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Vancouver Energy Terminal

PART 1 GENERAL

Section 1.1 – Description of Applicant

Washington Administrative Code (WAC) 463-60-015
General – Description of applicant.

The applicant shall provide an appropriate description of the applicant's organization and affiliations for this proposal.

(Statutory Authority: Revised Code of Washington [RCW] 80.50.040 (1) and (12). 04-21-013, recodified as § 463-60-015, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and Chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-015, filed 10/8/81. Formerly WAC 463-42-170.)

Section 1.1 Description of Applicant

1.1.1 Applicant

This Application for a Site Certification Agreement (Application) is made for the construction and operation of the Vancouver Energy Terminal (Facility). The Applicant is Tesoro Savage Petroleum Terminal LLC, doing business as Vancouver Energy (Applicant).

This Application was professionally prepared by BergerABAM and subconsultants under the direction of the Applicant. These parties believe that the Application is substantially complete and meets the requirements established in Chapter 80.50 of the Revised Code of Washington (RCW) and Washington Administrative Code (WAC) Title 463.

1.1.2 Tesoro Savage Petroleum Terminal LLC

Tesoro Savage Petroleum Terminal LLC is a Delaware limited liability company that is qualified to do business in the state of Washington. Its members are Savage Companies and Tesoro Refining & Marketing Company LLC.

1.1.3 Tesoro Corporation

Tesoro Corporation, a Fortune 100 company, is an independent refiner and marketer of petroleum products (Tesoro Corporation 2016). Tesoro, through its subsidiaries, operates six refineries in the western United States with a combined capacity of approximately 875,000 barrels per day. Tesoro's retail marketing system includes over 2,300 branded retail stations, operating under the ARCO ®, Shell®, Exxon®, Mobil®, USA Gasoline™, Rebel™, and Tesoro® brands.

Tesoro's six refineries are located in Anacortes, Washington; Martinez, California; Wilmington, California; Mandan, North Dakota; Kenai, Alaska; and Salt Lake City, Utah.

Tesoro Refining & Marketing Company LLC is a subsidiary of Tesoro Corporation.

1.1.4 Savage Companies

Savage Companies is a privately held operator that provides supply chain management solutions and industrial solutions tailored to meet the needs of customers across a variety of industries including electric power generation, coal production, oil refining, railroads, chemicals, and more. The operations of Savage Companies include over 200 locations and more than 3,000 employees in North America and internationally, handling more than 100 million tons of materials annually (Savage Services 2016).

Section 1.2 – Designation of Agent

WAC 463-60-025
General – Designation of agent.

The applicant shall designate an agent to receive communications on behalf of the applicant.

(Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, recodified as § 463-60-025, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and Chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-025, filed 10/8/81. Formerly WAC 463-42-090.)

Section 1.2 Designation of Agent

All official communication concerning this Application during the application review process should be directed to Kelly Flint, Sr. Vice President and Corporate Counsel for Savage Companies. This person is the designated agent for the project. Mr. Flint's contact information is as follows.

Kelly Flint
Savage Companies
Executive VP – Group Leader – General Counsel
901 West Legacy Center Way
Midvale, UT 84047
Office: 801-944-6600
Fax: 801-944-6519
Email: generalcounsel@savageservices.com

David Corpron and Jay Derr will serve as secondary contacts. Their contact information is as follows.

David Corpron
Savage Companies
Senior Project Manager
Sr. Vice President and Corporate Council
901 West Legacy Center Way
Midvale, UT 84047
Office: 801-944-6577
Fax: 801-944-6519
Email: davidcorpron@savageservices.com

Jay Derr
Van Ness Feldman, LLP
719 Second Avenue, Suite 1150
Seattle, WA 98104
Office: 206-623-9372
206-623-4986
Email: jpd@vnf.com

Section 1.3 – Assurances

WAC 463-60-075
General – Assurances.

The application shall set forth insurance, bonding or other arrangements proposed in order to mitigate for damage or loss to the physical or human environment caused by project construction, operation, abandonment, termination, or when operations cease at the completion of a project's life. The application shall describe the applicant's commitment to the requirements of chapter 463-72 WAC, Site restoration and preservation.

(Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, amended and recodified as § 463-60-075, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1). 87-05-017 (Order 87-1), § 463-42-075, filed 2/11/87. Statutory Authority: RCW 80.50.040(1) and Chapter 80.50 RCW. WSR 81-21-006 (Order 81-5), § 463-42-075, filed 10/8/81.)

Section 1.3 Assurances

The Applicant will establish and maintain, or cause to be established and maintained, several forms of insurance during the construction and operation of the Facility. Insurance will be maintained as required by law and customary business practice and to satisfy third-party participants and lenders. The amounts described in sections 1.3.1 through 1.3.5.2 are the amounts required by the lease agreement with the Port of Vancouver (Appendix E.2). The amounts described in section 1.3.5.3 are amounts required by applicable state law.

1.3.1 Commercial General Liability Insurance

The Applicant will obtain and maintain in full force and effect, Commercial General Liability insurance against claims for liability and property damage arising out of the use and operation of the premises with limits not less than ten million dollars ($10,000,000) per occurrence/fifteen million dollars ($15,000,000) aggregate (Appendix E.2, Articles 1.K and 15.B), and will include contractual liability insurance coverage, coverage against claims for bodily injury, property damage, personal injury, products and completed operations, and advertising injury occurring on or about the premises leased from the Port.

The Applicant and/or its contractors and subcontractors will be required to obtain and maintain in full force and effect Commercial General Liability insurance with the same limits and same coverages during the period of construction and startup phases to be specified in the terms of those construction agreements.

Limits can be achieved through a combination of primary and Excess/Umbrella Liability coverage.

1.3.2 Automobile Insurance

The Applicant will obtain and maintain in full force and effect Automobile Liability insurance covering owned, non-owned, and hired automobiles during use and operations with limits not less than one million dollars ($1,000,000) (Appendix E.2, Article 1.K).

The construction contractor and subcontractors will be required to obtain and maintain in full force and effect Automobile Liability insurance with the same limits and the same coverages during the period of construction and startup phases to be specified in the terms of those construction agreements.

1.3.3 Property Insurance

The Applicant will obtain and maintain at all times during the term of construction, use and operation of the Facility, Property Physical Damage insurance on the buildings and improvements that are to be erected on the premises. The insurance will be provided with a maximum deductible of one million dollars ($1,000,000) and 5 percent of values per Facility area.

The Applicant will purchase and maintain Builders Risk insurance upon the work at the Facility site to the full value until final completion of Facility Construction (Appendix E.2, Article 15.A). The insurance will include coverage against the “all-risk” perils including earthquake and flood for physical loss and damage. Upon final completion, The Applicant will maintain at all times “all-risk” property insurance (including boiler and machinery insurance) upon all Facility buildings and facilities (Appendix E.2, Article 15.A). The insurance will include coverage

extension for the perils of earthquake, windstorm and flood coverage, in an amount equal to the full replacement cost thereof. The insurance will contain an agreed valuation provision in lieu of any co-insurance clause, an ordinance and law endorsement and debris removal coverage and a waiver of subrogation endorsement.

1.3.4 Worker's Compensation and Washington Stop Gap Liability

The Applicant will fully comply with the statutory requirements for Worker's Compensation as required with respect to any employees performing work in the subject property and premises. The Applicant also will insure its exposure with Employer's Liability insurance (Washington Stop Gap Liability). The Applicant will provide Workers' Compensation coverage (including all coverage mandated by any federal law) pursuant to all statutory requirements as may apply and any other insurance coverage required by law. The Applicant will maintain Employer's Liability insurance or stop gap insurance coverage with limits not less than one million dollars ($1,000,000) (Appendix E.2, Article 1.K and 15.D).

In the event that the workers at the Facility are employed by one or more contractors of the Applicant rather than the Applicant directly, the Applicant will not be required to maintain such coverage, but will require such contractor or contractors to maintain such coverage for all workers at the Facility.

The Applicant will require that any construction contractor and all subcontractors working on the project comply similarly with the statutory requirements for worker's compensation with respect to their employees performing work on the subject property and premises. The Applicant also will require Employer's Liability insurance for exposure under Washington Stop Gap Liability.

1.3.5 Environmental Impairment

Environmental Impairment Liability coverage is intended to address liability for pollution that occurs on the facility site. Pollution Legal Liability coverage is intended to address liability for pollution that leaves the site.

1.3.5.1 Pollution Legal Liability Insurance

The Applicant and its operator(s) will be responsible, as required by law, for acts of environmental impairment related to the construction, use and operation of the Facility. Such losses may, in some circumstances, be covered by Commercial General Liability insurance, which the Applicant and the construction contractor will carry. This section describes limits specified in the Port Lease (Appendix E.2).

The Applicant and/or its contractors and subcontractors will provide Pollution Legal Liability insurance with combined limits not less than twenty-five million dollars ($25,000,000) per occurrence and provide coverage against claims for bodily injury, property damage, natural resource damages, and clean up and defense costs.

1.3.5.2 Environmental Impairment Liability

In addition, the Applicant and/or its contracted operator(s) will obtain Environmental Impairment Liability insurance with combined limits not less than twenty-five million dollars ($25,000,000) (Appendix E.2, Article 1.L) and provide coverage against claims for bodily injury, property damage, natural resource damages, and clean up and defense costs occurring on the Facility site. The policy will include coverage for sudden and accidental releases, as well as any gradual releases arising in any way from the Applicant's occupancy of and operations at the Facility site.

1.3.5.3 Financial Responsibility under Revised Code of Washington (RCW 88.40.025)

RCW 88.40 defines and prescribes financial responsibility requirements for facilities that store, handle, or transfer oil (including crude oil) in bulk near the navigable waters of the state. The Facility will be subject to these requirements because the structures, equipment, and devices comprising the Facility will be located near the navigable waters of the state and will transfer oil in bulk to vessels having an oil-carrying capacity of over 250 barrels which will transport the oil in bulk. In accordance with RCW 88.40.025, the Applicant will demonstrate financial responsibility in an amount determined by the Washington State Energy Facility Site Evaluation Council (EFSEC) as necessary to compensate the state and affected local governments for damages that might occur during a reasonable worst-case spill of oil from the Facility into the navigable waters of the state. The amount of financial responsibility will consider such matters as the amount of oil that could be spilled into the navigable waters from the Facility, the cost of cleaning up the spilled oil, the frequency of operations at the Facility, the damages that could result from the spill, and the commercial availability and affordability of financial responsibility. In accordance with RCW 88.40 030, the financial responsibility required may be established by any one of, or a combination of, the following methods acceptable to EFSEC: (1) evidence of insurance; (2) surety bonds; (3) qualification as a self-insurer; or (4) other evidence of financial responsibility. To date, Ecology has not adopted regulations that specify an amount or a specific method for calculating an amount for facilities, in the same way that amounts or methods of calculation have been specified for rail transportion to and marine vessel transportion from the Facility, as described in the next paragraph.

There are laws and regulations (already in place or recently put in place), for Financial Responsibility for those parties responsible for transportation of crude oil to and from the Facility. The Applicant will not source, own or transport the crude oil to or from the Facility. The Applicant will receive its customer's crude oil by rail, unload and stage that crude oil in the on-site tanks, and load the crude oil onto vessels provided by those customers. Rail carriers and vessel operators are required to maintain financial responsibility in accordance with RCW 80.40. The Applicant is not responsible for providing such financial responsibility for transportation of crude oil to or from the facility; however the following information is presented to describe the existing regulatory requirements for rail and marine vessel operators.

Cargo vessels transporting crude oil must provide evidence of financial responsibility pursuant to RCW 80.40.020[1]. For vessels operating in Washington, financial responsibility is based on the type of vessel and the total capacity for storage of product, and range between $5 million and $1 billion, with the vessels expected to call at the Facility predominantly in the latter category (Ecology 2015).

Washington Utilities and Transportation Committee recently adopted financial assurance requirements for rail transportation of crude oil, applying a formula that includes volume of crude oil being transported by rail, maximum train speed and a cost per barrel for cleanup. WAC 480-62-300. For a typical unit train of crude oil, the amount specified in this regulation is approximately $800 million to $1 billion, depending on tank car volume.

[1] Vessels transporting crude oil are also required to demonstrate financial responsibility under National Contingency Plan (NCP) as found in 40 CFR Part 300.

1.3.6 Site Closure Bond (Ch. 463-72 WAC)

No set-aside from operating funds is anticipated for site abandonment, but the Applicant will obtain a site closure bond in an amount to be determined by EFSEC upon approval of an initial site restoration plan. Decommissioning is addressed in additional detail in section 2.3.9.

Section 1.4 – Mitigation Measures

WAC 463-60-085
General – Mitigation measures.

(1) Mitigation measures summary. The application shall summarize the impacts to each element of the natural or built environment and the means to be utilized to minimize or mitigate possible adverse impacts during construction, operation, and decommissioning of the proposal, all associated facilities, and any alternatives being brought forward.

(2) Fair treatment. The application shall describe how the proposal's design and mitigation measures ensure that no group of people, including any racial, ethnic, or socioeconomic group, bear a disproportionate share of the environmental or socioeconomic impacts resulting from the construction and operation of the proposed facility.

(Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, amended and recodified as § 463-60-085, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and Chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-085, filed 10/8/81.)

Section 1.4 Mitigation Measures

1.4.1 Mitigation Measures

This section summarizes impacts to the elements of the natural and built environment potentially resulting from the Facility and the measures identified in this application to avoid, minimize, and mitigate such impacts. Each element addresses construction and operation mitigation, and notes where appropriate if mitigation is not required. The section number associated with the element corresponds to the section in this application where additional information can be found.

Impacts and mitigation measures from decommissioning of the Facility are described in section 1.4.1.18 below.

1.4.1.1 Section 2.3.1 Project Overview

The Facility will receive, handle, store and load pipeline quality light, medium, and heavy crude oils with an American Petroleum Institute (API) gravity ranging from 15 to 45 degrees.

1.4.1.2 Section 2.3.3.1 Rail Car Unloading

The Applicant will impose standard requirements on crude oil specifications (specs) and quality with all shippers in order to manage the integrity of the crude oil received at the Facility (Wright 2016).

Vancouver Energy will only accept tank cars for crude oil shipment into the Facility that meet or exceed the U.S. DOT-117 standards specified in 49 CFR 179.202 (including any related federal agency or congressional modifications to those standards). All Facility customers will be required to ship crude oil using tank cars that meet or exceed these standards. Vancouver Energy is committed to making this requirement for all customers concurrent with startup of the Facility and in advance of the phase-out schedule allowed by the U.S. DOT.

1.4.1.3 Section 2.3.7.1, Vessel Departure and Transit

Loaded vessels departing from the Facility will be escorted by a suitably matched tug until the escorted vessel arrives in the vicinity of the river mouth. Once in the vicinity of the river mouth the tug will be released from the escorted vessel and will standby as a sentinel tug until the vessel crosses the Bar and is safely underway in the open ocean.

The Applicant will implement procedures that will only allow vessels calling at the Facility to depart a dock or enter the river when they can make the transit of the entire river with a minimum 2 feet of underkeel clearance and 10 feet across the bar.

1.4.1.4 Section 2.6, Water Supply System

Mitigation measures for the water supply consist of the monetary contribution required by the City for water connections and new services. Service connection fees, system development charges, and industrial water use billing will be paid to the City. Connection fees and system development charges paid at the time of building permit application and application for water service is compensatory mitigation paid to the City for the long-term impacts to water rights, source development, system storage, and distribution piping.

The connection to the City water supply system will be made consistent with standard specifications adopted by the City. Backflow devices will be tested yearly per State requirements.

1.4.1.5 Section 2.10, Spill Prevention and Control

The Facility proposes to only receive, handle, store, and load Groups 2, 3, and 4 persistent oils as defined in WAC 173-182-030 (24) with a specific gravity less than 1 (meaning they will float on water), and an API gravity ranging from 15 to 45. The Facility will not receive, store, or load Group 5 persistent oils, those with a Specific gravity greater than 1.0000 and an API gravity equal to or less than 15.0, which are heavier than water.

1.4.1.6 Section 2.13, Carbon Dioxide Mitigation

While the legal requirement to comply with the mitigation obligation applicable to new fossil-fueled thermal electric generating facilities does not apply to the Facility, the Applicant proposes to voluntarily implement these mitigation requirements. Note that the mitigation program in WAC 463-80 applies exclusively to stationary sources based on CO_2 emissions (i.e., not to all greenhouse gases [GHGs] as CO_2e). The Applicant has, however, agreed to implement the mitigation requirements of WAC 463-80 based on CO_2e emissions from stationary source operations at the Facility. With total annual operational GHG emissions of about 86,172 metric tons (Table 2.13-1), over a 30-year life of the Facility at 12 percent of the total CO_2e emissions (i.e., based on the WAC 463-80 mitigation formula that assumes 60 percent capacity operations and 20 percent of total emissions), this amounts to mitigation of 310,270 metric tons of GHGs. This obligation would be met by payment of $496,440 to the Climate Trust for the implementation of projects to reduce GHG emissions. This commitment fully meets the Applicant's voluntarily assumed obligation to mitigate Facility operations GHG emissions.

1.4.1.7 Section 2.18, Protection from Natural Hazards

The potential impacts of earthquakes and seismicity include ground motion, soil liquefaction, lateral spreading, and volcanic eruptions with related ash fall. The potential impacts of flooding include soil erosion of unprotected soils and contamination of floodwater.

Earthquake Hazards

A preliminary ground improvement design was submitted to EFSEC for review (Appendix L.3). The design proposes the use of deep soil mixing (DSM) columns, jet grout columns, and wick drains to mitigate the liquefiable soils at the Facility site. Combinations of these methods have been selected as appropriate to the subsurface soils present within each area of the Facility. These methods are described above and in greater detail in section 2.18.1 for each Facility area. The Applicant continues to actively evaluate ground improvement design alternatives and will consult with EFSEC to review and evaluate the various options to best address the need to provide adequate seismic protection and to minimize the risk to water quality from ground improvement activity.

The Applicant believes that whatever ground improvement design alternative is selected after consultation with EFSEC, it would not pose impacts beyond the range of those already identified in this application. The Applicant has committed to conducting 3 D modelling to verify efficacy of proposed ground improvements and has requested coordination with EFSEC's subject matter experts to select appropriate modelling assumptions (Derr, J.P., 2016).

The final design of ground improvements for the Facility will comply with the provisions of the building codes and requirements for seismic hazards that apply to the Facility location. These include the following:

- 2012 International Building Code (IBC), chapters 16, 17, 18, 19, 22 and 23
- ASCE 7-10 (Minimum Design Loads for Buildings and Other Structures), chapters 11, 12, 13, 14, 15, and 23
- ACI 318-11 (Building Code Requirements for Structural Concrete), Chapter 21 and Appendix D
- AISC Steel Construction Manual, 14th Edition, including AISC 360-10 (Specifications for Structural Steel Buildings), Part 2
- AISC Seismic Design Manual 2nd Edition, including AISC 341-10 (Seismic Provisions for Structural Steel Buildings), General Sections
- AF&PA SDPWS 2008 (AF&PA Special Design Provisions for Wind and Seismic), General Sections

The Washington State Building Code Act adopts by reference building and related codes that local jurisdictions must adopt and enforce. Titles 16 and 17 of the VMC establish these requirements in the City.

See section 2.18, Tables 2.18-1 and 2.18-2, for a list the seismic design criteria for the Facility.

The upland Facility elements will be designed assuming a Facility importance factor of 1 combined with the site classification recommendations from the geotechnical investigation report. The upland facilities will meet the design criteria of IBC 2012 as supplemented by city and state amendments and ASCE 7. Based on the site classifications of D and E and the site specific hazards analysis conducted, API 650, Appendix B, requires that mitigation measures be constructed to address seismic, and in particular, liquefaction. The API standards are designed for the protection of life and to prevent catastrophic collapse of the storage tanks. To meet the mitigation requirements of the API standard, a combination of ground improvements as described above will be constructed for the essential facilities to meet or exceed the standards. Foundations for upland aboveground structures are described in section 2.17.3. Ground improvements are described in section 2.18.1.4.

Design of the dock modifications will conform to IBC 2012, as amended and adopted by the state of Washington and the City with the exception of mooring and berthing design, seismic design, and structural load combinations, which are not adequately addressed by IBC; these will be supplemented with applicable industry standards. Seismic design will be a performance-based design approach using multi-level earthquake performance objectives. The dock design considers ground motion from the three levels of seismic hazards:

- Operational Level Earthquake—5.8 magnitude
- Contingency Level Earthquake—8.4 magnitude
- Design Earthquake—9.0 magnitude

During the Operational Level Earthquake, the structure will reach the operational limit on utilities with minor repairs necessary to regain dock operations. During the Contingency Level Earthquake, damage will occur to the structure but repairs could be accomplished. During the Design Earthquake, the structure will not collapse but significant damage could occur, likely beyond reasonable levels of repair. The dock improvements are described in section 2.17.7.

Final analysis of the seismic conditions and determination of the building foundation and ground improvement designs will be completed to address seismic conditions found at the site prior to construction. It is anticipated that EFSEC will contract with the City for the review of final project design for compliance with the required code provisions as well as for providing the required inspections and issuance of occupancy permits. The Applicant will submit the required plans which will be designed in compliance with the codes and requirements referred to above.

The Applicant will also implement the following plans.

- Construction Emergency Plan to address actions and responses related to seismic activities
- Operations Emergency Plan to address actions and responses to site emergencies, including those related to seismic events

Volcanic Eruptions

The primary potential impact impact from volcanic eruptions at the Facility site is ash fall. Should an eruption occur and pose a risk to the Facility, the operations will be shut down until conditions allow for safe operation. Construction and Operations Emergency Plans will be implemented as needed to address ash fall.

Flooding

The Facility will be designed to comply with the City's Frequently Flooded Areas provisions of the Shoreline Management Program. These provisions require that buildings and structures located in the floodplain be elevated to at least one foot above the flood elevation or be floodproofed, be anchored to prevent floatation, collapse or lateral movement and incorporate other design elements to insure safety during a flood event. Compliance with these provisions will be demonstrated by the Applicant in its final Facility design submitted to EFSEC for its review for consistency with City construction permit requirements.

In order to prevent the contamination of flood water, operating procedures will require that any crude oil spill, including minor leaks and drips, be contained and affected surfaces cleaned promptly limiting the amount of any residue that could comingle with flood waters inundating the containment pans, containment piping, and below-grade trenches. In the event of flood events exceeding the 100-year or 500-year flood stages, the Applicant will monitor the rate of flood water rise and suspend threatened Facility operations prior to the flooding occurring.

Dock operations will comply with the USCG- and Ecology-approved Terminal Operating Limits as published in the Terminal Operations Manual.

Tsunami

The potential for tsunami and seiche impacts at the Facility location are negligible. No mitigation meausures are considerd necessary for these hazards.

Storms

The Facility will be designed to comply with the International Building Code requirements to reduce the risk of damage to structures from storm events. Buildings will be designed for a snow load of 25 pounds per square foot and a 135 mph wind speed (exposure c, strength level per ASCE 7-10). Protection against lightning will be provided by proper grounding and use of intrinsically safe electrical installations. For the City of Vancouver the basic wind speed design is 105 miles per hour for a 3-second gust. All buildings are required to be designed by a

structural engineer. Compliance with the code provisions will be determined during the building permits administered by EFSEC.

During severe weather events, the Facility operator will monitor the conditions at the site and if conditions result in risks to employees or facilities, will cease operations until safe to resume.

1.4.1.8 Section 3.1, Earth

The primary impacts of the project on soils at the Facility are from the foundation construction, excavation, grading, trenching, backfill, compaction, and subsurface soil improvements associated with site development. The impacts generally will be limited to shallow soil at the site and will not exceed 20 feet in depth. Potential impacts include localized soil erosion during construction and disturbance of riverbed soils during in-water work.

Seismicity

Mitigation measures for seismicity are identified under 1.4.1.8, sections 3.1.3.6, Seismicity, and 2.18, Protection from Natural Hazards, *Earthquake Hazards*.

Soils

The site-specific geotechnical engineering investigation conducted for the project identified site improvement alternatives and methods of construction that will be employed as mitigation. A qualified geotechnical engineer will monitor the fill placement during construction and conduct appropriate field tests to verify the proper compaction of the fill soils. As described in section 3.1.3.6, appropriate types of ground improvements will be selected during final design based on the specified performance criteria for the elements of the Facility. Final ground improvement methods will be determined during design refinements and documented in construction plans submitted to EFSEC for review.

Erosion/Enlargement of Land Area (Accretion)

Construction

The Applicant submitted a preliminary construction stormwater pollution prevention plan (cSWPPP) to EFSEC for review (Appendix C.1). The cSWPPP identifies the stormwater pollution prevention measures to minimize potential erosion impacts (temporary, long-term, and sedimentation) at the construction site and is described in section 2.11. The Applicant will also implement city, county, and state best management practices (BMPs).

Construction staging and laydown activities will only occur in areas that have been previously disturbed and developed. Construction activities will be sequenced and controlled to limit areas of exposed soil. In some locations light surface leveling might be required to provide safe access to the site by construction employees and equipment. Surface disturbance in these areas is not anticipated. Clearing, excavation, and grading will be limited to the areas necessary to construct the Facility. Individual excavations will be used for equipment foundations. Following completion of foundations the site will be filled and compacted to the final grade.

Disturbed areas will be surrounded with silt fencing, wattles to prevent migration of eroded materials to other areas. Interim surface protection measures, including temporary ditches, sediment fences, silt traps, dust control, straw matting, and erosion control blankets, will be required to prevent erosion. Earth movement and other construction activities associated with

installation of the benches and ground improvement installation activities will be subject to the cSWPPP and associated BMPs.

Final surface restoration will be completed within 14 days of an area's final disturbance. All construction practices will emphasize erosion control over sediment control. Temporary cutoff swales and ditches will be installed to route stormwater to the appropriate sediment trap and discharge location. As identified in section 3.1.4, soils found on the site are classified as having little to no erosion hazard.

Fill, grade, and excavation areas will be completed per final construction plans submitted to EFSEC. Permanent erosion control will be installed as necessary upon completion of construction activities, including on-site stormwater collection systems.

Operation

Permanent erosion control will be installed as necessary upon completion of construction activities, including on-site stormwater collection systems.

The Applicant will use the following erosion control measures during operation of the facility:

- Design site surfacing to capture stormwater directly from hardscape to limit erosion
- Design industrial yards and landscape areas to either infiltrate or use flow dispersion to avoid concentration of runoff that contributes to erosion
- Incorporate BMPs from the 2012 Stormwater Management Manual for Western Washington for erosion and sediment control during operations
- Stabilize surfaces that may become exposed during operation in accordance with Facility National Pollutant Discharge Elimination System (NPDES) construction stormwater permit and final construction plan requirements
- Collect and convey stormwater from new impervious surfaces using systems that avoid contact of stormwater with bare soil
- Incorporate BMPs from the stormwater manual addressing soil erosion and sediment control for industrial yard areas

The Applicant will be responsible to ensure Facility stormwater components operate in compliance with the stormwater permits issued by EFSEC relative to the facility. The Port will continue to be in charge of compliance with permit requirements applicable to Port systems.

1.4.1.9 Section 3.2, Air

The potential air quality impacts may include airborne dust and particulates during construction activities, emissions from equipment and vehicles and odors generated during construction activities and by vehicles during operation; however, odors are likely to not be differentiated from the background odor in the surrounding industrial area.

The Applicant has designed the project to meet all federal and state emissions standards, including New Source Performance Standards (NSPS), National Emissions Standards for Hazardous Air Pollutants (NESHAPs), and applicable air quality permitting requirements. The Applicant is proposing measures to reduce emissions, including handling crude oil in equipment, which minimizes exposure of the oil to the ambient atmosphere to reduce VOC emissions, firing Facility boilers with pipeline quality natural gas, using ultra low sulfur diesel fuel for the emergency fire pumps, and installing a floating roof in each of the storage tanks. The Facility

includes control equipment to limit emissions of hydrocarbons when the marine vessels are loaded using a collection system and a thermal combustor (Marine Vapor Combustion Unit, [MVCU]). The Applicant has conducted a comprehensive Best Available Control Technology (BACT) analysis, and has selected the most feasible, effective, and economically viable emission controls (see section 5.1, Attachment 1). The Applicant has conducted air emissions modeling in accordance with approved methods to demonstrate compliance with all applicable air quality standards.

The Applicant will implement the following measures during construction:

- Dust and diesel emission control measures will be implemented consistent with Washington Associated General Contractors Brochure, "*Guide to Handling Dust from Construction Projects,"* including the following
  - Proper maintenance of off-road mobile equipment
  - Use off-road mobile equipment that meets applicable emission standards
  - Encourage carpool and trip reduction strategies for construction workers
  - Minimize construction truck and other vehicle idling time
  - Spray exposed soil with water or other suppressant to reduce wind-blown emissions
  - Pave or gravel staging areas
  - Use appropriate methods to control dust from trucks transporting materials
  - Rock exits or provide wheel washers to reduce particulate matter carried off site by vehicles
  - Cover dirt/gravel/debris piles to reduce dust and wind-blown debris

1.4.1.10 Section 3.3, Water

Surface Water

Potential construction surface water impacts to the Columbia River ma occur resulting from in- and overwater construction activities and potential stormwater runoff into the Columbia River from upland construction and ground improvement activities. Potential operational surface water impacts would be from inadvertent spills and releases, or inappropriate permanent stormwater controls.

Construction

Construction Stormwater Capture and Treatment - A permanent stormwater management system will be constructed to serve the Facility; this system will be constructed during site grading and construction of the Facility surface and subsurface elements. The permanent stormwater management system is described in sections 2.11.2 and the Engineering Report at section 5.3. It is designed in accordance with VMC 14.024, 14.025, and 14.026 and Ecology's administrative codes for stormwater and spill prevention, preparedness, and response and the Ecology stormwater manual.

The Applicant will use management techniques to reduce the discharge of contaminated stormwater runoff. These techniques will be implemented on site prior to beginning construction activities and will include establishment of stormwater monitoring and maintenance programs to ensure compliance of erosion control practices.

The Applicant will also implement site-specific BMPs selected from the Stormwater Management Manual for Western Washington and meet the following water quality criteria:

- Chapter 173-200 WAC
- Chapter 173-201A WAC
- Chapter 173-204 WAC

During construction, the contractor will be directed to implement an environmental protection program for construction-related activities that complies with specific site conditions. Impacts to surface water will be mitigated through the use of on-site stormwater management. Best management practices that reduce erosion will be emphasized to reduce the sources of stormwater contamination. Ground disturbing activities will be limited to necessary construction areas. Construction methods will be modified as needed to protect surface water quality, and sequenced and controlled to limit potential erosion and sediment transport, including monitoring the installation and removal of temporary piles. Sediment control measures will be designed based on 10-year design storm. Water quality measures (other than sediment control) will be designed on a 6-month, 24-hour design storm.

The Applicant will conduct construction activities in accordance with the provisions of the NPDES Individual Construction Stormwater Permit issued for the Facility. Under the provisions of this permit, the Applicant's responsibilities will include, but not be limited to:

- Prepare and implement a cSWPPP.
- Install and maintain stormwater BMPs as specified in the cSWPPP.
- Provide training to construction employees regarding provisions of the cSWPPP.
- Conduct site inspections at least once a week and within 24 hours following any discharge from the site and as required by the Permit.
- Implement the construction water quality protection and monitoring plan (WQPMP) (Appendix F.2)
- Monitor and sample construction storm water discharges in compliance with permit provisions, and report such results as required.

As required by WAC 173-240-110, before constructing or modifying industrial stormwater facilities, engineering reports, plans, and specifications for the project must be submitted to EFSEC. The project therefore will require compliance with the following standards and regulations.

- Water Quality Standards WAC 173-201A
- Ecology's Stormwater Management Manual for Western Washington
- City of Vancouver Municipal Code (VMC)VMC 14.24, 14.25 and 14.26
- City Surface Water General Requirements (revised September 2009)
- Port Industrial General Stormwater Permit
- Port Municipal Phase II General Stormwater Permit
- 40 CFR 112

The project requires compliance with all nine of the minimum requirements set forth in the Ecology stormwater manual.

Construction Stormwater Pollution Prevention Plan - The preliminary cSWPPP (February 27, 2015) has been submitted to EFSEC for review. The cSWPPP, identifies specific

construction stormwater BMPs to address stormwater within the ground improvement construction areas, techniques to reduce the discharge of contaminated stormwater runoff, establishment of stormwater monitoring and maintenance programs to ensure compliance of erosion control practices, and specific applications for installation of BMPs to prevent and mitigate any construction-related impacts to surface water. The final cSWPPP will be submitted to EFSEC for review and approval before any Facility-related ground disturbance begins.

The cSWPPP places specific emphasis on protecting surface water quality of nearby wetlands and the Columbia River. Downslope and perimeter protection was identified for all construction areas and where ground improvements are necessary. Specific BMPs identified in the cSWPPP are summarized in Table 2.11-1 in section 2.11.1. The following BMPs are identified specifically for use during ground improvement activities. See Appendix C.1 for additional detail.

- Wheel washes will be provided at applicable construction entrances where ground disturbing acitvities exist during all ground improvement activities and rough grading.
- Groundwater or jet water used and brought to the surface during ground improvements at the marine terminal will be collected and pumped into weir tanks for turbidity control.
- Silt fencing will be installed along the top of bank where the transfer pipelines and ground improvements are constructed along the river. Compost socks would be installed along river embankment above the OHWM or waterline whichever is higher.
- All groundwater or jet grout slurry resulting from ground improvements will be processed through chemical treatment BMPs, such as pH reducers and/or polymer assisted stormwater filtration and will be used between areas of ground improvement (stone columns, soil mixing, jet grouting, etc.) and surface waters and wetlands.
- Wick drains will be used between areas of ground improvement (stone columns, soil mixing, jet grouting, etc.) and surface waters and wetlands.
- At Area 300, wick drains will be installed at a minimum of 16 feet on center where ground improvements are within 150 feet of the adjacent wetlands to the north and east. At areas 400 and 500, wick drains will be installed along the top of bank at 8 feet on center for the entire bank area receiving ground improvement. Visual monitoring of turbidity within the wetlands or Columbia River will occur daily during ground improvement. If any turbidity is observed as a result of ground improvement, ground improvement activities will be stopped and additional mitigation measures will be installed, including additional wick drains, turbidity curtains, or change in ground improvement methods will be considered.
- Cutoff channels will be installed in Area 300 – Storage tanks along the downslope construction area to capture construction stormwater where existing site grading is insufficient to direct stormwater into conveyances for the construction stormwater. These channels would also be used to contain ground improvement runoff where necessary.
- Channel lining and check dams will be used to protect channels from erosion, and check dams to assist in flow control.
- Install and maintain an erosion/sediment control barrier along the top of the Columbia River embankment for the areas adjacent to stone column installations consisting of silt fencing, filtration fabric, and straw wattles or similar measures approved by EFSEC. Monitor the water on the river side of the sediment control barrier to ensure the expected level of water quality is maintained. If the water quality on the river side of the barrier is unacceptable, implement additional sediment control measures until the desired level is achieved. These measures would reduce impacts to minor levels.

Any required surface restoration will the completed within 14 days after an area's final construction-related disturbance.

Additional Measures for Jet Grouting Activities - The potential stormwater and non-stormwater runoff from jet grout-related spoils will be mitigated to reduce the likelihood of contaminants released into the Columbia River.

The Applicant will conduct additional monitoring of surface water quality within the Columbia River upstream and downstream of the ground improvement installation to monitor for changes in pH and sulfate levels.

The mitigation measures listed above as part of the cSWPPP were specified in the Applicant's Project Refinement Report (May 2015). These mitigation measures were listed specifically for the containment and handling of jet grout-related spoils. The BMPs are in addition to those already included in the cSWPPP.

Where ground improvement may extend below top of the river embankment, the following additional stormwater BMPs were also identified to protect downslope water quality:

- Install temporary sheet pile wall between the jet grout installation areas and landward of the OHWM with sufficient freeboard to contain slurries and spoils and prevent them from entering the Columbia River. The sheet pile is most likely to be installed using vibratory hammer.
- Install the first row of jet grout columns landward of the temporary sheet pile first to act as a barrier to potential grout migration during the installation of subsequent jet grout columns landward. This will reduce the potential for later grout installations to migrate through seams in the wall, or under the wall, toward the Columbia River.
- Provide isolation measures to contain, extract, and dispose of spoils. Earthen berms, sheeting, straw wattles, or shallow trenches, will be used to isolate the work area and contain spoils exiting the grouting hole to prevent their entry into surface water, in addition to the temporary sheet pile stated above.
- Extract spoils from the containment area by vacuum pumps. Spoils may be loaded to trucks to be removed from the site, or may be handled on site to separate solids from liquids for additional treatment and disposal. If handled on site, soils will be removed and placed in a temporary holding area, such as lined ponds or tanks; these will temporarily hold spoils until they can be treated as necessary and disposed of holding ponds would be constructed in previously disturbed locations and would be located away from sensitive resources. Holding areas would be lined to prevent the migration of high pH water into the ground.
- Pump high pH water from holding areas or tanks into portable water quality treatment systems and neutralized. Following neutralization, the water will be discharged similar to other construction site groundwater that has been treated to the appropriate water quality standards.
- Remaining solid materials in holding areas or tanks will be tested as necessary and disposed of in accordance with applicable regulations if they classify as hazardous waste. If the solids do not classify as hazardous waste they will be used on site (for construction of the Area 300 containment berm for example, or will be disposed off site at an appropriate location.
- Conduct water quality monitoring. A Water Quality and Monitoring Plan has been prepared and submitted to EFSEC; the monitoring provisions of this plan will continue to address how activities are monitored to identify potential surface water exceedances. The plan will be

revised to address protection measures specific to ground improvement construction activities.

- Conduct site inspections will be conducted at least once a week and within 24 hours following any discharge from the site and as required by the NPDES Individual Construction Stormwater Permit to be issued by EFSEC. The water quality monitoring plan (Appendix F.2) also identified additional in stream monitoring within the Columbia River to monitor construction activities.

The NPDES Individual Construction Stormwater Permit is anticipated to include reporting and correction requirements that are substantially similar to those of the Construction Stormwater General Permit (Ecology 2015). These reporting notifications and noncompliance standards within the General Permit section S5.F require the steps below: (note: for EFSEC issued permits, "Ecology" would be replaced by "EFSEC").

- Ecology will be immediately notified of the failure to comply.
- Immediate action will be taken to control the noncompliance issue and to correct the problem. If applicable sampling and analysis of any noncompliance will be repeated immediately and results submitted to Ecology within five days of becoming aware of the violation.
- A detailed written report describing the noncompliance will be submitted to Ecology within five days, unless requested earlier by Ecology.

Construction Spill Prevention Control and Countermeasures - The construction Spill Prevention Control and Countermeasure Plan (cSPCCP) (Appendix B.2) will also be implemented and includes a listing of responsible personnel, spill reporting procedures, project and site information, pre-existing contamination at the Facility site, potential spill sources, spill prevention and response training, spill report form(s), plan approval, and cSPCCP acknowledgement forms (to be signed by all project personnel). The cSPCCP will meet NPDES permit requirements.

Operation

Permanent Stormwater Capture and Treatment - Surface water quality will be protected during operations through the use of the BMPs designed in accordance with Ecology's stormwater manual. A permanent stormwater management system will be constructed to serve the Facility. This system will be constructed during site grading and construction of the Facility surface and subsurface elements. The permanent stormwater management system is described in sections 2.11.2 and 2.11.3, and is designed in accordance with VMC 14.024, 14.025, and 14.026 and Ecology's administrative codes for stormwater and spill prevention, preparedness, and response and the Ecology stormwater manual. The final design and stormwater report will be prepared and submitted for approval by EFSEC prior to installation of the permanent stormwater management system.

Once all permanent stormwater BMPs are in place, operations-related impacts to surface water will be minimized through the use of operational and structural source control BMPs and operational procedures The Applicant will implement secondary structural containment measures

to supplement the structural source control BMPs. BMPs are from Volume IV of the Stormwater Management Manual for Western Washington and will meet the following water quality criteria:

- Chapter 173-200 WAC
- Chapter 173-201A WAC
- Chapter 173-204 WAC

The Applicant submitted to EFSEC for review a preliminary operations SWPPP (oSWPPP) (Appendix C.2) based on the preliminary design in place when this Application was submitted. BMPs are described in the preliminary oSWPPP. A final oSWPPP will be submitted for review prior to the beginning of Facility operations.

In accordance with the permitted levels of the downstream system, discharge stormwater meeting established water quality benchmarks will be consistent with the Industrial Stormwater General Permit. To the maximum extent possible, stormwater will be protected and segregated from contact with industrial activity and crude product. With the oSWPPP, mitigation measures and BMPs in place, stormwater discharges from the Facility will meet state and local water quality standards. A Tier II anti-degradation analysis is being completed in accordance with WAC 173-201A-320 to demonstrate water quality compliance. The final report will be submitted to EFSEC.

Spill Prevention, Control and Countermeasures - The most serious risk – although it is unlikely with the mitigation measures in place – to surface water quality will be an accidental crude oil release or spill during an exceptionally high rainfall event. Numerous spill prevention and control systems have been included in the design of the Facility. Containment pans, pumps, and containment sump tanks will be provided for the rail unloading area (Area 200). Approximately three double-shelled containment tanks, with a total capacity of approximately 1500 barrels, will be constructed south of the Area 200 parking lot. The combined volume of the tanks is sized to contain the entire contents of a single tank car plus at least an additional 10 percent. Equipment and parts wash (including facility washdown, and railcar exterior washing), will be conducted in a covered portion of the rail unloading building. Wastewater will be pumped to secondary containment tanks.

Containment rail drip pans, pumps, and containment sump tanks will be provided for the rail unloading area (Area 200); the capacity of the containment systems will be sufficient to contain and store the entire volume of a single rail car staged within the unloading building. The tank farm will be surrounded by a containment berm 6 feet high with a full impervious liner capable of containing 110 percent of the largest tank anda 100-year 24-hourrainfall event. Spill containment will be designed to meet or exceed API, EPA, NFPA, City and other applicable requirements. Tank monitoring, inspection, and testing will be in accordance with API 653, the industry standard for the inspection of aboveground petroleum storage tanks.

In Area 300 a secondary containment berm (approximately 6 feet high with a full impervious liner), will be designed with a capacity at least equal to 110 percent of the volume of the API 650 maximum capacity of the largest tank plus precipitation from a 24-hour, 100-year storm event. This capacity reflects the most stringent of Washington spill prevention and control and National Fire Protection Association (NFPA) requirements and exceeds the requirements for secondary containment under 40 CFR 112.7 (Makarow 2015b). The containment berm will be designed in accordance with the requirements of WAC 173-180-320. WAC 173-180-320 (9)(c) specifically

states “Secondary containment systems must be designed to withstand seismic forces,” and sub (e) that “Secondary containment systems must be designed and constructed in accordance with sound engineering practice and in conformance with the provisions of this section.” Spill, containment will be designed to also meet or exceed API, EPA, City and other applicable requirements.

As additional protection, 24-inch-high intermediate berms will be installed within the larger area to separate each tank area from the larger containment area (see Figure 2.3-10). Each intermediate berm will be designed to contain at least 10 percent of the volume of the tank it encircles. The tank containment area will be lined with a flexible impervious membrane to prevent any inadvertent releases from leaving the containment area via the ground.

A flexible impermeable liner will be used to mitigate the possibility of oil penetrating through the berm in the event of a seismic event. See section 2.18.1.4 for additional information on Protection from Natural Hazards, Mitigation Measures for Earthquake Hazards.

The tanks will be constructed to API 650 which requires initial testing at construction. Tank monitoring, inspection, and testing will be in accordance with API 653, the industry standard for the inspection of aboveground petroleum storage tanks. For example, API 653 requires tanks to be inspected every 10 years to assess the tanks’ physical condition and determine suitability for continued use.

The transmission pipeline (Area 500) will be constructed of welded steel pipe, designed specifically for oil conveyance. Safety measures built into the design include thickened pipe walls, pipeline expansion for thermal and/or seismic movement, pressure and temperature sensors, and emergency shutoff valves. The pipeline will largely be constructed aboveground, on concrete foundations, with the exception of a few portions that will be constructed underground to accommodate existing rail and road crossings. The above-grade portion of the pipeline will be subject to visual inspection for leaks, and secondary containment with leak detection provided for pipe installed underground.

Spill containment measures along the pipeline alignment (Area 500) will comply with 40 CFR 112.7 by providing secondary containment, inspections, and contingency planning. The most likely spill events are small releases of less than 5 gallons resulting from nicks, corrosion pinholes, or gasket seal failures. An example of secondary containment that can address these discharges is to confirm or retrofit all stormwater inlets within the contributory drainage area of the pipeline alignment with spill control devices to contain small oil leaks or spills.

All facility piping systems and storage tanks will be hydrostatically tested prior to being placed into operation. Hydrostatic test water for the pipeline will be acquired from the City’s water system. Test water will be discharged to existing storm drain conveyance systems in accordance with the stormwater permit issued for the project.

Parking and access areas will be designed with a combination of catch basin spill traps and water quality filter vaults to treat stormwater runoff.

See sections 2.10 and 2.11.2 and Appendices B.3 and C.2 for additional Facility design features and spill control and prevention measures.

Spill Preparedness and Response - The Applicant will implement planning and preparedness actions required by state and federal regulations to prevent, contain, and respond to inadvertent releases that could impact surface water, including, but not limited to:

- A comprehensive site-specific operations SPCCP (oSPCCP) developed in accordance with 40 CFR 112 and WAC 173-180, Part F
- A safe and effective threshold determination report, prepared under WAC 173-180-224
- A pre-loading transfer plan according to WAC 173-180-230
- A Facility operations manual in compliance with WAC 173-180 400 to -435
- An oil transfer training program in compliance with WAC 173-180, Part E
- A certification program in compliance with WAC 173-180, Part E
- A spill contingency plan in compliance with WAC 173-182, 40 CFR 112, Subpart D and 33 CFR 154, Subpart F
- Prepare coordinated plans to meet all applicable local, state, and federal requirements

Runoff/Absorption

Potential runoff/absorption impacts include erosion and sedimentation, which are expected to be minimized by BMPs that address erosion and control sedimentation. Construction-phase erosion and sedimentation control BMPs, as described in sections 2.11 and 5.3 of this Application, will be implemented to mitigate the impacts of soil disturbance. Permanent operations-phase runoff control and water quality treatment will be implemented to mitigate any impacts from the project.

Floodplains

There are no impacts to the site for the 5- and 50-year flood events. No fill is proposed within the 100-year floodplain, and there will be no potential to affect upstream or downstream properties through increases to the base flood elevation.

Construction

Construction activities will cease if a flood event is predicted and move, to the extent possible, hazardous materials and equipment from the site to above the 500-year floodplain.

Operation

Within Area 200, below-grade watertight trenches will be used to eliminate inundation concerns during the 100-year flood or from seasonal shallow groundwater.

Where the pipeline route is located in the floodplain, the pipeline will be elevated above the 100-year flood elevation. Because the floodplain is isolated from overland flows from the Columbia River it will not be subject to flowing water and no risk from floods is anticipated for this element. Regardless, the pipeline will be designed by a professional engineer to withstand potential impacts from flooding.

Berths 13 and 14 in Area 400 are existing pile-supported structures located in the Columbia River. The existing and planned improvements will be located with deck elevations above the 100-year flood elevation and have been (or will be) designed by a professional engineer to withstand the forces imposed by flooding conditions.

All structures or portions of structures located in Area 400 will be located outside the 100-year floodplain. These include a dock transformer pad, combined control room/E-house, fire pump and foam building. These structures will be elevated so that the floor is at least 1 foot above the

base flood elevation. They will also be anchored to resistant movement and designed with utilities and other connections that are designed to withstand flood events consistent with the requirements of VMC 20.740.120 Frequently Flooded Areas.

Floodwaters are anticipated to inundate the facilities with approximately 1-foot of water during the 500-year event and a maximum of 3 feet in the lowest areas. The Facility will be designed to maintain integrity in these worst-case flood conditions. The containment berm around the product storage tanks (Area 300) provides protection against inundation. The unloading facility is located within the inundation area of the 500-year floodplain. Flood waters inundating the unloading area would fill the below-grade trenches and containment pans. In order to prevent the contamination of flood water, operating procedures will require that any crude oil spill, including minor leaks and drips, be contained and affected surfaces cleaned promptly limiting the amount of any residue that could comingle with flood waters inundating the containment pans, containment piping, and below-grade trenches.

In the event of flood events exceeding the 100-year or 500-year flood stages, the Applicant will monitor the rate of flood water rise and suspend threatened Facility operations prior to the flooding occurring.

Groundwater Resources

Construction

Construction of foundations and utility and pipeline excavations for the project may require dewatering of the excavations. Groundwater that is pumped out of the excavations will be stored on site in mobile water tanks and analyzed and managed in accordance with local, state and federal regulations prior to reuse, infiltration or disposal. Disposal will be conducted in accordance with the stormwater permit issued for the project. If dewatering wells are necessary, well points used for construction dewatering will be completed in accordance with WAC 173-160 Minimum Standards for Construction and Maintenance of Wells. If groundwater extracted for construction dewatering is directed to the City's sanitary sewer it will be disposed in accordance with VMC 14.12 Discharge of Industrial Wastes to the Industrial Wastewater Pretreatment Facility.

During construction, the Applicant will conduct on-site investigations where production wells were known to be located. If a borehole is located, confirmation will be made that the borehole has been properly sealed to a depth at least 10 feet below the finished ground surface with a cementitious grout.

As part of the Contaminated Materials Management, construction activities will be identified that could potentially impede monitoring and access of groundwater through existing water supply wells if access is necessary for ongoing remediation activities.

The Applicant has submitted a preliminary cSWPPP to EFSEC for review (Appendix C.1). The cSWPPP identifies the stormwater pollution prevention measures to be implemented at the construction site and as described in section 2.11 of this application.

Operation

Secondary containment systems will be provided under storage tanks and in buried transfer piping to capture leaks, preventing discharges directly into the soil, which could impact groundwater.

The potential for the discharge of contaminants to the groundwater due to surface water infiltration will be limited through development of surface water control infrastructure and the implementation of water quality control protocol.

Site design monitoring and control systems will be incorporated to allow early detection of a release when containment and remediation can be most effective.

During final design, potential contaminants in the soil will be identified and addressed in the plans and specifications to establish procedures to minimize the potential for groundwater impacts, including the following:

- Restrictions on work in portions of the site
- Minimize/controlling grading to prevent ponding water that would promote leaching
- Use of temporary covers over disturbed areas, and controlling tracking of contaminants from one portion of the Site to another

An oSPCCP (Appendix B.3) and oSWPPP (Appendix C.2) will be implemented to establish procedures to prevent and control the impact of spills on the natural environment. The oSPCCP, will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills. These include inspecting equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas. The oSPCCP will be used for appropriate response and cleanup procedures, including the handling of vegetation that would be affected by spills. Applicable spill response equipment and material designated in the oSPCCP will be maintained at the job site. In the event of an inadvertent release, containment and begin cleanup efforts will begin immediately and be completed in an expeditious manner, in accordance with all local, state, and federal regulations, and taking precedence over normal work. Cleanup will include proper disposal of any inadvertently released material and used cleanup material. The cause of the inadvertent release will be assessed and appropriate action will be taken to prevent further incidents or environmental damage. Inadvertent releases will be reported to Ecology's Southwest Regional Spill Response Office.

There are no anticipated adverse impacts to existing groundwater sources resulting from the use of City-supplied potable, process, and emergency fire suppression water.

Public Water Supplies

The development of new water sources or wells is not required for this Facility. The Facility will purchase its water supply from the City. Based on the City's current excess source capacity described in section 3.3.5 and the Facility impact of approximately 87,400 gallons per day represents 0.3 percent of the available capacity. Citywide long-term growth is not anticipated to be affected by the water demands of this project.

Mitigation for the use of and impact on the public water system includes payment of system development charges, connection fees, and utility rates. These fees and rates are to support capital and operating expenses of the water system.

1.4.1.11 Section 3.4, Habitat, Vegetation, Fish, and Wildlife

Habitat and Vegetation

The primary potential impacts at the project site will be the direct, permanent removal of vegetation during construction and temporary construction noise impacts. The project will implement several impact minimization measures and BMPs to minimize the potential for impacts to habitats and vegetation. In addition to the following discussion, see the Fish and Wildlife sections below for additional mitigation measures and BMPs for these habitats in addition to the habitiat and vegetation measures discussed in this section.

Construction

Direct Habitat Modification - The project has been designed to avoid and/or minimize impacts to terrestrial habitat and vegetation to the greatest extent possible. The upland facilities associated with the project have been located on developed portions of an existing industrial site, which in its current state provides very little habitat function and very little native vegetation. By siting the project in a developed location, impacts to native terrestrial habitats and native species of vegetation, including special status species, have been avoided.

Ground disturbance and vegetation removal will be limited to the amount necessary to construct the project. Construction fencing will be used to protect existing vegetation to be retained. The project will provide 1.13 acres of compensatory habitat mitigation, including urban landscaping. Approximately 2.21 acres of planted areas, including trees and shrubs in areas 200 and 300 will offset the removal of nine trees associated with construction. Area 200 will include in the landscape plan for the Support Buildings the use of native trees planted in groups within the landscape to provide additional mitigation for the loss of trees onsite. These landscaped areas will provide wildlife habitat typical in an urban environment. In addition, the Applicant will adhere to the requirements of VMC 20.770[2] and plant a minimum of 30 tree units per acre for undeveloped sites, and based on a development area of 10,550 square feet, plant a minimum of eight tree units in other areas of the Facility.

No purple martin or nest boxes would be directly affected by the construction of the proposed project. The construction activities do not include removal of any creosote-coated wood piling. All existing piles at the marine terminal are steel and do not contain cavities for nesting wildlife. Purple martin have a low suspected occurrence within the Facility site as noted in DEIS Table 3.5-3.

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[2] VMC 20.770.070(B)(4) allows trees planted in landscaped islands and other areas to meet the tree density requirements. The project includes a Landscaping Plan in Area 200 that calls for the planting of buffer landscape trees and parking lot trees that would exceed the eight tree units required for the project under VMC 20.770. The planted trees would be deciduous and planted at a minimum of 2-inch caliper. These landscaped areas would provide wildlife habitat typical in an urban environment, including perching and foraging opportunities for migratory birds. In total, about 2.21 acres of planted areas would be completed.

Mitigation measures will be implemented for each of the habitats impacted by construction of the Facility as follows:

- *Unvegetated Industrial Land*: Impacts to unvegetated industrial land do not require mitigation.
- *Ruderal Upland Grass/Forb and Upland Cottonwood Stands*: The 0.96 acre of ruderal upland grass/forb habitat on the project site have very limited value. Nevertheless, even if no net loss to this impact was required, when combined with the Upland Cottonwood Stands (0.07 acre), 1.03 acres of compensatory habitat mitigation is warranted for no-net loss. To mitigate for the removal of these habitats, the Applicant will install urban landscaping including trees and shrubs in areas 200 and 300. Native species will be used to the extent practical. Area 200 will include native trees planted in groups within the landscape to provide additional mitigation for loss of trees onsite. These landscaped areas will provide wildlife habitat typical in an urban environment, including perching and foraging opportunities for migratory birds. This action also complies with VMC 20.770 and planted areas will include additional trees to compensate for development that will impact pervious surfaces. Trees will be planted as part of landscaped buffers and parking lot landscaping where currently no trees exist. In total approximately 2.21 acres of planted areas will be completed.

  Locations where ruderal habitat has been impacted by temporary construction laydown will be restored to previous condition so as to result in no net loss to this community.
- Riparian: The riprapped bank has very limited riparian vegetation, and the Applicant is not disturbing any existing high quality vegetation or negatively impacting existing habitat function. No mitigation is therefore warranted.

As stated above, the Applicant will adhere to the requirements of VMC 20.770[3] and will plant a minimum of 30 tree units per acre for undeveloped sites, and based on a development area of 10,550 square feet, plant a minimum of eight tree units in other areas of the Facility.

The Applicant has identified the following construction mitigation measures to minimize impacts to avian habitat during construction:

- Perform tree removal outside of the nesting season (February 15 to September 1), to avoid potential impacts to active nests of protected migratory birds. If trees are to be removed during the nesting season, a preconstruction nesting survey will be completed no more than two weeks prior to removal to ensure that no active nests are present. If active nests of protected migratory birds are found, tree removal activities will be suspended until after nests have hatched and young have fledged.
- Monitor the approximate 2.21 acres of landscape plantings (discussed above) for two years after planting and replace all trees that do not become successfully established.

[3] VMC 20.770.070(B)(4) allows trees planted in landscaped islands and other areas to meet the tree density requirements. The project includes a Landscaping Plan in Area 200 that calls for the planting of buffer landscape trees and parking lot trees that would exceed the eight tree units required for the project under VMC 20.770. The planted trees would be deciduous and planted at a minimum of 2-inch caliper. These landscaped areas would provide wildlife habitat typical in an urban environment, including perching and foraging opportunities for migratory birds. In total, about 2.21 acres of planted areas would be completed.

BMPs will be implemented during construction to minimize the spread and establishment of noxious weeds, including the following:

- Complete a weed survey for the Facility site, followed by eradication of any noxious weeds and invasive plants established at the site prior to initiation of construction to help prevent the spread of noxious weeds to nearby wetland mitigation and wildlife areas.
- Provide wheel wash equipment at the Area 200 access to limit the dispersion of noxious weed seeds.
- Restrict construction activities to the area needed to work effectively to limit ground disturbance and prevent the spread of noxious weed species.
- Use weed-free straw hydromulch, or similar ground cover for temporary erosion control during construction.

Aquatic Invasive Species - WDFW hydraulic code rules require that the transportation and introduction of aquatic invasive species be prevented by thoroughly cleaning vessels, equipment, boots, waders, and other gear before removing the gear from a job site [WAC 660-120 (7)(j)]. Contractors would be required to provide documentation that all equipment and materials that will be used in- and over-water have be cleaned to comply with applicable aquatic invasive species statutes and rules, including WAC 660-120 (7)(j). This includes providing documentation that in-water equipment and construction materials have either not been in contact with waters containing state prohibited aquatic invasive species, which could potentially be transferred to the Columbia River, or that equipment and materials have been appropriately decontaminated from potentially transferrable aquatic invasive species prior to arrival at the project site.

Temporary Water QualityImpacts - A water quality protection and management plan (WQPMP) (Appendix F.2) has been developed and describes how the project will monitor and control releases of turbidity, suspended sediment, concrete, and other construction-related materials that may be generated during Facility construction activities in, over, and adjacent to the Columbia River and other adjacent water bodies. The plan describes water quality protection measures; monitoring parameters, methods, evaluation criteria; and contingency response and notification procedures in the event a water quality criterion is exceeded during such construction activities.

All in-water temporary pile installation and removal below the OHWM will be conducted within the published in-water work period for the project, which is November 1 to February 28[4]. This

[4] In the Applicant-prepared PDEIS for the project, and in the JARPA and Biological Evaluation (BE) for the project, the Applicant has proposed to conduct work below the Ordinary High Water Mark (OHWM) within the US Army Corps of Engineers' (USACE) published in-water work window for the Columbia River mainstem between the mouth of the river to the Snake River confluence (November 1–February 28).[1] This work window has been established by the USACE, in coordination with resource agencies, for the protection of fish life, including ESA-listed species.

In the Advisory HPA, as well as in Sections 3.6.3.1 and 3.6.5 of the DEIS, EFSEC proposes a modified in-water work window of September 1 - January 15 to avoid peak migration and larval stages of salmonid and nonsalmonid species.

work window has been established to minimize potential impacts to aquatic habitat and native fish species and avoids the peak migration timing for marine mammals in the Lower Columbia River.

Construction at the site will be governed by a a construction Spill Prevention, Control and Countermeasures Plan (cSPCCP), which the Applicant has submitted to EFSEC for review (Appendix B.2).The cSPCCP defines specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills and outlines responsive actions in the event of a release, and notification and reporting procedures. These include inspecting construction equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas. The cSPCCP will be used for appropriate response and cleanup procedures, including the handling of vegetation that would be affected by spills. Applicable spill response equipment and material designated in the cSPCCP will be maintained at the job site. In the event of an inadvertent release, containment and begin cleanup efforts will begin immediately and will be completed in an expeditious manner, in accordance with all local, state, and federal regulations, and taking precedence over normal work. Cleanup will include proper disposal of any inadvertently released material and used cleanup material. The cause of the inadvertent release will be assessed and appropriate action will be taken to prevent further incidents or environmental damage. Inadvertent releases will be reported to Ecology's Southwest Regional Spill Response Office.

Temporary Construction Noise - Construction of the Facility has the potential to result in temporarily elevated terrestrial habitat and underwater habitat noise levels at the project site and in the project vicinity. Noise levels will be elevated during the operation of construction equipment, in-water pile removal and installation by vibratory methods, and impact pile driving of upland piles, mooring points, movable walkway foundations and pipeline supports. These construction activities have the potential to temporarily affect marine mammals and the quality of their habitat at the project site and within the project vicinity. During construction aquatic species may tend to avoid the work area or move through the area faster.

Aquatic and terrestrial habitat noise associated with construction has been minimized to the extent practicable. The dock modifications have been designed to use vibratory pile removal and installation methods and no in-water (below OHWM) impact pile driving, which will greatly reduce the extent of terrestrial and underwater noise generated during construction. This reduction in the intensity of underwater noise will limit the potential for adverse effects to

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The USACE is currently reviewing the JARPA and BE for the project and consulting with National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (USFWS) as obligated under Section 7 of the Endangered Species Act (ESA). Each of these regulatory agencies may have additional feedback on the preferred window for in-water work.

In the absence of a consensus among the resource agencies regarding a modified work window, EFSEC should defer to the USACE-published in-water work window of November 1 – February 28, as this is the window under consideration with the federal permitting agencies.

If USACE, NMFS, USFWS, and EFSEC can agree upon a modified window in which the project can be accomplished, and which is no shorter in duration than the window proposed in the federal permit application, then the Applicant would support discussions regarding a modified in-water work window.

wildlife, including special status species that may utilize habitats at the project site and within the project vicinity.

All in-water work that generates temporary noise, including temporary pile vibratory installation and removal, will occur during the published work window from November 1 to February 28 to minimize potential impacts to native fish species, and avoid the peak migration timing for marine mammals in the Lower Columbia River. Marine mammals are not expected to be present within the action area during the in-water work period. Drilling for casing installation may also generate underwater noise and will follow the same work window.

The Applicant has submitted a marine mammal monitoring plan (MMMP) (Appendix H.3) to EFSEC for review to address vibratory installation and removal of temporary piles and upland impact pile driving. The MMMP was developed to minimize the exposure of marine mammals to temporarily increases in underwater noise levels. The plan describes procedures to identify the presence of marine mammals during construction activities, which may result in "take," and establishes actions that will be taken to minimize impacts to such marine mammals. The MMMP will include, in addition to the current plan, two additional observers to assist in monitoring the 6-mile zone where marine mammals could be affected by in-water vibratory pile driving.

The impacts of peak terrestrial construction noise have been minimized through construction sequencing that will complete work as efficiently as possible when loud noises are expected. Additionally, all noise sources occur outside of recommended management buffers for priority species; therefore, no work window is proposed for terrestrial pile driving. Species that utilize these industrialized habitats are generally well adjusted to nearly continuous human presence and activity. The Applicant has committed to conduct upland impact pile driving associated with Area 400 elements (shore based mooring points, foundations for the mooring dolphin access points, and the trestle abutment) during the published work window from November 1 to February 28 to minimize the potential for adverse impacts to aquatic habitat. Upland impact pile driving located outsideof Area 400 (e.g., Area 200 rail unloading building and Area 500 pipeline supports) would not be subject to the in-water work window.

The Applicant has developed a construction wildlife monitoring plan (Appendix H.4) that describes the means and methods to monitor noise levels during upland impact pile-driving in order to demonstrate that noise levels attenuate to a level of non-disturbance to PHS species potentially present in the vicinity of the construction site. See section 3.4.4.3 for additional information on species of concern.

Operation

The operation of the Facility could affect vegetation and terrestrial wildlife habitats through operational water quality impacts including an increased potential for impacts associated with stormwater management at the site, spills or leaks associated with on-site equipment, and through an increase for potential spills to surface water. There may also be effects associated with the shipping traffic using the Facility. Effects associated with bank erosion will be temporary and localized, and will result in only minor negative impacts to vegetation and terrestrial wildlife habitat.

Operation Water Quality - As described in section 2.11, operational stormwater will be collected, treated, and conveyed in permanent constructed conveyances from source to discharge.

Stormwater treatment facilities will be sized to accommodate the 6-month, 24-hour event as estimated using Ecology's hydrology model.

The stormwater treatment will provide treatment to a level that is consistent with the discharge permits applicable to the Facility and will ensure that vegetation and terrestrial wildlife habitat are not adversely affected by operational stormwater. See section 2.11 for a more detailed description of how operational stormwater will be collected, treated, and conveyed in permanent constructed conveyances from source to discharge.

Transport vessels calling at the Facility will be double hulled to minimize the potential for the release of cargo in the event of a spill. International convention requires that a shipboard oil pollution emergency plan (SOPEP) govern the operation of each ship. Vessel operators are required to comply with state spill prevention and contingency plans. The likelihood of a catastrophic spill is very low, and the Facility BMPs and safety and security measures will minimize the risk of impacts to vegetation and terrestrial wildlife habitat.

Spill Prevention and Response - As described in section 2.10, the Facility will include design measures aimed at avoiding releases, secondary containment measures to prevent releases from reaching terrestrial and aquatic habitats, and will implement a comprehensive suite of spill response planning and response plans. For example, operations at the site will be governed by an operations SPCCP (oSPCCP)(Appendix B.2), which will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills. These BMPs include inspecting equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas.

Lighting, Waste Management and Vegetation Maintenance - Facility lighting will be directional in areas adjacent to sensitive wildlife areas, including the north side of Area 300 to ensure lights are not pointed in the CRWMB, and Area 400 to minimize the amount of light in aquatic habitats. Lighting will be directional and aimed away from sensitive habitats to the extent possible to minimize nightlight and glare. The Applicant will incorporate LED bulbs that fall within optimum wavelengths in area lighting to reduce light pollution impacts where practicable and within safety regulations. The marine terminal loading area will only use spot lighting during loading operations if approved by the USCG in compliance with 33 CFR Part 105 and/or Part 154.

The Facility will implement a waste management plan, to control and contain food waste. The plan will include measures to educate workers on the risk to native wildlife from supplemental feeding and the importance of disposing of all garbage in secured containers to prevent supplemental feeding of wildlife.

Facility vegetation maintenance activities will be conducted using methods and products consistent with local, state, and federal regulations. To control weeds during operations, vegetation maintenance practices to be implemented by the Applicant include maintaining areas clear of vegetation to manage noxious weed infestations and reduce fire risk. Maintenance-related impacts to vegetation will be minimized by limiting activities to the Facility location, i.e., tracks, pipeline corridors, and tank farm. Vegetation maintenance will not occur outside the Facility location.

Shipping - Operation of the proposed project will result in approximately 140 ship trips per year in the first full year of operations and up to 365 ship trips per year at full capacity. Oceangoing vessel traffic on the Columbia River has the potential to result in impacts to vegetation and terrestrial habitat (note: mitigation for fish and fish habitat are discussed in the Fish section below) through increased potential for shoreline erosion associated with vessel wakes, propeller wash, and through the potential introduction of exotic species. The Applicant does not control the operation of these vessels calling at the Facility, however, vessel operators are required to comply with state and federal regulations to mitigate certain impacts.

Bank Erosion

As presented in section 3.4.2.2, Operation, Shipping, *Bank Erosion*, impacts related to vessel wakes caused by vessels calling at the Facility are not measurably different from those already occurring on the Columbia River navigational channel and will not cause any additional adverse impact (Flint 2016). Terrestrial habitats along the shoreline are already exposed to a baseline level of vessel wakes. The impact of vessel traffic on these habitats adjacent to the Facility will be negligible and as a result there are no recommended mitigation measures. See section 3.4.2.2 for additional detail on bank erosion.

Exotic Species

The importation of aquatic invasive species as a result of vessels calling at the Facility is minized through vessel operator compliance with applicable state and federal regulations, which address hull fouling and ballast water exchanges. Facility specific activities involving in-water placement of equipment (e.g. booming, skiff usage, third party vessels participating in spill response traingina and drills) would abide by applicable state regualtions and rules mandating cleaning of equipment prior to its introduction into the Columbia river if it was sourced from a location where invasive species are present. See section 3.4.2.2 for additional detail on exotic species.

Fish

In addition to the construction and operation mitigation and BMPs stated in the Habitat and Vegetation section above, the following mitigation measures and BMPs have been specifically identified for fish and fish habitat.

Construction

Direct Habitat Modification - Construction of the project will result in no net new direct, permanent impacts to fish habitat in the Columbia River. Design modification to the existing dock will only require temporary support pilings during construction. No new structures, no new permanent piles below the OHWM and no net increase in overwater structure will be installed. The removal of 15 piles and existing overwater coverage will further minimized the extent of potential impacts.

All in-water construction activities, temporary pile installation, and removal activities below the OHWM will be conducted within the published in-water work period for the project (November 1 to February 28). This work window has been established to minimize potential impacts to native fish species, particularly to ESA-listed salmonids and Pacific eulachon. While there is no time when ESA-listed fish are absent from the project vicinity, the window between November 1 and February 28 avoids the peak migratory periods for adult fish and out-migrating juveniles of most populations.

The no net increase in direct, permanent impacts to fish habitat at the project site is expected to result in no significant effects on the quality or function of fish habitat within the project site, project vicinity, or project shipping prism.

The following BMPs will be used during construction to further protect aquatic habitat.

Pile removal and installation BMPs:

- Work below OHWM will only occur during the in-water work window.
- Remove piles with a vibratory hammer when possible.
- The piles will be removed in a single, slow, and continuous motion to minimize sediment disturbance and turbidity in the water column.
- If a pile is unable to be removed with the vibratory hammer, cut or push it into the sediment consistent with agency-approved BMPs.
- Removed piles and associated sediments (if any) will be contained on a barge. If piles are placed directly on the barge and not in a container, the storage area will consist of a row of hay or straw bales, filter fabric, or similar material placed around the perimeter of the storage area.
- The vibratory hammer method will be used to drive temporary steel piles to minimize noise levels.

Overwater concrete BMPs:

- Wet concrete will not come into contact with surface waters.
- Forms for any concrete structure will be constructed to prevent leaching of wet concrete.
- Concrete process water would not enter waters of the United States. Any process water/contact water would be routed to a contained area for treatment and disposal.
  - Construction will be completed in compliance with Washington State Water Quality Standards (WAC 173-201A) including: No petroleum products, fresh cement, lime, concrete, chemicals, or other toxic or deleterious materials will be allowed to enter surface waters.
  - There would be no discharge of oil, fuels, or chemicals to surface waters, or onto land where there is a potential for reentry into surface waters.
  - Fuel hoses, oil drums, oil or fuel transfer valves, fittings, etc. will be checked regularly for leaks, and materials would be maintained and stored properly to prevent inadvertent releases.

Additional construction mitigation measures and BMPs include:

- Work barges will not be allowed to ground out on the river bottom during construction.
- Check construction vessels and equipment for leaks and/or other problems that could result in discharge of petroleum-based products or other material into the Columbia River.
- Do not dispose of or abandon excess or waste materials generated during construction waterward of the OHWM or allow to enter waters of the state. Dispose of waste materials in an appropriate landfill.
- Store demolition and construction materials where wave action or upland runoff cannot cause materials to enter surface waters.
- Keep oil-absorbent materials on site to be used in the event of an inadvertent release or if any fuels, lubricants, or other oil-based product is observed in the water during construction.

- Use grating on all walkway surfaces between the docks and the dolphins to allow light penetration.
- Add anti-perch pile caps to the tops of any exposed piles to prevent perching of piscivorous birds.

Construction will be completed in compliance with Washington State Water Quality Standards (WAC 173-201A) including:

- No petroleum products, fresh cement, lime, concrete, chemicals, or other toxic or deleterious materials would be allowed to enter surface waters.
- There would be no discharge of oil, fuels, or chemicals to surface waters, or onto land where there is a potential for reentry into surface waters.
- Fuel hoses, oil drums, oil or fuel transfer valves, fittings, etc. would be checked regularly for leaks, and materials would be maintained and stored properly to prevent inadvertent releases.

The impact minimization measures and BMPs fully mitigate for the direct habitat modification impacts associated with the project.

Construction Lighting - If ground improvement installation requires the use of temporary night lighting, all lights will be shielded and directed away from the water to the extent practicable. Installation of jet grout columns directly adjacent to the shoreline will be scheduled for daylight hours to the extent practicable.

Aquatic Invasive Species - WDFW hydraulic code rules require that the transportation and introduction of aquatic invasive species be prevented by thoroughly cleaning vessels, equipment, boots, waders, and other gear before removing the gear from a job site [WAC 660-120 (7)(j)]. Contractors would be required to provide documentation that all equipment and materials that will be used in- and over-water have be cleaned to comply with applicable aquatic invasive species statutes and rules, including WAC 660-120 (7)(j). This would include providing documentation that in-water equipment and construction materials have either not been in contact with waters containing state prohibited aquatic invasive species which could be potentially transferred to the Columbia River, or that equipment and materials have been appropriately decontaminated from potentially transferrable aquatic invasive species prior to arrival at the project site.

Temporary Water Quality - The project has the potential to result in temporary water quality impacts during pile removal, which could affect aquatic habitat by temporarily disturbing sediments and elevating levels of turbidity during construction. However, natural currents and flow patterns in the Lower Columbia River routinely disturb sediments. Flow volumes and currents are affected by precipitation as well as upstream water management at dams. High volume flow events can result in hydraulic forces that re-suspend benthic sediments, temporarily elevating turbidity locally. Any temporary increase in turbidity as a result of the project is not anticipated to measurably exceed levels caused by these normal periodic increases. Additionally, the volume of flow will help minimize the intensity and duration of any temporary episodic increases in sediment suspension or turbidity.

A water quality protection and management plan (WQPMP) (Appendix F.2) has been developed and describes how the project will monitor and control releases of turbidity, suspended sediment,

concrete, and other construction-related materials that may be generated during Facility construction activities in, over, and adjacent to the Columbia River and other adjacent water bodies. The plan describes water quality protection measures; monitoring parameters, methods, evaluation criteria; and contingency response and notification procedures in the event a water quality criterion is exceeded during such construction activities.

All in-water temporary pile installation and removal below the OHWM will be conducted within the published in-water work period for the project (November 1 to February 28). This work window has been established to minimize potential impacts to aquatic habitat and native fish species and avoids the peak migration timing for marine mammals in the Lower Columbia River.

In response the Advisory HPA dated April 16, 2015 (Howe, D. 2015), the applicant is also providing the following mitigation during in-water construction to protect fish and fish habitat:

- Work below the OHWM shall only occur between November 1 to February 28.
- If at any time the stone column seismic stability work is expected to cause release of sediments below the high waterline, this work shall also adhere to the above-mentioned work window.
- The Region 5 Habitat Program Manager will be notified in writing (e-mail, FAX, or mail) from the agent/contractor no less than three working days prior to the start of construction activities. The notification will include the contractor's name, project location, and starting date for work.
- If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediate notification will be made to the Washington Military Department's Emergency Management Division at 1-800-258-5990, and to the Region 5 Habitat Program Manager.
- Work will be accomplished per plans and specifications entitled "Tesoro Savage Vancouver Energy Distribution Terminal – Dock Maintenance and Utility Infrastructure" project, dated February 2014, except as modified by these provisions. A copy of these plans will be available on site during construction.
- Extreme care will be taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.
- Equipment used for this project will operate stationed on a barge, boat, bank, or pier.
- All work operations will be conducted in a manner that causes little or no siltation to adjacent areas.
- Piling installation or removal will be accomplished primarily by vibratory methods, and will use an impact hammer and "proofing" will occur only when sound attenuation devices, such as a "bubble curtain" are employed.
- Any impact hammer pile driving will be accomplished during daytime hours to avoid attracting fish to lights at night.
- The existing piling will be removed and disposed of in an upland location such that they do not enter waters of the state. In the event that the piles cannot be completely removed then the remainder of the piles will be removed with a clamshell bucket, chain, or similar means, OR cut off 2 feet below the mudline.
- All holes or depressions will be backfilled with clean native bed materials to reduce leaching of residual chemicals into the water column.

- Replacement grating for walkways will be designed to pass a minimum of 60 percent sunlight in areas over shallow-water habitat (less than 30 feet deep).

Construction at the site will be governed by an cSPCCP, which the Applicant has submitted to EFSEC for review (Appendix B.2).The cSPCCP will be implemented during construction and defines specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills. The plan also outlines responsive actions in the event of a release, and notification and reporting procedures. See the Habitat and Vegetation section, above, for additional details on applicable procedures.

Temporary Construction Noise - The proposed project has the potential to result in elevated underwater noise during in-water vibratory pile installation and removal, and impact pile driving of shore-based mooring structures, which can temporarily affect fish and fish habitat quality.

The dock modifications have been designed to require no impact pile driving, which will greatly reduce the extent of underwater noise generated during construction. Temporary support piles for dock modifications will be installed and removed with vibratory methods. This will reduce the intensity of underwater noise, and will limit the potential for adverse effects to fish.

In addition, all in-water work below the OHWM will be conducted within the published in-water work period for the project (November 1 to February 28). The upland impact pile driving for the mooring points located above the OHWM will also be conducted within the in-water work window to minimize the potential for effects from potential sound flanking. This work window has been established to minimize potential impacts to native fish species, particularly to ESA-listed salmonids and Pacific eulachon. While there is no time when ESA-listed fish are completely absent from the project vicinity, the window between November 1 and February 28 avoids the peak migratory periods for adult fish and out-migrating juveniles of most populations.

A MMMP will be implemented for vibratory installation and removal of temporary piles, and upland impact pile driving to minimize the exposure of fish to temporarily increased underwater noise levels. See the Temporary Construction Noise Impacts section in Habitat and Vegetation above for additional information.

Operation

Standard BMPs and Design Measures - The following standard operational BMPs will be implemented to minimize potential impacts to fish and fish habitat during operation of the facility.

- Location of crude oil unloading areas that ensure oil never comes into contact with unprotected ground surfaces that could runoff to aquatic systems. Use containment pans and berms would be used to capture unanticipated leaks.
- Construct transfer piping such that crude oil exposure to the ambient atmosphere is minimized. Design the transfer pipelines in conformance with applicable industry standards.
- Equip transfer pipelines and the associated pumping systems with flow and pressure sensors to identify out-of-the-ordinary operating conditions that could be the result of a pipeline or pump failure and potential risk of crude oil discharge.
- Equip transfer pipelines with valves at the exit of and entry to the unloading area, the storage area, and the marine vessel loading area. These valves would include 30-second shut-offs to stop the flow of product should anomalous flow and pressure conditions related to a product spill occur, or in response to operations personnel triggering the shutoff.

- Install transfer piping aboveground when possible to facilitate inspections and maintenance. Where road or rail crossings occur, house the piping in underground steel casings or raised aboveground using standard check for spellout clearances. Design and install pipelines at each railroad, highway, or road crossing and to withstand the dynamic forces exerted by anticipated traffic or rail loads.
- Coat and cathodically protect transfer pipelines segments constructed underground to prevent corrosion.
- Install sections of transfer pipelines constructed underground so that they are not in electrical contact with any metallic structures. This requirement would not preclude the use of electrical bonding to facilitate the application of cathodic protection. Tests would be carried out to determine the presence of stray currents and protective measures provided when stray currents are present.
- Equip transfer pipelines with leak detection systems meeting regulatory standards.
- Equip the trestle at Berth 13 with piping and hoses to transfer the crude oil from the transfer pipeline system to the receiving marine vessel. In accordance with 33 CFR § 154.530, a facility transferring oil or hazardous materials to or from a vessel with a capacity equal to or greater than 250 barrels (bbl) must have fixed catchments, curbing, or other fixed means for small discharge containment of materials at the hose handling and loading arm area, each hose connection manifold area, and under each hose connection that would be coupled or uncoupled as part of the transfer operation. For the Facility, it is anticipated that the hose diameter would be between 6 and 12 inches, requiring that discharge containment capacity must be at least 3 bbl.
- Construct a catchment and sump at Berth 13, at or below the deck level of sufficient capacity to hold the small discharge containment in addition to stormwater that may fall in the catchment area. The containment would be discharged within 1 hour of completion of any transfer by pumping into the return line.

The following design elements will be used to prevent discharges of oil during conveyance, including:

- Design hoses and their supporting equipment to meet the applicable hose protection requirements of WAC 173-180 Part B and 33 CFR 156.
- Design vessel mooring systems to meet the applicable requirements of 40 CFR 156.

Plans will be prepared and implemented to comply with state and federal requirements, including:

- Operations oSPCCP, prepared under 40 CFR 112 and WAC 173-180, Part F
- Safe and effective threshold determination report, prepared under WAC 173 180 224
- Pre-loading Transfer Plan according to WAC 173-180-230
- Facility operations manual in compliance with WAC 173-180 400 to -435
- Oil transfer training program in compliance with WAC 173-180, Part E
- Certification program in compliance with WAC 173-180, Part E
- Spill Contingency Plan in compliance with WAC 173-182, 40 CFR 112, Subpart D and 33 CFR 154, Subpart F

Aquatic Invasive Species - During operations, the Facility may source spill response equipment from other locations in the event of larger and more complex spill drills or response activities. In

such cases, contractors and mutual aid providers will comply with applicable state statutes and rules aimed at preventing the introduction of such species, as identified above.

Operational Water Quality - The proposed project has the potential to result in indirect effects to fish and fish habitat through operational water quality impacts including an increased potential for impacts associated with stormwater management at the site and spills or leaks associated with on-site equipment and machinery, and a potential for catastrophic accidents such as spills to surface waters. See the Operational Water Quality section in Habitat and Vegetation above for mitigation measures and BMPs.

Spill Control and Containment Plan - Operations at the site will be governed by an oSPCCP(Appendix B.3), which will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills These include inspecting construction equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas.

Shipping - The proposed project will result in approximately 140 ship trips per year in the first full year of operations and up to 365 ship trips per year at full capacity. Increased marine traffic on the Columbia River has the potential to result in impacts to fish and fish habitat through increases in the potential for fish stranding, increased potential for shoreline erosion associated with propeller wash, and through the introduction of exotic species. During vessel berthing, temporary impacts to water quality (increased turbidity) could occur from sediment suspended by propeller wash. Temporary increases in turbidity are likely to be short in duration and dissipate naturally in response to river currents.

The risk of adverse effects to fish and fish habitat from increased bank erosion is low. Streambanks at the site are well armored, and not particularly sensitive to erosion, so these habitats likely will not be affected. Elsewhere in the project vicinity and shipping prism, there are unarmored banks, which could potentially be susceptible to increased erosion from vessel wakes. Because shoreline erosion is a natural phenomenon at susceptible locations and vessel wakes from existing shipping activity also occur, the ESA-listed fish that use these habitats have typically adapted to the conditions that attend the erosion, primarily temporary, localized turbidity. Effects associated with bank erosion would be temporary and localized, and would result in only minor negative impacts to fish and fish habitat (Flint 2016).

Operators of commercial vessels have a significant economic interest in maintaining underwater body hull platings in a clean condition. Fouled bottom platings result in increased fuel costs and can reduce the vessel's maximum transit speed. To prevent fouling and higher costs, operators preserve and maintain the hulls of their ships aggressively (FERC 2008), greatly reducing the risk of the transport of exotic species. Additionally, the USCG has developed mandatory practices for all vessels with ballast tanks in all waters of the United States. Washington has developed similar requirements. These practices include requirements to rinse anchors and anchor chains during retrieval to remove organisms and sediments at their place of origin, to regularly remove fouling organisms from the hull, piping, and tanks, and to dispose of any removed substances in accordance with local, state, and federal regulations.

Vessels calling at the Facility are expected to be crude oil tankers and articulated tug barges operating within the Exclusive Economic Zone (EEZ). These vessels will be subject to the U.S. Environmental Protection Agency's Vessel General Permit (VGP) (EPA 2013) issued under the National Pollutant Discharge Elimination System (NPDES) for discharges incidental to operation of such vessels, including ballast water discharges[5]. The Washington State ballast water requirements added to the VGP as 401 WQC conditions include the state requirements codified in Chapter 220-150 WAC, administered by WDFW. These requirements include technology-driven treatment requirements and management practices so that vessel discharges meet state water quality standards, Chapter 173-201A WAC.

These impact minimization measures and BMPs fully mitigate for the increased shipping-related impacts associated with the project.

Wildlife

Direct impacts to special status species have been minimized by locating all project activities within an existing industrial site. According to WDFW Priority Habitats and Species (PHS) data, there are no occurrences of special status species within the project site. Within the project vicinity, there are several occurrences of PHS point, including bald eagle nests (approximately 1.2 miles to the west), bald eagle concentration areas (approximately 1.2 miles northwest), sandhill crane concentrations (approximately 3,000 feet west), and great blue heron breeding (approximately 4,000 feet northeast). Waterfowl concentrations are also known to occur on Vancouver Lake, approximately 1 mile north of the project.

In addition to the construction and operation mitigation and BMPs stated in the Habitat and Vegetation section above, the following mitigation measures and BMPs have been specifically identified for wildlife (terrestrial) habitat.

Construction

Direct Habitat Modification - The upland facilities associated with the project have been located on developed portions of an existing industrial site, which in its current state provides very little habitat function and very little native vegetation. By siting the project in a developed location, impacts to native terrestrial habitats and native species of vegetation, including special status species, have been avoided. Ground disturbance and vegetation removal will be limited to the minimum amount necessary to construct the project, and construction fencing will be used to protect existing vegetation to be retained.

See the Habitat and Vegetation, Direct Habitat Modification section above for additional information on mitigation measures and BMPs.

Temporary Water Quality - The project has the potential to result in temporary water quality impacts during construction including increased potential for spills, and a potential for temporarily elevated levels of turbidity during construction.

The Applicant has submitted a preliminary cSPCCP to EFSEC for review (Appendix B.2). The cSPCCP will be implemented during construction, that will define specific BMPs to minimize

[5] See: http://www.epa.gov/npdes/vessels-incidental-discharge-permitting-2.

the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills, including daily inspection of construction equipment leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbodies and outside environmentally sensitive areas. Spill plans will be used for appropriate response and cleanup procedures, including the handling of vegetation that would be affected by spills. See the Habitat and Vegetation section, above, for additional details on applicable procedures.

Temporary Construction Noise -Temporary construction noise has been minimized to the extent practical to reduce impacts to special status species using habitats (e.g., foraging and resting) within the project vicinity. Peak construction noise would be generated by impact pile driving for the rail unloading facility upland mooring points. These areas are located outside of WDFW- and USFWS-recommended management buffers for bald eagle nests (660 feet and 0.5 mile, respectively) and great blue heron rookeries (656 feet). Foraging or resting species may be temporarily displaced from habitats within the project vicinity during periods of construction noise. These impacts have been minimized during construction sequencing to complete the noise generating aspects of construction as efficiently as possible. See section Habitat and Vegetation, Temporary Construction Noise above for additional detail on mitigation measures and BMPs.

A construction wildlife monitoring plan will be implemented during upland pile-driving activities to demonstrate that noise levels attenuate to a level of non-distrubance to PHS species potentially present in the vicinity of the construction site.

A MMMP will be implemented during in-water construction activities related to Area 400 modifications, including removal of existing piles, temporary pile installation and removal, and pile strengthening; and upland work related to impact pile driving of shore-based mooring points. Monitoring will be conducted prior to and during the activities listed above with the potential to impact marine mammals. Work activities will be stopped when a marine mammal is detected within the monitoring area and will not restart until after the marine mammal has left the monitoring area.

Operation

See the Operation section in Habitat and Vegetation for mitigation measures and BMPs.

The proposed project has the potential to result in indirect effects to wildlife through operational water quality impacts including an increased potential for impacts associated with stormwater management at the site and spills or leaks associated with on-site equipment and machinery, and a potential for catastrophic accidents such as spills to surface waters. However, the terrestrial habitats at the site provide very little functional habitat, and the impact minimization measures and BMPs that will be implemented will effectively reduce the potential for any adverse effects to the quantity or quality of terrestrial habitats as a result of operation.

As described in section 2.11, operational stormwater will be collected, treated, and conveyed in permanent constructed conveyances from source to discharge. The proposed stormwater treatment will provide treatment to a level that is consistent with existing treatment at the site, which will ensure that aquatic wildlife are not adversely affected by operational stormwater.

Operations at the site will be governed by an SPCC plan (Appendix B.3), which will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills.

Transport ships are constructed with double hulls to minimize the potential for the release of crude oil should an accident occur. In addition, international convention requires that a SOPEP govern the operation of each ship. All vessel operators are required to comply with state spill prevention and contingency plans. The likelihood of a catastrophic release of crude oil is very low, and the proposed BMPs and safety and security measures will manage the risk of impacts to biological resources effectively.

1.4.1.12 Section 3.5, Wetlands

The upland facilities associated with the project have been located on developed portions of an existing industrial site, and no wetlands are present at the site. By siting the project in a developed location, direct wetland impacts are avoided. However, three wetlands are present within 300 feet of the proposed Facility site. These include a wetland mitigation site located immediately east of the proposed storage tank area (Parcel 1A mitigation site), the CRWMB located north of SR 501, and a wetland mitigation site west of the proposed Facility site (Parcel 2 Mitigation Site). All three of these wetlands are separated from the Facility site by rail lines and/or roads.

Construction

Temporary Water Quality - The project has the potential to result in temporary water quality impacts during construction which could affect off-site wetlands within the project vicinity or shipping prism. Construction will only occur within the marked construction boundaries at the proposed Facility site. Construction at the site will be governed by an cSPCCP (Appendix B.2), which will define specific BMPs to minimize the potential for leaks and spills from construction equipment and the extent of damage from any unavoidable leaks or spills and related impacts to wetlands. The BMPs include inspecting construction equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas These sensitive areas include wetlands and regulated wetland buffers that are present within 300 feet of the proposed Facility site as described above.

The cSPCCP will also outline responsive actions in the event of a release, and notification and reporting procedures. For additional information see section 2.10, Spill Prevention and Control, and Appendix B.2, cSPCCP.

The Applicant will also implement the following construction mitigation measures to address temporary water quality impacts:

- Install drains to reduce the risk of water and/or air moving laterally underground during the installation of vibro replacement stone columns.
- Conduct daily visual inspections of wetlands during installation of vibro replacement. Temporarily suspend installation activities until counteractive measures (i.e., additional wick drains) can be installed if there is any observation of lateral movement of water or air.
- Provide stormwater treatment to a level that is consistent with or exceeds existing treatment at the site to ensure that off-site wetlands are not adversely affected by operational stormwater.

These impact minimization measures and BMPs fully mitigate for the temporary water quality impacts associated with construction of the project.

Operation

<u>Operational Water Quality</u> - The project has the potential to result in indirect effects to wetlands through operational water quality impacts including an increased potential for impacts associated with stormwater management at the site and spills or leaks associated with on-site equipment and machinery, and a potential for catastrophic accidents such as spills to surface waters.

As described in section 2.11, the project has the potential to increase stormwater runoff at the site, which could affect water quality and quantity. The proposed stormwater treatment will provide treatment to a level that is consistent with existing treatment at the site, which will ensure that off-site wetlands are not adversely affected by operational stormwater.

Operations at the site will be governed by an oSPCCP (Appendix B.3), which will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills The oSPCCP will also outline responsive actions in the event of a release, and notification and reporting procedures.

Should a spill occur, the Applicant will implement the Operations Oil Spill Contingency Plan which includes planning and and spill response measures. These spill response measures are known to be effective. As confirmed in a recent internal assessment (spill drill) for the project of spill response actions and capabilities to a worst-case discharge, the proposed equipment and personnel response times meet and/or exceed timelines to mobilize equipment to address Geographic Response Plans in a timely manner given likely oil trajectories (see Appendix B.6, Vancouver Energy Spill Response Exercise Report). The report explains in detail the exercise determined the adequacy of response action resources. The Applicant was able to locate, allocate, and deploy adequate response equipment and trained personnel in accordance with all application spill planning standards. The results of this exercise to test the adequacy of proper execution of the response actions (along with pre-booming and secondary booming) show that response actions significantly impact oil spill trajectories positively. In addition, safety measures will be built into the design of the Facility and operating procedures including containment at the facility, automatic shut-off valves in the pipeline, tank car design standards, and vessel design. These are important elements to the risk assessment of the facility and transport.

The Applicant will also implement the following operational mitigation measures to minimize operational water quality impacts:

- Provide stormwater treatment to a level that is consistent with or exceeds existing treatment at the site to ensure that off-site wetlands are not adversely affected by operational stormwater.
- Design the Area 300 secondary containment berm to have a capacity at least equal to 110 percent of the API 650 maximum capacity of the largest tank, plus precipitation from a 100-year, 24-hour rainstorm event.
- Design the rail unloading area (Area 200) to include containment pans, pumps, and containment sump tanks. Approximately three double-shelled containment tanks, with a total capacity of approximately 1500 barrels, will be constructed south of the Area 200 parking lot. The combined volume of the tanks is sized to contain the entire contents of a single tank car plus at least an additional 10 percent. , of sufficient size to contain and store the entire volume of a single rail car staged within the unloading building.

These impact minimization measures and BMPs will fully mitigate for the operational water quality impacts associated with the project.

Shipping - Wetlands are unlikely to be affected by an increase in shipping traffic. Wetland resources within the project vicinity or downstream in the shipping prism could be impacted through the introduction of exotic species, but there is little risk of ships increasing the transport of exotic species. See the Shipping discussion in section 3.4.2.3 Habitat and Vegetation for additional information.

Transport ships are constructed with double hulls to minimize the potential for the release of cargo in the event of a spill. In addition, international convention requires that a SOPEP govern the operation of each ship. Vessel operators are required to comply with state spill prevention and contingency plans. The likelihood of a catastrophic spill is very low, and the proposed BMPs and safety and security measures will manage the risk of impacts to wetlands effectively.

1.4.1.13 Section 3.6, Energy and Natural Resources

Energy and Natural Resources

Regional Energy and Natural Resources are readily available to meet the needs of the construction and operation of the Facility, without adversely affecting the needs of other development in the Vancouver-Portland metropolitan area.

Construction

During construction, conservation measures will include construction waste recycling when possible and the coordination of carpooling between construction workers to reduce vehicle emissions.

Operation

Operational BMPs will be implemented that include conservation measures for nonrenewable resources such as water, fuel, and electricity. These BMPs will include the following conservation measures when cost effective:

- Installation of high efficiency electrical fixtures, appliances, and light bulbs in the support/administrative building;
- Installation of LED light bulbs throughout the Facility;
- Using low-water flush toilets in the support/administrative building;
- Coordinating carpooling among operations workers;
- Recycling waste office paper and aluminum;
- Sending used oils, lubricants, and greases to facilities where they can be recycled when possible; and
- Using vehicles that comply with current fuel consumption and emission standards.
- The Applicant will construct buildings compliant with the 2012 Washington State Energy Code (or current version at the time the project is permitted).

1.4.1.14 Section 4.1, Environmental Health

Noise

Construction

Construction would occur only during daytime hours to reduce the potential for noise impacts from this activity. Construction noise is exempt from the Washington noise limits during daytime hours. The Applicant will, to the greatest extent feasible, schedule noisy construction activities to the hours identified in VMC 20.935.030(4), i.e., between 7 AM and 8 PM. If outdoor construction is required outside of these hours, the Applicant will consult with the City of Vancouver, will notify EFSEC in advance, and will not conduct the work until EFSEC has reviewed and approved the planned activities.

Operation

Modeled sound levels of the Facility would comply with the applicable Washington State noise limits. Therefore, no operational noise mitigation is proposed. In association with the final design of the Facility, the procurement process for equipment contributing to noise emissions will take into consideration the estimates used in the analyses presented above so as to ensure the overall noise emissions from the Facility do not exceed Washington State noise thresholds.

Risk of Fire and Explosion

Construction

The Applicant will conduct construction activities and provide firefighting and response equipment in compliance with WAC 296-155 Part D, National Fire Protection Association (NFPA) 241 (Standard for Safeguarding Construction, Alteration, and Demolition Operations) and NFPA 5000 (Building Construction and Safety Code).

The Applicant will consult with the Port, City fire officials, and other emergency responders to ensure their response is coordinated with the Applicant's provisions for construction site fire control, existing firefighting facilities, and capabilities at the site (i.e., fire hydrants). Fire prevention and control will include, but not be limited to:

- Ensuring that appropriate firefighting equipment (i.e., extinguishers) is staged in the construction areas, either in fixed locations or on mobile construction vehicles as appropriate.
- Ensuring that highly flammable materials are identified, stored, and handled in accordance with applicable fire prevention and safety regulations.
- Managing combustible wastes to prevent fires.
- Implementing appropriate work procedures so that fires are prevented (e.g. hot work and welding).
- Limiting smoking to approved areas.
- Providing fire safety training to all construction personnel, including the identification of ignitions sources, the initiation of fire alarms, the use of established egress routes and locations, worker gathering locations, and procedures for notification of emergency responders.
- Providing first responders with maps that identify primary and secondary site access locations in the event of a fire.

A preliminary construction fire prevention plan, part of the Construction Safety and Health Manual (Appendix D.2, Section 19, Fire Protection), has been submitted to EFSEC for review and approval. The Applicant will develop a construction emergency response plan, modelled on the operations emergency response plan presented in the Operations Facility Safety Program (Appendix D.3, Section 3.1, Emergency Response Plan). Final versions of the plans will be prepared and submitted to EFSEC prior to the beginning of construction. These plans will be based on the preliminary construction plans. The final plans will establish the minimum requirements for the construction contractor and its subcontractors for developing and implementing their plans to address the prevention of and protection from fire hazards and emergency response procedures to ensure compliance with WISHA WAC 296-155-260 and NFPA requirements.

As detailed in section 4.1.2.2 and Appendix D.2, the construction fire protection plan will address employee responsibilities, general requirements and implementation activities.

Operation

Crude Oil Characterization Prior to Receipt

For all of quality, commercial, regulatory classification, and safety purpose, the Applicant will manage and monitor the properties of crude oil being shipped by rail into the facility.

- The Applicant will require all terminals shipping crude oil trains to adhere to ANSI/API Recommended Practice 3000 for the Classifying and Loading of Crude Oil into Rail Tank Cars ("API RP 3000"). The Applicant will effectively verify all shipping terminals' compliance by sampling and testing inbound crude oil and by checking the inbound condition and loading of rail tank cars.
- The Applicant will contractually require certain crude oil quality and specifications in order to manage the integrity of the crude oil received at the Facility. These requirements would cover the full range of relevant hazard classification, safety, and commercial needs for the crude oil. Vancouver Energy will require all terminals shipping crude oil trains to us to regularly demonstrate their compliance with the crude oil quality and specifications. In addition, Vancouver Energy will effectively verify all terminals' compliance by sampling and testing received crude oil.

Fire Prevention and Suppression

The Facility will be designed and operated according to federal, state, and local standards for the prevention of fire and explosion hazards, including provisions for distances between tanks in the Facility and between the crude oil-handling facilities and adjacent buildings. Examples of other risk-based management approaches to be implemented include:

- Implementing safety procedures for unloading of crude oil from rail cars and loading to vessels, including using fail-safe control valves and emergency shutdown equipment.
- Protecting against potential ignition sources and lightning by (1) proper grounding to avoid static electricity buildup and formal procedures for the use and maintenance of grounding connections; (2) using intrinsically safe electrical installations and non-sparking tools; and (3) implementing permit systems and formal procedures for conducting any hot work during maintenance activities, including proper tank cleaning and venting.

- Reducing emissions of VOCs and evaporative losses by:
  - Conducting all unloading, conveyance, storage and loading operations using a closed system, where product is not exposed to the atmosphere;
  - Using a double seal internal floating roof in each of the crude oil storage tanks to eliminate vapor space.
- Installing pressure, flow and temperature sensors to ensure all storage and conveyance activities are conducted within appropriate parameters, and to quickly identify any abnormal situations that could potentially lead to a fire;
- Designing electrical equipment to WAC 296-24-95711 which addresses the requirements for electric equipment and wiring in locations that are classified depending on the properties of the flammable vapors, liquids or gases, or combustible dusts or fibers that may be present therein and the likelihood that a flammable or combustible concentration or quantity is present.
- Installing a dock safety unit at the loading berth and a marine vapor combustion unit (MVCU) to minimize the risk of explosive conditions being created during the marine vessel loading operations;
- Installing stationary H_2S detectors in relevant locations around the facility to detect H_2S concentrations that could be unsafe to personal health (which is substantially very well below the levels at which flammability is possible).
- Requiring all personnel to wear Lower Explosive Limit (LEL) detectors to detect hydrocarbon concentrations that could lead to ignition conditions; requiring all personnel to wear H_2S detectors to detect H_2S concentrations that could be unsafe.
- Monitoring for fugitive emissions from pipes, valves, seals, tanks and other components with vapor detection equipment and maintaining and/or replacing components as needed.
- Using environmentally friendly firefighting foam, such as Universal Gold Foam (National Foam, 1999) or Solberg self-healing biodegradable foam.

Fire suppression equipment will be installed to allow control of fires should they occur. Fire suppression equipment and systems will be designed to NFPA and API requirements, the more stringent Factory Mutual Global insurance requirements, and state and local regulations, and will include automatic and engineered controls. Buildings will be fireproofed and emergency egress will be provided in accordance with applicable fire and building codes. All fire suppression systems will be designed to activate automatically and will be equipped with manual trip stations.

In addition to the FPRP, a licensed Fire Protection Engineer from the state of Washington will be responsible for the 100 percent design documents, shop drawings, system installation, and final commissioning/acceptance testing of the fire suppression and detection systems for these facilities. The respective Fire Protection Engineer will work closely with the fire department and local code enforcement agencies to ensure the systems are code compliant and within the limitations of the codes and standards adopted by the local jurisdiction applicable to these facilities.

See section 4.1.2.2 for additional information regarding the design of fire suppression systems for specific project elements.

The Applicant will consult with the Port, City fire officials, and public fire and emergency responders to develop an Operations Fire Prevention and Control program coordinated with existing local response capabilities.

The Applicant will consult with local responders to identify gaps in existing firefighting equipment, and will provide training opportunities at the nationally recognized Texas A&M Engineering Extension Service Emergency Training Services Institute on a biannual basis. Such training would include crude oil train derailment response, crude oil transshipment response at a marine terminal, industrial rescue, industrial fire suppression, flammable liquids handling and fire suppression, and foam application. Participants would also obtain NFPA 1081 certification.

These measures will be documented in the operations site safety plan and the fire protection plan or other plans related to Facility operations as appropriate to the activity being addressed (e.g., the inadvertent release or contingency plans associated with Marine Terminal loading activities, as required to comply with applicable state and federal regulations). A preliminary Fire Protection Plan (Appendix D.3, Operations Facility Safety Program, 16.0 Fire Protection) has been developed in compliance with WAC 296-24-567. A final fire protection plan will be prepared and submitted to EFSEC prior to the beginning of operations.

Explosion Prevention

Operation

In addition to the fire prevention and suppression elements listed above, Facility design and operating procedures will include, but not be limited to, the following explosion prevention elements:

- The storage tanks will be operated at atmospheric pressure, and will be equipped with internal pressure relief devices to vent gases should an overpressure situation arise;
- Internal pressure relieving systems will be incorporated throughout the Facility, including the transfer pipelines, marine terminal loading equipment, and rail cars;
- Installing pressure, flow and temperature sensors to ensure all storage and conveyance activities are conducted within appropriate parameters, and to quickly identify any abnormal situations that could potentially lead to an explosion;
- Including expansion loops in the design of the transfer pipelines to ensure the pipelines can expand and contract to accommodate changes in ambient temperature;
- Implementing spill containment measures, spill preparedness and planning described in section 1.4.1.5 above; and
- Equipping the Facility with stationary H_2S monitors personnel with wearable H_2S detectors, which will trigger alarms at personal safety levels substantially very well below the explosive concentrations of emitted H_2S gases.

In addition to the Fire Protection Response Plan, a licensed Fire Protection Engineer from the state of Washington will be responsible for the 100 percent design documents, shop drawings, system installation, and final commissioning/acceptance testing of the fire suppression and detection systems for these facilities. The respective Fire Protection Engineer will work closely with the fire department and local code enforcement agencies to ensure the systems are code compliant and within the limitations of the codes and standards adopted by the local jurisdiction applicable to these facilities.

The gas-fired Area 600 boilers will be designed, installed and operated in accordance with the applicable provisions of Labor and Industry's Boiler and Unfired Pressure Vessel laws (RCW 70.79) and rules (WAC 296-104).

Releases or Potential Releases to the Environment Affecting Public Health

Construction

Releases to the environment affecting public health are not anticipated during construction due to the limited types and relatively small quantities of hazardous materials that will be used during construction. Measures to prevent and contain any inadvertent release of hazardous materials will be provided as described in section 2.10 Spill Prevention and Control.

Construction of the Facility is not expected to result in the generation of any hazardous wastes in quantities regulated by state or federal law. Hazardous waste and solid construction debris such as scrap metal, cable, wire, wood pallets, plastic packaging materials, and cardboard will be removed by licensed disposal operators and disposed in accordance with applicable federal, state, and local regulations.

As noted in section 4.1.3.1, areas of the site and/or adjacent to the site are restricted for use because of the presence of subsurface soil and/or groundwater contamination from previous historic uses. Disturbance of those areas will be avoided to the extent practical. However, construction is necessary in each of the restricted areas. Construction will comply with the site-specific restrictive covenants, consent decrees, MTCA, RCRA, and Dangerous Waste Regulations.

A final contaminated materials management plan will be prepared to address existing contamination conditions. In Shoreline Restrictive Covenant Areas, excess materials will be tested and disposed of in accordance woth Ecology-approved Port procedures. Clean fill or back fill will be used. Areas that are disturbed or removed as part of final construction will be covered with at least 1 foot of clean soil fill to prevent a future direct contact hazard. Where asphalt (road) is laid, it would substitute for 1 foot of clean fill to prevent a future direct contact hazard. Soils that are excavated will either be direct loaded or stockpiled, sampled, and analyzed for PAHs and total petroleum hydrocarbons and other parameters based on the anticipated contaminants, and disposed of off site, or reused on site in accordance with applicable regulations and covenant restrictions. Standard dust control measures, such as spraying exposed soil surfaces with water would be employed during construction to prevent the release of airborne particulates. Equipment employed in the Shoreline Restrictive Covenant Area will be decontaminated at a location to be specified in the contractor's Decontamination Plan. Construction workers will employ appropriate health and safety measures during the handling of contaminated soils.

Safety Standards Compliance

The implementation of a safety program for the Facility will be based on compliance with state and federal regulations, as well as the implementation of industry standards. The following discussion identifies the primary safety regulations applicable to the activities conducted at the Facility, and provides an overview of the numerous industry standards that the Applicant will implement in the design, construction and operation of the Facility.

Construction

Facility Design - The Facility will be designed in compliance with all applicable safety regulations and requirements, including applicable industry standards. Prior to beginning construction of the Facility, the Applicant will submit a complete set of construction plans to EFSEC for approval. These construction plans will identify the safety regulations and industry standards that apply to the Facility, and as appropriate will specify which standards apply to specific element designs.

Facility Construction - Through the construction management program described in section 2.16, the Applicant will ensure that the Facility has been constructed to the specifications of the construction drawings approved above. The Applicant will conduct pre-operational commissioning tests in accordance with industry standards and applicable regulations, including but not limited to the following:

- Hydrostatic testing of piping systems, transfer pipelines and storage tanks
- Testing and certification of the dock safety unit and MVCU in accordance with the provisions of 33 CFR 154 Subpart E
- Testing of fire and alarm systems in accordance with applicable fire and building safety codes

The Applicant will prepare and implement a Construction Safety Program, a Construction Fire Prevention and Response Plan, and cSPCCP. Potentially flammable liquids will be stored in accordance with local, state, and federal requirements.

Operation

The Applicant will ensure that all safety systems inherent in the project design will be operated according to applicable industry standards and state and local regulations and codes. The Applicant will develop operations manuals to address appropriate measures for operation of Facility safety systems and their ongoing maintenance. Facility systems will be tested according to industry standards and applicable state and federal regulations.

The Applicant will implement the usage of personal and facility sub area-wide Lower Explosive Limit (LEL) hydrocarbon detection systems and H_2S detection systems. Personal detection systems will notify individual employees when concentrations of hydrocarbons or H_2S exceed safe thresholds and they must evacuate their immediate work area. Similarly, sub-area-wide detectors will trigger evacuation alarms.

The Applicant commits to having every train attended upon taking control of the unit train from BNSF, and until the time control is released back to BNSF when the train leaves the Facility.

Safety Program

The Applicant will develop, implement and document a Facility safety program to ensure compliance with state and federal requirements. The program will incorporate applicable industry design standards. Appendix D.1 includes the Applicant's preliminary Health Safety Security and Environmental (HSSE) Execution Plan. This plan lays out a process through which the Applicant will develop and implement its Facility safety program, and identifies the various safety processes and organizational and staff responsibilities, and the training that will occur as a result of the implementation of the program.

The program will include the preparation of construction and operations safety plans, which will be submitted to EFSEC prior to the beginning of Facility construction and operations respectively. The plans will address the requirements of WAC 296, as described above, and the requirements of 33 CFR 154 Part E, as well as any additional related requirements required under other applicable state and federal regulations and spill contingency planning processes described elsewhere in this Application.

Emergency Plans

Operation

The emergency response plan will be developed based on industry standards and regulatory requirements, including but not limited to, WAC 296-24 (Employee Emergency Plans and Fire Prevention Plans), WAC 296-56 (Safety Standards - Longshore, Stevedore and Waterfront Related Operations), WAC 296-824 (Emergency Response), and 29 CFR 1910.38 (Emergency Action Plan). The emergency action plan will be in writing, and will cover the designated actions employers and employees must take to ensure employee safety from fire and other emergencies. The emergency plan will address the following elements:

- Emergency escape procedures and emergency escape route assignments
- Procedures to be followed by employees who remain to operate/shut down critical plant operations before they evacuate
- Procedures to account for all employees after emergency evacuation has been completed;
- Rescue and medical duties for those employees who are to perform them.
- The preferred means of reporting fires and other emergencies; and
- Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.
- Alarm systems established in compliance with WAC 296-800-310.
- Types of evacuation to be used in emergency circumstances.
- Training and review:
  - Of a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees prior to implementation of the plan.
  - Review with each employee when the plan is initially developed, whenever the employee's responsibilities or designated actions under the plan change; and whenever the plan is changed, and
  - Review with each employee upon initial assignment those parts of the plan which the employee must know to protect himself/herself in the event of an emergency.

The Applicant will keep the plan at the workplace and make it available for employee review.

1.4.1.15 Section 4.2, Land and Shoreline Use

Land Use

No direct or indirect impacts to existing land uses that would require mitigation have been identified. Therefore, no mitigation measures are proposed.

Light and Glare

Construction

During construction, minor temporary outdoor lighting impacts may occur; however, most construction activities will occur during daylight hours and will be temporary in nature. During operation of the Facility light and glare impacts on neighboring properties are expected to be negligible or nonexistent because the land uses on those properties are similar to the uses proposed for the Facility.

Most construction will occur during the day. At night, lights will be directed towards the site and will be the minimum wattage required for safety and operations.

Operation

Development elements, except for storage tanks, will be painted with earth tones. The storage tanks will be painted with nonreflective white paint to reduce surface glare from direct sunlight during the day and headlights at night.

Lighting associated with the project could lead to direct and/or indirect impacts to wildlife species because it may affect the nocturnal behavior of animals within the project vicinity, including bird and bat species. Lighting will be directed towards the site and away from adjacent areas. The American Petroleum Institute (API) 540 – Electrical Installations in Petroleum Process Plants, Section 7 – Lighting, and Illuminating Engineering Society (IES) codes and standards will be used for the basis of design for Facility lighting. Light fixtures will be selected during final project design to achieve the levels of illuminance established by the above-listed standards.

Facility lighting impacts will also be minimized with the use of the following mitigation measures:

- Provide directional lighting in areas adjacent to sensitive wildlife areas, including the north side of Area 300 to ensure lights are not pointed in the CRWMB and Area 400 to minimize the amount of light in aquatic habitats.
- Aim direction lighting away from sensitive habitats to the extent possible to minimize nightlight and glare.
- Incorporate LED bulbs that fall within optimum wavelengths in area lighting to reduce light pollution impacts where practicable and within safety regulations.
- In the marine terminal loading area use spot lighting only during loading operations if approved by the USCG in compliance with 33 CFR Part 105 and/or Part 154.

Aesthetics

Construction

Visual impacts to the overall landscape setting resulting from construction of the Facility are expected to be low.

During construction, major construction activities will be conducted during daylight hours to avoid light and glare on adjacent communities. At night, lights will be directed towards the Facility location and be limited to the minimum wattage required for safety and operations.

Operation

The operational uses are similar to the historic, existing and ongoing land disturbances created by other industrial development. The assessed visual impacts were found to generally be low.

While visual impacts are not considered to be significant, to minimize impacts to all viewpoints, the project will implement the following mitigation measures. These are already required by the City and are standard development requirements. They include:

- Existing trees will be used as landscape buffers and will remain along SR 501 to reduce visual impacts.
- A landscape buffer with street trees, shrubs, groundcovers will be established along SR 501, entrance roads, and facilities along Old Lower River Road.
- Landscaping will be provided in parking lots per City requirements.
- Non-reflecting light colors will be used on structures.

During the operation, developed elements of the Facility, including all building features except for storage tanks, will be painted with earth tones. The storage tanks will be painted with non-reflective paint to reduce surface glare from direct sunlight during the day, and area lighting and headlights at night. Impacts from spillover and glare on adjacent lands from area lighting at the location will be reduced by incorporating covered, directional lighting.

The use of screening requirements for industrial facilities under the existing municipal code Section 20.925.070 will serve to further reduce visual impacts to adjacent lands and roadways from any new open storage facilities that will be maintained as part of the proposed Facility. As a result of these measures, adverse impacts on visual resources and aesthetics occurring during the operational lifetime of the Facility will not be significant.

Recreation

Parks and recreational facilities are not anticipated to be impacted by the construction and operation of the Facility. It is expected that no additional mitigation measures would be necessary during construction or operation of the Facility.

The Applicant will participate in Lower Columbia River Harbor Safety Committee efforts to develop additional boater safety educational outreach through programs such as the PTP (Prevention Through People) model used by the San Francisco Harbor Safety Committee.

Historic and Cultural Preservation

Construction

While findings from previous studies and the geoarchaeological investigation indicate a low likelihood for encountering cultural material during construction, the Cultural Resources Inadvertent Discovery Plan (Appendix A.2) will be implemented in the event of an unanticipated discovery during construction activities. The protection measures described in the inadvertent discovery plan include the following elements:

- Should any archaeological resources be found, all work adjacent to the discovery will stop in accordance with RCW 27.53.060 (Archaeological Sites and Resources) and RCW 27.44.020 (Indian Graves and Records). Following the stop work, a professional archaeologist will be

called to assess the significance of the find and the Port, EFSEC, U.S. Army Corps of Engineers (USACE), Washington State Department of Archaeology and Historic Preservation (DAHP), and the consulting tribes will be notified to define a course of action.

- If human remains are suspected, the Facility senior project manager will contact the Clark County coroner, EFSEC, and USACE. All work must stop in the area where human remains are found or suspected, and the area is to be safe-guarded; work may continue after all consultation regarding the human remains has been completed and required procedures have been completed.
- An archaeologist will prepare a summary report detailing any inadvertent discoveries and procedures that followed as a result of a discovery. The report will identify any artifacts or features found, describe the findings, and summarize the results of data analysis. The report will be provided to the Port, EFSEC, USACE, DAHP, and the affected tribes.
- Construction staging and laydown activities would only occur in areas that have been previously disturbed and developed. Although in some locations light surface levelling might be required to provide safe access to construction employees and equipment, deep surface disturbance in these areas is not anticipated. If the depth of impact will exceed 3.05 m (10 feet) below surface in the vicinity of the dune ridge in Area 500, which would be a change from the current design plan, monitoring of soil disturbance activities during construction in this portion of Area 500 would be conducted.

Operations

The inadvertent discovery plan described above for construction will also be used in the event ground disturbing activities are required in response to an emergency event during operations.

1.4.1.16 Section 4.3, Transportation

Construction

The Applicant will develop and implement a construction transportation management plan. The Applicant will coordinate preparation of the final plan with the City, the Port, and WSDOT.

The use of construction-realted barges will be coordinated to have barge movements at the berths conducted outside of the Columbia River navigation channel.

Operation

Based on the results of the transportation impact analysis, the proposed Facility can be developed while maintaining acceptable levels of service and safety on the surrounding transportation system. The study concluded that specific mitigation was not necessary to address project impacts. However, the study developed the following recommendations to address existing safety or operational issues within the project vicinity:

- The Applicant will work with the Port and City to post a 25 MPH speed limit on Old Lower River Road south of SR 501, where no posted speed sign exists.
- Based on a review of existing turn movement patterns, existing intersection configuration, and the Manual on Uniform Traffic Control Devices, the Applicant will coordinate with the Port and WSDOT to post a YIELD sign to control the channelized northbound right-turn maneuver from Old Lower River Road onto SR 501. A YIELD sign is appropriate given that northbound

right-turn drivers have sufficient sight distance to make a decision to enter and merge with the highway traffic stream, and the ability to enter the highway without stopping reduces the time and distance drivers need to fully merge into the through lane, benefiting both side street and highway traffic.

- The Applicant will work with the Port and WSDOT to post a YIELD sign to control the channelized northbound right-turn maneuver from Old Lower River Road onto SR 501.
- The Applicant will work with the Port and City to reconfigure traffic control devices at the Old Lower River Road/Old Alcoa Facility Access Road intersection.
- The Applicant will work with the Port to add texturing/coloring treatments to the striped crosswalk on the private access approach to Lower River Road (SR 501), between the Far West Steel property and the proposed Storage area. This treatment is intended to enhance the safety of bicyclists and pedestrians using this crosswalk as part of the adjacent multi-use path.
- The Applicant will coordinate Facility design activities with the Port and future Terminal 5 tenants to ensure that the location of Facility-related tracks does not interfere with the rail operations of other Terminal 5 users.

1.4.1.17 Section 4.4, Socioeconomic Impact

There will be no adverse impacts to population, housing, or economics. Therefore, it is expected that no mitigation measures will be necessary.

1.4.1.18 Decommissioning

WAC 463-60-085 (1) requires the Applicant to identify impacts and mitigation resulting from decommissioning. As discussed in section 2.3.9, Decommissioning, the lease entered into by the Applicant and the Port anticipates a variety of options for decommissioning of the project-related improvements upon termination of the lease. See also page 2-83.61 of the ASC. At such time that the project is ripe for termination, the Port and the Applicant will come to an agreement on what improvements are to remain, or will be removed. In accordance with the requirements of WAC 463-72-050, the Applicant will then prepare a detailed plan that addresses the decommissioning activities, impacts that might result from the decommissioning activities, and appropriate mitigation measures.

Determining which impacts could occur from decommissioning at this time is speculative because the actual scope of decommissioning is unknown. For example, the Port could chose to retain all of the improvements constructed by the Applicant, and no decommissioning actions would occur. Or, the Port could request that some or all of the improvements be removed, and the site returned to its prior configuration. In this case, the project would be dismantled, foundations demolished, features located underground could be left in place or removed, and the site regraded.

For purposes of describing the *potential* impacts of decommissioning and appropriate mitigation as required by WAC 463-60-085(1), this section of the Application considers the full decommissioning of the facility (i.e., dismantling and removal) as the scenario with the potentially greatest impacts. It is conservatively assumed that decommissioning would consist of removal of most of the aboveground structures to allow redevelopment by another tenant, as summarized in the following table.

Table 1.4-1. Summary of Assumptions for Facility Decommissioning

Facility Area	Primary and Ancillary Project Elements	Status at Decommissioning
Rail Infrastructure	Rail facility loops and associated infrastructure	Retained
200, Unloading and Office	Rail unloading facility	• Aboveground structures and unloading equipment removed • Transfer piping removed • Rail infrastructure retained • Below-ground level sumps and vaults retained
	Control rooms/E-houses	Removed
	Fire pump and foam building	Removed
	Administrative and support buildings	• Buildings retained • Parking and landscaping retained • Pedestrian access ways to unloading structure removed
	Stormwater collection and conveyance system	Retained
300, Storage	Crude oil storage tanks	Disassembled and removed
	Secondary containment berm and liner	Retained
	Storage building	Removed
	Pump basin	Retained
	Control room/E-House	Removed
	Fire pump and foam building	Removed
	Stormwater collection and treatment system	Retained

Facility Area	Primary and Ancillary Project Elements	Status at Decommissioning
400, Marine Terminal	Dock improvements	Retained
	Marine vessel loading hoses and dockside equipment	Removed
	Control room/E-House	Removed
	Crane control room	Removed
	MVCU, vapor blower skid	Removed
	Spill prevention, response, and containment equipment	Removed
	Fire pump and foam building	Removed
	Stormwater collection and treatment system	Retained
500, Transfer Pipelines	Transfer piping from Area 200 to Area 300	• Aboveground portions removed • Below-ground sections under existing rail and road retained
	Transfer piping to and from Area 300 to Area 400	• Aboveground portions removed • Below-ground sections under existing rail and road retained
	Piping from vessel loading to MVCU	• Aboveground portions removed • Below-ground sections under existing rail and road retained
600, Boiler	• Boiler Building	Removed
	• Piping to carry steam to Area 200	Removed
Utilities	Aboveground	Retained
	Below-ground	Retained

Under this scenario, the following main steps would be implemented to decommission the Facility:

- Prior to demolition, Facility elements used to handle crude oil would be cleaned; cleaning residues would be handled, contained, and disposed of in accordance with appropriate waste handling regulations and requirements.
- The Facility would be de-energized and utility connections would be terminated.
- Aboveground Facility elements would be demolished; steel structures, piping, and equipment would be cut and removed from the site. It is likely that most steel from the site could be recycled.

- Aboveground concrete structures would be demolished, and demolition debris would be removed from the site for disposal at an approved location and recycled as road base or similar materials.
- Below-ground piping would be decommissioned and would remain in place.
- Finally, site elevations would be established to facilitate Facility maintenance until future use of the site is made; ground stabilization covers would be applied consistent with surrounding uses and future industrial use of the site.

The impacts resulting from decommissioning activities are expected to be similar in nature to the impacts of construction of the Facility. The following table provides a summary of decommissioning impacts and associated mitigation measures that would result from the full decommissioning scenario for each element of the natural and built environment.

Table 1.4-2. Summary of Decommissioning Impacts and Mitigation Measures

Element of the Environment	Impact from Decommissioning	Mitigation
3.1 Earth		
3.1.2 Geology	The primary impacts of Project decommissioning on geologic conditions and materials at the site are related to earth disturbance to remove above ground structures, excavation of shallow foundations, and backfilling or grading surfaces to match adjacent site topography.	Project decommissioning will have no adverse impacts on geologic conditions at the site and mitigation is not considered necessary for impacts to geology.
3.1.3 Seismicity	Decommissioning of the Facility would have no influence on the level of seismic hazard within the area.	The demolition contractor would implement an emergency response plan; this plan would address actions and responses to site emergencies including those related to seismic events. This plan would identify measures to be taken to protect personnel and equipment, and activities to minimize negative adverse effects.
3.1.4 Soils	Project activities, including removal of above-ground structures, excavation of shallow foundations, and grading and backfilling, may disturb soils resulting in a localized increase in soil erosion susceptibility. Most of the soils on the site consist of fill or have been modified by prior industrial activities, no adverse impacts are expected from decommissioning activities.	Graded areas would be smooth and compacted, free from irregular surface changes, and sloped to drain. Temporary ditches, sediment fences, and silt traps would be installed as necessary to minimize the impacts of erosion during decommissioning of the Facility. Ground stabilization covers would be applied consistent with surrounding uses and future industrial use of the site.
3.1.5 Topography	Impacts to the topography due to the decommissioning of the project will include localized excavation related to removal of above ground structures and shallow foundation, and grading of disturbed areas to match adjacent site topography.	The overall topography of the site will not be appreciably modified; therefore, no mitigation measures will be required.
3.1.6 Unique Physical Features	The site is located at an industrial site and there are no unique physical features.	There are no unique physical features therefore mitigation measures are not required.
3.1.7 Erosion/Enlargement of Land Area (Accretion)	Project activities, including removal of above-ground structures, excavation of shallow foundations, and grading and backfilling, may disturb soils resulting in a localized increase in soil erosion susceptibility.	The potential erosion impacts will be minimized through the use of erosion and sedimentation control measures that will sequence decommissioning activities control to limit erosion. An erosion control plan will be developed prior to decommissioning. Clearing, excavation, and grading will be limited to the areas necessary to demolish the Facility. Interim surface protection measures, including dust control, silt traps, and erosion control blankets, will be used to prevent erosion. All decommissioning practices will emphasize erosion control over sediment control. Ground surfaces would be graded to match with existing surrounding topography and surface soils would be stabilized at the completion of decommissioning activities.
3.2 Air		
3.2.1 Air Quality	Decommissioning would require the use of heavy trucks, excavators, graders, work vessels, pile drivers, and a range of smaller equipment, such as generators, pumps, and compressors. Emissions from diesel equipment could reduce ambient air quality, resulting in potential health risks.	The following measures, consistent with the Washington Associated General Contractors brochure titled *Guide to Handling Fugitive Dust from Construction Projects*, would be implemented to reduce emissions from diesel equipment: • Maintaining off-road mobile equipment to minimize air emissions through proper operation • Using off-road mobile construction equipment that meets applicable emissions standards • Encouraging car-pooling or other trip-reduction strategies for workers • Minimizing construction truck and other vehicle idling Decommissioning activities would comply with applicable federal and state air quality rules requiring minimization of construction-related vehicle emissions. With appropriate controls, construction-related diesel emissions would not be likely to substantially affect air quality in the project vicinity.
3.2.2 Odor		

Element of the Environment	Impact from Decommissioning	Mitigation
3.2.3 Climate, Visible Plumes, Fogging, Misting and Icing	No off-site fogging, misting, visibility impairment, or icing is expected during decommissioning activities.	No off-site fogging, misting, visibility impairment, or icing is expected; therefore, no mitigation measures will be required.
3.2.4 Climate Change	Decommissioning activities would require the use of heavy trucks, excavators, graders, and a range of smaller equipment, such as generators, pumps, and compressors.	Decommissioning activities will not generate significant greenhouse gas emissions, therefore no mitigation measures are required.
3.2.5 Dust	Decommissioning would include ground moving, ground improvement, and structure demolition activities typical to an industrial facility. Such activities could result in temporary, localized increases in particulate concentrations due to emissions from decommissioning-related sources. For example, dust from decommissioning activities such as excavation, grading, sloping, and filling would contribute to ambient concentrations of suspended particulate matter.	The following measures, consistent with the Washington Associated General Contractors brochure titled *Guide to Handling Fugitive Dust from Construction Projects*, would be implemented to control dust: • Spraying exposed soil with water or other suppressant as needed to reduce wind-blown emissions of particulate matter and deposition of particulate matter • Minimizing dust emissions from trucks transporting materials by using appropriate methods such as covering truck loads, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce particulate matter emissions and deposition during transport. • Rocking exits or providing wheel washers to remove particulate matter that would otherwise be carried offsite by vehicles to decrease deposition of particulate matter on area roadways. • Covering dirt, gravel, and debris piles as needed to reduce dust and wind-blown debris
3.3. Water		
3.3.1 Surface Water Resources	Note: Impacts to surface water associated with decommissioning of the Facility are anticipated to be similar to those related to construction activities described above in 1.4.1.1 section 2.6, Water Supply System, Surface *Waters* and involving similar mitigation. Additional mitigation measures are to the right in Mitigation. Surface water may be impacted by ground disturbances during decommissioning activities including ground moving, ground improvement, and removal of above-ground structures. No natural surface water features exist at the site; therefore, no impacts will occur to natural surface water features as a result of the decommissioning of the Facility. The dock improvements will be retained therefore no decommissioning activities will occur in the Columbia River.	During removal of transfer pipelines and vessel loading equipment hydrocarbon residuals will be contained. Hydrocarbon residuals will be removed and tested to determine applicable disposal options. Other containment systems —Contaminants may accumulate in secondary containment systems during site operations. Structure cleaning and disposal of possible contaminants may occur legally off site. Demolition and extraction of remaining contaminated structures will be conducted to ensure residues do not enter soil or groundwater. Protecting surface water during decommissioning will focus on erosion control resulting from the interaction of surface water conditions with active ground disturbances. A site-specific SWPPP will be developed and implemented during decommissioning to prevent and mitigate any decommissioning-related impacts to surface water. Surface water quality will be protected through the use of the BMPs previously designed and constructed in accordance with Ecology's stormwater manual for the Facility operations. Stormwater collection and conveyance systems will be retained during and after project decommissioning. With the stormwater BMPs already in place, decommissioning-related impacts to surface water will be minimized and stormwater discharges will meet state and local water quality standards.
3.3.2 Runoff/Absorption	It is assumed that stormwater does not infiltrate the site based on the previous developments and industrial nature of the site. Stormwater runoff may be impacted by ground moving, ground improvement, and removal of above-ground structures during decommissioning. Construction stormwater will be managed in accordance with the conditions of the State General Construction Stormwater Permit. Construction stormwater BMPs will be utilized to control erosion and sediments on the site. Selected construction stormwater BMPs will	Surface soils would be stabilized at the completion of decommissioning activities. Decommissioning-phase erosion and sedimentation control BMPs Erosion control plans and a SWPPP will be developed prior to decommissioning. Stormwater and discharge permits will be obtained as necessary and decommissioning activities will be in compliance with the permit requirements. Decommissioning activities will be sequenced and controlled to limit erosion. Clearing, excavation, and grading will be limited to the areas necessary to decommission the project. Interim surface protection

Element of the Environment	Impact from Decommissioning	Mitigation
	provide water treatment and will discharge stormwater to the existing on-site conveyance systems. Construction stormwater will not be routed to infiltration facilities.	measures, including dust control, straw matting, and erosion control blankets, will be required to prevent erosion. Final surface restoration will be completed within 14 days of the area's final disturbance.
3.3.3 Floodplains	There will be no impacts to the site for the 5- and 50-year flood events. Activities within the 100-year floodplain include removal of above-ground structures and equipment at Area 400, and removal of above-ground pipelines.	Decommissioning activities are not anticipated to have an effect upon the floodplains and therefore mitigation measures are not required. Decommissioning activities will be conducted outside of the 100-year floodplain. Implement the same erosion control practices designed for Facility construction during decommissioning processes. Demobilize hazardous material and equipment from the site and relocate above the 500-year floodplain during decommissioning processes.
3.3.4 Groundwater Reserves	Municipally supplied water will be obtained from the existing City water system; therefore no new groundwater wells will be required during decommissioning. There are no anticipated adverse impacts to existing ground water sources resulting from City supply of potable, process and emergency fire suppression water. Some foundation excavations may require dewatering during demolition. Groundwater extraction during demolition will result in the temporary drawdown of groundwater in the areas immediately surrounding the work site. Because the foundation excavations are shallow, the extraction of groundwater will have a negligible long-term effect on groundwater abundance and availability. Because of the presence of contaminated groundwater on the site, there is the potential that contaminated groundwater may be extracted during foundation extraction dewatering. Groundwater that is pumped out of the excavations will be stored on site in mobile water tanks and analyzed and managed in accordance with local, state and federal regulations prior to reuse, infiltration or disposal. If conditions and water quality allow bypass of the mobile water tanks may occur. Potential options for management of groundwater from the excavations will depend on the chemical and physical qualities of the water and are expected to include: • Discharge to surface areas for infiltration. • Discharge to the stormwater system if the water meets the quality criteria per the construction stormwater permit issued for the project (see section 5.3). • Discharge to the City's sanitary sewer if contaminants are present at concentrations that meet the City's criteria as regulated in the VMC 14.10.080. • Collection and offsite disposal by a licensed commercial facility if contaminants are present at concentrations greater than the criteria for discharge to the sanitary or stormwater systems. It is unlikely that the project's water withdrawals related to decommissioning activities will have a direct effect on groundwater quantity, quality, and flow direction in the immediate area below the	Disposal will be conducted in accordance with the stormwater permit issued for the project. If dewatering wells are necessary, well points used for demolition dewatering will be completed in accordance with WAC 173-160 Minimum Standards for Construction and Maintenance of Wells. If groundwater extracted for demolition dewatering is directed to the City's sanitary sewer it will be disposed in accordance with VMC 14.12 Discharge of Industrial Wastes to the Industrial Wastewater Pretreatment Facility. During decommissioning of tank, pipelines, equipment, and other containment systems a Site Inspection and Sampling Plan will be developed prior to decommissioning to identify areas where contaminants could be trapped. Inspection and sampling to identify potential handling and disposal requirements will be completed. Sampling and remediation of subsurface soils will be completed as necessary following the removal of tanks and containment structures housing hazardous materials and crude oil. Evaluate the need for surface controls, based on the proposed decommissioning plan, of ground improvement systems, that if left exposed provide a conduit for surface contaminants into lower portions of the formation.

Element of the Environment	Impact from Decommissioning	Mitigation
	proposed facilities. Therefore, impacts to groundwater resources are considered negligible.	
3.3.5 Public Water Supplies	The water demand during decommissioning is conservatively estimated at 20,000 gallons per day, with a peak demand of approximately 500 gallons per minute. In addition to the average daily needs during decommissioning, water will be required for cleaning and flushing of the pipeline and tank facilities. Cleaning residues would be handled, contained, and disposed of in accordance with appropriate waste handling regulations and requirements.	Mitigation for the use of and impact on the public water system includes payment of system development charges, connection fees, and utility rates. These fees and rates are to support capital and operating expenses of the water system.
3.3.6 Private Water Supplies	The Facility will use water supplied from the City for decommissioning activities.	Decommissioning is not anticipated to have an effect upon the private water supplies in the vicinity of the project site and therefore mitigation is not required.
3.4 Habitat, Vegetation, Fish and Wildlife		
3.4.2 Habitat and Vegetation	Ground disturbance and vegetation removal would be limited to the minimum amount necessary to remove the above-ground structures and grade the Facility. New ground disturbance could potentially allow the existing weed populations to spread. Seeds could also be introduced through vehicles entering and leaving the proposed Facility location, which could result in the establishment and spread of new species. The landscaping and habitat in Area 200 will be retained and no adverse impacts are expected as a result of decommissioning activities.	Temporary fencing would be used to protect existing vegetation to be retained. Indirect impacts from equipment would be minimized by restricting equipment access to designated work and staging areas. To minimize the spread and establishment of noxious weeds, the following BMPs would be implemented during decommissioning: • Provide wheel wash equipment at the Area 200 access to limit the dispersion of noxious weed seeds • Restrict decommissioning activities to the area needed to work effectively to limit the ground disturbance and prevent the spread of noxious weed species • Use weed-free straw, hydromulch, or similar ground cover for temporary erosion control during decommissioning
3.4.3 Fish	The dock improvements will be retained and no in-water work is expected during decommissioning. There is a potential for leaks and/or spills from construction equipment and the potential for debris to enter the waterway during overwater work. Over-water work during decommissioning includes removal of the following: • Marine vessel loading hoses and dockside equipment, • Above-ground pipelines • Spill prevention, response and containment equipment • Dock safety unit Temporary indirect effects to stormwater quality may occur as a result of uncontrolled runoff from earthwork associated with decommissioning, which could temporarily affect fish habitat quality.	Decommissioning of the Facility would be unlikely to result in any significant, adverse effects to fish species, fish habitat, or to any designated or proposed critical habitats for ESA-listed fish species. Decommissioning activities at the site will be governed by an SPCCP, which will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills. These include inspecting construction equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas. Erosion control and pollution prevention BMPs will be implemented during decommissioning, which would minimize the potential for any adverse impacts to fish or fish habitat as a result of decommissioning activities.
3.4.4. Wildlife	The existing habitat within the immediate Facility location is low quality and located within a highly developed industrial area. Temporary impacts to terrestrial wildlife would result from increased noise during decommissioning activities. Noises from the decommissioning activities would likely increase ambient noise levels in the immediate area of the Facility and result in avoidance behaviors by any wildlife in the area. Because wildlife habitat is low quality, and	Decommissioning activities at the site would be governed by a SPCCP, which would define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills. These include inspecting demolition/construction equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas. Incorporation of an SPCCP would minimize impacts to aquatic habitat by providing for containment and cleanup of inadvertent spills. While inadvertent spills could still occur, impacts would be minor following containment and cleanup.

Element of the Environment	Impact from Decommissioning	Mitigation
	species most likely to use this habitat are highly mobile, decommissioning-related noise would have no impact. Demolition and removal of equipment and structures on the dock would involve overwater work to upgrade the existing dock structure. Overwater work increases the potential for leaks and/or spills from construction equipment and debris to enter the Columbia River. The inadvertent release of demolition debris or leaks or spills of fuel or other chemicals into the waters of the proposed Facility location could affect local water quality, which may impact prey species for foraging fish, waterfowl, and marine mammals. Demolition and removal of equipment and structures on the dock can result in noise generation. Noise can interfere with intra- and inter-species communication. Because the proposed Facility location is located within a working industrial waterfront, existing noise levels are high. Existing noise sources likely interfere with intra- and inter-species communication to a small degree. The additional temporary decommissioning noise may result in avoidance behaviors by wildlife, but it is not expected to significantly impact aquatic wildlife or habitat.	Proposed lighting would be directional and aimed away from sensitive habitats to the extent possible to minimize impacts from night light and glare. Typical BMPs for demolition and decommissioning activities over and near water would be applied, including: • Decommissioning vessels and equipment would be checked for leaks and/or other problems that could result in discharge of petroleum-based products or other material into the Columbia River. • Excess or waste materials generated during decommissioning would not be disposed of or abandoned waterward of the OHWM or allowed to enter waters of the state. Waste materials would be disposed of in an appropriate landfill. • Demolition materials would not be stored where wave action or upland runoff can cause materials to enter surface waters. • Project demolition would be completed in compliance with Washington State Water Quality Standards (WAC 173-201A), including: – No petroleum products, fresh cement, lime, concrete, chemicals, or other toxic or deleterious materials would be allowed to enter surface waters. – There would be no discharge of oil, fuels, or chemicals to surface waters, or onto land where there is a potential for reentry into surface waters. – Fuel hoses, oil drums, oil or fuel transfer valves, fittings, etc. would be checked regularly for leaks, and materials would be maintained and stored properly to prevent inadvertent releases. • An SPCCP would be prepared for use during decommissioning of the Facility. A copy of the plan with any updates would be maintained at the work site. • The project would follow an SPCCP, which would outline BMPs, responsive actions in the event of a release, and notification and reporting procedures. The SPCCP also would outline management elements such as personnel responsibilities, proposed Facility location security, site inspections, and training. • A decommissioning SPCCP would outline measures to be taken to prevent the release or spread of hazardous materials, either found onsite and encountered during decommissioning but not identified in contract documents, or any hazardous material that is stored, used, or generated on the construction site during decommissioning activities. These items include, but are not limited to, gasoline, oils, and chemicals. • Applicable spill response equipment and material designated in the decommissioning SPCCP would be maintained at the proposed Facility site. • Corrective actions, including those listed below, would be taken in the event of any release of oil, fuel, or chemicals from vessels, equipment, or materials into the water: – In the event of inadvertent release of fuels, lubricants, or other materials during decommissioning, containment and cleanup efforts would begin immediately and be completed in an expeditious manner, in accordance with all local, state, and federal regulations, and taking precedence over normal work. Cleanup would include proper disposal of any inadvertently released material and used cleanup material.

Element of the Environment	Impact from Decommissioning	Mitigation
		– The cause of the inadvertent release would be assessed, and appropriate action would be taken to prevent further incidents or environmental damage. – Inadvertent releases would be reported to Ecology's Southwest Regional Spill Response Office at 360-407-6300.
3.5 Wetlands	There are no wetlands present on the project site, and decommissioning will not result in any direct permanent or temporary wetland fills. At the scale of the project vicinity, there is a chance that off-site wetlands would be temporarily affected by decommissioning water quality impacts.	The project has the potential to result in temporary water quality impacts during decommissioning which could affect off-site wetlands within the project vicinity. Decommissioning activities at the site will be governed by an SPCCP (Appendix B.3), which will define specific BMPs to minimize the potential for leaks and spills and the extent of damage from any unavoidable leaks or spills. These include inspecting construction equipment daily to ensure that there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products, and locating temporary material and equipment staging areas above the OHWM of the waterbody and outside environmentally sensitive areas. These impact minimization measures and BMPs fully mitigate for the temporary water quality impacts associated with the project. Conduct decommissioning processes only within marked decommissioning boundaries.
3.6 Energy and Natural Resources		
3.6.3 Non Renewable Resources	Removal of infrastructure would require temporary energy consumption related to decommissioning activity. Energy sources would be used to operate onsite construction equipment; for example, fuel for mobile equipment, electricity for lighting of workspaces and powering of construction equipment, and welding gases for torch cutting employed for equipment disassembly. Because the amounts of energy used would be relatively small, decommissioning would not result in long-term impacts to energy consumption, supply, or availability. It is anticipated the fuels supplied to the Facility for decommissioning activities would be available from existing local and regional market sources, similar to those used for construction.	The quantities of non-renewable materials used during decommissioning activities would be negligible in the context of regional resource availability therefore no mitigation measures are required
3.6.4 Conservation Measures and Renewable Resources	Decommissioning of the Facility will generate waste from the removal of above-ground structures and shallow foundations.	During decommissioning, conservation measures will include demolition waste recycling when possible and the coordination of carpooling between demolition/construction workers to reduce vehicle emissions.
3.6.5 Scenic Resources	The visual quality of the decommissioned area will be consistent with the existing conditions within the Port.	No scenic resources will be affected during decommissioning therefore no mitigation measures are required.
4.1 Environmental Health		
4.1.1 Noise	Noise generated during decommissioning activities will be similar to those generated at a construction site.	Construction noise is exempt from the Washington noise limits during daytime hours. Decommissioning activities will be limited to daytime hours of 7:00 a.m. and 8:00 p.m., 7 days a week per VMC Section 20.935.030(4). The restriction of work to daytime hours, temporary nature of the demolition noise, the distances between the residential uses and most of the demolition areas, and the presence of noise from existing sources at nearby sensitive receivers would serve to minimize potential noise impacts from decommissioning activities.
4.1.2 Risk of Fire and Explosion	Decommissioning of the Facility is discussed in section 2.3.9. The Applicant anticipates that fire and explosion prevention measures similar to those implemented during construction will be implemented during decommissioning and site restoration.	Prior to beginning decommissioning the Applicant will submit a detailed facility decommissioning plan, and such plan will address fire and explosion prevention measures. Potentially flammable liquids and gases would be stored in accordance with local, state, and federal requirements. With proper storage of these materials onsite and proper material handling and work practices,

Element of the Environment	Impact from Decommissioning	Mitigation
	Fire and explosion hazards may result from the presence of flammable or combustible gases and liquids in the presence of ignition sources during decommissioning activities. Mobile equipment fuel and oils and solvents would be present at the site in small quantities. Cutting torches would be used to disassemble Facility components and transfer pipelines, resulting in the use and storage of flammable gases.	the risk of fire during decommissioning would be very low. The Applicant would conduct decommissioning activities and provide firefighting and response equipment in compliance with WAC 296-155 Part D, NFPA 241 (*Standard for Safeguarding Construction, Alteration, and Demolition Operations*) and NFPA 5000 *(Building Construction and Safety Code*). Although the risk for fires to spread beyond the decommissioning boundary is possible, the nature of the materials to be demolished at the site (e.g., metals, soils, aggregates, versus lumber) would minimize the potential for a fire to extend beyond the project area, especially if fire control and response is quickly coordinated in accordance with a pre-established Fire Prevention and Response Plan. A Fire Prevention and Response Plan would already be in place during the operation of the facility. An emergency response plan would be implemented addressing the procedures for fire prevention and response during decommissioning activities. The plan would address: • A list of the major demolition workplace fire hazards and their proper handling and storage procedures, potential ignition sources (such as welding, smoking, and others) and their control procedures, and the type of fire protection equipment or systems that can control a fire involving them • Names or regular job titles of those site personnel responsible for maintenance of equipment and systems installed to prevent or control demolition-related ignitions or fires • Names or regular job titles of those personnel responsible for control of fuel source hazards at the site Fire prevention and control would include, but not be limited to: • Ensuring that appropriate firefighting equipment (i.e., extinguishers) is staged in the decommissioning areas, either in fixed locations or on mobile construction vehicles, as appropriate • Ensuring that highly flammable materials are identified, stored, and handled in accordance with applicable fire prevention and safety regulations • Managing combustible wastes to prevent fires • Implementing appropriate work procedures to prevent fires (e.g., hot work and welding) • Limiting smoking to approved areas • Providing fire safety training to all decommissioning personnel, including the identification of ignition sources, the initiation of fire alarms, the use of established egress routes and locations, worker gathering locations, and procedures for notification of emergency responders • Providing first responders with maps that identify primary and secondary site access locations in the event of a fire
4.1.3 Releases or Potential Releases to the Environment Affecting Public Health	Hazardous materials present at the site during decommissioning would be typical of a large, industrial construction site. Fuels such as gasoline and diesel would be used to power mobile construction equipment; maintenance of such equipment could require the use of lubricants and oils and generate spent antifreeze. Solvents could be used to clean facility components, resulting in solvents and cleaning materials with oil residue. Welding gases would be used to allow cutting of larger steel elements (storage tanks, transfer pipelines, structural metal materials) into sizes that can be removed from the site. Hazardous materials that are likely to be generated would include used oil, spent antifreeze,	A detailed Site Restoration Plan within 90 days from the time EFSEC is notified of the termination of the Facility. The detailed Site Restoration Plan would identify, evaluate, and resolve major environmental and public health and safety issues related to decommissioning (WAC 463-72-040). As part of this plan, the Applicant would identify in detail decommissioning activities and mitigation measures required to conduct these activities in a manner to protect environmental health and safety. The Site Restoration Plan would include, but not be limited to, the following: • Avoidance of sensitive areas during decommissioning activities • Waste handling and storage • Stormwater management

Element of the Environment	Impact from Decommissioning	Mitigation
	discarded water treatment chemicals and residuals, and spent lead acid batteries. In the event of the unintended release of hazardous materials used during decommissioning, and if such releases are not contained and reach the ground, contamination of soil could occur; these soils may classify as hazardous. Non-hazardous solid waste associated with decommissioning activities could include empty containers, scrap wood, scrap metals, concrete, and other refuse. Decommissioning activities involving the use or generation of hazardous materials can cause releases to the environment. Disassembly of Facility equipment without prior removal of residual hazardous materials could result in the release of contaminants to the environment. If decommissioning activities involve removal of Facility foundations or concrete work that was constructed in locations with contaminated soils, these activities could release contaminated material back into the environment. Decommissioning activities near capped areas would not be expected to breach the caps, but may temporarily disrupt surface water drainage patterns or otherwise impact ongoing/previous remediation activities.	• Spill prevention and control The contractor would be responsible for inspections; training its employees in spill prevention and control; and if an incident occurs, for containment and cleanup. The plan would address responsible personnel, spill reporting, project and site information, pre-existing contamination, potential spill sources, spill prevention and response training, spill report form(s), plan approval, and SPCCP acknowledgement forms (to be signed by all project personnel). In addition, prior to the decommissioning of systems, the former use of Facility components and its potential to contain residual crude oil would be considered to ensure that appropriate cleaning procedures are implemented prior to disassembly and removal. If equipment is proposed to be left onsite, it would be cleaned as appropriate to ensure residual hazardous materials are not left onsite potentially exposing future workers.
4.1.4 Safety Standards Compliance	The risks to workers conducting decommissioning activities would be similar to occupational hazards during construction of the Facility, including the following: • Work around heavy equipment • Work around mobile equipment • Seasonal weather conditions, particularly the potential for hypothermia during cold weather or heat exhaustion/heat stroke during hot weather • Work around water during dismantling of piping on the Facility dock and active rail lines • Potential exposure to electrical hazards, mechanical hazards, fall hazards, and noise hazards typical of a construction site • Exposure of workers to hazardous materials if residual hazardous materials in Facility equipment are not properly removed and equipment cleaned prior to disassembly beginning	Occupational safety risks to Facility decommissioning workers would be mitigated through the application of safety and emergency plans. The demolition contractor would be required to develop a Safety Plan that applies to the employees of the demolition contractor and all subcontractors working at the decommissioning site. The Safety Plan would require compliance with all applicable laws, ordinances, regulations, and standards concerning health and safety. The contractor's safety manager would have the authority to issue stop work orders when health and safety procedures are violated by the employees of either the contractor or a subcontractor. Upon identification of a health and safety issue, the safety manager would work with the responsible site managers and employees to correct the issue. Workplace hazards would be controlled using controls such as lockout/tagout procedures, safe work practices, and the appropriate use of PPE, in accordance with applicable WISHA requirements. An Emergency Response Plan would be developed by the demolition contractor based on industry standards and regulatory requirements, including but not limited to, WAC 296-24 (*Employee Emergency Plans and Fire Prevention Plans*), WAC 296-56 (*Safety Standards—Longshore, Stevedore and Waterfront Related Operations*), WAC 296-824 (*Emergency Response*), and 29 CFR 1910.38 (*Emergency Action Plan*).
4.1.5 Radiation Levels	The Facility will not handle, store or use or release any radioactive materials during decommissioning.	The Facility will not handle, store or use or release any radioactive materials during decommissioning, therefore no mitigation measures will be required.
4.1.6 Emergency Plans	Emergencies that may potentially occur during decommissioning include: on-site materials or chemicals release, flood, medical emergency, major power loss, fire, extreme weather, earthquake, volcano eruption, and security threat.	The Applicant will establish an emergency response plan for the decommissioning of the Facility to ensure employee safety in the case of the following emergencies: on-site materials or chemicals release, flood, medical emergency, major power loss, fire, extreme weather, earthquake, volcano eruption, and security threat. The emergency response plan will be developed as described in section 4.1.6.2.

Element of the Environment	Impact from Decommissioning	Mitigation
4.2 Land and Shoreline Use		
4.2.1 Land Use	No impacts to existing land uses at or surrounding the Facility are anticipated during decommissioning activities.	No impacts to existing land uses are anticipated. Therefore, no mitigation measures are specifically identified.
4.2.2 Light and Glare	During decommissioning, minor temporary outdoor lighting impacts may occur; however, most activities will occur during daylight hours and will be temporary in nature. The estimated duration of decommissioning is 9 to 12 months.	Most decommissioning activities will occur during the day. At night, lights will be directed towards the site and will be the minimum wattage required for safety and operations.
4.2.3 Aesthetics		
4.2.4 Recreation	Decommissioning of the Facility is not anticipated to have any long-term direct or indirect impact on current or planned park and recreation areas. There may be temporary noise and/or visual impacts related to decommissioning, but the demolition-related noise and visual impacts would be similar in nature to other existing Port activities and are not anticipated to result in any significant adverse impacts to recreational facilities or users of those facilities.	Parks and recreational facilities are not anticipated to be impacted by the decommissioning of the Facility and it is expected that no additional mitigation measures would be necessary.
4.2.5 Historic and Cultural Preservation	During decommissioning the Facility would be removed, with the majority of above ground elements deconstructed, but with below ground improvements remaining. Given that decommissioning-related ground disturbance, if any, would occur in areas previously disturbed, the presence of cultural resources (or lack thereof) would have already been documented. Furthermore, areas where construction occurred in native soils would not be re-excavated or disturbed in any additional way, as these Facility elements would remain. Decommissioning has minimal potential to impact undiscovered buried archaeological resources in native soils below the fill in the proposed Facility development location. There are no recorded historic buildings or structures on the site. The dock on the Columbia River would not be removed during decommissioning and thus no potential shoreline underwater cultural resource impacts are anticipated.	A detailed Site Restoration Plan will be submitted prior to commencement of decommissioning activities. This Site Restoration Plan would identify the extent of, and methods by which, facility elements would be removed. The Site Restoration Plan would document if any activities would occur in areas that have not previously been surveyed for the presence of cultural resources. If this is the case, the plan would document measures to identify, and if necessary mitigate, impacts to cultural resources.
4.2.6 Agricultural Crops and Animals	The site does not contain any areas used for agriculture. While there are agricultural lands within the vicinity of the project area, decommissioning of the Facility will not impact these areas because they fall outside of the boundary of the decommissioning activities. Decommissioning of the Facility will not result in any impacts to agricultural crops or animals.	No impacts to agricultural crops and/or animals are anticipated, therefore no mitigation measures are required.
4.3 Transportation		
Surface Transportation	During decommissioning, vehicle trips would be required to allow worker access to the various Facility locations being decommissioned, deliver equipment necessary for decommissioning activities, and remove materials from the site. The surface transportation impacts of decommissioning the Facility would be less than the traffic impacts associated with the permanent Facility employees and presumably less than the Facility and ground improvements construction impacts to build the Facility. As such, future decommissioning is not expected to have added impacts to the roadway network in the vicinity of the Facility.	No mitigation measures are necessary since decommissioning activities would reduce the surface transportation impacts created during construction and operation of the Facility.

Element of the Environment	Impact from Decommissioning	Mitigation
Rail, Marine and Air Transportation	Decommissioning activities may temporarily interrupt service to rail lines within Terminal 5. Activities that may disrupt other's use of existing or future tracks within Terminal 5 include the following elements: • Demolition of the rail unloading facility • Demolition of the pedestrian access ways to the unloading structure • Removal of above-ground pipelines • Demolition of the Boiler Building Some of the equipment and structure removal at Area 400 may be performed from the waterside. A small number of tugs or barges will be positioned to conduct this work for a temporary period of time. These decommissioning-related vessels will not be positioned in the main Columbia River navigation channel and will therefore not create any impacts to other river users. The project site is not located within the regulated airport approach services per VMC 20.570-1 and will have no impact on air transportation.	Decommissioning activities will be coordinated with the Port and existing and future users of Terminal 5 loop tracks to appropriately time and minimize disruptions to other's use of existing or future tracks, either within Terminal 5 or on the Port's spur from the mainline. No impacts are anticipated to marine and air transportation and therefore mitigation measures are not required.
4.3.4 Movement /Circulation of People and Goods	Decommissioning activities may interrupt service to rail lines within Terminal 5, temporarily impeding the movement/circulation of goods. Activities that may disrupt other's use of existing or future tracks within Terminal 5 include the following elements: • Demolition of the rail unloading facility • Demolition of the pedestrian access ways to the unloading structure • Removal of above-ground pipelines • Demolition of the Area 600 Boiler Building The public will not be allowed admittance to any decommissioning areas unless in accordance with the decommissioning site safety plan and applicable federal security requirements	Decommissioning activities will be coordinated with the Port and existing and future users of Terminal 5 loop tracks to appropriately time and minimize disruptions to other's use of existing or future tracks, either within Terminal 5 or on the Port's spur from the mainline. No impacts are anticipated to the movement/circulation of people and therefore mitigation measures are not required.
4.4 Socioeconomic Impact		
Workforce	If an assumed total of 250 workers will be employed during decommissioning, with a maximum of 125 workers on site per day, the Portland-Vancouver metropolitan area will be capable of supplying most of the needed workforce. If a higher number of specialized trades are required (i.e. ironworkers), a portion of these workers may need to travel from outside of the Portland-Vancouver region.	There would be adverse impacts to the workforce, therefore it is expected that no mitigation measures would be necessary.
Housing	With an assumed maximum daily employment of 125 workers during decommissioning and total rental housing inventory of nearly 1.2 million rental units in the study area, decommissioning of the Facility should have no noticeable impact on housing in the study area. In Clark County there are more than 9,600 vacant housing units and an occupancy rate	Decommissioning activities will have no noticeable impact on housing, therefore mitigation measures are not required.

Element of the Environment	Impact from Decommissioning	Mitigation
	of 94.3%. If each of the 125 workers rented on vacant unit in Clark County, the housing occupancy rate would grow from 94.30% to 94.37%, an increase of less than 0.1%. This small an increase in occupancy rate should also have no noticeable impact on median gross rent, median housing values, or new housing construction.	
Fire Police and Medical Services	Potential decommissioning-related impacts may include impacts to fire and emergency response services associated with demolition fires and emergencies; and impacts to local health care providers as a result of demolition–related medical emergencies.	Any fires or other incidents requiring emergency response associated with decommissioning of the Facility would be within the capacity of existing fire protection and police services. Hospitals within the study area have sufficient capacity, range of services, and equipment to handle any medical emergencies resulting from decommissioning of the Facility. An emergency response plan will be implemented for the decommissioning of the Facility to ensure employee safety and emergency response in the case of the following emergencies: on-site materials or chemicals release, flood, medical emergency, major power loss, fire, extreme weather, earthquake, volcano eruption, and security threat. The Emergency Response Plan would be developed based on industry standards and state and federal regulatory requirements. In addition, decommissioning activities would be coordinated with the Vancouver Fire Department and the Port to ensure that Emergency Response Plans coordinate with both of these organization's needs with respect to both on-Facility-, and off-Facility-site events. It is expected that the incorporation of these measures would mitigate impacts to public services resulting from emergency response incidents.
Schools	The majority of the workforce for the decommissioning activities is anticipated to come from the Portland-Vancouver metropolitan area and would not result in a population increase; therefore school enrollment is not expected to be affected.	Decommissioning of the Facility is not anticipated to generate any increase in population; therefore, no related impacts to schools are not anticipated.

1.4.2 Fair Treatment

The demographics of communities in the study area and in individual counties were identified and analyzed to determine potential project impacts on minority or low-income populations; the results are discussed in section 4.4. As discussed in section 4.4.1.1 and shown in Table 4.4-4, although minority residents do exist within Clark County (County) near the project site, the County does not have a substantially higher minority population than larger reference populations. Table 4.4-5 includes the 2011 poverty statistics for the County and the overall study area, which show that, compared to the larger study area, a lower proportion of the population in the County lives below the poverty level.

Within the study area, the Fruit Valley neighborhood is the closest residential population to the proposed Facility. Fruit Valley is the westernmost neighborhood in the City and has a population of about 2,370 (U.S. Census Bureau 2014). The Census tract that includes Fruit Valley has the second-highest poverty rate in the City, with 35 percent of the people living in poverty. This is triple Vancouver's overall poverty rate of 12 percent (City of Vancouver 2010) and well above the study area poverty rate of 14.8 percent. Median household income in Fruit Valley is $31,121, which is 38 percent lower than the City median household income of $50,387 (U.S. Census Bureau 2014). In addition, Fruit Valley's race and ethnic make-up includes a higher percentage of Hispanic, Asian, and Native American individuals than the overall City (City of Vancouver 2010). Forty-seven percent of the population resides in owner-occupied housing units, while 53 percent of the population resides in rental units (U.S. Census Bureau 2014). Within the Fruit Valley neighborhood, the closest homes to the proposed Facility are located approximately 0.6 mile northeast. The Facility will not result in the displacement of minority or low-income populations. The developed area will occur on land owned by the Port and therefore no land use displacements or relocations will occur. The potential impacts from construction and/or operation of the proposed project will be from additional traffic (including rail traffic), noise, air quality, visual quality and aesthetics, and safety or security. As described in parts 2.0, 3.0, and 4.0 of this application, these potential impacts will be mitigated through design features and construction techniques to ensure that they are reduced to less than significant levels.

Releases to the environment affecting public health are not anticipated during construction due to the limited types and relatively small quantities of hazardous materials that will be used during construction. Measures to prevent and contain any inadvertent release of hazardous materials will be provided as described in section 2.10, Spill Prevention and Control. As presented in section 4.3.3.5, project construction activity would not require modification of any existing roads to accommodate construction-related traffic, and existing LOS conditions would not be adversely degraded. The traffic impact to adjacent residential neighborhoods would therefore be minimal. Although the potential for an increase in public traffic accidents exists as a result of increased construction traffic, the risk would be mitigated through existing traffic control devices to ensure safe vehicular and pedestrian transit regardless of traffic levels. As discussed in section 4.1.1.2, construction-related noise emissions from pile driving have been estimated to be lower than existing background noise levels in residential neighborhoods closest to the construction site. Impacts to residents in these areas will be negligible. Temporary air quality impacts resulting from construction (see sections 2.12.2.1, 2.12.3, and 3.2) will occur in proximity to the areas where active ground disturbance and concrete batching are occurring. With the mitigation measures proposed these emissions would be minimized and would not be expected to adversely impact air quality in adjacent neighborhoods. Visual impacts resulting from construction

activities will be negligible, as most construction would be scheduled for daylight hours, and lights will be directed downwards and limited to minimum wattage necessary at night (section 4.2.3.5). Security will be managed directly at the construction site, where the public will not have access (see section 2.19.2). Similarly the public would not have access to the construction site and would therefore not be directly exposed to construction site occupational safety risks. The construction site Emergency Response Plan will be developed in coordination with local emergency responders and will consider and prepare for unintended construction-site incidents that could have the potential to spread beyond the construction-site boundary (see section 4.1.4.4).

Operation of the Facility will have negligible impacts on low income or minority populations. As presented in section 4.3.3.1 project operations activity will not result in a significant increase in the total number of weekday PM peak hour trips entering the City's concurrency corridors. The traffic impact to adjacent residential neighborhoods would therefore be negligible. As discussed in section 4.1.1.2, operations-related noise emissions have been estimated to be lower than existing background noise levels in residential neighborhoods closest to the construction site. Impacts to residents in these areas will be negligible. Air emissions resulting from operation of the Facility (see sections 2.12.2.2, 2.12.3, and 3.2) will be controlled in accordance with applicable air quality regulations so as not to adversely impact air quality in adjacent neighborhoods. Visual impacts resulting from the Facility (see section 4.2.3.3) will be most noticeable to the public when travelling on SR 501. Security will be managed directly at the Facility site, where the public will not have access (see section 2.19.2). Similarly the public would not have access to the Facility site and would therefore not be directly exposed to construction site occupational safety risks. Hazards related to an incident which could cause an off-site impact would be managed in accordance with the operations emergency response (section 4.1.4.4) and operations spill response plans (section 2.10.3.2) implemented by the Applicant. These plans specifically address the protection of the public from any possible hazards.

As discussed in section 4.4.2, the construction and operation of the proposed project are not anticipated to result in disproportionately high or adverse effects to minority or low-income populations. Therefore, no social or environmental justice impacts are anticipated to result from the construction and operation of the Facility and no mitigation is proposed.

While the project is not proposing specific mitigation measures for impacts, the demographics of the project study area (for this purpose defined as the area within an hour's commute of the proposed project) and Clark County have been identified and a public involvement effort undertaken to reach all of the surrounding residents, including minority and low-income populations. Ongoing public outreach is planned after the submittal of the application as described in section 1.6 below.

Section 1.5 – Sources of Information

WAC 463-60-095
General – Sources of information.

The applicant shall disclose sources of all information and data and shall identify all preapplication studies bearing on the site and other sources of information.

(Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, recodified as § 463-60-095, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and Chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-095, filed 10/8/81. Formerly WAC 463-42-120.)

Section 1.5 Sources of Information

A number of information sources are cited repeatedly in this Application. These sources include the regulations and codes that govern various aspects of the planning, construction, and operation of the Facility. The RCW, WAC, VMC, and the American Petroleum Institute (API) are examples. Although these sources are not cited in each section of this list, they govern the entirety of this application and are cited in the relevant sections of the text.

1.5.1 General

1.5.1.1 Description of Applicant

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1.5.1.2 Designation of Agent

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1.5.1.3 Assurances

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1.5.1.5 Fair Treatment

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1.5.2 Proposal

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1.5.2.2 Legal Description

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1.5.2.3 Construction on Site

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1.5.2.4 Energy Transmission Systems

None.

1.5.2.5 Electrical Transmission Facilities

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1.5.2.6 Water Supply System

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1.5.2.8 Characteristics of Aquatic Discharge Systems

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1.5.2.10 Spill Prevention and Control

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1.5.2.12 Emission Control

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1.5.2.13 Carbon Dioxide Mitigation

None.

1.5.2.14 Greenhouse Gases Emissions Performance Standards

None.

1.5.2.15 Construction and Operation Activities

None.

1.5.2.16 Construction Management

None.

1.5.2.17 Construction Methodology

None.

1.5.2.18 Protection from Natural Hazards

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Section 1.6 – Consultation

WAC 463-60-101
General – Consultation.

(1) Preapplication consultation. The application shall summarize all consultation that the applicant has conducted with local, state and federal agencies and governments, Indian tribes, nonprofit organizations and community citizen and interest groups prior to submittal of the application to the council.

(2) Meaningful involvement. The application shall describe all efforts made by the applicant to involve the public, regardless of race, ethnicity, or socioeconomic status, prior to submittal of the application to the council. The application shall also set forth information for contacting local interest and community groups to allow for meaningful involvement of all people, regardless of race, ethnicity or socioeconomic status. For example, such information may include contacts with local minority radio stations and news publications.

(04-23-003, recodified as § 463-60-101, filed 11/4/04, effective 11/11/04. Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, § 463-42-101, filed 10/11/04, effective 11/11/04.)

Section 1.6 Consultation

The Applicant has conducted consultation with numerous local, state, and federal agencies, Indian Tribes, nonprofit organizations, and community citizens and interest groups both prior to and following submittal of this Application to EFSEC. Table 1.6-1 is a summary of the consultation activities that were conducted prior to submittal of the Application in August 2013, and identifies the efforts of the Applicant to involve the public, regardless of race, ethnicity, or socioeconomic status.

Table 1.6-1. Project Consultation Summary, Prior to Application Submittal

Organization	Meeting Date	Meeting Description
Port of Vancouver	April 23, 2013	Applicant met with Todd Coleman, Chief Operating Officer (COO), to provide a project introduction.
	May 9, 2013	Applicant met with Theresa Wagner, Communications Manager, to discuss project communications.
	May 17, 2013	Dan Cameron and Bryan Meyer, Tesoro staff, provided a tour of the Anacortes rail unloading facility to Commissioner Brian Wolfe
	June 26, 2013	Matt Gill, Dan Cameron and Bryan Meyer, Tesoro staff, provided a tour of the Anacortes rail unloading facility to Commissioner Jerry Oliver
	June 26, 2013	Matt Gill, Dan Cameron and Bryan Meyer, Tesoro staff, provided a tour of the Anacortes rail unloading facility to Commissioner Nancy Baker, Commissioner Jerry Oliver and Todd Coleman, COO.
	June 27, 2013	Savage and Tesoro representatives provided a presentation regarding the project to Port Commissioner's at a public workshop
City of Vancouver (City)	April 22, 2013	Applicant met with Mayor Tim Leavitt to provide an introduction to the project.
	April 22, 2013	Applicant met with Jeanne Harris, City Councilmember, to provide an introduction to the project.
	April 22, 2013	Applicant met with Larry Smith, City Councilmember, to provide an introduction to the project.
	May 9, 2013	Applicant met with Eric Holmes, City Manager, to provide an introduction to the project.
	June 27, 2013	On June 6, the Applicant filed a pre-application package with the City's Planning Department. The City conducted review of the package and a public pre-application meeting, where members of the public were invited (see Note 1).
	July 12, 2013	The Applicant met with Debi Davis, Water/Sewer Divisions to discuss water and sewer service related issues.
	July 29, 2013	The Applicant met with Leo Kuzmen, Engineering Permit Representative to discuss water availability.
	August 12, 2013	The Applicant met with Tyler Clary, City Water Division, to discuss water use authorization.
U.S. Army Corps of Engineers (USACE)	June 17, 2013	Applicant met with Steve Manlow, USACE Regulatory Project Manager to review the project and discuss federal permit requirements.

Organization	Meeting Date	Meeting Description
	August 15, 2013	Applicant meet with Muffy Walker, USACE Seattle District, Regulatory Branch Manager and other USACE staff to discuss project details and federal permit requirements. Also present were Jeff Fisher and Steve Landino from NMFS.
National Marine Fisheries Service (NMFS)	July 19, 2013	Applicant met with Jeff Fisher, SW Washington Branch Chief to introduce the project.
Governor Inslee's Office	April 22, 2013	Applicant met with Aisling Kerins, Executive Director of External Relations to provide a project introduction.
	April 22, 2013	Applicant met with Schuyler Hoss, Director of International Relations and Protocol Office of the Governor to provide an introduction to the project.
The Columbian	April 22, 2013	Applicant met with Aaron Corvin, reporter, to provide an introduction to the project.
Ecology	April 22, 2013	Applicant met with Maia Bellon, Director, to provide an introduction to the project.
	April 22, 2013	Applicant met with Sally Toteff, Southwest Regional Office Director, to provide an introduction to the project.
	April 24, 2013	Applicant met with Dale Jensen, Spill Prevention and Response, to provide an introduction to the project, and discuss spill concerns.
	August 7, 2013	Applicant and BergerABAM staff met with Stephen Posner and Hedia Adelsman to present the project.
Department of Archaeology and Historic	July 30, 2013	Applicant met with Rob Whitlam, State Archaeologist to introduce the project and discuss cultural and historic resources.
Department of Commerce	April 22, 2013	Applicant met with Brian Bolender, to provide an introduction to the project.
EFSEC	April 22, 2013	Applicant met with Stephen Posner, Acting EFSEC Manager, and James Luce, Chair, to discuss the EFSEC review process.
	June 14, 2013	BergerABAM staff met with Stephen Posner to discuss application submittal coordination.
	July 18, 2013	Applicant, Counsel Thomas Wood (Stoel Rives) and BergerABAM staff attended a special EFSEC Council meeting.
	August 7, 2013	Staff From Stoel Rives and BergerABAM met with EFSEC staff and their independent consultant, Cardno Entrix, to discuss application submittal coordination.
Clark County	April 22, 2013	Applicant met with Steve Stuart, Commissioner, to provide an introduction to the project.
	April 23, 2013	Applicant met with David Madore, Commissioner, to provide an introduction to the project.
Vancouver's Downtown Association	July 17, 2013	Applicant met with Lee Rafferty, Executive Director to provide an introduction to the project.
Vancouver Chamber of Commerce	April 23, 2013	Applicant met with Kelly Parker, President & CEO to provide an introduction to the project.
	July 17, 2013	Applicant met with Kelly Parker to provide further project information.

Organization	Meeting Date	Meeting Description
Hazel Dell/Salmon Creek Business Assoc.	July 17, 2013	Applicant met with Ginger Schmidt, President to provide an introduction to the project.
East Vancouver Business Assoc.	July 18, 2013	Applicant met with Kris Greene, Director of Governmental Affairs to provide an introduction to the project.
Identity Clark County	April 23, 2013	Applicant met with Paul Montague to provide an introduction to the project.
Columbia River Economic Development Council	April 23, 2013	Applicant met with Lisa Nisenfeld to provide an introduction to the project.
	July 18, 2013	Applicant presented to the project to the Council
49th Legislative District	April 24, 2013	Applicant met with Representative Sharon Wylie to provide an introduction to the project.
	April 24, 2013	Applicant met with Senator Annette Cleveland to provide an introduction to the project.
17th Legislative District	April 24, 2013	Applicant met with Representative Paul Harris to provide an introduction to the project.
	April 24, 2013	Applicant met with Senator Don Benton to provide an introduction to the project.
	April 24, 2013	Applicant met with Representative Monica Stonier to provide an introduction to the project.
18th Legislative District	April 24, 2013	Applicant met with Representative Brandon Vick to provide an introduction to the project.
	April 24, 2013	Applicant met with Representative Liz Pike to provide an introduction to the project.
	April 24, 2013	Applicant met with Senator Ann Rivers to provide an introduction to the project.
42nd Legislative District	April 24, 2013	Applicant met with Senator Doug Ericksen to provide an introduction to the project.
Washington State University, Vancouver	April 25, 2013	Applicant met with Rona Sen Hoss to provide an introduction to the project.
Washington Council on International Trade	April 25, 2013	Applicant met with Eric Schinfeld to provide an introduction to the project.
Office of Congresswoman Jaime Herrera Beutler	April 25, 2013	Applicant met with Ryan Hart, District Director, to provide an introduction to the project.
Sierra Club – Cascade Chapter	April 25, 2013	Applicant met with Linda Wolfe Executive Committee Vice Chair Loowit Chapter to provide an introduction to the project.
Fruit Valley Neighborhood Community Council	May 9, 2013	Applicant met with Eric Labrant to provide an introduction to the project, and discuss community concerns

Note 1: the following persons attended the City preapplication meeting on June 27, 2013:

- City: Jon Wagner, Mike Swanson, Richard Holland, John Gentry, Aaron A. Odegard, Greg Turner, Ryan Lopossa, Chris Drone, Tracy Tuntland, Chad Lawry
- Applicant: Kelly J. Flint (Savage), David Corpron (Savage), Mike Marchant (Savage), Matt Gill (Tesoro), Doug Price (Tesoro), Brian Carrico (BergerABAM), Helen Devery (BergerABAM), Irina Makarow (BergerABAM), Dan Shafar (BergerABAM), Sam Adams (BergerABAM), Ryan Bennett (Poole Fire Protection), Nic Nash (ICPE), Tim McMahan (Stoel Rives LLP), Rebecca Guiao (Stoel Rives LLP), Brian Dunn (Kittelson and Associates), Jeff Hale (R&M Engineering),
- Port of Vancouver: Patty Boyden, Lisa Willis, Mary Mattix, Greg Westrand
- EFSEC: Stephen Posner

- WDFW: Anne Friesz (Applicant is continuing to coordinate with WDFW to meet with additional resource specialists after Application for Site Certification is submitted.)
- Fruit Valley Neighborhood: Eric Labrant
- Columbia Riverkeepers: Lauren Goldberg, Candice McLaughlin

In addition to the June 27, 2013 presentation by the Applicant noted above, the Port commissioners conducted public workshops considering the project in tandem with their regular meetings; all of these workshops were taped by Clark Vancouver Television and were available for rebroadcast to the general public.

- May 14, 2013, overview of marine safety and oil spill response capabilities by Liz Wainwright, executive director of the Maritime Fire and Safety Association (MFSA); Holly Robinson, MFSA preparedness, response and compliance coordinator; and Ernie Quesada, general manager of Clean Rivers Cooperative, Inc.;
- June 11, 2013, overview of how hazardous materials, specifically crude oil, are transported along regional rail lines, presented by Colleen Weatherford, Director of Public and Private Partnerships for BNSF Railway; Patrick Brady, Assistant Director of Hazardous Materials for BNSF Railway; and William Ellings, Safety and Hazmat Specialist for the U.S. Department of Transportation, Federal Rail Administration (FRA);
- June 27, 2013, overview of the EFSEC review process, presented by EFSEC Chair James Luce.
- July 22, 2013, workshop focusing on presentation by Port staff regarding the project.
- The Port also conducted meetings with Linda Wolfe and Lehman Holder, Sierra Club on April 24, 2013, Gretchen Starke, Audubon Club on April 29, 2013 and Sydney Reisbick, Friends of Clark County on May 2, 2013 to discuss the project with the Applicant in attendance.

Following submittal of the Application, the Applicant conducted a public open house on September 30, 2013, 7:00 to 9:00 p.m., at the Hudson's Bay High School in Vancouver, Washington. Following a presentation by Vancouver Energy, Applicant representatives were available to discuss the following topics with members of the public: project design and operation; marine sfety and operations; spill reponse and planning; the nature of crude oil; rail safety and operations; Port infrastructure; and understanding the EFSEC process. BNSF representatives were also available to answer questions. Aproximately 200 members of the public attended.

Since submittal of the Application, Vancouver Energy representatives have continued to meet with public, local, state, federal, and tribal representatives, many of which have been contacted on multiple occasions. The following list summarizes the scope of this outreach.

- Local Agencies (elected representatives or staff): City of Vancouver, Clark County, Port of Vancouver, City of Ridgefield, City of Camas, Port of Camas-Washougal, Port of Ridgefield, City of Spokane, City of Spokane Valley and Vancouver Fire Department
- State Agencies: DAHP, Washington Department of Commerce and Ecology
- Federal Agencies: USACE, USFWS and NMFS
- Tribal Governments: Cowlitz Indian Tribe, Confederated Tribes of the Grand Ronde, Chinook Nation, Chehalis Tribe and Yakama Nation

- Nongovernmental Organizations: Sierra Club, Audubon Club, Friends of Clark County, Pacific Northwest Waterways Association, Columbia River Pilots, Columbia River Steamship Operators' Association, Maritime Fire and Safety Association (MFSA and F-PAAC), Hispanic Community Public Affairs Liaison, Kiwanis Club Cascade Park, YWCA Clark County, Red Cross, Columbia Springs, Police Activities League (PAL), Clark County Skill Center, Clark College, YWCA Clark County, Daybreak Youth Services, Fruit Valley Foundation, Fruit Valley Elementary School, Habitat for Humanity, Hough Foundation, Nonprofit Network, Community Foundation for Southwest Washington, Mount Saint Helens Institute, School of Piano Technology for the Blind, SELF (Support for Early Learning and Families), Rock Solid Community Teen Center, Washinton First Robotics and Foundation for Vancouver Public Schools
- Neighborhood and Community Associations: Fruit Valley Neighborhood Association, Neighborhood Association Council of Clark County, Vancouver Neighborhood Alliance, Arnada Neighborhood Association, Esther Short Neighborhood Association, Harney Heights Neighborhood Association, Hough Neighborhood Association, Hudson's Bay Neighborhood Association, Maplewood Neighborhood Association, Northwest Neighborhood Association, Shumway Neighborhood Association, Vancouver Heights Neighborhood Association, Wildwood Neighborhood Association, Riverview Neighborhood Association, Columbia Way Neighborhood Association, East Old Evergreen Highway/Old Evergreen Highway Neighborhood Association, Evergreen Highlands Neighborhood Association, South Cliff Neighborhood Association, Bella Vista and Lewis and Clark Neighborhood Associations, Evergreen Shores Neighborhood Association, Carter Park Neighborhood Association, and Village at Fisher's Landing Neighborhood Association, Vancouver Metro Sunset Rotary, Vancouver Sunrise Rotary Club, Rotary Club of Camas-Washougal, Rotary Club of Greater Clark County, Rotary Club of Vancouver and City Club of Portla Pacific Northwest Economic Region, Southwest Workforce Development Council
- Businesses and Economic Development Organizations: Gramor Development, Hi-School Pharmacy, Columbia River Economic Development Council, Identity Clark County, Washington Council on International Trade, Greater Vancouver Chamber of Commerce, East Vancouver Business Association, Hazel Dell/Salmon Creek Business Association, Vancouver's Downtown Association, and Columbia Corridor Association, Association of Washington Businesses, Southwest Washington Labor Council, Washington Association of General Contractors, Vancouver Executives, Greater Spokane Inc., Spokane Valley Chamber of Commerce, Greater Portland Inc., Washington State Council of Fire Fighters, and Southwest Washington Contractors Association
- Media Organizations: The Columbian, The Camas-Washougal Post Record, The Longview Daily News, The Oregonian, Oregon Public Broadcasting, The Seattle Times, The Reflector, The Spokane Review, The Olympian, Vancouver Business Journal, Puget Sound Business Journal, Portland Business Journal, KOIN, KGW, KATU, KPTV, KOIN, KOMO, KIRO, KING and KUOW