reason to believe that a release or threatened release of a hazardous substance will require remedial action, it shall notify potentially liable persons with respect to the release or threatened release. Pursuant to RCW 70.105D.040(4), where Ecology and a potentially liable person reach such a settlement regarding appropriate remedial action, the settlement shall be filed with the appropriate superior court as a consent decree, after public notice and hearing.

C. On the basis of the testing and analysis described in the Statement of Facts, Section IV, and Ecology files and

records, Ecology has determined that past disposal or management practices at the Site have given rise to a release of hazardous substances.

D. Defendants are liable parties for the Site pursuant to RCW 70.105D.040(1) and 42 U.S.C. § 9607 and have been given notice of the release of hazardous substances at the Site and Ecology has determined that they are both liable parties under the MTCA.

E. The actions to be taken pursuant to this Decree are necessary to protect the public health, welfare and the environment, and are consistent with requirements of the MTCA and the National Contingency Plan, 40 CFR Part 300 et seq.

II. PARTIES BOUND

This Decree shall apply to and be binding upon the signatories to this Decree (parties), their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with the Decree. Defendants agree to undertake all actions required by the terms and conditions of this Decree and not to contest state jurisdiction regarding this Decree. No change in ownership or corporate status shall alter the responsibility of Defendants under this Decree. Defendants shall provide a copy of this Decree to each of their agents, including all contractors and subcontractors retained to

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perform work contemplated by this Decree, and shall condition any contract for such work on compliance with this Decree.

III. DEFINITIONS

A. Site: The Site covers that portion of the former DuPont Works production area located south of Sequalitchew Creek and that portion of the former DuPont Works production area located north of the Creek that includes the former "Burn Area," as shown on the site map (Exhibit C), and the former "Black Powder Area," as shown on the Black Powder Area site map (Exhibit D).

B. Days: Refer to calendar days unless specified otherwise.

C. Parties: Refers to the Weyerhaeuser Company, DuPont Company and the Department of Ecology.

IV. STATEMENT OF FACTS

A. Site Location and Status

The Site is a portion of the former DuPont Works property. The DuPont property (which includes the DuPont Works and adjacent property) covers approximately 3,200 acres located in the southwest corner of Pierce County, Washington, in the City of DuPont. Studies conducted to date by Weyerhaeuser under the supervision of Ecology indicate that 25 areas on the Site, as shown on Exhibits C and D, contain hazardous substances or hazardous waste constituents. DuPont began operations on the property in 1909, and produced a

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variety of commercial explosive materials. The plant was purchased by Weyerhaeuser in 1976 and was closed in 1977. Weyerhaeuser has conducted no manufacturing activities at the Site which involved the generation, use, treatment, storage, disposal or transportation of hazardous substances or dangerous wastes, although the DuPont Company, Southwest Explosives Company and Oriard Powder Company, as lessees of Weyerhaeuser, used certain areas of the Site for the storage and transportation of explosives. Weyerhaeuser has conducted site work consisting of building demolition of former explosives laboratories, removal of above ground and underground storage tanks, and disposal of construction debris.

B. Previous Site Investigations

In 1985, Weyerhaeuser began evaluating 37 potential hazardous waste areas identified by Hart Crowser under contract to Weyerhaeuser on the property. These studies led to the collection in 1986-1987 of soil and waste samples from each area, and extensive analyses of chemical constituent levels (Hart Crowser, 1987). These data revealed that 25 areas on the Site contained elevated levels of at least one hazardous substance or hazardous waste constituent. Identified hazardous substances or hazardous waste constituents present on the property included lead, zinc, nitroglycerine, 2,4,6-trinitrotoluene, 2,4-dinitrotoluene, 2,6-dinitrotolune, monomethylamine nitrate, PCBs, DDT, several

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polynuclear aromatic hydrocarbons (PAH) and volatile organic compounds, and oily substances. Hazardous substances and hazardous wastes appeared to be generally restricted to near-surface soils, with lower concentrations reported at depth.

In an effort to determine potential impacts from hazardous substances and hazardous waste releases at the Site, between November 1987 and February 1988, seventeen (17) soil borings were drilled within the former production area and completed as groundwater monitoring wells (Hart Crowser, 1988). The soil borings and associated hydraulic data collected during this effort formed the basis for an assessment of geologic and hydrogeologic conditions at the Site which may control both surface and subsurface contaminant transport.

In March 1988, groundwater and surface water samples were collected from a total of 28 monitoring areas on and adjacent to the Site (Hart Crowser, 1988). These samples were analyzed for a variety of field parameters, including inorganics, metals, oil and grease, explosives, PAHs, PCBs, DDT, and volatile organic constituents identified previously in the soil sampling effort (Hart Crowser, 1987). Some of the monitoring areas were resampled in April 1988 to confirm selected analytical data.

The results of this first round of sampling suggested that local concentrations of nitrate and possibly

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also oil and grease constituents were elevated above local background levels. Additionally, lower than normal Ph levels were found in several wells downgradient from identified waste areas on the property. Levels of nitrate in two of the monitoring wells exceeded primary drinking water standards, although existing water supplies did not appear to be affected. No other elevated concentrations of constituents were detected. Groundwater and surface water quality monitoring continued at quarterly intervals for a period of one year on or about 6/88, 9/88, and 12/88 samplings to assess possible seasonal variations in the principal water quality characteristics of concern (i.e., field parameters, nitrates, nitrogen, dissolved solids, lead, oil and grease, and explosives). This quarterly groundwater sampling revealed the presence of those contaminants noted above and the presence of low levels of explosive compounds, e.g., dinitrotoluene.

With the exception of possible contamination of the sediments at the Site, data collected to date (Hart Crowser 1987 and 1988) are generally sufficient to describe the nature and likely extent of hazardous substances present in the soils and groundwater at the Site. Certain additional remedial investigations, as more particularly described in Exhibits A, B, C, and D (attached), are necessary to complete Site investigations.

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C. Black Powder Area

Recently, data collected pertaining to the Black Powder Area (see Ex. D) reveal that near surface soils in the area contain lead at levels exceeding cleanup standards. Further site investigation is occurring to define the nature and extent of hazardous substances in the Black Powder Area.

D. Independent Cleanups

Prior to entry of this Consent Decree, Weyerhaeuser conducted investigations and cleanup actions at Areas 21, 27, 28, and 29 (formerly referred to as "Sites"). The investigations revealed elevated levels of lead, zinc, and total petroleum hydrocarbons in the soil. Cleanups were conducted by Weyerhaeuser with Ecology oversight, using cleanup guidelines in effect at the time. Ecology will provide a formal review of the independent cleanups conducted to determine if any further action is needed at these sites, based on MTCA cleanup standards in effect, on the effective date of this Decree.

Weyerhaeuser and Dupont are currently engaged in voluntary cleanups of Areas 5 and 6, involving, primarily, the removal of abandoned drums. These cleanups were initiated after work plans describing the work to be performed were approved by Ecology, and will be completed under the Consent Decree.

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E. Conclusion

Based on the facts set forth herein, Ecology has determined that the release and potential release of hazardous substances from the Site requires remedial action to protect the public health and welfare and the environment. This Decree requires remedial actions, including a remedial investigation, feasibility study, and interim action, necessary to protect public health, welfare and the environment.

V. WORK TO BE PERFORMED

This Decree contains a program designed to protect the public health and welfare and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site, and includes contingency measures. This program is set forth in Exhibits A, B, C, and D to this Decree, which are collectively titled and constitute the Remedial Investigation/Feasibility Study Plan (RI/FS). Exhibit A sets forth the work to be performed to accomplish the RI/FS (including an environmental and human health risk assessment). Exhibit B sets forth the schedule for implementing this work (Schedule). Exhibit C is a map of the Site, excluding the Black Powder Area. Exhibit D is a map of the Black Powder Area. Exhibits A, B, C, and D are integral and enforceable parts of this Decree, and the work to be performed pursuant to such Exhibits is consistent with all

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requirements of state and federal laws and regulations, including, without limitation, the MTCA and the National Contingency Plan, 40 CFR Part 300. The terms "Consent Decree" or "Decree" shall include Exhibits A-D whenever used in this document. Except where performance by another party is expressly provided in the exhibits, Defendants hereby commit to perform the work described in Exhibits A, B, C, and D.

A. Work Plan. Pursuant to Ecology's requirements Weyerhaeuser has completed certain remedial investigation and baseline risk assessment work as of the dates set forth in Exhibit B. Defendants shall submit to Ecology additional remedial investigation and feasibility study work by the dates provided in Exhibit B. Any field work conducted by Defendants must include and be consistent with the following plans:

1. Quality Assurance/Quality Control Plan
2. Health and Safety Plan
3. Data Management Plan
4. Sampling and Analysis Plan
5. Community Relations Plan
6. Cultural Resources Comprehensive Management Plan and Cultural Resources Protection Plan
7. Sediment Sampling Plan

The above enumerated plans shall be submitted to Ecology for review, comment, and approval.

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B. Scope of Remedial Investigation. Through previous Site investigation, documented in a Phase I Site Survey and Review Report (Hart Crowser, 1986), a Phase II Site Characterization Report (Hart Crowser, 1987), and a Hydrologic and Water Quality Assessment Report (Hart Crowser, 1988) the vertical and horizontal extent of contamination at the DuPont Site has, for the most part, been determined. To complete the remedial investigation (RI), Defendants shall perform the work plan tasks set forth in Exhibits A, B, C, and D hereto.

C. Scope of Feasibility Study. Based on the results of the remedial investigation and the risk assessment, completed per the requirements of Exhibits A, B, C, and D, a feasibility study of alternative remediation options at the Site shall be conducted. Only those areas within the Site which may exceed an acceptable level of risk to human health or the environment or where levels of hazardous substances exceed cleanup levels will be considered during this effort.

The feasibility study shall be performed in accordance with WAC 173-340-350 and in general accordance with the draft EPA guidelines for Remedial Investigations and Feasibility Studies (EPA, 1988). The feasibility study shall include an initial identification and screening of potential remediation alternatives based on preliminary evaluations of permanence, effectiveness, implementability, and cost. Based on the preliminary screening, a minimum of three (3)

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alternatives for each contaminated area shall be selected for more detailed analyses. Areas with identical contaminants may be grouped and treated together. These more detailed evaluations will address in greater detail the use of permanent solutions, short-term and long-term effectiveness, implementability, and cost of each of the final alternatives.

The purpose of the feasibility study is to identify, develop, evaluate, and recommend remedial action alternatives which are consistent with a permanent remedy and which are available to prevent or minimize the release or threatened release of hazardous substances or pollutants or contaminants from the Site, as identified through the remedial investigation and the risk assessment. The feasibility study shall be conducted in accordance with all federal and state laws and regulations, and generally in accordance with all applicable EPA guidance documents relating to feasibility studies.

The remedial investigation and feasibility study for the 25 areas of the Site identified on Exhibits C and D shall be presented in a draft report submitted to Ecology on or before the date 24 months following the effective date of this Decree, depending on the timeliness of Ecology's prior response to the risk assessment. Ecology will provide a final written response to the draft remedial investigation and feasibility study report within 90 days of receipt of the document. Defendants shall submit a final report for the

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remedial investigation and feasibility study no later than 60 days following the receipt of Ecology's final written response.

D. Black Powder Area Interim Action. Within 90 days of the effective date of this Decree, Defendants shall submit a work plan and schedule for an interim action at the Black Powder Area. As stated above, preliminary investigations have revealed that soils in the Black Powder Area are contaminated with lead. This interim action will be designed to define the nature and extent of contamination of the Black Powder Area, and to recommend an appropriate interim action for the area. Ecology will then select the interim action to be implemented. The Defendants will then implement the selected interim action unless Dispute Resolution is invoked, in which case the dispute resolution process set forth in Section XIII of this Decree shall be utilized to resolve the dispute. The interim action will be the subject of threshold determination under the State Environmental Policy Act, Ch. 43.21C RCW.

Upon Ecology's determination that the interim action for the black powder area has been completed in compliance with the approved interim action work plan, that no further remedial action is necessary at the black powder area, and that applicable cleanup standards have been met, Ecology may delete the black powder area from the coverage of this Consent

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Decree. Ecology will only make this determination after public notice and an opportunity to comment.

E. Other Interim Actions. Ecology may, during the term of this Consent Decree, determine that additional interim actions are necessary at the Site under WAC 173-340-430. Likewise, Defendants may, during the term of this Consent Decree, propose additional interim actions.

Upon receipt of notification from Ecology that an interim action is required, Defendants shall plan, propose, initiate, complete, and report upon the required interim action for the Site. Such plans, proposals, and reports shall be subject to review, comment, and approval by Ecology. If Defendants fail to undertake an interim action required by Ecology in a proper and prompt manner, Ecology reserves the right to perform the required interim action and to recover all costs incurred in doing so from Defendants. Defendants may dispute the necessity or appropriateness of any interim action required by Ecology.

F. Future Negotiations Regarding Remedial Action. If the feasibility study, performed pursuant to Section C above, indicates the need for remedial action, as defined by the MTCA or CERCLA, Defendants and Ecology will enter into negotiations regarding such remediation; this will include the design, construction, operation, maintenance, and monitoring phases of such remedial action. The parties recognize and agree that,

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if a remedial action is necessary, it would be beneficial to commence the remedial action during the construction season (Spring, Summer and early Fall). Ecology and Defendants will exercise their good faith efforts to agree upon any necessary remedial action as promptly as possible following submission of the final report due under this Decree. Neither Ecology nor Defendants shall have any obligation pursuant to this Decree to agree upon the terms of any such remedial action, nor shall Defendants have any obligation under this Decree to perform any such remedial action. If the parties do agree upon the terms of a remedial action those terms and the performance of the remedial action shall be the subject of a separate consent decree or an amendment to this Decree.

G. Consistency with Cultural Resources Comprehensive Management Plan. The parties to this Decree recognize the historical and archaeological significance of the Site. Every reasonable effort will be made to ensure that area investigation and remediation will be conducted in a manner consistent with protection of these values. As soon as practicable after execution of this Decree, Defendants shall, in consultation with the State Office of Archaeology and Historic Preservation, prepare a Cultural Resources Comprehensive Management Plan. The Plan shall detail the steps which will be taken, including dispute resolution processes, to protect the archaeological and historical values of the Site. The

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Defendants shall also prepare and submit a Cultural Resources Protection Plan which will ensure that work performed under this Decree will be completed in a manner consistent with the Cultural Resources Comprehensive Management Plan. These plans will be subject to Ecology approval.

VI. DESIGNATED PROJECT COORDINATORS

On or before the entry of this Decree, Ecology, Weyerhaeuser and DuPont shall each designate a project coordinator. Each project coordinator shall be responsible for overseeing the implementation of this Decree. The Ecology project coordinator will be Ecology's designated representative at the Site. To the maximum extent possible, communications between Ecology and Defendants and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree, shall be directed through the project coordinators. The project coordinators may designate working level staff contacts for all or portions of the implementation of the remedial work required by this Decree. The project coordinators may agree to minor modifications to the work to be performed without a formal amendment to this Decree.

Any party may change its respective project coordinator. To the extent possible, written notification shall be given to

the other party, in writing, at least ten (10) calendar days prior to the change.

The project coordinator for Ecology is:

Mike Blum
7272 Cleanwater Lane
Mail Stop: LU-11
Olympia, WA 98504-6811

The project coordinator for Weyerhaeuser is:

Vern Moore
Weyerhaeuser Company
P.O. Box 100
Dupont, WA 98327

The project coordinators for DuPont are:

John B. Frazier
Chemicals & Pigments Dept. BOD 918
DuPont Company
1007 Market Street
Wilmington, DL 19898

Chuck Crittenden
DuPont Environmental Remedial Services
P.O. Box 100
DuPont, WA 98327

VII. PERFORMANCE

All response work performed pursuant to this Decree shall be under the direction and supervision, as necessary, of a professional engineer or certified hydrogeologist, or equivalent, with experience and expertise in hazardous waste area investigation and cleanup. Defendants shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors

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to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

VIII. ACCESS

Ecology or any Ecology authorized representative shall have the authority to enter and freely move about all property at the Site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing the progress in carrying out the terms of this Decree; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, video and/or sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendants. While Ecology reserves its right to enter and inspect the Site, as set forth above, without providing advance notice, Ecology will, in most cases, provide 48-hour advance notice of any Site inspection. Ecology shall, upon request, split any samples with Defendants taken by Ecology during an inspection unless Defendants fail to make available a representative for the purpose of splitting samples. All parties with access to the Site pursuant to this paragraph shall comply with approved health and safety plans.

IX. SAMPLING, DATA REPORTING AND AVAILABILITY

With respect to the implementation of this Decree, Defendants shall make the quality-assured results of all sampling, laboratory reports, and/or test results generated by them, or on their behalf available to Ecology and shall submit these quality-assured results in progress reports submitted in accordance with paragraph X herein. At the request of Ecology, Defendants shall allow split or duplicate samples to be taken by Ecology and/or its authorized representatives of any samples collected by Defendants pursuant to the implementation of this Decree. Defendants shall notify Ecology five (5) working days in advance of any sample collection activity. To the extent practicable, and without limitation on Ecology's rights under Section VIII, Ecology will provide the same five (5) day notice to Defendants and shall, upon request, allow split or duplicate samples to be taken by Defendants or their authorized representatives of any samples collected by Ecology pursuant to the implementation of this Decree.

In addition, Ecology may require Defendants to split any samples collected on their behalf, and thereafter send such samples to different laboratories for analyses in an effort to ensure accurate laboratory results.

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X. PROGRESS REPORTS

Defendants shall submit to Ecology written monthly progress reports which describe the actions they have taken during the previous month to implement the requirements of this Decree. Progress reports shall also describe the activities scheduled to be taken during the next month. All progress reports shall be submitted by the tenth day of the month in which they are due after the effective date of this Decree. The progress reports shall include a detailed statement of the manner and extent to which the requirements and time schedules set out in the Decree are being met. Unless otherwise specified, progress reports and any other documents submitted pursuant to this Decree shall be sent by United States mail, to Ecology's project coordinator.

XI. RETENTION OF RECORDS

Defendants shall preserve, during the pendency of this Decree and for ten (10) years from the date of issuance of the Certificate of Completion (Section XXVII) all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree, or, in the alternative may furnish to Ecology copies of all such records, reports and documents, and shall insert in contracts with project contractors a similar record retention requirements. Upon request of Ecology, Defendants shall make all non-privileged non-archived records available to Ecology and allow

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access for review. All non-privileged archived records shall be made available to Ecology within a reasonable period of time. Ecology agrees, to the extent permitted by law, to maintain the confidentiality of any proprietary information requested.

XII. TRANSFER OF INTEREST IN PROPERTY

No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated without provision for continued operation and maintenance of any containment system, treatment system, and monitoring system installed or implemented pursuant to this Decree. Prior to transfer of any legal or equitable interest in all or any portion of the Site upon which a release of hazardous substances is known to have occurred (including, without limitation, all or any portion of the precise geographic area described in Exhibit C) or upon which a containment system, treatment system or monitoring system has been installed or implemented, Weyerhaeuser shall serve a copy of this Decree and all attachments upon any prospective purchaser, lessee, transferee, assignee, or other successor in interest of the property; and, at least thirty (30) days prior to any transfer, Weyerhaeuser shall notify Ecology of said contemplated transfer.

XIII. RESOLUTION OF DISPUTES

If either Defendant objects to any Ecology disapproval, proposed modification, or decision made pursuant to this Decree, it shall notify Ecology in writing of its objections within fourteen (14) calendar days of receipt of such disapproval, proposed modification or decision. Thereafter, the parties shall confer in an effort to resolve the dispute. If agreement cannot be reached on the dispute within fourteen (14) calendar days after receipt by Ecology of such objections, Ecology shall promptly provide a written statement of its decision to Defendants.

If Ecology's final written decision is unacceptable to either Defendant, Defendant has the right to submit the dispute to the Court for resolution. The parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event Defendants present an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review. Ecology and Defendants agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the

dispute resolution in bad faith or for purposes of delay, the other party may seek sanctions.

Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

XIV. AMENDMENT OF CONSENT DECREE

This Decree may only be amended by a written stipulation among all the parties to this Decree that is entered by the Court, or by order of the Court. Such amendment shall become effective upon entry by the Court. Agreement to amend shall not be unreasonably withheld by any party to the Decree.

Defendants shall submit any request for an amendment to Ecology for approval. Ecology shall indicate its approval or disapproval within fifteen (15) working days after the request for amendment is received, if additional time is necessary to review the request for amendment Ecology shall notify Defendants within fifteen (15) days whether an extension of the Work Plan schedule is granted during the pendency of Ecology's review of the proposed amendment. Reasons for any disapproval shall be stated in writing. If Ecology does not agree to any proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XIII of this Decree.

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No guidance, suggestions, or comments by Ecology will be construed as relieving Defendants of their obligation to obtain formal approval as may be required by this Decree. No verbal communication by Ecology shall relieve Defendants of the obligation specified herein.

Ecology shall notify Defendants in writing of any Ecology proposed amendment and the basis for such proposal. Defendants shall thereafter comply with such modifications, or if either Defendant does not agree with those modifications, the disagreement shall be addressed through the dispute resolution procedures described in Section XIII of this Decree.

If Ecology adopts regulations applicable to this Decree that would require public participation in the amendment process, such regulations shall be followed in amending this Decree.

XV. EXTENSION OF SCHEDULE

A. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify the reason(s) the extension is needed. An extension shall only be granted for such period of time is reasonable under the circumstances. A requested extension shall not be effective until approved by Ecology or the Court. Ecology

shall act upon any written request for extension in a timely fashion. It shall not be necessary to formally amend this Decree pursuant to Section XIV when a schedule extension is granted.

B. The burden shall be on Defendants to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause includes, but is not limited to, the following:

1. Circumstances beyond the reasonable control and despite the due diligence of Defendants including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Defendants.

2. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, wave or water conditions, or other unavoidable casualty; or

3. Endangerment as described in Section XVII. However, neither increased costs of performance of the terms of the Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of Defendants.

C. Ecology may extend the schedule for a period not to exceed ninety (90) days, except where an extension is needed as a result of:

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1. Delays in the issuance of a necessary permit which was timely applied for or, if necessary, to comply with permit conditions; or

2. Judicial review of the issuance, non-issuance, or reissuance of a necessary permit; or

3. Other circumstances that reasonably require an extension of more than 90 days; or

4. Endangerment as described in Section XVII; or

5. The need to protect the environment or public interest.

Ecology shall give Defendants written notice in a timely fashion of any extensions granted pursuant to the Decree.

XVI. STIPULATED PENALTIES

A. For delays by Defendants in submitting a report or document or otherwise failing to achieve on time the requirements of this Decree, Ecology may require that Defendants pay into the General Fund of the State Treasury the sum set forth below as stipulated penalties. Defendants stipulate that they shall be obligated to pay such sums as set forth below.

B. Stipulated penalties shall accrue for the following reasons and in the following amounts:

1. Failure to submit a draft environmental risk assessment and feasibility study per agreed-upon schedule: up

to $2,500 per day during the first thirty (30) days; up to $4,000 per day thereafter.

2. Failure to submit a final environmental risk assessment and feasibility study per agreed-upon schedule: up to $2,500 per day during the first thirty (30) days); up to $4,000 per day thereafter.

3. Failure to submit progress reports pursuant to Section X hereof: $500 per day.

4. Failure to provide access to Ecology pursuant to Section VIII hereof: up to $2,500 per day.

C. Defendants shall not be liable for payment under this section if they have submitted a timely request to Ecology for an extension of schedules under Section XV of this Decree and such request has been granted.

D. Upon determination by Ecology that Defendants have failed to make a submittal referenced herein or has otherwise failed to comply with this Decree, Ecology shall immediately give written notice to Defendants of the failure, specifying the provision of the Decree which has not been complied with and specifying the amount of the civil penalty due pursuant to Paragraph B, above. Defendants shall pay the civil penalty within thirty (30) days of receipt of notification from Ecology. Any disagreement over the factual basis for issuance of a penalty under this section shall first be addressed through the dispute resolution clause. In the event

Defendants disagree with the result of the dispute resolution process, Defendants may seek relief from the Court.

E. Nothing herein shall be construed to prevent Ecology from assessing or seeking to impose penalties upon Defendants for any violations of this Consent Decree additional to those specified in subsection B. above, or the Court from imposing such sanctions as it deems appropriate for violations of this Decree or any further order of the Court.

XVII. ENDANGERMENT

In the event Ecology determines or concurs in a determination by another local, state, or federal agency that activities implementing or in noncompliance with this Decree, or any other circumstances or activities, are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecology may order Defendants to stop further implementation of this Decree for such period of time as needed to abate the danger or may petition the Court for an order as appropriate.

During any stoppage of work under this section, the obligations of Defendants with respect to the work ordered to be stopped shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which is stopped, shall be extended, pursuant to Section XV of this Decree, for such

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period of time as Ecology determines is reasonable under the circumstances.

In the event Defendants determine that activities undertaken in furtherance of this Decree or any other circumstances or activities are creating an imminent and substantial endangerment to the people on the Site or in the surrounding area or to the environment, Defendants may stop implementation of this Decree for such periods of time necessary for Ecology to evaluate the situation and determine whether Defendants should proceed with implementation of the Decree or whether the work stoppage should be continued until the danger is abated. Defendants shall notify either Ecology field personnel on-site or the project coordinator as soon as is possible, but no later than twenty-four (24) hours after such stoppage of work, and provide Ecology with documentation of its analysis in reaching this determination. If Ecology disagrees with Defendants' determination, it may order Defendants to resume implementation of this Decree. If Ecology concurs in the work stoppage, Defendants' obligations shall be suspended and the time period for performance of that work, as well as the time period for any other work dependent upon the work which was stopped, shall be extended, pursuant to Section XV of this Decree, for such period of time as Ecology determines is reasonable under the circumstances. Any

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disagreements pursuant to this clause shall be resolved through the dispute resolution procedures in Section XIII.

XVIII. OTHER ACTIONS

Ecology reserves its rights to institute remedial action(s) at the Site and subsequently pursue cost recovery, and Ecology reserves its rights to issue orders and/or penalties pursuant to available statutory authority under the following circumstances:

1. Where Defendants fail, after notice, to adhere to any requirement of this Decree;

2. In the event or upon the discovery of a release or threatened release not addressed by this Decree which Defendant, after notice, fail to address;

3. Upon Ecology's determination that action beyond the terms of this Decree is necessary to abate an emergency situation which threatens the public health or welfare or the environment provided, however, that Ecology will first give Defendants notice and opportunity to perform such remedial action unless the threat is so immediate as to not permit the giving of notice; or

4. Upon the occurrence or discovery of a situation beyond the scope of this Decree as to which Ecology would be empowered to perform any remedial action or to issue an order and/or penalty, or to take any other enforcement action. This Decree is limited in scope to the precise geographic area

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described in Exhibit C and to those contaminants which Ecology knows to be at the Site when this Decree is entered.

XIX. INDEMNIFICATION

Defendants agree to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property arising from or on account of acts or omissions of Defendants, their officers, employees, agents, or contractors in entering into and implementing this Decree. However, Defendants shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action brought by third parties arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in implementing the activities pursuant to this Decree.

XX. COMPLIANCE WITH APPLICABLE LAWS

All actions carried out by Defendants pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits.

XXI. OVERSIGHT COSTS

Defendants shall reimburse Ecology for its oversight costs in implementing this Decree. Such oversight costs shall be in the amount of Ecology's actual costs of direct activities, support costs of direct activities, and interest

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charges for delayed payments. Defendants and Ecology will consult on a quarterly basis with respect to the oversight costs incurred by Ecology in the prior quarter and the costs Ecology anticipates it will incur in the following quarter, however, nothing herein shall be deemed to limit Ecology's discretion regarding appropriate oversight activities. Oversight costs shall be billed by Ecology and paid by Defendants on a quarterly basis. Any disputes regarding oversight costs shall be subject to dispute resolution pursuant to Paragraph XIII hereof.

XXII. RESERVATION OF RIGHTS

By agreeing to the entry of this Decree, Defendants and Ecology agree to abide by its terms. While the parties believe that the recitals contained in this Decree are accurate, the execution and performance of the Decree do not constitute an admission by either Defendant of any fact or liability for any purpose other than as a basis for the entry of this Decree. Defendants' performance under the Decree is undertaken without waiver of or prejudice to any claims or defenses whatsoever (including, but not limited to the defenses enumerated under RCW 70.105.040, 42 U.S.C. 9607, and RCW 70.105D.040) that may be asserted in the event of further administrative proceedings or litigation about or relating to the Site. Nor is the execution or the performance of the

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Decree an agreement by Defendants to take any action at the Site other than that described in this Decree.

XXIII. CLAIMS AGAINST THE STATE

Defendants hereby agree that they will not seek to recover any costs accrued in implementing RI/FS Work Plan required by this Decree from the State of Washington or any of its agencies; and further, that Defendants will make no claim against the state toxics control account or any local toxics control account or CERCLA for any costs incurred in implementing this Decree. Defendants expressly reserve their right to seek to recover any costs incurred in implementing this Decree from any other potentially liable party, including the United States.

XXIV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that Defendants have failed without good cause to implement the remedial action required by this Decree, Ecology may, after notice to Defendants, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of Defendants' failure to comply with its obligations under this Decree, Ecology may seek to recover from Defendants its costs of doing such work to the extent Ecology is entitled to such cost recovery under state or federal law.

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XXV. COMMUNITY RELATIONS

Ecology shall maintain the responsibility for community relations regarding matters covered by this Consent Decree at the Site, and shall provide notice to Defendants at least 48 hours in advance of giving any public notice or other release of information regarding the Site to the public. However, Defendants shall cooperate with Ecology and shall:

A. Prepare drafts of public notices and fact sheets at important stages of the RI/FS, such as the submission of work plans and the completion of engineering design. Ecology will finalize (including editing if necessary) and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings;

B. Notify and coordinate with Ecology's project coordinator prior to all press releases and fact sheet preparation, and before major meetings with the interested public and local government;

C. Participate in public presentations on the progress of RI/FS at the Site. Participation may be through attendance at public meetings to assist in answering questions or as a presenter;

D. In cooperation with Ecology, arrange and/or continue information repositories located at the Lakewood Public Library, the South Puget Environmental Education Clearinghouse (SPEECH) Center, and Ecology's Southwest Regional Office. At

a minimum, copies of all public notices, fact sheets, and press releases, all quality assured groundwater, surface water, soil sediment, and air monitoring data, remedial action plans, and supplemental remedial planning documents which are submitted by Defendants to Ecology, relating to performance of the RI/FS required by this Decree, shall be promptly placed in these repositories.

E. Defendants may provide additional public information, but agree to keep Ecology informed of such public information activities.

XXVI. DURATION OF DECREE

This Decree shall remain in effect and the remedial program described in this Decree shall be maintained and continued until Defendants receive a written notice from Ecology that the remedial action plan has been satisfactorily completed, or until the Court determines that the requirements of the Decree have been completed.

XXVII. EFFECTIVE DATE

This Decree is effective upon the date it is entered by the Court.

XXVIII. PUBLIC NOTICE AND WITHDRAWAL OF CONSENT

This Decree has been subject to public notice and comment under RCW 70.105D.040(4)(a). Ecology reserves the right to withdraw or withhold its consent to the proposed final Decree if the comments received by Ecology disclose facts or

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considerations which indicate that the proposed Decree is inappropriate, improper, or inadequate.

If the Court withholds or withdraws its consent, this Decree shall be null and void at the option of any party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

By: Carol L. Fleskes — July 17, 1991
Carol L. Fleskes — Date
Program Manager
Toxics Cleanup Program

By: Jay J. Manning — July 17, 1991
Jay Manning, WSBA #13579 — Date
Assistant Attorney General

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DUPONT COMPANY

By: _____ _____
Richard A. Romanelli Date
Director, Safety &
Environmental Resources
Dupont Chemicals

By: _____ _____
E. Julia Lambeth Date
Senior Counsel
DuPont Legal

WEYERHAEUSER COMPANY

By: Jack Larsen
Jack Larsen
Vice President

July 10, 1991
Date

By: Ralph H. Palumbo
Ralph H. Palumbo
Heller, Ehrman, White
& McAuliffe
Attorneys for Weyerhaeuser
Company

June 2, 91
Date

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Having reviewed the foregoing Consent Decree, it is hereby ordered that the Consent Decree is Entered.

DATED this 22 day of July, 1991.

ROBERT J. DORAN

Superior Court Judge
Thurston County Superior Court

133/weyerhsr.csd

Dupont Way

HARTCROWSER

Earth and Environmental Technologies

Exhibit A
Final Work Plan
(Remedial Investigation, Risk Assessment, and Feasibility Study) and Exhibits B, C, and D
Former Du Pont Works Site
Dupont, Washington

Prepared for
Weyerhaeuser Company
and
Du Pont Company

July 10, 1991
J-1747-49

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EXHIBIT A
FINAL WORK PLAN
(REMEDIAL INVESTIGATION, RISK ASSESSMENT,
AND FEASIBILITY STUDY)
FORMER DU PONT WORKS SITE
DUPONT, WASHINGTON

1.0 INTRODUCTION

This Work Plan outlines the scope of work to complete a Remedial Investigation (RI), Health Risk Assessment, and Feasibility Study (FS) at the Former Du Pont Works Site in Dupont, Washington. The plan describes work which has been completed and reported to Weyerhaeuser Company, Du Pont Company, and the Washington State Department of Ecology (Ecology), as well as work remaining to be conducted.

1.1 RI/FS Process

The State of Washington has established guidelines under WAC 173-340-350 for RI/FSs that will be used as a framework for the development of this study. Relevant federal requirements contained in 40 CFR 300 (National Contingency Plan) will also be addressed. Primary elements of a RI/FS include:

Site Characterization. Field investigations to compile data and assess surface water and sediments, soils, geology and hydrogeology, air quality, land use, natural resources damages, and hazardous substance sources.

Risk Assessment and ARAR Analysis. Assessment of current and potential threats to human health and the environment from hazardous substances and evaluation of applicable or relevant and appropriate requirements (ARARs), with the goal of establishing remedial action objectives.

Evaluation of Cleanup Alternatives. Screening of alternatives and selection of a preferred alternative considering several enumerated factors.

As part of the RI process, detailed work plans will be prepared for the following areas:

- Sampling and Analysis Plan;
- Health and Safety Plan;
- Quality Assurance/Quality Control Plan;
- Data Management Plan; and
- Community Relations Plan.

Many elements of the RI for the Former Du Pont Works Site have been completed and are described within this chapter. Chapters 2.0, 3.0, and 4.0 describe work that is to be completed in support of the RI/FS study.

All work plans, and revisions thereto, will be submitted to Ecology for review, comment and approval per the terms of the Consent Decree between Weyerhaeuser, DuPont, and Ecology. The Health and Safety Plan will be submitted to Ecology for review and comment only. Ecology will be notified of planned field activities according to the requirements of Section IX (Sampling, Data Reporting, and Availability) of that Decree.

Throughout this document, "Site" refers to the entire Former Du Pont Works property under consideration. Specific known waste locations are called "areas." The "areas" have been called sites in the past and may be noted by the particular site name (such as "Site 5").

The RI/FS process will also incorporate sufficient information needed to fulfill requirements of the State Environmental Policy Act (SEPA), if applicable.

1.2 Site Characterization Studies Conducted from 1986 to 1989

Site characterization activities at the Former Du Pont Works Site initially included reconnaissance surveys and historical records reviews. Based on the results of these activities, a preliminary (Phase I) sampling and analysis plan was prepared to verify the presence or absence of suspected contaminants.

The Phase I investigations were initiated in December of 1986 and resulted in the collection of soil samples from test pits and surficial locations within suspected contaminant areas.

Based on the results of the Phase I analyses, further site characterization activities were recommended in areas which exhibited chemical concentrations in excess of general reference (background) levels. A Phase II sampling and analysis plan was subsequently prepared to estimate the volume of materials which exceeded such background concentrations. The Phase II effort was directed toward an impending excavation and off-site disposal remedial action planned for the site. The Phase II investigations were initiated in April of 1987 and included additional test pit, boring, surficial soil, and waste sampling. Altogether, approximately 500 soil samples were collected from the site during both phases of the investigation. Chemical analyses on the samples were performed using EPA- and/or state-approved methodologies.

Following the soil sampling activities described in Hart Crowser (1987), a hydrogeologic and water quality investigation of the site was initiated in November of 1987 to assess possible water quality impacts associated with the identified waste areas. After completion of 16 groundwater monitoring wells installed in selected locations on the property, a quarterly monitoring program of water quality within local groundwaters, springs, and surface waters was initiated. Water quality parameters included in the monitoring program were selected based on the results of the site (soil and waste) characterization efforts. Except for the additional groundwater monitoring described in Section 2.2, the hydrologic monitoring program was largely completed with the fourth quarterly sampling in January 1989. The results of these analyses are summarized in Hart Crowser (1988) and ETI/Hart Crowser (1989).

1.3 Chemical Detection Methods

Of the 141 parameters tested in soil, waste, and/or water samples collected from the property, 38 were detected in at least one sample, and 34 of these analytes were present in at least one sample at levels above background concentrations. The detected chemicals included

four screening parameters (e.g., total oil and grease), five explosive compounds (e.g., 2,6-Dinitrotoluene [2,6-DNT]), five metals (e.g., lead), six volatile organics (e.g., tetrachloroethene), 11 semivolatile organics (e.g., high molecular weight aromatic hydrocarbons [HPAHs] such as chrysene), three pesticides (e.g., 4,4'-DDT), and four PCBs (e.g., Aroclor 1242).

An additional 20 parameters, primarily semivolatile compounds and pesticides, were reported by the laboratory at concentrations below the analytical detection limit ('J' flagged based on CLP protocols) but above estimated background. The presence of these 'J-flag' constituents in the waste areas is suspected, but not confirmed.

The samples with the 'J' flag were included in the risk assessment in accordance with EPA Risk Assessment Guidance for Superfund projects. In those cases where a compound with a 'J' flag was identified (and unqualified) in other areas of the Site in the same media, the estimated concentration was used in the risk assessment. In those cases where the compound with a 'J' was not identified in other areas of the Site, the concentrations were not considered in the risk assessment.

In the FS, the 'J' values will be handled in the same way as in the risk assessment. In those cases where the compound was identified without qualification in other areas, or when there is other evidence that the compound may have been released on the site, the FS alternative evaluation will consider that the 'J' compounds are present in the estimated concentrations. If there is no other evidence that the compound may have been released, then they will not be considered in the FS alternatives.

2.0 ADDITIONAL REMEDIAL INVESTIGATION

The work elements described below were added to the site characterization studies presented in Chapter 1.0.

One of the first tasks that will be conducted during the RI process is compilation of the extensive site characterization work that has been performed for the site. This summary will consolidate all available information on the property and enable analysis of the planned investigative work to determine if further site characterization may be necessary. This summary will be submitted to Ecology for review and comment.

2.1 Surveying and Additional Sampling/Analysis

Additional limited data collection is necessary at the site to complete site characterization and develop remediation alternatives for the identified waste areas. These activities include the following:

- **Surveying.** To the extent practicable, establish the coordinates of previous soil and waste sampling locations utilized in the Phase I and Phase II efforts.

- **TCLP Testing.** Assess those areas containing total lead in excess of applicable cleanup criteria to determine if they exhibit dangerous and/or hazardous waste characteristics based on the TCLP test.

- **Lead and Mercury Boundaries.** Assess the areal and vertical extent of lead at areas which exceed the applicable cleanup standards. In order to support the FS, the estimated boundaries of the lead should be accurate within the range of -20 percent to +50 percent. Only those areas where existing boundary uncertainties exceed this range will be sampled. In addition, ten selected samples collected during the above Lead Boundaries Study will be analyzed for mercury and the site-wide distribution of this contaminant will be characterized.

Each of the additional sampling and analysis tasks is outlined below.

Surveying

As discussed above, the previous Phase I and Phase II site characterization efforts were performed under the assumption that site remediation would proceed immediately thereafter. Consistent with this assumption, only temporary field markers were placed to locate the field positions. However, over the two to three years which have elapsed since sampling, many of these markers have begun to deteriorate. A survey of these positions would ensure the long-term utility of the existing data.

At each of the areas where soil and/or waste sampling was performed during Phases I or II, or subsequent efforts, sampling locations will be surveyed to the extent practicable to establish positions relative to state plane coordinates. For each of the areas which may require subsequent remediation (based on the risk assessment), a semipermanent local benchmark will be established to facilitate activities of the cleanup contractor. A map will be prepared for each area. The survey will locate marks to an accuracy of ± 0.1 foot. The actual sample locations will be located with an accuracy of ± 1 foot by hand taping from markers in each area. In some cases, it may be difficult to locate previous sample locations. In those cases, the reconstructed sample location may be ± 50 feet from the actual location. The accuracy of each reconstructed sample location will be documented.

TCLP Testing

Currently, only areas which contain elevated concentrations of total lead (greater than the applicable cleanup standard) in soils have been tested for EP Tox lead. No samples have yet been tested using TCLP. Based on an analysis of the EP Tox data, the ratio of potentially leachable (EP Tox and/or TCLP) lead to total lead is expected to vary widely, spanning more than two orders of magnitude within one area alone (Hart Crowser, 1987). For this reason, additional sampling is necessary to determine which of the identified lead areas may need to be addressed under the dangerous or hazardous waste regulations (WAC 173-303, 40 CFR Part 261).

At the identified lead areas which have not yet been characterized for TCLP or EP Tox, representative soil samples will be collected and analyzed for TCLP lead and total lead using standard EPA protocols.

Depending upon the size of the area, one to five samples will be collected from each area for analysis. An estimated 37 soil samples (including QC samples) will be collected at these areas. An additional 5 samples from these areas will also be tested using EP Tox procedures to assess the general relationship between these two testing procedures.

Lead and Mercury Boundaries

A number of the areas sampled during the Phase I and Phase II investigations exhibited concentrations of lead which exceeded the applicable cleanup standards for lead. The extent of soil contamination in these areas has not yet been characterized to the desired accuracy of -20 percent to +50 percent stated above.

During or immediately following the surveying conducted under the remedial investigation, soil sampling grids will be established at Sites 2, 4, 7, 16, 18, 25, 26, 30, 31, 36, and 38. Grid spacing will be approximately 30 feet on center or as appropriate for the individual site. Soil samples will be obtained within each grid as surficial (0 to 0.5-foot) five-spot equidistant composites. The soil samples will be analyzed for total lead using the same EPA-approved methodologies used previously. The sampling will continue until the samples around the area boundary meet applicable cleanup standards. This will provide data to determine the cleanup standard isopleth line. An estimated 80 soil samples will be collected at these areas. Mercury analyses will also be performed on ten selected samples to assess the site-wide distribution of this contaminant.

2.2 Additional Groundwater Monitoring Wells

In October 1989, two additional groundwater monitoring wells (MW-18 and MW-19) were installed. MW-19 was drilled midway between existing wells MW-15 and MW-16, and MW-18 was drilled adjacent to well MW-10. The purpose of this task was to obtain groundwater samples from the sea level aquifer at these locations. A staff gage was also installed in Old Fort Lake. The horizontal and vertical location of the new wells and staff gage were surveyed.

Additional groundwater wells will be installed and sampled to permit better definition of the site hydrogeology and to better characterize the extent and magnitude of groundwater contaminants in both the shallow

and, if necessary, deep aquifers. A detailed work plan for installation of additional monitoring wells will be submitted to Ecology for review, comment, and approval.

The procedure used to install and sample the wells and the methods/analyses used to analyze the samples will be presented in detailed work plans.

2.3 Additional Groundwater and Surface Water Sampling

In November 1989 and after the two additional wells were installed, a set of groundwater and surface water samples was obtained and analyzed from the new wells and selected other locations including two "sea level" seeps (Seep 1 and Seep 2) located on the shoreline south of MW-15 and north of Sequalitchew Creek. The sampling locations included:

- Wells MW-1, MW-15, MW-16, MW-17, MW-18, and MW-19; and
- SW-1, Seep 1, and Seep 2.

Samples from these locations were analyzed for the constituents listed below:

- Electrical conductivity;
- Nitrate plus nitrite (EPA Method 353.2);
- Ammonia (EPA Method 350.1);
- Oil and grease (EPA Method 413.2);
- Total dissolved solids (EPA Method 160.1);
- Dissolved organic compounds (VOCs) (Method SW 8240);
- Polynuclear aromatic hydrocarbons (PAHs) (Method SW 8100);
- Explosive compounds - nitroglycerine, trinitrotoluene, and dinitrotoluene (2,4-and 2,6-) (Method SW 8080); and
- Monomethylamine nitrate.

During two interim sampling rounds a series of water level measurements were made in the existing wells which were sampled and the newly installed staff gage in Old Fort Lake. The results of these interim sampling rounds are summarized in a January 18, 1990, and April 3, 1991, reports which present the results of the analyses and have been provided to Ecology.

The specific scope of work for monitoring during the time between execution of the Consent Decree and the start of remediation has not been determined. The scope will be prepared after analysis of the sampling and testing described above. The scope for ongoing sampling may cover groundwater, seeps, surface water, and sediments. The scope will be submitted to Ecology for review, comment, and approval prior to implementing the work.

2.4 Sediment Study

The extent and concentration of metal and petroleum hydrocarbon contamination in the intertidal sediments immediately off-shore of the Site have been assessed by reviewing the 1978 water and sediment quality report for the Nisqually Reach in southern Puget Sound. Results of this assessment are documented in a Hart Crowser letter dated January 24, 1989, which has been reviewed by Ecology.

An additional sediment study will be conducted as part of the RI for the Site. This new study will include sampling and analyses for a wider range of constituents than in the 1978 study, including but not limited to the explosive compounds, monomethylamine nitrate, metals, and petroleum hydrocarbons (PAHs and TPH). An appropriate number of quality control samples will also be collected. The sediment study will include both surficial and core sampling. A sufficient number of samples will be collected at or near the wharf, the sea level seep areas, in the delta formed by Sequalitchew Creek, and at background locations. If there is a need for fish and/or shellfish tissue sampling, it will be addressed in the draft work plan submitted to Ecology. A draft sediment sampling work plan will be submitted to Ecology for review, comment, and approval before the field work is implemented.

2.5 Mercury Investigation at Area 39

Mercury droplets were observed inside the perimeter foundation wall of the Former Du Pont Works laboratory building. A field sampling program was initiated to assess the extent of mercury present around the former laboratory. Surface soil samples were taken inside and outside the foundation walls, and subsurface samples were taken from hand-auger explorations inside the building.

The samples were analyzed for mercury and the results reported in a Hart Crowser letter report dated November 20, 1989.

2.6 Additional Mercury Investigations

Additional work on mercury use, extent, and risk will be performed. The following activities will be accomplished:

- A human health and ecological risk assessment using the existing and additional mercury data to evaluate potential risks due to mercury, and to determine risk-based remedial action concentrations;
- Sampling and analyzing soil around the laboratory to determine areas that exceed the risk-based concentration; and
- Sampling and analysis for mercury at other locations on the site, including other production areas with lead contamination and background locations.

The specific sampling and analysis plan(s) for this work will be submitted to Ecology for review, comment, and approval prior to implementing the work.

2.7 Site Characterization of Areas 5 and 6

Areas 5 and 6 cannot be characterized until drums and other debris have been removed from the steep slopes at these two locations. Weyerhaeuser and DuPont intend to conduct this source removal action during 1990 and 1991. A draft work plan that presents a detailed description of procedures for removal, survey, and segregation of the wastes was prepared by DuPont Environmental and Remediation Services and submitted to Ecology in July 1990. Weyerhaeuser and DuPont also provided Ecology with a work plan for independent oversight by Hart Crowser (including quality assurance of the field chemical testing, documentation of field screening test data, and weekly reporting to Ecology). Ecology has provided comments on these plans, and revisions have been made.

Concurrent with the source removal actions at Areas 5 and 6, a draft work plan for site characterization of the two areas will be prepared

and submitted to Ecology for review, comment, and approval. This plan will be submitted at least 30 days prior to the planned field sampling program and a final work plan incorporating Ecology's comments will be provided prior to any field work.

2.8 Other Investigations

Other investigations may be required based on the results of the remedial investigation, risk assessment, preliminary feasibility studies, and initial cleanup activities. Sampling and analysis of other areas may also be conducted if more refined definitions of the lateral and vertical extent of the contaminants are necessary for the FS. Sampling and analysis plans for other investigations will be submitted to Ecology at least 30 days prior to their respective field sampling program for review, comment, and approval.

As part of the RI/FS process, environmental resources at the site will be described and impacts to the resources will be analyzed.

To ensure that the intent of 43 CFR Part 11, Natural Resource Damage Assessment, will be addressed, a preassessment screening of all site resources will be conducted to analyze potential environmental sensitivities. The process will include preassessment screening, development and review of an assessment plan, quantification of effects, damage determination, and documentation of assessment results. Assessment results will be included in the FS report.

2.9 Former Black Powder Area Investigations

Detailed work plans will be developed to address lead concentrations in the Former Black Powder Area and concentrations of lead in surficial soils in areas outside the Former Black Powder Area. In such areas, appropriate remediation will be proposed if soil concentrations are determined to exceed potentially applicable cleanup standards.

A detailed work plan and schedule for interim action in the Former Black Powder Area will be submitted to Ecology for review, comment, and approval as required by the Consent Decree.1

3.0 RISK ASSESSMENT

A baseline risk assessment was performed for each of the 38 identified waste areas on the Former Du Pont Works Site to assess which areas require remediation and to develop cleanup levels appropriate for each area. The baseline risk assessment was performed in general accordance with EPA's 1989 Risk Assessment Guidance for Superfund, Human Health Evaluation Manual, and Environmental Evaluation Manual, using the five basic interrelated steps:

- Select indicator constituents;
- Estimate exposure point concentrations of indicators;
- Estimate potential human intake of indicators;
- Assess environmental and human health toxicity; and
- Characterize environmental and human health risk.

Based on the results of the site characterization, the indicator constituents were limited to six compounds or compound groupings; lead, monomethylamine nitrate (MMAN), trinitrotoluene and dinitrotoluene (TNT/DNT), nitroglycerine, PCBs, and carcinogenic and total polynuclear aromatic hydrocarbons (PAHs).

The baseline risk assessment considered several different types of potential future land uses at each of the areas, and their impact on the risk evaluation. The land use types considered included open space (e.g., existing conditions), and residential and industrial uses.

The Baseline Risk Assessment report has been submitted to Ecology. A summary of that report is presented below.

Baseline Risk Assessment Summary

In order to evaluate the potential human health and ecological risk posed by the identified contaminants, a risk assessment was conducted for each area on the property. The methodology utilized to perform the risk assessment was based on EPA and Ecology guidance, and combined scientific facts and assumptions to determine the likelihood that people may be sufficiently exposed to the identified chemicals to result in illness. The risk assessment considered the range of potential future land uses at the identified waste areas, including residential, commercial, and open space.

Based on the risk assessment, the chemicals which pose the greatest risks to public health and local ecology are HPAHs and lead. Potential risks from HPAHs and/or lead are primarily via direct soil ingestion exposure routes. HPAHs also exhibited a potential for risk via groundwater exposure, although the analytical basis for this conclusion is considered tenuous (based on limited chemical detections). Five areas contained detectable levels of 2,6-DNT.

Terrestrial and aquatic life ecological risks were qualitatively evaluated at the waste areas. Aquatic life risks were found to be minimal. Those areas that exceeded general public health risks, however, also exhibited a potential for limited wildlife impacts. As discussed in the baseline risk assessment, remediation of the areas to minimize human health risks should also be sufficiently protective of ecological risks.

Additional Risk Assessment

Future work will include a reevaluation of baseline risks throughout the entire site, consistent with current (i.e., 1991) Ecology and EPA guidelines and/or regulations under the MTCA and NCP.

4.0 FEASIBILITY STUDY

4.1 Purpose of this Feasibility Study Work Plan

This chapter of the Work Plan presents the rationale and scope of work for a feasibility study (FS) of identified waste areas located within the Former Du Pont Works Site. The purpose of the FS is to identify, develop, evaluate, and recommend appropriate remediation alternatives which will be protective of human health and the environment and meet applicable laws and regulations. Appropriate remediation objectives will be based on the results of the remedial investigation (RI) of the areas, including the baseline public health and ecological risk assessment. Remediation alternatives will also address Applicable or Relevant and Appropriate requirements (ARARs).

The FS Work Plan will be consistent with the Model Toxics Control Act (MTCA), WAC 173-340, and applicable U.S. Environmental Protection Agency (EPA) guidance documents relating to feasibility studies under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the Superfund Amendments and Reauthorization Act (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Since 1985, the Weyerhaeuser Company and their consultant, Hart Crowser, have identified a total of 39 areas on the property which could have received hazardous waste releases from previous uses. Each individual area ranges in size from less than one to several acres. Following site history reviews and field reconnaissance activities, a total of 33 areas were selected for site characterization studies, as described by Hart Crowser (1987) and ETI/Hart Crowser (1989). Evidence for the presence of hazardous wastes at the remaining five areas was lacking, and did not warrant further investigation. Supplemental investigations were conducted at Sites 38 and 39 in 1989.

4.2 Feasibility Study Scope of Work

The FS for the Former Du Pont Works property will include the following steps:

- Identification of remedial action objectives including:

- A risk assessment for the entire site, including risks to the largest exposure population;
- Objectives based on risk assessment; and
- Objectives based on ARARs.

▸ Development of alternatives including:

- Definition of areas and volumes requiring treatment;
- Summarizing RI data and preparing isopleth maps of key contaminants;
- Identification and screening of potential technologies; and
- Assembling various technologies into specific alternatives.

▸ Screening of specific alternatives including:

- Screening evaluation; and
- Selection of alternatives for detailed analysis.

▸ Detailed analysis of selected alternatives.

Each of these steps is discussed below. As per the terms of the Consent Decree, Ecology will be notified of all sampling and analysis activities and plans in advance, to allow Ecology to review, comment, and approve applicable plans and reports.

Task 1 - Treatability Studies

Representative soil materials will be collected from areas of the property which exhibit dangerous waste properties based on the TCLP lead determination. Based on existing data, and depending upon the outcome of additional data analyses, some areas may contain dangerous waste soils. Considering that many of these areas will exhibit similar chemical properties, several areas will be studied for treatability characteristics.

At each area, representative soils will be collected for testing. The samples will be prepared for compaction and chemical testing with varying mixtures of cement and silica-based additions, as well as untreated controls. Chemical testing will include TCLP lead and total lead analyses. The results of these evaluations will enable an assessment of alternative remediation designs.

A review of the treatability of HPAHs using bioremediation/landfarming techniques will also be performed during this task. Using data available in the literature on the degradation of individual HPAH compounds, predicted area-specific HPAH decay rates will be generated for standard landfarming conditions. These data will assist in the assessment of remedial alternatives at the areas.

Task 2 - Remedial Action Objectives

The identification of remedial action objectives (RAOs) will include an assessment of target contaminant concentrations in soil, water, sediments, and biological tissue necessary to achieve various levels of "acceptable" risk and to assure compliance with ARARs. Remediation goals given various individual routes of possible contaminant exposure will also be considered, including direct soil contact and ingestion, dust and vapor inhalation, drinking water consumption, fish and shellfish consumption, and wildlife impacts. Contaminant transport models developed in the RI will be utilized to link on-site soil quality with all exposure routes, since remediation of the soil medium may form the basis of many remedial alternatives.

Another important component in establishing RAOs at the Former Du Pont Works property is land use and its relationship to remediation objectives. The baseline risk assessment identified different exposure conditions for residential, open space, and commercial/industrial uses of the sites. The FS will consider future land uses of the property.

As discussed above, the RAOs are expected to develop directly from the results of the baseline risk assessment, as supplemented by additional evaluations of potential mercury risks. However, the process will also address ARARs and additional concerns communicated by the regulatory agencies (Ecology and DOH). The product of Task 2 will be a technical memorandum which presents preliminary RAOs based on the results of the site characterization work, risk assessment, and ARAR screening. After review and approval by Weyerhaeuser and Du Pont, the memorandum will be submitted to Ecology for review and comment. This task includes one interim meeting with Ecology to discuss RAOs prior to submittal of a Draft Feasibility Study Report. The remedial action objectives will also be an important factor considered in the screening of alternatives, as discussed below.

Task 3 - Identify Possible Remedial Action Technologies

The first step in the task is to define the areas and volume that require remediation. For each area a map will be prepared showing the distribution of key contaminants and the area requiring remediation. Isopleths (showing lines of equal contaminant contamination) will be drawn where possible.

The development of alternatives will include actions from relevant technologies and will include:

- Surface Treatment Technologies;
- Soil and Groundwater Treatment Technologies;
- Disposal Options;
- Institutional Controls;

- Sediment Remediation Technologies, if applicable; and
- No Action.

Due to the characteristics of the sites and the contaminants, certain technologies listed below warrant a close examination. These technologies will include but not be limited to the following:

- Groundwater Pumping/Water Treatment;
- Bioremediation/Landfarming of HPAHs;
- Incineration of Explosives;
- Waste and Debris Removal and Disposal (e.g., Site 5);
- Solidification/Stabilization of Lead; and
- Remediation of Sediments, if applicable.

In most cases, any given technology will not solely meet the ARARs or other remediation objectives. The assemblage of technologies into alternatives will combine those technologies necessary to meet the remediation objectives. Some alternatives, such as no action, are not expected to wholly meet the remediation objectives but are required by the process and will be considered throughout the process. The product of Task 3 will be a technologies table listing possible remediation technologies.

Task 4 - Screening of Technologies

The screening of technologies will produce a set of technologies that are potentially applicable to site remediation. Technologies will be screened based on their technical feasibility and implementability. That is, technologies that are not technically feasible -- usually because they either do not address the site contaminant or are not suitable for the site subsurface conditions -- will be eliminated. For the technology screening, relative cost will be used to distinguish between similar technologies. The product of Task 4 will be a table which lists and provides a basis for including the technologies to develop remedial alternatives.

Task 5 - Identify Possible Remedial Action Alternatives

Applicable remedial technologies screened in Task 4 will be used to develop a list of possible remedial action alternatives. The product of Task 5 will be a table which summarizes the alternatives and their application to the site conditions. Preference shall be given to permanent solutions to the maximum extent practicable, as defined in Chapter 173-340-360 WAC.

Task 6 - Screening of Specific Alternatives

The screening of specific alternatives will produce a subset of specific alternatives deemed suitable for further detailed analysis. The screening process will include a qualitative evaluation of alternative permanence, effectiveness, implementability, and cost. (In general, technically infeasible alternatives will have been eliminated by screening out technically infeasible technologies.) The most important criteria will be permanence, effectiveness, and implementability. Cost will be considered at this stage only if there is a clear disadvantage.

The alternatives with the highest qualitative evaluations will be considered for further analyses. The no action alternative will be continued to the detailed analysis stage.

An interim technical memorandum discussing the alternative screening will be prepared for review which includes the tables and appropriate discussion to support the alternatives proposed for detailed evaluation in Task 7. In addition, at least one interim meeting with the regulatory

agency review group will be scheduled to discuss the alternative screening prior to submittal of the Draft Feasibility Study Report.

Task 7 - Detailed Analysis of Selected Alternatives

The detailed analysis of the selected alternatives will address conceptual engineering of the alternatives, and will also consider the permanence, effectiveness, implementability, and cost of the alternatives. In addition, the anticipated state and community acceptance of the alternatives will be considered. This evaluation will be qualitative although some quantification is necessary (e.g., costs). A recommended alternative for each site will be selected at the completion of this detailed analysis.

Task 8 - Feasibility Study Report

The results of the FS will be summarized in a report that will include the following sections:

- Nature and Extent of Problem (based on risk assessment);
- Objectives of Remedial Action;
- Identification of Technologies;
- Technology Screening Methods and Criteria;
- Summary of Technology Screening;
- Assembled Technologies (Alternatives);
- Alternative Screening Methods and Criteria;
- Summary of Alternative Screening;
- Detailed Analysis Methods and Criteria; and
- Summary of Detailed Analysis.

A Draft Report will be submitted to Ecology for review and comment. After receipt of the agency comments, the draft Final Report suitable for public distribution, review, and comment will be prepared.

5.0 COMMUNITY RELATIONS

Community relations activities will include the following elements:

- Detailed Fact Sheet describing the alternatives studied and the evaluation process;
- Public Notice describing the alternatives and announcing the availability of the draft final feasibility study;
- Informal meetings (if necessary);
- Public meeting (if necessary);
- Fact sheets describing activities occurring at the site during the remedial investigation and feasibility study phases.
- Public Notice via the Site Register of major activities and completion of documents which are available for public review; and
- Development of a site-specific Public Participation Plan.

REFERENCES

ETI/Hart Crowser, 1989, Baseline Risk Assessment, Dupont Works Property.

Hart Crowser, 1987, Site Characterization Report, Phase II Sampling and Analysis, Former Du Pont Works, Dupont, Washington, prepared for Weyerhaeuser Company and Du Pont Company, J-1747-28, August 10, 1987.

Hart Crowser, 1988, Hydrogeologic and Water Quality Assessment, Former Du Pont Works, Dupont, Washington, J-1747-40, May 13, 1988.

EXHIBIT B - SCHEDULE

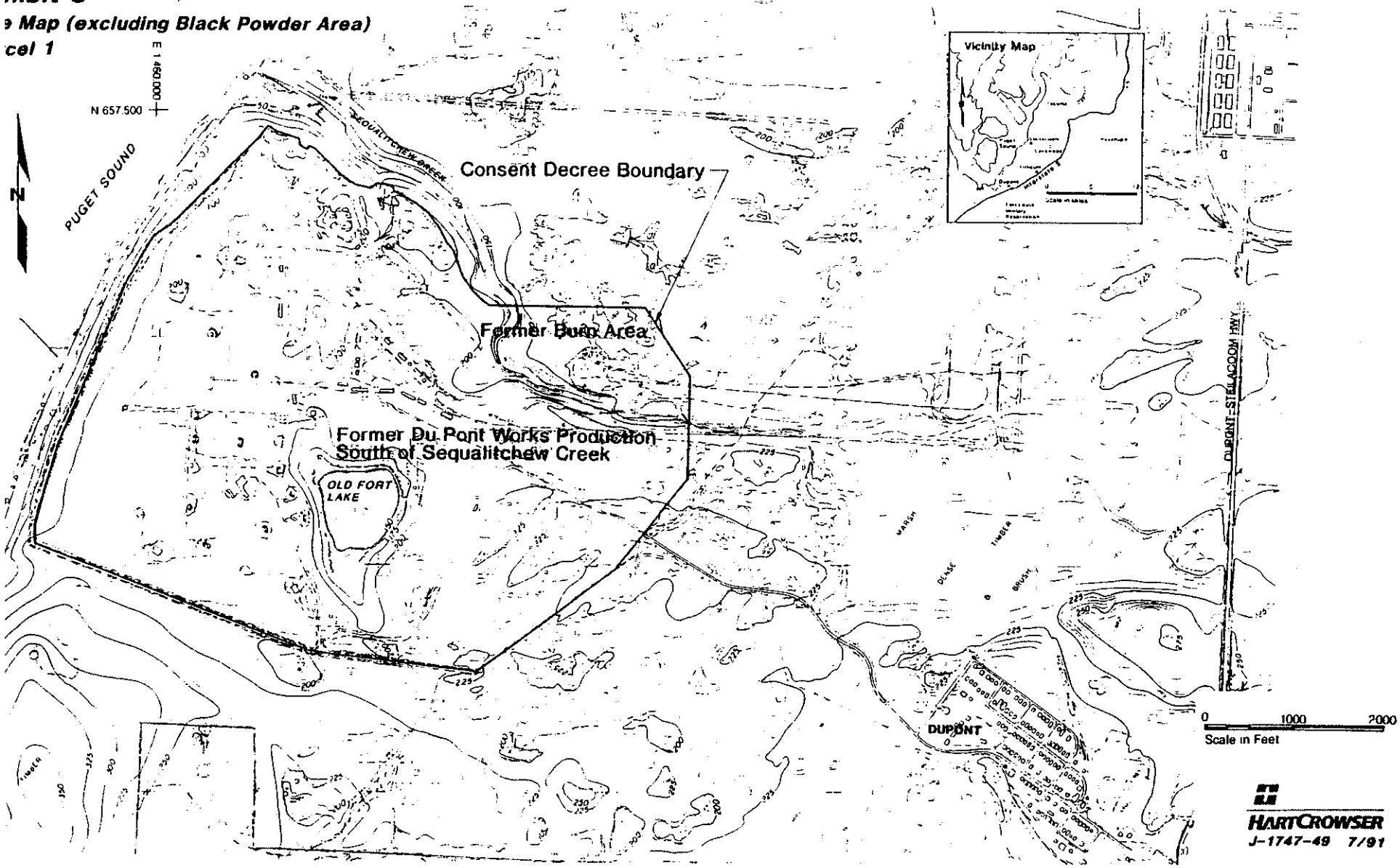
Work Element	Completion Date[1]
Phase I - Remedial Investigation (RI) Site Survey and Review	September 1986
Phase II - RI Site Characterization Report	August 10, 1987
Hydrologic and Water Quality Assessment	May 13, 1988
Results of Second Quarterly Groundwater Sampling	September 9, 1988
Results of Third Quarterly Groundwater Sampling	November 18, 1988
Results of Fourth Quarterly Groundwater Sampling	February 28, 1989
Results of First Interim Groundwater Sampling	January 18, 1990
Results of Second Interim Groundwater Sampling	April 3, 1991
Baseline Risk Assessment	May 1989
Draft Remedial Investigation/Feasibility Study (RI/FS)	24 months after effective date of Consent Decree
Ecology's comments on Draft RI/FS	90 days after submittal of Draft RI/FS
Draft Final RI/FS	60 days after receipt of Ecology's comments

[1]Dates denote when the particular element was actually completed.

hibit C

e Map (excluding Black Powder Area)

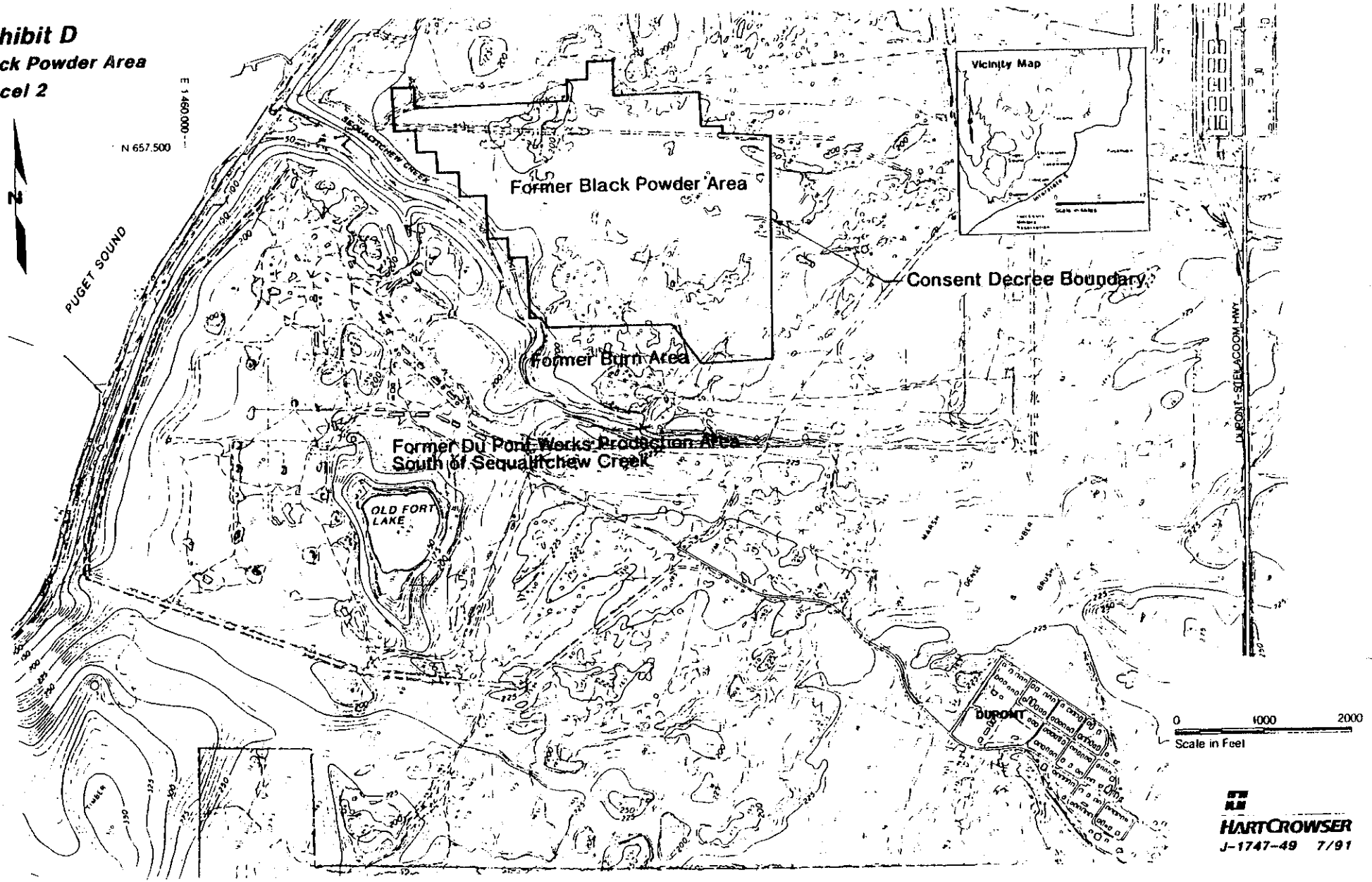
cel 1



HARTCROWSER

J-1747-49 7/91

Exhibit D
Black Powder Area
Parcel 2



HARTCROWSER
J-1747-49 7/91

City of DuPont

Water Availability Form

Part A
To Be Completed By Applicant

Project Address 1700 Center Drive Application Number _____

Subdivision/Project Name DuPont Industrial Park Parcel 011926-2019

Proposed Water Usage 4,500 gpd (Commercial) Residential # of Units _____

Customer Type (circle one) Rural Residential Residential Multi-family (Commercial) Industrial

I, the undersigned, or my appointed representative have requested the following purveyor to certify willingness and ability to provide the indicated service. I have read and understand the information provided by the water purveyor on this Certificate, and acknowledge that the proposed project may require improvements to the water system which would incur my financial obligation. Prior to final approval for water service, operational responsibility, and financial obligation may be required.

Print Name Costa Philippides Barghausen Consulting Engineers Signature _____

Address 18215-72nd Avenue South City Kent State WA Zip 98032

Part B
To Be Completed by Water Purveyor

Water system to provide service: City of DuPont State ID# 20500P _____

The proposed development is / is not within our approved service area (circle one).

This water utility will / will not be providing service (circle one).

Approved number of connections _____ Existing Source Capacity _____

Number of current/existing users _____ Existing Storage _____

Water service will be provided by:

_____ Direct connection to approved, existing water main

_____ Extension of existing water main(s)

_____ New water system in accordance with WAC 246-290

_____ _____
Water Purveyor Signature Date

*****NOTE: Completion of page 2 and water purveyor signature are required*****

Attachment 2.1. Resubmitted Water Availability Form prepared by Barghausen Consulting Engineers undated

13304

Pierce County
Planning & Public Works

2401 South 35th Street
Tacoma, Washington 98409-7460
piercecountywa.org/ppw

Dennis Hanberg—Director
dhanber@co.pierce.wa.us

March 28, 2018

Betsy Dyer
Barghausen Consulting Engineers, Inc.
18215 – 72nd Avenue South
Kent, WA 98032

Subject: Site Specific Sewer Information for Dupont Industrial Partners LLC
Application Number: SWDR #879369
Application Expiration Date: 01/30/2019
Building Permit: City of Dupont
Site Address: 1700 Center Drive
Parcel Number: 0119262019

Betsy:

Our office has researched the site-specific sewer information regarding the subject request and has the following comments.

Pierce County Planning and Public Works will not provide a commitment, or guarantee, of sewer availability for the subject proposal until payment of connection charges has been received by the Sewer Division. This letter shall be used for informational purposes only in support of a Land Use Application, and shall not be misconstrued by the proponent or reviewing agency as a commitment on behalf of the Sewer Division.

This letter does not convey any vested rights or any exclusive privileges. It does not authorize any construction. It does not eliminate the need to comply with any County, State, Federal, or local standards or regulations or the need to obtain all necessary permits. This letter is not a waiver of any departmental requirements. The information presented in this letter is general in nature and based on estimates; therefore, it should not be relied on as completely accurate.

Submittals for new applications and resubmittals for existing applications must be made online at http://piercecountywa.org/pals.

Payment of permit fees and connection charges can also be made at the same website. For payment of permit fees by mail or in person, use the following address: Pierce County Development Center (Annex), 2401 South 35th Street, Room 150, Tacoma, WA 98409.

Sewer Division Standard Plans and Forms, including handouts, bulletins, applications, and checklists, can be downloaded in PDF format from the following webpage: www.piercecountywa.org/sewer.

Attachment 2.m. Pierce County Planning & Public Works Sewer Availability letter dated March 28, 2018

REQUIREMENT TO CONNECT

1. The subject property is located within the Pierce County Sewer Service area and is within the Comprehensive Urban Growth Area (CUGA).

2. The subject property is within 300 feet of an existing, accessible sanitary sewer which has sufficient capacity to accommodate the proposed development on the subject property.

3. The proposed buildings on the subject property are required to connect to a sanitary sewer.

CONNECTION POINT

1. Record drawings show there is an existing 8-inch diameter sewer main stub extending approximately 0.5 feet west out of sanitary sewer manhole SSMH #15675 in Sequalitchew Drive at a slope of 0.5-foot/foot.

2. Record drawings are enclosed.

APPLICATIONS/PERMITS

Prior to connection to the existing public sanitary sewer system, the applicant must design and construct the required sanitary sewer facilities, at their expense, and comply with the following requirements.

1. A **Sewer Line Extension Permit** is required.

    a. Complete and submit form A1, ***Sewer Line Extension Permit Application***.

    b. Submit sanitary sewer plans stamped and signed by a WA State licensed professional engineer per County standards for review and approval, including required easements, if applicable.

    c. Submit a complete, itemized, stamped, and signed engineer's construction cost estimate for all the sanitary sewage facilities to be constructed within the existing public right-of-way and public sanitary sewer easements.

    d. Pay the Sewer Line Extension Permit Fees. The Sewer Line Extension Permit Fees consist of two parts: the Plan Review Fees and the Inspection Fees. The Sewer Line Extension Permit Plan Review Fees must be paid at the time of application, and the Sewer Line Extension Permit Inspection Fees must be paid prior to the issuance of the Sewer Line Extension Permit.

        Sewer Line Extension Permit Plan Review (Base Fee)..... $2,805.00
        with Gravity Sewer Main.....add $1.15 per Linear Foot (LF) of gravity main
        with Private Pump Station .....add $206.00 plus $0.39 per LF of force main

        Sewer Line Extension Permit Inspection (Base Fee) $2,359.00
        with Gravity Sewer Main.....add $1.26 per Linear Foot (LF) of gravity main
        with Private Pump Station .....add $200.00 plus $0.29 per LF of force main

e. In lieu of paying the Sewer Line Extension Permit Fees outlined above, the applicant may choose to have the plan review and inspection fees for the Sewer Line Extension Permit paid through a Time and Materials account.

i. Applicant **requests** to use time and materials-based fees shall be made at time of application, shall be irrevocable, and shall include a completed form F2, ***Time and Materials Account Information Form***, the submittal of a non-refundable administrative fee of $250.00 and a non-refundable deposit of $50.00.

ii. When the use of time and materials-based fees is **required** by the Department, the administrative fee shall be waived and only a completed form F2, ***Time and Materials Account Information Form***, and the $50.00 non-refundable deposit shall be required at time of application.

2. A separate **Pretreatment Review** is required for each building and commercial tenant space. The user must comply with all Pierce County pretreatment requirements.

a. See form H1, ***What Type of Industrial User Are You?***, to determine what type of pretreatment review application must be submitted. Submit the appropriate Pretreatment Review Application, submit the required supplemental information and documents, and pay the appropriate Sewer Development Application Review Fee.

Insignificant Industrial User $100.00

Minor Industrial User $484.00
with new or revised Accidental Spill Prevention Plan……add $302.00

Significant Industrial User..... $857.00
with new or revised Accidental Spill Prevention Plan……add $302.00
with new or revised Industrial Wastewater Discharge Permit……add $1,400.00

b. Submit the required supplemental information referenced in the following bulletins:

1. Bulletin B4, *Floor/Plumbing Plan*
2. Bulletin B5, *Documented Water Use Data*
3. Bulletin B6, *Traps*
4. Bulletin B8, *Hair Salons, Barbers, and Pet Groomers*
5. Bulletin B10, *Vehicle Repair, Maintenance, or Cleaning*
6. Bulletin B11, *Food Establishments with Cooking*
7. Bulletin B12, *Food Establishments with No Cooking*
8. Bulletin B15, *Commercial/Community Laundry Facilities*

c. If your facility will have floor drains, catch basins, sumps, or any other outlet to the sewer system located in the same area/room where chemicals, paints, dyes, solvents, cleaners, or fuels are stored or used without spill containment measures, an Accidental Spill Prevention Plan will be required. Complete and submit form A12, ***Accidental Spill Prevention Plan Application*** along with the additional plan review fee.

3. A separate **Sewer Service Permit** is required to connect each of the proposed **commercial** buildings to the existing sanitary sewer system.

a. Complete and submit form A3, **Commercial *Sewer Service Permit Application***, for each building to be connected along with a sewer site plan.

b. A **commercial pump** may be required.

   i. County topographical information indicates that gravity sewer service may not be available for the property, depending upon location of the proposed buildings.
   ii. If sewer service cannot be provided by gravity, then submit sanitary sewer plans with a **commercial pump**, stamped and signed by a WA State licensed professional engineer per County standards for review and approval, including required easements, if applicable.
   iii. Pay additional permit fees for a **commercial pump**.

c. A **grease interceptor** may be required. If the Pretreatment Review indicates a grease interceptor is necessary, comply with the following submittal requirements.

   i. Submit grease interceptor plans stamped by a registered civil engineer per County standards for review and approval, including required easements, if applicable.
   ii. Submit a copy of a maintenance agreement between the owner and a commercial disposal or septic tank cleaning service to provide periodic grease removal from the interceptor.
   iii. Pay additional permit fees for a grease interceptor.

d. A coalescing plate **oil-water separator** may be required. If the Pretreatment Review indicates an oil-water separator is necessary, comply with the following submittal requirements.

   i. Any user of the sewer system shall not discharge water or wastes containing oils or greases of petroleum or mineral origin of any nature in excess of 50 milligrams to the sanitary sewer system as per the Appendix to Chapter 13.06 of the County's Pretreatment Ordinance No. 99-26 as amended from time to time.
   ii. If a floor drain, trench drain, or catch basin is required to discharge to the sanitary sewer system, a coalescing plate oil-water separator may be required.
   iii. Submit coalescing plate oil/water separator plans, report and calculations stamped by a registered civil engineer to the Sewer Division Representative at the Pierce County Development Center for review.
   iv. Submit a copy of a maintenance agreement between the owner and a commercial disposal or septic tank cleaning service to provide maintenance to the coalescing plate oil-water separator.
   v. Pay additional permit fees for an oil-water separator.

e. Pay the Sewer Service Permit Application Fees. The Sewer Service Permit Fees consist of two parts: the Plan Review Fees and the Inspection Fees. The Sewer Service Permit Plan Review Fees must be paid at the time of application, and the Sewer Service Permit Inspection Fees must be paid prior to the issuance of the Sewer Service Permit.

Commercial Building Sewer Service Plan Review (Base Fee)	$50.00
with new or revised private pump station and force main	add $1,367.00
with new grease interceptor	add $1,340.00
with new oil-water separator	add $1,460.00
with new misc. pretreatment device	add $1,400.00

Commercial Building Sewer Service Inspection (Base Fee) $135.00
with new or revised private pump station and force main ..... add $782.00
with new grease interceptor ..... add $277.00
with new oil-water separator ..... add $286.00
with new miscellaneous pretreatment device ..... add $282.00

f. In lieu of paying the Sewer Service Permit Fees outlined above, the applicant may choose to have the **plan review and inspection fees for the Sewer Service Permit paid through a Time and Materials account**.

i. Applicant **requests** to use time and materials-based fees shall be made at time of application, shall be irrevocable, and shall include the submittal of an administrative fee of $250.00 and a non-refundable deposit of $50.00.
ii. When use of time and materials-based fees is **required** by the Department, the administration fee shall be waived and only the $50.00 non-refundable deposit shall be charged at time of application.

SEWER CONTRACTOR

1. The applicant's sewer contractor must be listed on the Sewer Division's current Registered Side Sewer Contractors List.

2. If the applicant's sewer contractor is not currently registered with Pierce County, please have them follow the registration requirements prior to attempting to obtain the issued sewer line extension permit and sewer service permits. Please see form T12, ***Sewer Division Street Obstruction Bond,*** for registration requirements.

3. Prior to the issuance of any sewer permits, the side sewer contractor must obtain the right-of-way permit from the City of DuPont. It is the responsibility of the applicant to provide copies of the approved sewer plans to the right-of-way office, which is retained by the right-of-way permit office, at the time of the permit application or a right-of-way permit will not be issued.

CONNECTION CHARGES

1. Based on the information provided, outlined below is the total estimated sanitary sewer connection charge.

ULID: Dupont
Basin: Dupont (DUPT001)

Basin Area Charge: (4,500 gpd × 1 RE/220 gpd) × $1,653.00/RE	=$	33,803.85
Treatment Plant Capacity Charge: (4,500 gpd × 1 RE/220 gpd) RE × $3,491.00/RE	=$	71,390.95
Total Estimated Connection Charge:	**=$**	**105,194.80**

The connection charge shown is based on an estimated water usage of 4,500 gallons per day (gpd) provided, multiplied by a standard factor of 1 RE/220 gpd.

The connection charges for commercial uses in incorporated areas or King County must be paid, in full, prior to issuance of sewer service permits and prior to approval of associated building permits.

2. Please note any future Capital Improvement Projects or Reimbursement Agreements, or Latecomers Agreements between the County and other property owners to construct improvements downstream of the subject property can result in a significantly higher connection charge.

3. Please note the Capacity Charges, Basin Area Charges, and future monthly Sewer Service fees for all commercial buildings are calculated based on actual water flows when available. Therefore, we strongly recommend the owner have a separate meter installed and a separate account initiated with the local water purveyor for irrigation water and any other water supply that will not be entering the sanitary sewer system. If a separate water meter and account is not feasible, the owner may enter into a Sub-metering Agreement with the County. Connection charge requirements will not be recalculated based on sub-metered usage until the sub-meter has been installed according to approved plans, the Sub-metering Agreement approved by the County, and at least 12 months of sub-metered water readings submitted to our office for review. For further details regarding the ***Water Sub-metering Plan Review Application*** (A17) see Bulletin B21, ***Water Sub-metering Program***.

4. The total estimated connection charge will be recalculated at the time the owner purchases it based on the rates in effect at that time.

5. once paid, connection charges are credited against the parcel, and are only refundable to the person(s) or entity that is the owner of record at the time of refund.

Note the fees and connection charges shown in this letter are subject to change without prior notification.

If you have any questions regarding the above, please contact me at (253) 798-3076, or Joseph.Zukauskas@co.pierce.wa.us. Please note that as of March 13, 2017, Sewer Permit Review Staff relocated to the following address: Pierce County Annex Planning Lobby Room 175, 2401 South 35th Street, Tacoma WA 98409.

Sincerely,

Joseph Zukauskas
Civil Engineer 1

JZ:kaj

Enclosures: A copy of this letter and the record drawings are available online at:
https://palsonline.co.pierce.wa.us/palsonline/#/permitSearch/permit/documents?applPermitId=879369

ec: Betsy Dyer (Barghausen): bdyer@barghausen.com

June 8, 2011

Ms. Stephenie Kramer, Assistant State Archaeologist
Department of Archaeology & Historic Preservation, (DAHP)
P.O. Box 48343
Olympia, WA 98504-8343

RE: Lot Y Archaeological Survey, DuPont, WA

Dear Ms. Kramer:

We are in receipt of your comment letter dated May 4, 2011, regarding the Lot Y Archaeological Survey. We have a couple of questions and comments regarding the letter:

1. We will definitely provide you with the project plans when we have them for this site.

2. We were under the assumption that moving The Methodist Mission Marker was something that DAHP was in agreement with during our meetings with you. We will consult and provide DAHP with a plan of action as to where we will relocate this marker and the signage to accompany it, or if we intend to leave it in place.

3. The narrow gauge railroad that was found on site is the same as product that the DuPont Museum has in storage. We were informed that they have several hundred feet in storage; and it was taken from this same site earlier. We have taken every opportunity to ensure the integrity of this site, but feel it could be a potential safety hazard to leave this one piece in place. Lot Y is being developed as an industrial piece of property and once developed, it will not be reasonable for people to come and view this one piece of track. We appreciate the efforts of preservation and presentation of the DuPont Power Works Area, but would like to be able move forward with our design of Lot Y without incorporating the narrow gauge railroad. We would gladly donate it to the DuPont Museum if they would like to add it to their collection.

Please feel free to contact myself at (253)377-0989, or by email if you have any further questions or comments.

Sincerely,

Lia Estigoy – Owner's Representative
DuPont Industrial Partners, LLC
1201 Pacific Ave., Suite 1501
Tacoma, WA 98402
lia@combaydev.com

cc: Eric Cederstrand
Cindy Arrrington
DJ Thompson
Bill Kingman

Attachment 2.n. DuPont Industrial Partners letter to Dept. of Archaeology & Historic Preservation dated June 8, 2011

Betsy Dyer

From: Ric Thompson <Harold.Thompson@WasteConnections.com>
Sent: Tuesday, May 22, 2018 8:17 AM
To: Betsy Dyer; Ric Thompson
Cc: Costa Philippides; Dan Balmelli
Subject: Re: DuPont Industrial Park Dumpster Location Approval / BCE# 18666

Good Morning Betsy,

Unfortunately I'm out of town until Thursday. I don't have the ability to print, sign and scan to send back to you until then.

However as long as my request that I wrote at the corner of the map I can approve the enclosures that are shown. According to the plans here our trucks will have room to service both locations.

Respectfully,

Ric Thompson
Cell# 253-606-8869

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

From: Betsy Dyer
Sent: Tuesday, May 22, 2018 7:56 AM
To: Ric Thompson
Cc: Costa Philippides; Dan Balmelli
Subject: DuPont Industrial Park Dumpster Location Approval / BCE#18666

Hi Ric,

Hope this is not too much trouble but do you think you could send me a response to this email that states you are OK with the dumpster location as shown on the attached site plan. You commented at the top right-hand corner of the plan but the city of DuPont is asking for an approval. I have attached our original package to you and a copy of the site plan with your note and signature. We are trying to resubmit tomorrow if possible. Sorry for the late timing of the request and thanks for your help with all our projects!

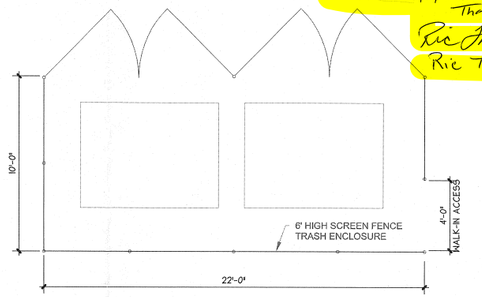
Betsy Dyer
Project Administrator

Barghausen Consulting Engineers
18215-72nd Avenue South
Kent, WA 98032
(425) 251-6222
bdyer@barghausen.com

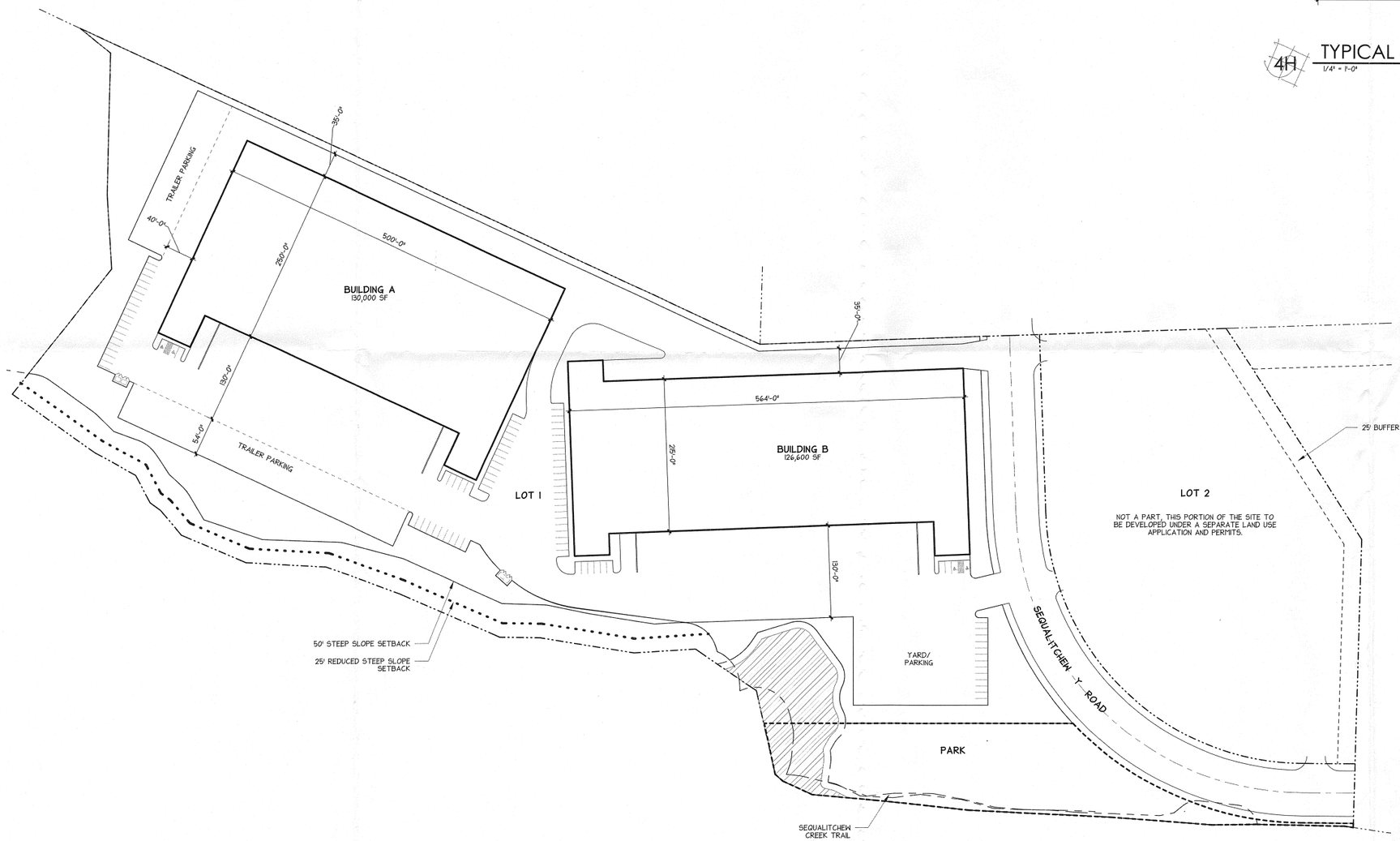
Attachment 2.o. Waste Connections (LeMay) email approving Trash Enclosure location dated May 22, 2018

Please, 12/21/17
Drill asphalt/concrete for cane bolt for gates in 135° open position. on all 4 gates. Thanks!
Ric Thompson
Ric Thompson

LOT 1 - LIGHT INDUSTRIAL FACILITY		
ZONING	:	MANUFACTURING AND RESEARCH (MRP)
TOTAL LOT 1	:	844,285 SF (19.38 ACRES)
ROAD R.O.W.	:	41,843 SF
PARK	:	63,665 SF (1.46 ACRES)
ACTUAL LOT 1 SIZE	:	738,727 SF
REDUCED STEEP SLOPE	:	39,916 SF
20% LANDSCAPING (MIN)	:	134,923 SF
LANDSCAPED AREA	:	143,375 SF
USABLE LOT	:	556,436 SF
BUILDING AREA	:	256,600 SF
MANUFACTURING	:	243,770 SF
OFFICES	:	12,830 SF
BUILDING COVERAGE	:	46.1 %
PARKING REQUIRED	:	0.3 PER WORKING AT MAX. SHIFT (MINIMUM) 1 PER WORKING AT MAX. SHIFT (MAXIMUM)
PARKING PROVIDED	:	93 STALLS + 4 ADA ACCESSIBLE STALLS



4H TYPICAL 6' HIGH TRASH ENCLOSURE
1/4" = 1'-0"



10A SITE PLAN
1" = 80'-0"

NORTH
0' 20' 40' 80' 160'
SCALE: 1" = 80'

Helix design group

AMERICAN INSTITUTE OF ARCHITECTS

NOT FOR CONSTRUCTION
HELIX DESIGN GROUP, INC

7 SITE PLAN

8 DUPONT INDUSTRIAL
SITE CONCEPT

CITY, WASHINGTON

REVISION	DATE

DATE	JOB NO.
11.27.17	a13-009

CONCEPT DESIGN

10 G002

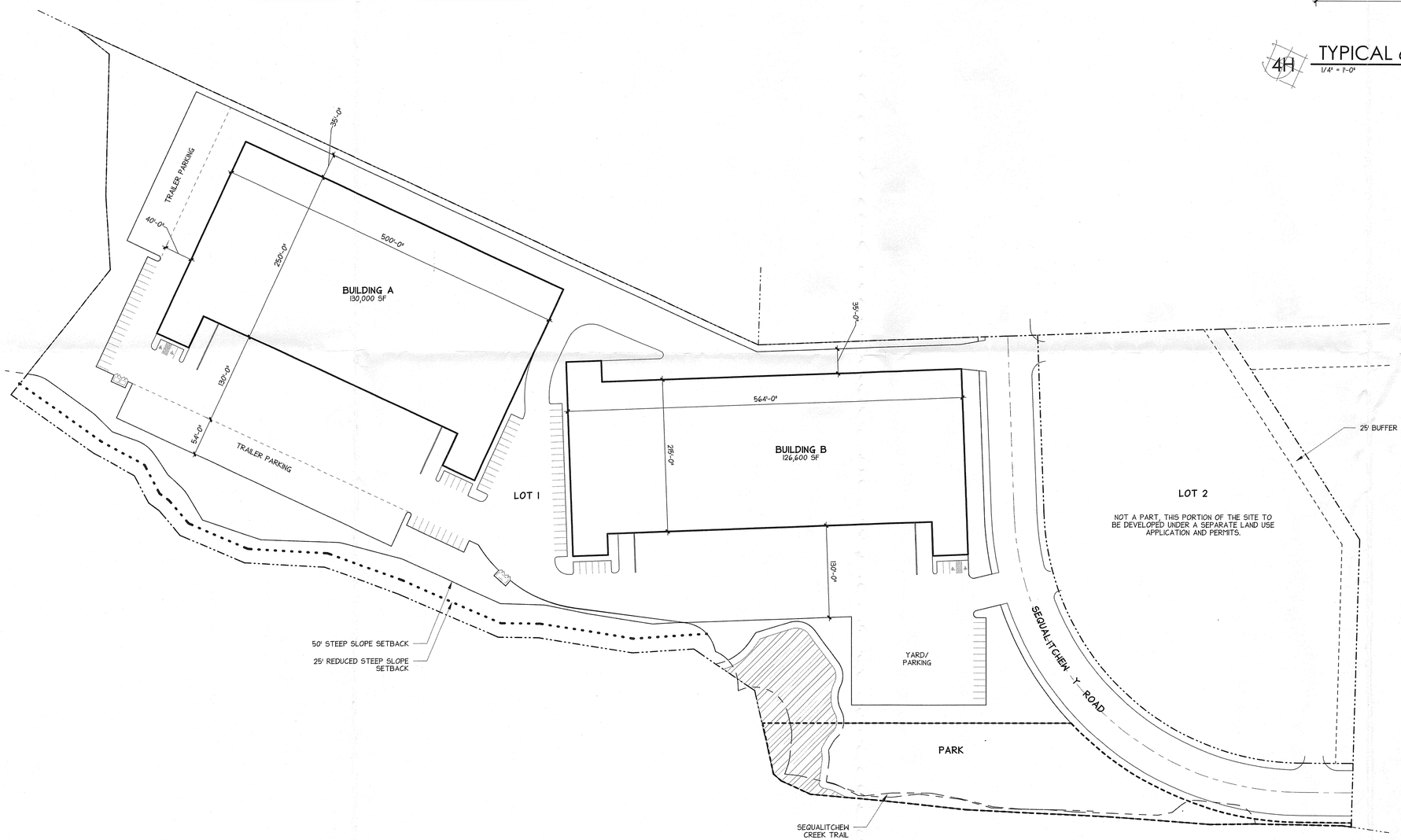
BCE#18666

DRAWING NO.

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PLOTTED: 12/11/2017 7:23:23 AM PROJECT: a13-009 - DUPONT INDUSTRIAL
FILE PATH: C:\Users\Willis\Documents\A13-009-BMI7-SITE_sdhickum2.rvt

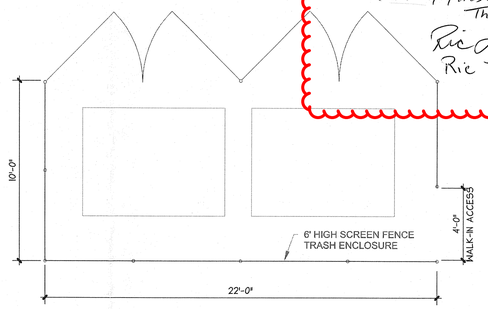
LOT 1 - LIGHT INDUSTRIAL FACILITY		
ZONING	:	MANUFACTURING AND RESEARCH (MRP)
TOTAL LOT 1	:	844,285 SF (19.38 ACRES)
ROAD R.O.W.	:	41,893 SF
PARK	:	63,665 SF (1.46 ACRES)
ACTUAL LOT 1 SIZE	:	738,727 SF
REDUCED STEEP SLOPE	:	39,916 SF
20% LANDSCAPING (MIN)	:	134,923 SF
LANDSCAPED AREA	:	149,375 SF
USABLE LOT	:	556,436 SF
BUILDING AREA	:	256,600 SF
MANUFACTURING	:	243,770 SF
OFFICES	:	12,830 SF
BUILDING COVERAGE	:	46.1 %
PARKING REQUIRED	:	0.3 PER WORKING AT MAX. SHIFT (MINIMUM) 1 PER WORKING AT MAX. SHIFT (MAXIMUM)
PARKING PROVIDED	:	93 STALLS + 4 ADA ACCESSIBLE STALLS



10A SITE PLAN
1" = 80'-0"

NORTH

0' 20' 40' 80' 160'
SCALE: 1" = 80'



4H TYPICAL 6' HIGH TRASH ENCLOSURE
1/4" = 1'-0"

Please, Drill asphalt/concrete for Cane bolt for gates in 135° open position, on all 4 gates. Thanks 1
Ric Thompson
Ric Thompson

Helix design group

AMERICAN INSTITUTE OF ARCHITECTS

NOT FOR CONSTRUCTION
HELIX DESIGN GROUP, INC

SITE PLAN

DUPONT INDUSTRIAL
SITE CONCEPT

CITY,
WASHINGTON

REVISION	DATE

DATE 11.27.17
JOB NO. a13-009

CONCEPT DESIGN

G002

BCE#18666

DRAWING NO.

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PLOTTED: 12/6/2017 7:23:23 AM PROJECT: a13-009 - DUPONT INDUSTRIAL
FILE PATH: C:\Users\Vella\Documents\A13-009-BP17-SITE_vchicken2.rvt

RECEIVED
JUL 17 2018
CITY OF DUPONT

BARGHAUSEN CONSULTING ENGINEERS, INC.
CIVIL ENGINEERING, LAND PLANNING, SURVEYING

July 16, 2018

Mr. Jeffrey S. Wilson, AICP
City of DuPont
Department of Community Development
1700 Civic Drive
DuPont, WA 98327

RE: Responses to Notice of Incomplete Application
Type III Site Plan Review and SEPA Environmental Review
DuPont Industrial Park
City of DuPont File Nos. PLNG 2018-008, -009
Our Job No. 18666

Dear Mr. Wilson:

We have revised the plans and technical documents for the above-referenced project in accordance with the comments in your Notice of Incomplete Application letter dated June 7, 2018. Enclosed are the following documents for your review and approval:

1. One (1) each Type III Tree Application
2. One (1) each Check for Type III Fee in the Amount of $3,000 for Tree Permit Application
3. Eight (8) sets revised Preliminary Civil Engineering Design Plans
4. Eight (8) sets revised Preliminary Landscape and Irrigation Plans
5. Two (2) each revised SEPA Checklist (updates shown in bold text)
6. One (1) each copy of letter to DAHP with site plan for review and comment
7. One (1) each CD Containing PDF Files

The following outline provides each of the comments in italics, along with a narrative response describing how each comment was addressed:

The following items are required to be submitted for the application to be deemed complete:

1. *The application materials indicate you are removing two Oregon white oak trees, at least one is a Landmark Tree. An application form and $3,000 fee for a Type III Tree Modification is required.*

   Response: As requested, we have included an application form for a Type III Tree Modification and a check for the $3,000 fee for removal of the Oregon white oak landmark tree which is located in or just adjacent to the proposed public right-of-way for the 'Y' Road extension.

Attachment 3.a. Transmittal Letter and Comment Response Letter prepared by Barghausen Consulting Engineers dated July 16, 2018

2. *The stream location does not appear to have been surveyed or located by a professional biologist. The plans indicate "approximate edge of Sequalitchew Creek" and the buffer is indicated as approximate as well. As indicated previously, DMC 25.105.040(1)(b) requires location of the "top of the upper bank of the stream and the outside edge of its buffer as determined and field marked by a professional biologist, ecologist, or similarly qualified professional". It is not possible to confirm the accuracy of the location of the creek and the impact of the 100-foot buffer to your property without field verification and survey of the top of the upper bank.*

   Response: As requested, a field survey and mapping has been completed to determine the location of the top of the upper bank of the stream and the required 100-foot buffer has been shown from the surveyed location.

3. *We have reviewed the provided Cultural Resources Report and correspondence with DAHP. DAHP states that they are waiting for a site plan to be able to provide any comment. Submit the Site Plan to DAHP and provide their response with your resubmittal.*

   Response: As requested, a copy of the proposed site plan has been submitted to DAHP for their review and comments. A copy of the transmittal letter to DAHP is included for your records. As soon as we receive a response, we will forward it to the city.

4. *Indicate on the plans the amount of landscape area provided, per DMC 25.90.020(2) and the approximate cut/fill quantities.*

   Response: As requested, the amount of landscaping has been indicated on the preliminary landscape plans.

5. *Modify the SEPA Checklist as follows:*

   a. *Correctly reflect the findings in the arborist report and specifically the planned tree removal.*

      Response: The findings of the Arborist Report have been identified in the SEPA checklist as requested.

   b. *Add Type III Tree Modification to the list of required permits.*

      Response: The Type III Tree Modification application has been added to the list of required permits in Section "A" of the checklist.

      Update the SEPA checklist to better describe the cultural and archaeological significance of the site.

      Response: The SEPA checklist has been updated to provide additional information regarding the cultural and archaeological significance of the site.

We believe that the above responses, together with the enclosed revised plans and technical documents, address all of the comments in your Notice of Incomplete Application letter dated June 7, 2018. Please

review and approve the enclosed at your earliest convenience. If you have questions or need additional information, please do not hesitate to contact me at this office. Thank you.

Sincerely,

Daniel K. Balmelli

Daniel K. Balmelli, P.E.
Executive Vice President

DKB/dm
18666c.003.doc
enc: As Noted
cc: Mr. Eric Cederstrand, DuPont Industrial Partners
Mrs. Lia Estigoy, Commencement Bay Development
Mr. Costa Philippides, Barghausen Consulting Engineers, Inc.

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*:**

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision- making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

Attachment 3.b. Revised SEPA Checklist prepared by Barghausen Consulting Engineers dated July 13, 2018

A. BACKGROUND

1. Name of proposed project, if applicable:

   Creekside Industrial Park

2. Name of applicant:

   Eric Cederstrand
   DuPont Industrial Partners, LLC

3. Address and phone number of applicant and contact person:

   1201 Pacific Avenue, Suite 1501
   Tacoma, WA 98402
   (253) 396-4860

4. Date checklist prepared:

   January 25, 2018
   Revised May 22, 2018
   Revised July 13, 2018

5. Agency requesting checklist:

   City of DuPont

6. Proposed timing or schedule (including phasing, if applicable):

   Project is anticipated to start Spring of 2018 or as soon as applicable permits are issued.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   There are no plans for future additions or expansions beyond the scope of work identified in this application.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

   Environmental Checklist
   Cultural Resources Study
   Geotechnical Engineering Report
   Geotechnical Engineering Addendum Letter
   Technical Information Report
   Traffic Impact Analysis
   Tree Retention Plan / ***Arborist Report***
   Consent Decree between Washington State DOE and Weyerhaeuser Company and DuPont Company

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

There are not pending applications to our knowledge.

10. List any government approvals or permits that will be needed for your proposal, if known.

Building Permit by City of DuPont
Plumbing/Electrical/Mechanical Permits by City of DuPont
Fire Suppression and Alarm Permits by City of DuPont
Environmental Determination by City of DuPont
Type III Site Plan Approval by City of DuPont
Short Plat Approval by City of DuPont
Site Work Permit by City of DuPont
Grading Permit by City of DuPont
Water Main Extension by City of DuPont
Pre-Treatment Approval by Pierce County Utilities
Sanitary Sewer Extension by Pierce County Utilities
NPDES Permit by Department of Ecology
Trash Location Approval by LeMay, Inc.
Tree Permit Application

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The project proposes to construct two office/warehouse buildings totaling approximately 258,400 square feet 268,400 square feet on an approximate 21-acre vacant parcel of land located on the west side of Sequalitchew Drive. In addition to construction of the new buildings, the project will include grading activities, paved truck maneuvering and truck and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, extension of Sequalitchew Drive and franchise utility improvements. The construction of a public park is also proposed as part of the development.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site. Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site is located to the west of Center Drive and to the west of the proposed extension of Sequalitchew Drive and is a portion of the NW 1/4 of Section 26, Township 19 North, Range 1 East, W.M.

Site Address: 1700 Center Drive

Tax Parcel No: 011926-2019

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

The site is predominantly flat however, an area classified as slopes greater than 40% is located at the southern edge of the site.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The soil type is Spanaway (41a) according to the Soil Survey of Pierce County.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None are known to exist to our knowledge.

e. Describe the purpose, type, total area, and approximate quantities and total area of any filling, excavation, and grading proposed. Indicate source of fill.

*Approximately **9,800** cubic yards of cut and **42,000** cubic yards of fill will be used to prepare the site for building construction. Approximately **24,000** cubic yards of stripping material will be removed from the site.*

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, erosion could occur as a result of construction activities, however a temporary erosion and sedimentation control plan will be designed and implemented according to city of DuPont standards to control erosion on the site.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 70 to 75 percent of the site will be impervious surface upon project completion.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

A temporary erosion and sedimentation control plan will be implemented during construction to reduce and control erosion impacts.

2. **Air**

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.

During construction, emissions from construction equipment would be present After construction, emissions from truck and vehicular traffic to and from the site would be present.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Emissions from vehicular traffic on area roadways could be present but would not be anticipated to affect the project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Construction equipment will be maintained to be in good working condition. No other specific measures are proposed.

3. **Water**

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, Sequalitchew Creek is located to the south of the site and flows to the west to discharge to Puget Sound.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes, work will be conducted within 200 feet of Sequalitchew Creek.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill of dredge material will be placed in or removed from surface waters.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.

No surface water withdrawals or diversions are proposed.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The site is not located within a 100-year flood plain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No waste materials will be discharged to surface water under this proposal.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximately quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No groundwater will be withdrawn or water discharged to groundwater under this proposal.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged to the ground. All sanitary sewer effluent will be collected and conveyed via tightline pipe to the existing sanitary sewer system.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The source of runoff will be rainfall from building roof tops and pavement areas. Stormwater will be collected and conveyed through catch basins and storm pipe for water quality treatment prior to entering the proposed infiltration system.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials would enter groundwater under this proposal. All sanitary sewer effluent will be collected and conveyed to the existing sanitary sewer system.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Infiltration is proposed for the site and will not alter the current drainage pattern of the area.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

A storm drainage system will be designed and constructed per city of DuPont standards to control runoff from the proposed project.

4. **Plants**

a. Check or circle types of vegetation found on the site:

__X__ deciduous tree: Alder, Maple, Oregon White Oaks, Apple, Plum, Pear
__X__ evergreen tree: Fir, Cedar, Pine
_____ Shrubs
__X__ Grass
_____ pasture
_____ crop or grain
_____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
_____ water plants: water lily, eelgrass, milfoil, other
_____ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

The majority of the vegetation on the site will be removed and the new development will be landscaped in accordance with city of DuPont standards. The site does contain landmark Oregon White Oak and fir trees and the city's tree retention requirement will pertain to the proposed development. ***Based on the results of the Arborist Report/Tree Retention Plan by Washington Forestry Consultants dated April 24, 2018, there are 76 landmark trees in the area of the project site. A total of 27 healthy landmark trees can be retained on the site and 49 landmark trees will need to be removed because they are unhealthy or located within the proposed development area or roadways. The DuPont Municipal Code requires a minimum of 1.5 trees to be retained on 19.38 acres of the 25.29 acre site resulting in a minimum of 29 healthy trees to be retained. One of the 49 landmark trees is an Oregon white oak tree which will need to be removed due to its location in or near the proposed right-of-way of the Y Road extension. The following is a summary of the proposed tree retention from the Arborist Report.***

Total project site area:	***19.38 acres***
Tree retention requirement:	***29 trees***
Total number of healthy trees:	***682 trees***
Total projected trees in tree retention areas A, B and C;	***327 trees***
Excess of tree retention over the tree requirement:	***298 trees***
Projected number of healthy trees to be removed:	***384 trees***
Projected number of landmark Oregon white oak trees to be removed:	***1 tree***

(Please refer to the Arborist Report/Tree Retention Plan prepared by Washington Forestry Consultants included in this submittal.)

c. List threatened or endangered species known to be on or near the site.

None are known to exist to our knowledge.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

*Landscaping and tree retention plans will be prepared per city of DuPont standards and **as recommended in the arborist's Tree Retention Plan will be** implemented to preserve and enhance vegetation.*

e) List all noxious weeds and invasive species known to be on or near the site.

None are known to exist to our knowledge.

5. **Animals**

a. Circle any birds or other animals which have been observed on or near the site or are known to be on or near the site:

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

None are known to be on or near the site to our knowledge.

c. Is the site part of a migration route? If so, explain.

Yes, the site is part of the Pacific Flyway for Migratory Birds.

d. Proposed measures to preserve or enhance wildlife, if any:

Landscaping plan will be designed and implemented per city of DuPont standards to preserve and enhance wildlife.

e. List any invasive species known to be on or near the site.

None are known to exist on or near the site to our knowledge.

6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Natural gas will be used for heating and electricity will be used for lighting and overall energy needs.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe:

It is not anticipated that the project could affect the use of solar energy by an adjacent site and the height of the proposed buildings will not exceed the maximum height designed by current zoning.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The project will comply with all state energy code requirements. No other specific measures are proposed.

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe any known or possible contamination at the site from present or past users.

There are no contaminates at the site to our knowledge, however the site is located within the Asarco plume boundary.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.:

Other than a minor potential for arsenic from the Asarco plume, none are known to exist on or near the site.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

During construction, chemicals associated with construction equipment would be on the site. Upon project completion, it is not anticipated that hazardous materials would be present.

4) Describe special emergency services that might be required.

Other than normal fire, medical and police services already available in the area, no special services are anticipated.

5) Proposed measures to reduce or control environments health hazards, if any:

No specific measures are proposed.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Noise from Center Drive to the east and from surrounding businesses would exist but would not be anticipated to affect the proposed development.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

On a short term basis, noise from construction equipment would be present from approximately 6 am to 6 pm, Monday through Friday. On a long term basis, noise from vehicular traffic to and from the site would be present with possible operating hours of 24 hours a day / 7 days a week.

3) Proposed measures to reduce or control noise impacts, if any:

During the construction phase of the project, construction equipment will be maintained and meet noise ordinance. The use of on-site and perimeter landscaping will help to reduce and control noise created by the proposed development.

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is undeveloped. Property to the east is a multi-family complex. Property to the north is undeveloped. South the west of the site is a golf course and an office building development.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if an? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

To our knowledge, the site has not been used as working farm lands or forest lands and no lands of commercial significance will be converted to other uses.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

There are no working farm or forest lands near the site.

c. Describe any structures on the site.

There are no structures on the site

d. Will any structures be demolished? If so, what?

No structures will be demolished.

e. What is the current zoning classification of the site?

The current zoning designation is Manufacturing Research Park (MRP).

f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation is Sequalitchew Village Planning Area.

g. If applicable, what is the current shoreline master program designation of the site?

N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

An area of steep slopes has been identified on the southern portion of the site per city of DuPont classification.

i. Approximately how many people would reside or work in the completed project?

Approximately 90 persons will work at the completed development.

j. Approximately how many people would the completed project displace?

No persons will be displaced.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No specific measures are proposed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project will be designed to comply with current city of DuPont code and design standards.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long term commercial significance, if any:

There are no farms or forest lands near the site.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

N/A

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

N/A

c. Proposed measures to reduce or control housing impacts, if any:

N/A

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest height of any building structure will be no taller than 65 to 70-foot as allowed in the MRP zone.

b. What views in the immediate vicinity would be altered or obstructed?

Views from east of the site looking to the west would be altered but it is not anticipated that any views would be obstructed.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The project will be designed to meet current city of DuPont design standards. The use architectural detailing on the buildings and the use of on-site and perimeter landscaping will reduce and control aesthetic impacts of the development.

11. **Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Glare from building window glass could be present during daylight hours and light and glare from building and parking lot lighting and vehicular traffic to and from the site could be present in early morning and evening hours.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

It is not anticipated that light or glare created by the proposed project would create safety hazards or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

Lot and building lights from the developments to the east of the site would be present but not anticipated to affect the proposed development.

d. Proposed measures to reduce or control light and glare impacts, if any:

Building glass will be non-glare and lighting will be directed appropriately. The use of perimeter landscaping and the retention of trees where possible will help to contain any light or glare created to within the site.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Home Course Golf Course is located adjacent to the site to the south and west and the Sequalitchew Creek Trail is located to the south.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The project will not displace any recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

A portion of the property at the southeastern boundary is proposed for a park. No other specific measures are proposed.

13. **Historic and Cultural Preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

There are no structures located on the site. There are known historic archeological sites in the vicinity of the proposal and ***a Cultural Resource Study and Unanticipated Cultural Resource Discovery Plan prepared in 2011 by Parus Consulting*** *have been completed for this site. (A copy is included in this application.)*

b. Are there any landmarks, features or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The Cultural Resource Report including Archeological Survey, Monitoring and Testing work completed by Parus Consulting concluded that there was no evidence of two previously recorded archaeological sites 1) the Methodist Episcopal Missions Site and the 9th U.S. Cavalry Bivouac site and 2) one flaked stone isolate except for two brick fragments. There was also no evidence of two other archaeological site including railroad dump #3 site and Burning Ground Dump site that were removed a decade ago. Two surface historic archaeological sites 1) railroad track segment and concrete platform and 2) one isolated kerosene can were identified during the fieldwork. In addition, one set of bridge fragments were identified during the fieldwork. The study concluded that no significant cultural properties will be affected by the proposed project and no further cultural resource action is warranted. Should any cultural resources be discovered during the project construction an Unanticipated Cultural Resources Discovery Plan has also been prepared and will be followed. (Please refer to the Cultural Resource Study and Unanticipated Cultural Resource Discovery Plan documents included with this application.)

c. Describe the methods used to access the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Methods used to access the potential impacts to cultural and historic resources included fieldwork consisting of a pedestrian survey and examination of subsurface sediments in a series of 125 shovel probes and 22 geotechnical test pits. The work was monitored by a member of the Nisqually Tribe. The work also included consultation with DAHP and the Nisqually, Puyallup and Squaxin Tribes and research of archaeological surveys, maps and GIS information.

d) Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

*The proposed development will comply **with the Unanticipated Cultural Resources Discovery Plan and Consent Decree**. If any artifacts were uncovered on the site, work would be halted and any discovery would comply with the Unanticipated Cultural Resources Discovery Plan.*

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access to the site will be via Sequalitchew Road from Center Drive.

b. Is the site or affected geographic area currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No. The nearest transit stop is located at DuPont Station.

c. How many additional parking spaces would the completed project have? How many would the project eliminate?

The proposed development will provide 99 parking stalls. No parking will be eliminated.

d. Will the proposal require any new improvements to existing roads or streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The extension of Sequalitchew Drive as a public road will be constructed as part of the proposed development

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Approximately 444 total daily trips are expected to be generated on a typical weekday with 43 trips during the AM peak hour and 49 trips during the PM peak hour. Please refer to the Traffic Impact Analysis for additional information.

g) Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

There are no working farms or forest lands near the site.

h. Proposed measures to reduce or control transportation impacts, if any:

The proposed extension of Sequalitchew Drive to include new pavement, stormwater system, curb, gutter and sidewalk will reduce and control impacts to transportation.

15. **Public Services**

a. Would the project result in an increase need for public services (for example, fire protection, police protection, health care, schools, other)? If so, generally describe.

Yes, the proposed development will increase the need for public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Payment of city of DuPont fire impact fees, stormwater and water system development charges, construction of the extension of Sequalitchew Drive and the addition of new fire hydrants are all measures that will reduce and control impacts to public services.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity:	*Puget Sound Energy*
Natural Gas:	*Puget Sound Energy*
Water:	*City of DuPont*
Sanitary Sewer:	*Pierce County Public Works and Utilities*
Telephone:	*CenturyLink*
Cable:	*Comcast*
Refuse Service:	*LeMay, Inc.*

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Daniel K. Balmelli

Print your name: Daniel K. Balmelli

Date Submitted: January 26, 2018, Revised May 22, 2018, **Revised July 13, 2018**

RECEIVED
AUG 13 2018
Initial:

City of DuPont
Planning Division
Land Use Application

1700 Civic Drive
DuPont, WA 98327
www.dupontwa.gov

Phone: (253) 912-5393
Fax: (253) 964-1455

City File Number: PLNG2018-008, 009+047

All information listed in this application, or by applicable ordinance, must be submitted in order for a land use application to be determined complete. Only a complete land use application will be processed for conformance with adopted policies and requirements.

General Information:

Project name: DuPont Industrial Park

Applicant name: Eric Cederstrand / DuPont Industrial Partners, LLC

Address: 1201 Pacific Avenue, Suite 1501, Tacoma, WA 98402

Phone number: (253) 396-4860 Fax number:

Applicant's representative: Dan Balmelli, Barghausen Consulting Engineers

Address: 18215-72nd Avenue South, Kent, WA 98032

Phone number: (425) 251-6222 Fax number:

Description of proposal. Be specific.

The applicant is requesting removal of one 42-inch Landmark Oregon White Oak tree. The existing tree is located within the edge of the right-of-way of the future extension of Sequalitchew Road and cannot be retained. Please see attached plan. Sequalitchew Road is a planned major arterial road in the city of DuPont's Comprehensive Plan.

Site Information:

Assessor's Parcel Number(s): 011926-2019

Area of site in square feet: 884,295 sf

Area of streets and alleys: 28,230 sf

Area of storm drainage improvements and conveyance lines: 548,794 sf

Area of open space and neighborhood green tracts: N/A

Area of critical areas and buffers: N/A

Area of building floors: 258,400 sf

Area of impervious surfaces: 548,794 sf

Area of landscaping: 44,180 sf

Building height: approximately 40-foot

Number of dwelling units: N/A

Number of employees: approximately 99

Number of disabled, compact and standard parking stalls: 95 Standard Stalls / 4 ADA accessible Stalls / 0 compact

Description and area of all proposed tracts: N/A

Attachment G.4.a. Land Use Application Form (for Tree Removal) stamped received on August 13, 2018

Required Plans, Information and Fee:

(Quantity and minimum scale of each item or drawing is indicated in parenthesis. Plans shall be no larger than 24 by 36 inch sheet size)

1. [X] Vicinity Map (include as part of site plan).
2. [ ] Site Plan drawn at 1 inch = 20 feet extending 100 feet beyond the property lines (eight copies).
3. [X] Landscape Plans identifying: location, size and species of all landmark, historic and specimen trees; trees to be retained, specific tree protection measures drawn at 1 inch = 20 feet (seven copies).
4. [X] Grading Plan with estimated dimensions and quantities of work involved drawn at 1 inch = 20 feet horizontal with 2' contour intervals (seven copies).
5. [X] Storm Drainage and Utility Plan drawn at 1 inch = 20 feet (seven copies).
6. [ ] Preliminary Stormwater Management Report and calculations (three copies).
7. [ ] Roadway cross sections, (seven copies of single line drawing with dimensions).
8. [ ] One each 8 by 11 inch reduction of all drawings.
9. [ ] Average daily trips generated by the proposal based on the International Transportation Engineers Trip Generation Manual (two copies).
10. [ ] Building Elevations drawn at ¼ inch = 1 foot or larger. Identify building materials and colors (eight copies).
11. [ ] Title report of subject lot that is less than 30 days old to identify all encumbrances (two copies).
12. [ ] Draft of proposed covenants, conditions and restrictions related to the maintenance of open space or commonly owned improvements, if applicable (two copies).
13. [ ] Letter of Sewer Availability from Pierce County (two copies).
14. [ ] Letter of Water Availability from City of DuPont (two copies).
15. [ ] One site drawing showing the refuse enclosure(s) that is approved via signature and date by LeMay, Inc. Contact person is Charlie Maxwell, Public Relations Director, 253-537-8687.
16. [ ] Completed Environmental Checklist (two copies).
17. [ ] Completed Land Use Application (one copy).
18. [ ] Completed Agent Affidavit (one copy).
19. [X] Filing fee(s). - Type III Land Use fee of $3,000 previously paid

Note:

Fill out and return this application with all material listed in the Required Plans, Information and Fee section. Submittal of all required plans, information and fees constitutes a complete application. You will be contacted by the City within 28 days of formal application submittal regarding whether the application is complete. Site work may not start until all necessary permits have been obtained. Paper or electronic drawings of the proposal may be requested for presentation purposes.

Daniel K. Balmelli 8/14/2018 Daniel K. Balmelli, P.E.

(Applicant Signature) (Date) (Print name)

August 14, 2018

Mr. Jeffrey S. Wilson, AICP
City of DuPont
Department of Community Development
1700 Civic Drive
DuPont, WA 98327

RE: Responses to Notice of Incomplete Application
Type III Site Plan Review and SEPA Environmental Review
DuPont Industrial Park
City of DuPont File Nos. PLNG 2018-008, -009
Our Job No. 18666

Dear Mr. Wilson:

We have revised the plans and technical documents for the above-referenced project in accordance with the comments in your Notice of Incomplete Application letter dated June 7, 2018. Enclosed are the following documents for your review and approval:

1. One (1) each Land Use Application for Tree Removal
2. Eight (8) sets revised Preliminary Civil Engineering Design Plans
3. Eight (8) sets revised Preliminary Landscape and Irrigation Plans
4. Two (2) each revised Tree Protection Plan
5. One (1) each CD Containing PDF Files

The following revisions and updates have been incorporated into the documents:

1. The Tree Protection Plan has been revised to indicate that Landmark Oregon White Oak Trees are not allowed to be removed without approval from the city. The report also indicates that there is one 42-inch Landmark Oregon White Oak Tree that needs to be removed because of its location within the future "Y" Road right-of-way.
2. The preliminary civil engineering design plans have been revised to clearly show the existing trees to be retained and removed and also the existing 42-inch Landmark Oregon White Oak Tree to be removed within the "Y" Road right-of-way.
3. The preliminary landscape plans have been updated to show the amount of landscape area being provided and also more clearly show the existing trees to be retained and removed.
4. The proposed Mission Marker area has been shown on the plan to be included in the future "Y" Road right-of-way dedication.

Attachment 4.b. Comment Response Letter prepared by Barghausen Consulting Engineers dated August 14, 2018

The above responses, together with the enclosed revised plans and technical documents, address the remaining comments based on our recent discussions. Please review and approve the enclosed at your earliest convenience. If you have questions or need additional information, please do not hesitate to contact me at this office. Thank you.

Sincerely,

Daniel K. Balmelli

Daniel K. Balmelli, P.E.
Executive Vice President

DKB/dm
18666c.004.doc
enc: As Noted
cc: Mr. Eric Cederstrand, DuPont Industrial Partners
Mrs. Lia Estigoy, Commencement Bay Development
Mr. Costa Philippides, Barghausen Consulting Engineers, Inc.

WASHINGTON FORESTRY CONSULTANTS, INC.
FORESTRY AND VEGETATION MANAGEMENT SPECIALISTS

W F C I

360/943-1723
FAX 360/943-4128

1919 Yelm Hwy SE, Suite C
Olympia, WA 98501

- Tree Retention Plan-

DuPont Industrial Warehouse Site

1700 Center Drive
DuPont, WA

Prepared for: Barghausen Consulting Engineers

Prepared by: Washington Forestry Consultants, Inc.

Report Date: August 9, 2018

Introduction

The project proponent is planning to build warehouse space on approximately 19.38 acres of a 25.29 acre parcel in DuPont, Washington. The proponent has retained WFCI to:

- Evaluate and inventory all trees on the site pursuant to **DuPont Municipal Code 25.120 Tree Retention**.
- Make recommendations for tree retention, along with any required protection and cultural measures.

Observations

Methodology

WFCI has evaluated all surveyed and mapped trees. Generally these were trees that are 4 inches diameter at breast height (DBH) and larger in the proposed project area. We then assessed their potential to be incorporated into the new project. A 100% inventory of all landmark trees was conducted to determine the location and condition of the landmark trees on the parcel. Tree locations and species information was gathered from survey data.

The tree evaluation phase used methodology developed by Nelda Matheny and Dr. James Clark in their 1998 publication Trees and Development: A Technical Guide to Preservation of Trees during Land Development.

Attachment G.4.c. Revised Tree Retention Plan prepared by Washington Forestry Consultants dated August 9, 2018

Site Description

The site consists of one tax parcel (#0119262019). It is relatively flat with some rolling hills and small depressions. The Sequalitchew Creek Trail passes through the southern portion of the parcel. There are no buildings on the site. Access to the site is by Sequalitchew Dr. The parcel is bordered by Sequalitchew Creek on the south and west, forested parcels to the north, and a multi-family residential development to the east.

Soil Depth and Productivity

According to the USDA Web Soil Survey, there is one soil type on the parcel, the Spanaway gravelly sandy loam.

The Spanaway gravelly sandy loam is a very deep, somewhat excessively drained soil found on terraces. It is formed in glacial outwash and volcanic ash. Permeability is moderately rapid in the subsoil and very rapid in the substratum. Available water capacity is low. The effective rooting depth for trees is 48 inches or more. The potential for windthrow of trees is slight under normal conditions. New trees require irrigation for establishment.

Tree Conditions

There are 2 cover types on this 25.29 acre parcel for the purposes of description. Type I was forested and Type II is non-forest brush land (see Attachment #1). We found and evaluated a total of 744 trees in the project area. Most of the trees were considered to be healthy, long-term trees if they were saved. The following is a description of the forest cover types:

Type I. – This type is a mixed stand of deciduous and conifer trees. It covers approximately 15 acres and includes all of the Specimen, Landmark, and other trees on the site that are 4 inches and larger in diameter. There are 744 trees in this type that had their tree location surveyed. The tree species include Douglas-fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), western redcedar (*Thuja plicata*), Oregon white oak (*Quercus garryana*), Pacific yew (*Taxus brevifolia*), Pacific madrone (*Arbutus menziesii*), and bigleaf maple (*Acer macrophyllum*). Tree size ranges from 4 to over 50 inches DBH. Tree condition ranges from 'Poor' to 'Good', with the large majority of trees described as being in the 'Fair' or 'Good' condition class.

Table 1: Summary of Trees in Cover Type I

Species	DBH Range (in)	# of Healthy Trees*	# of Unhealthy Trees**	Total
Douglas-fir	4 – 50+	410	38	448
Oregon White Oak	4 – 42	184	17	201
Western Redcedar	12 – 36	70	6	76
Bigleaf Maple	18 - 41	9	1	10
Pacific Madrone	12 - 18	4	0	4
Pacific Yew	13 – 17	3	0	3
Western Hemlock	13 - 33	2	0	2
Total		**682**	**62**	**744**

***Trees in 'Fair' or 'Good' Condition**
****Trees in 'Poor' or 'Very Poor' Condition**

Understory shrubs include salal (*Gaultheria shallon*), sword fern (*Polystichum munitum*), trailing blackberry, (*Rubus ursinus*), bracken fern (*Pteridium aquilinum*), Indian plum (*Oemleria cerasiformis*), red huckleberry (*Vaccinium parvifolium*), western hazelnut (*Corylus cornuta*), grasses, and broadleaved weeds.



Photo 1: View of typical trees in Cover Type I

Type II. – This 10.3 acre cover type consists of mostly open, highly disturbed ground with only small thickets of young Douglas-fir trees. No trees were inventoried or surveyed in this Type. Other vegetation in this area includes abundant Scotch broom (*Cytisus scoparius*), grasses, and broadleaf weeds.



Photo 2: Non-forest - Cover Type II

Landmark Trees

There are a total of 76 landmark trees in the project area. Landmark trees include Oregon white oak, Pacific yew, and Pacific madrone 24 inches DBH and larger, or Douglas-fir, western redcedar, bigleaf maple, and western hemlock that are 30 inches DBH and larger. *Landmark Oregon White Oak trees are not allowed to be removed without approval from the City of Dupont under a Type I Tree Removal Permit application.*

Locations of landmark trees are indicated on the site plan (Attachment #2). A total of **27** healthy landmark trees can be retained on the site. Forty-nine (**49)** landmark trees will need to be removed because they are either unhealthy or located under the footprint of proposed buildings, roads, storm ponds, or parking lots. Other than Oregon white oak, there is no requirement to retain these landmark trees under the footprint of the buildings, storm ponds, and parking lots, as long as tree retention is achieved in the street boundaries and abutting a residential district. All landmark trees are labeled with a blue number at the base corresponding to the table in Attachment 3.

There is an existing 42 inch Oregon White Oak tree (#12) needs to be removed due to its location in the future Y street right of way.

Potential Tree Retention

The property is located in the Manufacturing/Research Park zoning district of DuPont. The DuPont Municipal Code (DMC) requires that a minimum of 1.5 trees per acre shall be retained on 19.38 acre project area within the 25.29 acre site. Therefore, at least 29 healthy trees will need to be retained on site.

The site plan shows that the new construction will extend to the northern edge of the parcel, leaving open space for tree retention the southern, southwestern, and western areas. The eastern portion of the parcel will be developed under a separate land use application. The following is a summary of the proposed tree retention:

Total Project Acreage:	19.38 acres
Total # of Healthy Trees:	682 trees
Tree Retention Requirement (1.5 Trees per Acre):	29 trees
Projected Tree Retention*:	
Tree Retention Area A	150 trees
Tree Retention Area B	163 trees
Tree Retention Area C	14 trees
Total Projected Trees in Tree Retention Areas	327 trees
Excess of Tree Retention over the Tree Requirement	298 trees

Projected # of Healthy Trees to be Removed	384 trees

Tree Replacement

Planned tree retention exceeds the minimum requirement by 298 trees, so no tree replacement is required beyond that required by the landscape code requirements.

Tree Protection Measures

Trees to be saved must be protected during construction by a six foot high temporary chain link fencing (Attachment #4), located 5 feet outside of the drip line of the trees. Placards shall be placed on the fencing every 50 feet indicating the words, "NO TRESPASSING - Protected Trees". The individual CRZ are a radius of one foot for each one inch of DBH (6 feet minimum), unless otherwise delineated by WFCI.

Tree protection fences should be placed around the edge of the critical root zone (CRZ). The fence should be erected after logging but prior to the start of clearing. The fences should be maintained until the start of the landscape installation.

There should be no equipment activity (including rototilling) within the critical root zone. No irrigation lines, trenches, or other utilities should be installed within the CRZ. Cuts or fills should impact no more than 25% of a tree's root system. If topsoil is added to the root zone of a protected tree, the depth should not exceed 2 inches of a sandy loam or loamy fine sand topsoil and should not cover more than 25% of the root system.

If roots are encountered outside the CRZ during construction, they should be cut cleanly with a saw and covered immediately with moist soil. Noxious vegetation within the critical root zone should be removed by hand. If a proposed save tree must be impacted by grading or fills, then the tree should be re-evaluated by WFCI to determine if the tree can be saved with mitigating measures, or if the tree should be removed.

Pruning and Thinning

All individual trees to be saved near or within developed areas should have their crowns raised to provide a minimum of 8 feet of ground clearance over sidewalks and landscape areas, 15 feet over parking lots or streets, and at least 10 feet of building clearance.

All pruning should be done according to the ANSI A300 standards for proper pruning, and be completed by an International Society of Arboriculture Certified Arborist®, or be supervised by a Certified Arborist®.

Conclusions and Timeline for Activity

1. At least 29 trees (1.5 healthy trees per acre) need to be retained in the project area. A total of 316 trees are projected to be within the 3 tree protection areas. No tree replacement should be required.

2. The final, approved tree protection plan map should be included in the construction drawings for bid and construction of the project and should be labeled as such.
3. Stake and heavily flag the clearing limits.
4. Contact WFCI to attend pre-job conference and discuss tree protection issues with contractors. WFCI can verify all trees to be saved and/or removed are adequately marked for retention. A tally of the trees within the final tree retention area boundaries can be done at this time to confirm that the minimum 29 tree retention requirement is met.
5. Complete logging. Complete necessary hazard tree removals and invasive plant removals from the tree protection areas. No equipment should enter the tree protection areas during logging.
6. Install tree protection fences along the 'limits of construction'. The fences should be located at the limits of construction or 5 feet outside of the drip line of the save tree or as otherwise specified by WFCI. Maintain fences throughout construction.
7. Complete clearing of the project.
8. Do not excavate stumps within 10' of trees to be saved. These should be individually evaluated by WFCI to determine the method of removal.
9. Complete all necessary pruning on save trees or stand edges to provide at least 8' of ground clearance near sidewalks and trails, and 15' above all driveways or access roads.
10. Complete grading and construction of the project.

Summary

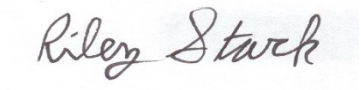
We found 682 healthy significant trees in the project area, including 76 Landmark trees. The City of DuPont requires that 1.5 healthy trees per acre are retained in a Manufacturing/Research Park zoned site. Therefore, at least 29 trees will need to be retained as part of this project. This plan retains (projected) 316 trees within 3 tree retention areas. No tree replacement plan should be required.

Please give us a call if you have further questions.

Respectfully submitted,



Galen M. Wright, ACF, ASCA
ISA Bd. Certified Master Arborist PN-129BU
Certified Forester No. 44
ISA Tree Risk Assessor Qualified

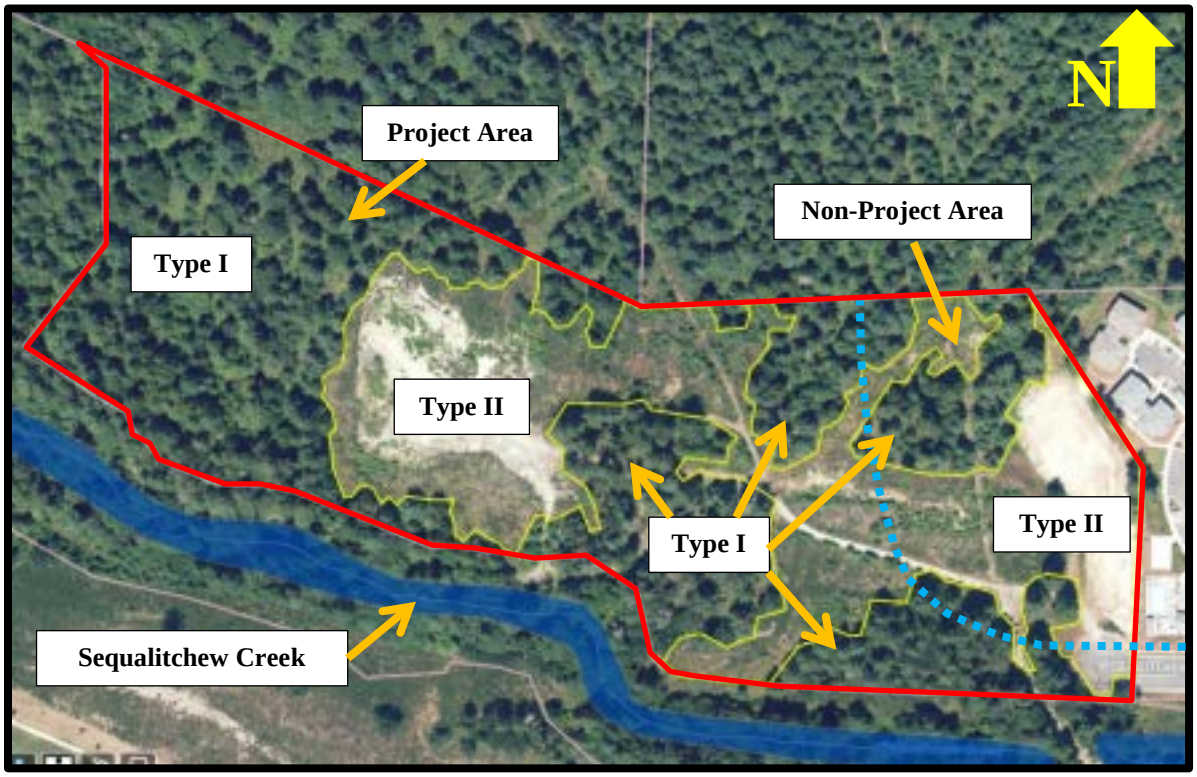


Riley Stark, Professional Forester
ISA Certified Arborist®,
Municipal Specialist, PN-7780AM
ISA Tree Risk Assessor Qualified

attachments

Attachment 1. Aerial Photo of DuPont Industrial Warehouse with Cover Types Labeled

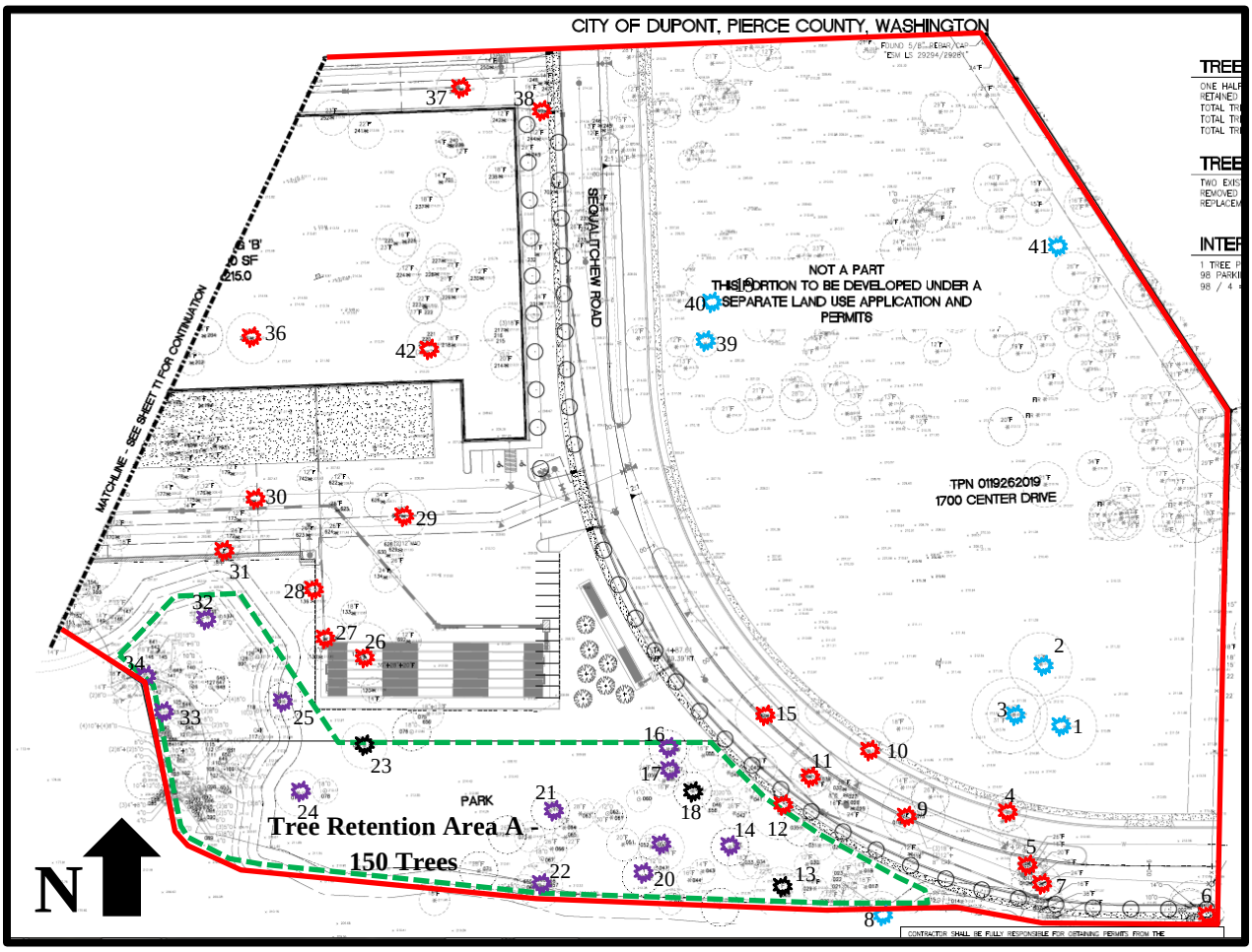
(Pierce County GIS)



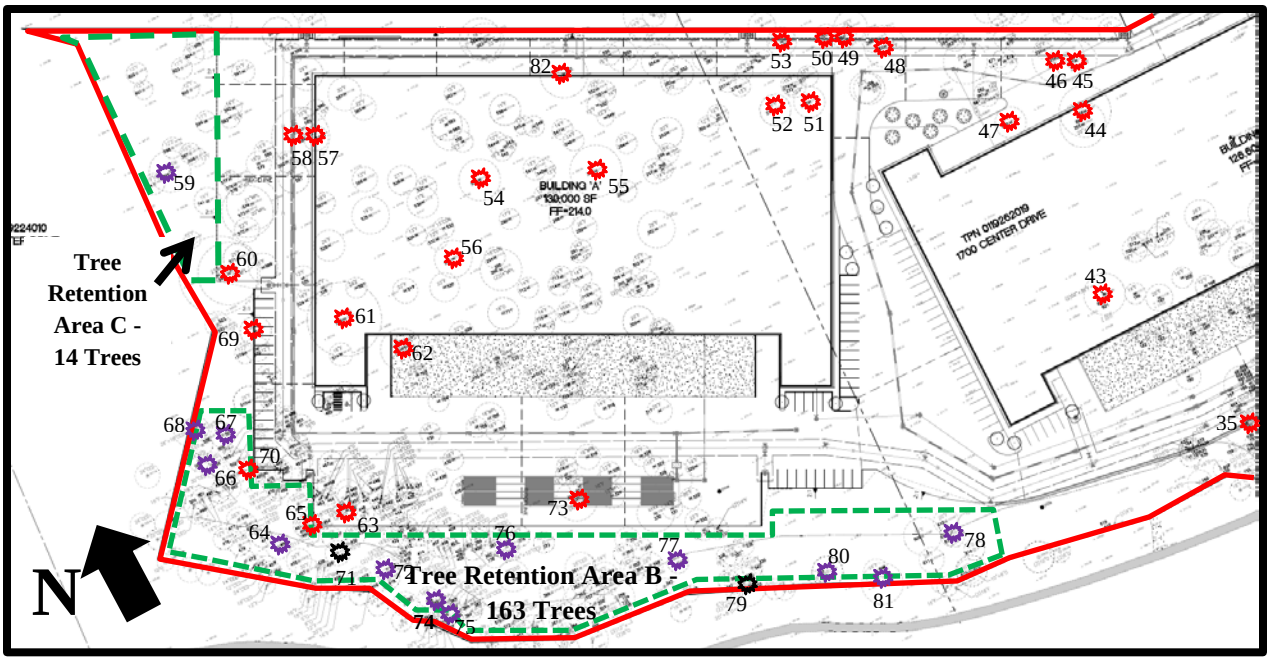
Parcel Boundary
Cover Type Boundary
Project Area Boundary (Approximate)

Attachment 2. Site Plan/Tree Map with Landmark Tree Locations Indicated

(2 Pages)



Site Boundary
Healthy Landmark Tree to Retain
Unhealthy Landmark Tree
Landmark Tree to Remove
Landmark Tree Outside of Project Area
Tree Retention Area Boundary



Site Boundary
Healthy Landmark Tree to Retain
Unhealthy Landmark Tree
Landmark Tree to Remove
Tree Retention Area Boundary

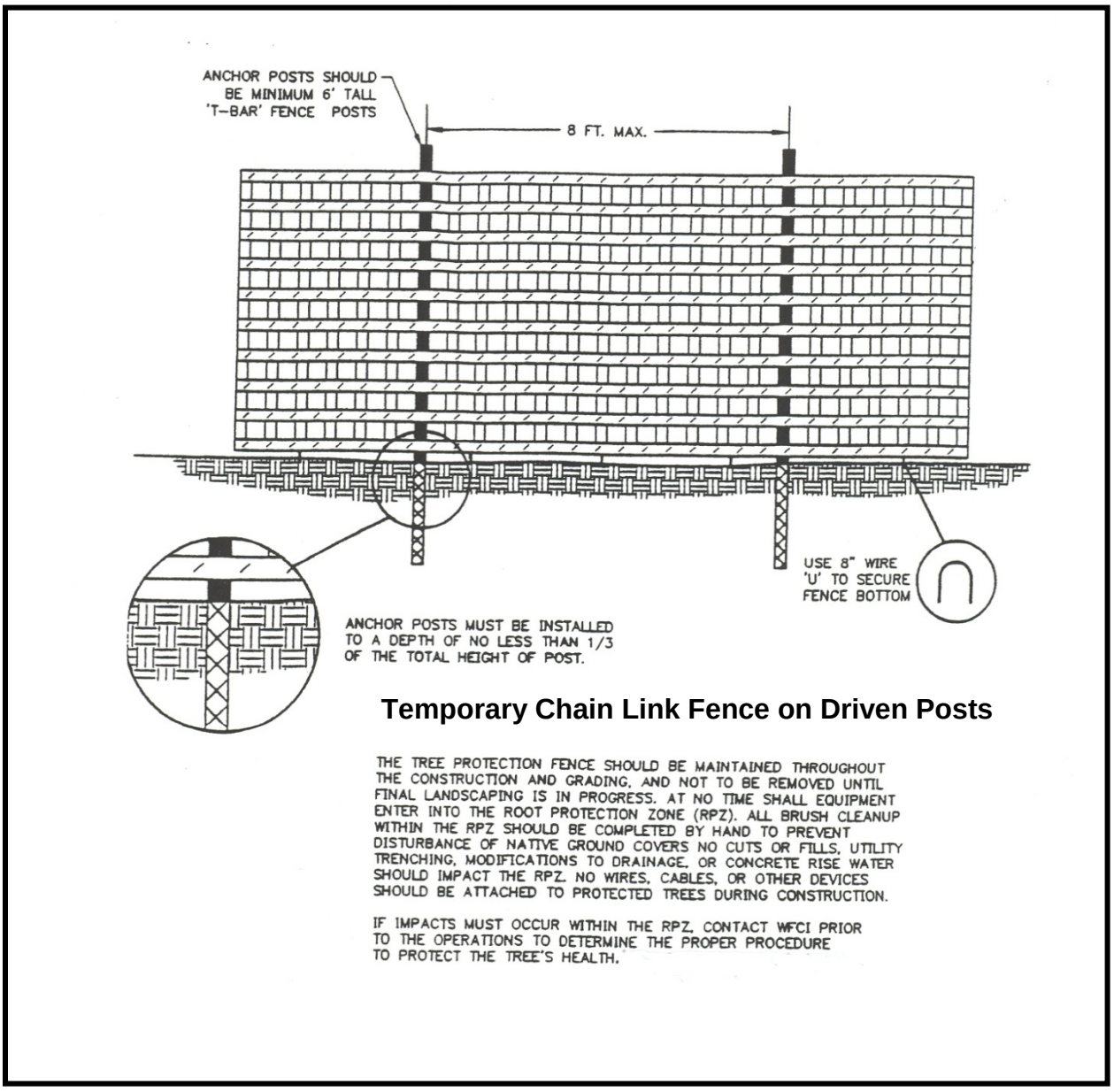
Attachment 3. List of Landmark Trees at 1700 Center Dr. in DuPont

Tree #	Species	DBH (in.)	Condition	Savable Based on Tree Condition Alone? Yes or No	Project Plan? Save or Remove	Minimum Recommended Root Protection Zone Radius (ft.)	Comment
1	Douglas-fir	38	Good	Yes	N/A		Outside Project Area
2	Douglas-fir	41	Fair	Yes	N/A		Outside Project Area
3	Douglas-fir	32	Fair	Yes	N/A		Outside Project Area
4	Douglas-fir	33	Fair	Yes	Remove	26	
5	Douglas-fir	28	Good	Yes	Remove	28	
6	Douglas-fir	14, 9, 10, 16, 10, 10	Fair	Yes	Remove		
7	Douglas-fir	48	Good	Yes	Remove	36	
8	Douglas-fir	36	Fair	Yes	N/A	28	Off-Site
9	Oregon white oak	19, 18, 15, 16, 14, 15	Fair	Yes	Remove	42	
10	Douglas-fir	33, 33	Good	Yes	Remove	30	
11	Douglas-fir	35	Fair	Yes	Remove	30	
12	Oregon white oak	42	Fair	Yes	Remove	40	
13	Douglas-fir	34	Poor	No	Save		Stem Decay
14	Douglas-fir	32	Fair	Yes	Save	28	
15	Douglas-fir	42	Good	Yes	Remove	36	
16	Douglas-fir	33	Fair	Yes	Save	28	
17	Douglas-fir	30	Fair	Yes	Save	26	
18	Oregon white oak	18, 19	Poor	No	Save		Stem Defect, Decay
19	Douglas-fir	41	Fair	Yes	Save	30	
20	Douglas-fir	37	Good	Yes	Save	30	
21	Douglas-fir	31.5	Fair	Yes	Save	28	
22	Oregon white oak	16, 23, 13	Fair	Yes	Save	30	
23	Douglas-fir	33	Poor	No	Save		1 dead stem
24	Douglas-fir	33	Fair	Yes	Save	28	
25	Douglas-fir	41	Good	Yes	Save	32	

Tree #	Species	DBH (in.)	Condition	Savable Based on Tree Condition Alone? Yes or No	Project Plan? Save or Remove	Minimum Recommended Root Protection Zone Radius (ft.)	Comment
26	Douglas-fir	41, 28	Fair	Yes	Remove		
27	Douglas-fir	40	Good	Yes	Remove		
28	Douglas-fir	37	Good	Yes	Remove		
29	Douglas-fir	50	Good	Yes	Remove		
30	Douglas-fir	35	Fair	Yes	Remove		
31	Douglas-fir	41	Fair	Yes	Remove		
32	Douglas-fir	32	Fair	Yes	Save	26	
33	Douglas-fir	19, 19, 17	Fair	Yes	Save	28	
34	Douglas-fir	37	Fair	Yes	Save	28	
35	Douglas-fir	31	Fair	Yes	Remove		
36	Douglas-fir	41	Good	Yes	Remove		
37	Douglas-fir	31	Good	Yes	Remove		
38	Douglas-fir	34	Fair	Yes	Remove		
39	Douglas-fir	32.5	Good	Yes	N/A		Outside Project Area
40	Douglas-fir	38	Good	Yes	N/A		Outside Project Area
41	Douglas-fir	40	Good	Yes	N/A		Outside Project Area
42	Douglas-fir	28, 22, 28	Fair	Yes	Remove		
43	Douglas-fir	50, 50, 30	Poor	No	Remove		Stem defect, Red ring rot
44	Douglas-fir	38	Good	Yes	Remove		
45	Douglas-fir	40	Fair	Yes	Remove		
46	Douglas-fir	35	Fair	Yes	Remove		
47	Douglas-fir	42.5	Good	Yes	Remove		
48	Douglas-fir	33	Good	Yes	Remove		
49	Douglas-fir	35	Fair	Yes	Remove		
50	Douglas-fir	34	Fair	Yes	Remove		
51	Douglas-fir	32	Fair	Yes	Remove		
52	Douglas-fir	30	Good	Yes	Remove		
53	Douglas-fir	33	Good	Yes	Remove		
54	Douglas-fir	37	Good	Yes	Remove		
55	Bigleaf maple	33	Good	Yes	Remove		
56	Douglas-fir	34	Poor	No	Remove		Red ring rot

Tree #	Species	DBH (in.)	Condition	Savable Based on Tree Condition Alone? Yes or No	Project Plan? Save or Remove	Minimum Recommended Root Protection Zone Radius (ft.)	Comment
57	Douglas-fir	36	Good	Yes	Remove		
58	Bigleaf maple	41	Good	Yes	Remove		
59	Hemlock	33	Fair	Yes	Save	28E	
60	Douglas-fir	38.5	Fair	Yes	Remove		
61	Bigleaf maple	36	Good	Yes	Remove		
62	Bigleaf maple	24, 24	Good	Yes	Remove		
63	Douglas-fir	31.5	Good	Yes	Remove		
64	Western redcedar	36	Fair	Yes	Save	30	
65	Oregon white oak	16, 14	Fair	Yes	Remove		
66	Western redcedar	31	Fair	Yes	Save	22	
67	Western redcedar	31.5	Fair	Yes	Save	22	
68	Western redcedar	35	Fair	Yes	Save	26	
69	Western redcedar	31	Good	Yes	Remove		
70	Douglas-fir	31.5	Fair	Yes	Remove		
71	Douglas-fir	31.5	Poor	No	Save		Dead top
72	Western redcedar	31	Fair	Yes	Save	26	
73	Douglas-fir	37	Good	Yes	Remove		
74	Douglas-fir	36	Good	Yes	Save	24	
75	Bigleaf maple	22, 14, 16	Good	Yes	Save		
76	Douglas-fir	31.5	Fair	Yes	Save	24	
77	Douglas-fir	42	Fair	Yes	Save	30	
78	Douglas-fir	38	Good	Yes	Save	32	
79	Oregon white oak	18,8	Poor	No	Save		suppressed
80	Oregon white oak	24	Good	Yes	Save	28	
81	Oregon white oak	24.8	Good	Yes	Save	30	
82	Douglas-fir	34	Good	Yes	Remove		

Attachment 4. Tree Protection Fence Detail



Temporary Chain Link Fence on Driven Posts

THE TREE PROTECTION FENCE SHOULD BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND GRADING, AND NOT TO BE REMOVED UNTIL FINAL LANDSCAPING IS IN PROGRESS. AT NO TIME SHALL EQUIPMENT ENTER INTO THE ROOT PROTECTION ZONE (RPZ). ALL BRUSH CLEANUP WITHIN THE RPZ SHOULD BE COMPLETED BY HAND TO PREVENT DISTURBANCE OF NATIVE GROUND COVERS NO CUTS OR FILLS, UTILITY TRENCHING, MODIFICATIONS TO DRAINAGE, OR CONCRETE RISE WATER SHOULD IMPACT THE RPZ. NO WIRES, CABLES, OR OTHER DEVICES SHOULD BE ATTACHED TO PROTECTED TREES DURING CONSTRUCTION.

IF IMPACTS MUST OCCUR WITHIN THE RPZ, CONTACT WFCI PRIOR TO THE OPERATIONS TO DETERMINE THE PROPER PROCEDURE TO PROTECT THE TREE'S HEALTH.

Attachment 5. Individual Tree Rating Key for Tree Condition

RATING	SYMBOL	DEFINITION
Very Good	**VG**	• Balanced crown that is characteristic of the species • Normal lateral and terminal branch growth rates for the species and soil type • Stem sound, normal bark vigor • No root problems • No insect or disease problems • Long-term, attractive tree
Good	**G**	• Crown lacking symmetry but nearly balanced • Normal lateral and terminal branch growth rates for the species and soil type • Minor twig dieback O.K. • Stem sound, normal bark vigor • No root problems • No or minor insect or disease problems – insignificant • Long-term tree
Fair	**F**	• Crown lacking symmetry due to branch loss • Slow lateral and terminal branch growth rates for the species and soil type • Minor and major twig dieback – starting to decline • Stem partly unsound, slow diameter growth and low bark vigor • Minor root problems • Minor insect or disease problems • Short-term tree 10-30 years
Poor	**P**	• Major branch loss – unsymmetrical crown • Greatly reduced growth • Several structurally import dead or branch scaffold branches • Stem has bark loss and significant decay with poor bark vigor • Root damage • Insect or disease problems – remedy required • Short-term tree 1-10 years
Very Poor	**VP**	• Lacking adequate live crown for survival and growth • Severe decline • Minor and major twig dieback • Stem unsound, bark sloughing, previous stem or large branch failures, very poor bark vigor • Severe root problems or disease • No or minor insect or disease problems • Mortality expected within the next few years
Dead	**DEAD**	• Dead

Attachment 6. Description of Tree Evaluation Methodology

The evaluation of the tree condition on this site included the visual assessment of:

1. Live-crown ratio,
2. Lateral and terminal branch growth rates,
3. Presence of dieback in minor and major scaffold branches and twigs,
4. Foliage color,
5. Stem soundness and other structural defects,
6. Visual root collar examination,
7. Presence of insect or disease problems.
8. Windfirmness: if tree removal will expose this tree to failure.

In cases where signs of internal defect or disease were suspected, a core sample was taken to look for stain, decay, and diameter growth rates. Also, root collars were exposed to look for the presence of root disease.

In all cases, the overall appearance of the tree was considered relative to its ability to add value to either an individual lot or the entire subdivision. Also, the scale of the tree and its proximity to both proposed and existing houses was considered.

Lastly, the potential for incorporation into the project design is evaluated, as well as potential site plan modifications that may allow otherwise removed tree(s) to be both saved and protected in the development.

Trees that are preserved in a development must be carefully selected to make sure that they can survive construction impacts, adapt to a new environment, and perform well in the landscape. Healthy, vigorous trees are better able to tolerate impacts such as root injury, changes in soils moisture regimes, and soil compaction than are low vigor trees.

Structural characteristics are also important in assessing suitability. Trees with significant decay and other structural defects that cannot be treated are likely to fail. Such trees should not be preserved in areas where damage to people or property could occur.

Trees that have developed in a forest stand are adapted to the close, dense conditions found in such stands. When surrounding trees are removed during clearing and grading, the remaining trees are exposed to extremes in wind, temperature, solar radiation, which causes sunscald, and other influences. Young, vigorous trees with well-developed crowns are best able to adapt to these changing site conditions.

Attachment 7. Glossary of Forestry and Arboricultural Terminology

DBH: Diameter at Breast Height (measured 4.5 ft. above the ground line on the high side of the tree).

Live Crown Ratio: Ratio of live foliage on the stem of the tree. Example: A 100' tall tree with 40 feet of live crown would have a 40% live crown ratio. Conifers with less than 30% live crown ratio are generally not considered to be long-term trees in forestry.

Crown: Portion of a trees stem covered by live foliage.

Crown Position: Position of the crown with respect to other trees in the stand.

Dominant Crown Position: Receives light from above and from the sides.

Codominant Crown Position: Receives light from above and some from the sides.

Intermediate Crown Position: Receives little light from above and none from the sides. Trees tend to be slender with poor live crown ratios.

Suppressed Crown Position: Receives no light from above and none from the sides. Trees tend to be slender with poor live crown ratios.

Attachment 8. Assumptions and Limiting Conditions

1) Any legal description provided to the Washington Forestry Consultants, Inc. is assumed to be correct. Any titles and ownership's to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

2) It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations, unless otherwise stated.

3) Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, Washington Forestry Consultants, Inc. can neither guarantee nor be responsible for the accuracy of information.

4) Washington Forestry Consultants, Inc. shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

5) Loss or alteration of any part of this report invalidated the entire report.

6) Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of Washington Forestry Consultants, Inc.

7) Neither all or any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of Washington Forestry Consultants, Inc. -- particularly as to value conclusions, identity of Washington Forestry Consultants, Inc., or any reference to any professional society or to any initialed designation conferred upon Washington Forestry Consultants, Inc. as stated in its qualifications.

8) This report and any values expressed herein represent the opinion of Washington Forestry Consultants, Inc., and the fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence neither of a subsequent event, nor upon any finding in to reported.

9) Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

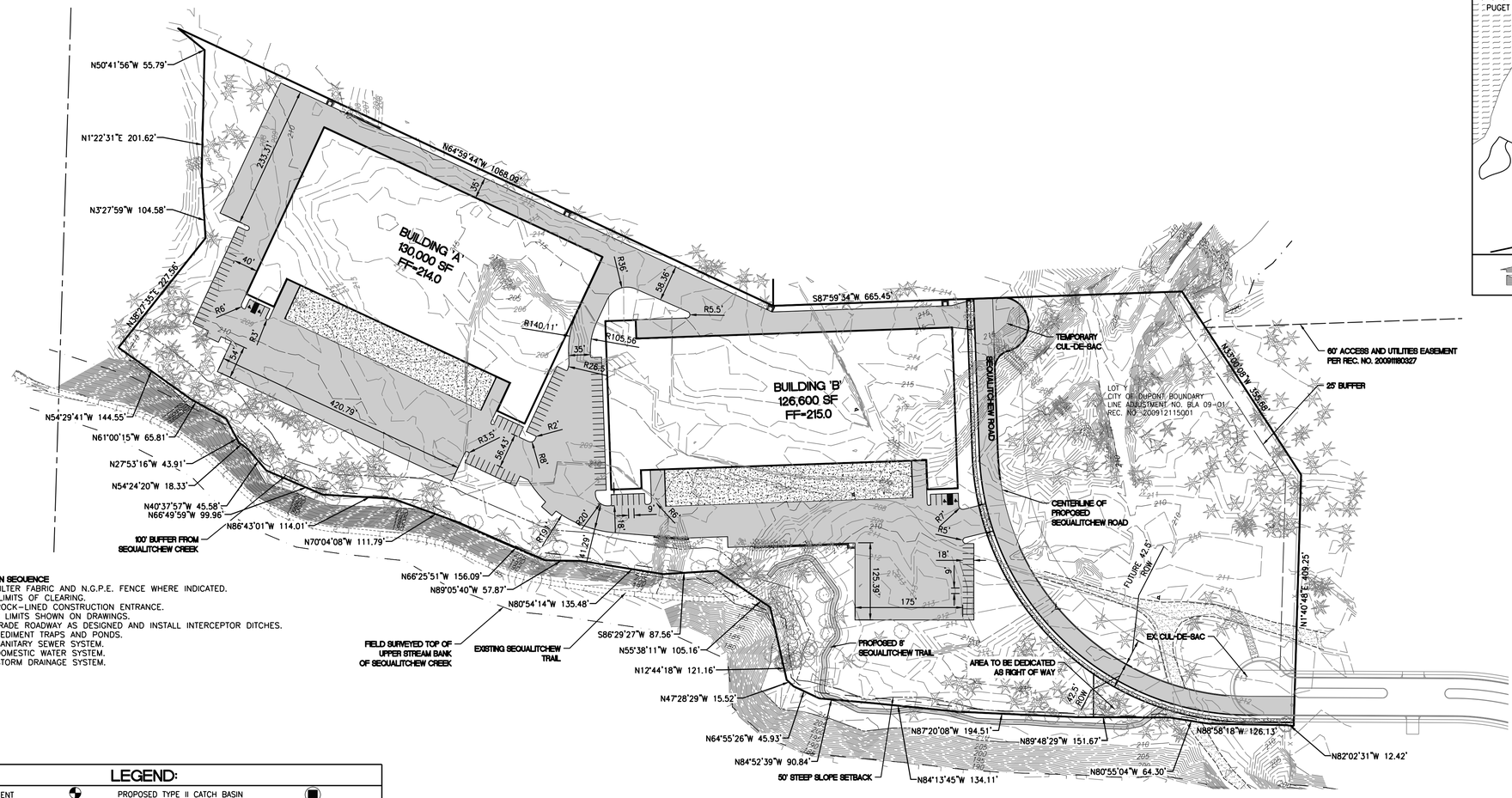
10) Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the tree or other plant or property in question may not arise in the future.

Note: Even healthy trees can fail under normal or storm conditions. The only way to eliminate all risk is to remove all trees within reach of all targets. Annual monitoring by an ISA Certified Arborist or Certified Forester will reduce the potential of tree failures. It is impossible to predict with certainty that a tree will stand or fail, or the timing of the failure. It is considered an 'Act of God' when a tree fails, unless it is directly felled or pushed over by man's actions.

PRELIMINARY COVER SHEET
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=100'

0 50 100 200



CONSTRUCTION SEQUENCE
1. INSTALL FILTER FABRIC AND N.G.P.E. FENCE WHERE INDICATED.
2. IDENTIFY LIMITS OF CLEARING.
3. INSTALL ROCK-LINED CONSTRUCTION ENTRANCE.
4. CLEAR TO LIMITS SHOWN ON DRAWINGS.
5. ROUGH GRADE ROADWAY AS DESIGNED AND INSTALL INTERCEPTOR DITCHES.
6. INSTALL SEDIMENT TRAPS AND PONDS.
7. INSTALL SANITARY SEWER SYSTEM.
8. INSTALL DOMESTIC WATER SYSTEM.
9. INSTALL STORM DRAINAGE SYSTEM.

LEGEND:

SURVEY MONUMENT	PROPOSED TYPE II CATCH BASIN
EX. POWER VAULT (P)	PROPOSED TYPE I CATCH BASIN
EX. LUMINAIRE (LUM.)	PROPOSED STORM DRAIN FLOW ARROW
EX. LOT LIGHT	PROPOSED STORM DRAINAGE LINE
EX. POWER POLE	PROPOSED TRENCH DRAIN
EX. JUNCTION BOX	PROPOSED SANITARY SEWER LINE
EX. CATCH BASIN (CB)	PROPOSED SANITARY SEWER CLEANOUT
EX. CATCH BASIN (CB) TYPE 2	PROPOSED WATERMAIN (W)
EX. SANITARY SEWER MANHOLE (SSMH)	PROPOSED FIRE HYDRANT
EX. GAS METER	PROPOSED WATER VALVE
EX. GAS VALVE	PROPOSED CONCRETE BLOCKING
EX. WATER VALVE (WV)	PROPOSED 90° BEND
EX. FIRE HYDRANT (FH)	PROPOSED SPOT ELEVATIONS (23.20)
MAIL BOX	MATCH EXISTING ELEVATION (23.20± ME)
EX. WATER METER	TOP OF WALL ELEVATION (TW=23.20)
EX. SIGN	MATCH EXISTING ELEVATION (BW=23.20)
EX. WATER LINE	MATCH EXISTING ELEVATION (23.20± ME)
EX. SANITARY SEWER LINE	
EX. STORM DRAINAGE LINE	PROPOSED CONTOURS (220)
EX. POWER UNDERGROUND (P(UG))	PROPOSED PAVEMENT
EX. POWER OVERHEAD (P(OH))	
EX. METAL FENCE	PROPOSED CONCRETE
EX. WOOD FENCE	
EXISTING SPOT ELEVATIONS (×100.0)	
EXISTING CONTOURS (220)	

PROJECT INFORMATION

USABLE AREA= 710,080 SQ. FT. ≈16.30 ACRES

LANDSCAPING AREA=53,353 SQ. FT. ≈1.22 ACRES

TOTAL IMPERVIOUS AREA = 13.48 ACRES

INDEX TO SHEETS:

C1 OF 13	PRELIMINARY COVER SHEET
C2 OF 13	PRELIMINARY TESC AND DEMOLITION PLAN-WEST
C3 OF 13	PRELIMINARY TESC AND DEMOLITION PLAN-EAST
C4 OF 13	PRELIMINARY TESC NOTES AND DETAILS
C5 OF 13	PRELIMINARY GRADING AND STORM DRAINAGE PLAN-WEST
C6 OF 13	PRELIMINARY GRADING AND STORM DRAINAGE PLAN-EAST
C7 OF 13	PRELIMINARY WATER AND SEWER PLAN-WEST
C8 OF 13	PRELIMINARY WATER AND SEWER PLAN-EAST
C9 OF 13	PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE
C10 OF 13	PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE (CONT.)
C11 OF 13	PRELIMINARY CONSTRUCTION NOTES AND DETAILS
C12 OF 13	PRELIMINARY CONSTRUCTION NOTES AND DETAILS
C13 OF 13	PRELIMINARY CONSTRUCTION NOTES AND DETAILS

ENGINEER/SURVEYOR
BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
PHONE: (425) 251-6222
FAX: (425) 251-8782
CONTACT: COSTA PHILIPPIDES, P.E.

ARCHITECT
HELIX DESIGN GROUP, INC.
6021 12TH STREET EAST SUITE 201
TACOMA, WA 98424
PHONE: (253) 922-6499
FAX: (253) 922-6499
CONTACT: Bruce MCKEAN

811 Know what's **below.** **Call** before you dig.

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

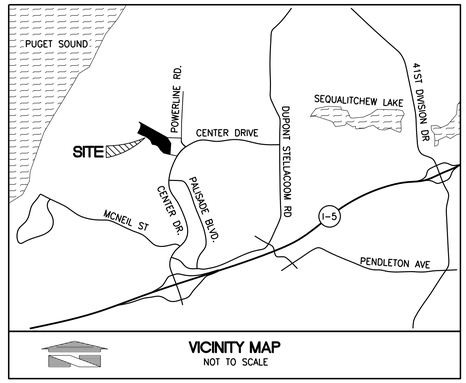
WASHINGTON STATE DEPARTMENT OF NATURAL
RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E. P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.



VICINITY MAP
NOT TO SCALE

SITE ADDRESS
1700 CENTER DRIVE DUPONT, WA 98327

PARCEL NUMBER
0119262019

PARCEL LEGAL DESCRIPTION:
(PER CITY OF DUPONT BLA 09-01 REC. NO. 200912115001)

LOT Y OF CITY OF DUPONT BOUNDARY LINE ADJUSTMENT BLA. NUMBER 09-01, RECORDED UNDER RECORDING NUMBER 200912115001, PIERCE COUNTY, WASHINGTON, BEING A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 01 EAST.

TITLE INFORMATION:

FIDELITY NATIONAL TITLE INSURANCE COMPANY, ORDER NO. 12906626 DATED JULY 15, 2011, AT 8:00 AM, WAS RELIED UPON FOR TITLE INFORMATION AND SUPPORTING DOCUMENTS. PLEASE REFER TO THAT REPORT FOR FURTHER INFORMATION REGARDING FINANCIAL MATTERS BEYOND THE SCOPE OF THIS SURVEY.

PROCEDURE / NARRATIVE

A FIELD TRAVERSE USING A "TRIMBLE S6" ROBOTIC TOTAL STATION, AND "TRIMBLE TSC2" DATA COLLECTOR SUPPLEMENTED WITH FIELD NOTES WAS PERFORMED, ESTABLISHING THE ANGULAR, DISTANCE, AND VERTICAL RELATIONSHIPS BETWEEN THE MONUMENTS, PROPERTY LINES, AND TOPOGRAPHIC FEATURES AS SHOWN HEREON. A "TOPCON GR3" GPS ROVER AND BASE WAS USED TO CHECK AND ESTABLISH THE ELEVATION OF BENCHMARKS AND CONTROL POINTS. THE RESULTING DATA MEETS OR EXCEEDS THE STANDARDS FOR LAND BOUNDARY SURVEYS AS SET FORTH IN WAC 332-130-090.

DATES OF SURVEYS

FIELD SURVEYS BY BARGHAUSEN CONSULTING ENGINEERS, INC. CONDUCTED MAY, 2011 AND ALL MONUMENTS SHOWN AS FOUND WERE VISITED AT THAT TIME.

HORIZONTAL DATUM - BASIS OF BEARINGS

THE BEARING OF THE LINE BETWEEN THE FOUND MONUMENT ID'S WSDOT 5552-WSDOT 776 BEARING TAKEN AS SOUTH 73° 08' 35" WEST

VERTICAL DATUM - NGVD29

PROJECT BENCHMARK
WSDOT MONUMENT DESIGNATION 5552 APPROXIMATELY 300' EAST OF THE SOUTHWEST CORNER OF SITE. NGVD29 ELEVATION WAS DERIVED BY CONVERTING PUBLISHED WSDOT NAVD88 ELEVATION USING CORPSCON SOFTWARE. (NAVD88= NGVD+3.44')
NGVD29 ELEV. = 259.173 FEET

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NGVD29 ELEV. = 259.173 FEET

UTILITY CONFLICT NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 811 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY COVER SHEET FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES STATE OF WASHINGTON 38375 REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=100' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet C1 of 13

Path: \18000s\18666\preliminary\18666-pp.dwg Date/Time: 8/14/2018 11:59 AM Scale: 1 = 1 LOUDON Xref: ----

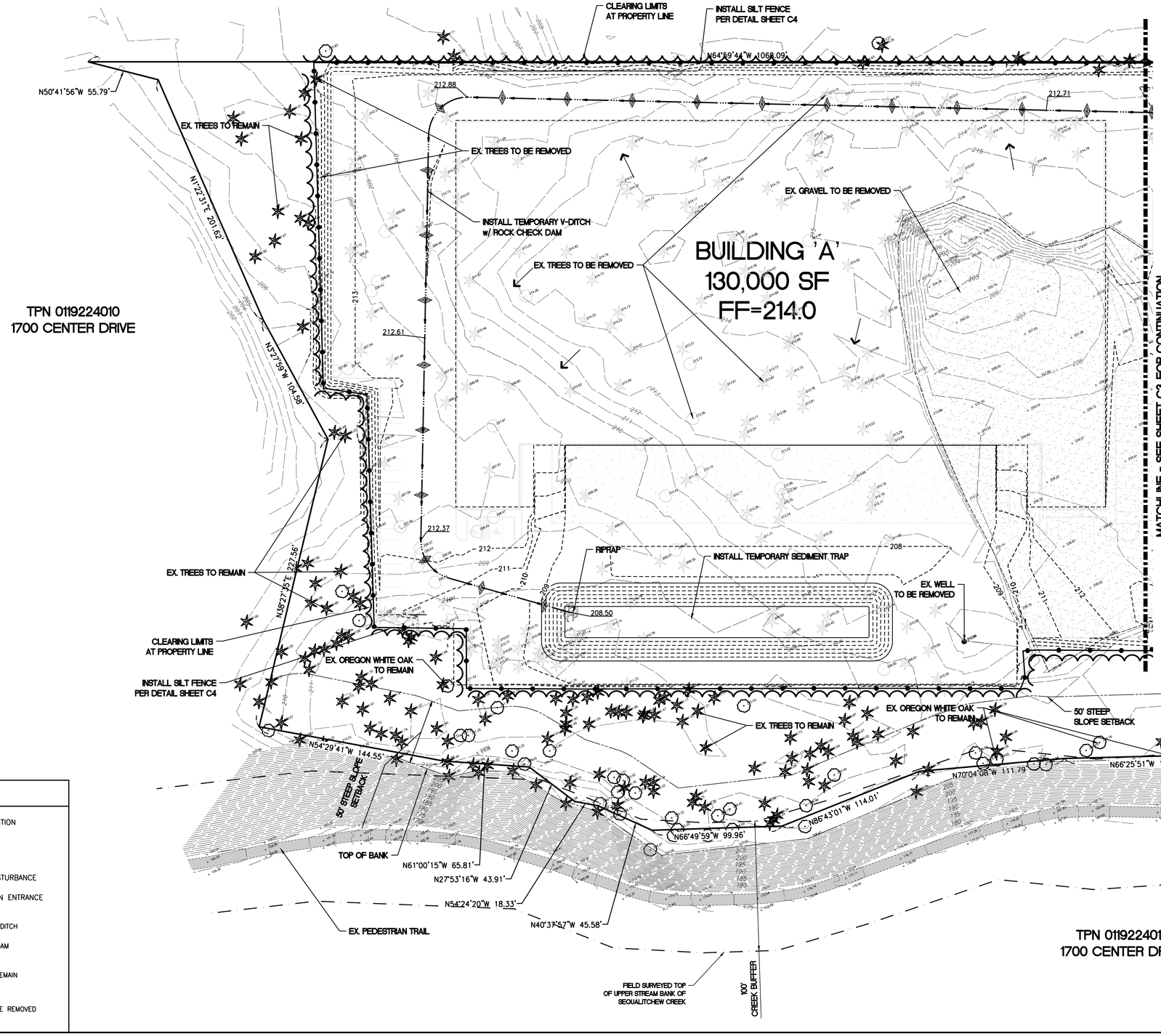
PRELIMINARY TESC AND DEMOLITION PLAN-WEST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.



TPN 0119224010
1700 CENTER DRIVE

TESC LEGEND:

- INLET PROTECTION
- SILT FENCE
- LIMITS OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- TEMPORARY V-DITCH
- ROCK CHECK DAM
- EX. TREE TO REMAIN
- EX. TREE TO BE REMOVED

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title:
PRELIMINARY
TESC AND DEMOLITION PLAN-WEST
FOR
DUPONT INDUSTRIAL WAREHOUSE

For:
DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES STATE OF WASHINGTON 38375 REGISTERED PROFESSIONAL ENGINEER
08/13/18

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18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES
BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 18666
Sheet C2 of 13

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PRELIMINARY TESC AND DEMOLITION PLAN-EAST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

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MATCHLINE - SEE SHEET C2 FOR CONTINUATION

TPN 0119262016
1700 CENTER DRIVE

CLEARING LIMITS

INSTALL SILT FENCE PER DETAIL SHEET C4

DIRT ROAD

EX. WELL TO BE REMOVED

EX. DIRT ROAD TO REMAIN

213.22

213.54

INSTALL TEMPORARY V-DITCH w/ ROCK CHECK DAM

213.65

S87°59'34"W 665.45'

FOUND 5/8" REBAR CAP "ESM LS 29294/29981"

60' ACCESS AND UTILITIES EASEMENT PER REC. NO. 200911180327

EX. GRAVEL TO BE REMOVED

EX. GRAVEL ROAD TO BE REMOVED

EX. HISTORICAL MARKER 2.0' W x3.0L x22.5'H w/ COMMEMORATIVE PLAQUE TO BE RELOCATED SEE SHEET #4 FOR NEW LOCATION

TPN 0119262019
1700 CENTER DRIVE

BUILDING 'B'
126,600 SF
FF=215.0

EX. SIGN TO BE REMOVED

SEQUALITCHEW ROAD

CHAIN LINK FENCE

EX. TREES TO BE REMOVED

EX. DIRT ROAD TO BE REMOVED

EX. SIGN TO BE REMOVED

FUTURE 85' ROW

"NO BUILDINGS"

S33°00'08"W 355.68'

4.98

8.63

5.03

4.64

EX. GRAVEL TO BE REMOVED

EX. MONITOR WELL TO REMAIN
RIM=212.78
TOP PVC=212.08

APPROXIMATED CENTERLINE TEMPORARY ACCESS EASEMENT PER REC. NOs. 200906040666 AND 200911190365 (18)

CLEARING LIMITS

INSTALL SILT FENCE PER DETAIL SHEET C4

EX. GRAVEL ROAD EAST OF CLEARING LIMITS TO REMAIN

RAISED CONCRETE PLINTH (AVG HT = 4.5')

OLD NARROW RAILROAD LI

50' STEEP SLOPE SETBACK

N89°05'40"W 57.87'

N80°54'14"W 135.48'

S86°29'27"W 87.56'

N55°38'11"W 105.16'

N24°41'18"W 121.16'

EX. GRAVEL ROAD TO BE REMOVED

EDGE OF FUTURE ROW

SIGN

N1°40'48"E 409.25'

EX. PEDESTRIAN TRAIL

EX. GRAVEL TO REMAIN

EX. TREES TO REMAIN

EX. 42" LANDMARK OREGON WHITE OAK IN PROPOSED ROW TO BE REMOVED

GRAVEL ROAD

EX. OREGON WHITE OAK IN POPOSED ROW TO BE REMOVED

EX. CB TO REMAIN
INSTALL CB PROTECTION PER DETAIL SHEET C5

30' TRAIL CONSTRUCTION EASEMENT PER REC. NO. 201009301052 (24)

EX. OREGON WHITE OAK TO REMAIN

17.5' TRAIL CONST. EASEMENT PER REC. NO. 201009301052 (24)

17.5' TRAIL CONST. EASEMENT PER REC. NO. 201009301052 (24)

EX. CUL-DE-SAC TO BE REMOVED

CHAIN LINK FENCE

15' TRAIL EASEMENT PER REC. NO. 201009301052 (24)

15' TRAIL EASEMENT PER REC. NO. 201009301052 (24)

EX. SSMH TO REMAIN

N84°52'39"W 90.84'

N84°13'45"W 134.11'

N87°20'08"W 194.51'

N89°48'29"W 151.67'

N88°38'19"W 126.73'

FOUND "ESM LS

N47°28'29"W 15.52'

N64°55'26"W 45.93'

50' STEEP SLOPE SETBACK

100' CREEK BUFFER

CENTERLINE 15' TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT PER 201009301052 (24)

TPOB TRAIL ESMT (24) PER 201009301052

N82°02'31"W 12.42'

AREA TO BE DEDICATED AS RIGHT OF WAY

N80°55'04"W 64.30'

INSTALL TEMPORARY CONSTRUCTION ENTRANCE PER DETAIL SHEET C4

FIELD SURVEYED TOP OF UPPER STREAM BANK OF SEQUALITCHEW CREEK

TPN 0119224010
1700 CENTER DRIVE

TESC LEGEND:

- INLET PROTECTION
- SILT FENCE
- LIMITS OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- TEMPORARY V-DITCH
- ROCK CHECK DAM
- EX. TREE TO REMAIN
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No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY TESC AND DEMOLITION PLAN-EAST FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES — STATE OF WASHINGTON — 38375 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=40' Vertical N/A
Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222 (425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet C3 of 13

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PRELIMINARY TESC NOTES AND DETAILS
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

EROSION CONTROL NOTES:

THE CONTRACTOR SHALL PROVIDE EROSION CONTROL METHODS ACCORDING TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY'S (WDOE) "STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON." THE FOLLOWING NOTES ARE ONLY A FEW OF THE MINIMUM REQUIREMENTS AND SHOULD NOT BE INTERPRETED TO EXCLUDE ANY EROSION CONTROL PRACTICES AS SPECIFIED IN THE WDOE STORMWATER MANUAL.

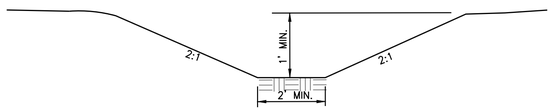
1. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THE PLAN SHALL BE CLEARLY FLAGGED BY THE ENGINEER IN THE FIELD AND OBSERVED DURING CONSTRUCTION.
2. ALL REQUIRED SEDIMENTATION/EROSION CONTROL FACILITIES MUST BE IN OPERATION PRIOR TO LAND CLEARING AND/OR OTHER CONSTRUCTION TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE NATURAL DRAINAGE SYSTEM. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND POTENTIAL FOR ON-SITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT AND ADDITIONS TO EROSION/SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE EROSION AND SEDIMENTATION CONTROL SYSTEMS DEPICTED ON THIS DRAWING ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND AS UNEXPECTED OR SEASONAL CONDITIONS DICTATE, THE CONTRACTOR SHOULD ANTICIPATE THAT MORE EROSION AND SEDIMENTATION CONTROL FACILITIES WILL BE NECESSARY TO INSURE COMPLETE SILTATION CONTROL ON THE PROPOSED SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER QUALITY OF THE RECEIVING DRAINAGE SYSTEM.
4. AT NO TIME SHALL MORE THAN 1 FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF THE SEDIMENT. ALL CATCH BASINS, CONVEYANCE LINES AND DITCHES ALONG [STREET NAMES] SHALL BE CLEANED PRIOR TO PAVING.
5. THE CONTRACTOR SHALL REMOVE MATERIAL DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO THE CITY RIGHT-OF-WAY OR INTO THE STORM DRAINAGE SYSTEM ON [STREET NAMES]. DEBRIS SHALL NOT BE WASHED INTO THE STORM DRAINAGE SYSTEM.
6. TEMPORARY EROSION CONTROL FACILITIES SHALL BE INSPECTED WEEKLY AND MAINTAINED WITHIN 24 HOURS FOLLOWING A STORM EVENT. SEDIMENT SHALL BE REMOVED TO ENSURE THE FACILITIES WILL FUNCTION PROPERLY. THE FACILITIES SHALL BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
7. ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
8. NO DISTURBED SOIL SHALL REMAIN UNSTABILIZED FOR MORE THAN TWO DAYS.
9. SEDIMENT TRAP/POND BAFFLES SHALL BE EMBEDDED IN SIDE SLOPES.

INLET PROTECTION NOTE:

CONTRACTOR SHALL PROVIDE INLET PROTECTION FOR ALL CATCH BASINS WITHIN CONSTRUCTION ZONE.

CLEARING NOTES:

- SCHEDULE AND LIMIT REMOVAL OF EXISTING VEGETATION AND GROUND COVER TO THE MINIMUM EXTENT FEASIBLE WITHIN ACTIVE WORK AREA.
- ALL TOPSOIL (IF FOUND) SHALL REMAIN ON-SITE AND BE UTILIZED FOR SITE RESTORATION FOLLOWING COMPLETION OF GRADING ACTIVITIES.
- GEOTECHNICAL ENGINEER SHALL BE ON-SITE DURING ALL STRIPPING AND GRUBBING OPERATIONS TO VERIFY CONDITION OF SUBGRADE AND REMOVAL OF ALL ORGANIC MATERIAL, STUMPS, UNCONTROLLED FILL, ETC.
- GEOTECHNICAL ENGINEER SHALL OBSERVE AND TEST FILL MATERIAL AS REQUIRED TO CERTIFY THE COMPLETED FILLS.



TEMPORARY "V" DITCH

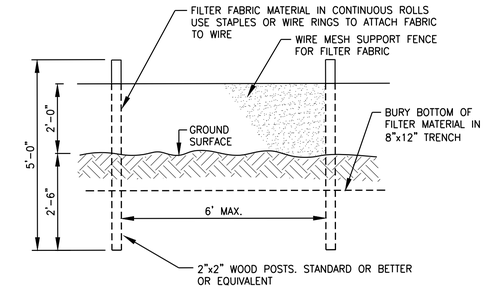
NOT TO SCALE

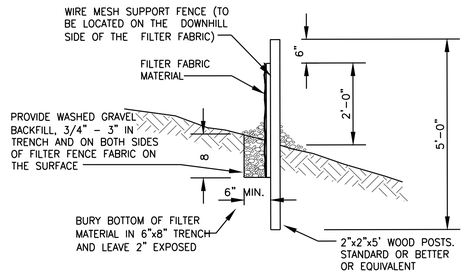
TEMPORARY DIKES AND SWALES:

1. SEED AND MULCH SHALL BE APPLIED WITHIN 5 DAYS OF DIKE CONSTRUCTION (SEE VEGETATION).
2. THE UPSLOPE SIDE OF THE DIKE SHALL PROVIDE POSITIVE DRAINAGE TO THE DIKE OUTLET.
3. NO EROSION SHALL OCCUR AT THE DIKE OUTLET. PROVIDE ENERGY DISSIPATION MEASURES AS NECESSARY.
4. SEDIMENT LADEN RUNOFF MUST BE RELEASED THROUGH A SEDIMENT TRAPPING FACILITY SUCH AS A POND, TRAP, OR SILT FENCE AS APPROPIATE TO DRAINAGE AREA SIZE.

MULCHING:

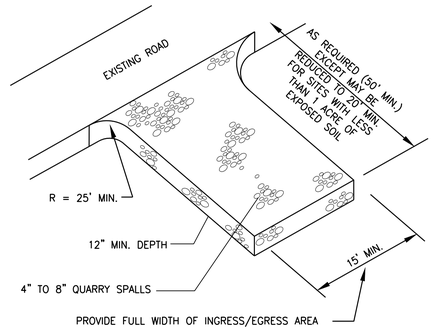
1. MULCH MATERIALS USED SHALL BE HAY OR STRAW, AND SHALL BE APPLIED AT THE RATE OF 1 BALE PER 200 S.F.
2. MULCHES SHALL BE APPLIED IN ALL AREAS WITH EXPOSED SLOPES GREATER THAN 2:1.
3. MUCLCHING SHALL BE USED IMMEDIATELY AFTER SEEDING OR IN AREAS WHICH CANNOT BE SEEDED BECAUSE OF THE SEASON.
4. ALL AREAS NEEDING MULCH SHALL BE COVERED BY NOVEMBER 1.





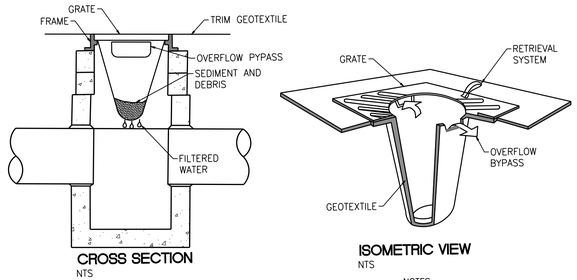
SILT FENCE NOTES:

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY FASTENED AT BOTH ENDS TO POSTS.
2. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 8 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THIS TRENCH SHALL BE BACKFILLED WITH WASHED GRAVEL.
4. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 24 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
5. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 24 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ABOVE NOTES APPLYING.
7. FILTER FABRIC FENCES SHALL NOT BE REMOVED BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
8. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
9. SILT FENCES WILL BE INSTALLED PARALLEL TO ANY SLOPE CONTOURS.
10. CONTRIBUTING LENGTH TO FENCE WILL NOT BE GREATER THAN 100 FEET.
11. DO NOT INSTALL BELOW AN OUTLET PIPE OR WEIR.
12. INSTALL DOWNSLOPE OF EXPOSED AREAS.
13. DO NOT DRIVE OVER OR FILL OVER SILT FENCES.



TEMP. CONSTRUCTION ENTRANCE NOTES:

1. MATERIAL SHALL BE 4-INCH TO 8-INCH QUARRY SPALLS AND MAY BE TOP-DRESSED WITH 1- INCH TO 3-INCH ROCK. (STATE STANDARD SPECIFICATIONS, SECTION 8-15.)
2. THE ROCK PAD SHALL BE AT LEAST 12 INCHES THICK AND 50 FEET LONG (20 FEET FOR SITES WITH LESS THAN 1 ACRE OF DISTURBED SOIL). WIDTH SHALL BE THE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA.
3. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
4. IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.



CROSS SECTION
NTS

ISOMETRIC VIEW
NTS

NOTES:
1. SIZE THE BELOW GRATE INLET DEVICE(BGID) FOR THE STORM WATER STRUCTURE.
2. THE BGID SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM(OVERFLOW BYPASS)
3. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BGID WITHOUT SPILLING THE COLLECTED MATERIAL.

PREFABRICATED BELOW GATE INLET DEVICE DETAILS

STORM DRAIN INLET PROTECTION

NOT TO SCALE

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY TESC NOTES AND DETAILS FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES — STATE OF WASHINGTON — 38379 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal N/A Vertical N/A
Designed CP Drawn TAL Checked CP Approved CP Date 09/17/18

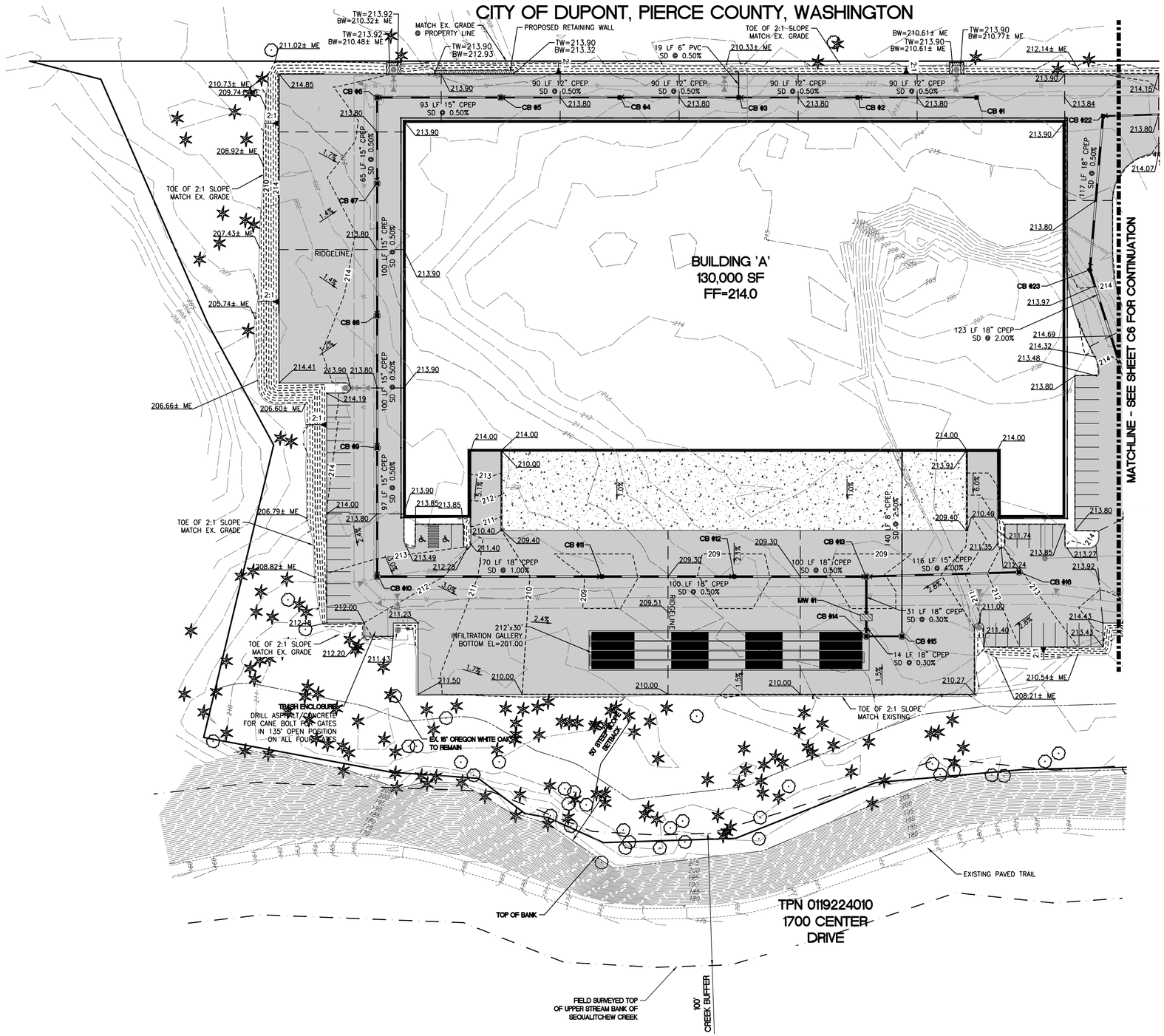
BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222 (425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet C4 of 13

P:\18000s\18666\preliminary\18666-pe.dwg 8/14/2018 1:06 PM TLOUDON

PRELIMINARY GRADING AND STORM DRAINAGE PLAN-WEST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80



APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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NOTE:
ALL TREES SHOWN ON THIS SHEET ARE TO REMAIN DURING DEMOLITION

CB #1, TYPE 1,
w/ STANDARD GRATE
RIM = 213.35
IE=210.24 (12" NW)

CB #2, TYPE 1,
w/ STANDARD GRATE
RIM = 213.35
IE=209.79 (12" NW)
IE=209.79 (12" SE)

CB #3, TYPE 1,
w/ STANDARD GRATE
RIM = 213.35
IE=209.34 (12" NW)
IE=209.34 (6" NE)
IE=209.34 (12" SE)

CB #4, TYPE 1,
w/ STANDARD GRATE
RIM = 213.35
IE=208.89 (12" NW)
IE=208.89 (12" SE)

CB #5, TYPE 2-48"
w/ STANDARD GRATE
RIM = 213.35
IE=208.44 (15" NW)
IE=208.44 (12" SE)

CB #6, TYPE 2-48"
w/ STANDARD GRATE
RIM = 213.32
IE=207.97 (15" SW)
IE=207.97 (15" SE)

CB #7, TYPE 2-48"
w/ STANDARD GRATE
RIM = 213.30
IE=207.64 (15" NE)
IE=207.64 (15" SW)

CB #8, TYPE 2-48"
w/ STANDARD GRATE
RIM = 213.30
IE=207.14 (15" NE)
IE=207.14 (15" SW)

CB #9, TYPE 2-48"
w/ STANDARD GRATE
RIM = 213.30
IE=206.64 (15" NE)
IE=206.64 (15" SW)

CB #10, TYPE 2-48"
w/ STANDARD GRATE
RIM = 212.69
IE=206.15 (15" NE)
IE=206.15 (18" SE)

CB #11, TYPE 1,
w/ STANDARD GRATE
RIM = 208.65
IE=204.45 (18" NW)
IE=204.45 (18" SE)

CB #12, TYPE 1L,
w/ STANDARD GRATE
RIM = 208.65
IE=203.95 (18" NW)
IE=203.95 (18" SE)

CB #13, TYPE 2-48"
w/ STANDARD GRATE
RIM = 208.65
IE=203.45 (18" NW)
IE=203.45 (15" SE)
IE=203.45 (18" SW)

CB #14, TYPE 2-48"
w/ STANDARD GRATE
RIM = 208.65
IE=203.45 (18" NW)
IE=203.45 (15" SE)
IE=203.45 (18" SW)

CB #15, TYPE 2-48"
w/ SOLID LOCKING LID
RIM = 209.32
IE=203.34 (12" NW)
IE=203.34 (8" NE)

CB #16, TYPE 2-48"
w/ STANDARD GRATE
RIM = 213.02
IE=208.07 (15" NW)

CB #22, TYPE 1,
w/ STANDARD GRATE
RIM = 213.16
IE=209.37 (18" SW)
IE=209.37 (12" SE)

CB #23, TYPE 1,
w/ STANDARD GRATE
RIM = 213.50
IE=208.79 (18" NE)
IE=208.79 (18" S)

MW #1,
RIM = 209.10
IE=203.36 (18" NE)
IE=202.03 (18" SW)

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY GRADING AND STORM DRAINAGE PLAN-WEST FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES
STATE OF WASHINGTON
38375
REGISTERED
PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=40' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

LOUDON Xref: -----

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet C5 of 13

File: P:\18000s\18666\preliminary\18666-pgm.dwg Date/time: 8/14/2018 8:32 AM Scale: 1 = 1

PRELIMINARY GRADING AND STORM DRAINAGE PLAN-EAST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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1"=40'
0 20 40 80

NOTE:
ALL TREES SHOWN ON THIS SHEET ARE TO REMAIN DURING DEMOLITION

BUILDING 'B'
126,600 SF
FF=215.0

NOT A PART
THIS PORTION TO BE DEVELOPED UNDER A SEPARATE LAND USE APPLICATION AND PERMITS

LOT Y
CITY OF DUPONT BOUNDARY LINE ADJUSTMENT NO. BLA 09-01
REC. NO. 200912115001

TPN 0119224010
1700 CENTER DRIVE

CB #17, TYPE 1, w/ STANDARD GRATE RIM = 214.40 IE=211.97 (12" W)

CB #18, TYPE 1, w/ STANDARD GRATE RIM = 214.40 IE=211.52 (12" W) IE=211.52 (12" E)

CB #19, TYPE 1, w/ STANDARD GRATE RIM = 214.40 IE=211.07 (12" W) IE=211.07 (12" E)

CB #20, TYPE 1, w/ STANDARD GRATE RIM = 214.09 IE=210.30 (12" NW) IE=210.30 (12" E)

CB #21, TYPE 1, w/ STANDARD GRATE RIM = 213.51 IE=209.81 (12" NW) IE=209.81 (6" S) IE=209.81 (12" SE)

CB #24, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=206.33 (18" N) IE=206.33 (18" S)

CB #25, TYPE 2-48" w/ STANDARD GRATE RIM = 213.30 IE=205.78 (18" N) IE=205.78 (18" SE)

CB #26, TYPE 2-48" w/ STANDARD GRATE RIM = 214.29 IE=205.28 (18" NW) IE=205.28 (18" E)

CB #27, TYPE 2-48" w/ STANDARD GRATE RIM = 213.36 IE=204.86 (18" W) IE=204.86 (18" E)

CB #28, TYPE 2-48" w/ STANDARD GRATE RIM = 209.70 IE=204.24 (18" W) IE=204.24 (24" E)

CB #29, TYPE 2-48" w/ STANDARD GRATE RIM = 209.70 IE=203.88 (24" W) IE=203.88 (24" E)

CB #30, TYPE 2-48" w/ STANDARD GRATE RIM = 209.70 IE=203.52 (24" W) IE=203.52 (24" SE)

CB #31, TYPE 2-48" w/ SOLID LOCKING LID RIM = 212.40 IE=203.14 (24" NW) IE=203.14 (24" E)

CB #32, TYPE 2-48" w/ STANDARD GRATE RIM = 213.52 IE=201.50 (24" N)

CB #R1, TYPE 1, w/ STANDARD GRATE RIM = 212.82 IE=208.45 (12" S)

CB #R2, TYPE 1, w/ STANDARD GRATE RIM = 210.02 IE=206.48 (12" N) IE=206.48 (12" S)

CB #R3, TYPE 2-48" w/ STANDARD GRATE RIM = 211.64 IE=205.48 (12" N) IE=205.48 (12" SE)

CB #R4, TYPE 2-48" w/ STANDARD GRATE RIM = 209.36 IE=203.09 (12" NW) IE=203.09 (12" SE) IE=203.09 (15" SW)

CB #R5, TYPE 2-48" w/ STANDARD GRATE RIM = 209.10 IE=201.00 (15" NE)

CB #R6, TYPE 2-48" w/ STANDARD GRATE RIM = 213.53 IE=206.42 (12" NW) IE=206.42 (12" E)

MW #2, RIM = 213.50 IE=202.88 (24" W) IE=201.55 (24" S)

MW #3, RIM = 208.93 IE=202.92 (15" NE) IE=201.23 (15" SW)

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY GRADING AND STORM DRAINAGE PLAN-EAST FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES — STATE OF WASHINGTON — 38375 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=40' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 18666

Sheet C6 of 13

I:\projs\18000s\18666\preliminary\18666-pgdn.dwg Date/Time: 8/14/2018 8:32 AM Scale:1 = 1.000000 Xref: -----

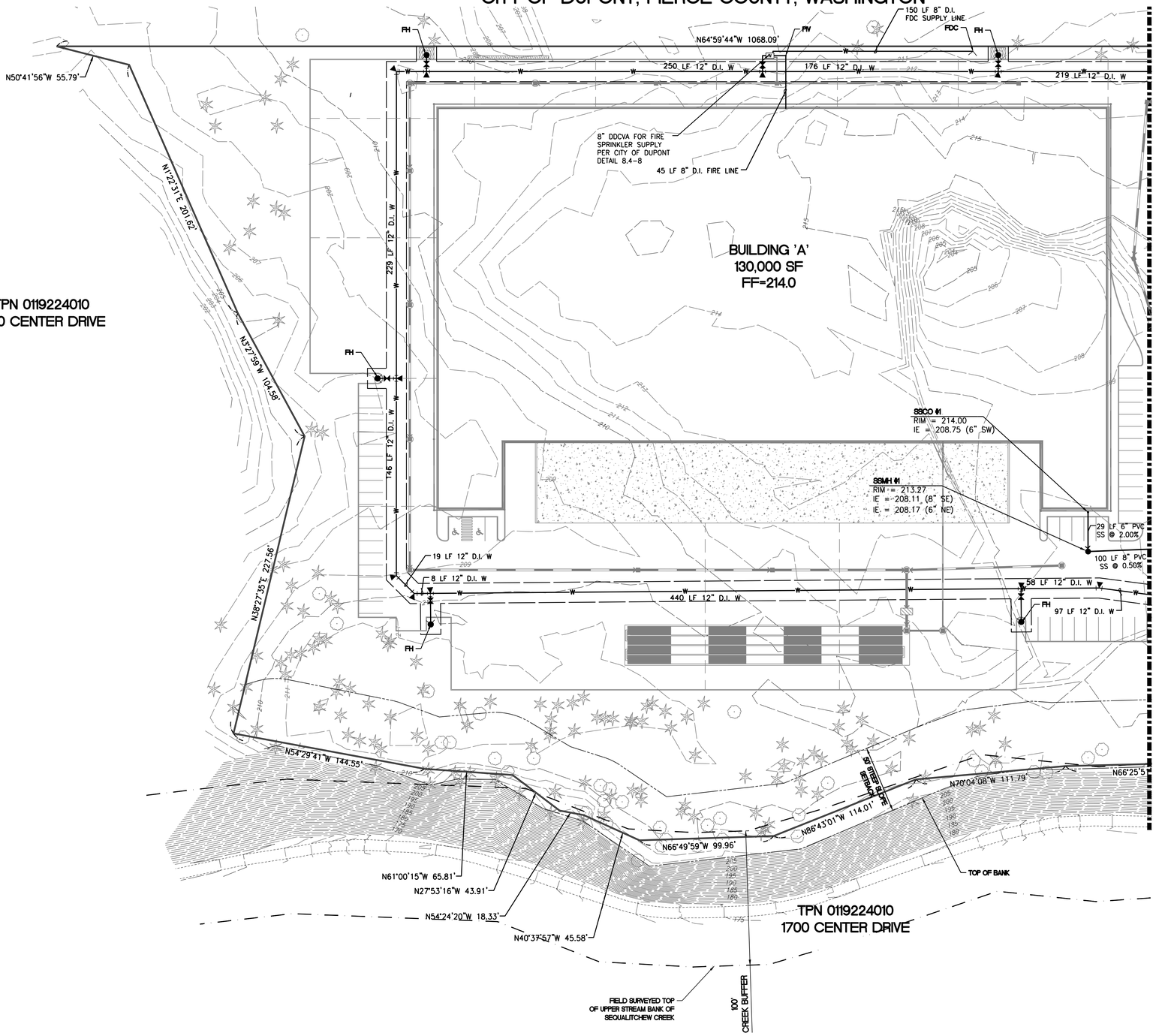
PRELIMINARY WATER AND SEWER PLAN-WEST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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MATCHLINE - SEE SHEET C8 FOR CONTINUATION

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY WATER AND SEWER PLAN-WEST FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA, PHILIPPIDES
STATE OF WASHINGTON
38379
REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=40' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

18215 72ND AVENUE SOUTH
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES
BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 18666

Sheet C7 of 13

File:P:\18000s\18666\preliminary\18666-pws.dwg Date/time:8/13/2018 1:56 PM Scale:1" = 1 LOGOON Xref: ----

PRELIMINARY WATER AND SEWER PLAN-EAST
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

APPROVED FOR CONSTRUCTION

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MATCHLINE - SEE SHEET C7 FOR CONTINUATION

219 LF 12" D.I. W
148 LF 12" D.I. W
154 8" D.I. FDC LINE
FDC
FH
FH
S87°59'34"W 665.45'
289 LF 12" D.I. W
84 LF 12" D.I. W
STUB FOR FUTURE CONNECTION
PIV
36 LF 8" D.I. FIRE SPRINKLER SUPPLY LINE
8" DDCVA FOR FIRE SPRINKLER SUPPLY PER CITY OF DUPONT DETAIL 8.4-8

SSMH #R6
RIM = 214.09
IE = 205.35 (8" S)
IE = 205.41 (8" N)

142 LF 8" PVC SS @ 0.50%

SSMH #R5
RIM = 210.67
IE = 204.58 (8" S)
IE = 204.64 (8" N)

287 LF 12" D.I. W
SEQUALITCHEW ROAD
N33°00'08"W 355.68'

TPN 0119262019
1700 CENTER DRIVE

BUILDING 'B'
126,600 SF
FF=215.0

SSMH #2
RIM = 213.61
IE = 207.55 (8" SE)
IE = 207.61 (8" NW)

SSMH #3
RIM = 214.23
IE = 207.11 (8" NW)
IE = 207.05 (8" E)

100 LF 8" PVC SS @ 0.50%

SSMH #4
RIM = 209.88
IE = 206.03 (8" W)
IE = 205.97 (8" E)

SSMH #6
RIM = 213.86
IE = 204.07 (8" W)
IE = 204.01 (8" E)
IE = 204.07 (6" N)

SSCO #4
RIM = 215.00
IE = 204.78 (6" S)

35 LF 6" PVC SS @ 2.00%

200 LF 8" PVC SS @ 0.50%

LOT Y
CITY OF DUPONT BOUNDARY LINE ADJUSTMENT NO. BLA 09-
REC. NO. 200912115001

IRRIGATION METER w/DCVA
WATER METER w/DCVA
FH

32 LF 12" D.I. W
51 LF 12" D.I. W
125 LF 12" D.I. W

97 LF 12" D.I. W
88 LF 6" PVC SS @ 0.50%
44 LF 12" D.I. W
204 LF 8" PVC SS @ 0.50%
381 LF 8" PVC SS @ 0.50%
61 LF 12" D.I. W
103 LF 12" D.I. W
115 LF 12" D.I. W
221 LF 12" D.I. W
151 LF 12" D.I. W
86 LF 8" PVC SS @ 0.50%

TPN 0119262019
1700 CENTER DRIVE

SSMH #R4
RIM = 212.46
IE = 203.52 (8" SE)
IE = 203.58 (8" W)
IE = 203.58 (8" N)

150 LF 8" PVC SS @ 0.50%

N89°05'40"W 57.87'
N80°54'14"W 135.48'
S86°29'27"W 87.56'
N55°38'11"W 105.16'
50' STEEP SLOPE SETBACK
EDGE OF FUTURE ROW
189 LF 12" D.I. W

EX. SEQUALITCHEW CREEK TRAIL
TOP OF BANK

SSMH #R3
RIM = 210.09
IE = 202.71 (8" SE)
IE = 202.77 (8" NW)

150 LF 8" PVC SS @ 0.50%

TPN 0119224010
1700 CENTER DRIVE

LOT LINE
SEE SHEETS C9 AND C10 FOR SEQUALITCHEW ROAD CONTINUATION
FUTURE 42.5' ROW
125 LF 12" D.I. W

15' TRAIL EASEMENT PER REC. NO. 201009300052

N12°41'18"W 121.16'

SSMH #R2
RIM = 214.25
IE = 201.90 (8" E)
IE = 201.96 (8" NW)

150 LF 8" PVC SS @ 0.50%
165 LF 12" D.I. W

N84°52'39"W 90.84'
N84°13'45"W 134.11'
N87°20'08"W 194.51'
N89°48'29"W 151.67'
N88°58'18"W 126.13'
N82°02'31"

SSMH #R1
RIM = 211.26
IE = 201.09 (8" E)
IE = 201.15 (8" N)

150 LF 8" PVC SS @ 0.50%

N47°28'29"W 15.52'
N64°55'26"W 45.93'
100' CREEK BUFFER
N80°55'04"W 64.30'

FIELD SURVEYED TOP OF UPPER STREAM BANK OF SEQUALITCHEW CREEK

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY WATER AND SEWER PLAN-EAST FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILLIPPIDES — STATE OF WASHINGTON — 38379 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=40' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BERGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet C8 of 13

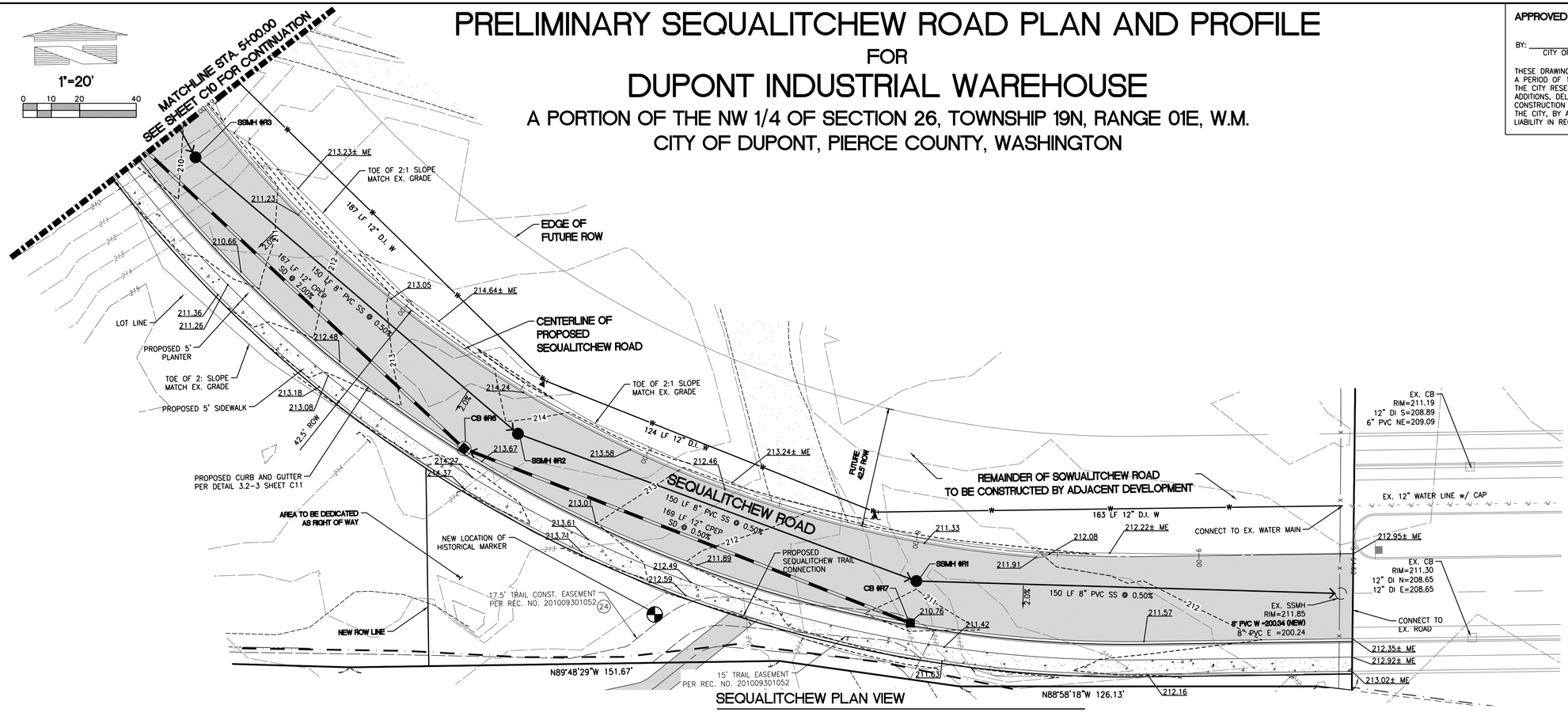
File=\\18000s\18666\preliminary\18666-pws.dwg Date/Time=8/13/2018 1:56 PM Scale=1 = 1 TLOGDON Xref: -----

PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

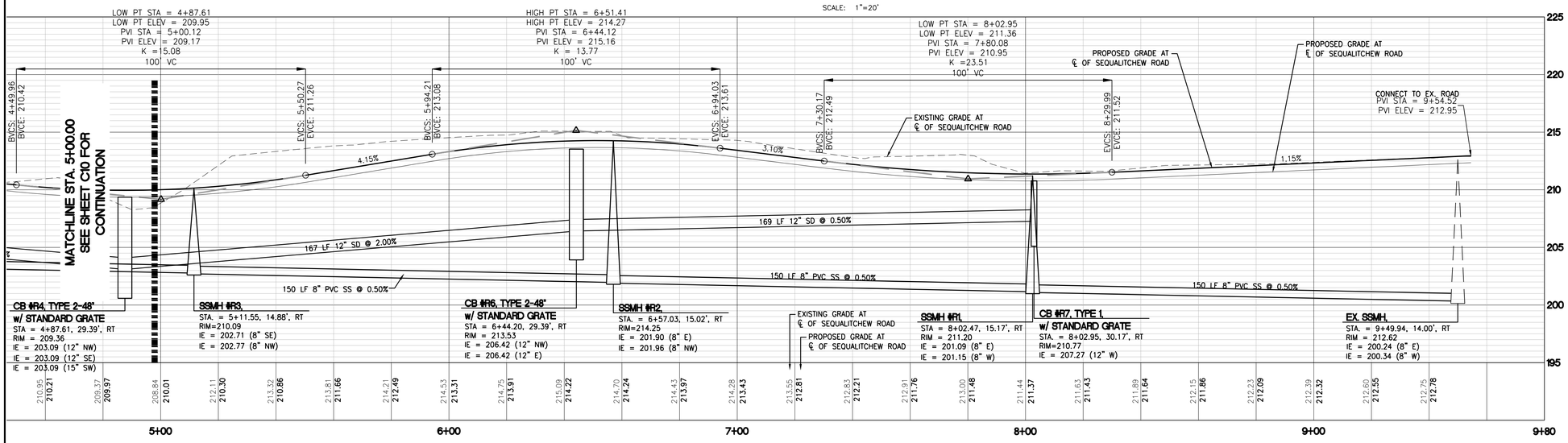
BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.



SEQUALITCHEW PLAN VIEW

SCALE: 1"=20'



SEQUALITCHEW PROFILE VIEW

SCALE: 1"=20' HORIZONTAL 1"=5' VERTICAL

| | | |

PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE (CONT.)

FOR

DUPONT INDUSTRIAL WAREHOUSE

A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

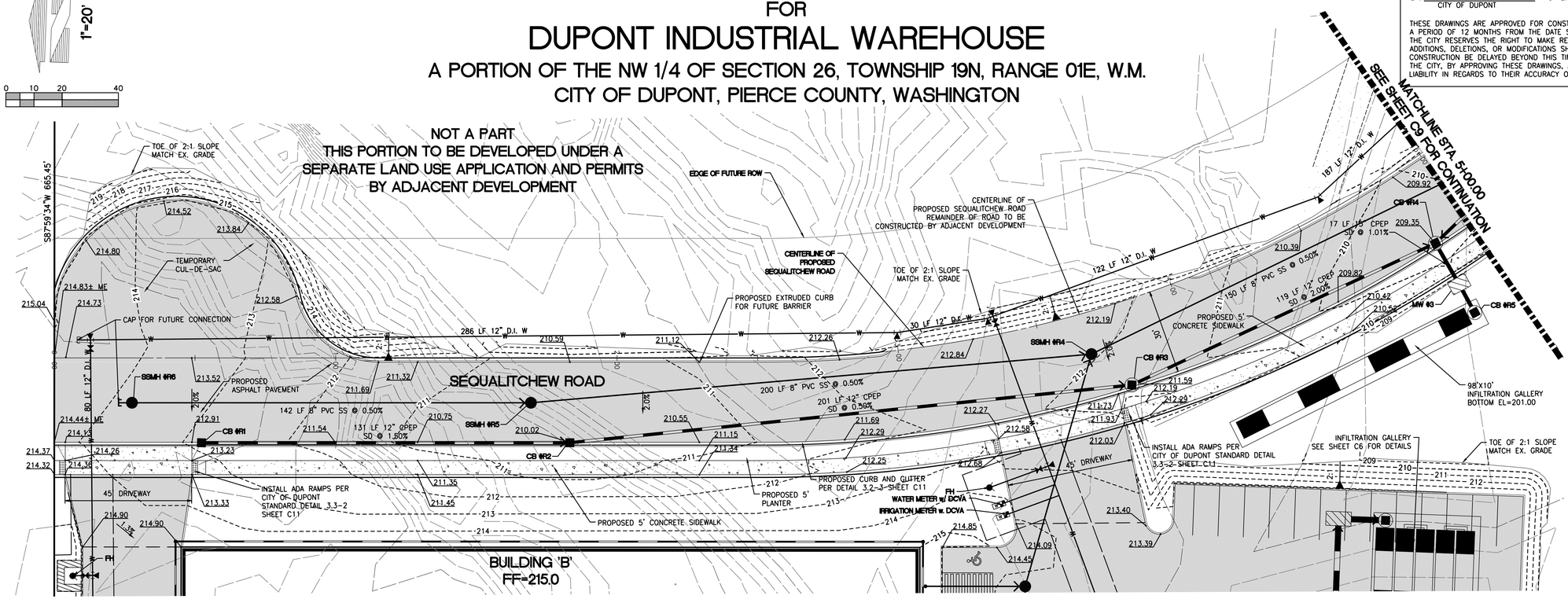
1"=20'

0 10 20 40

APPROVED FOR CONSTRUCTION

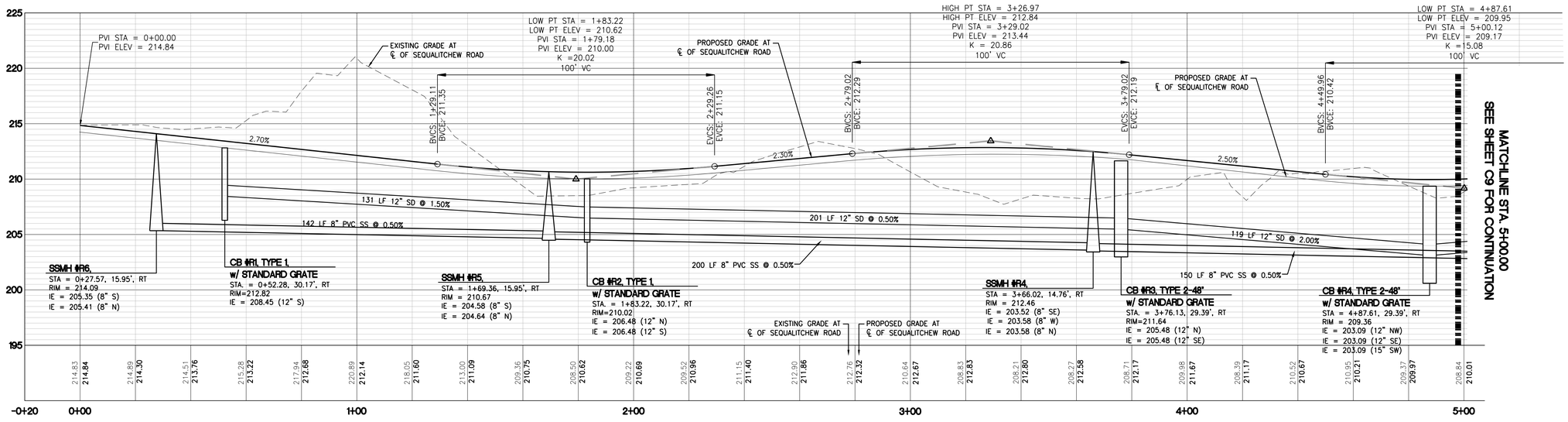
BY: _____ DATE: _____
CITY OF DUPONT

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SEQUALITCHEW PLAN VIEW

SCALE: 1"=20'



SEQUALITCHEW PROFILE VIEW

SCALE: 1"=20' HORIZONTAL 1"=5' VERTICAL

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE (CONT.) FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPIDES — STATE OF WASHINGTON — 38375 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=20' Vertical AS NOTED

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet C10 of 13

File:P:\18000s\18666\preliminary\18666-pr.dwg Date/Time:8/13/2018 2:00 PM Scale:1" = 1' TLOUDON Xref: ----

PRELIMINARY CONSTRUCTION NOTES AND DETAILS
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

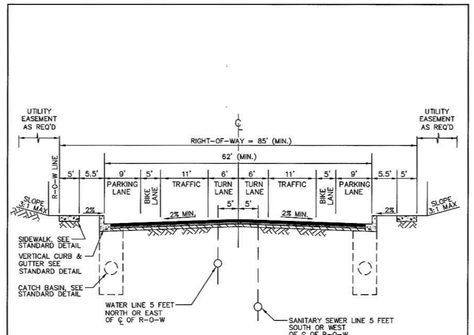
THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

GENERAL NOTES (STREET CONSTRUCTION)

1. A PRECONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
2. A COPY OF THE APPROVED ROADWAY DRAWINGS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF DUPONT'S PUBLIC WORKS STANDARDS AND STORMWATER MANAGEMENT MANUAL AND THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY TRAFFIC CONTROL TO ENSURE TRAFFIC SAFETY DURING CONSTRUCTION ACTIVITIES. THEREFORE, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING ANY WORK IN THE RIGHT-OF-WAY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
5. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY A PROFESSIONAL ENGINEER OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
6. ANY ROADWAY SIGNAGE OR STRIPING REMOVED OR TEMPORARILY MOVED BY THE CONTRACTOR SHALL BE RESTORED SO AS TO MEET THE CURRENT MUTCD STANDARDS.
7. WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE JOINT SHALL BE SEALED WITH GRADE AR-4000W PAVING ASPHALT.
8. COMPACTION OF SUBGRADE, ROCK, AND ASPHALT SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA STANDARD SPECIFICATIONS. SEE CITY OF DUPONT PUBLIC WORKS STANDARDS TABLE 10.2-1 FOR TESTING AND SAMPLING FREQUENCIES. DENSITY TEST REPORTS WILL BE REQUIRED FOR ALL PUBLIC ROADWAYS.
9. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE PLACING CONCRETE. TWENTY-FOUR HOURS ADVANCE NOTICE IS REQUIRED FOR THE SCHEDULING OF INSPECTION.
10. CALL UNDERGROUND UTILITY LOCATE LINE, 1-800-424-5555, PRIOR TO ANY EXCAVATION.
11. DEAD-END STREETS SHALL BE APPROPRIATELY SIGNED AND BARRICADED.
12. WHERE A SIDEWALK IS TO BE CONSTRUCTED ABOVE A SLOPE OR ADJACENT TO A ROCKERY OR RETAINING WALL, WHERE THE LOWEST FINISHED ELEVATION OF THE SLOPE, ROCKERY, OR RETAINING WALL IS TO BE 30 INCHES OR MORE BELOW THE FINISHED ELEVATION OF THE SIDEWALK, A SAFETY RAILING SHALL BE REQUIRED WHEN:
    (A) THE PLANE OF THE WALL FACE IS LESS THAN 4 FEET IN HORIZONTAL DISTANCE FROM THE OUTSIDE EDGE OF THE SIDEWALK.
    (B) THE PLANE OF THE WALL FACE IS GREATER THAN 4-FEET HORIZONTAL DISTANCE TO THE OUTSIDE EDGE OF THE SIDEWALK, BUT THE SLOPE DOWN TO THE WALL TOP EXCEEDS THREE TO ONE.
    (C) THE SLOPES ADJACENT TO THE SIDEWALK AVERAGE GREATER THAN TWO TO ONE.

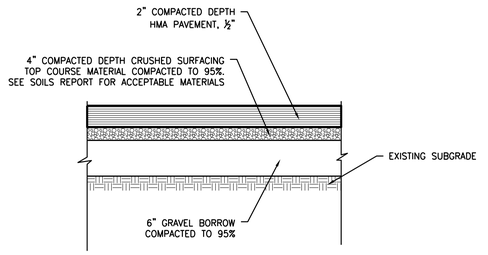
GENERAL NOTES (WATER SYSTEM CONSTRUCTION)

1. ALL IRRIGATION CROSSINGS SHALL HAVE SCHEDULE 80 SLEEVES AND THE SIZE SHALL BE PER THE APPROVED IRRIGATION DRAWINGS.
2. LIGHT POLES SHALL BE LOCATED A MINIMUM OF 3 FEET FROM ALL UNDERGROUND UTILITIES, INCLUDING WATER METERS. LIGHT POLES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM FIRE HYDRANTS.
3. WATER MAINS AND FITTINGS TO BE INSTALLED SHALL BE DUCTILE IRON FOR ALL SIZES, UNLESS SPECIFICALLY NOTED OTHERWISE. THE CLASS OF THE DUCTILE IRON PIPE SHALL BE THICKNESS CLASS 52 FOR ALL DIAMETERS.
4. WATER MAINS SHALL MAINTAIN A MINIMUM OF 3 FEET AND A MAXIMUM OF 5 FEET OF COVER.
5. UTILITY CROSSINGS HAVING LESS THAN 1 FOOT OF VERTICAL SEPARATION SHALL BE CONSTRUCTED WITH CONTROLLED DENSITY FILL (CDF) TO PREVENT POSSIBLE DAMAGE TO EITHER UTILITY.
6. WATER MAIN DEFLECTIONS AT JOINTS ARE NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS PLUS AN ADDITIONAL FACTOR OF SAFETY OF 50 PERCENT.
7. IDENTIFY A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN SANITARY SEWER MAINS AND WATER MAINS, BOTH EXISTING AND PROPOSED.
8. FOR PROPOSED WATER MAINS, IDENTIFY RESTRAINED JOINT FITTINGS AND PUSH-ON JOINTS AT LOCATIONS WHERE THRUST BLOCKS WILL NOT HAVE SUFFICIENT UNDISTURBED ADJACENT AREA FOR BEARING.
9. WATER SERVICE CONNECTIONS SHALL BE MADE PERPENDICULAR TO THE MAIN.
10. THE WATER MAIN PIPES SHALL BE DISINFECTED AND TESTED BEFORE BEING PLACE IN SERVICE. ALL WATER MAIN TESTING AND DISINFECTION SHALL BE PER CITY OF DUPONT PUBLIC WORKS STANDARDS.
11. WATER MAIN STUBOUTS THAT ARE NOT USED SHALL BE DISCONNECTED AT THE MAIN, WITH A BLIND FLANGE INSTALLED AT THE TEE.
12. TEE CONNECTIONS TO EXISTING WATER MAINS SHALL BE WET TAPS.
13. SEPARATE WATER CONNECTIONS WILL BE REQUIRED FOR DOMESTIC, FIRE, AND IRRIGATION. ALL SERVICES SHALL INCLUDE BACKFLOW PREVENTION DEVICES LOCATED OUTSIDE OF ANY PROPOSED BUILDINGS.
14. ALL FIRE PROTECTION SYSTEM INSTALLATIONS, INCLUDING PIPELINES AND DOUBLE DETECTOR CHECK ASSEMBLIES, ARE SUBJECT TO THE CONSTRUCTION STANDARDS OF NFPA 24 AND TO THE INSPECTION AND TESTING REQUIREMENTS OF THE CITY OF DUPONT FIRE DEPARTMENT.
15. THE FIRE PROTECTION SYSTEMS, INCLUDING THE BACKFLOW PREVENTION DEVICES, UNDERGROUND FIRE SERVICE LINES, AND FIRE DEPARTMENT CONNECTIONS, ARE SUBJECT TO SEPARATE REVIEW, PERMITTING, AND APPROVAL BY THE CITY OF DUPONT FIRE DEPARTMENT.
16. RELOCATE THE FIRE DEPARTMENT CONNECTIONS (FDCS) TO PLANTER ISLANDS OR OTHER LOCATIONS, AS FEASIBLE, TO BE OUTSIDE OF THE BUILDING COLLAPSE ZONES.
17. THE APPLICANT SHALL FURNISH METER SIZING CALCULATIONS FOR DOMESTIC AND FIRE WATER SERVICES. THE SPRINKLER SYSTEM DESIGN, INCLUDING CONFIRMATION OF THE PROVIDED SIZING FOR THE FIRE LINE COMPONENTS SHALL BE REVIEWED AND APPROVED BY THE CITY BUILDING DEPARTMENT AND FIRE DEPARTMENT AS PART OF THE BUILDING PERMIT PROCESS. EACH FIRE LINE CONNECTION TO A CITY WATER MAIN WILL REQUIRE A DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) IN AN UNDERGROUND VAULT AND A FIRE DEPARTMENT CONNECTION (FDC) WITHIN 50 FEET OF A FIRE HYDRANT.

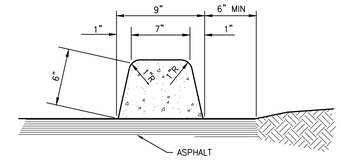


GENERAL NOTES:
1. FORADDITIONAL REQUIREMENTS, SEE TABLE 2.4-2 OF THE PUBLIC WORKS STANDARDS.
2. PAVEMENT DESIGN SHALL BE BY A LICENSED ENGINEER.

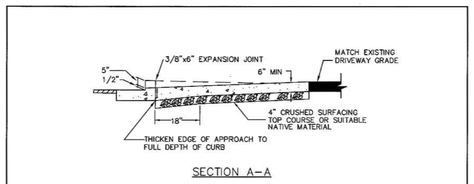
CITY OF DUPONT			
COMMERCIAL ACCESS STREET BUSINESS AND TECHNOLOGY PARK (ADJACENT TO OPEN SPACE/SENSITIVE AREAS)			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 2.4-2.4
DATE: 9/11	DRWN: E.T.	CHKD: T.N.	SCALE: NO SCALE



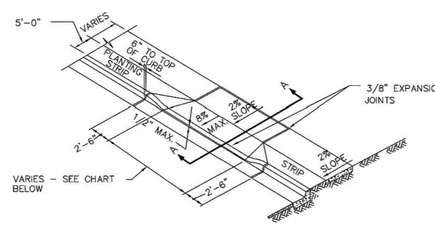
TYPICAL ASPHALT PAVING SECTION
NOT TO SCALE



EXTRUDED CONCRETE CURB DETAIL
NOT TO SCALE



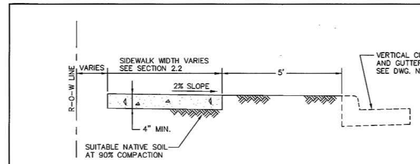
SECTION A-A



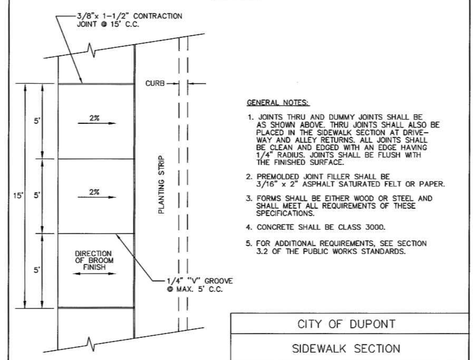
DRIVEWAY WIDTHS	MAX.(FT)	MIN.(FT)
COMM/INDUS	35'	25'
RESIDENTIAL	20'	10'

GENERAL NOTES:
1. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.1 OF THE PUBLIC WORKS STANDARDS.
2. ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH.

CITY OF DUPONT			
DRIVEWAY APPROACH			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 3.1-1
DATE: 9/11	DRWN: L.G.	CHKD: T.N.	SCALE: NO SCALE



SECTION

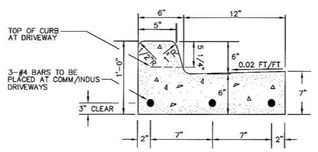


PLAN

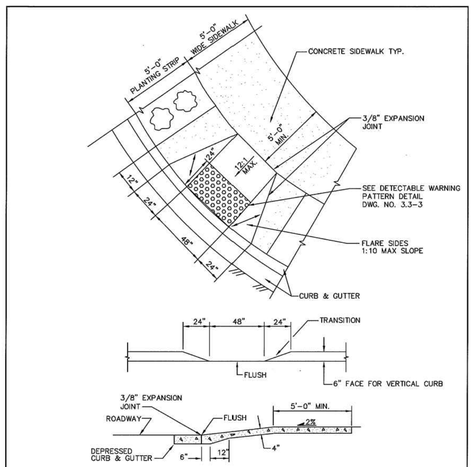
GENERAL NOTES:
1. JOINTS THRU AND DUMMY JOINTS SHALL BE AS SHOWN ABOVE THRU JOINTS SHALL ALSO BE PLACED IN THE SIDEWALK SECTION AT DRIVE-WAY AND ALLEY RETURNS. ALL JOINTS SHALL BE CLEAN AND EDGED WITH AN EDGE HAVING 1/4" RADIUS. JOINTS SHALL BE FLUSH WITH THE FINISHED SURFACE.
2. PREMOLDED JOINT FILLER SHALL BE 3/16" x 2" ASPHALT SATURATED FELT OR PAPER.
3. FORMS SHALL BE EITHER WOOD OR STEEL AND SHALL MEET ALL REQUIREMENTS OF THESE SPECIFICATIONS.
4. CONCRETE SHALL BE CLASS 3000.
5. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.2 OF THE PUBLIC WORKS STANDARDS.

CITY OF DUPONT			
SIDEWALK SECTION			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 3.2-1
DATE: 9/11	DRWN: L.G.	CHKD: T.N.	SCALE: NO SCALE

GENERAL NOTES:
1. THE CURBS, GUTTERS AND SIDEWALKS SHALL HAVE CONTRACTION JOINTS (3/8" x 1-1/2") AT INTERVALS OF NOT GREATER THAN 15'-0".
2. CEMENT CONCRETE SHALL BE CLASS 3000.
3. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.2 OF THE PUBLIC WORKS STANDARDS.



CITY OF DUPONT			
VERTICAL CURB AND GUTTER			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 3.2-3
DATE: 9/11	DRWN: L.G.	CHKD: T.N.	SCALE: NO SCALE



GENERAL NOTES:
1. CURB RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS, WHERE SIDEWALKS OCCUR.
2. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.3 OF THE PUBLIC WORKS STANDARDS.

CITY OF DUPONT			
CURB RAMP			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 3.3-2
DATE: 9/11	DRWN: J.C.	CHKD: D.M.	SCALE: NO SCALE

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY CONSTRUCTION NOTES AND DETAILS FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES STATE OF WASHINGTON 38375 REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal N/A Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
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(425)251-6222
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet C11 of 13

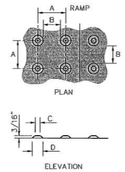
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PRELIMINARY CONSTRUCTION NOTES AND DETAILS
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

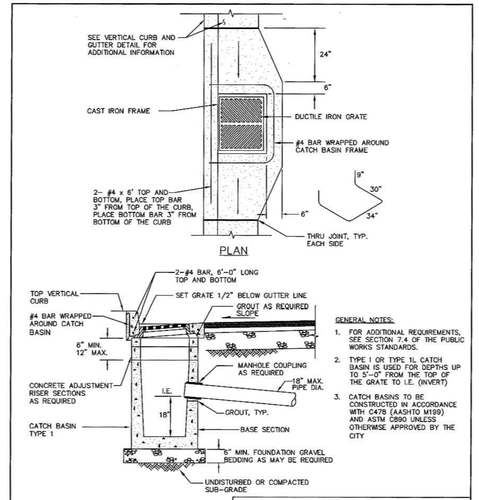


	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

GENERAL NOTES:

1. PATTERN AREA SHALL BE YELLOW IN COLOR.
2. PRODUCT AND METHOD OF INSTALLATION SHALL BE APPROVED BY THE CITY AND MEET CURRENT MUTCD, ADA, ADAAG STANDARDS.
3. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 3.3 OF THE PUBLIC WORKS STANDARDS.

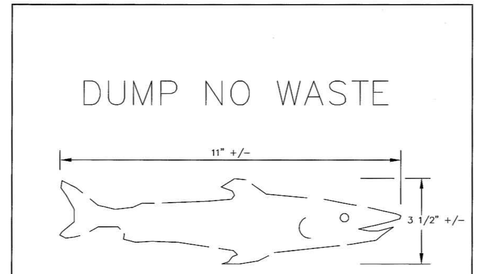
CITY OF DUPONT			
DETECTABLE WARNING PATTERN DETAIL (TRUNCATED DOMES)			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 3.3-3
DATE: 9/11	DRWN: J.C.	CHKD: D.M.	SCALE: NO SCALE



GENERAL NOTES:

1. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 7.4 OF THE PUBLIC WORKS STANDARDS.
2. TYPE I OR TYPE 1L CATCH BASIN IS USED FOR DEPTHS UP TO 5'-0" FROM THE TOP OF THE GRATE TO I.E. (INVERT)
3. CATCH BASINS TO BE CONSTRUCTED IN ACCORDANCE WITH C478 (AASHTO M199) AND ASTM C890 UNLESS OTHERWISE APPROVED BY THE CITY

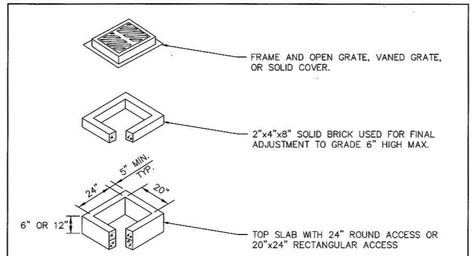
CITY OF DUPONT			
CATCH BASIN TYPE 1			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 7.4-1
DATE: 9/11	DRWN: L.T.	CHKD: T.N.	SCALE: NO SCALE



GENERAL NOTES:

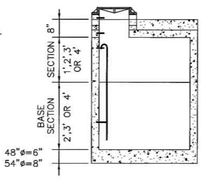
1. LETTERING SHALL BE TWO INCHES HIGH AND PROPORTIONAL IN WIDTH.
2. LETTERING SHALL BE PAINTED WHITE.
3. CONTACT CITY HALL FOR STENCIL AVAILABILITY.

CITY OF DUPONT			
CATCH BASIN STENCIL			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 7.4-2
DATE: 9/11	DRWN: L.G.	CHKD: T.N.	SCALE: NO SCALE

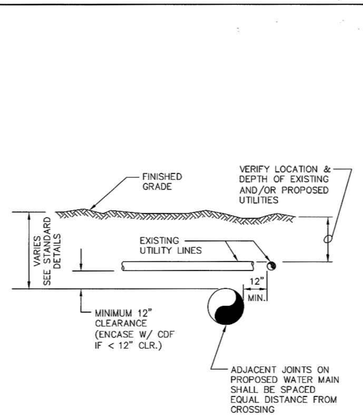


NOTES:

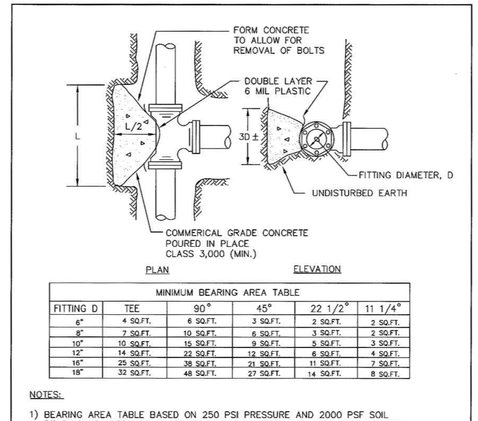
1. ALL TYPE 2 CB'S EQUIPPED WITH OPEN GRATES SHALL BE LOCKING TYPE.
2. ALL TYPE 2 CB'S NOT IN PAVED AREAS SHALL BE EQUIPPED WITH LOCKING LIDS.
3. CB'S SHALL BE SET SO THAT STEPS ARE DIRECTLY UNDER OPENING.
4. ALL TYPE 2 CB'S SHALL BE EQUIPPED WITH STEPS AND LADDER.
5. CONCRETE SHALL BE CLASS 4000.
6. MINIMUM DISTANCE FROM INVERT TO CB BOTTOM SHALL BE 2.0'.
7. CB SECTIONS AND LID WILL BE HS20 TRAFFIC LOAD CERTIFIED BY MFG.
8. HOLE SIZE – PIPE O.D. + 5" MAX
   MAX HOLE SIZE – 36" (28" CB)
   MAX HOLE SIZE – 42" (54" CB)
9. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 7.4 OF THE PUBLIC WORKS STANDARDS.



CITY OF DUPONT			
CATCH BASIN TYPE 2			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 7.4-3
DATE: 9/11	DRWN: M.C.	CHKD: D.J.M.	SCALE: NO SCALE



CITY OF DUPONT			
TYPICAL UTILITY CROSSING			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 8.2-3
DATE: 9/11	DRWN: L.L.	CHKD: T.N.	SCALE: NO SCALE

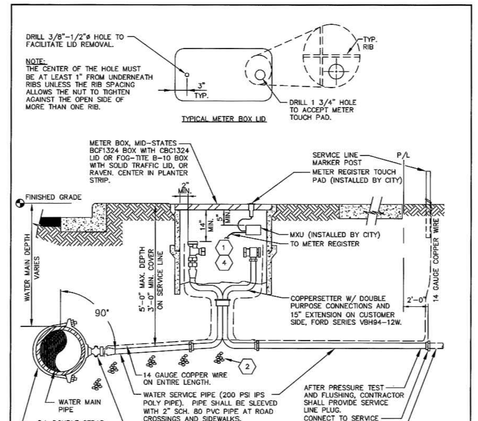


MINIMUM BEARING AREA TABLE					
FITTING D	TEE	90°	45°	22 1/2°	11 1/4°
6"	4 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.	2 SQ.FT.
8"	7 SQ.FT.	10 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.
10"	10 SQ.FT.	15 SQ.FT.	9 SQ.FT.	5 SQ.FT.	3 SQ.FT.
12"	14 SQ.FT.	22 SQ.FT.	12 SQ.FT.	6 SQ.FT.	4 SQ.FT.
16"	25 SQ.FT.	38 SQ.FT.	21 SQ.FT.	11 SQ.FT.	7 SQ.FT.
18"	32 SQ.FT.	48 SQ.FT.	27 SQ.FT.	14 SQ.FT.	8 SQ.FT.

NOTES:

1) BEARING AREA TABLE BASED ON 250 PSI PRESSURE AND 2000 PSF SOIL BEARING. IF PRESSURE IS GREATER OR SOIL BEARING IS LESS, THE THRUST BLOCK SIZE SHALL BE INCREASED. DESIGN FOR THRUST BLOCK TO BE PROVIDED BY THE DEVELOPER.
2) THIS TABLE REPRESENTS THE "MINIMUM" CONSTRUCTION STANDARDS. THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND SIZING OF ALL BLOCKING BASED ON SOIL CONDITIONS, TEST PRESSURES, AND OTHER RELEVENT CONDITIONS, AND SHALL SUBMIT THE PROPOSED DESIGN AND SIZING TO THE CITY FOR REVIEW AND APPROVAL.
3) FOR ADDITIONAL REQUIREMENTS, SEE SECTION 8.3.5 OF THE PUBLIC WORKS STANDARDS.

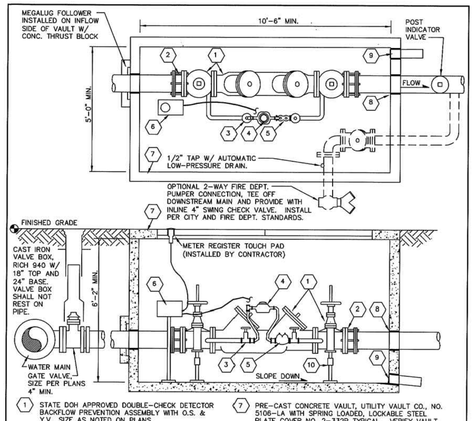
CITY OF DUPONT			
THRUST BLOCKS			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 8.3-1
DATE: 9/11	DRWN: L.L.	CHKD: T.N.	SCALE: NO SCALE



NOTES:

1. METER NOT SHOWN FOR CLARITY. REFERENCE SENSUS WATER METER STANDARDS FOR TYPE AND DIMENSIONS FOR REQUIRED METER.
2. TRENCH BACKFILL FOR SERVICE PIPE SHALL CONSIST OF SAND AND PEA GRAVEL.
3. ANY METERS DAMAGED OR CLOGGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CITY AND THE COSTS SHALL BE REIMBURSED BY DEVELOPER.
4. "JUMPER" SHALL BE PROVIDED BY THE CITY.
5. THE CITY SHALL INSTALL THE METER TRANSCEIVER UNIT (MXU) AND CONNECT THE MXU WIRING WITHIN THE METER ENCLOSURE.
6. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 8.4 OF THE PUBLIC WORKS STANDARDS.

CITY OF DUPONT			
3/4" & 1" SERVICE CONNECTION			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 8.4-1
DATE: 9/11	DRWN: L.L.	CHKD: T.N.	SCALE: NO SCALE



① STATE DOH APPROVED DOUBLE-CHECK DETECTOR BACKFLOW PREVENTION ASSEMBLY WITH O.S. & Y.V., SIZE AS NOTED ON PLANS.
② ROMAC STYLE FLANGED COUPLING ADAPTER, 6" MIN. FROM INSIDE VAULT WALL.
③ SHUT-OFF VALVES PER STATE REQUIREMENTS.
④ 5/8"x3/4" SENSUS SRII-TRPL BYPASS METER (PER CITY WATER METER STANDARDS).
⑤ STATE DOH APPROVED 3/4" DOUBLE CHECK VALVE ASSEMBLY.
⑥ METER TRANSCEIVER UNIT WITH TOUCH PAD, INSTALLED BY CITY ON CONTRACTOR PROVIDED 1" SCH. 80 PVC SUPPORT.
⑦ PRE-CAST CONCRETE VAULT, UTILITY VAULT CO., NO. 5106-1A WITH SPRING LOADED, LOCKABLE STEEL PLATE COVER NO. 2-332P TYPICAL. VERIFY VAULT SIZE TO FIT COMPLETE ASSEMBLIES.
⑧ WATER TIGHT RUBBER SEAL, TYP. ALL PENETRATIONS.
⑨ 6" PVC DRAIN TO DAYLIGHT OR TO STORM SYSTEM.
⑩ ADJUSTABLE STANCHIONS (2 TOTAL).

NOTES:

1) PROVIDE FLEXIBLE COUPLINGS ON BOTH INLET AND OUTLET PIPES OUTSIDE VAULT.
2) A CERTIFIED TEST REPORT SHALL BE SUPPLIED TO THE CITY FOR EACH BACKFLOW ASSEMBLY.
3) ALL PIPE SHALL BE DUCTILE IRON EXCEPT FOR BYPASS (BRASS OR TYPE K COPPER).

CITY OF DUPONT			
3" & LARGER DOUBLE CHECK VALVE ASSEMBLY			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 8.4-8
DATE: 9/11	DRWN: P.E.	CHKD: T.N.	SCALE: NO SCALE

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY CONSTRUCTION NOTES AND DETAILS FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES — STATE OF WASHINGTON — 23579 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal N/A Vertical N/A
Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BERGHAUSEN ENGINEERS, INC. CONSULTING
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666 Sheet C12 of 13

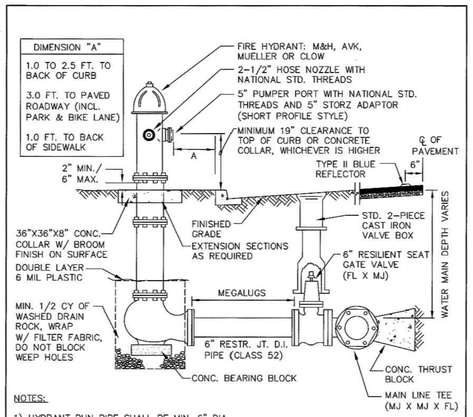
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PRELIMINARY CONSTRUCTION NOTES AND DETAILS
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

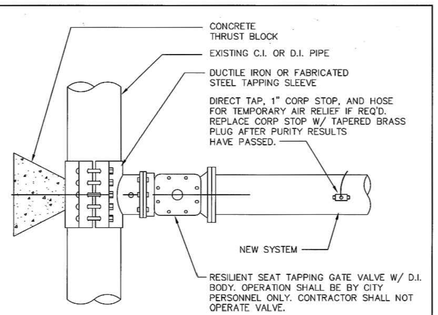
THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.



NOTES:

1) HYDRANT RUN PIPE SHALL BE MIN. 6" DIA.
2) MAXIMUM LENGTH OF 6" DIA. HYDRANT RUNS SHALL BE 50 FT. FOR HYDRANT RUNS GREATER THAN 6" DIA. OR LONGER THAN 50 FT., THE DEVELOPER'S ENGINEER SHALL SUBMIT FLOW CALCS. FOR REVIEW AND APPROVAL BY CITY.
3) ALL JOINTS ON HYDRANT RUN SHALL BE RESTRAINED PER CITY STDS.
4) INSTALL GUARD POSTS AS RQD. BY CITY.
5) PROVIDE MIN. 3 FT. CLR. AND LEVEL AREA AROUND HYDRANT.
6) ORIENT PUMPER PORT AS APPROVED BY CITY.
7) FOR ADDITIONAL REQUIREMENTS, SEE SECTION 8.6 OF THE PUBLIC WORKS STANDARDS.

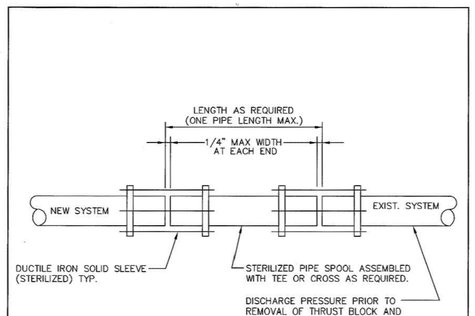
CITY OF DUPONT			
FIRE HYDRANT INSTALLATION			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 8.6-1
DATE: 9/11	DRWN: J.C.	CHKD: D.J.M.	SCALE: NO SCALE



NOTES:

1) SIZE-ON-SIZE TAPPING TEES SHALL BE DUCTILE IRON MECHANICAL SLEEVE.
2) STEEL TAPPING TEES SHALL BE AT LEAST 2" SMALLER IN DIAMETER THAN THE EXISTING WATER MAIN AND SHALL BE EPOXY COATED.
3) TAPPING TEES SHALL BE PRESSURE TESTED TO 200 PSI
4) PLACE 2" PVC PIPE IN VALVE BOX TO INDICATE USE BY CITY STAFF ONLY
5) FOR ADDITIONAL REQUIREMENTS, SEE SECTION 8.10 OF THE PUBLIC WORKS STANDARDS.

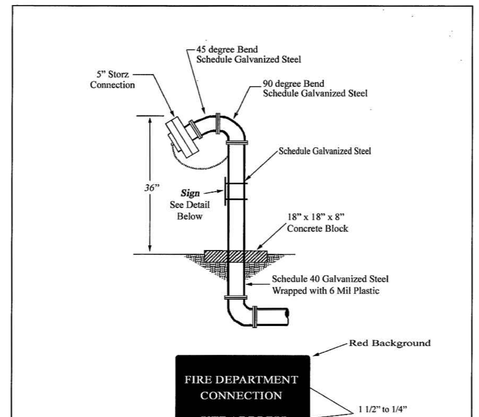
CITY OF DUPONT			
WET TAP WATER MAIN CONNECTION			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 8.10-1
DATE: 9/11	DRWN: L.L.	CHKD: D.J.M.	SCALE: NO SCALE



NOTES:

1) NO DEFLECTION SHALL BE ALLOWED AT EITHER COUPLING.
2) IN-LINE VALVE(S) IN EXISTING SYSTEM MAY BE REQUIRED AT THE SOLE DISCRETION OF THE CITY AT ALL NEW INTERTIE LOCATIONS. VALVE(S) ARE NOT SHOWN ABOVE FOR CLARITY.
3) FOR ADDITIONAL REQUIREMENTS, SEE SECTION 8.10 OF THE PUBLIC WORKS STANDARDS.

CITY OF DUPONT			
CUT IN WATER MAIN CONNECTION			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 8.10-2
DATE: 9/11	DRWN: L.L.	CHKD: D.J.M.	SCALE: NO SCALE



CITY OF DUPONT			
FIRE DEPARTMENT CONNECTION			
APPROVED: CITY OF DUPONT DATE 9/21/11			DWG. NO. 11.3
DATE: 9/11	DRWN: J.C.	CHKD: D.J.M.	SCALE: NO SCALE

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY CONSTRUCTION NOTES AND DETAILS FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPEOS — STATE OF WASHINGTON — 38375 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal N/A Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet C13 of 13

File: P:\18000s\18666\preliminary\18666-d.dwg Date/Time: 8/9/2018 2:37 PM Scale: 1 = 1 LOUDON Xref ----

From:	Dan Balmelli
To:	jwilson@dupontwa.gov; Lisa Klein
Cc:	ecederstrand@neilwalter.com; Drew Zaborowski; Lia Estigoy
Subject:	Dupont INdustrial Pedestrian TRail/ROW Dedication and Proposed List of Mitigatin Measurees for Cultrual Resource Issues
Date:	Wednesday, December 05, 2018 9:07:48 AM
Attachments:	18666-M-EXH-HistoricExhibit-2018-12-03.pdf

Good morning Jeff and Lisa,

Attached is the updated pedestrian trail and right of way dedication exhibit for your review and use in completing the SEPA and Land Use decision for the Dupont Industrial project.
Also, below is a list of the measures proposed by the developer relative to the cultural resource protection issues for your review and inclusion in the decision document.
Please review and let us know if you have any questions or need any additional information to complete the land use decision. Please also confirm that the project is on the schedule for the January public hearing date.
Thanks

Proposed List of Mitigation Measures

As part of the ongoing cooperation with various stakeholders in the Dupont area in regards to the cultural and historical aspects of the proposed project site, applicant agrees to:

- Dedicate as Right of Way to City of Dupont, the area totaling 66,434 SF as shown within the following exhibits. Applicant values this land at a market price of $7.50/SF, totaling a land value of $488,255.
- Applicant agrees to provide an approximately 8' wide asphalt path through the Right of Way dedication that connects to the existing trail as shown within the following exhibits. Asphalt section shall be no less than 1.5" asphalt over 2" crushed rock.
- Applicant agrees to provide mutually agreeable fencing with along both sides of path as a deterrent for pedestrians to stray off the asphalt path due to the Department of Ecology Consent Decree concerns.
- The total cost of the asphalt path and fencing is estimated in the range of $200,000.
- As part of the ongoing cooperation with various stakeholders in the community, applicant agrees to provide five (5) monument bases suitable for placard installation (provided by others) posts along the asphalt path per a mutually agreed upon design with stakeholders. Cost to install monument bases is anticipated to be in the range of $20,000.

Dan Balmelli | Executive Vice President
Office: 425-251-6222 | Mobile: 206-396-8588
Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South, Kent, WA 98032
www.barghausen.com

Attachment 5.a. Email with Proposed Mitigation Measures from Dan Balmelli dated December 5, 2018

EXHIBIT - RIGHT-OF-WAY DEDICATION
FOR
DUPONT INDUSTRIAL WAREHOUSE
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

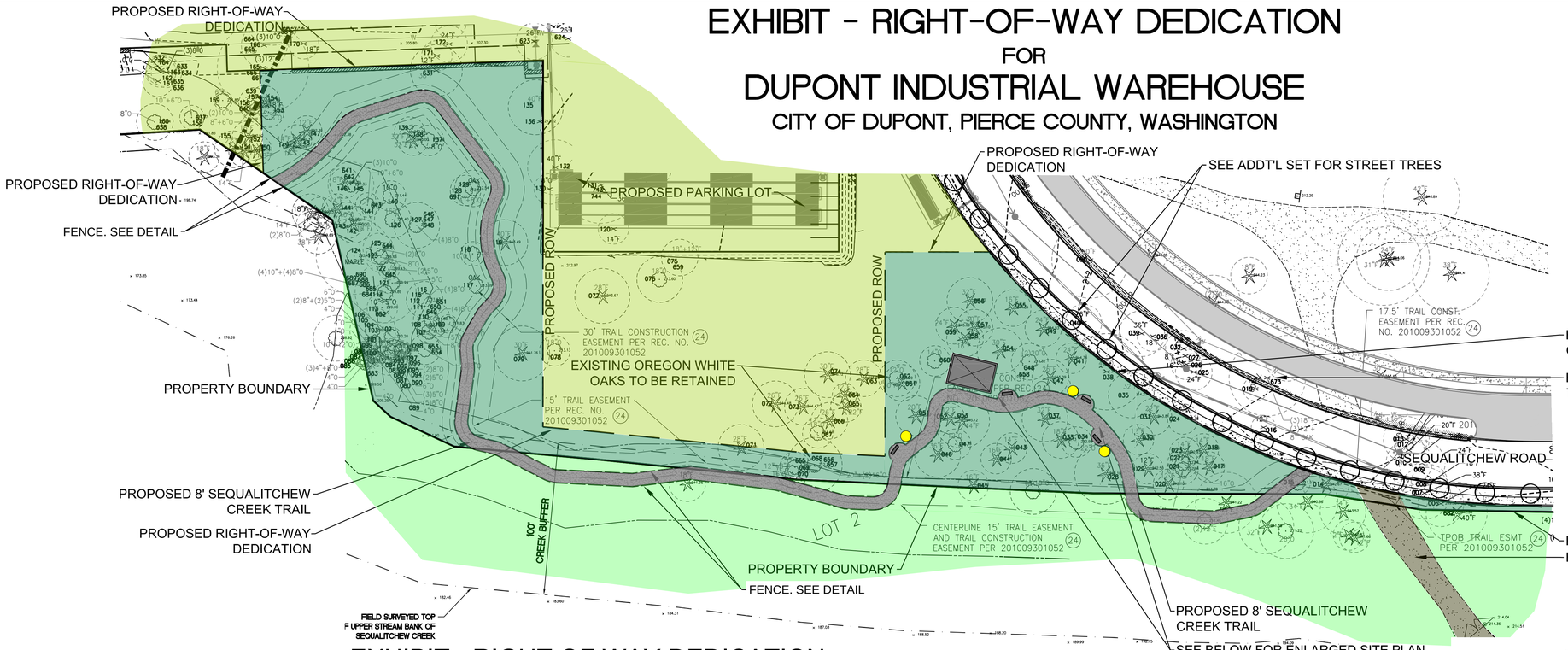


EXHIBIT - RIGHT OF WAY DEDICATION
SCALE 1" = 40'-0"

1"=40'

0 20 40 80

SEE BELOW FOR ADDT'L SCALED DRAWINGS

TOTAL PROPOSED RIGHT-OF-WAY DEDICATION:
66,434 SQUARE FEET (1.53 ACRES)

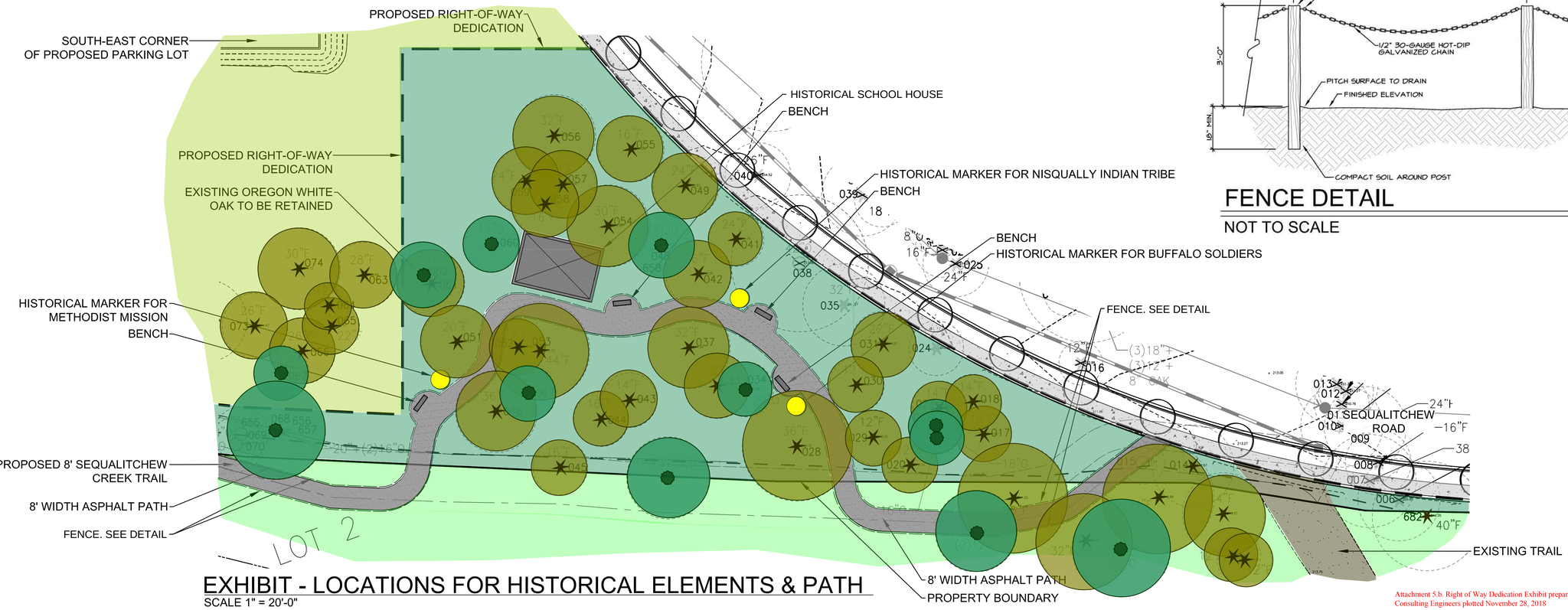
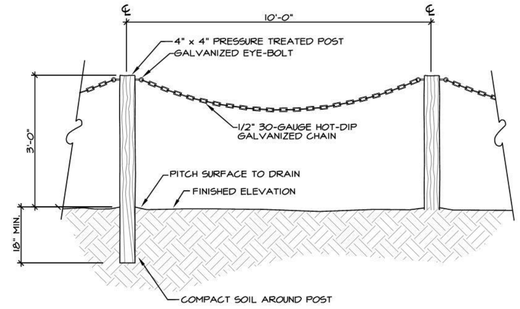


EXHIBIT - LOCATIONS FOR HISTORICAL ELEMENTS & PATH
SCALE 1" = 20'-0"



FENCE DETAIL
NOT TO SCALE

Attachment 5.b. Right of Way Dedication Exhibit prepared by Barghausen Consulting Engineers plotted November 28, 2018

No.	Date	By	Ckd.	Appr.	Revision

Title: EXHIBIT - RIGHT-OF-WAY DEDICATION
SITE PLAN - HISTORIC MARKER LOCATIONS
FOR
DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

Scale: SCALE VARIES Horizontal; N/A Vertical

Designed JMV
Drawn JMV
Checked JMV
Approved JMV
Date 01/19/18

18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING; LAND PLANNING, SURVEYING; ENVIRONMENTAL SERVICES
BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 18666
Sheet EXHIBIT SHT 1

File: P:\18000s\18666\preliminary\18666-1_historical exhibit.dwg Date/Time: 11/28/2018 10:06 AM Scale:1 = 1 JVARLEY Xref: ----

EXHIBIT - RIGHT-OF-WAY DEDICATION
FOR
DUPONT INDUSTRIAL WAREHOUSE
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON









HISTORIC SCHOOLHOUSES
LOG WALLS AND WOOD SHINGLE ROOF



METAL SIGN WITH RAISED LETTERS ON METAL POST



ENGRAVED STONE PLINTH



TEXT PRINTED ONTO SHEET OF ALUMINUM OR STEEL



METAL PLAQUE GLUED/SCREWED TO BOULDER



HIGH-QUALITY PRINTING DIRECTLY ONTO SHEET OF ALUMINUM. MULTIPLE GRAPHICS AND TEXT

HISTORIC MARKERS



RECYCLED PLASTIC LUMBER



BENCH CONSTRUCTED OF ON-SITE LUMBER; TREES FELLED AS PART OF OVERALL PROJECT



BENCH CONSTRUCTED OF LUMBER, CEDAR OR PRESSURE-TREATED



BENCH WITH METAL FRAME AND CEDAR OR RECYCLED PLASTIC LUMBER. IN-GROUND MOUNT WITH CONCRETE

BENCHES

No.	Date	By	Ckd.	Appr.	Revision

Title: EXHIBIT - RIGHT-OF-WAY DEDICATION
DESIGN INSPIRATION BOARD
FOR
DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

Scale: SCALE: VARIES Horizontal; N/A Vertical

Designed JMV. Drawn JMV. Checked JMV. Approved JMV. Date 01/19/18

Scale:1 = 1 JWALLEY Xref: ----

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet EXHIBIT SHT 2 of 2 SHTS

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SITE AREA
844,285 SF (19.38 ACRES)
710,180 SF (16.3 ACRES – USABLE AREA)

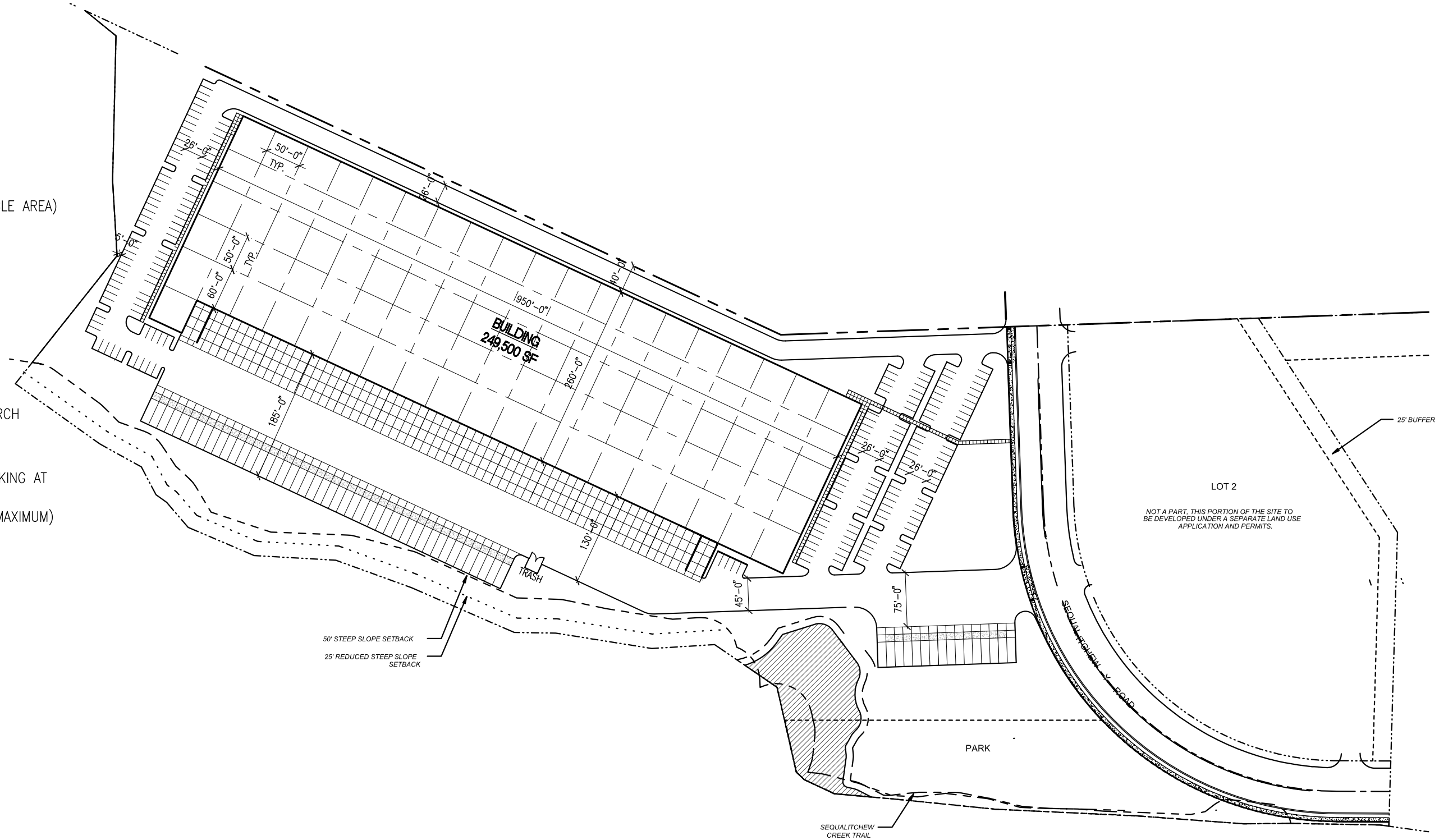
LANDSCAPE AREA
REQUIRED: 20% OF USABLE AREA
PROVIDED: 20% (142,036 SF)

BUILDING AREA
249,500 SF – TOTAL

ZONE
MRP MANUFACTURING AND RESEARCH

PARKING:
PARKING REQUIRED: 0.3 PER WORKING AT MAX. SHIFT (MINIMUM)
1 PER WORKING AT MAX. SHIFT (MAXIMUM)

PARKING PROVIDED:
215 PARKING STALL PROVIDED
65 TRAILER STALLS PROVIDED



AVENUE 55 DUPONT – OPTION 1
DUPONT, WASHINGTON
05/11/18 1"=150'

NORTH

CRAFT architects

05/11/18 - 3:43pm 18-0509 AVENUE 55 DuPont base (site).dwg

AVENUE 55

Attachment 6.a. Revised Site Concept Plan, prepared by Craft Architects dated May 11, 2018

avenue55

December 10, 2018

City of DuPont
1700 Civic Drive
DuPont, WA 98327

Dear,
Jeff Wilson.

Cover Letter – 1700 Center Drive

This letter is intended to outline the differences between the original and newly proposed site plan for the property at 1700 Center Drive.

We believe the following points illustrate why the one building scenario is equal to or of lesser impact than the newly proposed two-building scenario:

1. Building Square Feet
    a. The original proposal called for two buildings spanning 256,600 square feet. Our new proposal calls for a smaller one building option totaling 249,500 square feet. This equates to a 2.8% decrease in building square feet. Furthermore, the decrease in building square feet lessens the construction footprint impact to the site and the surrounding area.
2. Parking
    a. The parking requirement within the City of DuPont is based on building square footage. Given the one building scenario introduces a lesser square footage than the original two building plan, the parking impact will be lighter than the original plan.
3. Landscaping
    a. The City of DuPont requires 20% of the useable area to be used for landscaping. The useable square feet will not change between the one and two building option; therefor amount of landscaping will stay the same.
4. Distance from ROW and visual/noise impacts
    a. The original proposal shows building B within 50 feet of Sequalitchew Road, the newly proposed single building option is roughly 200 feet from the road at its closest point. This increased distance will reduce visual and noise impacts.
5. Traffic impact (trip generation)
    a. The original traffic study was based off a 255,000 square foot building that would add 444 trips to the area this translates to 0.0017 trips per a square foot. The same equation can be applied to the new building which will provide 424 trips to the site, this decrease in trip generation will reduce traffic and noise to the surrounding ROW and to the community of DuPont.

For these reasons we believe the single building plan provides a less impactful development than the original two building plan.

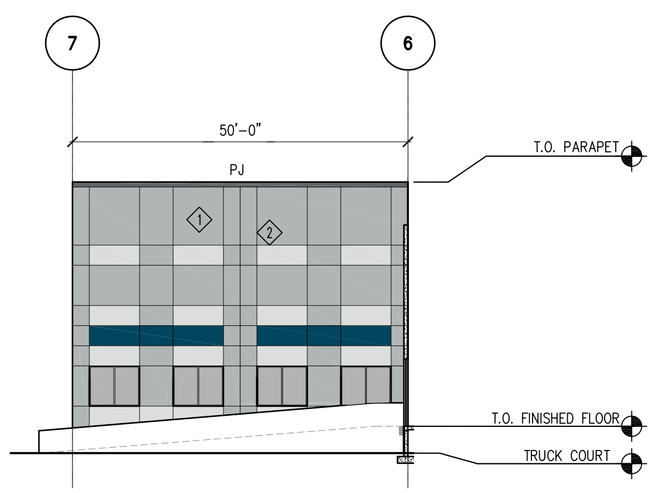
Sincerely,

Attachment 6.b. Letter with description of revised proposal from Avenue 55 dated December 10, 2018

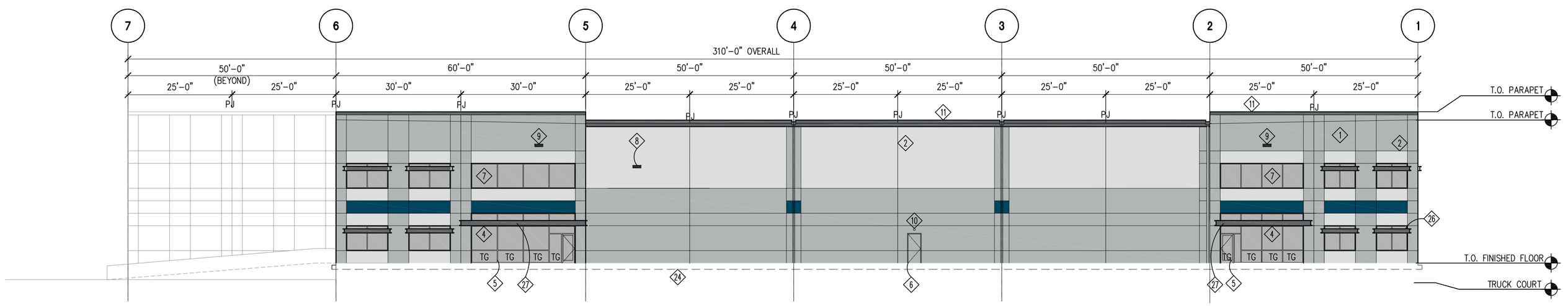
600 University Street | Suite 2305 | Seattle, WA 98101 | 206.707.9696

Drew Zaborowski

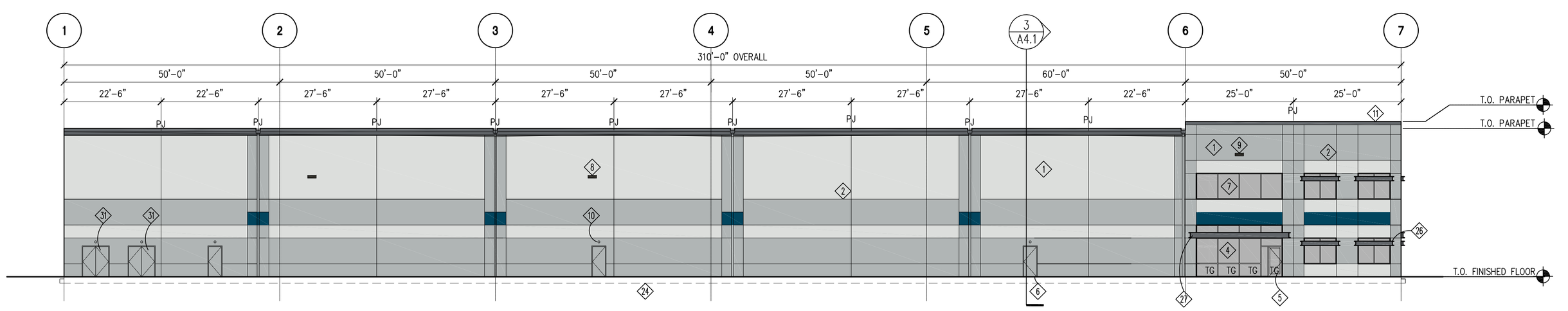
600 University Street	Suite 2305	Seattle, WA 98101	206.707.9696



3 EAST ELEVATION
1/16" = 1'-0"



2 EAST ELEVATION
1/16" = 1'-0"



1 WEST ELEVATION
1/16" = 1'-0"

GENERAL NOTES:

1. IG INDICATES INSULATED GLAZING, TYP.
2. TG INDICATES TEMPERED GLAZING, TYP.
3. TIG INDICATES TEMPERED, INSULATED GLAZING, TYP.
4. ALL FIXED INSULATED GLAZING SHALL BE CERTIFIED & LABELED WITH ITS MAX. U-FACTOR OF & SOLAR HEAT GAIN COEFFICIENT BY AN INDEPENDENT AGENCY LICENSED BY THE NFRC, IN COMPLIANCE WITH THE VALUES LISTED ON SHEET CS.
5. PJ = PANEL JOINT
6. PROVIDE AND COORDINATE "KNOXBOX: LOCATION WITH FIRE DEPARTMENT AND ARCHITECT PRIOR TO INSTALL
7. ALL VERTICAL DIMENSIONS ARE FROM FINISHED FLOOR, U.N.O.
8. CHANGE IN PAINT COLOR OCCURS AT BACK OF REVEAL, TYP. U.N.O.

PAINT LEGEND:

- PNT-1: SHERWIN WILLIAMS, SW7071, GRAY SCREEN
- PNT-2: SHERWIN WILLIAMS, SW7070, SITE WHITE
- PNT-3: SHERWIN WILLIAMS, SW6510, LOYAL BLUE
- PNT-4: SHERWIN WILLIAMS, SW7075, WEB GRAY CANOPY
- PNT-5: AEP SPAN PRE-FINISHED COOL OLD TOWN GRAY DOCK CANOPY
- PREFINISHED WHITE OVERHEAD DOORS

KEY NOTES: ◇1

1. TILT UP CONCRETE PANEL (PAINT FINISH), TYP.
2. PANEL REVEAL, TYP. SEE DETAILS 3/A8.1 AND 4/A8.1
3. NOT USED
4. ANODIZED ALUMINUM STOREFRONT SYSTEM, COLOR: CLEAR, TYP.
5. ALUMINUM DOOR TO MATCH STOREFRONT SYSTEM, TYP. SEE DOOR SCHEDULE ANODIZED ALUMINUM WINDOW SYSTEM, COLOR: CLEAR.
6. HOLLOW METAL DOOR & FRAME, TYP., PAINT TO MATCH EXISTING ADJACENT WALLS
7. ANODIZED ALUMINUM WINDOW SYSTEM, COLOR: CLEAR.
8. EXTERIOR "WALL PACK" WALL MOUNTED LIGHT FIXTURE, TYP.
9. EXTERIOR "SHOE BOX" WALL MOUNTED LIGHT FIXTURE, TYP.
10. SURFACE MOUNTED EMERGENCY LIGHT FIXTURE AT EXIT DOOR, TYP.
11. PRE-FINISHED METAL COPING, COLOR: TBD
12. LINE OF ROOF BEYOND
13. PRE-FINISHED METAL CANOPY, COLOR: TBD. SEE DETAIL 14/A8.1.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. PRE-FINISHED METAL SCUPPER: COLOR: TBD & PAINTED PVC DOWNSPOUT PER LEGEND, SEE DETAIL X/AX.X, TYP. TIGHT-LINE DOWNSPOUT TO STORM LINE, REFER TO CIVIL DRAWINGS. PROVIDE DOWNSPOUT PROTECTORS AT TRUCK COURT LOCATIONS ONLY, SEE DETAIL 8/A8.1
18. NOT USED.
19. SECTIONAL INSULATED OVERHEAD DRIVE-IN DOOR, TYP. PAINT PER LEGEND.
20. SECTIONAL INSULATED OVERHEAD DOCK HIGH DOOR, TYP. PAINT PER LEGEND.
21. NOT USED.
22. NOT USED.
23. PRE-FAB METAL STAIR AT TRUCK COURT, SEE SITE PLAN
24. FOOTINGS PER STRUCTURAL
25. FUTURE KNOCK-OUT, PER STRUCTURAL, TYP.
26. 4" STEEL CHANNEL, PAINT PER LEGEND
27. PAINTED STEEL CANOPY. SEE DETAIL 10/A8.1.
28. CONCRETE TILT UP RETAINING WALL, SEE SITE PLAN
29. FUTURE RAILDOOR KNOCKOUT: 10'-0"W X 12'-0" H, PER STRUCTURAL TYP.
30. 3-HR RATED PENETRATION SURFACE MOUNTED EMERGENCY LIGHT FIXTURE AT EXIT DOOR, TYPICAL. REFER TO DETAIL 9/A6.1.
31. 3-HR FIRE RATED DOOR PER DOOR SCHEDULE. SEE SHEET A6.1 (DOOR 200 + 201).

Attachment 7.a. Revised Exterior Elevations (3 sheets) prepared by Craft Architects dated January 7, 2019

avenue55

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Suite 1300
Seattle, WA 98101

206.408.8500 phone

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DUPONT INDUSTRIAL

DUPONT, WA

CONSULTANT

Submittals/Revisions:
FOR OWNER APPROVAL

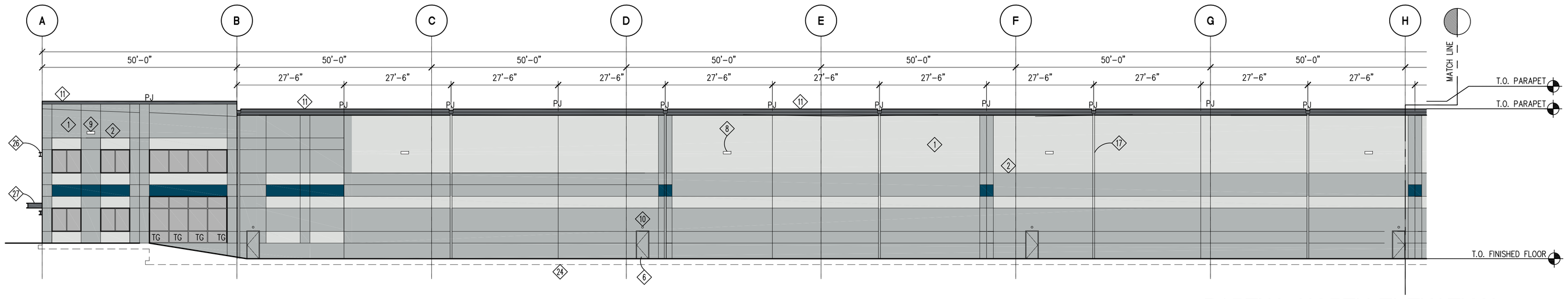
Sheet Title: EXTERIOR ELEVATIONS

Date: 01/07/19
Design:
Drawn:
Project No: 18-092
Approved: KCR
Building No:

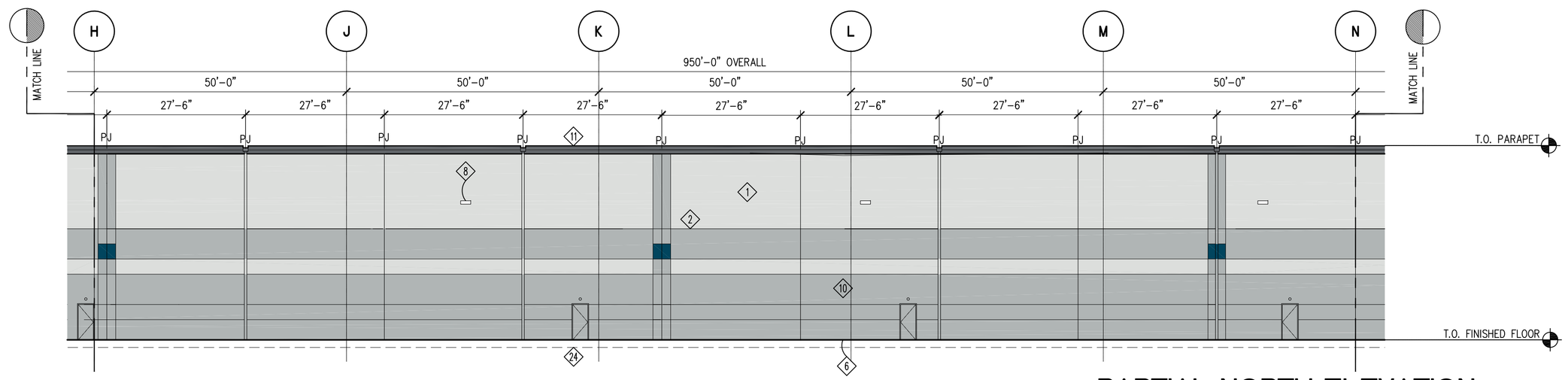
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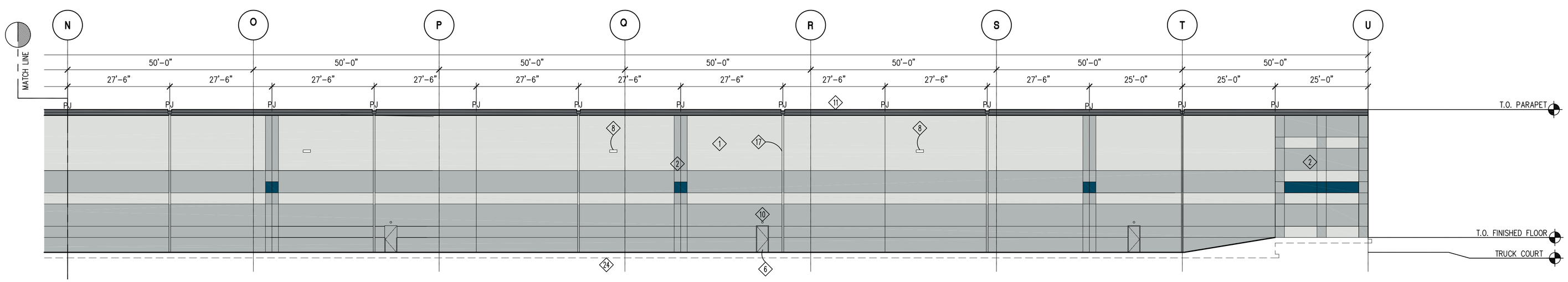
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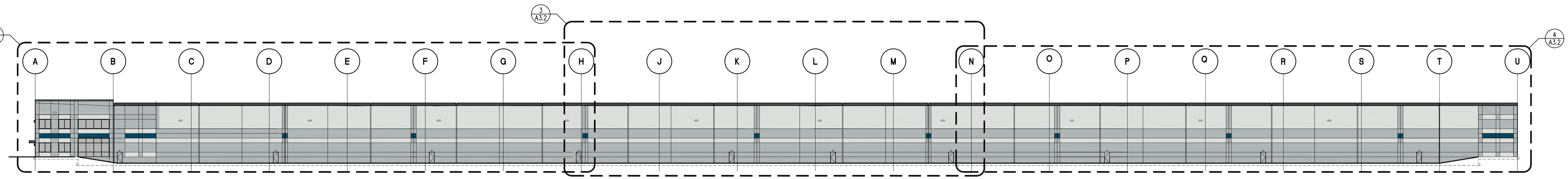
4 PARTIAL NORTH ELEVATION
1/16" = 1'-0"



3 PARTIAL NORTH ELEVATION
1/16" = 1'-0"



2 PARTIAL NORTH ELEVATION
1/16" = 1'-0"



1 OVERALL NORTH ELEVATION
1/32" = 1'-0"

GENERAL NOTES:

1. IG INDICATES INSULATED GLAZING, TYP.
2. TG INDICATES TEMPERED GLAZING, TYP.
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5. PJ = PANEL JOINT
6. PROVIDE AND COORDINATE "KNOXBOX: LOCATION WITH FIRE DEPARTMENT AND ARCHITECT PRIOR TO INSTALL
7. ALL VERTICAL DIMENSIONS ARE FROM FINISHED FLOOR, U.N.O.
8. CHANGE IN PAINT COLOR OCCURS AT BACK OF REVEAL, TYP. U.N.O.

PAINT LEGEND:

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- PNT-2: SHERWIN WILLIAMS, SW7070, SITE WHITE
- PNT-3: SHERWIN WILLIAMS, SW6510, LOYAL BLUE
- PNT-4: SHERWIN WILLIAMS, SW7075, WEB GRAY CANOPY
- PNT-5: AEP SPAN PRE-FINISHED COOL OLD TOWN GRAY DOCK CANOPY
- PREFINISHED WHITE OVERHEAD DOORS

KEY NOTES: X

1. TILT UP CONCRETE PANEL (PAINT FINISH), TYP.
2. PANEL REVEAL, TYP. SEE DETAILS 3/A8.1 AND 4/A8.1
3. NOT USED
4. ANODIZED ALUMINUM STOREFRONT SYSTEM, COLOR: CLEAR, TYP.
5. ALUMINUM DOOR TO MATCH STOREFRONT SYSTEM, TYP. SEE DOOR SCHEDULE ANODIZED ALUMINUM WINDOW SYSTEM, COLOR: CLEAR.
6. HOLLOW METAL DOOR & FRAME, TYP., PAINT TO MATCH EXISTING ADJACENT WALLS
7. ANODIZED ALUMINUM WINDOW SYSTEM, COLOR: CLEAR.
8. EXTERIOR "WALL PACK" WALL MOUNTED LIGHT FIXTURE, TYP.
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10. SURFACE MOUNTED EMERGENCY LIGHT FIXTURE AT EXIT DOOR, TYP.
11. PRE-FINISHED METAL COPING, COLOR: TBD
12. LINE OF ROOF BEYOND
13. PRE-FINISHED METAL CANOPY, COLOR: TBD. SEE DETAIL 14/A8.1.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. PRE-FINISHED METAL SCUPPER: COLOR: TBD & PAINTED PVC DOWNSPOUT PER LEGEND, SEE DETAIL X/AX.X, TYP. TIGHT-LINE DOWNSPOUT TO STORM LINE, REFER TO CIVIL DRAWINGS. PROVIDE DOWNSPOUT PROTECTORS AT TRUCK COURT LOCATIONS ONLY, SEE DETAIL 8/A8.1
18. NOT USED.
19. SECTIONAL INSULATED OVERHEAD DRIVE-IN DOOR, TYP. PAINT PER LEGEND.
20. SECTIONAL INSULATED OVERHEAD DOCK HIGH DOOR, TYP. PAINT PER LEGEND.
21. NOT USED.
22. NOT USED.
23. PRE-FAB METAL STAIR AT TRUCK COURT, SEE SITE PLAN
24. FOOTINGS PER STRUCTURAL
25. FUTURE KNOCK-OUT, PER STRUCTURAL, TYP.
26. 4" STEEL CHANNEL, PAINT PER LEGEND
27. PAINTED STEEL CANOPY. SEE DETAIL 10/A8.1.
28. CONCRETE TILT UP RETAINING WALL, SEE SITE PLAN
29. FUTURE RAILDOOR KNOCKOUT: 10'-0"W X 12'-0" H, PER STRUCTURAL TYP.
30. 3-HR RATED PENETRATION SURFACE MOUNTED EMERGENCY LIGHT FIXTURE AT EXIT DOOR, TYPICAL. REFER TO DETAIL 9/A6.1.
31. 3-HR FIRE RATED DOOR PER DOOR SCHEDULE. SEE SHEET A6.1 (DOOR 200 + 201).

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CONSULTANT

Submittals/Revisions:
FOR OWNER APPROVAL

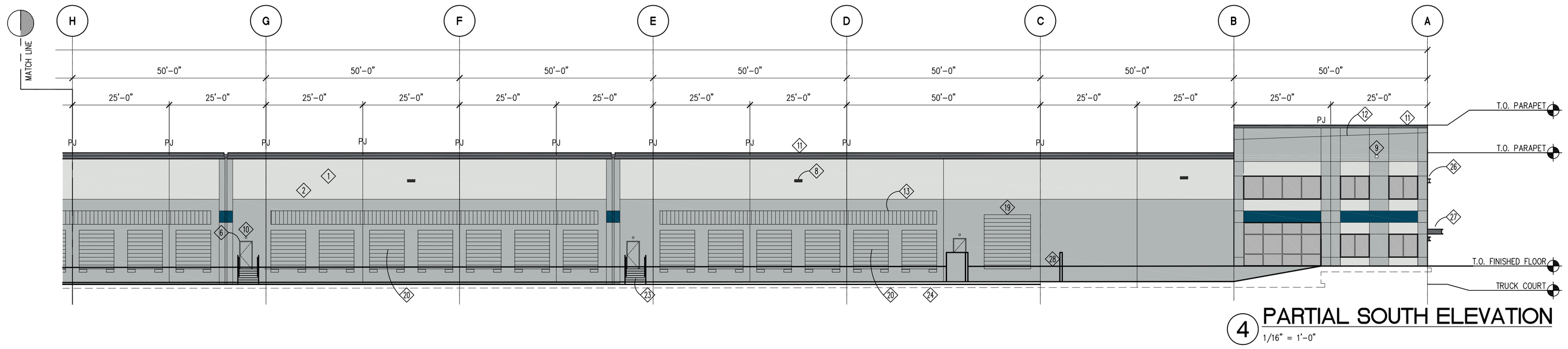
Sheet Title: EXTERIOR ELEVATIONS

Date: 01/07/19
Design:
Drawn:
Project No: 18-092
Approved: KCR
Building No:

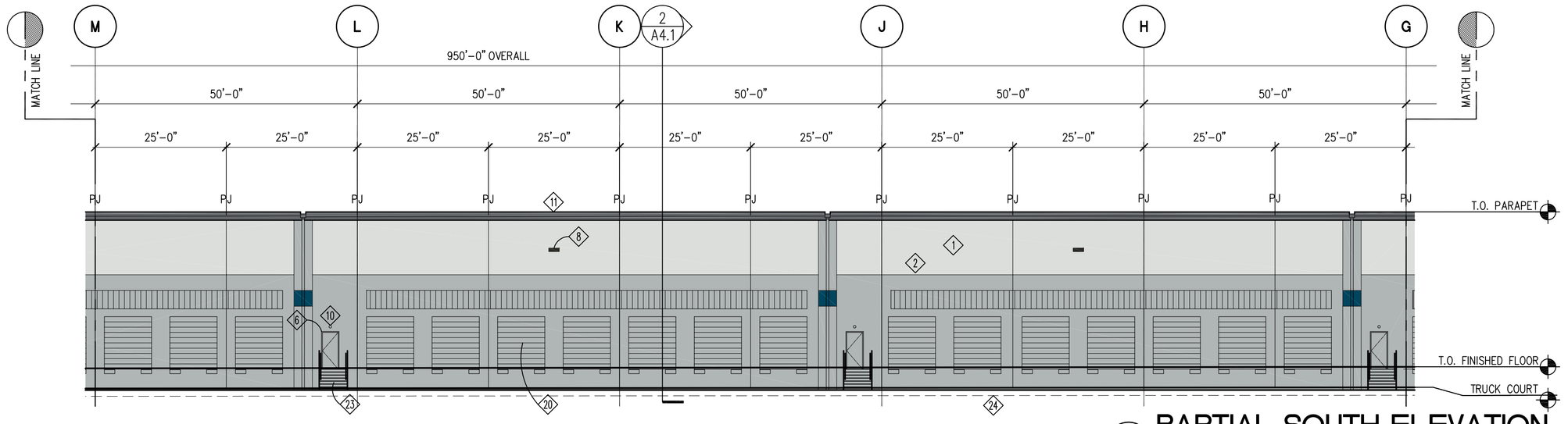
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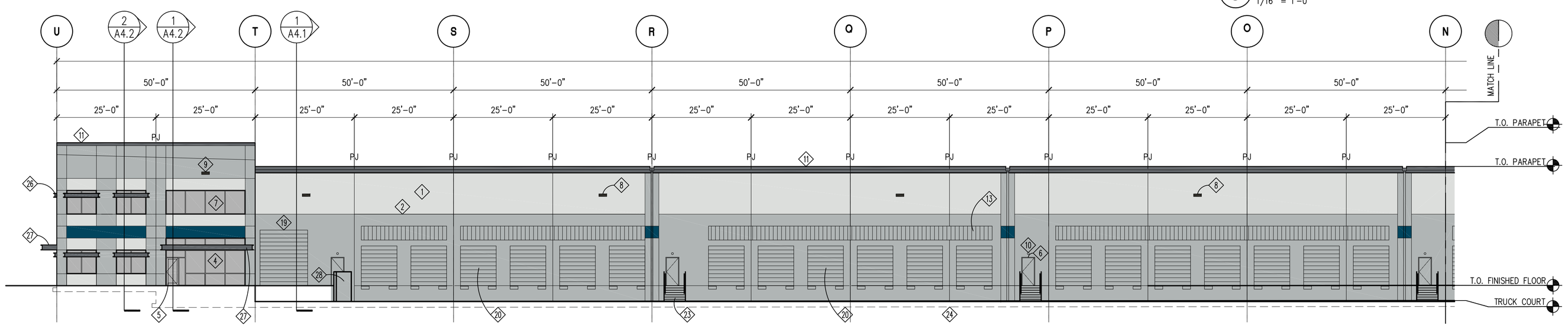
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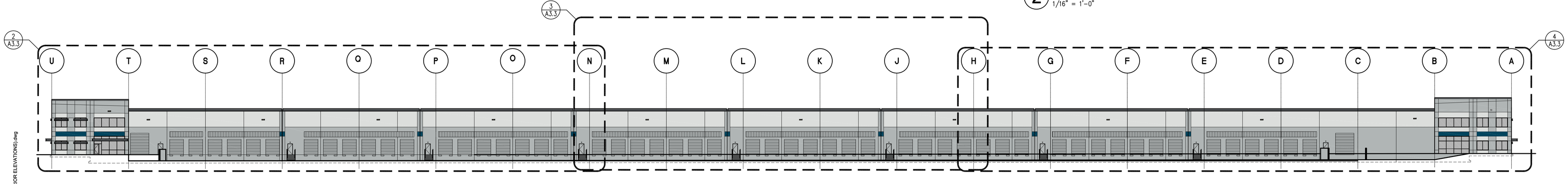
4 PARTIAL SOUTH ELEVATION
1/16" = 1'-0"



3 PARTIAL SOUTH ELEVATION
1/16" = 1'-0"



2 PARTIAL SOUTH ELEVATION
1/16" = 1'-0"



1 OVERALL SOUTH ELEVATION
1/32" = 1'-0"

GENERAL NOTES:

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- PNT-4: SHERWIN WILLIAMS, SW7075, WEB GRAY CANOPY
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- PREFINISHED WHITE OVERHEAD DOORS

KEY NOTES: (X)

1. TILT UP CONCRETE PANEL (PAINT FINISH), TYP.
2. PANEL REVEAL, TYP. SEE DETAILS 3/A8.1 AND 4/A8.1
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5. ALUMINUM DOOR TO MATCH STOREFRONT SYSTEM, TYP. SEE DOOR SCHEDULE ANODIZED ALUMINUM WINDOW SYSTEM, COLOR: CLEAR.
6. HOLLOW METAL DOOR & FRAME, TYP., PAINT TO MATCH EXISTING ADJACENT WALLS
7. ANODIZED ALUMINUM WINDOW SYSTEM, COLOR: CLEAR.
8. EXTERIOR "WALL PACK" WALL MOUNTED LIGHT FIXTURE, TYP.
9. EXTERIOR "SHOE BOX" WALL MOUNTED LIGHT FIXTURE, TYP.
10. SURFACE MOUNTED EMERGENCY LIGHT FIXTURE AT EXIT DOOR, TYP.
11. PRE-FINISHED METAL COPING, COLOR: TBD
12. LINE OF ROOF BEYOND
13. PRE-FINISHED METAL CANOPY, COLOR: TBD. SEE DETAIL 14/A8.1.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. PRE-FINISHED METAL SCUPPER: COLOR: TBD & PAINTED PVC DOWNSPOUT PER LEGEND, SEE DETAIL X/AX.X, TYP. TIGHT-LINE DOWNSPOUT TO STORM LINE, REFER TO CIVIL DRAWINGS. PROVIDE DOWNSPOUT PROTECTORS AT TRUCK COURT LOCATIONS ONLY, SEE DETAIL 8/A8.1
18. NOT USED.
19. SECTIONAL INSULATED OVERHEAD DRIVE-IN DOOR, TYP. PAINT PER LEGEND.
20. SECTIONAL INSULATED OVERHEAD DOCK HIGH DOOR, TYP. PAINT PER LEGEND.
21. NOT USED.
22. NOT USED.
23. PRE-FAB METAL STAIR AT TRUCK COURT, SEE SITE PLAN
24. FOOTINGS PER STRUCTURAL
25. FUTURE KNOCK-OUT, PER STRUCTURAL, TYP.
26. 4" STEEL CHANNEL, PAINT PER LEGEND
27. PAINTED STEEL CANOPY. SEE DETAIL 10/A8.1.
28. CONCRETE TILT UP RETAINING WALL, SEE SITE PLAN
29. FUTURE RAILDOOR KNOCKOUT: 10'-0"W X 12'-0" H, PER STRUCTURAL TYP.
30. 3-HR RATED PENETRATION SURFACE MOUNTED EMERGENCY LIGHT FIXTURE AT EXIT DOOR, TYPICAL. REFER TO DETAIL 9/A6.1.
31. 3-HR FIRE RATED DOOR PER DOOR SCHEDULE. SEE SHEET A6.1 (DOOR 200 + 201).

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DUPONT INDUSTRIAL

DUPONT, WA

CONSULTANT

Submittals/Revisions:

FOR OWNER APPROVAL

Sheet Title: EXTERIOR ELEVATIONS

Date: 01/07/19

Design:

Drawn:

Project No: 18-092

Approved: KCR

Building No:

Sheet No: A3.3

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01/07/19 - 11:06am 18-092_A3.3 EXTERIOR ELEVATIONS.dwg

PRELIMINARY TREE RETENTION, REMOVAL AND REPLACEMENT PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

EX. 30" LANDMARK FIR TO BE REMOVED
EX. 34" LANDMARK FIR TO BE REMOVED
EX. 31" LANDMARK FIR TO BE REMOVED
EX. 33" LANDMARK FIR TO BE REMOVED
TOE OF 21 SLOPE
10' GRADING BUFFER
EX. 39" LANDMARK MAPLE TO BE REMOVED
EX. 30" LANDMARK FIR TO BE REMOVED
EX. 34" LANDMARK FIR TO BE REMOVED
EX. 42" LANDMARK FIR TO BE REMOVED
EX. 31" LANDMARK FIR TO BE REMOVED
EX. 30" LANDMARK FIR TO BE REMOVED
EX. 30" LANDMARK FIR TO BE REMOVED
2- EX. 50" LANDMARK FIRS AND 1-EX. 30" LANDMARK FIR TO BE REMOVED
EX. 36" LANDMARK FIR TO BE REMOVED
EX. 34" LANDMARK MAPLE TO BE REMOVED
EX. 30" LANDMARK FIR TO BE REMOVED
EX. 30" LANDMARK CEDAR TO BE REMOVED
EX. 30" LANDMARK FIR TO BE REMOVED
EX. 34" LANDMARK FIR TO BE REMOVED
EX. 38" LANDMARK FIR TO BE REMOVED
TOE OF 21 SLOPE
TOE OF 21 SLOPE
TOE OF 21 SLOPE
EX. 30" LANDMARK FIR TO BE REMOVED
17' GRADING BUFFER
17' GRADING BUFFER
17' GRADING BUFFER
TRASH
LOT 2
LOT 2
185'-0"
130'
MATCHLINE - SEE SHEET T2 FOR CONTINUATION

811
Know what's **below.**
Call before you dig.

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

WASHINGTON STATE DEPARTMENT OF NATURAL
RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E. P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

No.	Date	By	Ckd.	Appr.	Revision

Title: TREE RETENTION, REMOVAL AND REPLACEMENT PLAN FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

STATE OF WASHINGTON
JEFF M. VARLEY
LICENSED LANDSCAPE ARCHITECT
LICENSE NO. 774 EXP 2519

Scale: 1"=40' Horizontal; N/A Vertical
Designed BLS. Drawn BLS. Checked JMV. Approved JMV. Date 01/19/19
File: P:\18000s\18666\engineering\18666.T1.T3.dwg Date/time: 1/30/2019 1:38 PM Scale: 1 = 1 LOGON Xref: ~~~~

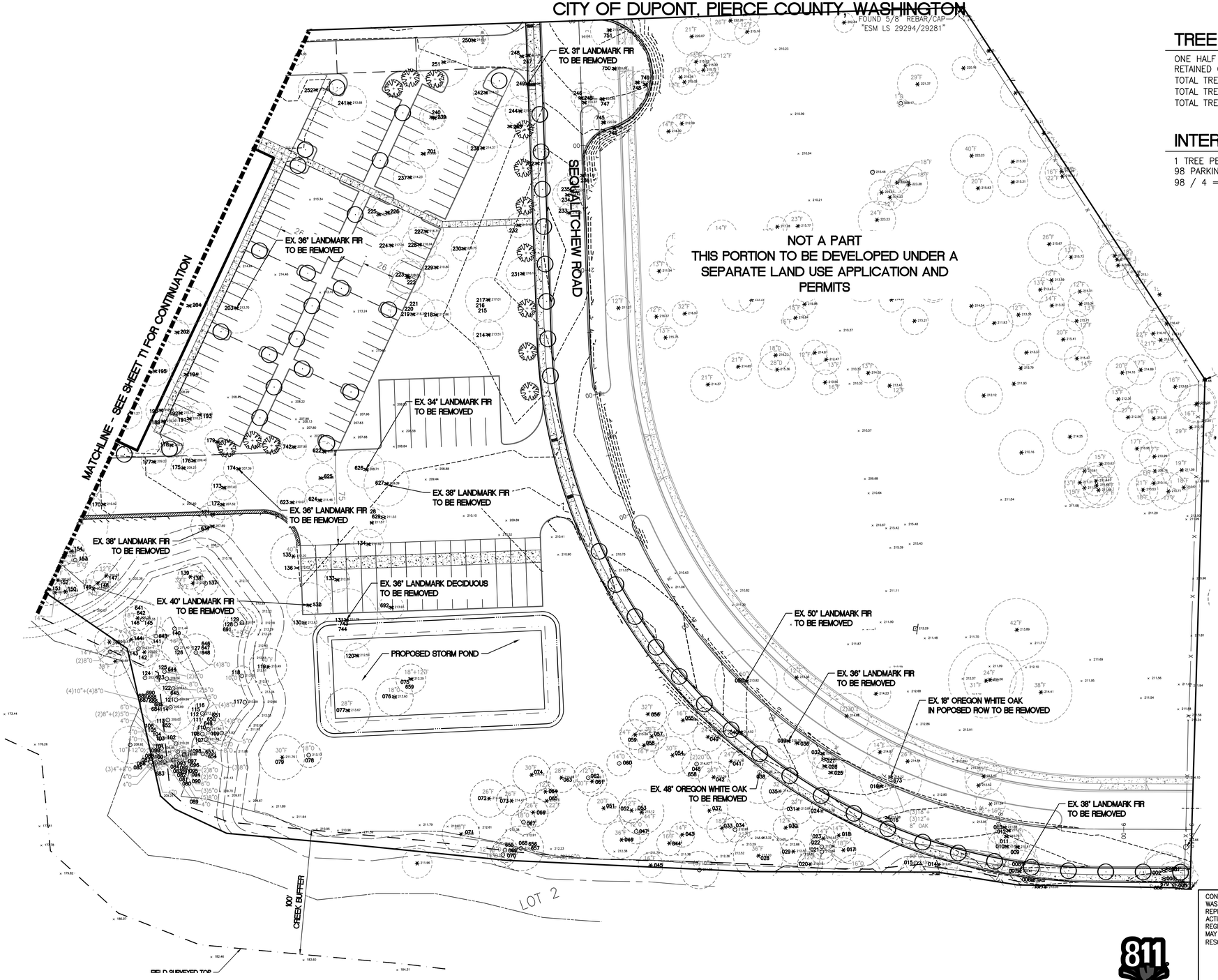
BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet T1 of T3

Attachment G.8.a. Revised Tree Retention, Removal and Replacement Plan Sheets T1-T3
prepared by Barghausen Consulting Engineers plotted January 30, 2019

PRELIMINARY TREE RETENTION, REMOVAL AND REPLACEMENT PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80



TREE RETENTION

ONE HALF OF TREES EXISTING ON SITE ARE REQUIRED TO BE RETAINED OR REPLACED.
TOTAL TREES WITHIN PROJECT BOUNDARY: 744 (50% = 372 TREES)
TOTAL TREES REMOVED: 405 (339 REMAINING)
TOTAL TREE REPLACEMENT REQUIRED/PROVIDED: 33 TREES

INTERIOR PARKING LOT TREES

1 TREE PER 4 PARKING STALLS
98 PARKING STALLS PROPOSED
98 / 4 = 25 TREES REQUIRED

TREE LEGEND

EXISTING TREE TO REMAIN

EXISTING TREE TO BE REMOVED

PROPOSED TREE. SEE LANDSCAPE FOR ADDITIONAL INFORMATION

811 Know what's **below.** **Call** before you dig.

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RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E. P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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No.	Date	By	Ckd.	Appr.	Revision

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For: COMMENCEMENT BAY DEVELOPMENT, LLC
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STATE OF WASHINGTON · JEFF M. VARLEY · LICENSE NO. 774 EXP. 9-25-19 · LICENSED LANDSCAPE ARCHITECT

Scale: 1"=40' Horizontal; N/A Vertical

Designed BLS | Drawn BLS | Checked JMV | Approved JMV | Date 01/19/18

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KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666 | Sheet T2 of T3

Date/Time: 1/30/2019 1:38 PM | Scale: 1 = 1 | LOUDON Xref: ~~~~

File: P:\18000s\18066\engineering\18666-1.dwg

PRELIMINARY TREE RETENTION, REMOVAL AND REPLACEMENT PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.

Number	Caliper	Species	Retained
1	14"	DEC	NO
2	10"	DEC	NO
3	12"	DEC	NO
4	12"	DEC	YES
5	8"	DEC	YES
6	24"	FIR	NO
7	38"	FIR	NO
8	16"	FIR	NO
9	24"	FIR	NO
10	26"	FIR	NO
11	20"	FIR	NO
12	16"	FIR	NO
13	26"	FIR	NO
14	14"	FIR	YES
15	10"	FIR	YES
16	12"	FIR	NO
17	18"	FIR	YES
18	14"	FIR	YES
19	12"	FIR	NO
20	12"	FIR	YES
21	16"	DEC	YES
22	16"	DEC	YES
23	14"	FIR	YES
24	12"	FIR	YES
25	24"	FIR	NO
26	16"	FIR	NO
27	8"	DEC	NO
28	36"	FIR	YES
29	12"	FIR	YES
30	12"	FIR	YES
31	22"	FIR	YES
32	28"	FIR	NO
33	18"	FIR	YES
34	22"	DEC	YES
35	32"	FIR	YES
36	18"	FIR	NO
37	32"	FIR	YES
38	48"	DEC	NO
39	36"	FIR	NO
40	26"	FIR	NO
41	24"	FIR	YES
42	26"	FIR	YES
43	14"	FIR	YES
44	16"	FIR	YES
45	16"	FIR	YES
46	36"	FIR	YES
47	12"	DEC	YES
48	20"	DEC	YES
49	24"	FIR	YES
50	50"	FIR	NO
51	20"	FIR	YES
52	12"	FIR	YES
53	44"	FIR	YES
54	30"	FIR	YES
55	16"	FIR	YES
56	32"	FIR	YES
57	30"	FIR	YES
58	16"	FIR	YES
59	24"	FIR	YES
60	14"	DEC	YES
61	30"	FIR	YES
62	12"	DEC	YES
63	28"	FIR	YES
64	12"	FIR	YES
65	22"	FIR	YES
66	26"	FIR	YES
67	18"	DEC	YES
68	20"	DEC	YES
69	12"	DEC	YES
70	16"	DEC	YES
71	28"	FIR	YES
72	26"	FIR	YES
73	26"	FIR	YES
74	30"	FIR	YES
75	18"	FIR	NO
76	18"	DEC	NO
77	28"	FIR	NO
78	18"	DEC	YES
79	30"	FIR	YES
80	8"	DEC	YES
81	8"	DEC	YES
82	8"	DEC	YES
83	8"	DEC	YES
84	8"	DEC	YES
85	4"	DEC	YES
86	4"	DEC	YES
87	4"	DEC	YES
88	8"	DEC	YES
89	4"	DEC	YES
90	6"	DEC	YES
91	5"	DEC	YES
92	5"	DEC	YES
93	5"	DEC	YES
94	5"	DEC	YES
95	5"	DEC	YES
96	8"	DEC	YES
97	8"	DEC	YES
98	8"	DEC	YES
99	4"	DEC	YES
100	4"	DEC	YES
101	4"	DEC	YES
102	6"	DEC	YES
103	8"	DEC	YES
104	8"	DEC	YES
105	5"	DEC	YES
106	5"	DEC	YES
107	8"	DEC	YES
108	5"	DEC	YES
109	5"	DEC	YES
110	8"	DEC	YES
111	8"	DEC	YES
112	8"	DEC	YES
113	10"	DEC	YES
114	8"	DEC	YES
115	8"	DEC	YES
116	8"	DEC	YES
117		OAK	YES
118	10"	DEC	YES
119	40"	FIR	YES
120	14"	FIR	NO
121	5"	DEC	YES
122	5"	DEC	YES
123	8"	DEC	YES
124		MAPLE	YES
125	8"	DEC	YES
126	16"	DEC	YES
127	8"	DEC	YES
128	4"	DEC	YES
129		OAK	YES
130	8"	DEC	NO
131	36"	DEC	NO
132	40"	FIR	NO
133	18"	FIR	NO
134	24"	FIR	NO
135	40"	FIR	YES
136		DEC	NO
137	8"	DEC	YES
138	32"	FIR	YES
139	32"	FIR	YES
140	10"	DEC	YES
141	10"	DEC	YES
142	10"	DEC	YES
143	10"	DEC	YES
144	14"	FIR	YES
145	10"	DEC	YES
146	18"	FIR	YES
147	12"	FIR	YES
148	14"	FIR	YES
149	14"	FIR	YES
150	18"	FIR	YES
151	14"	FIR	YES
152	16"	FIR	YES
153	8"	DEC	YES
154	18"	FIR	YES
155	22"	FIR	YES
156	10"	DEC	YES
157	10"	DEC	YES
158	10"	DEC	YES
159	6"	DEC	YES
160	8"	DEC	YES
161	10"	DEC	NO
162	10"	DEC	NO
163	8"	DEC	NO
164	10"	DEC	NO
165	12"	DEC	NO
166	10"	DEC	NO
167		DEC	NO
168	5"	DEC	NO
169	12"	FIR	NO
170	18"	FIR	NO
171	12"	FIR	NO
172	24"	FIR	NO
173	12"	FIR	NO
174	36"	FIR	NO
175	14"	FIR	NO
176	12"	FIR	NO
177	14"	FIR	NO
178	16"	FIR	NO
179	12"	FIR	NO
180	18"	FIR	NO
181	13"	FIR	NO
182	30"	FIR	NO
183	20"	FIR	NO
184	28"	FIR	NO
185	24"	FIR	NO
186	12"	FIR	NO
187	18"	FIR	NO
188	12"	FIR	NO
189	12"	FIR	NO
190	28"	FIR	NO
191	12"	FIR	NO
192	14"	FIR	NO
193	20"	FIR	NO
194	26"	FIR	NO
195	26"	FIR	NO
196	12"	FIR	NO
197	20"	FIR	NO
198	30"	FIR	NO
199	14"	FIR	NO
200	16"	FIR	NO
201	24"	FIR	NO
202	14"	FIR	NO
203	36"	FIR	NO
204	24"	FIR	NO
205	20"	FIR	NO
206	22"	FIR	NO
207	20"	FIR	NO
208	18"	FIR	NO
209	28"	FIR	NO
210	22"	FIR	NO
211	14"	FIR	NO
212	18"	FIR	NO
213	14"	FIR	NO
214	20"	FIR	NO
215	18"	FIR	NO
216	18"	FIR	NO
217	18"	FIR	NO
218	18"	FIR	NO
219	26"	FIR	NO
220	26"	FIR	NO
221	26"	FIR	NO
222	17"	FIR	NO
223	27"	FIR	NO
224	12"	FIR	NO
225	23"	FIR	NO
226	16"	FIR	NO
227	27"	FIR	NO
228	21"	FIR	NO
229	18"	FIR	NO
230	12"	FIR	NO
231	24"	FIR	NO
232	13"	FIR	NO
233	14"	FIR	NO
234	26"	FIR	NO
235	16"	FIR	NO
236	23"	FIR	NO
237	18"	FIR	NO
238	18"	FIR	NO
239	12"	FIR	NO
240	14"	FIR	NO
241	22"	FIR	NO
242	12"	FIR	NO
243	27"	FIR	NO
244	12"	FIR	NO
245	12"	FIR	NO
246	13"	FIR	NO
247	14"	FIR	NO
248	14"	FIR	NO
249	31"	FIR	NO
250	14"	FIR	NO
251	29"	FIR	NO
252	23"	FIR	NO
253	12"	FIR	NO
254	25"	FIR	NO
255	20"	FIR	NO
256	42"	FIR	NO
257	28"	FIR	NO
258	24"	FIR	NO
259	12"	FIR	NO
260	16"	FIR	NO
261	14"	FIR	NO
262	12"	FIR	NO
263	16"	FIR	NO
264	14"	FIR	NO
265	20"	FIR	NO
266	20"	FIR	NO
267	31"	FIR	NO
268	17"	FIR	NO
269	33"	FIR	NO
270		FIR	YES
271	13"	FIR	NO
272	30"	FIR	NO
273	15"	FIR	NO
274	15"	FIR	NO
275	30"	FIR	NO
276	13"	FIR	NO
277	12"	FIR	NO
278	12"	FIR	NO
279	14"	FIR	NO
280	23"	FIR	NO
281	16"	FIR	NO
282	31"	FIR	NO
283	20"	FIR	NO
284	31"	FIR	NO
285	14"	FIR	NO
286	18"	MPL	NO
287	13"	FIR	NO
288	22"	FIR	NO
289	26"	FIR	NO
290	17"	FIR	NO
291	14"	FIR	NO
292	12"	FIR	NO
293	12"	FIR	NO
294	10"	CON	YES
295	24"	MPL	YES
296	24"	MPL	YES
297	18"	FIR	NO
298	14"	FIR	NO
299	18"	FIR	NO
300	12"	FIR	NO
301	12"	FIR	NO
302	28"	FIR	NO
303	12"	FIR	NO
304	12"	FIR	NO
305	16"	FIR	NO
306	16"	FIR	NO
307	14"	FIR	NO
308	20"	FIR	NO
309	20"	FIR	NO
310	12"	FIR	NO
311	12"	FIR	NO
312	12"	FIR	NO
313	16"	FIR	NO
314	12"	FIR	NO
315	12"	FIR	NO
316	14"	FIR	NO
317	20"	FIR	NO
318	16"	MPL	NO
319	20"	FIR	NO
320	12"	FIR	NO
321	20"	FIR	NO
322	24"	MPL	NO
323	24"	MPL	NO
324	12"	MPL	NO
325	12"	FIR	NO
326	18"	FIR	NO
327	12"	FIR	NO
328	34"	FIR	NO
329	14"	FIR	NO
330		DEC	NO
331	14"	FIR	NO
332	20"	FIR	NO
333	22"	FIR	NO
334	12"	FIR	NO
335	14"	FIR	NO
336	10"	FIR	YES
337	18"	FIR	YES
338	18"	FIR	YES
339	10"	FIR	YES
340	10"	FIR	YES
341	12"	FIR	YES
342	5"	DEC	YES
343	18"	FIR	YES
344	20"	DEC	YES
345	20"	FIR	YES
346	26"	FIR	YES
347	12"	FIR	YES
348	29"	FIR	YES
349	12"	FIR	YES
350	24"	FIR	NO
351	18"	FIR	YES
352	18"	FIR	YES
353	26"	FIR	YES
354	16"	FIR	YES
355	16"	FIR	YES
356	12"	DEC	YES
357	24"	CED	YES
358	10"	DEC	YES
359	16"	FIR	YES
360	24"	FIR	YES
361	28"	CED	YES
362	24"	FIR	YES
363	18"	FIR	YES
364	29"	FIR	YES
365	12"	CED	YES
366	14"	FIR	YES
367	12"	CED	YES
368	18"	CED	YES
369	10"	DEC	YES
370	10"	DEC	YES
371	10"	DEC	YES
372	18"	CED	YES
373	10"	DEC	NO
374	28"	CED	YES
375	18"	FIR	YES
376	24"	FIR	YES
377	5"	DEC	YES
378	26"	FIR	NO
379	26"	CED	NO
380	26"	CED	YES
381	24"	CED	NO
382	24"	CED	YES
383	22"	CED	YES
384	15"	FIR	YES
385	24"	FIR	YES
386	8"	DEC	YES
387	5"	DEC	YES
388	18"	FIR	YES
389	8"	DEC	YES
390	18"	MAD	YES
391	8"	DEC	YES
392	36"	FIR	YES
393	8"	DEC	YES
394	4"	DEC	YES
395	6"	DEC	YES
396	18"	FIR	YES
397	24"	FIR	YES
398	18"	CED	NO
399	18"	CED	NO
400	12"	CED	YES
401	20"	CED	YES
402	12"	CED	YES
403	14"	CED	YES
404	22"	FIR	NO
405	38"	FIR	NO
406	18"	CED	YES
407	18"	CED	YES
408	12"	CED	YES
409	12"	CED	YES
410	18"	CED	NO
411	14"	CED	NO
412	18"	CED	NO
413	16"	CED	YES
414	24"	CED	YES
415	12"	CED	YES
416	12"	CED	YES
417	28"	FIR	YES
418	16"	DEC	YES
419	5"	DEC	YES
420	12"	CED	NO
421	18"	CED	NO
422	18"	CED	NO
423	10"	DEC	YES
424	10"	DEC	YES
425	16"	CED	YES
426	12"	MAD	YES
427	30"	FIR	YES
428	5"	DEC	YES
429	8"	DEC	YES
430	28"	FIR	YES
431	26"	FIR	NO
432	10"	DEC	NO
433	18"	CED	NO
434	28"	CED	NO
435	20"	CED	NO
436	26"	FIR	NO
437	26"	FIR	NO
438	14"	FIR	NO
439	18"	FIR	NO
440	20"	CED	NO
441	16"	CED	NO
442	24"	CED	NO
443	12"	CED	NO
444	12"	CED	NO
445	18"	CED	NO
446	24"	CED	NO
447	12"	CED	NO
448	24"	FIR	NO
449	30"	FIR	NO
450	18"	CED	NO
451	12"	CED	NO
452	12"	CED	NO
453	12"	CED	NO
454	4"	DEC	NO
455	26"	FIR	YES
456	18"	CED	YES
457	24"	CED	YES
458	40"	CED	YES
459	12"	DEC	YES
460	12"	DEC	YES
461	12"	CED	YES
462	18"	CED	YES
463	4"	DEC	NO
464	12"	FIR	NO
465	18"	FIR	NO
466	12"	FIR	NO
467	24"	FIR	NO
468	12"	FIR	NO
469	18"	CED	YES
470	18"	CED	YES
471	24"	FIR	YES
472	12"	CED	YES
473	14"	CED	YES
474	18"	CED	YES
475	14"	CED	YES
476	12"	FIR	YES
477	18"	CED	YES
478	26"	FIR	YES
479	18"	CED	YES
480	14"	CED	NO
481	12"	FIR	NO
482	12"	DEC	NO
483	10"	DEC	NO
484	8"	DEC	NO
485	8"	DEC	NO
486	14"	DEC	NO
487	10"	DEC	NO
488	12"	DEC	NO
489	12"	FIR	NO
490	26"	FIR	NO
491	14"	FIR	NO
492	30"	CED	YES
493	10"	DEC	NO
494	12"	CED	YES
495	14"	FIR	YES
496	16"	FIR	YES
497	12"	FIR	YES
498	20"	CED	YES
499	18"	FIR	YES
500	14"	CED	YES
501	14"	FIR	YES
502	30"	CED	NO
503	12"	CED	NO
504	30"	CED	YES
505	10"	DEC	NO
506	24"	CED	YES
507	26"	CED	NO
508	24"	CED	YES
509	24"	CED	YES
510	26"	FIR	NO
511	12"	DEC	NO
512	26"	FIR	NO
513	10"	DEC	NO
514	16"	FIR	NO
515	24"	MPL	NO
516	24"	MPL	NO
564	16"	DEC	NO
565	22"	FIR	NO
566	13"	FIR	NO
567	18"	FIR	NO
568	13"	FIR	NO
569	23"	MPL	NO
570	18"	MPL	NO
571	25"	FIR	NO
572	22"	FIR	NO
573	20"	MPL	NO
574	21"	MPL	NO
575	15"	FIR	NO
576	6"	DEC	NO
577	13"	FIR	NO
578	9"	DEC	NO
579	19"	DEC	NO
580	15"	FIR	NO
581	20"	FIR	NO
582	16"	FIR	NO
583	34"	FIR	NO
584	39"	MPL	NO
585	15"	FIR	NO
586	15"	FIR	NO
587	30"	FIR	NO
588	29"	FIR	NO
589	16"	FIR	NO
590	32"	FIR	NO
591	21"	FIR	NO
592	14"	FIR	NO
593	15"	FIR	NO
594	15"	HEM	YES
595	29"	HEM	YES
596	13"	FIR	NO
597	15"	FIR	YES
598	12"	FIR	YES
599	17"	FIR	NO
600	12"	FIR	YES
601	12"	FIR	YES
602	13"	FIR	YES
603	17"	FIR	YES
604	15"	FIR	YES
605	23"	FIR	YES
606	4"	DEC	YES
607	24"	DEC	YES
608	24"	FIR	YES
609	30"	FIR	NO
610	20"	FIR	YES
611	20"	FIR	YES
612	10"	FIR	YES
613	10"	FIR	YES
614	8"	DEC	YES
615	20"	FIR	YES
616	10"	DEC	YES
617	8"	DEC	YES
618	4"	DEC	YES
619	4"	DEC	YES
620	50"	FIR	NO
621	50"	FIR	NO
622	12"	FIR	NO
623	26"	FIR	NO
624	26"	FIR	NO
625	26"	FIR	NO
626	34"	FIR	NO
627	38"	FIR	NO
628	12"	MAD	NO
629	12"	MAD	NO
630	26"	FIR	NO
631	38"	FIR	NO
632	10"	DEC	NO
633	8"	DEC	NO
634	8"	DEC	NO
635	10"	DEC	NO
636	10"	DEC	NO
637	6"	DEC	YES
638	12"	DEC	YES
639	8"	DEC	YES
640	6"	DEC	YES
641	10"	DEC	YES
642	10"	DEC	YES
643	6"	DEC	YES
644	8"	DEC	YES
645	5"	DEC	YES
646	8"	DEC	YES
647	8"	DEC	YES
648	8"	DEC	YES
649	8"	DEC	YES
650	8"	DEC	YES
651	8"	DEC	YES
652	5"	DEC	YES
653	8"	DEC	YES
654	8"	DEC	YES
655	8"	DEC	YES
656	16"	DEC	YES
657	16"	DEC	YES
658	20"	DEC	YES
659	12"	FIR	NO
660	13"	FIR	NO
661	14"	FIR	NO
662	16"	FIR	NO
663	26"	CED	YES
664	10"	DEC	NO
665	10"	DEC	NO
666	12"	DEC	NO
667	12"	DEC	NO
668	12"	FIR	NO
669	24"	FIR	NO
670	14"	FIR	NO
671	14"	FIR	NO
672	16"	FIR	NO
673	18"	OAK	NO
674	8"	DEC	NO
675	8"	DEC	NO
676	8"	DEC	NO
677	8"	DEC	NO
678	8"	DEC	NO
679	12"	DEC	YES
680	12"	DEC	YES
681	12"	DEC	YES
682	40"	FIR	YES
683	4"	DEC	YES
684	8"	DEC	YES
685	8"	DEC	YES
686	8"	DEC	YES
687	10"	DEC	YES
688	10"	DEC	YES
689	10"	DEC	YES
690	10"	DEC	YES
691	8"	DEC	YES
692	12"	FIR	NO
693	5"	DEC	NO
694	5"	DEC	NO
695	5"	DEC	NO
696	5"	DEC	NO
697	5"	DEC	NO
698	5"	DEC	NO
699	5"	DEC	NO
700	18"	FIR	NO
700	18"	FIR	NO
701	14"	FIR	NO
702	17"	FIR	NO
703	17"	CON	NO
704	14"	FIR	NO
705	18"	DEC	NO
706	24"	FIR	NO
707	18"	FIR	NO
708	18"	MPL	NO
709	24"	FIR	NO
710		OAK	NO
711	18"	DEC	NO
712	14"	FIR	NO
713	14"	FIR	NO
714	12"	FIR	NO
715	14"	FIR	NO
716	14"	FIR	NO
717	14"	FIR	NO
718			NO
719	14"	FIR	NO
720	14"	FIR	NO
721	8"	DEC	NO
722	24"	FIR	NO
723	24"	FIR	NO
724	8"	DEC	NO
725	8"	DEC	NO
726	12"	DEC	NO
727		OAK	NO
728	12"	FIR	NO
729	16"	FIR	NO
730	12"	FIR	NO
731	14"	FIR	NO
732	18"	FIR	YES
733	8"	DEC	YES
734	12"	DEC	YES
735	8"	DEC	YES
736	8"	DEC	YES
737	18"	FIR	YES
738	10"	CED	YES
739	14"	FIR	NO
740	28"	CED	NO
741	19"	FIR	NO
742	12"	FIR	NO
743	28"	FIR	NO
744	20"	FIR	NO

811 Know what's **below.** **Call** before you dig.

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

WASHINGTON STATE DEPARTMENT OF NATURAL
RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E. P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

No.	Date	By	Ckd.	Appr.	Revision

Title: TREE RETENTION, REMOVAL AND REPLACEMENT PLAN FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

STATE OF WASHINGTON · JEFF M. VARLEY · LICENSED NO. 774 EXP. 8-25-19 · LICENSED LANDSCAPE ARCHITECT

Scale: N/A Horizontal, N/A Vertical
Designed BLS. Drawn BLS. Checked JMV. Approved JMV. Date 01/19/18
Xref: ~~~~
Scale: 1 LOUDON

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666
Sheet T3 of T3

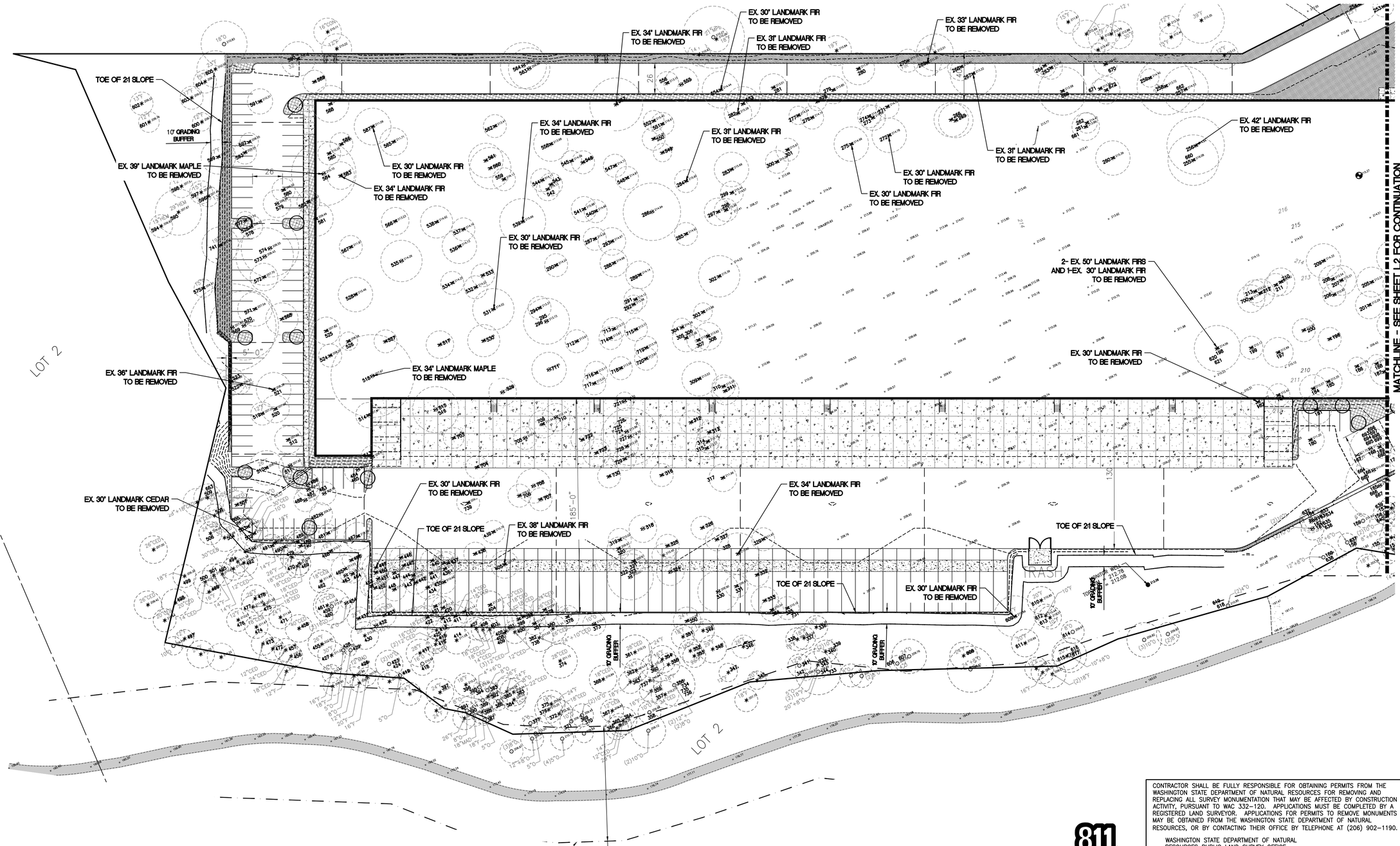
PRELIMINARY LANDSCAPE PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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WASHINGTON STATE DEPARTMENT OF NATURAL
RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E. P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

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No.	Date	By	Ckd.	Appr.	Revision

Title:
LANDSCAPE PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE

For:
COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

STATE OF WASHINGTON
JEFF M. VARLEY
LICENSED LANDSCAPE ARCHITECT
LICENSE NO. 774 EXP. 2/25/19

Scale: 1"=40' Horizontal; N/A Vertical
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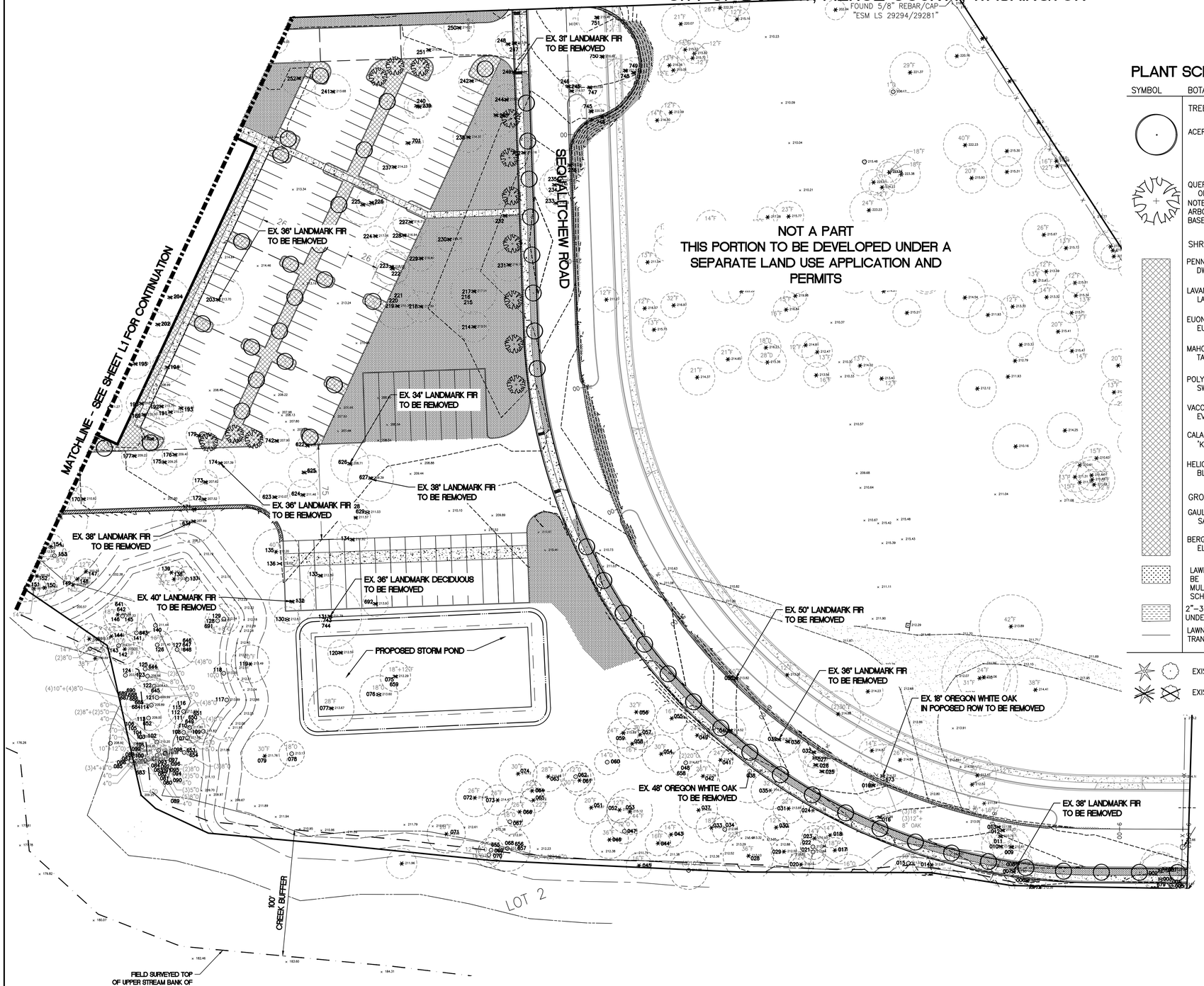
Job Number 18666
Sheet L1 of L4

Attachment G.8.b. Revised Landscape Plan Sheets L1-L4 prepared by Barghausen Consulting Engineers plotted January 30, 2019

PRELIMINARY LANDSCAPE PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=40'

0 20 40 80



PLANT SCHEDULE

SYMBOL	BOTANICAL / COMMON NAMES	SIZE CONDITION	SPACING	QUANTITY	REMARKS
	TREES:				
	ACER RUBRUM 'ARMSTRONG' / COLUMNARE RED MAPLE	2" CAL B & B	AS SHOWN	53	STAKE & GUY ONE GROWING SEASON; NURSERY GROWN FOR STREET TREE USE, BRANCHED AT 5'
	QUERCUS GARRYANA / OREGON WHITE OAK NOTE: INSTALL 2"–3" DEPTH 6' DIAMETER ARBORIST WOOD CHIP MULCH AROUND BASE OF TREE	2.5" CAL B & B	AS SHOWN	13	STAKE & GUY ONE GROWING SEASON; NURSERY GROWN, UN–CUT LEADER
	SHRUBS:				
	PENNISETUM ALOPECOROIDES 'HAMELN' / DWARF FOUNTAIN GRASS	1 GAL	AS SHOWN	x	FULL AND BUSHY
	LAVANDULA SP. 'HIDCOTE' / LAVENDER	1 GAL	AS SHOWN	x	FULL AND BUSHY
	EUONYMUS FORTUNEI 'EMERALD N GOLD' / EUONYMUS	1 GAL	AS SHOWN	x	FULL AND BUSHY
	MAHONIA AQUIFOLIUM / TALL OREGON GRAPE	1 GAL	AS SHOWN	x	FULL AND BUSHY
	POLYSTICHUM MUNITUM / SWORD FERN	1 GAL	AS SHOWN	x	FULL AND BUSHY
	VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	1 GAL	AS SHOWN	x	FULL AND BUSHY
	CALAMAGROSTIS ACUTIFLORA / 'KARL FORESTER' FEATHER REED GRASS	1 GAL	AS SHOWN	x	FULL AND BUSHY
	HELICTOTRICHON SEMP. 'SAPPHIRE' / BLUE OAT GRASS	1 GAL	AS SHOWN	x	FULL AND BUSHY
	GROUNDCOVERS:				
	GAULTHERIA SHALLON / SALAL	1 GALLON	48" O.C.	AS REQ'D	HOLD 12" FROM BORDERS, SHRUBS, AND TREES
	BERGENIA CRASSIFOLIA 'BRESSINGHAM RUBY' ELEPHANT EAR	1 GALLON	24" O.C.	AS REQ'D	HOLD 12" FROM BORDERS, SHRUBS, AND TREES
	LAWN OR OTHER HYDROSEED, SPECIES TO BE DETERMINED. FERTILIZER, TACKIFIER, AND MULCH TO BE DETERMINED BASED ON SCHEDULE OF SEED INSTALLATION	SOD OR SEED		COVER	
	2"–3" DEPTH ARBORIST WOOD CHIP MULCH UNDER DRIPLINE OF EXISTING TREES				
	LAWN/PLANTER EDGE– SHOVEL CUT TRANSITION				
	EXISTING TREE TO REMAIN				
	EXISTING TREE TO BE REMOVED				

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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Title: LANDSCAPE PLAN FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
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(253) 396–4860

STATE OF WASHINGTON · JEFF M. VARLEY · LICENSED NO. 774 EXPIRES 2519 · LICENSED LANDSCAPE ARCHITECT

Scale: 1"=40' Horizontal; N/A Vertical

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Job Number 18666

Sheet L2 of L4

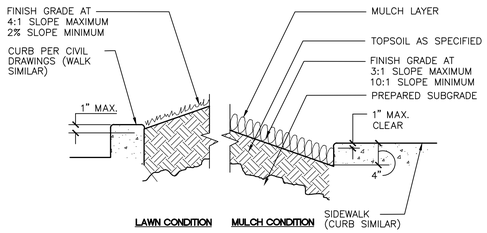
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FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

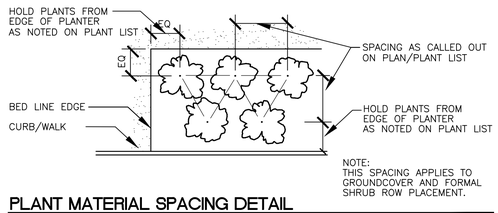
APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

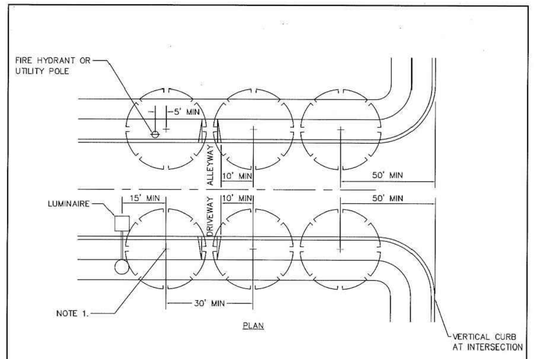
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PLANTER SECTION DETAIL
NOT TO SCALE



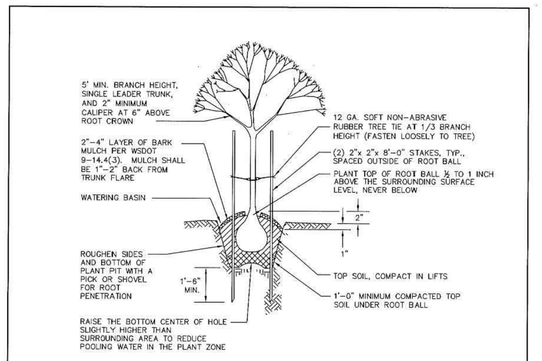
PLANT MATERIAL SPACING DETAIL
NOT TO SCALE



GENERAL NOTES:

1. TREES SHALL GENERALLY BE PLANTED IN THE CENTER OF THE PLANTING STRIPS.
2. TREES SHALL BE STAKED IN A MANNER NOT TO OBSTRUCT SIDEWALK TRAFFIC.
3. IN CASE OF BLOCK-OUTS, MIN. CLEAR SIDEWALK WIDTH SHALL BE 5 FEET IN RESIDENTIAL OR 8 FEET IN BUSINESS DISTRICTS.
4. TREES SHALL BE PLANTED A MINIMUM OF 5 FEET FROM UNDERGROUND UTILITIES AND 15 FEET FROM STREET LIGHTS.
5. TREES SHALL NOT BE PLANTED WITHIN THE CLEAR ZONE SIGHT TRIANGLE.
6. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 5.7 OF THE PUBLIC WORKS STANDARDS AND DWG. NO. 5.7-2.

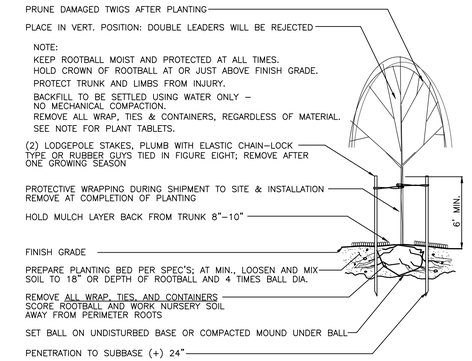
CITY OF DUPONT			
STREET TREE STANDARDS			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 5.7-1
DATE: 9/11	DRWN: L.G.	CHKD: T.N.	SCALE: NO SCALE



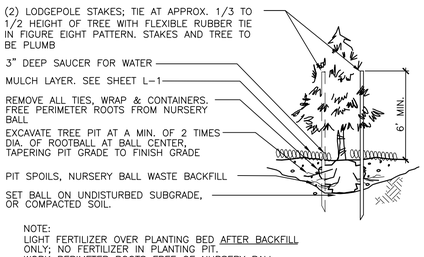
GENERAL NOTES:

1. PLANT ALL TREES ONE INCH HIGHER THAN LEVEL AT WHICH GROWN IN NURSERY.
2. TAKE CARE TO AVOID ROOTS WITH STAKES.
3. PLANT PIT SHALL BE AT LEAST 2 TIMES THE WIDTH OF THE ROOT BALL, BUT SHALL BE ONLY AS DEEP AS THE ROOT BALL.
4. ROOT BARRIER SHALL BE INSTALLED A MINIMUM OF 3' EACH SIDE OF CENTER OF ROOT BALL AT OR BELOW HARDSCAPE SURFACE ADJACENT TO CURBS AND PAVED SURFACES. ROOT BARRIER SHALL BE NDS PANEL EP-2450 (24"H X 24'L), OR CITY APPROVED EQUAL, INSTALLED PER MANUFACTURERS SPECIFICATIONS.
5. REMOVE ALL TAGS, WIRES, STRING, STRAPS, BURLAP, AND WIRE BASKETS FROM THE ROOT BALL. BEFORE PLANTING.
6. STAKING AND GUYING WIRES SHALL BE REMOVED AFTER (1) YEAR, FOLLOWING INSPECTION FOR VIGOR. REPLACE AS REQUIRED.
7. THE CITY SHALL APPROVE ALL STREET TREES AND PLANTING LOCATIONS ON SITE PRIOR TO PLANTING.
8. FOR ADDITIONAL REQUIREMENTS, SEE SECTION 5.7 AND DWG. NO. 5.7-1 OF THE PUBLIC WORKS STANDARDS.

CITY OF DUPONT			
STREET TREE PLANTING AND STAKING DETAIL			
APPROVED: CITY OF DUPONT 9/21/11 DATE			DWG. NO. 5.7-2
DATE: 9/11	DRWN: E.S.T.	CHKD: D.J.M.	SCALE: NO SCALE

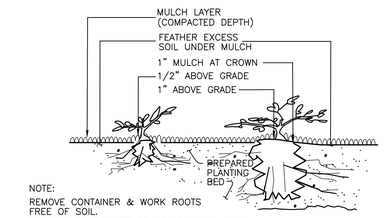


TREE PLANTING/STAKING DETAIL
NOT TO SCALE



NOTE:
LIGHT FERTILIZER OVER PLANTING BED AFTER BACKFILL ONLY; NO FERTILIZER IN PLANTING PIT.
WORK PERIMETER ROOTS FREE OF NURSERY BALL.
BALL & PIT TO BE COURSELY SCARIFIED.

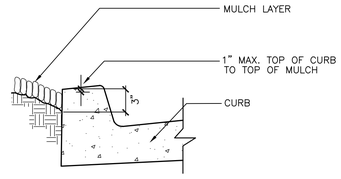
EVERGREEN TREE PLANTING/STAKING DETAIL
NOT TO SCALE



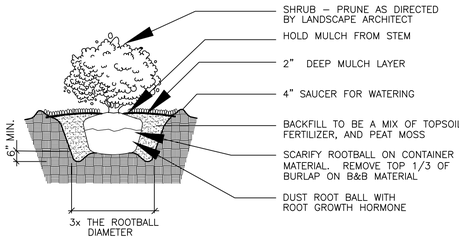
NOTE:
REMOVE CONTAINER & WORK ROOTS FREE OF SOIL.
BACKFILL TO BE SETTLED USING WATER ONLY
SEE PLANT LIST FOR PLANT SPACING

LESS THAN 1 GAL. (PLANTED BEFORE MULCH)
1 GAL. CONTAINER and LARGER (PLANTED BEFORE MULCH)

GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

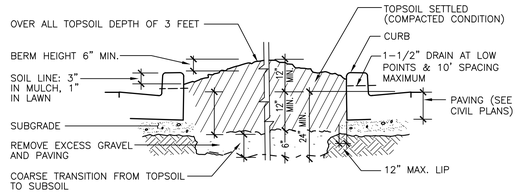


MULCH AT CURB DETAIL
NOT TO SCALE



NOTE:
APPLY ADDITIONAL 4 OZ. 8-32-16 FERTILIZER INTO TOP 2" OF PLANTING MIX.
PLANT SHRUB HIGH ENOUGH TO ALLOW POSITIVE DRAINAGE AWAY FROM ROOTBALL. ROUGHEN ALL SURFACES OF PIT.
CUT AND REMOVE BURLAP FROM ROOT BALL

SHRUB PLANTING DETAIL
NOT TO SCALE



NOTE:
OVER EXCAVATE PARKING LOT PLANTERS TO LOOSEN COMPACTED SUBBASE

GRADING & PARKING LOT PLANTERS DETAIL
NOT TO SCALE

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No.	Date	By	Ckd.	Appr.	Revision

Title: LANDSCAPE DETAILS FOR DUPONT INDUSTRIAL WAREHOUSE

For: COMMENCEMENT BAY DEVELOPMENT, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

STATE OF WASHINGTON · JEFF M. VARLEY · LICENSED LANDSCAPE ARCHITECT · LICENSE NO. 774 EXP. 03/25/19

Scale: N/A Horizontal, N/A Vertical

Designed BLS. Drawn BLS. Checked JMV. Approved JMV. Date 01/19/18

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Job Number 18666

Sheet L3 of L4

PRELIMINARY LANDSCAPE PLAN
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

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SECTION 1000 - LAWNS AND GRASSES

PART 1 GENERAL

1.1 DESCRIPTION

A. WORK TO INCLUDE:
PREPARATION OF SOIL, FINE GRADING AND PLACING OF TOPSOIL IF REQUIRED.
FERTILIZING, SOD INSTALLATION, SEED INSTALLATION IF REQUIRED AND MAINTENANCE.

B. RELATED WORK IN OTHER SECTIONS:
SECTION 02810: IRRIGATION SYSTEM.
SECTION 02950: TREES, PLANTS AND GROUND COVERS.

1.2 REFERENCES

A. ASPA (AMERICAN SOD PRODUCERS ASSOCIATION) – GUIDELINE SPECIFICATIONS TO SODDING.

1.3 DEFINITIONS

A. WEEDS: INCLUDES DANDELION, JIMSONWEED, QUACKGRASS, HORSETAIL, MORNING GLORY, RUSH GRASS, MUSTARD, LAMBSQUARTER, CHICKWEED, CRESS, CRABGRASS, CANADIAN THISTLE NUTGRASS, POISON OAK, BLACKBERRY, TANSY RAGWORT, BERMUDA GRASS, JOHNSON GRASS, POISON IVY, NUT SEDGE, NIMBLE WILL, BINDWEED, BENT GRASS, WILD GARLIC, PERENNIAL SORREL AND BROME GRASS.

1.4 QUALITY ASSURANCE

A. SOD PRODUCER: COMPANY SPECIALIZING IN SOD PRODUCTION AND HARVESTING, WITH MINIMUM FIVE YEARS EXPERIENCE, AND CERTIFIED BY THE STATE IN WHICH PROJECT IS LOCATED.
B. INSTALLER: COMPANY APPROVED BY GENERAL CONTRACTOR.
C. SOD: SOD SHALL HAVE SUFFICIENT ROOT DEVELOPMENT TO SUPPORT ITS OWN WEIGHT WITHOUT TEARING WHEN SUSPENDED VERTICALLY BY HOLDING UPPER TWO CORNERS, FREE OF WEEDS AND UNDESIRABLE NATIVE GRASSES.

1.5 REGULATORY REQUIREMENTS

A. COMPLY WITH REGULATORY AGENCIES FOR FERTILIZER AND HERBICIDE COMPOSITION.

1.6 TESTS

A. SOILS TEST: OBTAIN FROM A CERTIFIED TESTING LABORATORY, AN ANALYSIS OF THE EXISTING SOIL FOR NITROGEN, PHOSPHORUS, POTASSIUM, SOLUBLE SALT CONTENT, MICRO NUTRIENTS, ORGANIC MATTER CONTENT AND PH VALUE.
B. PRESENT FINDINGS OF SOILS TEST TO ARCHITECT BEFORE PROCEEDING WITH INSTALLATION.

1.7 MAINTENANCE DATA

A. NONE REQUIRED.

1.8 DELIVERY, STORAGE AND HANDLING

A. DELIVER SOD ON PALLETS OR IN ROLLS. PROTECT EXPOSED ROOTS FROM DEHYDRATION.
B. DO NOT DELIVER MORE SOD THAN CAN BE LAID WITHIN TWENTY–FOUR (24) HOURS.
C. DELIVER FERTILIZER IN WATERPROOF BAGS SHOWING WEIGHT, CHEMICAL ANALYSIS AND NAME OF MANUFACTURER.
D. STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND AS DIRECTED BY OWNER OR ARCHITECT.

1.9 COORDINATION

A. COORDINATE THE WORK OF THIS SECTION WITH INSTALLATION OF UNDERGROUND PIPING, CONDUIT OR WIRING.
B. COORDINATE THE WORK OF THIS SECTION WITH THE INSTALLATION OF PLANT MATERIAL.

1.10 WARRANTY

A. COMPLETE INSTALLATION SHALL BE GUARANTEED BY INSTALLER AGAINST DEFECTS OF MATERIAL AND WORKMANSHIP, FOR A PERIOD OF NINETY DAYS, BEGINNING WITH DATE OF SUBSTANTIAL COMPLETION.
B. IT IS THE RESPONSIBILITY OF CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES AS SPECIFIED.
C. SODDED AREAS SHALL HAVE NO BARE SPOTS OR UNACCEPTABLE COVER TOTALING MORE THAN ONE PERCENT OF INDIVIDUAL LAWN SURFACE AREAS. BARE SPOTS SHALL BE RESODDED TO MEET ORIGINAL SPECIFICATIONS AND HAVE A NEW 90 DAY WARRANTY. OR, IN THE EVENT OF DORMANT SEASON PLANTING, NINETY (90) DAYS FROM DATE OF REEMERGENCE OF LAWN GRASS IN NEXT GROWING SEASON.

1.11 MAINTENANCE SERVICE

A. MAINTAIN INSTALLED SOD UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE WATERING, FERTILIZING AND WEED TREATMENT AS NECESSARY TO KEEP SOD HEALTHY.

PART 2 PRODUCTS

2.1 MATERIALS

A. SOD: NURSERY GROWN, ASPA APPROVED, WITH STRONG FIBROUS ROOT SYSTEM CAPABLE OF GROWTH, AND DEVELOPMENT WHEN PLANTED; FREE OF STONES, BURNED OR BARE SPOTS; CONTAINING NO MORE THAN TEN (10) WEEDS PER ONE HUNDRED (100) SQUARE FEET. SEE LANDSCAPE PLAN FOR SOD TYPE.
B. TOPSOIL: IF REQUIRED, TOPSOIL SHALL BE SANDY LOAM FREE OF WEEDS AND OTHER DELETERIOUS MATERIALS.
C. FERTILIZER: AS RECOMMENDED BY SOILS TEST OR OTHERWISE CALLED OUT ON DRAWINGS.
D. WATER: CLEAN, FRESH AND FREE OF SUBSTANCES OR MATTER WHICH COULD INHIBIT VIGOROUS GROWTH OF GRASS.

2.2 HARVESTING SOD

A. MACHINE CUT SOD AND LOAD ON PALLETS IN ACCORDANCE WITH ASPA GUIDELINES.
B. CUT SOD WITH MINIMUM OF ONE HALF (1/2) INCH AND MAXIMUM ONE (1) INCH TOPSOIL BASE.

PART 3 EXECUTION

3.1 INSPECTION

A. VERIFY THAT PREPARED SOIL BASE IS READY TO RECEIVE WORK OF THIS SECTION.
B. BY BEGINNING INSTALLATION, CONTRACTOR ACCEPTS EXISTING SITE CONDITIONS.

3.2 PREPARATION

A. SCARIFY SUBSOIL WHERE TOPSOIL IS REQUIRED. REPEAT CULTIVATION IN AREAS WHERE EQUIPMENT USED FOR HAULING AND SPREADING TOPSOIL HAS COMPACTED SUBSOIL.
B. PLACE TOPSOIL DURING DRY WEATHER AND ON DRY UNFROZEN SUBGRADE.
C. REMOVE VEGETABLE MATTER AND FOREIGN NON–ORGANIC MATERIAL PRIOR TO SODDING.
D. GRADE TO ELIMINATE ROUGH, LOW OR SOFT AREAS, AND TO ENSURE POSITIVE DRAINAGE.
E. LAWN AREAS ARE TO BE GRADED TO SMOOTH EVEN SURFACE FREE OF BUMPS AND DEPRESSIONS, WITH LOOSE UNIFORMLY FINE TEXTURE AND ONE (1) INCH BELOW ADJOINING SIDEWALKS AND OTHER PAVED SURFACES.
F. SCARIFY PLANTING SURFACE TO A FRIABLE CONDITION: REMOVE STONES AND FOREIGN MATTER OVER ONE (1) INCH IN DIAMETER FROM TOP TWO (2) INCHES OF SOD BED. PLANT IMMEDIATELY THEREAFTER, PROVIDING THE SOD BED HAS REMAINED IN A FRIABLE CONDITION AND HAS NOT BECOME MUDDY OR HARD. IF IT HAS BECOME HARD, TILL TO A FRIABLE CONDITION AGAIN.

3.3 FERTILIZING

A. APPLY FERTILIZER IN ACCORDANCE WITH SOILS TEST OR AS INDICATED ON PLANS DEPENDING UPON TIME OF INSTALLATION.
B. APPLY AFTER SMOOTH RAKING OF TOPSOIL AND PRIOR TO INSTALLATION OF SOD. APPLY FERTILIZER NO MORE THAN FORTY–EIGHT (48) HOURS BEFORE LAYING SOD.
C. MIX THOROUGHLY INTO UPPER ONE (1) INCH OF TOPSOIL.
D. LIGHTLY WATER BEFORE INSTALLATION TO AID DISSIPATION OF FERTILIZER.

3.4 LAYING SOD

A. MOISTEN PREPARED SURFACE IMMEDIATELY PRIOR TO LAYING SOD. LAY SOD WITHIN TWENTY–FOUR (24)HOURS AFTER HARVESTING TO PREVENT DETERIORATION.
B. LAY SOD TIGHT WITH NO OPEN JOINTS VISIBLE AND WITHOUT OVERLAPPING; STAGGER END JOINTS TWELVE (12) INCHES MINIMUM. DO NOT STRETCH OR OVERLAP SOD PIECES.
C. LAY SMOOTH. PLACE TOP ELEVATION OF SOD LEVEL WITH ADJOINING LAWN AREAS, EDGING, PAVING OR CURBS.
D. ON SLOPES 4:1 AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH 5" METAL LAWN STAKES AT A MAXIMUM OF EIGHTEEN (18) INCHES ON CENTER. DRIVE STAKES FLUSH WITH SOIL PORTION OF SOD.
E. AFTER SODDING, ROLL WITH COMMERCIAL LAWN ROLLER TO ENSURE GOOD BOND BETWEEN SOD AND SOIL AND TO REMOVE MINOR DEPRESSIONS AND IRREGULARITIES.
F. WATER SODDED AREAS IMMEDIATELY AFTER INSTALLATION AND ROLLING. SATURATE SOIL TO A DEPTH OF FOUR (4").
G. FINISHED SODDING SHALL BE SMOOTH AND FREE OF SIGNIFICANT LUMPS OR DEPRESSIONS.

3.5 CLEAN–UP AND PROTECTION

A. DURING THE PROGRESSION OF WORK, THE PREMISES ARE TO BE KEPT NEAT AND ORDERLY AT ALL TIMES. STORAGE AREAS FOR MATERIALS SHALL ALSO BE ORGANIZED SUCH THAT THEY ARE NEAT AND ORDERLY. TRASH, INCLUDING DEBRIS RESULTING FROM REMOVING WEEDS, ETC. SHALL BE REMOVED FROM SITE DAILY AS WORK PROGRESSES.
B. WALKS AND DRIVES SHALL BE KEPT CLEAN BY SWEEPING OR HOSING.
C. ERECT WARNING SIGNS, TAPE AND BARRIERS AS NECESSARY TO PROTECT SOD AGAINST DAMAGE.

3.6 MAINTENANCE

A. WATER TO PREVENT GRASS AND SOIL FROM DRYING OUT.
B. CONTROL GROWTH OF WEEDS. APPLY HERBICIDES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMEDY DAMAGE RESULTING FROM IMPROPER USE OF HERBICIDES.
C. IMMEDIATELY REPLACE SOD IN AREAS WHICH SHOW DETERIORATION OR BARE SPOTS TO ESTABLISH A SMOOTH ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
D. REPAIR OR REPLANT AREAS THAT HAVE BEEN DAMAGED OR TRAMPLED.
E. MOW TURF WHEN GRASS REACHES A HEIGHT OF 3". MOWING HEIGHT TO BE 2 1/2" UNTIL ACCEPTANCE.

SECTION 1100 - TREES, PLANTS,AND GROUND COVERS

PART 1 GENERAL

1.1 DESCRIPTION

A. PERFORM WORK REQUIRED TO COMPLETE LANDSCAPE INSTALLATION INCLUDING LABOR, MATERIALS, TAXES, INSURANCE, OVERHEAD, PROFIT, SERVICES, AND EQUIPMENT NECESSARY AS DESCRIBED HEREIN AND SHOWN ON DRAWINGS.
B. WORK TO INCLUDE:
a. TREES, SHRUBS, VINES AND GROUND COVERS.
b. TOPSOIL BACKFILL.
c. MAINTENANCE SERVICE.
C. RELATED WORK IN OTHER SECTIONS:
d. SECTION 02810: IRRIGATION SYSTEM.
e. SECTION 02930: LAWNS AND GRASSES.

1.2 DEFINITIONS AND ABBREVIATIONS

A. THE FOLLOWING TERMS WILL APPLY TO THESE SPECIFICATIONS:
a. "B&B" INDICATES BALLED AND BURLAP WRAPPED ROOT SYSTEM.
b. "1 GAL." INDICATES STANDARD ONE GALLON NURSERY CONTAINER.
c. "2 GAL." INDICATES STANDARD TWO GALLON NURSERY CONTAINER.
d. "3 GAL." INDICATES STANDARD THREE GALLON NURSERY CONTAINER.
e. "5 GAL." INDICATES STANDARD FIVE GALLON NURSERY CONTAINER.
f. "7 GAL." INDICATES STANDARD SEVEN GALLON NURSERY CONTAINER.
g. "M.T." OR "MULTI–TRUNK" INDICATES A TREE WITH A SPECIFIED NUMBER OF TRUNKS AS CALLED OUT ON PLANT LIST. ALSO SEE PART 2 PRODUCTS, 2.1, A3, FOR MORE INFORMATION.
h. "CAL." REFERS TO CALIPER OF TRUNK AT SIX (6) INCHES ABOVE GROUND LEVEL FOR TRUNKS OF FOUR (4) INCHES IN CALIPER SIZE OR LESS, AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TRUNKS OF MORE THAN FOUR (4) INCHES IN CALIPER.
i. "O.C." MEANS "ON CENTER" AND REFERS TO SPACING USED BETWEEN CENTER OF ONE PLANT AND CENTER OF ANOTHER.

1.3 QUALITY ASSURANCE

A. PLANT NAMES INDICATED COMPLY WITH LATEST ADDITION OF AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY AMERICAN ASSOCIATION OF NURSERYMEN AND LATEST EDITION OF STANDARDIZED PLANT NAMES PREPARED BY AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF VARIETIES NOT LISTED IN THESE PUBLICATIONS CONFORM GENERALLY WITH NAMES ACCEPTED BY NURSERY TRADE. PROVIDE STOCK TRUE TO BOTANICAL NAME AND LEGIBLY TAGGED.
B. COMPLY WITH SIZING AND GRADING STANDARDS OF LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK. PLANTS WITH IRREGULAR GROWTH, WEAKNESS IN STRUCTURE OF MATERIAL, INFESTATIONS OR IRREGULAR COLORATION WHEN PLANTED WILL NOT BE ACCEPTED.
C. PLANTS SHALL BE GROWN UNDER SUPERVISION OF STANDARDIZED NURSERY CONDITIONS AND IN CLIMATIC CONDITIONS SIMILAR TO THOSE OF PROJECT SITE.
D. STOCK FURNISHED SHALL BE AT LEAST THE MINIMUM SIZE INDICATED. USE OF STOCK LARGER THAN SPECIFIED IS ACCEPTABLE AT NO ADDITIONAL COST TO OWNER. IF THE USE OF THE LARGER STOCK IS APPROVED, SPREAD OF ROOTS OR ROOT BALL OF EARTH SHALL BE INCREASED IN PROPORTION TO THE SIZE OF PLANTS. ROOTS SHOULD BE DISTRIBUTED THROUGHOUT THE ENTIRE CONTAINER SUCH THAT ROOTS ARE VISIBLE AND EXTEND ON ALL SIDES TO THE INSIDE FACE OF CONTAINER. ROOT STRUCTURE SHALL PROVIDE EVIDENCE THAT PLANT HAS BEEN GROWN IN CONTAINER SIZE SPECIFIED.
E. PLANTS AND OTHER PRODUCTS AND MATERIALS TO BE SUPPLIED BY CONTRACTOR SHALL BE SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
F. MATERIAL MAY BE INSPECTED AND APPROVED AT PLACE OF GROWTH FOR COMPLIANCE WITH SPECIFICATION REQUIREMENTS FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT ALTER THE RIGHT OF INSPECTION AND REJECTION UPON DELIVERY AT SITE OR DURING THE PROGRESS OF WORK.
G. PROVIDE AND PAY FOR MATERIAL TESTING:
a. THE FOLLOWING DATA MAY BE REQUESTED:
1. SOIL ANALYSIS TO DETERMINE IF ADDITIONAL NUTRIENTS ARE NEEDED.
2. TOPSOIL.
3. PH FACTOR.
4. MECHANICAL ANALYSIS.
5. PERCENTAGE OF ORGANIC CONTENT.
6. TYPE AND QUANTITY OF ADDITIVES REQUIRED TO ESTABLISH SATISFACTORY PH FACTOR AND SUPPLY OF NUTRIENTS.

1.4 SUBMITTALS

A. THE FOLLOWING MATERIAL SAMPLES WILL BE REQUIRED BY OWNER FOR APPROVAL PRIOR TO INSTALLATION:
a. SANDY LOAM TOPSOIL.
b. MULCH.
c. RIVER ROCK.
d. WEED BARRIER.
B. CONTRACTOR SHALL SUPPLY UNIT PRICES FOR PRODUCTS AND LABOR. IN THE EVENT THAT A GREATER OR LESSER AMOUNT OF WORK IS COMPLETED, UNIT PRICES SHALL APPLY. UNIT PRICES COVER COST OF WORK AND MATERIALS IN PLACE, INCLUDING MATERIALS, EQUIPMENT, LABOR, TAXES, OVERHEAD, PROFIT, MAINTENANCE AND GUARANTEE REQUIRED TO RENDER WORK COMPLETE.

1.5 DELIVERY, STORAGE AND HANDLING

A. CONTRACTOR SHALL COORDINATE DELIVERY AND INSTALLATION ACTIVITIES WITH GENERAL CONTRACTOR AND SHALL INFORM GENERAL CONTRACTOR AT LEAST 24 HOURS PRIOR TO COMMENCEMENT OF WORK AT PROJECT PREMISES.
B. DELIVER FERTILIZER MATERIALS IN ORIGINAL, UNOPENED AND UNDAMAGED CONTAINERS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. STORE IN MANNER TO PREVENT WETTING AND DETERIORATION.
C. TAKE PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE IN PREPARING PLANTS FOR MOVING. DIG, PACK, WRAP, TRANSPORT AND HANDLE PLANTS WITH CARE TO ENSURE PROTECTION AGAINST INJURY. PROTECT PLANTS FROM DRYING OUT. IF PLANTS CANNOT BE PLANTED IMMEDIATELY UPON DELIVERY, PROPERLY PROTECT THEM WITH TARPS, OR IN A MANNER ACCEPTABLE TO ARCHITECT. NO PLANT SHALL BE BOUND WITH ROPE OR WIRE IN A MANNER THAT COULD DAMAGE OR BREAK BRANCHES.
D. COVER PLANTS TRANSPORTED IN OPEN VEHICLES WITH A PROTECTIVE COVERING TO PREVENT WIND BURN.
E. PROVIDE DRY, LOOSE TOPSOIL FOR PLANTING BED MIXES. MUDDY TOPSOIL IS NOT ACCEPTABLE.

1.6 GUARANTEE

A. PLANTS PROVIDED AND PLANTED BY CONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. WARRANTY PERIOD SHALL TERMINATE ONLY IF PLANTS HAVE BEEN IN FULL LEAF FOR A MINIMUM OF THREE (3) WEEKS. IN THE EVENT THE WARRANTY PERIOD OF ONE YEAR WOULD EXPIRE PRIOR TO AFOREMENTIONED REQUIREMENT, PERIOD SHALL BE EXTENDED TO COMPLY. PLANTS, INCLUDING TREES, WHICH HAVE PARTIALLY DIED SO THAT SHAPE, SIZE, OR SYMMETRY HAS BEEN DAMAGED, SHALL BE CONSIDERED SUBJECT TO REPLACEMENT. IN SUCH CASES, THE OPINION OF ARCHITECT SHALL BE FINAL.
B. PLANTS USED FOR REPLACEMENT SHALL BE OF SAME VARIETY AS THOSE ORIGINALLY SPECIFIED AND PLANTED IN SAME CONDITION. REPLACEMENT PLANTS WILL BE AT LEAST SAME OVERALL SIZE OF ADJACENT PLANTS AT TIME OF REPLACEMENT. WORK, INCLUDING MATERIALS, LABOR AND EQUIPMENT USED IN REPLACEMENTS, SHALL BE AT NO COST TO OWNER. DAMAGE, INCLUDING RUTS IN LAWN OR BED AREAS, INCURRED IN MAKING REPLACEMENTS SHALL BE IMMEDIATELY REPAIRED BY CONTRACTOR.
C. CONTRACTOR SHALL CHECK PLANT MATERIALS AND CONDITIONS ONCE PER MONTH FOR FIRST SIX MONTHS AND FOLLOW UP WITH A REPORT TO ARCHITECT. REPORT SHALL PROVIDE, IN DETAIL, DEFICIENCIES, PROBLEMS OR ACCOMPLISHMENTS REGARDING WORK COMPLETED BY CONTRACTOR.

1.7 MAINTENANCE

A. DURING PLANTING OPERATIONS, THE CONTRACTOR SHALL PERFORM MAINTENANCE REQUIRED OF INSTALLED PLANTINGS. MAINTENANCE TO CONTINUE UNTIL COMPLETION AND FINAL ACCEPTANCE, AT WHICH TIME THE OWNER SHALL ASSUME RESPONSIBILITY.

1.8 WATERING

A. WATER WILL BE AVAILABLE ON SITE AT NO EXPENSE TO CONTRACTOR. HOSE AND OTHER WATERING EQUIPMENT REQUIRED FOR WORK SHALL BE FURNISHED BY CONTRACTOR INSTALLING PLANT MATERIALS.

1.9 CLEAN–UP

A. DURING WORK PROGRESSION, THE PREMISES ARE TO BE KEPT NEAT AND ORDERLY AT ALL TIMES. STORAGE AREAS FOR PLANTS AND OTHER MATERIALS SHALL ALSO BE ORGANIZED SUCH THAT THEY, ARE NEAT AND ORDERLY. TRASH, INCLUDING DEBRIS RESULTING FROM REMOVING WEEDS OR ROCK FROM PLANTING AREAS, PREPARING BEDS, OR PLANTING PLANTS SHALL BE REMOVED FROM SITE DAILY AS WORK PROGRESSES.
B. WALKS AND DRIVES SHALL BE KEPT CLEAN BY SWEEPING AND/OR HOSING.

1.10 COMPLETION OF WORK

A. WORK SHALL BE CONSIDERED COMPLETE AND ELIGIBLE FOR ACCEPTANCE ONLY AFTER FULFILLMENT OF THE FOLLOWING REQUIREMENTS AND ANY APPLICABLE REQUIREMENTS AS STATED ELSEWHERE IN SPECIFICATIONS.
B. MATERIALS SHALL BE INSTALLED ACCORDING TO SPECIFICATIONS.

PART 2 PRODUCTS

2.1 PLANT MATERIAL

A. PROVIDE PLANTS TYPICAL OF THEIR SPECIES OR VARIETY WITH NORMAL, DENSELY DEVELOPED BRANCHES AND VIGOROUS FIBROUS ROOT SYSTEMS COMPLYING WITH THE REQUIREMENTS OF "AMERICAN STANDARD FOR NURSERY STOCK", ANSI Z60.1 CURRENT EDITION BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PROVIDE ONLY SOUND, HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DISFIGURING KNOTS, SUN SCALD INJURIES, FROST CRACKS, ABRASIONS OF BARK, PLANT DISEASES, INSECT EGGS, BORERS, AND OTHER FORMS OF INFESTATION. PLANTS SHALL HAVE A FULLY DEVELOPED FORM WITHOUT VOIDS AND OPEN SPACES. PLANTS HELD IN STORAGE WILL BE REJECTED IF THEY DO NOT SHOW SIGNS OF GROWTH DURING STORAGE.
a. BALLED AND BURLAPPED PLANTS SHALL HAVE FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF PLANT. PROVIDE BALL SIZES COMPLYING WITH LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK.
b. IF THERE IS NO SPECIFICATION LISTED, THE FOLLOWING GUIDE SHALL BE USED: TREE ROOT BALLS SHALL BE A MINIMUM OF 12" IN DIAMETER FOR EACH 1" OF TRUNK DIAMETER AS MEASURED 6" ABOVE BALL.
c. MULTI–TRUNK (M.T.) TREES SHALL BE CALIBRATED ACCORDING TO THE FOLLOWING: SMALLEST TRUNK CALIPER SHALL NOT BE LESS THAN ONE CALIPER SIZE SMALLER THAN LARGEST TRUNK WITH NUMBER OF TRUNKS SPECIFIED (REFER TO AMERICAN STANDARD FOR NURSERY STOCK).
d. CONTAINER–GROWN STOCK SHOULD BE GROWN IN A CONTAINER FOR A SUFFICIENT LENGTH OF TIME FOR ROOT SYSTEM TO HAVE DEVELOPED TO HOLD ITS SOIL TOGETHER.
e. PLANTS PLANTED IN ROWS SHALL BE MATCHED IN FORM.
f. PLANTS LARGER THAN THOSE SPECIFIED IN PLANT LIST MAY BE USED AT NO ADDITIONAL COST TO THE OWNER.
B. NO PLANTS SHALL BE LOOSE IN CONTAINER.
C. CONTAINER STOCK SHALL NOT BE POT BOUND.

2.2 SOIL PREPARATION MATERIALS (SOIL AMENDMENTS SHALL BE APPLIED PER SOILS ANALYSIS)

A. SANDY LOAM TOPSOIL TO BE USED SHALL HAVE THE FOLLOWING CHARACTERISTICS: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, OBTAINED FROM A WELL–DRAINED ARABLE SITE, REASONABLY FREE FROM CLAY LUMPS, COARSE SANDS, STONES, PLANTS, GRASS, WEEDS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS.
a. PROVIDE TOPSOIL FREE OF SUBSTANCES HARMFUL TO PLANTS WHICH WILL BE GROWN IN SOIL.
b. IDENTIFY SOURCE AND LOCATION OF TOPSOIL PROPOSED FOR USE ON PROJECT.
c. REUSE EXISTING ON STOCKPILED TOPSOIL IF IT MEETS SPECIFICATION STANDARDS.
B. ORGANIC SOIL AMENDMENTS:
a. STERILIZED MANURE.
b. PEAT MOSS
c. PINE BARK MULCH
C. TREE AND SHRUB PLANTING FERTILIZER:
a. SLOW RELEASE (THREE TO FOUR MONTH) GRANULAR FERTILIZER WITH A NPK ANALYSIS OF 17–6–12 PLUS MINUS AS MANUFACTURED BY SIERRA, OR APPROVED EQUAL.
b. GYPSUM.
D. HERBICIDES:
a. ROUNDUP, AS MANUFACTURED BY MONSANTO, OR APPROVED EQUAL.
b. TREFLAN 5G, AS MANUFACTURED BY ELANCO PRODUCTS IN INDIANAPOLIS, INDIANA, OR APPROVED EQUAL.

2.3 STAKING, GUYING & WRAPPING

A. STAKING MATERIAL SHALL CONSIST OF 2" X 2" X 6" HARDWOOD STAKES.
B. GUYING MATERIAL SHALL CONSIST OF WIRE AND BLACK POLY HOSE.
C. TREE WRAP TWINE SHALL BE JUTE TWINE OR APPROVED EQUAL.
D. WRAPPING MATERIAL SHALL CONSIST OF WATERPROOF, CRINKLED DUPLEX HEAVY PAPER MANUFACTURED FOR TREE WRAPPING PURPOSES.

2.4 MULCH

A. DESIGNATED AREAS SHALL RECEIVE 3" ORGANIC MULCH. ORGANIC MULCH SHALL BE CLEAN, FRESH, PEST FREE AND FREE OF BRANCHES, AND FOREIGN MATTER. SEE LANDSCAPE PLAN FOR MULCH TYPE.

2.5 WEED BARRIER

A. WEED BARRIER SHALL BE DEWITT PRO 5.

2.6 EDGING

A. EDGING SHALL BE AS SPECIFIED ON PLANS.

PART 3 EXECUTION

3.1 EXISTING CONDITIONS

A. EXAMINE PROPOSED PLANTING AREAS AND CONDITIONS OF INSTALLATION PRIOR TO CONSTRUCTION. DO NOT START PLANTING WORK UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED.
B. VERIFY LOCATION OF UTILITIES PRIOR TO LANDSCAPE OPERATIONS. CALL UTILITY COMPANIES PRIOR TO BEGINNING LANDSCAPE OPERATIONS.
C. GENERAL CONTRACTOR IS RESPONSIBLE FOR BRINGING LANDSCAPE AREAS TO FINISH GRADE ± ONE INCH. LANDSCAPE CONTRACTOR SHALL PROVIDE A UNIFORM SURFACE FREE FROM IRREGULAR SURFACE CHANGES. RAKE SURFACES CLEAN OF STONES 1 1/2" OR LARGER IN DIMENSION AND OTHER DEBRIS.

3.2 EXCAVATION (SOIL AMENDMENTS SHALL BE APPLIED PER SOILS ANALYSIS)

A. CONTRACTOR SHALL ADHERE TO THE FOLLOWING DURING EXCAVATION:
a. PROTECT EXISTING BUILDING, UTILITIES, WALKS, PLANTERS, PLANTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY LANDSCAPING OPERATIONS.
b. BACKFILL GROUND COVER, SHRUB, AND TREE PLANTING AREAS WITH APPROVED PLANTING MIXTURE.
B. CONTRACTOR SHALL BE FAMILIAR WITH LOCATION AND ALIGNMENT OF EXISTING OR NEW UTILITY LINES, DUCTS, AND BURIED CABLES. CONTRACTOR SHALL FIELD CHECK LOCATION OF UTILITIES BEFORE INSTALLATION OF MATERIALS OR PLANTS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE RESULTING FROM NEGLECT OR FAILURE TO COMPLY WITH THIS REQUIREMENT.

3.3 PREPARATION

A. PLANTING SHALL BE PERFORMED ONLY BY EXPERIENCED WORKMEN FAMILIAR WITH PLANTING PROCEDURES UNDER SUPERVISION OF A QUALIFIED SUPERVISOR.
B. PLANTING TIMES AND PROCEDURES SHALL BE ACCORDING TO ACCEPTED PRACTICES. PLANTING SHALL BE SUSPENDED WHEN TEMPERATURE IS BELOW 28 DEGREES °F., THE WIND VELOCITY OVER 30 MILES PER HOUR, NATURAL GROUND IS FROZEN OR TOO WET, OR CONTINUATION OF PREVAILING WEATHER WOULD CAUSE UNSATISFACTORY RESULTS.
C. GRADE PLANTING AREAS TO PREVENT WATER FROM STANDING IN PLANTING BEDS. PROVIDE TOPSOIL TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING AND OUT OF PLANTING BEDS.

3.4 INSTALLATION

A. IF WEEDS OR GRASS ARE APPARENT IN PLANTING AREAS, SPRAY AREA WITH ROUNDUP AT RATE OF 3 OZ. PER 100 SQUARE FEET. AIR TEMPERATURE SHALL BE ABOVE 50 DEGREES °F. WITH NO RAIN IN FORECAST. REPEAT PROCEDURE EVERY 14 DAYS UNTIL FOREIGN GRASS HAS BEEN ELIMINATED. DO NOT INSTALL PLANT MATERIALS UNTIL GRASS AND WEEDS HAVE BEEN ELIMINATED FROM PLANTING BEDS.
B. IF WEEDS AND GRASS ARE DORMANT, EXCAVATE TOP 3 INCHES OF EXISTING SOIL AND REMOVE FROM SITE. BACKFILL WITH SUITABLE TOPSOIL.
C. ADD PROPER PLANTING MIXTURE TO PLANTING BEDS ACCORDING TO PLANS. ROTOTILL PLANTING BEDS TO A DEPTH OF EIGHT (8) INCHES. DO NOT WORK BEDS WHEN IN FROZEN OR MUDDY CONDITIONS.
D. EXCAVATE FOR PLANT MATERIALS TREE PITS SHALL BE 12" GREATER IN DIAMETER AT SAME DEPTH AS ROOT BALL. SHRUB PITS SHALL BE 6" GREATER IN DIAMETER AND AT SAME DEPTH AS ROOT BALL. TOPSOIL FROM EXCAVATION MAY BE RETAINED FOR BACKFILL. REMOVE EXCAVATED CLAY, SUBSOIL, ROCK AND DEBRIS FROM SITE.
E. PLANT SHRUBS NO CLOSER THAN 18" FROM BACK OF CURB IN PARKING ISLANDS AS INDICATED ON DRAWINGS.
F. ADD PROPER SOIL AMENDMENTS TO BACKFILL USED FOR TREES ACCORDING TO PLANS.
G. SET PLANT MATERIAL IN PLANTING PIT TO PROPER GRADE AND ALIGNMENT. SET PLANTS UPRIGHT, PLUMB, AND FACED TO GIVE BEST APPEARANCE OR RELATIONSHIP TO EACH OTHER OR ADJACENT STRUCTURE. NO FILLING WILL BE PERMITTED AROUND TRUNKS OR STEMS. BACKFILL PIT WITH PLANTING MIXTURE. DO NOT USE WET, MUDDY MIXTURES FOR BACKFILLING.
H. CROWN PARKING ISLANDS SIX INCHES ABOVE TOP OF CURB UNLESS OTHERWISE INDICATED ON PLANS.
I. AFTER BALLED AND BURLAPPED PLANTS ARE SET, MIX PLANTING SOIL AROUND BASES OF THE ROOT BALLS AND FILL VOIDS.
J. SET TREES 3" ABOVE SURROUNDING GRADE, TO ALLOW FOR SETTLEMENT. CUT TWINE FROM AROUND TRUNK AND PULL BACK BURLAP FROM THE TOP 1/3 OF THE ROOT BALL. FORM WATERING RING FOR TREES. SET SHRUBS 2" ABOVE FINISHED GRADE. SET GROUND COVER AT 1" ABOVE FINISHED GRADE.
K. FERTILIZE PLANTINGS WITH SIERRA 17–6–12 PLUS MINORS AT A RATE OF FIVE POUNDS PER 100 SQUARE FEET PRIOR TO MULCHING. MIX FERTILIZER INTO THE SOIL TO A DEPTH OF TWO (2) INCHES. WASH FERTILIZER OFF FOLIAGE AND AWAY FROM TRUNKS OR STEMS.
L. SHRUBS AND GROUND COVER SHALL BE SPACED USING A TRIANGULAR PATTERN, UNLESS OTHERWISE SHOWN ON DRAWINGS, AND SPACED IN ACCORDANCE WITH INDICATED DIMENSIONS. ADJUST SPACING AS NECESSARY TO EVENLY FILL PLANTING BED WITH INDICATED NUMBER OF PLANTS.
M. WHEN PLANTING GROUND COVERS FROM FOUR INCH POTS OR SMALLER, FERTILIZING AND MULCHING MAY BE DONE PRIOR TO PLANT INSTALLATION. ROOT SYSTEM SHALL BE FULLY IMBEDDED IN PREPARED PLANTING SOIL AND PLANT SHALL NOT BE COVERED BY MULCH.
N. ROOT BARRIERS TO BE INSTALLED PER APPROVED LANDSCAPE PLANS.

3.5 MULCH

A. MULCH GRO

Unique History … Vibrant Future

CITY OF DUPONT

Department of Community Development
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Telephone: (253) 964-8121
www.dupontwa.gov

August 20, 2018

Daniel K. Balmelli, P.E.
Barghausen Consulting Engineers
18215-72nd Avenue South,
Kent, WA 98032
dbalmelli@barghausen.com

Subject: DuPont Industrial Park at 1700 Center Drive
Type III Site Plan Review and SEPA Environmental Review (PLNG 2018-008, -009 and -047)
Notice of Complete Application

Dear Mr. Balmelli,

On July 17, 2018, the City received the following additional plans and documents to be included in the Type III Site Plan Review and SEPA Environmental Review applications for DuPont Industrial Park:

- Cover Letter from Barghausen Consulting Engineers dated July 16, 2018
- Tree Permit Application Form signed July 11, 2018
- Copy of Letter and Plans delivered to DAHP dated July 16, 2018
- Revised SEPA Checklist dated July 13, 2018
- Preliminary Tree Retention, Removal and Replacement Plan prepared by Barghausen Consulting Engineers dated July 16, 2018
- Preliminary Civil Engineering Design Plans prepared by Barghausen Consulting Engineers dated July 10, 2018

On August 14, 2018, the City received the following additional plans and documents to be included in Type III Site Plan Review, SEPA Environmental Review, and Type III Tree Modification Approval applications:

- Cover Letter from Barghausen Consulting Engineers dated August 14, 2018
- Land Use Application Form dated August 13, 2018
- Preliminary Civil Engineering Design Plans prepared by Barghausen Consulting Engineers dated August 13, 2018
- Revised Preliminary Landscape, Irrigation and Tree Retention Plan prepared by Barghausen Consulting Engineers dated August 14, 2018
- Tree Retention Plan prepared by Washington Forestry Consultants, Inc. dated August 9, 2018

The application has been deemed complete for processing.

The Notice of Application is intended to be published on August 22, 2018. Please arrange to pick up the Notice and posting board so that the site is posted no later than August 22, 2018.

If you have any questions, please call me at 253.912.5393, or email me at jwilson@dupontwa.gov.

Attachment 9.a. Notice of Complete Application dated August 20, 2018

Sincerely,

Jeffrey S. Wilson, AICP
Director of Community Development

Cc: File No. PLNG 2018-008,-009, -047
Eric Cederstrand / DuPont Industrial Partners, LLC (via email)
Bill Anderson, City of DuPont Building Official (via email)
Mike Turner, City of DuPont Fire Marshal (via email)
Gus Lim, City of DuPont Public Works Director (via email)
Fred Foreman, City of DuPont Public Works (via email)
Scott Heim, City of DuPont Public Works (via email)
Lisa Klein, AHBL (on behalf of the City of DuPont) (via email)
Dominic Miller, Gray & Osborne, Inc. (on behalf of the City of DuPont) (via email)

Unique History … Vibrant Future

CITY OF DUPONT
Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

Notice of Application with Optional DNS

DuPont Industrial Park at 1700 Center Drive
City File Nos. PLNG 2018-008, -009 and -047

The City of DuPont has received a permit application for the following proposal that may be of interest to you. You are invited to comment on this proposal.

Date of Complete Application: August 20, 2018
Date of Notice of Application: August 22, 2018
Comment Due Date: September 4, 2018
Location of Proposal: 1700 Center Drive, tax parcel no. 011926-2019, in the NW ¼ of Sec. 26, Twn. 19N, Rg 1E, W.M. in Pierce County, Washington.

Description of Proposal: Construct two office/warehouse buildings totaling approximately 258,400 square feet on an approximate 21-acre vacant parcel of land located on the west side of Sequalitchew Drive. The project will include grading, paved truck maneuvering and truck and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, dedications of public right-of-way and extension of Sequalitchew Drive and franchise utility improvements. The proposal includes expanded public right-of-way dedication to create a public plaza for historical makers as part of the development. The project will include the improvement of the existing public trail easement as part of the Sequalitchew Creek Trail. Tree removal will be required including removal of one landmark Oregon white oak tree located within the proposed right of way of Sequalitchew Drive. The property is subject to the terms of a Consent Decree between Washington State Dept. of Ecology and Weyerhaeuser Company and DuPont Company entered by Thurston County Superior Court on July 22, 1991.

Applicant: Eric Cederstrand, DuPont Industrial Partners, LLC

Applicant's Agent: Barghausen Consulting Engineers

Environmental Review: The City of DuPont has reviewed the proposed project for probable adverse environmental impacts and expects to issue a Mitigated Determination of Non-significance (MDNS) for this project. The optional DNS process in WAC 197-11-355 is being used. **This may be your only opportunity to comment on the environmental impacts of the proposed project**. The following measures may be required to mitigate for the potential adverse environmental impacts of the proposal: measures for the protection of cultural resources, steep slopes, Sequalitchew Creek, landmark and specimen trees, traffic volumes and intersection safety improvements at Sequalitchew Drive and Center Drive. (Note: These potential mitigation measures are in addition to conditions required by the development regulations listed below.)

City Permits and Approvals: SEPA Environmental Determination (PLNG2018-008), Type III Site Plan Approval (PLNG2018-009), Type III Tree Modification Approval (PLNG2018-047), Site Development and Grading Permit, Possible Short Plat Approval or Right of Way Dedication, Fire Suppression/Fire Alarm Permits, and Building Permits.

Other Permits and Approvals: Sanitary Sewer Permit by Pierce County, NPDES Permit by Dept. of Ecology

Required Studies: Environmental Checklist, Traffic Impact Analysis, Cultural Resources Study, Geotechnical Engineer Report, Technical Information Report, Tree Retention Plan and analysis of soil contamination.

The project will be evaluated for consistency with the City development regulations, including Title 12, Buildings & Construction; Title 21 Water and Sewer Utilities, Title 22 Stormwater Utility, Title 23, Environment, and Title 25 Land Use Code.

Public Comment: Agencies, tribes, and the public are encouraged to review and comment on the proposed project and its probable environmental impacts by submitting **written comments to the City of DuPont by 5 p.m. September 4, 2018**. The City intends to issue the SEPA MDNS with a 14-day appeal period and will accept comments on the Type III application up to the Public Hearing. Copies of all application plans and documents may be viewed at City Hall.

Comments must be submitted by the date noted above to:

Jeff Wilson, AICP
Community Development Director and City SEPA Official
City of DuPont
1700 Civic Drive
DuPont, WA 98327
(253) 912-5393 / jwilson@dupontwa.gov

Public Hearing: Tentatively scheduled for 1:00 pm on October 17, 2018. A notice of public hearing will be issued in accordance with DMC 25.175.030.

Unique History … Vibrant Future

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WITHDRAWAL OF NOTICE ISSUED AUGUST 22ND AND REISSUANCE OF REVISED NOTICE TO INCLUDE SEPA REVIEW AGENCIES/PARTIES

NOTICE OF APPLICATION WITH OPTIONAL DNS

DuPont Industrial Park at 1700 Center Drive
City File Nos. PLNG 2018-008, -009 and -047

The City of DuPont has received a permit application for the following proposal that may be of interest to you. You are invited to comment on this proposal.

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City Permits and Approvals: SEPA Environmental Determination (PLNG2018-008), Type III Site Plan Approval (PLNG2018-009), Type III Tree Modification Approval (PLNG2018-047), Site Development and Grading Permit, Possible Short Plat Approval or Right of Way Dedication, Fire Suppression/Fire Alarm Permits, and Building Permits.

Attachment 9.c. Revised Notice of Application & Optional DNS dated August 27, 2018, including affidavit of posting the site and posting at City Hall notice board;

Other Permits and Approvals: Sanitary Sewer Permit by Pierce County, NPDES Permit by Dept. of Ecology

Required Studies: Environmental Checklist, Traffic Impact Analysis, Cultural Resources Study, Geotechnical Engineer Report, Technical Information Report, Tree Retention Plan and analysis of soil contamination.

The project will be evaluated for consistency with the City development regulations, including Title 12, Buildings & Construction; Title 21 Water and Sewer Utilities, Title 22 Stormwater Utility, Title 23, Environment, and Title 25 Land Use Code.

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Comments must be submitted by the date noted above to:

Jeff Wilson, AICP
Community Development Director and City SEPA Official
City of DuPont
1700 Civic Drive
DuPont, WA 98327
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Public Hearing: Tentatively scheduled for 1:00 pm on October 17, 2018 before the Cities Hearing Examiner. A notice of public hearing will be issued in accordance with DMC 25.175.030.

SEPA Distribution List

XX Indicates notice mailed to the following: PLNG2018-008,009 & 047 8/27/2018

Dist.	Agency/Contact		Dist.	Agency/Contact
XX	WA State Dept. of Archaeology & Historic Preservation Gretchen Kaehler Gretchen.Kaehler@DAHP.wa.gov			WA State Dept. of Labor and Industries PO Box 44000 Olympia, WA 98504
	WA State Dept. of Commerce Anne Fritzel, AICP Anne.fritzel@commerce.wa.gov		XX	WA State Dept. of Natural Resources SEPA Center SEPACENTER@dnr.wa.gov
XX	WA State Dept. of Ecology SEPA Unit Separegister@ecy.wa.gov		XX	WA State Dept. of Natural Resources South Puget Sound Region Southpuget.region@dnr.wa.gov
XX	WA State Dept. of Ecology Environmental Review Section SEPAunit@ecy.wa.gov		XX	WA State Dept. of Social and Health Services Lands & Bldg Div Elizabeth McNagny PO Box 45848 Olympia, WA 98504-5848
	WA State Dept. of Ecology SW Regional Office 1/9/18-just use SEPA Register			WA State Dept. of Social and Health Services Robert J. Hubenthal hubenbj@dshs.wa.gov
XX	WA State Dept. of Ecology SW Regional Office Toxic Clean-up Program Marian Abbett Marian.abbett@ecy.wa.gov		XX	WA State Dept. of Transportation OR-SEPA-REVIEW@wsdot.wa.gov
XX	WA. State Dept. of Ecology SW Regional Office Toxic Clean-up Program Eva Barber Evba461@ECY.WA.GOV			WA State Parks and Recreation Commission PO Box 42650 Olympia, WA 98504
XX	WA State Dept. of Ecology SW Regional Office Shorelands & Environmental Assistance Zachary Meyer ZMEY461@ECY.WA.GOV		XX	Puget Sound Partnership Heather Saunders Benson Environmental Planner Heather.benson@psp.wa.gov
XX	WA State Dept. of Ecology SW Regional Office Shorelands & Environmental Assistance Donna Joblonski dmca461@ECY.WA.GOV		XX	Puget Sound Clean Air Agency 1904 3rd Ave #105 Seattle, WA 98101 SEPA@pscleanair.org
XX	WA State Dept. of Fish & Wildlife(WDFW) SEPA Coordinator SEPAdesk@dfw.wa.gov			BNSF Railway General Manager 2454 Occidental Ave. South, Ste 1A Seattle, WA 98134-1451
	WA State Dept. of Fish & Wildlife (WDFW) Michele Culver Regional Director Teammontesano@dfw.wa.gov			FEMA John Graves John.graves1@dhs.gov
	WA State Dept. of Health Division of Drinking Water PO Box 47822 Olympia, WA 98504-7822		XX	DuPont City Clerk Karri Muir Kmuir@dupontwa.gov

XX	JBLM Public Works Charles Markham Deputy for Programs and Operations Charles.s.markham2.civ@mail.mil		XX	Nisqually Indian Tribe Joe Cushman Cushman.joe@nisqually-nsn.gov
XX	JBLM Steven Perrenot Director Public Works Steven.t.perrenot.civ@mail.mil		XX	Yakama Nation Elizabeth Sanchey Elizabeth_sanchey@yakama.com
	US Army Corps of Engineers (Regulatory Branch) Suzanne Anderson Suzanne.l.anderson@usace.army.mil		XX	Lakewood Community & Economic Development Frank Fiori Planning Manager ffiori@cityoflakewood.us
XX	USDA-Natural Resources Conservation Service 941 Powell Ave SW. Ste 102 Renton, WA 98057		XX	Steilacoom Community Development Doug Fortner Town Planner Doug.fortner@ci.steilacoom.wa.us
	DuPont Post Office Attn: Post Master 1313 Thompson Circle DuPont, WA 98327			Clover Park School District 10903 Gravelly Lake Dr. SW Lakewood, WA 98499
	National Marine Fisheries Service Northwest Regional Office 7600 Sand Point Way NE Seattle, WA 98115-0070			Steilacoom Historical School District Celeste Johnston cjohnston@steilacoom.k12.wa.us
XX	Nisqually Nat'l Wildlife Refuge Glynnis Nakai Glynnis Nakai@fws.gov		XX	LeMay Cust2180@wcnx.org
XX	Environmental Official-Pierce County Kathleen Larrabee Klarrab@co.pierce.wa.us		XX	PSE Jeff Payne Jeff.payne@pse.com
	Land Use Review Capital Development-Pierce Transit PO Box 99070 Lakewood, WA 98499-0070		XX	AHBL Lisa Klein Lklein@AHBL.com
XX	Pierce Co. Assessor/Treasurer-Commercial Dept. Darci Brandvold dbrand@co.pierce.wa.us		XX	Gray & Osborne Dominic Miller, PE dmiller@g-o.com
XX	Pierce Co. Environmental Services Bldg Public Works Kip Julin 9850 64th St. West University Place, WA 98467		XX	Geri Reinart, P.E. greinart@msn.com
XX	Pierce Co. PALS Adonais Clark aclark@co.pierce.wa.us		XX	CalPortland Pete Stoltz Pstoltz@calportland.com
XX	Pierce Co. Public Works Debbie Germer dgermer@co.pierce.wa.us		XX	NWL Association Emily Griffith nwlassistdirector@reachone.com
XX	Tacoma Pierce Co. Health Dept. Sara Bird SEPA@tpchd.org		XX	NWL Associates Larry Ackerman nwldirector@reachone.com

XX	Nisqually Indian Tribe Annette Bullchild, THPO Bullchild.annette@nisqually-nsn.gov		**XX**	Nisqually Indian Tribe Jackie Wall, THPO Wall.jackie@nisqually-nsn.gov
XX	Carol Estep President, DuPont Historical Society estepcarol@gmail.com			
	Name Title Address Address Email			Name Title Address Address Email

Permit Applicant Information

XX	Barghausen Consulting Engineers, Inc. Dan Balmelli, Executive Vice President dbalmelli@barghausen.com		**XX**	DuPont Industrial Partners, LLC Eric Cederstrand Ecederstrand@neilwalter.com
	Name Title Address Address Email			Name Title Address Address Email

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*:**

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision- making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Creekside Industrial Park

2. Name of applicant:

   Eric Cederstrand
   DuPont Industrial Partners, LLC

3. Address and phone number of applicant and contact person:

   1201 Pacific Avenue, Suite 1501
   Tacoma, WA 98402
   (253) 396-4860

4. Date checklist prepared:

   January 25, 2018
   Revised May 22, 2018
   Revised July 13, 2018

5. Agency requesting checklist:

   City of DuPont

6. Proposed timing or schedule (including phasing, if applicable):

   Project is anticipated to start Spring of 2018 or as soon as applicable permits are issued.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   There are no plans for future additions or expansions beyond the scope of work identified in this application.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

   Environmental Checklist
   Cultural Resources Study
   Geotechnical Engineering Report
   Geotechnical Engineering Addendum Letter
   Technical Information Report
   Traffic Impact Analysis
   Tree Retention Plan / ***Arborist Report***
   Consent Decree between Washington State DOE and Weyerhaeuser Company and DuPont Company

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

There are not pending applications to our knowledge.

10. List any government approvals or permits that will be needed for your proposal, if known.

Building Permit by City of DuPont
Plumbing/Electrical/Mechanical Permits by City of DuPont
Fire Suppression and Alarm Permits by City of DuPont
Environmental Determination by City of DuPont
Type III Site Plan Approval by City of DuPont
Short Plat Approval by City of DuPont
Site Work Permit by City of DuPont
Grading Permit by City of DuPont
Water Main Extension by City of DuPont
Pre-Treatment Approval by Pierce County Utilities
Sanitary Sewer Extension by Pierce County Utilities
NPDES Permit by Department of Ecology
Trash Location Approval by LeMay, Inc.
Tree Permit Application

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The project proposes to construct two office/warehouse buildings totaling approximately 258,400 square feet 268,400 square feet on an approximate 21-acre vacant parcel of land located on the west side of Sequalitchew Drive. In addition to construction of the new buildings, the project will include grading activities, paved truck maneuvering and truck and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, extension of Sequalitchew Drive and franchise utility improvements. The construction of a public park is also proposed as part of the development.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site. Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site is located to the west of Center Drive and to the west of the proposed extension of Sequalitchew Drive and is a portion of the NW 1/4 of Section 26, Township 19 North, Range 1 East, W.M.

Site Address: 1700 Center Drive

Tax Parcel No: 011926-2019

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

The site is predominantly flat however, an area classified as slopes greater than 40% is located at the southern edge of the site.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The soil type is Spanaway (41a) according to the Soil Survey of Pierce County.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None are known to exist to our knowledge.

e. Describe the purpose, type, total area, and approximate quantities and total area of any filling, excavation, and grading proposed. Indicate source of fill.

*Approximately **9,800** cubic yards of cut and **42,000** cubic yards of fill will be used to prepare the site for building construction. Approximately **24,000** cubic yards of stripping material will be removed from the site.*

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, erosion could occur as a result of construction activities, however a temporary erosion and sedimentation control plan will be designed and implemented according to city of DuPont standards to control erosion on the site.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 70 to 75 percent of the site will be impervious surface upon project completion.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

A temporary erosion and sedimentation control plan will be implemented during construction to reduce and control erosion impacts.

2. **Air**

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.

During construction, emissions from construction equipment would be present After construction, emissions from truck and vehicular traffic to and from the site would be present.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Emissions from vehicular traffic on area roadways could be present but would not be anticipated to affect the project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Construction equipment will be maintained to be in good working condition. No other specific measures are proposed.

3. **Water**

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, Sequalitchew Creek is located to the south of the site and flows to the west to discharge to Puget Sound.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes, work will be conducted within 200 feet of Sequalitchew Creek.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill of dredge material will be placed in or removed from surface waters.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.

No surface water withdrawals or diversions are proposed.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The site is not located within a 100-year flood plain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No waste materials will be discharged to surface water under this proposal.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximately quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No groundwater will be withdrawn or water discharged to groundwater under this proposal.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged to the ground. All sanitary sewer effluent will be collected and conveyed via tightline pipe to the existing sanitary sewer system.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The source of runoff will be rainfall from building roof tops and pavement areas. Stormwater will be collected and conveyed through catch basins and storm pipe for water quality treatment prior to entering the proposed infiltration system.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials would enter groundwater under this proposal. All sanitary sewer effluent will be collected and conveyed to the existing sanitary sewer system.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Infiltration is proposed for the site and will not alter the current drainage pattern of the area.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

A storm drainage system will be designed and constructed per city of DuPont standards to control runoff from the proposed project.

4. **Plants**

a. Check or circle types of vegetation found on the site:

__X__ deciduous tree: Alder, Maple, Oregon White Oaks, Apple, Plum, Pear
__X__ evergreen tree: Fir, Cedar, Pine
_____ Shrubs
__X__ Grass
_____ pasture
_____ crop or grain
_____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
_____ water plants: water lily, eelgrass, milfoil, other
_____ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

The majority of the vegetation on the site will be removed and the new development will be landscaped in accordance with city of DuPont standards. The site does contain landmark Oregon White Oak and fir trees and the city's tree retention requirement will pertain to the proposed development. ***Based on the results of the Arborist Report/Tree Retention Plan by Washington Forestry Consultants dated April 24, 2018, there are 76 landmark trees in the area of the project site. A total of 27 healthy landmark trees can be retained on the site and 49 landmark trees will need to be removed because they are unhealthy or located within the proposed development area or roadways. The DuPont Municipal Code requires a minimum of 1.5 trees to be retained on 19.38 acres of the 25.29 acre site resulting in a minimum of 29 healthy trees to be retained. One of the 49 landmark trees is an Oregon white oak tree which will need to be removed due to its location in or near the proposed right-of-way of the Y Road extension. The following is a summary of the proposed tree retention from the Arborist Report.***

Total project site area:	***19.38 acres***
Tree retention requirement:	***29 trees***
Total number of healthy trees:	***682 trees***
Total projected trees in tree retention areas A, B and C;	***327 trees***
Excess of tree retention over the tree requirement:	***298 trees***
Projected number of healthy trees to be removed:	***384 trees***
Projected number of landmark Oregon white oak trees to be removed:	***1 tree***

(Please refer to the Arborist Report/Tree Retention Plan prepared by Washington Forestry Consultants included in this submittal.)

c. List threatened or endangered species known to be on or near the site.

None are known to exist to our knowledge.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

*Landscaping and tree retention plans will be prepared per city of DuPont standards and **as recommended in the arborist's Tree Retention Plan will be** implemented to preserve and enhance vegetation.*

e) List all noxious weeds and invasive species known to be on or near the site.

None are known to exist to our knowledge.

5. **Animals**

a. Circle any birds or other animals which have been observed on or near the site or are known to be on or near the site:

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

None are known to be on or near the site to our knowledge.

c. Is the site part of a migration route? If so, explain.

Yes, the site is part of the Pacific Flyway for Migratory Birds.

d. Proposed measures to preserve or enhance wildlife, if any:

Landscaping plan will be designed and implemented per city of DuPont standards to preserve and enhance wildlife.

e. List any invasive species known to be on or near the site.

None are known to exist on or near the site to our knowledge.

6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Natural gas will be used for heating and electricity will be used for lighting and overall energy needs.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe:

It is not anticipated that the project could affect the use of solar energy by an adjacent site and the height of the proposed buildings will not exceed the maximum height designed by current zoning.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The project will comply with all state energy code requirements. No other specific measures are proposed.

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe any known or possible contamination at the site from present or past users.

There are no contaminates at the site to our knowledge, however the site is located within the Asarco plume boundary.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.:

Other than a minor potential for arsenic from the Asarco plume, none are known to exist on or near the site.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

During construction, chemicals associated with construction equipment would be on the site. Upon project completion, it is not anticipated that hazardous materials would be present.

4) Describe special emergency services that might be required.

Other than normal fire, medical and police services already available in the area, no special services are anticipated.

5) Proposed measures to reduce or control environments health hazards, if any:

No specific measures are proposed.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Noise from Center Drive to the east and from surrounding businesses would exist but would not be anticipated to affect the proposed development.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

On a short term basis, noise from construction equipment would be present from approximately 6 am to 6 pm, Monday through Friday. On a long term basis, noise from vehicular traffic to and from the site would be present with possible operating hours of 24 hours a day / 7 days a week.

3) Proposed measures to reduce or control noise impacts, if any:

During the construction phase of the project, construction equipment will be maintained and meet noise ordinance. The use of on-site and perimeter landscaping will help to reduce and control noise created by the proposed development.

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is undeveloped. Property to the east is a multi-family complex. Property to the north is undeveloped. South the west of the site is a golf course and an office building development.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if an? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

To our knowledge, the site has not been used as working farm lands or forest lands and no lands of commercial significance will be converted to other uses.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

There are no working farm or forest lands near the site.

c. Describe any structures on the site.

There are no structures on the site

d. Will any structures be demolished? If so, what?

No structures will be demolished.

e. What is the current zoning classification of the site?

The current zoning designation is Manufacturing Research Park (MRP).

f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation is Sequalitchew Village Planning Area.

g. If applicable, what is the current shoreline master program designation of the site?

N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

An area of steep slopes has been identified on the southern portion of the site per city of DuPont classification.

i. Approximately how many people would reside or work in the completed project?

Approximately 90 persons will work at the completed development.

j. Approximately how many people would the completed project displace?

No persons will be displaced.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No specific measures are proposed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project will be designed to comply with current city of DuPont code and design standards.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long term commercial significance, if any:

There are no farms or forest lands near the site.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

N/A

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

N/A

c. Proposed measures to reduce or control housing impacts, if any:

N/A

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest height of any building structure will be no taller than 65 to 70-foot as allowed in the MRP zone.

b. What views in the immediate vicinity would be altered or obstructed?

Views from east of the site looking to the west would be altered but it is not anticipated that any views would be obstructed.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The project will be designed to meet current city of DuPont design standards. The use architectural detailing on the buildings and the use of on-site and perimeter landscaping will reduce and control aesthetic impacts of the development.

11. **Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Glare from building window glass could be present during daylight hours and light and glare from building and parking lot lighting and vehicular traffic to and from the site could be present in early morning and evening hours.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

It is not anticipated that light or glare created by the proposed project would create safety hazards or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

Lot and building lights from the developments to the east of the site would be present but not anticipated to affect the proposed development.

d. Proposed measures to reduce or control light and glare impacts, if any:

Building glass will be non-glare and lighting will be directed appropriately. The use of perimeter landscaping and the retention of trees where possible will help to contain any light or glare created to within the site.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Home Course Golf Course is located adjacent to the site to the south and west and the Sequalitchew Creek Trail is located to the south.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The project will not displace any recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

A portion of the property at the southeastern boundary is proposed for a park. No other specific measures are proposed.

13. **Historic and Cultural Preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

There are no structures located on the site. There are known historic archeological sites in the vicinity of the proposal and ***a Cultural Resource Study and Unanticipated Cultural Resource Discovery Plan prepared in 2011 by Parus Consulting*** *have been completed for this site. (A copy is included in this application.)*

b. Are there any landmarks, features or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The Cultural Resource Report including Archeological Survey, Monitoring and Testing work completed by Parus Consulting concluded that there was no evidence of two previously recorded archaeological sites 1) the Methodist Episcopal Missions Site and the 9th U.S. Cavalry Bivouac site and 2) one flaked stone isolate except for two brick fragments. There was also no evidence of two other archaeological site including railroad dump #3 site and Burning Ground Dump site that were removed a decade ago. Two surface historic archaeological sites 1) railroad track segment and concrete platform and 2) one isolated kerosene can were identified during the fieldwork. In addition, one set of bridge fragments were identified during the fieldwork. The study concluded that no significant cultural properties will be affected by the proposed project and no further cultural resource action is warranted. Should any cultural resources be discovered during the project construction an Unanticipated Cultural Resources Discovery Plan has also been prepared and will be followed. (Please refer to the Cultural Resource Study and Unanticipated Cultural Resource Discovery Plan documents included with this application.)

c. Describe the methods used to access the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Methods used to access the potential impacts to cultural and historic resources included fieldwork consisting of a pedestrian survey and examination of subsurface sediments in a series of 125 shovel probes and 22 geotechnical test pits. The work was monitored by a member of the Nisqually Tribe. The work also included consultation with DAHP and the Nisqually, Puyallup and Squaxin Tribes and research of archaeological surveys, maps and GIS information.

d) Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

*The proposed development will comply **with the Unanticipated Cultural Resources Discovery Plan and Consent Decree**. If any artifacts were uncovered on the site, work would be halted and any discovery would comply with the Unanticipated Cultural Resources Discovery Plan.*

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access to the site will be via Sequalitchew Road from Center Drive.

b. Is the site or affected geographic area currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No. The nearest transit stop is located at DuPont Station.

c. How many additional parking spaces would the completed project have? How many would the project eliminate?

The proposed development will provide 99 parking stalls. No parking will be eliminated.

d. Will the proposal require any new improvements to existing roads or streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The extension of Sequalitchew Drive as a public road will be constructed as part of the proposed development

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Approximately 444 total daily trips are expected to be generated on a typical weekday with 43 trips during the AM peak hour and 49 trips during the PM peak hour. Please refer to the Traffic Impact Analysis for additional information.

g) Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

There are no working farms or forest lands near the site.

h. Proposed measures to reduce or control transportation impacts, if any:

The proposed extension of Sequalitchew Drive to include new pavement, stormwater system, curb, gutter and sidewalk will reduce and control impacts to transportation.

15. **Public Services**

a. Would the project result in an increase need for public services (for example, fire protection, police protection, health care, schools, other)? If so, generally describe.

Yes, the proposed development will increase the need for public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Payment of city of DuPont fire impact fees, stormwater and water system development charges, construction of the extension of Sequalitchew Drive and the addition of new fire hydrants are all measures that will reduce and control impacts to public services.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity:	*Puget Sound Energy*
Natural Gas:	*Puget Sound Energy*
Water:	*City of DuPont*
Sanitary Sewer:	*Pierce County Public Works and Utilities*
Telephone:	*CenturyLink*
Cable:	*Comcast*
Refuse Service:	*LeMay, Inc.*

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Daniel K. Balmelli _____

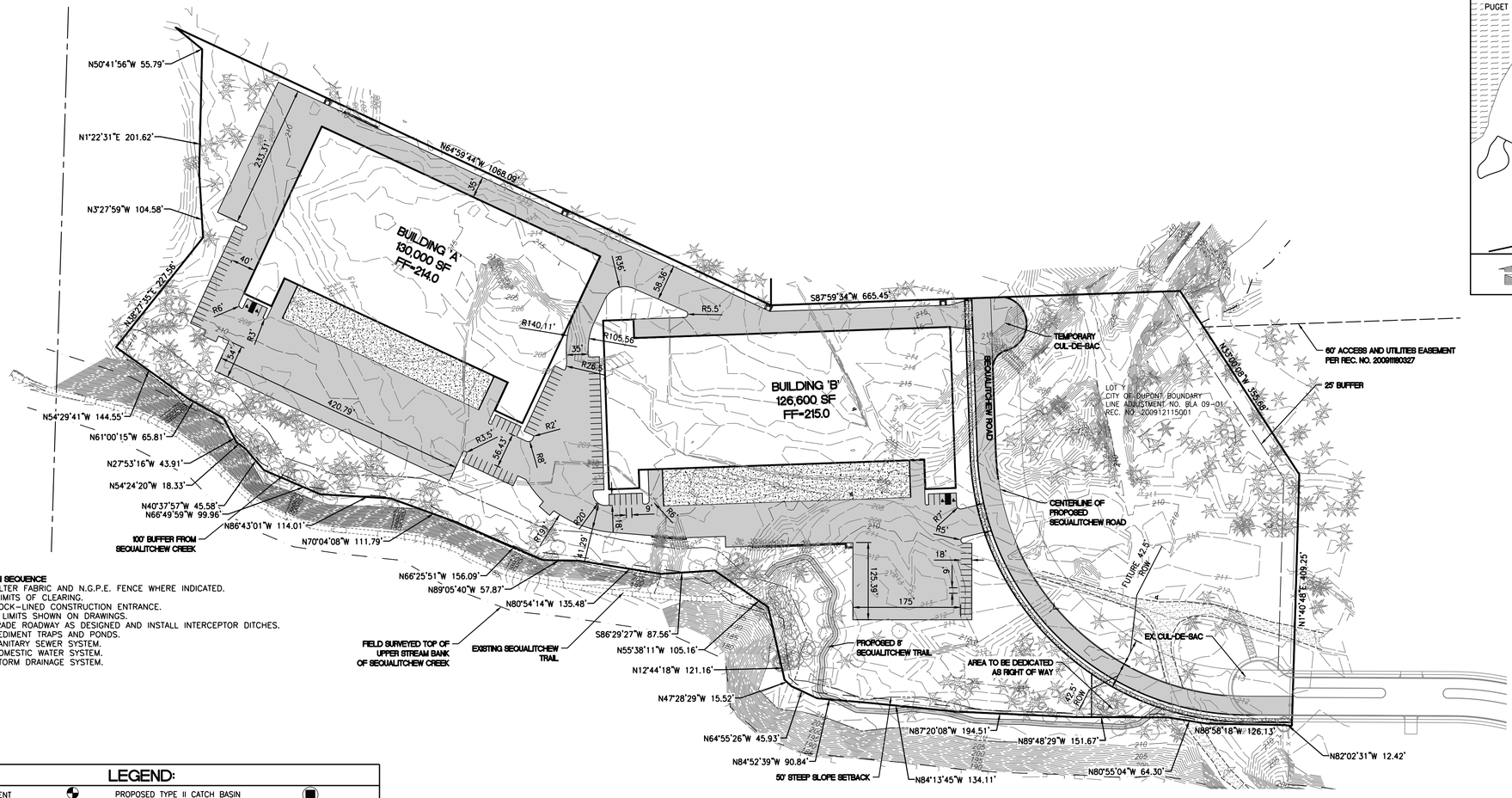
Print your name: Daniel K. Balmelli _____ __

Date Submitted: January 26, 2018, Revised May 22, 2018, **Revised July 13, 2018**

PRELIMINARY COVER SHEET
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

1"=100'

0 50 100 200



CONSTRUCTION SEQUENCE
1. INSTALL FILTER FABRIC AND N.G.P.E. FENCE WHERE INDICATED.
2. IDENTIFY LIMITS OF CLEARING.
3. INSTALL ROCK-LINED CONSTRUCTION ENTRANCE.
4. CLEAR TO LIMITS SHOWN ON DRAWINGS.
5. ROUGH GRADE ROADWAY AS DESIGNED AND INSTALL INTERCEPTOR DITCHES.
6. INSTALL SEDIMENT TRAPS AND PONDS.
7. INSTALL SANITARY SEWER SYSTEM.
8. INSTALL DOMESTIC WATER SYSTEM.
9. INSTALL STORM DRAINAGE SYSTEM.

LEGEND:

SURVEY MONUMENT	PROPOSED TYPE II CATCH BASIN
EX. POWER VAULT	PROPOSED TYPE I CATCH BASIN
EX. LUMINAIRE (LUM.)	PROPOSED STORM DRAIN FLOW ARROW
EX. LOT LIGHT	PROPOSED STORM DRAINAGE LINE
EX. POWER POLE	PROPOSED TRENCH DRAIN
EX. JUNCTION BOX	PROPOSED SANITARY SEWER LINE
EX. CATCH BASIN (CB)	PROPOSED SANITARY SEWER CLEANOUT
EX. CATCH BASIN (CB) TYPE 2	PROPOSED WATERMAIN — W
EX. SANITARY SEWER MANHOLE (SSMH)	PROPOSED FIRE HYDRANT
EX. GAS METER	PROPOSED WATER VALVE
EX. GAS VALVE	PROPOSED CONCRETE BLOCKING
EX. WATER VALVE (WV)	PROPOSED 90° BEND
EX. FIRE HYDRANT (FH)	PROPOSED SPOT ELEVATIONS — 23.20
MAIL BOX	MATCH EXISTING ELEVATION — 23.20± ME
EX. WATER METER	TOP OF WALL ELEVATION — TW=23.20
EX. SIGN	MATCH EXISTING ELEVATION — BW=23.20
EX. WATER LINE	MATCH EXISTING ELEVATION — 23.20± ME
EX. SANITARY SEWER LINE	PROPOSED CONTOURS — 220
EX. STORM DRAINAGE LINE	PROPOSED PAVEMENT
EX. POWER UNDERGROUND — P(UG)	PROPOSED CONCRETE
EX. POWER OVERHEAD — P(OH)	
EX. METAL FENCE	
EX. WOOD FENCE	
EXISTING SPOT ELEVATIONS — 1089	
EXISTING CONTOURS — 220	

PROJECT INFORMATION

USABLE AREA= 710,080 SQ. FT. ≈16.30 ACRES

LANDSCAPING AREA=53,353 SQ. FT. ≈1.22 ACRES

TOTAL IMPERVIOUS AREA = 13.48 ACRES

INDEX TO SHEETS:

C1 OF 13	PRELIMINARY COVER SHEET
C2 OF 13	PRELIMINARY TESC AND DEMOLITION PLAN-WEST
C3 OF 13	PRELIMINARY TESC AND DEMOLITION PLAN-EAST
C4 OF 13	PRELIMINARY TESC NOTES AND DETAILS
C5 OF 13	PRELIMINARY GRADING AND STORM DRAINAGE PLAN-WEST
C6 OF 13	PRELIMINARY GRADING AND STORM DRAINAGE PLAN-EAST
C7 OF 13	PRELIMINARY WATER AND SEWER PLAN-WEST
C8 OF 13	PRELIMINARY WATER AND SEWER PLAN-EAST
C9 OF 13	PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE
C10 OF 13	PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE (CONT.)
C11 OF 13	PRELIMINARY CONSTRUCTION NOTES AND DETAILS
C12 OF 13	PRELIMINARY CONSTRUCTION NOTES AND DETAILS
C13 OF 13	PRELIMINARY CONSTRUCTION NOTES AND DETAILS

ENGINEER/SURVEYOR
BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
PHONE: (425) 251-6222
FAX: (425) 251-8782
CONTACT: COSTA PHILIPPIDES, P.E.

ARCHITECT
HELIX DESIGN GROUP, INC.
6021 12TH STREET EAST SUITE 201
TACOMA, WA 98424
PHONE: (253) 922-6499
FAX: (253) 922-6499
CONTACT: Bruce MCKEAN

811 Know what's below. Call before you dig.

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

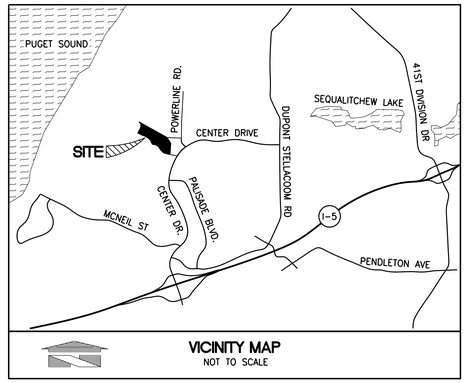
WASHINGTON STATE DEPARTMENT OF NATURAL
RESOURCES PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E. P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.



VICINITY MAP
NOT TO SCALE

SITE ADDRESS
1700 CENTER DRIVE DUPONT, WA 98327

PARCEL NUMBER
0119262019

PARCEL LEGAL DESCRIPTION:
(PER CITY OF DUPONT BLA 09-01 REC. NO. 200912115001)

LOT Y OF CITY OF DUPONT BOUNDARY LINE ADJUSTMENT BLA. NUMBER 09-01, RECORDED UNDER RECORDING NUMBER 200912115001, PIERCE COUNTY, WASHINGTON, BEING A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 01 EAST.

TITLE INFORMATION:

FIDELITY NATIONAL TITLE INSURANCE COMPANY, ORDER NO. 12906626 DATED JULY 15, 2011, AT 8:00 AM, WAS RELIED UPON FOR TITLE INFORMATION AND SUPPORTING DOCUMENTS. PLEASE REFER TO THAT REPORT FOR FURTHER INFORMATION REGARDING FINANCIAL MATTERS BEYOND THE SCOPE OF THIS SURVEY.

PROCEDURE / NARRATIVE

A FIELD TRAVERSE USING A "TRIMBLE S6" ROBOTIC TOTAL STATION, AND "TRIMBLE TSC2" DATA COLLECTOR SUPPLEMENTED WITH FIELD NOTES WAS PERFORMED, ESTABLISHING THE ANGULAR, DISTANCE, AND VERTICAL RELATIONSHIPS BETWEEN THE MONUMENTS, PROPERTY LINES, AND TOPOGRAPHIC FEATURES AS SHOWN HEREON. A "TOPCON GR3" GPS ROVER AND BASE WAS USED TO CHECK AND ESTABLISH THE ELEVATION OF BENCHMARKS AND CONTROL POINTS. THE RESULTING DATA MEETS OR EXCEEDS THE STANDARDS FOR LAND BOUNDARY SURVEYS AS SET FORTH IN WAC 332-130-090.

DATES OF SURVEYS

FIELD SURVEYS BY BARGHAUSEN CONSULTING ENGINEERS, INC. CONDUCTED MAY, 2011 AND ALL MONUMENTS SHOWN AS FOUND WERE VISITED AT THAT TIME.

HORIZONTAL DATUM - BASIS OF BEARINGS

THE BEARING OF THE LINE BETWEEN THE FOUND MONUMENT ID'S WSDOT 5552-WSDOT 776 BEARING TAKEN AS SOUTH 73° 08' 35" WEST

VERTICAL DATUM - NGVD29

PROJECT BENCHMARK
WSDOT MONUMENT DESIGNATION 5552 APPROXIMATELY 300' EAST OF THE SOUTHWEST CORNER OF SITE. NGVD29 ELEVATION WAS DERIVED BY CONVERTING PUBLISHED WSDOT NAVD88 ELEVATION USING CORPSCON SOFTWARE. (NAVD88= NGVD+3.44')
NGVD29 ELEV. = 259.173 FEET

HORIZONTAL DATUM - BASIS OF BEARINGS

THE BEARING OF THE LINE BETWEEN THE FOUND MONUMENT ID'S WSDOT 5552-WSDOT 776 BEARING TAKEN AS SOUTH 73° 08' 35" WEST

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PROJECT BENCHMARK

WSDOT MONUMENT DESIGNATION 5552 APPROXIMATELY 300' EAST OF THE SOUTHWEST CORNER OF SITE. NGVD29 ELEVATION WAS DERIVED BY CONVERTING PUBLISHED WSDOT NAVD88 ELEVATION USING CORPSCON SOFTWARE. (NAVD88= NGVD+3.44')
NGVD29 ELEV. = 259.173 FEET

UTILITY CONFLICT NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 811 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

No.	Date	By	Ckd.	Appr.	Revision
3	8/13/18	TAL	CP	CP	REVISED PER CITY COMMENTS

Title: PRELIMINARY COVER SHEET FOR DUPONT INDUSTRIAL WAREHOUSE

For: DUPONT INDUSTRIAL PARTNERS, LLC
1940 EAST D STREET, SUITE 108
TACOMA, WA 98421
(253) 396-4860

COSTA PHILIPPIDES — STATE OF WASHINGTON — 38375 — REGISTERED PROFESSIONAL ENGINEER
08/13/18

Scale: Horizontal 1"=100' Vertical N/A

Designed CP Drawn TAL Checked CP Approved CP Date 09/17/17

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18666

Sheet C1 of 13

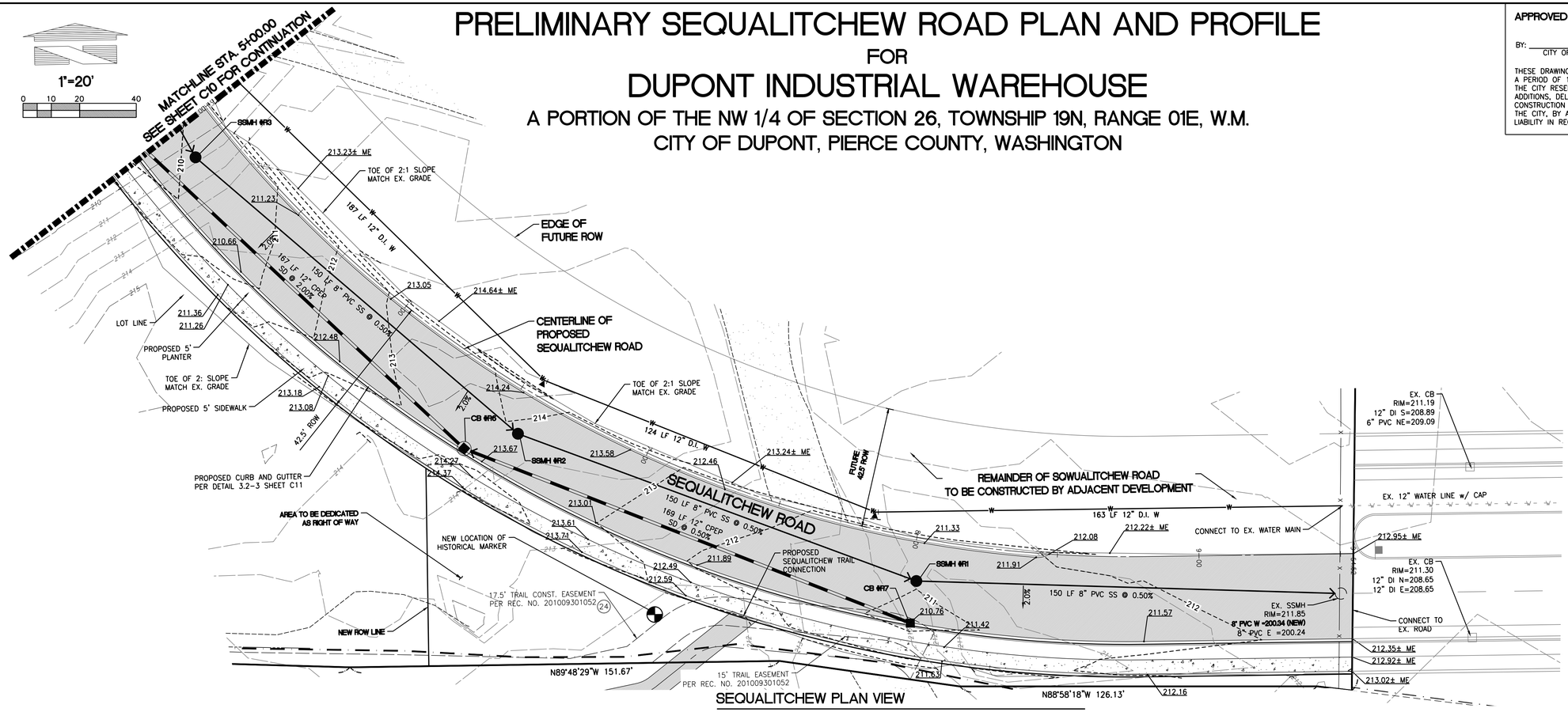
Path: \18000s\18666\preliminary\18666-pp.dwg Date/Time: 8/14/2018 11:59 AM Scale: 1 = 1 LOUDON Xref: ----

PRELIMINARY SEQUALITCHEW ROAD PLAN AND PROFILE
FOR
DUPONT INDUSTRIAL WAREHOUSE
A PORTION OF THE NW 1/4 OF SECTION 26, TOWNSHIP 19N, RANGE 01E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

APPROVED FOR CONSTRUCTION

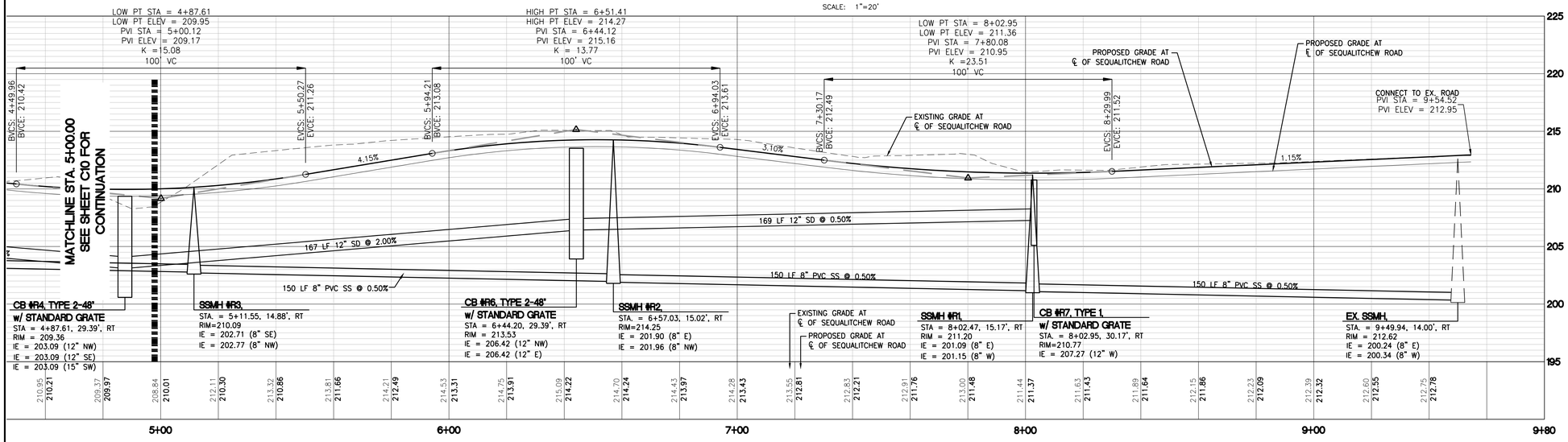
BY: _____ DATE: _____
CITY OF DUPONT

THESE DRAWINGS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 12 MONTHS FROM THE DATE SHOWN HEREON. THE CITY RESERVES THE RIGHT TO MAKE REVISIONS, ADDITIONS, DELETIONS, OR MODIFICATIONS SHOULD CONSTRUCTION BE DELAYED BEYOND THIS TIME LIMITATION. THE CITY, BY APPROVING THESE DRAWINGS, ASSUMES NO LIABILITY IN REGARDS TO THEIR ACCURACY OR OMISSIONS.



SEQUALITCHEW PLAN VIEW

SCALE: 1"=20'



SEQUALITCHEW PROFILE VIEW

SCALE: 1"=20' HORIZONTAL 1"=5' VERTICAL

| | | |

CULTURAL RESOURCES REPORT COVER SHEET

Author: N. Sikes and C. Arrington
Title of Report: Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455, and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, DuPont, Washington

Date of Report: 4-14-2011

County(ies): Pierce Section: 26 Township: 19 N Range: 01E

Quad: Nisqually (1981) Acres: 25.3

PDF of report submitted (REQUIRED) ☒ Yes

Historic Property Export Files submitted? ☐ Yes ☒ No

Archaeological Site(s)/Isolate(s) Found or Amended? ☒ Yes ☐ No

TCP(s) found? ☐ Yes ☒ No

Replace a draft? ☒ Yes ☐ No

Satisfy a DAHP Archaeological Excavation Permit requirement? ☒ Yes # ☐ No

DAHP Archaeological Site #:

_____
_____
_____
_____
_____
_____
_____
_____
_____

- Submission of paper copy is required.
- Please submit paper copies of reports ***unbound.***
- Submission of PDFs is required.
- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

ARCHEOLOGICAL SURVEY, TESTING AND MONITORING AT 45PI66, 45PI455 AND 45PI773, DUPONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT

CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Prepared For:

DuPont Industrial Partners, LLC

1201 Pacific Avenue, Suite 1501

Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA
Cindy J. Arrington, M.S., RPA

PARUS CONSULTING, INC.

1508 Eureka Road, Suite 170

Roseville, CA 95661

Final – April 14, 2011

ABSTRACT

This cultural resources investigation was conducted where DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y in the City of DuPont, Pierce County, Washington. The approximately 25.3-acre project is located on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) situated within the city limits west of Center Drive and north of Sequalitchew Creek. The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The fieldwork included a pedestrian survey and examination of subsurface sediments in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. The work was monitored by a member of the Nisqually Tribe.

No evidence was found of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation. Two surface historic archaeological sites (45PI01224 railroad track segment and 45PI01225 concrete platform) and one isolated kerosene can were identified during the fieldwork within Lot Y, but they are not considered significant. One additional archaeological site (45PI01226 set of bridge abutments) located north of Sequalitchew Creek but immediately outside of Lot Y was also recorded. Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected.

No significant cultural properties will be affected by the project, and no further cultural resource action is warranted at this time. Should cultural resources be discovered during project implementation, an Unanticipated Cultural Resources Discovery Plan is attached as an appendix to this report. This report will be filed with the DAHP and a copy provided to affected Tribes.

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APPENDIX C: Detailed Subsurface Excavation Records
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INTRODUCTION

Parus Consulting, Inc. (PCI) was retained by DuPont Industrial Partners, LLC to provide cultural clearance in accordance with prevailing Washington state laws for the proposed Lot Y project in the City of DuPont. An Archaeological Excavation Permit (Permit) was approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54) (Appendix A).

The Permit was required because two historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one prehistoric isolate (45PI773) are located within the Lot Y project area (Figures 1 and 2). In 1993, site 45PI66 was determined eligible for listing on the National Register of Historic Places (NRHP) under Criterion A. Site 45PI455 is considered potentially eligible for NRHP listing. Both sites are considered contributing elements to a proposed Nisqually-Sequalitchew Historic District. Prior archaeological investigations of sites 45PI66 and 45PI455 in 1989 and 2000 included backhoe peels, shovel tests, and block and unit excavations. In addition, a portion of 45PI455 was monitored during a hazardous materials remediation program. No surface evidence of these two sites or the isolate remained within Lot Y.

Two additional historic sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) located within Lot Y were determined not eligible for NRHP listing in 1993. Both sites were completely removed during hazardous materials remediation in 2000.

The services completed by PCI under the Permit include intensive-level pedestrian survey, subsurface testing, monitoring of geotechnical exploration pits, preparation of this report summarizing the cultural resources investigation and related forms recording newly identified resources, and completion of an Unanticipated Cultural Resources Discovery Plan.

PROJECT LOCATION AND DESCRIPTION

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequalitchew Creek. The Lot Y project area is situated within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian) (Figure 1).

The cultural resources excavations were conducted where the private landowner, DuPont Industrial Partners, LLC plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities. Plans also include construction of a trail along the creek to the southwest of the industrial park.

Plans for public access along the creekside trail to be constructed to the south of the industrial park include erection of an interpretive sign explaining the history of the temporary encampment within Lot Y of the 9th U.S. Cavalry Buffalo Soldiers. The content of the sign will include reference to the war games enacted by the large contingent of Buffalo Soldiers from Fort Walla Walla in 1904, and the discovery of the stables area at 45PI455, the 9th U.S. Cavalry Bivouac site along Sequalitchew Creek.

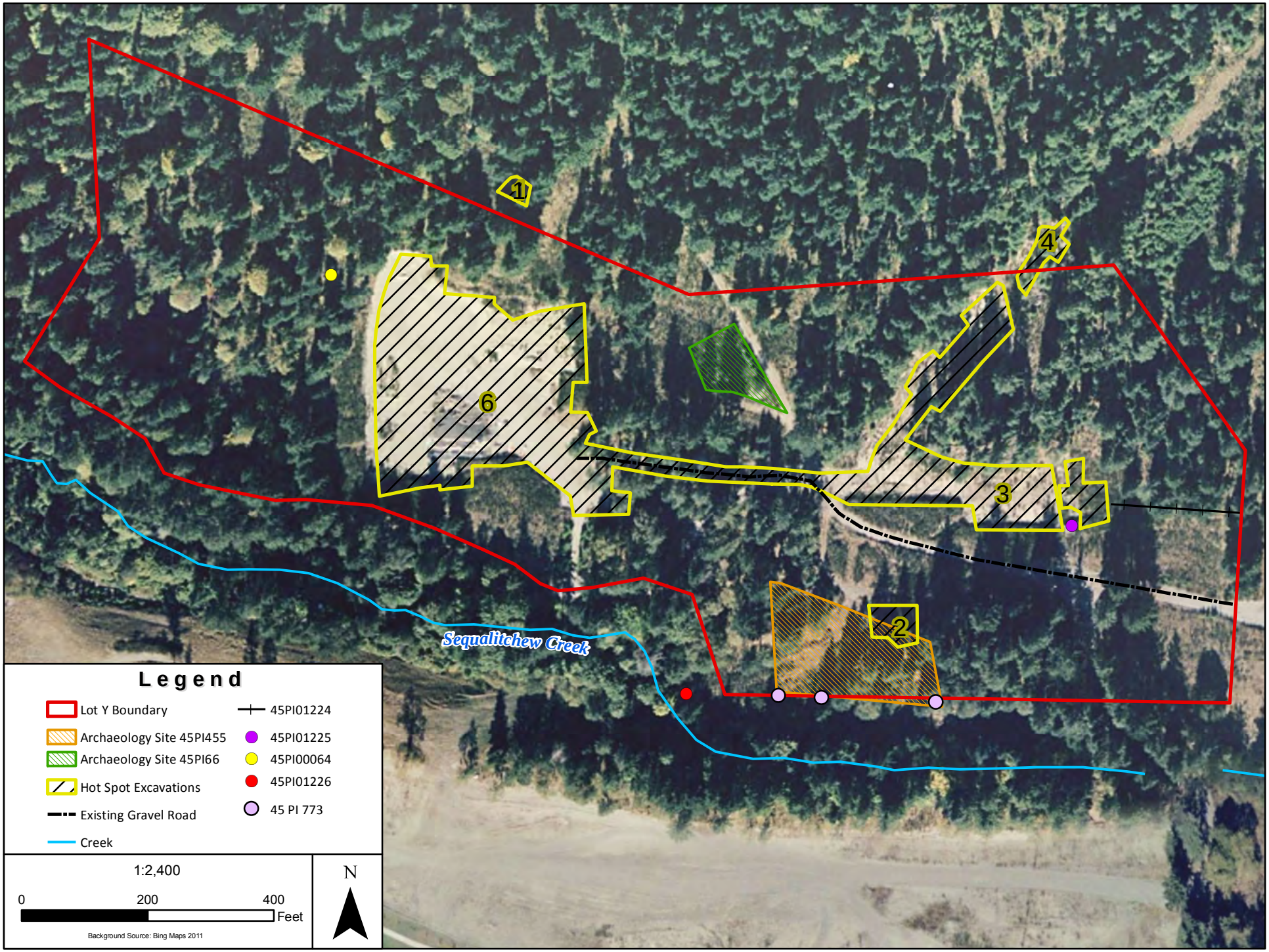
In addition, the existing the historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be retained on the property. The marker will be moved to the trailhead area where the public will have continued access to read about the history of the Mission, the first religious institution on Puget Sound, established in 1840.



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Location Map

PARUS CONSULTING, INC.

Figure 1



Quad Name: Nisqually PR 1981

T19N, R 1E, Section 26

DuPont Lot Y: Archaeological Resource and Remediation Location Map

PARUS CONSULTING, INC.

Figure 2

REGULATORY SETTING

The Permit was completed pursuant to permit requirements found in the Washington Administrative Code (WAC) 25-48-060. There is no federal involvement in this project. The cultural resources investigation for the proposed project was conducted under prevailing Washington state laws, which serve to protect from known disturbance archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

PROJECT SETTING

ENVIRONMENTAL SETTING AND DEPOSITIONAL CONTEXT

The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 0.8 mile east of the southern part of Puget Sound shoreline and north of Sequalitchew Creek. Sequalitchew Creek drains the Edmond's Marsh area about 0.3 mile southeast of the project, and empties into Puget Sound approximately 1.5 miles northwest of the marsh. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

The geomorphology of the project area is largely the result of Pleistocene glaciations. The last advance of a continental glacier through the Puget Trough began approximately 20,000 years ago when the Cordilleran Ice Sheet moved south from British Columbia. By 15,000 years ago, the Puget Lobe of this ice sheet extended some 19 miles south of the present city of Olympia (Orr and Orr 1996). Similar to other southern Puget Sound lowlands, glacial outwash deposits comprise the area in and around the project region.

Over time, soils forms on the glacial outwash sediments, with the addition of wind-blown volcanic ash. Within the project area are the deep, somewhat excessively drained Spanaway gravelly sandy loam soils (41A), which formed on the gravelly outwash deposits on terraces and plains (Soil Survey Staff 2009). A typical soil profile for this series is an A horizon of gravelly sandy loam (0-14 inches), a B horizon of very gravelly sandy loam (14-18 inches), above a C horizon of extremely gravelly sand (18-60 inches), with the cobble content increasing down profile.

Puget Sound and the Cascade Range, west and east of the project, influence the regional climate. Characteristic climatic conditions for this region include wet, mild winters and warm, dry summers, with the majority of annual precipitation falling as rain between October and March (Franklin and Dyrness 1988). Native vegetation found throughout much of the Puget Trough province is the *Tsuga heterophylla* (western hemlock) forest (Franklin and Dyrness 1973:16–17, 88). In addition to western hemlock, forest trees include Douglas fir (*Pseudotsuga menziesii*), cedar (*Thuja plicata*), and alder (*Alnus rubra*), along with other species in valley bottoms or forest margins and a variety of understory plants, ferns, and mosses. Prairie and marsh vegetation was historically recorded in the project vicinity near Sequalitchew Creek and Edmond's Marsh.

The saltwater and freshwater resources of the Puget Sound, its bays and inlets attracted exploitation and settlement prior to historic logging and development of this rich, ecologically diverse region. Among the wildlife once common to the region are black bear, bobcat, cougar, deer, elk, raccoon, red fox, and snowshoe hare, as well as a variety of waterfowl, fish, and shellfish.

CULTURAL SETTING

Prehistoric Overview

Occupation in western Washington during the prehistoric period is estimated to have occurred as early as 12,000 years ago (Ames and Maschner 1999). Prehistoric material culture in western Washington has been categorized according to "horizons" or "periods" that define technological, economic, social and ideological elements (Ames and Maschner 1999). During the Paleoindian Period (dating to 12,500 BP and earlier), people are thought to have been highly mobile hunter-gatherers whose toolkit included fluted Clovis projectile points.

The Archaic or Early Period (12,500–5,000 BP) saw an increase in sedentism reflected in more kinds of stone tool types and evidence of permanent villages. Within the Puget Sound and Strait of Juan de Fuca, artifacts from this period are referred to as "Olcott" after the type site in Snohomish County (Nelson 1990). Increasing populations, an increase in reliance on marine resources, and more complex socio-economic organization, as well as the appearance of ground stone and bone tools in the archaeological record, characterizes the Middle Period (5,000–2,500 BP) in the Puget Sound (Ames and Maschner 1999; Matson and Coupland 1995). During the last 2,500 years, the Late Period is characterized by the development of craft specialization and social stratification, establishment of permanent winter villages, and an increased reliance on marine resources.

Ethnographic Overview

The project area is located in the traditional territory of the Puyallup Tribe who spoke the Puyallup Nisqually language of the Southern Coastal Salish language family. Their territory encompassed the Puyallup River drainage from Mount Rainier to Commencement Bay, and the uplands east of the Tacoma Narrows (Suttles and Lane 1990). Ethnographies indicate that the Puyallup relied on salmon as a dietary staple and secured additional natural resources from the surrounding saltwater, riverine and upland environmental settings. Their multi-family, plank-house villages were occupied during the winter months and typically situated adjacent to waterways. Smaller, seasonal camps were associated with hunting and gathering a variety of resources, including deer, elk, berries, and roots.

Ethnographic data indicate the Nisqually inhabited the area along the upper part of Sequalitchew Creek (Wessen et al. 2005, 2008). Sequalitchew Village was located at the mouth of the creek and described by the ethnographer as "where Dupont Creek enters the Sequalitcu River" (Smith 1940:8, 13). The village inhabitants would have pursued fishing, hunting and gathering from this winter village and from seasonal camps during the remainder of the year.

As part of the Medicine Creek Treaty of 1854, the Puyallup received a 1,280-acre tract extending along the high bluff from Commencement Bay to Point Defiance. By 1873, the reservation lands had been enlarged to 18,062 acres, and included lands on the southern and eastern side of Commencement Bay (Harmon 1995; Ruby and Brown 1986). Congress later established a commission to authorize sale of tracts with the Puyallup reservation, and by 1895 nearly half the acreage had been sold, including the waterfront properties.

Historic Overview

Euro-American history began in western Washington with the coming of explorers as early as the 16th century. In 1792, the expedition by British explorer George Vancouver first encountered Twana and other Southern Coast Salish when sailing up Hood Canal and Puget Sound. U.S. Navy Lt. Charles Wilkes explored Hood Canal in 1841, and named Suquamish Harbor (later Squamish Harbor) as well as Pit Passage (now Pitt Passage). By 1846, the United States owned what is now western Washington as the U.S.–British boundary was moved north to the 49th parallel. American settlers poured into the area that

was then known as the Oregon Territory, established in 1848, and the Donation Land Claim Act was passed in 1850. The arrival of the first transcontinental railroad in the 1880s served to fuel settlement and economic development.

In the project vicinity, the Hudson's Bay Company (HBC) established a small storehouse for their fur trade near the mouth of Sequalitchew Creek as early as 1832 (Carpenter 1986). The following year they erected a small fort immediately east, and 10 years later in 1843, a much larger fort complex was established approximately 0.75 miles farther east (known as Fort Nisqually). To meet the demands for export of agricultural and dairy products, the company had established the Puget's Sound Agricultural Company (PSAC) by 1838. The 1843 fort was constructed near the buildings and structures comprising this enterprise. Although the treaty with Great Britain had required the removal of the HBC from United States territory, HBC/PSAC traders, farmers and dairymen continued to occupy the 1843 Fort Nisqually complex, to raise crops and to produce dairy products until compensation was received from the U.S. government in 1869. The lands were then titled to the last clerk of the company, Edward Huggins.

During the years between the departure of HBC/PSAC in 1869 and the development of the DuPont Powder Works in 1906, the area was populated by American settlers. The homesteaders used the land for farming and livestock grazing. In 1904, the 9th U.S. Cavalry camped, stabled their horses, and conducted war games near and within the project area on the prairies between Sequalitchew and Steilacoom Creeks (see Moura 1991a:8-9). The troops camped within the project area along Sequalitchew Creek were designated the Second Brigade, Camp Nisqually. Under the command of Colonel Charles H. Noble, the camp contained about 2,000 soldiers from Fort Walla Walla. The 9th U.S. Cavalry troops were African-American, referred to as Buffalo Soldiers.

Two years later, the DuPont Powder Works was established on the land by the E.I. DuPont de Nemours Company (Munyan 1972). In addition to an explosives manufacturing plant, the DuPont facilities included a company town, docks along the Puget Sound shoreline, and a narrow-gauge railroad used to transport their products. The "Old Town" period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). During this period, buildings were frequently constructed and demolished. The construction of roads and the railway network, the annual clearing and burning of underbrush, as well as relatively frequent explosions, resulted in extensive land disturbance.

When DuPont Powder Works closed in 1976, it was purchased by the Weyerhaeuser Company. Many of the production buildings were burned prior to release of the property to Weyerhaeuser to prevent detonation of undetected explosives. During the last 20 years, Quadrant Corporation (formerly Weyerhaeuser Real Estate Company) has developed the planned community known as Northwest Landing in the project vicinity.

Photograph 1 shows the narrow-gauge railroad built by the DuPont Powder Works above the south side of Sequalitchew Creek (outside and south of Lot Y). The train is moving the last load of black powder that had been manufactured by the plant and subsequently stored in a warehouse rented by the city. This last powder run occurred circa 1990 (personal communication, Fred Foreman).



Photograph 1. Last powder run on narrow-gauge (south side of Sequalitchew Creek)

PREVIOUS ARCHAEOLOGIAL RESEARCH

RESEARCH METHODS

A cultural resources search was performed for the project on October 21, 2010 using the DAHP electronic GIS database to gather archaeological information relative to reports and sites within and in the vicinity of the project area. This information was supplemented with archival research into the history of this region and of archaeological investigations in the immediate project vicinity. This assessment considered previous studies, the magnitude and nature of the undertaking, the nature and extent of potential effects on historic properties, and the likely nature and location of currently unknown archaeological resources within the project area.

During the fieldwork program between February 17 and March 4, 2011, PCI archaeologist Cindy Arrington conducted additional archival and oral history research. Archival research at the City of DuPont History Museum included discussions with Museum Director Johanna Jones on the area's history and review of numerous documents and photographs. A map of the DuPont Works drawn by E. Davies and dated March 15, 1955 shows the "Burning Ground" within the Lot Y project area and the system of roads and narrow-gauge and standard-gauge railroad tracks crisscrossing within the plant boundaries. The map also shows two bridges on Sequalitchew Creek immediately south of the project area, which were used by the company's narrow- and standard-gauge railroads. A digital version of this map was provided by Fred Foreman, a lifetime resident of the City of DuPont and a former part-time, summer DuPont Powder Works employee. Mr. Foreman gladly conveyed his enthusiasm and knowledge of the history of this region, and spent time with Ms. Arrington. In addition to the Davies map, Mr. Foreman also provided DVDs of archaeological investigations in 1989 of 1833 Fort Nisqually and of an informal visit to the Methodist Episcopal Mission site (45PI66) during removal of contaminated soil at nearby site 45PI64 (Burning Ground Dump site). Along with photographs obtained from DAHP of the hot spot archaeological monitoring program carried out a decade ago by Daugherty and Condon (2000), the video of hazardous waste removal provided a clearer picture of the landscape within Lot Y prior to re-shaping by heavy mechanical equipment while removing contaminated topsoil.

LOCAL ARCHAEOLOGICAL INVESTIGATIONS

The project vicinity is part of a complex cultural landscape with cultural resources dating from occupation of the area by Native Americans to historic period settlement—beginning in 1832 by the HBC with related agricultural activities started by the PSAC by 1838, and continuing through 70 years of industrial

development by the DuPont Company between 1906 and 1976. The following discussion focuses on studies within the former DuPont Powder Works property, which was acquired in 1976 by the Weyerhaeuser Company from E.I. DuPont de Nemours Company. As indicated in Table 1, several of these prior archaeological investigations have included all or portions of the current project area.

Table 1. Prior Cultural Resources Investigations within or near Project Area

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near Lot Y
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site	Within and near Lot Y
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near Lot Y
1990	Stilson, M. Leland	A Data Recovery Study of 45PI401, Hudson's Bay Dwellings at Northwest Landing, Pierce County, Washington	0.1 mile east
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within
1991	Stilson, M. Leland	A Data Recovery Study of 45PI405, the 1843 Fort Nisqually Village at Northwest Landing, Pierce County, Washington	0.1 mile east
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near Lot Y
2002	Maass, Alex	Interim Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Maass, Alex	2002 Field Season Archaeological Monitoring Report for the Former DuPont Works Site, Parcel 1	Adjacent (to west)
2003	Wessen, Gary	Exploring the Boundary and Possible Interpretation of 45PI485	South of creek
2004	Wessen, Gary	Archaeological Testing at 45PI576, Former DuPont Works Site, City of DuPont, Pierce County, Washington	South of creek
2005	Dampf, Steven	Archaeological Monitoring Report for the 2003 and 2004 Field Seasons at the Former Dupont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y
2006	Thompson, Gail	Archaeological Implementation Report for Remediation of Soils at the Former DuPont Works Site Parcel 1, City of DuPont, Pierce County, Washington	Adjacent (to west)
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near Lot Y

The first intensive survey of the 3,000 acres comprising the former DuPont Powder Works property was completed over 30 years ago. A total of 26 cultural resources were identified during the survey, including 8 prehistoric and 18 historic sites (Blukis Onat et al. 1977). Blukis Onat and others (1977) studied the prehistoric and ethnohistoric sites identified within the surveyed area, while Stratton and Lindeman (1977) completed archival research on the historic period resources. The 26 sites include 1833 Fort Nisqually (45PI55), 1843 Fort Nisqually (45PI56), and the Sequalitchew Village site (45PI54). The 1833 Fort Nisqually site, located slightly more than 0.5 mile west of Lot Y, was listed on the NRHP in 1974 and is also listed in the Washington Heritage Register (WHR). Located approximately 0.2 mile southeast of Lot Y, the 1843 Fort Nisqually site (45PI56) is considered eligible for NRHP listing. The Sequalitchew

Village site, a historic property, is located at the mouth of Sequalitchew Creek approximately 1.5 miles west of Lot Y and contains remnants of a shell midden. Burials associated with the village were recorded as a separate site (45PI76), since they are located on the opposite, north side of the creek from the village.

As discussed further below, of the 26 sites recorded by Blukis Onat et al. (1977), three are located within Lot Y (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, and 45PI66 Methodist Episcopal Mission Site). An additional 12 sites (2 prehistoric and 10 historic) of those identified during the 1977 survey are located within 0.5 mile of but outside Lot Y.

The extensive disturbance of the entire DuPont property by construction of numerous roadways and narrow-gauge railroad tracks, as well as the operations of the explosives manufacturing plant, was discussed in the report by Blukis Onat et al. (1977:57) and they recommended a more intensive survey might identify additional archaeological sites. Over ten years later, the former DuPont property was resurveyed again as part of the development of a Cultural Resources Management Plan for the Weyerhaeuser Company by Jeanne Welch (Welch 1989a). Each of the archaeological sites identified during the survey by Blukis Onat et al. (1977) was relocated, including the three within Lot Y (45PI63, 45PI64, and 45PI66). More intensive survey was accomplished in 1988 in areas planned by Weyerhaeuser for well or reservoir construction, or for logging, and the work included a testing and evaluation program developed to determine the significance of known cultural resources. Backhoes were used for sod removal in vegetated areas and for exploratory trenching.

The archaeologists also completed a testing program to identify significant cultural resources within the planned corridor for construction of Center Drive (Welch 1989a:4.2, 4.4). Center Drive trends north-south and is located 0.1 mile east of Lot Y. Two sites within the right-of-way of Center Drive on the north and south sides of Sequalitchew Creek were identified (45PI401 and 45PI405) (Welch 1989a, 1989b, 1989c). The sites are located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). Each site contains the remains of HBC/PSAC dwellings, and a large number of historic as well as prehistoric artifacts were recovered from 45PI401 and 45PI405 during initial testing and subsequent data recovery excavations (Welch 1989a; Stilson 1990, 1991). The two sites are located only a short distance from Lot Y, approximately 0.1 mile to the east, and are discussed in more detail below.

Archaeological test excavations within Lot Y were conducted in 1989 by Guy Moura to identify the precise location of the buildings within the Methodist Episcopal Mission Site (45PI66), and to test the significance of Railroad Dump #3 (45PI63) (Moura 1991a; also see Daugherty and Condon 2001:Part I). He was also hired to investigate a third area within Lot Y where historic accounts indicated the 9th U.S. Cavalry had camped during military maneuvers in 1904 (later designated 45PI455) (Moura 1991a, 1991b; also see Daugherty and Condon 2001:Part I). Moura completed a series of backhoe peels, shovel test probes, and block and unit excavations within and near the boundaries of 45PI63, 45PI66, and 45PI455.

Under a Consent Decree signed in 1991 by the Washington State Department of Ecology, E.I. DuPont de Nemours Company and Weyerhaeuser Company, DuPont and Weyerhaeuser were jointly responsible for cleaning up an 841-acre tract, which had been contaminated by the former industrial explosives manufacturing facility (Thompson 2006:4). Archaeological monitoring of soil remediation activities and related archaeological investigations were carried out between 2001 and 2004. Detailed information on the monitoring is contained in reports by Alex Maass (2002, 2003) and Steven Dampf (2005). A large prehistoric chipped stone scatter (45PI576) was identified south of Sequalitchew Creek and south of Lot Y (Thompson 2006:21, 32). Two small projectile points suggest the site was occupied during the past 2,000 years, although the overall assemblage indicates there may be an older component. Because of the low density of artifacts recovered from testing in a highly disturbed setting, the site was recommended ineligible for NRHP listing. Two prehistoric isolates were also recorded south of the creek and

approximately 50 meters east of 45PI576. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes (Thompson 2006:22).

Lot Y was included within the acreage under the Consent Decree requiring remediation of hazardous materials (mainly lead and arsenic contaminated soil) contained within the former DuPont property, and additional archaeological investigations revolved around remedial activities. The removal of contaminated soil in "hot spot" areas within Lot Y was monitored by archaeologists in 1999 and 2000, and included segments of the narrow gauge railroad tracks, Railroad Dump #3 (45PI63), the Burning Ground Dump site (45PI64), and a portion of the 9th U.S. Cavalry Bivouac site (45PI455) (Daugherty and Condon 2000:7) (Figure 2). After clearing and grubbing, excavation of the hot spots generally achieved a depth of 46 centimeters below surface (cmbs) (18 inches). The area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction so the initial excavation area around a hot spot measured at least 50x50 feet.

During remediation activities, a historic debris deposit associated with the 1843 Fort Nisqually complex was identified to the south of Sequalitchew Creek. Southeast of Lot Y and near the two previously recorded HBS/PSAC dwelling sites (45PI401 and 45PI405), the deposit was recorded as 45PI485 (Daugherty and Condon 2000).

A comprehensive document reporting on the subsurface testing or hot spot monitoring at the four known sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455) was completed the following year (Daugherty and Condon 2001:Parts I and II). Part I of that document is Moura's report on the test excavations completed in 1989 at 45PI63, 45PI66, and 45PI455 (also see Moura 1991a, 1991b). Part II of that document reproduced and updated the information at all four sites from the hot spot removal program reported by Daugherty and Condon (2000).

Beginning in 1993, Richard Daugherty evaluated the significance of a number of the archaeological sites within the former DuPont Powder Works property and prepared National Register nomination forms for them. These included the four sites within Lot Y (45PI63, 45PI64, 45PI66, and 45PI455), as well as the two HBC/PSAC dwelling sites east of Lot Y (45PI401 and 45PI405), discussed below.

In January 2005, during a survey for the proposed expansion of an existing gravel mine, the four sites (45PI63, 45PI64, 45PI66, and 45PI455) previously recorded in the project area were relocated, but no effort was made to further investigate them since each had been previously evaluated (Wessen et al. 2005:15). No potentially significant archaeological sites were newly identified during the surface survey, and it was decided to investigate the areas close to Sequalitchew Creek by subsurface testing. The subsequent recovery of four pieces of chipped stone debitage from a series of shovel test probes was recorded as a prehistoric isolate (45PI773) (Wessen et al. 2005, 2008) (Figure 2).

PREVIOUSLY RECORDED CULTURAL RESOURCES NEAR PROJECT AREA

As noted above, 12 (2 prehistoric and 10 historic) of the 26 sites recorded by Blukis Onat et al. (1977) are located within 0.5 mile of but outside Lot Y (Table 2). As shown in the table, an additional 13 sites (2 prehistoric and 11 historic) and 5 isolates (2 prehistoric and 3 historic) have been previously recorded within 0.5 mile of but outside Lot Y. According to the records, one historic (45PI58) and one prehistoric site (45PI75) may have never existed. The three remaining pre-Contact sites include two burial sites (45PI77, 45PI404) and a chipped stone scatter (45PI576).

The previously recorded historic sites are mainly associated with the HBC/PSAC era and the Old Town period. The Old Town period represents the time of the construction and early operation of the DuPont Powder Works (1906 into the early 1920s). Eight of the historic-era sites are associated with the earlier HBC/PSAC period (1832–1869). These include 1843 Fort Nisqually (45PI56), the remains of

ethnohistoric men's dwelling houses (45PI74), three burial sites (45PI78, 45PI413, 45PI451), two sites with house foundations and artifacts (45PI401, 45PI405), and a debris deposit (45PI485). The artifacts from one site (45PI563) date from both the HBC/PSAC and Old Town periods.

Seven of the previously recorded sites are attributed to the DuPont Powder Works Old Town period. These include a men's boarding house (45PI57), the Old Town dump (45PI59), a domestic trash dump (45PI60), two debris deposits or scatters associated with the narrow gauge railroad that transported the explosives (45PI61, 45PI62), the munitions plant (45PI70), a remnant of a dirt road (45PI441), and a recently recorded non-functional segment of narrow-gauge railroad track and berm (45PI01224). 45PI01224 was identified during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). The narrow-gauge track and berm continue to the west beneath a chain-link fence into Lot Y.

One of the historic period sites is the garbage dump (45PI448) used by the city of DuPont from 1927 to 1946. The two remaining historic-era sites include one with 100 to 200-year old human skeletal fragments (45PI712) and a debris scatter with artifacts ranging in age from 1916 to the mid-1960s (45PI783).

The two prehistoric isolates identified within the 0.5 mile radius were recorded south of Sequalitchew Creek during archaeological monitoring of soil remediation activities within the Consent Decree area (Thompson 2006:22). The isolates are located approximately 50 meters east of 45PI576, a large prehistoric chipped stone scatter south of the creek and south of Lot Y. HRA 30a-d included one core, one flake, and two edge-modified flakes; HRA 31a-d included four basalt flakes.

The three historic-era isolates were identified recently during the recent survey of Lot X (Sikes and Arrington 2010). The isolates are located approximately 400 feet east of Lot Y. GEO Isolate #1 is a surface pile of 51 railroad spikes; GEO Isolate #2 is a pile of broken, formed aggregate concrete chunks; and GEO Isolate #3 is a scatter of milled lumber.

Of the previously recorded sites within the 0.5 mile radius outside Lot Y, three are considered eligible for NRHP listing: the 1843 Fort Nisqually site (45PI56) and the two HBC/PSAC dwelling sites (45PI401, 45PI405). The latter two sites are also considered contributing elements to the proposed Nisqually-Sequalitchew Historic District (Point Nisqually Defense Fund 2003) (see discussion below).

Outside the 0.5 mile radius, nearby historic properties include 1833 Fort Nisqually (45PI55), the Sequalitchew Village Site (45PI54), the DuPont Village Historic District, and Fort Lewis. Throughout its period of significance (1917–1948), Fort Lewis was one of the preeminent U.S. Army training posts. The DuPont Village Historic District encompasses the 43-acre company town developed by E.I. DuPont de Nemours Company between 1906 and 1915. The district is located less than 1 mile southeast of Lot Y.

Table 2. Previously Recorded Resources within 0.5 Mile of Project Area

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00056	Historic 1843 Fort Nisqually (1832-1869)	HBC/PSAC	Riordan 1977; Daugherty 1993 NRHP form	Eligible
45PI00057	Historic men's boarding house, DuPont era; destroyed	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00058	Site recorded as historic brick yard dump but it never existed	n/a	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00059	Historic Old Town dump, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
45PI00060	Historic domestic trash dump, DuPont Powder Works, 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00061	Historic railroad or domestic debris deposit	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00062	Historic railroad debris deposit, ca. 1906-1909	Old Town	Riordan 1977; Daugherty 1993 NRHP form	Not eligible
45PI00070	Historic DuPont munitions plant, ca. 1906	Old Town	Riordan 1977	Not determined
45PI00074	Ethnographic men's dwelling houses, 1844-1869, Fort Nisqually	HBC/PSAC	Blukis Onat 1977; Daugherty 1992; Daugherty 1993 NRHP form	Not determined
45PI00075	Site recorded as a prehistoric midden at DuPont crystallizer but it never existed	n/a	Blukis Onat 1977; Daugherty 1993 NRHP form	Not eligible
45PI00077	Old Fort Lake Graves	Pre-Contact	Blukis Onat 1977	Not determined
45PI00078	Historic 1843 Fort Nisqually burial	HBC/PSAC	Blukis Onat 1977	Not determined
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00404	Pre-Contact Nisqually Indian Burial Site	Pre-Contact	Welch 1988; Daughtery and Wessen 1988	Not determined
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869	HBC/PSAC	Welch 1988; Daugherty 1993 NRHP form	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00413	Historic Native American cemetery, 1840-1870	HBC/PSAC	Daugherty 1991	Not determined
45PI00441	Historic dirt road remnant, 1846	Old Town	Solimano 1996	Recommended not eligible
45PI00448	Historic City of DuPont garbage dump, 1927-1946	DuPont	Daugherty 1996; Daugherty 1996 NRHP form	Not eligible
45PI00451	Historic Lone Fir grave site, 1850	HBC/PSAC	Daugherty 1997	Not determined
45PI00485	Historic debris deposit, ca. 1840-1870	HBC/PSAC	Daugherty 2000; Wessen 2002	Not determined
45PI00563	Historic debris scatter, 1843-1930s	HBC/PSAC and Old Town	Chesmore 2001, 2002; Wilson 2002 NRHP form	Not eligible
45PI00576	Prehistoric chipped stone scatter	prehistoric	Wessen 2004	Recommended not eligible
45PI00712	Human skeletal fragments, ca. 100-200 yrs old		Wessen 2003	Not determined
45PI00783	Historic debris scatter, 1916-1964		McKillop 2007	Not eligible
45PI1224	Historic railroad track and berm, 1906-1920s	Old Town	Arrington 2010	Not eligible
GEO Isolate #1	Historic isolate (railroad spikes)		Arrington 2010	Not eligible
GEO Isolate #2	Historic isolate (concrete chunks)		Arrington 2010	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	NRHP Eligibility
GEO Isolate #3	Historic isolate (milled lumber)		Arrington 2010	Not eligible
HRA 30a-d	Prehistoric isolate (core, 3 flakes)		Thompson 2006	Not eligible
HRA 31a-d	Prehistoric isolate (4 flakes)		Thompson 2006	Not eligible

PREVIOUSLY RECORDED SITES AND ISOLATE WITHIN PROJECT AREA

One prehistoric isolate (45PI773) and four historic archaeological sites (45PI63 Railroad Dump #3, 45PI64 Burning Ground Dump, 45PI66 Methodist Episcopal Mission Site, and 45PI455 9th U.S. Cavalry Bivouac site) have been previously recorded within the project area (Table 3; Figure 2). One of the historic sites (45PI66) is associated with the HBC/PSAC era (1832-1869) and one (45PI63) with the Old Town period (1906–early 1920s). Site 45PI64 is associated with later operation of the explosives manufacturing plant from the 1930s until the plant closed in 1945. Temporary occupation by the 9th U.S. Cavalry (45PI455) occurred in 1904 between the HBC/PSAC and Old Town periods.

Site 45PI66 has been determined eligible for listing on the NRHP, and site 45PI455 is potentially eligible. These two sites are also encompassed within the proposed Nisqually-Sequalitchew Historic District as contributing elements. The district is still pending approval.

Of the four previously recorded sites within Lot Y, two (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) had been determined not eligible for NRHP listing and were completely removed during hazardous materials remediation in 1999 and 2000 (Daugherty and Condon 2000, 2001). These former sites were located within two of the cleared hot spots (HS-4 and HS-6) shown on Figure 2.

Although not located within Lot Y, this section and Table 3 include discussion of two additional sites that contain artifacts or features representing former HBC/PSAC dwellings associated with 1843 Fort Nisqually. The two sites, 45PI401 and 45PI405, are located on the north and south banks of Sequalitchew Creek approximately 0.1 mile east of Lot Y. The sites also contain a large number of chipped stone artifacts.

The history of archaeological investigations at each of these resources within and near Lot Y is presented below.

Table 3. Previously Recorded Cultural Resources within and near Project Area

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
Sites and Isolate Recorded within Project Area					
45PI00063	Historic debris deposit, two loci along railroad, 1910-1930; removed during soil remediation	Old Town	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2001	Not eligible
45PI00064	Historic DuPont Powder Works burning ground dump, 1930s-1945; removed during soil remediation	DuPont	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al., 1977; Welch, 1989a; Daugherty and Condon, 2000, 2001	Not eligible

Site No.	Brief Description	Historic Period	Recorded by and year	Prior Reports	NRHP Eligibility
45PI00066	Historic 1840-1842 Methodist Episcopal Mission	HBC/PSAC	Riordan, 1977; Daugherty, 1993 NRHP form	Blukis Onat et al. , 1977; Welch, 1989a; Moura, 1991a; Daugherty and Condon, 2000, 2001	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00455	Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904;partially removed during soil remediation	Between HBC/PSAC and DuPont	Daugherty, 1997; Daugherty, 1997 NRHP form	Moura, 1991a, 1991b; Daugherty and Condon, 2000, 2001	Potentially eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00773	Prehistoric chipped stone isolate	n/a	Wessen, 2005	Wessen et al., 2005, 2008	Not eligible
Sites Recorded near Project Area					
45PI00401	Historic Hudson's Bay house; historic and prehistoric artifacts; ca. 1845-1869; destroyed during bridge construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1990	Eligible, included in proposed Nisqually-Sequalitchew Historic District
45PI00405	Historic Hudson's Bay house foundations, historic and prehistoric artifacts, ca. 1845-1869; destroyed during road partially construction	HBC/PSAC	Welch, 1988; Daugherty, 1993 NRHP form	Welch, 1989a; Stilson, 1991	Eligible, included in proposed Nisqually-Sequalitchew Historic District

45PI63 Railroad Dump Site

This site was initially recorded by Timothy Riordan as Railroad Dump #3 during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). The dump is located at the junction of two narrow-gauge railroad tracks from the DuPont Powder Works Old Town period. Recorded in two distinct loci (A and B, each of which was approximately 10 meters in diameter), a dirt road developed after the track was abandoned may have split the debris deposit.

Material from the site mainly dates between 1910 and 1930 (the Old Town period) and includes mainly domestic ceramic and glass fragments, with a few nails and fabric remnants (Daugherty and Condon 2001; Moura 1991a; Daugherty 1993a). Over 260 artifacts were collected in 1989, mainly from the ground surface along the tracks, with only a single 1x1 meter test unit excavated in Area B (Moura 1991a:13-17). Additional artifacts were recovered during subsequent soil remediation activities in loci A and B (Daugherty and Condon 2001:32-46). The recovery of mainly domestic items led Daugherty and Condon (2001:46) to conclude that occupants of Old Town had used 45PI63 as a dump.

In 1993, the State Historic Preservation Officer (SHPO) determined site 45PI63 ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). The site has been extensively looted (Welch 1989a:4.20; Thompson 2006:27), and prior to soil remediation, there had been extensive damage to the site by logging and railroad construction. No treatment measures were required during soil remediation, which removed the entire site (Daugherty and Condon 2001:46). Prior to removal, 45PI63 was located in the area on Figure 2 marked as HS-4.

45PI64 Burning Ground Dump Site

This site was initially recorded by Timothy Riordan during the survey of the former DuPont Powder Works property by Blukis Onat et al. (1977). At the location of a former black powder manufacture and storage building, site 45PI64 was used as a dump where hazardous and non-hazardous waste from the manufacturing plants at the DuPont Powder Works was discarded and burned. The site was used as a burning ground dump from the 1930s until the black powder mill was closed in 1945. The "Burning

Ground" is clearly shown on the 1955 map of the DuPont Works drawn by E. Davies. Prior to turning the property over to Weyerhaeuser, DuPont systematically dynamited this site to prevent detonation of undetected explosives (Thompson 2006:30).

Due to contamination by hazardous waste, archaeological work within site 45PI64 was not permitted. In 1993, the SHPO determined the site ineligible for NRHP listing (see October 19, 1993 memorandum and NRHP Determination of Eligibility Form). Archaeological monitoring during a program to remove "hot spots" or contaminated soils was conducted at the site in 2000 (Daugherty and Condon 2000), and the entire area (approximately 3,000 square feet) was removed during the subsequent hot-spot treatment program (Daugherty and Condon 2001:47, 50). Prior to removal, 45PI64 was located in the large cleared area marked as HS-6 on Figure 2.

Although former site 45PI64 was near the historical marker for the Methodist Episcopal Mission (45PI66), no evidence of the Mission building or stockade or of prehistoric or historic cultural materials were identified during hot spot removal, with the exception of contaminated, broken tools and hardware from the DuPont operation.

45PI66 Methodist Episcopal Mission Site

Initially recorded during the survey by Blukis Onat et al. (1977), this site has been determined eligible for NRHP listing under Criterion A (association with significant events) (NRHP Determination of Eligibility Form dated September 29, 1993). The site is not considered eligible under Criterion D (data potential) because it has been extensively disturbed by road and railroad construction and there has been little recovery of archaeological material during testing. Site 45PI66 also contributes to the proposed Nisqually-Sequalitchew Historic District (see below).

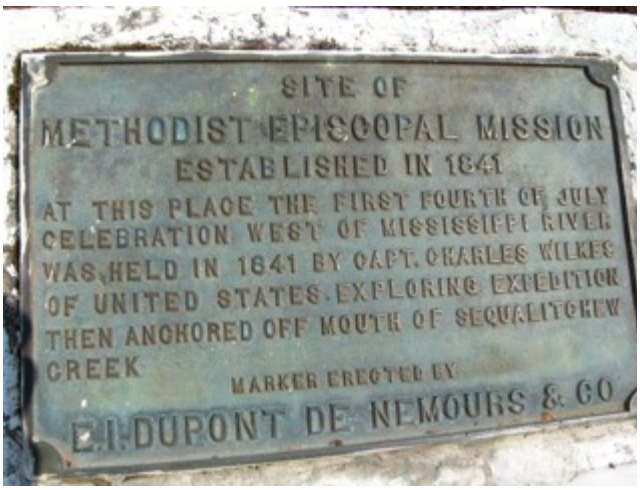
The Methodist-Episcopal Mission and associated school were founded in 1834 on land provided by the HBC. The goal was to convert and educate the Native Americans camping at Fort Nisqually (Carpenter 1986:98-99). Construction of the Mission buildings began in 1839 and a missionary group began services the following year. Several outbuildings and a garden were contained within the Mission grounds, which were surrounded by a stockade and located approximately 0.5 mile from the fort. The Mission building measured 18 feet wide by 32 feet long and 9 feet high, and an addition was constructed on the west side. The Mission was not successful, was abandoned in 1842, and later destroyed by fire. The land was also used for agriculture and in 1904 it was temporarily occupied by the military on training maneuvers. In 1927, the DuPont Company erected a historical marker at the site of the former Mission—the first religious institution on Puget Sound (Photographs 2 and 3).

Archaeological investigations (backhoe peels, shovel tests, 1x2 meter units) around the historical marker were conducted in 1989 (Welch 1989a; Moura 1991a). Some 29 backhoe peels were made in the area surrounding the bronze marker, but no evidence of the former Mission building was uncovered and additional testing was recommended (Welch 1989a:4.1, 4.22). Moura's team recovered chimney stones, 2 square nails, 3 window glass and 9 bottle glass fragments, and a couple pieces of ceramic (Moura 1991a:6-8). Excavation efforts (55 shovel tests and four 1x2 meter units) were stopped by 25 cmbs (0.8 feet) when sterile gravels were encountered, similar to other sites in this vicinity.

Moura (1991a:8) considered the accumulated evidence supported his contention that the Methodist-Episcopal Mission had been found. He also noted that the ashy matrix with brick, bone, and charcoal flecks in the excavation units above 25 cmbs (0.8 feet) at 45PI66 mimics that identified at the nearby HBC/PSAC dwellings site (45PI405) as hearth and chimney remnants, as discussed in the data recovery report on that site by Stilson (1991). Site 45PI405 is associated with the 1843 Fort Nisqually.



Photograph 2. Marker at Methodist-Episcopal Mission Site (45PI66)



Photograph 3. Text of 1927 marker erected by the DuPont Company (plan view)

Eleven years later, contrary to expectations, no evidence of the Mission building or stockade was identified during archaeological monitoring of contaminated soil removal at nearby site 45PI64 (Burning Ground Dump site) (Daugherty and Condon 2000; Daugherty and Condon 2001:47-48). Although chimney stones were identified at 45PI66 during the testing by Moura in 1989, archaeologists have debated about whether the stones and other artifacts identify the exact location of the Mission building. Daugherty and Condon (2001:48), for example, believe Moura's results are equivocal, although they do state "there appears to be little question that the actual location of the Mission is within a few hundred yards or so of the monument" erected by the DuPont Company.

45PI455 9th U.S. Cavalry Bivouac Site

Historic records indicate about 2,000 men were bivouacked at "Camp Nisqually" for a few months in 1904. The 9th U.S. Cavalry (also known as Buffalo Soldiers) practiced mock battles at the edge of the prairie north of Sequalitchew Creek. After the mock battles ended, the camp and surrounding area were cleared and the refuse burned before the troops departed for return to Fort Walla Walla.

Archaeological investigations (backhoe peels, block and unit excavations) within a 120 square meter area conducted by Moura in 1989 recovered over 800 artifacts and 170 small, burned animal bone fragments (deer, sheep/goat food remains) below the surface (Moura 1991a, 1991b). The artifacts include horseshoes, horseshoe nails, horse teeth, harness tackle, square and wire nails, burned bone fragments, a 1901 dime, and a 1903 rifle cartridge, all associated with the cavalry encampment. Liquor bottles and shotgun shells date to late 19th century use of the area, while prehistoric occupation is evidenced by chipped stone tools (2 knives) and debitage (5 flakes) made from a variety of toolstone (petrified wood, chert, and basalt). Two railroad spikes date to after the DuPont Powder Works was established in 1906. Similar to other sites in this vicinity, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1). There was no surface evidence of the site.

A site number (45PI455) was assigned to the 9th U.S. Cavalry Bivouac area following the test excavations completed by Moura in 1989. The site measures approximately 225 by 100 meters (738 by 328 feet), and historic documentation indicates the artifact assemblage represents the temporary stable area (Moura 1991a:12, 1991b:5). In 1998, State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations (letter to Richard Daugherty dated February 17, 1998). Site 45PI455 is also

considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District (see below).

Additional work at site 45PI455 during archaeological monitoring of contaminated soil removal uncovered no further evidence of this brief occupation by the Buffalo Soldiers (Daugherty and Condon 2000, 2001). Although the bivouac area was encompassed within the targeted hot spots (HS-2 on Figure 2), the remediation program did not include the "stable" area excavated by Moura in 1989 (Moura 1991a, 1991b).

45PI773 Prehistoric Chipped Stone Isolate

This chipped stone isolate was recorded in 2005 by Gary Wessen during survey and excavation of subsurface shovel test probes along Sequalitchew Creek for the proposed expansion of an existing gravel mine (Wessen et al. 2005, 2008). The isolate consists of a total of four pieces of debitage (one complete secondary flake and three flake fragments) manufactured from basalt or dacite. The material was encountered within an approximately 40 x 30 meter area, with one artifact close to the surface in a previously disturbed, very dark brown gravelly sandy loam. The remaining three artifacts were recovered potentially in situ between 30 and 50 cmbs (1-1.6 feet) in a dark yellowish brown gravelly sandy loam.

The archaeologists had placed a series of 31 shovel test probes in this area, 26 of which were arranged at 10-meter intervals along a single east-west trending line located approximately 5 meters north of the northern edge of the creek (Wessen et al. 2008:29). The four pieces of chipped stone were recovered from a section of the test line that was approximately 40 meters long. Of the five probes in the section, four contained a flake or flake fragment. None of the four probes contained more than one artifact. Five additional shovel test probes were excavated in three lines extending northward away from the creek, but no artifacts were recovered. Each probe measured approximately 30 to 38 cm in diameter.

The soil profile in the vicinity of the chipped stone isolate is described as having three strata (Wessen et al. 2008:30). The upper stratum is a very dark brown (10YR 2/2) gravelly sandy loam ranging in thickness from 8 to 25 cm. Next is a dark yellowish brown (10YR 3/4) gravelly sandy loam with a thickness of 40 to 50 cm, followed by a dark yellowish brown gravelly sand with cobbles. Small charcoal fragments were recovered from the two sandy loam horizons. In addition to one piece of debitage, the upper horizon contained a small quantity of concrete rubble, one square nail, and a mammal bone fragment, which suggested the stratum had been previously disturbed.

Isolate 45PI773 is located near site 45PI455, the 9th U.S. Cavalry Bivouac site, along the north side of the upper edge of Sequalitchew Creek. It is unknown if the four pieces of debitage recovered at 45PI773 are related to the prehistoric chipped stone artifacts (2 knives and 5 flakes) recovered during the 1989 test excavations at 45PI455 (Moura 1991a, 1991b; Wessen et al. 2008:30). Since little information on prehistoric occupation of this area can be provided by the few pieces of debitage recovered from the discontinuous subsurface probes, isolate 45PI773 was recommended ineligible for NRHP listing (Wessen et al. 2008:32).

Nisqually-Sequalitchew Historic District (proposed)

Proposed by the Point Nisqually Defense Fund (2003), this historic district would cover approximately 360 acres along both sides of Sequalitchew Creek. Thirteen archaeological sites are identified in the NRHP nomination form as contributing elements. These include 45PI66 and 45PI455 within Lot Y, as well as 45PI401 near Lot Y, in the northern extent of the proposed district. The district has not yet been approved. The nomination assumes undisturbed deposits remain at the sites in sufficient quantity and diversity to address research questions related to the history of the district. It is unclear if intact remains

exist at the sites and if so, whether the deposits would contain the data required to address the research questions.

45PI401 HBC/PSAC Dwelling Site

Located approximately 0.1 mile east of Lot Y, site 45PI401 was identified in 1988 on the north bank of Sequalitchew Creek during survey of the right-of-way for then-planned Center Drive (Welch 1989a:4.28). The site had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Data recovery investigations at the site ensued and 5,000 historic and 100 prehistoric artifacts, foundation remains, a shell concentration, and fire pits were identified (Stilson 1990, 1991; Daugherty 1993b). The lithic assemblage includes 10 projectile points, 6 utilized flakes, 1 scraper, 1 ground stone adze blade, and 82 modified or non-utilized flakes (Stilson 1990:47). The investigation covered 450 square feet and included shovel test probes, backhoe peels and trenches, 1x2 meter units, and 1x1 meter units. There was a rapid decrease in the frequency of artifacts as the distance of the shovel test probes, which extended 30 meters to the west, increased away from the site.

Site 45PI401 is the location of former HBC/PSAC dwellings associated with 1843 Fort Nisqually (45PI56). The site is located just outside the west palisade wall of the fort. The two dwellings date from the 1840s to 1850s, and may have been that of a dairyman and of a Nisqually tribal member who was in charge of the dairy after ca. 1850 (Stilson 1990:121). In Stilson's view (1990:119), the large number of lithic artifacts is associated with the Nisqually tribesman employed by PSAC. It is also feasible, however, that the material represents Native American occupation of the area prior to nonindigenous settlement. The site is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. It was destroyed during construction of a bridge over Sequalitchew Creek.

45PI405 HBC/PSAC Dwelling Site

Located approximately 0.1 mile east of Lot Y, site 45PI405 was identified in 1988 on the south bank of Sequalitchew Creek during survey of the right-of-way for Center Drive (Welch 1989a:4.28). The site was also located at the junction of two DuPont Company access roads, and had been previously disturbed by DuPont Company development, including the Old Town complex and railroad, and cattle grazing. Similar to site 45PI401, this site also contains HBC/PSAC structural remains associated with 1843 Fort Nisqually as well as over 53,000 artifacts, including Native American lithics, which were recovered during data recovery investigations (Stilson 1991; Daugherty 1993c). The area investigated totaled 2,756 square feet. The lithic assemblage includes 52 tools/tool fragments and 89 pieces of debitage. Similar to the chipped stone found at 45PI401, the lithics may have been associated with the historic period or perhaps earlier.

Site 45PI405 is located just outside the west palisade wall of 1843 Fort Nisqually (45PI56). It is considered eligible for NRHP inclusion and contributes to the proposed Nisqually-Sequalitchew Historic District. Situated within and straddling Center Drive, the majority of the site was destroyed during construction of the roadway.

TRIBAL CONSULTATION

The inventory for the Permit involved correspondence with cultural representatives or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes (see Appendix B). A phone call was received from Joe Kalama of the Nisqually Tribe expressing their desire to monitor the subsurface investigations. We contacted the Tribe again as the date for the fieldwork approached, and Kareem Gannie served as the project Native American monitor for survey and subsurface testing.

RESEARCH DESIGN

ARCHAEOLOGICAL EXPECTATIONS

Based on the literature review and history of this region, the project area has a high sensitivity for the presence of prehistoric and historic cultural resources. Similarly, the DAHP predictive model shows the area as "Very High Risk." The project area is within the traditional territory of the Nisqually Tribe along Sequalitchew Creek and relatively near the village at the mouth of the creek. Chipped stone tools have been found within Lot Y (45PI773) and in close proximity to the project (45PI401, 45PI405, 45PI576), and Native American burials within a 0.5-mile radius of Lot Y (Tables 2 and 3). The project is also within an area that was settled in the early 1880s during the HBC/PSAC era, an area used in 1904 by the 9th U.S. Cavalry bivouac and war games, the Old Town period of the DuPont Powder Works and its railroad network, and the early years of today's city of DuPont. A variety of historic period artifacts, features or deposits have been previously identified within Lot Y (45PI63, 45PI64, 45PI66, 45PI455) and in close proximity to the project (e.g., 45PI401, 45PI405), and historic period burials found within the 0.5-mile radius (Tables 2 and 3).

The project area has been extensively disturbed throughout the historic period, beginning by construction of the Methodist Episcopal Mission (45PI66) during the HBC/PSAC era and related removal of old growth trees, agricultural practices and cattle grazing, and by construction of the DuPont plant facilities and railroad network (45PI63, 45PI64). Extensive land disturbance during DuPont's Old Town period in the early 1900s resulted from logging, land leveling, the frequent construction and demolition of buildings, road and railway network construction, annual clearing and burning of underbrush, and relatively frequent explosions. Site 45PI64 was the location of a former black powder manufacture and storage building, and the site was also used as a dump where hazardous and non-hazardous waste from the DuPont Powder Works plants was discarded and burned. In addition, many of the production buildings were burned prior to release of the property to Weyerhaeuser after the DuPont Powder Works closed in 1976.

More recently, contaminated soil remediation activities resulted in extensive damage to the landscape within the project area and included complete removal of two of the archaeological sites (45PI63 and 45PI64) and partial removal of a third site (45PI455). Methods used during the remediation program included clearing and grubbing of vegetation subsequent to locating and flagging each hot spot (Daugherty and Condon 2000:7). The excavations generally achieved a depth of 46 cmbs (1.5 feet), and each initial excavation area around a hot spot measured at least 50x50 feet, since the area around removal of a designated hot spot was expanded by 25 feet in each cardinal direction. Figure 2 illustrates the extent of hot spot removal within Lot Y.

Based on existing archaeological data for this area, the types of archaeological materials that might be present in the general vicinity could potentially include the remains of artifacts (e.g., flaked stone tools, tool-making debris, ground stone tools, fire-affected rock), soil discoloration or shell that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., horse paraphernalia, railroad ties, concrete blocks, metal, glass, ceramics). Chipped stone tools, if present, may be related to either the prehistoric or ethnohistoric periods. Historic-period cultural resources, if present, would most likely be related to settlement in the early 1800s during the HBC/PSAC era, the 9th U.S. Cavalry bivouac and war games of 1904, the early years of the DuPont Powder Works (Old Town period), including construction of the narrow-gauge railroad, and the early years of today's city of DuPont.

Considering the gravelly nature of the Spanaway soils and the history of disturbance, it is expected that cultural material, if present, would be discovered above a depth of 25 to 30 cmbs (0.8-1 foot). As discussed above, sterile gravels have been encountered at shallow depths (25-30 cmbs) at archaeological sites in this vicinity, including 45PI66 and 45PI455 within the project area.

OBJECTIVES

As presented in the Permit, the goals of this investigation are to determine if any intact subsurface archaeological deposits from the prehistoric, ethnohistoric, or historic periods remain within the project area, to document them, to add important information to the sites determined eligible (45PI66 Methodist Episcopal Mission site) or considered potentially eligible (45PI455 9th U.S. Cavalry Bivouac site) for NRHP listing, and to assess the potential eligibility for listing on the NRHP of any newly discovered sites. More specifically, based on our knowledge of the prehistory, ethnography, and history of the project vicinity and the results of the prior local archaeological investigations, the following research questions guided the investigation:

1. Is there evidence for the exact location of the 1840–1842 Methodist Episcopal Mission building? Although extensive investigations have taken place within site 45PI66 and chimney stones were recovered, the opinion that the precise location of the Mission was identified is considered equivocal (compare Moura 1991a:8; Daugherty and Condon 2001:48). This site has been determined eligible for NRHP listing under Criterion A, and such evidence (i.e., postholes) would contribute additional important information about the location of the Mission building.

2. Is there additional evidence preserved of the 9th U.S. Cavalry 1904 encampment? Investigation extending outward from the backhoe peels completed in 1989 (Moura 1991a, 1991b) and the soil remediation program in 2000 (Daugherty and Condon 2000, 2001) within site 45PI455 may uncover further evidence of this brief occupation by the Buffalo Soldiers, such as privy holes or trash pits. Such evidence would contribute important information to the potential eligibility of this site for NRHP listing.

3. Is there evidence of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that indicates Native Americans repeatedly occupied the area prior to Euro-American settlement during the historic period, and does the evidence indicate a firm link between previously recorded resources? Such evidence may connect the four pieces of debitage recorded as isolate 45PI773 and recovered from a series of discontinuous subsurface probes (Wessen et al. 2008) to the seven chipped stone artifacts recovered during the 1989 test excavations at site 45PI455, the 9th U.S. Cavalry Bivouac site (Moura 1991a, 1991b).

4. Is there additional evidence for HBC-PSAC activities outside of and not related to previously recorded site 45PI66? If undisturbed deposits or features from this mid-1800s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., post holes, privy holes, wells, trash pits, burials, etc.).

5. Is there additional evidence for Old Town period activities outside of and not related to previously recorded site 45PI63 (Railroad Dump)? If undisturbed deposits or features from this early 1900s period exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., trash pits, privy holes, wells, burials, etc.).

6. Is there additional evidence for DuPont period activities outside of and not related to previously recorded site 45PI64 (Burning Ground Dump)? If undisturbed deposits or features dating to this period from the 1920s to 1945 exist, the newly discovered sites may be eligible for listing on the NRHP, depending on the nature of the discovery (e.g., burials, trash pits, wells, privy holes, etc.).

FIELD METHODS AND PERSONNEL

All work by PCI for this investigation was conducted by professional archaeologists as defined under RCW 27.53.030(8) and who meet the Secretary of the Interior's Standards (National Park Service [NPS], 1983). PCI archaeologists Cindy Arrington, M.S., and Peter Morris completed the fieldwork, and Dr. Nancy Sikes served as the cultural resources Principal Investigator for the project. Kareem Gannie of the Nisqually Tribe served as the project Native American monitor for survey and subsurface testing.

Field methods approved for this project included intensive-level pedestrian survey followed by subsurface testing, and then monitoring of geotechnical subsurface exploration in the project area. These three phases of fieldwork were conducted by PCI archaeologists on the dates in February and March 2011 shown in Table 4. The methods employed for each field phase are presented separately below.

Table 4. Project Field Phase Dates and Personnel

Field Phase	Archaeologist (s)	Date of Fieldwork
Survey	Cindy Arrington and Peter Morris	February 17–18, 2011
Subsurface testing	Cindy Arrington	February 21-28 and March 1-2 2011
Monitoring of geotechnical subsurface exploration	Cindy Arrington	March 3-4, 2011

The pedestrian survey was conducted prior to any subsurface excavations to identify any previously unrecorded archaeological material from the prehistoric, ethnohistoric or historic periods that could potentially be present on the surface of the project area. The intensive-level pedestrian survey encompassed the entire 25.3-acre project area. Transect spacing within the project area was no greater than 15 meters apart and was accomplished on an east-to-west bearing. The 25.3-acres surveyed by PCI archaeologists comprise the maximum physical footprint of potential ground-disturbing activities associated with the proposed construction (Figure 1).

Following the pedestrian survey, a series of 125 shovel test probes (STPs) and 22 geotechnical excavations (GTEs) were excavated within the project area at random intervals as shown on Figure 3. At the request of the City of DuPont and DAHP, no STPs were placed in existing trails, pedestrian paths, or gravel roadways. Additionally, all STPs were backfilled and compacted daily. The STPs and GTEs were accomplished by mechanical excavation using a backhoe with a 2-foot bucket attachment and smooth plate. Dan Andreas of Miles Resources operated the mechanical equipment. PCI archaeologists remained at a safe distance from all mechanical equipment, while continuing to examine the sides of the trenches for cultural resources. All field personnel were aware of prior soil contamination within Lot Y (mainly lead and arsenic) and related remediation completed in 1999 and 2000, and observed standard safety protocols.

Each of the 125 STPs measured 3 feet in length and 2.5 feet in width. STP levels were dug in 7-cm (3-inch) increments or until sterile gravels were encountered. Soils taken from the STPs were screened through 1/8-inch hardware cloth. No STPs were placed in three hot spots (HS-3, HS-4 and HS-6, which include the former locations of 45PI63A, 45PI63B, and 45PI64) where the prior remediation efforts 11 years ago removed contaminated soils and where sterile gravel is now exposed throughout these portions of the project area, as clearly visible on the aerial photograph (compare Figures 2 and 3). Sterile gravel was encountered in 123 of 125 STPs between 35 and 130 cmbs (1.1-4.3 feet); mixed stratigraphy or fill was present in two STPs. Records for the individual STPs, detailing levels, soil texture, color, and comments, are located in Appendix C.



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Subsurface Testing Map

PARUS CONSULTING, INC.

Figure 3

Each of the 22 GTEs measured 3 feet wide by 5 feet long. GTE upper levels were dug in 3-inch (7-centimeter) increments or until sterile gravels were encountered, while lower levels, after encountering sterile gravels, were dug in1-foot increments. Four of the GTEs were excavated within the hot spot removal areas (Figures 2 and 3). Soils taken from the GTEs at 4 feet, 6 feet, and 10 feet were screened through 1/8-inch hardware cloth. Twenty GTEs were excavated to 305 cmbs (10 feet); one GTE with mixed stratigraphy was terminated at 250 cmbs (8.2 feet); one GTE filled with water at 244 cmbs (8 feet). Records for the individual GTEs, detailing levels, soil texture, color, and comments, are located in Appendix C.

All undeveloped ground surface areas within the current project limits were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, fire pits, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic debris (e.g., metal, glass, ceramics). Ground disturbances, including a graveled dirt road and dirt two-track, were visually inspected. Climatic conditions varied from sunshine during the first three days of fieldwork to inclement weather (rain, snow, sleet, or hail) during part or all of each succeeding day.

Photographs of the current project area, ground surface visibility, STPs, GTEs, and items of interest were taken with a digital camera. Soil color was recorded using a Munsell© Soil Color Chart. The surveyed acreage and location of the STPs and GTEs were recorded with a handheld Trimble® GeoXT global positioning system (GPS) unit. Field notes and photographs are on file at PCI.

Except for two brick fragments, one flat iron bar and one can, no portable artifacts were identified; no artifacts were collected. For all archaeological materials identified during the fieldwork, PCI archaeologists completed the appropriate Washington Archaeological Site Inventory and Isolate forms.

FIELD RESULTS

GENERAL DESCRIPTION AND SUMMARY

The northern, eastern and western sides of the project area are immediately bordered by dense conifer forest (Photograph 4). Elevation within Lot Y increases from 64 meters above mean sea level (msl) by approximately 1 to 3 meters from east to west, and from 61 to 68 meters above msl from south to north. Sequalitchew Creek is located approximately 50 feet outside the entire Lot Y southern boundary at the bottom of a steep embankment. At the time of the pedestrian survey, the creek had a generous water flow.



Photograph 4. Forest to north, east, and west of Lot Y (view to southwest)

The project area contains four cleared hot spots (HS) where the contaminated topsoil was removed during remediation efforts in 1999 and 2000 (Figure 2). HS-6 is a large semi-square clearing that lacks vegetation, and is currently used as a gravel pit. As shown on the figure, a narrow linear extension of HS-6 extends eastward to meet the western extent of HS-3 south of the recorded boundaries of site 45PI66. Vegetation is re-establishing within the HS-2, HS-3, and HS-4 remediation clearings, and includes mostly small conifers, scotch broom and grasses.

A paved walking trail maintained by the City of DuPont and situated outside the southern border of Lot Y parallels the northern side of Sequalitchew Creek. As shown on Figure 2, a dirt road transects a portion of the project area, running east to west, starting at a chain-link fence on the eastern boundary and ending at the eastern edge of HS-6. The road is approximately 1,067 feet long and has a thin gravel coating. An approximately 460-foot long area devoid of vegetation, the previous location of a narrow-gauge railroad track, leads northeast from HS-3 to HS-4. All railroad tracks were removed from the project area between 1995 and 2000 (personal communication, Fred Foreman).

A non-functional segment of a narrow-gauge railroad track bisects the eastern edge of the project area. There is also a concrete loading platform in the eastern portion of the project area. The platform is located approximately where the former sets of narrow gauge and standard gauge railroad tracks crossed each other as shown on the March 15, 1955 map of the DuPont Works drawn by E. Davies. To the south and immediately outside of the current project area is a set of concrete bridge abutments near Sequalitchew Creek. These are the remnants of a narrow-gauge railroad bridge shown on the 1955 map. The track segment, concrete platform, and set of bridge abutments were recorded as archaeological sites (see below).

As detailed below, except for two brick fragments located on the surface and at depth within the boundaries of 45PI66 (Methodist Episcopal Mission site), no evidence was found during this investigation within Lot Y of the previously recorded sites and isolate covered by the excavation permit.

Vegetation within the project area perimeter consists of open, second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the ground in the majority of the project area is very poor, near zero percent, due to a dense coverage of grass, moss, and forest duff (Photograph 5). In the open ground areas in HS-6 and HS-3, visibility is good to excellent, ranging between 30 and 100 percent (Photograph 6).



Photograph 5. Visibility at 0% (view to northeast)



Photograph 6. Visibility at 30-100% (view to northeast)

SUBSURFACE TESTING RESULTS

The subsurface stratigraphy was consistent within 123 of the 125 STPs and all 22 GTEs excavated within the project area (Figure 3). The soil throughout the project area is consistent with the description for the Spanaway series developed on glacial outwash sediments (Soil Survey Staff 2009). There are three soil horizons, though horizon 2 is not present in all STPs or GTEs. The depth of the horizons varies across the Lot Y landscape in relation to the topography and prior human disturbance. Horizon 1 is a moist, very dark brown (10 YR 2/2) gravelly sandy loam with weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots with a very high organic matter content. Horizon 2 is a moist very fine crumb dark gray brown (10 YR 3/2) gravelly sandy loam with little distinction in texture from horizon 1. Horizon 3 is moist and fluctuates between a dark gray brown (2 YR 4/2) and an olive brown (2YR 4/4) gravelly sand with no soil matrix. The single grained, loose sand is the prominent content with some rounded to sub-rounded cobbles; it is also very compact.

Only two of the subsurface units (STPs 28 and 115) contained cultural material. A brick fragment, measuring 3x4x2 inches, was located at 20 cmbs (8 inches) in STP 28 within site 45PI66 (Methodist Episcopal Mission). The brick was not handmade and no maker's marks were located on the fragment. Additionally, a smaller brick fragment was located at ground level within inches of STP 35 (also within 45PI66). STP 115 is located 18.5 feet due east of a concrete platform and the soil is entirely mixed down to a level of 200 cmbs (6.6 feet). A flat iron bar with four bolts protruding was located at 160 cmbs (5.2 feet). The iron bar measured 24 inches long by 3 inches wide and 1/8th inch thick, and has four 3.5-inch metal bolts spaced roughly 7 to 8 inches apart (Photograph 7). The iron bar appears to be associated with the concrete platform, given its close proximity and the paint on the bolt heads matches the metal on the platform.



Photograph 7. Flat iron bar in STP 115 (plan view)

All but two of the 125 STPs (STP 89 and 115) were excavated until sterile gravel was encountered. Although the presence of the Spanaway series soil horizons was consistent, the depth of sterile gravel varied from 35 cmbs to 130 cmbs (1.1-4.3 feet) across the project area. STP 115 had mixed stratigraphy and was excavated to a depth of 200 cmbs (6.6 feet). The soil in STP 89 is a moist, brown (7.5 YR 4/4) silty loam until the typical underlying horizon appears at 110 cmbs (3.6 feet) as a moist, dark green brown (2.5 YR 4/4) gravelly sand. The typical upper horizon of gravelly sandy loam appears to have been removed near STP 89 and replaced with imported soil. The STP was placed 66 feet northeast of the set of bridge abutments. It seems likely that more stable soil was imported for the approach to the narrow-gauge bridge that once crossed Sequalitchew Creek.

Six of the STPs located in the eastern portion of the project (STPs 113, 116-119) near the gravel road each display a gray upper horizon not noted in any other portion of the project area (Photograph 8). The moist, dark gray (2.5 YR 3/1) soil is similar in structure to the typical horizon 1, but is noticeably different in color and is relatively thin (0-25 cm [0-9.8 inches]), and is likely related to prior disturbance.

STPs 120 through 125, located in the southeastern portion of the project area, all show evidence of a grass fire. Small flecks of charcoal are noted in the upper 5 cm of each unit. Of these six STPs, only STP 120—with a total depth of 95 cmbs (3.1 feet) and nearest the creek—contained horizon 2. The profiles in STPs 121 through 125 are restricted to horizon 1 (0-60 cmbs [0-23.6 inches]) and horizon 3 (60-80 cmbs [23.6-31.5 inches]).

With the exception of the brick fragment in STP 28 and the iron bar in STP 115, no cultural material was located in the series of 125 STPs excavated within the project area.



Photograph 8. Upper gray horizon in eastern STPs near gravel road (view to west)

GEOTECHNICAL SUBSURFACE EXPLORATION RESULTS

Of the 22 GTEs placed in the project area (Figure 3), all but two (GTEs 9 and 14) were taken to a depth of 305 cmbs (10 feet). The soils throughout the GTEs are relatively consistent with the Spanaway series (Photograph 9), although only five (GTEs 1, 3, 5, 12, 13, and 15) contain horizon 2.

In the eastern sector of the project area, GTE 9 has mixed stratigraphy and was excavated to a depth of 250 cmbs (8.2 feet). The upper horizon is a thin layer of sand (0-20 cmbs [0-8 inches]) followed by a mix of horizon 1 very dark brown (10 YR 2/2) gravelly sandy loam and sand with very few cobbles. It appears to be imported fill material. This unit is in close proximity to two of the hot spots (HS-3 and HS-4) cleared for soil contamination (compare Figures 2 and 3). In the northeastern sector, GTE 14 was terminated at 244 cmbs (8 feet) when water entered the unit and began to fill rapidly.

No cultural material was located in any of the 22 GTEs excavated within Lot Y.



Photograph 9. Sediments within GTE 16 (plan view)

PREVIOUSLY RECORDED RESOURCES WITHIN PROJECT AREA

The only evidence found during this investigation within Lot Y of the two previously recorded historic archaeological sites (45PI66 and 45PI455) and one prehistoric isolate (45PI773) was the two brick fragments located within the boundaries of 45PI66, the Methodist Episcopal Mission site. In addition, there was no evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed during hazardous materials remediation in 2000.

45PI66 Methodist Episcopal Mission Site

During this field investigation, eight STPs (STPs 28-35) were placed within the previously identified boundary of 45PI66. Two fragmented red brick pieces were located: one fragmented piece in STP 28 at 20 cmbs (8 inches) (Photograph 10) and one at ground level within inches of STP 35. The larger of the two brick fragments (3x4x2 inches in STP 28) was not handmade and had no maker's marks. No other cultural artifacts were identified within the site boundary.



Photograph 10. Brick fragment in STP 28 (plan view)

The soil within the STPs placed within the site boundaries is a shallow (0-25 cm [0-9.8 inch]) moist, very dark brown (10 YR 2/2) gravelly sandy loam with a weak fine granular structure; soft, very friable, nonsticky and nonplastic; with many fine roots and a very high organic matter content. Below the single soil horizon is a moist, dark gray brown (2.5 YR R 4/2) gravelly sand with no soil matrix. Within the single-grained, loose sand are some medium to large rounded to sub-rounded cobbles. This profile description is consistent with that described during the archaeological excavations conducted in 1989 within 45PI66 (Welch 1989a; Moura 1991a). Those excavations were stopped when sterile gravels were encountered at 25 cmbs (0.8 feet).

No evidence was discovered during this investigation of the exact location of the 1840–1842 Methodist Episcopal Mission building or of any undisturbed archaeological deposits or features related to the mission, the HBC/PSAC era, or any other archaeological period. The work further substantiates the opinion that site 45PI66 is not eligible under Criterion D (data potential). The Methodist Episcopal Mission site has, however, been determined eligible for NRHP listing under Criterion A for its association with significant events.

45PI455 9th U.S. Cavalry Bivouac Site

There was no surface evidence of site 45PI455 during this investigation and no cultural material or deposits within a series of 12 STPs (STPs 72-82 and 84) placed within or adjacent to the recorded site boundaries. The soil horizons within the STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 35 and 70 cmbs (1.1-2.3 feet). During test excavations in 1989 when nearly 1,000 artifacts and animal bone fragments were collected, sterile gravels were encountered within 30 cmbs (1 foot) (Moura 1991a:9, 1991b:1).

No additional evidence of the 9th U.S. Cavalry 1904 encampment or of any undisturbed archaeological deposits or features was discovered during this investigation. Since 1998 when State Archaeologist Robert Whitlam indicated this site is potentially eligible for NRHP listing and recommended further work to define the boundaries of the Native American and Buffalo Soldier occupations, no further evidence of site 45PI455 was uncovered during the remediation program a decade ago (Daugherty and Condon 2000, 2001) or during the current endeavor. Site 45PI455 is thus not considered eligible for NRHP listing under Criterion D (data potential). The 9th U.S. Cavalry Bivouac site is, however, considered potentially eligible for NRHP inclusion as part of the proposed Nisqually-Sequalitchew Historic District.

45PI773 Prehistoric Chipped Stone Isolate

No cultural material was identified on the surface of 45PI773 or within three STPs (STPs 72, 77, 80) placed during this field investigation within or adjacent to the locations of the shovel test probes excavated in 2005 (Wessen et al. 2005, 2008). The soil horizons within the three STPs are consistent with the Spanaway series, with the lower gravelly sand horizon encountered between 22 and 70 cmbs (0.7-2.3 feet). The soil profile in the vicinity of where the four pieces of debitage were encountered in the series of discontinuous subsurface probes was described by Wessen et al. as having three strata (2008:30) with the lower gravelly sand horizon with cobbles at 50 cmbs (1.6 feet).

No evidence was discovered during this investigation of any undisturbed archaeological deposits or features, including no sign of an intact continuous chipped stone scatter along the northern side of Sequalitchew Creek that might have linked the four pieces of debitage recorded as isolate 45PI773 to the seven chipped stone artifacts recovered during the 1989 test excavations at nearby 45PI455 (9th U.S. Cavalry Bivouac site). PCI agrees with the prior recommendation that isolate 45PI773 is ineligible for NRHP listing.

NEWLY IDENTIFIED RESOURCES WITHIN PROJECT AREA

Four historic period resources were newly identified during the pedestrian survey: three archaeological sites and one isolate (Figure 2). The three sites include a segment of a previously identified narrow-gauge railroad track and grade (45PI01224), a railroad concrete loading platform (45PI01225), and a set of railroad bridge abutments (45PI01226). The isolate (45PI00064) is one galvanized kerosene can. A brief description of the newly identified historic period resources is presented below. Detailed information can be found in the State of Washington Archaeological Site Inventory and Isolate Forms, attached as Appendix D.

No prehistoric or ethnohistoric period resources were newly identified during pedestrian survey of the surface or within the subsurface excavations.

45PI01224 Narrow Gauge Railroad Track

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area (Figure 2; Photograph 11). The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.



Photograph 11. 45PI01224 segment of narrow-gauge track (view to east)

45PI01225 Concrete Loading Platform

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used

for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform (Photograph 12). The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



Photograph 12. Concrete loading platform (view to east)

45PI01226 Railroad Bridge Abutments

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation (Photograph 13). Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek (Figure 2). There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer

piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side (Photograph 14). An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.



Photograph 13. Bridge abutment (view to north)



Photograph 14. Wood debris showing cleat (plan view)

45PI00064 Parus Isolate #1 Kerosene Can

A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the "gravel pit" (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact (Photograph 15). The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.



Photograph 15. Kerosene can (plan view)

PROJECT CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

No evidence was found during this investigation within Lot Y of 45PI66 (Methodist Episcopal Mission site), 45PI455 (9th U.S. Cavalry Bivouac site) or 45PI773 (chipped stone isolate), except for two brick fragments located on the surface and at depth within the boundaries of 45PI66. Nor was there any surface or subsurface evidence of the two archaeological sites (45PI63 and 45PI64) formerly located within Lot Y that were completely removed a decade ago during hazardous materials remediation.

No historic properties will be affected by implementation of the Lot Y project. Although the Methodist Episcopal Mission site has been determined eligible for NRHP listing under Criterion A for its association with significant events and also contributes to the proposed Nisqually-Sequalitchew Historic District, site 45PI66 is not eligible under Criterion D (data potential). Similarly, although the location of the brief occupation by the 9th U.S. Cavalry Buffalo Soldiers is potentially eligible for NRHP inclusion as a contributing element of the proposed Nisqually-Sequalitchew Historic District under Criterion A, site 45PI455 is not considered eligible for NRHP listing under Criterion D. Isolate 45PI773 is considered ineligible for NRHP listing.

The two newly identified sites within Lot Y, 45PI1224 (railroad track segment) and 45PI01225 (concrete platform), and are recommended ineligible for listing on the NRHP or WHR. The kerosene can isolate (45PI00064) is considered ineligible for listing. The third newly identified site, 45PI01226 (bridge abutments; also recommended ineligible for listing on the NRHP or WHR), is located immediately outside the Lot Y project area.

Considering the results of the literature search, local ethnographic settlement and subsistence patterns, the prehistory and history of the vicinity, and DAHP's predictive model, the project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. On the other hand, Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. Based on the lack of cultural deposits in the gravelly sandy loam and gravelly sand subsurface sediments exposed in the series of 125 STPs and 22 GTEs excavated to depths between 35 and 305 cmbs (1.1-10

feet), the potential for discovery of buried archaeological materials, features or deposits by implementation of this project is considered low. Therefore, no further cultural resource action is warranted.

There is always the potential for the existence of buried archaeological materials within the project area, mostly likely restricted to shallow depths above the outwash gravels, and an Unanticipated Cultural Resources Discovery Plan has been prepared for the project and is attached to this report as Appendix E. Pursuant to the Discovery Plan, should cultural resources be encountered during construction or ground-disturbing activities connected with this project, work in the area must be halted and a professional archaeologist, who meets the definition under RCW 27.53.030(8), should be notified immediately to evaluate the resource(s) encountered. Should human skeletal remains be encountered, all activity in the area must halt, the remains protected from further disturbance, and the county coroner and local law enforcement notified immediately (RCW 27.44, 68.50, 68.60).

Resources within this area that might be encountered might include prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden). Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, ceramic artifacts, or other debris older than 50 years.

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APPENDIX A:
Archaeological Excavation Permit No. 2010-54

STATE OF WASHINGTON
DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION
1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

February 7, 2011

Ms. Lia Estigoy
DuPont Industrial Partners, LLC
1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

Nancy E. Sikes and Cindy Arrington
GeoEngineers, Inc.
1101 S. Fawcett Avenue, Suite 200
Tacoma, WA 98402

Dear Ms. Estigoy, Ms. Sikes and Ms. Arrington:

I have reviewed the application you submitted for archaeological excavations at 45PI00066. It is my intention to grant the permit application for excavations at 45PI00066. Please take note of the Special Conditions on the permit.

If you feel aggrieved by this decision you may request an administrative hearing within twenty-one days after receipt of this notice. Your request should be sent to the address listed below.

Director
Department of Archaeology and Historic Preservation
PO Box 48343
Olympia, WA 98504-8343

Sincerely,

Stephenie Kramer
Assistant State Archaeologist
(360) 586-3083
Email: stephenie.kramer@dahp.wa.gov

Enclosure

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343

ARCHAEOLOGICAL EXCAVATION PERMIT
NO: 2010-54

Archaeological sites:	45PI66, 45PI455 and 45PI773, Lot Y
Individual Responsible for carrying out the terms and conditions of the permit:	Lia Estigoy Property Owner
Individual responsible for field investigations:	Nancy Sikes & Cindy Arrington GeoEngineers, Inc.
Nature of work:	Sub-surface survey and geotechnical pits, archaeological testing
Repository in which collected records and data shall be deposited:	Nisqually Tribe & DuPont Historical Museum; cc DAHP on transfer
Date fieldwork to begin:	**Upon receipt; but notify DAHP and Tribes via email before starting**
Date fieldwork shall end:	April 31, 2011
Period of analysis:	Concurrent through May 31, 2011
Date final report due:	May 31, 2011 Per WAC 25-48-041, if the report is late, a Notice of Violation will be issued & a $5000 penalty assessed

Special Conditions:

- Follow protocols stated in permit application of 12/2/10 and email of 2/7/11
- Notify DAHP and Tribes if intact archaeological deposits are observed
- Switch to hand excavation for intact deposits
- Restore trails if units are needed in trail areas
- Be aware of City of DuPont's comments regarding arsenic
- Provide copy of report to DAHP & affected Tribes
- Report must meet DAHP's Survey and Inventory Standards
- Append catalog & BetaAnalytic sheets to report, reference permit number
- If human remains are encountered, stop work, secure the area, notify the county coroner, sheriff, DAHP, & affected Tribes per RCW 27.44.055

Issued this 7th day of February 2011.

Stephenie Kramer
Assistant State Archaeologist

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past, Shape the Future

APPENDIX B:
Correspondence with Local Tribes

Native American Tracking Sheet
DuPont Industrial Partners, LLC
DuPont, WA – Lot Y

GeoEngineers Project No. 16785-003-00

Contact Name	Date Letter Sent Via Email	Comments/Concerns Recommendation
Puyallup Tribe 3009 East Portland Avenue Tacoma, Washington 98404 Judy Wright, THPO Cultural Resources 253-573-7897 Judy.Wright@puyalluptribe.com	**11-8-2010**	No response
Nisqually Tribe 4820 She-Nah-num Drive SE Olympia, Washington 98513 360-456-5221 phone Thor Hoyte, Cultural Resources Hoyte.thor@nisqually-nsn.gov	**11-8-2010**

GeoEngineers
1101 S Fawcett, Suite 200
Tacoma, Washington 98402
253.383.4940

November 8, 2010

Puyallup Tribe
3009 East Portland Avenue
Tacoma, Washington 98404

Attention: Judy Wright, THPO Cultural Resources

Sent via email: Judy.Wright@puyalluptribe.com

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont Washington

Dear Ms. Wright:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26- acres (Figure 1).

Archaeologists have previously recorded and investigated four sites on Lot Y: 45PI63, the Railroad Dump #3 Site; 45PI66, the Methodist Episcopal Mission Site; 45PI455, the 9th Cavalry BivouacSite; and 45PI773, a small lithic scatter. Additionally, Site, 45PI64 The Burning Ground Dump Site, had been recorded in 1977 and additional work done in 2000. The entire site (approximately 3,000 square feet) was removed during a hot spot or contaminated soils treatment program for hazardous substances in 2001. In 1993, the SHPO determined the site ineligible for NRHP listing.

An Application for an Archaeological Excavation Permit is being completed pursuant to permit requirements found in the Washington Administrative Code [WAC] 25-48-060. There is no federal involvement in this project. The work for the proposed project will be conducted under prevailing Washington state laws, which serve to protect from known disturbance of archaeological sites and Native American graves on both public and private lands. These laws include Executive Order 05-05, Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), Archaeological Excavation and Removal Permit (WAC 25-48), and Discovery of Human Remains (RCW 27.44).

GeoEngineers is in the process of reviewing available background information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource sites, reports, and review pertinent published literature and ethnographies. Results of our investigation will be presented in a technical report.

We are aware that all information regarding cultural resources is within published sources. Should the Tribe have additional information concerning cultural resources, we would like to include it in our study. Please contact me should you wish to provide any comments or additional information. I appreciate your assistance in this matter and look forward to hearing from you. If I can answer any questions you may have, please do not hesitate to contact me at Carrington@geoengineers.com or at 916-765-9381.

Best Regards,



Cindy Arrington
Cultural Resource Specialist

Attachment:
Figure 1

GeoEngineers
1101 S Fawcett, Suite 200
Tacoma, Washington 98402
253.383.4940

November 8, 2010

Nisqually Tribe
4820 She-Nah-num Drive SE
Olympia, Washington 98513

Attention: Thor Hoyte, Cultural Resources

Sent via email: Hoyte.thor@nisqually-nsn.gov

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont Washington

Dear Mr. Hoyte:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26- acres (Figure 1).

Archaeologists have previously recorded and investigated four sites on Lot Y: 45PI63, the Railroad Dump #3 Site; 45PI66, the Methodist Episcopal Mission Site; 45PI455, the 9th Cavalry BivouacSite; and 45PI773, a small lithic scatter. Additionally, Site, 45PI64 The Burning Ground Dump Site, had been recorded in 1977 and additional work done in 2000. The entire site (approximately 3,000 square feet) was removed during a hot spot or contaminated soils treatment program for hazardous substances in 2001. In 1993, the SHPO determined the site ineligible for NRHP listing.

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Best Regards,



Cindy Arrington
Cultural Resource Specialist

Attachment:
Figure 1

GeoEngineers
1101 S Fawcett, Suite 200
Tacoma, Washington 98402
253.383.4940

November 8, 2010

Squaxin Tribe
SE 70 Squaxin Lane
Shelton, Washington 98584

Attention: Rhonda Foster, THPO Cultural Resources

Sent via email: rfoster@squaxin.nsn.us

Subject: Cultural Resources Assessment for the DuPont Industrial Partners, LLC, Lot Y DuPont Washington

Dear Ms. Foster:

I am writing to inform you of a cultural resources assessment that is planned for the above-referenced project. GeoEngineers is conducting this assessment at the request of the DuPont Industrial Partners, LLC. The project is located northwest of the town of DuPont near the intersection of Center Drive and Powerline Road in the City of DuPont, Washington (Township 19N, Range 01E, Section 26 on the Nisqually 7.5 quadrangle, Willamette Meridian). The project will consist of an intensive pedestrian survey and subsurface testing in the form of auger units for a total of approximately 26- acres (Figure 1).

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Best Regards,



Cindy Arrington
Cultural Resource Specialist

Attachment:
Figure 1



Lot Y

T19N, R 1E, Section 26
USGS 7.5' Topographic Map Series, Nisqually (1981) Quad.

1:24,000

2,000 0 2,000

Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

Location of Lot Y

DuPont Industrial Partners, LLC
Dupont, Washington

GeoEngineers

Figure 1

Office: Tacoma Path: W:\Tacoma\Projects\16\16785003\GIS\16785500300_F1_LocationMap.mxd Map Revised: November 8, 2010 CRC

From: Cindy J. Arrington
To: kalama.joe@nisqually-nsn.gov
Subject: RE: Requested information
Date: Friday, November 19, 2010 7:55:00 AM

Good Morning Joe:

I have an upcoming project in DuPont and which requires a Washington Archaeological Excavation permit. It is my clients intention to donate to the Nisqually Tribe ("Tribe") and/or DuPont Historical Museum ("Museum") any archaeological materials collected during the subsurface archaeological excavations planned on their private land ("Lot Y") in the City of DuPont, Pierce County, Washington. The project comprises approximately 26 acres, the property is located west of Center Drive and north of Sequalitchew Creek. It is situated in Section 26 of Township 19 North Range 1 East, on the 1981 Nisqually 7.5-minute USGS topographic map (Willamette Meridian).

Permission for excavation and related removal of archaeological material from Lot Y is being requested in an Archaeological Excavation Permit filed with the Department of Archaeology and Historic Preservation (DAHP) pursuant to permit requirements found in the Washington Administrative Code 25-48-060. As part of that permit, I need to secure curation letters from those individuals we seek to donate the artifacts to, should any artifacts be located/identified. Please note that subsurface testing will not begin until February 2011.

It is our intention that archaeological materials associated with the prehistoric or ethnohistoric periods will be donated to the Tribe for curation, and that historic period archaeological materials will be donated to the Museum for curation. A catalog and copies of records, data, photographs, and other documents derived from the excavation process will accompany any collection donated to either the Tribe or Museum.

If you could please contact me at your earliest convenience so that we may discuss the project.

Cindy J. Arrington, M.S., RPA
Associate
Cultural Resource Specialist

GeoEngineers
t: 916.444.5825
f: 916.441.2532
c 916.765.9381
e: carrington@geoengineers.com

3301 C Street, Suite 200 A
Sacramento, California 95816
www.geoengineers.com

From: Thor Hoyte [mailto:hoyte.thor@nisqually-nsn.gov]
Sent: Wednesday, November 17, 2010 1:59 PM
To: Cindy J. Arrington
Cc: kalama.joe@nisqually-nsn.gov
Subject: Re: Requested information

Sorry. Please contact Joe Kalama, who is on this email.

On Nov 16, 2010, at 12:24 PM, "Cindy J. Arrington" <carrington@geoengineers.com>

wrote:

> Good Afternoon Mr. Hoyte: On November 5, I sent an email requesting your assistance with a project in DuPont, WA. I have not received a reply and have been unable to reach you by phone. If you could contact me at your earliest convenience.
>
> Best regards,

Cindy J. Arrington, M.S., RPA
Associate
Cultural Resource Specialist

GeoEngineers
t: 916.444.5825
f: 916.441.2532
c 916.765.9381
e: carrington@geoengineers.com

3301 C Street, Suite 200 A
Sacramento, California 95816
www.geoengineers.com

Confidentiality: This message is confidential and intended solely for use of the individual or entity to whom it is addressed. If you are not the person for whom this message is intended, please delete it and notify me immediately, and please do not copy or send this message to anyone else.

APPENDIX C:
Detailed Subsurface Excavation Records

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 1- 5	2/21/2011	0-17	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		18-60	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, expect for color.
		60-78	None	Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		78-85	None	Moist/VFC/SL/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact. Some large cobbles measuring over 18cm in width.
STP 6-9	2/21/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-49	None	Moist/VFC/SL/DGB	10 YR 3/2	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		49-77		Moist/VFC/SL/DYB	10 YR 3/4	Small charcoal flecks, not in situ. Rounded to sub-rounded cobbles, increasing in density. Cobbles 60% of matrix
		77-90	None	Moist/GS/DYB	10 YR 4/4	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, SC = Silty clay, GS = Gravelly Sand, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 10 - 12	2/21/2011	0-18	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		20-90	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		90-110	None	Moist/GS/DGB	2.5Y 4/2	Rounded to sub-rounded cobbles, very compact and increased density.
STP 13 - 16	2/21/2011	0-40	None	Moist/SL/VDB	10 YR 2/3	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-60	None	Moist/SL/DGB	10 YR 3/2	Very high in organic matter content, has mellow, sooty feel; gravelly sandy loam with larger cobbles appearing around 45-49cmbs than decreasing by 60cmbs.
		60-85	None	Moist/GS/OB	2.5 Y 5/3	Gravelly sand with no soil matrix. More sand; single grained; loose, than cobbles. Cobbles are rounded to sub-rounded and low density.
STP 17 - 19	2/22/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y Recorder: C. Arrington

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 20-22	2/22/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-80	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
STP 23-27	2/22/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
***STP 27-36**	2/22/2011	0-25	Yes	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		25-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with few rounded to sub-rounded cobbles.
STP 37-44	2/23/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		70-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 45	2/23/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

***Note:** STPs 28-35 were placed within the recorded location of Site 45PI66 (Methodist Episcopal Mission). One piece of fragmented red brick was located at 20cmbs in STP 28. A second red brick fragment was located at ground surface in STP 35.

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 46-51	2/25/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 52-52	2/25/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 54	2/25/2011	0-25	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-35	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 55-57	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 58	2/25/2011	0-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-120	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington** **Date:** August 26, 2010

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 59-60	2/25/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		40-60	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 61	2/25/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-55	None	Moist/GS/DYB	10 YR 4/6	Gravelly sand with no soil matrix. Rounded to sub-rounded cobbles, very compact.
		55-110	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 62	2/25/2011	0-40	None	Moist/VFC/SL/DGB	10 YR 3/2	This layer is typically seen in the second horizon, with the darker (10 YR 2/2) high in organic matter overlying it. No signs of mixing in the stratigraphy.
		40-120	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		120-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 63-65	2/25/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #		Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 66-70	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 71-72	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 73-75	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 76	2/26/2011	0-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-90	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #		Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 77	2/26/2011	0-22	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		22-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 78-80	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 81-83	2/26/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 84-85	2/26/2011	0-35	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		35-45	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 86-88	2/26/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 89	2/26/2011	0-110	None	Moist/SL/VFC/B	7.5 Yr 4/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic, sooty feel, no cobbles or pebbles. This layer appears to be imported soil. The stratigraphy is uninterrupted until you reach 110 cmbs, where the typical underlying horizon appears. The typical upper horizon; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam appears to have been removed and imported soil placed. This STP was placed near the (66 feet) bridge abutment and could be that more stable soil was imported for the approach to the narrow-gauge bridge.
		110-130	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 90	2/28/2011	0-15	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		15-40	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		40-50	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 91	2/28/2011	0-7	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		7-25	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 92-95	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 96	2/28/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 97-98	2/28/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-70	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 99	2/28/2011	0-10	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 100-101	2/28/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 102	2/28/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-75	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 103	3/1/2011	0-20	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		20-30	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 104	3/1/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		5-20	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 105	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		45-60	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 106	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-70	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		70-80	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 107-110	3/1/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 111	3/1/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-90	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 112	3/1/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-45	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 113	3/1/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-70	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		70-85	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 114	3/1/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		60-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-85	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
STP 115	3/1/2011	0-200	Yes	Moist/GS/DG	2.5 Y 3.1	This unit is completely mixed (photo taken #58) the matrix resembles horizon 1 with Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam however, there is no stratigraphic distinction between 0-200 cmbs. A metal artifact was located at 160 cmbs. The artifact is a flat metal bar with 4-bolts protruding from one side.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, DG = Dark Gray

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 116	3/2/2011	0-25	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		25-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		55-75	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 117-119	3/2/2011	0-10	None	Moist/GS/DG	2.5 Y 3.1	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		10-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-65	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
STP 120		0-20	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Medium to small cobbles rounded and subrounded. Small flecks of charcoal, indicative of a grass fire in the area.
		20-80	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		80-95	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
STP 121-125	3/2/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam. Small flecks of charcoal, indicative of a grass fire in the area.
		60-80	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.
GTE 1	3/3/2011	0-30	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		30-60	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		60-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 2	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 3	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 4	3/3/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 5	3/3/2011	0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-50	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		50-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 6	3/3/2011	0-60	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		60-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

Subsurface Testing Record

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 7	3/3/2011	0-55	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		55-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 8	3/3/2011	0-90	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		90-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 9	3/3/2011	0-250	None	Moist/SL/VDB		This unit is completely mixed. There is a small (20cmbs) layer of sand on the surface and the rest is a mix between horizon 1 (10 YR 2/2) and sand. Very little cobbles. It appears to be fill material. This unit is in close proximity to a hot spot cleared for soil contamination.
GTE 10	3/3/2011	0-50	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; very high in organic matter content, has mellow, sooty feel, gravelly sandy loam
		50-305	None	Moist/GS/OB	2.5Y 4/4	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 11	3/3/2011	0-5	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		5-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 12-13	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-75	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		75-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 14	3/4/2011	0-5	None	Moist/VFC/SL/DYB	10 YR 3/4	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam. Small to medium cobble and become increasingly more compact.
		5-244	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmbs.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 15	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-80	None	Moist/VFC/SL/DYB	10 YR 3/4	Little distinction between this layer and the previous one, expect for color. Medium to large cobbles start in this layer and become increasingly more compact.
		80-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 16-17	3/4/2011	0-65	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		65-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 18-19	3/4/2011	0-45	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		45-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles. Water hit at 244cmbs.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Recorder: C. Arrington**

Unit #	Date	Level cmbs	Cultural Materials	Soil Type	Munsell	Comments
GTE 20	3/4/2011	0-3	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		3-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 21	3/4/2011	0-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles
GTE 22		0-40	None	Moist/SL/VDB	10 YR 2/2	Weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots and some large (1/4 inch) roots; very high in organic matter content, has mellow, sooty feel; gravelly sandy loam
		40-305	None	Moist/GS/DGB	2.5Y 4/2	Gravelly sand with no soil matrix. The sand, single grained and loose is the prominent content with some rounded to sub-rounded cobbles.

KEY: FC = Fine crumb, VFC = Very fine crumb, SL = Sandy loam, B = Brown, DB = Dark brown, DGB = Dark gray brown
SPI = Small pebble inclusion, YB = Yellow brown, GS = Gravelly Sand, OB = Olive brown, DYB = Dark yellow brown, GTE = Geotechnical Excavation

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Soils Photograph** **Recorder: C. Arrington**



Photograph 52. Showing horizon 1 (10 YR 2/2)



Photograph 53. Showing horizon 2 (10 YR 3/4)

Subsurface Testing Record

Project: DuPont Industrial Partners, LLC, Lot Y **Soils Photograph** **Recorder: C. Arrington**



Photograph 44. Showing horizon 3 (2.5Y 4/4)



Photograph 61. Showing gray horizon (2.5 Y 3.1)
Upper most layer in photograph

APPENDIX D:
Site and Isolate Record Forms

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: **PI01224**

***County:** Pierce

***Date:** 7-19-2011 ***Compiler:** C. Arrington

Location Information Restrictions *(Yes/No/Unknown)***:** No

SITE DESIGNATION

Site Name: Narrow gauge railroad and berm

Field/ Temporary ID: GEO-RR10 (**Update**)

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

SITE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description:** **T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): NENW

***UTM:** **Zone** 10 **Easting** 526801 **Northing** 5217214

Latitude: **Longitude:** **Elevation (FT/M):** 220ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

Location Description** *(General to Specific):** This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

Approach *(For Relocation Purposes)***:** From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 736feet from the intersection of Power Road (at the end of gravel just before the chain-link fence) and approximately 22 feet due north of the gravel road.

SITE DESCRIPTION

***Narrative Description:**

This site is an extension of site GEO-RR10 recorded on September 28, 2010 for Creekside DuPont Partners. The site is a non-functional narrow-gauge railroad track situated on an earthen berm bisecting the eastern edge of the project area. The earthen berm is approximately 20 inches in height and roughly 20 feet in width. The narrow gauge tracks extend 207 feet east from the eastern project area boundary (chain link fence) running due west. The site is covered with lichen, and trees growing through the tracks and the berm. Within the project area, the tracks end at an earthen mound that appears to have been dug immediately adjacent to the southeast side of the tracks (burrow pit). The narrow-gauge track and berm continue to the east beneath a chain-link fence for a distance of 98 feet beyond the project area. The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). There was no evidence of artifacts or cultural deposits in association with the tracks or berm, and this site is not recommended eligible for listing on the NRHP or Washington Heritage Register (WHR). The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

***Site Dimensions**

***Length:** 207 feet ***Direction: E/W** x ***Width:** 20 feet ***Direction:** N/S

***Method of Horizontal Measurement:** GPS

***Depth:** Surface * **Method of Vertical Measurement:** GPS

****Vegetation** *(On Site)*: Mostly grasses and scotch broom

Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern

Local: Glacial Plain

Water Resources *(Type)*: Sequalitchew Creek **Distance:** 426 feet SW **Permanence:** year round

***Method of Collection(s):** No materials collected

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

This site was originally recorded by Arrington during survey in 2010 of the 12.8-acre property (known as Lot X) adjacent to the eastern edge of Lot Y (Sikes and Arrington 2010). It is a non-functional segment of a narrow-gauge railroad track situated on an earthen berm; it extends into both Lots X and Y beneath a chain-link fence marking the property boundaries. The track and berm bisect the eastern edge of the Lot Y project area. The earthen berm is approximately 20 inches high and 20 feet wide. The narrow gauge track extends 207 feet west from the eastern project area boundary. The site is covered with forest duff, lichen, and scotch broom. The narrow-gauge track and berm continue east into Lot X beneath the chain-link fence for approximately 98 feet.

The short abandoned track and berm segment are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s). This site is recommended ineligible for listing on the NRHP or WHR. The segment is in poor condition with no evidence of associated artifacts or cultural deposits and has no potential to yield additional information. The eastern end of the spur was truncated presumably after DuPont Powder Works closed in 1976.

***Method of Collection(s):** None

Location of Artifacts** *(Temporary/Permanent):** N/A

SITE AGE

***Component:** ***Dates:** 1906-1920s ***Dating Method:**

Phase: **Basis for Phase Designation:**

The short abandoned track and berm segment within the project area are attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

SITE RECORDERS

Observed by: C. Arrington and Pete Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc. ***Affiliation Phone Number:** 916-782-5818

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661

***Affiliation E-mail:** cindy@parusconsulting.com

Date Revisited: **Revisited By:**

SITE HISTORY

Previous Work *(Done on Archaeological Site)***:**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riorda	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

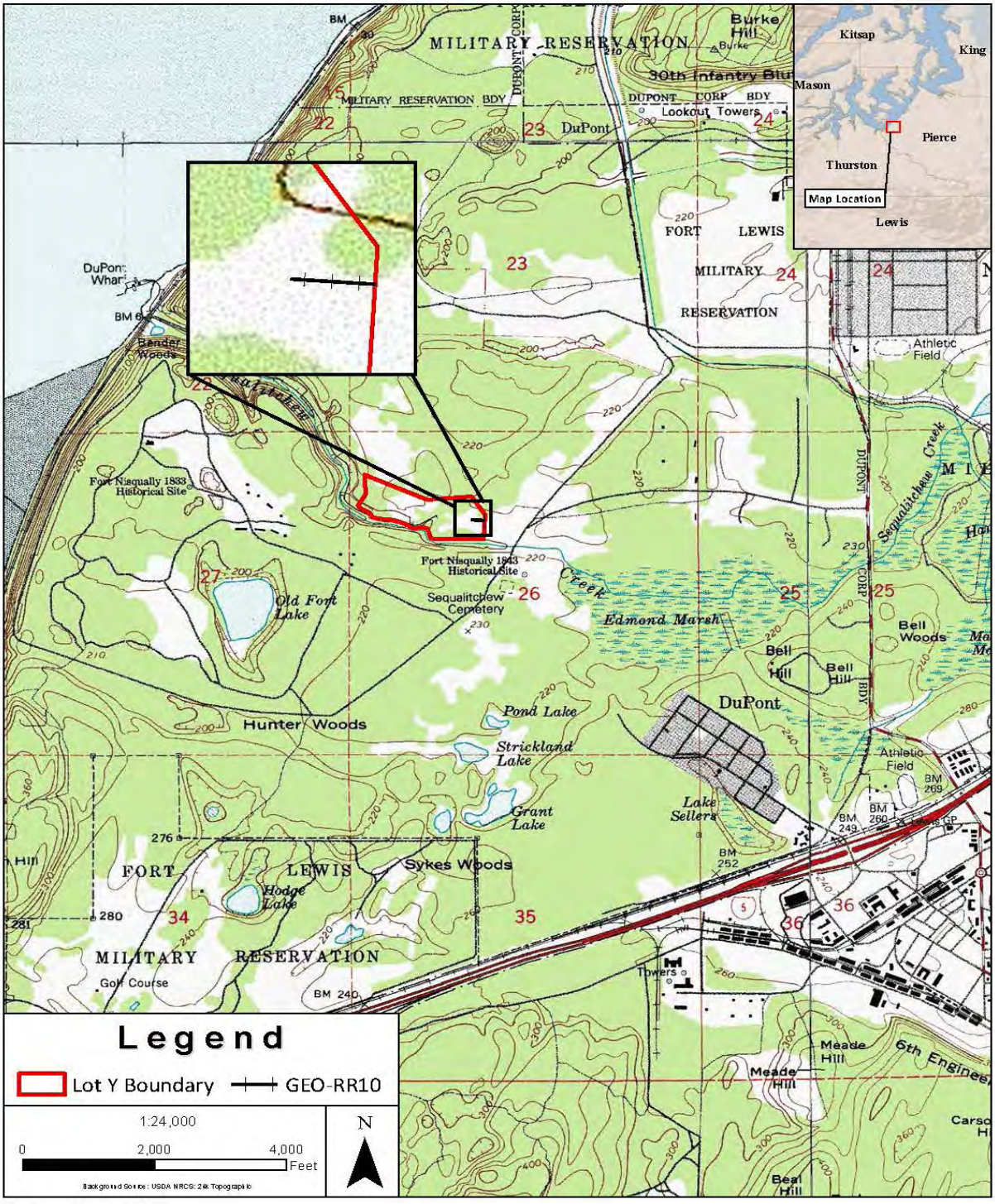
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

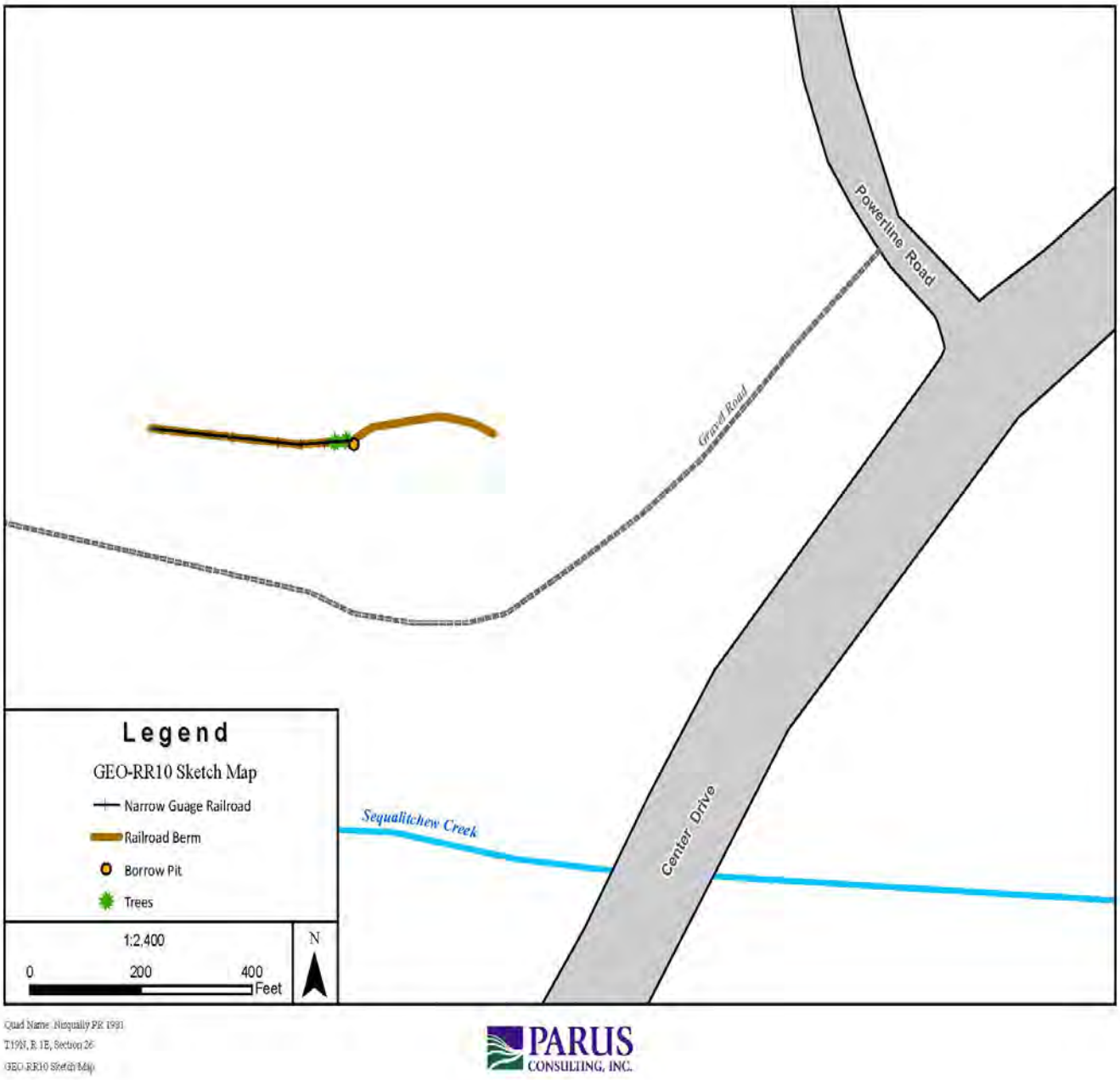
USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: GEO-RR10 Location Map

PARUS CONSULTING, INC.

SKETCH MAP


Powerline Road
Gravel Road
Sequalitchew Creek
Center Drive
Legend
GEO-RR10 Sketch Map
Narrow Guage Railroad
Railroad Berm
Borrow Pit
Trees
1:2,400
0
200
400
Feet
N
Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
GEO-RR10 Sketch Map
PARUS
CONSULTING, INC.

PHOTOGRAPH(S)



Figure 1: Geo RR10 extension (view to east)

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number: PI01225

***County:** Pierce

***Date:** 7-19-2011 ***Compiler:** C. Arrington

Location Information Restrictions *(Yes/No/Unknown)*: No

SITE DESIGNATION

Site Name: Concrete Platform

Field/ Temporary ID: Parus-01-11

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

SITE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description: T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): NENW

***UTM: Zone** 10 **Easting** 526780 **Northing** 5217203

Latitude: **Longitude:** **Elevation (FT/M):** 220ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

***Location Description** *(General to Specific)*: This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

Approach *(For Relocation Purposes)*: From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The isolate is located on the north side of the gravel road, 979 feet from the intersection of Power Road and approximately 76 feet due north of the gravel road.

SITE DESCRIPTION

***Narrative Description:**

The loading platform is located 233 feet west of the eastern boundary of the project area, 76 feet due north of the existing gravel road. The platform is situated in hot spot #3 where the area was cleared of topsoil, using a mechanical backhoe in 2001 due to soil contamination and remediation efforts.

Vegetation within the site area consists of open second growth conifer forest dominated by Douglas fir, sword fern, and scotch broom, and includes red alder, elderberry, and grasses. Visibility on the surrounding ground surface is poor ranging from 10-30 percent.

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

***Site Dimensions**

***Length:** 16 feet ***Direction: E/W** x ***Width:** 16 feet ***Direction:** N/S

***Method of Horizontal Measurement:** Tapped

***Depth:** 6' 5" above ground surface * **Method of Vertical Measurement:** Tapped

****Vegetation** *(On Site)***:** Mostly grasses and scotch broom

Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern

Local: Glacial Plain

Water Resources *(Type)***:** Sequalitchew Creek **Distance:** 384 feet south **Permanence:** year round

***Method of Collection(s):** No materials collected

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

A concrete loading platform is located approximately where the standard-gauge and one of the narrow-gauge tracks previously crossed near the eastern edge of Lot Y. The platform is visible on satellite imagery, but was previously unrecorded. During the functional period of the platform, it likely was used for loading or unloading materials onto DuPont Powder Works trains that would have moved east to west and north to south past the platform.

The platform is primarily concrete, with a steel railing as a perimeter of the upper platform surface. The platform is 192 inches square and 77 inches tall. The surface perimeter has a 3-inch concrete lip with occasional breaks to permit loading access. There is an arrangement of 2-inch by 6-inch wood boards bolted to the interior surface of the concrete lip, with a steel railing situated along the perimeter lip of the platform. The railing is painted yellow and is 39.5 inches tall, with a lower bar and upper bar. The lower bar is 19.5 inches high, and the upper bar is 39 inches high. There are openings in the rail with steel chains stretched across on the south and east sides of the platform; one opening is 55 inches wide, and the other is 51 inches wide.

On the north side of the platform there is a 30-inch wide opening that appears to be a person-access stepping platform, with vertical handrails and a swinging safety bar (non-operational). On the east of the platform is a small debris pile consisting of heavy-gauge sheet metal, milled lumber, crushed pipe (1.5-inch diameter), and steel railing segment with chain. The platform is built with well sorted aggregate, form poured concrete. It does not appear on the very detailed 1955 map drawn by E. Davies. Locals recall the platform was not built until the early 1960s and then it was seldom used (personal communication, Fred Foreman). This site has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

***Method of Collection(s):** None

Location of Artifacts** *(Temporary/Permanent):** N/A

SITE AGE

***Component:** ***Dates:** 1960s ***Dating Method:**

Phase: **Basis for Phase Designation:**

SITE RECORDERS

Observed by: C. Arrington and Pete Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc. ***Affiliation Phone Number:** 916-782-5818

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661

***Affiliation E-mail:** cindy@parusconsulting.com

Date Revisited: **Revisited By:**

SITE HISTORY

Previous Work *(Done on Archaeological Site)***:**

Year	Au□hor(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

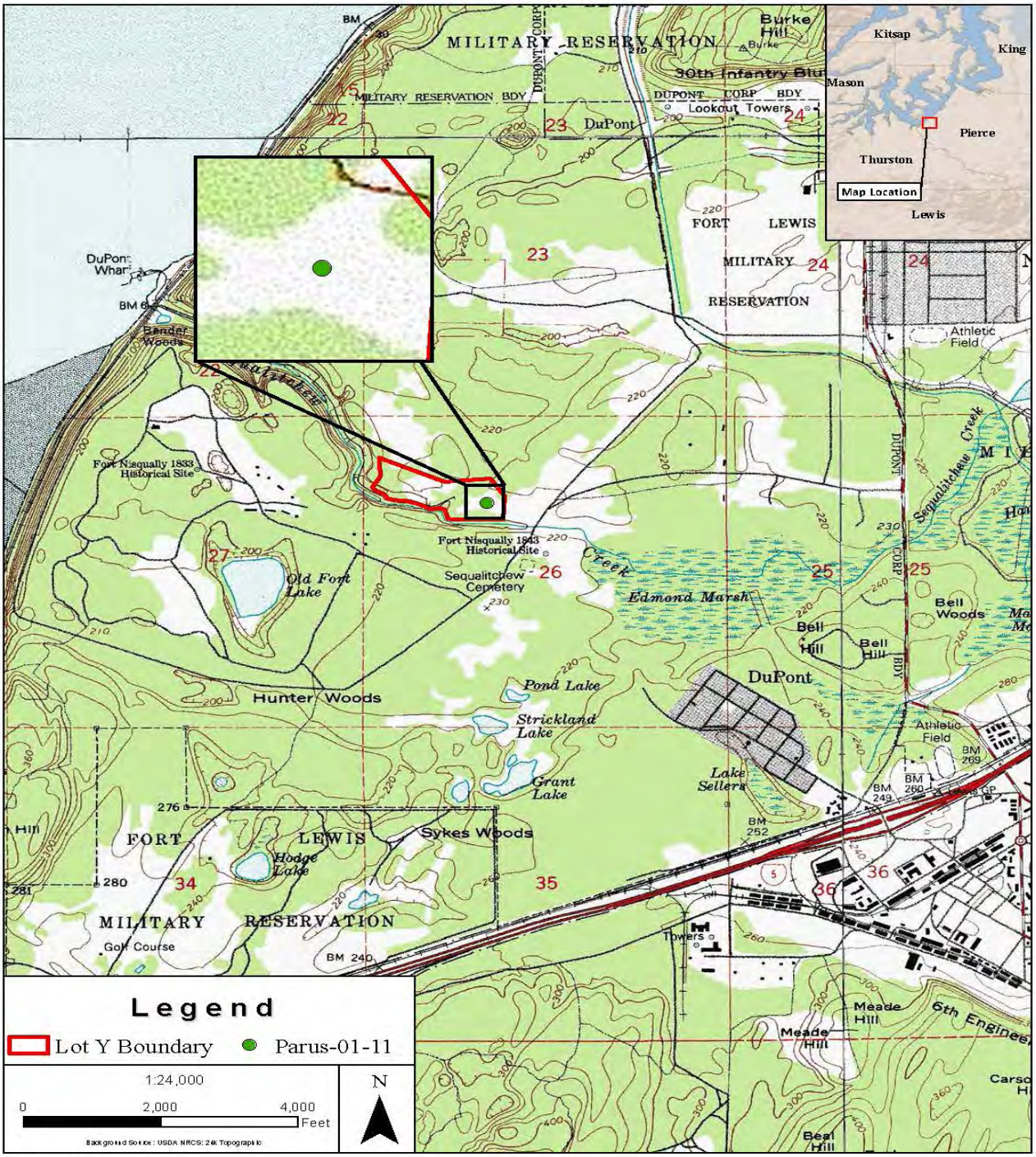
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

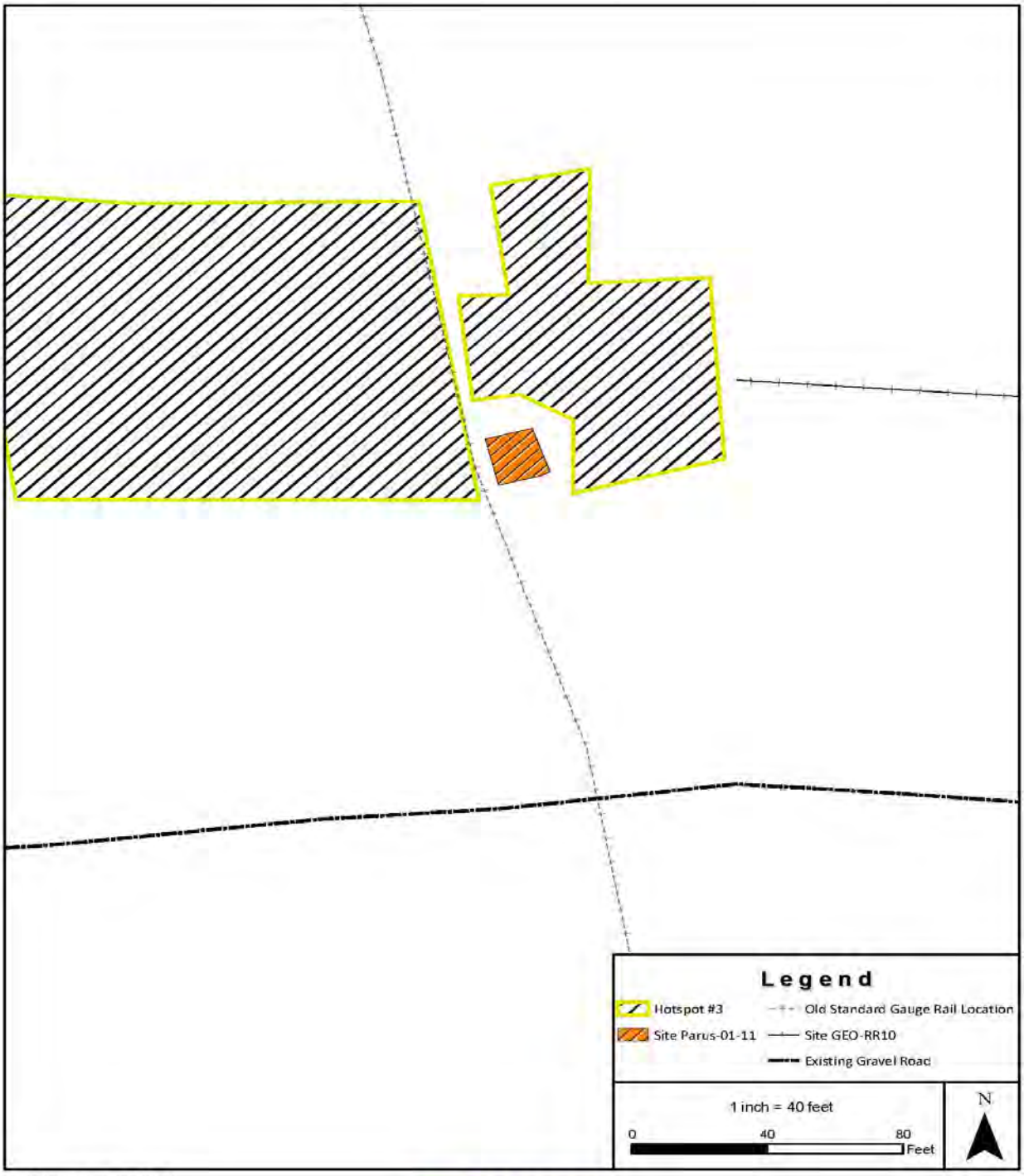
USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-01-11 Location Map

PARUS CONSULTING, INC.

SKETCH MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-01-11 Sketch Map

PARUS CONSULTING, INC.

PHOTOGRAPH(S)



Figure 1: East side of platform (view to west)



Figure 2: North side of platform (view to southwest)

PHOTOGRAPH(S)



Figure 3: West side of platform (view to northeast)



Figure 4: Debris pile on east side of platform (view to north)

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORM

Smithsonian Number:PI01226

***County:** Pierce

***Date:** 7-19-2011 ***Compiler:** C. Arrington

Location Information Restrictions *(Yes/No/Unknown)*: No

SITE DESIGNATION

Site Name: Bridge Abutment – Narrow-Gauge Railroad

Field/ Temporary ID: Parus-02-11

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

SITE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description: T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): SWNW

***UTM: Zone** 10 **Easting** 526592 **Northing** 5217123

Latitude: **Longitude:** **Elevation (FT/M):** 222ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

***Location Description** *(General to Specific)*: This site is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

Approach *(For Relocation Purposes)*: From I-5 take the DuPont Center Drive exit (north) approximately 1.5 miles to Power Road, turning left, to the intersection of a gravel road (205 feet). The site is located on the south side of the gravel road, 1,348 feet from the intersection of Power Road and approximately 467 feet due south of the gravel road.

SITE DESCRIPTION

***Narrative Description:**

The site, a narrow-gauge railroad bridge (depicted on the E. Davies 1955 map), is located on the north bank of Sequalitchew Creek, 467 feet due south of the gravel road. There are two additional abutments, both an upper and lower, on the south bank of the creek and look to be identical to those located on the north bank.

The abutments are covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses. Visibility on the surrounding ground surface is poor ranging from 0-10 percent.

***Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Page 19)*: Historic Railroad Properties

***Site Dimensions**

Upper abutment ***Length:** 128 inches ***Direction: E/W** x ***Width:** 12.5 inches ***Direction:** E/W

Lower abutment ***Length:** 150 inches ***Direction: E/W** x ***Width:** 12 inches ***Direction:** E/W

***Method of Horizontal Measurement:** Tapped

***Depth:** 51 inches for upper and 32 inches for lower above ground surface

* **Method of Vertical Measurement:** Tapped

****Vegetation** *(On Site)*: The abutment is covered with moss, and is surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern

Local: Glacial Plain

Water Resources *(Type)*: Sequalitchew Creek **Distance:** 35 feet south **Permanence:** year round

***Method of Collection(s):** No materials collected

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

This site is comprised of the remnants of a narrow-gauge railroad bridge that traversed Sequalitchew Creek from north to south. This bridge crossing is shown on the 1955 map drawn by E. Davies. The remains include two concrete abutments that have a 165-inch horizontal separation. Both abutments have a poured-form aggregate concrete construction, with a smooth finished top. The lower abutment is 150 inches long, 32 inches high from the ground, and 12 inches wide at the top. The upper abutment is 128 inches long, 51 inches high from the ground, with the base at 20 inches wide, and the top of the abutment 12.5 inches wide. The abutments are covered with moss and are surrounded by decomposing forest duff and vegetation, including ferns, conifers, deciduous trees, and grasses.

The set of abutments is immediately outside of the Lot Y project area, and 35 feet north of Sequalitchew Creek. There are two pieces of milled lumber located between the abutments; they are each 6 by 6 inches, but vary in length. One piece is 45 inches long, and the other is 60 inches long. The longer piece is intact, and has a 5-inch by 8.5-inch metal cleat with spikes on one side. An identical set of concrete abutments is visible on the south side of the creek outside the project area.

This bridge was the only narrow-gauge railroad bridge within the DuPont Powder Works to cross Sequalitchew Creek, and is shown on the 1955 map drawn by E. Davies. It was used for transport of material by train from the plant to the burning ground (later recorded as 45PI64) and then proceeding further north to the storage area (personal communication, Fred Foreman and Johanna Jones). The bridge was removed in the late 1990s. The remaining set of abutments has no potential to yield additional information and is recommended ineligible for listing on the NRHP or WHR.

***Method of Collection(s):** None

Location of Artifacts** *(Temporary/Permanent):** N/A

SITE AGE

***Component:** ***Dates:** 1906-1920s ***Dating Method:**

Phase: **Basis for Phase Designation:**

The narrow-gauge bridge is attributed to construction by the DuPont Powder Works; the narrow-gauge railroad was used to transport their products during the Old Town period (1906-1920s).

SITE RECORDERS

Observed by: C. Arrington and P. Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc. ***Affiliation Phone Number:** 916-782-5818

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA 95661

***Affiliation E-mail:** cindy@parusconsulting.com

Date Revisited: **Revisited By:**

SITE HISTORY

Previous Work *(Done on Archaeological Site)***:**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volume I Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

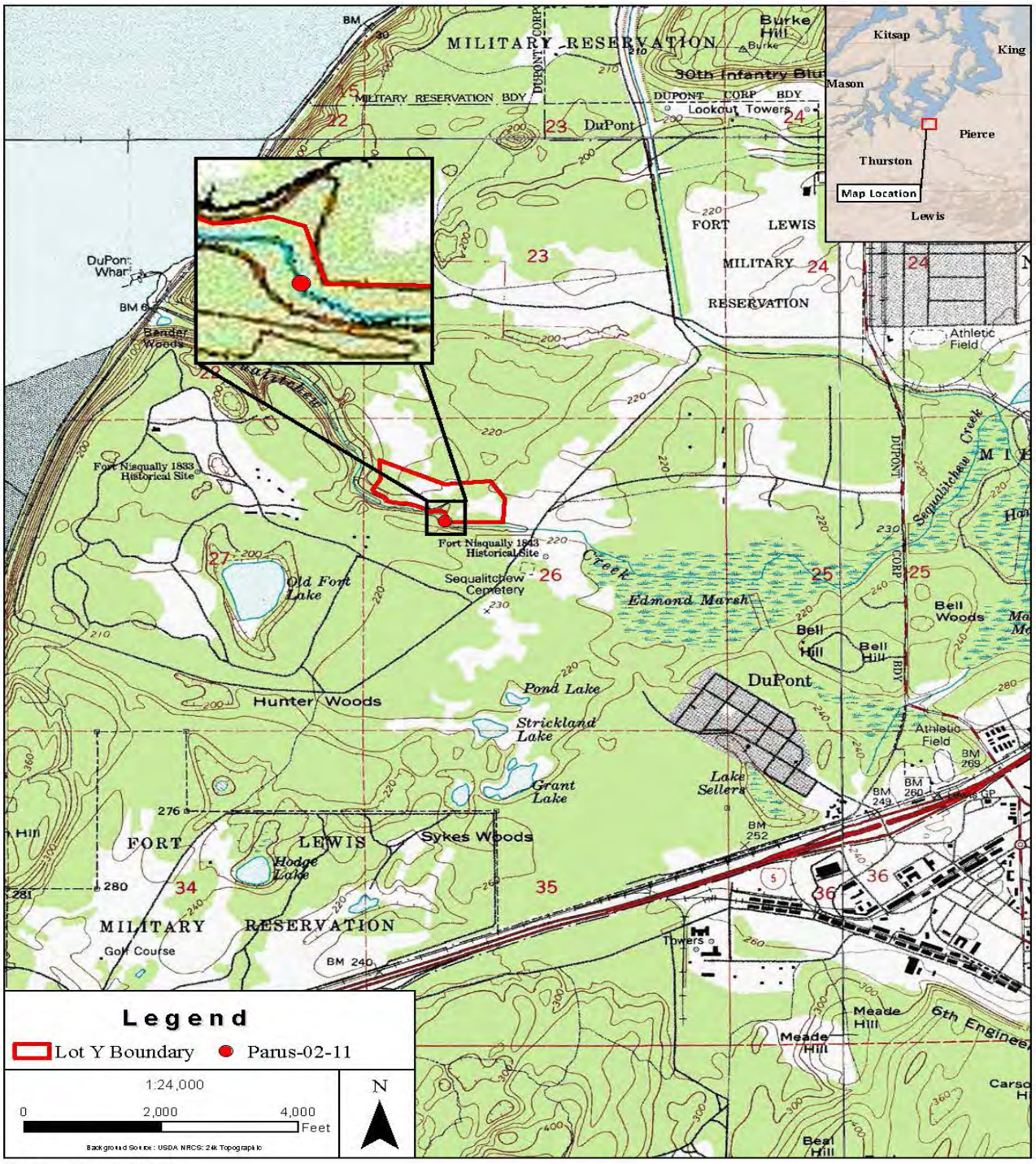
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501
Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

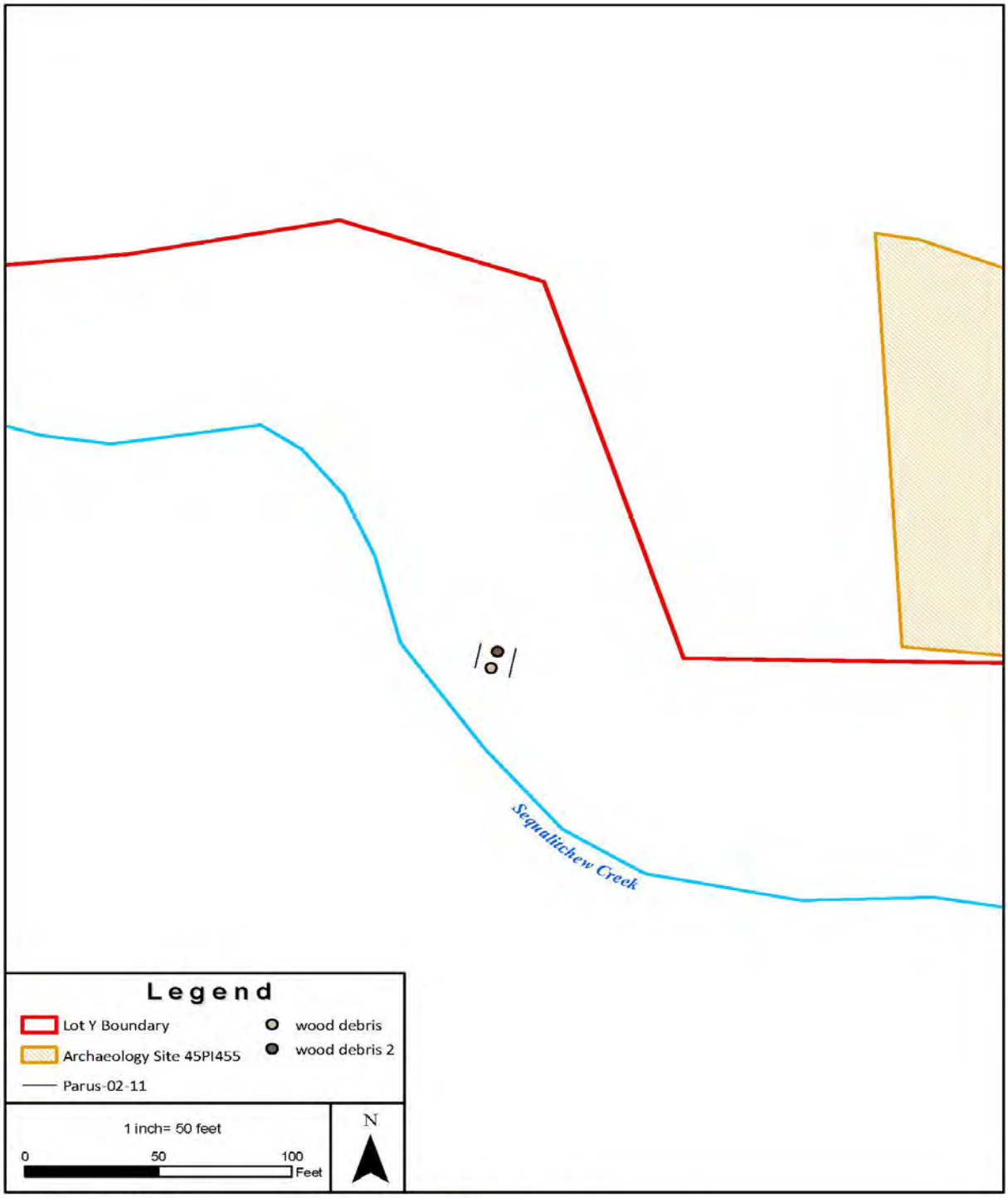
USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-02-11 Location Map

PARUS CONSULTING, INC.

SKETCH MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus-02-11 Sketch Map

PARUS CONSULTING, INC.

PHOTOGRAPH(S)



Figure 1: Upper and lower abutments (view to north)



Figure 2: South face of lower abutment (view to north)

PHOTOGRAPH(S)



Figure 3: East side of upper abutment (view to west)

PHOTOGRAPH(S)



Figure 4: Wood debris near lower abutment (plan view)



Figure 5: Wood debris with metal cleat near lower abutment (plan view)

STATE OF WASHINGTON
ARCHAEOLOGICAL ISOLATE INVENTORY FORM

Smithsonian Number: PI00064

***County:** Pierce

***Date:** 2-17-2011 ***Compiler:** C. Arrington

ISOLATE DESIGNATION

Isolate Name: Kerosene Can

Field/ Temporary ID: Parus Isolate #1

Site Type** *(Refer to the DAHP Survey and Inventory Guidelines Pages 19-23):** Historic isolate

ISOLATE LOCATION

***USGS Quad Map Name:** Nisqually

***Legal Description: T**19N **R** 1 **E/W:** E **Section(s):** 26

Quarter Section(s): NWNW

***UTM: Zone** 10 **Easting** 526413 **Northing** 5217323

Latitude: **Longitude:** **Elevation (FT/M):** 220ft

Other Maps: **Type:**

Scale: **Source:**

Drainage, Major: Sequalitchew Creek **Drainage, Minor:** **River Mile:**

Aspect: **Slope:** 1-3%

Location Description** *(General to Specific):** This isolate is located on the north side of Sequalitchew Creek, northwest of the Town of DuPont. It is situated east of the old DuPont works property. The area is disturbed and is dominated by grasses and brushy plants. The project area is situated within the Puget Trough physiographic province (Franklin and Dyrness 1973) approximately 1 mile east of the southern part of Puget Sound shoreline. Sequalitchew Creek drains the Edmond's Marsh area about 1 mile east, and empties into Puget Sound approximately 1.5 miles to the northwest. The Puget Trough is a basin that lies between the Coast Range to the west and the Cascade Range to the east.

ISOLATE DESCRIPTION

***Narrative Description:** A galvanized kerosene can was located near the edge of the northwest corner of the area known locally as the “gravel pit” (HS-6 on Figure 2) and formerly the burning ground (45PI64). The sides of the can are dented and it exhibits some oxidation. It is missing the pour spout and wire handle, but is mostly intact. The top is domed and ribbed, and the base diameter is 11 inches, with a height of 14 inches. The dimensions suggest the volume of this can was approximately 5 gallons. Considering the lengthy range of manufacture, the age of the can is undeterminable.

Vegetation** *(On Site):** Mostly grasses, deciduous and conifer trees, and scotch broom
Local: Douglas fir, Pacific madrone, red alder, elderberry, sword fern
Local: Glacial Plain
Water Resources *(Type)***:** Sequalitchew Creek **Distance:** 474 feet South **Permanence:** year round
***Method of Collection(s):** No materials collected

ISOLATE AGE

***Component:** None *__Dates:__ None ***Dating Method:** None
Phase: None **Basis for Phase Designation:** None

ISOLATE RECORDERS

Observed by: C. Arrington & Pete Morris

***Date Recorded:** February 17, 2011

Recorded by** *(Professional Archaeologist):** Cindy Arrington

***Affiliation:** Parus Consulting, Inc ***Affiliation Phone Number:** 916-765-9381

***Affiliation Address:** 1508 Eureka Road, Suite 170, Roseville, CA

***Affiliation E-mail:** Cindy@parusconsulting.com

Date Revisited: **Revisited By:**

ISOLATE HISTORY

Previous Work *(Done on Area Where Isolate was Found)***:**

Year	Author(s)	Report Title	Proximity to project
1977	Onat, A.R., Lee A. Bennett, and Timothy Riordan	Cultural Resources Survey: DuPont Site, Volum I, Survey of Archaeological and Ethnographical Resources at the DuPont Site	Within and near project area
1977	Stratton, David H., and Glen W Lindeman	Cultural Resource Survey, DuPont Site, Volume II: Survey of Historical Resources at the DuPont Site.	Within and near project area
1989	Welch, Jeanne	A Cultural Overview and Comprehensive Management Plan for the DuPont Property, Pierce County, Washington	Within and near project area
1991	Moura, Guy F.	Missions, War Games, and Railroad Dumps: 1989 Explorations and Excavations, Northwest Landing, DuPont, Washington	Within project area
2000	Daugherty, Richard, and Mary Condon	Archaeological Monitoring of the "Hot Spot" Removal Program, the Hazardous Waste Stockpile Areas, and Sand Stockpile Laydown Areas at the Former DuPont Works Site, DuPont, Washington	Within project area
2001	Daugherty, Richard, and Mary Condon	An Update on the Archaeological Status of Sites 45PI63 (A Trash Dump Located Along a Railroad Spur), 45PI64 (Burning Ground Dump), 45PI66 (Methodist Episcopal Mission), and 45PI455 (Part of the 9th Cavalry Bivouac Area)	Within and near project area
2005	Wessen, Gary, Cathy Bialas and Gail Thompson	Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area
2008	Wessen, Gary, Cathy Bialas, Derek Shaw and Gail Thompson	Revised Cultural Resources Assessment for the Glacier Northwest North Sequalitchew Creek SEIS Project, City of DuPont, Pierce County, Washington	Within and near project area

LAND OWNERSHIP

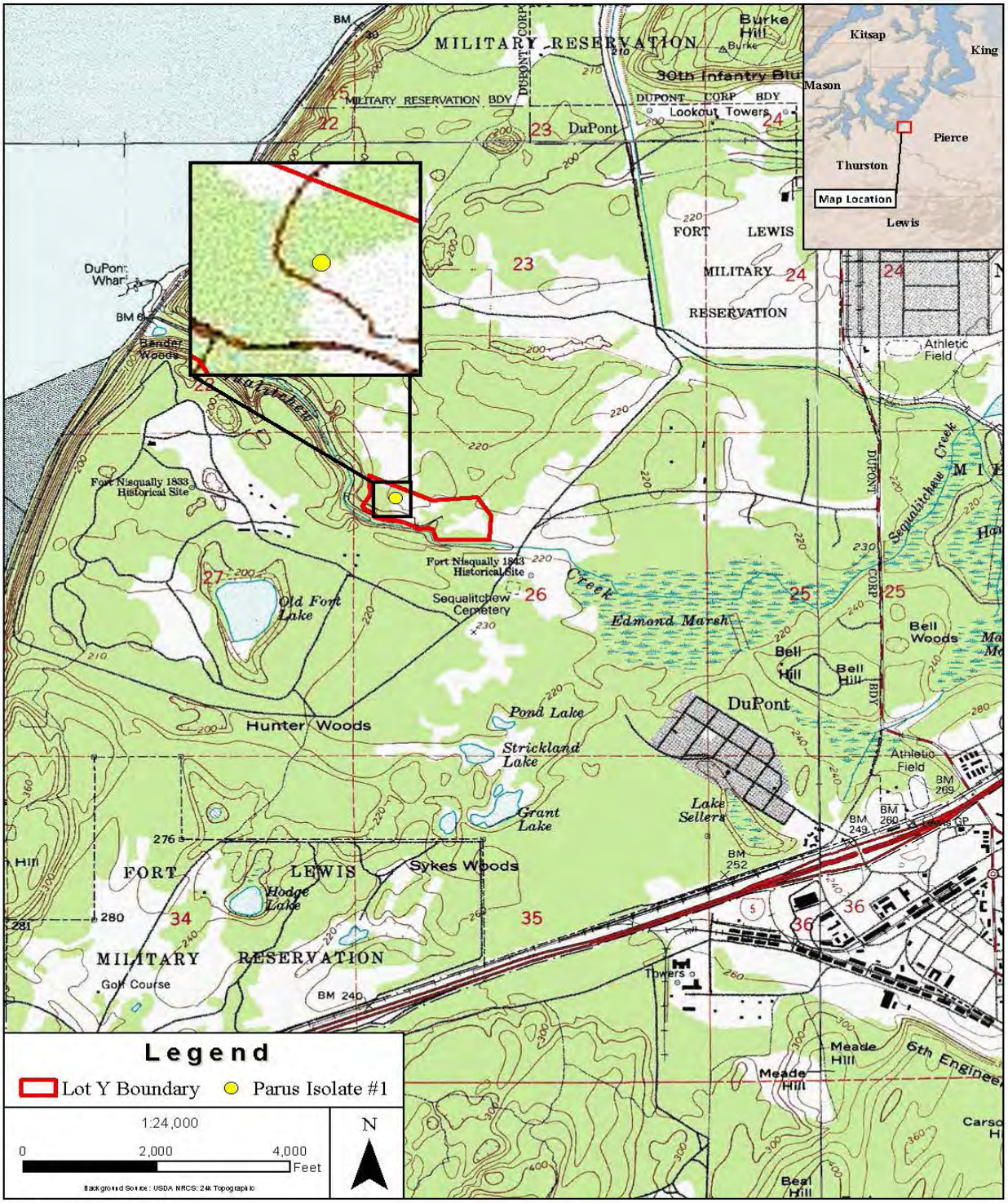
***Owner:** DuPont Industrial Partners, LLC
Address: 1201 Pacific Avenue, Suite 1501, Tacoma, WA 98402

***Tax Lot/ Parcel No:**

RESEARCH REFERENCES

***Items/Documents Used In Research** *(Specify)*: 1973 Franklin, Jerry F., and C. T. Dyrness *Natural Vegetation of Oregon and Washington*. Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon.

USGS MAP



Quad Name: Nisqually PR 1981
T19N, R 1E, Section 26
DuPont Lot Y: Parus Isolate #1 Location Map

PARUS CONSULTING, INC.

Mandatory Information for Official Smithsonian Number designation.

Revised 2/2010

PHOTOGRAPH(S)



Figure 1 Kerosene can (in situ)



Figure 2 Kerosene can (top missing spout and handle)

PHOTOGRAPH(S)



Figure 3 Kerosene can (side view)



Figure 4 Kerosene can (side view)

APPENDIX E:
Unanticipated Cultural Resources Discovery Plan

UNANTICIPATED CULTURAL RESOURCES DISCOVERY PLAN

FOR

DUPONT INDUSTRIAL PARTNERS, LLC, LOT Y PROJECT

CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

Prepared For:

DuPont Industrial Partners, LLC
1201 Pacific Avenue, Suite 1501
Tacoma, Washington 98402

Prepared By:

Nancy E. Sikes, Ph.D., RPA

PARUS CONSULTING, INC.

1508 Eureka Road, Suite 170
Roseville, CA 95661

Final– April 14, 2011

TABLE OF CONTENTS

Introduction 1

Project Description, Location and History 1

Potential for Discovery 2

Discovery Procedures 2

Inadvertent Discovery of Archaeological Deposits 2

Inadvertent Discovery of Human Skeletal Remains 3

Summary 4

References 4

INTRODUCTION

DuPont Industrial Partners, LLC (Partners) plans to undertake various ground-disturbing activities during planned construction of a multi-building industrial park on Lot Y in the City of DuPont in Pierce County. This Discovery Plan presents the approach that Partners will use to ensure the protection of cultural resources and describes the steps and actions that must be taken should cultural resources, including human remains, be discovered during ground-disturbing or construction activities for the proposed Lot Y project. This plan provides a brief description of the project, the location of the project, the potential for encountering cultural resources materials or deposits, the discovery procedures that will be employed, and who will be notified if archaeological materials or deposits, or human skeletal remains, are exposed during project implementation.

PROJECT DESCRIPTION, LOCATION AND HISTORY

The project encompasses approximately 25.3 acres on private land known as Lot Y (Assessor's Property Tax Parcel No. 0119262019) located in the City of DuPont, Pierce County, Washington. Lot Y is located within the city limits west of Center Drive and north of Sequalitchew Creek. Partners plans to develop a multi-building industrial park on Lot Y. The complex would include up to 12 buildings totaling approximately 340,000 square feet of building area, roadways, loading areas, approximately 650 parking spaces, and installation of underground utilities.

Plans also include construction of a trail along the creek to the southwest of the industrial park. The existing historical marker erected by the DuPont Company in 1927 at the site of the former Methodist Episcopal Mission (45PI66) will be moved to the trailhead area where the public will have continued access. An interpretive sign explaining the history of the temporary encampment of the 9th U.S. Cavalry Buffalo Soldiers (45PI455) within Lot Y will also be erected.

The Lot Y project area is located within Section 26, Township 19 North, Range 01 East on the Nisqually 1981 USGS 7.5-minute topographic map (Willamette Meridian). Elevation within Lot Y ranges from 64 to 68 meters (210-223 feet) above mean sea level.

A cultural resources investigation for the Lot Y project was conducted for Partners by Parus Consulting, Inc. (PCI) (Sikes and Arrington 2011). The work was conducted under an Archaeological Excavation Permit approved by the Washington State Department of Archaeology & Historic Preservation (DAHP) on February 7, 2011 (Permit No. 2010-54). The study included background research, correspondence with cultural resources staff or Tribal Historic Preservation Officers (THPOs) for the Nisqually, Puyallup and Squaxin Tribes, and archaeological survey and excavation. The fieldwork was conducted in February and March 2011 and included examination of the surface and subsurface sediments in a series of shovel test probes and geotechnical exploration pits.

Monitoring of construction activities during project implementation was not recommended. Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, then operation of the DuPont Powder Works in the early to mid-1900s (including use of part of Lot Y as a burning ground dump from the 1930s until 1945), followed by subsurface archaeological investigations and related artifact collection between 1989 and 2005 and by environmental remediation activities in 1999 and 2000. No evidence was found during the 2011 investigation of two previously recorded historic archaeological sites (45PI66 Methodist Episcopal Mission site and 45PI455 9th U.S. Cavalry Bivouac site) and one flaked stone isolate (45PI773), except for two brick fragments within the boundaries of 45PI66. Nor was there any evidence of two other archaeological sites (45PI63 Railroad Dump #3 site and 45PI64 Burning Ground Dump site) formerly located within Lot Y that were completely removed during hazardous

materials remediation. Two surface historic archaeological sites (GEO RR10 railroad track segment and Parus-01-11 concrete platform) were identified within Lot Y during the fieldwork in 2011, but they are not considered significant.

POTENTIAL FOR DISCOVERY

The potential for discovery of buried archaeological materials, features or deposits, or of buried human remains, by implementation of this project is considered low. No significant cultural/archaeological sites are known to remain within the project area, and there has been extensive disturbance to the Lot Y landscape. The nearest known archaeological sites are located on the north bank of Sequalitchew Creek immediately outside of the Lot Y project area (set of concrete bridge abutments) and approximately 0.1 mile east of Lot Y near Center Drive on the north and south banks of the creek (flaked stone artifacts and locations of mid-1850s dwellings near the west palisade wall of 1843 Fort Nisqually).

No significant cultural resources were identified on the surface or within the subsurface sediments exposed in a series of 125 shovel test probes and 22 geotechnical exploration pits placed within Lot Y. Excavated in February and March 2011, the 2.5 foot-wide, 3-foot long shovel test probes ranged from 1.1 to 4.3 feet in depth. The geotechnical exploration pits averaged 10 feet deep, 3 feet wide, and 5 feet long. The subsurface sediments are gravelly sandy loam over gravelly sand with no soil matrix. Except for one brick fragment and a flat iron bar, there was no indication of a midden or other cultural deposits, artifacts or features within the 147 excavation units.

DISCOVERY PROCEDURES

INADVERTENT DISCOVERY OF ARCHAEOLOGICAL DEPOSITS

Archaeological deposits within the proposed Lot Y project are protected by Washington State law: Indian Graves and Records (Revised Code of Washington [RCW] 27.44), Archaeological Sites and Resources (RCW 27.53), and Archaeological Excavation and Removal Permit (WAC 25-48). Failure to comply with these could constitute a Class C Felony.

If any Partners employee, its contractors or subcontractors believes that he or she has inadvertently uncovered any cultural resource, then all work adjacent to the discovery shall cease, and he or she shall immediately notify the construction foreman, inspector, or on-site Partners representative who shall immediately notify the contact at Partners responsible for on-site activities:

DuPont Industrial Partners, LLC
Lia Estigoy
(253) 396-4860

A cultural resource discovery could consist of:

- Prehistoric and ethnohistoric materials such as flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements or soil darkened by cultural activities (midden).

- Historic materials might include remnants of railroad or roadway construction activities or other industry or commerce (e.g., railroad ties, concrete blocks, machinery parts), building remains, metal, glass, cans, or ceramic artifacts or debris older than 50 years.

For all types and classes of cultural/archaeological material other than human remains (see below), the person responsible for on-site activities shall immediately call the Washington State Department of Archaeology and Historic Preservation (DAHP), which is the state agency with jurisdiction over archaeological discoveries:

Department of Archaeology and Historic Preservation (DAHP)
Gretchen Kaehler, Local Government Archaeologist
Direct line: (360) 586-3083
Cell: (360) 628-2755

The DAHP representative, Ms. Kaehler, will advise Partners (represented by Lia Estigoy) of the specific course of action following the discovery of archaeological materials, deposits or features. For the discovery of human remains, see below. Such actions specified by the DAHP representative could include avoidance of the finds with protection in place, or an archaeological assessment and recovery if avoidance is unfeasible, among other options. Ground-disturbing activity in the vicinity of the find(s) cannot resume until it has been approved by the DAHP representative.

INADVERTENT DISCOVERY OF HUMAN SKELETAL REMAINS

For this project on non-federal and non-tribal lands in the State of Washington, procedures and actions for the inadvertent discovery of human skeletal remains or suspected human remains must comply with RCW 27.44, RCW 68.50 and RCW 68.60. If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity **must** cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the County Coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

Immediate notification by phone shall be made to the County Coroner, local law enforcement and DAHP:

Pierce County Coroner
Dr. Thomas B. Clark III
3619 Pacific Avenue
Tacoma, Washington 98418
Telephone: (253) 798-6494

DuPont Police Department
1780 Civic Drive, Ste. 100
DuPont, Washington 98327
Telephone: 911 or (253) 964-7060

The Pierce County Coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the County Coroner determines the remains are non-forensic, then he or she will report that finding to DAHP who will then take jurisdiction over those remains and report them to the appropriate cemeteries or affected tribes.

The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to the affected parties. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains. Ground-disturbing activity near the human remains may not resume until permission to resume work has been received by Partners from DAHP.

Department of Archaeology and Historic Preservation (DAHP)
Guy Tasa, State Physical Anthropologist
1063 South Capital Way, Suite 106
Olympia, WA 98501
Direct line: (360) 586-3535

SUMMARY

Following the procedures presented in the Discovery Plan will ensure that ground-disturbing and construction activities for implementation of the proposed Lot Y project are in compliance with state and local laws that protect archaeological resources on public lands.

REFERENCES

Sikes, Nancy E., and Cindy J. Arrington
2011 *Archaeological Survey, Testing and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, City of DuPont, Pierce County, Washington*. Report prepared by Parus Consulting, Inc. for DuPont Industrial Partners, LLC.

June 8, 2011

Ms. Stephenie Kramer, Assistant State Archaeologist
Department of Archaeology & Historic Preservation, (DAHP)
P.O. Box 48343
Olympia, WA 98504-8343

RE: Lot Y Archaeological Survey, DuPont, WA

Dear Ms. Kramer:

We are in receipt of your comment letter dated May 4, 2011, regarding the Lot Y Archaeological Survey. We have a couple of questions and comments regarding the letter:

1. We will definitely provide you with the project plans when we have them for this site.

2. We were under the assumption that moving The Methodist Mission Marker was something that DAHP was in agreement with during our meetings with you. We will consult and provide DAHP with a plan of action as to where we will relocate this marker and the signage to accompany it, or if we intend to leave it in place.

3. The narrow gauge railroad that was found on site is the same as product that the DuPont Museum has in storage. We were informed that they have several hundred feet in storage; and it was taken from this same site earlier. We have taken every opportunity to ensure the integrity of this site, but feel it could be a potential safety hazard to leave this one piece in place. Lot Y is being developed as an industrial piece of property and once developed, it will not be reasonable for people to come and view this one piece of track. We appreciate the efforts of preservation and presentation of the DuPont Power Works Area, but would like to be able move forward with our design of Lot Y without incorporating the narrow gauge railroad. We would gladly donate it to the DuPont Museum if they would like to add it to their collection.

Please feel free to contact myself at (253)377-0989, or by email if you have any further questions or comments.

Sincerely,

Lia Estigoy – Owner's Representative
DuPont Industrial Partners, LLC
1201 Pacific Ave., Suite 1501
Tacoma, WA 98402
lia@combaydev.com

cc: Eric Cederstrand
Cindy Arrrington
DJ Thompson
Bill Kingman

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

May 4, 2011

Mr. Bill Kingman, Planning Manager
City of Dupont
1700 Civic Drive
Dupont, WA 98237

Re: Lot Y

Dear Mr. Kingman:

We are in receipt of an archaeological survey report entitled *Archaeological Survey, Testing, and Monitoring at 45PI66, 45PI455 and 45PI773, DuPont Industrial Partners, LLC, Lot Y Project, DuPont, Washington* authored by Sikes and Arrington.

We have the following comments and questions:

1. We would like to see and have the opportunity to comment on the project plans when they are submitted. At that time, we will be able to make more substantive comments on the report and the project when we can compare the proposed disturbance areas with the archaeological work that was done.

2. We understand a proposal to move the Methodist Mission marker is a possibility. We will need to discuss that with the Proponents when they have more information about where it will be moved and the interpretive plans they have for it.

3. Sikes and Arrington did find a section of the narrow gauge railroad, which is a historical period archaeological resource. While the segment is recommended as not National Register eligible, further evaluation and context development is needed before we would agree with that recommendation. In view of its association with the historically significant DuPont Works, when site plans are being drafted, we recommend that this track segment (or portions of it) be retained in place and incorporated as project green space and/or as a landscape feature. We would also advise obtaining comments and recommendations by the DuPont Historical Society.

Please feel free to contact me at (360) 586-3083 or by email if you have any questions. We look forward to working further on this project.

Sincerely,

Stephenie Kramer
Assistant State Archaeologist
Email: stephenie.kramer@dahp.wa.gov

cc: Eric Cederstrand
Cindy Arrington
Joe Kalama

i Dupont Weyerhaeuser FS 1260 Parcel 1

FILED
JUL 17 1991
SUPERIOR COURT
BETTY J. GOULD
THURSTON COUNTY CLERK

IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
FOR THURSTON COUNTY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY,

v.

WEYERHAEUSER COMPANY and
DUPONT COMPANY

No. ~~91 2 01703 1~~

CONSENT DECREE

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EXHIBITS

Exhibit A	Remedial Investigation/Feasibility Study Final Work Plan
Exhibit B	Schedule
Exhibit C	Site Map (excluding Black Powder Area)
Exhibit D	Black Powder Area Site Map

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INTRODUCTION

A. In entering into this Decree (Decree), the mutual objective of the Washington State Department of Ecology and Weyerhaeuser Company and DuPont Company is to provide for remedial action at a facility where hazardous substances have been deposited, placed, stored, or otherwise disposed of. This Decree requires Weyerhaeuser and DuPont (Defendants) to undertake remedial action which includes completion of a Remedial Investigation (RI), Health Risk Assessment (HRA) and Feasibility Study (FS), with the intent of determining a permanent cleanup option for the entire Site. An interim action will also be completed under this Decree.

B. The Complaint in this action is being filed simultaneously with this Decree. An answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the parties wish to resolve the issues raised by Ecology's complaint. In addition, the parties agree that settlement of these matters without litigation is reasonable and in the public interest and that entry of this Decree is the most appropriate means of resolving these matters.

C. In signing this Decree, Defendants agree to its entry and agrees to be bound by its terms.

D. By entering into this Decree, the parties do not intend to discharge nonsettling parties from any liability

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they may have with respect to matters alleged in the complaint. Defendants and Ecology retain the right to seek to recover response costs expended pursuant to this Decree from any other responsible parties.

E. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown: IT IS HEREBY ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:

I. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the parties pursuant to chapter 90.48 RCW; chapter 70.105 RCW; chapter 70.105D RCW; and the Comprehensive Environmental sponse, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601 et seq.

B. Under chapter 70.105D RCW, the Model Toxics Control Act (MTCA), and CERCLA, whenever Ecology has reason to believe that a release or threatened release of a hazardous substance will require remedial action, it shall notify potentially liable persons with respect to the release or threatened release. Pursuant to RCW 70.105D.040(4), where Ecology and a potentially liable person reach such a settlement regarding appropriate remedial action, the settlement shall be filed with the appropriate superior court as a consent decree, after public notice and hearing.

C. On the basis of the testing and analysis described in the Statement of Facts, Section IV, and Ecology files and

records, Ecology has determined that past disposal or management practices at the Site have given rise to a release of hazardous substances.

D. Defendants are liable parties for the Site pursuant to RCW 70.105D.040(1) and 42 U.S.C. § 9607 and have been given notice of the release of hazardous substances at the Site and Ecology has determined that they are both liable parties under the MTCA.

E. The actions to be taken pursuant to this Decree are necessary to protect the public health, welfare and the environment, and are consistent with requirements of the MTCA and the National Contingency Plan, 40 CFR Part 300 et seq.

II. PARTIES BOUND

This Decree shall apply to and be binding upon the signatories to this Decree (parties), their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with the Decree. Defendants agree to undertake all actions required by the terms and conditions of this Decree and not to contest state jurisdiction regarding this Decree. No change in ownership or corporate status shall alter the responsibility of Defendants under this Decree. Defendants shall provide a copy of this Decree to each of their agents, including all contractors and subcontractors retained to

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perform work contemplated by this Decree, and shall condition any contract for such work on compliance with this Decree.

III. DEFINITIONS

A. Site: The Site covers that portion of the former DuPont Works production area located south of Sequalitchew Creek and that portion of the former DuPont Works production area located north of the Creek that includes the former "Burn Area," as shown on the site map (Exhibit C), and the former "Black Powder Area," as shown on the Black Powder Area site map (Exhibit D).

B. Days: Refer to calendar days unless specified otherwise.

C. Parties: Refers to the Weyerhaeuser Company, DuPont Company and the Department of Ecology.

IV. STATEMENT OF FACTS

A. Site Location and Status

The Site is a portion of the former DuPont Works property. The DuPont property (which includes the DuPont Works and adjacent property) covers approximately 3,200 acres located in the southwest corner of Pierce County, Washington, in the City of DuPont. Studies conducted to date by Weyerhaeuser under the supervision of Ecology indicate that 25 areas on the Site, as shown on Exhibits C and D, contain hazardous substances or hazardous waste constituents. DuPont began operations on the property in 1909, and produced a

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variety of commercial explosive materials. The plant was purchased by Weyerhaeuser in 1976 and was closed in 1977. Weyerhaeuser has conducted no manufacturing activities at the Site which involved the generation, use, treatment, storage, disposal or transportation of hazardous substances or dangerous wastes, although the DuPont Company, Southwest Explosives Company and Oriard Powder Company, as lessees of Weyerhaeuser, used certain areas of the Site for the storage and transportation of explosives. Weyerhaeuser has conducted site work consisting of building demolition of former explosives laboratories, removal of above ground and underground storage tanks, and disposal of construction debris.

B. Previous Site Investigations

In 1985, Weyerhaeuser began evaluating 37 potential hazardous waste areas identified by Hart Crowser under contract to Weyerhaeuser on the property. These studies led to the collection in 1986-1987 of soil and waste samples from each area, and extensive analyses of chemical constituent levels (Hart Crowser, 1987). These data revealed that 25 areas on the Site contained elevated levels of at least one hazardous substance or hazardous waste constituent. Identified hazardous substances or hazardous waste constituents present on the property included lead, zinc, nitroglycerine, 2,4,6-trinitrotoluene, 2,4-dinitrotoluene, 2,6-dinitrotolune, monomethylamine nitrate, PCBs, DDT, several

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polynuclear aromatic hydrocarbons (PAH) and volatile organic compounds, and oily substances. Hazardous substances and hazardous wastes appeared to be generally restricted to near-surface soils, with lower concentrations reported at depth.

In an effort to determine potential impacts from hazardous substances and hazardous waste releases at the Site, between November 1987 and February 1988, seventeen (17) soil borings were drilled within the former production area and completed as groundwater monitoring wells (Hart Crowser, 1988). The soil borings and associated hydraulic data collected during this effort formed the basis for an assessment of geologic and hydrogeologic conditions at the Site which may control both surface and subsurface contaminant transport.

In March 1988, groundwater and surface water samples were collected from a total of 28 monitoring areas on and adjacent to the Site (Hart Crowser, 1988). These samples were analyzed for a variety of field parameters, including inorganics, metals, oil and grease, explosives, PAHs, PCBs, DDT, and volatile organic constituents identified previously in the soil sampling effort (Hart Crowser, 1987). Some of the monitoring areas were resampled in April 1988 to confirm selected analytical data.

The results of this first round of sampling suggested that local concentrations of nitrate and possibly

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also oil and grease constituents were elevated above local background levels. Additionally, lower than normal Ph levels were found in several wells downgradient from identified waste areas on the property. Levels of nitrate in two of the monitoring wells exceeded primary drinking water standards, although existing water supplies did not appear to be affected. No other elevated concentrations of constituents were detected. Groundwater and surface water quality monitoring continued at quarterly intervals for a period of one year on or about 6/88, 9/88, and 12/88 samplings to assess possible seasonal variations in the principal water quality characteristics of concern (i.e., field parameters, nitrates, nitrogen, dissolved solids, lead, oil and grease, and explosives). This quarterly groundwater sampling revealed the presence of those contaminants noted above and the presence of low levels of explosive compounds, e.g., dinitrotoluene.

With the exception of possible contamination of the sediments at the Site, data collected to date (Hart Crowser 1987 and 1988) are generally sufficient to describe the nature and likely extent of hazardous substances present in the soils and groundwater at the Site. Certain additional remedial investigations, as more particularly described in Exhibits A, B, C, and D (attached), are necessary to complete Site investigations.

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C. Black Powder Area

Recently, data collected pertaining to the Black Powder Area (see Ex. D) reveal that near surface soils in the area contain lead at levels exceeding cleanup standards. Further site investigation is occurring to define the nature and extent of hazardous substances in the Black Powder Area.

D. Independent Cleanups

Prior to entry of this Consent Decree, Weyerhaeuser conducted investigations and cleanup actions at Areas 21, 27, 28, and 29 (formerly referred to as "Sites"). The investigations revealed elevated levels of lead, zinc, and total petroleum hydrocarbons in the soil. Cleanups were conducted by Weyerhaeuser with Ecology oversight, using cleanup guidelines in effect at the time. Ecology will provide a formal review of the independent cleanups conducted to determine if any further action is needed at these sites, based on MTCA cleanup standards in effect, on the effective date of this Decree.

Weyerhaeuser and Dupont are currently engaged in voluntary cleanups of Areas 5 and 6, involving, primarily, the removal of abandoned drums. These cleanups were initiated after work plans describing the work to be performed were approved by Ecology, and will be completed under the Consent Decree.

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E. Conclusion

Based on the facts set forth herein, Ecology has determined that the release and potential release of hazardous substances from the Site requires remedial action to protect the public health and welfare and the environment. This Decree requires remedial actions, including a remedial investigation, feasibility study, and interim action, necessary to protect public health, welfare and the environment.

V. WORK TO BE PERFORMED

This Decree contains a program designed to protect the public health and welfare and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site, and includes contingency measures. This program is set forth in Exhibits A, B, C, and D to this Decree, which are collectively titled and constitute the Remedial Investigation/Feasibility Study Plan (RI/FS). Exhibit A sets forth the work to be performed to accomplish the RI/FS (including an environmental and human health risk assessment). Exhibit B sets forth the schedule for implementing this work (Schedule). Exhibit C is a map of the Site, excluding the Black Powder Area. Exhibit D is a map of the Black Powder Area. Exhibits A, B, C, and D are integral and enforceable parts of this Decree, and the work to be performed pursuant to such Exhibits is consistent with all

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requirements of state and federal laws and regulations, including, without limitation, the MTCA and the National Contingency Plan, 40 CFR Part 300. The terms "Consent Decree" or "Decree" shall include Exhibits A-D whenever used in this document. Except where performance by another party is expressly provided in the exhibits, Defendants hereby commit to perform the work described in Exhibits A, B, C, and D.

A. Work Plan. Pursuant to Ecology's requirements Weyerhaeuser has completed certain remedial investigation and baseline risk assessment work as of the dates set forth in Exhibit B. Defendants shall submit to Ecology additional remedial investigation and feasibility study work by the dates provided in Exhibit B. Any field work conducted by Defendants must include and be consistent with the following plans:

1. Quality Assurance/Quality Control Plan
2. Health and Safety Plan
3. Data Management Plan
4. Sampling and Analysis Plan
5. Community Relations Plan
6. Cultural Resources Comprehensive Management Plan and Cultural Resources Protection Plan
7. Sediment Sampling Plan

The above enumerated plans shall be submitted to Ecology for review, comment, and approval.

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B. Scope of Remedial Investigation. Through previous Site investigation, documented in a Phase I Site Survey and Review Report (Hart Crowser, 1986), a Phase II Site Characterization Report (Hart Crowser, 1987), and a Hydrologic and Water Quality Assessment Report (Hart Crowser, 1988) the vertical and horizontal extent of contamination at the DuPont Site has, for the most part, been determined. To complete the remedial investigation (RI), Defendants shall perform the work plan tasks set forth in Exhibits A, B, C, and D hereto.

C. Scope of Feasibility Study. Based on the results of the remedial investigation and the risk assessment, completed per the requirements of Exhibits A, B, C, and D, a feasibility study of alternative remediation options at the Site shall be conducted. Only those areas within the Site which may exceed an acceptable level of risk to human health or the environment or where levels of hazardous substances exceed cleanup levels will be considered during this effort.

The feasibility study shall be performed in accordance with WAC 173-340-350 and in general accordance with the draft EPA guidelines for Remedial Investigations and Feasibility Studies (EPA, 1988). The feasibility study shall include an initial identification and screening of potential remediation alternatives based on preliminary evaluations of permanence, effectiveness, implementability, and cost. Based on the preliminary screening, a minimum of three (3)

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alternatives for each contaminated area shall be selected for more detailed analyses. Areas with identical contaminants may be grouped and treated together. These more detailed evaluations will address in greater detail the use of permanent solutions, short-term and long-term effectiveness, implementability, and cost of each of the final alternatives.

The purpose of the feasibility study is to identify, develop, evaluate, and recommend remedial action alternatives which are consistent with a permanent remedy and which are available to prevent or minimize the release or threatened release of hazardous substances or pollutants or contaminants from the Site, as identified through the remedial investigation and the risk assessment. The feasibility study shall be conducted in accordance with all federal and state laws and regulations, and generally in accordance with all applicable EPA guidance documents relating to feasibility studies.

The remedial investigation and feasibility study for the 25 areas of the Site identified on Exhibits C and D shall be presented in a draft report submitted to Ecology on or before the date 24 months following the effective date of this Decree, depending on the timeliness of Ecology's prior response to the risk assessment. Ecology will provide a final written response to the draft remedial investigation and feasibility study report within 90 days of receipt of the document. Defendants shall submit a final report for the

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remedial investigation and feasibility study no later than 60 days following the receipt of Ecology's final written response.

D. Black Powder Area Interim Action. Within 90 days of the effective date of this Decree, Defendants shall submit a work plan and schedule for an interim action at the Black Powder Area. As stated above, preliminary investigations have revealed that soils in the Black Powder Area are contaminated with lead. This interim action will be designed to define the nature and extent of contamination of the Black Powder Area, and to recommend an appropriate interim action for the area. Ecology will then select the interim action to be implemented. The Defendants will then implement the selected interim action unless Dispute Resolution is invoked, in which case the dispute resolution process set forth in Section XIII of this Decree shall be utilized to resolve the dispute. The interim action will be the subject of threshold determination under the State Environmental Policy Act, Ch. 43.21C RCW.

Upon Ecology's determination that the interim action for the black powder area has been completed in compliance with the approved interim action work plan, that no further remedial action is necessary at the black powder area, and that applicable cleanup standards have been met, Ecology may delete the black powder area from the coverage of this Consent

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Decree. Ecology will only make this determination after public notice and an opportunity to comment.

E. Other Interim Actions. Ecology may, during the term of this Consent Decree, determine that additional interim actions are necessary at the Site under WAC 173-340-430. Likewise, Defendants may, during the term of this Consent Decree, propose additional interim actions.

Upon receipt of notification from Ecology that an interim action is required, Defendants shall plan, propose, initiate, complete, and report upon the required interim action for the Site. Such plans, proposals, and reports shall be subject to review, comment, and approval by Ecology. If Defendants fail to undertake an interim action required by Ecology in a proper and prompt manner, Ecology reserves the right to perform the required interim action and to recover all costs incurred in doing so from Defendants. Defendants may dispute the necessity or appropriateness of any interim action required by Ecology.

F. Future Negotiations Regarding Remedial Action. If the feasibility study, performed pursuant to Section C above, indicates the need for remedial action, as defined by the MTCA or CERCLA, Defendants and Ecology will enter into negotiations regarding such remediation; this will include the design, construction, operation, maintenance, and monitoring phases of such remedial action. The parties recognize and agree that,

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if a remedial action is necessary, it would be beneficial to commence the remedial action during the construction season (Spring, Summer and early Fall). Ecology and Defendants will exercise their good faith efforts to agree upon any necessary remedial action as promptly as possible following submission of the final report due under this Decree. Neither Ecology nor Defendants shall have any obligation pursuant to this Decree to agree upon the terms of any such remedial action, nor shall Defendants have any obligation under this Decree to perform any such remedial action. If the parties do agree upon the terms of a remedial action those terms and the performance of the remedial action shall be the subject of a separate consent decree or an amendment to this Decree.

G. Consistency with Cultural Resources Comprehensive Management Plan. The parties to this Decree recognize the historical and archaeological significance of the Site. Every reasonable effort will be made to ensure that area investigation and remediation will be conducted in a manner consistent with protection of these values. As soon as practicable after execution of this Decree, Defendants shall, in consultation with the State Office of Archaeology and Historic Preservation, prepare a Cultural Resources Comprehensive Management Plan. The Plan shall detail the steps which will be taken, including dispute resolution processes, to protect the archaeological and historical values of the Site. The

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Defendants shall also prepare and submit a Cultural Resources Protection Plan which will ensure that work performed under this Decree will be completed in a manner consistent with the Cultural Resources Comprehensive Management Plan. These plans will be subject to Ecology approval.

VI. DESIGNATED PROJECT COORDINATORS

On or before the entry of this Decree, Ecology, Weyerhaeuser and DuPont shall each designate a project coordinator. Each project coordinator shall be responsible for overseeing the implementation of this Decree. The Ecology project coordinator will be Ecology's designated representative at the Site. To the maximum extent possible, communications between Ecology and Defendants and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree, shall be directed through the project coordinators. The project coordinators may designate working level staff contacts for all or portions of the implementation of the remedial work required by this Decree. The project coordinators may agree to minor modifications to the work to be performed without a formal amendment to this Decree.

Any party may change its respective project coordinator. To the extent possible, written notification shall be given to

the other party, in writing, at least ten (10) calendar days prior to the change.

The project coordinator for Ecology is:

Mike Blum
7272 Cleanwater Lane
Mail Stop: LU-11
Olympia, WA 98504-6811

The project coordinator for Weyerhaeuser is:

Vern Moore
Weyerhaeuser Company
P.O. Box 100
Dupont, WA 98327

The project coordinators for DuPont are:

John B. Frazier
Chemicals & Pigments Dept. BOD 918
DuPont Company
1007 Market Street
Wilmington, DL 19898

Chuck Crittenden
DuPont Environmental Remedial Services
P.O. Box 100
DuPont, WA 98327

VII. PERFORMANCE

All response work performed pursuant to this Decree shall be under the direction and supervision, as necessary, of a professional engineer or certified hydrogeologist, or equivalent, with experience and expertise in hazardous waste area investigation and cleanup. Defendants shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors

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to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

VIII. ACCESS

Ecology or any Ecology authorized representative shall have the authority to enter and freely move about all property at the Site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing the progress in carrying out the terms of this Decree; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, video and/or sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendants. While Ecology reserves its right to enter and inspect the Site, as set forth above, without providing advance notice, Ecology will, in most cases, provide 48-hour advance notice of any Site inspection. Ecology shall, upon request, split any samples with Defendants taken by Ecology during an inspection unless Defendants fail to make available a representative for the purpose of splitting samples. All parties with access to the Site pursuant to this paragraph shall comply with approved health and safety plans.

IX. SAMPLING, DATA REPORTING AND AVAILABILITY

With respect to the implementation of this Decree, Defendants shall make the quality-assured results of all sampling, laboratory reports, and/or test results generated by them, or on their behalf available to Ecology and shall submit these quality-assured results in progress reports submitted in accordance with paragraph X herein. At the request of Ecology, Defendants shall allow split or duplicate samples to be taken by Ecology and/or its authorized representatives of any samples collected by Defendants pursuant to the implementation of this Decree. Defendants shall notify Ecology five (5) working days in advance of any sample collection activity. To the extent practicable, and without limitation on Ecology's rights under Section VIII, Ecology will provide the same five (5) day notice to Defendants and shall, upon request, allow split or duplicate samples to be taken by Defendants or their authorized representatives of any samples collected by Ecology pursuant to the implementation of this Decree.

In addition, Ecology may require Defendants to split any samples collected on their behalf, and thereafter send such samples to different laboratories for analyses in an effort to ensure accurate laboratory results.

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X. PROGRESS REPORTS

Defendants shall submit to Ecology written monthly progress reports which describe the actions they have taken during the previous month to implement the requirements of this Decree. Progress reports shall also describe the activities scheduled to be taken during the next month. All progress reports shall be submitted by the tenth day of the month in which they are due after the effective date of this Decree. The progress reports shall include a detailed statement of the manner and extent to which the requirements and time schedules set out in the Decree are being met. Unless otherwise specified, progress reports and any other documents submitted pursuant to this Decree shall be sent by United States mail, to Ecology's project coordinator.

XI. RETENTION OF RECORDS

Defendants shall preserve, during the pendency of this Decree and for ten (10) years from the date of issuance of the Certificate of Completion (Section XXVII) all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree, or, in the alternative may furnish to Ecology copies of all such records, reports and documents, and shall insert in contracts with project contractors a similar record retention requirements. Upon request of Ecology, Defendants shall make all non-privileged non-archived records available to Ecology and allow

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access for review. All non-privileged archived records shall be made available to Ecology within a reasonable period of time. Ecology agrees, to the extent permitted by law, to maintain the confidentiality of any proprietary information requested.

XII. TRANSFER OF INTEREST IN PROPERTY

No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated without provision for continued operation and maintenance of any containment system, treatment system, and monitoring system installed or implemented pursuant to this Decree. Prior to transfer of any legal or equitable interest in all or any portion of the Site upon which a release of hazardous substances is known to have occurred (including, without limitation, all or any portion of the precise geographic area described in Exhibit C) or upon which a containment system, treatment system or monitoring system has been installed or implemented, Weyerhaeuser shall serve a copy of this Decree and all attachments upon any prospective purchaser, lessee, transferee, assignee, or other successor in interest of the property; and, at least thirty (30) days prior to any transfer, Weyerhaeuser shall notify Ecology of said contemplated transfer.

XIII. RESOLUTION OF DISPUTES

If either Defendant objects to any Ecology disapproval, proposed modification, or decision made pursuant to this Decree, it shall notify Ecology in writing of its objections within fourteen (14) calendar days of receipt of such disapproval, proposed modification or decision. Thereafter, the parties shall confer in an effort to resolve the dispute. If agreement cannot be reached on the dispute within fourteen (14) calendar days after receipt by Ecology of such objections, Ecology shall promptly provide a written statement of its decision to Defendants.

If Ecology's final written decision is unacceptable to either Defendant, Defendant has the right to submit the dispute to the Court for resolution. The parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event Defendants present an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review. Ecology and Defendants agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the

dispute resolution in bad faith or for purposes of delay, the other party may seek sanctions.

Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

XIV. AMENDMENT OF CONSENT DECREE

This Decree may only be amended by a written stipulation among all the parties to this Decree that is entered by the Court, or by order of the Court. Such amendment shall become effective upon entry by the Court. Agreement to amend shall not be unreasonably withheld by any party to the Decree.

Defendants shall submit any request for an amendment to Ecology for approval. Ecology shall indicate its approval or disapproval within fifteen (15) working days after the request for amendment is received, if additional time is necessary to review the request for amendment Ecology shall notify Defendants within fifteen (15) days whether an extension of the Work Plan schedule is granted during the pendency of Ecology's review of the proposed amendment. Reasons for any disapproval shall be stated in writing. If Ecology does not agree to any proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XIII of this Decree.

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No guidance, suggestions, or comments by Ecology will be construed as relieving Defendants of their obligation to obtain formal approval as may be required by this Decree. No verbal communication by Ecology shall relieve Defendants of the obligation specified herein.

Ecology shall notify Defendants in writing of any Ecology proposed amendment and the basis for such proposal. Defendants shall thereafter comply with such modifications, or if either Defendant does not agree with those modifications, the disagreement shall be addressed through the dispute resolution procedures described in Section XIII of this Decree.

If Ecology adopts regulations applicable to this Decree that would require public participation in the amendment process, such regulations shall be followed in amending this Decree.

XV. EXTENSION OF SCHEDULE

A. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify the reason(s) the extension is needed. An extension shall only be granted for such period of time is reasonable under the circumstances. A requested extension shall not be effective until approved by Ecology or the Court. Ecology

shall act upon any written request for extension in a timely fashion. It shall not be necessary to formally amend this Decree pursuant to Section XIV when a schedule extension is granted.

B. The burden shall be on Defendants to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause includes, but is not limited to, the following:

1. Circumstances beyond the reasonable control and despite the due diligence of Defendants including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Defendants.

2. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, wave or water conditions, or other unavoidable casualty; or

3. Endangerment as described in Section XVII. However, neither increased costs of performance of the terms of the Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of Defendants.

C. Ecology may extend the schedule for a period not to exceed ninety (90) days, except where an extension is needed as a result of:

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1. Delays in the issuance of a necessary permit which was timely applied for or, if necessary, to comply with permit conditions; or

2. Judicial review of the issuance, non-issuance, or reissuance of a necessary permit; or

3. Other circumstances that reasonably require an extension of more than 90 days; or

4. Endangerment as described in Section XVII; or

5. The need to protect the environment or public interest.

Ecology shall give Defendants written notice in a timely fashion of any extensions granted pursuant to the Decree.

XVI. STIPULATED PENALTIES

A. For delays by Defendants in submitting a report or document or otherwise failing to achieve on time the requirements of this Decree, Ecology may require that Defendants pay into the General Fund of the State Treasury the sum set forth below as stipulated penalties. Defendants stipulate that they shall be obligated to pay such sums as set forth below.

B. Stipulated penalties shall accrue for the following reasons and in the following amounts:

1. Failure to submit a draft environmental risk assessment and feasibility study per agreed-upon schedule: up

to $2,500 per day during the first thirty (30) days; up to $4,000 per day thereafter.

2. Failure to submit a final environmental risk assessment and feasibility study per agreed-upon schedule: up to $2,500 per day during the first thirty (30) days); up to $4,000 per day thereafter.

3. Failure to submit progress reports pursuant to Section X hereof: $500 per day.

4. Failure to provide access to Ecology pursuant to Section VIII hereof: up to $2,500 per day.

C. Defendants shall not be liable for payment under this section if they have submitted a timely request to Ecology for an extension of schedules under Section XV of this Decree and such request has been granted.

D. Upon determination by Ecology that Defendants have failed to make a submittal referenced herein or has otherwise failed to comply with this Decree, Ecology shall immediately give written notice to Defendants of the failure, specifying the provision of the Decree which has not been complied with and specifying the amount of the civil penalty due pursuant to Paragraph B, above. Defendants shall pay the civil penalty within thirty (30) days of receipt of notification from Ecology. Any disagreement over the factual basis for issuance of a penalty under this section shall first be addressed through the dispute resolution clause. In the event

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Defendants disagree with the result of the dispute resolution process, Defendants may seek relief from the Court.

E. Nothing herein shall be construed to prevent Ecology from assessing or seeking to impose penalties upon Defendants for any violations of this Consent Decree additional to those specified in subsection B. above, or the Court from imposing such sanctions as it deems appropriate for violations of this Decree or any further order of the Court.

XVII. ENDANGERMENT

In the event Ecology determines or concurs in a determination by another local, state, or federal agency that activities implementing or in noncompliance with this Decree, or any other circumstances or activities, are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecology may order Defendants to stop further implementation of this Decree for such period of time as needed to abate the danger or may petition the Court for an order as appropriate.

During any stoppage of work under this section, the obligations of Defendants with respect to the work ordered to be stopped shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which is stopped, shall be extended, pursuant to Section XV of this Decree, for such

period of time as Ecology determines is reasonable under the circumstances.

In the event Defendants determine that activities undertaken in furtherance of this Decree or any other circumstances or activities are creating an imminent and substantial endangerment to the people on the Site or in the surrounding area or to the environment, Defendants may stop implementation of this Decree for such periods of time necessary for Ecology to evaluate the situation and determine whether Defendants should proceed with implementation of the Decree or whether the work stoppage should be continued until the danger is abated. Defendants shall notify either Ecology field personnel on-site or the project coordinator as soon as is possible, but no later than twenty-four (24) hours after such stoppage of work, and provide Ecology with documentation of its analysis in reaching this determination. If Ecology disagrees with Defendants' determination, it may order Defendants to resume implementation of this Decree. If Ecology concurs in the work stoppage, Defendants' obligations shall be suspended and the time period for performance of that work, as well as the time period for any other work dependent upon the work which was stopped, shall be extended, pursuant to Section XV of this Decree, for such period of time as Ecology determines is reasonable under the circumstances. Any

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disagreements pursuant to this clause shall be resolved through the dispute resolution procedures in Section XIII.

XVIII. OTHER ACTIONS

Ecology reserves its rights to institute remedial action(s) at the Site and subsequently pursue cost recovery, and Ecology reserves its rights to issue orders and/or penalties pursuant to available statutory authority under the following circumstances:

1. Where Defendants fail, after notice, to adhere to any requirement of this Decree;

2. In the event or upon the discovery of a release or threatened release not addressed by this Decree which Defendant, after notice, fail to address;

3. Upon Ecology's determination that action beyond the terms of this Decree is necessary to abate an emergency situation which threatens the public health or welfare or the environment provided, however, that Ecology will first give Defendants notice and opportunity to perform such remedial action unless the threat is so immediate as to not permit the giving of notice; or

4. Upon the occurrence or discovery of a situation beyond the scope of this Decree as to which Ecology would be empowered to perform any remedial action or to issue an order and/or penalty, or to take any other enforcement action. This Decree is limited in scope to the precise geographic area

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described in Exhibit C and to those contaminants which Ecology knows to be at the Site when this Decree is entered.

XIX. INDEMNIFICATION

Defendants agree to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property arising from or on account of acts or omissions of Defendants, their officers, employees, agents, or contractors in entering into and implementing this Decree. However, Defendants shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action brought by third parties arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in implementing the activities pursuant to this Decree.

XX. COMPLIANCE WITH APPLICABLE LAWS

All actions carried out by Defendants pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits.

XXI. OVERSIGHT COSTS

Defendants shall reimburse Ecology for its oversight costs in implementing this Decree. Such oversight costs shall be in the amount of Ecology's actual costs of direct activities, support costs of direct activities, and interest

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charges for delayed payments. Defendants and Ecology will consult on a quarterly basis with respect to the oversight costs incurred by Ecology in the prior quarter and the costs Ecology anticipates it will incur in the following quarter, however, nothing herein shall be deemed to limit Ecology's discretion regarding appropriate oversight activities. Oversight costs shall be billed by Ecology and paid by Defendants on a quarterly basis. Any disputes regarding oversight costs shall be subject to dispute resolution pursuant to Paragraph XIII hereof.

XXII. RESERVATION OF RIGHTS

By agreeing to the entry of this Decree, Defendants and Ecology agree to abide by its terms. While the parties believe that the recitals contained in this Decree are accurate, the execution and performance of the Decree do not constitute an admission by either Defendant of any fact or liability for any purpose other than as a basis for the entry of this Decree. Defendants' performance under the Decree is undertaken without waiver of or prejudice to any claims or defenses whatsoever (including, but not limited to the defenses enumerated under RCW 70.105.040, 42 U.S.C. 9607, and RCW 70.105D.040) that may be asserted in the event of further administrative proceedings or litigation about or relating to the Site. Nor is the execution or the performance of the

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Decree an agreement by Defendants to take any action at the Site other than that described in this Decree.

XXIII. CLAIMS AGAINST THE STATE

Defendants hereby agree that they will not seek to recover any costs accrued in implementing RI/FS Work Plan required by this Decree from the State of Washington or any of its agencies; and further, that Defendants will make no claim against the state toxics control account or any local toxics control account or CERCLA for any costs incurred in implementing this Decree. Defendants expressly reserve their right to seek to recover any costs incurred in implementing this Decree from any other potentially liable party, including the United States.

XXIV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that Defendants have failed without good cause to implement the remedial action required by this Decree, Ecology may, after notice to Defendants, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of Defendants' failure to comply with its obligations under this Decree, Ecology may seek to recover from Defendants its costs of doing such work to the extent Ecology is entitled to such cost recovery under state or federal law.

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XXV. COMMUNITY RELATIONS

Ecology shall maintain the responsibility for community relations regarding matters covered by this Consent Decree at the Site, and shall provide notice to Defendants at least 48 hours in advance of giving any public notice or other release of information regarding the Site to the public. However, Defendants shall cooperate with Ecology and shall:

A. Prepare drafts of public notices and fact sheets at important stages of the RI/FS, such as the submission of work plans and the completion of engineering design. Ecology will finalize (including editing if necessary) and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings;

B. Notify and coordinate with Ecology's project coordinator prior to all press releases and fact sheet preparation, and before major meetings with the interested public and local government;

C. Participate in public presentations on the progress of RI/FS at the Site. Participation may be through attendance at public meetings to assist in answering questions or as a presenter;

D. In cooperation with Ecology, arrange and/or continue information repositories located at the Lakewood Public Library, the South Puget Environmental Education Clearinghouse (SPEECH) Center, and Ecology's Southwest Regional Office. At

a minimum, copies of all public notices, fact sheets, and press releases, all quality assured groundwater, surface water, soil sediment, and air monitoring data, remedial action plans, and supplemental remedial planning documents which are submitted by Defendants to Ecology, relating to performance of the RI/FS required by this Decree, shall be promptly placed in these repositories.

E. Defendants may provide additional public information, but agree to keep Ecology informed of such public information activities.

XXVI. DURATION OF DECREE

This Decree shall remain in effect and the remedial program described in this Decree shall be maintained and continued until Defendants receive a written notice from Ecology that the remedial action plan has been satisfactorily completed, or until the Court determines that the requirements of the Decree have been completed.

XXVII. EFFECTIVE DATE

This Decree is effective upon the date it is entered by the Court.

XXVIII. PUBLIC NOTICE AND WITHDRAWAL OF CONSENT

This Decree has been subject to public notice and comment under RCW 70.105D.040(4)(a). Ecology reserves the right to withdraw or withhold its consent to the proposed final Decree if the comments received by Ecology disclose facts or

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considerations which indicate that the proposed Decree is inappropriate, improper, or inadequate.

If the Court withholds or withdraws its consent, this Decree shall be null and void at the option of any party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

By: Carol L. Fleskes — July 17, 1991
Carol L. Fleskes — Date
Program Manager
Toxics Cleanup Program

By: Jay J. Manning — July 17, 1991
Jay Manning, WSBA #13579 — Date
Assistant Attorney General

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DUPONT COMPANY

By: _____ _____
Richard A. Romanelli Date
Director, Safety &
Environmental Resources
Dupont Chemicals

By: _____ _____
E. Julia Lambeth Date
Senior Counsel
DuPont Legal

WEYERHAEUSER COMPANY

By: Jack Larsen
Jack Larsen
Vice President

July 10, 1991
Date

By: Ralph H. Palumbo
Ralph H. Palumbo
Heller, Ehrman, White
& McAuliffe
Attorneys for Weyerhaeuser
Company

June 2, 99,
Date

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Having reviewed the foregoing Consent Decree, it is hereby ordered that the Consent Decree is Entered.

DATED this 22 day of July, 1991.

ROBERT J. DORAN

Superior Court Judge
Thurston County Superior Court

133/weyerhsr.cad

Dupont Way

HARTCROWSER

Earth and Environmental Technologies

Exhibit A
Final Work Plan
(Remedial Investigation, Risk Assessment, and Feasibility Study) and Exhibits B, C, and D
Former Du Pont Works Site
Dupont, Washington

Prepared for
Weyerhaeuser Company
and
Du Pont Company

July 10, 1991
J-1747-49

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EXHIBIT A
FINAL WORK PLAN
(REMEDIAL INVESTIGATION, RISK ASSESSMENT,
AND FEASIBILITY STUDY)
FORMER DU PONT WORKS SITE
DUPONT, WASHINGTON

1.0 INTRODUCTION

This Work Plan outlines the scope of work to complete a Remedial Investigation (RI), Health Risk Assessment, and Feasibility Study (FS) at the Former Du Pont Works Site in Dupont, Washington. The plan describes work which has been completed and reported to Weyerhaeuser Company, Du Pont Company, and the Washington State Department of Ecology (Ecology), as well as work remaining to be conducted.

1.1 RI/FS Process

The State of Washington has established guidelines under WAC 173-340-350 for RI/FSs that will be used as a framework for the development of this study. Relevant federal requirements contained in 40 CFR 300 (National Contingency Plan) will also be addressed. Primary elements of a RI/FS include:

Site Characterization. Field investigations to compile data and assess surface water and sediments, soils, geology and hydrogeology, air quality, land use, natural resources damages, and hazardous substance sources.

Risk Assessment and ARAR Analysis. Assessment of current and potential threats to human health and the environment from hazardous substances and evaluation of applicable or relevant and appropriate requirements (ARARs), with the goal of establishing remedial action objectives.

Evaluation of Cleanup Alternatives. Screening of alternatives and selection of a preferred alternative considering several enumerated factors.

As part of the RI process, detailed work plans will be prepared for the following areas:

- Sampling and Analysis Plan;
- Health and Safety Plan;
- Quality Assurance/Quality Control Plan;
- Data Management Plan; and
- Community Relations Plan.

Many elements of the RI for the Former Du Pont Works Site have been completed and are described within this chapter. Chapters 2.0, 3.0, and 4.0 describe work that is to be completed in support of the RI/FS study.

All work plans, and revisions thereto, will be submitted to Ecology for review, comment and approval per the terms of the Consent Decree between Weyerhaeuser, DuPont, and Ecology. The Health and Safety Plan will be submitted to Ecology for review and comment only. Ecology will be notified of planned field activities according to the requirements of Section IX (Sampling, Data Reporting, and Availability) of that Decree.

Throughout this document, "Site" refers to the entire Former Du Pont Works property under consideration. Specific known waste locations are called "areas." The "areas" have been called sites in the past and may be noted by the particular site name (such as "Site 5").

The RI/FS process will also incorporate sufficient information needed to fulfill requirements of the State Environmental Policy Act (SEPA), if applicable.

1.2 Site Characterization Studies Conducted from 1986 to 1989

Site characterization activities at the Former Du Pont Works Site initially included reconnaissance surveys and historical records reviews. Based on the results of these activities, a preliminary (Phase I) sampling and analysis plan was prepared to verify the presence or absence of suspected contaminants.

The Phase I investigations were initiated in December of 1986 and resulted in the collection of soil samples from test pits and surficial locations within suspected contaminant areas.

Based on the results of the Phase I analyses, further site characterization activities were recommended in areas which exhibited chemical concentrations in excess of general reference (background) levels. A Phase II sampling and analysis plan was subsequently prepared to estimate the volume of materials which exceeded such background concentrations. The Phase II effort was directed toward an impending excavation and off-site disposal remedial action planned for the site. The Phase II investigations were initiated in April of 1987 and included additional test pit, boring, surficial soil, and waste sampling. Altogether, approximately 500 soil samples were collected from the site during both phases of the investigation. Chemical analyses on the samples were performed using EPA- and/or state-approved methodologies.

Following the soil sampling activities described in Hart Crowser (1987), a hydrogeologic and water quality investigation of the site was initiated in November of 1987 to assess possible water quality impacts associated with the identified waste areas. After completion of 16 groundwater monitoring wells installed in selected locations on the property, a quarterly monitoring program of water quality within local groundwaters, springs, and surface waters was initiated. Water quality parameters included in the monitoring program were selected based on the results of the site (soil and waste) characterization efforts. Except for the additional groundwater monitoring described in Section 2.2, the hydrologic monitoring program was largely completed with the fourth quarterly sampling in January 1989. The results of these analyses are summarized in Hart Crowser (1988) and ETI/Hart Crowser (1989).

1.3 Chemical Detection Methods

Of the 141 parameters tested in soil, waste, and/or water samples collected from the property, 38 were detected in at least one sample, and 34 of these analytes were present in at least one sample at levels above background concentrations. The detected chemicals included

four screening parameters (e.g., total oil and grease), five explosive compounds (e.g., 2,6-Dinitrotoluene [2,6-DNT]), five metals (e.g., lead), six volatile organics (e.g., tetrachloroethene), 11 semivolatile organics (e.g., high molecular weight aromatic hydrocarbons [HPAHs] such as chrysene), three pesticides (e.g., 4,4'-DDT), and four PCBs (e.g., Aroclor 1242).

An additional 20 parameters, primarily semivolatile compounds and pesticides, were reported by the laboratory at concentrations below the analytical detection limit ('J' flagged based on CLP protocols) but above estimated background. The presence of these 'J-flag' constituents in the waste areas is suspected, but not confirmed.

The samples with the 'J' flag were included in the risk assessment in accordance with EPA Risk Assessment Guidance for Superfund projects. In those cases where a compound with a 'J' flag was identified (and unqualified) in other areas of the Site in the same media, the estimated concentration was used in the risk assessment. In those cases where the compound with a 'J' was not identified in other areas of the Site, the concentrations were not considered in the risk assessment.

In the FS, the 'J' values will be handled in the same way as in the risk assessment. In those cases where the compound was identified without qualification in other areas, or when there is other evidence that the compound may have been released on the site, the FS alternative evaluation will consider that the 'J' compounds are present in the estimated concentrations. If there is no other evidence that the compound may have been released, then they will not be considered in the FS alternatives.

2.0 ADDITIONAL REMEDIAL INVESTIGATION

The work elements described below were added to the site characterization studies presented in Chapter 1.0.

One of the first tasks that will be conducted during the RI process is compilation of the extensive site characterization work that has been performed for the site. This summary will consolidate all available information on the property and enable analysis of the planned investigative work to determine if further site characterization may be necessary. This summary will be submitted to Ecology for review and comment.

2.1 Surveying and Additional Sampling/Analysis

Additional limited data collection is necessary at the site to complete site characterization and develop remediation alternatives for the identified waste areas. These activities include the following:

- **Surveying.** To the extent practicable, establish the coordinates of previous soil and waste sampling locations utilized in the Phase I and Phase II efforts.

- **TCLP Testing.** Assess those areas containing total lead in excess of applicable cleanup criteria to determine if they exhibit dangerous and/or hazardous waste characteristics based on the TCLP test.

- **Lead and Mercury Boundaries.** Assess the areal and vertical extent of lead at areas which exceed the applicable cleanup standards. In order to support the FS, the estimated boundaries of the lead should be accurate within the range of -20 percent to +50 percent. Only those areas where existing boundary uncertainties exceed this range will be sampled. In addition, ten selected samples collected during the above Lead Boundaries Study will be analyzed for mercury and the site-wide distribution of this contaminant will be characterized.

Each of the additional sampling and analysis tasks is outlined below.

Surveying

As discussed above, the previous Phase I and Phase II site characterization efforts were performed under the assumption that site remediation would proceed immediately thereafter. Consistent with this assumption, only temporary field markers were placed to locate the field positions. However, over the two to three years which have elapsed since sampling, many of these markers have begun to deteriorate. A survey of these positions would ensure the long-term utility of the existing data.

At each of the areas where soil and/or waste sampling was performed during Phases I or II, or subsequent efforts, sampling locations will be surveyed to the extent practicable to establish positions relative to state plane coordinates. For each of the areas which may require subsequent remediation (based on the risk assessment), a semipermanent local benchmark will be established to facilitate activities of the cleanup contractor. A map will be prepared for each area. The survey will locate marks to an accuracy of ± 0.1 foot. The actual sample locations will be located with an accuracy of ± 1 foot by hand taping from markers in each area. In some cases, it may be difficult to locate previous sample locations. In those cases, the reconstructed sample location may be ± 50 feet from the actual location. The accuracy of each reconstructed sample location will be documented.

TCLP Testing

Currently, only areas which contain elevated concentrations of total lead (greater than the applicable cleanup standard) in soils have been tested for EP Tox lead. No samples have yet been tested using TCLP. Based on an analysis of the EP Tox data, the ratio of potentially leachable (EP Tox and/or TCLP) lead to total lead is expected to vary widely, spanning more than two orders of magnitude within one area alone (Hart Crowser, 1987). For this reason, additional sampling is necessary to determine which of the identified lead areas may need to be addressed under the dangerous or hazardous waste regulations (WAC 173-303, 40 CFR Part 261).

At the identified lead areas which have not yet been characterized for TCLP or EP Tox, representative soil samples will be collected and analyzed for TCLP lead and total lead using standard EPA protocols.

Depending upon the size of the area, one to five samples will be collected from each area for analysis. An estimated 37 soil samples (including QC samples) will be collected at these areas. An additional 5 samples from these areas will also be tested using EP Tox procedures to assess the general relationship between these two testing procedures.

Lead and Mercury Boundaries

A number of the areas sampled during the Phase I and Phase II investigations exhibited concentrations of lead which exceeded the applicable cleanup standards for lead. The extent of soil contamination in these areas has not yet been characterized to the desired accuracy of -20 percent to +50 percent stated above.

During or immediately following the surveying conducted under the remedial investigation, soil sampling grids will be established at Sites 2, 4, 7, 16, 18, 25, 26, 30, 31, 36, and 38. Grid spacing will be approximately 30 feet on center or as appropriate for the individual site. Soil samples will be obtained within each grid as surficial (0 to 0.5-foot) five-spot equidistant composites. The soil samples will be analyzed for total lead using the same EPA-approved methodologies used previously. The sampling will continue until the samples around the area boundary meet applicable cleanup standards. This will provide data to determine the cleanup standard isopleth line. An estimated 80 soil samples will be collected at these areas. Mercury analyses will also be performed on ten selected samples to assess the site-wide distribution of this contaminant.

2.2 Additional Groundwater Monitoring Wells

In October 1989, two additional groundwater monitoring wells (MW-18 and MW-19) were installed. MW-19 was drilled midway between existing wells MW-15 and MW-16, and MW-18 was drilled adjacent to well MW-10. The purpose of this task was to obtain groundwater samples from the sea level aquifer at these locations. A staff gage was also installed in Old Fort Lake. The horizontal and vertical location of the new wells and staff gage were surveyed.

Additional groundwater wells will be installed and sampled to permit better definition of the site hydrogeology and to better characterize the extent and magnitude of groundwater contaminants in both the shallow

and, if necessary, deep aquifers. A detailed work plan for installation of additional monitoring wells will be submitted to Ecology for review, comment, and approval.

The procedure used to install and sample the wells and the methods/analyses used to analyze the samples will be presented in detailed work plans.

2.3 Additional Groundwater and Surface Water Sampling

In November 1989 and after the two additional wells were installed, a set of groundwater and surface water samples was obtained and analyzed from the new wells and selected other locations including two "sea level" seeps (Seep 1 and Seep 2) located on the shoreline south of MW-15 and north of Sequalitchew Creek. The sampling locations included:

- Wells MW-1, MW-15, MW-16, MW-17, MW-18, and MW-19; and
- SW-1, Seep 1, and Seep 2.

Samples from these locations were analyzed for the constituents listed below:

- Electrical conductivity;
- Nitrate plus nitrite (EPA Method 353.2);
- Ammonia (EPA Method 350.1);
- Oil and grease (EPA Method 413.2);
- Total dissolved solids (EPA Method 160.1);
- Dissolved organic compounds (VOCs) (Method SW 8240);
- Polynuclear aromatic hydrocarbons (PAHs) (Method SW 8100);
- Explosive compounds - nitroglycerine, trinitrotoluene, and dinitrotoluene (2,4-and 2,6-) (Method SW 8080); and
- Monomethylamine nitrate.

During two interim sampling rounds a series of water level measurements were made in the existing wells which were sampled and the newly installed staff gage in Old Fort Lake. The results of these interim sampling rounds are summarized in a January 18, 1990, and April 3, 1991, reports which present the results of the analyses and have been provided to Ecology.

The specific scope of work for monitoring during the time between execution of the Consent Decree and the start of remediation has not been determined. The scope will be prepared after analysis of the sampling and testing described above. The scope for ongoing sampling may cover groundwater, seeps, surface water, and sediments. The scope will be submitted to Ecology for review, comment, and approval prior to implementing the work.

2.4 Sediment Study

The extent and concentration of metal and petroleum hydrocarbon contamination in the intertidal sediments immediately off-shore of the Site have been assessed by reviewing the 1978 water and sediment quality report for the Nisqually Reach in southern Puget Sound. Results of this assessment are documented in a Hart Crowser letter dated January 24, 1989, which has been reviewed by Ecology.

An additional sediment study will be conducted as part of the RI for the Site. This new study will include sampling and analyses for a wider range of constituents than in the 1978 study, including but not limited to the explosive compounds, monomethylamine nitrate, metals, and petroleum hydrocarbons (PAHs and TPH). An appropriate number of quality control samples will also be collected. The sediment study will include both surficial and core sampling. A sufficient number of samples will be collected at or near the wharf, the sea level seep areas, in the delta formed by Sequalitchew Creek, and at background locations. If there is a need for fish and/or shellfish tissue sampling, it will be addressed in the draft work plan submitted to Ecology. A draft sediment sampling work plan will be submitted to Ecology for review, comment, and approval before the field work is implemented.

2.5 Mercury Investigation at Area 39

Mercury droplets were observed inside the perimeter foundation wall of the Former Du Pont Works laboratory building. A field sampling program was initiated to assess the extent of mercury present around the former laboratory. Surface soil samples were taken inside and outside the foundation walls, and subsurface samples were taken from hand-auger explorations inside the building.

The samples were analyzed for mercury and the results reported in a Hart Crowser letter report dated November 20, 1989.

2.6 Additional Mercury Investigations

Additional work on mercury use, extent, and risk will be performed. The following activities will be accomplished:

- A human health and ecological risk assessment using the existing and additional mercury data to evaluate potential risks due to mercury, and to determine risk-based remedial action concentrations;
- Sampling and analyzing soil around the laboratory to determine areas that exceed the risk-based concentration; and
- Sampling and analysis for mercury at other locations on the site, including other production areas with lead contamination and background locations.

The specific sampling and analysis plan(s) for this work will be submitted to Ecology for review, comment, and approval prior to implementing the work.

2.7 Site Characterization of Areas 5 and 6

Areas 5 and 6 cannot be characterized until drums and other debris have been removed from the steep slopes at these two locations. Weyerhaeuser and DuPont intend to conduct this source removal action during 1990 and 1991. A draft work plan that presents a detailed description of procedures for removal, survey, and segregation of the wastes was prepared by DuPont Environmental and Remediation Services and submitted to Ecology in July 1990. Weyerhaeuser and DuPont also provided Ecology with a work plan for independent oversight by Hart Crowser (including quality assurance of the field chemical testing, documentation of field screening test data, and weekly reporting to Ecology). Ecology has provided comments on these plans, and revisions have been made.

Concurrent with the source removal actions at Areas 5 and 6, a draft work plan for site characterization of the two areas will be prepared

and submitted to Ecology for review, comment, and approval. This plan will be submitted at least 30 days prior to the planned field sampling program and a final work plan incorporating Ecology's comments will be provided prior to any field work.

2.8 Other Investigations

Other investigations may be required based on the results of the remedial investigation, risk assessment, preliminary feasibility studies, and initial cleanup activities. Sampling and analysis of other areas may also be conducted if more refined definitions of the lateral and vertical extent of the contaminants are necessary for the FS. Sampling and analysis plans for other investigations will be submitted to Ecology at least 30 days prior to their respective field sampling program for review, comment, and approval.

As part of the RI/FS process, environmental resources at the site will be described and impacts to the resources will be analyzed.

To ensure that the intent of 43 CFR Part 11, Natural Resource Damage Assessment, will be addressed, a preassessment screening of all site resources will be conducted to analyze potential environmental sensitivities. The process will include preassessment screening, development and review of an assessment plan, quantification of effects, damage determination, and documentation of assessment results. Assessment results will be included in the FS report.

2.9 Former Black Powder Area Investigations

Detailed work plans will be developed to address lead concentrations in the Former Black Powder Area and concentrations of lead in surficial soils in areas outside the Former Black Powder Area. In such areas, appropriate remediation will be proposed if soil concentrations are determined to exceed potentially applicable cleanup standards.

A detailed work plan and schedule for interim action in the Former Black Powder Area will be submitted to Ecology for review, comment, and approval as required by the Consent Decree.1

3.0 RISK ASSESSMENT

A baseline risk assessment was performed for each of the 38 identified waste areas on the Former Du Pont Works Site to assess which areas require remediation and to develop cleanup levels appropriate for each area. The baseline risk assessment was performed in general accordance with EPA's 1989 Risk Assessment Guidance for Superfund, Human Health Evaluation Manual, and Environmental Evaluation Manual, using the five basic interrelated steps:

- Select indicator constituents;
- Estimate exposure point concentrations of indicators;
- Estimate potential human intake of indicators;
- Assess environmental and human health toxicity; and
- Characterize environmental and human health risk.

Based on the results of the site characterization, the indicator constituents were limited to six compounds or compound groupings; lead, monomethylamine nitrate (MMAN), trinitrotoluene and dinitrotoluene (TNT/DNT), nitroglycerine, PCBs, and carcinogenic and total polynuclear aromatic hydrocarbons (PAHs).

The baseline risk assessment considered several different types of potential future land uses at each of the areas, and their impact on the risk evaluation. The land use types considered included open space (e.g., existing conditions), and residential and industrial uses.

The Baseline Risk Assessment report has been submitted to Ecology. A summary of that report is presented below.

Baseline Risk Assessment Summary

In order to evaluate the potential human health and ecological risk posed by the identified contaminants, a risk assessment was conducted for each area on the property. The methodology utilized to perform the risk assessment was based on EPA and Ecology guidance, and combined scientific facts and assumptions to determine the likelihood that people may be sufficiently exposed to the identified chemicals to result in illness. The risk assessment considered the range of potential future land uses at the identified waste areas, including residential, commercial, and open space.

Based on the risk assessment, the chemicals which pose the greatest risks to public health and local ecology are HPAHs and lead. Potential risks from HPAHs and/or lead are primarily via direct soil ingestion exposure routes. HPAHs also exhibited a potential for risk via groundwater exposure, although the analytical basis for this conclusion is considered tenuous (based on limited chemical detections). Five areas contained detectable levels of 2,6-DNT.

Terrestrial and aquatic life ecological risks were qualitatively evaluated at the waste areas. Aquatic life risks were found to be minimal. Those areas that exceeded general public health risks, however, also exhibited a potential for limited wildlife impacts. As discussed in the baseline risk assessment, remediation of the areas to minimize human health risks should also be sufficiently protective of ecological risks.

Additional Risk Assessment

Future work will include a reevaluation of baseline risks throughout the entire site, consistent with current (i.e., 1991) Ecology and EPA guidelines and/or regulations under the MTCA and NCP.

4.0 FEASIBILITY STUDY

4.1 Purpose of this Feasibility Study Work Plan

This chapter of the Work Plan presents the rationale and scope of work for a feasibility study (FS) of identified waste areas located within the Former Du Pont Works Site. The purpose of the FS is to identify, develop, evaluate, and recommend appropriate remediation alternatives which will be protective of human health and the environment and meet applicable laws and regulations. Appropriate remediation objectives will be based on the results of the remedial investigation (RI) of the areas, including the baseline public health and ecological risk assessment. Remediation alternatives will also address Applicable or Relevant and Appropriate requirements (ARARs).

The FS Work Plan will be consistent with the Model Toxics Control Act (MTCA), WAC 173-340, and applicable U.S. Environmental Protection Agency (EPA) guidance documents relating to feasibility studies under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the Superfund Amendments and Reauthorization Act (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Since 1985, the Weyerhaeuser Company and their consultant, Hart Crowser, have identified a total of 39 areas on the property which could have received hazardous waste releases from previous uses. Each individual area ranges in size from less than one to several acres. Following site history reviews and field reconnaissance activities, a total of 33 areas were selected for site characterization studies, as described by Hart Crowser (1987) and ETI/Hart Crowser (1989). Evidence for the presence of hazardous wastes at the remaining five areas was lacking, and did not warrant further investigation. Supplemental investigations were conducted at Sites 38 and 39 in 1989.

4.2 Feasibility Study Scope of Work

The FS for the Former Du Pont Works property will include the following steps:

- Identification of remedial action objectives including:

- A risk assessment for the entire site, including risks to the largest exposure population;
- Objectives based on risk assessment; and
- Objectives based on ARARs.

▸ Development of alternatives including:

- Definition of areas and volumes requiring treatment;
- Summarizing RI data and preparing isopleth maps of key contaminants;
- Identification and screening of potential technologies; and
- Assembling various technologies into specific alternatives.

▸ Screening of specific alternatives including:

- Screening evaluation; and
- Selection of alternatives for detailed analysis.

▸ Detailed analysis of selected alternatives.

Each of these steps is discussed below. As per the terms of the Consent Decree, Ecology will be notified of all sampling and analysis activities and plans in advance, to allow Ecology to review, comment, and approve applicable plans and reports.

Task 1 - Treatability Studies

Representative soil materials will be collected from areas of the property which exhibit dangerous waste properties based on the TCLP lead determination. Based on existing data, and depending upon the outcome of additional data analyses, some areas may contain dangerous waste soils. Considering that many of these areas will exhibit similar chemical properties, several areas will be studied for treatability characteristics.

At each area, representative soils will be collected for testing. The samples will be prepared for compaction and chemical testing with varying mixtures of cement and silica-based additions, as well as untreated controls. Chemical testing will include TCLP lead and total lead analyses. The results of these evaluations will enable an assessment of alternative remediation designs.

A review of the treatability of HPAHs using bioremediation/landfarming techniques will also be performed during this task. Using data available in the literature on the degradation of individual HPAH compounds, predicted area-specific HPAH decay rates will be generated for standard landfarming conditions. These data will assist in the assessment of remedial alternatives at the areas.

Task 2 - Remedial Action Objectives

The identification of remedial action objectives (RAOs) will include an assessment of target contaminant concentrations in soil, water, sediments, and biological tissue necessary to achieve various levels of "acceptable" risk and to assure compliance with ARARs. Remediation goals given various individual routes of possible contaminant exposure will also be considered, including direct soil contact and ingestion, dust and vapor inhalation, drinking water consumption, fish and shellfish consumption, and wildlife impacts. Contaminant transport models developed in the RI will be utilized to link on-site soil quality with all exposure routes, since remediation of the soil medium may form the basis of many remedial alternatives.

Another important component in establishing RAOs at the Former Du Pont Works property is land use and its relationship to remediation objectives. The baseline risk assessment identified different exposure conditions for residential, open space, and commercial/industrial uses of the sites. The FS will consider future land uses of the property.

As discussed above, the RAOs are expected to develop directly from the results of the baseline risk assessment, as supplemented by additional evaluations of potential mercury risks. However, the process will also address ARARs and additional concerns communicated by the regulatory agencies (Ecology and DOH). The product of Task 2 will be a technical memorandum which presents preliminary RAOs based on the results of the site characterization work, risk assessment, and ARAR screening. After review and approval by Weyerhaeuser and Du Pont, the memorandum will be submitted to Ecology for review and comment. This task includes one interim meeting with Ecology to discuss RAOs prior to submittal of a Draft Feasibility Study Report. The remedial action objectives will also be an important factor considered in the screening of alternatives, as discussed below.

Task 3 - Identify Possible Remedial Action Technologies

The first step in the task is to define the areas and volume that require remediation. For each area a map will be prepared showing the distribution of key contaminants and the area requiring remediation. Isopleths (showing lines of equal contaminant contamination) will be drawn where possible.

The development of alternatives will include actions from relevant technologies and will include:

- Surface Treatment Technologies;
- Soil and Groundwater Treatment Technologies;
- Disposal Options;
- Institutional Controls;

- Sediment Remediation Technologies, if applicable; and
- No Action.

Due to the characteristics of the sites and the contaminants, certain technologies listed below warrant a close examination. These technologies will include but not be limited to the following:

- Groundwater Pumping/Water Treatment;
- Bioremediation/Landfarming of HPAHs;
- Incineration of Explosives;
- Waste and Debris Removal and Disposal (e.g., Site 5);
- Solidification/Stabilization of Lead; and
- Remediation of Sediments, if applicable.

In most cases, any given technology will not solely meet the ARARs or other remediation objectives. The assemblage of technologies into alternatives will combine those technologies necessary to meet the remediation objectives. Some alternatives, such as no action, are not expected to wholly meet the remediation objectives but are required by the process and will be considered throughout the process. The product of Task 3 will be a technologies table listing possible remediation technologies.

Task 4 - Screening of Technologies

The screening of technologies will produce a set of technologies that are potentially applicable to site remediation. Technologies will be screened based on their technical feasibility and implementability. That is, technologies that are not technically feasible -- usually because they either do not address the site contaminant or are not suitable for the site subsurface conditions -- will be eliminated. For the technology screening, relative cost will be used to distinguish between similar technologies. The product of Task 4 will be a table which lists and provides a basis for including the technologies to develop remedial alternatives.

Task 5 - Identify Possible Remedial Action Alternatives

Applicable remedial technologies screened in Task 4 will be used to develop a list of possible remedial action alternatives. The product of Task 5 will be a table which summarizes the alternatives and their application to the site conditions. Preference shall be given to permanent solutions to the maximum extent practicable, as defined in Chapter 173-340-360 WAC.

Task 6 - Screening of Specific Alternatives

The screening of specific alternatives will produce a subset of specific alternatives deemed suitable for further detailed analysis. The screening process will include a qualitative evaluation of alternative permanence, effectiveness, implementability, and cost. (In general, technically infeasible alternatives will have been eliminated by screening out technically infeasible technologies.) The most important criteria will be permanence, effectiveness, and implementability. Cost will be considered at this stage only if there is a clear disadvantage.

The alternatives with the highest qualitative evaluations will be considered for further analyses. The no action alternative will be continued to the detailed analysis stage.

An interim technical memorandum discussing the alternative screening will be prepared for review which includes the tables and appropriate discussion to support the alternatives proposed for detailed evaluation in Task 7. In addition, at least one interim meeting with the regulatory

agency review group will be scheduled to discuss the alternative screening prior to submittal of the Draft Feasibility Study Report.

Task 7 - Detailed Analysis of Selected Alternatives

The detailed analysis of the selected alternatives will address conceptual engineering of the alternatives, and will also consider the permanence, effectiveness, implementability, and cost of the alternatives. In addition, the anticipated state and community acceptance of the alternatives will be considered. This evaluation will be qualitative although some quantification is necessary (e.g., costs). A recommended alternative for each site will be selected at the completion of this detailed analysis.

Task 8 - Feasibility Study Report

The results of the FS will be summarized in a report that will include the following sections:

- Nature and Extent of Problem (based on risk assessment);
- Objectives of Remedial Action;
- Identification of Technologies;
- Technology Screening Methods and Criteria;
- Summary of Technology Screening;
- Assembled Technologies (Alternatives);
- Alternative Screening Methods and Criteria;
- Summary of Alternative Screening;
- Detailed Analysis Methods and Criteria; and
- Summary of Detailed Analysis.

A Draft Report will be submitted to Ecology for review and comment. After receipt of the agency comments, the draft Final Report suitable for public distribution, review, and comment will be prepared.

5.0 COMMUNITY RELATIONS

Community relations activities will include the following elements:

- Detailed Fact Sheet describing the alternatives studied and the evaluation process;
- Public Notice describing the alternatives and announcing the availability of the draft final feasibility study;
- Informal meetings (if necessary);
- Public meeting (if necessary);
- Fact sheets describing activities occurring at the site during the remedial investigation and feasibility study phases.
- Public Notice via the Site Register of major activities and completion of documents which are available for public review; and
- Development of a site-specific Public Participation Plan.

REFERENCES

ETI/Hart Crowser, 1989, Baseline Risk Assessment, Dupont Works Property.

Hart Crowser, 1987, Site Characterization Report, Phase II Sampling and Analysis, Former Du Pont Works, Dupont, Washington, prepared for Weyerhaeuser Company and Du Pont Company, J-1747-28, August 10, 1987.

Hart Crowser, 1988, Hydrogeologic and Water Quality Assessment, Former Du Pont Works, Dupont, Washington, J-1747-40, May 13, 1988.

EXHIBIT B - SCHEDULE

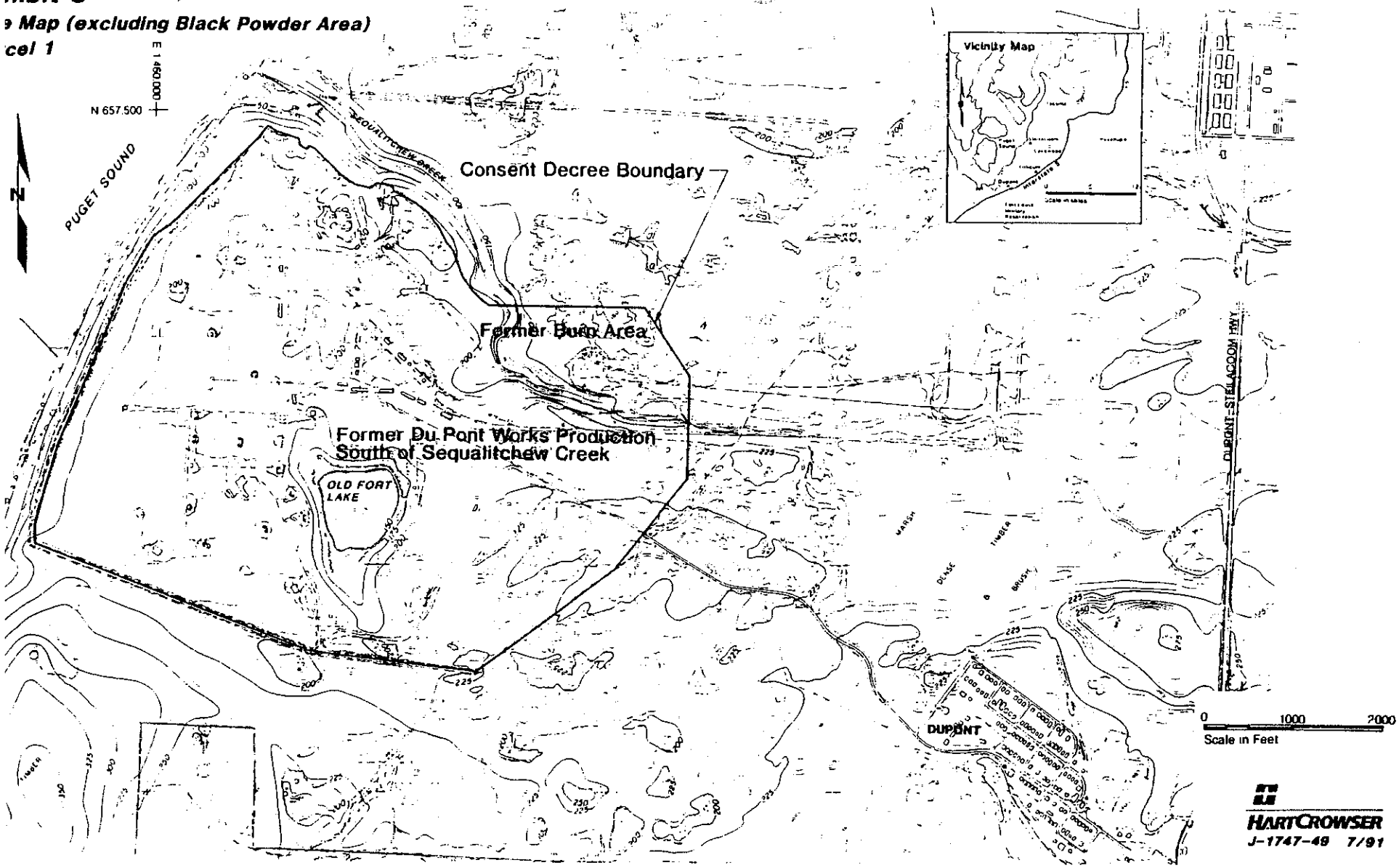
Work Element	Completion Date[1]
Phase I - Remedial Investigation (RI) Site Survey and Review	September 1986
Phase II - RI Site Characterization Report	August 10, 1987
Hydrologic and Water Quality Assessment	May 13, 1988
Results of Second Quarterly Groundwater Sampling	September 9, 1988
Results of Third Quarterly Groundwater Sampling	November 18, 1988
Results of Fourth Quarterly Groundwater Sampling	February 28, 1989
Results of First Interim Groundwater Sampling	January 18, 1990
Results of Second Interim Groundwater Sampling	April 3, 1991
Baseline Risk Assessment	May 1989
Draft Remedial Investigation/Feasibility Study (RI/FS)	24 months after effective date of Consent Decree
Ecology's comments on Draft RI/FS	90 days after submittal of Draft RI/FS
Draft Final RI/FS	60 days after receipt of Ecology's comments

[1]Dates denote when the particular element was actually completed.

hibit C

e Map (excluding Black Powder Area)

cel 1



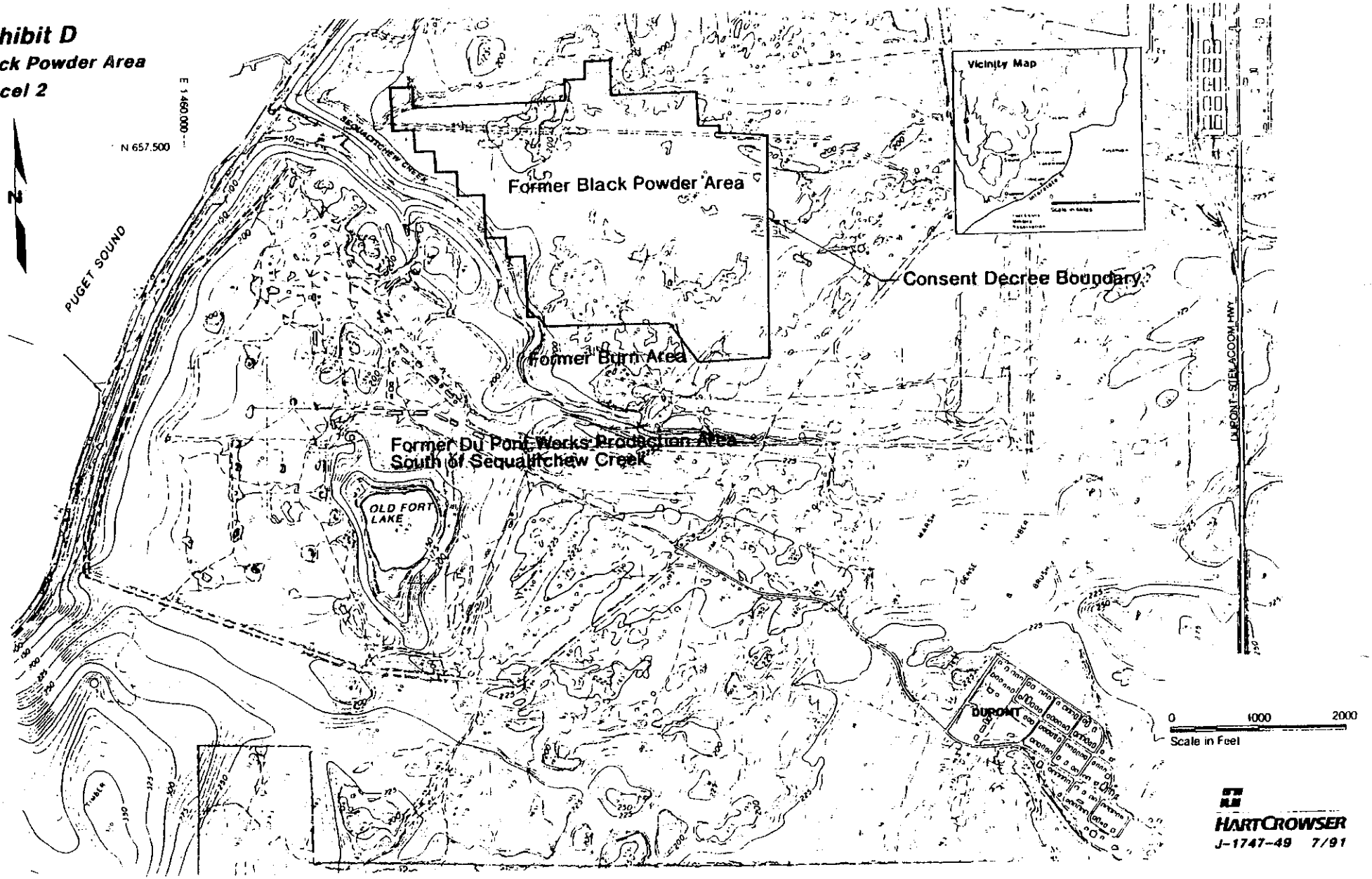
HARTCROWSER

J-1747-49 7/91

Exhibit D

Black Powder Area

Parcel 2



HARTCROWSER

J-1747-49 7/91

#18666

AFFIDAVIT OF POSTING

1700 Civic Drive
DuPont, WA 98327
www.dupontwa.gov

Phone (253) 964-8121
Fax (253) 964-1455

Application # PLNG 2018-008 & -009 and/or Case #_____

I, JEFF CURRIE applicant/applicant's agent for the above referenced project number, being duly sworn on oath, deposes and says: That on the 22 day of AUGUST, 2018 I posted a notice, prominently displayed, at the site.

Site/Project Description: DuPont Industrial Park Type III Site Plan Review and SEPA Environmental Review

Signed By

Notarization/Certification

(Seal or Stamp)

MARGI FOSDICK
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES 12-19-20

State of Washington, County of King

Signed or attested before me this 22nd day of August, 2018.

X
Signature of notary public

Margi Fosdick
Printed or stamped name of notary public

FILE NO.: plng2018-008, 009 & 047
APPLICANT: Eric Cederstrand
DuPont Industrial Partners, LLC

DECLARATION OF POSTING
CITY HALL NOTICE BOARD

On the 27 of August, 2018, the attached revised Notice of Application Related to City of DuPont File No. PLNG2018-008, 009, 047 was posted on the City of DuPont public notice board.

I, Janet Howald, hereby declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct this of 27 of August, 2018 at DuPont, Washington.

Signed: Janet Howald

CITY OF DUPONT
Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

STATE ENVIRONMENTAL POLICY ACT

MITIGATED DETERMINATION OF NONSIGNIFICANCE (MDNS)

DUPONT INDUSTRIAL PARK

City File Nos. PLNG 2018-008, -009, -047

Description of proposal: Construct one office/warehouse building totaling approximately 255,000 square feet on approximately 25.29 acres of vacant land. The proposal includes extending Sequalitchew Drive to the north through the property and dedication of the right of way to the City, effectively creating two parcels, one on each side of the right of way. Following dedication the east parcel will be approximately 5 acres and the west parcel will be approximately 16.91 acres. The proposed building and all associated improvements are located on the west side of Sequalitchew Drive with no improvements planned to the east. The project will include grading, drive aisles and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, and franchise utility improvements. Tree removal will be required including removal of one landmark Oregon white oak tree located within the proposed right of way of Sequalitchew Drive.

The proposal will include the relocation of a portion of the existing Sequalitchew Creek Trail that is currently (informally) located on the property, to the location of an existing public trail easement. The new trail segment will be paved and fenced, restricting public access outside of its path, and dedicated to the City for ongoing ownership and maintenance.

The property is the location of a designated historical area and marker and there may be other potentially significant historical or cultural resources on the site or in vicinity. The applicant will dedicate approximately 1.53 acres to the City and construct a historical commemorative area adjacent to the new trail segment for public viewing.

The property is a known to contain contaminated soil above current MTCA Method A cleanup levels for unrestricted land use. It is subject to the terms of a Consent Decree between Washington State Dept. of Ecology and Weyerhaeuser Company and DuPont Company entered by Thurston County Superior Court on July 22, 1991 pertaining to cleanup of the contamination on the property. It is also subject to a Restrictive Covenant that limits the use of the property.

Proponent: Eric Cederstrand, DuPont Industrial Partners, LLC

Location of proposal: 1700 Center Drive, tax parcel no. 011926-2019, in the NW ¼ of Sec. 26, Twn. 19N, Rg 1E, W.M. in Pierce County, Washington.

Lead agency: City of DuPont

The Responsible Official hereby makes the following findings and conclusions based on a review of the environmental checklist and attachments; comments received from City Departments; other information on file with the City and the policies, plans and regulations designated by the City of DuPont as a basis for the exercise of substantive authority under RCW 43.21C.060. The Optional DNS process in WAC 197-11-355 is being used. A Notice of Application was issued on August 22, 2018 with a 14-day comment period. Comments

Attachment 9.d. SEPA MDNS issued on February 20, 2019

received from agencies and the public were reviewed and considered in the findings and conclusions of this Determination.

The lead agency has determined that the requirements for environmental analysis and protection have been adequately addressed in the development regulations and comprehensive plan adopted under chapter 36.70A RCW, and in other applicable local, state, or federal laws or rules, as provided by RCW 43.21C.240 and WAC 197-11-158, and/or mitigating measures have been applied that ensure no significant adverse impacts will be created.

Responsible Official: Jeffrey S. Wilson, AICP
Community Development Director
City of DuPont

Contact Information: City of DuPont | 1700 Civic Drive, DuPont, WA 98327 | 253-912-5393

FINDINGS

This determination is based on the following findings and conclusions:

1. The site is currently vacant land comprised of one tax parcel totaling 25.29 acres. The proposal will create two lots through the dedication of right of way. The portion of the property west of the future right of way comprises the development footprint, which is approximately 16.3 acres (usable area).

2. Earth – The site is largely flat in the central areas and contains steep slopes greater than 40% along the south. The steep slopes are classified as a critical slope/geologic hazard area and require a 50-foot setback from the top of the slope. All industrial development is located outside of the setback with the exception of a retaining wall foundation. A portion of the relocated trail (in existing easement area) falls within the 50-foot slope setback. The soil type is Spanaway (41a) according to the Soil Survey of Pierce County. Approximately 9,800 CY of cut and 42,000 CY of fill will be used to prepare the site for building construction. Approximately 24,000 CY of stripping material will be removed from the site. Approximately 75 percent of the site (80 percent of the usable area) will be impervious surfaces. The City will require a temporary erosion and sedimentation control plan (TESC) be prepared with site development permits to control erosion on the site. Design and construction will be required to follow the recommendations of the geotechnical engineer. Additional geotechnical engineering recommendations are needed for new trail construction within the steep slope setback.

3. Air – Emissions during construction are related to construction vehicles and dust. Emissions post construction will be related to truck and vehicular traffic. The City will require construction equipment be maintained and in good working condition. Watering down areas during construction will assist in controlling dust.

4. Water – The property is adjacent to the north of Sequalitchew Creek, a fish-bearing stream. The proposed building, parking and access driveways are located outside of the City code-required 100-foot buffer.

   A small portion of the new trail segment falls within the 100-foot Sequalitchew Creek buffer. The alignment largely follows an existing trail easement that was established in 1990. DuPont Code 25.105.050.B.2(c) provides regulations for trail construction within stream buffers and requires that buffer expansion is provided equal to the amount of buffer disturbance. A Critical Areas Report will be required to be prepared by a qualified professional, which addresses the buffer disturbance/expansion and provides recommendations to ensure no net loss of stream functions due to approved alterations. The required TESC plan will provide mitigation measures to ensure construction activities do not cause erosion impacts to the stream.

Stormwater runoff will be collected and conveyed through catch basins and storm pipe for water quality treatment prior to entering the proposed infiltration system. The improvements will be designed following the requirements of the Department of Ecology Stormwater Management Manual for Western Washington (2012 version with 2014 amendments), as adopted by the City of DuPont.

Department of Ecology commented on the proposal on September 12, 2018 with specific recommendations for erosion control. The recommendations are included in the SEPA Mitigation Measures.

5. Plants – The property contains, grass, shrubs, and deciduous and evergreen trees, including Douglas fir and Oregon white oak trees. Vegetation around the building and parking areas will be removed and the new development will be landscaped in accordance with the City's landscaping requirements. The applicant submitted a Landscaping and Tree Retention, Removal and Replacement Plan set prepared by Barghausen Consulting Engineers that depicts tree locations, identifies trees proposed for removal and provides new landscaping and tree replacement. The applicant also provided a Tree Retention Plan prepared by Washington Forestry Consultant's (WFC). There are approximately 774 trees on the site; 76 are landmark trees (Oregon white oak, Pacific yew, and Pacific madrone 24 inches DBH and larger, or Douglas-fir, western redcedar, bigleaf maple, and western hemlock that are 30 inches DHB and larger). The proposal plans to retain approximately 27 healthy landmark trees and remove 49 landmark trees because they are unhealthy or located within the proposed development area or roadways. No tree removal is proposed on the remnant parcel east of the Sequalitchew Drive extension. One of the landmark trees to be removed is an Oregon white oak tree that is located within the proposed right of way of the roadway extension. Landmark oak tree removal is required to follow a Type III land use process with a decision ultimately made by the City's Hearing Examiner. Tree protection measures are required per City code, in addition to those included in the WFC Tree Retention Plan.

   Parking lot landscaping is provided and screening landscaping is provided between Sequalitchew Drive and the building and parking areas. Additional landscaping is required to buffer and mitigate impacts to the public trail, abutting residential areas and adjacent critical areas.

6. Animals – Washington Dept. of Fish and Wildlife lists several priority habitats and species as being located within or adjacent to the property. None of the species are federally-listed as endangered or threatened. Priority Habitat Species include the Big brown bat, Little brown bat, and Yuma myotis bat. Associated with Sequalitchew Creek are Coho salmon, Cutthroat trout, Resident coastal cutthroat trout, and Summer chum salmon. Additional information regarding potential nesting locations of Priority Habitat Species and Habitats onsite or within the vicinity is needed. If nests are found, WDFW shall be consulted prior to any site development for construction-related mitigation measures required for their protection.

7. Environmental Health – The site is the former location of the DuPont Powder Works Company and is located within the Asarco plume boundary. Excavation and remediation of contaminated soils has been completed at the project site in accordance with the terms outlined in the 1991 Department of Ecology Consent Decree No. 91-2-01703-1. The cleanup of the soils has resulted in residual concentrations in portions of the property of hazardous substances which exceed the soil and groundwater cleanup levels specified in the Washington Model Toxics Control Act ("MTCA"). Land use of the property is therefore limited to industrial purposes per the 1999 Department of Ecology Restrictive Covenant (Recording #9910290750).

   The proposed extension of City ROW (Sequalitchew Drive) will incorporate historical commemorative signage along the Sequalitchew Creek trail that is within the Consent Decree/Restrictive Covenant area. The trail will be paved, fenced and signed to restrict users to stay on the paved trail.

Department of Ecology commented on the proposal in their letter dated Sept. 12, 2018. Ecology recommends a soil remediation plan and entrance into the Voluntary Cleanup Program prior to issuance of site development permits, followed by obtaining a No Further Action Letter from Ecology.

8. Noise – On a short term basis, noise from construction activities would be present from approximately 7 am to 6 pm, Monday through Friday, as regulated by DuPont Municipal Code (DMC) Chapter 9.09. Construction noise will likely be audible to the public from the Sequalitchew Creek Trail. Construction equipment will be required to be maintained and the project shall meet the City's noise ordinance limitations. Restrictions on weekend construction will be required.

   On a long term basis, noise from vehicular and truck traffic to and from the site, and truck maneuvering onsite, will likely be audible to the public trail users during possible operation hours of 24 hours per day, 7 days a week. The adjacent and onsite trees and landscaping will buffer some noise impacts created by the development.

   A noise study should be completed to determine if additional noise mitigation measures are required to mitigate noise impacts to the trail users and wildlife from development. A sound wall and additional landscaping may be required as well as other operational limitations to ensure noise-generating activities are restricted to the interior of the building only. Truck back-up beepers are required to be minimized to the greatest extent possible while ensuring safety and meeting federal requirements.

9. Land Use – Property to the north is a gravel mine. To the west is vacant land and Sequalitchew Creek. To the south is Sequalitchew Creek. To the west is the Creekside Apartments, a large residential community. The proposal is a permitted use within the Manufacturing and Research Park (MRP) zoning district and is the type of use contemplated in the City of DuPont Comprehensive Plan and the 1999 Department of Ecology Restrictive Covenant. According to the SEPA Checklist, approximately 90 employees will work at the completed development.

10. Light and Glare – Building and parking lot lighting is proposed, however lighting details were not provided. Lighting shall be mitigated so as minimize to the greatest extent possible impacts to the use and enjoyment of the Sequalitchew Creek Trail. Lights shall have full cut-offs and shields and be directed downward and inward. A photometric analysis shall be provided demonstrating no light spill to the trail or outside of the developed portion of the property caused by onsite development. Exceptions shall be made for impacts caused by the street lighting of Sequalitchew Drive that is necessary for safety. Depending on the results of the photometric analysis, the height of light poles may need to be limited on the southern boundaries of the property.

11. Historic and Cultural Preservation – The site has been the subject of numerous archaeological and cultural resources studies due to the documented history of events and activities that occurred either on the site or nearby. It currently contains a historical marker commemorating the location of the c.1840-1842 Methodist Mission. Historical events that are known to have occurred either onsite or within the immediate vicinity that are listed in the Cultural Resources Report dated April 14, 2011 by Parus Consulting (Parus Study) include, among others:

    - Historic 1843 Fort Nisqually
    - Historic DuPont munitions plant, ca. 1906
    - Historic Hudsons's Bay house, ca. 1845-1869
    - Pre-Contact Nisqually Indian Burial Site
    - Historic 1840-1842 Methodist Episcopal Mission
    - Historic 9th U.S. Cavalry Bivouac, Camp Nisqually, 1904

    Archaeological monitoring occurred during soil remediation between 2001 and 2004. The Parus study included archaeological pedestrian and subsurface surveys to include 125 shovel probes and 22

geological test pits. The work was monitored by the Nisqually Tribe and produced minimal evidence. The study concluded that no significant cultural properties will be affected by the proposed project and no further cultural resource action is warranted with the exception of implementation of an Unanticipated Cultural Resources Discovery Plan for construction activities, which was provided as Exhibit E to the Parus Study.

The City received several comments during the public comment period on the application regarding the protection of historic and cultural resources. The Nisqually Tribe commented on August 28, 2018 that they have no further information or concerns and wished to be informed if there are any Inadvertent Discoveries of Archaeological Resources/Human Burials. The Tribe also commented after the conclusion of the comment period that the areas cultural resources, and others in the area, need to be recognized, documented, and protected both during project planning and any subsequent development. The Tribe will continue to consult with the City on planning and development issues that impact these resources. Washington State Department of Archaeological and Historic Preservation (DAHP) commented on the proposal after the close of the comment period on September 14, 2018 with questions regarding relocation of the Methodist Mission marker and interpretive signage proposals commemorating the 9th U.S. Calvary Buffalo Soldiers. They also questioned plans for retaining a section of narrow gauge railroad that is located on the property.

The applicant convened a stakeholder group of interested parties, including the Nisqually Tribe and DAHP, to discuss interest in permanent commemoration of the history onsite. The applicant is proposing to provide 1.53 acres to the City, a portion of which would be for a historical plaza that contains seating and signage commemorating the site's historical and cultural significance. The applicant would relocate the Methodist mission marker, provide benches for seating and viewing that would extend from the Sequalitchew Creek Trail and be visible from the future Sequalitchew Drive right of way. The applicant would also provide area for construction of a replica of the Methodist mission school to be completed by others. The land for the interpretive area would be dedicated to the City as part of the Sequalitchew Road right of way. The concept for the proposal was provided and is part of the SEPA record.

Signage is to be provided commemorating the six historical and cultural significant events listed above with final review and approval by the City in consultation with DAHP and the Nisqually Tribe. The applicant, City, the DuPont Historical Society and one recognized representative from each of the associations representing the historical events, will collaborate to develop the appropriate historical details and design of the signage.

The proposal entails new excavation of soil; therefore, the measures identified in the Memorandums of Agreement (MOAs) between (1) Weyerhaeuser Real Estate Company (WRECO), the City of DuPont, and the Washington State Historic Preservation Office (now DAHP) regarding the discovery of cultural resources within the City of DuPont, and (2) WRECO and the Nisqually Tribe regarding the discovery of Native American burials. The proponent shall follow the provisions of the MOAs during all construction phases of the development.

12. Transportation – The proposal will extend Sequalitchew Drive from the existing cul de sac northerly along the property frontage. Access will be provided via a single driveway from Sequalitchew Drive, which extends westerly from Center Drive. Sequalitchew Drive is a three lane, east-west roadway with curb, gutter and sidewalk that borders the east side of the property. Sound Transit currently stops at DuPont Station, approximately 2 miles east of the site.

    a. The proposal will provide approximately 215 vehicular parking spaces.
    b. A Traffic Impact Analysis (TIA) was prepared by Heath and Associates dated March 2018. The proposal will generate approximately 444 vehicular trips during the typical weekday with 43 trips during the AM peak hour and 49 trips during the PM peak hour. Approximately 39 to 129

heavy truck trips are anticipated on a typical weekday. The TIA does not recommend any mitigation measures for the proposal.

c. The TIA was peer reviewed by Geralyn Reinart, PE, the City's Traffic Engineering Consultant. In her memorandum dated June 6, 2018 she concludes that the impacts for the project will be fairly limited, i.e., the number of trips generated is relatively small thereby limiting the impacts to adjacent intersections. She recommends that an exclusive left-turn lane be provided on Sequalitchew Drive at the site access to serve the proposal's entering vehicles. Pedestrian signage and markings for crossing Sequalitchew Drive are also recommended.

13. Public Services – All utilities are available to serve the proposal. Fire impact fees, stormwater and water system development charges and new fire hydrants will reduce impacts to public services. Relocating and paving the Sequalitchew Creek Trail will provide needed access for emergency vehicles to the Trail, the Puget Sound Shoreline, and the Burlington Northern Railroad located adjacent to the shoreline.

MITIGATION MEASURES

1. The project design and construction shall comply with the recommendations of the Geotechnical Engineer as described in the October 2011 Geotechnical Report and May 11, 2018 Addendum, and as subsequently amended. The May 2018 Geotechnical Report Addendum shall be amended to provide recommendations for trail construction within the steep slope buffer. The May 11, 2018 memo shall also be updated to identify the City's current stormwater manual and to update any stormwater recommendations from the 2011 report.

2. Construction of the project shall ensure that at no time will any segment of the Sequalitchew Creek trail be closed to public access and at all times the trail will be safe for public use. The following is required:

    a. The new trail alignment shall be constructed and open for use prior to any site work.
    b. The new trail alignment shall be fully fenced and signed prior to opening to public use.

3. A noise study shall be prepared. Prior to construction the existing ambient noise levels shall be measured. Within six months of occupancy, the noise study shall be updated to include measurements taken from three points along the trail. Noise at the property line shall not exceed the existing ambient noise levels post development. If needed, additional sound mitigation measures may be required as recommended and approved by the City. Operational requirements include keeping bay doors closed, requiring all Industrial activities that generate noise to occur inside the building, and limiting the use or volume of rear back-up beepers on trucks to the greatest extent possible while meeting safety and federal requirements.

4. The area proposed for development is within an area that was the site of several significant historical and cultural events/activities and may contain both tribal and nontribal cultural resources. Together with the dedication of road right of way, approximately 1.53 acres to the west of Sequalitchew Drive shall be dedicated to the City as right of way (ROW) for the development of a public historic commemorative area consistent with the Right of Way Dedication Exhibit dated November 28, 2018. Dedication of the right of way and historic area shall occur prior to application of the site development/civil permit.

The following mitigation measures shall be provided for in the final design plans and approved by the City prior to issuance of any site development/construction permits:

5. The applicant has included in their proposal dedication of approximately 1.53 acres of land for a public historic commemorative area that will be viewed from the Sequalitchew Creek Trail. The following requirements pertain to the design and use of the commemorative area:

a. Public use of the historical commemorative area and trail will require additional parking. At least four of the onsite parking spaces shall be allowed for public use for trail commemorative plaza parking, with one of the spaces meeting ADA requirements. These parking spaces shall be located outside of the site's secured area for public access. Denote the public parking areas on the plans.

b. In the historical commemorative area, a 4-foot tall split rail fence shall be designed to accommodate viewing and support of the commemorative signage. The fence detail and design provided in the Historic Mitigation Exhibit shall be revised. The fence shall incorporate enlarged posts made of a solid base such as concrete or river rock to support the commemorative plaques. The fence slats shall be wood or wood in appearance, not galvanized chain. The fence detail, design and materials shall be submitted to the City for approval prior to issuance of the site development permit.

c. At least four benches shall be provided in the historical commemorative area. They shall be designed to reflect the historic and natural environment and materials of a type that minimize damage from vandalism. The design and materials shall be submitted to the City for approval prior to issuance of the site development permit.

d. The historical marker for the Methodist Mission shall be relocated from its existing location to the historical commemorative area where it can be easily viewed from the trail. The applicant shall work with DHAP regarding the relocation of the monument. A location for a future historical school house shall be provided, however the cost of construction will be provided by others. Per DMC 25.80.030, the Methodist Mission marker must be located greater than 50 feet from a road, structure or utilities. As a future structure, the location for the future school house will also need to be located at least 50 feet from the marker. Note that the definition of structure does not include walls or fences less than 6 feet in height.

e. Washington State Department of Historical and Archaeological Preservation has indicated an interest in retention of a section of narrow gauge railroad track that is located on the property. The track must be removed from the property for safety purposes. The applicant shall work with the DuPont Historical Society and DAHP for the relocation/removal of the track.

6. The following requirements pertain to the Sequalitchew Creek Trail design:

a. The Sequalitchew Creek trail shall be paved from the point it connects to the new Sequalitchew Drive extension to the existing improved City trail section and shall match the width of the existing paved trail. The trail shall be widened at its connection point with the sidewalk in Sequalitchew Drive to incorporate the remnant area to the south. Provide a trail cross section on the plans. The new trail design and construction shall follow any recommendations provided in the Critical Areas Report for protecting Sequalitchew Creek Trail and area wildlife from being impacted.

b. The new segments of the Sequalitchew Creek trail shall be fenced on both sides with a permanent 4-foot wide split rail fence made of wood or materials with a wood appearance to be reflective of the historical character and sensitive area. The fence details shall be provided by the applicant for approval by the City.

c. As determined by the City, the applicant may be required to install construction fencing to protect the public during site construction.

d. Any part of the construction site that is visible from the trail shall be screened by a 6-foot high sight obscuring chain link fence. Fence type shall be determined during the review of the project plans.

e. Signage shall be placed on either side of the trail denoting "Environmentally Sensitive Area, Do Not Enter" at intervals to be approved by the City. The signage details shall be submitted to the City for review and approval prior to issuance of the site development permit.

7. The following requirements pertain to protection of critical areas:

a. A Critical Areas Report shall be prepared by a qualified professional to address and calculate the stream buffer disturbance/expansion area required by trail construction and provide recommendations to ensure no net loss of stream buffer functions due to approved alterations. The report shall also address priority habitats and species within and adjacent to the development area including nests. If priority species nests are located on the property construction shall meet the recommendations provided by Washington Department of Fish and Wildlife. Buffer expansion areas shall be cleared of invasive species and planted with native vegetation. Plantings are encouraged adjacent to the edge of the trail to keep the public on the trail. The report shall include construction methods and equipment needed to mitigate impacts to the buffer area. The least impactful construction techniques and equipment shall be used. The report shall be reviewed and approved by the City prior to issuance of permits for trail construction.

b. As an alternative to the preparation of the Critical Areas Report and expansion area plantings, the proponent may propose relocating the trail so that it falls entirely outside of the stream buffer and within the area to be dedicated to the City. The alternative alignment shall be provided to the City for review and approval, and any other affected agencies, prior to issuance of the site development permit.

c. No disturbance or activity shall occur in the stream buffer, with the exception of the proposed trail construction, trail fencing and signage and the installation, maintenance and monitoring of the mitigation plantings (as recommended by a qualified biologist and as approved by the City).

d. The following best management practices are required to minimize development impacts to Sequalitchew Creek and shall be provided for in the TESC and final design:

i. All new, untreated runoff shall be routed away from the stream and slopes.
ii. Channelized flow from landscaping shall be prevented from entering the stream buffer.
iii. New runoff from impervious surfaces and new landscaping shall be infiltrated, treated, detained and/or dispersed. No runoff from the trail may cause erosion.
iv. Dust control measures shall be in place prior to construction.

8. To mitigate noise and light impacts to the users of the Sequalitchew Creek Trail and wildlife, screening and buffering of the project from the historic placard area and the trail shall be provided in the form of an 8-foot tall solid wall along the southern boundary of the easterly parking lot and drive aisle where the industrial activities will be visible and audible. The design and materials for the wall shall blend in with the natural environment. Wall heights shall be reduced to six feet where they are located either on the property line or within setbacks. Landscaping shall be provided to soften the appearance of the wall in the form of hedge-like trees and shrubs. The wall and landscaping shall extend from the driveway at Sequalitchew Drive to the point where the trail extends off-site, a distance of approximately 500 feet. Wall details and location shall be reviewed and approved by the City. Alternatively, the applicant may

propose other measures for noise and light mitigation for City approval that provides equivalent mitigation for light and noise impacts.

9. Site lighting shall not encroach outside of the hard surface area of site development. No light spill shall be allowed to the trail or outside of the development footprint, other than spill caused by street lighting on Sequalitchew Drive. Lights shall be LED and fixtures shall have full cut-offs and shields and be directed downward and inward to the site development. A photometric analysis shall be provided depicting light locations and light spill levels at the trail and development footprint. Depending on the results of the photometric analysis, the height of light poles on the southern boundaries of property may need to be limited to protect the trail from light spill caused by on-site lighting. The City shall approve the site lighting plan to ensure that no light spill occurs outside of the hard surface of site development.

10. City code requires tree retention adjacent to the right of way and residential areas. Tree retention adjacent to critical areas is also vital. Additional plantings are required between the south property line and the 10-foot grading buffer. The type of native vegetation to be provided shall be recommended by a qualified biologist.

11. Retained trees are to be protected following the measures outlined in the WFC Tree Retention Plan dated August 9, 2018 (or as updated) and as amended by the City, below. These mitigation measures shall be placed on the civil plans and the landscape plans:

    a. Trees to be saved ("save trees") must be protected during construction by a six foot high temporary chain link fence, located 5 feet outside of the drip line of the trees. Signage shall be placed on the fencing every 50 feet indicating the words, "No Trespassing- Protected Trees". The individual critical root zones (CRZ) are a radius of one foot for each one inch of diameter at breast height (DBH) (6 feet minimum), unless otherwise delineated by WFCI or the City arborist.
    b. Tree protection fences should be erected after logging but prior to the start of clearing. The fences should be maintained until the start of the landscape installation.
    c. There should be no equipment activity (including rototilling) within CRZ. No irrigation lines, trenches, or other utilities should be installed within the CRZ. No irrigation lines, trenches, or other utilities should be installed within the CRZ. Cuts or fills should impact no more than 25% of a tree's root system. If topsoil is added to the root zone of a protected tree, the depth should not exceed 2 inches of a sandy loam or loamy fine sand topsoils and should not cover more than 25% of the root system.
    d. If roots are encountered outside the CRZ during construction, they should be cut cleanly with a saw and covered immediately with moist soil. Noxious vegetation within the critical root zone should be removed by hand. If a proposed Save Tree must be impacted by grading or fills, then the tree should be re-evaluated by WFCI to determine if the tree can be saved with mitigating measures, or if the tree should be removed. No Save Trees may be removed without prior City approval.

12. The following requirements pertain to roadway improvements:

    a. An exclusive left-turn lane shall be provided on Sequalitchew Drive at the site driveway to serve entering vehicles. The locations and design shall be reviewed and approved by the Public Works Director.

    b. A pedestrian crossing of Sequalitchew Drive shall be provided at the west end of the existing cul-de-sac. The location and design shall be reviewed and approved by the Public Works Director prior to issuance of site development permit.

c. Directional signage for the trail shall be provided on Sequalitchew Drive. The signs and their locations shall be reviewed and approved by the Public Works Director prior to issuance of site development permit.

d. Signage shall be provided at the intersection of Sequalitchew Drive and Center Drive restricting truck traffic exiting Sequalitchew Drive from turning right onto Center Drive (Left Turn only). The signage and locations shall be reviewed and approved by the Public Works Director prior to issuance of site development permit.

e. An Autoturn Analysis shall be provided demonstrating that truck turning movements entering and exiting Sequalitchew Drive can be accommodated without impacting the Center Drive or Sequalitchew Drive center medians. If impacts are unavoidable, revisions to the median(s) are required to accommodate truck turning radius.

13. A note shall be placed on the civil plans informing the contractor that construction activities are subject to the Unanticipated Cultural Resources Discovery Plan, Appendix E, of the Cultural Resources Report prepared by Parus Consulting dated April 14, 2011. The signs and their locations shall be reviewed and approved by the Public Works Director.

The following mitigation measures shall be in place <u>prior to issuance of site development permits</u>:

14. A haul route plan for the clearing and grading shall be approved by the City prior to issuance of construction permits.

15. A temporary erosion control plan will be prepared per City of DuPont standards and implemented for the project to reduce and control erosion impacts. The recommendations in the Department of Ecology letter dated September 12, 2018 shall be addressed.

16. The project will be required to obtain a Construction Stormwater General Permit (CSWGP) from the Washington State Department of Ecology. When applying for coverage under the CSWGP, check the appropriate boxes for known contamination of soil and groundwater on the Notice of Intent (CSWGP application) and provide Ecology with the additional information outlined in their letter dated September 12, 2018.

17. A five-year maintenance, monitoring and contingency plan shall be prepared by a qualified biologist for the stream buffer enhancement plantings and shall contain the following elements:

    a. General goals of the mitigation/stream buffer replacement plan including a discussion of the function and values of impact and enhancement areas;
    b. Approximated site topography before and after alteration;
    c. Location of proposed mitigation area (include a north arrow and scale);
    d. General hydrologic patterns on the site before and after construction;
    e. General plant selection and justification, planting instructions, and approximate planting sequencing and schedule;
    f. A maintenance plan;
    g. A monitoring and contingency plan. Monitoring is to occur a minimum of five years.
    h. Estimated costs for the installation, maintenance, and monitoring phases of the project. Separate estimates shall be prepared for the installation phase and monitoring and maintenance phase of the project; and
    i. Address and phone number of person or organization responsible for monitoring requirements.

18. The applicant shall post a maintenance and monitoring financial guarantee in a form and amount determined sufficient to guarantee satisfactory performance of the mitigation plan. The city shall release the security upon determining that the effectiveness and success of the mitigation plan has been completed satisfactorily.

19. The following measures are required prior to issuance of site development permits or the initiation of grading, filling, or clearing:

    a. Develop soil remediation plan and enter into the Voluntary Cleanup Program with Ecology. For more information on the Voluntary Cleanup Program, visit Ecology website at: https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program.
    b. Obtain an opinion letter from Ecology stating that the proposed soil remediation plan will likely result in no further action under MTCA. The applicant shall provide to the local land use permitting agency the opinion letter from Ecology.
    c. Prior to finalizing site development permits, provide the City a copy of the "No Further Action" determination from Ecology indicating that the remediation plans were successfully implemented under MTCA. Contaminated soils generated during site construction shall be managed and disposed of in accordance with state and local regulations, including the Solid Waste Handling Standards regulation (Chapter 173-350 WAC). For further information about soil disposal.

The following mitigation measures shall be in place <u>during construction</u>:

20. Construction activity will be audible from the Sequalitchew Creek Trail, which is heavily used. No construction activity will be allowed on the weekends without prior City approval. Request shall be submitted at least two weeks in advance and if approved, the site posted with weekend construction hours at least one week in advance.

21. Best Management Practices to minimize dust during construction shall be used, including temporary paving of certain roads, street sweeping, and watering the site as needed.

22. Construction equipment shall be maintained to meet emission standards. Construction vehicles shall be turned off when not in use to limit emissions caused by idling and unnecessary noise.

23. The Applicant shall fully implement the Memorandum of Agreement dated August 7, 1989, between Weyerhaeuser Real Estate Company (WRECO), the City of DuPont and the Washington State Historic Preservation Officer regarding the discovery of cultural resources within the City of DuPont, customary professional standards for archaeology, and applicable state and federal laws.

    a. The Applicant shall provide a professional archaeologist to monitor onsite soil disturbance activities.
    b. The Project Archaeologist shall notify and allow a Nisqually Indian Tribe representative to be present during soil disturbance activities.
    c. The Project Archaeologist shall notify the Nisqually Indian Tribal representative if Native American cultural resources are discovered during any soil disturbance activities. Construction activities that might disturb or affect such resources are to stop until the Tribal representative has had the opportunity to examine the find.
    d. If the Tribal representative cannot be reached through reasonable efforts or does not come to the construction site within a reasonable period of time after being notified, construction does not need to stop. However, archaeological work shall to follow the 1989 Memo of Agreement, customary professional standards for archaeology, and applicable state and federal laws.

e. The City of DuPont requests Native American artifacts recovered during construction activities be donated to the Nisqually Indian Tribe. Hudson's Bay Company-era artifacts should be donated to the Fort Nisqually Living History Museum, located in the City of Tacoma's Point Defiance Park. DuPont-era artifacts should be donated to the DuPont Historical Museum.
f. The Project Archaeologist shall forward a closing report to the City of DuPont. The report shall discuss contact with the Nisqually Indian Tribe, implemented procedures and observed conditions and be submitted prior to issuance of any permanent Certificate of Occupancy for the project.

24. The Unanticipated Cultural Resources Discovery Plan shall be implemented by the contractor during site clearing and grading activities.

25. Installation of the stream buffer expansion area plantings shall be completed no later than 30 days of completion of trail construction. An extension of an additional 30 days may be granted due to conditions outside of applicant control, such as weather. The extension is to be approved by the City.

26. The trail construction shall follow any recommendations provided in the Critical Areas Report for protecting Sequalitchew Creek Trail and area wildlife from being impacted.

The following mitigation measures shall be in place <u>prior to issuance of building permits</u>:

27. All applicable Fire Impact fees (per DMC 26.05) and Storm and Water System Development Charges assessed for the proposed development will be required to be paid prior to the issuance of building permits for the proposed structures.

The following mitigation measures shall be in place <u>prior to issuance of Certificate of Occupancy</u>:

28. The proponent, at their sole expense, shall construct signage adjacent to the trail in the historic commemorative area, a minimum of one sign for each of the 6 the historical and cultural events/time periods which occurred on and near the site. The signage shall be designed in coordination with the applicant, the City of DuPont, the DuPont Historical Society and one recognized representative from each of the associations representing the historical events to develop the appropriate historical details and design (including but not limited to images and narratives) for each of the signs. The signage shall be made of durable, vandal-proof materials and placed in the locations identified in the Right of Way Dedication Exhibit. The signage design and details shall be reviewed and approved by the City of DuPont Community Development Department in consultation with Department of Archaeological and Historic Preservation (DAHP) and Nisqually Tribe. The signage, fencing and seating will become the personal property of the City and will be maintained by the City. The City may allow for a financial guarantee for the completion of these improvements.

CONCLUSIONS OF THE RESPONSIBLE OFFICIAL: The Responsible Official has determined, with the mitigation measures listed above, that the proposal will not have a probable significant adverse impact on the environment, and an Environmental Impact Statement is not required under RCW 43.21c.030(2). The mitigation measures described are recommended as conditions of project approval.

APPEAL PERIOD: This DNS is issued under WAC 197-11-355. You may appeal this determination to Jeffrey S. Wilson, Community Development Director/SEPA Responsible Official, at 1700 Civic Center, DuPont, WA 98327, by filing a written appeal citing the specific reasons for the appeal with the required appeal fee, by no later than 5:00 pm **March 6, 2018**. You should be prepared to make specific factual objections. Contact Jeff Wilson to read or ask about the procedures for SEPA appeals.

SEPA Responsible Official Signature: _____ 2/14/2019

Jeffrey S. Wilson, AICP
Community Development Director
City of DuPont

February 14, 2019

Issue Date: February 20, 2019
End of Appeal Period: March 6, 2019

SEPA Distribution List

XX Indicates notice mailed to the following: DuPont Industrial Park 2/2019

Dist.	Agency/Contact		Dist.	Agency/Contact
XX	WA State Dept. of Archaeology & Historic Preservation SEPA@dahp.wa.gov			WA State Dept. of Labor and Industries PO Box 44000 Olympia, WA 98504
	WA State Dept. of Commerce Anne Fritzel, AICP Anne.fritzel@commerce.wa.gov		xx	WA State Dept. of Natural Resources SEPA Center SEPACENTER@dnr.wa.gov
XX	WA State Dept. of Ecology SEPA Unit Separegister@ecy.wa.gov		xx	WA State Dept. of Natural Resources South Puget Sound Region Southpuget.region@dnr.wa.gov
XX	WA State Dept. of Ecology Environmental Review Section SEPAunit@ecy.wa.gov		XX	WA State Dept. of Social and Health Services Lands & Bldg Div Elizabeth McNagny PO Box 45848 Olympia, WA 98504-5848
XX	WA State Dept. of Archaeology & Historic Preservation Dennis Wardlaw Dennis.wardlaw@dahp.wa.gov			WA State Dept. of Social and Health Services Robert J. Hubenthal hubenbj@dshs.wa.gov
xx	WA State Dept. of Ecology SW Regional Office Toxic Clean-up Program Marian Abbett Marian.abbett@ecy.wa.gov		XX	WA State Dept. of Transportation OR-SEPA-REVIEW@wsdot.wa.gov
xx	WA. State Dept. of Ecology SW Regional Office Toxic Clean-up Program Eva Barber Evba461@ECY.WA.GOV			WA State Parks and Recreation Commission PO Box 42650 Olympia, WA 98504
xx	WA State Dept. of Ecology SW Regional Office Shorelands & Environmental Assistance Zachary Meyer ZMEY461@ECY.WA.GOV		xx	Puget Sound Partnership Heather Saunders Benson Environmental Planner Heather.benson@psp.wa.gov
xx	WA State Dept. of Ecology SW Regional Office Shorelands & Environmental Assistance Donna Joblonski dmca461@ECY.WA.GOV		xx	Puget Sound Clean Air Agency 1904 3rd Ave #105 Seattle, WA 98101 SEPA@pscleanair.org
xx	WA State Dept. of Fish & Wildlife(WDFW) SEPA Coordinator SEPAdesk@dfw.wa.gov			BNSF Railway General Manager 2454 Occidental Ave. South, Ste 1A Seattle, WA 98134-1451
	WA State Dept. of Fish & Wildlife (WDFW) Michele Culver Regional Director Teammontesano@dfw.wa.gov			FEMA John Graves John.graves1@dhs.gov
	WA State Dept. of Health Division of Drinking Water PO Box 47822 Olympia, WA 98504-7822		xx	DuPont City Clerk Karri Muir Kmuir@dupontwa.gov

xx	JBLM Public Works Charles Markham Deputy for Programs and Operations Charles.s.markham2.civ@mail.mil		xx	Nisqually Indian Tribe Joe Cushman Cushman.joe@nisqually-nsn.gov
xx	JBLM Steven Perrenot Director Public Works Steven.t.perrenot.civ@mail.mil		xx	Yakama Nation Elizabeth Sanchey Elizabeth_sanchey@yakama.com
	US Army Corps of Engineers (Regulatory Branch) Suzanne Anderson Suzanne.l.anderson@usace.army.mil		XX	Lakewood Community & Economic Development Frank Fiori Planning Manager ffiori@cityoflakewood.us
XX	USDA-Natural Resources Conservation Service 941 Powell Ave SW. Ste 102 Renton, WA 98057		XX	Steilacoom Community Development Doug Fortner Town Planner Doug.fortner@ci.steilacoom.wa.us
	DuPont Post Office Attn: Post Master 1313 Thompson Circle DuPont, WA 98327			Clover Park School District 10903 Gravelly Lake Dr. SW Lakewood, WA 98499
	National Marine Fisheries Service Northwest Regional Office 7600 Sand Point Way NE Seattle, WA 98115-0070			Steilacoom Historical School District Celeste Johnston cjohnston@steilacoom.k12.wa.us
XX	Nisqually Nat'l Wildlife Refuge Glynnis Nakai Glynnis Nakai@fws.gov		xx	LeMay Cust2180@wcnx.org
xx	Environmental Official-Pierce County Kathleen Larrabee Klarrab@co.pierce.wa.us		xx	PSE Jeff Payne Jeff.payne@pse.com
XX	Land Use Review Capital Development-Pierce Transit PO Box 99070 Lakewood, WA 98499-0070		xx	AHBL Lisa Klein Lklein@AHBL.com
xx	Pierce Co. Assessor/Treasurer-Commercial Dept. Darci Brandvold dbrandv@co.pierce.wa.us		xx	Gray & Osborne Dominic Miller, PE dmiller@g-o.com
xx	Pierce Co. Environmental Services Bldg Public Works Kip Julin 9850 64th St. West University Place, WA 98467		xx	Geri Reinart, P.E. greinart@msn.com
xx	Pierce Co. PALS Adonais Clark aclark@co.pierce.wa.us		xx	CalPortland Pete Stoltz Pstoltz@calportland.com
xx	Pierce Co. Public Works Debbie Germer dgermer@co.pierce.wa.us		xx	NWL Association Emily Griffith nwlassistdirector@reachone.com
xx	Tacoma Pierce Co. Health Dept. Sara Bird SEPA@tpchd.org		xx	NWL Associates Larry Ackerman nwldirector@reachone.com

XX	Nisqually Indian Tribe Annette Bullchild, THPO Bullchild.annette@nisqually-nsn.gov		XX	Nisqually Indian Tribe Jackie Wall, THPO Wall.jackie@nisqually-nsn.gov
XX	Carol Estep DuPont Historical Society estepcarol@gmail.com		XX	Roger Westman Rswestman@msn.com
XX	Maria Gudaitis mariagudaitis@gmail.com		XX	Don Dresser Norged@msn.com
XX	Nisqually Delta Association Tom Skjervold Tskjervold@gmail.com		XX	Jackie Jones-Hook Buffalo Soldiers Museum jjoneshook@aol.com
XX	United Methodist Church Kelvin Brown Kelvinator46@gmail.com		XX	United Methodist Church Rev.Dr. James D. Lewis Revjlewis43@gmail.com
XX	Jim Diamond shinodad@gmail.com		XX	Lizzy Sandstrom lizzyS@pscleanair.org
XX	Carol McDowell Barista43@comcast.net		XX	Diana Barbera dbarbera@mindspring.com
XX	Sara Bird Tacoma-Pierce County Health Dept sbird@tpchd.org		XX	Cynthia Callahan Tacoma-Pierce County Health Dept ccallahan@tpchd.org
XX	Kate Walsh 3mcwals@gmail.com		XX	Maxine Dunkelman maxdunk@comcast.net
XX	Bridget King Bkking3@hotmail.com		XX	Steve Thompson Stevethompson440@comcast.net
XX	Sam Merrill Black Hills Audubon Sammerrill3@comcast.net		XX	Karen Nolan fraukln@yahoo.com
XX	Cara Mitchell 2221 McDonald Ave DuPont, WA 98327		XX	ECY RE SWRO SEPA Morgan Dorner swosepacoordinator@ecy.wa.gov
XX	Laurie Foster 1975 A Garry Oaks Ave DuPont, WA 98327		XX	Jessica Fester 504 DuPont Ave DuPont, WA 98327
XX	R. Suzette Frederick 1148 Aldrich PL DuPont, WA 98327		XX	Ronald J. Frederick 1148 Aldrich PL DuPont, WA 98327
XX	Dennis Clarke 2237 Anderson Ave DuPont, WA 98327		XX	Kathy Clarke 2237 Anderson Ave DuPont, WA 98327

XX	Drew Zaborowski Avenue 55 Dzaborowski@avenue55.net		**XX**	Eric Cederstrand eric@combaydev.com
XX	Dan Balmelli Barghausen Consulting Engineers, Inc dbalmelli@barghausen.com		**XX**	Lia Estigoy lia@combaydev.com

For Publication on 4/29/2019

City of DuPont Hearing Examiner
Notice of Public Hearing

Description of Proposal: Applications for "Site Plan Review," "Request to remove a Heritage Oak Tree," and "Environmental Review" for a proposed office/warehouse building totaling approximately 255,000 square feet on approximately 25.29 acres of vacant land and right-of-way dedication. The proposal includes dedication of public right-of-way to extend Sequalitchew Drive to the north property line through the property along with a portion to create a "cultural and historic resources" area. The dedication of right-of-way will create two parcels, one on each side of the right of way dedication. Following dedication the east parcel will be approximately 5 acres and the west parcel will be approximately 16.91 acres. The proposed building and all associated improvements are located on the west side of Sequalitchew Drive with no improvements planned to the east. The project will include grading, drive aisles and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, and franchise utility improvements. Tree removal will be required including removal of one landmark Oregon white oak tree located within the proposed right of way of Sequalitchew Drive. File Nos. PLNG2018-008, 009 & 047.

The public hearing will be bifurcated to conduct a hearing on two appeals of the environmental determination – Mitigated Determination of Non-Significance issued by the City to begin immediately following the public hearing on the proposal. The appeals of the environmental determination have been assigned File Nos. PLNG2019-009 and PLNG2019-010.

Applicant (PLNG2018-008, 009 & 047): Eric Cederstrand
DuPont Industrial Partners, LLC
1201 Pacific Ave., Suite 1501
Tacoma, WA 98042

Appellant (File No. PLNG2019-009): DuPont Industrial Partners, LLC

Appellant (File No. PLNG2019-010): Nisqually Delta Association

Location: DuPont City Hall, Council Chambers | 1700 Civic Dr. | DuPont, WA

Hearing Date and Time: Wednesday, May 15, 2019 at 9:00 a.m.

All persons are invited to attend the hearing and provide testimony regarding the proposal. For questions, please contact Jeff Wilson, Community Development Director, at (253) 912-5393 or jwilson@dupontwa.gov. Copies of the Hearing packet will be available at City Hall by 4:00 PM on Thursday May 9, 2019.

Attachment 9.e. Notice of Public Hearing published and posted April 29, 2019, with newspaper confirmation, affidavit of posting onsite, affidavit for posting on City Notice Board and affidavit of mailing.

THE NEWS TRIBUNE
[thenewstribune.com]
The Olympian www.theolympian.com
Gateway gateline.com
The Herald puyallupherald.com
Northwest Guardian

Order Confirmation

Customer
BILL CITY OF DUPONT *LEGALS

Payor Customer
BILL CITY OF DUPONT *LEGALS

Customer Account
256347

Payor Account
256347

Customer Address
1700 CIVIC DR
DUPONT WA 983279603 USA

Payor Address
1700 CIVIC DR
DUPONT WA 983279603 USA

Customer Phone
253-964-8121

Payor Phone
253-964-8121

Customer Fax
253-964-3554

Customer EMail

Sales Rep
lcordero@mcclatchy.com

Order Taker
lcordero@mcclatchy.com

PO Number	Payment Method	Blind Box	Tear Sheets	Proofs	Affidavits
Legal Notice	Invoice		0	0	1

Net Amount	Tax Amount	Total Amount	Payment Amount	Amount Due
$386.91	$0.00	$386.91	$0.00	$386.91

Ad Order Number
0004191362

Order Source

Ordered By
Janet Howald

Special Pricing

Invoice Text
City of DuPont, DuPont Industrial Public Hearing Notice

Promo Type

Package Buy

Materials

Ad Order Information

Ad Number	Ad Type	Production Method	Production Notes
0004191362-01	TAC-Legal Liner	AdBooker	

External Ad Number	Ad Attributes	Ad Released	Pick Up
		No	

Ad Size	Color
2 X 33 li	

Product	Placement	Times Run	Schedule Cost
TAC-NT-News Tribune	0300 - Legals Classified	1	$308.57

Run Schedule Invoice Text
City of DuPontHearing Examiner Notice of

Position
0301 - Legals & Public Notices

Run Dates
04/29/2019

Product	Placement	Times Run	Schedule Cost
TAC-upsell.thenewstribune.com	0300 - Legals Classified	1	$78.34

Run Schedule Invoice Text
City of DuPontHearing Examiner Notice of

Position
0301 - Legals & Public Notices

Run Dates
04/29/2019

City of DuPontHearing Examiner
Notice of Public Hearing

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Unique History … Vibrant Future

CITY OF DUPONT

Department of Community Development
1700 Civic Drive, DuPont, WA 98327
Telephone: (253) 964-8121
www.dupontwa.gov

Transmittal Memo

TO: DuPont Industrial, Lot Y, PLNG2018-008,009 & 47

FROM: Jeff Wilson, Planning Director

DATE: April 26, 2019

RE: Affidavit of Posting

Please return completed and signed Affidavit of Posting along with photos displaying the Public Notice sign regarding the Hearing Examiner Meeting. The photos may be emailed to me at Jwilson@dupontwa.gov.

If you have any questions, I can be also be reached at 253-912-5393.

Thank you

AFFIDAVIT OF POSTING

1700 Civic Drive
DuPont, WA 98327
www.dupontwa.gov

Phone (253) 964-8121
Fax (253) 964-1455

Application # PLN62018-008, 009 and 047 and/or Case # _____

I, JEFF CURRIE applicant/applicant's agent for the above referenced project number, being duly sworn on oath, deposes and says: That on the 29 day of APRIL, 2019 I posted a notice, prominently displayed, at the site.

Site/Project Description: DuPont Industrial - Lot Y
Notice of Public Hearing

Signed By

Notarization/Certification

(Seal or Stamp)

MARGI FOSDICK
NOTARY PUBLIC
COMMISSION EXPIRES
12-19-20
STATE OF WASHINGTON

State of Washington, County of King

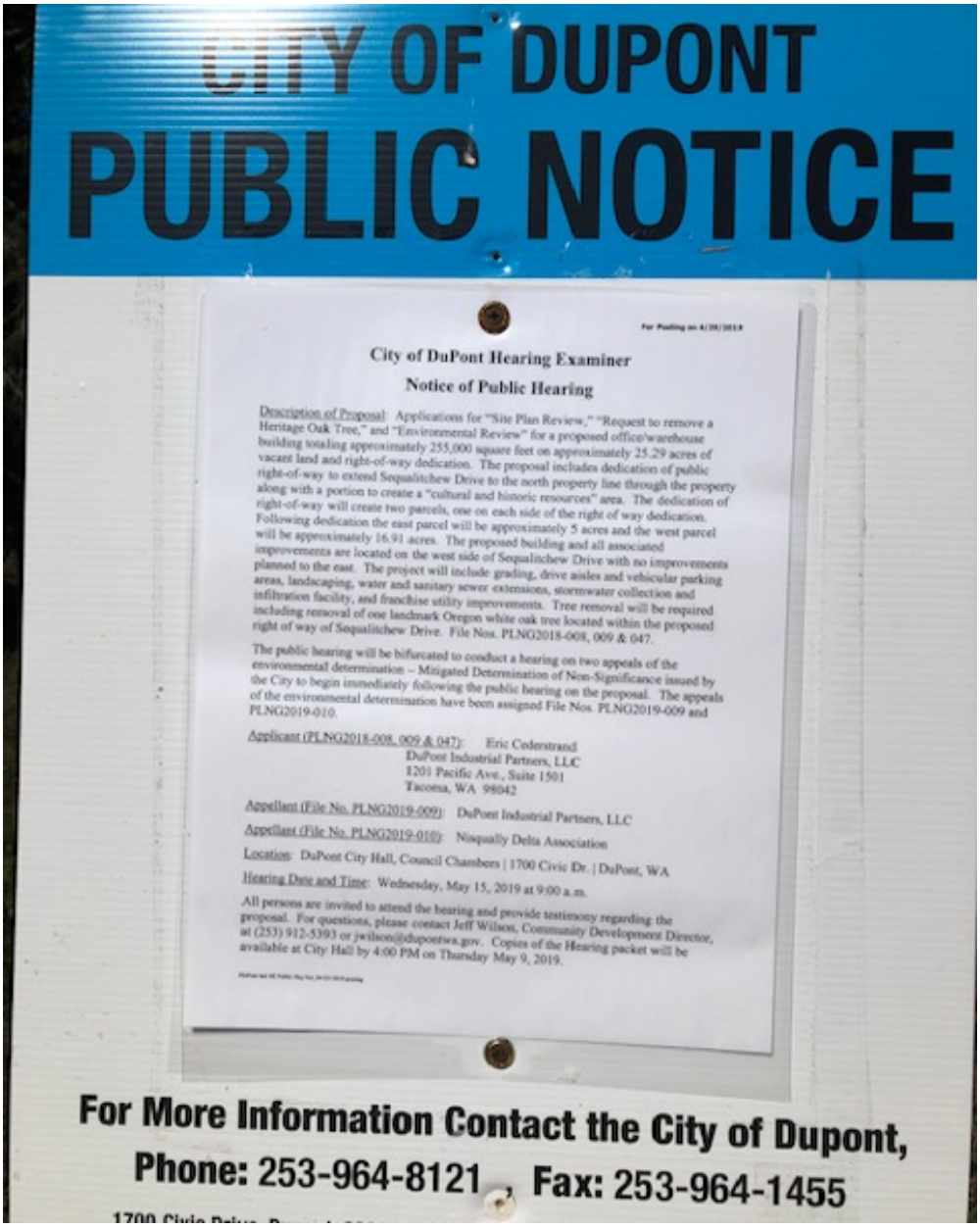
Signed or attested before me this 29th day of April, 2019.

X _____
Signature of notary public

Margi Fosdick
Printed or stamped name of notary public

Affidavit of Posting.docx




CITY OF DUPONT
PUBLIC NOTICE
For Posting on 4/29/2019
City of DuPont Hearing Examiner
Notice of Public Hearing
Description of Proposal: Applications for "Site Plan Review," "Request to remove a Heritage Oak Tree," and "Environmental Review" for a proposed office/warehouse building totaling approximately 255,000 square feet on approximately 25.29 acres of vacant land and right-of-way dedication. The proposal includes dedication of public right-of-way to extend Sequalitchew Drive to the north property line through the property along with a portion to create a "cultural and historic resources" area. The dedication of right-of-way will create two parcels, one on each side of the right of way dedication. Following dedication the east parcel will be approximately 5 acres and the west parcel will be approximately 16.91 acres. The proposed building and all associated improvements are located on the west side of Sequalitchew Drive with no improvements planned to the east. The project will include grading, drive aisles and vehicular parking areas, landscaping, water and sanitary sewer extensions, stormwater collection and infiltration facility, and franchise utility improvements. Tree removal will be required including removal of one landmark Oregon white oak tree located within the proposed right of way of Sequalitchew Drive. File Nos. PLNG2018-008, 009 & 047.
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For More Information Contact the City of Dupont,
Phone: 253-964-8121 , Fax: 253-964-1455

FILE NO. PLNG2018-008,009, & 047
APPLICANT: Eric Cederstrand
FILE NO. PLNG2019-009
APPELLANT: DuPont Industrial Partners, LLC
FILE NO. PLNG2019-010
APPELLANT: Nisqually Delta Association

DECLARATION OF POSTING
CITY HALL NOTICE BOARD

On the 29th day of April, 2019, the attached Notice of Public Hearing Related to City of DuPont File No. PLNG2018-008,009, & 047, PLNG2019-009, and PLNG2019-010, was posted on the City of DuPont public notice board.

I, Jeff Wilson, hereby declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct this of 29th day of April, 2019 at DuPont, Washington.

Signed: _____

FILE NO.: PLNG2018-008,008 & 047
APPLICANT: Eric Cederstrand
FILE NO. PLNG2019-009
APPEALLANT: DuPont Industrial Partners, LLC
FILE NO. PLNG2019-010
APPEALLANT: Nisqually Delta Association

DECLARATION OF MAILING NOTICE OF PUBLIC HEARING

On the 26 day of April 2019, the attached Notice of Public Hearing was mailed by the City to property owners within 300 feet of the property that is the subject of the above-referenced application. The names of which were provided by the applicant.

I, Janet Howald, hereby declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct this date day of month year at DuPont, Washington.

Signed: Janet Howald

Gray & Osborne, Inc.
CONSULTING ENGINEERS

February 21, 2018

Mr. Jeff Wilson
City of DuPont
1700 Civic Drive
DuPont, Washington 98327

SUBJECT: LAND USE APPLICATION COMMENTS, DUPONT INDUSTRIAL PARK, CITY FILE NO. PLNG2018-0008 AND 009
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON
G&O #18222.00

Dear Mr. Wilson:

On February 9, 2018, Gray & Osborne, Inc. received a submittal packet regarding the above-subject project. The packet included the following:

- Land Use Application (dated January 24, 2018)
- SEPA Checklist (dated January 26, 2018)
- Title Report (dated July 15, 2011)
- Traffic Impact Analysis by Barghausen Consulting Engineers, Inc. (dated November 15, 2017)
- City of DuPont Water Availability Form
- Pierce County Public Works and Utilities Sanitary Sewer Request for Sewer Service Information (dated January 26, 2018)
- Trash Enclosure Location by Helix Design Group, Inc. (dated December 11, 2017)
- Preliminary Stormwater Site Plan by Barghausen Consulting Engineers, Inc. (dated December 23, 2017)
- Geotechnical Information Report by Geotechnical Engineering Services (dated May 10, 2011)
- Preliminary Civil Engineering Design Plans by Barghausen (13 sheets dated January 23, 2018)
- Landscaping Plans by Barghausen Consulting Engineers, Inc. (7 sheets dated January 25, 2018)

The project proposes to construct two buildings totaling approximately 258,400 sf on an approximate 21- acre vacant parcel of land located on the west side of Sequalitchew Drive. The construction of a public park is also proposed as part of the development.

2102 Carriage Drive SW, Building I Olympia, Washington 98502 (360) 292-7481 Fax (360) 292-7517
Printed on recycled paper
Attachment 10.a. Gray & Osborne comment letters dated February 21, 2018 and August 20, 2018.

We have reviewed this information for compliance with the current City of DuPont standards, codes, and policies and have the following comments:

GENERAL

1. The site plan should reflect all easements, site restrictions, and encumbrances from the short plat and any other recorded documents. Proposed site improvements, within the easements on the project sites, shall comply with the conditions of said easements.

2. The Applicant should identify the proposed land subdivision for creation of the lots and dedication of the Sequalitchew Road right-of-way to the City.

3. The project activities shall comply with the requirements of the Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges associated with construction activity will be required for this project prior to issuance of a grading permit.

4. In accordance with Section 2.21 Street Frontage Improvements, all commercial and residential developments, plats, or short plats shall install frontage improvements at the time of construction as required by the City. Such improvements include curb and gutter, sidewalk, street, storm drainage, street lighting systems, utility relocations, landscaping and irrigation (2.21.1) and all frontage improvements shall be made across the full frontage of property from centerline to right-of-way line (2.21.2). For purposes of this short plat, the proposed 85-foot wide right-of-way is classified as an arterial with features and dimensions as defined in the City's Public Work Standards.

5. A parking lot lighting plan, which includes a photometric exhibit showing the lighting levels within the parking lot, will be required to demonstrate that parking areas are lit in accordance with City code requirements. The Applicant should note that DMC 25.70.070 allows 25-foot-tall lighting fixtures in parking lots, except at entries and for parking adjacent to buildings, where lighting remains restricted to 15 feet in height.

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6. The parking lot shall be designed in accordance with DMC 25.70.030 and Ordinance No. 03-752, which includes, but limited to, screening as approved by the City. The minimum stall widths shall be 8.75 feet (basic) and 9 feet (parallel to an access aisle). Add the dimensions to the parking lots on all sides of Building 'A' and to the west side of Building 'B' to demonstrate compliance.

7. Per DMC 25.70.060(10)(c), all on-site service areas (i.e., loading zones, dumpster, transformer, utility vaults, etc.) shall be located in an area not visible from a public street or open space.

8. Water easements for the existing on-site City water system(s) shall be shown and labeled. All water mains and appurtenances to be owned and operated by the City, up to and including water meters, backflow assembly vaults, and fire hydrants, shall be located in 15-foot-wide easements dedicated to the City. The easements shall be dedicated to the City following construction and prior to final acceptance of this project.

9. The Applicant shall furnish meter sizing calculations for domestic and fire water services. The sprinkler system design, including confirmation of the provided sizing for the fire line components shall be reviewed and approved by the City Building Department and Fire Department as part of the building permit process. Each fire line connection to a City water main will require a double detector check valve assembly (DDCVA) in an underground vault and a Fire Department Connection (FDC) within 50 feet of a fire hydrant. The double detector check valve assemblies (DDCVA) shall be located in underground vaults outside of the building to allow direct access by City staff.

10. The City Fire Department shall confirm that the number and location of existing and proposed fire hydrants on or near the project site are adequate for purposes of providing the required fire flow for the proposed building.

11. An analysis of sight distance triangles to verify that safe stopping and turning movements to and from the site at all points of access to the site shall be provided.

12. The site plan shall include supplemental exhibits to demonstrate that the City Fire Department's large apparatus can navigate the site (lane width, radius), including access to FDCs and hydrants. The Fire Department will confirm the adequacy of vehicle access points.

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13. The functional classification for the proposed Sequalitchew Drive extension is an arterial. The road cross-section shall meet City Public Works Standards and should match the existing road cross-section.

14. The pedestrian connection from Sequalitchew Drive to the Sequalitchew Creek Trail shall be clarified. A pedestrian crossing of Sequalitchew Drive shall be included near the proposed park.

15. Following construction, a City of DuPont Agreement for Inspection and Maintenance of Privately Maintained Storm Drainage Facilities will be required for any onsite storm water system.

16. The City's Stormwater System Development Charge (SDC) will apply to this project. The Stormwater SDC is $1,000 per 1,900 square feet of impervious surface.

LAND USE APPLICATION

17. Item No. 2, Site Plan shall be drawn 100 feet beyond the property lines.

SEPA CHECKLIST

18. We have no comments on the SEPA Checklist at this time. However, our comments within this letter should be considered by the City as potential SEPA mitigation measures.

TITLE REPORT

We have no comments on the title report at this time.

TRAFFIC IMPACT ANALYSIS

19. The Transportation Impact Study comments will be provided to the City by Ms. Geralyn Reinart, P.E.

WATER AVAILABILITY

20. The submitted Water Availability Form must be resubmitted with a signature.

SEWER AVAILABILITY

21. The submitted Pierce County Utilities information appears acceptable for Land Use Application approval. Documentation of Pierce County Public Works and Utilities approval of the Sanitary Sewer Plans for this project will be required prior to issuance of a construction permit.

TRASH ENCLOSURE LOCATION

22. The submitted plan with a note from LeMay Pierce County Refuse for the refuse container location appears to be sufficient for Land Use approval. The project shall demonstrate compliance with the DMC 25.100 Recycling. In concurrence DMC 25.100.050(3), the storage enclosure shall be sized for both general refuse and recycling bins.

PRELIMINARY STORMWATER SITE PLAN

23. The Site Plan states that an infiltration rate of 5 in/hr will be assumed for the infiltration facilities, based on a geotechnical report for an adjacent development in 2011. This geotechnical report determined that infiltration rates in the adjacent development range from 2 in/hr to 9 in/hr, but the test pits are located approximately 1,000 feet to the west of the Industrial Warehouse development. The Manual requires infiltration testing at the location of the proposed infiltration facilities (one test per 5,000 square feet of infiltration facility area), per Section 3.3.4 of Volume III. Additionally, the test pits were dug to approximately 12 feet deep, an elevation of approximately 206 to 200 feet. The proposed infiltration facilities at the Industrial Warehouse site have a bottom elevation of 200.5 to 201 feet. Though groundwater was not encountered during the geotechnical investigation, the subgrade was not explored below the depth of the proposed facilities, so it is not clear whether 3 feet of separation from the groundwater level can be achieved.

24. Describe the potential overflow route from the infiltration facilities, as no clear overflow structure or outlet is provided. Though the facilities are designed to infiltrate the 100-year flows, overflows may still occur in the event of a large storm if the gravel media clogs.

25. The Plan does not include a discussion of the sizing of the proposed Modular Wetlands water quality facilities. Describe the size of the vaults selected, their treatment capacity, and maximum flow capacity, as well as

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any other relevant design information. The criteria used in the selection of the treatment facilities must be documented.

26. Identify the party responsible for maintenance of the proposed facilities.

27. Specific maintenance documentation regarding the detention/infiltration pipe and the Contech StormFilter Cartridges should be provided in the Operations and Maintenance Plan for reference.

28. The final storm plan must include an analysis of pipe capacity.

29. The BMP sheets for each specific BMP to be used on the project site should be copied from Volume II of the Manual and included in the SWPPP.

30. The SWPPP should include a template site inspection form.

31. Details for the proposed Modular Wetlands systems and detention/infiltration pipes must be included in the Plans.

32. Sheet C5 appears to show a conflict between the 8-inch roof drain pipe and the 15-inch pipe that it crosses. Ensure that the elevations are correct on these pipes.

33. Sheet C6 is missing the rim and invert elevations for Catch Basin 33.

GEOTECHNICAL REPORT

34. The submitted Geotechnical Report was completed with no site specific infiltration/percolation values. On-site tests will be required for validation of the design infiltration rate.

PRELIMINARY CIVIL ENGINEERING DESIGN PLANS

35. All easement labels should include indication of either "Public" or "Private."

36. A preliminary utility plan shall include the pipe sizes, routing, and proposed points of connection for all utilities.

37. Indicate the amount of cut/fill on the Plans.

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38. Add the pervious and impervious amount to the Plans.

39. Add existing and proposed easement linework to the Legend.

40. Identify where the historic landmark will be moved to. Show and label the associated setbacks on the Plans.

41. On Sheet C2, add the BMP numbers to the TESC Legend.

42. On Sheet C4, the Temporary Construction Entrance Detail shall show geotextile and 100' length per Figure II-4.1.1 of the DOE Stormwater Management Manual for Western Washington.

43. Erosion Control Notes #4 and #5 shall indicate Sequalitchew Road and Center Drive.

44. Add the existing cul de sac to the plans with points of connection for the utilities.

45. Indicate the improvements to the Sequalitchew trail. Provide a cross section.

46. Channelization drawings or crosswalk locations shall be approved by the City per City Standard 4.5.

47. Parking stalls and pedestrian ramps shall meet current building code and ADA requirements.

48. Lighting for arterial streets shall be per City Standard 6.4.2.

49. Add sight triangles to the driveways entering Sequalitchew Drive.

50. The operation of the existing water main shall be maintained while making connections. For extension of the water main, a gate valve shall be provided at the point of connection to the existing water main for isolation and to facilitate disinfection and testing requirements.

51. For the water system layout, it appears that the following extensions and connections will be required for the Lot Y site layout:

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A. New water mains will be looped around and between Buildings A and B.

B. The existing 12-inch water main at the northwest corner of the Creekside Village Apartments will be extended to the west.

52. Water vaults and meter boxes shall include provisions for drainage.

53. The construction plans shall include profiles for water mains to include proposed utility crossings.

54. Include fire hydrant locations along Sequalitchew Drive.

55. On Sheet C9, Sequalitchew Drive is misspelled.

Thank you for the opportunity to provide these comments. Please contact the undersigned if you have any questions or comments regarding this review.

Sincerely,

GRAY & OSBORNE, INC.

Dominic J. Miller, P.E.

DJM/sp

cc: Mr. Gus Lim, P.E., Public Works Director, City of DuPont
Mr. Bill Anderson, Building Official, City of DuPont
Mr. Scott Hein, Public Works S supervisor, City of DuPont
Mr. Mike Turner, City of DuPont
Ms. Lisa Klein, AHBL, Inc.

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Gray & Osborne, Inc.
CONSULTING ENGINEERS

August 20, 2018

Mr. Jeff Wilson
City of DuPont
1700 Civic Drive
DuPont, Washington 98327

SUBJECT: LAND USE APPLICATION COMMENTS, DUPONT INDUSTRIAL PARK, CITY FILE NO. PLNG2018-0008, 009 AND 047
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON
G&O #18222.00

Dear Mr. Wilson:

Gray & Osborne, Inc. is in receipt of the following submittal package for the above-subject project:

- Land Use Application;
- SEPA Checklist dated May 22, 2018;
- Title Report by Chicago Title dated April 2, 2018;
- Traffic Impact Analysis by Heath & Associates, Inc. dated March 6, 2018;
- Water Availability Form;
- Pierce County Public Works and Utilities Sanitary Sewer Specific Information Request dated March 28, 2018;
- Preliminary Stormwater Site Plan by Barghausen dated December 23, 2017;
- Geotechnical Information Report by Geotechnical Engineering Services dated October 10, 2011;
- Geotechnical Report Addendum by GeoEngineers dated May 11, 2018;
- Trash Enclosure Location email by Ric Thompson dated May 22, 2018;
- Preliminary Civil Engineering Design Plans by Barghausen (13 sheets dated August 13, 2018);
- Preliminary Landscape Planting and Tree Retention Plan by Barghausen (7 sheets dated August 14, 2018;
- Tree Retention Plan by Washington Forestry Consultants, Inc. dated April 24, 2018;

We have reviewed this information for compliance with the current City of DuPont standards, codes, and policies and have the following comments:

GENERAL

1. The site plan should reflect all easements, site restrictions, and encumbrances from the short plat and any other recorded documents. Proposed site improvements, within the easements on the project sites, shall comply with the conditions of said easements.

2. The Applicant should identify the proposed land subdivision for creation of the lots and dedication of the Sequalitchew Road right-of-way to the City. The proposed lots and tracts should be labeled.

3. The project activities shall comply with the requirements of the Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges associated with construction activity will be required for this project prior to issuance of a grading permit.

4. In accordance with Section 2.21 Street Frontage Improvements, all commercial and residential developments, plats, or short plats shall install frontage improvements at the time of construction as required by the City. Such improvements include curb and gutter, sidewalk, street, storm drainage, street lighting systems, utility relocations, landscaping and irrigation (2.21.1) and all frontage improvements shall be made across the full frontage of property from centerline to right-of-way line (2.21.2). For purposes of this short plat, the proposed 85-foot wide right-of-way is classified as an arterial with features and dimensions as defined in the City's Public Work Standards.

5. A parking lot lighting plan, which includes a photometric exhibit showing the lighting levels within the parking lot, will be required to demonstrate that parking areas are lit in accordance with City code requirements. The Applicant should note that DMC 25.70.070 allows 25-foot-tall lighting fixtures in parking lots, except at entries and for parking adjacent to buildings, where lighting remains restricted to 15 feet in height.

6. The parking lot shall be designed in accordance with DMC 25.70.030 and Ordinance No. 03-752, which includes, but limited to, screening as approved by the City. The minimum stall widths shall be 8.75 feet (basic)

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and 9 feet (parallel to an access aisle). Add the dimensions to the parking lots on all sides of Building 'A' and to the west side of Building 'B' to demonstrate compliance.

7. Per DMC 25.70.060(10)(c), all on-site service areas (i.e., loading zones, dumpster, transformer, utility vaults, etc.) shall be located in an area not visible from a public street or open space.

8. Label the 15-foot-wide water easements dedicated to the City. The easements shall be dedicated to the City following construction and prior to final acceptance of this project.

9. The Applicant shall furnish meter sizing calculations for domestic and fire water services. The sprinkler system design, including confirmation of the provided sizing for the fire line components shall be reviewed and approved by the City Building Department and Fire Department as part of the building permit process. Each fire line connection to a City water main will require a double detector check valve assembly (DDCVA) in an underground vault and a Fire Department Connection (FDC) within 50 feet of a fire hydrant. The double detector check valve assemblies (DDCVA) shall be located in underground vaults outside of the building to allow direct access by City staff.

10. The City Fire Department shall confirm that the number and location of existing and proposed fire hydrants on or near the project site are adequate for purposes of providing the required fire flow for the proposed building.

11. An analysis of sight distance triangles to verify that safe stopping and turning movements to and from the site at all points of access to the site shall be provided.

12. The site plan shall include supplemental exhibits to demonstrate that the City Fire Department's large apparatus can navigate the site (lane width, radius), including access to FDCs and hydrants. The Fire Department will confirm the adequacy of vehicle access points.

13. The functional classification for the proposed Sequalitchew Drive extension is an arterial. The road cross-section shall meet City Public Works Standards and should match the existing road cross-section.

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14. A pedestrian crossing of Sequalitchew Drive shall be included near the proposed park.

15. Following construction, a City of DuPont Agreement for Inspection and Maintenance of Privately Maintained Storm Drainage Facilities will be required for any onsite storm water system.

16. The City's Stormwater System Development Charge (SDC) will apply to this project. The Stormwater SDC is $1,000 per 1,900 square feet of impervious surface.

17. This project is subject to the Geographic Information System (GIS) requirements as stated in the City of DuPont Municipal Code, Chapter 24.10, and Ordinance No. 97-559.

LAND USE APPLICATION

We have no comments on the Land Use Application at this time.

SEPA CHECKLIST

18. We have no comments on the SEPA Checklist at this time. However, our comments within this letter should be considered by the City as potential SEPA mitigation measures.

TITLE REPORT

We have no comments on the Title Report at this time.

TRAFFIC IMPACT ANALYSIS

19. The Transportation Impact Study comments have been provided to the City by Ms. Geralyn Reinart, P.E., in her memo dated June 6, 2018.

WATER AVAILABILITY

20. The submitted Water Availability Form is incompleted. The form shall identify the proposed peak water demand for the domestic and irrigation water uses.

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SEWER AVAILABILITY

21. The submitted Pierce County Utilities information appears acceptable for Land Use Application approval. Documentation of Pierce County Public Works and Utilities approval of the Sanitary Sewer Plans for this project will be required prior to issuance of a construction permit.

TRASH ENCLOSURE LOCATION

22. The submitted plan with a note from LeMay Pierce County Refuse for the refuse container location appears to be sufficient for Land Use approval. The project shall demonstrate compliance with the DMC 25.100 Recycling. In concurrence DMC 25.100.050(3), the storage enclosure shall be sized for both general refuse and recycling bins. Trash enclosures shall be surfaced with concrete with a concrete apron and at the same grade as the service vehicle access.

PRELIMINARY STORMWATER SITE PLAN (DECEMBER 23, 2017 VERSION)

23. The 3 feet of separation from the groundwater level to the bottom of the infiltration facilities shall be verified during civil plan review and the assumed infiltration rate shall be verified during construction.

24. Describe the potential overflow route from the infiltration facilities, as no clear overflow structure or outlet is provided. Though the facilities are designed to infiltrate the 100-year flows, overflows may still occur in the event of a large storm or if the gravel media clogs.

25. The Plan does not include a discussion of the sizing of the proposed Modular Wetlands water quality facilities. Describe the size of the vaults selected, their treatment capacity, and maximum flow capacity, as well as any other relevant design information. The criteria used in the selection of the treatment facilities must be documented.

26. Identify the party responsible for maintenance of the proposed facilities.

27. Specific maintenance documentation regarding the detention/infiltration pipe and the Contech StormFilter Cartridges should be provided in the Operations and Maintenance Plan for reference.

28. The final storm plan shall include an analysis of pipe capacity.

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29. The BMP sheets for each specific BMP to be used on the project site should be copied from Volume II of the Manual and included in the SWPPP.

30. The SWPPP should include a template site inspection form.

31. Details for the proposed Modular Wetlands systems and detention/infiltration pipes shall be included on the Civil Plans.

32. Sheet C5 appears to show a conflict between the 8-inch roof drain pipe and the 15-inch pipe that it crosses. Ensure that the elevations are correct on these pipes.

33. Sheet C6 is missing the rim and invert elevations for Catch Basin 33.

33A. Show a profile detail of the infiltration gallery on the Civil Plans.

GEOTECHNICAL REPORT

34. On-site tests will be required for validation of the design infiltration rate.

35. The 2011 Geotechnical Report was completed in accordance with the 2005 Washington State Department of Ecology Stormwater Management Manual. The City of DuPont has adopted the 2012 Washington State Department of Ecology Stormwater Management Manual, amended 2014. The May 11, 2018 memo shall be updated to identify the City's current stormwater manual and to update any stormwater recommendations from the 2011 report.

PRELIMINARY CIVIL ENGINEERING DESIGN PLANS (AUGUST 13, 2018 VERSION)

36. All easement labels should include indication of either "Public" or "Private."

37. A preliminary utility plan shall include the pipe sizes, routing, and proposed points of connection for all utilities.

38. Indicate the cut and fill quantities.

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39. The impervious area of each proposed lot and tract should be identified.

40. Add existing and proposed easement linework to the Legend.

41. On Sheet C2, add the BMP numbers to the TESC Legend.

42. On Sheet C4, the Temporary Construction Entrance Detail shall show geotextile and 100-foot length per Figure II-4.1.1 of the DOE Stormwater Management Manual for Western Washington.

43. Erosion Control Notes 4 and 5 shall indicate Sequalitchew Road and Center Drive.

44. Add the existing cul de sac to the plans with points of connection for the utilities.

45. Indicate the improvements to the Sequalitchew Trail. Provide a cross section.

46. Channelization Plans and crosswalk locations shall be approved by the City per City Standard 4.5.

47. Parking stalls and pedestrian ramps shall meet current building code and ADA requirements.

48. Lighting for arterial streets shall be per City Standard 6.4.2.

49. Add sight triangles to the driveways entering Sequalitchew Drive.

50. The operation of the existing water main shall be maintained while making connections. For extension of the water main, a gate valve shall be provided at the point of connection to the existing water main for isolation and to facilitate disinfection and testing requirements.

51. For the water system layout, connect to the existing 12-inch water main at the northwest corner of the Creekside Village Apartments and extend west to Sequalitchew Road.

52. Cross-connection control, in accordance with WAC 246-290-490, shall be provided by installation of an approved backflow preventer commensurate with the degree of hazard for protection of the public water system.

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53. Water vaults and meter boxes shall include provisions for drainage.

54. The construction plans shall include profiles for water mains to include proposed utility crossings.

55. A minimum of two gate valves are required at all water main tees.

56. Include fire hydrant locations along Sequalitchew Drive. Per City Standard 8.6.1.1, fire hydrants shall be installed at interval not to exceed 300 feet or as required by the City Fire Chief.

57. On Sheet C8, show the proper match line on Sequalitchew Road.

58. On all applicable sheets, show the full width of the Sequalitchew Road right-of-way upon build-out.

59. The plans call out a 45-foot driveway. Per City Standard Detail "Driveway Approach", DWG. No. 3.1-1, on sheet C11 indicates a maximum driveway of 35 feet.

60. Add all City Standard Details, applicable to this project, to the plans.

61. Per City Water Standards for water services, all water service lines under paved roads between the water main and the water meter shall be sleeved with 2-inch Schedule 80 PVC pipe. Add a note to this effect.

62. Provide air and vacuum relief assemblies shall be located at all high points and in-line blowoffs at all low points of water mains.

63. Provide a water sampling station at the end of Sequalitchew Drive.

64. Provide an automatic flushing station at the end of Sequalitchew Drive.

PRELIMINARY LANDSCAPE PLAN (AUGUST 14, 2018 VERSION)

65. Trees shall be located outside of utility easements and alignments.

66. Irrigation water use, in accordance with DMC 25.90.040 shall be identified on the Landscape Plans.

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67. Irrigation meter sizes and locations shall be labeled on the Landscape Plans.

TREE RETENTION PLAN (AUGUST 9, 2018 VERSION)

We have no comments on the Tree Retention Plan at this time.

Thank you for the opportunity to provide these comments. Please contact the undersigned if you have any questions or comments regarding this review.

Sincerely,

GRAY & OSBORNE, INC.

Dominic J. Miller, P.E.

DJM/sp

cc: Mr. Gus Lim, P.E., Public Works Director, City of DuPont
Mr. Bill Anderson, Building Official, City of DuPont
Mr. Scott Hein, Public Works S supervisor, City of DuPont
Mr. Mike Turner, City of DuPont
Ms. Lisa Klein, AHBL, Inc.

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Interoffice Memorandum

To: Dominic Miller
CC: Scott Hein

From: Fred Foreman

Date: March 4, 2018

Re: Comments DuPont Industrial Warehouse, Sequalitchew Drive

Please consider the following comments in your review of this project.

There are no stationing or elevations of the water lines shown, not even call outs.

Without elevations; air vacs need to be installed as directed by City Inspectors at all high points in the water line. **8.7.1 Blowoff and Air Release Assemblies**

Without elevations; blow off need to be installed as directed by the city inspector at all low points in the water line. **8.7.2.1Blowoff and Air Release Assemblies**

I did not find the domestic and irrigation meter sizes

Backflow prevention: I do not see what type of backflow preventer are being proposed. The degree of hazard, the future building will pose of the public water system can't be determined from the plans provided, I strongly encourage the installation of RP type backflow preventer in an above ground hot box with AC power, to address a high health hazard the future building may place on the public water system.

There are not enough water valves!

Valves (2 each tee, 3 each cross)

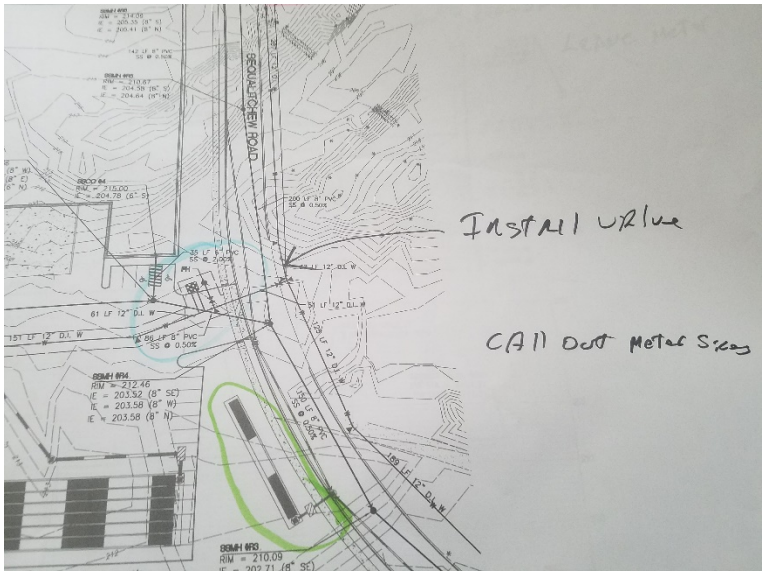
8.5 Valves
Valves shall be installed at intervals not to exceed 1,000 feet. Valves shall be installed at each end of easements

FOR YOUR INFORMATION

Attachment 10.b. Fred Foreman, City of DuPont Water Quality Department comments dated March 4, 2018 and August 13, 2019.

At a minimum one additional valve is need to be installed to facilitate the future extension of the water line without interruption of the proposed project domestic & fire water supplies.

Install a 12” valve on the northerly tee, see picture below to better describe location



This water line intersection is in a 2:1 slope, assure there is adequate coverage and blocking

Consider mega lug at this tee and mega lug multiple pipe lengths on all sides

Water valves not in paved streets are required to have a valve marker post

Please see 8.5.6 Valve Marker Posts

Extend the end of the water & sewer line beyond the end of the current proposes end of Sequalitchew Drive, add an end line blow off on the water line

Please add this detail to the plans, DWG. NO. 8.7-2

Please add a water sample station at or near the end of the proposed end of Sequalitchew Drive in the right of way or in an easement. Drawing No. 8.8

The end of the existing dead-end water line on Sequalitchew Drive, we required the last phase to install an automatic flushing station in lieu of looping the water line and the owner pays for the water.

This existing automatic flushing station COULD be removed

The proposed water line is a 12” water line and will create a long detention time in that water line creating disinfection by products for the water users in this proposed project. To avoid this the water line will need to be flushed regularly.

- Install a metered, automatic flushing station at the end of the proposes Sequalitchew Drive, discharged water needs to be directed to a storm drain facility, the owner pay for the water until such time as Sequalitchew Drive is extended.
- Do the same as the current flushing station, we need a standard detail for this.

For other to consider

There should be a means for this public road for traffic to turn around such as a cul-de-sac or tee

There is a propose storm water WQ Device #3 receiving storm runoff from Sequalitchew Drive and I do not see an easement. Provide a curb cut and all-weather surface access for a vactor truck for maintenance.

They are proposing half streets I do not think we want a half street.

Planter’s in the future half street
How and when will irrigation water be provided to the future center median planter?

The existing water service for the existing center median planter should be extended to this irrigation system and will need to be incorporated in the Cities master controlled irrigation system.

Verify the correct designation of Sequalitchew Drive or road as shown on the plans.

Page C3 of 13
Ex. Historical marker to be relocated

> *25.80.030 Prohibition of construction within designated sites.* SHARE
>
> No structures, roads or utilities are permitted within 50 feet of the markers identifying cultural resource sites designated under DMC 25.80.020. (Ord. 02-707 § 1)

How will the very popular Sequalitchew Creek Trail access be maintained, who and when will the new trial in a new alignment be built and funded.

From:	Jeff Wilson
To:	Lisa Klein
Subject:	FW: PLNG2018-008 & 009 DuPont Industrial Warehouse, Sequalitchew Drive
Date:	Monday, August 20, 2018 12:56:38 PM
Attachments:	Freds Comments DuPont Industrial Warehouse.pdf

Lisa,

Have you seen this?

Jeff

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Fred Foreman
Sent: Monday, August 13, 2018 11:08 AM
To: Dominic Miller <dmiller@g-o.com>
Cc: Scott Hein <SHein@dupontwa.gov>; Jeff Wilson <JWilson@dupontwa.gov>
Subject: PLNG2018-008 & 009 DuPont Industrial Warehouse, Sequalitchew Drive

I don't see that my comments from the early submissions have been address in this current submission Please see my march 4, 2018 comments attached

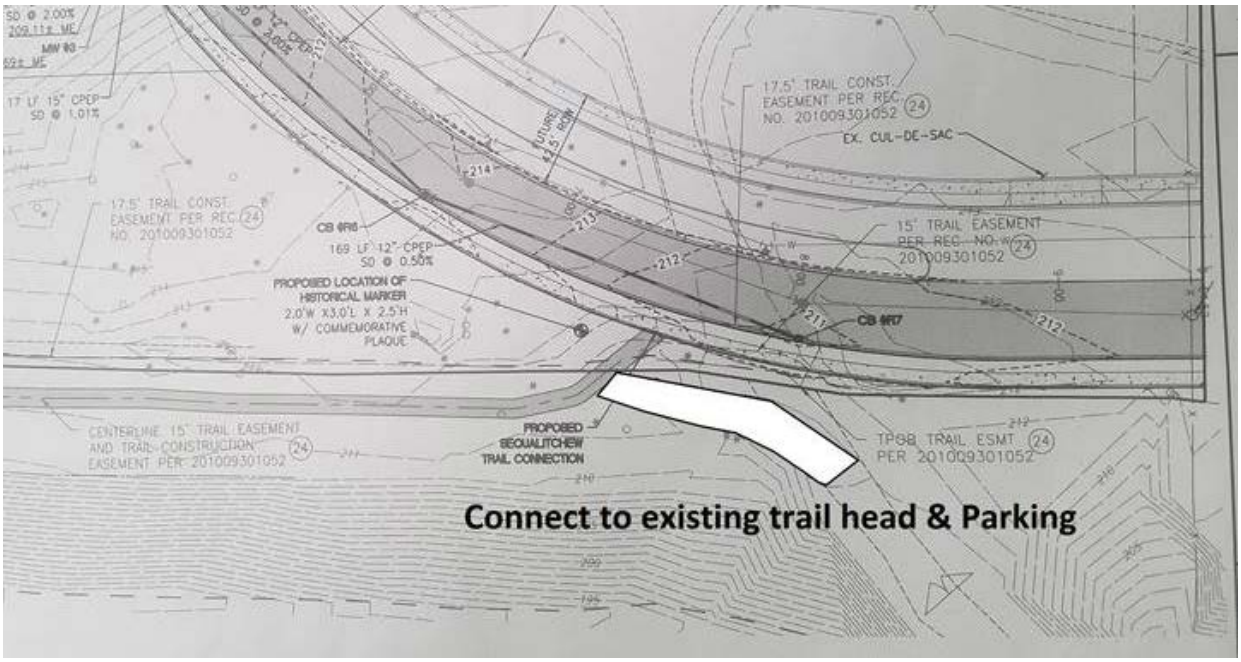
Summary
More valves are needed on the water line!

The proposed 12" water line and will create a long detention time in that water line creating disinfection by products for the water users in this proposed project. To avoid this the water line will need to be flushed regularly.

- Install a metered, automatic flushing station at the end of the proposes Sequalitchew Drive, discharged water needs to be directed to a storm drain facility, the owner pay for the water until such time as Sequalitchew Drive is extended.

Personal observation for Trail Connection

- The new section of trail is showing the Sequalitchew Tail head starting on Sequalitchew dr.
- At a minimum the existing trail from City Hall Parking lot needs to connect to the new alignment.
  - Parking on Sequalitchew Dr. to access the trail must be discouraged
- Preserve and relocate existing trail guide markers
- Preserve existing Mission marker plaque, City to determine who should take possession of it



Fred Foreman
City of DuPont PW Water Quality
1700 Civic Drive
DuPont WA 98327
PW Reception 253-964-8121 Cell 253-377-4971
https://wa-dupont.civicplus.com/directory.aspx?EID=16

2017 Water Quality Report

City of DuPont Fire Department

Proudly serving the community of DuPont

1780 Civic Drive, DuPont, WA, 98327

Phone 253.964.8414 ▪ Fax 253.912.5240 ▪ www.ci.dupont.wa.us

February 14, 2018

TO: Jeff Wilson

FROM: Mike Turner Fire Marshal

RE: DuPont Industrial Park Lot Y

The DuPont Fire Department Prevention Division reviewed the above project and has the following comments.

Site Plan Related Comments

1. 1. Prior to Fire Department approval for occupancy, an underground fire line shall be installed. The system shall comply with NFPA 24 Standard for Installation of Private Fire Service Mains. Three (3) sets of plans, material specifications sheets for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval, and permits issued prior to commencing work. The FDC shall be a minimum of 50 feet or 1&1/2 times the height of the structure away from the building. The FDC shall be within 50 feet of a hydrant and be 5 inch with a locking cap. (Fire Department approval for location) **Separate Permit required.**

2. Per DMC 13.05.100, Emergency Vehicle Access Standards Section H. (Dead End Road Access) An approved area for turning around fire apparatus shall be required at the end of Sequalitchew Dr.

3. Per DMC 13.05.100, Emergency Vehicle Access Standards Section I. (Gates) Number one thru six shall be followed if gates are installed.

New Construction Comments

4. An automatic fire sprinkler system shall be installed. The system shall comply with NFPA 13 Standard for Automatic Fire Sprinkler System. Three (3) sets of plans, hydraulic calculations and material specification sheets for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval and permits issued prior to commencing work. **Separate Permit Required.**

Attachment 10.c. City Fire Marshal comment memorandums dated February 14, 2018, August 22, 2018, and January 18, 2019.

City of DuPont Fire Department

Proudly serving the community of DuPont

1780 Civic Drive, DuPont, WA, 98327

Phone 253.964.8414 ▪ Fax 253.912.5240 ▪ www.ci.dupont.wa.us

5. If a fire pump is required. The system shall comply with NFPA 20. Three (3) sets of plans and material specification sheets for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval and permits issued prior to commencing work. **Separate Permit Required.**

6. An automatic fire alarm system shall be installed. The system shall comply with NFPA 72 Standard for Fire Alarm System. Three (3) sets of plans, material specifications sheet for all equipment used in the system shall be submitted by a State of Washington Licensed Contractor for review, approval and permits issued prior to commencing work. **Separate Permit Required.**

7. A Knox key box system shall be required. Knox applications may be picked up at the DuPont Fire Department located at 1780 Civic Drive DuPont, WA 98327. A key shall be required to be placed in the Knox key box.

8. Fire extinguishers are required to be installed as directed by City of DuPont Fire Department. Prior to installation the client is directed to request a fire inspection to confirm the locations of the fire extinguishers.

9. Make sure you follow Chapter 33 of the 2015 International Fire Code (Fire safety during construction and demolition.)

10. All new building shall have approved emergency responder radio coverage per section 510 of the 2015 International Fire Code.

If you have any questions, you may call Fire Marshal Mike Turner at (253) 666-2760 or e-mail mturner@dupontwa.gov.

Sincerely,

Fire Marshal

Mike Turner

City of DuPont Fire Department

Proudly serving the community of DuPont

1780 Civic Drive, DuPont, WA, 98327

Phone 253.964.8414 ▪ Fax 253.912.5240 ▪ www.ci.dupont.wa.us

August 22, 2018

TO: Jeff Wilson

FROM: Mike Turner Fire Marshal

RE: DuPont Corporate Center Civil Short Plat review PLNG2018-032

The DuPont Fire Department Prevention Division reviewed the above project and has the following comments.

The DuPont Fire Prevention Division has no further comments on this project.

If you have any questions, you may call Fire Marshal Mike Turner at (253) 666-2760 or e-mail mturner@dupontwa.gov.

Sincerely,

Fire Marshal

Mike Turner

City of DuPont Fire Department

Proudly serving the community of DuPont

1780 Civic Drive, DuPont, WA, 98327

Phone 253.964.8414 ▪ Fax 253.912.5240 ▪ www.ci.dupont.wa.us

January 18, 2019

TO: Jeff Wilson

FROM: Mike Turner Fire Marshal

RE: DuPont Industrial Park PLNG2018-008,009 & 047

The DuPont Fire Department Prevention Division reviewed the above project and has the following comments.

The DuPont Fire Prevention Division has no further comments on this project.

If you have any questions, you may call Fire Marshal Mike Turner at (253) 666-2760 or e-mail mturner@dupontwa.gov.

Sincerely,

Fire Marshal

Mike Turner

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING SERVICES DIVISION

1700 Civic Drive
DuPont, WA 98327
Ph 253.964.5387 Fax 253.964.1455

MEMORANDUM

TO: **Jeff Wilson, Planning Director**

FR: **William Anderson, Building Official**

RE: **SEPA Environmental review comments, City File No. PLNG 2018-008 & 009 DuPont Industrial – Lot Y**

DATE: **February 21, 2018**

The Building Services Division has reviewed the materials submitted for the proposed development on the referenced lots. The following comments are provided for the applicant's use in progressing with planning and design of their project:

1. The proposed structures must be designed to meet the requirements of the building construction codes **in effect at the time of building permit submittal**. The following codes are currently enforced by the City of DuPont: the 2015 International Building Code, the 2015 International Residential Code, the 2015 International Fire Code, the 2015 International Mechanical Code, the 2015 International Fuel Gas Code, the 2015 Uniform Plumbing Code (each as amended and adopted by the State of Washington); and the 2015 Washington State Energy Code,
2. The project (or each project) will be required to receive all land use and civil construction approvals prior to issuance of building permits for the proposed structures.
3. All applicable Fire Impact fees assessed for the proposed development will be required to be paid prior to the issuance of building permit(s) associated with the proposed project.
4. Also prior to issuance of a building permit for the structures, the applicant shall provide a copy of Pierce County Sewer Service Permits for City record. This permit (and authorization to connect to sewer service) is/may be independent from any sewer system extension that may also apply to the project. All sewer connection and permitting requirements must be coordinated with the utility purveyor. (Please note that Pierce County Sewer Utility requires a pre-treatment review and approval be completed prior to their issuance of sewer extension or sewer service connection permit(s). Each subsequent tenant, for multi-tenant buildings, must also complete a separate pre-treatment review and

provide copy of sewer service permitting, where applicable, prior to obtaining a building permit for associated improvements.)

5. The project will be required to comply with the requirements for provision of as-built drawings contained in DMC Chapter 24.10, GIS. As-built drawings and submittals must be submitted and approved prior to issuance of a Certificate of Occupancy for the building, or portions thereof.
6. Fire Suppression and Fire Alarm permits associated with the structure(s) must be obtained through DuPont Fire Department prior to initiating any such work. All alarms systems will be required to obtain an alarm registration permit with the city, prior to full activation of the alarm system for operation; forms may be obtained at city hall.
7. Fire flow requirements and requirements for on –site hydrants and site access provisions will be determined by the DuPont Fire Chief or designee. Such requirements may be subject to additional review and requirements as future submittals come forward.
8. Addressing for building(s) within the project area will be assigned as the project scope progresses, and may be obtained from the building department as needed. (Please note that in establishing and providing this information, the department will need to verify a clear scope and layout for the proposal – as minor adjustments to primary access points, inter-relation of use(s) of the buildings, or changes in building frontage may affect preliminary addressing assignment(s).)
9. Permit forms may be obtained either at city hall or may be downloaded through the city's website. Assistance in completing applications is available by contacting permit staff.
10. In conformance with IBC Section 427, new buildings serving Group B, Group R-1 hotel and motel only, and Group R-2 occupancies, served by 20 or more parking spaces, shall provide a minimum of 5% of the parking spaces with electric vehicle charging infrastructure in compliance with IBC Sections 427.3, 427.4 and 427.5.
11. Accessible parking spaces shall be provided in compliance with IBC Section 1106. Quantity of required stalls shall conform with Table 1106.1, except as required by IBC Sections 1106.2 through 1106.4 and locations as specified in Section 1106.6 as amended by the Washington State Building Code Council.
12. Refuge enclosures shall be sized to provide space for the storage of recycled materials, compost, and solid waste in conformance with WAC 51-50-009.

As the project proceeds, more specific requirements may be discussed with our department. If there are any questions or clarifications needed, please contact me.

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING SERVICES DIVISION

1700 Civic Drive
DuPont, WA 98327
Ph 253.964.5387 Fax 253.964.1455

MEMORANDUM

TO: **Jeff Wilson, Planning Director**

FR: **William Anderson, Building Official**

RE: **DuPont Industrial – Lot Y Land Use application review comments, City File No. PLNG 2018-008, 009 & 047.**

DATE: **August 20, 2018**

The Building Services Division has reviewed the materials submitted for the proposed development on the referenced lots. The following comments are provided for the applicant's use in progressing with planning and design of their project:

1. The proposed structures must be designed to meet the requirements of the building construction codes **in effect at the time of building permit submittal**. The following codes are currently enforced by the City of DuPont: the 2015 International Building Code, the 2015 International Residential Code, the 2015 International Fire Code, the 2015 International Mechanical Code, the 2015 International Fuel Gas Code, the 2015 Uniform Plumbing Code (each as amended and adopted by the State of Washington); and the 2015 Washington State Energy Code,
2. The project (or each project) will be required to receive all land use and civil construction approvals (including Boundary Line adjustments) prior to issuance of building permit for the proposed structures.
3. All applicable Fire Impact fees and Storm and Water System Development Charges assessed for the proposed development will be required to be paid prior to the issuance of building permit(s) associated with the proposed project.
4. Also prior to issuance of a building permit for the structures, the applicant shall provide a copy of Pierce County Sewer Service Permits for City record. This permit (and authorization to connect to sewer service) is/may be independent from any sewer system extension that may also apply to the project. All sewer connection and permitting requirements must be coordinated with the utility purveyor. (Please note that Pierce County Sewer Utility requires a pre-treatment review and approval be completed prior to

their issuance of sewer extension or sewer service connection permit(s). Each subsequent tenant, for multi-tenant buildings, must also complete a separate pre-treatment review and provide copy of sewer service permitting, where applicable, prior to obtaining a building permit for associated improvements.)

5. The project will be required to comply with the requirements for provision of as-built drawings contained in DMC Chapter 24.10, GIS. As-built drawings and submittals must be submitted and approved prior to issuance of a Certificate of Occupancy for the building, or portions thereof.
6. Fire Suppression and Fire Alarm permits associated with the structure(s) must be obtained through DuPont Fire Department prior to initiating any such work. All alarms systems will be required to obtain an alarm registration permit with the city, prior to full activation of the alarm system for operation; forms may be obtained at city hall.
7. Fire flow requirements and requirements for on –site hydrants and site access provisions will be determined by the DuPont Fire Chief or designee. Such requirements may be subject to additional review and requirements as future submittals come forward.
8. Addressing for building(s) within the project area will be assigned as the project scope progresses, and may be obtained from the building department as needed. (Please note that in establishing and providing this information, the department will need to verify a clear scope and layout for the proposal – as minor adjustments to primary access points, inter-relation of use(s) of the buildings, or changes in building frontage may affect preliminary addressing assignment(s).)
9. Permit forms may be obtained either at city hall or may be downloaded through the city's website. Assistance in completing applications is available by contacting permit staff.
10. In conformance with IBC Section 427, new buildings serving Group B, Group R-1 hotel and motel only, and Group R-2 occupancies, served by 20 or more parking spaces, shall provide a minimum of 5% of the parking spaces with electric vehicle charging infrastructure in compliance with IBC Sections 427.3, 427.4 and 427.5.
11. Accessible parking spaces shall be provided in compliance with IBC Section 1106. Quantity of required stalls shall conform with Table 1106.1, except as required by IBC Sections 1106.2 through 1106.4 and locations as specified in Section 1106.6 as amended by the Washington State Building Code Council.
12. Refuge enclosures shall be sized to provide space for the storage of recycled materials, compost, and solid waste in conformance with WAC 51-50-009.

As the project proceeds, more specific requirements may be discussed with our department. If there are any questions or clarifications needed, please contact me.

From:	Geri
To:	gheath@heathtraffic.com
Cc:	Jeff Wilson; Lisa Klein; Gus Lim; Dominic Miller
Subject:	DuPont Industrial
Date:	Monday, February 12, 2018 11:50:42 AM
Attachments:	Dupont 2017 TMC.pdf

Greg-

As discussed in our phone call, the TIA for DuPont Industrial needs to be revised per the comments below:

1. The trip generation needs to be revised to break-out vehicle versus truck trips. As discussed, there is limited truck data for the traditional warehouse, but the 20% value that ITE notes for daily trips seems to be reasonable. As for peak hour percentages, I would suggest reviewing/using the ITE percentage values for 'high-cube' warehouses as a reasonable approximation for the peak hours.
2. The trip distribution needs to be revised as follows - **all** truck trips need to be routed to/from the east due to the truck restrictions on Center Drive between Palisade and McNeil; vehicle trip assignment should be revised such that 25%-30% of the trips are to/from the east. Also, you may want to assign small percentages into the neighborhoods at Bobs Hollow, McNeil, etc. as traffic disperses to/from the south.
3. Pipeline trips needs to be included in the future volume forecasts **in addition** to the 2% growth rate. I will be forwarding these to you once they are updated in the next few days.
4. The intersection of Center Drive/Palisade should be included in the LOS analyses. I have attached the peak hour counts for this location for your use. (Also included in the attachment are all of the peak hour counts from 2017 for **future** reference; it's OK to use your counts for the other locations.)

Thanks so much Greg! Please call or email if you have any questions.

geri

Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(206) 285-9035
(425) 530-0664 cell
greinart@msn.com

Attachment 10.e. City's Traffic Engineering Consultant, Gerilyn Reinhart comments dated February 12, 2018, June 6, 2018, December 10, 2018 and January 13, 2019

Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(206) 285-9035
Traffic & Transportation Engineering Services

MEMORANDUM

June 6, 2018

TO: Jeff Wilson, Planning Director
City of DuPont

FROM: Geralyn Reinart, P.E.

SUBJECT: Review of DuPont Industrial (Sequalitchew) Traffic Impact Analysis

The following summarizes my review of the traffic impact analysis (TIA) for the proposed DuPont Industrial development prepared by Heath & Associates and dated March 2018 (Revised).

The traffic study reviews the development of two warehouse buildings totaling 255,000 square feet. The project site is located on the westerly side of Sequalitchew Drive (if extended), northwest of Center Drive. Access to the site will be from an extension of Sequalitchew Drive, northwesterly from its current terminus. This street currently serves the Creekside Village apartments and ends approximately 500 feet west of Center Drive. The street consists of two eastbound lanes and one westbound lane, with a center landscaped median. Bike lanes are striped on each side of the street and sidewalk is present along the Creekside Village frontage. Curb and gutter have been installed on both sides of the street. The project could potentially generate 444 new daily trips, with 43 new trips generated during the AM peak hour and 49 new trips during the PM peak hour.

My comments with respect to this study are as follows:

General Comments:

A TIA dated November 2017 was initially submitted for the project in February of 2018. A quick review of the project indicated that no pipeline trips had been included in the analysis, the trip generation didn't segregate truck and passenger vehicle trips, the intersection of Center Drive/Palisade needed to be included in the analysis, and the trip distribution needed to be revised to reflect the truck restriction along Center Drive. The Consultant was contacted with respect to these issues and the comments herein reflect the revised TIA dated March of 2018.

The revised TIA conforms to the City's guidelines and includes all the necessary

information to complete my review, including revisions that reflect the above noted comments. The impacts for this project would be fairly limited, i.e., the number of trips generated by the project is relatively small thereby limiting the impacts to adjacent intersections. Five intersections along Center Drive (Sequalitchew Drive, Palisade Boulevard, Bobs Hollow Lane, McNeil Street, and Wilmington Drive) that would be impacted by 25 or more peak hour trips were analyzed in the TIA for existing and future conditions.

The Consultant completed new AM and PM peak hour counts at four intersections along Center Drive, and utilized counts provided by the City at one intersection. Traffic volume projections for the future conditions included pipeline trips provided to the Consultant for nine other projects plus a 2% annual growth rate.

The results of the analyses indicated that all intersections should operate at an acceptable level of service upon completion of the project (see subsequent section for more specific comments).

Specific Comments:

The following limited comments are specific to the page noted or the appendix/attachments.

1. Page 7 – Figure 3 (existing AM peak hour volumes) should be shown, but Figure 4 (existing PM peak hour volumes) was inserted by mistake (and is included twice). I was able to able to acquire a copy of the AM volumes from the initial TIA submittal and also cross-check them with the field data provided in the attachments. All pertinent volume data was used in the analyses or provided in the attachments; this error had no bearing on any results or conclusions.
2. Page 8, Figure 4 – as noted, the counts at four of the five intersections were completed for this TIA and are comparable to those collected by the City and therefore are acceptable.
3. Page 10, Table 1 – the level of service analyses for existing conditions indicate acceptable conditions at all locations. One small typographical error was noted but has bearing on any results or conclusions.
4. Page 11, Table 2 – the table cites the AASHTO standard for entering sight distance of 390 feet for a 35-mph posted speed; the City's Public Works standards require 490 feet for a 35-mph design speed. The City's requirements will need to be checked with the final civil engineering plans.
5. Pages 11 & 12, Trip Generation – trip generation for the project used ITE Land Use Code 150 – Warehousing, which is basically a space devoted to the storage of materials and typically includes small office and maintenance areas. Trucks are expected to comprise about 20% of the total trips for this type of use, which is an acceptable value. (*Note: the trip rates for 'warehousing' used in the analysis are higher than the rates for a 'high-cube' warehouse use.*) The values shown in Table 3 are correctly presented.
6. Pages 13 & 14, Figures 5 & 6 – the trip assignments for the AM and PM peak

hours are acceptable as shown.

7. Pages 15 & 16, Figures 7 & 8 – the pipeline trips are correctly shown.
8. Pages 17 & 18, Figures 9 & 10 – the future peak hour volumes (without project) are correctly shown.
9. Pages 19 & 20, Figures 11 & 12 – the future (with project) peak hour volumes are correctly shown.
10. Pages 21 & 22, Tables 4 & 5 – the future peak hour levels of service, with and without the project, are correctly shown. All intersections will meet the City's level of service standard; as such, no off-site mitigation is required.
11. Appendices/Attachments – all LOS calculations are correctly completed and the results are acceptable as presented; all other attachments are acceptable.

Based on the above comments, I find the analysis to be acceptable as submitted and do not require any changes or a re-submittal.

A couple of items that are not part of the TIA but wanted to point out since they are related to the street design and would refer these to Dominic for further comment are as follows:

- Sequalitchew Drive will eventually carry a significant amount of traffic; as such, I recommend that an exclusive left-turn lane on Sequalitchew Drive at the site access be constructed to serve entering vehicles. Although this installation is not needed at the present time, it will be needed once the vacant land to the north is developed and should be included at this time as part of the street construction.
- I cannot tell from the civil plans how the extension of Sequalitchew Drive impacts the trail in this vicinity; however if the street extension crosses the trail, then signs and markings should be installed for the trail crossing.

This completes my comments at this time; please give me a call if you have any questions.

Cc: Dominic Miller, PE

From:	Jeff Wilson
To:	Lisa Klein
Subject:	FW: Dupont Industrial Pedestrian Trail/ROW Dedication and Proposed List of Mitigation Measures for Cultural Resource Issues
Date:	Monday, December 10, 2018 2:49:30 PM

FYI

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Geri [mailto:greinart@msn.com]
Sent: Monday, December 10, 2018 2:46 PM
To: Jeff Wilson <JWilson@dupontwa.gov>
Subject: Re: Dupont Industrial Pedestrian Trail/ROW Dedication and Proposed List of Mitigation Measures for Cultural Resource Issues

Jeff-

The revised site plan does not alter my original comments and I have no additional comments. Thanks!

geri
Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(206) 285-9035
(425) 530-0664 cell
greinart@msn.com

From: Jeff Wilson <JWilson@dupontwa.gov>
Sent: Monday, December 10, 2018 12:03 PM
To: Bill Anderson; Dominic Miller; Fred Foreman; Geralyn Reinart PE (greinart@msn.com); Gus Lim; Janet Howald; Lisa Klein (AHBL); Michael Keohi; Mike Turner; Scott Hein; Jackson, Ted
Cc: Janet Howald
Subject: FW: Dupont Industrial Pedestrian Trail/ROW Dedication and Proposed List of Mitigation Measures for Cultural Resource Issues

All,

Attached are revised site plan materials for "Lot Y" application. Please review ASAP and send me any modifications to your original application review comments

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Drew Zaborowski [mailto:dzaborowski@avenue55.net]
Sent: Monday, December 10, 2018 11:43 AM
To: Jeff Wilson <JWilson@dupontwa.gov>; Dan Balmelli <dbalmelli@barghausen.com>; 'Lisa Klein (AHBL)' <LKlein@AHBL.com>
Cc: ecederstrand@neilwalter.com; Lia Estigoy <lia@combaydev.com>
Subject: RE: Dupont Industrial Pedestrian Trail/ROW Dedication and Proposed List of Mitigation Measures for Cultural Resource Issues

Jeff,
Please see the attached cover letter and site plan.

Thanks,
Drew

Drew Zaborowski | Development Manager

avenue55

600 University St. Suite 2305
Seattle, WA 98101
dzaborowski@avenue55.net
206.707.9696
www.avenue55.net

From: Jeff Wilson [mailto:JWilson@dupontwa.gov]
Sent: Monday, December 10, 2018 11:27 AM
To: Dan Balmelli <dbalmelli@barghausen.com>; 'Lisa Klein (AHBL)' <LKlein@AHBL.com>
Cc: ecederstrand@neilwalter.com; Drew Zaborowski <dzaborowski@avenue55.net>; Lia Estigoy <lia@combaydev.com>
Subject: RE: Dupont Industrial Pedestrian Trail/ROW Dedication and Proposed List of Mitigation Measures for Cultural Resource Issues

Dan,

Thank you for the updated information regarding proposed SEPA mitigation measures. This will help us work on the environmental determination. However, we are still awaiting the information requested in my email of November 19th to Mr. Zaborowski (see attached). When I have all the information and after issuance of the environmental determination, I will then be able to set the Hearing Examiner meeting date. If possible, I will work with the Hearing Examiner to find a special meeting date for the hearing to help with scheduling.

V/R,
Jeff

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Dan Balmelli [mailto:dbalmelli@barghausen.com]
Sent: Wednesday, December 05, 2018 9:08 AM
To: Jeff Wilson <JWilson@dupontwa.gov>; 'Lisa Klein (AHBL)' <LKlein@AHBL.com>
Cc: ecederstrand@neilwalter.com; Drew Zaborowski <dzaborowski@avenue55.net>; Lia Estigoy <lia@combaydev.com>
Subject: Dupont INdustrial Pedestrian TRail/ROW Dedication and Proposed List of Mitigatin Measurees for Cultrual Resource Issues

Good morning Jeff and Lisa,

Attached is the updated pedestrian trail and right of way dedication exhibit for your review and use in completing the SEPA and Land Use decision for the Dupont Industrial project.
Also, below is a list of the measures proposed by the developer relative to the cultural resource protection issues for your review and inclusion in the decision document.
Please review and let us know if you have any questions or need any additional information to complete the land use decision. Please also confirm that the project is on the schedule for the January public hearing date.
Thanks

Proposed List of Mitigation Measures
As part of the ongoing cooperation with various stakeholders in the Dupont area in regards to the cultural and historical aspects of the proposed project site, applicant agrees to:

- Dedicate as Right of Way to City of Dupont, the area totaling 66,434 SF as shown within the following exhibits. Applicant values this land at a market price of $7.50/SF, totaling a land value of $488,255.
- Applicant agrees to provide an approximately 8’ wide asphalt path through the Right of Way

dedication that connects to the existing trail as shown within the following exhibits. Asphalt section shall be no less than 1.5" asphalt over 2" crushed rock.

- Applicant agrees to provide mutually agreeable fencing with along both sides of path as a deterrent for pedestrians to stray off the asphalt path due to the Department of Ecology Consent Decree concerns.
- The total cost of the asphalt path and fencing is estimated in the range of $200,000.
- As part of the ongoing cooperation with various stakeholders in the community, applicant agrees to provide five (5) monument bases suitable for placard installation (provided by others) posts along the asphalt path per a mutually agreed upon design with stakeholders. Cost to install monument bases is anticipated to be in the range of $20,000.

Dan Balmelli | Executive Vice President
Office: 425-251-6222 | Mobile: 206-396-8588
Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South, Kent, WA 98032
www.barghausen.com

From: Jeff Wilson
To: Lisa Klein
Subject: FW: DuPont Industrial Park PLNG2018-008,009 & 047
Date: Monday, January 14, 2019 9:05:11 AM

FYI

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
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Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Geri [mailto:greinart@msn.com]
Sent: Sunday, January 13, 2019 11:41 AM
To: Janet Howald <JHowald@dupontwa.gov>
Cc: Jeff Wilson <JWilson@dupontwa.gov>
Subject: Re: DuPont Industrial Park PLNG2018-008,009 & 047

I have no comments regarding the revised landscape plans. Thanks!

geri

Geralyn Reinart, P.E.
831 Sprague Street
Edmonds, WA. 98020
(206) 285-9035
(425) 530-0664 cell
greinart@msn.com

From: Janet Howald <JHowald@dupontwa.gov>
Sent: Friday, January 11, 2019 4:22 PM
To: Bill Anderson; Christopher Ortega; Dominic Miller; Fred Foreman; Geri Reinart (greinart@msn.com); Gus Lim; Janet Howald; Jeff Wilson; Lisa Klein, AHBL; Mike Turner; Scott Hein; Jackson, Ted; Valeska Silva
Subject: DuPont Industrial Park PLNG2018-008,009 & 047

Attached are revisions for DuPont Industrial Park, PLNG2018-008,009 and 047. Please offer any comments on the revisions to Jeff by the end of next week, January 18, 2019.

Thank you.

Janet Howald
Community Development
Administrative Specialist
City of DuPont
1700 Civic Drive
DuPont, WA 98327

Direct (253)912-5232
City Hall (253) 964-8121
Jhowald@dupontwa.gov

Janet Howald

From: jjoneshook@aol.com
Sent: Wednesday, September 12, 2018 1:50 PM
To: Jeff Wilson
Subject: 9th Cavalry Buffalo Soldiers - American Lake Maneuvers
Attachments: AmericanLakeManeuvers.jpg

Follow Up Flag: FollowUp
Flag Status: Flagged

9th Cavalry Buffalo Soldiers - American Lake Maneuvers
A series of maneuvers were held
Time period - 1904, 1906, 1910, 1912
Over 4,000 Troopers please see the document report attached

This history marked a Turning Point in Military History in Washington State

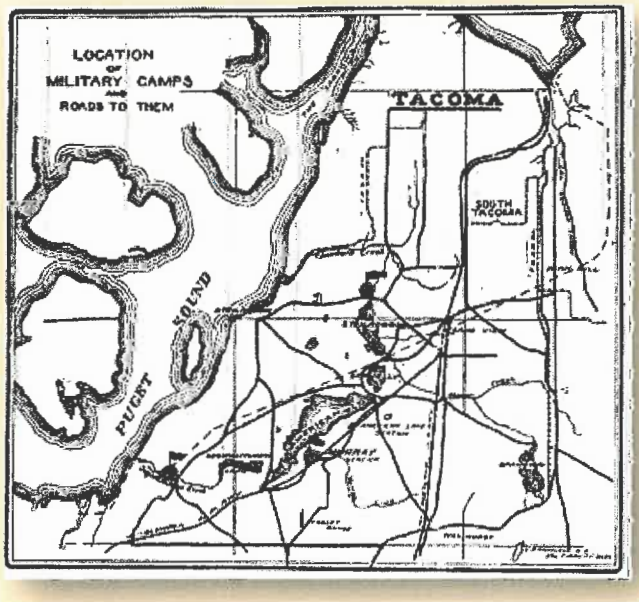
Jackie Jones-Hook
Executive Director
Buffalo Soldiers Museum

The American Lake Maneuvers



Members of the 9th U.S. Cavalry Regiment, known as "Buffalo Soldiers," served in the 1904 Maneuvers

The first in a series of large scale military maneuvers were held at American Lake, Washington in July, 1904. The maneuvers marked a turning point in the military history of Washington State. Over 4,000 troops from the Regular U.S. Army and National Guard units from Washington, Oregon, and Idaho were organized into opposing armies. The two forces maneuvered around American Lake engaging in mock battles and skirmishes. Army officers engaged in the maneuvers came to see the potential of the area as an exceptional training area for future large scale military maneuvers. The area boasted a mild climate, good drainage for camps, and the hills, fields, and streams required to simulate various battlefield terrain.



The success of the 1904 Maneuvers led to additional military maneuvers in 1906, 1908, 1910, and 1912.



jjoneshook@aol.com

Janet Howald

From: Bridget King <bkking3@hotmail.com>
Sent: Tuesday, September 11, 2018 8:48 PM
To: Karri Muir; Jeff Wilson
Subject: Citizen Comments Re: Application with optional DNS DuPont Industrial Park at 1700 Center Dr File Nos PLNG 2018-008 and -047
Attachments: Lot Y citizen input.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA), Public Comment

Karri, Jeff, Please find attached a letter from myself and a group of concerned citizens re: Lot Y application. Please acknowledge Receipt. Bridget King

To: Jeff Wilson, AICP Community Development Director and City SEPA Official City of DuPont 1700 Civic Drive DuPont, WA 98327 (253) 912-5393 / jwilson@dupontwa.gov

Subject: Comments Re: Application with optional DNS DuPont Industrial Park at 1700 Center Drive City File Nos. PLNG 2018-008, -009 and -047 and destruction of Cultural Resources

Dear Mr. Wilson,

Concerned citizens share grief at the potential irreversible loss of history and cultural resource destruction with proposed construction of warehouses over at least 2 National Historic Register sites contained within Lot Y; we therefore ask that you not allow this project to go forward without a determination of significance and required EIS to ensure preservation of these actual locations for full future access by the public.

The destruction would result in a missed opportunity for the City of DuPont to develop a National Historic District of local, regional and national significance. Citizens and interest groups have had a goal for building a replica of the Mission, and marking the areas of the 1841 Independence Day Celebration and 1904 Buffalo Soldier Encampment which lie within Lot Y. These goals can and should be realized, not just to economically benefit from tourism, but so that we can steward the future by knowing and connecting with the past.

Thank you for your consideration in this matter.

Bridget King, 1473 Kittson St, DuPont Wa, 98327 and undersigned concerned citizens:

	Krista Novak	1449 Kittson St.
	MARIA GUDAITIS	507 Louviers Ave.
	Jessica Foster	504 DuPont Ave
	R Suzette Frederick	1148 Aldrich Pl.
	RONALD J. FREDERICK	1148 ALDRICH PL.
	Dennis Clarke	2237 Anderson Ave
	Kathy Clarke	2237 Anderson Ave
	Cara Mitchell	2221 McDonald Ave.
	Laurie Foster	1975A Garry Oaks Ave

Attachment 11.b. Bridget King letter dated September 11, 2018

Jeff Wilson

From: Diana Barbera <dbarbera@mindspring.com>
Sent: Sunday, September 09, 2018 12:00 AM
To: Jeff Wilson
Subject: Citizen comments regarding the DuPont Industrial Partners, LLC proposal to build two warehouses

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA), Public Comment

September 8, 2018

Jeff Wilson, City of DuPont Community Development Director and City SEPA Official

Dear Jeff,

I'm just learning about a plan that a developer is proposing to build two industrial warehouse buildings on a 21 acre piece of land located near Sequalitchew Creek.

I'm concerned about what kind of impact this could have on the Sequalitchew Creek watershed.

The Sequalitchew Creek watershed is an environmentally sensitive area in great need of restoration, not further degradation.

Of further concern is that this is also an area of historic and cultural significance. The Sequalitchew-Nisqually Indians have lived, fished, foraged, and hunted here for over 5,700 years. The planned location may be near historic sites and I would like to know about what plans there are in place to ensure no artifacts or historic structures are damaged.

Please include my comments as part of the city's review of the proposal by DuPont Industrial Partners, LLC to build two warehouses.

Sincerely,

Diana Barbera
1829 Hoffman Hill BLVD
DuPont, WA 98327

Attachment 11.c. Diana Barbera email dated September 9, 2018

Jeff Wilson

From: Jim Lewis <revjlewis43@gmail.com>
Sent: Saturday, August 25, 2018 1:13 PM
To: Jeff Wilson
Cc: Beth Elliott; bkking3@hotmail.com; Hanford McCloud; Jackie Jones-Hook; Larry Wilcox; Roger C. Westman; Tom Skjervold; soldiersmuseum@aol.com; Don Dresser; Ted Danek
Subject: City of DuPont application for DuPont Industrial PLNG2018-008 and 009

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Public Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

As the Chairperson of the Pacific Northwest Conference of the United Methodist Church Commission on Archives and History, I wish to be listed as a party of record on the above application process for the DuPont Industrial Park at 1700 Center Drive.

As I will be soon turning the responsibility for representing our Commission on Archives and History over to another person, I will also request to have that person added as a party of record when the person is selected in early September.

Thank you for keeping the interests of the very important historic Methodist Mission as a part of the ongoing discussions and decision making on this application process.

Rev. Dr. James D. Lewis
revjlewis43@gmail.com

Attachment 11.d. Jim Lewis email dated August 25, 2018

Janet Howald

From: Maria Gudaitis <mariagudaitis@gmail.com>
Sent: Wednesday, September 12, 2018 4:46 PM
To: Jeff Wilson; Karri Muir
Subject: Comments Re: Application with Pptional DNS DuPont Industrial Park at 1700 Center Drive City File Nos. PLNG 2018-008, -009 and -047

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Public / Agency Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Dear City of DuPont and Mr. Wilson:

Contrary to expressed statements from public officials in the City of DuPont, the Buffalo Soldiers Encampment site is a significant historic and cultural asset for several reasons:

1) It is a historic site that pre-dates the creation of Camp Lewis and that contributes our understanding of the unique military history of the Northwest. The Buffalo Soldiers' participation in the 1904 American Lake Maneuvers occurred here in the boundary limits of the city of DuPont, where an applicant proposes industrial warehouses. This combined U.S. Army, the Washington National Guard and the Oregon National Guard exercise led the Army to choose the area to become Camp Lewis. Fort Lewis is now Joint Base Lewis-McChord, which has become the area's single largest employer. DuPont has been a military community for decades. Destruction of this site would constitute an enormous, irreparable loss of history not just for our city but for our nearby neighbor, JBLM which is a place of national importance.

2) The Buffalo Soldiers encampment was established over several months, across several years. It is not a one-time or insignificant location. There are artifacts present on the site. As the history of the Buffalo Soldiers become better known, sites like these are important for archeological and historic research, and for our collective memory, especially in a military community. The site has not been fully explored or surveyed. Paving over the site will be a terrible loss for Washington State and military historians.

3) There are only approximately five known locations of Buffalo Soldiers camps in Western Washington. The site at DuPont is rare and unique. Its significance cannot be understated.

4) For the African-American community, there are very few significant places of early history in Washington State. These rare sites we have discovered and designated should be protected, not paved over and topped with warehouses. It serves an educational purpose. It serves a purpose to inspire children, families and the military community.

Is the history of the Buffalo Soldiers and their camp in the Y Lot of the City of DuPont non-significant? To determine this--to say it is non-significant, that it can be erased and eliminated--one must ignore the principles of historic preservation and commit a grave error.

I hope our city, which itself is a place of great historic significance, does not make the mistake of damaging a priceless historic site with significance for both the military community and the African-American citizens of this region.

Attachment 11.e. Maria Gudaitis email dated September 12, 2018

Our own comprehensive plan encourages us to take care and to preserve these important cultural resources:

> Goal CR-1
> Protect cultural resources by continuing to implement regulations that insure cultural resources will not be destroyed, damaged, or disregarded during the planning and development process.

Rather than destroy this site, perhaps we can work with the proposal to implement our city goals in regards to enhancing the site.

> Cultural Resources Implementation Action
> Implement a coordinated program of promotional and interpretive signage to identify significant historical sites and points of interest as well as an oversight and management program to coordinate overall promotion and maintenance of significant historic sites.
>
> Create an educational program focused on natural and historic treasures to increase awareness and understanding and appreciation of the community and its visitors.
>
> Identify and mark historic roads, and trails to help preserve the area history. Incorporate these trails into the public trail system.

Let's continue to make DuPont the jewel of history for the Pacific Northwest. It's a worthwhile endeavor that is backed by the majority of our citizens.

Thank you,

Maria Gudaitis
507 Louviers Ave., DuPont, WA 98327

Jeff Wilson

From: Kate Walsh <3mcwals@gmail.com>
Sent: Monday, September 10, 2018 10:09 PM
To: Jeff Wilson
Subject: Development of lot by the Sequalitchew creek

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Public Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Mr. Wilson,
Seventy percent impervious surface will increase runoff and contribute to climate change.
The creek and trail are an irreplaceable environmental and recreational asset, a unique aspect of DuPont. Developing so close to those sites will destroy quiet, biological diversity, natural beauty.
The creek and trail are a culturally sensitive area, because of their history as a Native American tribal settlement.
The creek and the trial are historically sensitive because of the association with the Methodist Episcopal Mission.
Once you've destroyed the environment and history, your "historical markers" will mean nothing. A memento to BAD planning.
So far, the development choices epitomize short sighted, irresponsible, and REALLY ugly choices, that are destroying the quality of the community.
I used to think people who suggested financial corruption or self-dealing in the city's choices were like conspiracy theorists: a little nutty. Extreme.
But looking at the grotesque Cubes, the grotesque Ace hardware/self storage right in the middle of what used to be the town, with bad art murals to come, the grotesque gas station project, and the relentless push to develop more and bigger of these monstrosities, and increase traffic in and around schools and parks, one has to wonder WHO is benefiting: it's not the community, that's for sure.
Thank you,
Kate Walsh
2180 Palisade

RECEIVED
AUG 27 2018
CITY OF DUPONT

DuPont
Historical Museum

August 27, 2018

From: DuPont Historical Society

To: Jeff Wilson, AICP
Community Development Director and City SEPA Official

RE: Application to develop tax parcel no, 011926-2019 from Eric Cederstrand, DuPont Industrial Partners, LL.C

The DuPont Historical Society is concerned about the protection of the Methodist Mission monument site and the 50 foot diameter which also was in the center of the 1904 Buffalo Soldier encampment. Assuming this site will be preserved, Will the developer be responsible to develop a park like area around the monument? If yes, will the public be consulted to put forth suggestions of what the area should look like? If in the development of a new monument on the site the old brass plaque is not going to be utilized, we would like to have the plaque donated to the DuPont Historical Museum.

We are also concerned about the protection of the Sequalitchew Creek and the narrow-gauge railroad bed that is the current trail to the Puget Sound. This creek has been a major water source to the people who have lived in this area for over 5000 years. There are a number of historical sites along the Sequalitchew creek trail, and is probably one of the most often used trails in DuPont.

Sincerely

Carol F Estep

Carol F. Estep, President, DuPont Historical Society
207 Barksdale Ave
DuPont WA 98327

estepcarol@gmail.com
253-459-4339 cell phone

Attachment 11.g. DuPont Historical Society (Carol F. Estep) letter dated August 27, 2018

Janet Howald

From: ECY RE SWRO SEPA COORDINATOR <swrosepacoordinator@ECY.WA.GOV>
Sent: Wednesday, September 12, 2018 3:34 PM
To: Jeff Wilson
Cc: Barber, Eva (ECY); Montague-Breakwell, Chris (ECY); Serdar, Carol (ECY); Rockett, Derek (ECY)
Subject: ECY SEPA 201804711 - DuPont Industrial Park - Comments
Attachments: 201804711 ECY Comments.pdf

Importance: High

Follow Up Flag: FollowUp
Flag Status: Completed

Categories: Permits - Planning (PLNG2018-048 & 049 / Amazon / Minor Site Plan Revision), Agency SEPA Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Dear Mr. Wilson,

Attached are Ecology's comments for the DuPont Industrial Park Project (Ecology SEPA No. 201804711). This is the original final copy. Comments are due today 9/12/18.

Please reply to this message for confirmation.

Please use the correct acronym **"ECY" for the Department of Ecology (DOE is US Department of Energy).**

Morgan L. Dorner
State Environmental Policy Act Coordinator
WA Department of Ecology | SWRO
P: 360-407-6313 | **F:** 360-407-6305
swrosepacoordinator@ecy.wa.gov
SEPA Register: http://ecyapsea/separ/Main/SEPA/Search.aspx

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

September 12, 2018

Jeff Wilson, Director and City SEPA Official
City of DuPont
Community Development Department
1700 Civic Drive
DuPont, WA 98327

Dear Mr. Wilson:

Thank you for the opportunity to comment on the optional mitigated determination of nonsignificance/notice of application for the DuPont Industrial Park Project (PLNG2018-008, PLNG2018-009, PLNG2018-047) located at 1700 Center Drive as proposed by DuPont Industrial Partners, LLC. The Department of Ecology (Ecology) reviewed the environmental checklist and has the following comment(s):

TOXICS CLEANUP: Eva Barber (360) 407-7094

This property is part of the former DuPont Work Site where manufacturing of explosives led to extensive soil and groundwater contamination. It is also located in an area that was impacted by the air emissions originating from the old Asarco smelter in north Tacoma. As a result of the contamination, this parcel is subject to the restrictions in an environmental covenant filed with Pierce County on October 29, 1999. The restrictions were set forth to protect human health and were due to the fact that interim cleanup action on this parcel brought the levels of contamination to industrial levels only. The levels of contaminants in the soil are still above the MTCA Method A cleanup levels for unrestricted land use. The covenant prohibits the use of this parcel for residential, school, daycare, recreational, or park uses. The covenants also restricts public access to the property, therefore the improvements to the public trail or the construction of the public plaza are inconsistent with the allowed use for this parcel. Ecology recommends that the lead agency include the following as conditions of approval, prior to issuance of site development permits or the initiation of grading, filling, or clearing:

1) Develop soil remediation plan and enter into the Voluntary Cleanup Program with Ecology. For more information on the Voluntary Cleanup Program, visit Ecology website at: https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program.

2) Obtain an opinion letter from stating that the proposed soil remediation plan will likely result in no further action under MTCA. The applicant shall provide to the local land use permitting agency the opinion letter from Ecology.

3) Prior to finalizing site development permits, provide to the local land use permitting agency "No Further Action" determination from Ecology indicating that the remediation plans were successfully implemented under MTCA. Contaminated soils generated during site construction shall be managed and disposed of in accordance with state and local regulations, including the Solid Waste Handling Standards regulation (Chapter 173-350 WAC). For information about soil disposal contact the local health department in the jurisdiction where soils will be placed.

The link below provides a fact sheet that explains more how the arsenic and lead clean-up levels were set and why Ecology sees that they are protective for human health: https://fortress.wa.gov/ecy/publications/SummaryPages/1109095.html

For assistance and information about Tacoma Smelter Plume and soils contamination, contact Eva Barber with the Toxic Cleanup Program at 360-407-7094 or via email at Eva.Barber@ecy.wa.gov.

WATER QUALITY: Chris Montague-Breakwell (360) 407-6364

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or stormdrains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

The following construction activities require coverage under the Construction Stormwater General Permit:

1. Clearing, grading and/or excavation that results in the disturbance of one or more acres **and** discharges stormwater to surface waters of the State; and
2. Clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more **and** discharge stormwater to surface waters of the State.
   a) This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, **and** discharge to surface waters of the State; and
3. Any size construction activity discharging stormwater to waters of the State that Ecology:
   a) Determines to be a significant contributor of pollutants to waters of the State of Washington.
   b) Reasonably expects to cause a violation of any water quality standard.

If there are known soil/ground water contaminants present on-site, additional information (including, but not limited to: temporary erosion and sediment control plans; stormwater pollution prevention plan; list of known contaminants with concentrations and depths found;

a site map depicting the sample location(s); and additional studies/reports regarding contaminant(s)) will be required to be submitted.

You may apply online or obtain an application from Ecology's website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/ - Application. Construction site operators must apply for a permit at least 60 days prior to discharging stormwater from construction activities and must submit it on or before the date of the first public notice.

WATER QUALITY: Carol Serdar (360) 407-6269

When applying for coverage under the CSWGP, please check the appropriate boxes for known contamination of soil and groundwater on the Notice of Intent (CSWGP application). Sites with contamination are required to provide additional information to determine appropriateness of the CSWGP. Permittee must select a method of managing contaminated construction stormwater and/or dewatering water and/or groundwater.

Ecology allows for the following possibilities for managing the contaminated stormwater and dewatering water:

A) Infiltration of contaminated stormwater and dewatering water in the same area of the contamination;
B) Collect and transport off site to an approved facility;
C) Collect and send to sanitary; if so, provide Ecology with the signed Sanitary Authorization for Discharge;
D) Collect, tank, treat, sample for presence of contaminants, prior to discharging to storm.

Additional information may include (but not limited to):

1. Maps should reflect the above detailed options for managing contaminated stormwater and dewatering water.

2. Table of contaminants found on site:
   - Provide a synthesis of the data known to date that reflects the contamination in all areas of the project that will have ground disturbing activities. Table to include bore hole number, contaminants found, concentrations, depth found and a map that relates to the data.

3. TESC drawings:
   - Provide information about the depth of excavation, especially in the areas of known contamination. Show general locations of piles to be driven and the depth they will extend.
   - Show construction entrances and BMPs to be used to prevent contaminated stormwater and dewatering water from discharging from the site. Will a wheel wash be utilized?
   - Show details about catch basins. How will these be managed adjacent to contaminated areas. Show ditches and outfall locations, including outside the CSWGP boundary.

- Stockpile locations of contaminated sediment or soil must be shown with BMPs to be used. How will stormwater be managed around and on these stockpiles?
- Will you segregate general stormwater from contaminated stormwater? Show the BMPs to be used to prevent the comingling or state that all stormwater will be considered and managed as contaminated.
- Show the location of the stormwater treatment system. Will this system be in a covered area?
- Arrows showing stormwater movement around your site; including if you plan to capture and treat contaminated construction stormwater and/or dewatering water. If the intention is to discharge to sanitary, then show the manhole that will be utilized.

4. Provide relevant portions of the Stormwater Pollution Prevention Plan (SWPPP) as it relates to the contamination found on site.

For additional technical assistance related to the CSWGP, please contact Carol Serdar at carol.serdar@ecy.wa.gov or 360.407.6269 or 360.742.9751.

SOLID WASTE MANAGEMENT: Derek Rockett (360) 407-6287

All grading and filling of land must utilize only clean fill, i.e., dirt or gravel. All other materials, including waste concrete and asphalt, are considered to be solid waste and permit approval may be required from your local jurisdictional health department prior to filling (WAC 173-350-990).

All removed debris and dredged material resulting from this project must be disposed of at an approved site. Contact the local jurisdictional health department for proper management of these materials.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(MLD:201804711)

cc: Eva Barber, TCP/TSP
Chris Montague-Breakwell, WQ
Carol Serdar, WQ
Derek Rockett, SWM
Eric Cederstrand, DuPont Industrial Partners, LLC (Applicant)

Janet Howald

From: jim dimond <shinodad@gmail.com>
Sent: Wednesday, August 29, 2018 4:37 PM
To: Jeff Wilson
Subject: history

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Public / Agency Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

synthesis of military history and local history developed from newspapers government Publications and journals of a Time

know why is the Buffalo Soldier site at Dupont Washington so important to African American military history in this development' In 1902 the United States government the 9th states Calvary to Fort Walla Walla Washington this is his first assignment ever in the Pacific Northwest end its last they had just returned from there long-term engagements in the Philippines for starters there are two kinds of Buffalo Soldiers those are the Infantry who March and fought with rifles normally and fixed positions and secondly the Cavalry the calvary was mobile horse-mounted had used carving saver fifth wheels for engage and multiple actions against insurrections and the Philippine had to charge up San Juan hill during the Spanish-American War the United States remind Calvary band which are considered a great one at the time was it played many concerts in Walla Walla in the Spokane area is also had played baseball against some of the best teams the calvary the band are horses than their equipment made the arduous

350 mile trip from Walla Walla as noted a secretary Wars dispatch. The Enchantment of the United States Calvary at Dupont Washington in 1904 was the only time that the true Horse Soldiers and actually engage in mock battle in western Washington

So what kind of mob battles are they engage in be engaged in foraging the engaged in scouting the engage in defense and offense that their positions and even when they were told they couldn't attack the men of the United States the one I had in the past anyway

Attachment 11.i. Jim Dimond email dated August 29, 2018

But don't take my word for it about the significance of these events that took place in 1904 on the dusty playing with his knowledge upon Washington I'm going to give you a direct citation from

the Institute of infantry 1905 in the American lake The geographical limits of the American Lake Maneuver district are sufficiently elastic; but as this year is the first that it has been used on any extensive scale for military purposes, and as it may again be utilized for similar purposes, it may be useful to describe its geographical position. American Lake is one of a semicircle of five lakes extending from the Sound southwestward, and reaching somewhat beyond Murray Station on the Olympia branch of the Northern Pacific Railway (twelve miles from Tacoma). The deep and quiet waters of Puget Sound, from the mouth of Chambers Creek to the mouth of the Nisqually river, bound it on the north. The Nisqually river, itself fed from the glaciers of Mount Tacoma, limits it on the west, while to the south and east the district stretches away indefinitely in a series of alternating " prairies" and woodland tracts, some dense and impenetrable, and others clear of under

brush and easily passable. The chain of lakes forms a crescent opening to the Sound (north). At the points of the crescent the Blue and Brown camps were pitched eight miles apart. Near the convex bulge (Murray Station) the headquarters camp, about five miles from either Browns or Blues, was established, and connected telegraphically and telephonically with both the others. On the chord joining the Blue and Brown camps is the old port of Steilacoom and the long abandoned army post of Fort Steilacoom.

An idea seems prevalent that the district is a level one, devoid of the diversified features necessary to the success of maneuvers on an extensive scale. This is an error. The map from which the problems were cast (and which was not completed for want of time) will show to some extent the diversified topography. Abrupt rises, dense forests, treeless plains, fordable streams, fathomless lakes, deep sea anchorages, secure harbors, bountiful springs, and matchless camp sites make up some of the features that give variety to the terrain. The slope that extends eastward from the Nisqually river to the viaduct near Huggins, a distance of several miles, has grades stiff enough to put to the test the best artillery and other wagons, and the dense and heavy character of the timber on its slope place the roads here in the category of mountain defiles of several miles in length. And the same may be said of the Steilacoom ridge, with its abrupt rise from the Sound (340') and its densely timbered sides. This Steilacoom ridge, with the deep sea port at its northern base, affords a means of casting problems relative to the landing of forces from transports, and where it might be possible to study the cooperation between army and navy, and the use of wireless telegraphy between land and water forces.

Geologically considered, the substrata is an alternating series of gravel-beds and hard pan, the topmost gravel stratum being covered with a thin layer of mold, out of which struggles the vegetation. By judiciously choosing the direction of the roadways, good lines of communication are easy and numerous, and the gravel is of such a character as to afford a natural macadam, dustless and perfect so soon as the inch or two of vegetable mold has been washed or worn away. Water filters quickly through the gravel beds to the hard pan, and thus by digging a few feet subterranean rivers of filtered water are reached, varying in purity in proportion to the depth and the number of layers of hard pan penetrated. The district is associated intimately with the upheaval and the subsequent erosion of the now extinct volcano of Mt. Tacoma.

The term " prairie," as used in this section of the country, is applied to open tracts of grass-covered land, comparatively level, of variable size and shape, limited by forest tracts, frequently immense in extent and with dense undergrowth. The old abandoned railway grades of the Union Pacific Railway and the motor line give an idea of the nature of the gravel strata that form the base of the country. The stone is of rounded boulder, granite, porphyry, etc., and is most perfectly adapted for railway ballast.

The extent of territorj available for maneuvers can be obtained from an examination of the two maps used in the problems of July, 1904.

The military lessons of the American Lake maneuvers of 1904 related to the solution of problems respecting the passage of defiles between lakes and the use of open plains with fringing wooded tracts, varying in density from the almost impenetrable to the velvety, moss-carpeted, easily passable; also some water problems from the readily fordable to those involving deep sea anchorage. Unfortunately, time did not permit of the solution of problems covering every class that the terrain suggested. As General MacArthur pointed out at the conclusion of one of the exercises, there was an infinite number of suppositions relative to the movement and contact of troops that might be applied to the ground at our disposal, so large and^varied was the tract, and so great were the military possibilities.

Seven problems were submitted to and approved by the Department Commander—an average of one every other day; but the lack of funds and the consequent shortening of the time for the encampment did not permit of the solution of all.

The problems, as approved, are printed below. In reference to the sixth problem (" Opposing the Landing of an Expeditionary Force"), it may be said that the problem required solution only from the time the landing was actually effected; but in case it should ever be found feasible to send any portion of the troops to the maneuver district in transports, the American Lake district would afford the means of learning a very useful lesson in the act of landing itself, which might better be taught in mimic warfare than on real fields, where umpires are replaced by bullets, and where safety might not be found. It is said that where the Japanese landed in China during the last Japan-China war, each fraction of the landing force had its sign posted on the shore to point out its position where it was to go and the amount of space allotted to it. What a contrast to the method which has hitherto marked the guesswork of landing such forces of U. S. troops!

At the close of each exercise it was the custom, during these maneuvers, for the Department Commander to call upon the assembled officers to make such statements and give such reasons as might explain the movements from the standpoint of the person called upon. On one occasion General MacArthur, in acceding to this request of the Department Commander, took occasion to refer to the important role now played by the information section of modern armies. It seemed a pity that all the modern appliances were not available for trial over this peculiar ground. The signal corps was not able to test automobiles over the superb roads and "prairie" stretches, nor to measure the limitations imposed by the pathless woods. An examination of the maps will show that this district is quite the best possible for using the transports in connection with land operations. San Francisco harbor is the headquarters of the transport service. Puget Sound affords safe, secure, capacious, and deep shelter. The California contingent might readily be sent to the maneuver ground by ocean transport. The lesson of the successful conduct of transoceanic expeditionary forces, the landing schemes, and the use of wireless telegraphy in connection 'with them, might be very usefully taught, learned, and disseminated by such means.

The practice at present of the War Department is to rent ground in different portions of the country, and pay for damages to crops, fences, etc., and it may be that this is quite the best policy, as it acquaints the officers (the umpires especially) with all varieties of terrain and the handling of troops thereon. If that policy should be changed, and large tracts purchased in widely separated sections of the country, I know of no site so generally well adapted to all the requirements of maneuvers as the American Lake district.the birth of fort lewis a dupont in 1904

City Administrator Danek asked me to reach out to all of you and provide you with the current status regarding the application of for the development of the site you all know as "Lot Y." At the time Mr. Danek met with you all earlier this week, he was not aware of the status of the application or the progress the applicant had made to having a complete application.

The application which has been submitted is for the development of the property which is over 20 acres in area can briefly be described as: two industrial buildings total approximately 250,000 square feet. Additionally, the project includes the dedication of right-of-way to the City for the extension of Sequalitchew Drive to their north property line. Through my initial pre-app meeting with the applicant back in 2017, they have been strongly advised to acknowledge and address the cultural and historic significance on portions of the property and guided to consult with Washington State Department of Archeology and Historic Preservation and the Nisqually Tribe as there are sites on the property which need to be respected and addressed.

The applicant just recently submitted all the required material to be deemed a "complete" application, triggering steps to send out formal notice to the public that the city has a complete application for review and processing. As required by state law and City permit processing requirements, once we have a complete application (they have submitted all they are required to submit), the City issues a Notice of Application (published in the paper) to provide notice to the public that an application has been submitted which then provides for a 14 day period in which anyone may submit comments to the city (me). Along with that we issued a notice environmental review to use the same 14 day period for anyone to comment on potential environmental issues. The Notice of Application/Optional DNS was formally issued and published on August 22nd (see attached). The end of the comment period 5:00 pm on September 4th. You will also have the opportunity to provide additional comments prior to and at the public hearing, once the public notice for the hearing is sent out.

This application will require a public hearing before the Hearing Examiner. The hearing date has not been determined yet, however once it has, additional public notice will be published and mailed to the property owners within 30-feet of the hearing date. The notice will also be posted at City Hall and on our website. Notice of the hearing will be published at least two weeks prior to the hearing. At this point I do not anticipate that the hearing will occur before mid-October.

Briefly, if you wish to be a party of record on this application you will have multiple opportunities to provide either written or oral comments for the record.

- Written comments about the project for the record are accepted beginning August 22nd thru September 4th. Comments regarding the application of environmental review issues must be made in writing during this time frame if you wish them to be in the official record.
- You will also have a two week period prior to the public hearing date to submit written comments. The hearing date has not been set yet so the notice period has not begun. However, I would encourage you to check

the city's website and the Tacoma News Tribune around the beginning of October for notice of the hearing. I am currently anticipating the hearing date may be October 17th, however this date is not set yet.

- You may also provide written or oral testimony during the public hearing. You must provide comments during these time frames to be a party of record to this application

If you have any questions please contact me. I certainly encourage you to send me any comments you might have about the proposed development during

JEFFREY S. WILSON, AICP

COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT

1700 CIVIC DR

DUPONT, WA 98327-9603

Office: (253) 912-5393

Cell: (253 433-4238

Fax: (253) 964-1455

jwilson@dupontwa.gov

www.dupontwa.gov

thanks for your time we nnsite

james l dimond

Executive Board The 9th and 10th Horse Cavalry Buffalo Soldiers Museum

Nisqually Indian Tribe
4820 She-Nah-Num Dr. S.E.
Olympia, WA 98513
(360) 456-5221

RECEIVED
AUG 28 2018
Initial:

August 28, 2018

Jeff Wilson
City of DuPont
1700 Civic Dr.
DuPont, WA 98327

Dear Mr. Wilson,

The Nisqually Indian Tribe thanks you for the opportunity to comment on:

Re: PLNG2018-008, 009, 047 DuPont Industrial Park

The Nisqually Indian Tribe has reviewed the report you provided for the above-named project. The Nisqually Indian Tribe has no further information or concerns. Please keep me informed if there are any Inadvertent Discoveries of Archaeological Resources/Human Burials.

Sincerely,

Jackie Wall
THPO
Nisqually Indian Tribe
(360)456-5221 Ext. 2180
wall.jackie@nisqually-nsn.gov

Jeff Wilson

From: jjoneshook@aol.com
Sent: Tuesday, September 04, 2018 2:18 PM
To: Jeff Wilson
Cc: soldiersmuseum@aol.com
Subject: Proposed Development Lot Y

Buffalo Soldiers Museum Statement

On behalf of the Board Members we propose

AMERICAN LAKE HISTORIC MILITARY SITES PRESERVATION IN HONOR OF OUR SERVICEMEN

This area is a recorded archaeological site including both historic-period and prehistoric artifacts. It is sensitive for the occurrence of addition archaeological resources, as a result of its location along the upper portion of Sequalitchew Crew in the indigenous territory of the Nisqually tribe; and Washington State Military History in an area were the 9th Cavalry Buffalo Soldiers maneuvers marked at turning point in American Military History for the region and recorded in the Washington State Archaeological site.

Jackie Jones-Hook
Executive Director
Buffalo Soldiers Museum

SoldiersMuseum@aol.com

www.BuffaloSoldiersTacoma.org

jjoneshook@aol.com

Attachment 11.k. Jackie Jones Hook (Buffalo Soldiers Museum) email dated September 4, 2018

Janet Howald

From: Sam Merrill <sammerrill3@comcast.net>
Sent: Wednesday, September 12, 2018 2:16 PM
To: Jeff Wilson
Subject: Proposed warehouse development near Sequalichew Creek

Follow Up Flag: FollowUp
Flag Status: Completed

Categories: Public / Agency Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Dear Mr. Wilson,

I am writing on behalf of the Black Hills Audubon Society in reference to the proposed industrial warehouses on a vacant 21 acre parcel just west of Sequalichew Creek. Sequalitchew Creek is already threatened by proposed gravel mining activities by CalPortland on the north side and is the focus of a planned watershed restoration project, as mitigation for gravel mining. Black Hills Audubon is a co-signer of the long-standing settlement agreement with CalPortland. We are concerned that the provisions of that agreement might be compromised by this new development.

Sequalichew Creek is an environmentally sensitive area, which includes a popular walking trail in its wooded ravine. We question the adequacy of the 100 foot buffer proposed between warehouse area and the Creek.

Could you let us know that you received this Comment in good order?

Thanks.

Sam Merrill, Chair
Conservation Committee
Black Hills Audubon

Attachment 11.l. Sam Merrill (Black Hills Audubon) email dated September 12, 2018

Janet Howald

From: Steve Thompson <stevethompson440@comcast.net>
Sent: Wednesday, September 12, 2018 12:34 AM
To: Jeff Wilson
Subject: Public Comment on DuPont Industrial Developers, LLC proposed project

Follow Up Flag: FollowUp
Flag Status: Completed

Categories: Public Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Mr. Wilson

Regarding the DuPont Industrial Developers, LLC's proposed development of two warehouses along the banks of Sequalitchew Creek:

I have two comments: 1) Please increase the riparian buffer to 100 feet measured from the Top of Bank instead of the edge of stream; and 2) Protect the historic monument that marks the site of the 1841 Mission and first 4th of July celebration in the area.

1). The Sequalitchew Creek is a local gem that is growing in popularity and is now showing up in guide books for Puget Sound Hikes. The habitat is also worthy of the additional protection. A 200' buffer is significantly better for habitat and riparian functions than the 100' buffer that is shown, as documented in WDFW's Intergraded Streambed Protection Guidelines. Moving the setback from the edge of creek to the top of bank would create both a visual barrier and a natural sound barrier, so visitors and wildlife would not hear or notice the industrial area.

Increasing the setback from the top of bank would also increase the distance between the stormwater infiltration galleries and the face of the banks where the groundwater interflow currently seeps out. The site's Spanaway gravels are outstanding for infiltration and are easily modeled using WWHM, but the model assumes that infiltrated stormwater goes straight down and disappears. We know the water does not disappear, it encounters a confining layer of till and travels laterally until it seeps out of the face of the slope along the Sequalitchew trail. Increasing the buffer would give the stormwater more residence time as groundwater and would be less likely to cause problems at the trail's edge.

2). My family has pioneer roots in this area and finding the marker at the site of the Methodist Episcopal Mission and the first 4th of July celebration, in 1841, was significant to me.

Thanks

Steve Thompson
304 Pinehurst Dr SE
Tumwater WA 98501
(360) 239-0278

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From: jim dimond <shinodad@gmail.com>
Sent: Tuesday, August 28, 2018 9:51 PM
To: Jeff Wilson
Cc: Buffalo Soldiers Museum - www.BuffaloSoldiersTacoma.org; darrel nash; tskjervold@gmail.com; Erin Gowenlock; Roger C. Westman; Ted Danek; Norged@msn.com; Janet Howald
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Geologically considered, the substrata is an alternating series of gravel-beds and hard pan, the topmost gravel stratum being covered with a thin layer of mold, out of which struggles the vegetation. By judiciously choosing the direction of the roadways, good lines of communication are easy and numerous, and the gravel is of such a character as to afford a natural macadam, dustless and perfect so soon as the inch or two of vegetable mold has been washed or worn away. Water filters quickly through the gravel beds to the hard pan, and thus by digging a few feet subterranean rivers of filtered water are reached, varying in purity in proportion to the depth and the number of layers of hard pan penetrated. The district is associated intimately with the upheaval and the subsequent erosion of the now extinct volcano of Mt. Tacoma.

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The extent of territorj available for maneuvers can be obtained from an examination of the two maps used in the problems of July, 1904.

The military lessons of the American Lake maneuvers of 1904 related to the solution of problems respecting the passage of defiles between lakes and the use of open plains with fringing wooded tracts, varying in density from the almost impenetrable to the velvety, moss-carpeted, easily passable; also some water problems from the readily fordable to those involving deep sea anchorage. Unfortunately, time did not permit of the solution of problems covering every class that the terrain suggested. As General MacArthur pointed out at the conclusion of one of the exercises, there was an infinite number of suppositions relative to the movement and contact of troops that might be applied to the ground at our disposal, so large and^varied was the tract, and so great were the military possibilities.

Seven problems were submitted to and approved by the Department Commander—an average of one every other day; but the lack of funds and the consequent shortening of the time for the encampment did not permit of the solution of all.

The problems, as approved, are printed below. In reference to the sixth problem (" Opposing the Landing of an Expeditionary Force"), it may be said that the problem required solution only from the time the landing was actually effected; but in case it should ever be found feasible to send any portion of the troops to the maneuver district in transports, the American Lake district would afford the means of learning a very useful lesson in the act of landing itself, which might better be taught in mimic warfare than on real fields, where umpires are replaced by bullets, and where safety might not be found. It is said that where the Japanese landed in China during the last Japan-China war, each fraction of the landing force had its sign posted on the shore to point out its position where it was to go and the amount of space allotted to it. What a contrast to the method which has hitherto marked the guesswork of landing such forces of U. S. troops!

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If you have any questions please contact me. I certainly encourage you to send me any comments you might have about the proposed development during

JEFFREY S. WILSON, AICP

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350 mile trip from Walla Walla as noted a secretary Wars dispatch. The Enchantment of the United States Calvary at Dupont Washington in 1904 was the only time that the true Horse Soldiers and actually engage in mock battle in western Washington

So what kind of mob battles are they engage in be engaged in foraging the engaged in scouting the engage in defense and offense that their positions and even when they were told they couldn't attack the men of the United States the one I had in the past anyway

But don't take my word for it about the significance of these events that took place in 1904 on the dusty playing with his knowledge upon Washington I'm going to give you a direct citation from

the Institute of infantry 1905 in the American lake The geographical limits of the American Lake Maneuver district are sufficiently elastic; but as this year is the first that it has been used on any extensive scale for military purposes, and as it may again be utilized for similar purposes, it may be useful to describe its geographical position. American Lake is one of a semicircle of five lakes extending from the Sound southwestward, and reaching somewhat beyond Murray Station on the Olympia branch of the Northern Pacific Railway (twelve miles from Tacoma). The deep and quiet waters of Puget Sound, from the mouth of Chambers Creek to the mouth of the Nisqually river, bound it on the north. The Nisqually river, itself fed from the glaciers of Mount Tacoma, limits it on the west, while to the south and east the district stretches away indefinitely in a series of alternating " prairies" and woodland tracts, some dense and impenetrable, and others clear of under

brush and easily passable. The chain of lakes forms a crescent opening to the Sound (north). At the points of the crescent the Blue and Brown camps were pitched eight miles apart. Near the convex bulge (Murray Station) the headquarters camp, about five miles from either Browns or Blues, was established, and connected telegraphically and telephonically with both the others. On the chord joining the Blue and Brown camps is the old port of Steilacoom and the long abandoned army post of Fort Steilacoom.

An idea seems prevalent that the district is a level one, devoid of the diversified features necessary to the success of maneuvers on an extensive scale. This is an error. The map from which the problems were cast (and which was not completed for want of time) will show to some extent the diversified topography. Abrupt rises, dense forests, treeless plains, fordable streams, fathomless lakes, deep sea anchorages, secure harbors, bountiful springs, and matchless camp sites make up some of the features that give variety to the terrain. The slope that extends eastward from the Nisqually river to the viaduct near Huggins, a distance of several miles, has grades stiff enough to put to the test the best artillery and other wagons, and the dense and heavy character of the timber on its slope place the roads here in the category of mountain defiles of several miles in length. And the same may be said of the Steilacoom ridge, with its abrupt rise from the Sound (340') and its densely timbered sides. This Steilacoom ridge, with the deep sea port at its northern base, affords a means of casting problems relative to the landing of forces from transports, and where it might be possible to study the cooperation between army and navy, and the use of wireless telegraphy between land and water forces.

Geologically considered, the substrata is an alternating series of gravel-beds and hard pan, the topmost gravel stratum being covered with a thin layer of mold, out of which struggles the vegetation. By judiciously choosing the direction of the roadways, good lines of communication are easy and numerous, and the gravel is of such a character as to afford a natural macadam, dustless and perfect so soon as the inch or two of vegetable mold has been washed or worn away. Water filters quickly through the gravel beds to the hard pan, and thus by digging a few feet subterranean rivers of filtered water are reached, varying in purity in proportion to the depth and the number of layers of hard pan penetrated. The district is associated intimately with the upheaval and the subsequent erosion of the now extinct volcano of Mt. Tacoma.

The term " prairie," as used in this section of the country, is applied to open tracts of grass-covered land, comparatively level, of variable size and shape, limited by forest tracts, frequently immense in extent and with dense undergrowth. The old abandoned railway grades of the Union Pacific Railway and the motor line give an idea of the nature of the gravel strata that form the base of the country. The stone is of rounded boulder, granite, porphyry, etc., and is most perfectly adapted for railway ballast.

The extent of territorj available for maneuvers can be obtained from an examination of the two maps used in the problems of July, 1904.

The military lessons of the American Lake maneuvers of 1904 related to the solution of problems respecting the passage of defiles between lakes and the use of open plains with fringing wooded tracts, varying in density from the almost impenetrable to the velvety, moss-carpeted, easily passable; also some water problems from the readily fordable to those involving deep sea anchorage. Unfortunately, time did not permit of the solution of problems covering every class that the terrain suggested. As General MacArthur pointed out at the conclusion of one of the exercises, there was an infinite number of suppositions relative to the movement and contact of troops that might be applied to the ground at our disposal, so large and^varied was the tract, and so great were the military possibilities.

Seven problems were submitted to and approved by the Department Commander—an average of one every other day; but the lack of funds and the consequent shortening of the time for the encampment did not permit of the solution of all.

The problems, as approved, are printed below. In reference to the sixth problem (" Opposing the Landing of an Expeditionary Force"), it may be said that the problem required solution only from the time the landing was actually effected; but in case it should ever be found feasible to send any portion of the troops to the maneuver district in transports, the American Lake district would afford the means of learning a very useful lesson in the act of landing itself, which might better be taught in mimic warfare than on real fields, where umpires are replaced by bullets, and where safety might not be found. It is said that where the Japanese landed in China during the last Japan-China war, each fraction of the landing force had its sign posted on the shore to point out its position where it was to go and the amount of space allotted to it. What a contrast to the method which has hitherto marked the guesswork of landing such forces of U. S. troops!

At the close of each exercise it was the custom, during these maneuvers, for the Department Commander to call upon the assembled officers to make such statements and give such reasons as might explain the movements from the standpoint of the person called upon. On one occasion General MacArthur, in acceding to this request of the Department Commander, took occasion to refer to the important role now played by the

information section of modern armies. It seemed a pity that all the modern appliances were not available for trial over this peculiar ground. The signal corps was not able to test automobiles over the superb roads and "prairie" stretches, nor to measure the limitations imposed by the pathless woods. An examination of the maps will show that this district is quite the best possible for using the transports in connection with land operations. San Francisco harbor is the headquarters of the transport service. Puget Sound affords safe, secure, capacious, and deep shelter. The California contingent might readily be sent to the maneuver ground by ocean transport. The lesson of the successful conduct of transoceanic expeditionary forces, the landing schemes, and the use of wireless telegraphy in connection 'with them, might be very usefully taught, learned, and disseminated by such means.

The practice at present of the War Department is to rent ground in different portions of the country, and pay for damages to crops, fences, etc., and it may be that this is quite the best policy, as it acquaints the officers (the umpires especially) with all varieties of terrain and the handling of troops thereon. If that policy should be changed, and large tracts purchased in widely separated sections of the country, I know of no site so generally well adapted to all the requirements of maneuvers as the American Lake district.the birth of fort lewis a dupont in 1904

JAMES L DIMOND MA CWU 1997

On Fri, Aug 24, 2018 at 8:35 AM Jeff Wilson <JWilson@dupontwa.gov> wrote:

City Administrator Danek asked me to reach out to all of you and provide you with the current status regarding the application of for the development of the site you all know as "Lot Y." At the time Mr. Danek met with you all earlier this week, he was not aware of the status of the application or the progress the applicant had made to having a complete application.

The application which has been submitted is for the development of the property which is over 20 acres in area can briefly be described as: two industrial buildings total approximately 250,000 square feet. Additionally, the project includes the dedication of right-of-way to the City for the extension of Sequalitchew Drive to their north property line. Through my initial pre-app meeting with the applicant back in 2017, they have been strongly advised to acknowledge and address the cultural and historic significance on

portions of the property and guided to consult with Washington State Department of Archeology and Historic Preservation and the Nisqually Tribe as there are sites on the property which need to be respected and addressed.

The applicant just recently submitted all the required material to be deemed a "complete" application, triggering steps to send out formal notice to the public that the city has a complete application for review and processing. As required by state law and City permit processing requirements, once we have a complete application (they have submitted all they are required to submit), the City issues a Notice of Application (published in the paper) to provide notice to the public that an application has been submitted which then provides for a 14 day period in which anyone may submit comments to the city (me). Along with that we issued a notice environmental review to use the same 14 day period for anyone to comment on potential environmental issues. The Notice of Application/Optional DNS was formally issued and published on August 22nd (see attached). The end of the comment period 5:00 pm on September 4th. You will also have the opportunity to provide additional comments prior to and at the public hearing, once the public notice for the hearing is sent out.

This application will require a public hearing before the Hearing Examiner. The hearing date has not been determined yet, however once it has, additional public notice will be published and mailed to the property owners within 30-feet of the hearing date. The notice will also be posted at City Hall and on our website. Notice of the hearing will be published at least two weeks prior to the hearing. At this point I do not anticipate that the hearing will occur before mid-October.

Briefly, if you wish to be a party of record on this application you will have multiple opportunities to provide either written or oral comments for the record.

- Written comments about the project for the record are accepted beginning August 22nd thru September 4th. Comments regarding the application of environmental review issues must be made in writing during this time frame if you wish them to be in the official record.

- You will also have a two week period prior to the public hearing date to submit written comments. The hearing date has not been set yet so the notice period has not begun. However, I would encourage you to check the city's website and the Tacoma News Tribune around the beginning of October for notice of the hearing. I am currently anticipating the hearing date may be October 17th, however this date is not set yet.

- You may also provide written or oral testimony during the public hearing. You must provide comments during these time frames to be a party of record to this application

If you have any questions please contact me. I certainly encourage you to send me any comments you might have about the proposed development during

JEFFREY S. WILSON, AICP

COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT

1700 CIVIC DR

DUPONT, WA 98327-9603

Office: (253) 912-5393

Cell: (253 433-4238

Fax: (253) 964-1455

jwilson@dupontwa.gov

www.dupontwa.gov

Jeff Wilson

From: Lizzy Sandstrom <LizzyS@pscleanair.org>
Sent: Tuesday, September 04, 2018 11:45 AM
To: Jeff Wilson
Subject: RE: Revised Notice of Application and SEPA, PLNG2018-008,009 & 047, DuPont Industrial Park

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Public Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Greetings,

PSCAA comment:
Any project where demolition of structure(s), earth moving and material handling, heavy equipment operations, and/or disposing of vegetative matter is to occur, is subject to Puget Sound Clean Air Agency regulations. The requirements may include, but are not limited to the following:

Agency Regulation I:
Article 8 – Outdoor Burning
Article 9 – Emission Control Standards, Section(s) 9.03, 9.11, and 9.15

Agency Regulation III:
Article 4 – Asbestos Control Standards

Agency Regulations can be viewed in full on our website:
http://www.pscleanair.org/219/PSCAA-Regulations"

Regards,

Puget Sound Clean Air Agency

From: Janet Howald [mailto:JHowald@dupontwa.gov]
Sent: Monday, August 27, 2018 1:20 PM
To: Adonais Clark, Pierce County); Annette Bullchild (Nisqually Indian Tribe THPO)); Carol Estep (estepcarol@gmail.com); Charles S Markham (Charles.s.markham2.civ@mail.mil); Dan Balmelli, Barghausen Consulting Engineers, Inc; Darci Brandvold, Pierce County; Dept of Ecology; Dept of Ecology SEPA Unit; Dept. of Ecology - Environmental Review Section (SEPAunit@ecy.wa.gov); Dept. of Natural Resources SEPA Center (SEPACENTER@dnr.wa.gov); Dept. of Natural Resources/South Puget Sound Region (Southpuget.region@dnr.wa.gov); Dominic Miller; Donna Joblonski, Dept of Ecology, Wetland/Shoreline; Doug Fortner, Steilacoom Community Development; Elizabeth Sanchey - Yakama Nation (elizabeth_sanchey@yakama.com); Emily Griffith, NWL Association; Environmental Official-Pierce Cty; Eric Cederstrand; Eva Barber - Dept. Of Ecology/SW Regional Office (evba461@ECY.WA.GOV); Frank Fiori, Lakewood Community & Economic Dev; Geri Reinart; Gretchen Kaehler,Local Government Archaeologist; Heather Benson, Puget Sound Partnership; Jackie Wall (Nisqually Indian Tribe THPI)); Joe Cushman (Cushman.joe@nisqually-nsn.gov); Karri Muir; Larry Ackerman - NWL ; LeMay (Cust2180@wcnx.org); Lisa Klein, AHBL; Nisqually Nat'l Wildlife Refuge; Pete Stoltz, CalPortland; Pierce County Public Works; PSE; SEPA Review Notices; Sara Bird - Tacoma-Pierce County Health Dept (SEPA@tpchd.org); Steven T Perrenot, JBLM ; WDFW; WSDOT/Olympic Region ; Zach Meyer, Dept of

Attachment 11.o. Lizzy Sandstrom (Puget Sound Clean Air Agency) email dated September 4, 2018

Ecology,Wetland/Shoreline
Cc: Jeff Wilson
Subject: Revised Notice of Application and SEPA, PLNG2018-008,009 & 047, DuPont Industrial Park

Please see the attached Notice of Application and Optional SEPA MDNS for the above project.

If you have any questions or comments, please contact Jeff Wilson at jwilson@dupontwa.gov or 253-912-5393.

Janet Howald
Community Development
Administrative Specialist
City of DuPont
1700 Civic Drive
DuPont, WA 98327

(253)912-5232 fax (253)964-3554
Jhowald@dupontwa.gov

Janet Howald

From: Maxine Dunkelman <maxdunk@comcast.net>
Sent: Tuesday, September 11, 2018 4:08 PM
To: Jeff Wilson
Subject: Sequalitchew Creek trail

Follow Up Flag: FollowUp
Flag Status: Flagged

Categories: Public Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

I hope as much buffer can be given to Sequalitchew Creek trail now and in the future, for every project. The only reason I come to Dupont and spend money afterwards or before at restaurants, gas, the little grocery is to hike Sequalitchew Creek trail and to take the bus to Seattle. If the trail isn't pretty and quiet, I won't come nearly as much.

Maxine Dunkelman 360-786-6512
MaxTile Murals & Olympia Mountaineers Librarian
5418 Lemon RD NE
Olympia, WA 98506

Attachment 11.p. Maxine Dunkelman email dated September 11, 2018

Janet Howald

From: Sara Bird <SBird@tpchd.org>
Sent: Friday, September 07, 2018 3:50 PM
To: Jeff Wilson
Subject: SEPA for PLNG2018-008,009 & 047, DuPont Industrial Park
Attachments: SR0230002.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Permits - SEPA, Agency - Pierce County Dept of Health, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

Good afternoon,

I have attached the SEPA comment letter from the Tacoma-Pierce County Health Department. Please let me know if there are any questions.

Sara Bird
Administrative Assistant II
Environmental Health
(253) 798-7692 o • sbird@tpchd.org
(253) 798-6498 f • www.tpchd.org

Tacoma-Pierce County Health Department
Healthy People in Healthy Communities

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Tacoma-Pierce County
Health Department
Healthy People in Healthy Communities

RECEIVED

SEP 07 2018

Initial: _____

September 07, 2018

ATTN JEFF WILSON
CITY OF DUPONT
JWILSON@DUPONTWA.GOV

RE: PLNG2018-008,009 & 047 DuPont Industrial Park; SR0230002

Dear Jeff Wilson:

The Tacoma-Pierce County Health Department's Environmental Health Program received the above mentioned checklist on August 27, 2018 and has reviewed your proposal.

There are no comments at this time to the proposal as presented.

Thank you for the opportunity to respond. If you have further questions, please contact me at (253) 798-2859 or by e-mail at ccallahan@tpchd.org.

Sincerely,

Cynthia Callahan
Environmental Health Specialist Supervisor
Environmental Health Division

ACCREDITED HEALTH DEPARTMENT • PHAB Advancing public health performance • PUBLIC HEALTH ACCREDITATION BOARD

Attachment 11.q. Cynthia Callahan (Tacoma Pierce County Health Department) letter dated September 7, 2018

Janet Howald

From: Karen Nolan <fraukln@yahoo.com>
Sent: Wednesday, September 12, 2018 2:24 PM
To: Jeff Wilson
Subject: Warehouses proposed by DuPont Industrial Partners near Sequalitchew Creek.

Follow Up Flag: FollowUp
Flag Status: Completed

Categories: Public / Agency Comment, Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA)

I am writing to oppose the building of two industrial warehouse buildings by Sequalitchew Creek proposed b DuPont Industrial Parrtners, LLC. This creek is an important water source for our community and the Sequalitchew Creek Trail is a beloved and much used trail by our citizens. The buffer zone between the Sequalitchew Trail and the warehouses is only 100 feet--way too small. The area where these warehouses are supposed to be built is an environmentally sensitive area on the eastside of the Nisqually reach. This is former Indian ground and should be left sacred. There is also more historical significance, since the area for the warehouses is the location of the historic Methodist Episcopal Mission from the 1800s. We need to continue to preserve our historical heritage, not pave it over and build warehouses. An important question is: What kind of impact would this have on the plans to restore Sequalitchew Creek? Another is: What type of traffic problems and noise will this create for the occupants of Creekside Village?

One final statement : These warehouses will only employ 99 people, which is not a big boon to our area for jobs and/or employment, especially when the area envelops over 5 acres.

We do not want to be a community like Fife, WA.

Thank you for your attention to this matter.

Sincerely,

Karen Nolan
1518 McDonald Avenue
DuPont, WA. 98327

Attachment 11.r. Karen Nolan email dated September 12, 2018

Jeff Wilson

From: CAROL MC DOWELL <barista43@comcast.net>
Sent: Saturday, September 08, 2018 10:20 AM
To: Jeff Wilson
Subject: Wharehouses

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Permits - Planning (PLNG2018-008 & 009 & 047 / DuPont Ind Park / Site Plan & SEPA), Public Comment

I am totally opposed to the Eric Cedarland development proposal. Regrettably, I'm not sure my opinion means anything to those that have asked for feedback. DuPont city government places it's own agenda in direct conflict to the will of it's financial supporters, it's citizens. It's amoral. I moved here because of the balance between nature and business. That balance is about to be tipped in another direction. The vision is unacceptable. Any one who is keeping track does not trust the lot of you.....back door antics and infringing on council members first amendment rights. And then there are those that are uninformed. They would be heartbroken/appalled if they knew what was going on.

Carol McDowell

Nisqually Delta Association
PO Box 7444
Olympia, Washington 98501
(360) 485-9470

September 12, 2018

Jeff Wilson, AICP
Community Development Director and City SEPA Official
City of DuPont
1700 Civic Drive
DuPont, WA 98327
(253) 912-5393
jwilson@dupontwa.gov

Comments Regarding the Proposed Determination of Non-Significance for the Construction of an Industrial Park on Historic Properties Next to Sequalitchew Creek (City File Nos. PLNG 2018-008, -009 and -047)

Mr. Wilson,

Please consider the comments below regarding the proposal for a large industrial park on historic property next to Sequalitchew Creek and the Sequalitchew Creek Trail, submitted on behalf of the Nisqually Delta Association ("NDA"). NDA is a volunteer, community organization dedicated to preservation of the natural and cultural resources of the Nisqually Delta and its surrounding environment, which includes the City of DuPont.

The SEPA checklist and associated documents are deficient in that they do not adequately disclose many significant impacts, including impacts to the historic sites on the property and the potential to form a long-sought historic district, as well as water quality impacts to Sequalitchew Creek. The impacts and mitigation of this significant project appear to be largely unknown and delayed for later consideration. A project of this scope and uncertainty is inappropriate for the optional DNS process.

To the extent the impacts are discernible from the SEPA checklist, they demonstrate probable significant adverse environmental effects. An EIS is required and is important to allow for full consideration of impacts to important public resources. RCW 43.21C.031. The proposal

Attachment 11.t. Nisqually Delta Association letter dated September 12, 2018

would create significant effects, including more than 50,000 cubic yards of cutting and filling of soils likely containing historical artifacts, major road construction, paving or building on approximately 15 acres of currently undeveloped land, moving historical markers and destroying historical sites, destruction of a rare landmark white oak tree, greatly increased traffic, and changes to a popular recreational trail. As presented, the proposal contradicts the City's long-term vision set forth in the 2015 Comprehensive Plan, which is to develop Sequalitchew Village for residential use and to protect natural and historic features in public parks. The proposal is particularly significant given the precedential impacts, which would severely undermine development of a proposed historic district on the same site, the vision set forth in the City's Comprehensive Plan, and legally-required stream restoration efforts in Sequalitchew Creek. Indeed, the Department of Ecology and prior landowners have recognized "the historical and archaeological significance of the Site" in a binding legal agreement. *See* 1991 Settlement Agreement, Part V, subpart G.

If the City does not require an EIS at this time, NDA requests that the City at a minimum allow additional comment once the impacts and mitigation are determined, such that the public may have an opportunity to provide public comment on a fully-developed project.

The SEPA threshold determination hinges on consideration of the context and intensity of the likely impacts. Accordingly, this letter proceeds by providing context and history of the site of the proposal and NDA's involvement in its protection. The letter then details inadequacies in the SEPA Checklist and attached Parus Report, and then explains why a Determination of Significance and an additional comment period are warranted.

Context of the Proposal

The proposed development site consists of approximately 21 acres located on the north side of Sequalitchew Creek. The site and its surroundings have had special significance since time immemorial. Ancestors of the Nisqually and Puyallup Tribes camped at the mouth of the creek for thousands of years, and Sequalitchew Creek was used for fishing and an important trading site.

As described in the Tacoma News Tribune (see article in submitted materials), British traders landed in the area in 1832 and established what became known as Nisqually House near the beach. By 1833, the Hudson's Bay Co. built a first Fort Nisqually on a hillside on the south side of Sequalitchew Creek and were regularly moving supplies overland to and from the Columbia River, overland with oxen to prairies above Sequalitchew Canyon, and onto boats traveling up the Salish Sea and into present day Alaska, where they were engaged in the fur trade.

Americans arrived in 1839 to open a Methodist-Episcopal mission, (a.k.a.: the Nisqually Mission), on the north side of the creek as part of an effort to strengthen territorial claims. The

mission was located on what is currently proposed for construction and paving in "Lot Y." The mission, which the U.S. government sanctioned and supported, marked the first permanent American settlement on Puget Sound and the first religious institution on Puget Sound. The site featured a remarkable series of "firsts," witnessing the arrival of the first U.S. settlers in Western Washington, the establishment of the first school for Native American and Euro-American children in the region, the first marriage of U.S. citizens west of the Cascades, the first birth of a child to U.S. citizens, and the first Protestant mission to be established in Western Washington.

In 1841, a U.S. Navy expedition landed in the area. Accounts of expedition leader Charles Wilkes indicate he made crucial observations from a nearby hillside point overlooking the water. That same year, Wilkes' party and settlers from the mission held the first known celebration in the area marking the anniversary of U.S. independence.

In 1904, a roughly 2,000-member contingent of the 9th U.S. Cavalry, known colloquially as the "Buffalo Soldiers," camped in the area, built stables and other infrastructure, and carried out war games. This area was known as "Camp Nisqually." From 1927-1976, the DuPont Powder Works was located on the site.

These sites collectively comprise an integral piece of Washington history, which have been subject to ongoing archaeological and historical research. The Nisqually Mission and Buffalo Soldier Encampment are both recognized as eligible for the National Register for Historic Places, and the surrounding area has been nominated and considered as a potential historic district.

In more recent history, the area has been the subject of land use disputes, resulting in settlements of which the Nisqually Delta Association has been a party. A 1994 settlement (detailed further below) helped settle a long dispute over the shoreline use and led to the creation and enhancement of the Sequalitchew Creek Trail, which is now a very popular, family-friendly trail that draws visitors from afar to the City of DuPont. According to the Washington Trails Association, the creek and trail are "a fantastic find in the middle of DuPont," and the trail receives frequent enthusiastic visitors.[1] A 2011 settlement sets out an ambitious restoration plan for Sequalitchew Creek, which could one day result in restored flows and habitat conditions that could restore lost salmon runs. A free flowing Sequalitchew Creek would itself be a centerpiece of a Nisqually-Sequalitchew National Historic District.

NDA and Site Background

The Nisqually Delta Association came into being nearly 50 years ago, when concerned citizens learned of a City of Seattle plan to place a landfill on what today is a National Wildlife Refuge. Later the Atlas Powder site in Thurston County was proposed as a new private port. A

[1] *See* https://www.wta.org/go-hiking/hikes/dupont-sequalitchew-creek.

popular uprising amongst the citizens of Thurston County helped propel the Thurston County Commissioners to shut that proposal down, in the interest of protecting the environmental values of the Nisqually Reach.

Concerned citizens and members of the Nisqually Delta Association went on to promote statewide shoreline regulation and NDA members helped craft and pass Washington's Shoreline Management Act (SMA). As might be expected, all of Nisqually Reach, from DeWolfe Bight, Thurston County to Tatsolo Point, Pierce County, was called out in the Shorelines Management Act as one of the only five specifically named, "Shorelines of Statewide Significance" (1971 SMA).

Organized to represent that Statewide interest in protecting the ecological benefits of the Nisqually Delta, the Association did political advocacy to gain a federal designation of the Nisqually as a National Wildlife Refuge. Seeking to enforce the protections afforded to a Shoreline of Statewide Significance, the Nisqually Delta Association came into a conflict with the private investment proponent of a new, private super-port, initially envisioned as a vertically integrated timber products industrial complex, complete with a world class dock capable of servicing three 600' ocean going freighters at the same time.

The SEPA documents that produced to seek permits for the dock described a huge, T-shaped concrete deck, extending north and south form the center of the Sequalitchew Creek estuary, along what is today City of DuPont shoreline. The Nisqually Delta Association lead a legal challenge to the proposal, objecting to the major industrial development within the sweep of the Shoreline of Statewide Significance, and abutting industrial use directly to ecological preserve designated lands. The proponent argued they were only replacing an earlier dock, and that the impacts would be small — they only intended to export law logs, and had no further plans.

That NDA case, opposing the dock proposal, wound its way through the Shorelines Hearings Board, the lower courts, and eventually made its way all the way to the State Supreme Court. The first time around, the Court was unable to come to a timely decision, and that led to a second Supreme Court review of the contest. In the end, the Supreme Court granted the proponent the right to permit the project but restricted the use of the dock to only those purposes declared in the SEPA analysis.

That legal contest, which started in the late 1970's, and was still simmering into the 1990's, kept the sides engaged until the land owner announced a new plan to build a dock in the same place, but use it to load gravel onto ships. Again, the Nisqually Delta Association raised objections to the proposal to the Shorelines Hearing Board (SHB). This second time around, the SHB remanded the parties to mediate, and a negotiation quickly got under way. Those talks ran all the way through 1994, resulting in a finally executed agreement at the end of 1994. When the Nisqually Delta Association (and a group of allied environmental organizations), signed the 1994

Settlement Agreement with the City of DuPont, the Department of Ecology, the land owner, and the proponent of a new gravel mine, it represented a compromise by all parties. That Settlement Agreement included provisions to:

- Allow construction of a ship loading facility, off of the Shoreline of Statewide Significance, but serving the same upland area;
- Protect the shoreside bluffs along the Puget Sound and Sequalitchew Creek, and protect the natural flow of groundwater into the Nisqually Reach;
- Designate the Sequalitchew Creek Canyon as an environmental reserve, to one day serve as a community park;
- Establish an environmental trust fund to help support acquisition of lands that might advance the ecological purposes of the Nisqually National Wildlife Refuge.

While the dispute over the shoreline use was wending its way through the courts, the legacy of explosive manufacture eventually caused much of the land around Sequalitchew Creek to be recognized as a Priority Hazardous Waste Cleanup Site. Cleanup work was to be done under the State's authority, as defined by Washington State's Model Toxics Control Act. In its original form, the Model Toxics Control Act had a provision to support communities in implementing Cleanup Action Plans. Those efforts were made possible by small grants to qualifying organizations willing to provide "in-kind" support for the grant efforts.

Nisqually Delta Association received one of the first of these Public Participation Grants (PPGs). Initially it was thought the cleanup effort would take a year or two. In fact, the cleanup effort lasted over a decade, and the NDA sought and received a series of PPG grants. The PPGs were intended to help local citizens engage more effectively in the policy decisions required during contaminated site cleanup planning.

The Nisqually Delta Association supported the Citizens of DuPont through the work of the DuPont Toxics Citizen Oversight Project. The DToxCOPs used grant funds to hire technical reviewers to look over design documents and help explain the implications to the community. Using an open bid process, according to agency-provided accounting standards, the DToxCOPs selected a consultant. The main concern of the DToxCOP was technical excellence in the work, with the end goal of long-term protection of DuPont's community and environment. The cleanup effort initially was so narrowly focused on the environmental risks associated with the cleanup, that cultural resources impacted were not addressed. Notably, the settlement documents expressly "recognize the historical and archaeological significance of the Site." *See* Settlement Agreement, Part V., subpart G.

A couple of incidents dramatically illustrate the risk to cultural resources and the subsequent recognition of the historic importance of the site:

At one time, on a tour of sites with a project manager from the cleanup team, I was shown where the crews had built a new haul road, directly across the 1833 Fort Nisqually footprint, the Hudson Bay Company's first such Fort. The tour guide pointed out where it was possible to discern the line of log ends that witnessed the former colonnade. I immediately noted that driving over a recognized archeological site was likely unlawful. A few weeks later it was announced that the land owner had gifted the site to a third-party preserver of historic sites, who, incidentally, immediately fenced the fort site to guard against further degradation.

On another occasion, citizens of DuPont complained that a decades old monument, made of concrete and bronze, had disappeared. That monument was placed to commemorate the Nisqually Mission: the first American structure on the Puget Sound and site of the First American Wedding, the First American School, and first American Celebration of the Fourth of July. Significant to understanding the political forces at work over the landscape, the Nisqually Mission was intentionally placed north of the Hudson Bay Company's Fort Nisqually (1833), and on the northern shore of the Sequalitchew Creek watershed (the site of the currently proposed project).

The Nisqually Mission Monument was but one of a series of significant memorials constructed to honor historic events occurring along the Sequalitchew Creek. The former land owner developed the monuments to honor and preserve sites of historic significance that shaped the development of this State. At the Nisqually Mission site, they knew to have been identified and marked by a firsthand witness to the Nisqually Mission, the son of the man who bought the site from the Hudson Bay Company after the dissolution of the Puget Sound Agricultural Company (an HBC spin-off). Given the size, shape and weight of the Nisqually Mission Monument, it was clear that it had not be pilfered as a prank. Heavy equipment was required.

As though that disappearance was not enough, the monument had been replaced by a pile of dark soils, which were later understood to be contaminated wastes hauled from other areas of contamination. At the next available Site Remediation Project Management meeting, I informed the land owner that removal of the monument was likely unlawful. The monument had stood on the site for seven decades, and that monument was itself a replacement of an earlier wooden commemoration. The Nisqually Mission Monument was placed in the right place, a long time ago, by people who knew where the building had stood! Relatively quickly, they returned the marker to its rightful place.

About this same time, Ms. Lorraine Overmier, who had been a DuPont community organizer for decades where she had lived most of her married life in the Old DuPont Village, reached out the representatives of the DToxCOPs and suggested that there are enough of those historically significant sites to qualify as a National Historic District. The historic preservationists decided to move forward with two important efforts.

One was the development of a brief petition to the Department of Ecology, noting the recognition of Historically Significant sites, requested the Agency reconsider its planned project work plan, at least so long as the concerns for protection of historic/archeologic/cultural resources were unresolved. Signature gatherers collected several hundred signatures in a couple of weeks and brought them to Department of Ecology Headquarters.

The other important effort was a push for the recognition of an "eligible for listing" National Historic District. Motivated by the threat of "destruction by cleanup," Ms. Overmeyier and her friends, (notably the Dr. Rev. James Edgren), formed a fledging not-for-profit to promote the cause. They called their organization the "Nisqually Point Defense Fund", and they went to work on defining what they believed to be appropriately defined National Historic District.

The volunteers of the Nisqually Point Defense Fund, assisted by a few able technicians trained in the art and science of historic preservation, (working pro bono for the cause), put together a reasonably complete and strong nomination to form a new "Nisqually-Sequalitchew National Historic District." Subsequently that proposal was endorsed by the State Historic Preservation Officer, the present-day Director of the Department of Archaeology and Historic Preservation, Dr. Allyson Brooks. Subsequently the nomination's worthiness was also endorsed by the Governor's Historic Advisory Committee, which unanimously endorsed the National Historic District Nomination, in spite of request for denial by the land owner.

Subsequently, an effort was convened to address the interests of historians and archeologists and allow for the long-term establishment of a National Historic District. The City, the Department of Ecology, and the land owner hammered out a deal over a number of months. The land owner objected to the Historic District listing but agreed to implement restrictive covenants into the deeds of property parcels as they were sold, compelling subsequent land owners to accept the Historic District designation. The idea was to set up a situation where eventually, when all (or most) of the development sites were sold, a National Historic District could be established.

The purposes of that 2000 Settlement have not been realized. A rough plan to allow for a historic district, with interconnecting trails, numerous comparative signs and an interpretive center, anchored by the Nisqually Mission site, has been slow to develop but is recognized as a goal in the 2015 Comprehensive Plan. Today, those cultural resources are once again at imminent risk.

Site Background

Inadequacy of the Checklist

The checklist fails to adequately disclose environmental impacts and suggests but does not define mitigation. Based on currently available information, the public cannot possibly adequately assess the impact of the project or propose less impactful alternatives, and there is no

basis upon which the City can reasonably conclude that the impacts to the environment will be non-significant. The bulleted list below details deficiencies in the SEPA Checklist that must be remedied for additional City and public review.

B. Environmental Elements

- 1.e. The checklist details removal and addition of approximately 75,000 cubic yards of fill and stripping material, and states only that there will be an unspecified erosion control plan. This disclosure is insufficient to assess impacts. It also fails to acknowledge that the fill removal will likely remove historical artifacts, and fill addition and subsequent paving is likely to forever obscure any remaining artifacts.
- 3.a.1. The proponent admits that there will be work carried out within 200 feet of Sequalitchew Creek but does not describe the extent or nature of that work as required by the SEPA Checklist. Tree removal, paving, construction and runoff within 200 feet of an already heavily impacted stream is highly likely to create significant impacts to the creek and the canyon, which the City has previously recognized for its environmental and historical significance (for example, in the 1994 Settlement Agreement).
- 3.c.1. The proponent notes that there will be runoff created by the project but fails to quantify the quantity of runoff or detail the impacts created. The checklist mentions, but does not provide, an infiltration system. Given the addition of 15 or more acres of impervious surfaces, 99 parking spaces, additional road length and frequent vehicle traffic, there is likely to be significant stormwater pollution which must be described in much greater detail. The impacts must discuss impacts to Sequalitchew Creek as well as the estuary downstream, which is eligible for inclusion in the Billy Frank Jr. National Wildlife Refuge.
- 3.c.2. The proponent fails to acknowledge that pollutants from runoff are likely to enter surface waters and ground waters, despite elsewhere stating that a National Pollution Discharge Elimination System permit is required.
- 3.c.3. The claim that the project would not alter the current drainage pattern of the area is plainly incorrect given the conversion of undeveloped land to impervious surfaces.
- 4.b. The description of tree removal references an "Arborist Report/Tree Retention Plan" that does not appear to be included with the checklist for public comment. The provision references DuPont Municipal Code but fails to provide or analyze application of potentially applicable ordinances concerning tree

retention on the north side of Sequalitchew Creek (Exhibit A to Ordinance 95-521, page 36, section 9) and for Oregon white oak trees (*see* Ord. 02-707 § 1).

- 5.a. The checklist fails to acknowledge documented presence of coho salmon in Sequalitchew Creek (see WDFW SalmonScape map in included materials) and fails to discuss impacts to aquatic species from runoff and development near the creek. The discussion should include impacts on the restoration project, which is a required condition of the 2011 settlement agreement.

- 5.d. The only mitigation provided for wildlife impacts is a "landscaping plan," with no details provided. This is insufficient to assess impacts.

- 7.b.2. The checklist divulges that "on a long term basis" there will be noise from vehicular traffic "24 hours a day/7 days a week." The Checklist should provide far greater information regarding the nature of the traffic and the project generally. As written, it is impossible to assess the significance of the impacts. For example, if the warehouses are intended as a trucking distribution center, regular truck traffic throughout the night and associated light, air, and sound pollution would have a significant impact to nearby residents. Please note that elsewhere in the checklist, the proponent projects "**444 total daily trips**," with "43 trips expected during the AM peak hour and 49 trips during the PM peak hour." *See* checklist 14.f (emphasis added). This large number of trips (for 90 anticipated employees), focused on off-peak hours, strongly suggests that the warehouses are intended for some sort of distribution center and that there will be significant, ongoing noise impacts.

- 8.c.l. The checklist states that the project is compatible with existing and projected land uses and plans. This statement appears to be incorrect, as the proposal is inconsistent with the approved Comprehensive Plan's designation of the site as part of the Sequalitchew Village Planning Area. That Area is envisioned for long-term use residential use, with set-asides for historical and natural preservation. The Comprehensive Plan reads in part: "Any future development located adjacent to Sequalitchew Creek, or its associated nature trail must be done with significant care to protect and preserve the full length of the Sequalitchew Creek Trail in a natural and uninterrupted state.... In addition to trails that will connect this village with other neighborhoods, a seven to ten-acre community urban design feature is located within this area, just north of Sequalitchew Creek and west of Center Drive in the vicinity of the historic 1838 Nisqually Mission site. The intent of this feature is to emphasize and preserve historic elements through the development of

a community focal point involving water, nature, and linkage between Sequalitchew Village and the villages south of the creek."[2]

The proposed development of large parking lots and industrial warehouses is inconsistent with and undermines the long-term plan for Sequalitchew Village, and those impacts must be disclosed in the checklist.

- 12.b. The checklist claims lack of impact to recreational uses. In fact, it will significantly impact use of the Sequalitchew Creek Trail. Instead of undeveloped, open property, hikers will view construction and eventually parking lots and warehouses. This will significantly decrease recreational value. Construction is also likely to alter the trail and associated access.

- 12.c. The checklist describes a potential public park, which appears to be the main mitigation feature provided. However, there is no description of the size or features of the park. It is impossible to assess the adequacy of the mitigation from the checklist.

- 13.a. The claim that there are no structures on the site or areas determined to be eligible for preservation is false. The marker for the Nisqually Mission is on the site, and the site is also the location of Camp Nisqually, (9th U.S. Cavalry Bivouac Site).

- 13.b. The checklist claims, based on one paid study by Parus Consulting which appears to have been conducted for a separate project, that there is "no evidence" of the Nisqually Mission (Methodist Episcopal Missions Site) or Camp Nisqually (9th U.S. Cavalry Bivouac Site). The referenced study is insufficient to conclude that there is a lack of significant adverse environmental effects for several reasons.

  First, the Parus Consulting report contradicts the already accepted eligibility of the two sites as eligible for the National Register of Historic Places and fails to acknowledge extensive evidence (such as the longstanding location of the site marker for the mission on the property, based on first-hand accounts) indicating that the historically significant events took place on the site proposed for development. Numerous previous studies by independent researchers have chronicled the site's importance. Moreover, the site itself is significant whether artifacts remain or not. As the location of momentous events in Washington it is an "area of cultural importance" under SEPA.

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[2] See 2015 approved City of Dupont Comprehensive Plan, page 61.

> The checklist must further disclose the preclusive impacts of the proposal, which include forever covering historical artifacts, changing the surrounding viewshed, and eliminating the possibility of a proposed historic district. Furthermore, in making the threshold determination the City may not take the Parus Consulting report at face value, but rather must conduct an independent analysis taking into account the extensive evidence detailing the significance of the site. WAC 197-11-330(1)(a)(i).

In sum, the checklist repeatedly fails to disclose the information necessary to adequately assess environmental impacts. References to mitigation, such as a stormwater runoff system and a public park, are cursory and do not allow for a reasoned determination of non-significance. As discussed below, the City should either make a determination of significance based on knowledge of the site or require further public comment and make a threshold determination based on a completed application.

A Determination of Significance is Warranted

SEPA requires preparation of an EIS for projects with "probable significant, adverse environmental impact." RCW 43.21c.031(1). Per Department of Ecology regulations:

> (1) "Significant" as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality.
>
> (2) Significance involves context and intensity (WAC 197-11-330) and does not lend itself to a formula or quantifiable test. The context may vary with the physical setting. Intensity depends on the magnitude and duration of an impact.

The referenced threshold determination regulation, WAC 197-11-330, details the process by which a lead agency must determine significance. Of particular pertinence here, the regulation notes that "[t]he same proposal may have a significant adverse impact in one location but not in another location," "[s]everal marginal impacts when considered together may result in a significant adverse impact," and a proposal may be significant where it "[a]dversely affect[s] environmentally sensitive or special areas, such as loss or destruction of historic, scientific, and cultural resources…" or "[e]stablish[es] a precedent for future actions with significant effects." WAC 197-11-330(3). Where an agency is unsure of potential impacts, it may delay consideration pending independent analysis or provision of additional information by the project proponent. WAC 197-11-335.

Here, although the project is poorly defined, there is sufficient information to make a determination of significance. The proposal would excavate, fill, and pave 70-75% of the 21-acre area, and in the process largely eliminate access to over 150 years of Washington history. It would impact an important recreational trail and corridor and undermine the Comprehensive Plan's vision of residential development with associated park land and preservation of natural

and historical features. The traffic impacts—444 trips every day, 24 hours a day, seven days a week—would disrupt nearby housing and operations at City Hall.

Perhaps most concerning is the long-term precedential impact of the project. The industrial use will at the least undermine, if not preclude, a broadly-held desire to protect and enhance the City of DuPont's unique natural and historical resources. Local non-profits, citizens, and the City have spent decades seeking to restore and revive the City's legacy by returning robust salmon runs to Sequalitchew Creek, protecting and enhancing water quality, and developing an attractive historic district. The proposal is significant in its likely capacity to greatly undermine that vision and establish a precedent for industrial use.

Given the great public importance of the site and its value to the City's long-term plans, an EIS is not only required by SEPA but would be highly beneficial. For example, an EIS could develop an alternative in which the Nisqually Mission marker and landmark Oregon white oak are retained, and reconfigure the proposed park so it accommodates cultural and historic values. If a public park is being formed, the public should have a real and meaningful opportunity to evaluate the best size and configuration.

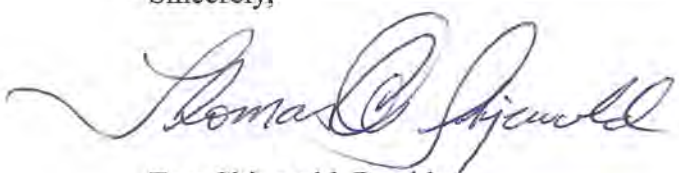
An Additional Comment Period Based on the Final Proposal is Warranted

The checklist makes abundantly clear that the proposal is only partially developed and likely to change. At this point, the proposal and associated mitigation are so uncertain that it is impossible for the public to assess whether mitigation will be adequate to render impacts non-significant, and the City cannot comply with SEPA's mandate to consider environmental impacts before reaching a decision. In particular, the public must be able to review and comment on the planned public park, the proposed stormwater runoff system, the tree permit application and the actual likely traffic patterns and have more information about the proposed use of the property.

The optional DNS process is ill-suited to this proposal because it forecloses public comment on the actual environmental impacts. Pursuant to WAC 197-11-355(4)(d), NDA requests that the City delay making a threshold determination and allow public comment on the final proposal, complete with associated studies and permits and responses to the deficiencies identified in this letter.

Thank you for your consideration.

Sincerely,



Tom Skjervold, President

Nisqually Delta Association

Josh Kubitza

To: Lisa Klein
Subject: RE: Comments Regarding the Proposed Determination of Non-Significance for the Construction of an Industrial Park on Historic Properties Next to Sequalitchew Creek (City File Nos. PLNG 2018-008, -009 and -047)

From: Tom Skjervold [mailto:tskjervold@gmail.com]
Sent: Wednesday, September 12, 2018 2:52 PM
To: Jeff Wilson
Cc: Tom Skjervold, President; Brian Chestnut; Wyatt Golding
Subject: Comments Regarding the Proposed Determination of Non-Significance for the Construction of an Industrial Park on Historic Properties Next to Sequalitchew Creek (City File Nos. PLNG 2018-008, -009 and -047)

Mr. Wilson,

Please find attached a letter, responsive to the currently open comment period provided under SEPA.

There are also a number of other supporting documents, which we also intend be entered into the SEPA record.

I anticipate sending multiple emails to transmit all the relevant documents.

Please confirm receipt of these materials.

Respectfully,

Tom Skjervold

Nisqually Point Defense Fund
P.O. Box 198, Dupont, WA 98327

December 1, 1999

Mr. Greg Moore
Weyerhaeuser Real Estate Company
1408 Palisade Blvd.
DuPont, WA 98327

Dear Mr. Moore:

Thank you for the invitation to meet and discuss the Nisqually Sequalitchew Historic District. We look forward to meeting with you on December 13th. As you know we are quite concerned about the damage to the Mission site. We would hope to resolve this issue and move forward to make commitments to the preservation of this and other sites in the historic district.

On November 12, 1999, we toured the Mission site with Mike Blum from the Department of Ecology. We discovered significant destruction and movement of material throughout the proposed district. At the Mission site we noted that the historic monument was replaced. However, the removal of the toxic waste which was previously deposited on the site, required significant excavation. This caused additional damage to the site. We noted the disturbance of the site and found some artifacts on the surface.

The Methodist Episcopal Mission has been identified in agreements and other documentation of the historic district. As part of the 1989 Memorandum of Agreement, WRECO agreed to "brief construction supervisors on the Cultural Resource concerns". In addition, the agreement calls for WRECO to "ensure that all construction activities and other equipment comply with the mitigation measures set forth in the (Cultural Resources) plan".

At our December meeting we would like to hear how WRECO plans to avoid disturbance of this and other historic sites during the planning and development of the proposed golf course.

At this time we request that further activity at the Mission site and other identified historic sites be stopped until a survey can be conducted to determine the extent of the damage to these sites.

Also, during our November 12 tour, we noted that heavy equipment and large trucks were operating within the 100 foot buffer that protects Sequalitchew Creek. The buffer was established as a condition for the Shoreline Management permit. In Appendix A, page 1, the buffer was described as within "100 feet of the top of the bank of Sequalitchew Creek shall be retained".

A third item to be discussed when we meet is public access and interpretation of historic sites. Conditions for the Shoreline Permit called for the following mitigation:

> WRECO agrees to dedicate to the City an area for public trail access along the existing narrow gauge rail on the north side of Sequalitchew Creek to the Puget Sound shoreline in the vicinity of the existing dock.

Our committee feels strongly that preservation of particular sites, without providing public access is not true preservation. Access could be accomplished through retention of selected pathways so that visitors can gain access without impinging upon the property owner's plans for development

We look forward to meeting with you on December 13th. At that time we hope to resolve these issues in such a way that leads toward an agreement about long term preservation of the Nisqually Sequalitchew Historic District. This district was selected by the Washington Trust for Historic Preservation as one of the "Ten Most Endangered Properties" in our state. We hope that we can work together with you to provide the protection that this site deserves.

Kind Regards,

Patrick Steel
For the Nisqually Point Defense Fund

CC: Mike Blum
Allyson Brooks
Charles LeWarne
Tom Skjervold

Weyerhaeuser
Real Estate Company

Northwest Landing
1408 Palisade Blvd
DuPont WA 98327
Tel (253) 964 2311
Fax (253) 964 2326

December 2, 1999

Patrick Steel
Nisqually Point Defense Fund
P.O. Box 198
DuPont, WA 98327

Dear Mr. Steel:

Thank you for stopping by the office yesterday to introduce yourself and drop off a letter. I have had an opportunity to review your letter and wanted to respond.

Your letter primarily addresses issues related to the cleanup of the former DuPont Works site. The property is owned by Weyerhaeuser Company and under a court ordered Consent Decree. After clean up the property will be transferred to the Weyerhaeuser Real Estate Company for development purposes.

It would be most appropriate to address clean up issues with representatives of Weyerhaeuser Company. Accordingly I have forwarded you letter to James Odendahl, Director, Wood Products Regulatory Affairs. He will be taking over for Vern Moore who has been managing the clean-up, but is retiring as of the 17th of December. Mr. Odendahl can be reached at (253) 924-7063.

Our meeting for December 13, 1999 is still appropriate to discuss historic preservation. I am sure that we have common ground and purpose, including appropriate public access.

I look forward to meeting with you, Jim Edgren and Tom Skjervold at 9:30pm on the 13th of December here at the project office.

Sincerely,

Greg Moore

Gregory D. Moore AICP
Director of Operations and Planning

CC: James Odendahl
David Brentlinger
Allyson Brooks

Nisqually Point Defense Fund

P.O. Box 198, Dupont, WA 98327

January 18, 2000

Dr. Allyson Brooks
State Historic Preservation Officer
Office of Archaeology and Historic Preservation
P. O. Box 48343
Olympia, WA 98434-8343

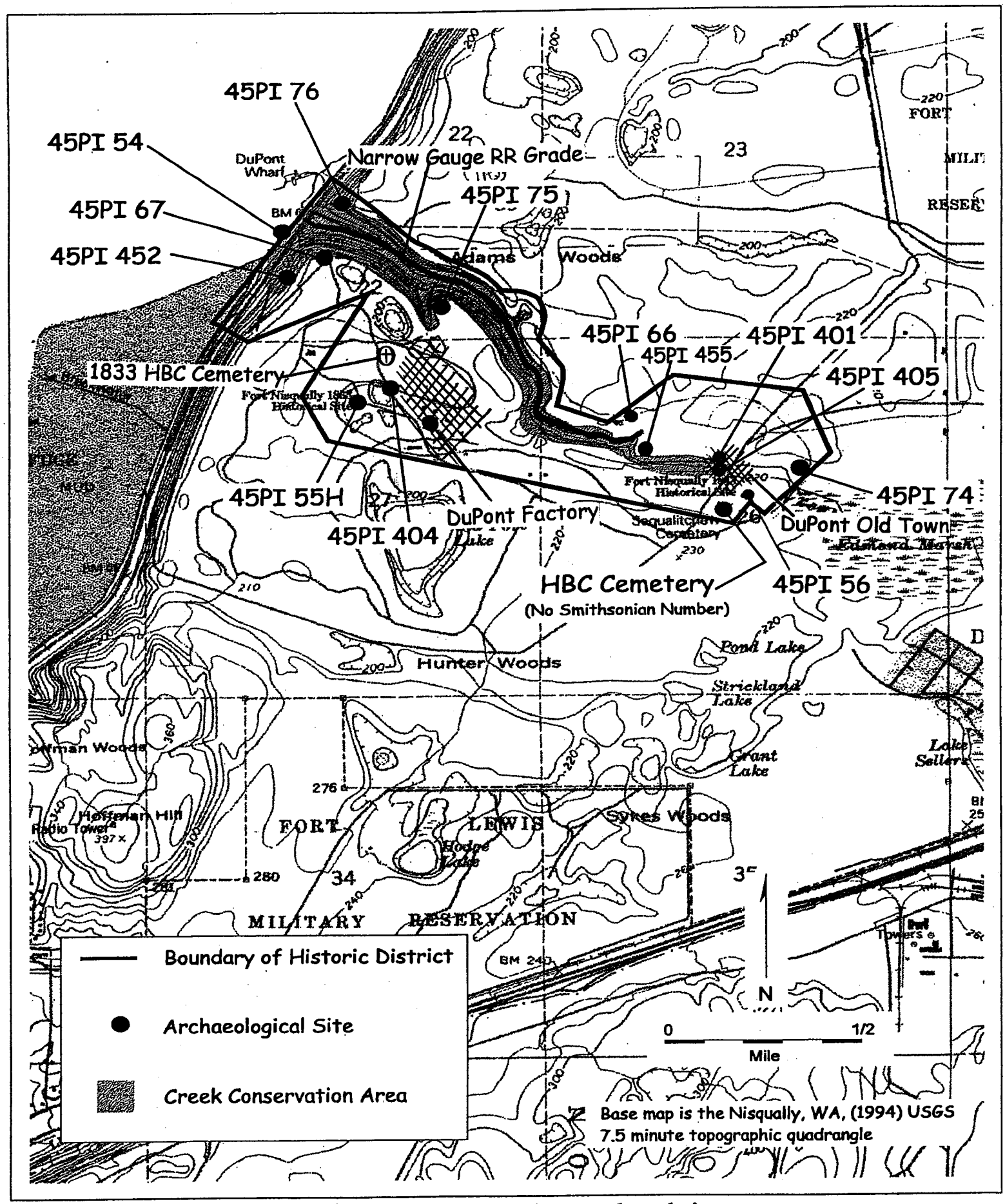
Dear Dr. Brooks:

We have been informed that an owner of property located within the boundaries of the Nisqually-Sequalitchew Historic District was not notified of the pending presentation of this nomination to the State Advisory Council. We hereby withdraw the property belonging to the Intel Corporation that is included within the district boundary nomination.

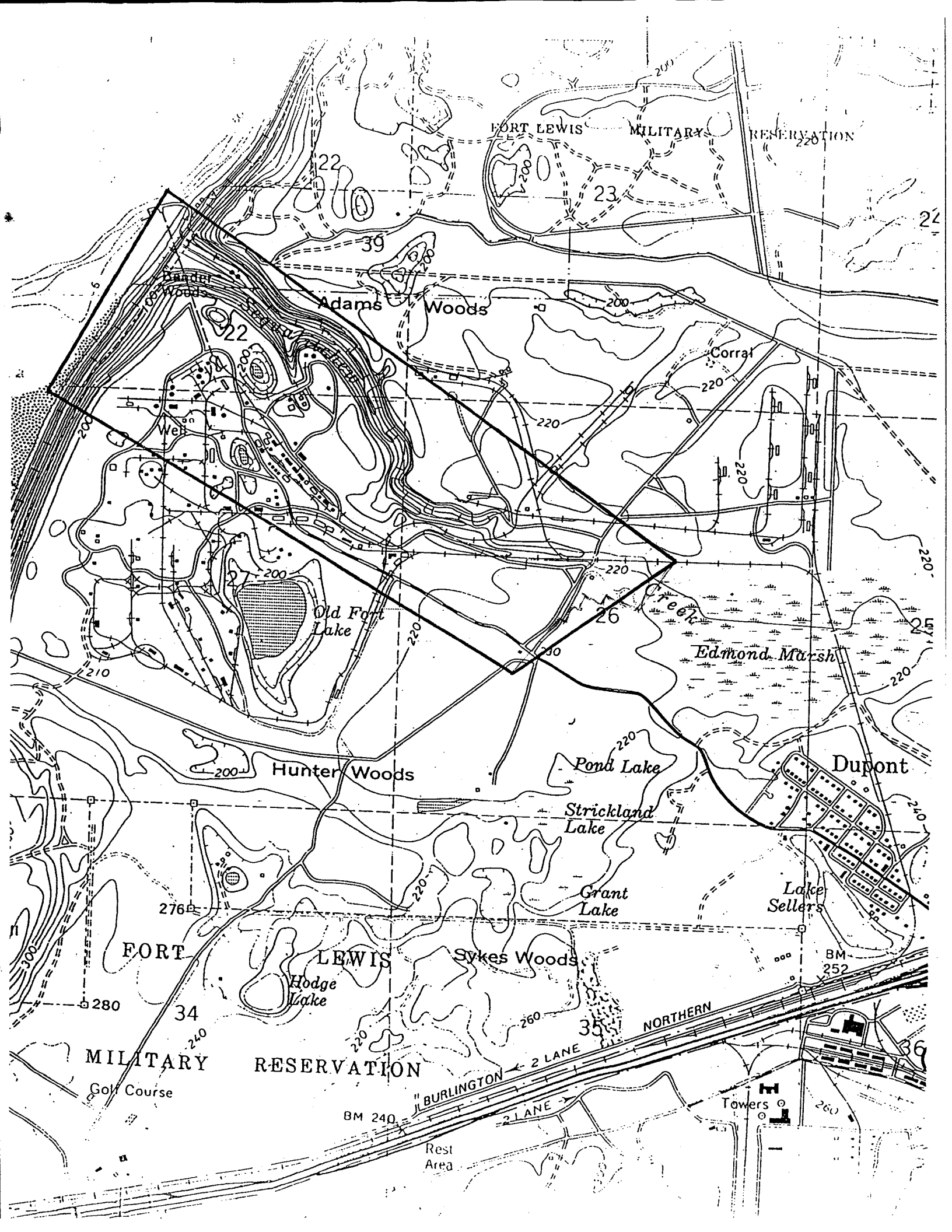
Thank you for this consideration. We apologize for any inconvenience this may have caused you and look forward to the January 28th meeting in Olympia.

Sincerely,

Patrick A. Steel
For the Nisqually Point Defense Fund



Nisqually-Sequalitchew Historic District, Smithsonian numbered sites.


FORT LEWIS MILITARY RESERVATION
Adams Woods
Hunter Woods
Sykes Woods
Old Fort Lake
Edmond Marsh
Pond Lake
Strickland Lake
Grant Lake
Lake Sellers
Hodge Lake
Dupont
Corral
Well
Creek
FORT LEWIS MILITARY RESERVATION
Golf Course
BURLINGTON NORTHERN
2 LANE
2 LANE
Towers
Rest Area
BM 240
BM 252
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From the desk of Patrick A. Steel

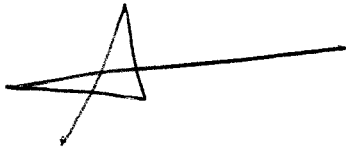
TO: Tom

Date: 1/12/00

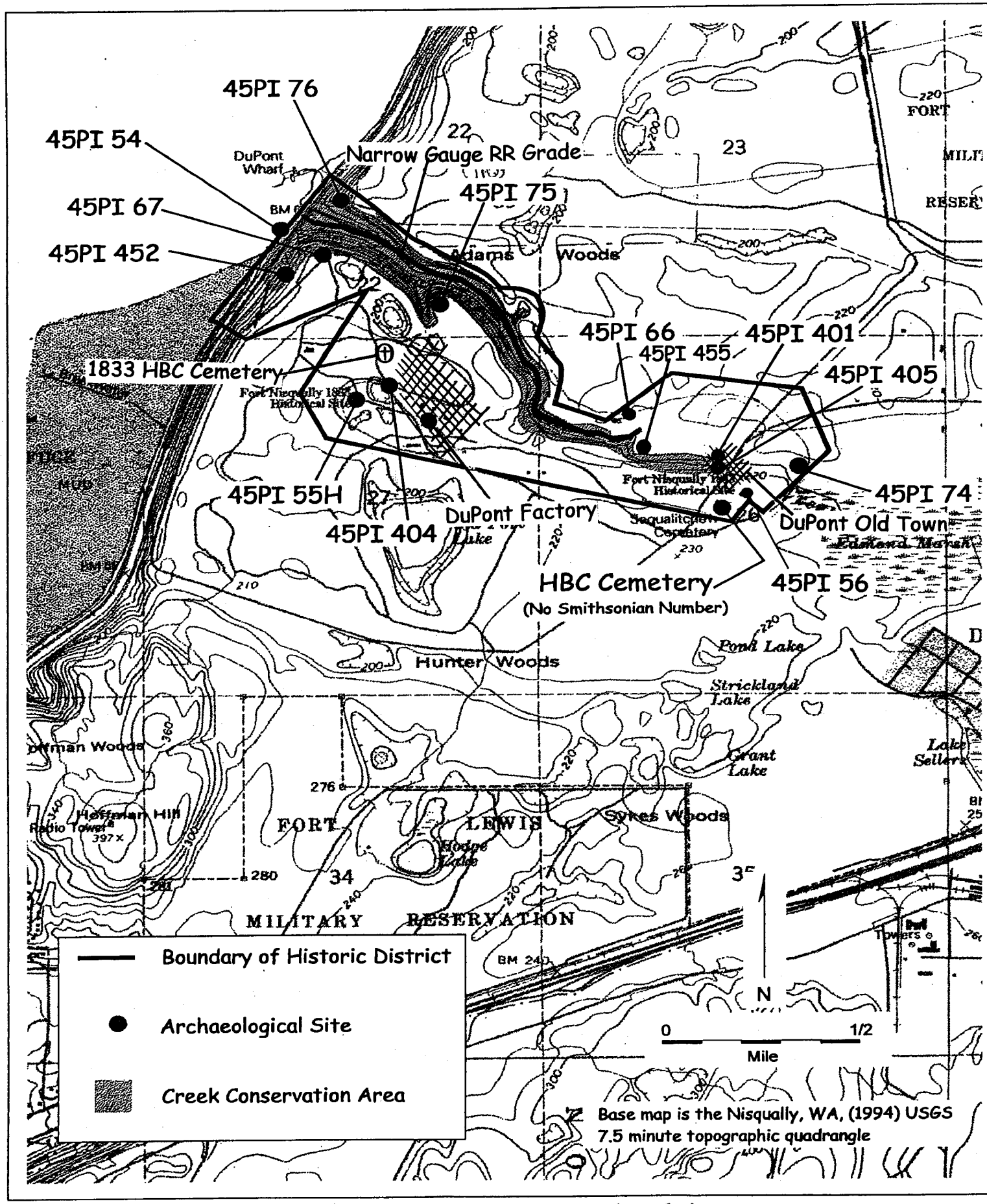
These are the maps that go with the new nomination. I will bring copies of the nomination with me for the meeting at the DuPont museum at 0900 on the 19th of Jan ~~XXXXXX~~ before the 1000 meeting with W.

I will probably call you sunday afternoon to make suere that Greg got you all the updated information.

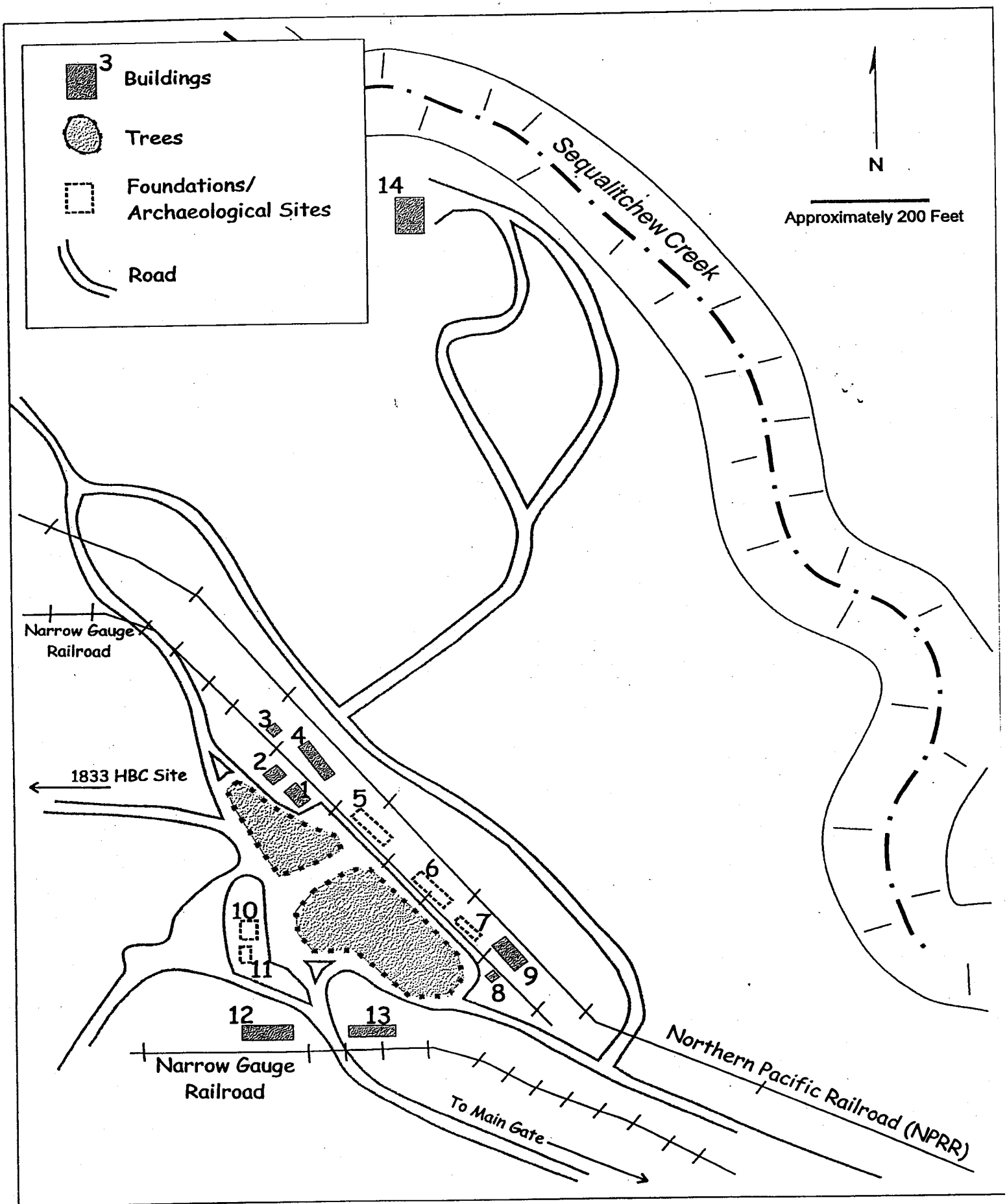
God bless



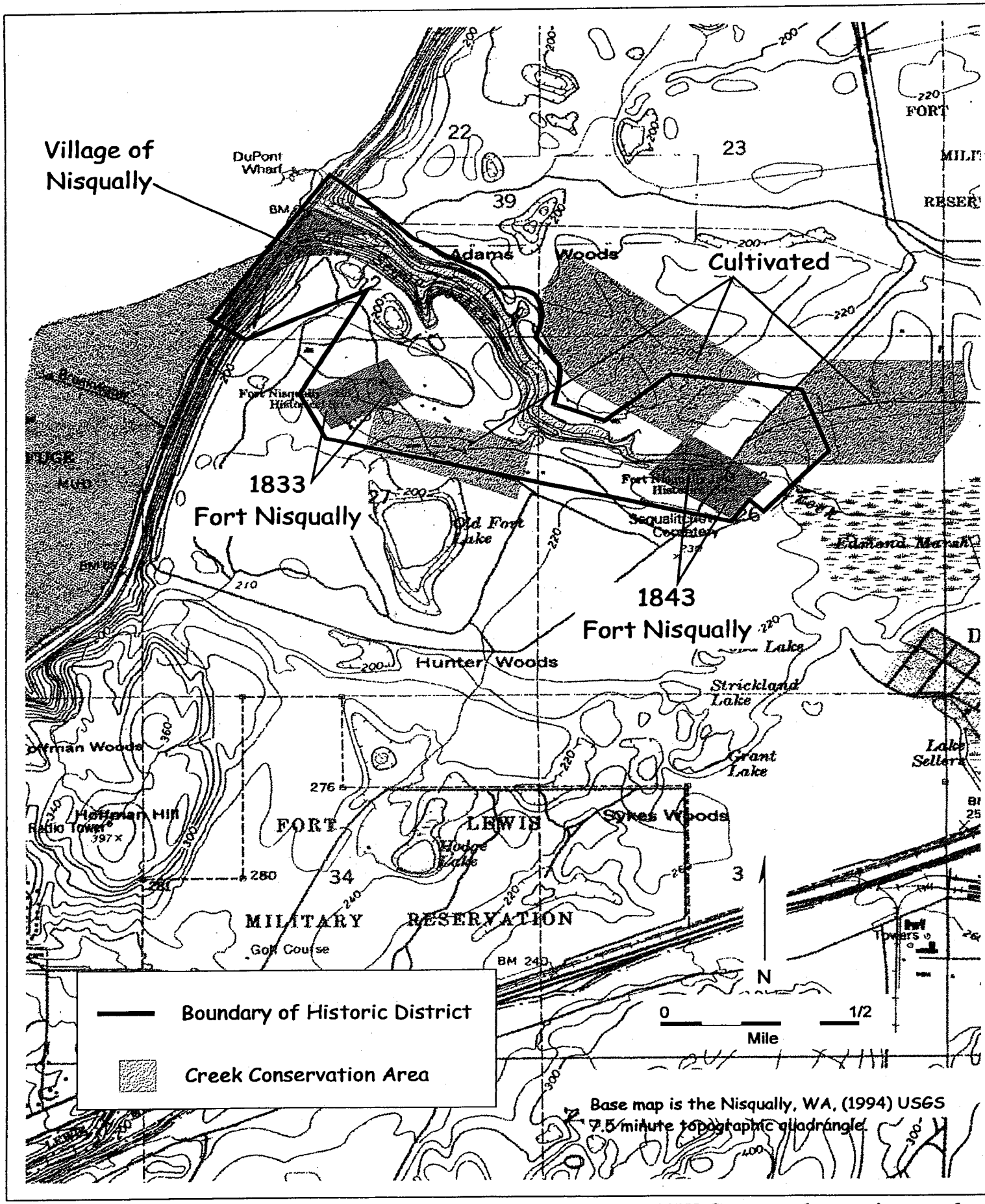
Bates Business & Management Training Center
1551 Broadway, Tacoma
596-1765 FAX 596-1775



Nisqually-Sequalitchew Historic District, Smithsonian numbered sites.



Nisqually Sequalitchew Historic District, Dupont Company operations area.



Nisqually Sequalitchew Historic District with approximate 1846 HBC mapped areas imposed.

May 10, 2000

James P. Odendahl
Director
Wood Products Regulatory Affairs
PO Box 2999
CH 1L28
Tacoma, Washington 98477-2999

Dear Mr. Odendahl:

I was asked to delineate the area of concern for archaeological resources at 1833 Fort Nisqually (45-PI-55). I tried to minimize the area of concern. However, despite considerable archaeological work at and inside the perimeter of the Fort, the outer boundaries of the site have not been determined.

There is evidence of archaeological deposits outside the Fort's palisades. Guy Moura, leading expert on the archaeology of the area, states: *"Evidence of a building outside the palisade walls was discovered while trenching for the palisade line. Near the east corner of the fort, along the NEP, a backhoe trench revealed a concentration of clay with a number of cobbles. When the trench walls were cleaned it was discovered that a wood-rich organic stain extended horizontally away from the clay and rocks. As previously stated, the clay and cobbles were sufficient evidence to conclude that we had uncovered a large hearth. The organic stain seems to delineate a floor.* ***It is likely that more exterior structures will be identified during future excavations*** (Moura, Guy. A Testing and Evaluation of the 1833 Fort Nisqually, 45-PI-55 at Northwest Landing, Pierce County, Washington, Western Heritage, Inc. 1990)(emphasis mine). The archaeological deposits mentioned above may be the remnants of 45-PI-73 (The Indian House). Historically, a sawpit, blacksmith shop and other buildings are documented outside the palisade.

In addition, an archaeological crew working outside the 1833 Fort found archaeological features in a backhoe trench that extended to the south of the 1833 Fort. The crew flagged the locations of these features, however, they were not recorded or investigated in any way. I saw these features while visiting at the site.

Finally, there is probably an employee village associated with the 1833 Fort. Such villages were common occurrences at HBC establishments and were found outside Forts Colville, Vancouver (Kanaka Village), Langley, and 1843 Fort Nisqually. "*Where there was no danger from Indians the lower grades of employees were sometimes permitted to live outside the fort confines, although it was seldom that a clerk or officer was allowed to do so* (Hussey 1975:14)."

Due to the lack of information from controlled archaeological investigations, I have to fall back on Guy Moura's recommendations and standard operating procedures for delineating the boundaries of archaeological sites. Moura recommended that "(a) ***systematic, shovel testing program should be initiated outside the fort to search for the remains of Hudson's Bay and Native American features which existed during the occupation of the fort*** (Moura, 1990) (emphasis mine)."

I recommend shovel tests at 10-meter intervals. Since the first 63 feet beyond the outer palisade walls have been dedicated as a buffer, shovel testing need not occur in this area. Shovel testing should extend in all directions from the Fort until two consecutive shovel tests turn up no evidence of Hudson's Bay period artifacts. This shovel testing and the subsequent artifact analysis and write up should allow the outer boundaries of the site to be definitely determined. I would anticipate the area of concern to extend no more than 300 feet from the Fort. However, this is an educated guess.

I recommend Guy Moura for the work. He has written the only major work on the site, and is experienced with artifact analysis and with cultural resource management. His number is (503) 457-2456.

If Weyerhaeuser has any additional information on the location and nature of controlled archaeological investigations around the Fort, I would be happy to further limit the area of concern.

If you have any questions please contact me at (360) 352-1628.

Sincerely,

M. Leland Stilson

M. Leland Stilson
4426 79th Ave. S.W.
Olympia, WA 98512

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 1, 1997

Mr. Vern Moore
Weyerhaeuser Company
PO Box 100
DuPont, WA 98327-0100

Tom
FYI
Mike Blum
I did not send a copy to Ed Kenney.

Mr. Jack Frazier
The DuPont Company
Barley Mill Plaza Bldg. 27-1162
PO Box 80027
Wilmington, DE 19880-0027

Re: Residential Soil-Lead Cleanup Standard for Form

Dear Vern and Jack:

This letter is in reply to Tim Bingman's August 25, 1997, letter to me regarding site-specific inputs to the Integrated Exposure Uptake BioKinetic (IEUBK) model for determining residential soil-lead cleanup levels. I will also summarize our recent discussions about soil-lead cleanup in the future residential areas of the former DuPont Works Site and provide you with a decision regarding a site-specific soil cleanup standard for lead. As you know, Ecology is adopting the use of the Environmental Protection Agency's IEUBK model as a basis for setting site-specific residential cleanup levels for the protection of children. The Model Toxics Control Act (MTCA) Science Advisory Board has also concurred in the use of the model for making site-specific decisions.

Over the past several years, the Ecology Team has reviewed numerous submissions from Weyerhaeuser and DuPont Companies related to the topic of soil-lead cleanup standards, most of which dealt with the development of site-specific inputs into the IEUBK model. The most recent discussions on this topic have dealt with the soil-to-dust transfer coefficient input to the model. The standard default value for the soil-to-dust transfer coefficient is seventy percent (70%). We all agreed that 70% may not be a reasonable value to use for the Site, however, we needed adequate site-specific justification to change the default value.

Ecology used the services of Dr. Terri Bowers of Gradient Corporation to review the current literature for information that could provide a value for the soil-to-dust transfer coefficient that would be appropriate for the former DuPont Works Site. Terri provided Ecology with a report dated February 12, 1997 entitled Estimating the Soil-to-Dust Transfer Coefficient, and a memo regarding the Review of Leadville and Sandy Soil-to-Dust Relationships, dated June 24, 1997. On July 11, 1997, after initial review by the Ecology Team, I sent those same materials to Dr. Greg Glass for peer review. Greg is knowledgeable about risk assessment and has familiarity with the issue of soil-to-dust transfer at other cleanup sites. Greg responded on August 12, 1997, to my July 11 letter, which included a list of questions needing his response.

cc: Tim Bingman, DuPont Company
Terri Bowers, Gradient Corporation
Mary Burg, Ecology Toxics Cleanup Program Manager
Greg Glass, Greg Glass Consulting
Mark Jobson, Assistant Attorney General
Jeff King, DuPont Company
Roseanne Lorenzana, Environmental Protection Agency
Craig McCormack, Ecology Toxics Cleanup Program
Pamela Meitner, DuPont Company Legal Department
Ralph Palumbo, Summit Law Group
Willard Shenkel, City of DuPont
Jim White, Washington State Department of Health
Marian Wineman, Woodward Clyde Consultants
Ecology's Weyerhaeuser/DuPont Site Team

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 1, 1997

Mr. Vern Moore
Weyerhaeuser Company
PO Box 100
DuPont, WA 98327-0100

Mr. Jack Frazier
The DuPont Company
Barley Mill Plaza Bldg. 27-1162
PO Box 80027
Wilmington, DE 19880-0027

Tom
FYI
Mike Blum
I did not send a copy to Ed Kenney.

Re: Residential Soil-Lead Cleanup Standard for Form

Dear Vern and Jack:

This letter is in reply to Tim Bingman's August 25, 1997, letter to me regarding site-specific inputs to the Integrated Exposure Uptake BioKinetic (IEUBK) model for determining residential soil-lead cleanup levels. I will also summarize our recent discussions about soil-lead cleanup in the future residential areas of the former DuPont Works Site and provide you with a decision regarding a site-specific soil cleanup standard for lead. As you know, Ecology is adopting the use of the Environmental Protection Agency's IEUBK model as a basis for setting site-specific residential cleanup levels for the protection of children. The Model Toxics Control Act (MTCA) Science Advisory Board has also concurred in the use of the model for making site-specific decisions.

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Based on the work by Terri and Greg, it appears that the 70% default value for the soil-to-dust transfer coefficient is an overestimate for this parameter at the former DuPont Works Site. This conclusion is mostly based on the fact that 1) the new homes to be constructed at the Site will not contain lead-based paint, 2) leaded gasoline will not be used in motor vehicles in the future, and 3) the future roads in the area will not have been impacted by past leaded gasoline use. Both consultants provided similar ranges of soil-to-dust transfer coefficients that would be defensible for use at the Site.

As noted in Tim's letter, Terri recommended using a soil-to-dust transfer coefficient on the order of 15 to 45%. Greg's opinion was that the range was 15 to 50% "with relatively high confidence", or 20 to 45% "with somewhat lesser but still appreciable confidence." The Ecology Team has selected 45%, a value from the upper portion of the soil-to-dust transfer coefficient range, to account for uncertainties in the underlying data, and its application at this site. The Ecology Team then applied the 45% transfer coefficient along with a site-specific ground water lead level of 2.0 ug/l to the IEUBK model. Using these inputs, the Ecology Team determined the residential soil cleanup level that would be protective of 95% of the child population (0 to 84 months of age) at a blood-lead level of 10 ug/dl.

Using the input parameters noted above, the IEUBK model estimates a soil-lead cleanup value of 443 mg/kg as protective. The proposed future development of the residential areas of the Site includes removal of the lead-contaminated topsoil prior to home construction, followed by replacement with clean topsoil and sod after the new homes are constructed. Considering the proposed future conditions at the Site, and the accuracy of the soil-to-dust transfer coefficient estimate, Ecology approves a risk management concentration of 450 mg/kg as protective of human health in the future residential areas at the former DuPont Works Site.

The Ecology Team recognizes that agreement on this issue marks a significant milestone in the project. We look forward to resolving the remaining technical issues including a soil-lead cleanup standard for the non-residential areas of the Site. If you or any of your team have any questions regarding this letter, please give me a telephone call at (360) 407-6262.

Sincerely,

Mike Blum

Mike Blum
Site Manager
Toxics Cleanup Program

MB:td

cc: Distribution list

LITTLER
ENVIRONMENTAL
CONSULTING, INC.

21231 50th Dr. S.E.
Woodinville, WA 98072
Phone/FAX: (206) 486-3861

October 6, 1995

Mr. Tom Skjervold, Project Manager
DuPont Toxics Citizen Oversight Project
P.O. Box 7444
Olympia, WA 98507

Dear Tom,

We are pleased to announce that our company recently went through the incorporation process. As a result I need to advise you that our corporate name has changed slightly to **Littler Environmental Consulting, Inc.**

Our new Tax Payer ID Number is **91-1688844**, and this number should be used for all future accounting purposes.

This change will not in any way affect the manner in which we provide services to our clients, and we hope this causes no inconvenience to you. I have attached new business cards for your file and look forward to continuing to serve you.

Please give me a call if you have any questions or if I can be of any further service.

Sincerely,

John D. Littler, P.E.

Final Cleanup Action Plan - Parcel 2
Former DuPont Works Site
DuPont, Washington

Prepared by
Washington State
Department of Ecology
Toxics Cleanup Program

March 4, 1997

This Cleanup Action Plan Also Includes:

1) Proposed Declaration of Restrictive Covenant,

2) Legal Description of Property, and

3) Proposed Amendment to Consent Decree

110 SE Oyster Beach Road
Shelton WA 98584
December 29, 2007

Nisqually Land Trust
P O Box 1148
Yelm WA 98597-1148

Dear Land Trust People:

By way of background, in 1994 when negotiations between the Nisqually Delta Association (NDA) and (the Lone Star Gravel and Weyerhaeuser Real Estate were mandated by the Shorelines Hearings Board to to see i the pending lawsuit could not be brought to some kind of prior settlement, Stan Cecil and I were the appointe representatives of the NDA.

One of the hard-won outcomes of that process was an agreement for mitigation funds as follows: An Environmental Mitigation Trust with a land trust shall be established for acquisition of property, developmer rights or easements in the Delta area. Lone Star and Weyerhaeuser will contribute an initial amount of $375,(with a $125,000 bonus for timely permit approval. Payments of $50,000/year for 25 years will go into the fu with all payments contingent upon final permit approval. Administration and control of this funding source v subsequently turned over to the Nisqually Land Trust.

Stan Cecil now lives in Massachusetts. In a telephone conversation recently, he asked me what had become (those funds. I had to answer that I had no information, though I do seem to recall the acquisition of some property fronting a small cove at Hogum Bay.

Accordingly, I am writing you to pass along the question. It would be interesting to learn about the dispositic of this money.

Thank you for your attention to this.

Sincerely,

Janet Dawes

Janet Dawes

Cc: Stan Cecil; Tom Skjervold

HCMP
HILLIS
CLARK
MARTIN &
PETERSON
law offices

December 17, 2008

Tom Skjervold
President
Nisqually Delta Association
P.O. Box 7444
Olympia, WA 98507

Re: 1994 Settlement Agreement for Lone Star Northwest DuPont Project

Dear Mr. Skjervold:

On behalf of my client, Glacier Northwest (formerly known as "Lone Star Northwest"), I am writing with regard to the dispute resolution process set forth in Section III.B.(1) of the 1994 Settlement Agreement for Lone Star Northwest DuPont Project (hereafter "Settlement Agreement").

By letter dated June 17, 2008 (copy attached), the Nisqually Delta Association expressly invoked this dispute resolution process. Glacier and other signatories to the Settlement Agreement subsequently met with you on July 16, 2008, to discuss the Association's concerns. You confirmed this consultation by e-mail dated August 14,2008. In that e-mail you indicated that you would arrange a follow-up meeting of the parties. To date, this meeting has not occurred. We would now like to bring this process to a close.

Section III.B(1) provides that:

> If no agreement can be reached within 10 days from receipt of the letter [confirming the dispute resolution consultation], the parties will then submit the dispute to Washington Arbitration and Mediation Services or other agreed upon mediator for mediation . . .

Since more than 10 days have obviously now passed since your August 14 e-mail, the Nisqually Delta Association, as the "aggrieved party" in the dispute resolution process, should now submit this dispute to mediation. Please call me at your earliest opportunity to discuss the names of potential mediators and mediation dates.

500 Galland Building
1221 Second Avenue
Seattle, Washington
98101-2925

phone 206.623.1745
fax 206.623.7789
www.hcmp.com

MERITAS
LAW FIRMS WORLDWIDE

A PROFESSIONAL SERVICE CORPORATION

If we do not hear from you within 10 days of this letter, we will assume that the Association has no further interest in this dispute resolution and we will consider the matter closed.

Very truly yours,

Stephen H. Roos

SHR/jlp
E-Mail: SHR@hcmp.com

Enclosure

cc: Pete Stoltz, Glacier Northwest
Sue Danver, Black Hills Audubon Society
Krystal Kyer, Tahoma Audubon Society
Bill McDonald, City of DuPont
Sally Toteff, Washington Department of Ecology
Tom Young, Attorney General's Office

ND: 10552.094 4817-8726-2723v1

Nisqually Delta Association
PO Box 7444
Olympia, Washington
360-357-3792
www.nisqually.info

January 4, 2009

Glacier Northwest
5975 East Marginal Way
Seattle, Washington
98134

City of DuPont
303 Barksdale Avenue
DuPont, Washington
98327-0455

Re: Nisqually Delta Association's Notice of a Breach of the 1994 Settlement Agreement and Request for Mediation.

To Whom It May Concern:

On July 16, 2008, several of the parties who signed the "1994 Settlement Agreement for Lone Star Northwest DuPont Project" met at our request in the DuPont City Hall. The purpose of the meeting was to discuss Glacier Northwest's proposal to expand its gravel mining facility. The Nisqually Delta Association (NDA) believed, and continues to assert, that this proposal violates section II.B.5 of the 1994 settlement. That provision of the agreement contains a covenant in which Lone Star and its successors (now Glacier Northwest) agree not to seek any permits to mine within the shoreline jurisdiction, within 100 feet of the top of the bank of Sequalitchew Creek, or in a manner that would significantly impair the flow of Sequalitchew Creek. There is also a covenant to limit any future uses of the DuPont shoreline area outside of the Special Management Unit to non-industrial uses. This meeting was the first step in the dispute resolution process set forth in the 1994 settlement agreement.

At the July 16th meeting, representatives from Glacier Northwest provided those assembled with a description of the mine expansion proposal that is currently under review by the City. NDA representatives, and other representatives of various citizen groups, detailed our objections to the plan. We hoped that such a meeting would illustrate the ways in which the currently configured proposal violates certain key terms of the 1994 Settlement Agreement and would lead to an amicable resolution of the dispute.

The Nisqually Delta Association learned recently that the City of DuPont has approved a Sensitive Area Exception and a Conditional Use Permit application to allow Glacier to place an interim drainage pipe and flow dissipation structure in Sequalitchew Creek as a precursor to the proposed expansion of their current mine. This action appears to foreshadow the approval of the project put forward by Glacier Northwest, which at the time of our meeting on July 16, 2008, City Administrator Bill McDonald indicated was very much undetermined. During that meeting Mr. McDonald indicated the City had not violated the spirit of our 1994 Settlement Agreement because they were only considering an application, and had not taken any action that would violate the agreement. However, the granting of such a permit is an action that would most certainly impact the flow of Sequalitchew Creek and disturb the creek-side bluff, and thus violate at least two principals of the settlement agreement. Given that the action was taken with no notice to our organization, a party with a stated interest in this matter, we are left with the distinct impression that both Glacier Northwest and the City of DuPont are intent upon moving forward with the proposed project.

Further Nisqually Delta Association has seen where the City of DuPont has since put forward a proposed Comprehensive Plan update that suggests the long-term vision for the community is to remove a portions of marine shore zone bluffs. The proposed comprehensive plan update indicates an intention to remove portions of the seaside bluff north of the mouth of Sequalitchew Creek, as well as putting into the City's comprehensive plan the proposed mine expansion's drainage channel, (referred to as "North Sequalitchew Creek"), which would require removal of the bluff along Sequalitchew Creek.

We believe the mine expansion and the Comprehensive Plan updates, as proposed, violates the terms of section II.B.5 of the 1994 Settlement Agreement. That section, entitled Shoreline Uses, reads:

> "Lone Star and WRECO agree to limit future use, if any, of the remaining DuPont shoreline outside of the Special Management Unit to non-industrial uses consistent with the conservancy regulations of the existing DuPont Master Program. The permits obtained by Lone Star do not provide for any mining within 200 feet of Puget

Sound or Sequalitchew Creek. WRECO and Lone Star agree to seek no permits in the future to mine within the shoreline jurisdiction as defined by RCW Chapter 90.58, or within 100 feet of the top of the bank of Sequalitchew Creek, as shown on Exhibit J, or in a manner that would significantly impact the flow of Sequalitchew Creek."

Because it appears that the matter is not being resolved in a manner that acknowledges our rights under the 1994 Settlement Agreement, we must conclude that continued informal discussions are not likely to produce any serious progress towards the resolution of this dispute. Accordingly, please regard this letter as confirmation that we have attempted to conduct the informal consultation specified in section III.B.1 of the 1994 settlement agreement and have concluded that further informal discussions are unlikely to produce any satisfactory resolution. If you are unable to present an option for satisfactorily resolving this matter in the next ten days, we intend to proceed to the next step of the dispute resolution process set forth in the settlement agreement and submit the dispute to the Washington Arbitration and Mediation Services (or other agreed upon mediator). Ultimately, if mediation does not resolve the issue, we intend to seek enforcement of the settlement agreement utilizing all other remedies available by law.

Sincerely,

Tom Skjervold
President
Nisqually Delta Association

cc: Washington State Department of Ecology
Weyerhaeuser Real Estate Company
Black Hills Audubon Society
Washington Environmental Council
National Audubon Society
People for Puget Sound
Tahoma Audubon Society
Seattle Audubon Society
Anderson Island Quality of Life Committee

DECLARATION OF RESTRICTIVE COVENANT

This Declaration of Restrictive Covenant is made this _____ day of _____ 1997, by the Weyerhaeuser Real Estate Company ("Weyerhaeuser") the fee title owner of the real property herein described, in favor of the State of Washington, Department of Ecology ("Ecology").

The property that is the subject of this Restrictive Covenant was the subject of remedial action under the Washington Model Toxics Control Act ("MTCA") Chapter 70.105D RCW. This Restrictive Covenant is required by RCW 70.105D.030(1) (g) and WAC 173-340-440 (as amended 1/96) because an "industrial soil" cleanup standard was selected for soils on the site under WAC 173-340-745, resulting in residual concentrations of contaminants which exceed Ecology's residential soil cleanup standards. The remedial action undertaken to clean up the property is described in the Consent Decree entered in State of Washington V Weyerhaeuser Co.. Inc. and DuPont Co.. Inc., Pierce County Cause No. 91-2-01073-1 and in a Cleanup Action Plan dated March 4, 1997. The Cleanup Action Plan is on file and available for inspection at the Washington State Department of Ecology, Toxics Cleanup Program, P.O. Box 47775, Olympia, WA 98504-7775.

The property, known as the "Former DuPont Works Site" ("Property") is an 841-acre parcel of real property located in Pierce County, more particularly described in Exhibit A attached hereto and made a part hereof. The property is divided into two separate parcels identified as Parcels 1 and 2, Parcel 2 consisting of 205 acres located north of Sequalitchew Creek.

In the Cleanup Action Plan, Ecology selected a "cleanup action" for the Property, which provides for the following actions:

> Establishment of Institutional Controls (environmental protection easement and deed restriction) in affected areas to prevent uses of the real property other than traditional industrial uses, such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment or distribution of manufactured products, or storage of bulk materials and other uses permitted on industrial properties by the MTCA;

With the exception of the establishment of institutional controls /in affected areas, no further cleanup action is required on Parcel 2. As a result of interim cleanup actions now complete, Parcel 2 soils, surface water and ground water meet cleanup standards for industrial properties under the MTCA, as described in WAC 173-340.

Weyerhaeuser intends to subdivide and sell portions of Parcel 2 only to persons that would use the property for traditional industrial uses. Portions of the property, in the

Weyerhaeuser
The future is growing™

2301 Center Drive
PO Box 100
DuPont WA 98327
Tel (253) 924 7063
Fax (253) 964 8050

June 13, 2000

Mr. Pat Steel
Nisqually Point Defense Fund
71 Silver Beach Drive
Steilacoom, WA 98388

Dear Pat:

I have reviewed Mr. Stilson's letter of May 10, 2000, and reviewed records of past work around the 1833 Fort site. The area to the south has extensive plant growth which has prevented a thorough investigation. To better assess this area, beyond the current buffer, we will prepare a Work Plan for additional study, out at least 200' beyond the 63' buffer, following removal of the trees and other large growth. Low impact forestry will be employed in this selected area so that a careful investigation can be conducted.

which means?

On the other three sides, I find little evidence that any unknown structures may exist beyond the 63' buffer strip that is now fenced. For example, on the north side, the land drops off very steeply into a kettle. It is highly unlikely anyone would have built on this side. On the west there were old DuPont Works buildings that have been removed. Tests have revealed concrete and brick from the industrial era. Due to the significant disturbances, I would not expect to find remnants of pre-industrial construction. On the east side is the edge of another kettle and shallow valley. It is unlikely there are remnants of pre-industrial activity beyond the buffer. (See attached map)

I am currently working on identifying possible additional archaeological resources to assist during cleanup activities. At this time, I cannot commit to a specific individual or firm.

I appreciate your interest and will continue to keep you informed as plans develop. At this time, the "Archaeological and Cultural Resources Protection Plan for Parcel 1" is undergoing peer review. Once I have a peer-reviewed draft, I plan to circulate it to others, including OAHP, for comment. Ultimately it will become a part of the final Cleanup Action Plan (CAP) and be part of that public review process.

If you have further questions, or want to discuss this matter in person, please give me a call at (253) 924-7063.

Very truly yours,

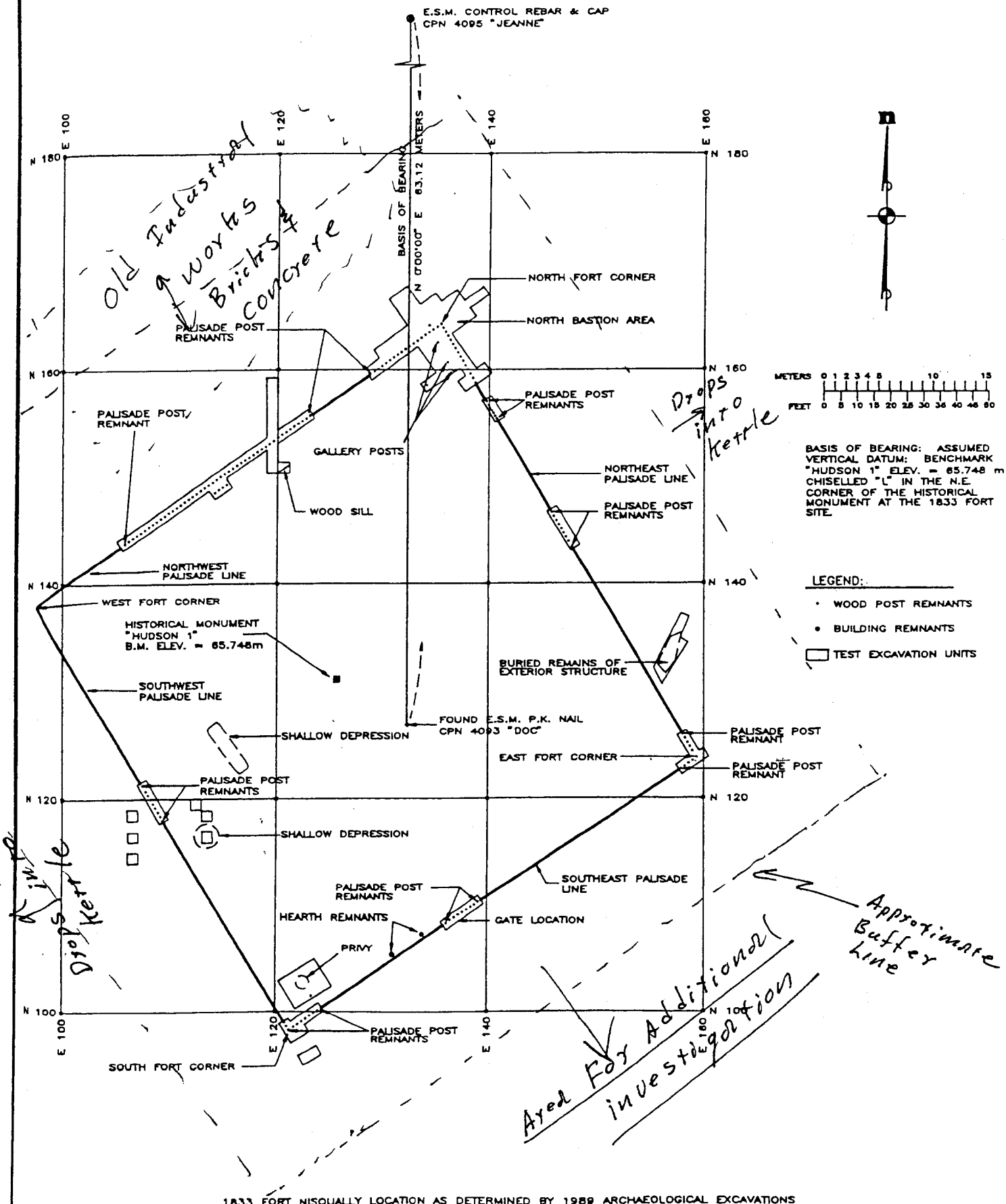
James P. Odendahl
DuPont Site Manager

Enclosure

Cc: David Brentlinger
Allyson Brooks
Mike Blum
Jeff King

100th Anniversary

A PORTION OF THE N.W. 1/4 SEC. 27, T 19 N, R 1 E, W.M.



1833 FORT NISQUALLY LOCATION AS DETERMINED BY 1989 ARCHAEOLOGICAL EXCAVATIONS

Weyerhaeuser
The future is growing™

2301 Center Drive
PO Box 100
DuPont WA 98327
Tel (253) 924 7063
Fax (253) 964 8050

June 13, 2000

Dr. James A. Edgren
10601 Rembert Ct. SW
Lakewood, WA 98498

Dear Jim:

I have received your letter of April 2, 2000, and have taken time to review the existing records concerning the remaining structures, especially the "blacksmith" shop. In addition, I have had an engineer from URS Corporation survey the blacksmith shop for structural soundness and safety issues.

Based upon the engineer's report, and my review of the records, I do not see any way to save any of the few remaining buildings, including the blacksmith shop. The records show that it:

- is not of unique construction
- has been substantially modified over the years.
- contains lead paint.
- is sited in an area requiring cleanup of the top 12"-18" of soil.

In addition, the engineer's rough estimate of cost to clean up the building (i.e., remove lead paint), renovate and provide structural upgrades, is in the $250,000 range.

Given the above information, we cannot allow any buildings to remain. The locomotive and remaining 60' of track will need to be removed in order to carry out the demolition of the blacksmith shop. This will need to be accomplished by the end of the year or earlier.

I appreciate your concern and please feel free to give me a call at (253) 924-7063 if you want to meet and discuss these issues further.

Very truly yours,

James P. Odendahl
DuPont Site Manager

Cc: Pat Steel
David Brentlinger
Allyson Brooks
Mike Blum
Jeff King

100th Anniversary

Weyerhaeuser
The future is growing™

2301 Center Drive
PO Box 100
DuPont WA 98327
Tel (253) 924 7063
Fax (253) 964 8050

June 22, 2000

Mr. Pat Steel
Nisqually Point Defense Fund
71 Silver Beach Drive
Steilacoom, WA 98388

Dear Pat:

In reference to the letter I sent last week, dated June 13, 2000, I need to make a correction on the location that yet needs investigation. The Fort boundary is set at an angle and the sides don't line up in a true north/south direction. The southeast side is where the road enters into the Fort. That side will not be disturbed. It is the southwest side that will be investigated further.

It is our intention to get a Work Plan put together that will cover an additional 200 feet beyond the proposed 63 foot buffer. If you have questions, please feel free to give me a call at 253-924-7063.

Very truly yours,

James P. Odendahl
DuPont Site Manager

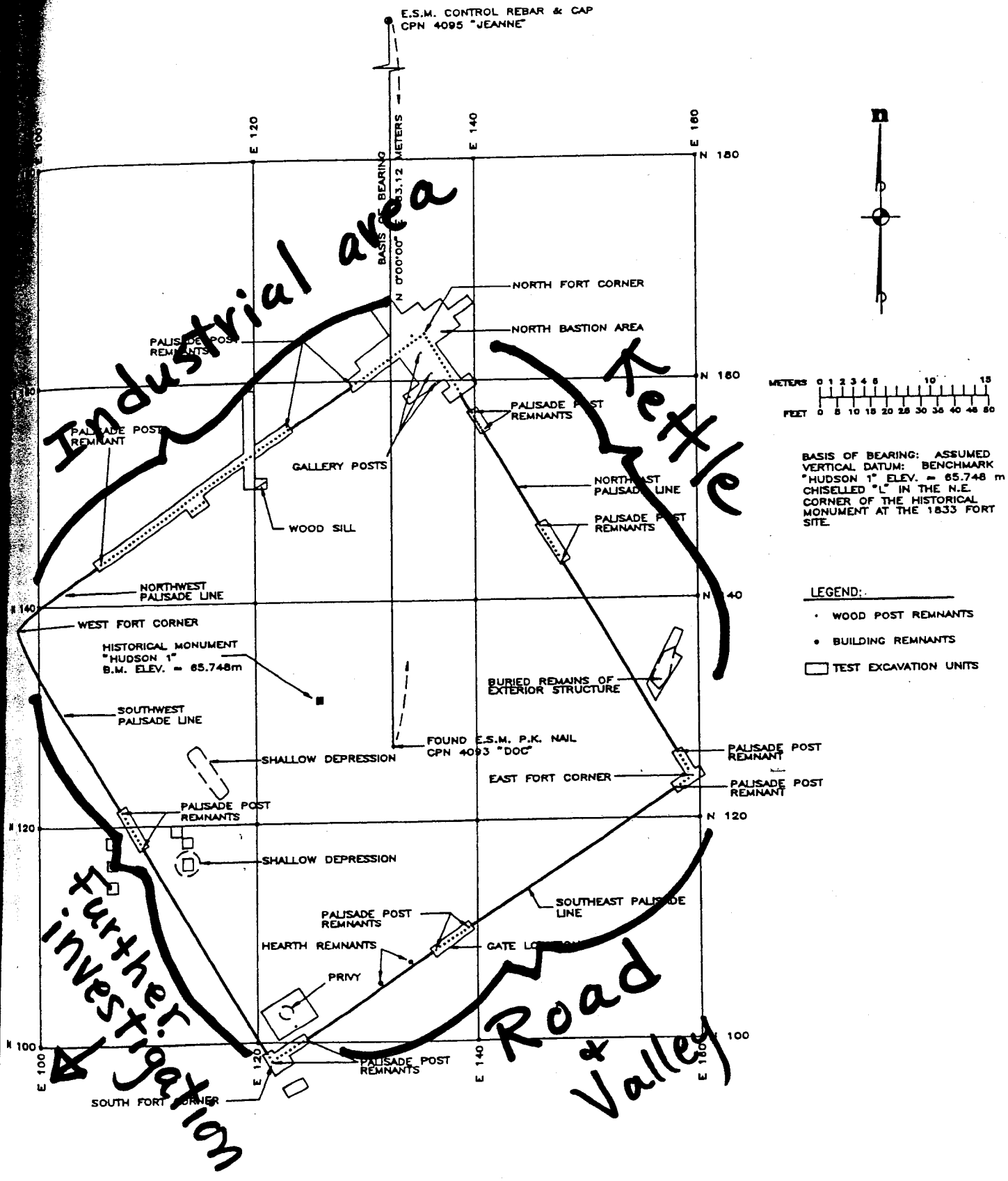
Enclosure

Cc: David Brentlinger
Allyson Brooks
Mike Blum
Jeff King

100th Anniversary

1833 Fort

A PORTION OF THE N.W. 1/4 SEC. 27, T 19 N, R 1 E, W.M.



Industrial area

Kettle

Further investigation

Road & Valley

1833 FORT NISQUALLY LOCATION AS DETERMINED BY 1989 ARCHAEOLOGICAL EXCAVATIONS

Nisqually Point Defense Fund
P.O. Box 198, Dupont, WA 98327

Memorandum For: Mayor Judy Krill & DuPont City Council
Subject: Nisqually-Sequalitchew Historic District negotiations
From: Patrick A Steel, Nisqually Point Defense Fund
Date: July 7, 2000

Members of the Nisqually Point Defense Fund, The Nisqually Delta Association, The Committee for the Preservation of the Nisqually Mission Historical Site, The DuPont Historical Society, and other interested parties to include the City of DuPont, have been conducting negotiations with the Weyerhaeuser Corporation and Weyerhaeuser Real Estate Company since December 1999.

The purpose of the negotiations has been to create a Historic District in the Consent Decree area where the DuPont Corporation had its manufacturing site.

We have reached a point in the negotiations where the concerned parties are ready to sign the Memorandum of Agreement that will establish the Historical District. The Memorandum is attached for your review.

Members of the negotiation team will be at the DuPont City Council meeting on July 11th to present a briefing on the negotiations and to answer any questions that Council members may have.

You may contact me for additional information before the City Council meeting by calling me at 253 573-4611.

DEPARTMENT OF ECOLOGY

August 5, 1999

TO: Cal Page
Martha Sanderlin
Pat Goodhind
Bob MacLeod
Penny Sweem

FROM: Mike Blum, Unit Supervisor
Toxics Cleanup Program
Southwest Regional Office

Patty Cleveland for Mike Blum

SUBJECT: Meeting Held on July 27th in Vern Moore's Office

I just wanted to drop you all a quick note to say thanks for the opportunity to meet with you. You are collectively and individually very interesting folks. I wasn't sure what I was going to encounter at the meeting. You are right; we all have our own issues and agendas. Mine is getting the site cleaned up adequately while listening to the public to find out their concerns.

One thing I forgot to do at our meeting was to pass along Tom Skjervold's (pronounced "Shervold") home telephone number and e-mail address. Tom is the administrator/lead person for the citizen grant group, the DuPont Toxics Citizen Oversight Project. I had spoken with Tom before our meeting and he asked me to pass along that information. Due to the lack of desire expressed by most of you to get involved in that group, I forgot about it. Honestly, I was somewhat reluctant to bring it up. That was a mistake on my part. Whether you want to get involved in the grant group, or try to influence what they do, or even attempt to overwhelm the group with DuPont residents, that is your choice. I believe that Tom and the other group members do try to represent the community. As we discussed, "**the community**" and what "**they**" think is determined by who gets involved and who makes their opinions heard. Anyhow, Tom can be reached at (360) 867-0251 and his e-mail address is tskjervold@cs.com. Tom would be interested in meeting with you all sometime and hearing first hand your concerns or lack of concerns, about the site cleanup and/or about the grant group in general.

If you have any questions or concerns about the cleanup site, my telephone number in Olympia is (360) 407-6262. I will on vacation August 2nd through August 20th.

cc: Tom Skjervold
Vern Moore
Jeff King

Weyerhaeuser
The future is growing™

2301 Center Drive
PO Box 100
DuPont WA 98327
Tel (253) 924 7063
Fax (253) 964 8050

March 10, 2000

Dear Interested Citizen,

The DuPont Works Cleanup Project is gearing up. As we enter this busy time, the project team and the Washington Department of Ecology invite you to help us focus on the issues or concerns of interest to you about the cleanup.

It is easy to share your thoughts. Just complete the prepaid postcard enclosed with this letter and drop it in the mail. It will be returned directly to Ecology.

Your comments will help us focus on your concerns at the upcoming public meeting on the Draft Environmental Impact Statement (DEIS) for the DuPont Works project. That meeting on the DEIS will be March 21 from 7 to 9 p.m. at DuPont City Hall.

As you may know, the DEIS is out for public review now, and you will have the opportunity to comment on the document through April 3. Many people will find it helpful to attend the public meeting on the DEIS so that they are better able to comment on the document and proposed cleanup plan.

The project team from the Weyerhaeuser and DuPont companies will participate and we hope to see you at the public meeting. In the meantime, please take a moment to jot down your thoughts on the postcard. Your thoughts are important to us.

Sincerely,

James P. Odendahl

James P. Odendahl, Site Manager
Weyerhaeuser Co.

100th Anniversary

STATE OF WASHINGTON

DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT

Office of Archaeology and Historic Preservation

420 Golf Club Road SE, Suite 201, Lacey • PO Box 48343 • Olympia, Washington 98504-8343 • (360) 407-0752 Fax Number (360) 407-6217

March 14, 2000

Ms. Sue Mauermann, Regional Director
Department of Ecology
300 Desmond Drive SE
PO Box 47775
Olympia, Washington 98504-7775

RE: Draft EIS Former DuPont Works Site
Log No.: 022200-01-DOE

Dear Ms. Mauermann:

Thank you for the opportunity to review the draft environmental impact statement for the proposed remediation program at the former Du Pont Works site. We have reviewed the document and have some concerns about the historic and cultural resources section. Please identify the author of this chapter.

As noted in the Draft EIS, the property contains a significant collection of Native American, Hudson's Bay Company, American Pioneer and industrial archaeological and historic sites. For example, the oldest dated Native American coastal occupation in the State of Washington is on the property. The site, dated at approximately 6,000 BP, represents both significant archaeological and scientific information about the early coastal use of Puget Sound and a significant cultural site for the Nisqually Tribe. Most importantly, there are a number of tribal burial sites present.

The property also contains the archaeological remains of the first European settlement on Puget Sound. Fort Nisqually, established in 1833 by the Hudson Bay Company (HBC), became the central economic and cultural contact point between Native American tribal groups and Western Europeans. The 1833 Fort site, along with a later 1834 Fort, are both intact and represent the only remaining HBC sites in the Pacific Northwest that are intact archaeological sites.

Associated with the HBC presence is the site of the first American Methodist Mission and American presence in Puget Sound. This site represents the first American settlement in the area

nda
NISQUALLY DELTA ASSOCIATION
1023 South Adams, #177 • Olympia, Washington 98501 • (206) 357-NDA8

March 18, 2000

Mike Blum
Washington State Department of Ecology
300 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775

Dear Mr. Blum:

These comments concern the Historic and Cultural Resources section (Section 3.3) of the February 18, 2000 Draft Environmental Impact Statement for the Former DuPont Works Site (Draft). I am more than a casual observer. I have worked in archaeology as a field worker, supervisor, field excavation director, analyst, and writer for over 29 years. In Washington State I have worked at British Camp, Kanaka Village, Tumwater, and Astor Fort Okanogan. My area of expertise is historic archaeology, especially of Hudson's Bay Company/Puget Sound Agricultural Company (HBC/PSAC) era sites. In the Du Pont area I have:

- worked as a crew member at **45-PI-72** (not a historic site)
- served as Assistant Director of Excavations at **45-PI-56** (1843 Fort Nisqually)
- worked as a crew member and wrote the report on **45-PI-401** (Hudson's Bay Dwellings)
- served as Field Director during excavations at and wrote the report on **45-PI-405** (Nisqually Village).

I am familiar with the area, and I am familiar with the major archaeological work that has occurred in the area. I am the author of a number of the research documents listed in Appendix B of the Draft and in the Reference section.

Quite simply, the Historical and Cultural Resources section of the Draft is inaccurate, incomplete, and inadequate

Site 45-PI-55 (Hudson's Bay Company's 1833 Fort Nisqually Site)

The Draft states: "*This site is within a Weyerhaeuser 'protected area' that is surrounded by a wood-post barrier and an additional 63-foot buffer zone. All of the project alternatives would maintain the site's protected status. Therefore, no project impacts are anticipated.*" The Draft mistakes the palisades of the 1833 Fort for the physical boundaries of **45-PI-55**, a site that is on the National Register of Historic Places.

However the outer boundaries of **45-PI-55** have not been determined. Guy Moura, leading expert on the archaeology of the area, states: *"Evidence of a building outside the palisade walls was discovered while trenching for the palisade line. Near the east corner of the fort, along the palisade line, the trench revealed a concentration of clay with a number of cobbles. When the trench walls were cleaned it was discovered that a wood-rich organic stain extended horizontally away from the clay and rocks. As previously stated, the clay and cobbles were sufficient evidence to conclude that we had uncovered a large hearth. The organic stain seems to delineate a floor.* ***It is likely that more exterior structures will be identified during future excavations*** (Moura, Guy. A Testing and Evaluation of the 1833 Fort Nisqually, 45-PI-55 at Northwest Landing, Pierce County, Washington, Western Heritage, Inc. 1990)(emphasis mine). The archaeological deposits mentioned above may be the remnants of **45-PI-73** (The Indian House).

In addition, an archaeological crew working outside the 1833 Fort found archaeological features in a backhoe trench that extended to the south of the 1833 Fort. The crew flagged the locations of these features, however, they were not recorded or investigated in any way. I saw these features while visiting at the site. These unrecorded archaeological features would probably be destroyed under alternatives 1, 2 and 3.

Also, there is probably an employee village associated with the 1833 Fort. Such villages were common occurrences at HBC establishments and were found outside Forts Colville, Vancouver (Kanaka Village), Langley, and 1843 Fort Nisqually. "*Where there was no danger from Indians the lower grades of employees were sometimes permitted to live outside the fort confines, although it was seldom that a clerk or officer was allowed to do so* (Hussey 1975:14)."

In short, the 63-foot buffer may be inadequate to protect significant archaeological deposits at 1833 Fort Nisqually. Moura recommended that "(a) ***systematic, shovel testing program should be initiated outside the fort to search for the remains of Hudson's Bay and Native American features which existed during the occupation of the fort*** (Moura, 1990) (emphasis mine)." This has not been done.

Site 45-PI-66 (Methodist Episcopal Mission)

The Draft states: *"Although the exact mission foundation or 'footprint' has not been located....."* This is not correct. Near the monument described in the Draft was a feature consisting of *"large cobbles, many stained by fire,... recovered in an ashy matrix with brick, bone, and charcoal flecks* (Moura, 1991:8)." I saw this feature and the ashy material. It is a volcanic ash, mined from the kettle lakes of the area, used in the construction of cooking or heating facilities (ovens and chimneys) by people of the HBC/PSAC period. We found a number of chimneys of this material at **45-PI-405**.

45-PI-66 contains HBC/PSAC period artifacts and features. The simplest, most elegant, most parsimonious explanation is that this site is the Mission. If it is not the Mission, it is another HBC/PSAC period site, is certainly worthy of more investigation, and has the potential to yield

information important in history and is therefore eligible to the National Register of Historic Places under criterion D.

Unfortunately, this area has been severely impacted by Weyerhaeuser activities. Archaeological work is necessary to determine the extent of the disturbance and what archaeological remains might still be present.

Site 45-PI-73 (Indian House Site)

The Draft is inconclusive about this site. On page 3-17 the Draft states: "*This site has lost its historic integrity (destroyed by DuPont era facility construction). This site has been surveyed and inventoried, but no cultural remains were found.*" On page 3-19 the Draft states: "*If portions of this site remain....the site could receive construction impacts without mitigation.*"

However, as stated previously, the archaeological deposits found by Moura in 1990 may be the remains of this site (Moura, personal communication). Therefore, the statement that "*no cultural remains were found*" may be incorrect. If this site is even partially intact, it is potentially eligible to the National Register of Historic Places under criterion D.

Men's Dwelling House (45-PI-74)

The Draft states: "The site has been determined not to be eligible for the National Register (no historic integrity) by the OAHP." This determination was based on inaccurate information supplied by the Weyerhaeuser archaeologist and should be reversed. According to a report by Daugherty, the only archaeological work in this area are a series of shovel tests, backhoe scrapes and a single test unit (Daugherty, Richard D. Shovel Tests in a Disturbed Area of Site **45-PI-74**, Western Heritage, Lacey, 1994).

The shovel tests were intentionally placed in areas known to be disturbed by "*...the rippers of a bulldozer whose operator mistakenly began removing surface vegetation in the belief that he was working in an area where a drainage feature was being constructed,*" (Ibid, p. 3). In his conclusions, Dr. Daugherty states that: "*...the area tested was on the fringe of a more heavily used area. This is consistent with the results of earlier testing operations that seem to indicate that the area inside the 100' setback has considerably more cultural material in the deposits, and likely is the area where the Men's Dwelling Houses were located,* (Ibid, p. 11)". In fact, three of these shovel tests reached densities that indicate the close proximity of a structure.

Dr. Daugherty actually excavated three test units in this area several years before the shovel testing in the disturbed area. Two of these test units yielded enough HBC/PSAC materials to indicate that structures were nearby (see analysis of **45-PI-74** Ceramics by Linda F. Sprague). The results of the ceramic analysis show that all the ceramics are transferprint. This is unusual. In employee housing of this period there usually is a wide variety of ceramic types (see for example the reports on **45-PI-401**, **45-PI-405** and Bryn Thomas and Charles Hibb's report on Operation 14 (the John Johnson house) at Kanaka Village). In addition, the two employee's dwellings are depicted on the 1847 Tolmie map of the PSAC establishment, an unusual situation, since

employee dwellings are usually not depicted on official HBC/PSAC maps. The ceramic assemblage and the placement of the dwellings on the 1847 map indicate an unusual situation that has yet to be archaeologically investigated.

With the exception of the ceramic analysis mentioned above, the analysis of **45-PI-74** artifacts has been crude to nonexistent. Weyerhaeuser's archaeologist has stated that the artifacts from **45-PI-74** are "essentially identical" to **45-PI-401** and **45-PI-405**, because they contain nails, window glass, ceramics, and food remains (Daugherty, Richard D. Shovel Tests in a Disturbed Area of Site 45-PI-74, Western Heritage, Lacey, 1994). Using this rationale, once modern houses become archeological remains, they will be "essentially identical" to mid 19th century Hudson's Bay period dwellings. As the Sprague ceramic analysis and the map analysis indicates, this is simply incorrect, these sites are not identical and **45-PI-74** has the potential to yield information important in history and is therefore potentially eligible to the National Register of Historic Places under criterion D.

Agricultural Infrastructure and Exterior Sites Associated with 1843 Fort Nisqually

The Draft does not mention the agricultural infrastructure associated with 1843 Fort Nisqually. In 1847, Dr. Tolmie made a map of the 1843 Nisqually Establishment. North of Sequalitchew Creek were barns, sheds, and outbuildings. Tolmie describes a "*large house with convenient parks surrounding it for shearing sheep, and a dam on the Seqwalitchew (sic) Creek for washing the sheep in*," in his testimony before the British and American Joint Commission in 1866

Backhoe scrapes were the only investigations done in this area. On a lunch break while excavating at **45-PI-405**, I walked along those scrapes after a heavy rain and saw HBC/PSAC period materials including machine cut nails and dark olive green bottle glass. These archaeological materials do not seem to be documented. There are no archaeological investigations in the Pacific Northwest of HBC/PSAC barns, sheds and outbuildings. They are potentially eligible to the National Register of Historic Places under criterion D.

Site 45-PI-404 (Nisqually Burial Site)

The Draft (page 3-18) states: "*This former grave site has lost its historic integrity (the remains have been reinterred in the Sequalitchew Indian Cemetery.)*" However, on page 3-20 the Draft states: "*However, the site has lost its historic integrity. During design the site would have to be evaluated.*" How was the determination made that it had lost its historic integrity without an evaluation? This should be explained.

Site 45-PI-405 (Nisqually Village Site)

The Draft states: "There is an open question as to this site's eligibility for the National Register." That statement reflects a lack of understanding of the area's cultural and archaeological resources. If there is a question of the site's significance, why did the Weyerhaeuser Company spend hundreds of thousands of dollars mitigating the impact of Center Drive through this area?

This site was the middle and upper middle class portion of Nisqually Village. Archaeological investigations at the site yielded 206 features and over 64,000 artifacts. The vast majority of features and artifacts are from the HBC/PSAC period. However, remains of the DuPont workers village (known as Oldtown) are also present at the site.

Salvage excavations to mitigate for the destruction caused by Center Drive recovered and documented over 80 percent of four structures. Two of these were dwelling houses, one was probably an outbuilding used occasionally as a dwelling, and one was a kitchen. The presence of certain artifacts, including religious relics and children's toys, indicates that one house was occupied by Jean Baptiste Chalifoux, a person of considerable importance at the 1843 Nisqually Establishment.

Excavations at 45-PI-405 answered many questions about Nisqually Village including building dimensions, construction techniques, ethnic and socio-economic diversity, road systems, village organization, change of building function through time and the range, quality and quantity of material culture.

The site then contains the potential for further significant discoveries. The salvage work in the early 1990s was in the footprint of Center Drive. Outside of that footprint: "*(e)xtensive deposits from the Oldtown occupation are still present at the site. Shovel tests and excavation units indicate the presence of at least two more PSAC period structures at 45-PI-405. The northwest corner of a structure is near 33N 30E, and the collapsed chimney of another structure is present near 35N 5E. These are definite. However, it is probable that at least two additional structures are present, and the possibility of many more than this in the area west of the proposed road corridor.* ***No construction should be undertaken in this area without extensive data recovery excavations***, (Stilson, M. L., A Data Recovery Study of 45PI405 Nisqually Village, at Northwest Landing, Pierce County, Washington. Western Heritage, Olympia. Volumes II, 1991, p. 18.18) (emphasis mine)." I estimate that there are at least four PSAC period structures west of Center Drive that still should be present.

45-PI-405 has yielded and is likely to yield archaeological information of significance. It is potentially eligible to the National Register of Historic Places under criterion D.

Post HBC/PSAC Occupations

The potential significance of the post HBC/PSAC occupation archaeological remains is best expressed by Drs. Robert Whitlam, Donald Mitchell, and Roderick Sprague in a June 10, 1989 letter to Mr. Robert Shedd, Vice President of the Weyerhaeuser Real Estate Company. These three experts in prehistoric and historic archaeology were asked by Mr. Shedd to review measures taken to identify, assess, and protect or salvage "heritage resources" on the Weyerhaeuser property at Northwest Landing.

Drs. Whitlam, Mitchell and Sprague found that: "*The property does contain an unusual concentration of valuable heritage resources. Of* ***particular importance****, we note the old prehistoric midden (45-PI-72) with its associated age estimates of up to 5260± 60 radiocarbon*

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features; the 1833 site of Fort Nisqually and likely associated buildings, Indian camp and other features; the ***E. I. Du Pont Nemours Company industrial plant****; and the several camp, fort, plant, and town d[illegible] (emphasis mine)."*

The HBC/PSAC remains at DuPont fill a chronological and geographic gap in Northwest History and Archaeology. Fort Vancouver existed as an HBC establishment until 1849 when the U.S. Army took over. Several sites in the San Juan Islands, notably Bellevue Farm, were occupied by the PSAC from 1853 to the 1870s. The 1833 and 1843 Nisqually Establishments are the only sites in western Washington that fully span the dates from the 1830s to the 1870s. These dates are important, a time before, during and after the time when American settlers were first entering Puget Sound and western Washington. The HBC/PSAC sites in this area had a major impact on settlement patterns of western Washington. Many of the sites, HBC/PSAC and DuPont Nemours were important on regional, national and international scales in production and trade.

The section on Historic and Cultural Resources (pages 3-16 to 3-18) and Impacts of Alternatives 1, 2, and 3 (pages 3-18 to 3-20) should be rewritten taking the above facts into account.

The Mitigation Measures on page 3-20 should stipulate that a competent historic archaeologist will develop and implement the investigative/survey plan for locations/areas/sites to be excavated/cleared. This has not occurred to this point in time. This should be done before logging occurs in the project area.

Sincerely,

M. Leland Stilson

c Allyson Brooks, Washington State Historic Preservation Officer

STATE OF WASHINGTON

DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT

Office of Archaeology and Historic Preservation

420 Golf Club Road SE, Suite 201, Lacey • PO Box 48343 • Olympia, Washington 98504-8343 • (360) 407-0752 Fax Number (360) 407-6217

March 14, 2000

Ms. Sue Mauermann, Regional Director
Department of Ecology
300 Desmond Drive SE
PO Box 47775
Olympia, Washington 98504-7775

RE: Draft EIS Former DuPont Works Site
Log No.: 022200-01-DOE

Dear Ms. Mauermann:

Thank you for the opportunity to review the draft environmental impact statement for the proposed remediation program at the former Du Pont Works site. We have reviewed the document and have some concerns about the historic and cultural resources section. Please identify the author of this chapter.

As noted in the Draft EIS, the property contains a significant collection of Native American, Hudson's Bay Company, American Pioneer and industrial archaeological and historic sites. For example, the oldest dated Native American coastal occupation in the State of Washington is on the property. The site, dated at approximately 6,000 BP, represents both significant archaeological and scientific information about the early coastal use of Puget Sound and a significant cultural site for the Nisqually Tribe. Most importantly, there are a number of tribal burial sites present.

The property also contains the archaeological remains of the first European settlement on Puget Sound. Fort Nisqually, established in 1833 by the Hudson Bay Company (HBC), became the central economic and cultural contact point between Native American tribal groups and Western Europeans. The 1833 Fort site, along with a later 1834 Fort, are both intact and represent the only remaining HBC sites in the Pacific Northwest that are intact archaeological sites.

Associated with the HBC presence is the site of the first American Methodist Mission and American presence in Puget Sound. This site represents the first American settlement in the area

and a significant historic religious site to local residents. It also represents the locale for the first American 4th of July celebration in the Pacific Northwest.

Your report has site 45-PI-74 listed as not eligible. This is inaccurate. Only a portion of the site has lost integrity. Intact portions of the site remain and are significant. This was discussed in the nomination of the district. Please edit the document to reflect that portions of the site are significant.

There also remains the industrial archaeology of the DuPont Works, the major industrial supplier of commercial explosives that represent the earliest planned industrial and residential factory community of Washington. Finally, there is also a unique encampment of Buffalo Soldiers (African-American Army Units) that played a significant role in the military history of the West and a distinctive aspect of African-American history. There is no reference to mitigation proposals for these particular resources.

At the last Washington State Advisory Council On Historic Preservation Meeting on January 28, both the 1843 Fort Nisqually site and the Nisqually-Sequalitchew Historic District were nominated to the National Register of Historic Places and the Washington Heritage Register. This affords them a higher level of protection under state law, which should be reflected in your document.

Clean-up activities by their very nature involve massive amounts of earth moving and disposal. It is this very type of activity that can destroy the fragile archaeological resources on the property. We are extremely concerned that these resources are closely monitored and protected during the clean-up work. During the late 1980's, the Office of Archaeology and Historic Preservation (OAHP) worked with Weyerhaeuser and the City of Du Pont to develop a comprehensive management plan for the cultural resources. As per our discussion, this management plan is not being properly implemented. It is imperative that these resources are treated in a manner that our two agencies have agreed upon and the plan updated. Particularly with the passage of time, changes in personnel and advances in archaeological methods and theory, the plan has not been properly modified nor has the agreement been reviewed and revised as necessary to reflect the changes in the cultural resource management practices.

We request that you review the proposed mitigation measures and in cooperation with our office to develop and implement the following measures to assure that the significant cultural resources on the property are afforded protection during remediation activities.

1. Establish a working and ongoing relationship with OAHP to assure cultural resources are a recognized and protected resource under the Consent Decree.

2. Review and update the Memorandum of Understanding between OAHP, Weyerhaeuser and the City of Du Pont. Explore the feasibility of including Ecology and the Nisqually Tribe as signatories to a new MOU.

3. Request a "value archaeological review" of the current cultural resource activities at the site. "Value archaeological review" is a process where the company brings in an outside archaeologist (in this case the archaeologist from URS Greiner would be very acceptable) to manage and oversee the work of the contract field archaeologists and act as a liaison with the other concerned parties.

4. Re-establish the Peer Review Process to review the past cultural resource work and provide direction and oversight for the Value Archaeological Review Process.

5. Review and revise the Cultural Resources Management Plan to reflect current standards and research goals, and treatment and protection protocols.

We look forward to working with you to make the appropriate corrections to the document and to assure the protection of these significant cultural resources for the citizens of Washington. Please feel free to contact me should you have any questions.

Sincerely,

Allyson Brooks, Ph.D.
State Historic Preservation Officer
(360) 407-0826
email: AllysonB@cted.wa.gov

cc: Busse Nutley, Deputy Director, CTED
Steve Wells, Assistant Director, CTED
Tom Fitzsimmons, Director, Dept. of Ecology

City of DuPont
303 Barksdale Avenue
DuPont, Washington 98327
253-912-5393 phone
253-964-2634 fax

MEMORANDUM

TO: Mayor Shenkel and City Council Members

FROM: Dennis Clarke

RE: WRECO's Restriction on the Consent Decree Area

DATE: November 18, 1999

Attached is a letter from DOE that confirms that WRECO has filed a covenant restricting land use in the consent decree area. We are sending this document to Carol Morris, the City's Land Use Counsel to see what, if any, impacts this has on the City.

Earlier in the year we asked Carol to evaluate the impacts if the land in the consent decree area was limited by WRECO to only commercial uses. Her draft response is attached.

There are additional issues that staff will be looking at – does the prohibition of recreational uses include trails? How does the covenant affect historical sites such as the 1833 site, Wilkes Observatory, Mission and others? We will keep you posted on our findings.

MEMORANDUM OF AGREEMENT
AMONG
WEYERHAEUSER COMPANY,
WEYERHAEUSER REAL ESTATE COMPANY,
THE NISQUALLY POINT DEFENSE FUND, COMMITTEE FOR THE PRESERVATION OF THE NISQUALLY MISSION HISTORICAL SITE, THE NISQUALLY DELTA ASSOCIATION
AND
THE DUPONT HISTORICAL SOCIETY

RECITALS

A. The purpose of this Memorandum of Agreement is to provide for the cooperation among Weyerhaeuser Company, a Washington State corporation ("Weyerhaeuser"), Weyerhaeuser Real Estate Company, a Washington State corporation and wholly owned subsidiary of Weyerhaeuser Company ("WRECO"), and the Nisqually Point Defense Fund, a Washington State corporation ("NPDF"); the Committee for the Preservation of the Nisqually Mission Historical Site, a citizen group; the Nisqually Delta Association, a Washington State corporation; and the DuPont Historical Society, a Washington State corporation; (collectively, the "Citizen Groups") during the development of the real property that is depicted and generally described based on Universal Transverse Mecator (UTM) coordinates on Exhibit A to this Memorandum (hereinafter the "Property").

B. The Property is a portion of a larger parcel of real property that requires remedial clean up due to contamination that was left from an explosives manufacturing plant owned by the DuPont Company between the turn of the century and the mid-1970's. The remediation process is being supervised by the Washington State Department of Ecology pursuant to the terms of a Consent Decree being administered under the Washington State Model Toxics Control Act ("MTCA").

C. The Property is currently owned by Weyerhaeuser, but will be conveyed in the future to WRECO to be included in the overall development plan for the master planned community known as Northwest Landing.

D. The Citizen Groups are committed to preserving certain portions of the Property and to commemorating the historically significant events that occurred in the vicinity. To that end, on February 1, 2000, NPDF submitted a proposal to the United States Department of the Interior to include the Property on the National Register of Historic Places as the "Nisqually-Sequalitchew Historic District" (the "Historic District").

AGREEMENTS

1. SCOPE OF THE AGREEMENT

The parties to this Memorandum of Agreement are Weyerhaeuser, WRECO and the Citizen Groups. The terms and provisions of this Memorandum of Agreement are applicable only to the Property and only to those development activities undertaken on the Property by Weyerhaeuser or WRECO.

2. ADDITIONAL COVENANTS AFFECTING THE PROPERTY

Prior to conveying title to any portion of the Property to a third-party retail purchaser, WRECO shall provide notice to future owners of the historical significance of the Property by encumbering the Property with a covenant regarding the formation of the Historic District. This covenant shall reference this Memorandum of Agreement, generally, and shall specifically assign the rights and

obligations contained below in Section #3 regarding future support of the Historic District and conditioned upon the terms of Section #5. The restrictive covenant is attached as Exhibit B. Neither WRECO nor Weyerhaeuser shall seek to preclude access by encumbering the Property or any portion through new or additional restrictive covenants. Notwithstanding the forgoing, WRECO may, at its discretion, subject the Property to the terms and conditions of the Declaration of Covenants, Conditions and Restrictions for Northwest Landing Commercial Property, as well as any covenants or restrictions arising from the remediation process or that are requirements of the Consent Decree or MTCA.

3. LISTING OF THE HISTORIC DISTRICT

WRECO will support the listing of the Property for inclusion on the National Register of Historic Places once and provided the following conditions are true:

a. The overall boundaries of the Historic District are no larger than those currently proposed by NPDF (as submitted 2/1/2000 to the Department of Interior).

b. The City of DuPont Comprehensive Plan and Development Regulations are consistent with this Memorandum of Agreement in regard to the cultural resource policy for the Property (reference #5, below).

c. The City of DuPont has granted final development and / or land use entitlement approvals for the development of all portions of the Property on terms and conditions satisfactory to WRECO or their successors and assigns, and all applicable appeal periods have expired without the commencement of appeals.

4. NPDF OPTION TO PURCHASE

NPDF has expressed an interest in purchasing up to two (2) sites that are located within the boundaries of the Property (collectively, the "Option Sites"). These sites are commonly referred to among the parties as:

a. The "Methodist / Episcopal Mission Site" anticipated to be no less than one acre; and,

b. An "Interpretive Center Site".

Though certain relevant details of the transactions have not yet been determined between WRECO and NPDF, (e.g. actual location of sites and size), the parties acknowledge that the purchase price for the site(s) shall be determined by a licensed appraiser to be mutually agreed upon by the parties and that all closing costs shall be charged to the respective parties as is currently customary in the purchase and sale of unimproved real property in Pierce County. Therefore, WRECO and NPDF agree to negotiate in good faith to decide upon the terms and conditions that will govern the conveyance(s) and to execute one or more purchase and sale agreements and / or option agreements, as appropriate, as evidence of the parties' intent.

Conveyance of the Option Sites (or portions thereof) are subject to legal subdivision from the Property and further are subject to the release of the Property by the Washington State Department of Ecology from the terms of the Consent Decree and any other remediation requirements then in force against the Property.

5. CITY OF DUPONT COMPREHENSIVE PLAN AMENDMENT

Recognizing that the City of DuPont (the "City") is not in anyway bound by this Agreement, it is the desire of the parties that the City Comprehensive Plan Policies and Development Regulations are wholly consistent with the terms set forth herein and that do not impose any additional policies and / or regulations, whatsoever. Should any future action of the City impose Comprehensive Plan

Policies and / or Development Regulations so that they are inconsistent with the terms of this Agreement or should any action be taken through the State Environmental Policy Act or other authority to impose additional conditions upon any portion of the Property by the City, the parties acknowledge and agree that this Agreement shall immediately become null and void and none of the parties shall have any further rights or obligations hereunder.

WRECO, Weyerhaeuser and the Citizen Groups agree to collectively support all City actions that are consistent with the terms of this Agreement and further agree to collectively oppose any subsequent changes that are not consistent with the terms of this Agreement.

6. COMMEMORATION OF HISTORICAL SITES AND CULTURAL RESOURCES

Subject to obtaining appropriate permits and subject further to the approval of the owners of such properties, WRECO agrees to construct and install at its sole expense at least one (1) commemorative marker for each of the following sites (the "Historic Sites"):

a. Wilkes Observatory,

b. Sequalitchew Village/Nisqually House,

c. The Oxen Road,

d. The 1833 Hudson Bay Company Fort,

e. The 1843 Hudson Bay Company Fort,

f. The Methodist / Episcopal Mission (whether or not the site is purchased by NPDF), and,

g. The DuPont Company Works.

A map depicting the general location of the Historic Sites is attached as Exhibit C. Additional commemorative or directional signs will be the responsibility of the Citizen Groups.

A system of pedestrian connections linking the Historic Sites would be allowed, however construction of such connections shall not be the responsibility of the Citizen Groups. A map depicting the approximate location of possible pedestrian connections is attached as Exhibit D.

7. OTHER HISTORIC RESOURCES

a. The DuPont Works guardhouse and entry gate pillars shall be made available to NPDF for relocation to an alternate site upon ninety (90) days written notice. Weyerhaeuser and / or WRECO agree to reimburse the Citizen Groups one-half of the expense of moving these improvements. It shall be the responsibility of the Citizen Groups to coordinate the moving of the improvement, secure the alternate site and to obtain all permits needed for such relocation. Weyerhaeuser agrees to not disturb these improvements during remediation work other than efforts needed to preserve the structures.

b. The locomotive and at least sixty (60) feet of track will be made available to NPDF for relocation to an alternate site upon ninety (90) days written notice. Weyerhaeuser and / or WRECO agree to pay one-half of the expense of moving these items, but it shall be the responsibility of the Citizen Groups to secure the alternate site and all permits needed for such relocation.

c. The parties agree to consider the possibility of not burying portions of selected bunkers within the golf course layout and further designating those bunkers with commemorative markers.

d. Tools and other items used specifically for locomotive repair and / or maintenance shall be made available to NPDF at the same time as the items identified above in Subsection b.

e. WRECO and Weyerhaeuser shall also consider the transfer of certain smaller tools and other items that may be identified.

8. COMPLIANCE WITH PRIOR AGREEMENTS.

Remediation work conducted upon the Property shall require a standard of training and operating compliance that is consistent with that outlined in that certain Memorandum of Agreement Among The Washington State Historic Preservation Officer, Weyerhaeuser Real Estate Company, and the City of DuPont Regarding a Cultural Resources Management Program for the Property Within the City of DuPont, Pierce County, Washington dated August 7, 1989, and the Archaeological and Cultural Resource Protection Plan that is pending before the Washington State Department of Ecology. Any new artifacts or Cultural Resources (as defined in that certain Memorandum of Agreement) that are discovered during the work of remediation shall be properly accounted for and recorded in accordance with those agreements.

9. ENTIRE AGREEMENT.

There are no verbal or other agreements that modify or affect this Agreement except as expressly noted above. Any modification of any condition of this Agreement shall be in writing, signed by all parties.

10. CAPTIONS.

The captions contained in this Agreement are inserted only as a matter of convenience and in no way define, limit, extend, or describe the scope of this Agreement or the intent of any provision.

11. GOVERNING LAW.

This Agreement shall be governed by and construed under the laws of the State of Washington.

12. COUNTERPARTS.

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

13. FURTHER ACTS AND DOCUMENTS.

The parties shall each cooperate with the other and shall execute such further documents as may be reasonably necessary or appropriate to carry out and accomplish the intent of this Agreement.

14. TIME IS OF THE ESSENCE.

Time is of the essence of each and every provision of this Agreement.

15. COMPLIANCE WITH LAWS.

The parties agree to comply with all permits, approvals, laws, ordinance, covenants, rules and regulations, and other recorded instruments which regulate the Property or the remediation process.

16. ENFORCEMENT.

The NPDF, WRECO, Weyerhaeuser, or any other fee owner to all or any portion of the Historic District shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

17. DISPUTE RESOLUTION AND ATTORNEY FEES.

In the event that a party to this Agreement retains an attorney to enforce any of the provisions hereof, the prevailing party shall be entitled to reasonable attorney fees and costs incurred in trial, appellate court, mediation and / or arbitration.

"THE CITIZEN GROUPS"

The Nisqually Point Defense Fund,
a Washington State corporation

By: _____
James A. Edgren, President

Date: _____

Committee for the Preservation of the Nisqually Mission Historical Site,
a citizen group

By: _____
Mary A. Edgren, Co-Chairman

Date: _____

The Nisqually Delta Association,
a Washington State corporation

By: _____
Thomas Skjervold, President

Date: _____

"WEYERHAEUSER"

Weyerhaeuser Company,
a Washington State corporation

By: _____
James P. Odendahl, DuPont Site Manager

Date: _____

"WRECO"

Weyerhaeuser Real Estate Company,
a Washington State corporation
through its Land Management Division

By: _____
David A. Brentlinger
Assistant Vice President

Date: _____

The DuPont Historical Society,
a Washington State corporation

By: _____
Lorraine Overmyer, Chairperson

Date: _____

STATE OF WASHINGTON)
)ss.
County of _____)

On this _____ day of July, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***James A. Edgren***, to me known to be the ***President*** of ***The Nisqually Point Defense Fund***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

Notary Seal

_____

Notary Public in and for the State of Washington
residing at _____
My appointment expires: _____

STATE OF WASHINGTON)
)ss.
County of _____)

On this _____ day of July, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***James P. Odendahl***, to me known to be the ***DuPont Site Manager*** for ***Weyerhaeuser Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.

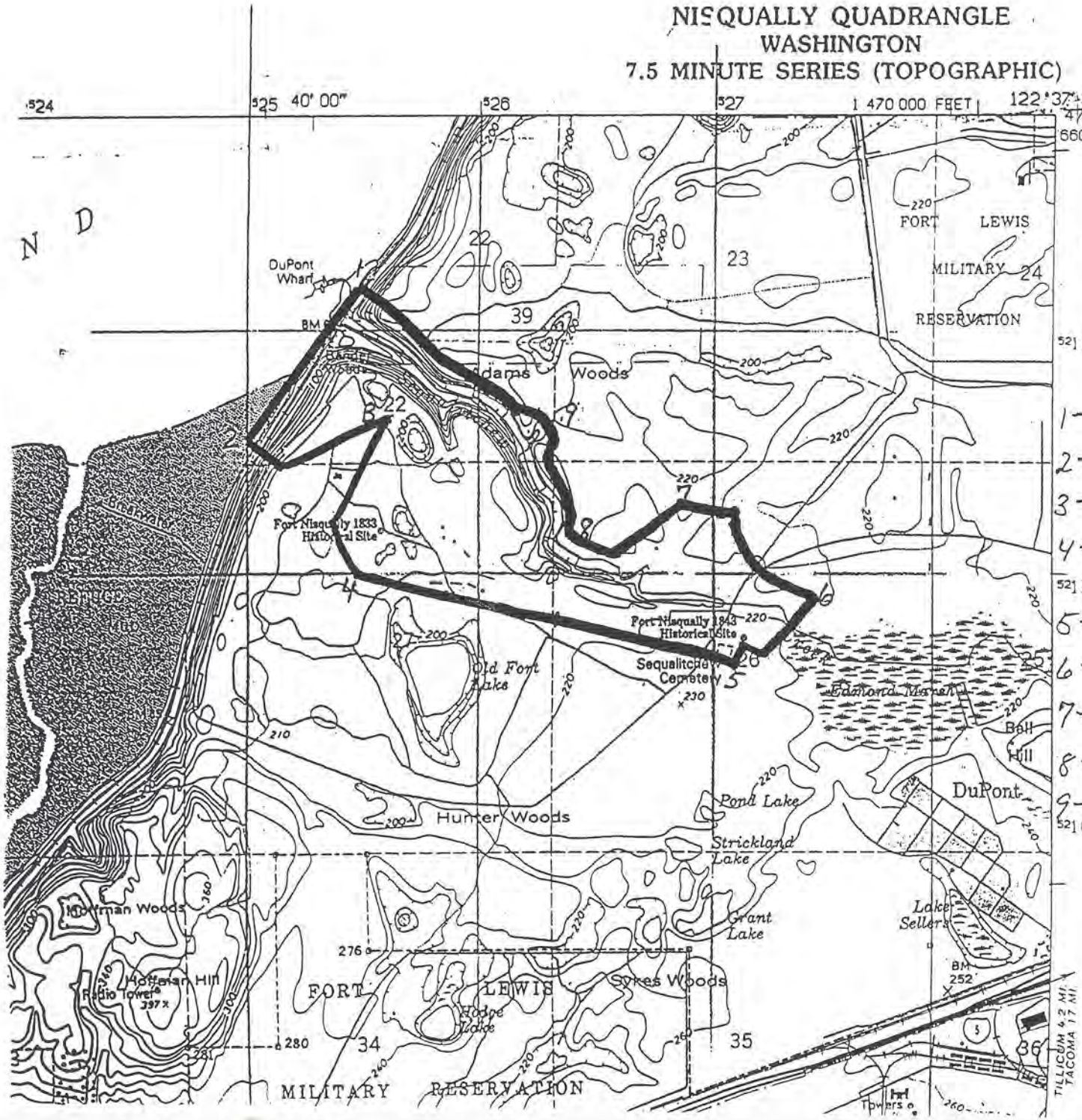
Notary Seal

_____

Notary Public in and for the State of Washington
residing at _____
My appointment expires: _____

EXHIBIT LIST

EXHIBIT A	MAP DEPICTING THE "PROPERTY"
EXHIBIT B	COVENANT TO ENCUMBER THE PROPERTY
EXHIBIT C	MAP DEPICTING THE "HISTORIC SITES"
EXHIBIT D	MAP DEPICTING POSSIBLE PEDESTRIAN CONNECTIONS



NISQUALLY – SEQUALITCHEW
HISTORIC DISTRICT
PIERCE COUNTY, WASHINGTON
(PROPOSED)

UTM:

1-	10/525480	5218175
2-	525000	5217545
3-	525600	5217660
4-	525460	5217000
5-	527070	5216610
6-	527440	5216910
7-	526870	5217275
8-	526400	5217160
9-	526325	5217620

EXHIBIT A

DRAFT
Print Date: 7/11/2000

EXHIBIT "B" TO MEMORANDUM OF AGREEMENT

NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT

This Notice Regarding Historic District Designation and Declaration of Covenant (the "Notice") is made this _____ day of _____, 2000 by Weyerhaeuser Company, a Washington State corporation ("Weyerhaeuser") and its wholly owned subsidiary, Weyerhaeuser Real Estate Company, a Washington State corporation, through its Land Management Division ("WRECO").

RECITALS

A. WRECO is the developer of a master planned community known as Northwest Landing that is located within the City of DuPont. A portion of Northwest Landing has been nominated for listing on the United States Department of the Interior National Register of Historic Places pursuant to a submittal made by the Nisqually Point Defense Fund ("NPFD") on February 1, 2000 (the "Historic Register"). That portion of Northwest Landing that is subject to this Notice is commonly referred to as the Nisqually – Sequalitchew Historic District (the "Historic District") which is legally described on Exhibit "A" and depicted on Exhibit "B" to this Notice. Weyerhaeuser and WRECO are the fee owners of the real property underlying the Historic District.

B. In anticipation of this listing on the Historic Register, WRECO and Weyerhaeuser have entered into that certain Memorandum of Agreement among Weyerhaeuser Company, WRECO the NPFD, the Committee for the Preservation of the Nisqually Mission Historical Site, the Nisqually Delta Association and the DuPont Historical Society dated the __ day of _____, 2000 (the "MOA") to provide for the eventual recognition of certain elements within the Historic District for the benefit of future generations.

C. The Purpose of this Notice is to insure that in the future, purchasers of real property within the Historic District are aware that all or a portion of the real property they have purchased is to be listed on the Historic Register and that the listing of the real property as an Historic District may not be opposed except as noted herein.

FORMATION OF HISTORIC DISTRICT SUPPORT BY FUTURE PURCHASERS

1. Property. The real property that is subject to this Notice and that is herein identified as the Historic District is legally described on Exhibit "A" and depicted on Exhibit "B".

2. Covenant to Support. Each person or entity that obtains, whether by purchase or other means, a fee simple interest in the real property underlying the Historic District is hereby notified of the future formation of the Historic District. That party, by taking title to any portion of the real property encumbered by this Notice, agrees not to object to the listing of the Property on the Historic Register provided that it is done in a manner that is consistent with the MOA, that all conditions of the MOA have been met, and that, during the process of site plan and / or other development approval process, the City of DuPont does not impose any conditions regarding historic resources that are inconsistent with those cited therein.

3. Reservation of Rights. Weyerhaeuser and WRECO reserve unto themselves, their successors and assigns, all rights and privileges in and to the use of the Historic District that are not incompatible with the listing on the Historic Register.

4. No Public Access. No right of access or use by the general public to any portion of the Historic District is conveyed by this instrument.

5. Run with the Land. This Notice shall be binding on all parties having any interest in the Historic District, their heirs, successors and assigns.

6. Enforcement. NPDF, WRECO, Weyerhaeuser, or any other fee owner to all or any portion of the Historic District shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

7. Termination. This Notice shall terminate without the need for recording any further documentation upon the earliest occurrence of one of the following events: i) the Historic District is listed on the National Register, ii) the Historic District is withdrawn from its nomination to be listed the National Register or iii) the MOA is determined to be invalid, either in whole or in part, by a court of competent jurisdiction or similar tribunal.

"WEYERHAEUSER"
Weyerhaeuser Company,
a Washington State corporation

By: _____

_____

Its _____

Date: _____

"WRECO"
Weyerhaeuser Real Estate Company,
a Washington State corporation,
through its Land Management Division

By: _____

_____

Its _____

Date: _____

Acknowledged and Accepted

"NPDF"
The Nisqually Point Defense Fund,
a Washington State corporation

By: _____

_____

Its _____

Date: _____

NOTE:
NOTARY STATEMENTS TO BE ADDED PRIOR TO EXECUTION AND RECORDING

EXHIBIT C

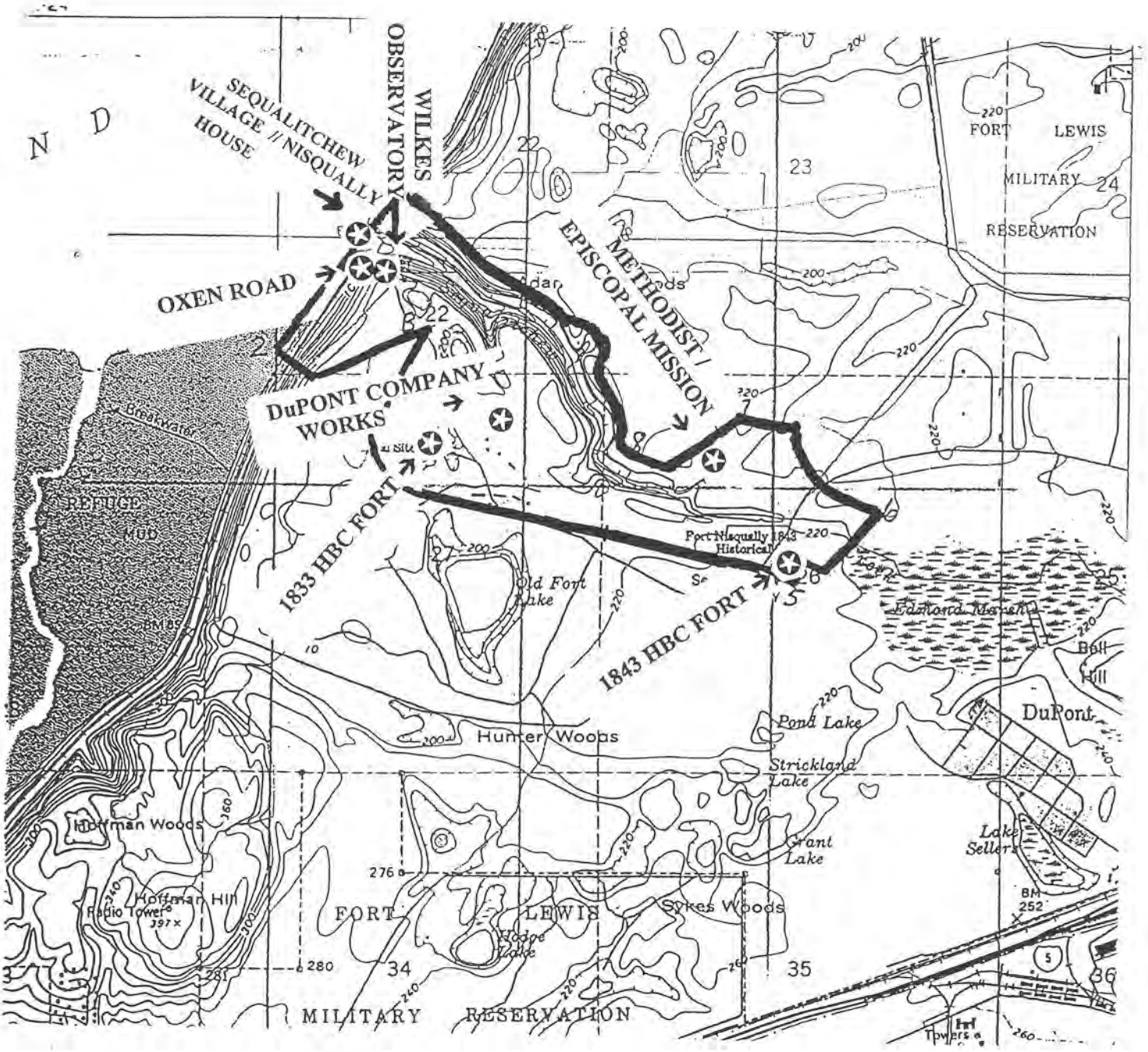

SEQUALITCHEW VILLAGE // NISQUALLY HOUSE
WILKES OBSERVATORY
OXEN ROAD
METHODIST / EPISCOPAL MISSION
DuPONT COMPANY WORKS
1833 HBC FORT
1843 HBC FORT
Port Nisqually 1843 Historical
FORT LEWIS MILITARY RESERVATION
Old Fort Lake
Hunter Woods
Pond Lake
Strickland Lake
Grant Lake
Lake Sellers
Sykes Woods
Hoffman Woods
Hoffman Hill
Radio Tower
Bell Hill
DuPont
Breakwater
REFUGE MUD
BM 252

EXHIBIT D

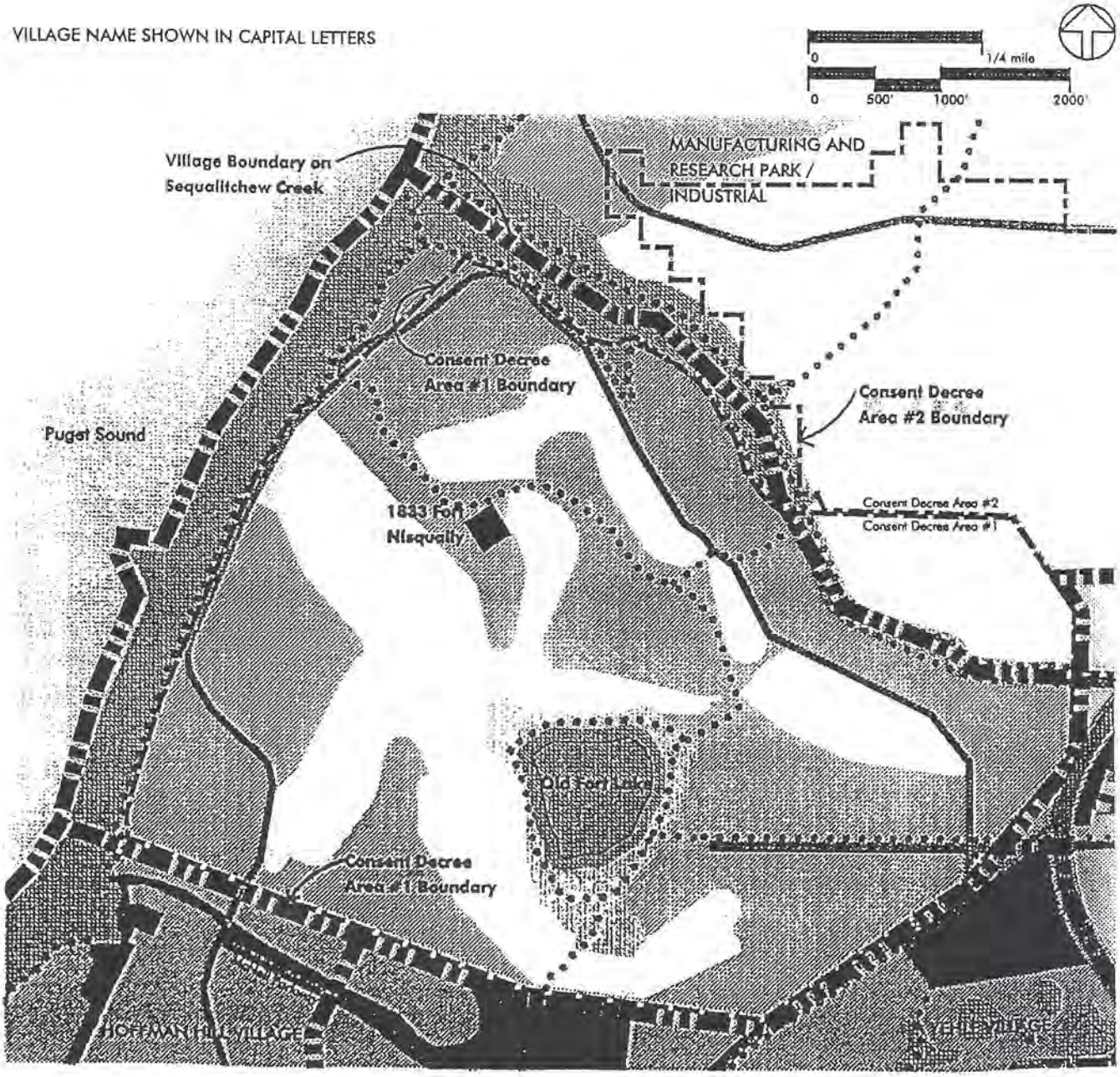
LEGEND

[

Trails/Paths - Existing

Trails/Paths - Conceptual Location

VILLAGE NAME SHOWN IN CAPITAL LETTERS



OPTION AGREEMENT

THIS OPTION AGREEMENT ("Option Agreement") is dated for reference purposes _____, 2006 and is made by and among **WEYERHAEUSER COMPANY**, a Washington corporation ("Weyerhaeuser"); **THE QUADRANT CORPORATION**, a Washington corporation, as successor in interest to Weyerhaeuser Real Estate Company as developer of the Northwest Landing master planned community ("Quadrant"); and **NISQUALLY POINT DEFENSE FUND**, a Washington nonprofit corporation ("NPDF").

RECITALS

A. On or about December 20, 2000, Weyerhaeuser, Weyerhaeuser Real Estate Company (as predecessor in interest of Quadrant as developer of the Northwest Landing master planned community), City of DuPont, a Washington municipal corporation, Nisqually Point Defense Fund, a Washington nonprofit corporation, Committee for the Preservation of the Nisqually Mission Historical Site, a citizen group, Nisqually Delta Association, a Washington nonprofit corporation, and the DuPont Historical Society, a Washington nonprofit corporation, all entered into that certain Memorandum of Agreement ("Memorandum") relating to the development of Northwest Landing, the establishment of an historic district therein and certain other provisions as more particularly set forth in the Memorandum.

B. Following the execution of the Memorandum, Weyerhaeuser Real Estate Company assigned all of its right, title and interest as developer of the Northwest Landing master planned community to Quadrant.

C. A Notice Regarding Historic District Designation and Declaration of Covenant ("Covenant") that publicly acknowledges the intent of the Memorandum was recorded on January 12, 2001 under Piece County Recording No. 200101120143.

D. Section 4 of the Memorandum included the grant of an option to NPDF to acquire two sites within the property described in the Memorandum (the "Property"). The sites were referred to as the "Methodist/Episcopal Mission Site" and the "Interpretative Center Site" (collectively, the "Option Sites"). The Memorandum did not, however, clearly identify the location of the Option Sites.

E. Section 4 of the Memorandum states in part that

> "WRECO and/or Weyerhaeuser and NPDF agree to negotiate in good faith to decide upon the terms and conditions that will govern the conveyance(s) and to execute one or more purchase and sale agreements and/or option agreements, as appropriate, as evidence of the parties' intent."

Weyerhaeuser, Quadrant and NPDF accordingly desire to enter into this Option Agreement to further define the terms by which NPDF may elect to acquire the Option Sites.

AGREEMENTS

1. NPDF OPTION TO PURCHASE. For the purpose of more clearly documenting NPDF's option rights, Weyerhaeuser, Quadrant and NPDF agree that Section 4 of the Memorandum shall be deemed amended in its entirety as follows:

4. NPDF OPTION TO PURCHASE

4.1 NPDF has expressed an interest in purchasing up to two (2) sites that are located within the boundaries of the Property (collectively, the "Option Sites"). These Option Sites are commonly referred to as:

(a) The "Methodist / Episcopal Mission Site" anticipated to be no less than one acre; and

(b) An "Interpretative Center Site".

4.2 Though certain relevant details of the transaction have not yet been determined between Quadrant, Weyerhaeuser and NPDF, (e.g., actual location of Option Sites and size), the parties acknowledge that (a) the purchase price for the Option Sites shall be determined by a licensed appraiser to be mutually agreed upon by the parties, (b) the Option Sites will lie within that approximately two-acre parcel more particularly depicted on the attached **Exhibit A**, and (c) all closing costs shall be charged to the respective parties as is currently customary in the purchase and sale of improved real property in Pierce County.

4.3 The parties agree to negotiate in good faith to decide upon the terms and conditions that will govern the conveyance(s) and to execute one or more purchase and sale agreements and/or amendments to this Option Agreement, as appropriate, as evidence of the parties' intent.

4.4 Conveyances of the Option Sites (or portions thereof) are subject to their legal subdivision from the Property and further are subject to the release of the Property by the Washington State Department of Ecology from the terms of the Consent Decree (as described in the Memorandum) and any other remediation requirements then in force against the Property.

4.5 In the event that NPDF has not exercised its option rights hereunder by December 31, 2009, this Option Agreement shall terminate and be of no further force and effect.

2. **LEGAL DESCRIPTION.** To facilitate its development of the Property, Quadrant may cause a legal description of the area depicted on the attached **EXHIBIT A** to be prepared. Provided that the legal description is consistent with the attached **EXHIBIT A**, the parties shall execute an amendment to this Option Agreement further defining the area within which the Option Sites are located to be the property so legally described.

3. **RECORDING OF AGREEMENT.** In order to facilitate its development of the Property, Quadrant may at its sole expense cause this Option Agreement to be recorded in the real property records of Pierce County.

4. **ENTIRE AGREEMENT.** There are no verbal or other agreements that modify or affect this Option Agreement except as expressly noted above. Any modification of any condition of this Option Agreement shall be in writing, signed by all parties.

5. **CAPTIONS.** The captions contained in this Option Agreement are inserted only as a matter of convenience and in no way define, limit, extend or describe the scope of this Option Agreement or the intent of any provision.

6. **GOVERNING LAW.** This Option Agreement shall be governed by and construed under the laws of the State of Washington.

7. **COUNTERPARTS.** This Option Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

8. **FURTHER ACTS AND DOCUMENTS.** The parties shall each cooperate with the other and shall execute such further documents as may be reasonably necessary or appropriate to carry out and accomplish the intent of this Option Agreement.

9. **TIME IS OF THE ESSENCE.** Time is of the essence of each and every provision of this Option Agreement.

10. **COMPLIANCE WITH LAWS.** The parties agree to comply with all permits, approvals, laws, ordinance, covenants, rules and regulations and other recorded instruments which regulate the property or the remediation process.

11. **ENFORCEMENT.** The parties shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

12. **DISPUTE RESOLUTION AND ATTORNEYS' FEES.** Prior to initiating any legal action with respect to the operation of this Option Agreement, the aggrieved party agrees to provide written notice to the other parties to this Option Agreement specifying the facts and issues in dispute. The parties agree that within fifteen (15) days of the date the notice is deposited in the mail, they shall meet and confer in an attempt to resolve the dispute. In the event that the dispute remains unresolved, the

parties agree to submit the matter to mediation utilizing a mutually agreeable mediator. In the event that the parties cannot agree upon a mediator, any party may apply to the Pierce County Superior Court for the appointment of a mediator. The parties agree to share the cost of the mediator, but each party shall bear its own costs and attorneys' fees for the mediation. In the event that the mediation fails to resolve the dispute, the parties may then proceed to initiate legal action in accordance with the provisions of Section 11. However, in the event that immediate action is needed to preserve a right or property interest, a party may initiate action to obtain temporary injunctive relief, but shall then proceed under the terms of this Section prior to continuing with the prosecution of any litigation. Each side agrees to bear its own costs and attorneys' fees in any litigation that is maintained.

EXECUTED as of the day and year first above written.

WEYERHAEUSER:

WEYERHAEUSER COMPANY,
a Washington corporation

By_____
Name: _____
Its: _____

QUADRANT:

THE QUADRANT CORPORATION,
a Washington corporation, as successor in interest to Weyerhaeuser Real Estate Company as developer of the Northwest Landing master planned community

By_____
Name: _____
Its: _____

NPDF:

NISQUALLY POINT DEFENSE FUND,
a Washington nonprofit corporation

By _____
Name: _____
Its: _____

STATE OF WASHINGTON }
ss.
COUNTY OF _____ }

On this day personally appeared before me _____, to me known to be the _____ of **WEYERHAEUSER COMPANY**, the Washington corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such corporation, for the uses and purposes therein mentioned, and on oath stated that [***he/she***] was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this _____ day of _____, 2006.

Printed Name _____
NOTARY PUBLIC in and for the State of Washington,
residing at _____
My Commission Expires _____

STATE OF WASHINGTON }
ss.
COUNTY OF _____ }

On this day personally appeared before me _____, to me known to be the _____ of **THE QUADRANT CORPORATION**, the Washington corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such corporation, for the uses and purposes therein mentioned, and on oath stated that [***he/she***] was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this _____ day of _____, 2006.

Printed Name _____
NOTARY PUBLIC in and for the State of Washington,
residing at _____
My Commission Expires _____

STATE OF WASHINGTON }
ss.
COUNTY OF _____ }

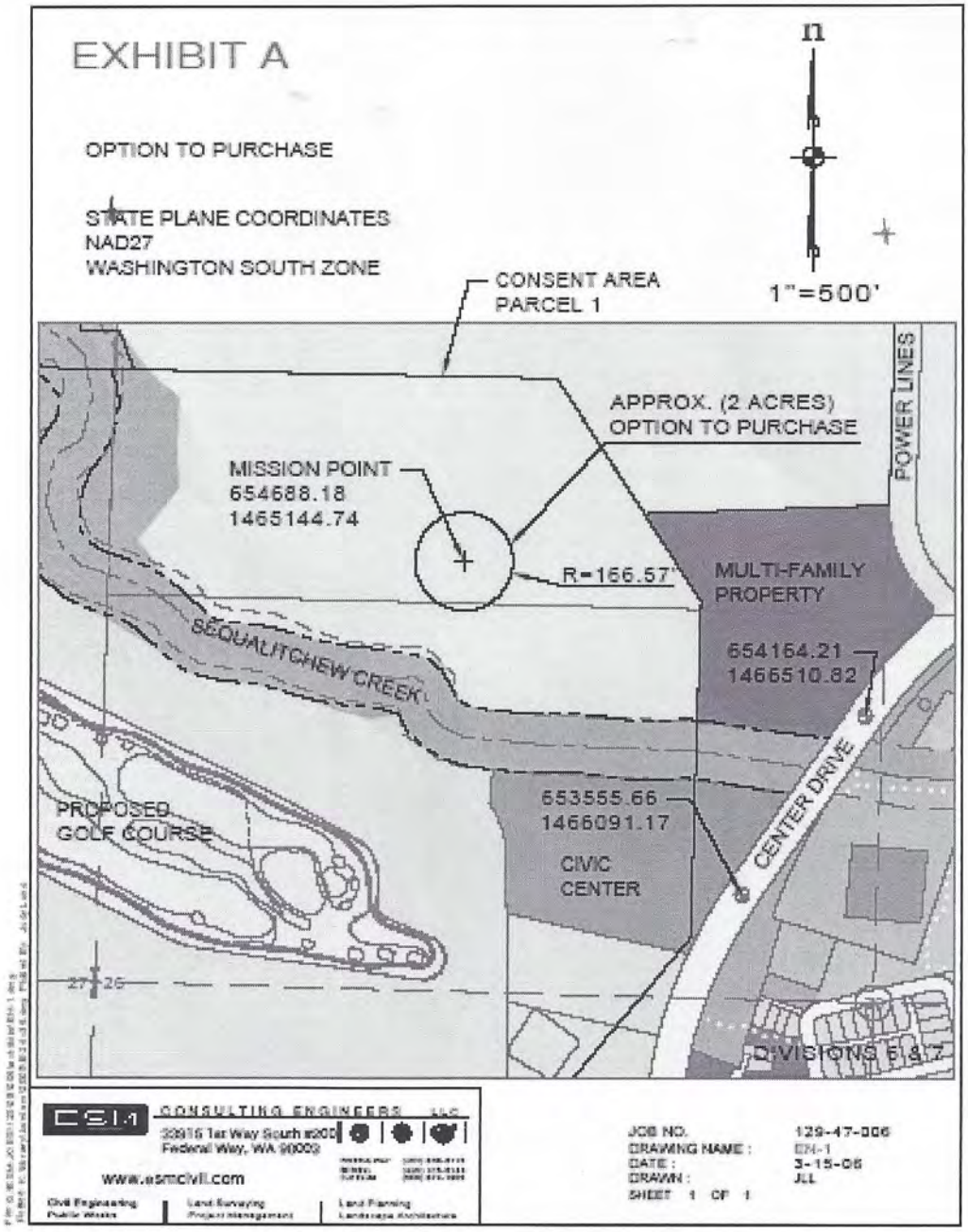
On this day personally appeared before me _____, to me known to be the _____ of **NISQUALLY POINT DEFENSE FUND**, the Washington nonprofit corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such nonprofit corporation, for the uses and purposes therein mentioned, and on oath stated that [***he/she***] was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this _____ day of _____, 2006.

Printed Name _____
NOTARY PUBLIC in and for the State of Washington,
residing at _____
My Commission Expires _____

EXHIBIT A

DEPICTION OF APPROXIMATE LOCATION
OF
OPTION SITES AREA



Nisqually Delta Association
P.O. Box 4777, Olympia, Washington 98501
www.nisquallydelta.org 360.485.9470

August 12, 2011

Kyle Murphy
Aquatic Reserves Program
Department of Natural Resources
PO Box 47000
1111 Washington Street SE
Olympia, WA 98504-7000

Dear Mr. Murphy,

I am writing on behalf of the Nisqually Delta Association (NDA) to support the proposed Nisqually Reach Aquatic Reserve. As you can tell from our name, we are an organization with active interests in the exact region your proposal addresses. Those interests go back to the beginning of the 1970's -- 1970 in fact was the year Nisqually Delta Association was established. That was even before Governor Dan Evans came forward with his idea to create a Nisqually park that would run the full course of the river. Imagine a park from headwaters in the Nisqually Glacier high atop Mt. Tahoma, to the delta where the Nisqually River enters the southern end of the Salish Sea -- that place we call Nisqually Reach today.

The Nisqually Delta Association (NDA) is now entering it's fifth decade, and is still working to protect the delta region of the Nisqually River. At the inception of our organization, we advocated for recognition and protection of the Nisqually Reach in Washington's Shorelines Management Act, and promoted the establishment of the Nisqually National Wildlife Refuge. Subsequently we worked to support the expansion of the Nisqually National Wildlife Refuge, and undertook a number of successful legal efforts intended to protect key elements of this Shoreline of Statewide Significance. Today we are working in the Sequalitchew Creek basin to implement shore zone protections and support watershed restoration.

The proposed Nisqually Aquatic Reserve Is a laudable extension of the Aquatic Reserve Program, and seems to us to mark a milestone where the watershed preservation efforts of more than forty years finally reaches sufficiently into the Salish Sea to wrap around the farthest edges of the watershed basin. In a sense, the establishment of a Nisqually Reach Aquatic Reserve marks the day our collective planning net is finally cast wide enough to fully include a whole watershed bio-system, from icy mountaintop to salty sea. While the vision of Governor Evans has yet to be fully realized, the policy framework for one day reaching that goal will now be a meaningful step closer to complete.

We are enthusiastic about the Aquatic Reserve program's potential to provide another layer of protection for the natural systems in this Reach. The Nisqually Delta Association likes the

concept of providing islands of ecological protection in the marine environment that can be instrumental in the preservation, restoration and sustainment of natural plant and animal communities. We therefore fundamentally support the extension of increased conservation measures that are available through this proposed Aquatic Reserve coming to bear in this valuable and vulnerable region.

We believe the Nisqually Reach could be improved in terms of it's recognition and treatment of the relationship between Aquatic Reserve boundary and an important neighbor -- the Nisqually National Wildlife Refuge (NNWR). The boundaries of the NNWR have recently expanded, and the now approved boundary includes the pocket estuary at the mouth of Sequalitchew Creek. The attached figure is from a New York Times article on the Nisqually River system protection efforts, July 21, 2011. (http://www.nytimes.com/2011/07/21/science/earth/21river.html?pagewanted=all.) It shows, as the area shaded to represent the NNWR, the Refuge reaching to north along the DuPont shoreline to where it includes Sequalitchew Creek's saltwater marsh.

We think it is important to show the Approved Boundary of NNWR on the Nisqually Reach Aquatic Reserve area maps. We would also like to see an expanded discussion of the collaborative efforts that DNR could make to work with the National Wildlife Refuge system -- work we believe could help the national, state and local interests in Nisqually Watershed protection all be more fully realized.

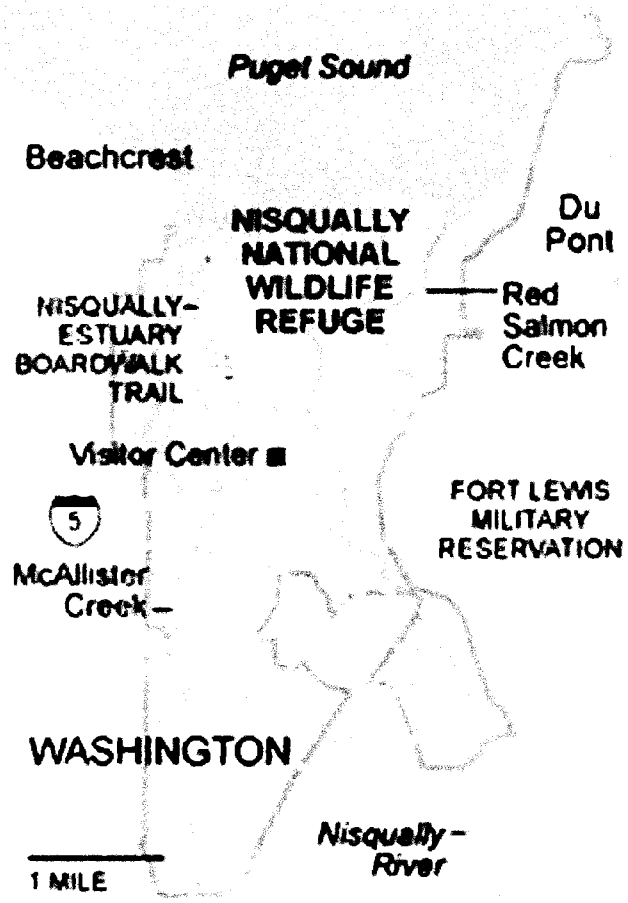
Another neighbor that we believe it is important for DNR to engage collaboratively is the City of DuPont. DuPont's shoreline includes the Nisqually National Wildlife Refuge Approved Boundary discussed above. The City of DuPont also has some of the most extensive shoreline regions of any single jurisdiction within the proposed Nisqually Reach Aquatic Reserve. At this time, DuPont is in the final stages of adopting its Shoreline Master Program update. We see great potential in the DNR planning effort to support and augment DuPont' s city planning, and look forward to seeing many mutually beneficial outcomes resulting from coordinating these efforts.

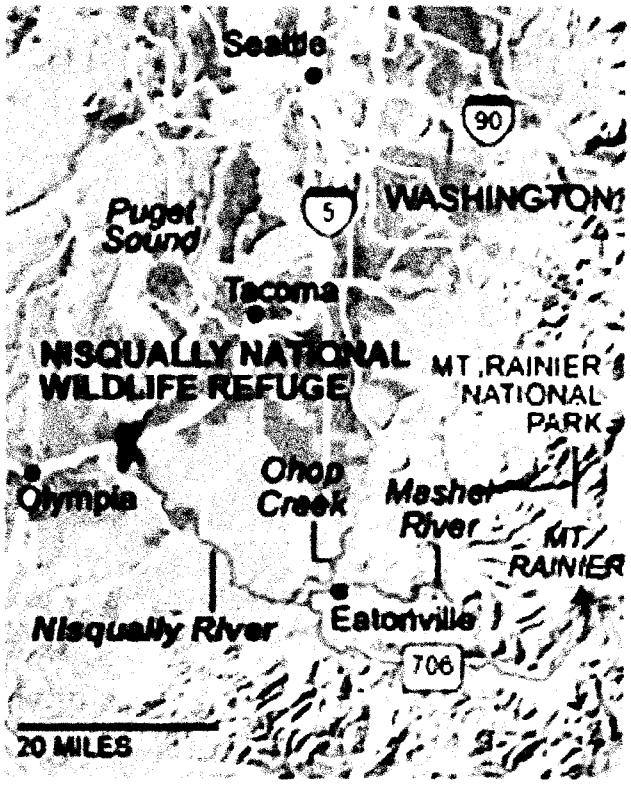
We of the Nisqually Delta Association appreciate your efforts to engage the public in your planning efforts. We believe that a robust public process will result in the most satisfactory outcomes possible, and we encourage you and our Commissioner of Public Lands to seek to enhance and expand your already collaborative efforts. Thank you for your vital work to move this proposal towards reality. We look forward to celebrating the full adoption of the proposed Nisqually Reach Aquatic Reserve in the very near future.

Sincerely yours,

Tom Skjervold
President
Nisqually Delta Association

1 Attachment


Puget Sound
Beachcrest
NISQUALLY NATIONAL WILDLIFE REFUGE
Du Pont
Red Salmon Creek
NISQUALLY-ESTUARY BOARDWALK TRAIL
Visitor Center
5
FORT LEWIS MILITARY RESERVATION
McAllister Creek
WASHINGTON
Nisqually River
1 MILE


Seattle
90
Puget Sound
5
WASHINGTON
Tacoma
NISQUALLY NATIONAL WILDLIFE REFUGE
MT. RAINIER NATIONAL PARK
Olympia
Chop Creek
Mashel River
MT. RAINIER
Nisqually River
Eatonville
706
20 MILES

STATE OF WASHINGTON
SECRETARY OF STATE

Ralph Munro, Secretary of State

APPLICATION TO FORM A NONPROFIT CORPORATION

(Per Chapter 24.03 RCW)

FEE: $30

- Please PRINT or TYPE in black ink.
- Sign, date and return original and one copy to:

FILED
STATE OF WASHINGTON

CORPORATIONS DIVISION
505 E. UNION • PO BOX 40234
OLYMPIA, WA 98504-0234

SEP 09 1999

- Be sure to include filing fee. Checks should be made payable to "Secretary of State."

RALPH MUNRO
SECRETARY OF STATE

EXPEDITED (24-HOUR) SERVICE AVAILABLE - $20 PER ENTITY
INCLUDE FEE AND WRITE "EXPEDITE" IN BOLD LETTERS ON OUTSIDE OF ENVELOPE

FOR OFFICE USE ONLY

FILED: 09 / 09 / 1999 | UBI: 601 979 374

CORPORATION NUMBER:

FOR OFFICE USE ONLY

IMPORTANT! Person to contact about this filing: JAMES EDGREN

Daytime Phone Number (with area code): 253-588-0840

ARTICLES OF INCORPORATION

NAME OF CORPORATION *(May contain designations such as "Association" "Services" or "Committee." May not contain a corporate designation such as "Corporation" "Incorporated" or "Limited" or the abbreviation "Corp." "Inc." "Co." or "Ltd.")*

NISQUALLY POINT DEFENSE FUND

EFFECTIVE DATE OF INCORPORATION *(Specified effective date may be up to 30 days after receipt of the document by the Secretary of State)*

☐ Specific Date: 9/9/99 ☐ Upon filing by the Secretary of State

TERM OF EXISTENCE *(Check one box only)*

☒ Perpetual ☐ _____ Years *(Please indicate number of years)*

PURPOSE FOR WHICH THE NONPROFIT CORPORATION IS ORGANIZED: *(If necessary, attach additional information)*

TO RAISE FUNDS FOR PRESERVATION OF HISTORIC AREA

IN THE EVENT OF A VOLUNTARY DISSOLUTION, THE NET ASSETS WILL BE DISTRIBUTED AS FOLLOWS: *(If necessary, attach additional information)*

DUPONT HISTORICAL MUSEUM

NAME AND ADDRESS OF WASHINGTON STATE REGISTERED AGENT

Name DR. JAMES EDGREN

Street Address *(Required)* 10601 REMBERT CT. S.W. City LAKEWOOD State WA ZIP 98498

PO Box *(Optional – Must be in same city as street address)* _____ ZIP *(if different than street ZIP)* _____

I consent to serve as Registered Agent in the State of Washington for the above named corporation. I understand it will be my responsibility to accept Service of Process on behalf of the corporation; to forward mail to the corporation; and to immediately notify the Office of the Secretary of State if I resign or change the Registered Office Address.

Jim Edgren — J. M. Edgren — _____

Signature of Agent *Printed Name* *Date*

NAMES AND ADDRESSES OF EACH INITIAL BOARD DIRECTOR *(If necessary, attach additional names and addresses)*

Name PATRICK STEEL

Address 71 SILVER BEACH City STEILACOOM State WA ZIP 98388

NAMES AND ADDRESSES OF EACH INCORPORATOR *(If necessary, attach names, addresses and signatures of each additional incorporator)*

Name LORRAINE OVERMYER

Address 100 BRANDYWINE City DUPONT State WA ZIP 98327

SIGNATURE OF INCORPORATOR

This document is hereby executed under penalties of perjury, and is, to the best of my knowledge, true and correct.

Lorraine Overmyer — Lorraine Overmyer — — 9-9-99

Signature of Incorporator *Printed Name* *Title* *Date*

FOR OFFICE USE ONLY

FOR OFFICE USE ONLY

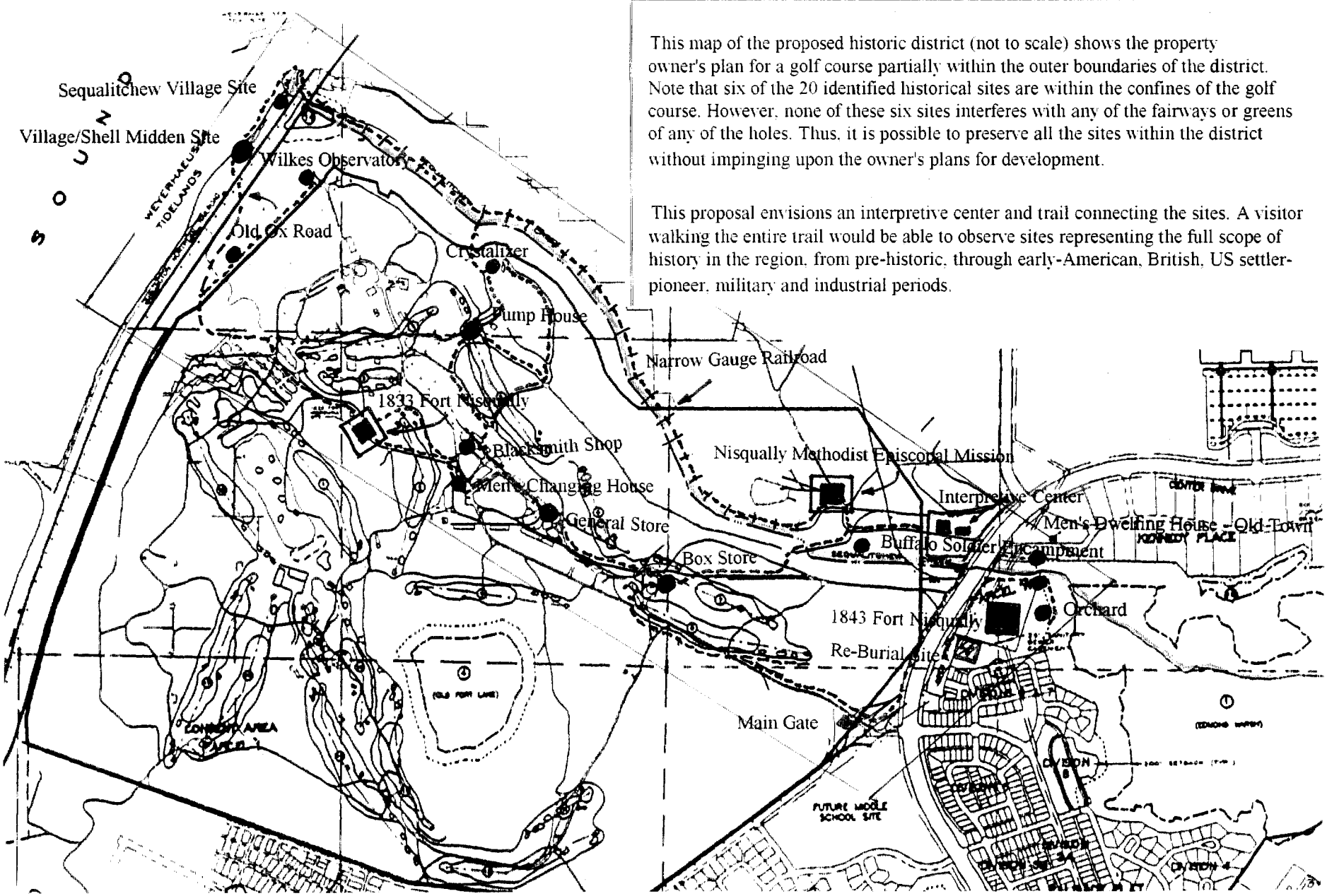
FOR OFFICE USE ONLY

005-004 (5-97)

CORPORATIONS INFORMATION AND ASSISTANCE – 360/753-7115 (TDD – 360/753-1485)

NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT

"Cradle of US History in the Puget Sound Region"



This map of the proposed historic district (not to scale) shows the property owner's plan for a golf course partially within the outer boundaries of the district. Note that six of the 20 identified historical sites are within the confines of the golf course. However, none of these six sites interferes with any of the fairways or greens of any of the holes. Thus, it is possible to preserve all the sites within the district without impinging upon the owner's plans for development.

This proposal envisions an interpretive center and trail connecting the sites. A visitor walking the entire trail would be able to observe sites representing the full scope of history in the region, from pre-historic, through early-American, British, US settler-pioneer, military and industrial periods.

NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT

"Cradle of US History in the Puget Sound Region"

SIGNIFICANT HISTORICAL SITES WITHIN THE DISTRICT - BY PERIOD

Prehistoric Period:

* Early-American Indian Shell Midden Site

Native American Period (Pre-1800's):

* Sequalitchew Village
* Nisqually Tribal Long Houses
* Indian Burial Grounds (specific location unknown)
* Ceremonial Grounds

Hudson's Bay Period:

* 1832 Nisqually House (45 PI 54)
* 1833 Fort Nisqually (45 PI 55)
* 1843 Fort Nisqually (45 PI 56)
* Sawmill (45 PI 71)
* Hudson Bay Company Workers Houses
* Ox Road

First US Settlement Period:

* 1839 Methodist Episcopal (Nisqually) Mission (45 PI 66)
* 1841 US Navy Wilkes Expedition Observatory (45 PI 67)
* 1841 Site of First Independence Day Celebration (45 PI 66)
* 1869 Early US Homesteader Sites (Huggins House)

Industrial Period:

* 1906 DuPont Company Powder Works (Plant Area) (45 PI 70)
* Burning Ground Dump (45 PI 64)
* Men's Boarding House (45 PI 57)
* Narrow Gauge Railroad
* DuPont Company Main Gate
* Crystalizer
* Pump House
* Blacksmith Shop
* Men's Changing House
* General Store
* Box Store
* Old Town Housing

Military Period:

* 1900 Fort Lewis Training Area sites
* 1904 Buffalo Soldier Encampment (National Guard Maneuvers)


SITE OF
METHODIST EPISCOPAL
MISSION AND FIRST
AMERICAN HOME NORTH
OF COLUMBIA RIVER
BUILT IN 1840 FIRST
FOURTH OF JULY CELEBRATION IN
THE PACIFIC NORTH WEST WAS
HELD AT THIS PLACE IN 1841

NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT

"Cradle of US History in the Puget Sound Region"

PROPOSAL OVERVIEW

The Historic District boundaries proposed by the Committee for the Preservation of the Nisqually-Sequalitchew Historic District encompass some 20 identified historical sites which are representative of the various periods of cultural development in the region. Each of these sites is a crucial link in the chain of events that led to the present reality. While to preserve these sites requires a larger area to be designated, such requirement places no burden upon the primary property owner to give up any significant amount of land. Rather, preservation, especially of the industrial period sites, can be effected through retention of selected roadways and pathways so that visitors to the historic district can gain access without impinging upon the property owner's plans for development. The key point is ***access!***

It is the Committee's contention that preservation efforts that do not allow for public access, are, in the final analysis, counterproductive. This proposal includes sites that are important to understanding the entire process of cultural development - not just selected segments. Thus, while it is important to locate and mark sites of prehistoric and Early-American cultural activity, to preserve sites of the Hudson's Bay Company period, the earliest US Citizen settlements (such as the Methodist Episcopal Mission) and location of the Wilkes Observatory, it is no less important to preserve such vestiges as remain of the industrial period, the DuPont Powder works. To ignore these sites because they are less conveniently located (in terms of planned development) is to skip over an extremely important segment of this region's history, and deny to future generations the right to view this piece of history. Likewise, preservation of a particular site, such as the 1833 Fort Nisqually site, without providing public access, is not true preservation.

SPECIFIC RECOMMENDATIONS

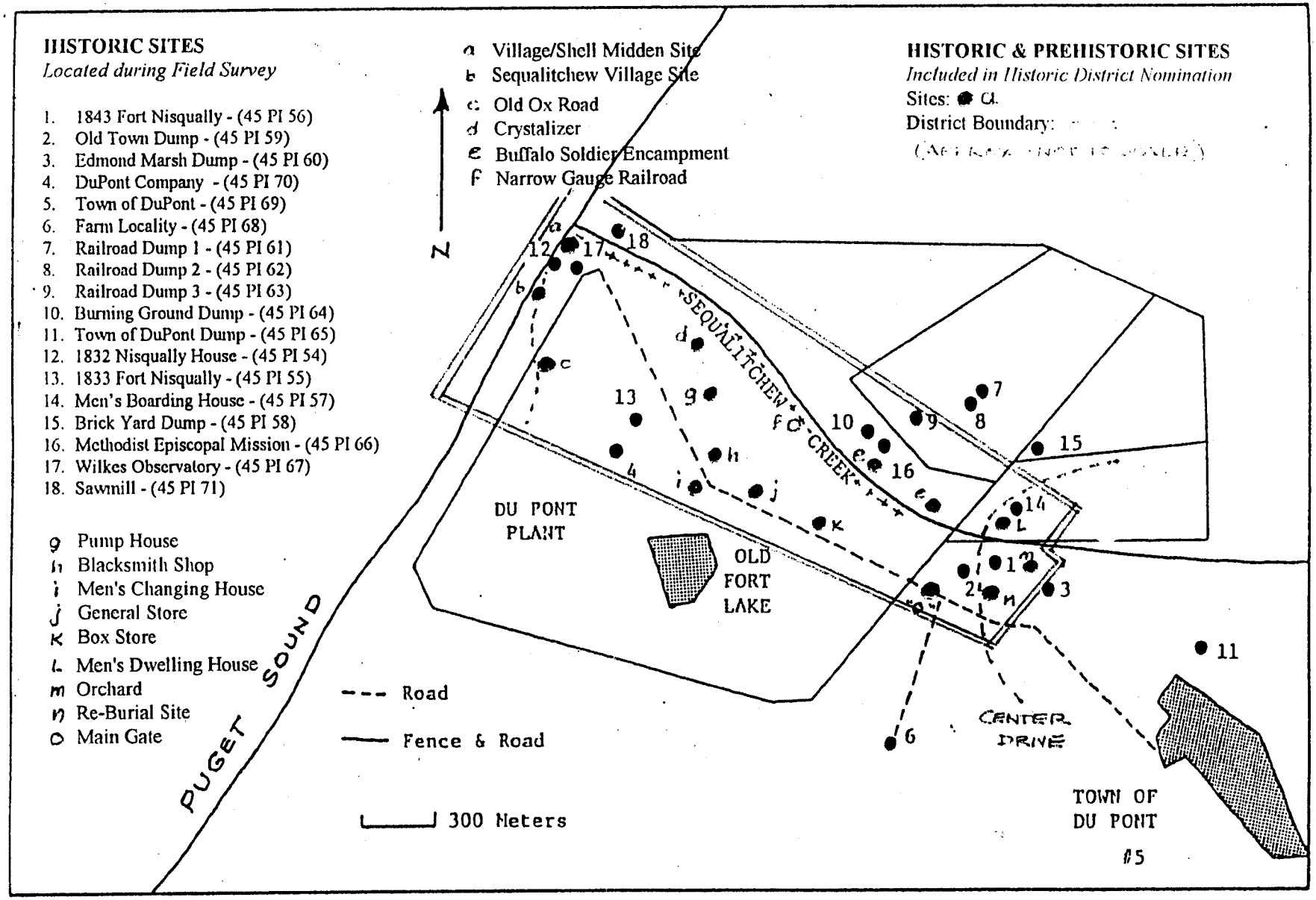
This proposal envisions development of a series of connected walking trails that would allow for public access to each of the sites. These trails could utilize existing pathways and roadways, requiring only minimal acreage. A visitor to the historic sites could enter the area via a modest interpretive center (with parking lot). No vehicular traffic would move beyond the center. The center would provide interpretive information for each period of history with specific sites identified by a color-coded system, for example. The visitor would be able to visit a few or all of the sites in the district by following the directed trail system.

The Committee is convinced that this approach would allow the property owner to develop the property according to plan and still preserve these sites for the public benefit. The property owner has consistently demonstrated a keen interest in historic preservation. This proposal would allow that interest to be maintained at little or no cost to future development.

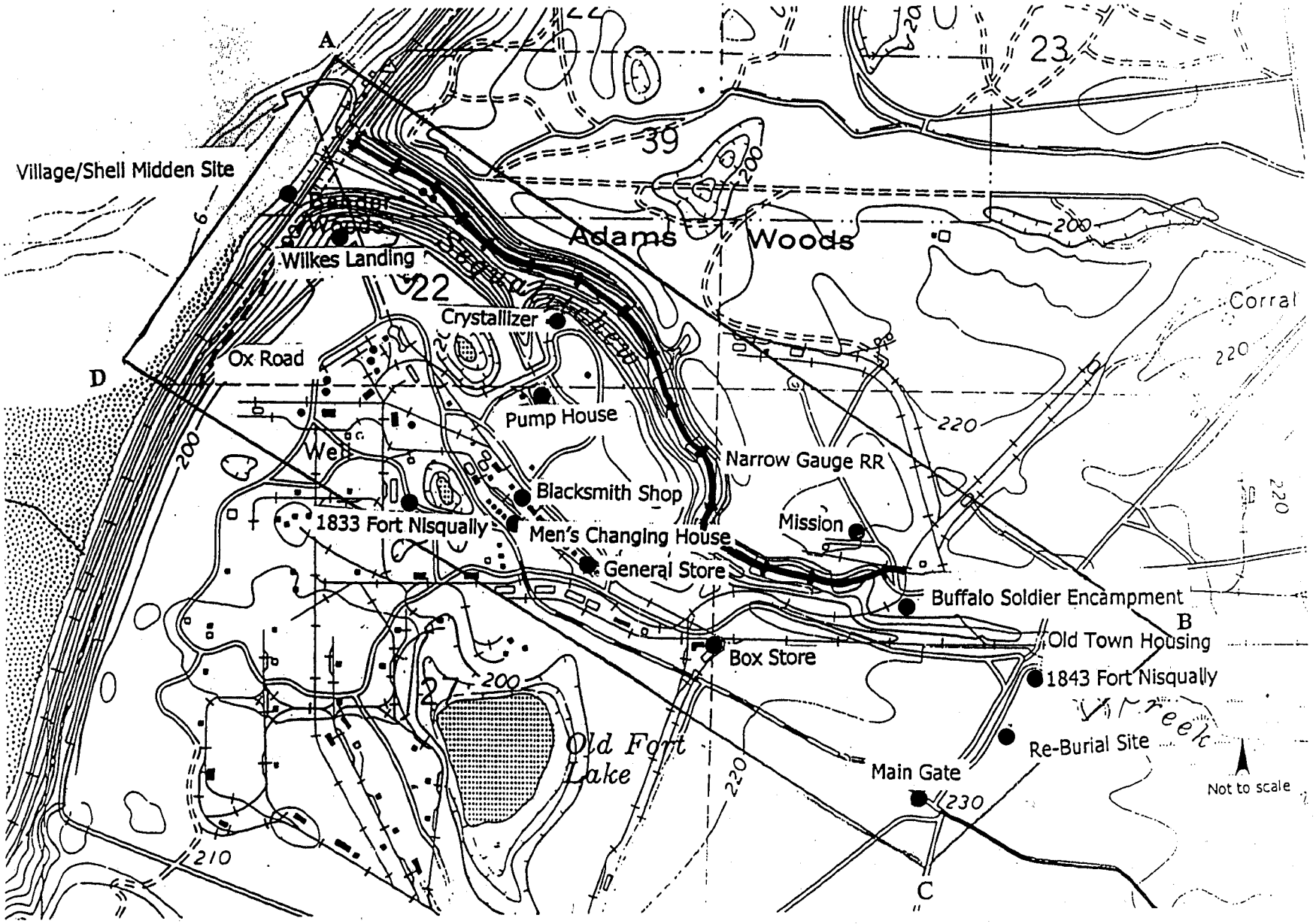
The Committee is aware that the property owner and another group of citizens is nominating a much smaller parcel of land, most of which is already designated for public use, as an Historic District. Unfortunately, that proposal does not include any sites from the industrial period, and most importantly, does not provide for public access to the strategically important 1833 Fort Nisqually site. Accordingly we recommend our suggested boundaries be adopted for the district.

NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT

"Cradle of US History in the Puget Sound Region"



NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT



ARGUMENTS TO STRESS:

1) **ARGUMENT: These sites are not just palisades or military stockades, but were in fact larger self-stained complexes that include multiple resources and features "external" to the palisade.**

- The Hudson's Bay resources cannot be understood without the full compliment of buildings, structures, trading areas, Native camps, cemeteries, and fields that historically accompanied them. Historical maps, historical accounts, and archaeological testing have verified the location of some of these elements, and reveal the potential for further discovery.

- The Mission site is also described as having buildings and features outside of the stockade that held the Mission building.

- The significance of the sawpit, cabin, etc., at the 1833 site is essential to the argument that both the 1833 and 1843 sites, and Mission site were not just palisades, but deliberate complexes of outbuildings, barns, stables, animals sheds, fences and cultivated areas. The 1974 NR nomination for the 1833 site includes in the narrative description of resources, the sawpit, a cabin, and outbuildings, as well as the palisade (at the time of nomination, the saw pit was previously marked by a wooden marker, which has since disappeared). The NR has advised that the nomination therefore includes all of these resources as contributing elements.

2) **ARGUMENT: The importance of the agricultural component of both the 1833 and 1843 sites has been largely ignored.**

- Historical accounts of livestock and crop production and historical sketches depict numerous agricultural buildings – barns, hay sheds, slaughter house, sheep washing station, pastures, fields – that are essential to an understanding of the HBC's agricultural contribution to the Pacific Northwest. In addition, no study of HBC agricultural buildings has been undertaken at other regional sites, making this site potentially rich.

- **ISSUE:** In recent years, OAHP has not considered the overwhelming significance of the agricultural component. Perhaps most importantly, the office has allowed Weyco to "piece meal" the evaluation of individual resources in the area, without considering the contributing potential of these resources as a district, or the agricultural history of the site. For example, in 1997 OAHP concurred that an HBC Fur Packing Shed site (45-PI-450) was not eligible. However, no formal evaluation or analysis of the site was supplied by Dr. Daugherty, just a verbal opinion to OAHP staff that "there is nothing there."

3) ARGUMENT: The contact period and subsequent exchange of culture and goods between native and EuroAmerican peoples has not been fully explored.

- At the 1833 site, much of this activity occurred outside the palisade in an a nearby building known as the Indian Hall. In addition, trading and camping areas are described in historical accounts as having been between the palisade and creek.

- At the 1843 site, a large Indian camping/trading area was located well outside the palisade to the northwest.

- The cemetery associated with the 1833 site existed north of the palisade and south of the creek. Burials have never been investigated or recovered, but would have the potential to yield information about culture, ethnicity, burial goods, and ultimately shed light on the affects of native contact with white culture, and vice-versa.

4) ARGUMENT: The DuPont factory remains (operations area) and Crystallizer are the only surviving resources to illustrate the enormous contribution of this regionally significant industry. Like its corporate predecessors (HBC, PSAC), the DuPont Company was a key player in the expansion and development of the Pacific NW and beyond.

- The significance of these resources and their archeological potential has never been considered. Archaeological investigation of the site can reveal much about corporate structure, production, labor and social history, and health issues that have not been recorded elsewhere.

- **ISSUE:** In 1993, OAHP concurred with Weyco that the Crystallizer (45-PI-75) is not significant. However, the letter of response indicates that this and other resources were only evaluated within the context of the Hudson's Bay period. While the Crystallizer would certainly not be significant in this context, there is no record that the structure was evaluated as a contributing member of the former factory site. The industrial context was clearly not explored as a basis for significance. Furthermore, contributing status in a district (as is the Crystallizer) does not require the same level of significance as a property evaluated individually. In other words, the Crystallizer qualifies as a contributing member of the district because it represents the DuPont factory era, however, it would not qualify as an individually eligible resource.

5) **ARGUMENT: The use of a historic district approach is entirely consistent with other NR listings in the region**:

- The Fort Vancouver Historical Reserve District has multiple HBC, military, industrial, and World War II elements; The American Camp and English Camp districts on San Juan Island are large (600-1,200 acre) districts that include HBC archaeological features, landscape features, building sites, historical markers, etc..

- In consultation with Nat'l Register staff in D.C., the Multiple Property Documentation approach at this site was not recommended for the following reasons: MPDs are usually appropriate for larger areas where resources are separated by great distances, modern intrusions, or intervening development. The sites around Sequalitchew Creek are historically united by the creek, are fairly concentrated, and relatively close in proximity. MPDs in the state embrace broad geographical areas and historical themes, such as "Maritime Resources of Budd Bay Inlet," "Historic Resources of the Milwaukee Road," "Carnegie Libraries in Washington State," Depression Era Administrative Sites in the U.S.N.F."

6) **ARGUMENT: Nominated areas have acceptable integrity for nomination.**

- Even with the DuPont Company's tenure at the site, earlier intact archaeological deposits have been recovered – Men's Dwelling Houses site were found intact under rich deposits relating to the DuPont Company's Old Town.

- In addition, the 1833 palisade and evidence of external features was found intact, within the former DuPont Factory site.

- The nature of the construction of most DuPont Company buildings was not invasive enough to disturb earlier archaeological materials.

- Historical markers or formerly marked sites (Wilkes Observatory, Mission site, sawpit) have achieved historical significance in and of themselves – as historic commemorative sites.

- In spite of some recent clean up efforts, areas historically cultivated by the HBC still retain the open, undeveloped character of the historic period.

- In spite of recent overlaying of toxic waste on the Mission site, and removal in 1999 which caused some disturbance, archaeological material are sufficiently in tact.

7) **ARGUMENT: Weyco claims that the office has given an opinion that the DuPont Powder Works is not eligible. However, the private report prepared for them by Historical Research Associates is marked "draft," did not involve formal consultation with our office, and provides no formal written verification.**

- The report states that, "In a telephone conversation with Greg Griffith (Nov. 26, 1997) staff indicated that the DuPont Powder Works is not eligible." However, Greg has no recollection of making this statement. He does, however, remember a conversation with HRA in which he told them that there had been no formal inventory and evaluation of the former DuPont factory site.

- Regardless, this citation is not supported by any formal written statement of significance.

- The vague statement does not identify how the factory site was evaluated, under what criteria, or whether it was evaluated for significance as a collection of buildings, for archaeological potential, or historic landscape values (NR criteria A, C, D).

- The minimal Lars Carlson report Weyco references was not provided to OAHP until after this alleged statement was made (as Greg noted to HRA on Nov. 26, 1997, OAHP had no documentation or evaluation materials to assess the significance of the factory site). The Carlson report was not provided to OAHP until December 10, 1997.

- !!!! The Carlson report, prepared for Weyco, actually identifies the DuPont properties nominated in the N-D district as significant: *"An analysis is included in this survey of buildings most significant historically and architecturally."* The list that follows includes, *the blacksmith shop, general storage building, change house, pulp dry house, and miscellaneous ingredients storage building. (pg. 13)*

NEED:

- Someone (Don?) to be available if there are questions about the function and operation of the Crystallizer or other buildings at the operations site.

- Archaeologist to testify about the integrity of areas, likelihood of further discovery, potential to yield arguments, etc..

- Someone to emphasize the agricultural significance of the HBC/PSAC. Point out that the boundaries encompass only a small part of the original land holding.

- Someone to state that the "open space" is not only significant for archaeological potential, but also as agricultural lands and landscapes that were historically held by the HBC/PSAC.

MISCELLANEOUS ISSUES:

- The Washington Trust for Historic Preservation listed the N-S District as one of its Ten Most Endangered Properties. Why has the author (who is also the president of the WTHP) nominated just the 1843 fort?

- In the nomination for the 1843 Fort, the sawpit is identified as 45-PI-71. In another section of the nomination, Nisqually burials are also identified as 45-PI-71. This should be clarified and corrected.

A Petition to the Washington State Department of Ecology

In the interest of promoting a vibrant public discourse on matters relating to the cleanup of the "Former DuPont Company Worksite" (in DuPont, Washington), we the undersigned request that the Department of Ecology do the following three things:

(1) Assure that the Draft Environmental Impact Statement be released for public review *after* January 1, 2000,
(2) Hold at least one public hearing to allow for an educational dialog and a healthy airing of community concerns relating to the considered actions, and
(3) Given the size of the toxic waste cleanup site, and the complexity of issues related to long term development of this property, allow for a sixty (60) day comment period.

Signature	Printed Name	Address
Kristin M. Plischke	Kristin M Plischke	218 N Percival St Olympia, WA 98502
	ETHAN J. G. ROGOL	1010 FRANKLIN ST. SE, APT. A, OLY 9850
	CHRISTINE A. STINGUINET	111 ~ 10th Ave SE H 1/2 "
Jessica Lindquist	Jessica Lindquist	716 Franklin St. SE Olympia, WA 9850
David D Brawley	David D Brawley	3220 Duke CT SE Oly 98503
	Jill Griffith	411 Pear St NE Oly WA 98506
	Erika Hoffman	2325 12th Ave NE Oly WA 98506
	GREG HOUNTHEIT	3645 MUD BAY RD #2 OLY, WA 98502
Elizabeth A Perkins	Elizabeth A Perkins	1307 8th Ave. SE Oly WA 98
Sally Toteff	Sally Toteff	11017 Legion Way Oly 98501
	CHRISTIAN IVERSON	10441 Mullen Rd. Oly.
Christine Parrad	Christine Parrad	7721 Loop Ct SE Oly 98513
Kristi Maclean	Kristi Maclean	312 Milroy St. NW, Oly 98502
Carolyn Prouty	CAROLYN PROUTY	91 LOWER FALLS CR OLYMPIA 98541
Eric Manix	Eric Manix	1322 Pine Ave Olympia WA 98506
	Peter Manix	" "
	Becky Liebman	2800 Lilly Rd NE Oly 9851
Brian Lehoe	Brian Lehoe	5242 Ronde Oly WA
Meilani Allen	MEILANI ALLEN	3430 PACIFIC AVE STE. A6 #213 Olympia WA 98501
Anch Bergeron	ANCH BERGERON	1405 11th Ave SE Oly WA 98501

Nisqually Point Defense Fund
P.O. Box 198, Dupont, WA 98327

April 1, 2000

Mike Blum
Washington State Department of Ecology
300 Desmond Drive
P O Box 47775
Olympia, Washington 98504-7775

Dear Mr. Blum:

These comments are being submitted in response to your request for input on the DEIS for the Former DuPont Works Site. I feel that additional archaeological survey is required to insure that the rich cultural resources in this area are protected. Specific requests are listed below. It is my hope that you will respond to my comments in detail as well as those of others who send comments to your office.

I have been a member of the Nisqually Point Defense Fund for the past year.The mission of our organization is to create a Historic District in The DuPont Works consent decree area at DuPont Washington. The Nisqually- Sequalitchew Historic District includes sites and areas that are considered premier sites in the State. Evidence of Native American habitation dating back to 3,200 BC has already been discovered in the area. Last year the area was named one of "The 10 most endangered properties in Washington State", by the Washington Trust for Historic Preservation. This property is being evaluated as eligible for the National Register of Historic Places.

The Nisqually Point region has been labeled the " Plymouth Rock" of Puget Sound. Nearly two centuries ago, fur traders from Hudsons Bay Company began settling the area. Two of the earliest Puget Sound Forts were built, as were the state's first road, first Methodist Mission, and first school.

Future generations deserve to have this area protected and properly researched prior to the area being logged and scraped and converted into an industrial complex .

Therefore, I am requesting that the following actions be taken. These activities are similar to the requests that Dr. Allyson Brooks, the State Historical Preservation Officer, made in her letter dated March 14, 2000, and are also stated in the letter Leland Stilson sent to your office on March 18th of this year.

The major requirement is to have a qualified, independent historic archaeologist provide a review of the work that has been done to this point and also conduct additional archaeological testing of the critical locations in the area prior to those areas being logged and scraped. Professional evaluation and assessment of the artifacts previously collected is essential prior to any survey or mitigation strategy.

I endorse the five mitigation measures as mentioned by Dr. Brooks in her letter which is enclosed. I also feel that it is critical that Weyerhaeuser work closely during the clean-up activity with Dr. Brooks and the Office of Archaeology and Historic Preservation.

Request that the Mitigation Measures listed at 3.3.3 on page 3-20 be changed to include additional review and survey work being done prior to clearing being initiated in the area.

My hope is that my comments along with those that I have referenced and the comments that were made at the public hearing on March 21st will be incorporated into the overall plan and that the cultural resources will be preserved.

Please let me know if I can provide any information that would assist you in making your decision about additional mitigation measures that will be adopted to preserve these sensitive cultural resources.

Sincerely Yours,

Patrick A Steel
Nisqually Point Defense Fund

2 Enclosures: Letter to DOE from Dr. Allyson Brooks, dated March 14, 2000
Letter to DOE from M. Leland Stilson, dated March 18, 2000

We recommend that the proposal be rejected. ~~And~~ In the event that the proposal is not rejected, we are prepared to pursue every legal avenue to oppose the listing. But, ah, you know, My Dad hates it when I introduce myself as a lawyer, he always tells people I'm a logger for Weyerhaeuser Company. (Still does) And the reason I think ~~he~~ he does is practical: litigation over these matters ought to be avoided. It prevents cooperation. It thwarts solutions. Litigation, like this proposal, is simply counterproductive.

Quote from Hx Dist hearing
Weyco Attorney
Greg Tolbert

instruction.

Johns, who teaches, performs and records as a percussionist in the Seattle area, is also involved in Samba Olywa, a Brazilian drum-and-dance club in Olympia that performs in the Procession of the Species as well as other public events each year.

"I love drumming, and I just keep buying more drums," he said of his collection of instruments the students were using.

Jessica Havlak, 12, a sixth grader, said she was having a great time playing the [illegible] with the group.

"I was in the school [illegible] at McLane Elementary School last year and I'm enjoying the fun things to do this week. It's more fun than home[illegible]

was about more [illegible] drumming.

In the morning [illegible] dren participated [illegible] such as bird [illegible] bowling, [illegible] basket weaving, [illegible] king and [illegible] spent one [illegible] out a pattern [illegible] a fleece vest. [illegible] ys wanted a [illegible] t should be nice [illegible] she said.

[illegible]se, 13, also found [illegible] traditional courses [illegible] get to do cool classes. I [illegible] the morning at the Pa[illegible]ic Sports Center in [illegible]yallup playing basketball," [illegible] said.

Steven Welliever, 25, science and math instructor at



Steve Bloom[illegible] Percussion instructor Geoff Jo[illegible] plan[illegible] parts [illegible] the bigger drums.

[illegible] week they have t[illegible] into fruit-fly [illegible] Welliever said.

Franklin mo[illegible] back to take her place with the other drummers as Johns organized the group after the break.

"This is an interesting cultural experience," Frank said as the drumming began once more.

"I play the piano otherwise. It's much more refined," she said. "But this is great. It's wild and spontaneous."

[illegible] the community Brazilian drum-and-dance club, will begin rehearsals the last week of March. Percussion instruments are provided and new members are welcome to attend Sunday rehearsals at the Farmers Market.

do this," Carol [illegible] "Step by step, he prepared me. It's not in my nature to take a leadership role."

The Hilliers, who moved to the Shelton area six years ago, attended other churches for a while, but never felt comfortable with the way the Sunday worship was conducted. They finally contacted the Olympia Presbytery — the governing body for about 50 Presbyterian churches in the Puget Sound area — to learn how to start a church.

"The Presbytery was taken aback by our request," Harry Hillier said. "The usual way a new church is started is at the governing body's instigation. They had limited resources and didn't think it was the right time to start a church in Shelton. The Rev. Lynn Longfield, executive presbyter, did put us in touch with the Boneys though, a couple who had approached them previously with the same request."

Undeterred, the two couples met and defined a plan of action to form a church. In March 1998, they convened a meeting for those interested in forming a new Presbyterian church; 20 people attended.

"It didn't surprise me that there was so much interest in a new church," Harry Hillier said. "A lot of retired people

See Church / B2

Com[illegible] prefers golf [illegible] cover waste

■ DUP[illegible]

Weyerh[illegible] gives up pla[illegible] over a waste[illegible] with a neigh[illegible]hood.

By J[illegible]
The [illegible]

DUPONT — Scraping up contaminated dirt and entombing it under a new golf course is the preferred option for final cleanup of the old DuPont Works munitions complex in this historic town just north of the Nisqually River.

WHAT'S NEXT

A toxics cleanup plan for Weyerhaeuser Co. property in DuPont will be discussed at a public meeting at 7 p.m. March 21 at DuPont City Hall, 300 Barksdale Ave.

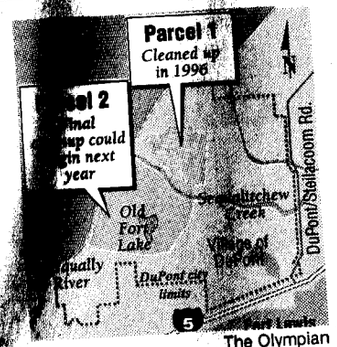
[illegible]-18 inches of [illegible]s of ground [illegible] up at Weyer[illegible] Estate Co.'s [illegible]ing develop[illegible]s tainted with [illegible]

[illegible]te, maybe the [illegible]te," state De[illegible]ology project [illegible]lum said.

[illegible]vily contami[illegible]e disposed of [illegible]cial dump. But [illegible] be buried under 18 inches of gravel and clean soil where the 18-hole, public golf co[illegible] built.

The co[illegible]logy and a citizen[illegible]ht group all agree[illegible]s is the best approa[illegible]

[illegible] Weyerhaeuser abandoned plans to build about 800 homes on the so-called Parcel 2, most of the concerns about potential human exposure to lead and arsenic diminished, said Tom Skjervold of the DuPont Toxics Citizen Oversight Project, a watchdog



The Olympian

See DuPont / B2

WE WANT TO KNOW

Interested in transportation?

The Olympian is creating a directory of residents who are interested in tra[illegible]portation. No specific level of knowledge or training in this issue is required — just a healthy [illegible]terest. If you are willing to lend your thoughts on this issue occasionally, please fill out the fo[illegible]wing.

Name:

Age: Occupation:

Address: Phone:

[illegible]ou interested in this issue?

COMMUNITY

■ **The Procession of the** Species celebration organizers will offer a teachers' art idea exchange and dessert social at 6:30 p.m. **Tuesday** at Olympia World News, formerly Bulldog News, **116 Fourth** Ave. E. Teachers and classroom assistants are invited to come and share project ideas. Teachers and artists who have participated in the past will share their ideas. The Procession Classroom Resource Guide will be

MEETING TODAY

Port of Olympia Commission, 5:30 p.m., 915 Washington St. N.E., Olympia. 586-1084.

Thurston County Commission, 9 a.m., courthouse Building 1, Room 280, 2000 Lakeridge Drive S.W., Olympia. 786-5440.

Olympia Hearing Examiner, 7 p.m., City Hall council chambers, 900 Plum St., Olympia. 753-8735.

Olympia Timberland Library Board, 7:30 p.m., Olympia Timberland Library west meeting room, Eighth Avenue and Franklin Street. 357-5873.

IN THIS SECTION

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Visit [illegible]me

for local news, obituaries

Administrator's Friday Letter

January 29, 2010

1. Council Meetings On-Demand
Comcast has added current Council meetings on its on demand menu as a free service. It usually takes them five days to get the most recent taped meeting onto the on-demand menu. This is how to access the taped meeting: Select "On Demand" programming, and then select "Get Local", then Northwest TV and Radio, then PCTV. Under PCTV you will find the last taped DuPont City Council meeting listed. Click on that item and then be prepared to wait as it takes a few seconds for Comcast to deliver the video. The January meeting is currently available. Comcast will not archive meetings but this is a 24/7 option for citizens to watch the most recent City Council meeting. It is available until updated with the next taped meeting.

2. Joint Base Lewis-McChord Becomes Reality
A historic day for the major military installations in the South Puget Sound happens Feb. 1 when the long-awaited Joint Base Lewis-McChord will become a reality. "We sincerely believe that this is a natural step, the right thing to do," said Col. Thomas H. Brittain, the Fort Lewis U.S. Army Garrison commander who on that day will uncase the colors to assume command of the joint base. "We've served side-by-side with the Air Force around the world — and now we are going to live and work together at Joint Base Lewis-McChord. In the process, we're going to become more efficient and effective. We absolutely think that the sum is going to be greater than the parts." Colonel Kenny Weldon, the Air Force officer who commands 62nd Mission Support Group at McChord Air Force Base, will become the JBLM deputy commander on the same day.

3. Update on Meetings with the Department of Archeology and Historic Sites (DAHS)
Representatives from Quadrant and the City met with DAHS on Wednesday to discuss the Methodist Mission site and Buffalo Soldier encampment. The properties on which both sites are located are slated for future development. The City and Quadrant have recently discussed installing historic interpretive signage on a parcel to be given to the City adjacent to the new section of the Sequalitchew Trail alignment. DAHS were generally supportive of the concept of interpretive signage but with certain conditions. They have requested that Quadrant develop a scope of work to organize the archeological record and field notes for both the Methodist Mission and Buffalo Encampment. The current records are not well organized and the field notes are not precise. There may be a requirement for some additional field work. DAHS also expressed a desire for Quadrant to immediately support listing of the Nisqually-Sequalitchew Historic District. A future product may be an MOU between Quadrant, the City, and DAHS which specifically establishes a plan for addressing archeological issues. Such an agreement would become a supporting document during any future SEPA process.

City of DuPont
1700 Civic Drive
DuPont, Washington 98327
253-964-8121 phone
253-964-3554 fax

Dr. James Edgren

April 7, 2003

Good Day Sir!

After ~~over~~ more than a decade of process, the DuPont Toxics Citizen Oversight Project, (a.k.a. The DTox COP), is close to a final chapter in long and sometimes arduous epic. Such is the cleanup of a hazardous waste site. Happy to report that after meeting our adversaries on uneven fields, fighting boldly against a sometimes overwhelming force, and always charging for the things we believed in, we settled the conflict without firing a (fatal) shot or throwing [m]any (permanently disabling) blows.

I count with pride a fair number of undisputed victories spread over the long years of this struggle. I celebrate each victory and warmly recall the best. Far from the least of these is our settlement to establish a National Historic District along the banks of Sequalitchew.

In that agreement I see a promise to honor the memory of ancestors and protect for generations a tiny slice of a great history. It warms my heart to think I had the chance serve with you in pressing for this triumph.

I feel very secure in the fact that we negotiated a settlement that clearly defines, at a minimum, the essential elements of a district. Generations of planning and development may flesh out dreams not yet fully dreamed, but the foundation seems good, and direction is clear.

I, for myself, am close to believing the work of setting our collective caravan moving on the great journey is very nearly complete. The essential logistical details seem to be pretty much in place.

However, there is one loose nut that is still rattling around (at least in the back of my brain), and the hour is getting short for taking a wrench to the problem. Or maybe my fear: if it doesn't get fixed now, the next time it will take a lot more than a much larger wrench...

Over the course of this public comment cycle, (on by now very cleaned up and absolutely FINAL documents), I have heard Mr. Mike Blum express uncertainty about the location of Mission site.

I asked him about it, and he rattled through a fair amount of historical, factual trivia. Some of the detail seemed to me to miss a bigger vision, and I was a little surprised by the sheer volume of information he had. Especially intriguing was his clear bias concerning the factual uncertainty about the actual Mission site.

Why does he think that? Who has he been talking to? And why does it matter to him?

Technically the Mission site is in "green space", outside of the Consent Decree area, (the legal area that has been a center of Mikes life for a dozen years or so).

Talked to you about it and you expressed confidence in the good will of the people who now man the parapets of the former enemy. I have met some of those fine people, and I concur with your judgment that there are a many fine sentiments and compassions amongst them.

I would like to rely on that. I would also like to believe that they, and the major market forces they represent, will always do the right thing and honor, *without question*, the gentlemanly agreement that we are a party to. I would expect that we can all agree to keep the site marked just exactly where it is now, and where it has been marked nearly a full century. Seems like a no-brainer to me.

So therefore I became a little depressed when I talked this over with a DuPont City Planner who told me they "hadn't decided yet where the mission was located" and that he "didn't think it mattered much". Okay, it doesn't matter much to him. Does it matter much to you?

I believe in trust. I also believe in verify. I notice that my map from the negotiation days is not necessarily "to scale", and locations are somewhat ambiguous. Is it possible that in someone else's planning that Mission site would work better somewhere else?

What do you say we go down there and check the best map we can get? How about we arrange a field trip to the site, and bring along a GPS unit, and make our own little mark? It would help me sleep a little better when the final truce is called. Plus it would be a great excuse to commemorate our own little mission.

Please let me know what you think. The comment period on these documents is on April 23, and would like to be all done with this by then. If we do something on a Thursday or Friday I could probably be able to get my lovely wife and bouncy boy to join the adventure, as they would get a chance to see you as a bonus!

I bet Pat would be up for the romp, and would love to help facilitate, if such help was called for. Call or write, and let's make this happen in the next ~~ten to twelve~~ few days!!!

In Peace and In Action, Your Friend,

Tom

Tom Skjervold

When Recorded, Return to:

HILLIS CLARK MARTIN & PETERSON, P.S.
Attn: Steven R. Rovig
500 Galland Building
Seattle, WA 98101-2925

FIRST AMENDMENT TO NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT

Grantors: 1) THE QUADRANT CORPORATION
2) WEYERHAEUSER COMPANY

Grantees: 1) THE PUBLIC
2) CITY OF DUPONT

Legal Description (abbreviated): PORTIONS OF SECTIONS 22, 23, 26 AND 27, TOWNSHIP 19 N., RANGE 1 E., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

☒ Complete legal on EXHIBIT A.

Assessor's Tax Parcel Identification No(s): 01-19-22-3-001 01-19-22-3-002 01-19-26-2-004 01-19-27-1-001 01-19-26-3-007

Reference Nos. of Documents Released or Assigned: N/A

THIS FIRST AMENDMENT is dated for reference purposes March 27, 2006 and is made with reference to that certain Notice Regarding Historic District Designation and Declaration of Covenant ("Notice") made by **WEYERHAEUSER COMPANY**, a Washington corporation ("Weyerhaeuser") and its wholly-owned subsidiary **THE QUADRANT CORPORATION**, a Washington corporation, as successor to

Weyerhaeuser Real Estate Company as developer of the Northwest Landing master planned community ("Quadrant").

RECITALS

A. The purpose of the Notice was to provide future purchasers of real property described therein with notice regarding a potential Historic District for such property.

B. The legal description utilized in the Notice did not provide a clear and accurate description of the property to be subjected to the Notice. Accordingly, the parties desire to record this First Amendment for purposes of providing clarification of such legal description.

AMENDMENT

1. **Property.** The real property that is subject to the Notice as originally described in Exhibit A and depicted on Exhibit B of the Notice is hereby amended to be the real property legally described on the attached **EXHIBIT A** and depicted on the attached **EXHIBIT B**.

2. **Full Force and Effect.** Except as specifically amended herein, the terms and conditions of the Notice remain in full force and effect.

EXECUTED the dates set forth below.

WEYERHAEUSER:

WEYERHAEUSER COMPANY,
a Washington corporation

By_____
Name: _____
Title: _____

Date: _____

QUADRANT:

THE QUADRANT CORPORATION,
a Washington corporation

By_____
Name: _____
Title: _____

Date: _____

ACKNOWLEDGED AND ACCEPTED:

NPDF:

NISQUALLY POINT DEFENSE FUND,
a Washington nonprofit corporation

By_____
Name: _____
Title: _____

Date: _____

CITY:

CITY OF DUPONT,
a Washington municipal corporation

By_____
Name: _____
Title: _____

Date: _____

ATTEST:

By_____
Name: _____
City Clerk for City of DuPont

Date: _____

EXHIBIT A

LEGAL DESCRIPTION
NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

That portion of Sections 22, 23, 26 and 27, all in Township 19 North, Range 1 East, City of Dupont, Pierce County, Washington, being more particularly described as follows:

COMMENCING at the southeasterly corner of Lot 3 of that City of Dupont Short Plat recorded under Pierce County Recording No. 9506120462;

THENCE along the southerly line of said Lot 3, N 71°28'38" W, 185.19 feet to the southwesterly corner thereof;

THENCE N 75°14'47" W, 5122.56 feet to a point of curvature;

THENCE northwesterly 823.33 feet along the arc of a non-tangent curve to the right, having a radius of 1780.85 feet, the radius point of which bears N 52°46'51" E, through a central angle of 26°29'21";

THENCE N 27°59'06" E, 1660.54 feet;

THENCE S 65°48'40" W, 1617.52 feet;

THENCE N 50°43'36" W, 588.93 feet;

THENCE N 37°30'02" E, 2696.07 feet;

THENCE S 51°15'28" E, 754.57 feet;

THENCE S 42°12'03" E, 715.74 feet;

THENCE S 57°24'37" E, 1092.06 feet;

THENCE S 35°33'11" E, 142.56 feet;

THENCE S 70°01'38" E, 97.02 feet;

THENCE S 76°36'54" E, 178.94 feet;

THENCE S 51°21'22" E, 159.20 feet;

THENCE S 37°35'04" E, 135.91 feet;

THENCE S 21°02'55" E, 115.40 feet;

THENCE S 02°51'51" W, 165.90 feet;

THENCE S 24°47'15" W, 118.63 feet;

THENCE S 00°00'00" E, 115.98 feet;

THENCE S 17°58'43" E, 322.27 feet;

THENCE S 32°21'44" E, 294.24 feet;

THENCE S 06°50'48" E, 208.60 feet;

THENCE S 10°00'49" W, 143.02 feet;

THENCE S 00°00'00" E, 149.12 feet;

THENCE S 63°46'18" E, 656.09 feet;

THENCE N 55°37'30" E, 1298.14 feet;

THENCE S 77°19'49" E, 659.57 feet to a point of curvature;

THENCE southeasterly 1062.14 feet along the arc of a non-tangent curve to the left, having a radius of 1265.13 feet, the radius point of which bears N 89°01'55" E, through a central angle 48°06'09" to a point on the southeasterly margin of Center Drive;

THENCE S 28°00'48" E, 35.31 feet;

THENCE S 35°45'03" E, 24.00 feet;

THENCE S 31°33'45" W, 230.54 feet;

THENCE S 71°59'05" E, 132.84 feet;

THENCE N 65°15'09" E, 45.05 to a point of curvature;

THENCE southeasterly 212.06 feet along the arc of a non-tangent curve to the left, having a radius of 144.00 feet, the radius point of which bears N 65°15'09" E, through a central angle of 84°22'27";

THENCE S 00°59'22" W, 89.73 feet;

THENCE S 02°03'44" W, 246.13 feet;

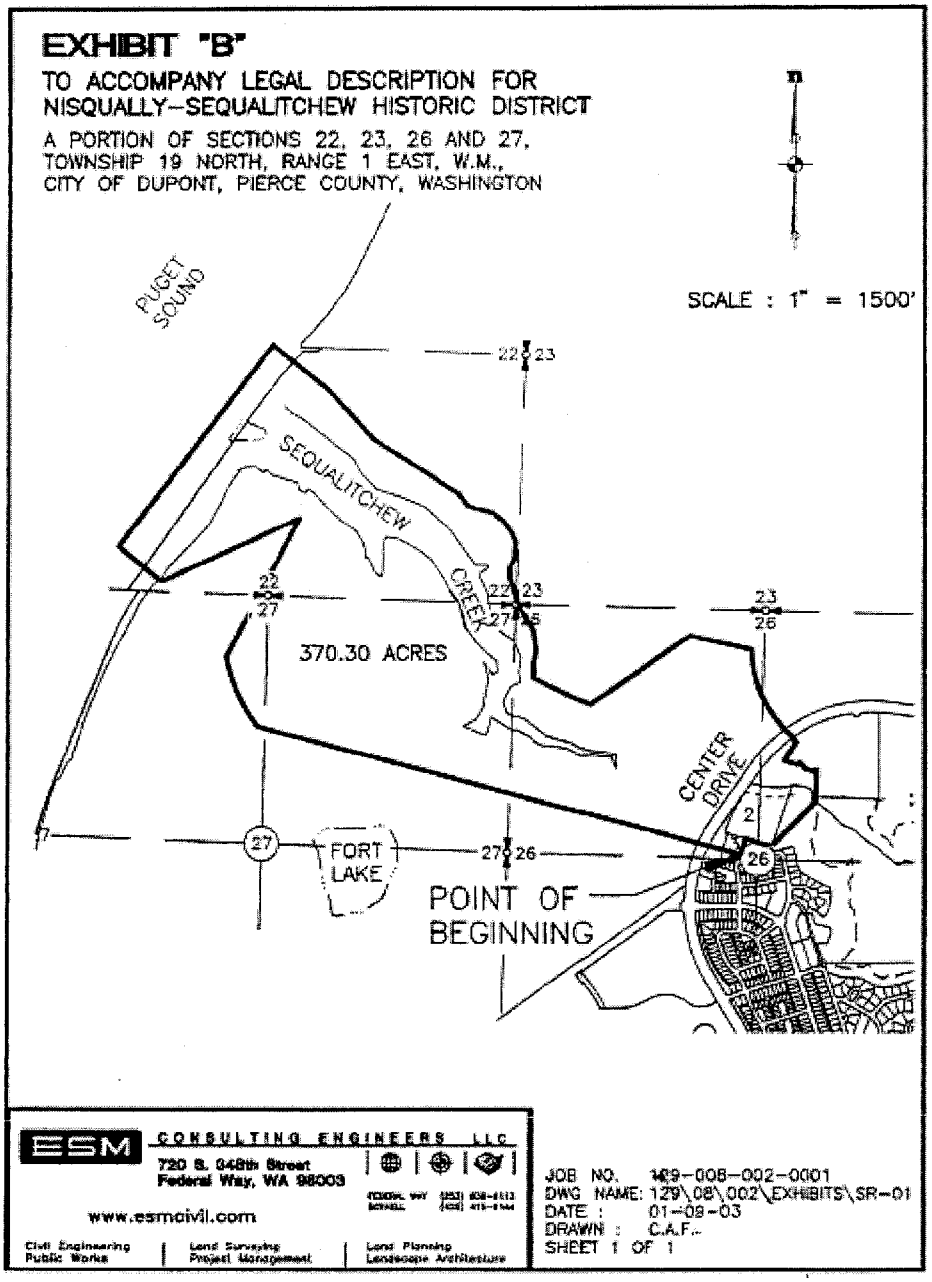
THENCE S 44°43'35" W, 672.87 feet to southeasterly corner of Lot 2 of said City of Dupont Short Plat recorded under Pierce County Recording No. 9506120462;

THENCE along the southerly line of said Lot 2, N 72°16'52" W, 278.00 feet to the northeasterly corner of said Lot 3;

THENCE along the easterly line of said Lot 3, S 18°37'13" W, 186.18 feet to the POINT OF BEGINNING.

Containing 370.30 acres, more or less.

EXHIBIT B


EXHIBIT "B"
TO ACCOMPANY LEGAL DESCRIPTION FOR
NISQUALLY–SEQUALITCHEW HISTORIC DISTRICT
A PORTION OF SECTIONS 22, 23, 26 AND 27,
TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON
N
SCALE : 1" = 1500'
PUGET SOUND
SEQUALITCHEW CREEK
370.30 ACRES
CENTER DRIVE
FORT LAKE
POINT OF BEGINNING
22
23
26
27
ESM
CONSULTING ENGINEERS LLC
720 S. 348th Street
Federal Way, WA 98003
www.esmcivil.com
Civil Engineering
Public Works
Land Surveying
Project Management
Land Planning
Landscape Architecture
JOB NO. 129-008-002-0001
DWG NAME: 129\08\002\EXHIBITS\SR-01
DATE : 01-09-03
DRAWN : C.A.F.
SHEET 1 OF 1

CULTURAL HERITAGE COMMITTEE
Recommendations to DuPont City Council

Resolution No 06-312
Establishing a Cultural Heritage Special Committee

The DuPont City Council's Strategic Plan at Goal 6 calls for the active protection of historic sites and artifacts, and DMC 25.80 encourages recognition and enhancement of our cultural heritage.

The City of DuPont Resolution 06-312 established a Cultural Heritage Committee for a period of one year. Its purpose, to investigate the current status of historical sites and archeological resources and to recommend actions that should be taken for their protection and promotion.

The Committee is composed of two members of the City Council, one of which shall be appointed by the City Council as Chair of the Committee, one member of the DuPont Historical Society Board, one member of the DuPont Planning Agency, and one member of the DuPont Parks Agency. The Museum Manager shall be a non-voting member of the committee and shall provide technical assistance.

Adopted by the City Council at a regular meeting on August 22, 2006.

Cultural Heritage Committee Members

Roger Wessman, Chair, City Council
Penny Coffey, Co-Chair, City Council
Kathy Trotter, Planning Agency
Lorraine Overmyer, DuPont Historical Society President
Megan DeFries, DuPont Historical Society
Johanna Jones, non-voting Staff, Museum Manager
Park Agency declined participation, consequently one additional member (Lorraine Overmyer) was appointed.

Introduction

The City of DuPont is rich in historic and cultural assets that could attract visitors to our City to learn the early history of the area. We envision our historic sites linked together by an interpretive trail system telling the story of the Nisqually Tribe, the Hudson Bay Era, the Methodist Episcopal Mission, and the DuPont Company.

To accomplish this vision, the Cultural Heritage Committee has developed the following recommendations:

Preservation and Protection Priorities

Cultural, Historical, and Archaeological Resources

As prepared by the DuPont Historical Society.
May 31, 2007

Sites of Historical Significance to the City of DuPont (includes sites within the City of DuPont and surrounding areas):

- 1833 Hudson Bay Company Fort Site (Washington Heritage Register and National Register)*
- Sequalitchew Archaeological Site (WA Heritage Register and National Register)*
- DuPont Village Historic District (WA Heritage Register and National Register)
- 1843 Hudson Bay Company Fort Site (WA Heritage Register)*
- 1839 Methodist-Episcopal Mission Site*
- Wilkes Observatory Site*
- Ox Road*
- 1833 Hudson Bay Company Cemetery Site*
- 1841 First Independence Day Celebration Site
- 1843 Hudson Bay Company Reburial Site*
- Huggins Ranch Grave Site
- Lone Fir Grave Site
- 1843 Orchard Site
- Orr Farm
- 1904 Buffalo Soldier Encampment*
- DuPont Company Gate House and Gate Pillars
- DuPont Company Wharf
- 1906 DuPont Company Works Sites
  - Burning Ground Dump
  - Crystallizer
  - Pump House
  - Box Store
  - Blacksmith Shop
  - Men's Boarding House
  - Men's Dwelling House
  - Men's Changing House
  - Bunkers
  - Old Town Housing
  - General Store
- Yehle Farmstead
- Sequalitchew Creek Conservation Area
- DuPont Company Narrow Gauge Railroad, Tram, and Trail
- DuPont Historical Museum Building (Formerly the Village Butcher Shop and DuPont City Hall)
- DuPont Village Post Office Building (currently Police Station)
- Historic Village Nature Loop

- Fort Lewis Train Depot Site
- Laughbon High School Site
- Native American Ditch (off McNeil)
- DuPont Company Acid Pot

Artifacts of Historical Significance to the City of DuPont:

- Entire Collection of the DuPont Historical Museum
- Hose House
- Hose Cart
- 1952 Fire Truck

*Eligible for listing on the National Register of Historic Places: Nisqually-Sequalitchew Historic District Application.

Reference Materials:

Cultural Heritage Committee: DuPont's "Northwest Landing & Nisqually-SequaTitchew Creek" Historic Area Spreadsheet, as prepared by Johanna Jones, CHC Staff & DuPont Museum Manager and Councilmember Roger Westman

Washington State Department of Archaeology and Historic Preservation
1063 S. Capitol Way, Suite 106, P.O. Box 48343, Olympia, WA 98504
(360) 586-3065 http://www.dahp.wa.gov

National Register Website – Listing Criteria
http://www.cr.nps.gov/nr/listing.htm

"Part Three – Listing Status and Potential Listing Eligibility of Each Historic Site at the Northwest Landing – DuPont Property," pages 29-33

"Part Four – Summary Table: Current Physical Status of Each Historic Site at the Northwest Landing – DuPont Property," pages 18-22.

2003 National Register of Historic Places Registration Forms, Nisqually-Sequalitchew Historic District Application

Dupont Historical Society
Cultural Heritage Committee
207 Barksdale Ave.
DuPont, WA 98327

June 9, 2007

Gregory Moore
Vice President,
Quadrant Corporation
Bcvy, WA

Dear Mr. Moore:

We are writing this letter on behalf of the Dupont Historical Society and Cultural Heritage Committee to inform you that we support the proposed move of the old DuPont Powderworks gate house, artifacts and walls to a new location by the entrance to the Dupont Home Course golf facility. We feel a well executed plan will achieve our objectives to restore and preserve these artifacts in a manner consistent with the goals of our groups.

The information we have received is that the gate post would be integrated into the landscaping plan and we would wish to know more details about its protection and use in the plan.

We give this approval with the understanding that the Home Course will ensure these artifacts

- will be restored, preserved and cared for in a manner that reflects their historical significance
- and will include interpretative signage that meets the approval of the City and Historical Society.

Additionally, in the future if the artifacts are not desired by the golf course we would request that the City be given a first right of refusal to move them to a new location.

Sincerely,

Lorraine Overmyer, President, Dupont Historical Society

Penny Dolley, Co-chair, Cultural Heritage Committee

2. Budgetary allocation for maintenance, management and security for historic buildings and sites.
3. Use of lodging taxes for funding of historic sites.
4. Explore other funding options i.e. grants, partnerships etc.

Additional Recommendations

- Trail System- Develop a map in collaboration with the DuPont Historical Society and other interested agencies.
- Partner with the Nisqually Tribe to create signage that includes the Native American Story.
- Partner with the Nisqually Tribe to build an Interpretive Center/Museum.
- Continue to pursue placement of the Nisqually Sequalitchew District on the National Register of Historic Places.
- Investigate the establishment of a Certified Local Government (CLG).
- Identify the location of the Buffalo Soldier Site for protection.
- Officially adopt a Cultural Heritage Assets list as prepared by the DuPont Historical Society which identifies Cultural, Historical, and Archeological Resources. (see attachment)

As prepared by: The Cultural Heritage Special Committee of the City of DuPont.

Roger Westman, Chair, City Council — Date: 6-15-07

Penny Coffey, Co-chair, City Council — Date: 6-7-07

Lorraine Overmyer, DuPont Historical Society — Date:

Megan DeFries, DuPont Historical Society — Date: 6/7/07

Kathy Trotter, Planning Agency — Date: 6/7/07

Johanna Jones, Staff — Date: 6-7-2007

June 15th City Council Study Session

Update- DuPont Historical Society and Museum

Completed and On-going Heritage Projects, Goals and Recommendations

HS Historical Society Goal; **CH** Cultural Heritage Recommendation; **TB** Tourism Board Goal

CH: Acquisition of Sites: City now owns: 1833 Ft Nisqually Site, Wilkes Observatory, Fort Lake, 1843 Cemetery, Lot Z 42 acres south- side of Sequalitchew Creek, Ox Road (owned by City-Burlington Northern), Methodist Episcopal Mission Site (in progress), DuPont Company Gate House and Pillars (donated to Home Course, moved, restored & recreated).

CH/HS A brown freeway sign for the Historic Village and Museum (Completed)

CH National Historic District Sign for the Historic Village (Sign is on post at the Village entrance)

CH/TB Interpretive Trail System Signage- Sequalitchew Creek directional signage begun and Trail signs designed

CH/TB Trail System Maps – Completed Maps: Historic Village Map, Central Overall Map, Sequalitchew Creek Map Future maps: Hudson Bay Company Era Trail Map and Native American/PreEuropean Era Trail Map

CH Partner with the Nisqually Tribe to create signage that includes the Native American Story and language – (process begun by Historical Society/Museum)

CH/HS Partner with the Nisqually Tribe to build an Interpretive Center/Museum – (process begun by Historical Society/Museum)

TB DuPont Brochure (completed)

TB City Logo and Branding (completed)

TB Identified DuPont Heirloom Orchard and began process to preserve it.

TB/HS Reproduced and framed Historic photos for DuPont businesses

TB/HS Interpretive Signage for Historic Sites: Sites and locations identified and sign design in progress

HS: Phase One dynamite train canopy completed and train restoration begun

HS: Completed New Exhibit: *Life in a Company Town; Yesterday and Today*
HS Partner with Home Course to develop interpretive signage- ongoing

HS New museum Brochure - completed

HS Partnered with Tribe and Tourism Board for expanded 1843 Ft. Nisqually Celebration and Salmon Bake

TB/HS Rainier Media's "*DuPont Trail Walks*" and documentary *Pathways to Ft. Nisqually DuPont's Roots* completed and distributed.

Historical Society Heritage Preservation Goals for 2010-2011

- Restore the 1920s craftsman style hose cart building and relocate it from its current Village location to the public service building. ($500 Valarie Svinski grant for supplies and Chief Greg Hull and the firefighters for volunteer labor.)
- Develop a concept plan for a new DuPont/Nisqually Museum and Interpretive Center. (In progress)
- Develop a vision for Historic Sites
- Acquire the 1843 Fort Nisqually from Archeological Conservancy (In progress)
- Revamp Museum's front room – Native American/Hudson Bay eras (In progress)
- Develop Tar Paper shack prototype "Old Town"
- Assist City in developing and acquiring Mission Site.

How income housing?

Intrigue on Nisqually Point:

New Group Contends With Giant to Preserve Historic Sites

For a year now, Lorraine Overmyer has been working with the State of Washington's Office of Archaeology & Historic Preservation to create a historic district on Nisqually Point in SW Pierce County. A retired teacher and former DuPont City Council Member, Overmyer is the most recent recipient of the State Award for Outstanding Achievement in Historical Preservation.

Weyerhaeuser, in an apparent effort to thwart Lorraine and other local residents in their attempt to create a federally recognized historic district, recently submitted a competing proposal. The Weyerhaeuser version, developed by paid consultants, is made up primarily of areas already protected by city, state, or federal mandate. Weyerhaeuser has not stated specifically why it objects to the original nomination.

In the long term, the citizens' group envisions a Heritage Park that unites Nisqually traditions: Tribal, fur trading, agriculture, military, and early industrial, all with an eye towards the natural resources that made the place particularly attractive. This area is perhaps the most important historic site in Washington State. Originally settled by the Nisqually tribe, it also includes a Hudson's Bay Company settlement area—the first Euro-American settlement on the Puget Sound, and the industrial landscape of the 1906 E. I. duPont Company dynamite plant--first of its kind on the West Coast.

Contained within both nominations is the identified area of the 1840 Methodist Mission, first of its kind in Washington State. However, the inclusion by Weyerhaeuser drew a skeptical response from Dr. James Edgren, an area resident active in preserving the mission site. " Weyerhaeuser's recently removed a 60-year-old historic marker and dumped a load of toxic waste around the mission area," he said. "All of a sudden the area has historic value? There's something inconsistent about that!"

The state's Advisory Council on Historic Preservation will review several proposals regarding historic designation on September 24 in Spokane. If approved, a proposal will be forwarded to Washington, DC to determine if the property is eligible for the National Register of Historic Places.

Local citizens, with some key consultation from NDA, formed a new organization, the **Nisqually Point Defense Fund.** The N.P.D.F. plans to object to Weyerhaeuser's proposal being considered at the same meeting. In a notarized letter delivered to Kathy Kreiter, Acting Director of the Department of Community, Trade and, Economic Development, N.P.D.F. states that consideration by the Advisory Council would violate federal notification regulations.

In part, that letter reads: "Review cannot take place unless affected property owners have 'at least 30 days' to submit comments. At least one owner did not receive notification until August 30, only twenty-five days prior to the review meeting. Review of the Weyerhaeuser nomination must be postponed until proper notification occurs."

The same regulations were invoked to postpone consideration of the citizens' Nisqually-Sequalitchew Historic District nomination last June. Two days before the Advisory Council met, the Office of Archaeology & Historic Preservation removed the nomination from the agenda, citing questions about proper notification. These questions, it was later revealed, were unfounded.

The N.P.D.F. welcomes donations for the ongoing effort. Send to:

Nisqually Point Defense Fund
100 Brandywine Avenue
DuPont, WA 98327

NDA Board Members

Tom Skjervold, President
Rick Anderson
Dee Arnst
Peggy Bruton
Janet Dawes
Jay Geck
Mike Grossmann
Wanda Hedrick
Ed Kenney
Mary Stuart Lux
Mary Martin
Fred Michelson
George Walter

NISQUALLY DELTA ASSOCIATION
P.O. BOX 7444
OLYMPIA, WA 98507

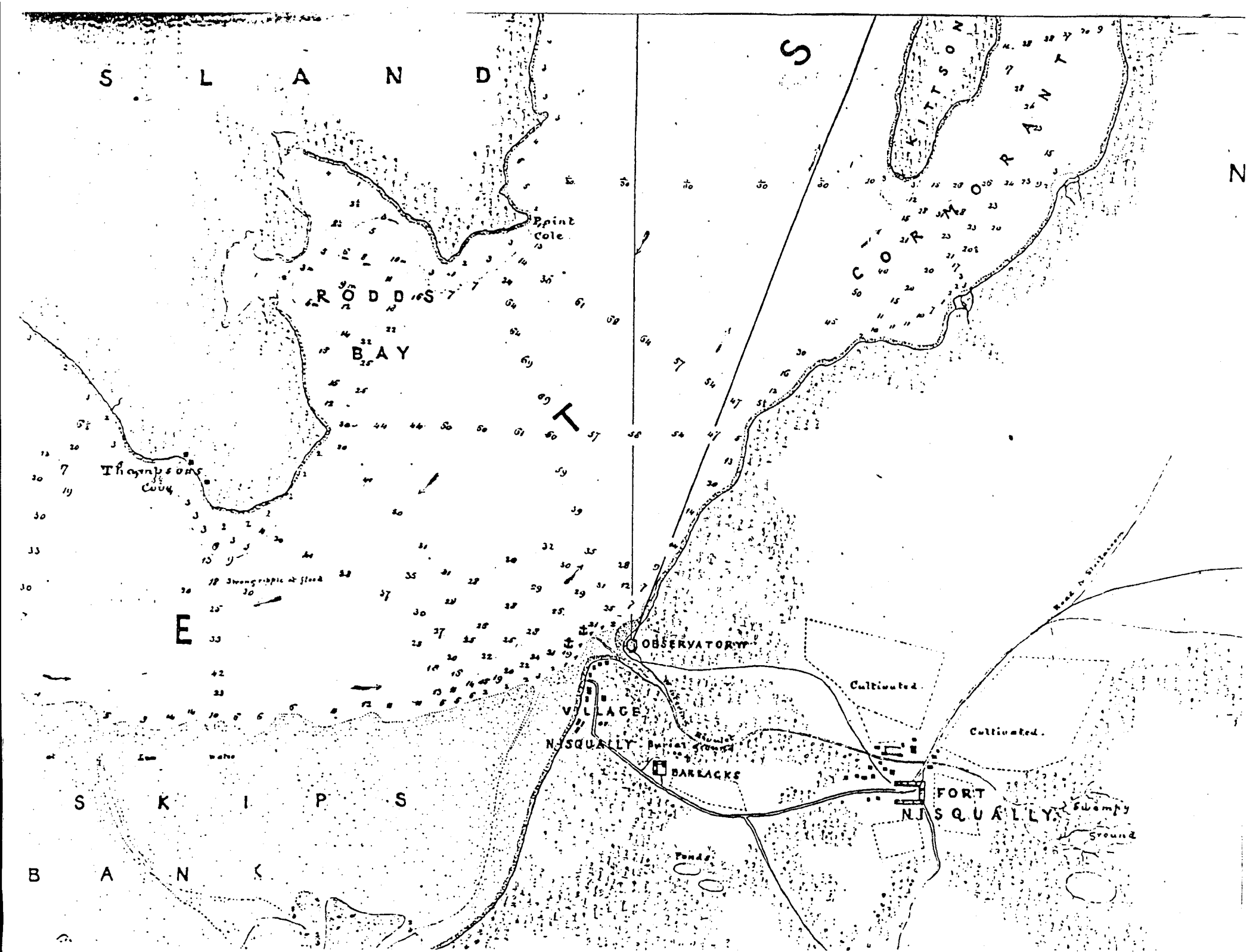
*** Tom's e-mail: TSKJERVOLD@CS.COM

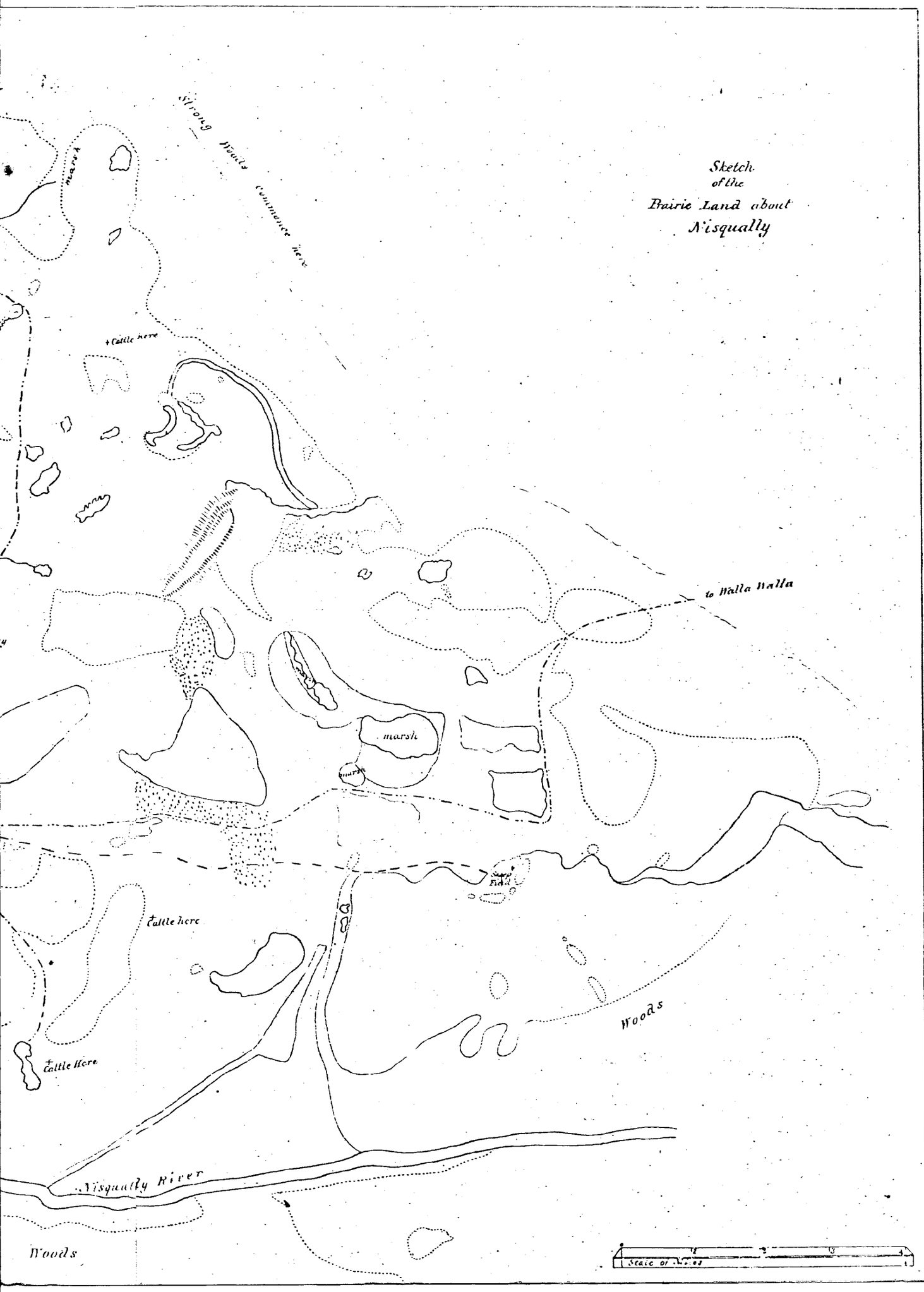
A Petition to the Washington State Department of Ecology

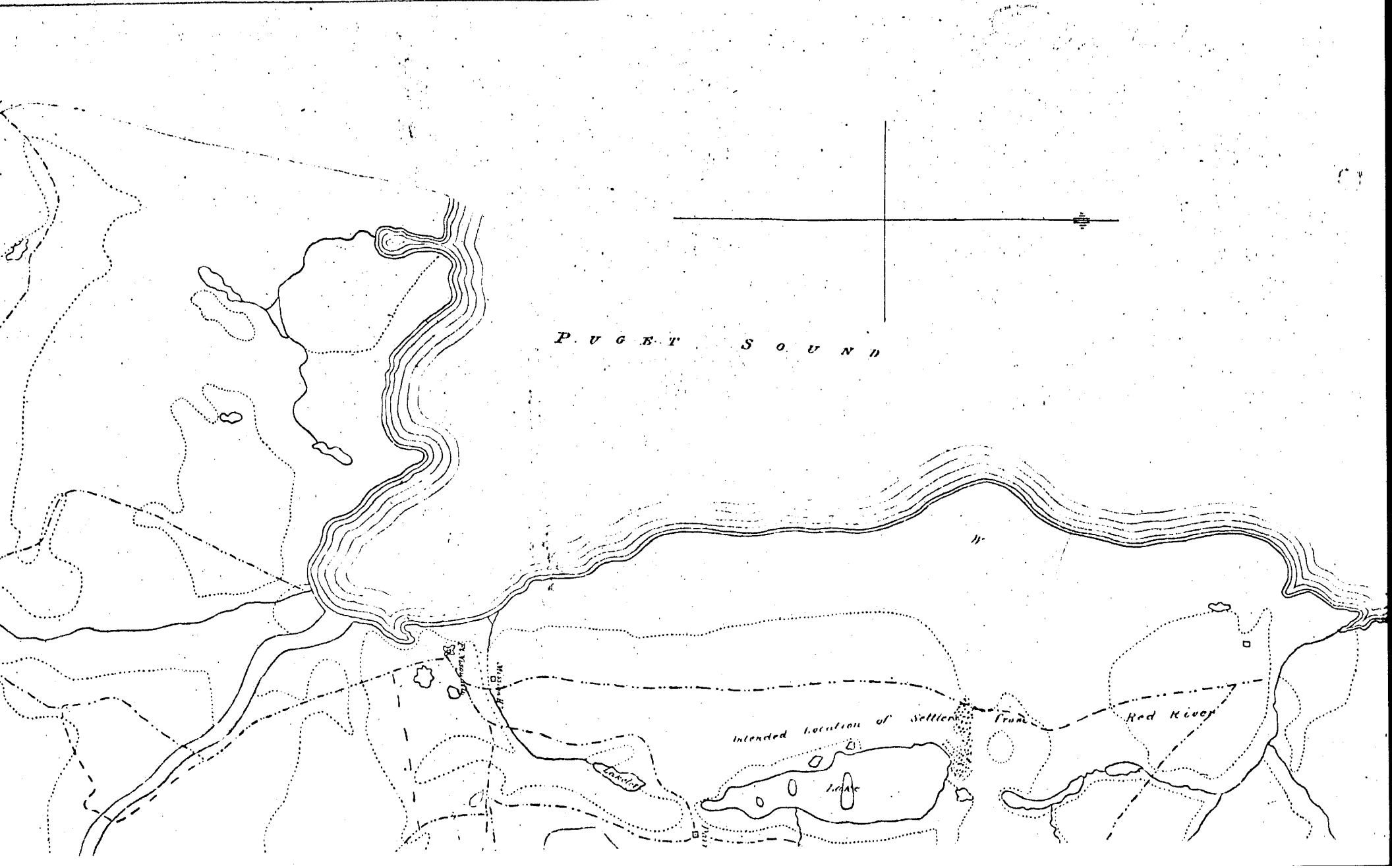
In the interest of promoting a vibrant public discourse on matters relating to the cleanup of the "Former DuPont Company Worksite" (in DuPont, Washington), we the undersigned request that the Department of Ecology do the following three things:

(1) Assure that the Draft Environmental Impact Statement be released for public review ***after*** January 1, 2000,
(2) Hold at least one public hearing to allow for an educational dialog and a healthy airing of community concerns relating to the considered actions, and
(3) Given the size of the toxic waste cleanup site, and the complexity of issues related to long term development of this property, allow for a sixty (60) day comment period.

Signature	Printed Name	Address
Allen Whitehead	ALLEN WHITEHEAD	815 SOUTH BANK RD ELMA
Dn	David N. Roberts	12133 SW Scott Crk Lp OLY 98512


S L A N D
R O D D S
B A Y
Point Cole
Thompsons Cove
Swong ripple at flood
E
S K I P S
B A N K
OBSERVATORY
VILLAGE
N.SQUALLY
Burial Ground
BARRACKS
Cultivated
Cultivated
FORT
N.SQUALLY
Swampy Ground
Ponds
Road to Gibraltar
S
T
S C O R A N T
N


Sketch
of the
Prairie Land about
Nisqually
Strong Woods commence here
marsh
+Cattle here
to Walla Walla
marsh
marsh
Field
+Cattle here
+Cattle Here
Woods
Nisqually River
Woods
Scale of Miles


PUGET SOUND
Intended Location of Settlers Farms
Red River

Prepared for

Weyerhaeuser Real Estate Company
Land Management Division
Tacoma, Washington 98477

CULTURAL RESOURCES LIBRARY
DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION
OLYMPIA, WASHINGTON

A CULTURAL OVERVIEW AND COMPREHENSIVE MANAGEMENT PLAN FOR THE DUPONT PROPERTY PIERCE COUNTY, WASHINGTON

By

Jeanne M. Welch, M.A.
with contributions by
Cecelia S. Carpenter, M.A.

October, 1989

Western Heritage, Inc.
P.O. Box 6266
Olympia, Washington 98502

DRAFT REPORT

SUMMARY OF CULTURAL RESOURCES FOR PROPOSED DUPONT GOLF COURSE, PIERCE COUNTY, WASHINGTON

Prepared for

HUCKELL/WEINMAN ASSOCIATES, INC.
205 LAKE STREET SOUTH, SUITE 202
KIRKLAND, WASHINGTON 98033

Prepared by

Gail Thompson, Ph.D., Principal Investigator
James A. Carter, M.A., Project Archaeologist



Historical Research Associates, Inc.
119 Pine Street, Suite 207
Seattle, Washington 98101

December 1, 1997

HRA #549.CMS

Compilation of Archaeological Information on Quadrant Corporation Lot Y North Sequalitchew Creek City of DuPont, Pierce County, Washington

Submitted to

QUADRANT HOMES

Submitted by

HRA
HISTORICAL RESEARCH ASSOCIATES, INC.

Gail Thompson, Ph.D.
Lynn Compas, M.A.
Seattle, Washington

May 2010

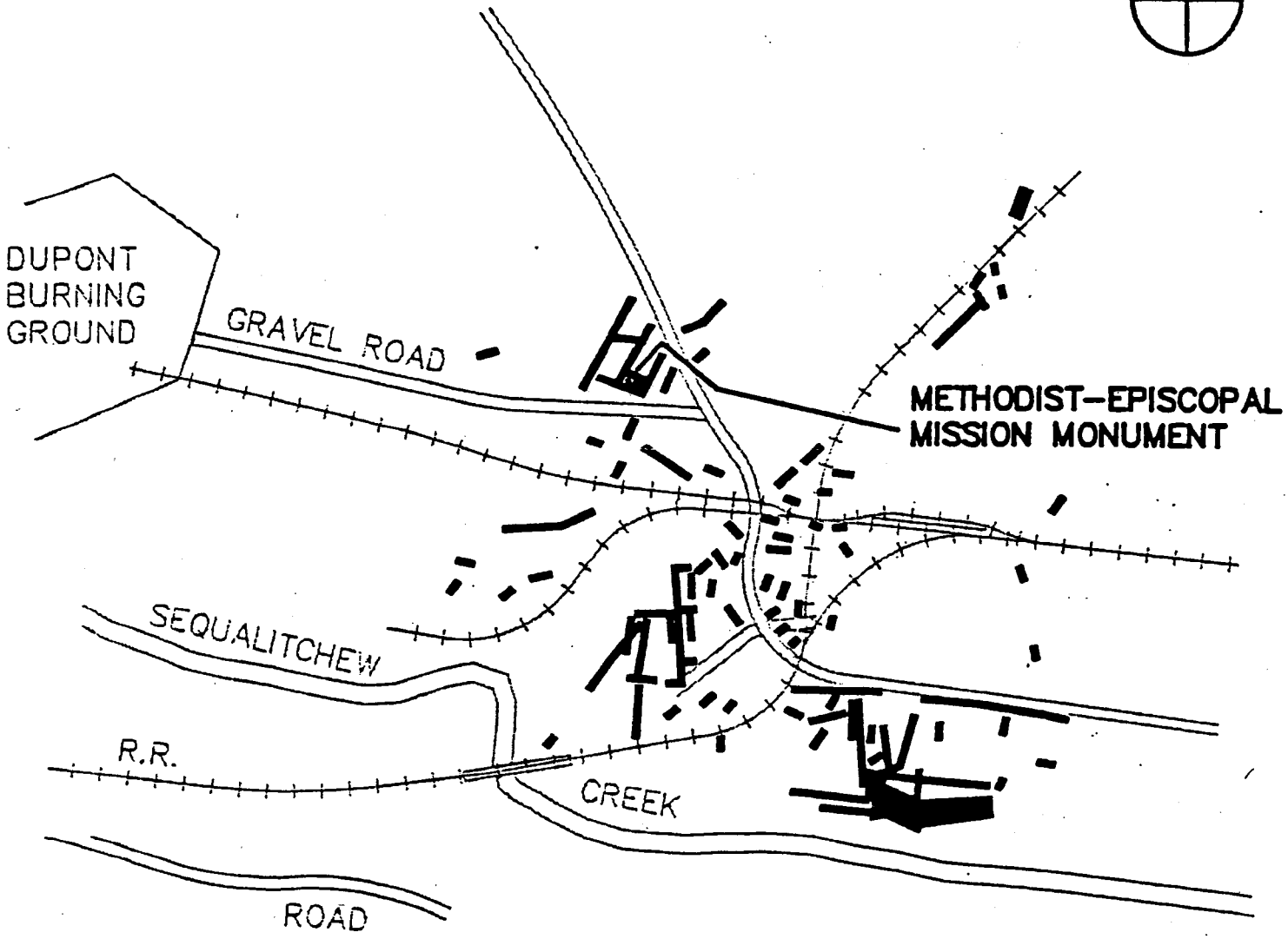


FIGURE 1

LEGEND

— — BACKHOE PEEL

Weyerhaeuser Real Estate Company

NORTHWEST LANDING
Dupont, Washington

GCI
GARDNER CONSULTANTS, INC.

SOD PEEL TESTS
(METHODIST–EPISCOPAL MISSION LOCATION)

Nisqually Delta Association

P. O. BOX 7444
OLYMPIA, WASHINGTON 98507-7444
PHONE: (360) 357-3792; FAX: (360) 754-0109

SUMMER, 1997

MESSAGE FROM NDA'S NEW PRESIDENT, TOM SKJERVOLD:

I think it was 1978 or 1979 when I first attended an annual meeting of the Nisqually Delta Association and heard of the planned "log export facility" proposed for the DuPont shoreline. At that point a preliminary legal action had been started, but the Shorelines Hearing process still was ahead, as well as years of appeals that would ultimately lead the case to the State Supreme Court. (Actually by the time the Supreme Court delivered a decision, I was serving a term as President of the NDA Board.)

Since that time there have been a couple of proposals for building at the same site, and just last year NDA became a party to an agreement that effectively settled the issue for at least the next hundred years. There is now a gravel loading facility, but it has been moved far north of the originally proposed location and off of the "Shoreline of Statewide Significance" as defined in the Shoreline Management Act of 1971. Over twenty years of persistent wrangling has paid off - the mouth of Sequalitchew Creek is to be protected for posterity. This is appropriate given the biological and historical significance of that site to our community. We on the Board feel we have won a major battle!

So why should NDA continue? Maybe we should just declare victory and go home...

In fact we have been winners along the way. However, while we have won some battles, the war continues. The jewel of the Delta we all know and love has become increasingly valuable. Everyday more people move to the Puget Sound region, and everyday this brings more pressure to bear on the treasured Nisqually National Wildlife Refuge.

As a result of these pressures, the challenges that lie ahead are as great as those we have faced to date. Over twenty-five years ago a proposed port facility intended for the "Old Atlas Powder Site" in Thurston County provided the impetus for the establishment of NDA. Fortunately, that proposal was quickly stopped by popular demand - ironically, we have recently testified against a brand new dock and marina proposal for the same site!

This is just one of the myriad of issues relating to the Delta that we will be involved in over the upcoming years. We will continue to voice our concerns about sewer issues in Pierce and Thurston Counties, as well as in the city of Yelm. Our settlement agreement with Lone Star gives us an active role in monitoring noise and visual impacts of the gravel loading facility, and involves us in the oversight of the Environmental Mitigation Trust Fund. We are also responsible for administering a Public Participation Grant to encourage community involvement in the clean-up of toxic wastes at the Old DuPont Works Site. Land acquisitions to add to the Nisqually National Wildlife Refuge are, of course, an ongoing interest to the Association, and we also intend to continue our watchdog role over upland development issues on all sides of the Delta.

All to say that I am looking forward to serving as President once again. I expect the next year to give us, your Board, plenty to do. We appreciate the support you have given us, and hope you will continue to support us as we battle to SAVE NISQUALLY!



DUES ARE DUE JULY 1ST

PLEASE USE THE ENCLOSED ENVELOPE TO RENEW YOUR MEMBERSHIP TO NDA TODAY. THANKS!

Historic Preservation Meeting Minutes
WRECO Northwest Landing Sales Office
January 7, 2000
10 AM to 12 PM

Attendees: Judy Krill, Stephen Dinger, and Bill Kingman (*City of DuPont*), David Brentlinger and Greg Moore (*WRECO*), Jim Odendahl (*Weyerhaeuser*), Mike Blum (*Washington State DOE*), Pat Steel, JR Baker, and Dr. James Edgren (*Nisqually Point Defense Fund*), Kirk Kirkland (*Tahoma Audubon*), and Tom Skjervold (*DuPont Toxics Citizen Oversight Project*)

The meeting began promptly at 10:00 with the distribution of an Agenda that had been drafted by Greg Moore, Pat Steel and David Brentlinger. All in attendance introduced themselves and relayed their pertinent affiliations. Greg Moore and Tom Skjervold agreed to coordinate on the production of minutes of the meeting.

The first item of discussion concerned who should be party to any agreement on historic preservation. Kirk Kirkland and Tom Skjervold presented themselves as representatives to the environmental community and pledged ongoing communication with other groups. Tom Skjervold indicated that the organizations that signed on the earlier agreement involving the Pioneer Aggregates gravel shipping facility would be contacted and could be expected to support a settlement agreement on Historic Preservation if the Tahoma Audubon and Nisqually Delta Associations first endorsed.

Mike Blum asked if the State Historic Preservation Officer should not be involved. Pat Steel stated that the SHPO was aware of the discussions and would be involved in a future meeting between himself and Jim Odendahl. Someone else asked about the involvement of the Nisqually Tribe. Kirk Kirkland suggested that they be made aware of these proceedings and they be brought in for a midpoint consultation, prior to any "final draft" agreement. Pat Steel said he thought all primary parties were at the table and that the SHPO was not necessary. There was agreement that we want no latecomers.

The second item for discussion was the status of the remediation and the impact of cleanup activities on historic sites. Mike Blum provided a review of cleanup activities, beginning with the development of a Consent Decree in 1991. He noted that since then there have been numerous interim cleanups. Investigations of the extent of contamination and options for remediation, (the Risk Assessment/Feasibility Study [RI/FS]), are "basically done". A Draft Environmental Impact Statement (DEIS) is expected to be released in the next few weeks, with an anticipated 45 day comment period.

Mike Blum noted that at for several years DOE and the City of DuPont were co-lead agencies on the production of cleanup documents, but a land use issues caused those efforts to stall a few years back. He noted that an EIS is not required, but WEYCO encouraged its use. Now, at Weyerhaeuser urging, the DEIS is moving ahead again with DOE as the sole lead agency. Putting the DEIS ahead of the RI/FS may arguably make a land decision, but Mike stated that DOE is agreeable to the

proposed cleanup that consolidates and covers contaminated soils. The size and shape of the final cap is not in the control of DOE. He also noted that the DEIS will have a short section on the preservation of historic sites. For much of the land in the Consent Decree area, the plan is for the wholesale clearing of, and subsequent scraping of, surface soils, followed by consolidation. Current projections are for the plans to be in place by the end of this year, with actual final Cleanup Action Plan activities to begin in 2001. There is a plan for a public meeting to review the DEIS in late January or early February, probably in conjunction with public involvement activities of the DuPont Toxics Citizens Oversight Project.

Pat Steel stated the position of the Nisqually Point Defense Fund on their view of some of the property within the Consent Decree boundaries from a historic perspective. He provided a brief overview of his perspective the regionally important 'firsts' associated with the sites, and noted that the NPDF seeks official recognition of specific sites and public access to certain points in conjunction with a foot trail network.

Jim Odendahl affirmed Mike Blum's review of the cleanup activities to date. He stated that from his perspective, the only feasible cleanup would require clearing and scraping of the contaminated areas. At that point Pat Steel raised concerns about the covering of the Methodist Mission site with plastic and the piling of contaminated soils there. Jim Odendahl stated this was done as part of the cleanup of 'Area 31' (the DuPont Company 'burning grounds') and those piles were removed without any excavation below the level of the protective plastic that was put on the site prior to the piling of contaminated soils. Jim also noted that currently that soils of Area 31 which still require removal (hot spot) are at least 135 feet away from the Methodist Mission site marker. This should conclude all required remediation in the area of the marker. He stated that he believes Weyerhaeuser had done nothing illegal, and he had never been asked to do anything that was illegal, and had no intention to ever do anything that was not properly respectful of the earlier agreements on historic preservation.

Jim Odendahl then distributed a map of the proposed golf course cap, (with soils consolidated into golf course shaped piles), and then described in detail the anticipated clear cutting of trees, stump removal and subsequent layer by layer soil removal that would be done in a cleanup. He indicated that "experts" would be on hand to monitor the activity and investigate any historic artifacts that would be exposed during the cleanup process. Jim Odendahl also clarified the roles of Weyerhaeuser, (responsible for the cleanup) and WRECO (responsible for subsequent real estate development.)

Pat Steel noted that the Mission Site is not under the proposed golf course foot print. He further suggested that foot trail or sidewalk access to a Mission Site location would in large part meet NPDF desires. David Brentlinger said a trail to the site is plausible.

The timeline for turnover of the property from Weyerhaeuser to WRECO was then discussed. It is currently anticipated that turnover will occur sometime between 2001 and 2004, depending on DOE sign off on the cleanup. Mike Blum stated that DOE approval will come after the physical cleanup is completed, plus there will be one more public comment period after that. He thinks that might be done in 2002 or

2003. Mike also noted that Weyerhaeuser could request a portion of the property be released for development prior to total project completion.

Patrick Steel then suggested there were ideas that the NPDF wanted to float about the commemoration of the DuPont Industrial era. Stephen Dinger asked specifically about the preservation of the rail system. Jim Odendahl responded that the rail lines were generally associated with areas of arsenic contamination, so preservation was therefore problematic. He noted however 'preservation' of the rail system did not appear to be practical but, he would be willing to review a proposal He also noted though that there would be significant costs associated any with rail system preservation.

Judy Krill was asked to comment on City of DuPont interests related to historic preservation. She expressed concern that the 'Restrictive Covenant' which has been filed on the property within the Consent Decree area seems to preclude public access. Jim Odendahl suggested that language was primarily intended to regulated the property during cleanup times and was intended to keep people from "digging" on the soil containment mechanism. Mike Blum added that the concern was primarily one of keeping picnicking visitors from sitting on and eating the dirt, and not intended to keep people from visiting historic sites. Both Mike and Jim Odendahl believed the intent of the Covenant was to allow pass-through access.

Pat Steel produced a copy of the Restrictive Covenant and showed it to Jim Odendahl, suggesting that the specific language was troubling to the NPDF and asked if a clarification or a waiver were possible. Judy Krill asked in what way were the picnic tables associated with the landscaped grounds around the State Farm Insurance offices qualitatively or quantifiably different than picnic tables in a park? Mike Blum noted that the current plan is to have the property within the Consent Decree area remediated. It may meet residential standards but that is not the goal.

Jim Odendahl, upon review of the Restrictive Covenant language, noted that as he read the document, it does not "convey access" as opposed to "restrict access". He said he would confer with the attorney who drafted the document and see if a clarification could possibly be provided.

Questions were raised about the need to remove all the buildings which remain from the DuPont Company. Mike Blum was asked if the DOE would require tearing down the buildings, and he says he needs time to think on that issue. He noted the liability goes on forever for those buildings. Jim Odendahl said there were problems with lead paint, asbestos and other hazardous contaminants. He cannot pass on that liability to others. Judy Krill asserted those were problems not unlike those problems found within other buildings in the DuPont Historic Village, and they could be remediated without tearing down the buildings. In response to a question about soil contamination in the areas immediately adjacent to those old DuPont Worksite buildings within the Consent Decree boundaries, Mike Blum said he did not know of a problem, and Jim Odendahl thought there might be some arsenic left from herbicide usage.

Jim Edgren asked specifically whether or not Jim Odendahl thought the old DuPont Worksite buildings could be saved. Jim Odendahl said that the DuPont Company had indicated that they have no interest in seeing the buildings saved. Jim

has asked for written comment on this from DuPont Company. As background information, he said that the DuPont Company's experience with this site has helped convince them that due to the high cost of remediation, they are no longer willing to sell former manufacturing sites, and will instead would just put protective fences around any such properties.

Pat Steel pushed for a return to agenda, specifically item 2 C which deals with language in the NPDF proposal for a historic district, and language which WRECO interprets to be an initiative to expand the buffers along Sequalitchew Creek. Pat Steel stated his believe that such buffers were already in place from prior agreements. He and the other members of the NPDF present reviewed the specific language found on page 2 of their proposal. They noted the specific passages that were troubling to WRECO and agreed to work on a modification of the wording therein. Judy Krill acknowledged the need to revise language to clarify intent.

Item 3 of the agenda dealt with WRECO concerns about the City of DuPont using a historic district designation to make later changes to land use or environmental conditions for development. Bill Kingman noted that much of the current effort at working out agreements over the Comprehensive Plan would in effect determine future use. Judy Krill noted that any agreement made by the current City Council could not entirely "tie the hands" of all future City Councils. Pat Steel asked David Brentlinger for a listing of specific concerns. David Brentlinger responded that requests for more trails, conditions related development or land set-asides are examples of such problems. David said such concerns were the reason WRECO was interested in nominating specific sites and not a historic district. From the WRECO perspective, this would give more particular definitions to agreements and would be less vague.

There was a general discussion of the use of SEPA to condition land uses and development within a historic district. Jim Edgren suggested looking at the use of other historic district areas where no such problems have been encountered, (e.g.: the Nez Perz [sp?] Trail). He further suggested that working out a general agreement at this time, (with the involvement of all stakeholders), would make it difficult for future City Councils to change this if agreed to now. Greg Moore pointed out how SEPA is used widely to condition development in most jurisdictions.

David Brentlinger put forward the idea of restricting the area of the historic district to not include the larger area of the DuPont Works. Jim Edgren responded that in his opinion the SHPO has an interest in the Industrial Era. David Brentlinger countered that the formation of a historic district after the approval of land use development would give WRECO more assurance of a dependable development climate. Stephen Dinger asked for the reasoning behind non support of a historic district, and David Brentlinger said that WRECO does not want be troubled by future City Councils using the District designation, SEPA and comprehensive plan policies and regulations to change the rules unexpectedly.

There was a very general discussion of what would need to be included in a historic district and what would be needed to assure 'integrity'. Options to land use/SEPA concerns laid out included: 1) Defined city goals and regulations, 2) revised and reduced boundaries, and 3) expansion of a district after land use, site plan approvals.

The NPDF folks were asked to describe what they were thinking of when they mentioned an "interpretive center". Jim Edgren referred to an earlier proposal he had made regarded the Methodist Mission site and ideas for a replica building. Pat Steel suggested that a building that could be used as an interpretive center, (as opposed to a Mission replica), might need to be on the order of 3,000 to 4,000 square feet. ("About 30 or 40 feet by 100 feet.") How would this be paid for? The NPDF people asserted that a project blessed by Weyerhaeuser could easily garner local and national monetary support from a number of sources. The question was then returned to WRECO, what was the WRECO vision? Trails and sidewalks to marked sites was in the plan. An interpretive center had not been foreseen.

The remainder of the meeting was used to plan for future meetings. The consensus was to continue the discussion with the next item [#4]on the agenda started at this meeting. It was perceived that there would be a value in developing a few concrete proposals based on the discussion today. Pat Steel, Greg Moore and Bill Kingman agreed to meet as a committee to do that next week. They will try and meet from 9:00 AM on Monday, January 10 and at 1:30 PM on Friday, January 14 if needed. The large group will plan to meet again at 10 AM on Wednesday, January 19, and possibly again at 10 AM on Tuesday, January 25, for two hours on both days. Today's meeting concluded at 12:00 PM.

NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT
other names/site number FORT NISQUALLY, PORT NISQUALLY

2. Location

street & number Roughly bounded by Center Drive on the east, the Puget Sound on the west, Sequalitchew Creek on the north and McNeil Street on the south not for publication
city or town DUPONT vicinity
state WASHINGTON code WA county PIERCE code 053 zip code 98327

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria. I recommend that this property be considered significant ___ nationally ___ statewide ___ locally. (___ See continuation sheet for additional comments.)

Signature of certifying official — Date

WASHINGTON STATE HISTORIC PRESERVATION OFFICE
State or Federal agency and bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.
(___ See continuation sheet for additional comments.)

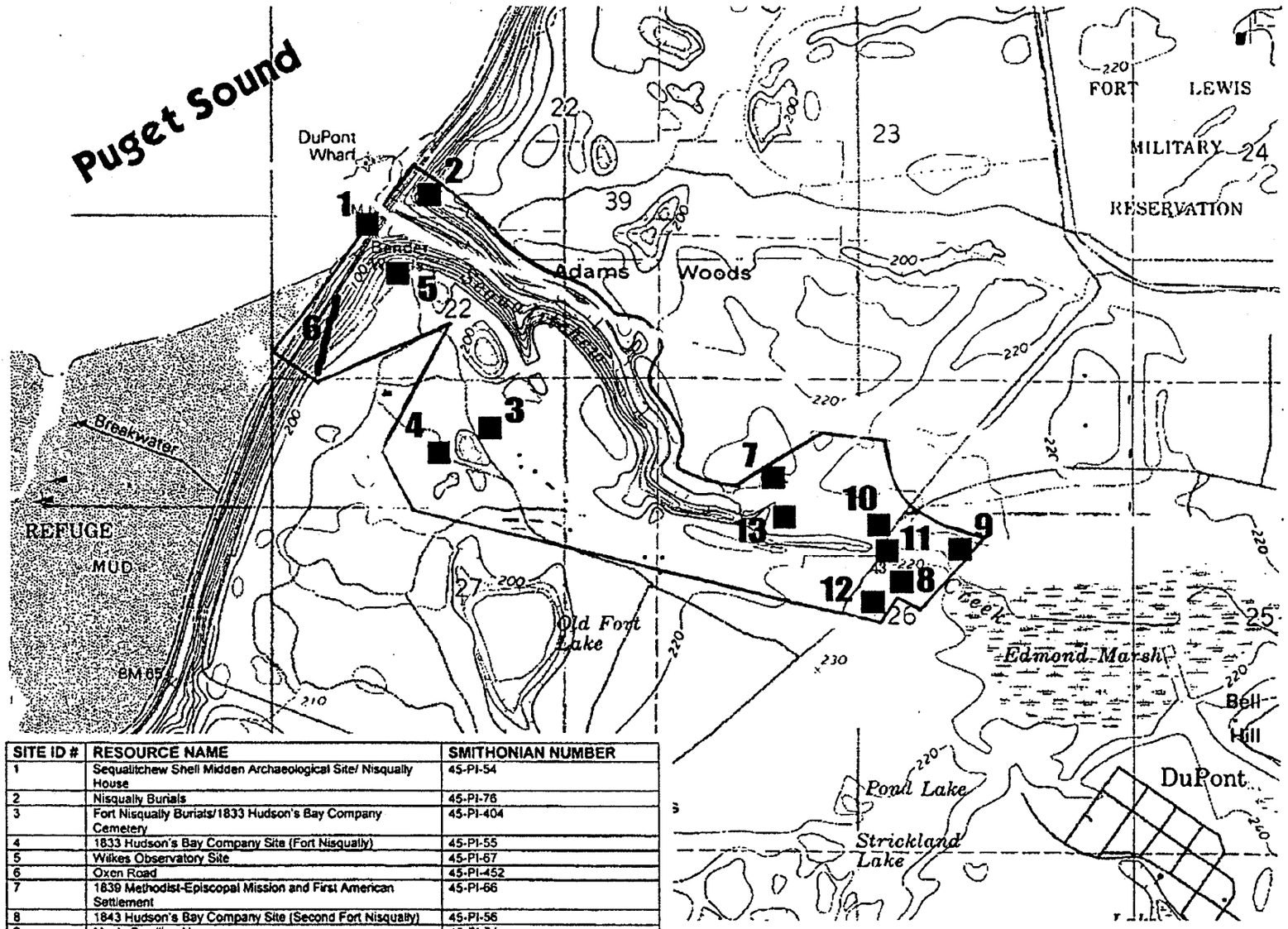
Signature of commenting or other official — Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:
____ entered in the National Register
___ See continuation sheet.
____ determined eligible for the National Register
___ See continuation sheet.
____ determined not eligible for the National Register
____ removed from the National Register
____ other (explain): _____

Signature of Keeper: Date of Action:



SITE ID #	RESOURCE NAME	SMITHONIAN NUMBER
1	Sequalitchew Shell Midden Archaeological Site/ Nisqually House	45-PI-54
2	Nisqually Burials	45-PI-76
3	Fort Nisqually Burials/1833 Hudson's Bay Company Cemetery	45-PI-404
4	1833 Hudson's Bay Company Site (Fort Nisqually)	45-PI-55
5	Wilkes Observatory Site	45-PI-67
6	Oxen Road	45-PI-452
7	1839 Methodist-Episcopal Mission and First American Settlement	45-PI-66
8	1843 Hudson's Bay Company Site (Second Fort Nisqually)	45-PI-56
9	Men's Dwelling Houses	45-PI-74
10	HBC Worker's Housing	45 PI 401
11	HBC Worker's Housing	45-PI-405
12	1843 Hudson's Bay Company Cemetery	45-PI-413
13	9th U.S. Cavalry Bivouac Site	45-PI-455

NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT


Sequatchie Creek

The Washington Trust
for Historic Preservation
204 First Avenue South Seattle, WA 98104 (206) 624-7880

THE WASHINGTON TRUST FOR HISTORIC PRESERVATION

Nomination to
The 10 Most Endangered Properties in Washington State

NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT
Name of Property

CENTER DRIVE VICINITY, TOWN OF DUPONT
Address

THE WEYERHAEUSER REAL ESTATE COMPANY (253) 964-4670
WEYERHAEUSER CORPORATION (253) 924-7063, principal owners
Property Owner

POST OFFICE BOX 100, DUPONT, WA 98327
Owner's Address

DR. JAMES EDGREN (253) 588-0840
Contact Person

NONE
Washington Trust Membership Category

Background Statement

Describe the property, its historical and architectural significance. If applicable, attach a copy of the nomination form to the National Register of Historic Places or local equivalent.

See attached documentation. Additional property owners and addresses are included.
All property owners have been contacted as of 1-30-99 regarding the potential listing of this property as a 10 Most Endangered site.

THE CITY OF DUPONT, WASHINGTON

2008 COMPREHENSIVE PLAN UPDATE

The Vision

A model small city
known for its planned setting
and hometown sense of community –
a place that blends its natural beauty
and rich Northwest history
with a proactive approach to its future.

I. INTRODUCTION

LOCALE AND SETTING

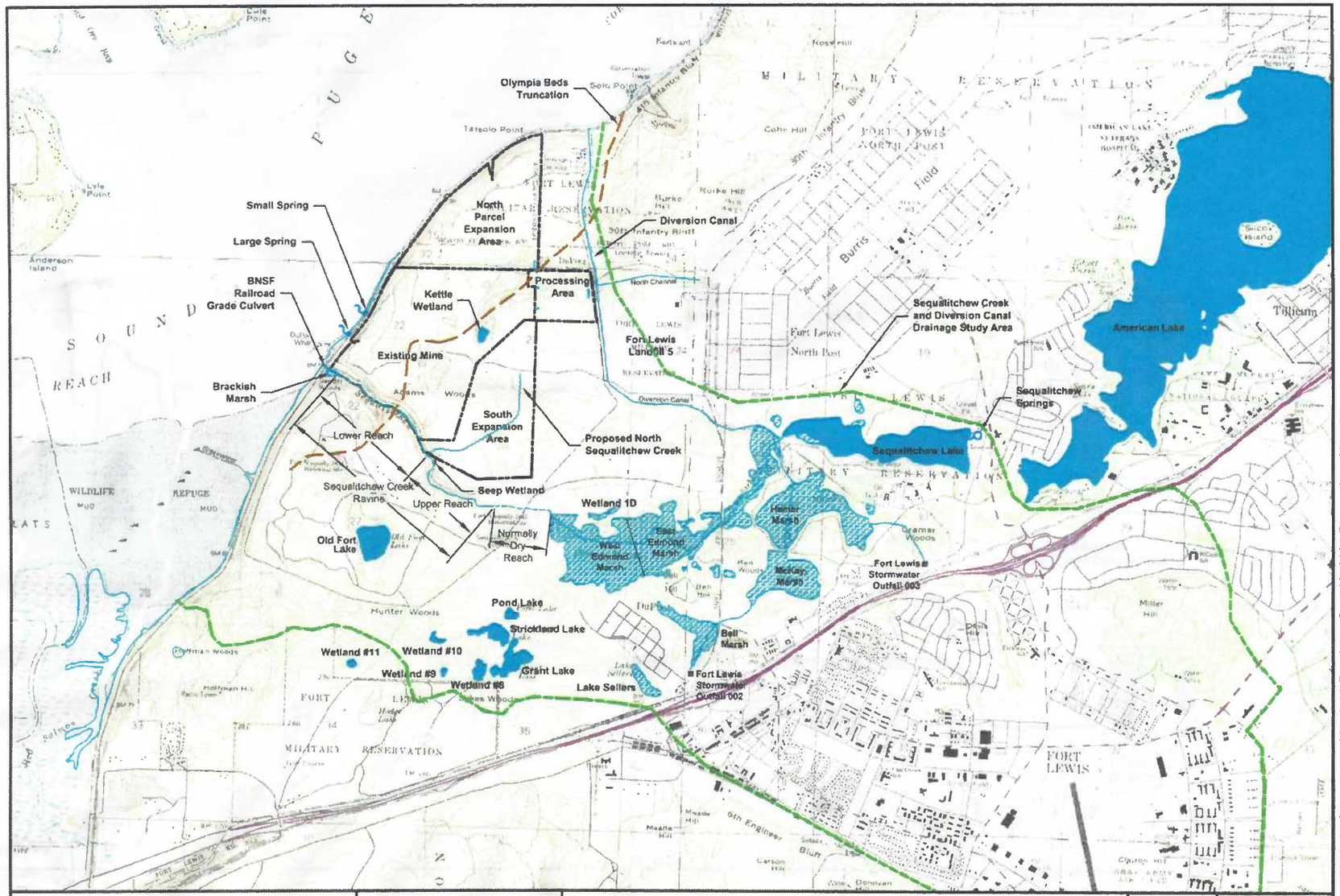
The City of DuPont, Washington situated half-way between Olympia and Tacoma is a unique community unlike any other community in the Puget Sound Region. With the exception of the "Historic" Village, El Rancho Madrona subdivision, and 219 acres owned by Glacier NW the remainder of the city was owned by a single entity, the Weyerhaeuser Corporation. Development of the City was according to an overall comprehensive land use plan prepared for the Weyerhaeuser Corporation by Calthorpe. As a result all capital facilities were planned, sized, and developed in accordance with that land use plan as adopted by the City and controlled by a single landowner. This unbroken chain of planning and development coupled with Washington State Growth Management Act requirements for concurrency has spared the City from the need to plan, develop, and finance "catch-up" capital facilities as is the case in most cities. Infrastructure capacity was planned and developed either in advance of or concurrently with land use development.

In addition to this unique feature, the City of DuPont is isolated from other municipalities. It is surrounded on two sides by the Fort Lewis Military Reservation, on the third side by steep bluffs leading down to Puget Sound, and on the fourth side by an isolated area of unincorporated Pierce County immediately adjacent to the Nisqually River flats and delta area. The nearest municipality is the Town of Steilacoom three miles to the north via DuPont-Steilacoom Road through North Fort Lewis. Access to the City of DuPont is either via Interstate 5 to Olympia or Tacoma or DuPont-Steilacoom Road to the Town of Steilacoom.

GROWTH MANAGEMENT

The Growth Management Act, RCW 36.70A, became effective on July 1, 1990, making planning mandatory in the State's fastest growing counties and the cities within those counties, including Pierce County and the City of DuPont. The GMA is intended to foster more compact urban development as opposed to the sprawl that has characterized developments over the last several decades.

Growth Management is intended to be a "bottom-up" approach to planning in the State of Washington (WAC 365-195-060). Local jurisdictions still retain ultimate



N

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Feet

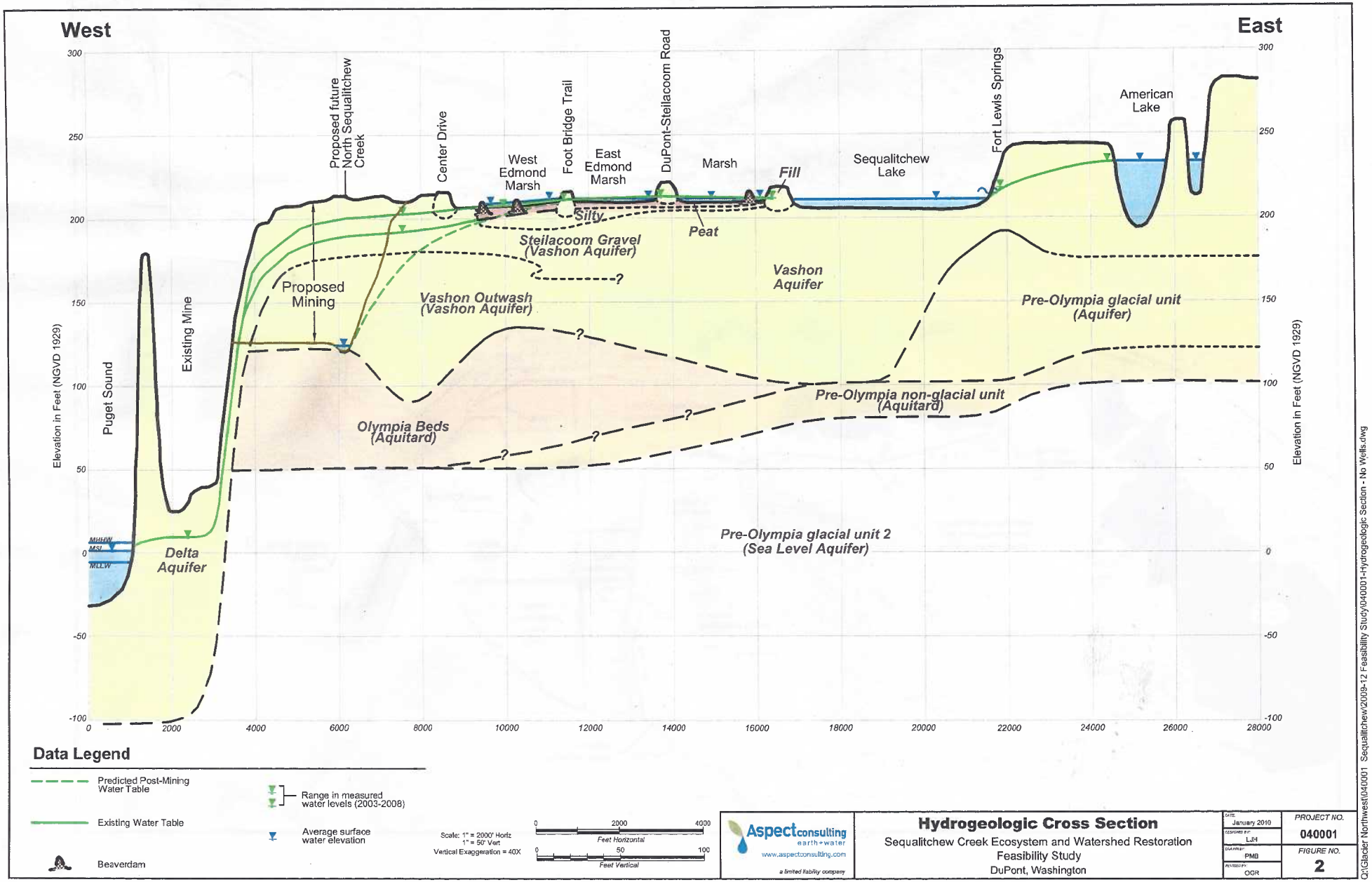
Aspect consulting
earth+water
www.aspectconsulting.com
a limited liability company

Project Area Map

Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study
DuPont, Washington

DATE	January 2010
DESIGNED BY	LH
DRAWN BY	SCC
REVISED BY	OGR
PROJECT NO.	040001
FIGURE NO.	1

Q:\Glacier Northwest\040001 Sequalitchew\2010-01 Feasibility Study\040001-Project Area Map.dwg


West
East
Elevation in Feet (NGVD 1929)
Puget Sound
Existing Mine
Proposed future North Sequalitchew Creek
Center Drive
West Edmond Marsh
Foot Bridge Trail
East Edmond Marsh
DuPont-Steilacoom Road
Marsh
Fill
Sequalitchew Lake
Fort Lewis Springs
American Lake
Proposed Mining
Silty
Peat
Steilacoom Gravel (Vashon Aquifer)
Vashon Outwash (Vashon Aquifer)
Vashon Aquifer
Pre-Olympia glacial unit (Aquifer)
Pre-Olympia non-glacial unit (Aquitard)
Olympia Beds (Aquitard)
Pre-Olympia glacial unit 2 (Sea Level Aquifer)
Delta Aquifer
MHHW
MSL
MLLW
300
250
200
150
100
50
0
-50
-100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
22000
24000
26000
28000
Data Legend
Predicted Post-Mining Water Table
Existing Water Table
Beaverdam
Range in measured water levels (2003-2008)
Average surface water elevation
Scale: 1" = 2000' Horiz
1" = 50' Vert
Vertical Exaggeration = 40X
Feet Horizontal
Feet Vertical
Aspect consulting
earth+water
www.aspectconsulting.com
a limited liability company
Hydrogeologic Cross Section
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study
DuPont, Washington
DATE: January 2010
DESIGNED BY: LJH
DRAWN BY: PMB
REVISED BY: OGR
PROJECT NO. 040001
FIGURE NO. 2
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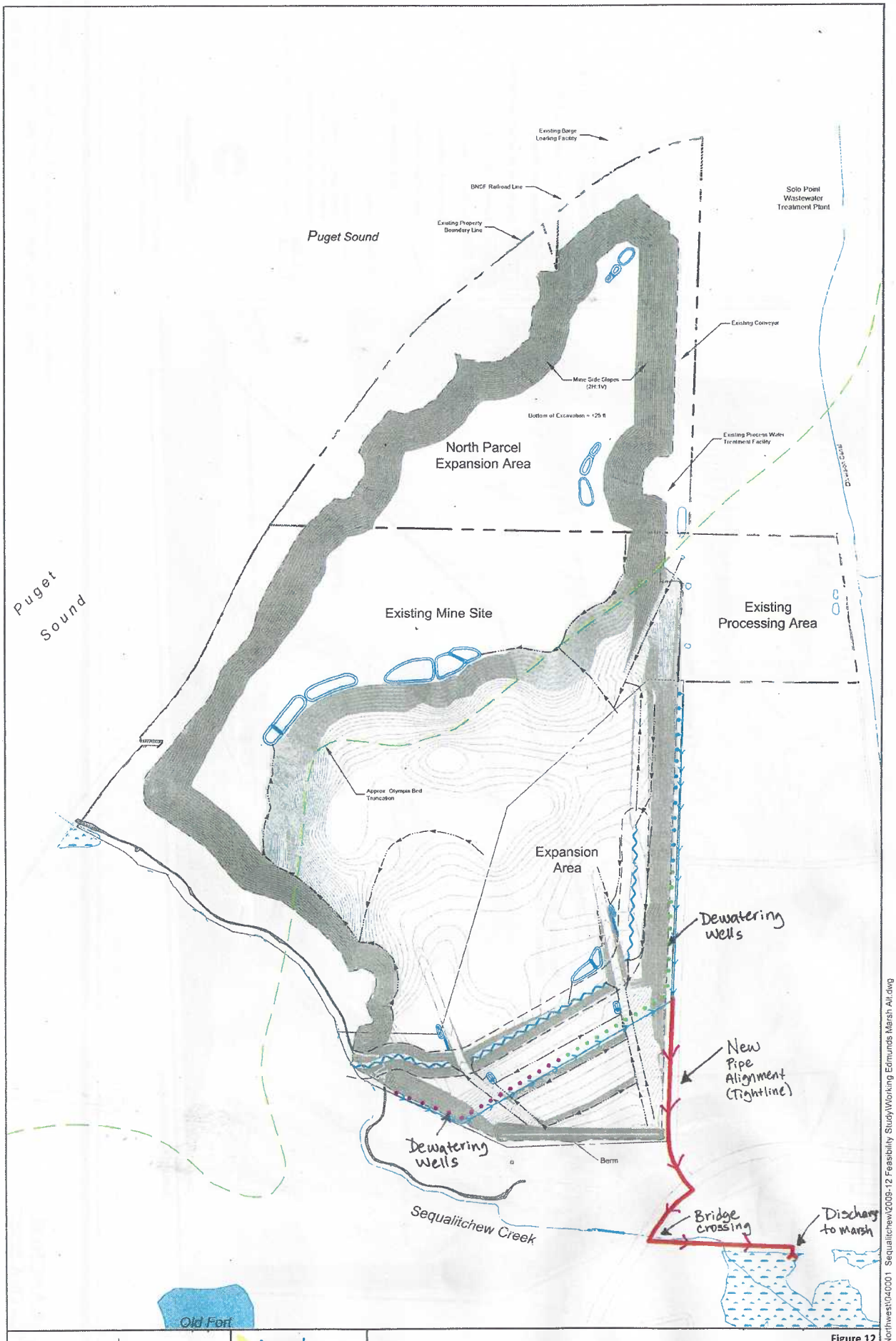
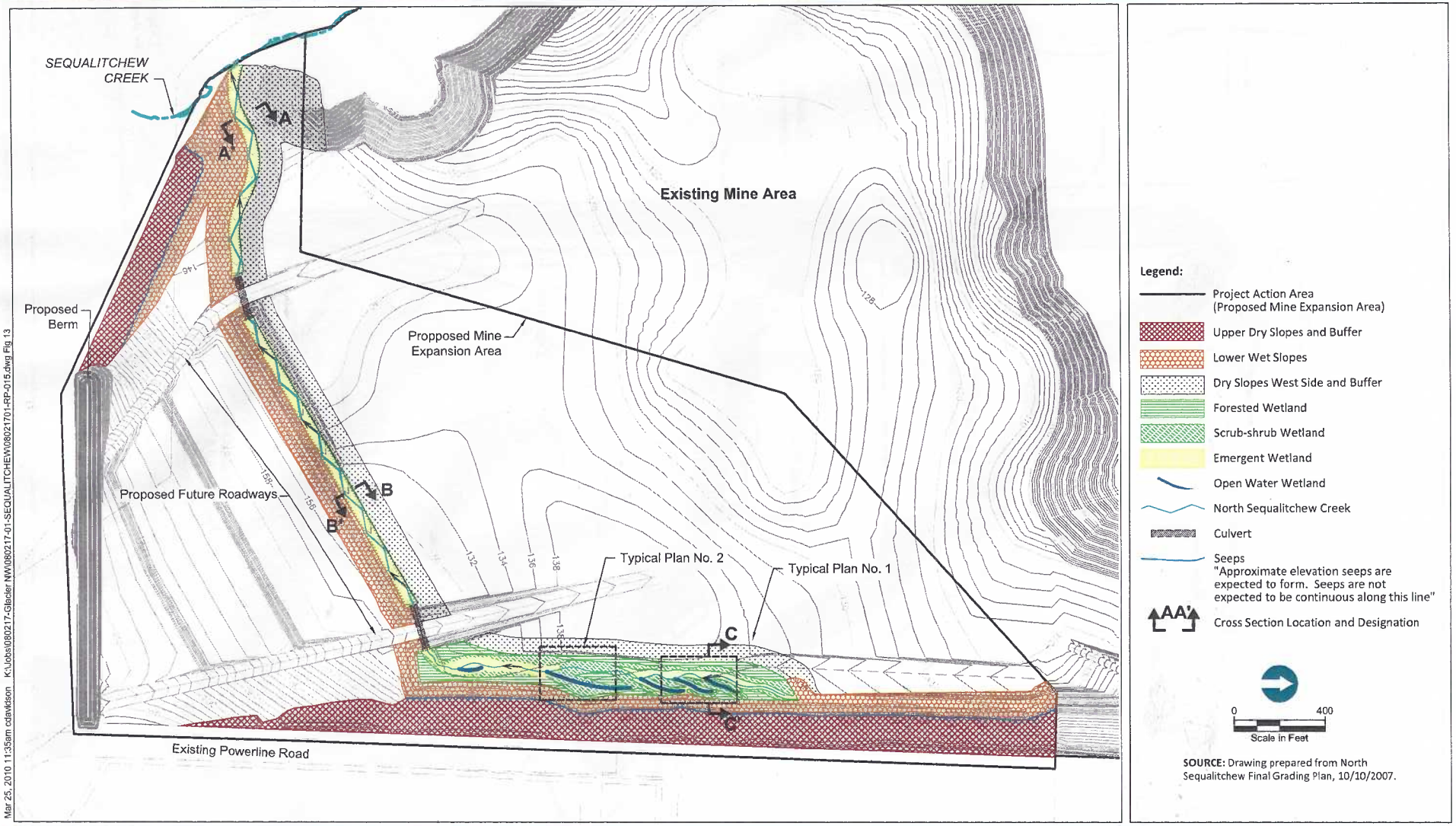


Figure 12
Conceptual Site Plan for Alternative 2.1 - Pump to Edmond Marsh
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study

Q:\Q:\Glacier Northwest\040001 Sequalitchew\2009-12 Feasibility Study\Working Edmunds Marsh Alt.dwg



Mar 25, 2010 11:35am cdavidson K:\Jobs\080217-Glacier NW\080217-01-SEQUALITCHEW\080217701-RP-015.dwg Fig 13

ANCHOR QEA

Figure 13
Conceptual Site Plan for Alternative 2.3 North Sequalitchew Creek
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study

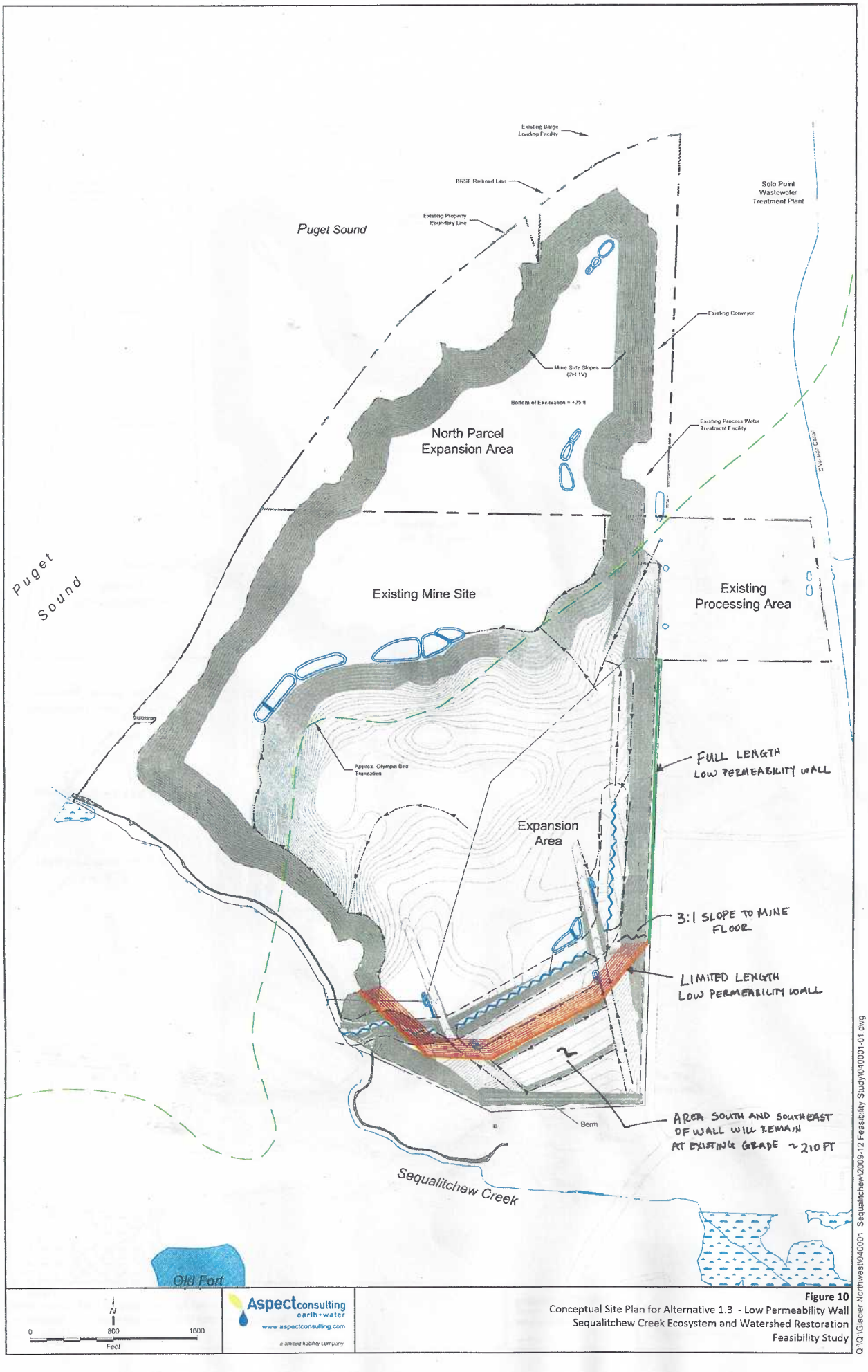


Figure 10
Conceptual Site Plan for Alternative 1.3 - Low Permeability Wall
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study

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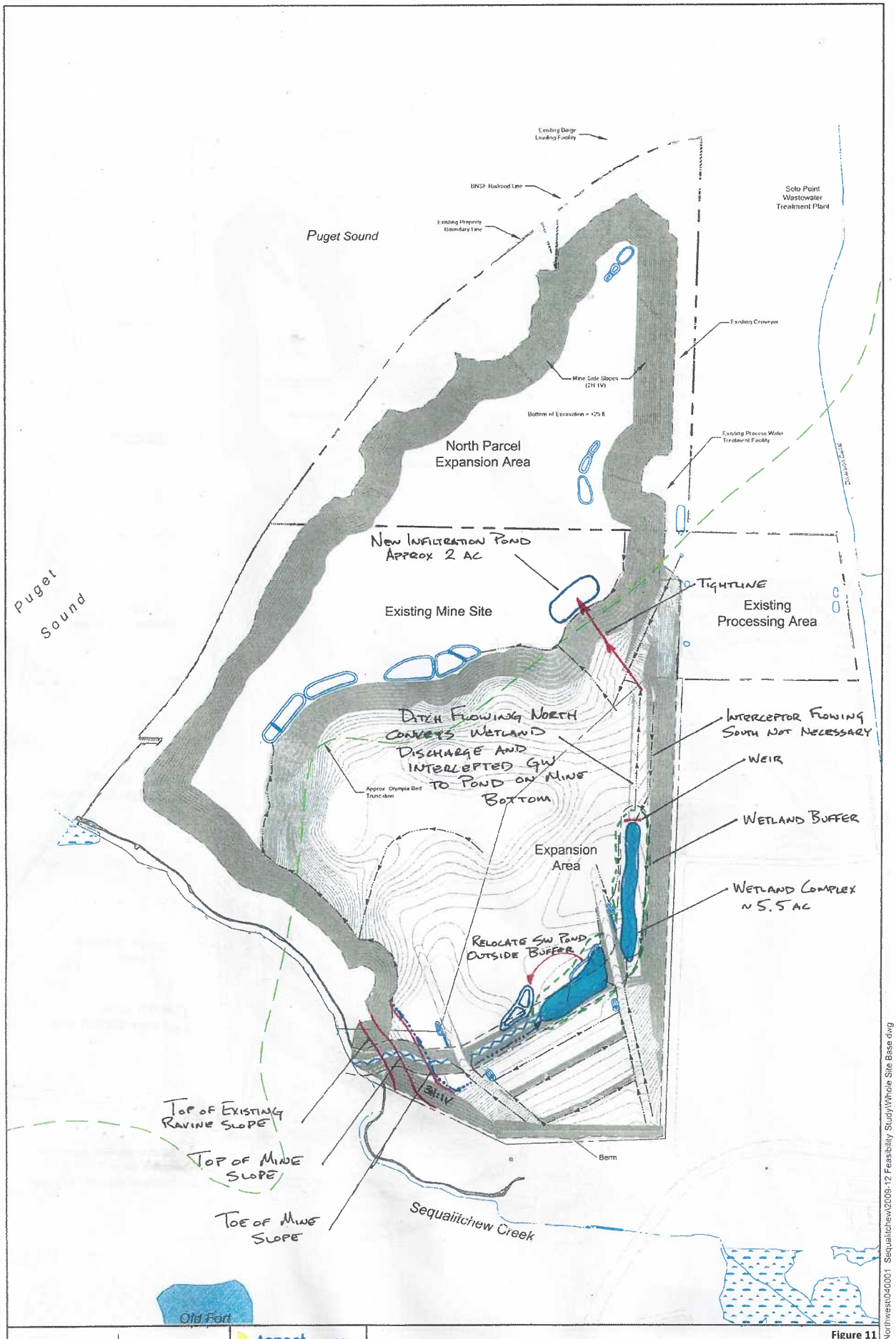


Figure 11
Conceptual Site Plan for Alternative 1.5 - Infiltrate in Mine
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study

Q:\Q:\Glacier Northwest\040001 Sequalitchew\2009-12 Feasibility Study\Whole Site Base.dwg

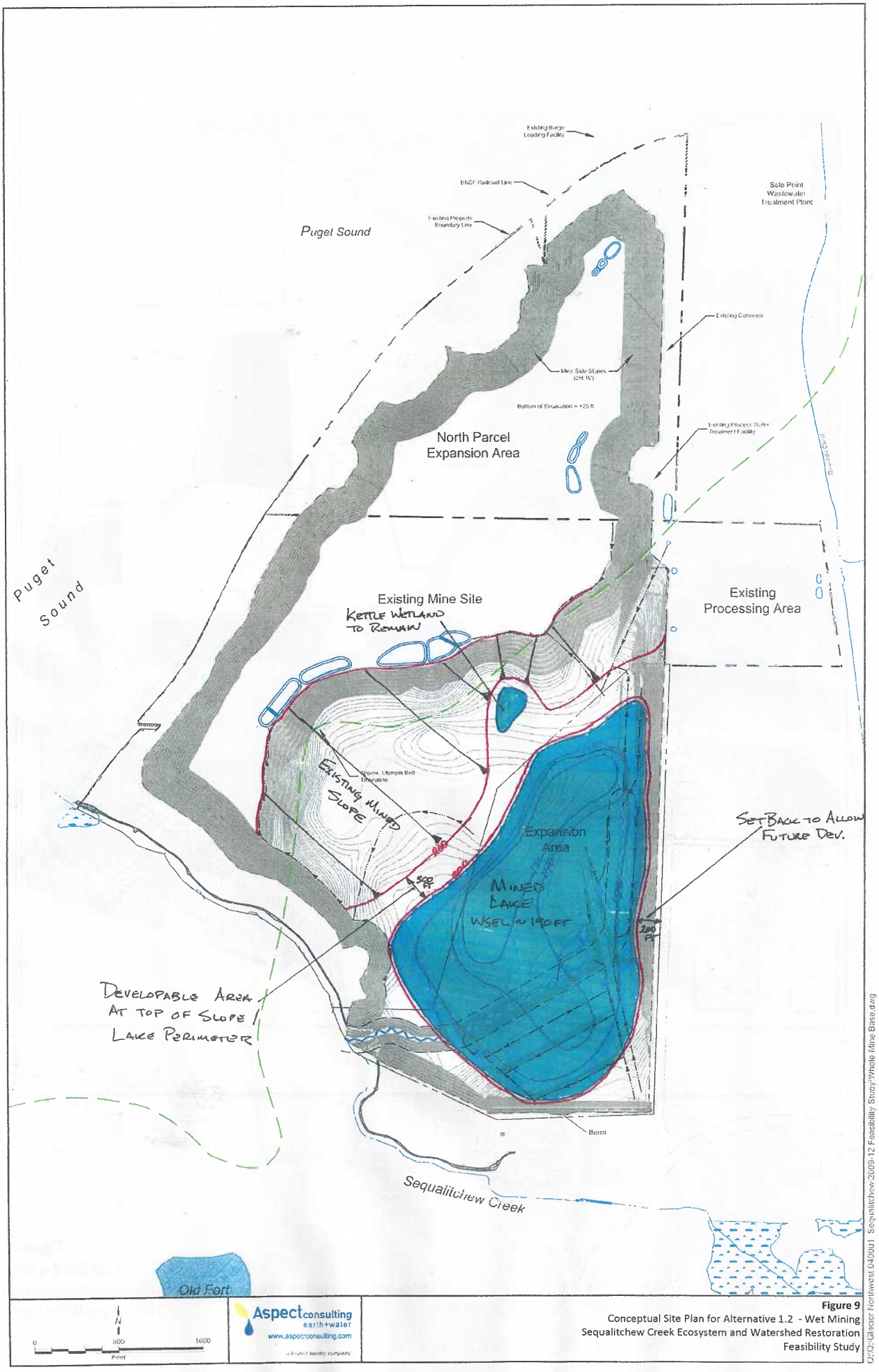


Figure 9
Conceptual Site Plan for Alternative 1.2 - Wet Mining
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study

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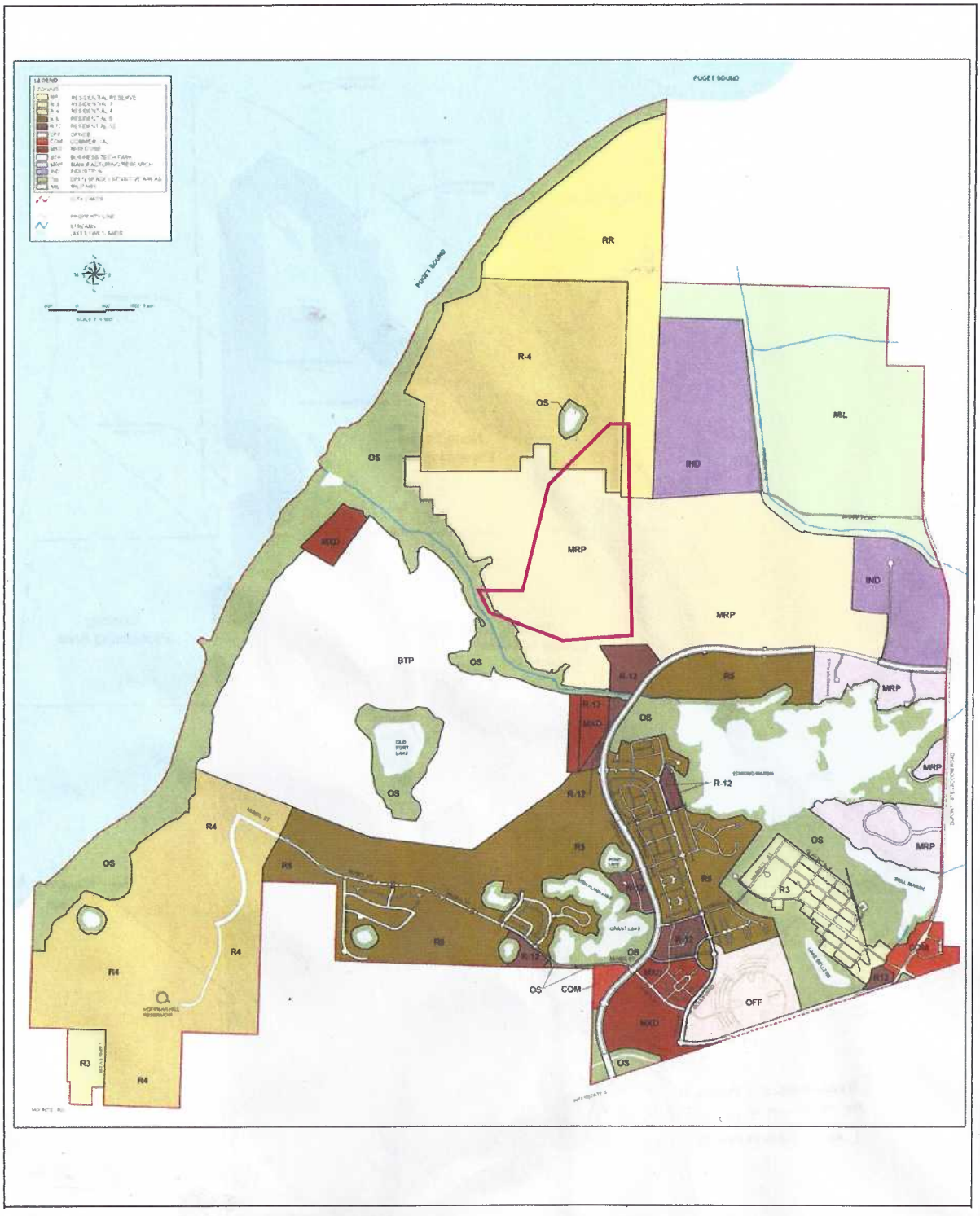


Figure 8
City Zoning Map
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study

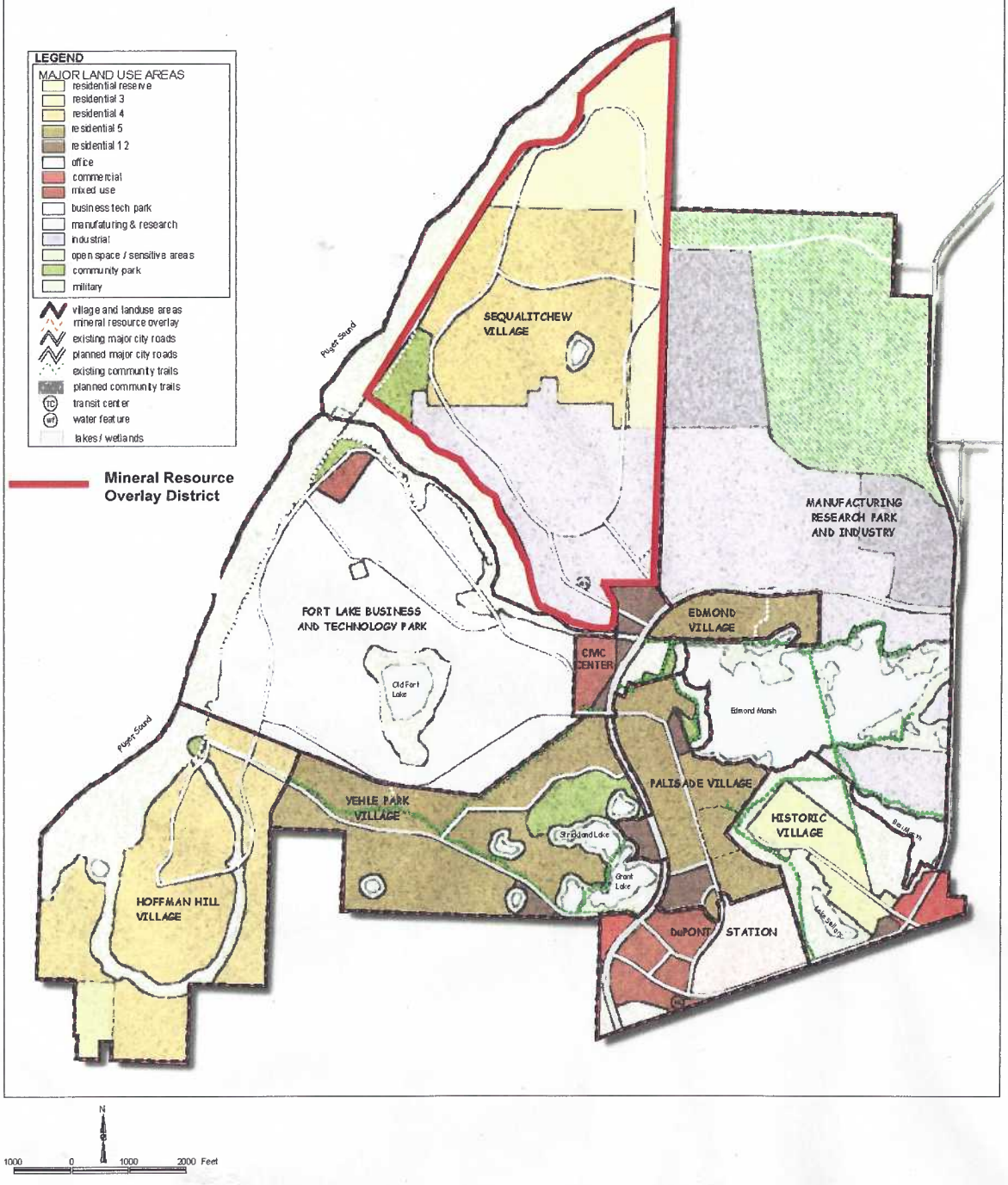
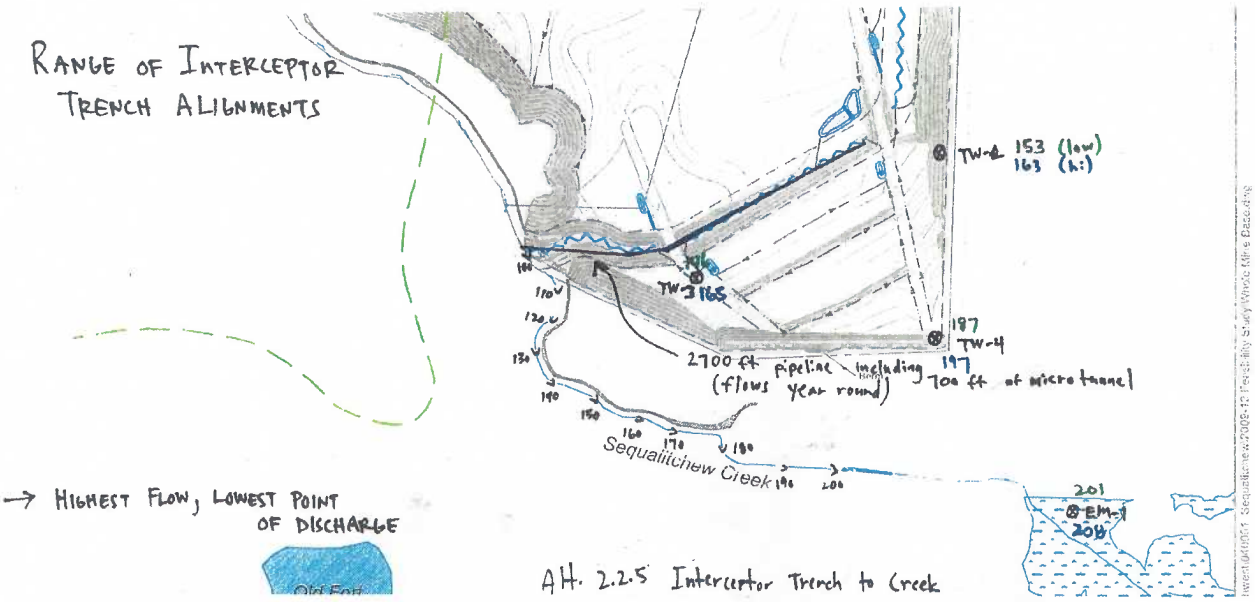
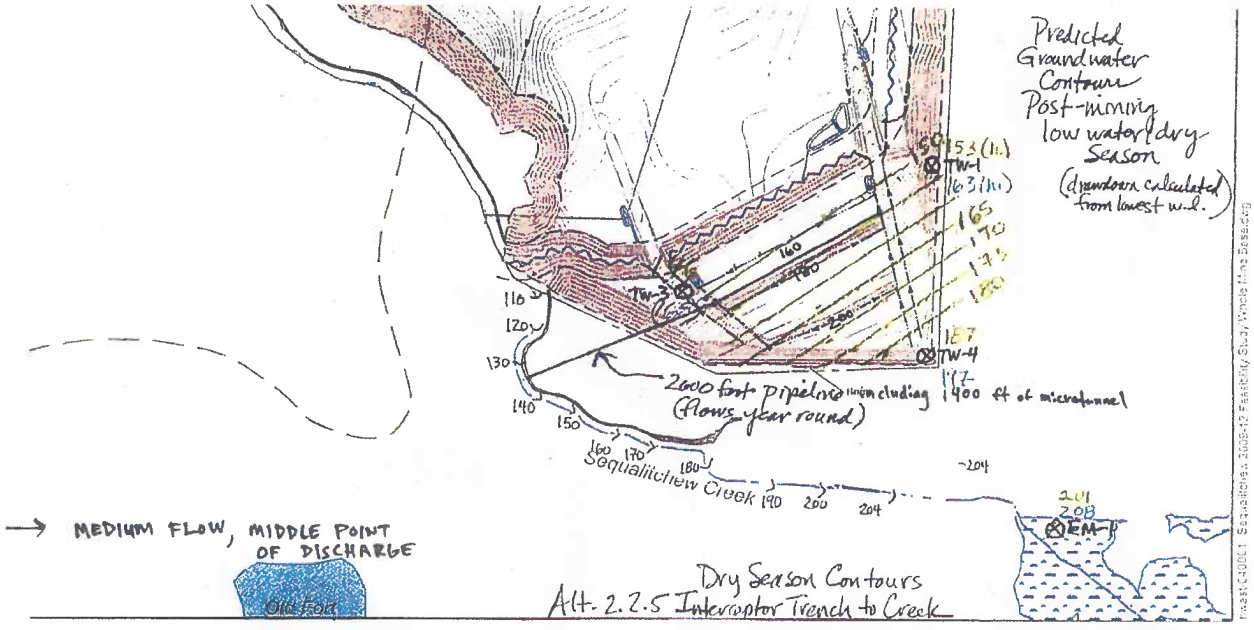
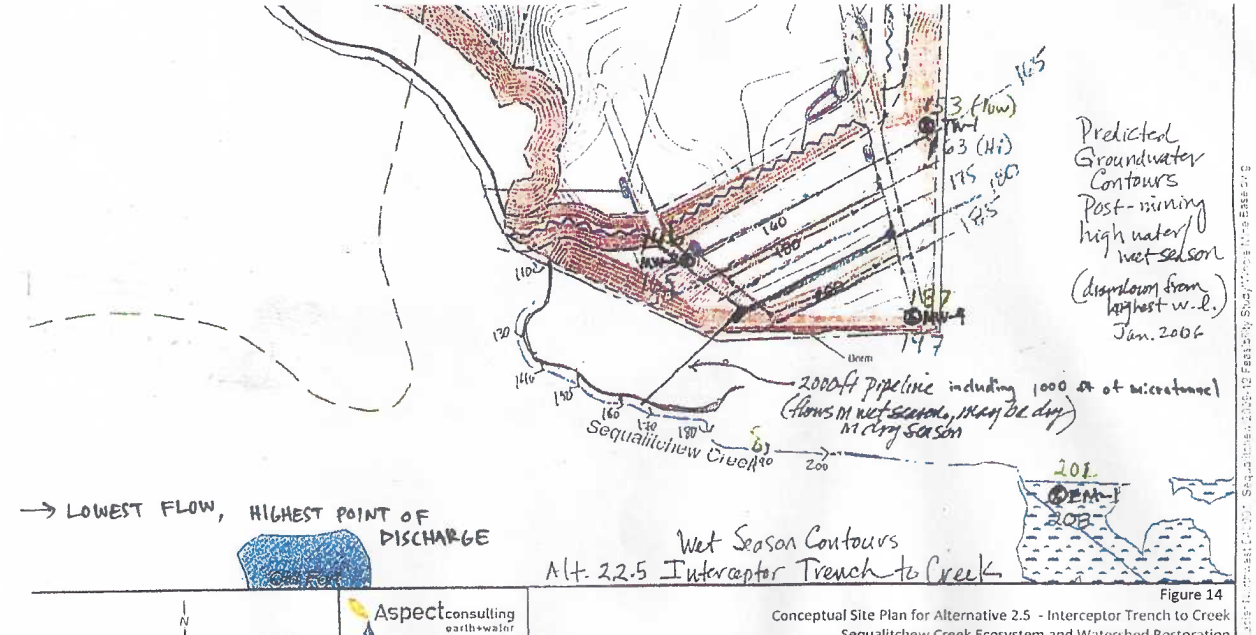


Figure 7
DuPont Comprehensive Land Use Map
Sequalitchew Creek Ecosystem and Watershed Restoration
Feasibility Study







Aspect consulting earth+water www.aspectconsulting.com

Figure 14
Conceptual Site Plan for Alternative 2.5 - Interceptor Trench to Creek
Sequalitchew Creek Ecosystem and Watershed Restoration Feasibility Study

SEQUALITCHEW VILLAGE

Sequalitchew Village includes the area of the City bounded by Puget Sound to the north and west, the manufacturing research park and industrial areas to the east and Sequalitchew Creek on the south. This village is planned as a mixture of residential types and densities in the southern two-thirds of the area, and manufacturing and research park uses in the northern one-third. It is named for the creek and canyon which form its southern border.

Nearly this entire village is within the mineral resource overlay boundary. Gravel extraction by Glacier Northwest is currently underway in this area and is expected to proceed over a long term, phased plan. Development is not likely to begin within this area for more than 20 years.

As a result of mineral extraction, the surface elevation of this village will be many feet lower than the present height. An embankment will be created along the eastern boundary of the Sequalitchew Creek Canyon and the Puget Sound bluff to make the transition between original grades and the new lower elevation. The embankment will be sculpted to provide variations in land forms and to eliminate visual monotony. This embankment is designated as open space.

In addition, a limited portion of the bluff along Puget Sound, north of the mouth of Sequalitchew Creek, may be lowered by the mineral extraction for a community park. The park will provide direct access to Puget Sound. The remaining natural portion of the bluff is sensitive area, with views overlooking the Sound. Future planning should evaluate the effects of removing greater portions of the bluff to provide views from the residential area and losses that might incur from the removal of sensitive area bluff.

One of the natural features of this village is the north side of the Sequalitchew Creek Canyon. This is an unparalleled natural area that can be traversed on an old narrow gauge railway roadbed that ran from the DuPont Company area to Puget Sound. Public access along the canyon and the Puget Sound beach will be developed in the future as designated in the Parks Master Plan.

A proposal has been submitted to the City and is currently under review to create a new 4,000 foot long tributary to Sequalitchew Creek (North Sequalitchew Creek) with associated riparian habitat. Proposed pedestrian trail connections at the confluence of North Fork and Sequalitchew Creek would facilitate pedestrian access from Center Drive to the mouth of Sequalitchew Creek. Groundwater in the expanded gravel mining area would be intercepted by dewatering wells and pumped directly to the newly created North Sequalitchew Creek for discharge.

In addition to trails that will connect this village with other neighborhoods, a seven to ten acre community urban design feature is located within this area, just north of Sequalitchew Creek and west of Center Drive in the vicinity of the historic 1838 Methodist Mission site. The intent of this feature is to have a community focal point involving water, if feasible, that links the Sequalitchew Village with the villages south of the creek.

Housing units and acres for land use categories in Sequalitchew Village are summarized in the table below.

convergence of ancient and historic activities and values that are representative of the Pacific Northwest. The north boundary starts at the 1843 Fort Nisqually (DAHP Site No. 45-PI-56) and runs west to the site of a sawmill on the north side of the mouth of Sequalitchew Creek (DAHP Site No. 45-PI-71), then south along Puget Sound to include Sequalitchew Archaeological sites (DAHP No. 45-PI-54) and the Ox Road (no DAHP Site No.), then east to include the 1833 Fort Nisqually site (DAHP Site No. 45-PI-55H), DuPont Company site (DAHP Site No. 45-PI-70) and Hudson's Bay Company Cemetery (no DAHP No.) then north back to the 1843 Fort Nisqually site.(a)

Acres for land use categories in Old Fort Lake Business and Technology Park are summarized in the table below.

	Complete September 2007	Remaining	Buildout Total
HOUSING UNITS			
single family	0	0	0
multiple family	0	0	0
Total	**0**	**0**	**0**
ACRES FOR USE			
single family	0	0	0
multiple family	0	0	0
business and technology	0	299	299
sensitive area/buffers	0	0	101
open space	0	35	35
City parks	0	3(b)	3(b)
cultural	2	0	2
recreation/golf	184	0	184
Roads/utilities	0	26	26
Total	**186**	**363**	**650**

(a) See Memorandum of Agreement among Weyerhaeuser Company, Weyerhaeuser Real Estate Company, City of DuPont, The Nisqually Point Defense Fund, Committee for the Preservation of the Nisqually Mission Historical Site, The Nisqually Delta Association, and The DuPont Historical Society, December 12, 2000.

(b) There is one park proposed as a community park in the Old Fort Lake Business and Technology Park. It is a 3-acre parcel at the Wilkes Observatory overlooking Puget Sound above the mouth of Sequalitchew Creek.

OLD FORT LAKE BUSINESS AND TECHNOLGY PARK

This low-density business, technology and commercial area will integrate campus style development with historic features, natural areas, open space and a golf course. The golf course, known as "The Home Course" is the home of the Pacific Northwest Golf Association and the Washington State Golf Association.

Bounded by Sequalitchew Creek, the Puget Sound bluff, the northern boundary of Hoffman Hill and Yehle Park Villages and the Civic Center, The Business and Tech Park includes Old Fort Lake and the 1833 Fort Nisqually site. Extensive work to clean up the area where the DuPont Company created and assembled explosives until the mid-1970s has been completed. The most contaminated soils have been removed and the remaining contaminated soils have been placed under golf course fairways and greens. The golf course boundary was determined by the location of the most contaminated areas and is reflected in the remediation agreement between the Weyerhaeuser and DuPont Companies and the Washington State Department of Ecology. Residences, schools, and parks have been deed restricted by the Weyerhaeuser and the DuPont Corporation within Consent Decree Area.

The Old Fort Lake Business and Technology Park will have a mix of office, research, light manufacturing, administrative and commercial activities. Development in this area will provide for business and emerging technology activities within a campus like setting of natural and man made landscapes.

Within the Old Fort Lake Business and Technology Park area, Sequalitchew Creek and the Puget Sound shoreline and bluff will be maintained in their natural state and protected from development by buffers. A trail location is identified in the buffer along the south side of the Sequalitchew Creek ravine. In addition to pedestrian access along the Puget Sound bluff, views of the sound will be provided from a single-loaded collector road running along a portion of the bluff.

The golf course accounts for one-third of the area's land use. The course provides both an exciting golf experience and a community benefit by maintaining significant trees and natural vegetation. The public will be able to drive along some fairways and parts of the course to experience the open space. A trail corridor within the Old Fort Lake Business and Technology Park will connect Old Fort Lake with the community park and trail system in Yehle Park Village and the trail system along Sequalitchew Creek.

Another feature of this area is the Wilkes Observatory site in the northern corner of the Business and Technology Park. Three acres of community parkland will be set aside outside the Consent Decree boundary to provide access to the historic site and provide views of Puget Sound and the Olympic Mountain Range in the distance

An area that lies within both the Old Fort Lake Business and Technology Park and Sequalitchew Village has been nominated by the Washington State Department of Archeology and Historic Preservation (DAHP) for listing on the National Register of Historic Places. As provided in a multi-party memorandum of agreement (December 2000), Weyerhaeuser Real Estate Company will support the listing of the area once the City of DuPont has granted final development approvals for all remaining portions of the property. The district encompasses approximately 360 acres and represents a

V. GOALS AND POLICIES

LAND USE

GOALS:

To foster a small town character by establishing development patterns conceptually based on a traditional town similar to the Historic Village and Palisade Village in DuPont.

To direct DuPont's growth in a manner that balances small town character with sound economic development.

To encourage a small town development pattern which promotes a sense of community, the form of which protects significant natural features, preserves historical sites, reduces the necessity for driving, and makes walking an enjoyable alternative and transit use practical.

POLICIES:

URBAN FORM

LU-1 Establish several distinct neighborhoods or 'villages', sized according to a pedestrian or 'walking' scale of distance and defined where possible by natural features, parks, open spaces, and streets.

LU-2 Link together the residential, business, and cultural areas with a system of streets, parks, natural features and open space to define neighborhoods, protect natural environments and ecological systems. Provide linear greenways or park spaces along major roads, using native plant materials to enhance the environment for pedestrian and bicycle circulation.

LU-3 The predominant block pattern of individual villages shall be based on a grid or modified grid system except for Hoffman Hill Village. Such a grid system provides clear orientation, alternate traffic routes, and opportunities for pedestrian crosswalks.

LU-4 Individual villages shall be focused around accessible parks, public recreation opportunities, natural areas, and schools where warranted by service requirements.

LU-5 Maintain the visual quality of the City as seen from Puget Sound, the Nisqually National Wildlife refuge, and public roads. Provide scenic viewpoints within the City to Puget Sound and the Nisqually Delta.

DESIGN

LU-6 Promote development in residential and commercial areas that is pedestrian in scale and character by encouraging the design of more

Dupont.

LU-15 Alleys shall be used to the maximum extent possible in each preliminary plat. When determining how many lots are possible to serve from an alley, the topography, ability to reach permitted density, parcel shape, saving trees and other features of the land shall be taken in to account.

RESIDENTIAL DEVELOPMENT

LU-16 Protect the character and vitality of existing neighborhoods.

LU-17 Achieve a mix of lot sizes and a diversity of housing types and styles for single family and multiple family residences. Homes (single and multiple family), that represent the craftsman style, shall predominate in the community. Additional types incorporating appropriate details from other styles (for example Tudor or Dutch Colonial) are encouraged. The City's preference to achieve variety in single family construction is through continuing to work with builders before considering a City design review process.

Except in the DuPont Station and Civic Center areas, individual multi-family projects should not exceed 80 units each and some projects should be developed at 40 or fewer units.

LU-18 Maintain setbacks from the bluff and other slopes to assure slope stability without having to rely on engineered solutions. An exception to this policy affecting topography along the bluff on Puget Sound may be considered for a community park consistent with Policy ESA 27.

LU-19 Encourage a mix of generations within the social fabric of the City by providing for senior housing and long-term care facilities within residential villages and DuPont Station. Assisted living and independent living residential units should integrate within a neighborhood consistent with Policy LU-17.

DuPONT STATION

LU-20 Establish DuPont Station and maintain it as the commercial focus for DuPont.

LU-21 Create a vibrant mixed use area with a compact, attractive, community and destination shopping area supported by housing and office uses. Sites shall be developed in a coordinated manner, complementing adjacent structures through placement, size and mass. The intent is to create a collection of buildings that present a unified set of characteristics while allowing for architectural expression of individual buildings. Sites shall also be designed to create an identifiable pedestrian downtown character and avoid the appearance of domination by the automobile.

LU-22 Promote ground floor retail in DuPont Station.

with its comprehensive plan designation and any mining permit authorized by the City.

Extraction of gravels within the Mineral Resource Overlay area established in 1995 was estimated to occur over twenty-five to thirty years in approximately forty-acre increments. With the addition of approximately 400 acres in 2006 it is estimated that extraction will continue until at least the year 2030. Restoration will occur simultaneously as new mining areas are opened.

LU-40 The Mineral Resource Overlay designation shall be enforced for a length of time corresponding to those time periods identified and established in City permits, allowing for the periodic review and update of these permits to reflect current conditions.

LU-41 Establish a Phasing Schedule and Management Plan for extractive operations based on approved mining permits, periodically updating the Comprehensive Plan to reflect current conditions.

LU-42 Best Management Practices that protect the long-term integrity of the natural environment, water resources, adjacent land uses, and the long-term productivity of resource lands will be utilized.

LU-35 Promote environmentally sensitive industrial development as an integral element in establishing a balanced community.

LU-36 Use performance standards for odor, sound, vibration, light, and other environmental factors that promote the development of 'clean' industrial uses within DuPont. Performance standards relating to industrial activity or process are aimed at certifying that a business utilizes materials, substances, and processes that have a minimum or no impact on the human and natural environment. These standards should be reviewed and adjusted periodically to reasonably reflect current acceptable "state-of-the-art standards.

LU-37 Maintain and periodically update, as necessary, industrial site development standards addressing the following elements: siting criteria, site preparation and grading, building design, vehicular access, storm drainage and erosion controls during and after construction, sensitive areas, landscaping, parking, service courts, lighting, signage and outdoor storage.

RESOURCE LANDS

The Growth Management Act requires cities to identify resource lands of long-term significance and provide for their on-going economic benefit. Resource lands include those suitable for agriculture, forestry, and mineral extraction. Of these only mineral extraction is a resource land in DuPont. Much of the City is underlain by gravelly soils of an economic benefit.

LU-38 The City will conserve long-term, commercially significant mineral resource lands through a two-step process. First, ongoing planning and evaluation will be used to identify lands that contain valuable mineral deposits. The City will consider the identified presence of mineral resources in its planning and development review to ensure that resources are not developed inadvertently or foreclosed from use. Second, the City will designate mineral resources on the Comprehensive Plan Land Use Map. Designation may occur concurrent with review of a proposed mining application.

Through the Comprehensive Plan process and project approvals the City has identified and designated nearly 600 acres of mineral resources in an overlay area extending north from Sequalitchew Creek between Puget Sound and Powerline Road. *(See map, page 60.)* Designation of any additional mineral lands on the Comprehensive Plan map will occur through the process described in this land use policy.

LU-39 A Mineral Resource Overlay designation, in the form of an overlay to the manufacturing/research, and residential land use categories north of Center Drive and Sequalitchew Creek, recognizes that mineral lands should be conserved and that mineral extraction could potentially occur in a designated area subject to City review of a site-specific proposal. Mining shall occur in phases and the reclaimed land used consistent

not reach it. The City's strategy for recharging ground water is to use natural systems and to reduce piping.

ESA-13 Institute an aquifer-monitoring program to keep track of the quantity and quality of the City's ground water resources in a cooperative effort with Pierce County and Fort Lewis. DuPont gets much of its water from a deep aquifer that originates east of the City. A cooperative monitoring and management program is necessary for maintaining current information regarding the quantity and quality.

ESA-14 Work with Fort Lewis, the Department of Ecology, Glacier NW, and other affected parties to re-establish pre-diversion flows through Sequalitchew Creek.

GEOLOGY

ESA-15 Correlate the type and density of permitted development with the suitability of site geology and soils in order to minimize environmental impacts and construction costs.

ESA-16 Establish performance standards and/or development guidelines consistent with state law for sloped areas over 15%. Discourage placement of structures on slopes of 30% and prohibit development of slopes that are 40% or more.

ESA-17 Locate and design development projects so as to reduce risks of seismic damage by requiring projects to be located where soils are least susceptible to ~~seismic forces~~.

The Puget Sound region is in a high risk earthquake zone. Kitsap soils in DuPont are susceptible to seismic forces, particularly those along the Puget Sound bluff and in the Sequalitchew Creek Canyon. Development shall be kept well away from these areas and the existing vegetation retained to the greatest extent possible.

HABITAT

ESA-18 Maintain no net loss in the functions, values and area of lakes, marshes, streams, wetlands and bluffs, recognizing the potential for passive public access on or at Old Fort Lake

ESA-19 Establish an eradication program for invasive ~~plants~~ for all areas, with particular attention paid to Edmond Marsh, Old Fort Lake, ~~Sequalitchew~~ Creek, and the Bluff.

ESA-20 Protect significant ecological areas and retain a maximum percentage of native vegetation during the development of the City. Develop guidelines to allow removal of vegetation only when it creates an unsafe condition or threatens plants of more significant value.

communities, and habitat for animal life, some of which are rare. These features are usually not viewed in context with one another, but help define the character of the community.

It is important to recognize the ecological value of portions of the City. Several features, such as the Puget Sound shoreline, Edmond Marsh, Sequalitchew Creek, and the Oak Savannah area, are habitats of regional importance. It is the intent of the City to preserve such features to the maximum extent possible by promoting responsible development that integrates these features into the pattern of the City. In most cases these areas will be retained as sensitive area and buffer with limited public access, consisting of trails, viewpoints, and other passive facilities. However, the priority is to maintain sensitive areas, buffers and open space in their natural state.

Sensitive areas include wetlands, streams, steep slopes, bluffs, and associated habitats that have significant environmental and aesthetic value. Open space lands are undeveloped natural areas and parcels developed with landscaping. Both sensitive areas and open space are essential to maintaining the character of DuPont. These areas provide local wildlife with undisturbed habitats necessary for rest, food gathering, and escape from surrounding developments. Sensitive areas and open space also provide the City's human inhabitants with the opportunity to enjoy the region's natural beauty without having to leave the City and travel to the countryside.

There is a sense of grandness in the City's natural setting. The City shall place a high priority on its natural amenities in the review of all development projects.

GOALS:

To attain no net loss to high value sensitive areas and open space within the City and mitigate losses of low and moderate value natural features through enhancements in areas to be saved.

To exercise responsible environmental stewardship by directing development towards areas of the City where natural systems and amenities present the fewest environmental constraints.

To institute measures which promote development and construction practices that minimize impact on the City's natural systems.

POLICIES:

GENERAL

ESA-1 Obtain for preservation, environmentally sensitive areas and those that are valuable natural and aesthetic resources to the City.

ESA-2 Determine the level of public access and use of natural areas based on the environmental sensitivity of the site.

ESA-21 Maintain important wildlife habitats and functional wildlife corridors to link important natural areas, such as Edmond Marsh and Sequalitchew Creek.

ESA-22 Minimize the potential for adverse impacts on the Nisqually Wildlife Refuge.

ESA-23 Protect the biological productivity of Sequalitchew Creek, Edmond Marsh and other wetland areas by permanently preserving these areas as sensitive areas.

ESA-24 Recognize that the Oak Savannah is a unique habitat within the City and region and preserve the highest value oak groupings in this area as open space.

ESA-25 Locate development away from the Puget Sound bluff to maintain its value as habitat and as a visual amenity of the City. Ensure bluff stability by strictly limiting development through the subdivision and zoning processes.

ESA-26 Protect near-shore habitats for aquatic plants, fish, shellfish and crustaceans by limiting the activities allowed along the DuPont shoreline. Encourage the management practices described by the Washington State Department of Wildlife in their Recommendations for Priority Habitat and Species.

ESA-27 Update the City's Sensitive Areas Ordinance to include: near shore aquatic habitats, selected portions of the Oak Savannah, and preservation of oaks and other significant trees in the areas north of Sequalitchew Creek and within Hoffman Hill Village.

SHORELINES

ESA-28 Periodically review and update Shoreline Management Master Program to ensure consistency with the policies of this Plan, the Shoreline Management Act, and the Department of Ecology Shoreline Policies.

ESA-29 Consider modifying topography at the shoreline area north of the Sequalitchew Creek ravine for a community park along Puget Sound.

ESA-30 Maintain the Conservancy shoreline designation along the Puget Sound shoreline within the City of DuPont except for the Tatsolo Special Management Unit near the northern most city limits.

ESA-31 Utilize the process and provisions of the Shoreline Management Act to prevent the inherent harm in an uncoordinated and piecemeal development of shoreline within the City of DuPont.

ESA-32 Encourage water-dependent uses where appropriate that are consistent with control of pollution and prevention of damage to the natural environment, and are dependent upon use of a shoreline.

THE DESTRUCTION OF HISTORIC SEQUALITCHEW CREEK

Preface

This paper chronicles the events that have led to the degradation and could lead to the destruction of historic Sequalitchew Creek and Edmonds Marsh.

A Hydrologic Context

Sequalitchew Creek and Edmonds Marsh are located in the American Lake subwatershed of the Chambers/Clover Creek Watershed (WRIA 12). This subwatershed supports a number of lakes including American, Gravelly, Louise and Sequalitchew, wetlands including Kinsey, McKay, Hamer, Park, Elliot, Sears and Edmonds Marshes and streams including Murray and Sequalitchew Creeks. The topography of this subwatershed is fairly flat; as a result, surface water tends to accumulate in lakes and wetlands. Groundwater has an important hydrologic role within this watershed because it supplies water to American Lake, Gravelly Lake, Lake Louise, Sequalitchew Lake, Murray and Sequalitchew Creeks and the many wetlands located in this subwatershed.

The Importance of Sequalitchew Lake and Sequalitchew Creek

Sequalitchew Lake is about 80 acres in extent and is located approximately one-half mile southwest of American Lake. The lake varies in depth from 6 to 15 feet. It is fed primarily from groundwater sources, including Sequalitchew Springs. The springs are located at the northeastern corner of the lake and provide a substantial portion of the drinking water supply for the Fort Lewis military installation. In 1959 and 1960, Sequalitchew Lake was utilized by the Washington Department of Fisheries as a fish farm that reared and released coho salmon to Sequalitchew Creek. From 1976 until the mid 1990s the Washington Department of Fisheries operated a coho fish hatchery and rearing facility on Sequalitchew Lake. In the past, Native Americans caught from 3,500 to 4,000 fish annually in Sequalitchew Creek.

The Beginning of Degradation of Sequalitchew Creek and Associated Wetlands

An overflow from American Lake historically drained through a natural channel into Sequalitchew Lake. Though it appears that this connection is now severed and the only connection between the two lakes is subsurface (groundwater) flow, there is a manmade weir and canal system that drains water from the surface of American Lake when its level exceeds 233 feet above mean sea level. Sequalitchew Lake has its own manmade overflow outlet that forms the beginning of Sequalitchew Creek. To control the water level in Sequalitchew Lake, which fluctuates year around because of varying groundwater input (discharge) into the lake, Fort Lewis, around 1950, constructed a diversion dam/canal structure at the outlet of Sequalitchew Lake. This structure directs water that originates in Hamer Marsh, east of the Sequalitchew Creek and part of Lake Sequalitchew's overflow into a drainage ditch that continues west for one mile, and then turns north to empty into Puget Sound at Tatsolo Point. This 1950 Fort Lewis Hamar

Marsh/Sequalitchew Lake surface water drainage and diversion system was the second human act leading to the diminishment of historical flows and degradation of water quality in Sequalitchew Creek and Edmonds Marsh. The first human act of degradation was Fort Lewis' tapping of Sequalitchew Springs as a domestic water source.

In 1980 the Department of Ecology closed the subwatershed to the issuance of new consumptive surface water rights because of concerns about declining groundwater levels, diminished stream flows and lowered wetland and lake levels. In the winter of 1989 American Lake experienced the first toxic algae bloom to be documented in any lake in Western Washington. Eleven pets were poisoned, five died. The cause of this, and its recurring toxic algae blooms, has been attributed to groundwater pollution from septic system effluent (phosphorus) and diminished groundwater flow through (loss of dilution), or lake flushing action, because of lower groundwater levels. Carp Lake (near Lake Louise) has gone dry in recent years as a result of declining groundwater levels.

To summarize: Draining surface water through constructed canals (drainage ditches) to Puget Sound and extraction of groundwater in excess of its replenishment has resulted in diminished stream flows and degradation of the quality of water in those streams, dry streams, drying wetlands and stagnant and toxic algae infested lakes.

The Environmental Threat Posed by Glacier Northwest's Gravel Mining Expansion

Further degradation, if not destruction, of Sequalitchew Creek and Edmonds Marsh is likely as a result of Glacier Northwest's proposed gravel mining expansion.

Glacier's proposed 177-acre gravel mine expansion will involve the removal of 184 acres of forest and topsoil. It will create a 550-acre hole in the underlying gravel as 40 million tons of gravel is extracted over the next 14 years. The pit will be 80 feet deep and expose an underlying aquifer. The flow from this exposed aquifer (estimated at approximately 6.5 million gallons per day) will be directed down a man made ditch to Sequalitchew Creek with a flow eight times that of present Sequalitchew Creek. This dewatering of the aquifer will lower the groundwater level in the vicinity by as much as 30 feet!

Glacier claims that this dewatering of the exposed aquifer will reduce by 3 inches groundwater levels under the Sequalitchew Springs that supplies Fort Lewis with its drinking water. It would cut in half the flows in the upper part of Sequalitchew Creek, which already frequently runs dry during the summer months (from the effects of Fort Lewis' withdrawal of water from Sequalitchew Springs). DuPont is concerned about this project's impact on culturally and environmentally important Edmonds Marsh. Glacier claims that the lowering of the water table beneath the Marsh by 12 to 18 inches will not adversely affect the Marsh! Glacier also claims that DuPont's drinking water wells should not be adversely effected. We have heard all these optimistic forecasts before in the Lakewood area. Sewering of the area was supposed to drop groundwater levels by 6 inches. Groundwater levels dropped by 3 feet (as recorded by Kris Kauffman in comparing Gravelly Lake's level pre vs post sewering) as a result of this "dewatering" (conversion from septic systems to a sewer system) activity by Pierce County. Similar

optimistic forecasts have been made indicating that Lakewood Water District's acquisition of Abitibi water rights will have minimal impacts on lake levels/groundwater flow through (dilution), discharge rates at springs that supply water at WDFW hatcheries and groundwater discharge into lower Clover Creek in Lakewood and surrounds.

If this project is permitted to proceed and it is later found out that upper Sequalitchew Creek remains dry year around, Fort Lewis's drinking water supply from Sequalitchew Springs is diminished and its quality degraded, Edmonds Marsh dries up and becomes a nitrate and phosphate source (due to mineralization of is organic deposits) to contaminate groundwater (which is already the case in the marshes located in the area south of Spanaway Lake), and DuPont's domestic water supply is diminished and degraded (by nitrate buildup) what can be done to stop the continued dewatering of the entire area by exposure of an aquifer that previously flowed subsurface very slowly to Puget Sound and emanated as springs and seeps all along the bluffs overlooking Puget Sound?

Conclusion

I served on the planning committee that was charged with the responsibility of developing a Chambers/Clover Creek Watershed Management Plan. Its purpose was to assure an adequate quantity of water in the watershed for people (development) and fish (instream flows). The Plan was not acceptable to the Puyallup Tribe (and therefore not implemented) because the Technical Assessment upon which the Plan was based failed to define the quantity and quality (and interactions) of the surface/ground water resource to be managed. The expert drafters of the Technical Assessment acknowledged that the data available about the interdependence of surface and ground water was insufficient to forecast the likely outcome of increased groundwater withdrawals upon surface water bodies. I currently serve on a committee that is advising the USGS in the development of a Chambers/Clover Watershed numerical groundwater model. This tool will be used to forecast the likely surface water impact of increased groundwater withdrawals in the Chambers/Clover Creek watershed. Until this model is developed, promulgated (in about two years) and used by hydrologists, any assertion about how little adverse impact Glacier Northwest's dewatered of an underlying aquifer will have on contiguous Sequalitchew Creek, Edmond Marsh, and other surface water bodies throughout the American Lake subwatershed, and Fort Lewis'and DuPont's domestic water supply should be consider biased speculations.

The history of the American/Sequalitchew Lake subwatershed clearly indicates that man's activities (surface water diversion and drainage and groundwater extraction) are the proximate cause of the past degradation of the streams, wetlands and lakes of this subwatershed. It is likely, despite any assurances to the contrary, that the anticipated 6.5 million gallon per day dewatering of the aquifer that sustains springs, streams, wetlands and lakes in this subwatershed will cause extensive and irreversible environmental damage and compromise the domestic water source for Fort Lewis and DuPont.

Don Russell (5/6/08)
krdr1@juno.com

THE RESTORATION OF HISTORIC SEQUALITCHEW CREEK

Preface

This paper chronicles the events that have led to the degradation of historic Sequalitchew Creek and describes an alternative for its restoration as a viable salmon-bearing stream.

A Hydrologic Context

Sequalitchew Creek and Edmonds Marsh are located in the American Lake subwatershed of the Chambers/Clover Creek Watershed (WRIA 12). This subwatershed supports a number of lakes including American, Gravelly, Louise and Sequalitchew, wetlands including Kinsey, McKay, Hamer, Park, Elliot, Sears and Edmonds Marshes and streams including Murray and Sequalitchew Creeks. The topography of this subwatershed is fairly flat; as a result, surface water tends to accumulate in lakes and wetlands. Groundwater has an important hydrologic role within this watershed because it supplies water to American Lake, Gravelly Lake, Lake Louise, Sequalitchew Lake, Murray and Sequalitchew Creeks and the many wetlands located in this subwatershed.

The Importance of Sequalitchew Lake and Sequalitchew Creek

Sequalitchew Lake is about 80 acres in extent and is located approximately one-half mile southwest of American Lake. The lake varies in depth from 6 to 15 feet. It is fed primarily from groundwater sources, including Sequalitchew Springs. The springs are located at the northeastern corner of the lake and provide a substantial portion of the drinking water supply for the Fort Lewis military installation. In 1959 and 1960, Sequalitchew Lake was utilized by the Washington Department of Fisheries as a fish farm that reared and released coho salmon to Sequalitchew Creek. From 1976 until the mid 1990s the Washington Department of Fisheries operated a coho fish hatchery and rearing facility on Sequalitchew Lake. In the past, Native Americans caught from 3,500 to 4,000 fish annually in Sequalitchew Creek.

The Beginning of Degradation of Sequalitchew Creek and Associated Wetlands

An overflow from American Lake historically drained through a natural channel into Sequalitchew Lake. Though it appears that this connection is now severed and the only connection between the two lakes is subsurface (groundwater) flow, there is a manmade weir and canal system that drains water from the surface of American Lake when its level exceeds 233 feet above mean sea level. Sequalitchew Lake has its own manmade overflow outlet that forms the beginning of Sequalitchew Creek. To control the water level in Sequalitchew Lake, which fluctuates year around because of varying groundwater input (discharge) into the lake, Fort Lewis, around 1950, constructed a diversion dam/canal structure at the outlet of Sequalitchew Lake. This structure directs water that originates in Hamer Marsh, east of the Sequalitchew Creek and part of Lake Sequalitchew's overflow into a drainage ditch that continues west for one mile, and then turns north to empty into Puget Sound at Tatsolo Point. This 1950 Fort Lewis Hamar

Marsh/Sequalitchew Lake surface water drainage and diversion system was the second human act leading to the diminishment of historical flows and degradation of water quality in Sequalitchew Creek and Edmonds Marsh. The first human act of degradation was Fort Lewis' tapping of Sequalitchew Springs as a domestic water source.

In 1980 the Department of Ecology closed the subwatershed to the issuance of new consumptive surface water rights because of concerns about declining groundwater levels, diminished stream flows and lowered wetland and lake levels. In the winter of 1989 American Lake experienced the first toxic algae bloom to be documented in any lake in Western Washington. Eleven pets were poisoned, five died. The cause of this, and its recurring toxic algae blooms, has been attributed to groundwater pollution from septic system effluent (phosphorus) and diminished groundwater flow through (loss of dilution), or lake flushing action, because of lower groundwater levels. Carp Lake (near Lake Louise) has gone dry in recent years as a result of declining groundwater levels.

To summarize: Draining surface water through constructed canals (drainage ditches) to Puget Sound and extraction of groundwater in excess of its replenishment has resulted in diminished stream flows and degradation of the quality of water in those streams, dry streams, drying wetlands and stagnant and toxic algae infested lakes.

Restoration of Historic Sequalitchew Creek and Edmonds Marsh

The fish and wildlife habitat that formerly existed in the corridor from Sequalitchew Lake via Squalitchew Creek/Edmonds Marsh to Puget Sound could be restored by a joint effort of Fort Lewis, the City of DuPont and the Nisqually Tribe. The elements of this restoration project would include the following.

Re-engineering of the diversion/canal structure at the outlet of Sequalitchew Lake in a way that allows management of Sequalitchew Lake levels (to protect the Sequalitchew Springs waterworks), provides fish passage into Sequalitchew Lake and directs groundwater leaving Hamar Marsh and Sequalitchew Lake to flow down a rehabilitated Spanaway Creek to Edmonds Marsh and on to Puget Sound.

Using the existing Fort Lewis ditch that runs northwest and empties into Puget Sound at Tatsolo Point as a means of draining off groundwater discharge that is in excess of Sequalitchew Creek's safe maximum capacity. Groundwater flooding events occur only occasionally and after periods of extreme and prolonged periods of precipitation.

Developing a saltwater marsh and estuary at the mouth of Stequalitchew Creek to provide a suitable salt-to-fresh water acclimation habitat for returning mature salmon and fresh-to-salt water acclimation and rearing habitat for outbound salmon smolts. The Nisqually Tribe has lots of experience doing this sort of thing at the Nisqually Delta. Their expertise and contribution would be invaluable in the restoration of the historic Sequalitchew Lake to Puget Sound salmon and wildlife corridor.

The Benefits of Restoration of the Historic Sequalitchew Creek Corridor

Restoration of the historic Sequalitchew Lake to Puget Sound salmon and wildlife corridor would provide the following benefits.

- Salmon access to their historic and natural spawning grounds and over-the-dry season salmon smolt rearing habitats (i.e., groundwater fed marshes).

- In addition to restoration of chum and coho salmon runs there exists the possibility of restoration of sockeye salmon populations once access to groundwater fed Sequalitchew Lake is re-established.

- A restored and functioning salmon bearing stream running through the heart of the City of Dupont would enhance the City's attractiveness for residents and a major draw for tourists.

- The natural hydrology of the American Lake subwatershed would be restored which would assure healthy and natural functioning of the many springs, streams, wetlands and lakes that comprise this watershed.

- Groundwater quantity and quality would improve as a result of restoration of the natural functioning of the extensive wetland areas than are characteristic of this subwatershed. These wetlands function to remove pollutants from surface water prior to its infiltrating to recharge underlying aquifers. They provide over-the-dry season refugia for salmon smolts. And they store and release surface water to recharge the aquifers upon which domestic water supplies depend during the dry season.

- The certainty that salmon would return, and much sooner, to a restored historic Sequalitchew Creek would be greater vis-a-vis a manmade North Sequalitchew Creek as proposed by Glacier Northwest and currently embraced by the Nisqually Tribe.

In Conclusion

The needs and desires of Fort Lewis, residents of the City of DuPont, the Nisqually Tribe, salmon and wildlife will be better served by restoring the natural functioning of the historic Sequalitchew Lake to Puget Sound salmon and wildlife corridor than would occur should Glacier Northwest be allowed to dewatering the aquifer that sustained this corridor's natural condition.

Don Russell (5/7/08)
krdr1@juno.com

SALMONID HABITAT LIMITING FACTORS ANALYSIS

CHAMBERS-CLOVER CREEK WATERSHED

(Including Sequalitchew Creek and Independent Tributaries)

WATER RESOURCE INVENTORY AREA

12

Judy Runge
Marc Marcantonio
Monty Mahan
Pierce Conservation District

June 2003

Sequalitchew Creek

The Sequalitchew Creek watershed lies south of Tacoma between the communities of DuPont, Fort Lewis, and Lakewood and drains an area of 38.4 square miles (Clothier, et al 2003).

Kinsey Marsh, which lies south of McChord Air Force Base, is the beginning of the upper watershed. Murray Creek drains this marsh and flows south and west through the center of Fort Lewis. It flows under I-5 and through the Camp Murray National Guard Station. Then, after 3.8 miles, it enters American Lake

(1,162 surface acres) on the southeast shoreline. One section of the creek was modified and deepened in the 1940s so that soldiers could be trained to cross 6 foot deep streams. The creek is currently experiencing flows much lower than historic levels, and invasive, non-native plant species have overrun the creek (PCPWU 1997).

The overflow from American Lake historically drained into Sequalitchew Lake (80.9 surface acres) (Wolcott 1973). Though it appears that this connection is now severed and the only connection between the two lakes is underground, Fort Lewis officials report that a connection remains through a canal system constructed by Pierce County (Crown, Pers. comm., 2003). Sequalitchew Lake has its own overflow outlet that forms the beginning of Sequalitchew Creek. The water level of both lakes is maintained year round by springs and water table seepage (PCPWU 1997).

A diversion dam for overflow water from the lake, built by Fort Lewis around 1950, lies near the outflow of Sequalitchew Lake. The dam directs water through a canal that originates in Hamer Marsh, east of the creek. Just south of Sequalitchew Lake, the canal passes under the creek through a series of culverts. The canal continues west for one mile, and turns north to empty into Puget Sound at Tatsolo Point. There is disagreement as to the effect of this canal system upon the Creek. Andrews and Swint (1994) reported that the diversion dam and canal structure is a tangled arrangement (See Figure 4: Diagram of Diversion Dam / Canal Structure at Outlet of Sequalitchew Lake) and the effects of this structure on the creek are significant. Fort Lewis officials report that the effects of this structure on Sequalitchew Creek are not significant, and that the structure was constructed to maintain the lake level and flow to Sequalitchew Creek (Crown, Pers. comm., 2003).

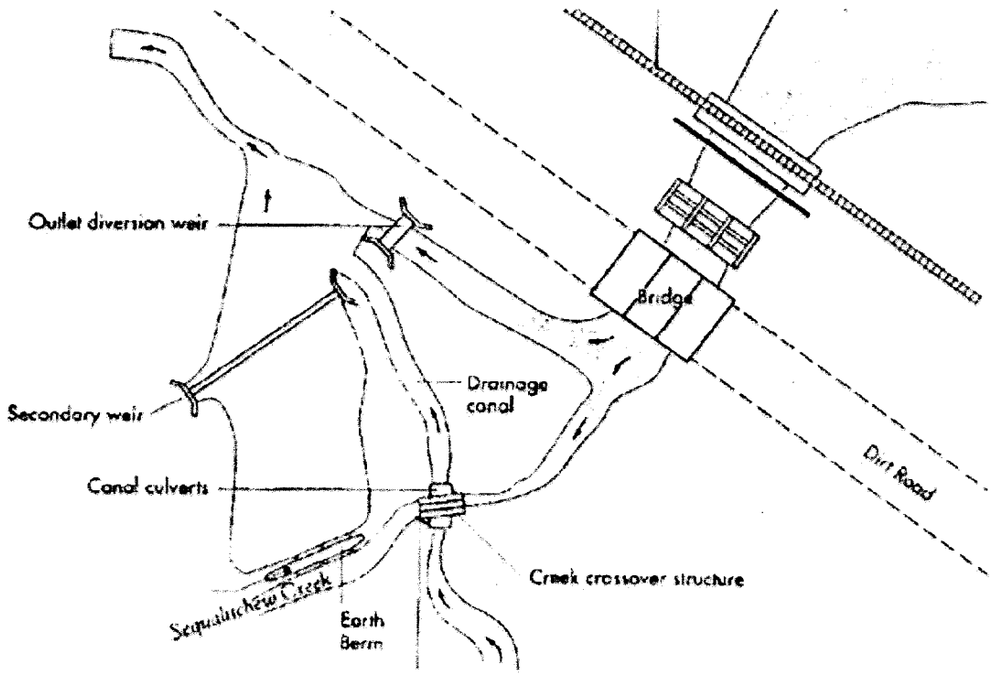


Figure 4: Diagram of Diversion Dam / Canal Structure at Outlet of Sequalitchew Lake
(Courtesy Dave Clouse, Ft. Lewis Army Base)

From its origins at the lake, Sequalitchew Creek drains westerly for 0.5 miles in a dredged channel along the edge of Hamer Marsh on the Fort Lewis Military Reservation. The creek then flows through Edmond Marsh and across more than 1 mile of former DuPont Powder Company – now Weyerhaueser – property. Each of these marshes has more than 100 surface acres. The creek descends 200 feet in elevation through a steep-sided ravine in the lower 1.5 miles, where it abruptly enters salt water south of the old DuPont Wharf location (PCPWU 1997), which has recently been removed.

At this junction with the marine environment, the stream passes through a large culvert under the dike supporting the Northern Pacific and Burlington Northern railroad tracks. Little natural estuary is present, but the extensive Nisqually Flats that lie immediately to the south of the creek mouth provide estuarial rearing for salmon smolts from this system (Williams 1975). Sequalitchew Creek has historically supported runs of Coho salmon up to approximately RM 3.0 and chum salmon have been observed spawning in the lower 200 yards (Williams 1975).

Jeff Wilson

From: Janine Gates <ja9gates@aol.com>
Sent: Wednesday, September 05, 2018 8:16 AM
To: Jeff Wilson
Subject: DuPont Industrial Park application
Attachments: DuPont site.jpg

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Mr. Wilson,

I came into City Hall yesterday to learn more about the proposed DuPont Industrial Park. Janet provided me with a packet of some information. While taking a walk to try and find the site, I found this clearing, picture attached. Is this clearing the site of the Nisqually Methodist Episcopal Mission where Warehouse B would be located? I could not find a marker. Am I looking in the wrong place?

Also, I found one public notice sign regarding the proposed project at the end of Sequalitchew Road cul-de-sac. Would it be possible to put a public notice on the trail where hundreds of individuals would see it? Is this the only sign?

Trying to understand the documents, it looks like there will be a 100 foot buffer between Sequalitchew Creek and the project. Is this correct?

I would like to make an appointment to look at the file on this project so I can better understand its history. I am available tomorrow September 6.

Thank you,

Janine Gates
Little Hollywood Media
www.janineslittlehollywood.blogspot.com
Facebook: Little Hollywood Media
Twitter: @Ja9Olympia
(360) 791-7736

DuPont Industrial Property (PLNG2018-08, -09, -047) Summary of Historical Documents and Agreements Re: Cultural Resources Chronological Order by Date				
#	**Document Title**	**Date/ Recording No.**	**On Title?**	**Summary**
1	MOA between DAHP, WRECO, and City (City files)	8/7/1989	No	MOU to provide cooperation for a Cultural Resources Management Plan (systematic and coordinated program to avoid or mitigate any adverse effects on significant cultural resources as a result of development activity). The property would be developed in cooperation with the City and in compliance with the 1985 Comp Plan and Zoning Code, which includes policies and regulations to protect cultural resources. The City has created a 971-acre LID No. 1 on the property and may create additional LIDs to finance and construct infrastructure. Cultural Resources could be affected by development. Prior to development a cultural resources survey shall be done. Evaluate National Historic Register criteria Complete comprehensive CRMP. The CRMP shall include mitigation measures that are included or are eligible for inclusion in National Register. These may include signing, patrolling, fencing, preservation, relocation, data recovery, salvage, etc. A Scientific Technical Review Team shall provide comments on the CRMP Avoid cultural resources eligible for the National Register by redesigning or relocating proposed development activities. When it is not prudent or feasible to avoid Cultural Resources that is eligible for listing, it shall be documented and a data recovery or recordation program developed in accordance with "Treatment of Archaeological Property: A Handbook". During development, the Cultural Resources Consultant shall brief construction supervisors on Cultural Resource concerns as part of a technical environmental briefing program. Inadvertent Discover protocols required with specific details about who gets what. SHPO shall be informed on an ongoing basis of decisions. If the City issuing permits for development imposes additional requirements, they are to be integrated with the CRMP.
	CRMP	1989	n/a	Did not locate

Attachment 12.a. Summary of Historical Resources prepared by Lisa Klein, planning consultant to the City

2	Consent Decree per CERCLA and MTCA (Submitted with application)	7/17/1991 91-2-01703-1	No	Ecology v. WRECO and DuPont Company Purpose: Remedial action for hazardous substances with intent of determining a permanent cleanup option for the entire Site. Affects: Burn Area (DuPont Industrial Property) and Black Powder Area (north) Effective: until written notice remedial plan completed. The Work Plan anticipated up to 3 yrs • Past activities raise concerns for release of hazardous substances • Defendants are liable • Contractors shall be notified of the Decree • Previous Site Investigations listed in Decree include: ○ 1985 Hart Crowser Study ○ 1986-1988 Soils sampling • Prior to entry into the Decree, WRECO completed cleanup actions at Areas 21, 27, 28, and 29 with Ecology oversight. Formal review would occur later. • Work to be Performed per Ex A: Addtl surveying and testing, groundwater monitoring and sampling, sediment study; • Feasibility Study required for alternatives for each contaminated area for permanent solutions and costs. • Black Powder area is contaminated with lead. Once interim actions are complete it can be removed from Consent Decree area. • Cultural Resources Mgmt Plan needs to ensure that remediation will protect cultural resources • a Cultural Resources Mgmt Plan shall be prepared in consultation with DAHP • Also prepare a Cultural Resources Protection Plan subject to Ecology approval Records to be retained for 10 years after Certificate of Completion Ecology is responsible for community relations
3	1989 Miscellaneous Explorations and Excavations by Moura (provided by SEPA comment)	Sept 1991	No	• Archaeological investigations conducted in 1989 led to three areas of interest north of Sequalitchew Creek and east of the old DuPont Company burning ground dump. Upon completion of investigations it was determined these areas represented remains from the 1938-1842 Methodist-Episcopal Mission; the 1904 U.S. Cavalry stables; and a post-1906 railroad dump. • The report documents the history of the three areas and describes artifacts found

				• Concludes the properties are poart of a complex cultural landscape which shelters heritage resources which date from 5,000 to 50 years ago. These resources are in the form of archaeological deposits which are not readily apparent on the surface of the ground. • Recommends monitoring of any earth moving activities to identify significant remains. "Continued survey, evaluation and monitoring is essential across Northwest Landing to sustain the high level of preservation ethic which has been displayed to date."
4	Cultural Resources Report prepared for WRECO (unknown source)	Undated (post 1998)	No	Chronological timeline of historic events Research and exploration activities at historic sites Protection measures pertaining to historic sites Appendices include MOU, MOA, DAHP documents, Natl Register Listings
5	MOA between WRECO, Nisqually Point Defense Fund, Committee for the Preservation of the Nisqually Mission Historical Site, Nisqually Delta Assn. and the DuPont Historical Society (City files)	12/19/2000	No	MOU to provide cooperation during development of property. Acknowledge Consent Decree and need for cleanup. NPDF submitted a proposal to the US Dept. of Interior to include the property on the National Register of Historic Places. WRECO will support the listing of the Property for inclusion on the National Register of Historic Places. Comp Plan and Zoning are consistent with this MOA City has granted final development and/or land use entitlement approvals for the development of all developable portions of the property (excluding open space, sensitive areas and buffers) and appeal periods have expired without appeals filed. NPDF is interested in purchasing Mission Site and an Interpretive Center site. Parties agree to negotiate in good faith; conveyance subject to subdivision and release from Consent Decree; SEPA may obligate the City to impose additional conditions; All parties acknowledge and agree to honor this MOA and to actively oppose any future actions by another entity that would have more than a minimal material adverse effect on the terms of the Agreement. If additional conditions that relate to cultural resource preservation that are not consistent with the terms herein are proposed upon any portion of the Property (other than the State via SEPA) the parties agree to meet to consider means to resolve any conflict posed by such conditions. If the parties fail to resolve within 90 days this MOA shall be null and void and none of the parties shall have any further rights or obligations. Agree to collectively support all actions that are consistent with the terms of this MOA and oppose any that are not.

				WRECO agrees to construct and install at its sole expense at least one commemorative marker for each of the following Historic Sites: o Wilkes Observatory (not on DuPont Industrial Property) o Sequality Village/Nisqually House (not on DuPont Industrial Property) o Oxen Road (not on DuPont Industrial Property) o 1833 Hudson Bay Company Fort (not on DuPont Industrial Property) o 1843 Hudson Bay Company Fort (not on DuPont Industrial Property) o Methodist/Episcopal Mission (on DuPont Industrial property) o DuPont Company Works (not on DuPont Industrial Property) A system of pedestrian connections linking the Historic Sites will be allowed, however construction of such connections shall not be the responsibility of the Citizen Groups. A map showing location was attached.
6	Notice of Historic District Designation and First Amendment (Title Report)	12/20/2000 200101120143 Amendment: 3/27/2006 200606120310	Yes Yes	• Notice that the Nisqually Point Defense Fund (NPDF) nominated a portion of Northwest Landing for the National Register of Historic Places. The area is the Nisqually-Sequalitchew Historic District. Portions of the golf course property and DuPont Industrial property are included. • The purpose of the Covenant is to insure that future purchasers are aware that all or a portion of the property is to be on the Historic Register. • Anyone purchasing property agrees not to object and during the process of site plan and/or other development approval process, the City of DuPont does not impose any conditions regarding historic resources that are inconsistent with those cited herein. • The Notice shall terminate when the Historic District is listed or it is withdrawn from its nomination or the MOA is determined invalid. • The amendment modified the area covered, the DIP is still included. • [Per the Parus Report, two sites (RR Dump #3 and Burning Ground Dump) were determined not eligible for NRHP listing in 1993 and were completely removed during hazardous materials remediation in 2000. • [Note: as of the 2011 Parus Report, the proposed listing had not yet been approved. The Parus report also says on Pg 32: Although the Mission site has been determined eligible for NRHP listing under Criterion A for its association with significant events and also contributes to the proposed N-S Historic District, site 45PI66 is not eligible under Criterion D (data potential). Similarly for 9th US Cavalry Buffalo Soldiers. Isolate 45PI773 is considered ineligible for NRHP listing]
7	Cultural Heritage Committee Report to City Council	6/26/2007	No	Committee was convened for a period of one year to investigate status of historical sites and archaeological resources and recommend action that should be taken for their protection and promotion. Recommendations:

				• Acquire 6 sites: including the Methodist-Episcopal Mission Site • Interpretive signage the trail system and other historic site signage • Expand Historical Society role and PW Dept. staffing • Recommended various financing tools for the costs • Develop a trail system map with the DuPont Historical Society • Partner with the Nisqually Tribe to create signage that includes the Native American Story • Continue to pursue placement of the Nisqually Sequalitchew District on the National Register of Historic Places • Identify the location of the Buffalo Soldier Site for protection
8	Quadrant Letter to City of DuPont (provided with SEPA comment)	March 16, 2009	No	Regarding transfer of property for open space from Weyerhaeuser Company (c/o Quadrant) to the City to occur no later than Nov 1, 2009. The transfer was for property north of Sequalitchew Creek. Letter descries commitment for preservation of the Mission site. "We will not market the MRP property without representing the requirement to preserve the Mission Site to prospective buyers and will address in any Purchase and Sale Agmt for the property we execute."
9	Archaeological Information compiled for Quadrant Homes (provided with SEPA comment)	May 2010	No	Quadrant proposes to deed to the City an interpretive site of about one acre, located along the creek in Lot Y, through which Quadrant is developing part of a public trail. The Proposed N-S Historic District is pending fulfillment of several terms provided for in a MOA.
10	Cultural Resources Report prepared by Sikes and Arrington of Parus Consulting (submitted with application)	4/14/2011	No	• Pedestrian survey and examination of subsurface sediments in series of 125 shovel test probes and 22 geotechnical exploration pits. The work was monitored by Nisqually Tribe. • Contains Inadvertent Discover Plan • Two historic archaeological sites (Methodist Episcopal Mission and 9th US Cavalry Bivouac site) • Mission site (45PI66) determined "eligible" for listing on the national register under Criterion A • 9th Cavalry (45PI455) is listed as "potentially eligible" for listing • Both sites are contributing elements to a proposed N-S Historic District. Unclear if it will meet criteria. • Prior studies and excavation have occurred. • No surface evidence remains • Two additional historic sites were determined not eligible for listing (Railroad Dump and Burning Ground Dump)

				• Plans for public access along the trail to be constructed to the south of the industrial park include erection of an interpretive sign explaining the history of the temporary encampment of the 9th US Cavalry Buffalo Soldiers and discovery of the stables area. • The existing historical marker will be moved to the trailhead where the public will have continued access to read about the history of the Mission, the first religious institution on Puget Sound, established in 1840. • Eight other prior cultural resources investigations have occurred on the Lot Y property and numerous others in the vicinity. • "No historic properties will be affected by implementation of the Lot Y project." Page 32 • Although the Mission site has been determined eligible for NRHP listing under Criterion A for its association with significant events and also contributes to the proposed N-S Historic District, site 45PI66 is not eligible under Criterion D (data potential). Similarly for 9th US Cavalry Buffalo Soldiers. Isolate 45PI773 is considered ineligible for NRHP listing. • The project area is considered highly sensitive for prehistoric, ethnohistoric, and historic-era cultural resources. On the other hand, Lot Y has been extensively disturbed beginning with historic period settlement in the early 1880s, operation of DuPont Powder Works in the early to mid-1900s, followed by archaeological and environmental remediation activities. The potential for discovery of buried archaeological materials, features or deposits is considered low. No further cultural resources action is warranted.
11	Comment Letter from DAHP (submitted with application)	5/4/2011	No	Reviewed Sikes and Arrington Archaeological Survey Report and commented: • Would like to review and comment on future project plans; • Will need to discuss moving the Methodist Mission marker with the Proponents when there is more information; • Recommends narrow gauge railroad track segment be retained in place.
12	DuPont Industrial Partners Response Letter to DAHP (submitted with application)	6/8/2011	No	Agree to provide additional information and coordinate on MM Marker. Railroad track is a safety hazard, would like to donate it to the DuPont Museum, however they have several hundred feet in storage.
13	Memo to file from City Planner Bill Kingman (provided by NDA)	3/13/2012	No	Documents a phone call regarding the proposed trail alignment. A better location for the trail is on the south side of Lot Y but it will have to wait until Lot Y develops due to reluctance of the present property owner.
14	DuPont Heritage Plan prepared by DuPont Historical Society	2014	No	• Contains detail about the Methodist episcopal mission site • The first American building erected in the PS region • They were the first US citizens to settle north of the Columbia and west of

				the Cascades • Lasted 3 years. Shortly later the Mission burned. • Recommended an interpretive marker placed next to commemorations of the 1841 Independence Day Celebration and 1904 Buffalo Soldier encampment. • Long term: build a replica of the Mission • Decision makers include DuPont Tourism Board and DuPont Historical Society
15	House Resolution 4615	2/14/2017	No	• Resolution by WA House of Representatives honoring the bravery and dedication of the Buffalo Soldiers on the 150th anniversary of their formation
18	Mayor's Proclamation re: Buffalo Soldiers	Feb. 2019	No	• Proclamation about the important history of the Buffalo Soldiers and marking Feb. 2019 as Buffalo Soldiers Month.

UNOFFICIAL DOCUMENT

BK 1428PG3399

9712230865

After Recording Return To:
Terri L. Vancil
Weyerhaeuser Real Estate Company
WRE 1-1
P.O. Box 2999
Tacoma, WA 98477-2999

97 DEC 23 PM 3:59

RECORDED
CATHY PEARSALL-STIPEK
AUDITOR PIERCE CO. WASH

Document Title(s) (or transactions contained therein): 1. **Declaration of Restrictive Covenant** 2. 3. 4.
Grantor(s) Name (last, first, and initials): 1. **Weyerhaeuser Real Estate Company** 2. 3. 4. 5. ☐ Additional Names on Page _____ of Document
Grantee(s) Name (last, first, and initials): 1. **The Public** 2. 3. 4. ☐ Additional Names on Page _____ of Document
Legal Description (Abbreviated i.e. lot/block and plat or section, township and range) **A portion of the Southeast quarter of Section 22 AND a portion of the South half of Section 23 AND a portion of the North half of Section 26 AND a portion of the Northeast quarter of Section 27, ALL in Township 19 North, Range 1 East, W.M., City of DuPont, County of Pierce, State of Washington.** Legal Description is on **pages 7 and 8** of Document.
Reference Number(s) of Documents Assigned or Released: 1. **None** 2. 3. 4. ☐ Additional Reference Numbers on Page _____ of Document
Assessor's Tax Parcel / Account Number(s) **a portion of 01-19-23-3-005** **01-19-26-2-005** **01-19-22-3-001**

TRANS
9724867W
DEC 23 1997

Attachment 12.b. Declaration of Restrictive Covenant dated December 23, 1997, recording no. 9712230865, regarding remedial action under the Washington Model Toxics Control Act.

9712230865

For reference only, not for official use
NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE
IT IS DUE TO THE QUALITY OF THE DOCUMENT.

UNOFFICIAL DOCUMENT

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NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

BK 1428 PG 3400

DECLARATION OF RESTRICTIVE COVENANT

This Declaration of Restrictive Covenant is made this _____day of December, 1997, by the Weyerhaeuser Real Estate Company ("Weyerhaeuser") the fee title owner of the real property herein described, in favor of the State of Washington, Department of Ecology ("Ecology").

The property that is the subject of this Restrictive Covenant was the subject of remedial action under the Washington Model Toxics Control Act ("MTCA") Chapter 70.105D RCW. This Restrictive Covenant is required by RCW 70.105D.030(1)(g) and WAC 173-340-440 (as amended 1/96) because an "industrial soil" cleanup standard was selected for soils on the site under WAC 173-340-745, resulting in residual concentrations of contaminants which exceed Ecology's residential soil cleanup standards. The remedial action undertaken to clean up the property is described in the Consent Decree entered in State of Washington vs. Weyerhaeuser Co.; Inc and DuPont Co., Inc., Pierce County Cause No. 91-2-01073-1 and in a Cleanup Action Plan dated March 4, 1997. The Cleanup Action Plan is on file and available for inspection at the Washington State Department of Ecology, Toxics Cleanup Program, P.O. Box 47775, Olympia, WA 98504-7775.

The property, known as the "Former DuPont Works Site" ("Property") is an 841-acre parcel of real property located in Pierce County, more particularly described in Exhibit A attached hereto and made a part hereof. The property is divided into two separate parcels identified as Parcels 1 and 2, Parcel 2 consisting of 205 acres located north of Sequalitchew Creek.

In the Cleanup Action Plan, Ecology selected a "cleanup action" for the Property, which provides for the following actions:

> Establishment of Institutional Controls (environmental protection easement and deed restriction) in affected areas to prevent uses of the real property other than traditional industrial uses, such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment or distribution of manufactured products, or storage of bulk materials and other uses permitted on industrial properties by the MTCA;

With the exception of the establishment of institutional controls in affected areas, no further cleanup action is required on Parcel 2. As a result of interim cleanup actions now complete, Parcel 2 soils, surface water and ground water meet cleanup standards for industrial properties under the MTCA, as described in WAC 173-340.

Weyerhaeuser intends to subdivide and sell portions of Parcel 2 only to persons that would use the property for traditional industrial uses. Portions of the property, in the existing condition or after performance of cleanup actions, may meet soil, surface water and ground water cleanup standards under the MTCA for residential and/or commercial properties, and, in such case, Weyerhaeuser or its successors and assigns may elect to apply to Ecology for removal of this Restrictive Covenant for those portions.

9712230865

For reference only, not for resale.

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Weyerhaeuser and Ecology have agreed that it is appropriate and necessary to: 1) impose deed restrictions on the Property as a covenant that will run with the land for the purpose of ensuring that uses of the Property will be limited to the traditional industrial uses; 2) grant a right of access to Ecology for the purpose of monitoring and enforcing the industrial use deed restrictions imposed on the Property; and 3) grant a right of access to Ecology for the purpose of reviewing, facilitating and approving or disapproving any application made by Weyerhaeuser and its successors and assigns to remove the industrial use deed restrictions.

Weyerhaeuser makes the following declaration as to limitations, restrictions, and uses to which the Property may put, and specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated the property owner without adequate and complete provision for the continued observation of this Restrictive Covenant.

It is the purpose of this instrument to give Ecology the right to ensure that the Property will be used only for traditional industrial uses, and to ensure that the property will not be used in a manner that will pose a threat to human health of the environment, and to give Ecology the exclusive right to determine whether and to what extent the deed restriction may be removed from all or any of the Property.

The following covenants, conditions and restrictions apply to the use of the Property, run with the land and are binding on Weyerhaeuser and its successors and assigns.

Section 1. **Restrictions on Use.** Parcel 2 of the Property shall not be developed or used for any activity other than the traditional industrial uses, as described in RCW 70.105D.020(22), and as defined in and allowed under the City of DuPont zoning regulations and Comprehensive Plan (July 1995) for "industrial" uses.

Section 2. **Access.** The owner shall allow authorized representatives of Ecology or of a successor agency, the right to enter the Property at reasonable times for the purpose of:

a) monitoring and enforcing this restrictive covenant;
b) verifying data or information submitted to Ecology;
c) verifying that no action is being taken on the Property in violation of the terms of this instrument; and,
d) monitoring future investigations or cleanup actions, if any, on the Property performed in connection with a request for modification or termination of deed restrictions, including, without limitation, obtaining split or duplicate samples.

Section 3. **Modification or Termination.** The owner of the Property and its successors and assigns reserve the right under WAC 173-340-440 to record an instrument

Unofficial Document

For reference only, not for recording

NOTICE:IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

which provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or of a successor agency. Ecology or its successor may consent to the recording of such an instrument only after public notice and comment. Any application to modify or terminate this restriction shall be submitted to Ecology and shall include soil sampling and analytical data for the real property with respect to which the application is made, and a description of the use of the real property that is planned by the applicant, if such use is other than a traditional industrial use. In making any determination to modify or terminate the deed restrictions with respect to real property for which non-industrial use is planned by the applicant. Ecology shall apply the requirements of MTCA, the MTCA Cleanup Regulation, and the cleanup standards applicable to such uses at Parcel 1.

Section 4. **Reserved Rights.** Weyerhaeuser reserves unto itself and its successors and assigns all rights and privileges in and to the use of the Property which are not incompatible with the restrictions, and rights granted herein.

Section 5. **No Public Access and Use.** No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

Section 6. **Notice Requirement.** Weyerhaeuser and its successors and assigns agree to include in any instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages a notice which is in substantially the following form:

NOTICE: THE INTEREST CONVEYED HEREBY IS SUBJECT TO THE EFFECT OF A RESTRICTIVE COVENANT, DATED _____, RECORDED IN THE PUBLIC LAND RECORDS ON _____, IN BOOK _____, PAGE _____, IN FAVOR OF, AND ENFORCEABLE BY THE STATE OF WASHINGTON.

Within thirty (30) days of the date any instrument conveying a fee title interest is executed, grantor must provide Ecology with a certified true copy of the instrument and, if it has been recorded in the public land records, its recording reference.

Section 7. **Enforcement.** Ecology shall be entitled to enforce the terms of this instrument by resort to specific performance or legal process. All reasonable costs and expenses of Ecology, including but not limited to attorney's fees, incurred in any such enforcement action shall be borne by Weyerhaeuser or its successor in interest to the Property. All remedies available hereunder shall be in addition to any and all remedies at law or in equity, including the MTCA. Enforcement of the terms of this instrument shall be at the discretion of Ecology, and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by Ecology of such term or of any subsequent breach of the same or any other term, or of any of the rights of Ecology under this instrument.

Section 8. **Waiver of Certain Defenses.** Weyerhaeuser hereby waives any defense of laches, estoppel or prescription.

For reference only not for recordation
NOTICE: IF THE DOCUMENT IS A POOR COPY
IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Section 9. **Covenants.** Weyerhaeuser hereby covenants to Ecology that Weyerhaeuser is the fee simple owner of the Property.

Section 10. **Notices.** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give the other shall be in writing and shall be served personally or sent by first class mail postage prepaid, addresses as follows:

To Weyerhaeuser:

V.P. Land Management Division
WRE 1-1
Tacoma, WA 98477-2999

To Ecology:

Washington State Department of Ecology
Toxics Cleanup Program
P.O. Box 47775
Olympia, WA 98504-7775

Weyerhaeuser Real Estate Company has caused this Declaration of Restrictive Covenant to be signed in its name.

EXECUTED this 8th day of December, 1997.

WEYERHAEUSER REAL ESTATE COMPANY

By: Thomas B Miller
Thomas B. Miller
Vice President

For Reference Only - Not For Recording

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

STATE OF WASHINGTON)
: ss.
County of King)

On this 8th day of December, 1997, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Thomas B. Miller, known to be the Vice President of Weyerhaeuser Real Estate Company, the Corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument.

WITNESS my hand and official seal hereto affixed the day and year written above.

TERRI L. VANCIL NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES DEC 15 2000

NOTARY PUBLIC in and for the State of Washington. My commission expires:
Terri L. Vancil
Residing at Olalla

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY
By: Mike L Blum
Name of Person Acknowledging Receipt
Ecology Project Manager - Toxics Cleanup Program
Title

Dated: 12/18/97

Attachments:
Exhibit A - Legal description of property.

UNOFFICIAL DOCUMENT

For reference only, not for sale

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

DuPont Consent Area

EXHIBIT A
LEGAL DESCRIPTION
FOR CONSENT AREA (PARCEL 2)

That portion of the Southeast quarter of Section 22 AND that portion of the South half of Section 23 AND that portion of the North half of Section 26 AND that portion of the Northeast quarter of Section 27, ALL in Township 19 North; Range 1 East, W.M., Pierce County, Washington, being more particularly described as follows:

COMMENCING at the West quarter corner of said Section 26, being a 6" x 6" concrete monument with "X";

THENCE along the West line of said Section, N 01°47'39" E, 2635.01 feet to the Northwest quarter of said Section, being a 6" x 6" concrete monument with "X";

THENCE along the West line of said Section, S 01°47'39" W, 554.70 feet;

THENCE S 88°47'08" E, 65.36 feet to the TRUE POINT OF BEGINNING;

THENCE continuing S 88°47'08" E, 1439.35 feet;

THENCE S 33°00'19" E, 543.91 feet;

THENCE N 87°59'15" E, 833.12 feet to the Westerly margin of the Puget Sound Power and Light Company Easement;

THENCE along said Westerly margin, N 01°40'37" E, and 957.55 feet;

THENCE continuing along said Westerly margin, N 02°06'15" E, 1275.17 feet to an angle point on said easement;

THENCE along the Northerly extension of said Westerly margin, N 02°06'15" E, 298.36 feet to an existing 7 foot high chain link fence with barb wire atop;

THENCE along said fence line, N 86°38'04" W, and 549.37 feet;

THENCE N 00°00'00" W, 78.68 feet;

THENCE S 90°00'00" W, 262.85 feet;

THENCE N 00°00'00" W, 397.09 feet;

THENCE S 90°00'00" W, 970.32 feet;

THENCE N 00°00'00" W, 438.74 feet;

For reference only, not for resale

NOTICE:IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

THENCE S 90°00'00" W, 286.79 feet;

THENCE S 00°00'00" E, 226.33 feet;

THENCE S 90°00'00" W, 231.85 feet;

THENCE S 00°00'00" E, 249.16 feet;

THENCE S 89°50'39" W, 1734.93 feet;

THENCE N 00°00'00" W, 258.53 feet;

THENCE S 90°00'00" W, 264.30 feet;

THENCE S 00°00'00" E, 511.38 feet;

THENCE N 90°00'00" E, 261.44 feet;

THENCE S 00°00'00" E, 239.63 feet;

THENCE N 90°00'00" E, 223.81 feet;

THENCE S 00°00'00" E, 252.97 feet;

THENCE N 90°00'00" E, 238.20 feet;

THENCE S 00°00'00" E, 266.87 feet;

THENCE N 90°00'00" E, 300.47 feet;

THENCE S 00°00'00" E, 496.73 feet;

THENCE N 90°00'00" E, 230.46 feet;

THENCE S 00°00'00" E, 224.71 feet;

THENCE N 90°00'00" E, 207.44 feet;

THENCE S 00°00'00" E, 673.76 feet;

THENCE N 90°00'00" E, 134.26 feet to the monumented line of Sequalitchew Creek per that Record of Survey by ESM, Inc. as filed under Recording No. 8907170351, Records of Pierce County, Washington;

THENCE along said monumented line, S 20°43'37" E, 140.33 feet to the TRUE POINT OF BEGINNING.

Containing 205.100 acres (8,934,137 S.F.), more or less.

PIERCE COUNTY, WA
9910290750
10-29-1999 11:39 am
Fee Amt: $17.00

Return Address

Weyerhaeuser Company
P. O. Box 100
DuPont, WA 98327
Attn: Vern Moore

Please print or type information.

Document Title(s) (or transactions contained therein):
1. Declaration of Restrictive Covenant
2.
3.

Grantor(s) (Last name first, then first name and initials)
1. Weyerhaeuser Company
2. Weyerhaeuser Real Estate Company
3.
4. ☐ Additional Names on Page _____ of Document.

Grantee(s) (Last name first, then first name and initials)
1. The Public
2.
3.
4. ☐ Additional Names on Page _____ of Document.

Legal Description (abbreviated: *i.e.*, lot, block, plat or section, township, range)
Portions of Sections 22, 23, 26, and 27, Township 19 North, Range 1 East, W.M. Pierce County, Washington

Full Legal Description on Pages 5-7 of Document.

Reference Number(s) of Documents Assigned or Released:

N/A

☐ Additional Reference Numbers on Page _____ of Document.

Assessor's Property Tax Parcel/Account Number
01-19-22-3002; 01-19-26-2004; 01-19-26-3007; 01-19-27-1001;
01-19-23-3005; 01-19-26-2005; 01-19-22-3001

The Auditor/Recorder will rely on the information provided on this cover sheet. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

For reference only, not for re-sale.

Document Scanned

Attachment 12.c. Declaration of Restrictive Covenant dated October 29, 1999, recording no. 9910290750, regarding remedial action under the Washington Model Toxics Control Act.

9910290750

17

DECLARATION OF RESTRICTIVE COVENANT

This Declaration of Restrictive Covenant is made this 26th day of October, 1999, by Weyerhaeuser Company and by Weyerhaeuser Real Estate Company, the fee title owners of the real property described below (collectively, the "Owners").

1. Property. The collective real property located in DuPont, Washington, legally described on Exhibit A, and commonly referred to as "Parcel One" and "Parcel Two" of the "Former DuPont Works Site," is the subject of remedial action under the Washington Model Toxics Control Act, Chapter 70.105D RCW (the "Property"). Remedial action is currently in process on Parcel One and has been completed on Parcel Two, and is described in the Consent Decree entered in State of Washington v. Weyerhaeuser Co., Inc. and DuPont Co., Inc., Thurston County Cause No. 91-2-01073-1.

2. Restrictions on Use. Parcel Two and, as shown on the map attached as Exhibit B, the Portion of Parcel One north of Sequalitchew Creek, shall be developed and used only for industrial uses. In no event shall any of the Property be developed or used for any of the following activities: residential uses, schools, daycares, or parks, or recreational uses; provided that golf courses and related amenities shall be allowed on Parcel One.

3. Reservation of Rights. The Owners reserve unto themselves, and their successors and assigns, all rights and privileges in and to the use of the Property which are not incompatible with the restrictions and rights granted in this Restrictive Covenant.

4. No Public Access. No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

5. Run with the Land. To the extent that this instrument is construed as a restrictive covenant, it shall run with the land, and shall be binding on the Owners, their successors and assigns, of all or any portion of the Property, without whose consent it cannot be released, modified or amended.

6. Easement in Gross. To the extent that this instrument creates a negative easement, it shall be construed as an easement in gross, for the sole benefit of Weyerhaeuser Company and Weyerhaeuser Real Estate Company, without whose consent it cannot be released, modified or amended.

7. Enforcement. Weyerhaeuser Company, Weyerhaeuser Real Estate Company, and any other fee title holder to all or any portion of the Property, shall have the right to enforce, by any proceedings at law or in equity, all restrictions imposed by the provisions of this Restrictive Covenant. Should Weyerhaeuser Company, Weyerhaeuser Real Estate Company, or any other fee title holder employ legal counsel to enforce this Restrictive Covenant, all costs incurred in such enforcement, including a reasonable fee for legal counsel, shall be paid by the Owner found to be in violation of this document.

9910290750

For reference only, not for re-sale.

8. Severability. Invalidation of any provision or application of a provision of this Restrictive Covenant by any court shall not affect any other provisions or applications.

9. Interpretation. The singular may also include the plural and the masculine may include the feminine, or visa versa, where the context so admits or requires. Captions are included for convenience only.

WEYERHAEUSER COMPANY

By: Robert A. Dowdy
Vice President and General Counsel
(name printed or typed)
Its:
Dated: 10/26/99

WEYERHAEUSER REAL ESTATE COMPANY

By: Thomas B. Miller
Thomas B. Miller
Its: Vice President
Dated: 10/10/99

STATE OF WASHINGTON)
) ss.
County of King)

I certify that I know or have satisfactory evidence that Robert A. Dowdy is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the Vice President of WEYERHAEUSER COMPANY to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED this 26th day of October, 1999.

KATHLEEN T. DRAHOS NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES SEPT 15, 2002

Kathleen T. Drahos
Kathleen T. Drahos
(Type/Print Name above)
Notary Public in and for the State of Washington, residing at Orting
My appointment expires: Sept. 15, 2002

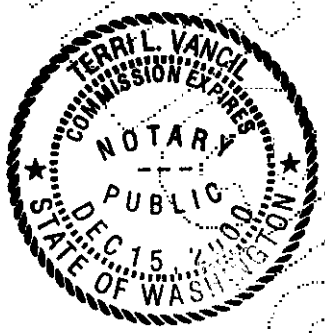
STATE OF WASHINGTON)
) ss.
County of King)

9910290750

For reference only, not for re-sale.

I certify that I know or have satisfactory evidence that THOMAS B. MILLER is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the VICE PRESIDENT of WEYERHAEUSER REAL ESTATE COMPANY to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED this 10 day of October, 1999.



Terri L. Vancil
(Type/Print Name above)
Notary Public in and for the State of Washington, residing at Olalla.
My appointment expires: 12/15/00.

UNOFFICIAL DOCUMENT

For reference only, not for re-sale.

9910290750

Unofficial Document

For reference only, not for re-sale.

EXHIBIT A
TO
DECLARATION OF RESTRICTIVE COVENANT

LEGAL DESCRIPTION FOR
CONSENT AREA (PARCEL 1)

That portion of the South half of Section 22 AND that portion of the West half of Section 26 AND that portion of Section 27, ALL in Township 19 North, Range 1 East, W.M., Pierce County, Washington, being more particularly described as follows:

COMMENCING at the West quarter corner of said Section 26, being a 6" x 6" concrete monument with "X";

THENCE along the West line of said Section, N 01°47'39" E, 2635.01 feet to the Northwest corner of said Section, being a 6" x 6" concrete monument with "X";

THENCE along the West line of said Section, S 01°47'39" W, 554.70 feet to the TRUE POINT OF BEGINNING;

THENCE S 88°47'08" E, 1504.71 feet;

THENCE S 33°00'19" E, 901.00 feet;

THENCE S 01°40'37" W, 1140.43 feet;

THENCE S 39°35'03" W, 1290.96 feet to an existing 7 foot high chain link fence with barb wire atop;

THENCE along said fence line, the following bearings and distances:

S 54°01'26" W, 1898.35 feet;

N 82°31'10" W, 1797.29 feet;

N 68°34'59" W, 3235.77 feet;

N 02°55'12" W, 203.54 feet;

N 14°26'10" E, 386.38 feet;

N 16°58'22" E, 557.84 feet;

N 22°03'49" E, 1918.07 feet;

9910290750

N 30°51'26" E, 610.41 feet;

N 60° 43'57" E, 203.50 feet;

N 45°11'21" E, 1390.65 feet;

N 35°14'28" E, 45.20 feet;

N 12°10'36" E, 20.58 feet;

THENCE N 44°40'54" E, 20.34 feet to a point on the Southerly monumented line of Sequalitchew Creek as shown on that Record of Survey by ESM, Inc. as filed under Recording No. 8907170351, Records of Pierce County, Washington.

THENCE along said monumented line, the following bearings and distances:

N 44°40'54" E, 70.26 feet;

S 53°19'01" E, 95.14 feet;

S 72°27'15" E, 108.17 feet;

S 73°26'19" E, 170.31 feet;

S 09°01'31" E, 75.90 feet;

S 59°28'35" E, 86.92 feet;

N 27°03'38" E, 55.73 feet;

S 56°01'12" E, 77.30 feet;

S 42°37'43" E, 145.44 feet;

S 46°02'34" E, 265.02 feet;

S 55°18'22" E, 186.10 feet;

THENCE leaving said monument line, S 76°12'57" E, 188.49 feet;

THENCE N 52°52'30" E, 75.60 feet;

THENCE N 80°48'55" E, 77.99 feet;

THENCE S 75°01'48" E, 55.61 feet;

THENCE S 81°24'05" E, 39.01 feet;

For reference only, not for re-sale.

Unofficial Document

THENCE S 22°37'33" E, 83.02 feet to said monumented line of Sequalitchew Creek;

THENCE along said monumented line, the following the bearings and distances:

S 61°16'46" E, 243.97 feet;

S 50°59'49" E, 193.72 feet;

S 35°32'26" E, 215.85 feet;

S 26°05'39" E, 165.29 feet;

S 36°52'17" E, 143.38 feet;

S 20°09'56" E, 96.99 feet;

S 15°40'54" E, 191.12 feet;

S 33°57'49" E, 65.28 feet;

S 35°33'50" E, 126.48 feet;

S 44°41'41" E, 147.28 feet;

S 54°34'32" E, 70.01 feet;

THENCE leaving said monumented line and running, S 88°47'08" E, 240.62 feet to the TRUE POINT OF BEGINNING.

Containing 636.183 acres (27,712,128 square feet), more or less.

LEGAL DESCRIPTION FOR CONSENT AREA (PARCEL 2)

That portion of the Southeast quarter of Section 22 AND that portion of the South half of Section 23 AND that portion of the North half of Section 26 AND that portion of the Northeast quarter of Section 27, ALL in Township 19 North, Range 1 East, W.M., Pierce County, Washington, being more particularly described as follows:

COMMENCING at the West quarter corner of said Section 26, being a 6" x 6" concrete monument with "X";

THENCE along the West line of said Section, N 01°47'39" E, 2635.01 feet to the Northwest quarter of said Section, being a 6" x 6" concrete monument with "X";

THENCE along the West line of said Section, S 01°47'39" W, 554.70 feet;

9910290750

For reference only, not for re-sale.

THENCE S 88°47'08" E, 65.36 feet to the TRUE POINT OF BEGINNING;

THENCE continuing S 88°47'08" E, 1439.35 feet;

THENCE S 33°00'19" E, 543.91 feet;

THENCE N 87°59'15" E, 833.12 feet to the Westerly margin of the Puget Sound Power and Light Company Easement;

THENCE along said Westerly margin, N 01°40'37" E, 957.55 feet;

THENCE continuing along said Westerly margin, N 02°06'15" E, 1275.17 feet to an angle point on said easement;

THENCE along the Northerly extension of said Westerly margin N 02°06'15" E, 298.36 feet to an existing 7 foot high chain link fence with barb wire atop;

THENCE along said fence line, N 86°38'04" W, 549.37 feet;

THENCE N 00°00'00" W, 78.68 feet;

THENCE S 90°00'00" W, 262.85 feet;

THENCE N 00°00'00" W, 397.09 feet;

THENCE S 90°00'00" W, 970.32 feet;

THENCE N 00°00'00" W, 438.74 feet;

THENCE S 90°00'00" W 286.79 feet;

THENCE S 00°00'00" E, 226.33 feet;

THENCE S 90°00'0" W, 231.85 feet;

THENCE S 00°00'00" E. 249.16 feet;

THENCE S 89°50'39" W. 1734.93 feet;

THENCE N 00°00'00" W, 258.53 feet;

THENCE S 90°00'00" W, 264.30 feet;

THENCE S 00°00'00" E, 511.38 feet;

THENCE N 90°00'00" E, 261.44 feet;

THENCE S 00°00'00" E, 239.63 feet;

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For reference only, not for re-sale.

Unofficial Document

THENCE N 90°00'00" E, 223.81 feet;

THENCE S 00°00'00" E, 252.97 feet;

THENCE N 90°00'00" E, 238.20 feet;

THENCE S 00°00'00" E, 266.87 feet;

THENCE N 90°00'00" E, 300.47 feet;

THENCE S 00°00'00" E, 496.73 feet;

THENCE N 90°00'00" E, 230.46 feet;

THENCE S 00°00'00" E, 224.71 feet;

THENCE N 90°00'00" E, 207.44 feet;

THENCE S 00°00'00" E, 673.76 feet;

THENCE N 90°00'00" E, 134.26 feet to the monumented line of Sequalitchew Creek per that Record of Survey by ESM, Inc. as filed under Recording No. 8907170351, Records of Pierce County, Washington;

THENCE along said monumented line, S 20°43'37" E, 140.33 feet to the TRUE POINT OF BEGINNING.

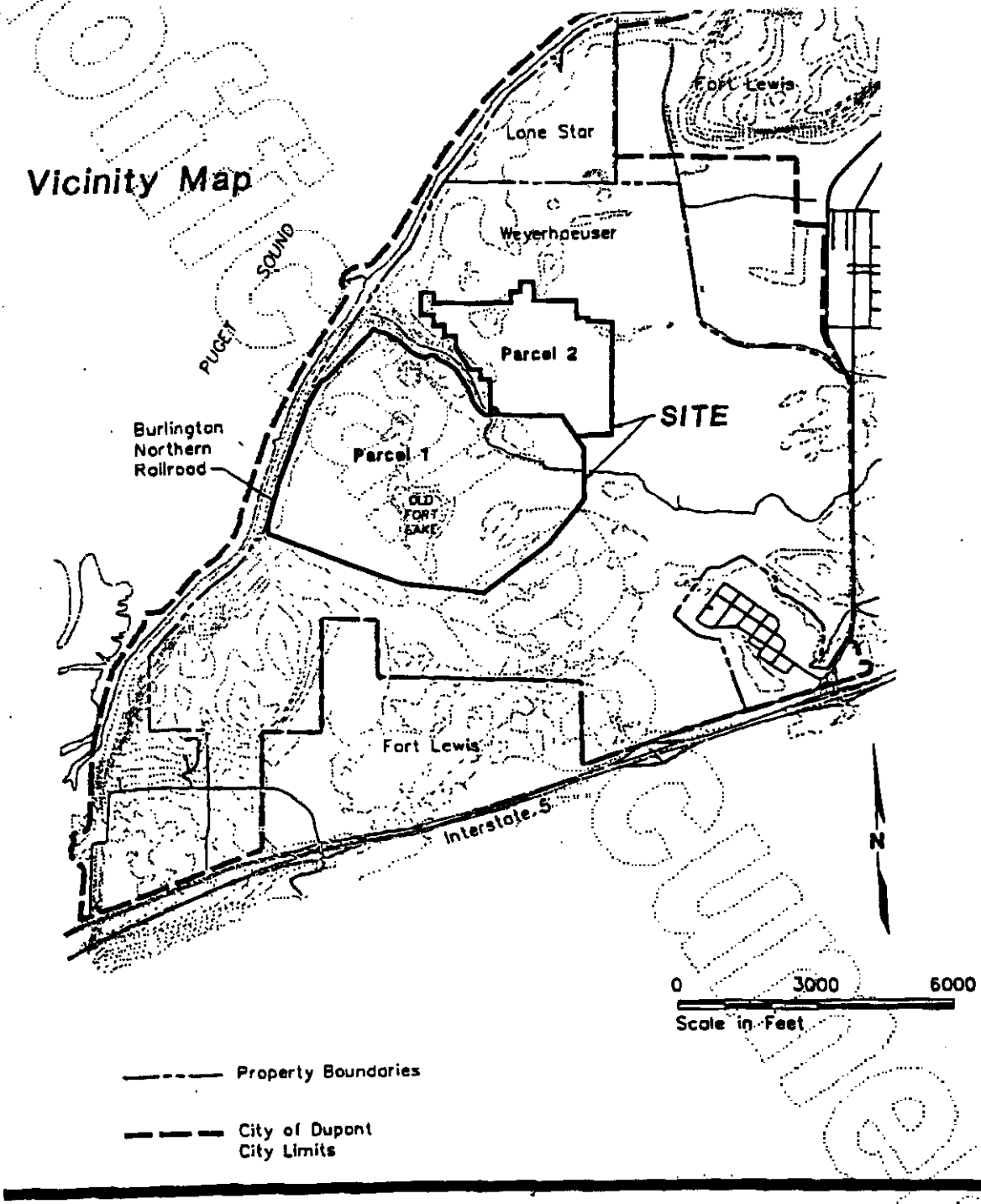
Containing 205.100 acres (8,934,137 S.F.), more or less.

See attached Exhibit "B".

For reference only, not for re-sale.

Unofficial Document

EXHIBIT B



9910290750

For reference only, not for re-sale.

Land Management Division

Weyerhaeuser
Real Estate Company

Northwest Landing
your home town

Northwest Landing
1408 Palisade Boulevard
DuPont WA 98327
Tel (253) 964-2867
Fax (253) 964-2326

Signed/Recorded
Exhibit B g
MOA

January 22, 2001

Re: ***Memorandum of Agreement***

To: Judith A. Krill, Mayor of the City of DuPont
James A. Edgren on behalf of the Citizens Groups

From: Terri L. Vancil, WRECO at Northwest Landing

Enclosed is a conformed copy of the Notice Regarding Historic District Designation and Declaration of Covenant that was recorded with the Pierce County Auditor under file number 200101120143.

If you have any questions regarding this, or if additional information is needed, please let me know. I can be reached at (253) 964-2867.

Attachment: as noted

cc: David A. Brentlinger, WRECO (with attachment)
Greg Moore, WRECO (with attachment)
Robert Dowdy, Weyerhaeuser Company (with attachment)
Jim Odendahl, Weyerhaeuser Company (with attachment)

Attachment 12.d. Notice of Historic District Designation dated December 20, 2000 (recording number 200101120143) and First Amendment dated March 27, 2006 (recording no. 200606120310).

200101120143 7 pg
1-12-2001 09:51am $14.00
PIERCE COUNTY, WASHINGTON

After Recording Return To:
Weyerhaeuser Real Estate Company
Attn: Terri Vancil
1408 Palisade Boulevard
DuPont, WA 98327

Document Title(s) (or transactions contained therein):

1. Notice Regarding Historic District Designation and Declaration of Covenant

Grantor(s) Name (last, first, and initials):

1. Weyerhaeuser Real Estate Company
2. Weyerhaeuser Company

☐ Additional Names on Page _____ of Document

Grantee(s) Name (last, first, and initials):

1. The Public
2. City of DuPont
3. The Nisqually Point Defense Fund

☐ Additional Names on Page _____ of Document

TRANS
3026380W
JAN 12 2001

Legal Description (Abbreviated i.e. lot/block and plat or section, township and range)

A PORTION OF THE SOUTH ONE-HALF OF SECTION 22, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

Situate in the City of DuPont, County of Pierce, State of Washington.

☐ Legal Description is on _____ of Document.

Reference Number(s) of Documents Assigned or Released:

1. N/A

☐ Additional Reference Numbers on Page _____ of Document

Assessor's Tax Parcel / Account Number(s)

A portion of 01-19-27-1-001; 01-19-22-3-002; 01-19-22-3-001; 01-19-26-2-004; and 01-19-26-3-007

NOTICE REGARDING HISTORIC DISTRICT DESIGNATION
AND
DECLARATION OF COVENANT

This Notice Regarding Historic District Designation and Declaration of Covenant (the "Covenant") is made this 20th day of December, 2000 by Weyerhaeuser Company, a Washington State corporation ("Weyerhaeuser") and its wholly owned subsidiary, Weyerhaeuser Real Estate Company, a Washington State corporation, through its Land Management Division ("WRECO").

RECITALS

A. WRECO is the developer of a master planned community known as Northwest Landing that is located within the City of DuPont. A portion of Northwest Landing has been nominated for listing on the United States Department of the Interior National Register of Historic Places pursuant to a submittal made by the Nisqually Point Defense Fund ("NPFD") on February 1, 2000 (the "Historic Register"). That portion of Northwest Landing that is subject to this Covenant is commonly referred to as the Nisqually – Sequalitchew Historic District (the "Historic District") which is legally described on Exhibit "A" and depicted on Exhibit "B" to this Notice. Weyerhaeuser and WRECO are the fee owners of the real property underlying the Historic District.

B. In anticipation of this listing on the Historic Register, WRECO and Weyerhaeuser have entered into that certain Memorandum of Agreement among Weyerhaeuser Company, WRECO, the City of DuPont, the NPFD, the Committee for the Preservation of the Nisqually Mission Historical Site, the Nisqually Delta Association and the DuPont Historical Society dated the 20th day of December, 2000 (the "MOA") to provide for the eventual recognition of certain elements within the Historic District for the benefit of future generations.

C. The Purpose of this Covenant is to insure that in the future, purchasers of real property within the Historic District are aware that all or a portion of the real property they have purchased is to be listed on the Historic Register and that the listing of the real property as an Historic District may not be opposed except as noted herein.

FORMATION OF HISTORIC DISTRICT
SUPPORT BY FUTURE PURCHASERS

1. Property. The real property that is subject to this Notice and that is herein identified as the Historic District is legally described on Exhibit "A" and depicted on Exhibit "B".

2. Covenant to Support. Each person or entity that obtains, whether by purchase or other means, an interest in the real property underlying the Historic District is hereby notified of the present covenant and the commitment to the future formation of the Historic District. Such person or entity, by and in taking title to any portion of the real property encumbered by this Covenant, agrees not to object and is prohibited from objecting to the listing of the Property on the Historic Register provided that it is done in a manner that is consistent with the MOA, that all conditions of the MOA have been met, and that, during the process of site plan and / or other development approval process, the City of DuPont does not impose any conditions regarding historic resources that are inconsistent with those cited therein.

3. Reservation of Rights. Weyerhaeuser and WRECO reserve unto themselves, their successors and assigns, all rights and privileges in and to the use of the Historic District that are not incompatible with the listing on the Historic Register.

4. No Public Access. No right of access or use by the general public to any portion of the Historic District is conveyed by this instrument.

5. Run with the Land. This Covenant is declared to touch and concern the land, shall run with the land, and shall be binding on all parties having any interest in the Historic District, their heirs, successors and assigns.

6. Enforcement. NPDF, WRECO, Weyerhaeuser, the City of DuPont, or any other fee owner to all or any portion of the Historic District shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

7. Termination. This Covenant shall terminate without the need for recording any further documentation upon the earliest occurrence of one of the following events: i) the Historic District is listed on the National Register, ii) the Historic District is withdrawn from its nomination to be listed the National Register or iii) the MOA is determined to be invalid, either in whole or in part, by a court of competent jurisdiction or similar tribunal.

"WEYERHAEUSER"
Weyerhaeuser Company,
a Washington State corporation

By: _____
Robert A. Dowdy
Its: Vice President and General Counsel

Date: 12/18/00

"WRECO"
Weyerhaeuser Real Estate Company,
a Washington State corporation,
through its Land Management Division

By: _____
David A. Brentlinger
Its: Assistant Vice President

Date: 12/19/00

Acknowledged and Accepted

"NPDF"
The Nisqually Point Defense Fund,
a Washington State corporation

By: _____
James A. Edgren, President

Date: 12/19/00

"CITY"
City of DuPont,
A Washington State municipal corporation

By: _____
Judith A. Krill, Mayor

Date: 20 Dec 2000

Attest:

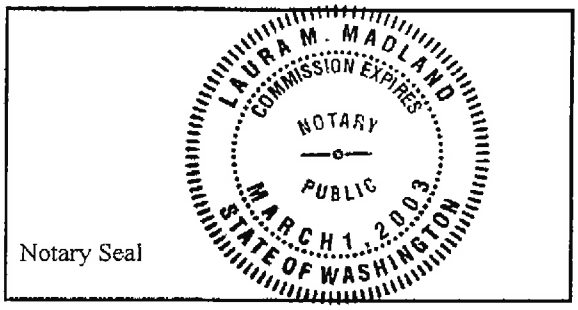
By: _____
Charmayne Frost
City Clerk for City of DuPont

Date: 12-20-00

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***James A. Edgren***, to me known to be the ***President*** of ***The Nisqually Point Defense Fund***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.



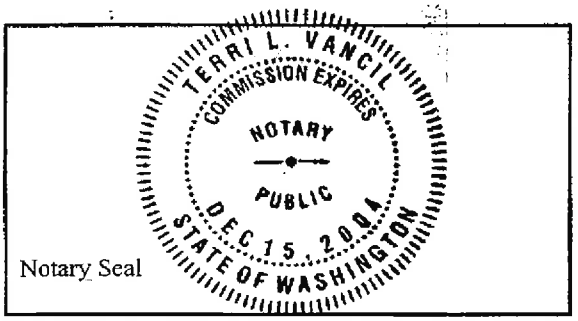
Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 18 day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Robert A. Dowdy***, to me known to be the ***Vice President and General Counsel*** for ***Weyerhaeuser Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.



Notary Seal

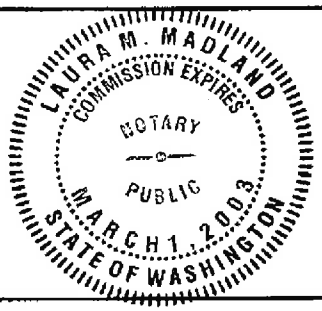
Terri L. Vancil
Terri L. Vancil
Notary Public in and for the State of Washington
residing at Olalla
My appointment expires: 12-15-04

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***David A. Brentlinger***, to me known to be the ***Assistant Vice President*** of ***Weyerhaeuser Real Estate Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

Notary Seal



Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

EXHIBIT A
TO
NOTICE REGARDING HISTORIC DISTRICT DESIGNATION
AND
DECLARATION OF COVENANT

UNIVERSAL TRANSVERSE MECATOR (UTM) COORDINATES*

1	10/525480	5218175
2	10/525000	5217545
3	10/525600	5217660
4	10/525460	5217000
5	10/527070	5216610
6	10/527440	5216910
7	10/526870	5217275
8	10/526400	5217160
9	10/526325	5217620

SECTION 22:
A PORTION OF THE SOUTH ONE-HALF OF SECTION 22, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;

SECTION 26:
A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;

A PORTION OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

SECTION 27:
A PORTION OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

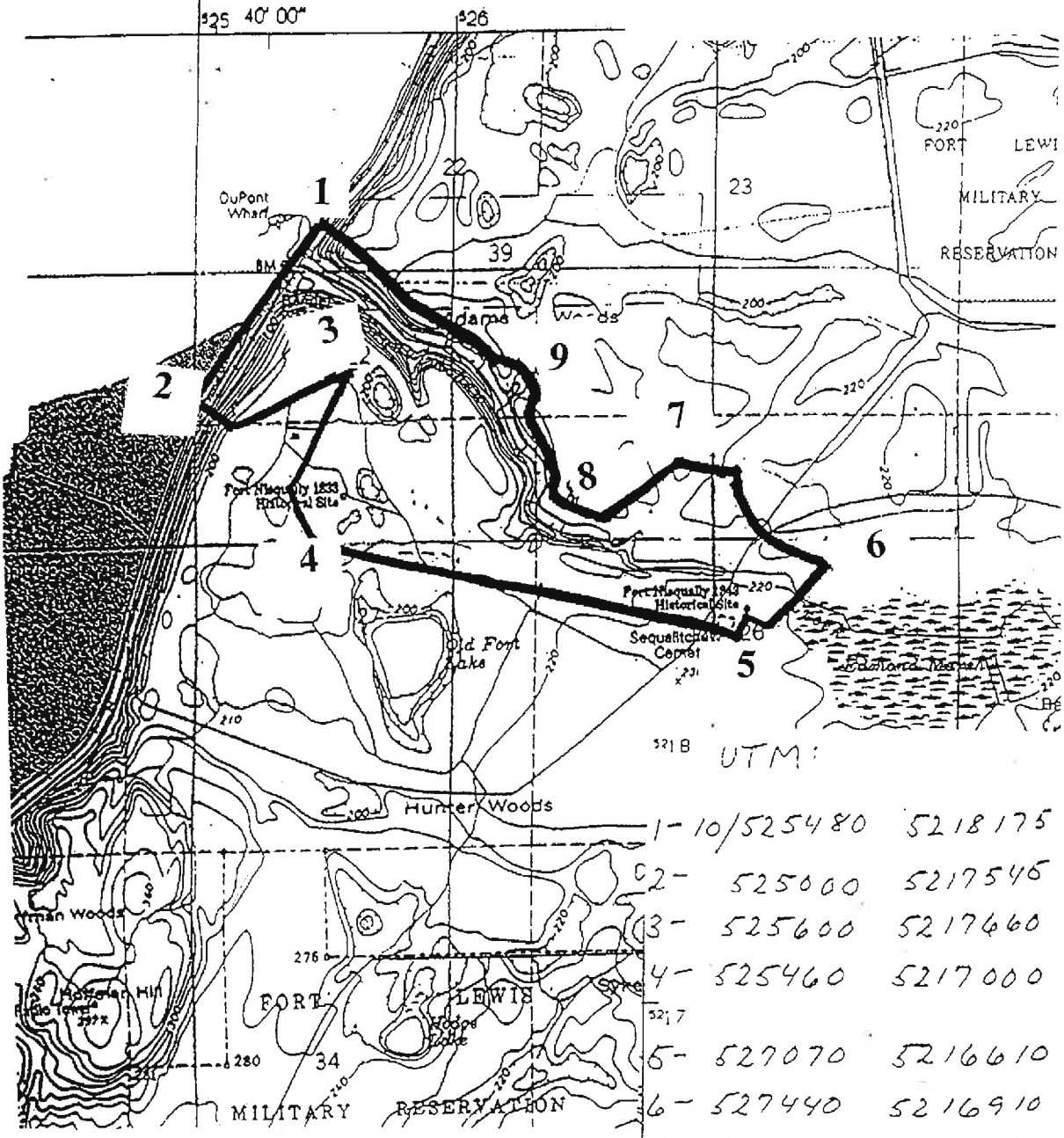
A PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

ALL SITUTATE WITHIN THE CITY OF DUPONT, COUNTY OF PIERCE, STATE OF WASHINGTON.

***THESE MATCH THE COORDINATES SHOWN ON EXHIBIT B TO THE NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT.**

Exhibit B
to Covenant

NISQUALLY – SEQUALITCHEW
HISTORIC DISTRICT
PIERCE COUNTY, WASHINGTON
(PROPOSED)



UTM:

1- 10/525480 5218175
2- 525000 5217545
3- 525600 5217660
4- 525460 5217000
5- 527070 5216610
6- 527440 5216910
7- 526870 5217275
8- 526400 5217160
9- 526325 5217620

AUDITOR'S NOTE

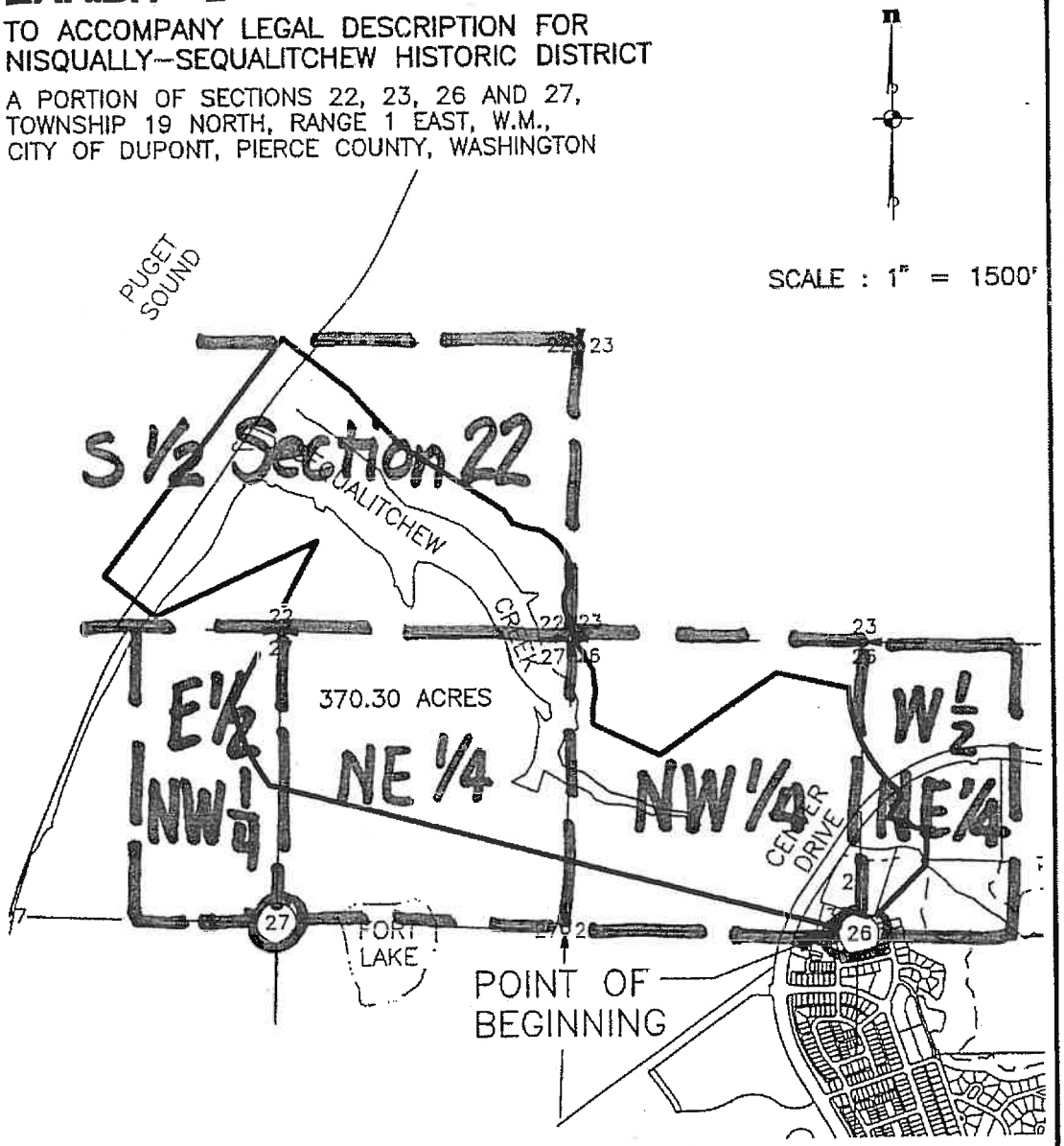
LEGIBILITY FOR RECORDING AND COPYING UNSATISFACTORY IN A PORTION OF THIS INSTRUMENT WHEN RECEIVED

Area covered per Abbreviated Legal on Page 1 of recorded document

EXHIBIT "B"

TO ACCOMPANY LEGAL DESCRIPTION FOR
NISQUALLY–SEQUALITCHEW HISTORIC DISTRICT

A PORTION OF SECTIONS 22, 23, 26 AND 27,
TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



ESM CONSULTING ENGINEERS LLC
720 S. 348th Street
Federal Way, WA 98003
FEDERAL WAY (253) 838-6113
BOTHELL (425) 415-0144
www.esmcivil.com
Civil Engineering | Public Works
Land Surveying | Project Management
Land Planning | Landscape Architecture

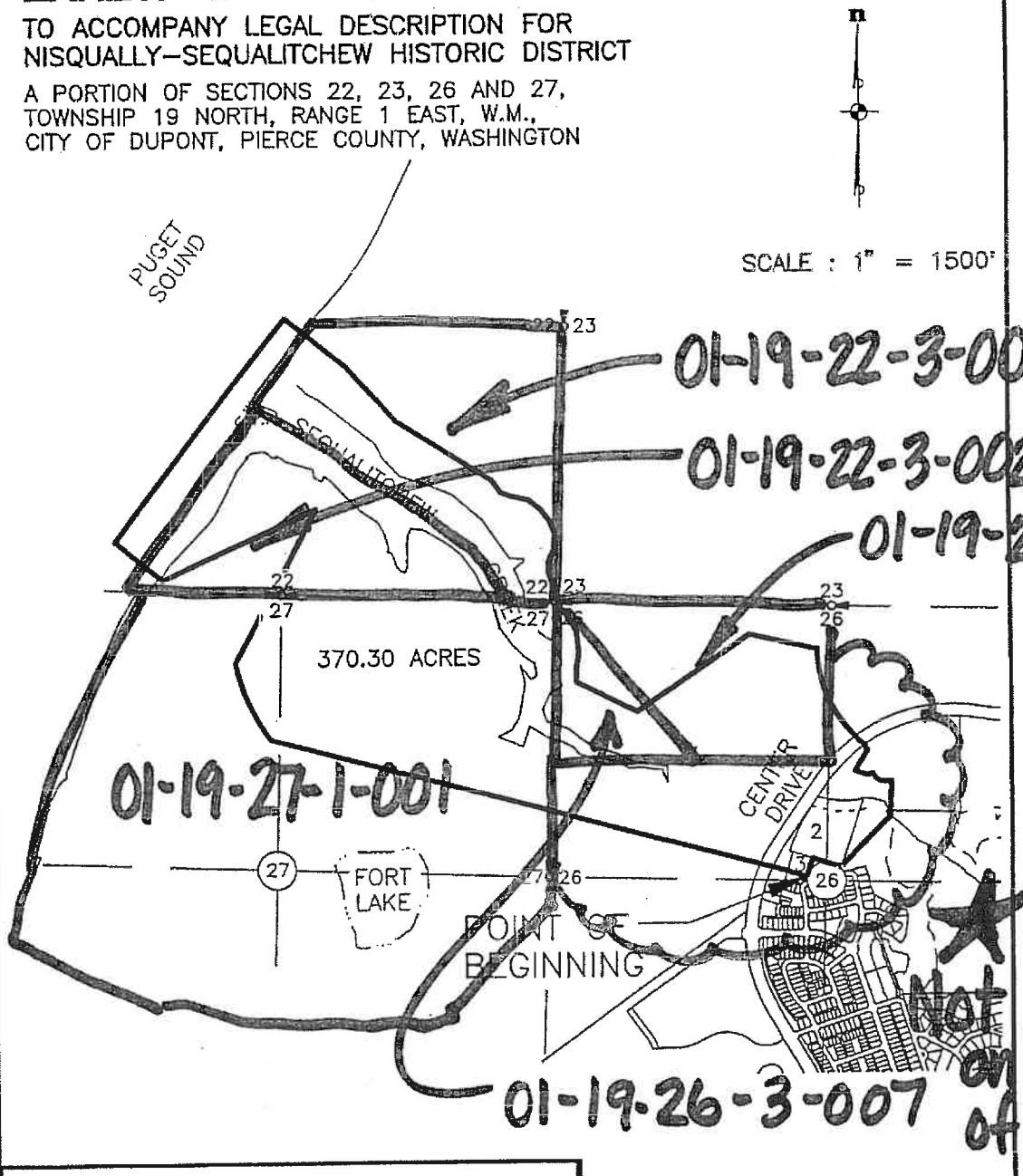
JOB NO. 129-008-002-0001
DWG NAME: 129\08\002\EXHIBITS\SR-01
DATE : 01-09-03
DRAWN : C.A.F.
SHEET 1 OF 1

Best approximation of tax parcel numbers in 2001

EXHIBIT "B"

TO ACCOMPANY LEGAL DESCRIPTION FOR
NISQUALLY–SEQUALITCHEW HISTORIC DISTRICT

A PORTION OF SECTIONS 22, 23, 26 AND 27,
TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



ESM CONSULTING ENGINEERS LLC
720 S. 348th Street
Federal Way, WA 98003
FEDERAL WAY (253) 838-6113
BOTHELL (425) 415-0144
www.esmcivil.com
Civil Engineering Public Works | Land Surveying Project Management | Land Planning Landscape Architecture

JOB NO. 129-008-002-0001
DWG NAME: 129\08\002\EXHIBITS\SR-01
DATE : 01-09-03
DRAWN : C.A.F.
SHEET 1 OF 1

Unofficial Document

200606120310 10 PGS
06/12/2006 9:47am $41.00
PIERCE COUNTY, WASHINGTON

When Recorded, Return to:

3/27/2006

HILLIS CLARK MARTIN & PETERSON, P.S.
Attn: Steven R. Rovig
500 Galland Building
Seattle, WA 98101-2925

For reference only, not for re-sale.

FIRST AMENDMENT TO NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT

Grantors: 1) THE QUADRANT CORPORATION
2) WEYERHAEUSER COMPANY

Grantees: 1) THE PUBLIC
2) CITY OF DUPONT

Legal Description (abbreviated): PORTIONS OF SECTIONS 22, 23, 26 AND 27, TOWNSHIP 19 N., RANGE 1 E., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

☒ Complete legal on EXHIBIT A.

Assessor's Tax Parcel Identification No(s): 01-19-22-3-001 01-19-22-3-002 01-19-26-2-004 01-19-27-1-001 01-19-26-3-007

Reference Nos. of Documents Released or Assigned: N/A

THIS FIRST AMENDMENT is dated for reference purposes March 27, 2006 and is made with reference to that certain Notice Regarding Historic District Designation and Declaration of Covenant ("Notice") made by **WEYERHAEUSER COMPANY**, a Washington corporation ("Weyerhaeuser") and its wholly-owned subsidiary **THE QUADRANT CORPORATION**, a Washington corporation, as successor to

Weyerhaeuser Real Estate Company as developer of the Northwest Landing master planned community ("Quadrant").

RECITALS

A. The purpose of the Notice was to provide future purchasers of real property described therein with notice regarding a potential Historic District for such property.

B. The legal description utilized in the Notice did not provide a clear and accurate description of the property to be subjected to the Notice. Accordingly, the parties desire to record this First Amendment for purposes of providing clarification of such legal description.

AMENDMENT

1. **Property.** The real property that is subject to the Notice as originally described in Exhibit A and depicted on Exhibit B of the Notice is hereby amended to be the real property legally described on the attached **EXHIBIT A** and depicted on the attached **EXHIBIT B.**

2. **Full Force and Effect.** Except as specifically amended herein, the terms and conditions of the Notice remain in full force and effect.

EXECUTED the dates set forth below.

WEYERHAEUSER:

WEYERHAEUSER COMPANY,
a Washington corporation

By _____
Name: Ken Khoury
Title: Vice President

Date: June 5, 2006

QUADRANT:

THE QUADRANT CORPORATION,
a Washington corporation

By _____
Name: Benjamin D. Connell
Title: Vice President

Date: 5-15-06

Unofficial Document
For reference only, not for re-sale.

ACKNOWLEDGED AND ACCEPTED:

NPDF:

NISQUALLY POINT DEFENSE FUND,
a Washington nonprofit corporation

By _____
Name: JAMES A EDGREN
Title: PRESIDENT

Date: 12 April 2006

CITY:

CITY OF DUPONT,
a Washington municipal corporation

By _____
Name: _____
Title: _____

Date: _____

ATTEST:

By _____
Name: Erin Larsen
City Clerk for City of DuPont

Date: May 15, 2006

UNOFFICIAL DOCUMENT

For reference only, not for re-sale.

ACKNOWLEDGED AND ACCEPTED:

NPDF:

NISQUALLY POINT DEFENSE FUND,
a Washington nonprofit corporation

By _____
Name: _____
Title: _____

Date: _____

CITY:

CITY OF DUPONT,
a Washington municipal corporation

By Steve Young
Name: Steve Young
Title: Mayor

Date: May 9, 2006

ATTEST:

By Erin Larsen
Name: Erin Larsen
City Clerk for City of DuPont

Date: May 15, 2006

Unofficial Document

For reference only, not for re-sale.

STATE OF WASHINGTON }
ss.
COUNTY OF ~~PIERCE~~ KING }

On this day personally appeared before me Ken Khoury, to me known to be the Vice President of **WEYERHAEUSER COMPANY**, the Washington corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such corporation, for the uses and purposes therein mentioned, and on oath stated that he was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this 5th day of June, 2006.

PAMELA M. REDMON
Notary Public
STATE OF WASHINGTON
My Commission Expires 10/01/09

Pamela M. Redmon
Printed Name Pamela M. Redmon
NOTARY PUBLIC in and for the State of Washington,
residing at Des Moines, WA
My Commission Expires October 1, 2009

Unofficial Document

For reference only, not for re-sale.

STATE OF WASHINGTON }
ss.
COUNTY OF PIERCE }

On this day personally appeared before me Ben Conwell, to me known to be the Vice President of **THE QUADRANT CORPORATION**, the Washington corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such corporation, for the uses and purposes therein mentioned, and on oath stated that he was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this 15 day of May, 2006.

DEBRA L LAUKEMAN NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 12-9-07

Debra L Laukeman

Printed Name Debra L. LAUKEMAN
NOTARY PUBLIC in and for the State of Washington,
residing at Olympia, WA
My Commission Expires 12-9-07

Unofficial Document

For reference only, not for re-sale.

Unofficial Document

For reference only, not for re-sale.

EXHIBIT A

LEGAL DESCRIPTION
NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

That portion of Sections 22, 23, 26 and 27, all in Township 19 North, Range 1 East, City of Dupont, Pierce County, Washington, being more particularly described as follows:

COMMENCING at the southeasterly corner of Lot 3 of that City of Dupont Short Plat recorded under Pierce County Recording No. 9506120462;

THENCE along the southerly line of said Lot 3, N 71°28'36" W, 185.19 feet to the southwesterly corner thereof;

THENCE N 75°14'47" W, 5122.56 feet to a point of curvature;

THENCE northwesterly 825.33 feet along the arc of a non-tangent curve to the right, having a radius of 1760.86 feet, the radius point of which bears N 52°46'51" E, through a central angle of 26°29'21";

THENCE N 27°59'06" E, 1660.54 feet;

THENCE S 65°48'40" W, 1617.52 feet;

THENCE N 50°43'36" W, 586.93 feet;

THENCE N 37°30'02" E, 2696.07 feet;

THENCE S 51°15'28" E, 754.57 feet;

THENCE S 42°12'03" E, 715.74 feet;

THENCE S 57°24'37" E, 1092.06 feet;

THENCE S 36°33'11" E, 142.56 feet;

THENCE S 70°01'38" E, 97.02 feet;

THENCE S 76°36'54" E, 178.94 feet;

THENCE S 51°21'22" E, 159.20 feet;

THENCE S 37°35'04" E, 135.91 feet;

THENCE S 21°02'55" E, 115.40 feet;

THENCE S 02°51'51" W, 165.90 feet;

THENCE S 24°47'15" W, 118.63 feet;

THENCE S 00°00'00" E, 115.98 feet;

THENCE S 17°58'43" E, 322.27 feet;

THENCE S 32°21'44" E, 294.24 feet;

THENCE S 06°50'48" E, 208.80 feet;

THENCE S 10°00'49" W, 143.02 feet;

THENCE S 00°00'00" E, 149.12 feet;

THENCE S 63°46'18" E, 556.09 feet;

THENCE N 55°37'30" E, 1298.14 feet;

THENCE S 77°19'49" E, 659.57 feet to a point of curvature;

THENCE southeasterly 1062.14 feet along the arc of a non-tangent curve to the left, having a radius of 1265.13 feet, the radius point of which bears N 89°01'55" E, through a central angle 48°06'09" to a point on the southeasterly margin of Center Drive;

THENCE S 28°00'48" E, 35.31 feet;

THENCE S 35°45'03" E, 24.00 feet;

THENCE S 31°33'45" W, 230.54 feet;

Unofficial Document

For reference only, not for re-sale.

THENCE S 71°59'05" E, 132.84 feet;

THENCE N 65°15'09" E, 45.05 to a point of curvature;

THENCE southeasterly 212.06 feet along the arc of a non-tangent curve to the left, having a radius of 144.00 feet, the radius point of which bears N 65°15'09" E through a central angle of 84°22'27";

THENCE S 00°59'22" W, 89.73 feet;

THENCE S 62°03'44" W, 246.13 feet;

THENCE S 44°43'55" W, 672.87 feet to southeasterly corner of Lot 2 of said City of Dupont Short Plat recorded under Pierce County Recording No. 9506120462;

THENCE along the southerly line of said Lot 2, N 72°16'52" W, 278.00 feet to the northeasterly corner of said Lot 3;

THENCE along the easterly line of said Lot 3, S 18°37'13" W, 186.18 feet to the POINT OF BEGINNING.

Containing 370.30 acres, more or less.

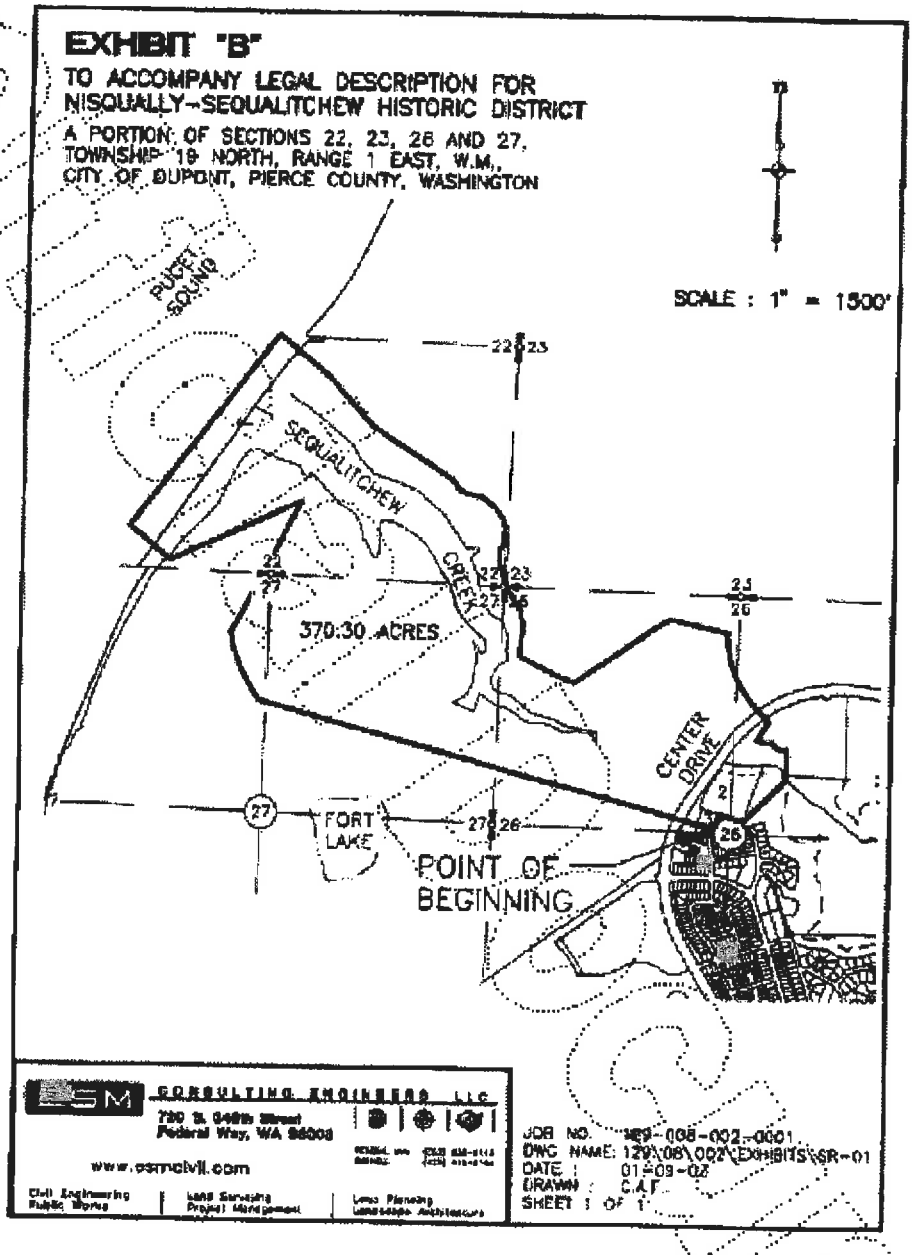
Unofficial Document

For reference only, not for re-sale.

Unofficial Document

For reference only, not for re-sale.

EXHIBIT B



200607251020 8 PGS
07/25/2006 2:39pm $39.00
PIERCE COUNTY, WASHINGTON

Name & Return Address:

Polly McNeill
Summit Law Group
315 Fifth Ave S Suite 1000
Seattle, WA 98104

Document Title(s) Declaration of Restrictive Covenant – Industrial
Grantor(s) Weyerhaeuser Company Additional Names on Page ____ of Document
Grantee(s) State of Washington, Department of Ecology Additional Names on Page _____ of Document
Legal Description (Abbreviated: i.e., lot, block & subdivision name or number OR section/township/range and quarter/quarter section) Lot 2 of that Record of Survey recorded under Recording No. 200601275001, Records of Pierce County, Washington Complete Legal Description in Exhibit A of the Document
Auditor's Reference Number – Recording No. 200601275001
Assessor's Property Tax Parcel/Account Number(s) -- 01-19262013
The Auditor/Recorder will rely on the information provided on this cover sheet. The Staff will not read the document to verify the accuracy or completeness of the indexing information provided herein. I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document. _____ Signature of Requesting Party (Required for non-standard recordings only)

For reference only, not for re-sale.

Unofficial Document

Attachment 12.e. Declaration of Restrictive Covenant dated July 25, 2006, recording no. 200607251020, regarding remedial action under the Washington Model Toxics Control Act.

Unofficial Document

For reference only, not for re-sale.

DECLARATION OF RESTRICTIVE COVENANT

INDUSTRIAL

This Declaration of Restrictive Covenant ("Restrictive Covenant") is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 this 24th day of July, 2006, by the Weyerhaeuser Company ("Weyerhaeuser"), its successors and assigns, and the State of Washington, Department of Ecology ("Department of Ecology"), and its successors and assigns.

The undersigned, Weyerhaeuser, covenants that it is the fee owner of real property in Pierce County, Washington, legally described in Exhibit A and depicted in Exhibit B, attached hereto and incorporated herein by this reference ("Property").

The Property is within an area commonly referred to as "Parcel One" of the "Former DuPont Works Site" that was the subject of work to clean up the Property ("Remedial Action") under the Washington Model Toxics Control Act ("MTCA"), Chapter 70.105D RCW. The Remedial Action is described in the Consent Decree entered in *State of Washington, Department of Ecology v. Weyerhaeuser Company and E.I. DuPont de Nemours and Company* (Thurston County Cause No. 03-2-10484-7), in attachments to the Decree and in documents referenced in the Decree, including without limitation the Cleanup Action Plan attached to the Consent Decree as Exhibit A, and incorporated therein by reference. The Cleanup Action Plan is on file and available for inspection at the Washington State Department of Ecology, Toxics Cleanup Program, P.O. Box 47775, Olympia, WA 98504-7775. The boundary of Parcel One is depicted in Exhibit B, attached hereto.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations at portions of the Property of hazardous substances which exceed the soil and groundwater cleanup levels specified in MTCA for unrestricted land uses.

Weyerhaeuser makes the following declaration as to limitations, conditions, restrictions, and uses to which the Property may be put and specifies that such declarations shall run with the land as provided by law and shall be binding on Weyerhaeuser, its successors and assigns, and any and all parties and persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter, "Owner").

Section 1: Restrictions on Use of Property. The Property has been remediated to meet the soil cleanup levels specified in MTCA for industrial property. The Property may be developed and used only for industrial use as allowed under the City of DuPont zoning regulations and Comprehensive Land Use Plan and under MTCA; provided, however that the Property shall not be developed and used for any of the following: residential uses, schools, daycares, parks, recreational uses; or any other use in which the likelihood of children having sustained access to soils can be reasonably anticipated.

Section 2: Restrictions on Activities. The Owner may maintain and develop the Property consistent with this Restrictive Covenant. Normal construction and maintenance for permitted development is not restricted by this Section. Maintenance of any impervious surfaces is expressly permitted without prior approval so long as appropriate health and safety protocols are followed. For development activities permitted under this Restrictive Covenant, excavated soils must be managed properly and unless put back in place, must be either placed in an area within the boundaries of the Former DuPont Works Site that is zoned for industrial-type uses, or disposed off-site in accordance with applicable regulations. Excavated soils shall be managed to minimize exposure to workers and other adults, including but not limited to the use of best management practices to control dust and surface water runoff; and to prevent exposure to children. Any activity on the Property that could interfere with the continued protection of human health and the environment is prohibited without prior written approval from the Department of Ecology.

Section 3: Change of Use. The Owner must notify and obtain approval from the Department of Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. The Department of Ecology may approve any inconsistent use only after public notice and comment; provided, however, in no event may any change in use be approved that would allow for residential uses, schools, daycares, parks, recreational uses, or any other use in which the likelihood of children having sustained access to soils can be reasonably anticipated.

Section 4: Notice of Conveyance. The Owner must give thirty (30) days' advance written notice to the Department of Ecology of the Owner's intent to convey any interest in the Property. Within thirty (30) days of the date any instrument conveying a fee title interest is executed, grantor must provide the Department of Ecology with a certified true copy of the instrument and, if it has been recorded in the public land records, its recording reference. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5: Leasehold Interests. The Owner must restrict leases to uses and activities consistent with this Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

For reference only, not for re-sale.

Section 6: Recordation. Within thirty (30) days of the date of execution, the Owner shall record this Restrictive Covenant with the Pierce County Assessor's Office, and provide evidence of recordation to the Department of Ecology.

Section 7: Notice Requirement. The Owner shall include in any instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases, and mortgages a notice which is in substantially the following form:

NOTICE: THE INTEREST CONVEYED HEREBY IS SUBJECT TO THE EFFECT OF A RESTRICTIVE COVENANT, DATED _____, RECORDED IN THE PUBLIC LAND RECORDS ON _____, IN BOOK _____, PAGE _____, IN FAVOR OF, AND ENFORCEABLE BY THE STATE OF WASHINGTON.

Section 8: Notices. Any notice, demand, request, consent, approval, or communication that either party desires or is required to give the other shall be in writing and shall be served personally or sent by first class mail postage prepaid, addresses as follows:

To Weyerhaeuser:

Director, Environmental Affairs
Mail Stop EC2 2C1
P.O. Box 9777
Federal Way, WA 98063-9777

To the Department of Ecology:

Washington State Department of Ecology
Toxics Cleanup Program
P.O. Box 47775
Olympia, WA 98504-7775

Section 9: Groundwater Withdrawal. The Owner of the Property must not permit withdrawal of groundwater from the Property for drinking water purposes, unless authorized by the Department of Ecology. Withdrawal of groundwater from monitoring wells for the purpose of extracting samples for analysis is expressly permitted.

Section 10: Access. The Owner shall allow authorized representatives of the Department of Ecology, E.I. DuPont de Nemours Company and Weyerhaeuser the right to enter the Property at reasonable times for the purposes of monitoring compliance with the terms of this Restrictive Covenant, evaluating the Remedial Action, taking samples, inspecting remedial actions conducted at the Property, and inspecting records that are related to the Remedial Action.

Section 11: No Public Access and Use. No right of access or use by the general public to any portion of the Property is conveyed by this Restrictive Covenant.

Section 12: Enforcement. Weyerhaeuser, the E.I. DuPont de Nemours Company, and the Department of Ecology shall each have the right, but not the obligation, to enforce the terms of this Restrictive Covenant by resort to specific performance or any legal process; provided, however, that no provision of this Restrictive Covenant shall be construed or intended to impose any obligations, by law or by contract, on the Department of Ecology or Weyerhaeuser or E.I. DuPont de Nemours Company to take action to enforce said restrictions. Neither the right nor

For reference only, not for re-sale.

authority of the Department of Ecology and Weyerhaeuser and E.I. DuPont de Nemours Company to enforce this Restrictive Covenant nor a decision made to exercise or not to exercise such authority to right shall give rise to any duty or responsibility on the party of the Department of Ecology or Weyerhaeuser or E.I. DuPont de Nemours Company to exercise or not exercise this right on behalf of any Party or other person or entity. All remedies available hereunder shall be in addition to any and all remedies at law or in equity, including MTCA. Any forbearance, delay or omission to exercise the enforcement rights under this Restrictive Covenant in the event of a breach of any term of this Restrictive Covenant shall not be deemed to be a waiver of such term or of any subsequent breach of the same or any other term, or of any of the rights under this Restrictive Covenant. Should legal counsel be employed to enforce this Restrictive Covenant, all costs incurred in such enforcement, including reasonable attorneys' fees shall be paid by the Owner found to be in violation.

Section 13: No Third Party Beneficiary. This Restrictive Covenant is intended for the sole and exclusive benefit of the Parties hereto and their respective successors and assigns, including all current and future owners of any portion or interest in the property. The Parties to this Restrictive Covenant expressly do not intend to benefit any other person or entity, and expressly do not intend to create any third-party beneficiaries to any provision of this Restrictive Covenant, including but not limited to any enforcement provisions.

Section 14: Run with the Land. To the extent that this Restrictive Covenant is construed as a restrictive covenant, it shall run with the land, and shall be binding on the Owners, their successors and assigns, of all or any portion of the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the property owner without adequate and complete provision for the continued observation of this Restrictive Covenant.

Section 15: Severability. Invalidation of any provision or application of a provision of this Restrictive Covenant by any court shall not affect any other provisions or applications.

Section 16: Easement in Gross. To the extent that this Restrictive Covenant creates a negative easement, it shall be construed as an easement in gross for the sole benefit of Weyerhaeuser, without whose consent it cannot be released, modified or amended.

Section 17: Reserved Rights. Weyerhaeuser reserves unto itself and its successors and assigns all rights and privileges in and to the use of the Property which are not incompatible with the restrictions, and rights granted herein.

For reference only, not for re-sale.

Unofficial Document

Weyerhaeuser Company has caused this Restrictive Covenant to be signed in its name.

EXECUTED this 13th day of July, 2006.

WEYERHAEUSER COMPANY

By: Richard E. Hanson

Richard E. Hanson
Executive Vice President and Chief
Operating Officer

STATE OF WASHINGTON)
) ss.
County of Pierce)

On this 13th day of July, 2006, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Richard E. Hanson, known to be the Executive Vice President and Chief Operating Officer of Weyerhaeuser Company, the corporation that executed the foregoing Restrictive Covenant, and acknowledged the said Restrictive Covenant to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute said Restrictive Covenant.

WITNESS my hand and official seal hereto affixed the day and year written above.

DALENE D. DASCHOFSKY NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES SEPT 30, 2007

Dalene D. Daschofsky
NOTARY PUBLIC in and for the State of
Washington. My commission expires:
Sept. 30, 2007

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

By: Mike Blum

Dated: July 17, 2006

Mike Blum
Project Coordinator

Attachments: Exhibit A – Legal description of Property
Exhibit B – Depiction of Property & Parcel One Boundary

For reference only, not for re-sale.

UNOFFICIAL DOCUMENT

For reference only, not for re-sale.

ESM CONSULTING ENGINEERS LLC

Weyerhaeuser Company
Job No. 129-044-004-0960
May 25, 2006

EXHIBIT A

LEGAL DESCRIPTION FOR INDUSTRIAL PROPERTY

Lot 2 of that Record of Survey as recorded under Recording No. 200601275001, Records of Pierce County, Washington.

See attached Exhibit "B".

Written by: R.J.W.
Checked by: M.R.B.

I:\ESM-JOBS\129144\004\DOCUMENTS\129044-24.DOC



5/25/06

33915 1st Way South
Suite 200
Federal Way, WA 98003

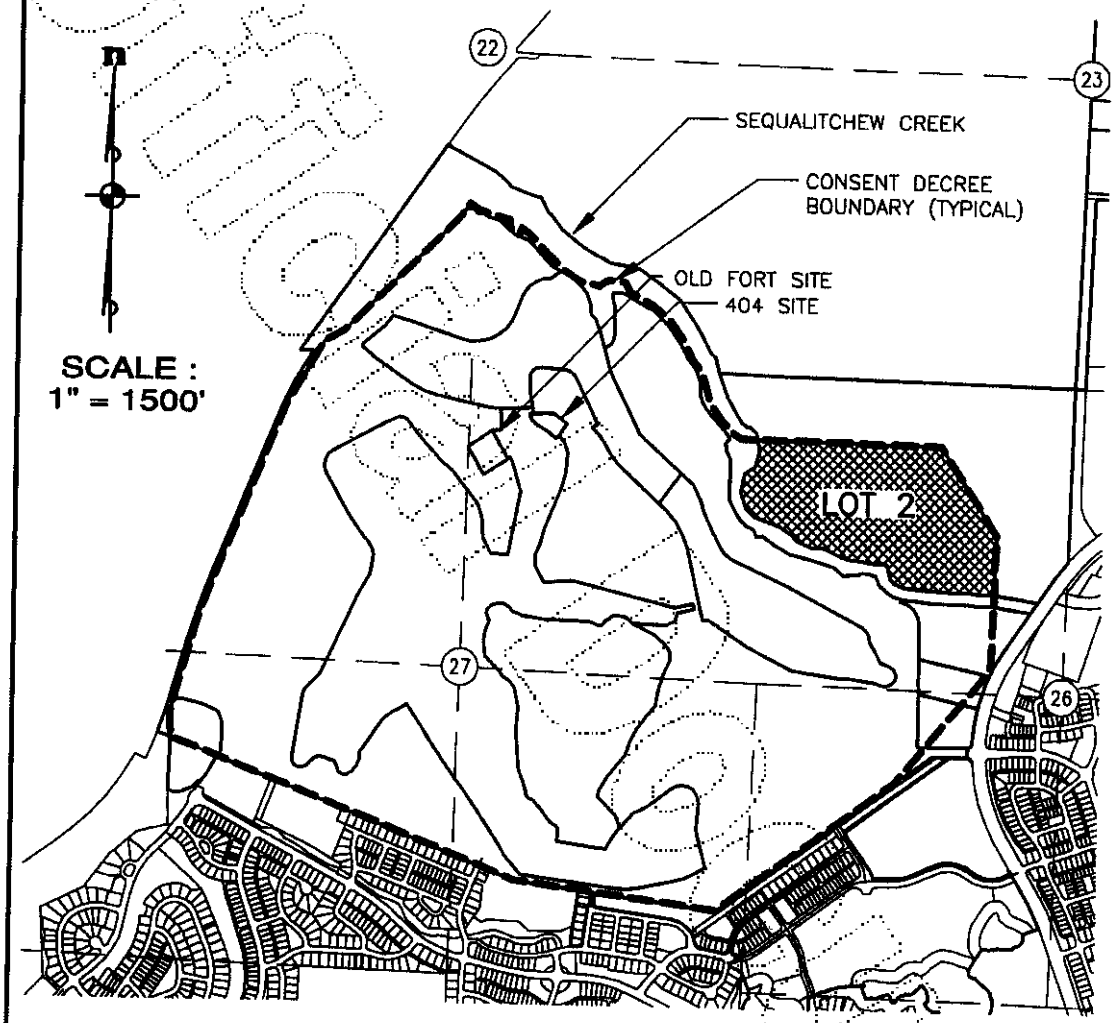
Tel (253) 838 6113
Fax (253) 838 7104
Toll Free (800) 345 5694

Bothell (425) 415 6144
Cle Elum (509) 674 1905
www.esmcivil.com

EXHIBIT "B"

TO ACCOMPANY LEGAL DESCRIPTION FOR INDUSTRIAL PROPERTY

A PORTION OF SECTIONS 22, 26, 27, 28 AND 35, TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



SCALE : 1" = 1500'

LEGEND

SUBJECT AREA

ESM CONSULTING ENGINEERS LLC
720 S. 348th Street
Federal Way, WA 98003
FEDERAL WAY (253) 838-6113
BOTHELL (425) 415-8144
www.esmcivil.com
Civil Engineering Public Works | Land Surveying Project Management | Land Planning Landscape Architecture

JOB NO. 129-044-004-0960
DWG: 129\44\004\EXHIBITS\SR-08.DWG
DATE : 05-19-06
DRAWN : MRB
SHEET 1 OF 1

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Unofficial Document

201009301052 12 PGS
09/30/2010 03:33:47 PM $73.00
PIERCE COUNTY, WASHINGTON

AFTER RECORDING RETURN TO:
Fikso Kretschmer Smith Dixon PS
2025 First Avenue, Suite 1130
Seattle, Washington 98121
Attn: Bob Fikso

Reference Number of Related Document: N/A
Grantor(s): The Quadrant Corporation
Grantee(s): The Quadrant Corporation
Members of the Public
Abbreviated Legal Description: Lot Y, City of DuPont, BLA No. BLA 09-01, recorded in Pierce County under no. 200912115001
Additional Legal Description is on Page 1 of Document
Assessor's Property Tax Parcel or Account No.: 0119262019

DECLARATION OF PUBLIC TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT

THIS EASEMENT IS EXECUTED IN RELIANCE UPON REVISED CODE OF WASHINGTON ("RCW") SECTION 4.24.210 AND RELATED PROVISIONS AND THE LIMITATIONS OF LIABILITY CONTAINED THEREIN

THIS DECLARATION OF PUBLIC TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT, dated as of September 30, 2010, is made by THE QUADRANT CORPORATION, a Washington corporation ("Quadrant"), for the benefit of itself and of the public.

12233741
Fidelity National Title
Major Accounts
12/74

RECITALS

A. Quadrant owns the real property in the City of DuPont, Washington, described as Lot Y, City of DuPont, Pierce County Boundary Line Adjustment No. BLA 09-01, recorded in Pierce County under no. 200912115001 ("Burdened Property"), generally lying north of Sequalitchew Creek and west of Center Drive.

B. Quadrant has agreed with the City of DuPont ("City") that a 10-foot wide public pedestrian trail ("Trail") will be constructed by Quadrant or its assigns on a portion of the Burdened Property, and on a portion of Lot Z, which is owned by the City and lies to the south of the Burdened Property, as part of the City's Sequalitchew Creek Trail system.

C. Quadrant is making this Declaration to establish a permanent easement for the portion of the Trail on the Burdened Property and a 15- foot wide temporary easement for construction purposes on either side of the permanent easement.

Attachment G.12.f. Declaration of Public Trail Easement and Trail Construction Easement dated September 30, 2010, recording no. 201009301052

G:\QUADRANT\2.759\DOCS\traileasement01.3(rbf)cl.doc

EXCISE TAX EXEMPT DATE 9-30-10
Pierce County
By _____ Auth. Sig

For reference only, not for re-sale.

Unofficial Document

DECLARATION OF EASEMENTS

1. **Declaration**. Quadrant hereby declares and establishes on the Burdened Property: (i) a perpetual exclusive easement for the Trail ("Trail Easement"), and (ii) a temporary exclusive easement for construction of the Trail on the Trail Easement and on either side of the Trail Easement ("Trail Construction Easement").

2. **Easement Locations; As-Built Description**. The Trail Easement shall be a 15-foot wide right-of-way, in two separate segments, over and across the Burdened Property, substantially as depicted on Exhibit A of this Declaration. The Trail Construction Easement shall consist of the Trail Easement right-of-way and a wider construction zone extending 15 feet northerly of the Trail Easement right-of-way and 5 feet southerly of the Trail Easement right-of-way. Upon completion of construction of the Trail, Quadrant shall have the right to conform the legal description of the Trail Easement to its actual as-built location, and to record an amendment of this Declaration setting forth the conformed as-built legal description. Quadrant shall have the right to record the amendment without the approval or signature of the then-owner of the Burdened Property, and the amendment shall be binding on the owner.

3. **Terms and Conditions of Trail Construction Easement**. The Trail Construction Easement shall be for the benefit of Quadrant and its assigns, for the sole purpose of constructing the Trail improvements, including the use of heavy equipment, the storage of materials, and the alteration of the surface of the Trail Construction Easement area as permitted by applicable permits and approvals for Trail construction. The Trail Construction Easement shall include the right and license for ingress and egress over and across the Burdened Property as reasonably necessary for construction purposes. Quadrant shall be responsible for any damage to the Burdened Property or the improvements thereon arising from its exercise of this right and license of ingress and egress. Quadrant's exercise of its rights under the Trail Construction Easement shall be in accordance with all applicable laws and permits and approvals for Trail Construction, including the approved Construction Plan for the Trail, and shall be at Quadrant's sole risk and expense. The Trail Construction Easement shall commence on the date of this Declaration, and shall terminate upon completion of construction and acceptance of the Trail by the City.

4. **Terms and Conditions of Trail Easement**. Upon completion of construction and acceptance of the trail improvements by the City, the Trail Easement shall be for the benefit of the public, and shall be used exclusively for recreational pedestrian purposes, and for maintenance and repair of the Trail improvements; provided, however, that in connection with the lawful development or use of the Burdened Property, Quadrant or its successors shall have the right to use the Trail Easement for utility crossings or other purposes not inconsistent with those Trail purposes, provided all necessary permits or approvals for the same have been obtained from the City or other authority, and provided that Quadrant or its successors, as the case may be, repair any and all damage to the Trail improvements caused by those other uses.

5. **Termination**. This Declaration and the easements and rights under this Declaration shall terminate upon any dedication to the public of the Trail right-of-way.

6. **Amendment**. Except for the amendment described in Section 2, this Declaration may not be amended except in writing signed by Quadrant and the owner of the Burdened Property and, if necessary following the completion of construction, by the City on behalf of the public.

For reference only, not for re-sale.

7. **Assignment; Binding Effect**. Quadrant shall have the right to assign its rights under this Declaration, and from and after the assumption by the assignee of Quadrant's obligations under this Declaration, Quadrant shall have no further obligations under this Declaration. This Declaration shall bind and inure to the benefit of Quadrant and its successors and assigns and shall run with the land until terminated. The Burdened Property shall be held, sold, transferred, conveyed, mortgaged, used and occupied subject to, or together with, as the case may be, this Declaration and the terms and conditions of this Declaration.

8. **Exhibits**. The Exhibit to this Declaration is incorporated into and made a part of this Declaration.

EXECUTED as of the date first written above.

THE QUADRANT CORPORATION

By _____
Jim Sansburn, VP Finance

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

I certify that I know or have satisfactory evidence that Jim Sansburn is the person who appeared before me, and said person acknowledged that said person signed this instrument, on oath stated that said person was authorized to execute the instrument and acknowledged it as the VP Finance of THE QUADRANT CORPORATION, a Washington corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated this 30th day of September, 2010.

_____
Tina Lieu
(print or type name)
NOTARY PUBLIC in and for the State of Washington, residing at Seattle
My Commission expires: 12-09-12

TINA LIEU NOTARY PUBLIC COMMISSION EXPIRES 12-09-12 STATE OF WASHINGTON

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EXHIBIT A
OF
DECLARATION OF PUBLIC TRAIL EASEMENT AND TRAIL CONSTRUCTION EASEMENT

DEPICTION OF TRAIL LOCATION

For reference only, not for re-sale.

For reference only, not for re-sale.

ESM CONSULTING ENGINEERS LLC

Quadrant Corporation
Job No. 129-008-010-0001
September 24, 2010

EXHIBIT A

LEGAL DESCRIPTION FOR TRAIL EASEMENT

That portion of Lot Y of City of DuPont Boundary Line Adjustment No. BLA 09-01 as recorded under Pierce County Recording No. 200912115001, situate in Section 26, Township 19 North, Range 1 East, W.M., City of DuPont, Pierce County, Washington, being a 15 foot wide strip, lying 7.5 feet on each side of the following described centerline:

COMMENCING at the southeasterly corner of said Lot Y;

THENCE along the southerly line of said lot, N 82°02'47" W, 12.42 feet;

THENCE continuing along said southerly line, N 88°58'34" W, 126.13 feet;

THENCE continuing along said southerly line, N 80°55'20" W, 17.69 feet to a point of curvature AND the TRUE POINT OF BEGINNING;

THENCE northwesterly 13.23 feet along the arc of a non-tangent curve to the left, having a radius of 15.00 feet, the radius point of which bears S 56°52'59" W, through a central angle of 50°32'54" to a point of tangency;

THENCE N 83°39'55" W, 54.51 feet to a point of curvature;

THENCE westerly 11.49 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 43°53'06" to a point of tangency;

THENCE S 52°26'59" W, 17.25 feet to a point of curvature;

THENCE westerly 6.96 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 26°36'10" to a point of tangency;

THENCE S 79°03'09" W, 21.43 feet to a point of curvature;

THENCE westerly 3.47 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 13°15'37" to a point of tangency;

THENCE N 87°41'14" W, 63.76 feet;

THENCE N 88°08'52" W, 49.80 feet;

THENCE N 87°10'16" W, 8.74 feet;

THENCE N 85°12'46" W, 35.16 feet;

THENCE N 89°00'21" W, 40.52 feet;

THENCE N 87°38'45" W, 41.81 feet;

THENCE N 74°53'18" W, 47.18 feet;

THENCE N 82°57'56" W, 56.05 feet;

THENCE S 83°01'39" W, 38.54 feet;

THENCE N 87°08'23" W, 49.48 feet to a point of curvature;

THENCE westerly 6.29 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 24°01'47" to a point of tangency;

THENCE N 63°06'36" W, 35.01 feet to a point of curvature;

THENCE westerly 3.49 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 13°20'19" to a point of tangency;

THENCE N 76°26'55" W, 11.03 feet to a point of curvature;

THENCE northerly 22.02 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 84°06'04" to a point of tangency;

THENCE N 07°39'09" E, 31.79 feet to a point of curvature;

THENCE northerly 3.47 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 13°15'16" to a point of tangency;

THENCE N 05°36'07" W, 9.49 feet to a point of curvature;

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THENCE northerly 9.18 feet along the arc of a tangent curve to the right, having a radius of 15.00 feet, through a central angle of 35°04'13" to a point of tangency;

THENCE N 29°28'06" E, 13.26 feet to a point of curvature;

THENCE northerly 13.90 feet along the arc of a tangent curve to the right, having a radius of 45.00 feet, through a central angle of 17°42'00" to a point of reverse curvature;

THENCE northerly 19.82 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 75°42'20" to a point of reverse curvature;

THENCE northerly 52.38 feet along the arc of a tangent curve to the right, having a radius of 55.00 feet, through a central angle of 54°34'17" to a point of reverse curvature;

THENCE northerly 16.48 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 62°56'16" to a point of tangency;

THENCE N 36°54'13" W, 56.43 feet to a point of curvature;

THENCE westerly 18.46 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 70°30'58" to a point of tangency;

THENCE S 72°34'49" W, 44.35 feet;

THENCE S 35°22'49" W, 10.82 feet to a point of curvature;

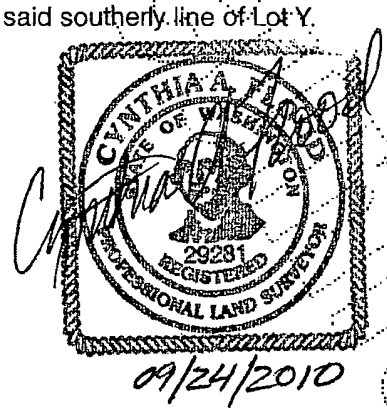
THENCE westerly 55.16 feet along the arc of a tangent curve to the right, having a radius of 92.00 feet, through a central angle of 34°21'19" to the southerly line of said Lot Y at point lying 44.84 feet northwesterly from the easterly end of that line depicted on said boundary line adjustment with a bearing of N 55°38'27" W.

EXCEPT any portion thereof lying southerly of said southerly line of Lot Y.

See attached Exhibit "B".

Written by : CAF
Checked by: DLR

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For reference only, not for re-sale.

Unofficial Document

For reference only, not for re-sale.

ESM CONSULTING ENGINEERS LLC

Quadrant Corporation
Job No. 129-008-010-0001
September 24, 2010

EXHIBIT C

LEGAL DESCRIPTION
FOR TRAIL CONSTRUCTION EASEMENT

That portion of Lot Y of City of DuPont Boundary Line Adjustment No. BLA 09-01 as recorded under Pierce County Recording No. 200912115001, situate in Section 26, Township 19 North, Range 1 East, W.M., City of DuPont, Pierce County, Washington, being a 30 foot wide strip, lying 17.5 feet northerly and easterly of AND 12.5 feet southerly and westerly of the following described centerline:

COMMENCING at the southeasterly corner of said Lot Y;

THENCE along the southerly line of said lot, N 82°02'47" W, 12.42 feet;

THENCE continuing along said southerly line, N 88°58'34" W, 126.13 feet;

THENCE continuing along said southerly line, N 80°55'20" W, 17.69 feet to a point of curvature AND the TRUE POINT OF BEGINNING;

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THENCE N 29°28'06" E, 13.26 feet to a point of curvature;

THENCE northerly 13.90 feet along the arc of a tangent curve to the right, having a radius of 45.00 feet, through a central angle of 17°42'00" to a point of reverse curvature;

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THENCE northerly 52.38 feet along the arc of a tangent curve to the right, having a radius of 55.00 feet, through a central angle of 54°34'17" to a point of reverse curvature;

THENCE northerly 16.48 feet along the arc of a tangent curve to the left, having a radius of 15.00 feet, through a central angle of 62°56'16" to a point of tangency;

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EXCEPT any portion thereof lying southerly of said southerly line of Lot Y;

ALSO EXCEPT any portion thereof lying within a 15 foot wide strip, lying 7.5 feet on each side of the above described centerline.

See attached Exhibit "B".

Written by: CAF
Checked by : DLR

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09/24/2010

For reference only, not for re-sale.

Unofficial Document

For reference only, not for re-sale.

Law Offices

HILLIS CLARK MARTIN & PETERSON

A Professional Service Corporation
500 Galland Building, 1221 Second Avenue
Seattle, Washington 98101-2925
(206) 623-1745 Facsimile (206) 623-7789

August 15, 1989

Mayor Mark Jackson
City of DuPont
P.O. Box 455
DuPont, Washington 98327

Re: DuPont Memorandum of Agreement

Dear Mayor Jackson:

Enclosed for your files is an original executed copy of the Memorandum of Agreement regarding the establishment of a Cultural Resources Management Program for Weyerhaeuser's DuPont property. Please do not hestitate to contact me should you have any questions about the enclosed.

Very truly yours,

Anne F. Niles

Anne F. Niles

073189.D224

AUG 16 1989

Attachment 12.g. MOA between DAHP, WRECO and City dated August 7, 1989

MEMORANDUM OF AGREEMENT
AMONG
THE WASHINGTON STATE HISTORIC PRESERVATION OFFICER,
WEYERHAEUSER REAL ESTATE COMPANY, AND THE CITY OF DUPONT
REGARDING A CULTURAL RESOURCES MANAGEMENT PROGRAM
FOR
PROPERTY WITHIN THE CITY OF DUPONT
PIERCE COUNTY, WASHINGTON

RECITALS

A. The purpose of this Memorandum of Agreement is to provide for cooperation among the State Historic Preservation Officer ("SHPO"), Weyerhaeuser Real Estate Company ("WRECO") and the City of DuPont (the "City" or "DuPont") for development of a systematic and coordinated program to avoid or mitigate any adverse effects on significant cultural resources as a result of development activities undertaken by WRECO or DuPont on certain property within DuPont.

B. SHPO has expertise in and is responsible for protecting cultural resources, and is responsible for coordinating with other government agencies and private institutions interested in such resources. Cultural resources are remains of human activity, occupation or endeavor, as reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture and natural features that were important in human events ("Cultural Resources"). Cultural Resources include both prehistoric and historic remains and represent a part of the continuum of events from the earliest evidence of man to the present day. SHPO is also responsible for issuing permits for the removal of Native American graves pursuant to RCW 27.44.020.

C. WRECO plans to maintain and in the future to develop property in DuPont currently owned by the Weyerhaeuser Company or WRECO, consisting of approximately 3,000 acres of land contained within portions of Sections 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36, Township 19 North, Range 1 East, WM, Pierce County, Washington (the "Property"). The Property contains prehistoric and historic Cultural Resources, including Cultural Resources relating to early Native American occupation, the Hudson's Bay Company, the Puget Sound Agricultural Company, Old Town and the E.I. duPont de Nemours & Company. The Cultural Resources could be affected by future development activities undertaken by WRECO or the City on the Property. Development activities include related activities such as maintenance and remediation, and are governed by this Memorandum of Agreement.

D. To protect Native American Cultural Resources that may be found on the Property, Weyerhaeuser Company and the Nisqually Tribe have entered into agreements establishing the Sequalitchew Indian Cemetery on the Property, providing for the reinterment of Native American remains in the cemetery, and donating Native American artifacts to the Tribe.

E. The Property lies within DuPont and would be developed in cooperation with the City and in compliance with the 1985 Comprehensive Plan and Land Use Zoning Code adopted and enforced by DuPont, which includes policies and regulations to protect cultural resources.

F. The City has created a 971-acre Local Improvement District ("LID") No. 1 on the Property and may create additional LIDs to finance and construct infrastructure to serve future development of the Property. Cultural Resources located on the Property could be affected by infrastructure construction or other development undertaken by the City on the Property.

AGREEMENTS

I. SCOPE OF AGREEMENT

The parties to this Memorandum of Agreement are SHPO, WRECO and the City. This Memorandum of Agreement governs only those development activities undertaken by WRECO or the City on the Property.

II. CULTURAL RESOURCES MANAGEMENT PROGRAM

In order to avoid or mitigate adverse effects on significant Cultural Resources, the parties agree to implement the following Cultural Resources Management Program:

A. Objectives. The objectives of the Cultural Resources Management Program outlined herein are as follows:

1. To ensure the collection and dissemination of reliable, comparable and scientifically viable information about Cultural Resources on the Property.

2. To protect significant Cultural Resources by providing appropriate and expeditious execution of all identification, evaluation, and preservation of Cultural Resources, including, where necessary, data or Cultural Resource recovery operations, as part of the timely review and approval of development proposals.

B. Cultural Resources Consultant. WRECO shall retain a Cultural Resources consultant who meets the minimum professional qualifications under 36 C.F.R. Part 61 (the "Cultural Resources Consultant").

C. Cultural Resources Survey. Prior to commencement of any development activities undertaken by WRECO or the City on the Property, the Cultural Resources Consultant shall survey the Property; locate all previously identified Cultural Resources; and evaluate, using National Register of Historic Places (the "National Register") criteria set forth at 36 C.F.R. § 60.4, all Cultural Resources within the Property that could reasonably be considered directly or indirectly impacted by development activities proposed by WRECO or the City. The survey will involve an existing data search including, but not limited to, archival and literature search, ethnographic research and informant interviews, and will be followed by an intensive field survey. The survey results will become part of the survey data maintained by SHPO.

D. Cultural Resources Comprehensive Management Plan. The Cultural Resources Consultant will complete a Comprehensive Management Plan (the "Plan") that will integrate development plans proposed by WRECO or the City with the protection of Cultural Resources on the Property. The Plan shall provide mitigation measures that comply with the Manual of Mitigation Measures (Advisory Council on Historic Preservation, October 1982) for Cultural Resources on the Property that are included or are eligible for inclusion in the National Register. These measures may include signing, patrolling, fencing, preservation, relocation, data recovery, salvage, and other physical or administrative measures.

E. Scientific Technical Review Team. A Scientific Technical Review Team composed of two archaeologists, acceptable to SHPO, WRECO, and the City, shall review and provide comments on the Plan to SHPO, WRECO, and the City prior to finalization of the Plan, which shall in no event be later than January 1, 1990. WRECO, in consultation with SHPO, may retain the Scientific Technical Review Team for additional assistance in implementing the Plan.

F. Data Recovery Program. In accordance with the Plan, WRECO and the City shall, where prudent and feasible, avoid Cultural Resources included in or eligible for inclusion in the National Register by redesigning or relocating proposed development activities. When it is neither prudent nor feasible to avoid a Cultural Resource that is included in or eligible for listing in the National Register, the Cultural Resources Consultant will document that fact and institute a data recovery

or recordation program in accordance with "Treatment of Archaeological Properties: A Handbook" (Advisory Council on Historic Preservation). All report and data recovery standards will be in conformance with 36 C.F.R. § 61.5.

G. Training Construction Employees. During development undertaken by WRECO or the City on the Property, the Cultural Resources Consultant shall brief construction supervisors on Cultural Resource concerns as part of a technical environmental briefing program.

H. Construction Activities. WRECO and the City shall ensure that all construction activities, vehicles, and other equipment comply with the mitigation measures set forth in the Plan.

I. Work Stoppage. If additional Cultural Resources are uncovered during development activities undertaken by WRECO or the City, construction work shall be stopped in the immediate vicinity of such Cultural Resources until the Cultural Resources Consultant has evaluated the Cultural Resources in accordance with the criteria for listing in the National Register. If the Cultural Resources are not eligible for the National Register, then construction work may be resumed in accordance with applicable permits and approvals. If the Cultural Resources are determined to be eligible for the National Register, then work may be resumed only after compliance with the Plan and as set forth in this Cultural Resources Management Program.

J. Human Remains. If Native American skeletal remains are unearthed, the Nisqually Tribe and SHPO will be informed immediately in compliance with RCW 27.44.020, and the skeletal remains shall be excavated and reinterred in the Sequalitchew Indian Cemetery in accordance with the Memorandum of Agreement between Weyerhaeuser Company and the Nisqually Indian Tribe, dated October 20, 1988, and in accordance with the requirements of RCW 27.44.020. If non-Native American human remains are unearthed, they shall be reinterred in accordance with RCW ch. 27.44.

K. Ownership, Display and Disposition of Artifacts. WRECO shall provide for the curation of all artifacts and associated records and other cultural materials recovered from the Property, and all such materials shall be curated in accordance with professional practices. All cultural resource artifacts shall be deposited in appropriate historical artifact repositories. It is expected that Native American artifacts recovered from the Property shall be donated to the Nisqually Tribe, Hudson's Bay artifacts shall be donated to the Fort Nisqually Metropolitan Park Board and DuPont "Old Town" artifacts

shall be donated to the DuPont Historical Museum. WRECO may identify other appropriate historical artifact repositories, and shall consult SHPO regarding the selection of such repositories. Because the artifacts will be distributed to a number of different repositories, WRECO shall prepare a catalog that lists the cultural resource artifacts recovered from the Property and identifies their repositories. A copy of the catalog shall be provided to SHPO.

L. Informing the SHPO. SHPO shall be informed on an ongoing basis of decisions made by WRECO or the City regarding undertakings that may affect significant Cultural Resources.

M. Consultation with Federal Agencies. In the event that any development activity undertaken by WRECO or the City on the Property is subject to federal licenses or assistance, appropriate steps will be taken to comply with all federal requirements regarding that portion of the Property containing National Register-eligible Cultural Resources that could potentially be affected by such maintenance, remediation or development activity.

N. Compliance with Local, State and Federal Laws. All work performed pursuant to the Cultural Resources Management Program shall comply with local, state and federal laws and regulations.

O. Possible Additional Requirements. If the City of DuPont or other agency issuing permits for WRECO's or the City's development projects imposes additional requirements regarding Cultural Resources, those other requirements will be integrated with the Plan and other provisions described in this Memorandum of Agreement to avoid unnecessary expense and duplication of effort.

III. AMENDMENTS

This Agreement may be amended upon prior written consent of all parties to this Agreement.

IV. COUNTERPARTS

This Agreement may be executed in one or more counterparts, and shall become effective when one or more counterparts have been signed by all parties.

EXECUTED as of August 7, 1989.

STATE HISTORIC PRESERVATION OFFICER

Jacob E. Thomas

WEYERHAEUSER REAL ESTATE COMPANY

By Robert L. Shedd
Robert L. Shedd
Vice President

CITY OF DUPONT

By
Mark Jackson, Mayor

082624.M224

EXECUTED as of _____, 19___.

STATE HISTORIC PRESERVATION OFFICER

Jacob E. Thomas

CITY OF DUPONT

By _____
Mark Jackson, Mayor

082624.M224

WEYERHAEUSER REAL ESTATE COMPANY

By _____
Robert L. Shedd
Vice President

EXECUTED as of _____, 19___.

STATE HISTORIC PRESERVATION OFFICER

_____
Jacob E. Thomas

WEYERHAEUSER REAL ESTATE COMPANY

By_____
Robert L. Shedd
Vice President

CITY OF DUPONT

By_____
Mark Jackson, Mayor

082624.M224

LAW OFFICES OF
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T. RYAN DURKAN
GARY M. FALLON
ROBERT B. FIKSO
RICHARD E. GIFFORD
JEROME L. HILLIS
GREGORY E. KELLER
ANDREW B. KINGSTON
GEORGE A. KRESOVICH
ERIC D. LANSVERK
SARAH E. MACK

DEBORAH S. MALANE
GEORGE W. MARTIN, JR.
LINDA J. MASON
MELODY B. McCUTCHEON
MARK C. McPHERSON
ANNE F. NILES
LOUIS D. PETERSON
RICHARD M. PETERSON
THOMAS F. PETERSON
STEVEN R. ROVIG
MICHAEL F. SCHUMACHER
MICHAEL R. SCOTT
MATTHEW P. SMITH
THERESA R. WAGNER
RICHARD R. WILSON

June 13, 1989

Mr. James J. Mason
Attorney at Law
902 South 10th Street
Tacoma, Washington 98405

Re: Memorandum of Agreement: Cultural Resources Management Program

Dear Mr. Mason:

We have received a copy of your letter responding to the proposed Memorandum of Agreement regarding a cultural resources management program for Weyerhaeuser's property in DuPont.

In response to your concerns about the Sequalitchew Indian Cemetery, I have enclosed a copy of an agreement entered into between the Weyerhaeuser Company and the Nisqually Indian Tribe for the purpose of establishing a cemetery on Weyerhaeuser's DuPont property for the reburial of Native American remains. The cemetery would not be owned or operated by the Nisqually; Weyerhaeuser retains ownership of the land and, as set forth in the agreement, is responsible for establishing and maintaining the cemetery. The cemetery shall be established in accordance with state law.

While cemeteries are not expressly permitted within the city limits under DuPont's Zoning Code, they may be permitted as accessory uses. Another option is to process a text amendment to the Zoning Code. We are working with Mike Matlock to resolve this issue.

We hope this letter and enclosed agreement respond to your concerns. Please let me know if you have any additional questions regarding the Memorandum of Agreement.

Very truly yours,

CITY OF DUPONT

Anne F. Niles

Anne F. Niles

Enclosure
cc: Mark Jackson ✓
Michael Matlock
Robert Shedd
007508.D224

JUN 15 1989

STATE OF WASHINGTON
DEPARTMENT OF LICENSING
Highways-Licenses Building • Olympia, Washington 98504 • (206) 753-6918
Mary Faulk, *Director*

Professional Licensing Services
Professional Programs Management Division

RECEIVED
MAY 18 1989

May 4, 1989

Robert L. Shedd, Vice President
Weyerhauser Real Estate Company
Land Management Division
Tacoma, WA 98477

RE: Sequalitchew Indian Cemetery

Dear Mr. Shedd:

Please be advised that we have entered into our records the maps and articles of dedication for the Sequalitchew Indian Cemetery, and have shown same to be a nonactive cemetery.

The efforts of Weyerhauser, assisted by Jeanne M. Welch of Western Heritage, in preserving for the Indian community a special historical burial place, is most commendable. The filings and the maps appear to be in order.

Should you have any questions, please feel free to contact me by mail at: Cemetery Board, P.O. Box 9012, Olympia, WA 98504-8001, or phone (206) 586-4905.

Sincerely,

Paul M. Elvig
Executive Secretary

PME: dmf

12/19/2000

MEMORANDUM OF AGREEMENT AMONG WEYERHAEUSER COMPANY, WEYERHAEUSER REAL ESTATE COMPANY, CITY OF DUPONT, THE NISQUALLY POINT DEFENSE FUND, COMMITTEE FOR THE PRESERVATION OF THE NISQUALLY MISSION HISTORICAL SITE, THE NISQUALLY DELTA ASSOCIATION AND THE DUPONT HISTORICAL SOCIETY

RECITALS

A. The purpose of this Memorandum of Agreement is to provide for the cooperation among Weyerhaeuser Company, a Washington State corporation ("Weyerhaeuser"), Weyerhaeuser Real Estate Company, a Washington State corporation and wholly owned subsidiary of Weyerhaeuser Company ("WRECO"), the City of DuPont, a municipal corporation in the State of Washington ("City"), the Nisqually Point Defense Fund, a Washington State corporation ("NPDF"); the Committee for the Preservation of the Nisqually Mission Historical Site, a citizen group; the Nisqually Delta Association, a Washington State corporation; and the DuPont Historical Society, a Washington State corporation; (collectively, the "Citizen Groups") during the development of the real property that is depicted and generally described based on Universal Transverse Mecator (UTM) coordinates on Exhibit A to this Memorandum (hereinafter the "Property").

B. The Property is a portion of a larger parcel of real property that requires remedial clean up due to contamination that was left from an explosives manufacturing plant owned by the DuPont Company between the turn of the century and the mid-1970's. The remediation process is being supervised by the Washington State Department of Ecology pursuant to the terms of a Consent Decree being administered under the Washington State Model Toxics Control Act ("MTCA").

C. The Property is currently owned by Weyerhaeuser, but will be conveyed in the future to WRECO to be included in the overall development plan for the master planned community known as Northwest Landing.

D. The City and the Citizen Groups are committed to preserving certain portions of the Property and to commemorating the historically significant events that occurred in the vicinity. To that end, on February 1, 2000, NPDF submitted a proposal to the United States Department of the Interior to include the Property on the National Register of Historic Places as the "Nisqually-Sequalitchew Historic District" (the "Historic District").

AGREEMENTS

1. SCOPE OF THE AGREEMENT

The parties to this Memorandum of Agreement are Weyerhaeuser, WRECO, the City and the Citizen Groups. The terms and provisions of this Memorandum of Agreement are applicable only to the Property and only to those development activities undertaken on the Property by Weyerhaeuser or WRECO.

2. ADDITIONAL COVENANTS AFFECTING THE PROPERTY

Prior to conveying title to any portion of the Property to a third-party retail purchaser, WRECO and / or Weyerhaeuser shall provide notice to future owners of the historical significance of the Property by encumbering the Property with a covenant regarding the formation of the Historic District. This covenant shall reference this Memorandum of Agreement, shall specifically declare the rights and obligations contained below in Section #3 regarding future support of the Historic District and shall be conditioned upon the terms of Section #5. The restrictive covenant is attached as Exhibit B. Neither WRECO nor Weyerhaeuser shall seek to preclude access by encumbering the Property or any portion through new or additional restrictive covenants. Notwithstanding the forgoing, WRECO may, at its discretion, subject the Property to the terms and conditions of the Declaration of Covenants, Conditions and Restrictions for

Attachment 12.h. MOA between WRECO, Nisqually Point Defense Fund, Committee for the Preservation of the Nisqually Mission Historical Site, Nisqually Delta Assn. and the DuPont Historical Society dated December 19, 2000.

Northwest Landing Commercial Property, as well as any covenants or restrictions arising from the remediation process or that are requirements of the Consent Decree or MTCA.

3. LISTING OF THE HISTORIC DISTRICT

WRECO will support the listing of the Property for inclusion on the National Register of Historic Places once and provided the following conditions are true:

a. The overall boundaries of the Historic District are no larger than those currently proposed by NPDF (as submitted 2/1/2000 to the Department of Interior).

b. The City of DuPont Comprehensive Plan and Development Regulations are consistent with this Memorandum of Agreement in regard to the cultural resource policy for the Property (reference #5, below).

c. The City of DuPont has granted final development and / or land use entitlement approvals for the development of all developable portions of the Property (excluding, for example, open space. sensitive areas and buffers) on terms and conditions satisfactory to WRECO or their successors and assigns, and all applicable appeal periods have expired without the commencement of appeals or all of the appeals have been dismissed or resolved.

d. In order to accelerate the listing of the Historic District, the overall boundaries of the Historic District may be reduced at the discretion of the NPDF to exclude parcels that have not fulfilled provision 3c.

4. NPDF OPTION TO PURCHASE

NPDF has expressed an interest in purchasing up to two (2) sites that are located within the boundaries of the Property (collectively, the "Option Sites"). These sites are commonly referred to among the parties as:

a. The "Methodist / Episcopal Mission Site" anticipated to be no less than one acre; and,

b. An "Interpretive Center Site".

Though certain relevant details of the transactions have not yet been determined between WRECO and / or Weyerhaeuser and NPDF, (e.g. actual location of sites and size), the parties acknowledge that the purchase price for the site(s) shall be determined by a licensed appraiser to be mutually agreed upon by the parties and that all closing costs shall be charged to the respective parties as is currently customary in the purchase and sale of unimproved real property in Pierce County. Therefore, WRECO and / or Weyerhaeuser and NPDF agree to negotiate in good faith to decide upon the terms and conditions that will govern the conveyance(s) and to execute one or more purchase and sale agreements and / or option agreements, as appropriate, as evidence of the parties' intent.

Conveyance of the Option Sites (or portions thereof) are subject to legal subdivision from the Property and further are subject to the release of the Property by the Washington State Department of Ecology from the terms of the Consent Decree and any other remediation requirements then in force against the Property.

5. CITY CONDITIONS AND DECISIONS CONSISTENT WITH THE AGREEMENT

Recognizing that actions taken by the State of Washington legislature in regard to the State Environmental Policy Act or other state laws and regulations which may obligate the City to impose additional conditions upon any portion of the Property cannot be predicted or controlled, it is the desire of all of the parties to this Agreement that the City of DuPont Comprehensive Plan policies and development regulations that relate to cultural resource preservation remain wholly consistent with the terms set forth herein; and the parties acknowledge and agree in good faith to honor this Agreement and to actively oppose any future actions by the County of Pierce, State of Washington or other entity that would have more than a minimal material adverse effect on the terms of this Agreement. However, in the event that additional conditions that relate to cultural resource preservation that are not consistent with the terms

herein are imposed upon any portion of the Property (other than conditions required by the State of Washington as stated above), the parties agree to meet to consider means to resolve any conflict posed by such conditions. If the parties fail to resolve the conflict within 90 days then this Agreement shall become null and void and none of the parties shall have any further rights or obligations hereunder.

WRECO, Weyerhaeuser, and the Citizens Groups agree to collectively support all actions that are consistent with the terms of this Agreement and further agree to collectively oppose any subsequent changes that are not consistent with this Agreement.

6. COMMEMORATION OF HISTORICAL SITES AND CULTURAL RESOURCES

Subject to obtaining appropriate permits and subject further to the approval of the owners of such properties, WRECO agrees to construct and install at its sole expense at least one (1) commemorative marker for each of the following sites (the "Historic Sites"):

a. Wilkes Observatory,

b. Sequalitchew Village/Nisqually House,

c. The Oxen Road,

d. The 1833 Hudson Bay Company Fort,

e. The 1843 Hudson Bay Company Fort,

f. The Methodist / Episcopal Mission (whether or not the site is purchased by NPDF), and,

g. The DuPont Company Works.

A map depicting the general location of the Historic Sites is attached as Exhibit C. Additional commemorative or directional signs will be the responsibility of the Citizen Groups and/or the City.

A system of pedestrian connections linking the Historic Sites will be allowed, however construction of such connections shall not be the responsibility of the Citizen Groups. A map depicting the approximate location of possible pedestrian connections is attached as Exhibit D.

7. OTHER HISTORIC RESOURCES

a. The DuPont Works guardhouse and entry gate pillars shall be made available to NPDF for relocation to an alternate site upon ninety (90) days written notice from Weyerhaeuser Company to NPDF. Weyerhaeuser and / or WRECO agree to reimburse the Citizen Groups and / or the City one-half of the expense of moving these improvements. It shall be the responsibility of the Citizen Groups and / or the City to coordinate the moving of the improvement, secure the alternate site and to obtain all permits needed for such relocation. Weyerhaeuser agrees to not disturb these improvements during remediation work other than efforts needed to preserve the structures.

b. The locomotive and at least sixty (60) feet of track will be made available to NPDF for relocation to an alternate site upon ninety (90) days written notice from Weyerhaeuser Company to NPDF. Weyerhaeuser and / or WRECO agree to pay one-half of the expense of moving these items, but it shall be the responsibility of the Citizen Groups and / or the City to secure the alternate site and all permits needed for such relocation.

c. The parties agree to consider the possibility of not burying portions of selected bunkers within the proposed golf course layout and further designating those bunkers with commemorative markers.

d. Tools and other items used specifically for locomotive repair and / or maintenance shall be made available to NPDF at the same time as the items identified above in Subsection b.

e. WRECO and Weyerhaeuser shall also consider the transfer of certain smaller tools and other items that may be identified.

8. COMPLIANCE WITH PRIOR AGREEMENTS.

Remediation work conducted upon the Property shall require a standard of training and operating compliance that is consistent with that outlined in that certain Memorandum of Agreement Among The Washington State Historic Preservation Officer, Weyerhaeuser Real Estate Company, and the City of DuPont Regarding a Cultural Resources Management Program for the Property Within the City of DuPont, Pierce County, Washington dated August 7, 1989, and the Archaeological and Cultural Resource Protection Plan that is pending before the Washington State Department of Ecology. Any new artifacts or Cultural Resources (as defined in that certain Memorandum of Agreement) that are discovered during the work of remediation shall be properly accounted for and recorded in accordance with those agreements.

9. ENTIRE AGREEMENT.

There are no verbal or other agreements that modify or affect this Agreement except as expressly noted above. Any modification of any condition of this Agreement shall be in writing, signed by all parties.

10. CAPTIONS.

The captions contained in this Agreement are inserted only as a matter of convenience and in no way define, limit, extend, or describe the scope of this Agreement or the intent of any provision.

11. GOVERNING LAW.

This Agreement shall be governed by and construed under the laws of the State of Washington.

12. COUNTERPARTS.

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

13. FURTHER ACTS AND DOCUMENTS.

The parties shall each cooperate with the other and shall execute such further documents as may be reasonably necessary or appropriate to carry out and accomplish the intent of this Agreement.

14. TIME IS OF THE ESSENCE.

Time is of the essence of each and every provision of this Agreement.

15. COMPLIANCE WITH LAWS.

The parties agree to comply with all permits, approvals, laws, ordinance, covenants, rules and regulations, and other recorded instruments which regulate the Property or the remediation process.

16. ENFORCEMENT.

The NPDF, WRECO, Weyerhaeuser, the City, or any other fee owner to all or any portion of the Historic District shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

17. DISPUTE RESOLUTION AND ATTORNEY FEES.

Prior to initiating any legal action with respect to the operation of this Agreement, the aggrieved party agrees to provide written notice to the other parties to this Agreement specifying the facts and issues in dispute. The parties agree that within fifteen (15) days of the date the notice is deposited in the mail, they shall meet and confer in an attempt to resolve the dispute. In the event that the dispute remains unresolved, the parties agree to submit the matter to mediation utilizing a mutually agreeable mediator. In the event that the parties cannot agree upon a mediator, any party may apply to the Pierce County Superior Court for the appointment of a mediator. The parties agree to share the cost of the mediator, but each party shall bear its own costs and attorney's fees for the mediation. In the event that the mediation fails to resolve the dispute, the parties may then proceed to initiate legal action in accordance with the provisions of paragraph 16. However, in the event that immediate action is needed to preserve a right or property interest, a party may initiate action to obtain temporary injunctive relief, but shall then proceed

under the terms of this paragraph prior to continuing with the prosecution of any litigation. Each side agrees to bear its own costs and attorney's fees in any litigation that is maintained.

"THE CITIZEN GROUPS"
***The Nisqually Point Defense Fund*,**
a Washington State corporation

By: _____
James A. Edgren, President

Date: 12/19/00

***Committee for the Preservation of the Nisqually Mission Historical Site*, a citizen group**

By: _____
Mary A. Edgren, Co-Chairman

Date: 12/19/00

***The Nisqually Delta Association*,**
a Washington State corporation

By: _____
Thomas O. Skjervold, President

Date: Dec. 19, 2000

***The DuPont Historical Society*,**
a Washington State corporation

By: _____
Lorraine Overmyer, Chairperson

Date: 12/19/00

"WEYERHAEUSER"
***Weyerhaeuser Company*,**
a Washington State corporation

By: _____
Robert A. Dowdy
Vice President and General Counsel

Date: 12/18/00

"WRECO"
***Weyerhaeuser Real Estate Company*,**
a Washington State corporation
through its Land Management Division

By: _____
David A. Brentlinger
Assistant Vice President

Date: 12/19/00

"THE CITY"
***City of DuPont*,**
a municipal corporation

By: _____
Judith A. Krill, Mayor

Date: 20 Dec 2000

Attest:

By: _____
Charmayne Frost
City Clerk for City of DuPont

Date: 12-20-00

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***James A. Edgren***, to me known to be the ***President*** of ***The Nisqually Point Defense Fund***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.



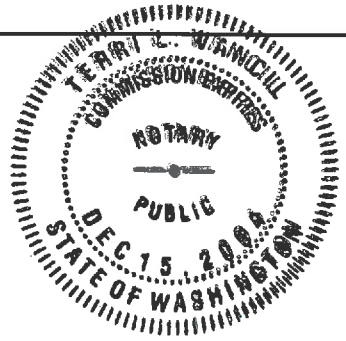
Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 18th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Robert A. Dowdy***, to me known to be the ***Vice President and General Counsel*** for ***Weyerhaeuser Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.



Notary Seal

Terri L. Vancil
Terri L. Vancil
Notary Public in and for the State of Washington
residing at Olalla
My appointment expires: 12-15-04

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Mary E. Edgren***, to me known to be the ***co-chairperson*** of the ***Committee for the Preservation of the Nisqually Mission Historical Site***, the citizen's group that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said citizen's group, for the uses and purposes therein mentioned, and on oath stated that she is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.



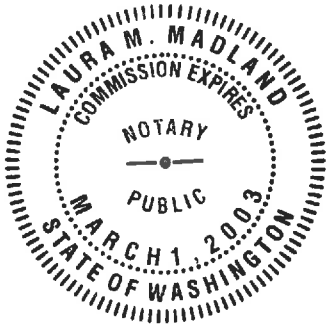
Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***David A. Brentlinger***, to me known to be the ***Assistant Vice President*** of ***Weyerhaeuser Real Estate Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.



Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Thomas O. Skjervold***, to me known to be the President of ***The Nisqually Delta Association***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.



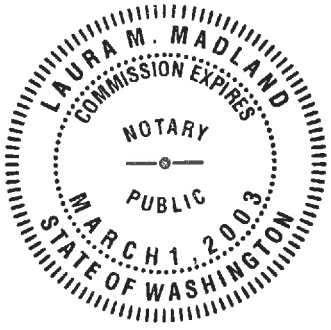
Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Lorraine Overmyer***, to me known to be the ***chairperson*** of ***The DuPont Historical Society***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

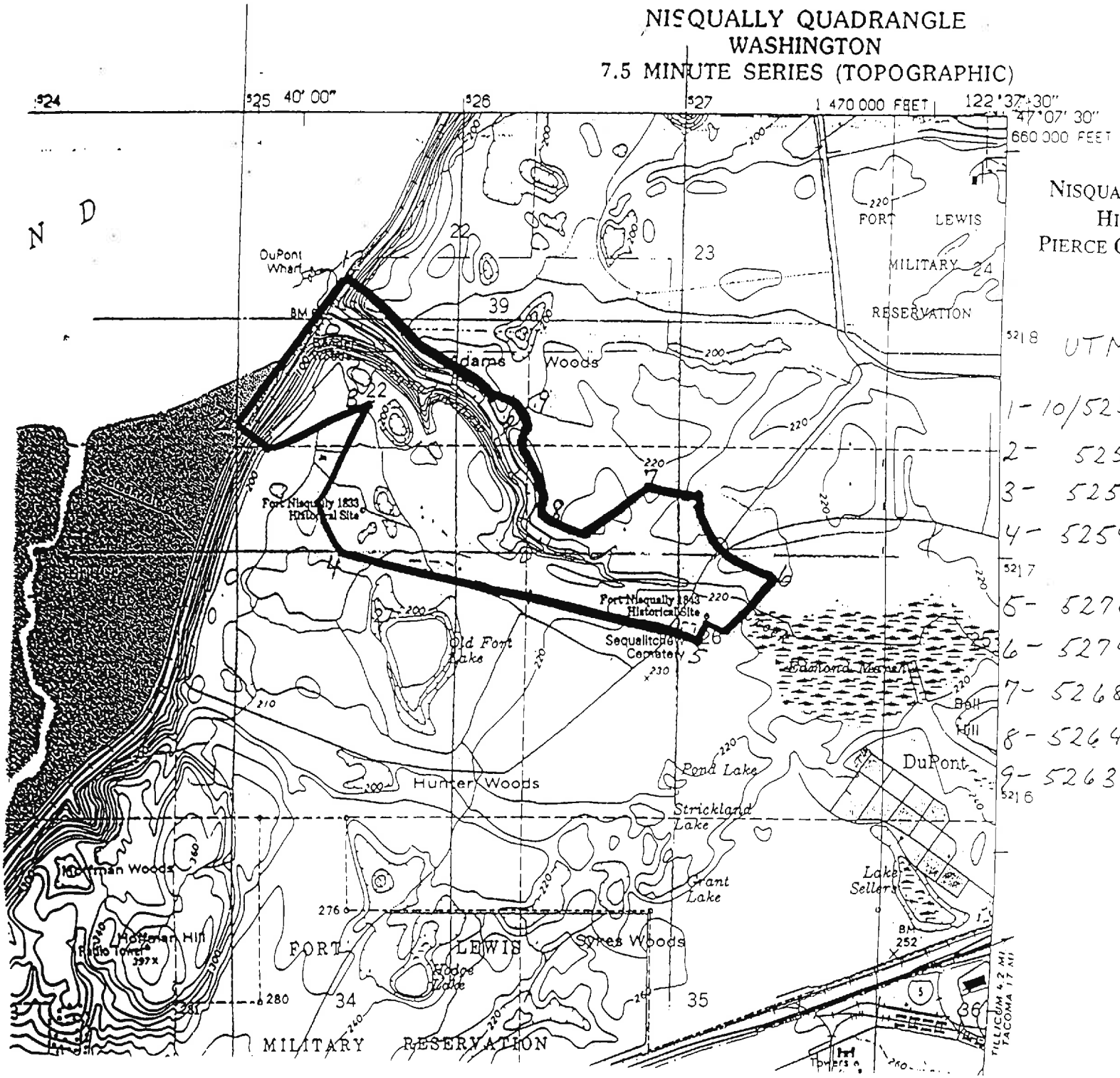


Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

EXHIBIT LIST

EXHIBIT A	MAP DEPICTING THE "PROPERTY"
EXHIBIT B	COVENANT TO ENCUMBER THE PROPERTY
EXHIBIT C	MAP DEPICTING THE "HISTORIC SITES"
EXHIBIT D	MAP DEPICTING POSSIBLE PEDESTRIAN CONNECTIONS



NISQUALLY - SEQUALITCHEW
HISTORIC DISTRICT
PIERCE COUNTY, WASHINGTON
(PROPOSED)

UTM:

1 - 10/	525480	5218175
2 -	525000	5217540
3 -	525600	5217660
4 -	525460	5217000
5 -	527070	5216610
6 -	527440	5216910
7 -	526870	5217275
8 -	526400	5217160
9 -	526325	5217620

Exhibit A
to Agreement

EXHIBIT "B"

NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT

This Notice Regarding Historic District Designation and Declaration of Covenant (the "Covenant") is made this _____ day of December, 2000 by Weyerhaeuser Company, a Washington State corporation ("Weyerhaeuser") and its wholly owned subsidiary, Weyerhaeuser Real Estate Company, a Washington State corporation, through its Land Management Division ("WRECO").

RECITALS

A. WRECO is the developer of a master planned community known as Northwest Landing that is located within the City of DuPont. A portion of Northwest Landing has been nominated for listing on the United States Department of the Interior National Register of Historic Places pursuant to a submittal made by the Nisqually Point Defense Fund ("NPFD") on February 1, 2000 (the "Historic Register"). That portion of Northwest Landing that is subject to this Covenant is commonly referred to as the Nisqually – Sequalitchew Historic District (the "Historic District") which is legally described on Exhibit "A" and depicted on Exhibit "B" to this Notice. Weyerhaeuser and WRECO are the fee owners of the real property underlying the Historic District.

B. In anticipation of this listing on the Historic Register, WRECO and Weyerhaeuser have entered into that certain Memorandum of Agreement among Weyerhaeuser Company, WRECO, the City of DuPont, the NPFD, the Committee for the Preservation of the Nisqually Mission Historical Site, the Nisqually Delta Association and the DuPont Historical Society dated the _____ day of December, 2000 (the "MOA") to provide for the eventual recognition of certain elements within the Historic District for the benefit of future generations.

C. The Purpose of this Covenant is to insure that in the future, purchasers of real property within the Historic District are aware that all or a portion of the real property they have purchased is to be listed on the Historic Register and that the listing of the real property as an Historic District may not be opposed except as noted herein.

FORMATION OF HISTORIC DISTRICT SUPPORT BY FUTURE PURCHASERS

1. Property. The real property that is subject to this Notice and that is herein identified as the Historic District is legally described on Exhibit "A" and depicted on Exhibit "B".

2. Covenant to Support. Each person or entity that obtains, whether by purchase or other means, an interest in the real property underlying the Historic District is hereby notified of the present covenant and the commitment to the future formation of the Historic District. Such person or entity, by and in taking title to any portion of the real property encumbered by this Covenant, agrees not to object and is prohibited from objecting to the listing of the Property on the Historic Register provided that it is done in a manner that is consistent with the MOA, that all conditions of the MOA have been met, and that, during the process of site plan and / or other development approval process, the City of DuPont does not impose any conditions regarding historic resources that are inconsistent with those cited therein.

3. Reservation of Rights. Weyerhaeuser and WRECO reserve unto themselves, their successors and assigns, all rights and privileges in and to the use of the Historic District that are not incompatible with the listing on the Historic Register.

4. No Public Access. No right of access or use by the general public to any portion of the Historic District is conveyed by this instrument.

5. Run with the Land. This Covenant is declared to touch and concern the land, shall run with the land, and shall be binding on all parties having any interest in the Historic District, their heirs, successors and assigns.

6. Enforcement. NPDF, WRECO, Weyerhaeuser, the City of DuPont, or any other fee owner to all or any portion of the Historic District shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

7. Termination. This Covenant shall terminate without the need for recording any further documentation upon the earliest occurrence of one of the following events: i) the Historic District is listed on the National Register, ii) the Historic District is withdrawn from its nomination to be listed the National Register or iii) the MOA is determined to be invalid, either in whole or in part, by a court of competent jurisdiction or similar tribunal.

"WEYERHAEUSER"
Weyerhaeuser Company,
a Washington State corporation

By: sign version in recordable format
Robert A. Dowdy
Its: Vice President and General Counsel

Date: _____

"WRECO"
Weyerhaeuser Real Estate Company,
a Washington State corporation,
through its Land Management Division

By: sign version in recordable format
David A. Brentlinger
Its: Assistant Vice President

Date: _____

Acknowledged and Accepted

"NPDF"
The Nisqually Point Defense Fund,
a Washington State corporation

By: sign version in recordable format
James A. Edgren, President

Date: _____

"CITY"
City of DuPont,
A Washington State municipal corporation

By: sign version in recordable format
Judith A. Krill, Mayor

Date: _____

Attest:

By: sign version in recordable format
Charmayne Frost
City Clerk for City of DuPont

Date: _____

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***James A. Edgren***, to me known to be the ***President*** of ***The Nisqually Point Defense Fund***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

Notary Seal

_____
Notary Public in and for the State of Washington
residing at _____
My appointment expires: _____

STATE OF WASHINGTON)
)ss.
County of _____)

On this _____ day of _____, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Robert A. Dowdy***, to me known to be the ***Vice President and General Counsel*** for ***Weyerhaeuser Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.

Notary Seal

_____
Notary Public in and for the State of Washington
residing at _____
My appointment expires: _____

STATE OF WASHINGTON)
)ss.
County of _____)

On this _____ day of _____, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***David A. Brentlinger***, to me known to be the ***Assistant Vice President*** of ***Weyerhaeuser Real Estate Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

Notary Seal

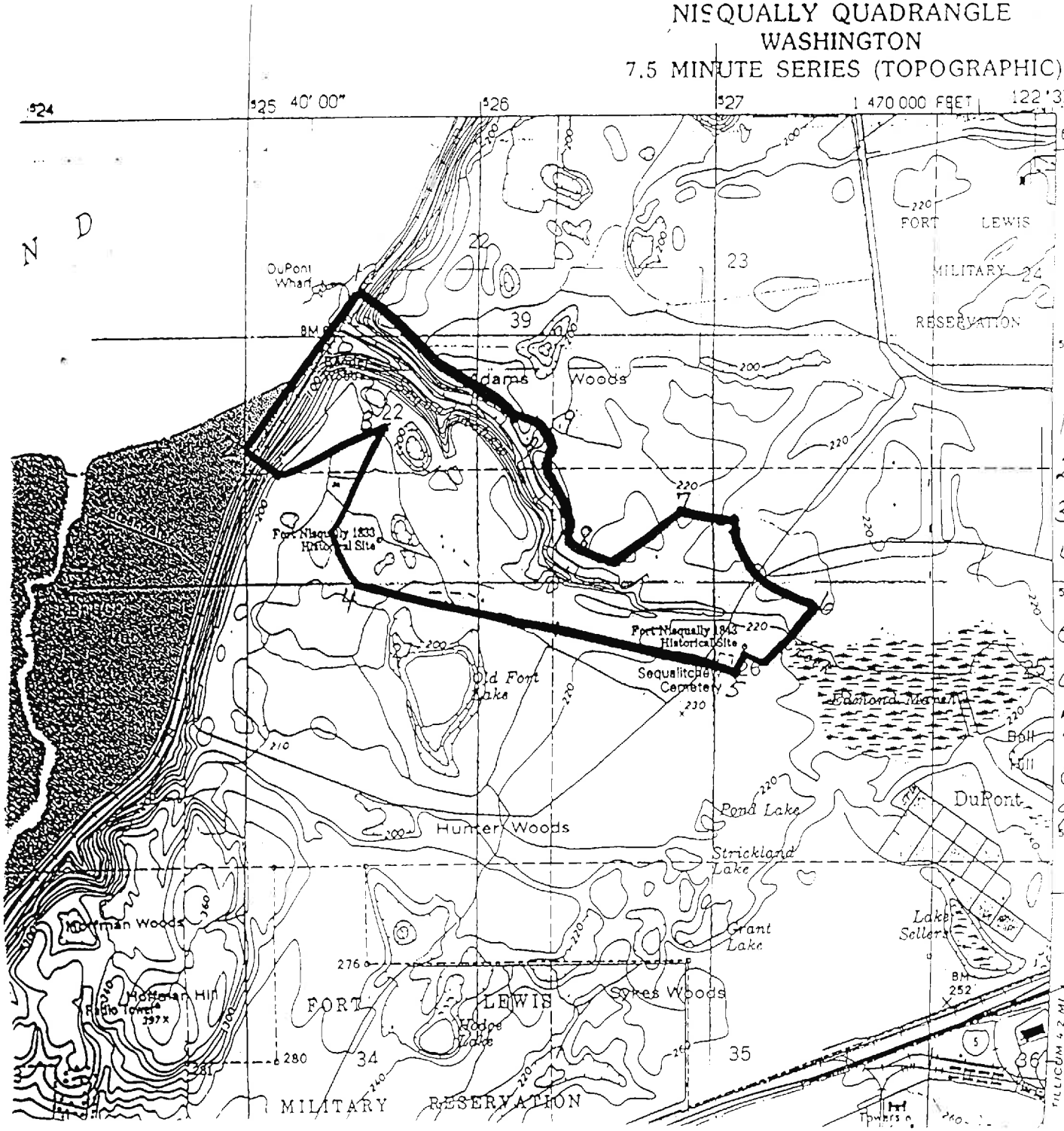
_____

Notary Public in and for the State of Washington
residing at _____
My appointment expires: _____

EXHIBIT LIST

EXHIBIT A	LEGAL DESCRIPTION OF THE HISTORIC DISTRICT
EXHIBIT B	MAP DEPICTING THE HISTORIC DISTRICT

Exhibit A
to Covenant



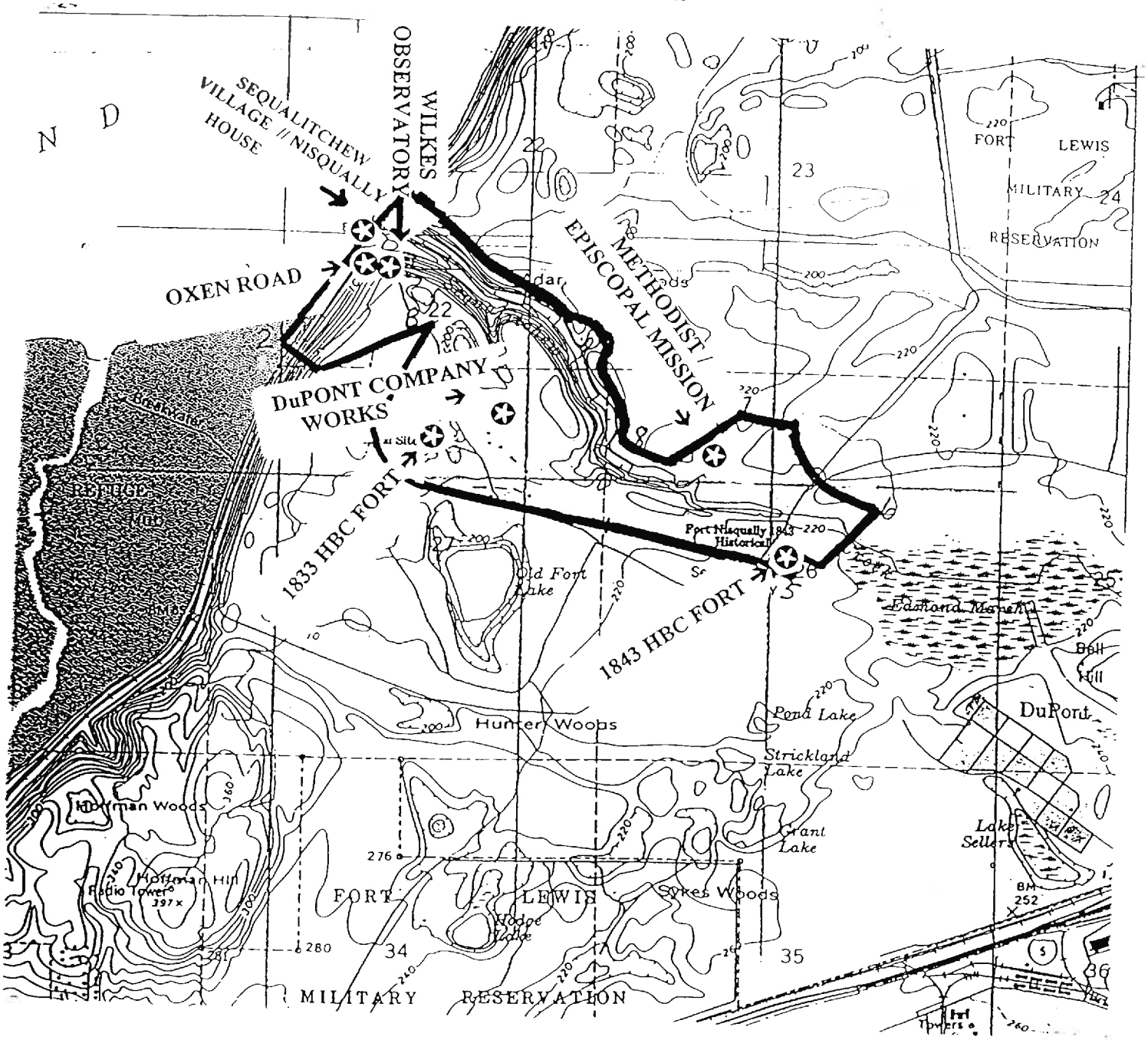
NISQUALLY – SEQUALITCHEW
HISTORIC DISTRICT
PIERCE COUNTY, WASHINGTON
(PROPOSED)

UTM:

1 - 10	525480	5218175
2 -	525000	5217540
3 -	525600	5217660
4 -	525460	5217000
5 -	527070	5216610
6 -	527440	5216910
7 -	526870	5217275
8 -	526400	5217160
9 -	526325	5217620

Exhibit B
to Covenant

Exhibit C
to Agreement



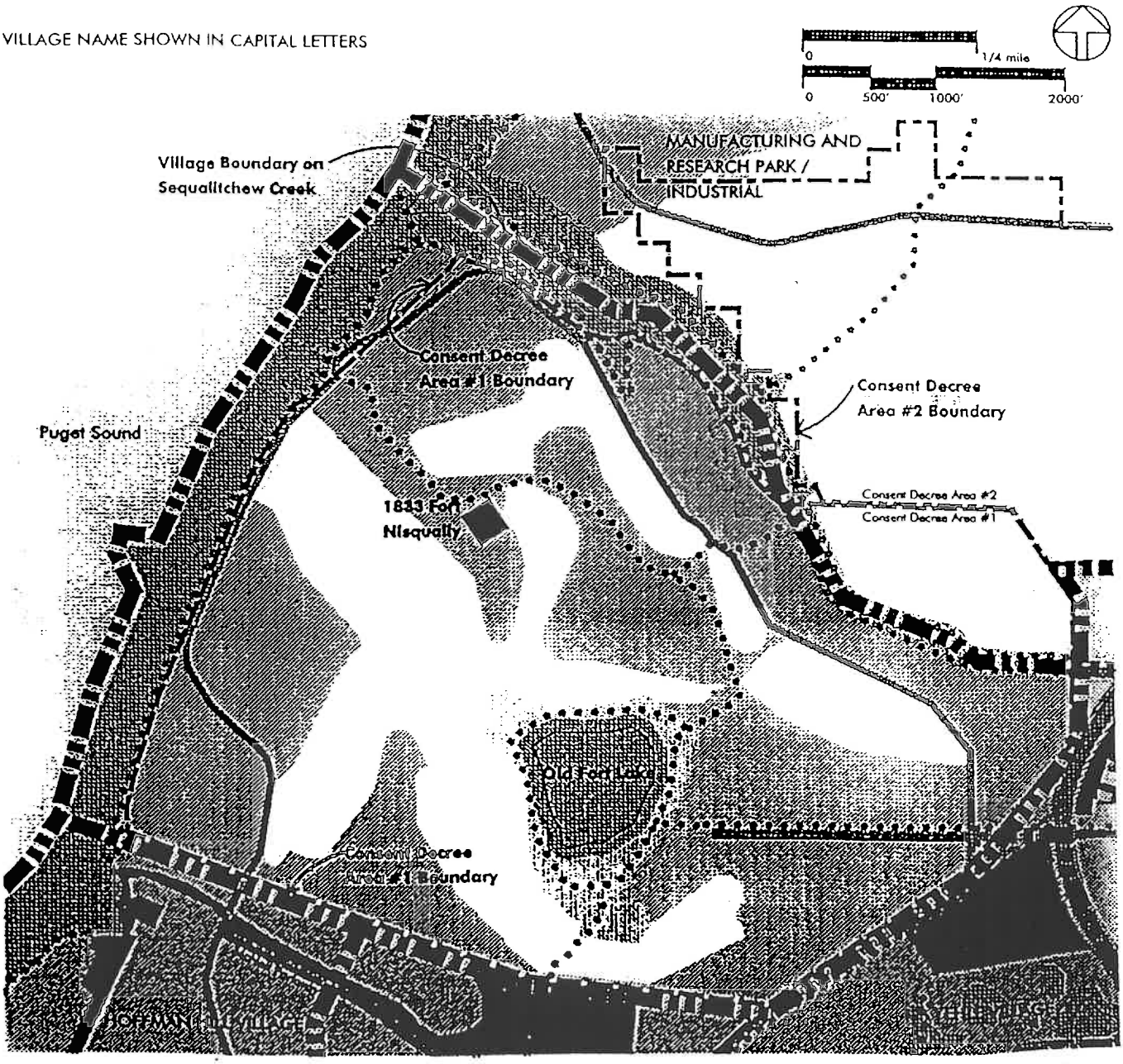
LEGEND

Exhibit D
to Agreement

Trails/Paths - Existing

Trails/Paths - Conceptual Location

VILLAGE NAME SHOWN IN CAPITAL LETTERS



Land Management Division

Weyerhaeuser
Real Estate Company

Northwest
Landing
your home town

Northwest Landing
1408 Palisade Boulevard
DuPont WA 98327
Tel (253) 964-2867
Fax (253) 964-2326

Signed/Recorded
Exhibit B
MOA

January 22, 2001

Re: ***Memorandum of Agreement***

To: Judith A. Krill, Mayor of the City of DuPont
James A. Edgren on behalf of the Citizens Groups

From: Terri L. Vancil, WRECO at Northwest Landing

Enclosed is a conformed copy of the Notice Regarding Historic District Designation and Declaration of Covenant that was recorded with the Pierce County Auditor under file number 200101120143.

If you have any questions regarding this, or if additional information is needed, please let me know. I can be reached at (253) 964-2867.

Attachment: as noted

cc: David A. Brentlinger, WRECO (with attachment)
Greg Moore, WRECO (with attachment)
Robert Dowdy, Weyerhaeuser Company (with attachment)
Jim Odendahl, Weyerhaeuser Company (with attachment)

200101120143 7 pg
1-12-2001 09:51am $14.00
PIERCE COUNTY, WASHINGTON

After Recording Return To:
Weyerhaeuser Real Estate Company
Attn: Terri Vancil
1408 Palisade Boulevard
DuPont, WA 98327

Document Title(s) (or transactions contained therein):

1. Notice Regarding Historic District Designation and Declaration of Covenant

Grantor(s) Name (last, first, and initials):

1. Weyerhaeuser Real Estate Company
2. Weyerhaeuser Company

☐ Additional Names on Page _____ of Document

Grantee(s) Name (last, first, and initials):

1. The Public
2. City of DuPont
3. The Nisqually Point Defense Fund

☐ Additional Names on Page _____ of Document

TRANS
3026380W
JAN 12 2001

Legal Description (Abbreviated i.e. lot/block and plat or section, township and range)

A PORTION OF THE SOUTH ONE-HALF OF SECTION 22, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;
A PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

Situate in the City of DuPont, County of Pierce, State of Washington.

☐ Legal Description is on _____ of Document.

Reference Number(s) of Documents Assigned or Released:

1. N/A

☐ Additional Reference Numbers on Page _____ of Document

Assessor's Tax Parcel / Account Number(s)

A portion of 01-19-27-1-001; 01-19-22-3-002; 01-19-22-3-001; 01-19-26-2-004; and 01-19-26-3-007

NOTICE REGARDING HISTORIC DISTRICT DESIGNATION
AND
DECLARATION OF COVENANT

This Notice Regarding Historic District Designation and Declaration of Covenant (the "Covenant") is made this 20th day of December, 2000 by Weyerhaeuser Company, a Washington State corporation ("Weyerhaeuser") and its wholly owned subsidiary, Weyerhaeuser Real Estate Company, a Washington State corporation, through its Land Management Division ("WRECO").

RECITALS

A. WRECO is the developer of a master planned community known as Northwest Landing that is located within the City of DuPont. A portion of Northwest Landing has been nominated for listing on the United States Department of the Interior National Register of Historic Places pursuant to a submittal made by the Nisqually Point Defense Fund ("NPFD") on February 1, 2000 (the "Historic Register"). That portion of Northwest Landing that is subject to this Covenant is commonly referred to as the Nisqually – Sequalitchew Historic District (the "Historic District") which is legally described on Exhibit "A" and depicted on Exhibit "B" to this Notice. Weyerhaeuser and WRECO are the fee owners of the real property underlying the Historic District.

B. In anticipation of this listing on the Historic Register, WRECO and Weyerhaeuser have entered into that certain Memorandum of Agreement among Weyerhaeuser Company, WRECO, the City of DuPont, the NPFD, the Committee for the Preservation of the Nisqually Mission Historical Site, the Nisqually Delta Association and the DuPont Historical Society dated the 20th day of December, 2000 (the "MOA") to provide for the eventual recognition of certain elements within the Historic District for the benefit of future generations.

C. The Purpose of this Covenant is to insure that in the future, purchasers of real property within the Historic District are aware that all or a portion of the real property they have purchased is to be listed on the Historic Register and that the listing of the real property as an Historic District may not be opposed except as noted herein.

FORMATION OF HISTORIC DISTRICT
SUPPORT BY FUTURE PURCHASERS

1. Property. The real property that is subject to this Notice and that is herein identified as the Historic District is legally described on Exhibit "A" and depicted on Exhibit "B".

2. Covenant to Support. Each person or entity that obtains, whether by purchase or other means, an interest in the real property underlying the Historic District is hereby notified of the present covenant and the commitment to the future formation of the Historic District. Such person or entity, by and in taking title to any portion of the real property encumbered by this Covenant, agrees not to object and is prohibited from objecting to the listing of the Property on the Historic Register provided that it is done in a manner that is consistent with the MOA, that all conditions of the MOA have been met, and that, during the process of site plan and / or other development approval process, the City of DuPont does not impose any conditions regarding historic resources that are inconsistent with those cited therein.

3. Reservation of Rights. Weyerhaeuser and WRECO reserve unto themselves, their successors and assigns, all rights and privileges in and to the use of the Historic District that are not incompatible with the listing on the Historic Register.

4. No Public Access. No right of access or use by the general public to any portion of the Historic District is conveyed by this instrument.

5. Run with the Land. This Covenant is declared to touch and concern the land, shall run with the land, and shall be binding on all parties having any interest in the Historic District, their heirs, successors and assigns.

6. Enforcement. NPDF, WRECO, Weyerhaeuser, the City of DuPont, or any other fee owner to all or any portion of the Historic District shall have the right to enforce, by any proceeding at law or in equity, the rights and obligations set forth herein.

7. Termination. This Covenant shall terminate without the need for recording any further documentation upon the earliest occurrence of one of the following events: i) the Historic District is listed on the National Register, ii) the Historic District is withdrawn from its nomination to be listed the National Register or iii) the MOA is determined to be invalid, either in whole or in part, by a court of competent jurisdiction or similar tribunal.

"WEYERHAEUSER"
Weyerhaeuser Company,
a Washington State corporation

By: _____
Robert A. Dowdy
Its: Vice President and General Counsel

Date: 12/18/00

"WRECO"
Weyerhaeuser Real Estate Company,
a Washington State corporation,
through its Land Management Division

By: _____
David A. Brentlinger
Its: Assistant Vice President

Date: 12/19/00

Acknowledged and Accepted

"NPDF"
The Nisqually Point Defense Fund,
a Washington State corporation

By: _____
James A. Edgren, President

Date: 12/19/00

"CITY"
City of DuPont,
A Washington State municipal corporation

By: _____
Judith A. Krill, Mayor

Date: 20 Dec 2000

Attest:

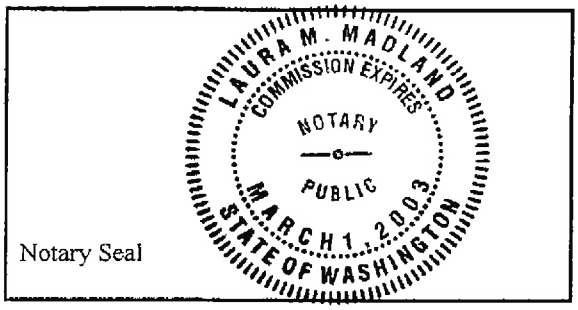
By: _____
Charmayne Frost
City Clerk for City of DuPont

Date: 12-20-00

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***James A. Edgren***, to me known to be the ***President*** of ***The Nisqually Point Defense Fund***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.



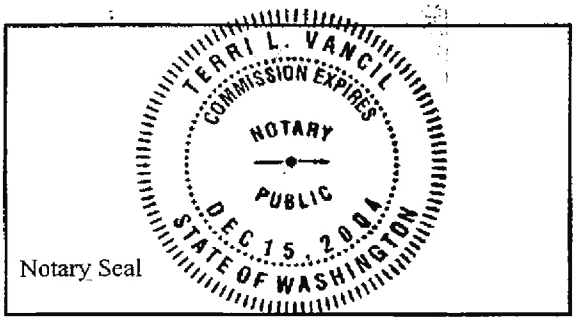
Notary Seal

Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 18 day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***Robert A. Dowdy***, to me known to be the ***Vice President and General Counsel*** for ***Weyerhaeuser Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument.

Witness my hand and official seal hereto affixed the day and year first above written.



Notary Seal

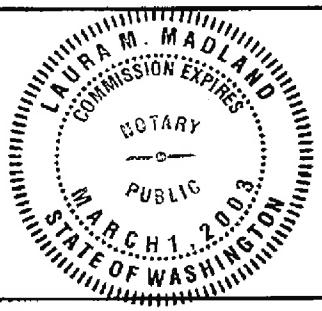
Terri L. Vancil
Terri L. Vancil
Notary Public in and for the State of Washington
residing at Olalla
My appointment expires: 12-15-04

STATE OF WASHINGTON)
)ss.
County of Pierce)

On this 19th day of December, 2000, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ***David A. Brentlinger***, to me known to be the ***Assistant Vice President*** of ***Weyerhaeuser Real Estate Company***, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute the said instrument and that the seal affixed (if any) is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

Notary Seal



Laura M. Madland
Laura M. Madland
Notary Public in and for the State of Washington
residing at Gig Harbor
My appointment expires: 3-1-2003

EXHIBIT A
TO
NOTICE REGARDING HISTORIC DISTRICT DESIGNATION
AND
DECLARATION OF COVENANT

UNIVERSAL TRANSVERSE MECATOR (UTM) COORDINATES*

1	10/525480	5218175
2	10/525000	5217545
3	10/525600	5217660
4	10/525460	5217000
5	10/527070	5216610
6	10/527440	5216910
7	10/526870	5217275
8	10/526400	5217160
9	10/526325	5217620

SECTION 22:
A PORTION OF THE SOUTH ONE-HALF OF SECTION 22, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;

SECTION 26:
A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.;

A PORTION OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

SECTION 27:
A PORTION OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

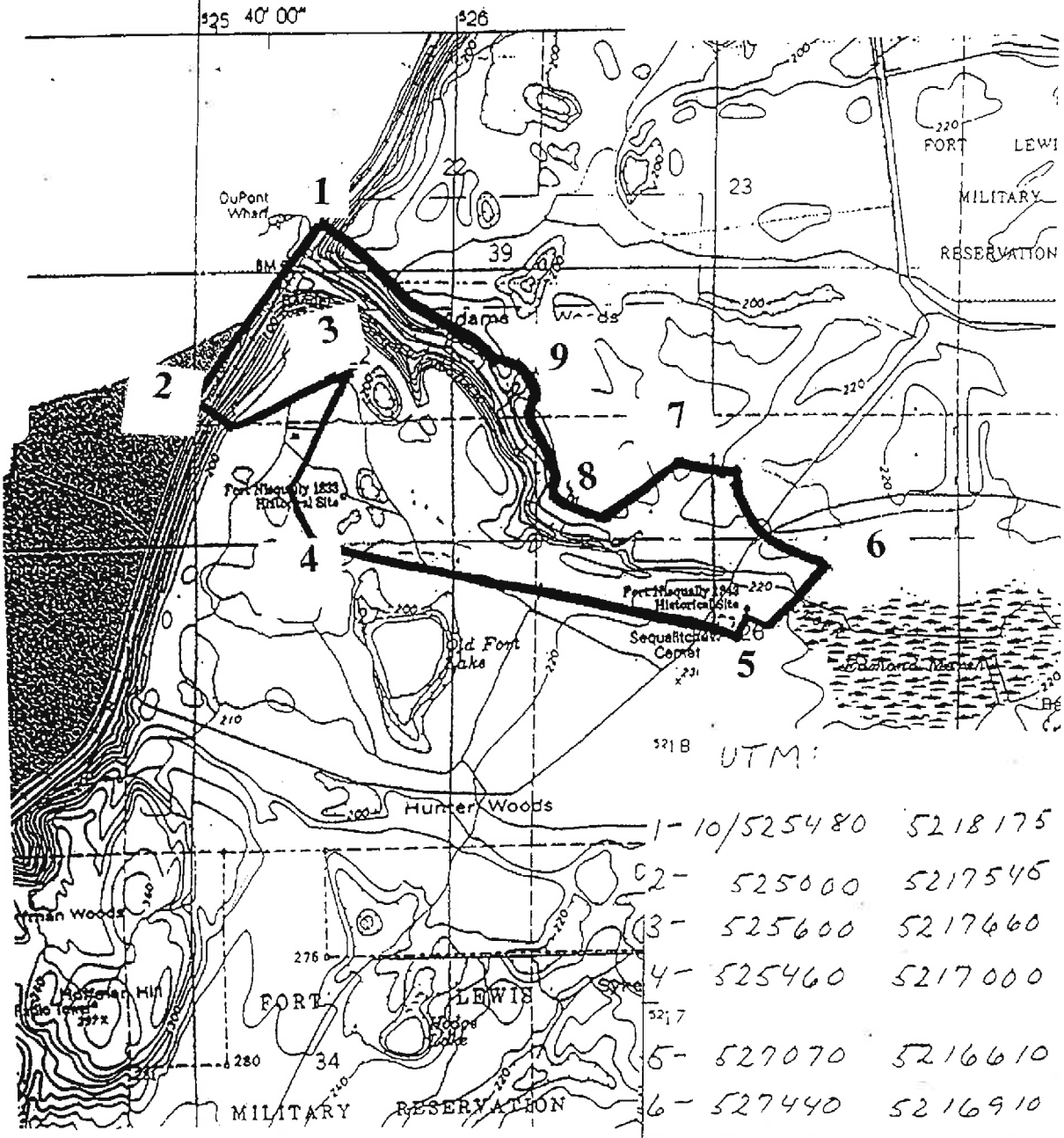
A PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 EAST OF THE W.M.

ALL SITUTATE WITHIN THE CITY OF DUPONT, COUNTY OF PIERCE, STATE OF WASHINGTON.

***THESE MATCH THE COORDINATES SHOWN ON EXHIBIT B TO THE NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT.**

Exhibit B
to Covenant

NISQUALLY – SEQUALITCHEW
HISTORIC DISTRICT
PIERCE COUNTY, WASHINGTON
(PROPOSED)



UTM:

1- 10/525480 5218175
2- 525000 5217545
3- 525600 5217660
4- 525460 5217000
5- 527070 5216610
6- 527440 5216910
7- 526870 5217275
8- 526400 5217160
9- 526325 5217620

AUDITOR'S NOTE

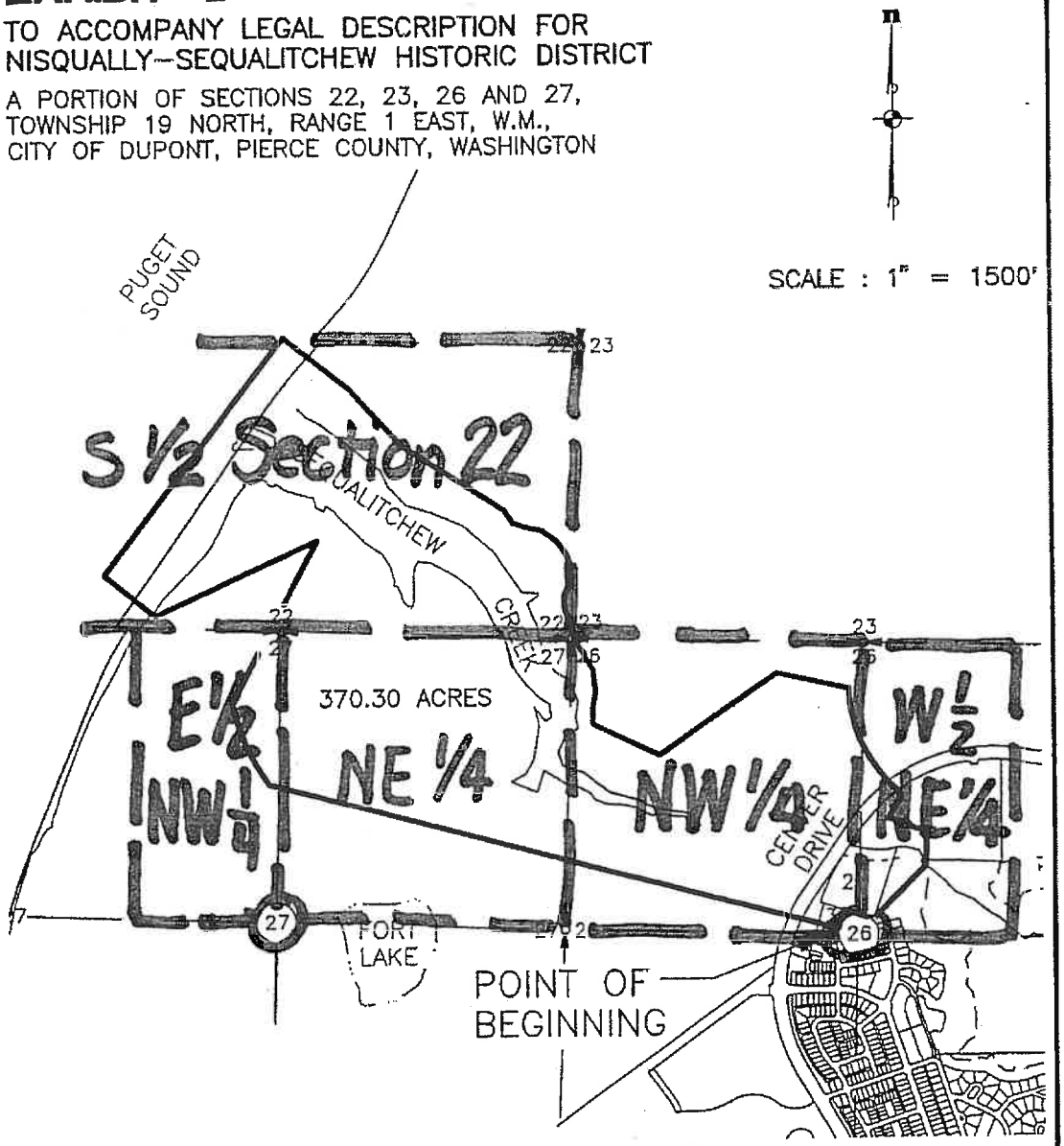
LEGIBILITY FOR RECORDING AND COPYING UNSATISFACTORY IN A PORTION OF THIS INSTRUMENT WHEN RECEIVED

Area covered per Abbreviated Legal on Page 1 of recorded document

EXHIBIT "B"

TO ACCOMPANY LEGAL DESCRIPTION FOR
NISQUALLY–SEQUALITCHEW HISTORIC DISTRICT

A PORTION OF SECTIONS 22, 23, 26 AND 27,
TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



ESM CONSULTING ENGINEERS LLC
720 S. 348th Street
Federal Way, WA 98003
FEDERAL WAY (253) 838-6113
BOTHELL (425) 415-0144
www.esmcivil.com
Civil Engineering | Public Works
Land Surveying | Project Management
Land Planning | Landscape Architecture

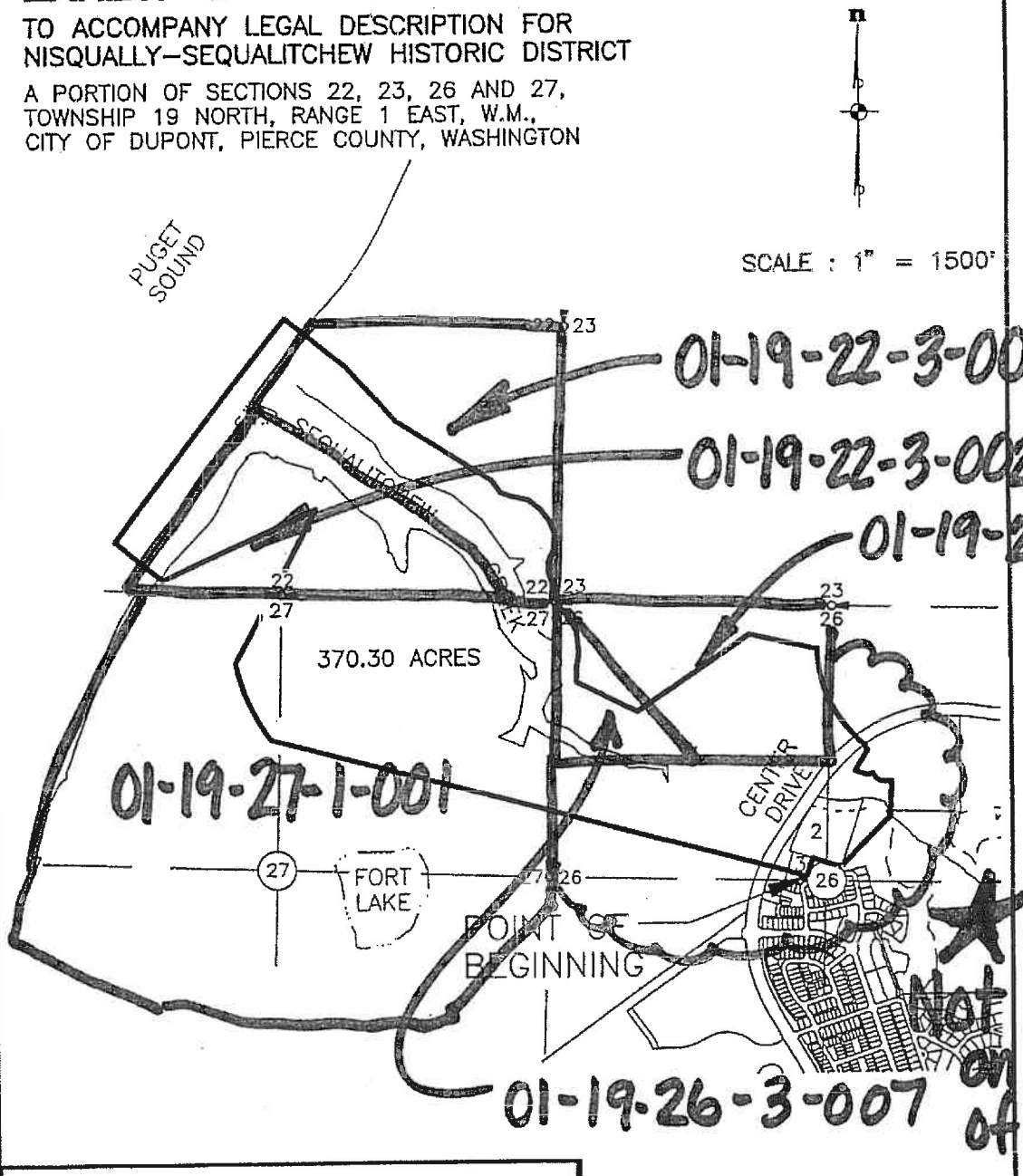
JOB NO. 129-008-002-0001
DWG NAME: 129\08\002\EXHIBITS\SR-01
DATE : 01-09-03
DRAWN : C.A.F.
SHEET 1 OF 1

Best approximation of tax parcel numbers in 2001

EXHIBIT "B"

TO ACCOMPANY LEGAL DESCRIPTION FOR
NISQUALLY–SEQUALITCHEW HISTORIC DISTRICT

A PORTION OF SECTIONS 22, 23, 26 AND 27,
TOWNSHIP 19 NORTH, RANGE 1 EAST, W.M.,
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON



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JOB NO. 129-008-002-0001
DWG NAME: 129\08\002\EXHIBITS\SR-01
DATE : 01-09-03
DRAWN : C.A.F.
SHEET 1 OF 1

Unofficial Document

200606120310 10 PGS
06/12/2006 9:47am $41.00
PIERCE COUNTY, WASHINGTON

When Recorded, Return to:

3/27/2006

HILLIS CLARK MARTIN & PETERSON, P.S.
Attn: Steven R. Rovig
500 Galland Building
Seattle, WA 98101-2925

For reference only, not for re-sale.

FIRST AMENDMENT TO NOTICE REGARDING HISTORIC DISTRICT DESIGNATION AND DECLARATION OF COVENANT

Grantors: 1) THE QUADRANT CORPORATION
2) WEYERHAEUSER COMPANY

Grantees: 1) THE PUBLIC
2) CITY OF DUPONT

Legal Description (abbreviated): PORTIONS OF SECTIONS 22, 23, 26 AND 27, TOWNSHIP 19 N., RANGE 1 E., CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

☒ Complete legal on EXHIBIT A.

Assessor's Tax Parcel Identification No(s): 01-19-22-3-001 01-19-22-3-002 01-19-26-2-004 01-19-27-1-001 01-19-26-3-007

Reference Nos. of Documents Released or Assigned: N/A

THIS FIRST AMENDMENT is dated for reference purposes March 27, 2006 and is made with reference to that certain Notice Regarding Historic District Designation and Declaration of Covenant ("Notice") made by **WEYERHAEUSER COMPANY**, a Washington corporation ("Weyerhaeuser") and its wholly-owned subsidiary **THE QUADRANT CORPORATION**, a Washington corporation, as successor to

Weyerhaeuser Real Estate Company as developer of the Northwest Landing master planned community ("Quadrant").

RECITALS

A. The purpose of the Notice was to provide future purchasers of real property described therein with notice regarding a potential Historic District for such property.

B. The legal description utilized in the Notice did not provide a clear and accurate description of the property to be subjected to the Notice. Accordingly, the parties desire to record this First Amendment for purposes of providing clarification of such legal description.

AMENDMENT

1. **Property.** The real property that is subject to the Notice as originally described in Exhibit A and depicted on Exhibit B of the Notice is hereby amended to be the real property legally described on the attached **EXHIBIT A** and depicted on the attached **EXHIBIT B.**

2. **Full Force and Effect.** Except as specifically amended herein, the terms and conditions of the Notice remain in full force and effect.

EXECUTED the dates set forth below.

WEYERHAEUSER:

WEYERHAEUSER COMPANY,
a Washington corporation

By _____
Name: Ken Khoury
Title: Vice President

Date: June 5, 2006

QUADRANT:

THE QUADRANT CORPORATION,
a Washington corporation

By _____
Name: Benjamin D. Connell
Title: Vice President

Date: 5-15-06

Unofficial Document
For reference only, not for re-sale.

ACKNOWLEDGED AND ACCEPTED:

NPDF:

NISQUALLY POINT DEFENSE FUND,
a Washington nonprofit corporation

By _____
Name: JAMES A EDGREN
Title: PRESIDENT

Date: 12 April 2006

CITY:

CITY OF DUPONT,
a Washington municipal corporation

By _____
Name: _____
Title: _____

Date: _____

ATTEST:

By _____
Name: Erin Larsen
City Clerk for City of DuPont

Date: May 15, 2006

UNOFFICIAL DOCUMENT

For reference only, not for re-sale.

ACKNOWLEDGED AND ACCEPTED:

NPDF:

NISQUALLY POINT DEFENSE FUND,
a Washington nonprofit corporation

By _____
Name: _____
Title: _____

Date: _____

CITY:

CITY OF DUPONT,
a Washington municipal corporation

By Steve Young
Name: Steve Young
Title: Mayor

Date: May 9, 2006

ATTEST:

By Erin Larsen
Name: Erin Larsen
City Clerk for City of DuPont

Date: May 15, 2006

Unofficial Document

For reference only, not for re-sale.

STATE OF WASHINGTON }
ss.
COUNTY OF ~~PIERCE~~ KING }

On this day personally appeared before me Ken Khoury, to me known to be the Vice President of **WEYERHAEUSER COMPANY**, the Washington corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such corporation, for the uses and purposes therein mentioned, and on oath stated that he was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this 5th day of June, 2006.

PAMELA M. REDMON
Notary Public
STATE OF WASHINGTON
My Commission Expires 10/01/09

Pamela M. Redmon
Printed Name Pamela M. Redmon
NOTARY PUBLIC in and for the State of Washington,
residing at Des Moines, WA
My Commission Expires October 1, 2009

Unofficial Document

For reference only, not for re-sale.

STATE OF WASHINGTON }
ss.
COUNTY OF PIERCE }

On this day personally appeared before me Ben Conwell, to me known to be the Vice President of **THE QUADRANT CORPORATION**, the Washington corporation that executed the foregoing instrument, and acknowledged such instrument to be the free and voluntary act and deed of such corporation, for the uses and purposes therein mentioned, and on oath stated that he was duly authorized to execute such instrument.

GIVEN UNDER MY HAND AND OFFICIAL SEAL this 15 day of May, 2006.

DEBRA L LAUKEMAN NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 12-9-07

Debra L Laukeman

Printed Name Debra L. LAUKEMAN
NOTARY PUBLIC in and for the State of Washington,
residing at Olympia, WA
My Commission Expires 12-9-07

Unofficial Document

For reference only, not for re-sale.

Unofficial Document

For reference only, not for re-sale.

EXHIBIT A

LEGAL DESCRIPTION
NISQUALLY-SEQUALITCHEW HISTORIC DISTRICT
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

That portion of Sections 22, 23, 26 and 27, all in Township 19 North, Range 1 East, City of Dupont, Pierce County, Washington, being more particularly described as follows:

COMMENCING at the southeasterly corner of Lot 3 of that City of Dupont Short Plat recorded under Pierce County Recording No. 9506120462;

THENCE along the southerly line of said Lot 3, N 71°28'36" W, 185.19 feet to the southwesterly corner thereof;

THENCE N 75°14'47" W, 5122.56 feet to a point of curvature;

THENCE northwesterly 825.33 feet along the arc of a non-tangent curve to the right, having a radius of 1760.86 feet, the radius point of which bears N 52°46'51" E, through a central angle of 26°29'21";

THENCE N 27°59'06" E, 1660.54 feet;

THENCE S 65°48'40" W, 1617.52 feet;

THENCE N 50°43'36" W, 586.93 feet;

THENCE N 37°30'02" E, 2696.07 feet;

THENCE S 51°15'28" E, 754.57 feet;

THENCE S 42°12'03" E, 715.74 feet;

THENCE S 57°24'37" E, 1092.06 feet;

THENCE S 36°33'11" E, 142.56 feet;

THENCE S 70°01'38" E, 97.02 feet;

THENCE S 76°36'54" E, 178.94 feet;

THENCE S 51°21'22" E, 159.20 feet;

THENCE S 37°35'04" E, 135.91 feet;

THENCE S 21°02'55" E, 115.40 feet;

THENCE S 02°51'51" W, 165.90 feet;

THENCE S 24°47'15" W, 118.63 feet;

THENCE S 00°00'00" E, 115.98 feet;

THENCE S 17°58'43" E, 322.27 feet;

THENCE S 32°21'44" E, 294.24 feet;

THENCE S 06°50'48" E, 208.80 feet;

THENCE S 10°00'49" W, 143.02 feet;

THENCE S 00°00'00" E, 149.12 feet;

THENCE S 63°46'18" E, 556.09 feet;

THENCE N 55°37'30" E, 1298.14 feet;

THENCE S 77°19'49" E, 659.57 feet to a point of curvature;

THENCE southeasterly 1062.14 feet along the arc of a non-tangent curve to the left, having a radius of 1265.13 feet, the radius point of which bears N 89°01'55" E, through a central angle 48°06'09" to a point on the southeasterly margin of Center Drive;

THENCE S 28°00'48" E, 35.31 feet;

THENCE S 35°45'03" E, 24.00 feet;

THENCE S 31°33'45" W, 230.54 feet;

Unofficial Document

For reference only, not for re-sale.

THENCE S 71°59'05" E, 132.84 feet;

THENCE N 65°15'09" E, 45.05 to a point of curvature;

THENCE southeasterly 212.06 feet along the arc of a non-tangent curve to the left, having a radius of 144.00 feet, the radius point of which bears N 65°15'09" E through a central angle of 84°22'27";

THENCE S 00°59'22" W, 89.73 feet;

THENCE S 62°03'44" W, 246.13 feet;

THENCE S 44°43'55" W, 672.87 feet to southeasterly corner of Lot 2 of said City of Dupont Short Plat recorded under Pierce County Recording No. 9506120462;

THENCE along the southerly line of said Lot 2, N 72°16'52" W, 278.00 feet to the northeasterly corner of said Lot 3;

THENCE along the easterly line of said Lot 3, S 18°37'13" W, 186.18 feet to the POINT OF BEGINNING.

Containing 370.30 acres, more or less.

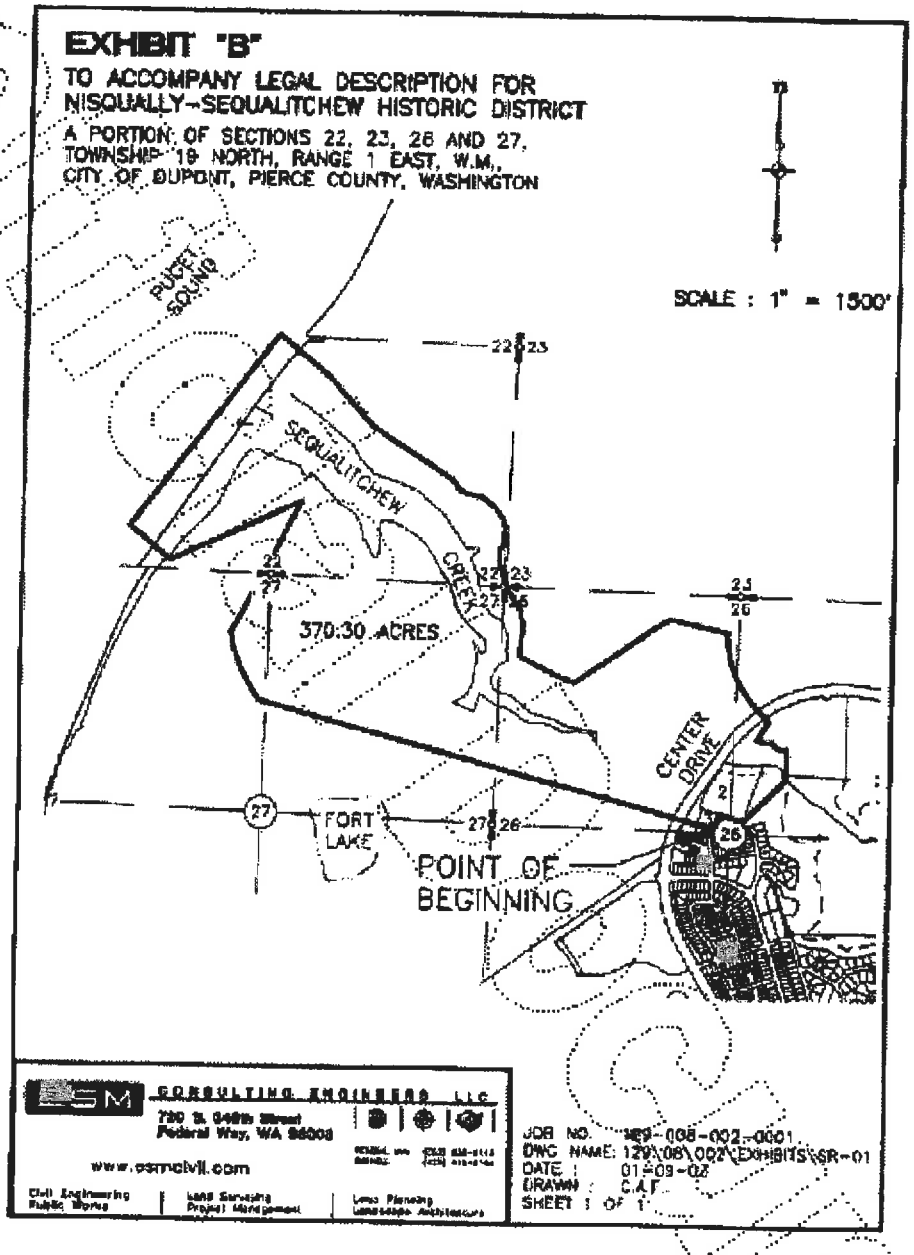
Unofficial Document

For reference only, not for re-sale.

Unofficial Document

For reference only, not for re-sale.

EXHIBIT B



Janet Howald

From: Joe Cushman <cushman.joe@nisqually-nsn.gov>
Sent: Thursday, September 13, 2018 12:06 PM
To: Jeff Wilson
Cc: Annette Bullchild; Sharlaine LaClair; Cynthia Iyall
Subject: Tribal Comment Letter #011926-2019, City file #PLNG 2018-008, 009, and 047.

Rec'd after comment period closed JSW

Hello Jeff:

See letter below re above proposed development.

thank you.

Joe Cushman
Nisqually Planning Director

Jeffrey S. Wilson, AICP
City of DuPont
1700 Civic DR
DuPont, WA 98327-9603

September 12, 2018

Dear Mr. Wilson:

This letter is in response to the application by DuPont Industrial Partners, LLC to construct two warehouses on a vacant 21 acre piece of property near Sequalitchew Creek in the City of DuPont.

The Tribe's concerns regarding this project are similar to concerns expressed regarding other proposed development projects in the Sequalitchew Creek area.

The area proposed for development may contain important cultural resources, both tribal and nontribal. The DuPont area is the site of Nisqually villages dating back thousands of years, as well as the site of the original Fort Nisqually, Hudson Bay Company operations, and the Wilkes observatory. These cultural resources, and other cultural resources in the area, need to be recognized, documented, and protected both during project planning and any subsequent development.

Consultation by the City and developers with the state DHAP office and the Tribe's Cultural Resources Program on this and other developments is essential.

The DuPont area is a unique cultural rescues area within the south sound area. The Tribe will continue to consult with City on planning and development issues that impact these resources.

Sincerely,

Attachment 13.a. Email from Joe Cushman of Nisqually Tribe received September 13, 2018.

Joe Cushman
Planning Director

Janet Howald

From: Wardlaw, Dennis (DAHP) <dennis.wardlaw@dahp.wa.gov>
Sent: Friday, September 14, 2018 10:43 AM
To: Jeff Wilson
Subject: City of DuPont_ DuPont Industrial Partners
Attachments: 2018-08-06631_091418_SEPA Comments.pdf

Rec'd after comment period closed JSW

Hi Jeff,

Good morning. Attached please find our SEPA comments for the project referenced in the subject line. Please let me know if you have any questions.

Regards,
Dennis

Dennis Wardlaw, M.A.
Transportation Archaeologist
Dept. of Archaeology and Historic Preservation
1110 Capitol Way South, Suite 30
Olympia, WA 98501
Voice: 360-586-3085
Cell: 360-485-5014

please consider the environment before printing this email

Attachment 13.b. Email from Dennis Wardlaw of Dept. of Archaeology and Historic Preservation received September 14, 2018.

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

September 14, 2018

Mr. Jeffrey Wilson
Planning Director
City of DuPont
1700 Civic Dr.
DuPont, WA. 98327

In future correspondence please refer to:
Project Tracking Code: 2018-08-06631
Property: City of DuPont_ DuPont Industrial Partners
Re: SEPA Comments

Dear Mr. Wilson:

Thank you for contacting the Washington State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation regarding the above referenced project. In response, we have reviewed the materials you provided for this project. First we would like the note the coordination with our agency by the engineering firm contracted for this project regarding current design plans and review of the Unanticipated Discovery Plan. Early coordination is always appreciated.

However, we would like to ask the City of DuPont for clarification on two matters regarding this project. First, we would like to inquire if the City has been in contact with the project proponent regarding relocating the Methodist Mission marker and for the interpretive sign explaining the history of the temporary encampment of the 9th U.S. Calvary Buffalo Soldiers. We would also like to inquire if the project proponent has plans to retain the section of narrow gauge railroad that was recorded during the cultural resource survey.

We appreciate receiving copies of any correspondence or comments from concerned tribes and other parties for this project. These comments are based on the information available at the time of this review and on behalf of the SHPO pursuant to state law.

Thank you for the opportunity to review and comment. Should you have any questions, please feel free to contact me.

Sincerely,

Dennis Wardlaw
Transportation Archaeologist
(360) 586-3085
dennis.wardlaw@dahp.wa.gov

From: Jeff Wilson
To: Wyatt Golding
Cc: Tom Skjervold; Brian Chestnut
Subject: RE: DuPont Industrial Partners project
Date: Wednesday, February 20, 2019 3:25:12 PM

Mr. Golding,

Pursuant to the adopted fee schedule, the fee for an appeal is "$3,000 + Consultant Cost + Hearing Examiner Cost + 10% overhead"

There have been no permits issued. The MDNS was issued for the land use permits which have been submitted and require a public hearing.

V/R,

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Wyatt Golding [mailto:wgolding@ziontzchestnut.com]
Sent: Wednesday, February 20, 2019 1:59 PM
To: Jeff Wilson <JWilson@dupontwa.gov>
Cc: Tom Skjervold <tskjervold@gmail.com>; Brian Chestnut <bchestnut@ziontzchestnut.com>
Subject: RE: DuPont Industrial Partners project

Mr. Wilson,

Thank you for the information and prompt response. I have a couple of clarifying questions. In the fee schedule, it's not apparent to me whether there is a one-time filing fee, or an hourly fee. Also, has the City issued any permits associated with the MDNS? If so, can you please also send me those permits?

Wyatt

From: Jeff Wilson <JWilson@dupontwa.gov>
Sent: Wednesday, February 20, 2019 12:25 PM
To: Wyatt Golding <wgolding@ziontzchestnut.com>
Cc: Tom Skjervold <tskjervold@gmail.com>; Brian Chestnut <bchestnut@ziontzchestnut.com>
Subject: RE: DuPont Industrial Partners project

Attachment 13.c Email from Wyatt Golding dated February 20, 2019 with inquiries on the appeal process.

Mr. Golding,

The appeal procedures of an MDNS are as follows:

(2) All appeals of project permit application decisions, other than appeals of determinations of significance ("DS"), and exempt permits and approvals under DMC 25.175.010(8), shall be considered together in a consolidated appeal using the appeal procedure for the highest type permit application.

(3) Standing to Initiate an Administrative Appeal.

(a) Limited to Parties of Record. Only parties of record may file an administrative appeal.

(b) Definition. The term "parties of record," for the purposes of this chapter, shall mean:

(i) The applicant;

(ii) Any person who testified at the open record public hearing on the application;

(iii) Any person who submitted written comments concerning the application at the open record public hearing (excluding persons who have only signed petitions or mechanically produced form letters); and/or

(iv) DuPont city council.

(4) Appeals of the director's decision on a project permit application shall be governed by the following:

(a) Only parties of record have standing to appeal the director's decision.

(b) An appeal must be filed within 14 days after the final decision. Appeals shall be delivered to the director by mail, by personal delivery or by fax before 5:00 p.m. on the last business day of the appeal period. Appeals received by mail after 5:00 p.m. on the last day of the appeal period will not be accepted, no matter when such appeals were mailed or postmarked.

(c) For the purposes of computing the time for filing an appeal, the day the hearing body's decision is issued shall not be counted. If the last day of the appeal is a Saturday, Sunday, or holiday designated by RCW 1.16.050 or by a city ordinance, then the appeal must be filed on the next business day.

(d) Appeals shall be in writing, be accompanied by the required appeal fee, and contain the following information:

(i) Appellant's name, address and phone number;

(ii) A statement describing appellant's standing to appeal;

(iii) Identification of the application that is the subject of the appeal;

(iv) Appellant's statement of grounds for appeal and the facts upon which the appeal is based with specific references to the facts in the record;

(v) The specific relief sought;

(vi) A statement that the appellant has read the appeal and believes the contents to be true, followed by the appellant's signature.

(e) The timely filing of an appeal shall stay the director's decision until such time as the appeal is concluded or withdrawn.

Additionally, submittal of the appeal fee per the City's adopted Fee Schedule, Resolution 17-530 (https://dupont.civicweb.net/document/33238). I have also attached the applicants plan and historical/cultural resources dedication area per your request.

Finally, I would encourage you to also speak with your client, Mr. Skjervold, as he is also likely to have more information as he participated in meetings that applicant held with the Nisqually Delta association and other stakeholders to discuss the cultural/historic resources and other ideas for mitigation on the subject property.

Please contact me if you have any additional questions.

V/R,

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Wyatt Golding [mailto:wgolding@ziontzchestnut.com]
Sent: Wednesday, February 20, 2019 9:47 AM
To: Jeff Wilson <JWilson@dupontwa.gov>
Cc: Tom Skjervold <tskjervold@gmail.com>; Brian Chestnut <bchestnut@ziontzchestnut.com>
Subject: DuPont Industrial Partners project

Mr. Wilson,

Good morning. I am an attorney working with Nisqually Delta Association. The MDNS the City issued this morning instructs readers to contact you for information on appeals procedures. Can you please provide me with that information?

Additionally, do you have a map available that shows the new proposal that you can send? It is not entirely clear to me from the written description what the relationship is between the 5 acre east parcel, the 16.91 acre west parcel, the 1.53 acre right of way, and the proposed trail realignment. A map would help us to understand what mitigation the City is requiring and whether that mitigation adequately addresses NDA's concerns.

Thank you,

Wyatt Golding

From:	Jeff Wilson
To:	Lisa Klein
Cc:	Janet Howald
Subject:	FW: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047
Date:	Wednesday, February 20, 2019 9:48:47 AM
Attachments:	SEPA MDNS PLNG2018-008_02-14-2019_with distro list.pdf

FYI

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
Cell: (253 433-4238
Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Krista Novak [mailto:kristamnovak@yahoo.com]
Sent: Wednesday, February 20, 2019 9:35 AM
To: Jeff Wilson <JWilson@dupontwa.gov>
Subject: Fw: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047

Mr Wilson,

Can you tell me which direction the exiting and entering trucks from this facility will be heading and coming from on Center Drive? I must have missed where it specifies this in your attached document.

I am beyond disappointed to see that under your guidance the city is allowing warehouses near such a historical, fragile and unique area.

Also, I would appreciate if these documents were sent out via BCC.

Thank you, Krista

----- Forwarded Message -----
From: Janet Howald <JHowald@dupontwa.gov>
To: Adonais Clark, Pierce County) <aclark@co.pierce.wa.us>; Annette Bullchild (Nisqually Indian Tribe THPO)) <bullchild.annette@nisqually-nsn.gov>; Bridget King (bkking3@hotmail.com) <bkking3@hotmail.com>; Carol Estep (estepcarol@gmail.com) <estepcarol@gmail.com>; Carol McDowell <barista43@comcast.net>; Charles S Markham (Charles.s.markham2.civ@mail.mil) <Charles.s.markham2.civ@mail.mil>; Cynthia Callahan <ccallahan@tpchd.org>; Dan Balmelli, Barghausen Consulting Engineers, Inc <dbalmelli@barghausen.com>; Darci Brandvold, Pierce County <dbrandv@co.pierce.wa.us>; Debbie Germer @ Pierce County <debbie.germer@piercecountywa.gov>; Dennis Wardlaw (dennis.wardlaw@dahp.wa.gov) <dennis.wardlaw@dahp.wa.gov>; Dept of Ecology <Marian.abbett@ecy.wa.gov>; Dept of Ecology SEPA Unit <separegister@ecy.wa.gov>; Dept. of Ecology - Environmental Review Section (SEPAunit@ecy.wa.gov) <SEPAunit@ecy.wa.gov>; Dept. of Natural Resources SEPA Center (SEPACENTER@dnr.wa.gov) <SEPACENTER@dnr.wa.gov>; Dept. of

Attachment 13.d. Email from Krista Novak dated February 20, 2019 with comments on the proposal.

Natural Resources/South Puget Sound Region (Southpuget.region@dnr.wa.gov) <Southpuget.region@dnr.wa.gov>; Diana Barbera <dbarbera@mindspring.com>; Dominic Miller <dmiller@g-o.com>; Don Dresser (Norged@msn.com) <Norged@msn.com>; Donna Joblonski, Dept of Ecology, Wetland/Shoreline <dmca461@ECY.WA.GOV>; Drew Zaborowski (Dzaborowski@avenue55.net) <Dzaborowski@avenue55.net>; Elizabeth Sanchey - Yakama Nation (elizabeth_sanchey@yakama.com) <elizabeth_sanchey@yakama.com>; Emily Griffith, NWL Association <nwlassistdirector@reachone.com>; Environmental Official-Pierce Cty <Klarrab@co.pierce.wa.us>; Eric Cederstrand <eric@combaydev.com>; Eva Barber - Dept. Of Ecology/SW Regional Office (evba461@ECY.WA.GOV) <evba461@ECY.WA.GOV>; Geri Reinart (greinart@msn.com) <greinart@msn.com>; Heather Benson, Puget Sound Partnership <Heather.benson@psp.wa.gov>; Jackie Jones-Hook <jjoneshook@aol.com>; Jackie Wall, THPO <Wall.jackie@nisqually-nsn.gov>; Jim Diamond <shinodad@gmail.com>; Joe Cushman (Cushman.joe@nisqually-nsn.gov) <Cushman.joe@nisqually-nsn.gov>; karen Nolan <fraukln@yahoo.com>; Karri Muir <KMuir@dupontwa.gov>; Kate Walsh <3mcwals@gmail.com>; Kelvin Brown (Kelvinator46@gmail.com) <Kelvinator46@gmail.com>; Krista Novak (kristamnovak@yahoo.com) <kristamnovak@yahoo.com>; Larry Ackerman - NWL <nwldirector@reachone.com>; LeMay (Cust2180@wcnx.org) <Cust2180@wcnx.org>; Lia Estigoy (lia@combaydev.com) <lia@combaydev.com>; Lisa Klein, AHBL <LKlein@AHBL.com>; Lizzy Sandstrom (lizzys@pscleanair.org) <lizzys@pscleanair.org>; Maria Gudaitis (mariagudaitis@gmail.com) <mariagudaitis@gmail.com>; Maxine Dunkelman <maxdunk@comcast.net>; Morgan Dorner (swrosepacoordinator@ecy.wa.gov) <swrosepacoordinator@ecy.wa.gov>; Pete Stoltz, CalPortland <Pstoltz@calportland.com>; PSE <jeff.payne@pse.com>; Puget Sound Clean Air Agency (SEPA@pscleanair.org) <SEPA@pscleanair.org>; Rev. James Lewis <Revjlewis43@gmail.com>; Roger C. Westman <rswestman@msn.com>; Sam Merrill <sammerrill3@comcast.net>; Sara Bird <sbird@tpch.ord>; Sara Bird - Tacoma-Pierce County Health Dept (SEPA@tpchd.org) <SEPA@tpchd.org>; Steve Thompson <stevethompson440@comcast.net>; Steven T Perrenot, JBLM <steven.t.perrenot.civ@mail.mil>; Tom Skjervold <tskjervold@gmail.com>; WA State Dept of Archaeology and Historic Preservation <SEPA@dahp.wa.gov>; WDFW <SEPAdesk@dfw.wa.gov>; WSDOT/Olympic Region <OR-SEPA-REVIEW@wsdot.wa.gov>; Zach Meyer, Dept of Ecology,Wetland/Shoreline <ZMEY461@ECY.WA.GOV>
Sent: Wednesday, February 20, 2019, 8:34:01 AM PST
Subject: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047

Attached is the Mitigated Determination of Nonsignificance for DuPont Industrial Park, File Nos, PLNG2018-008,009,047.

If you have any questions, please contact Jeff Wilson at jwilson@dupontwa.gov or 253-912-5393.

V/R,

Janet Howald

Community Development

Administrative Specialist

City of DuPont

1700 Civic Drive

DuPont, WA 98327

Direct (253)912-5232

City Hall (253) 964-8121

Jhowald@dupontwa.gov

From: Jeff Wilson
To: Lisa Klein
Subject: FW: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047
Date: Thursday, February 28, 2019 12:25:22 PM

FYI

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

CITY OF DUPONT
1700 CIVIC DR
DUPONT, WA 98327-9603

Office: (253) 912-5393
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jwilson@dupontwa.gov
www.dupontwa.gov

From: Janet Howald
Sent: Wednesday, February 27, 2019 11:18 AM
To: Jeff Wilson <JWilson@dupontwa.gov>
Subject: FW: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047

Jeff,

For your information.

Janet

From: Wardlaw, Dennis (DAHP) [mailto:dennis.wardlaw@dahp.wa.gov]
Sent: Wednesday, February 27, 2019 10:57 AM
To: Janet Howald <JHowald@dupontwa.gov>
Cc: Jolivette, Stephanie (DAHP) <stephanie.jolivette@dahp.wa.gov>
Subject: RE: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047

Hi Janet,

Good morning and thank you for providing a copy of the MDNS. DAHP has no additional comments at this time.

Regards,
Dennis

Dennis Wardlaw, M.A.
Transportation Archaeologist

Attachment 13. e. Email from Dennis Wardlaw of Dept. of Archaeology and Historic Preservation received February 27, 2019.

Dept. of Archaeology and Historic Preservation
1110 Capitol Way South, Suite 30
Olympia, WA 98501
Voice: 360-586-3085
Cell: 360-485-5014

please consider the environment before printing this email

From: Janet Howald <JHowald@dupontwa.gov>
Sent: Wednesday, February 20, 2019 8:34 AM
To: Adonais Clark, Pierce County) <aclark@co.pierce.wa.us>; Annette Bullchild (Nisqually Indian Tribe THPO)) <bullchild.annette@nisqually-nsn.gov>; Bridget King (bking3@hotmail.com) <bking3@hotmail.com>; Carol Estep (estepcarol@gmail.com) <estepcarol@gmail.com>; Carol McDowell <barista43@comcast.net>; Charles S Markham (Charles.s.markham2.civ@mail.mil) <Charles.s.markham2.civ@mail.mil>; Cynthia Callahan <ccallahan@tpchd.org>; Dan Balmelli, Barghausen Consulting Engineers, Inc <dbalmelli@barghausen.com>; Darci Brandvold, Pierce County <dbrandv@co.pierce.wa.us>; Debbie Germer @ Pierce County <debbie.germer@piercecountywa.gov>; Wardlaw, Dennis (DAHP) <dennis.wardlaw@dahp.wa.gov>; Abbett, Marian L. (ECY) <MABB461@ECY.WA.GOV>; ECY RE SEPA REGISTER <separegister@ecy.wa.gov>; ECY RE SEPA REGISTER <separegister@ecy.wa.gov>; DNR RE SEPACENTER <SEPACENTER@dnr.wa.gov>; DNR RE SOUTHPUGET REGION <southpuget.region@dnr.wa.gov>; Diana Barbera <dbarbera@mindspring.com>; Dominic Miller <dmiller@g-o.com>; Don Dresser (Norged@msn.com) <Norged@msn.com>; Joblonski, Donna <dmca461@ECY.WA.GOV>; Drew Zaborowski (Dzaborowski@avenue55.net) <Dzaborowski@avenue55.net>; Elizabeth Sanchey - Yakama Nation (elizabeth_sanchey@yakama.com) <elizabeth_sanchey@yakama.com>; Emily Griffith, NWL Association <nwlassistdirector@reachone.com>; Environmental Official-Pierce Cty <Klarrab@co.pierce.wa.us>; Eric Cederstrand <eric@combaydev.com>; Barber, Eva (ECY) <evba461@ECY.WA.GOV>; Geri Reinart (greinart@msn.com) <greinart@msn.com>; Benson, Heather (PSP) <heather.benson@psp.wa.gov>; Jackie Jones-Hook <jjoneshook@aol.com>; Jackie Wall, THPO <Wall.jackie@nisqually-nsn.gov>; Jim Diamond <shinodad@gmail.com>; Joe Cushman (Cushman.joe@nisqually-nsn.gov) <Cushman.joe@nisqually-nsn.gov>; karen Nolan <fraukln@yahoo.com>; Karri Muir <KMuir@dupontwa.gov>; Kate Walsh <3mcwals@gmail.com>; Kelvin Brown (Kelvinator46@gmail.com) <Kelvinator46@gmail.com>; Krista Novak (kristamnovak@yahoo.com) <kristamnovak@yahoo.com>; Larry Ackerman - NWL <nwldirector@reachone.com>; LeMay (Cust2180@wcnx.org) <Cust2180@wcnx.org>; Lia Estigoy (lia@combaydev.com) <lia@combaydev.com>; Lisa Klein, AHBL <LKlein@AHBL.com>; Lizzy Sandstrom (lizzys@pscleanair.org) <lizzys@pscleanair.org>; Maria Gudaitis (mariagudaitis@gmail.com) <mariagudaitis@gmail.com>; Maxine Dunkelman <maxdunk@comcast.net>; ECY RE SWRO SEPA COORDINATOR <swrosepacoordinator@ECY.WA.GOV>; Pete Stoltz, CalPortland <Pstoltz@calportland.com>; PSE <jeff.payne@pse.com>; Puget Sound Clean Air Agency (SEPA@pscleanair.org) <SEPA@pscleanair.org>; Rev. James Lewis <Revjlewis43@gmail.com>; Roger C. Westman

<rswestman@msn.com>; Sam Merrill <sammerrill3@comcast.net>; Sara Bird <sbird@tpch.ord>; Sara Bird - Tacoma-Pierce County Health Dept (SEPA@tpchd.org) <SEPA@tpchd.org>; Steve Thompson <stevethompson440@comcast.net>; Steven T Perrenot, JBLM <steven.t.perrenot.civ@mail.mil>; Tom Skjervold <tskjervold@gmail.com>; SEPA (DAHP) <sepa@dahp.wa.gov>; SEPADesk (DFW) <SEPAdesk@dfw.wa.gov>; WSDOT/Olympic Region <OR-SEPA-REVIEW@wsdot.wa.gov>; Meyer, Zachary (ECY) <ZMEY461@ECY.WA.GOV>
Subject: City of DuPont, MDNS for DuPont Industrial Park, PLNG2018-008,009,047

Attached is the Mitigated Determination of Nonsignificance for DuPont Industrial Park, File Nos, PLNG2018-008,009,047.

If you have any questions, please contact Jeff Wilson at jwilson@dupontwa.gov or 253-912-5393.

V/R,

Janet Howald
Community Development
Administrative Specialist
City of DuPont
1700 Civic Drive
DuPont, WA 98327

Direct (253)912-5232
City Hall (253) 964-8121
Jhowald@dupontwa.gov

From: Jeff Wilson
To: Kate Walsh
Cc: Janet Howald
Subject: RE: Warehouse planned for Sesqualitchew Creek/trail.
Date: Monday, May 06, 2019 8:29:01 AM

Ms. Walsh,

Thank you for your comments, they will be included in the staff report and recommendation prepared for the Hearing Examiner and entered into the official record for the upcoming hearing before the Hearing Examiner.

V/R,

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

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Fax: (253) 964-1455
jwilson@dupontwa.gov
www.dupontwa.gov

From: Kate Walsh [mailto:3mcwals@gmail.com]
Sent: Saturday, May 04, 2019 9:22 PM
To: Jeff Wilson <JWilson@dupontwa.gov>; Janet Howald <JHowald@dupontwa.gov>
Subject: Warehouse planned for Sesqualitchew Creek/trail.

Dear Hearing Examiner,

DuPont Industrial Partners has proposed and the city planner has approved with a determination of non-significance, Industrial's proposal to build a 255,000 square foot warehouse on 19 acres of land immediately adjacent to Sesqualitchew Creek and trail. I oppose this plan.

(1) The area that Industrial proposes for warehouse development is one of natural and historic significance. The Comprehensive Plan envisions and provides that this area, in the vicinity of the historic 1883 Methodist Mission site, be developed in a way that emphasizes and preserves its historic character. The Plan anticipates it be developed in a way that involves water, nature, and the relationship between the Sesqualitchew Creek, Village and villages and communities to the South. A 255,000 square foot concrete warehouse with adjacent paved parking lots for trucks and vehicles and paved roads does not serve or meet the standard of the Comprehensive Plan. Instead of emphasizing and preserving historic elements in their natural setting, it destroys them. There is nothing historic or preserving about another 19 acre concrete warehouse, a parking lot, and semitrucks.

(2) The Industrial proposal violates DMC 25.80.010. This provision encourages identifying, protecting, preserving, and restoring cultural sites of documented significance, which should be incorporated into opens space areas and incorporated into recreation trail systems. The plan

to develop a 255,000 square foot concrete warehouse, with paved parking lot for semis and other vehicles endangers and destroys, rather than protects or preserves the historic Methodist Mission site, and the site of the first school in the South Puget sound, at which pioneer Chloe Clark taught, and the site of first marriage and child birth in the South Puget sound and the first Fourth of July celebration in the South Puget sound. Instead of inviting the citizens, school children, and visitors to our city to see and appreciate the history of this place and the natural beauty of the recreational Sesqualitchew Creek trail, the plan covers 19 acres of cultural sites and nature in concrete.

(3) The 2015 Comprehensive Plan mandates that any future development adjacent to Sesqualitchew Creet or its associated nature trails "must" be done with significant care to protect and improve the full length of the creek trail in its natural and uninterrupted state."Must" is mandatory, but the proposed plan ignores the requirement of significant care to protect the creek and trail. Ripping out trees, including the Heritage Oak, leveling and razing the land, paving over and building on 19 acres immediately adjacent to the creek and its associated trails does not demonstrate" significant care" to protect the full length of the creek and creek in its natural state. On the contrary, it demonstrates significant disregard for and degrades these elements. And citizens have reason to be concerned about the city's aggressive disregard for environmental guidelines and sensitivity, given its indifference to environmental on full display in the Cubes lot, which exemplifies the sort of destruction the city or its planner endorses, over DOE advice.

Moreover, the destruction of natural habitat and the vibration, noise, light, and movement from the warehouse activity, immediately adjacent to the creek and trail, will affect the creek water quality and the fish, like the salmon recently reported by Stream Team monitors. And run off from the warehouses and their parking lots and semi trucks, contaminated by oil and automotive chemicals, will further harm the creek, creek fish, and, ultimately, maritime life in the sound, like Orcas. So the harmful and significant impact of the DuPont City's proposal and the City Planner's determination will not only violate the comprehensive plan, it will contribute to the already critical endangerment of salmon and orcas.

Deny all aspects of Industrial's proposal. Industrial is in this for money. The City and City planner's stake in approving the plan, is unclear, because the plan is plainly contrary to the DMC and the comprehensive plan. It also is contrary to the vision of the city founders, and the people who live in DuPont who treasure and enjoy its historical and natural attributes. Maybe the City Planner is going to retire and work for or benefit from Industrial's warehouse, like the city planner who got the ordinance amended to allow the ACE hardware, then retired and accepted a manager job with the ACE hardware. Apparently that's how we roll in DuPont, but it is wrong.

Thank you,
Sincerely,
Kate Walsh
18 year resident, 2180 Palisade Boulevard

.

From:	Jeff Wilson
To:	Kate Walsh
Cc:	Janet Howald
Subject:	RE: missing clarification.
Date:	Tuesday, May 07, 2019 8:21:48 AM

Ms. Walsh,

Thank you for your comments, they will be included in the staff report and recommendation prepared for the Hearing Examiner and entered into the official record for the upcoming hearing before the Hearing Examiner.

V/R,

JEFFREY S. WILSON, AICP
COMMUNITY DEVELOPMENT DIRECTOR

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DUPONT, WA 98327-9603

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www.dupontwa.gov

From: Kate Walsh [mailto:3mcwals@gmail.com]
Sent: Monday, May 06, 2019 6:46 PM
To: Jeff Wilson <JWilson@dupontwa.gov>
Subject: missing clarification.

I'm sending this separately because I am not sure you received the clarification I sent. The report of salmon sightings recently is actual but anecdotal: apparently the last studies were in the mid 1980s then monitoring stopped, until recently Steam Tream renewed its monitoring. Still a positive development. Thanks for adding this clarification.

Attachment 13.g. Email from Kate Walsh received May 6, 2019 with comments on the proposal.