

Section 4.2 Land and Shoreline Use

4.2.1 Land Use

4.2.1.1 Surrounding Land Uses and Zoning

Tesoro Savage Vancouver Energy Distribution Terminal Site

The Facility is proposed for construction at the Port at three separate locations that will be linked by project elements: Terminal 5, Parcel 1A, and berths 13 and 14. (See section 2 for a more detailed description of the project elements.) This area of the Port – the project site – is zoned IH with an industrial comprehensive plan designation and is located within the City, within Clark County, Washington. The proposed Facility is located along the Columbia River at approximately Columbia River Mile (RM) 103.5.

The approximately ~~41.5~~44.9 acre site is accessed from NW Lower River Road (SR 501). Approximately 1.5 miles east of the site, NW Lower River Road connects to the Mill Plain Extension and West Fourth Plain Boulevard. West Mill Plain and West Fourth Plain boulevards connect to I-5, SR 14, and points beyond.

Rail access is provided from the east by the Port's internal rail network. Trains will access the Port system from the BNSF and UP main lines approximately 2.25 miles east of Terminal 5. The Port is currently constructing a new access to the Port rail system as part of the WVFA project. Access for marine vessels to berths 13 and 14 is provided by the Columbia River deep draft channel. This navigation channel is maintained at a minimum 600 feet in width and 43 feet in depth. The site is approximately 103.5 river miles from the Pacific Ocean. See Figure 2.1-1 for a map of the vicinity of the site.

West Vancouver Freight Access Project - The WVFA project is a multi-phase project initiated in 2007 by the Port to move freight more efficiently not only through the Port but also along the BNSF Railway and Union Pacific Railroad mainlines that connect the Pacific Northwest to major rail hubs in the Midwestern and Southern U.S. as well as to Canada and Mexico.

The WVFA project aims to improve the capacity of the Port's rail infrastructure to meet the current and future industrial needs of Vancouver and Southwestern Washington. Currently, rail traffic into the Port travels on a single track (Hill Track) which runs east/west and crosses the north/south mainline at grade near the Port. When rail volumes are high, this intersection causes congestion and delays for Port tenants and mainline traffic. Three elements contribute to this problem of inadequate capacity and are likely to cause the situation to worsen in the future: 1) the Port's existing rail infrastructure does not allow unit trains to be assembled or handled efficiently; 2) projected economic growth will increase demands on existing and future tenants for more efficient rail operations; and 3) projected increases in traffic along the BNSF mainline corridors will increase rail congestion within the general vicinity, further reducing service.

To address these issues, the WVFA project will:

- Expand Port rail capacity and operations within the existing Port facility – in particular, those relating to unit train capacity – to enhance the rail network for future growth and development while minimizing disruption to existing Port tenants and businesses, and

- Relieve congestion, improve operational efficiencies, and ensure continued safe rail operations as rail traffic grows in and around the Port and along the existing BNSF north/south and east/west mainlines.

The elements included in the multi-phase WVFA project extend from the BNSF mainlines (beginning at the intersection of Hill Street and 7th Street, adjacent to the Albina Fuel and Lafarge companies) and terminate in a loop track at Terminal 5.

As illustrated in Figure 4.2-1, the WVFA project consists of 21 work elements which involve a variety of actions, including an expanded rail facility, roadway modifications, building removal and relocation, the improvement and development of stormwater facilities, import of clean fill, the disposal of some excavation materials, utility relocation, wetland and riparian mitigation, and right-of-way acquisition.

In particular, in order to pass beneath the Columbia River rail bridge with minimum required clearances, a pile-supported trench is being constructed along the Columbia River shoreline, effectively creating a grade-separated new entrance into the southeast side of the Port. When fully constructed, this element of the WVFA project will allow full-length unit trains to enter the Port without impeding traffic on the existing north/south BNSF rail line that carries both freight and passenger trains almost continually throughout the day. Currently, each time a train enters the Port, this line must remain clear while the train is “broken” into pieces that can be processed and staged throughout the terminal. Upon completion, the WVFA project is expected to reduce current delays in rail traffic by as much as 40 percent, thereby lowering transportation costs for the manufacturing and agricultural customers who use the Port and the regional rail infrastructure.

Table 4.2-1 lists the project elements and their completion status as of June 4, 2013. All WVFA project elements are expected to be completed by 2017.

Table 4.2-1. Status of WVFA Project Elements

Project Element	Completion Status
Grain Subdivision Phase A	Complete
Schedules 1A, 1B & 1C Rail Improvements	Complete
Utility Relocation Project	Complete
Terminal 5 Unit Train Improvements	Complete
Schedule 2 & 4 Property Acquisition	Complete & In Progress
Terminal 3 Rail Access	Complete
Grain Subdivision Phase B	Complete
Grain Track Unit Train Improvements Phase A	Complete
Malting Facility Relocation – Phase A	Complete
Schedule 2 Rail Trench In-Water Work Phase A	Complete
Terminal 5 Rail Expansion 4000A	Complete
Terminal 5 Rail Expansion SPL	Complete
Bulk Unloading Facility Utilities	In Progress
Malting Facility Relocation – Phase B	In Progress
Malting Drumhouse Demolition	In Progress
Schedule 2 Rail Trench Upland Work	In Progress
Schedule 2 Rail Trench In-Water Work Phase B	In Progress
Grade Separation Structure	In Progress

PORT OF VANCOUVER West Vancouver Freight Access Rail Construction Project Elements

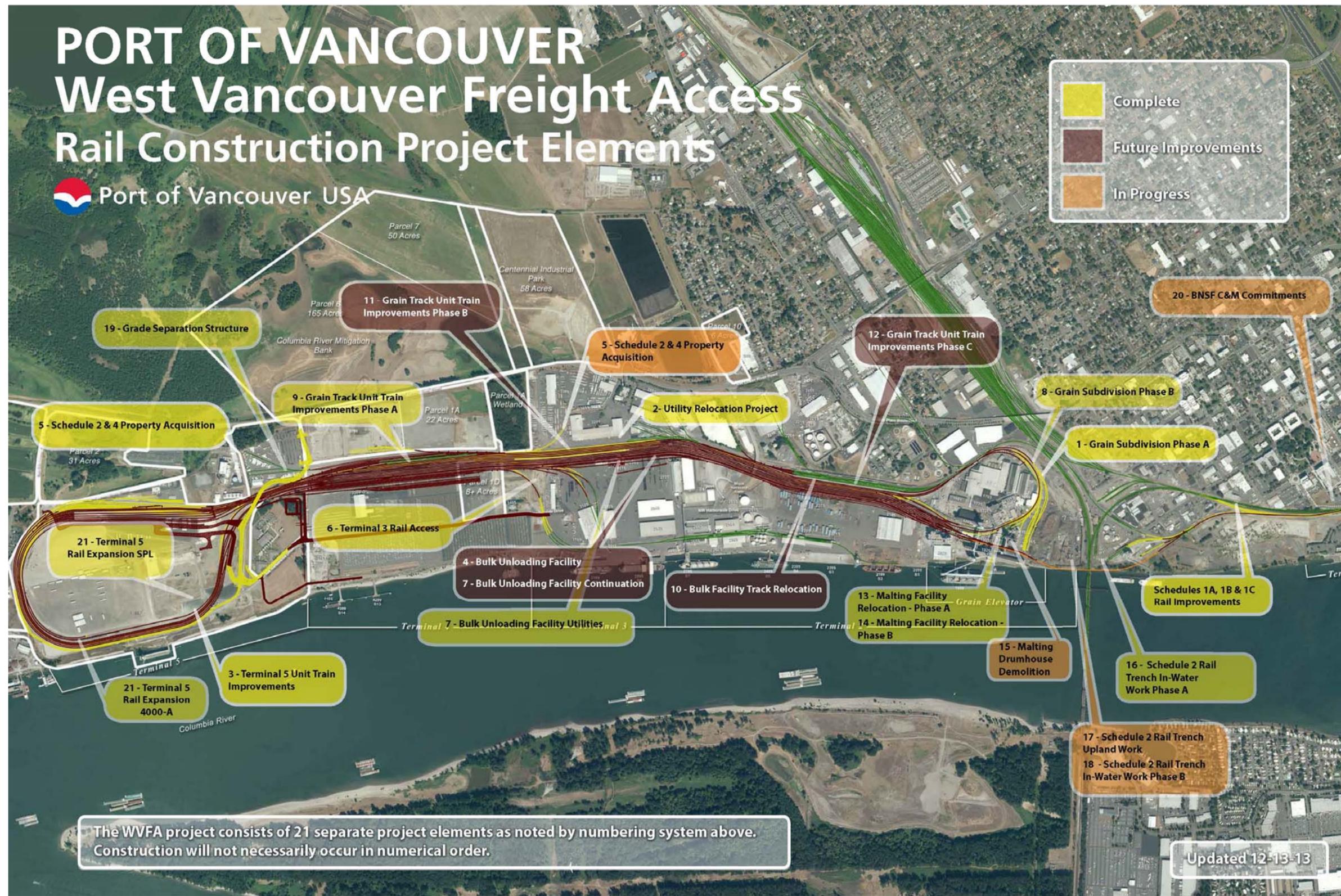


Figure 4.2-1. WVFA Rail Construction Project Elements (Revised)

Area 200 – is located on the Port’s Terminal 5 property. Terminal 5 has been the location of intensive historic industrial uses dating back to 1940s when the site was first developed for aluminum smelting operations through the early 2000s when aluminum processing activities on the property ended. The Port purchased Terminal 5 in 2009 and, with the exception of the on-site water tower and the dock structure in the Columbia River, all structures of the defunct aluminum processing plants have been removed. The Terminal 5 site is currently developed for the outdoor storage of wind turbine components and other cargoes and contains a rail loop including multiple rail lines for Port operations. The rail on the Terminal 5 site represents the westernmost segment of the WVFA project, as described above.

In addition to the WVFA project, BHP Billiton plans to construct a potash export facility on portions of Terminal 5 (Figure 4.2-1i). The approvals received for the project in 2012 included an additional rail loop track and a 301,400-square-foot storage building and an administrative and maintenance building, fuel station, conveyors, surge bin and shiploaders, and marine berthing facilities (Vancouver Hearings Examiner 2011). Initial grading and ground improvements have been completed.

Area 300 – As part of the proposed project, crude oil storage tanks will be located on Parcel 1A on the south side of NW Lower River Road just east of Farwest Steel (3703 NW Gateway Avenue). This site was first developed by the Port for industrial use beginning in the early 2000s and is currently temporarily partially occupied by a steel scrap storage yard operated by Pacific Coast Shredding.

Area 400 – Ship or barge loading will occur at existing berths 13 and 14 on the Columbia River south of the current Subaru facility. These berths were developed by the Port in 1994 in the early 1990s for short- and/or long-term moorage of ocean-going government and commercial vessels and have most recently been used as layberths.

Area 500 – The area encompasses the planned pipeline routes used for transferring crude oil between the project elements. The pipeline routes will be located primarily in existing rail and roadway corridors.

Area 600 – The structure housing the west boiler will be located on the northwest corner of Terminal 5. This area is currently a vacant gravel pad surrounded by access roads to Terminal 5. It was previously part of the former aluminum facility on Terminal 5 and was the location of an electrical transmission tower for power lines.

Rail Infrastructure – rail infrastructure improvements required to support the Facility will be constructed at Terminal 5. The Facility will construct two additional rail loops (tracks 4106 and 4107), in addition to the improvements described above for the WVFA project. Existing Terminal 5 rail associated with the WVFA will be shifted; the shifting of existing facilities will be performed by others, has been previously permitted, and is not included within this request for Site Certification. A third rail loop (track 4105) is permitted for general Port use. This track may be transferred to exclusive use by the Facility once a sustained volume of 120,000 barrels per day is received by the Facility.

Surrounding Land Uses and Zoning

Area 200 – Uses immediately surrounding Area 200 are as follows:

- North: Old Lower River Road (Port private road), Port Parcel 2 used for wetland, habitat and tree mitigation and a Bonneville Power Administration electrical substation

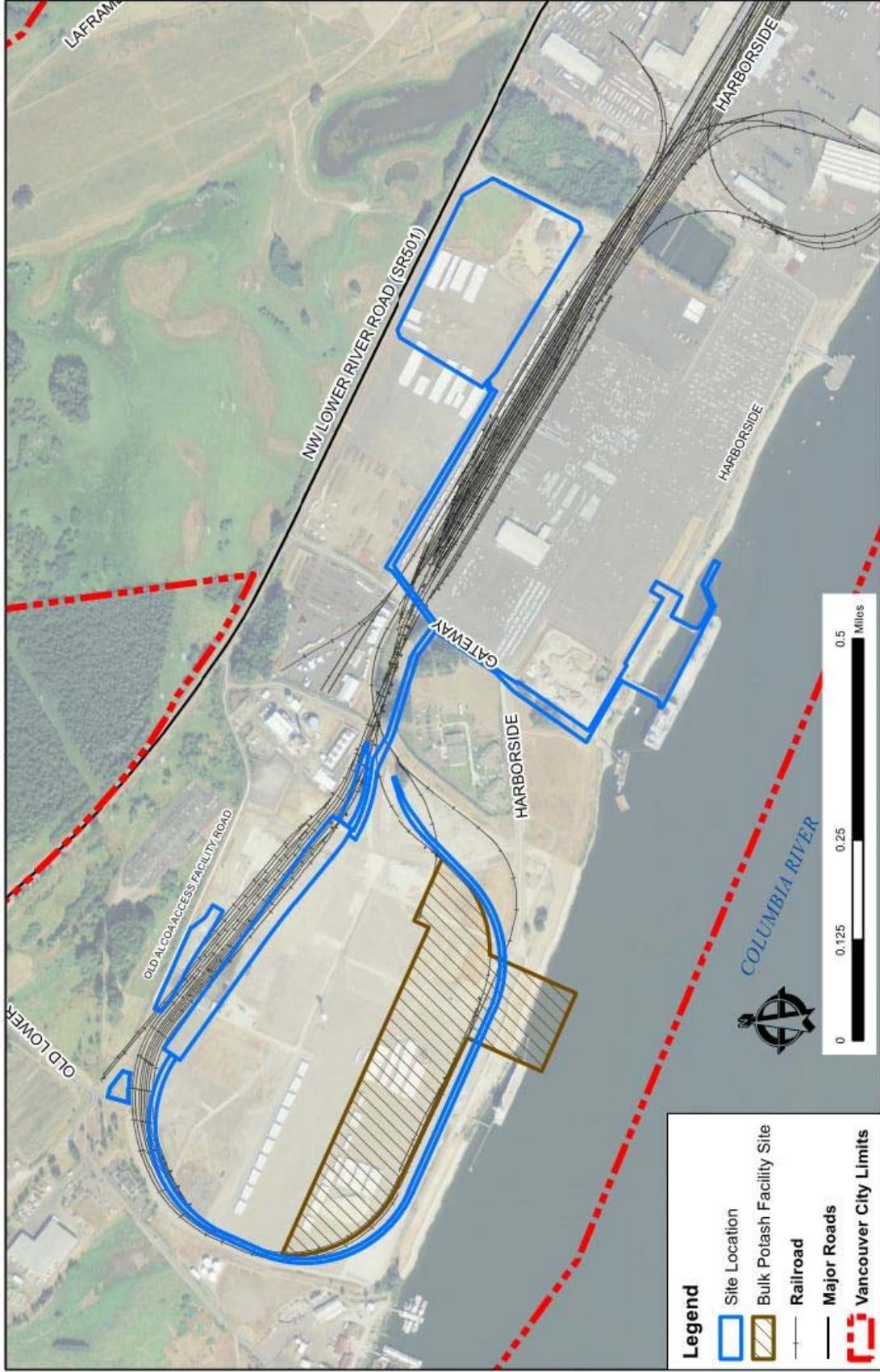


Figure 4.2-1i. BHP Billiton Proposed Site



- East: Keyera Energy propane distribution facility (Keyera), Jail Work Center (approximately 600 feet to the east), and the CPU River Road Generating Plant (100 feet to the northeast)
- South: Cargo laydown and bulk potash handling facility (under construction)
- West: Tidewater Barge Lines and Tidewater Terminal Company (Tidewater)

The Keyera propane facility is located on an approximately 4-acre parcel consisting of rail unloading, ~~three~~ two 80,000-gallon propane storage tanks, truck loading racks, and a small office building. The Jail Work Center is located on approximately 18.3 acres and has three buildings. The in-custody and work release buildings are housing units with a total of 224 beds. The kitchen and warehouse building contains food and laundry service equipment and a jail industries warehouse. The CPU River Road Generating Plant is a combined-cycle combustion natural gas turbine located on approximately 16 acres that can generate 248 megawatts of electricity.

The bulk potash handling facility will include rail unloading, a storage building, dock and shiploader and accessory structures and facilities. Initial site grading and ground improvement work has been completed for this project.

Tidewater Terminal Company occupy approximately 23 acres including an office building for the corporate headquarter ~~for~~ and Tidewater Barge Lines operates a marine terminal. The terminal handles containers and serves as a tug and barge maintenance and operations facility including marine and upland facilities.

These surrounding properties are all zoned IH (see Figure 4.2-2)

Area 300 – Uses immediately surrounding Area 300 are as follows:

- North: Lower River Road (SR 501) and Columbia River Wetland Mitigation Bank
- East: Parcel 1A wetland
- South: Port rail system and the Subaru of America automobile import facility
- West: Farwest Steel

The Columbia River Wetland Mitigation Bank is a 154-acre mitigation bank developed in partnership with the Port. It includes 78 acres of enhanced wetlands and 25.5 acres of created wetlands. Credits from the wetland work on site are available for purchase to off-set wetland impacts on other properties. The Parcel 1A wetland is an approximately 10-acre parcel previously enhanced by the Port for wetland impacts on other properties. The Subaru facility is a port of entry for automobiles and consists of an approximately 70-acre parking and storage facility, a processing building, and facilities for rail car and truck loading. Farwest Steel is a steel fabricator and distributor and occupies an approximately 20-acre parcel, which was purchased from the Port in 2011. The site includes an office building and fabrication/warehouse building.

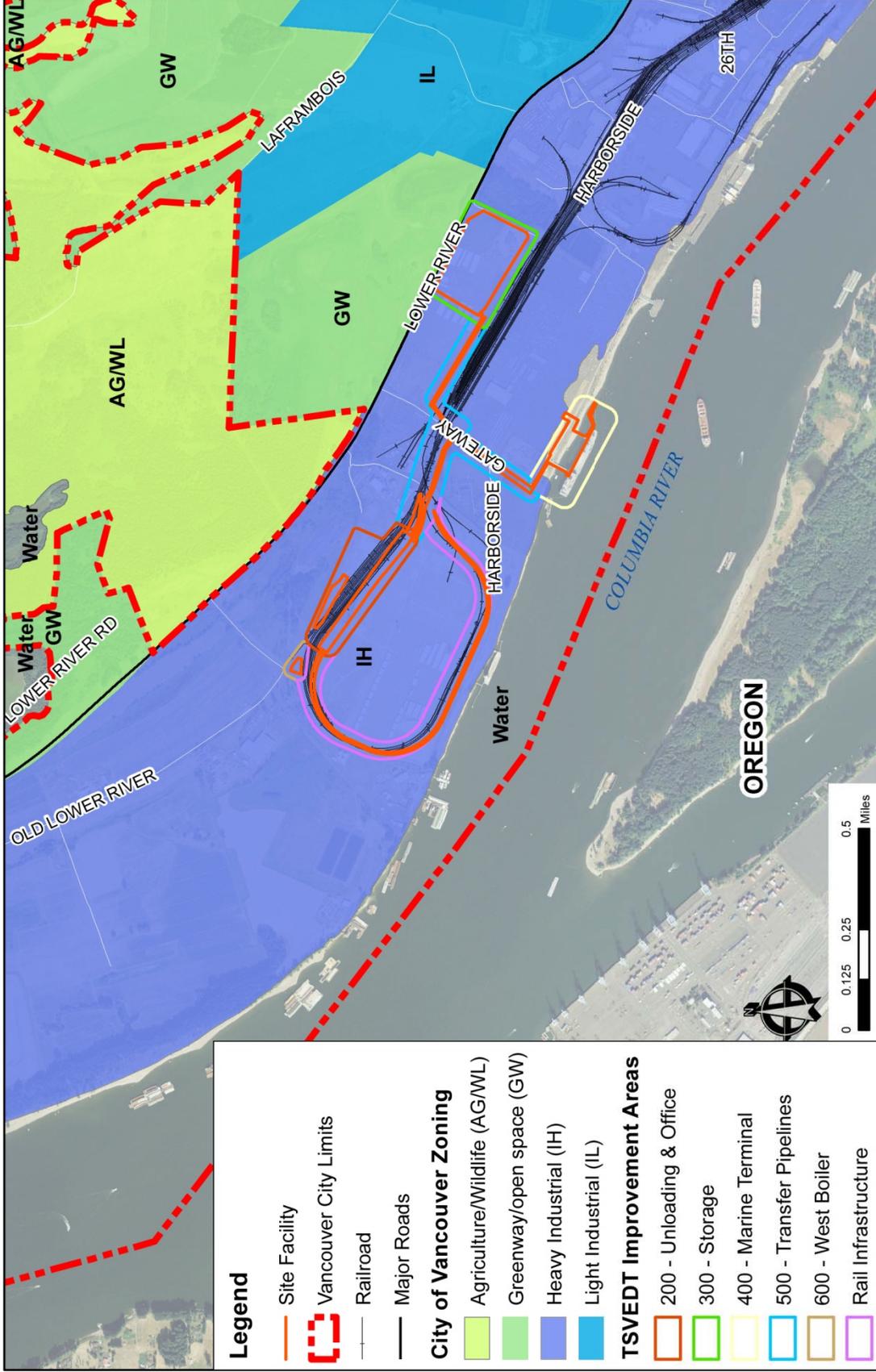


Figure 4.2-2. City of Vancouver Zoning in Site Vicinity

intensity than general outside lighting (up to 32 foot-candles), but will be limited to specific areas. This lighting can be adjusted to minimize light spillover or direct glare in response to specific site conditions.

4.2.2.3 Impacts

During construction, minor temporary outdoor lighting impacts may occur; however, most construction activities will occur during daylight hours and will be temporary in nature. The estimated construction duration is 9 to 12 months. Upon project completion, 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, as are their hours of operation and security needs.

Potential glare impacts will be minimized during the day by the use of non-reflective light paint colors on exterior surfaces. Using full cut-off light boxes, adjusting light direction, and using supplemental light shields/vegetation to provide additional screening, if necessary, will minimize light spillover at night. The Facility is expected to make a minimal contribution to overall ambient light levels in the immediate vicinity. There are no residential areas north, south, or west of the site that would be affected by proposed lighting. There are residential areas to the east within 1 mile of the Facility but most impacts are limited by the landform and existing vegetation. Impacts to wildlife as a result of construction and operational lighting is discussed in further detail in section 3.4.4.2.

4.2.2.4 Mitigation Measures

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.

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

4.2.3 Aesthetics

This section describes the visual qualities of the existing landscape around the project area and the potential changes to these qualities resulting from construction and operation of the Facility.

4.2.3.1 Methodology

For the purposes of this assessment, methodologies used by federal resource managers were employed. The most widely known methodologies are those developed by the U.S. Department of Agriculture, Forest Service (*Landscape Aesthetics, A Handbook for Scenery Management*, USDA USFS, 1995) and the U.S. Department of Transportation, Federal Highways Administration (*Visual Impact Assessment for Highway Projects*, USDOT FHWA, 1981). While neither methodology applies directly to this project, conducting a visual inventory and identifying viewer sensitivity form a general framework for assessing the project's potential visual impacts. While EFSEC has used both of these methodologies in prior proceedings (most recently in analyzing visual impacts of wind energy facilities), the landscape and land use setting for this facility are considerably different, necessitating consideration of the industrial landscape as context, both in measuring impacts as well as the expectations and sensitivities of viewers.

The visual resource methodology used to inventory and assess the potential impacts of this project includes the following steps:

- Prepare an inventory existing visual quality;
- Identify and evaluate potentially sensitive viewers and viewpoints within the landscape context of the development;
- Use visual simulations to describe the visual changes introduced by the construction and operation of the Facility;
- Assess the visual impacts from potentially sensitive viewpoints within the visual context of the project and an existing heavy industrial zone; and
- Recommend mitigation measures.

Field reconnaissance was conducted to determine the general visibility of the proposed Facility from the identified potentially sensitive viewpoints (e.g., residences, travel routes, public parks or other sensitive viewpoints). Visual impacts were assessed based on the visibility of changes from potentially sensitive viewpoints as a result of construction and operation of the project. Visual simulations of facilities were produced using scaled site photographs and 3-dimensional modeling software. These simulations allowed the assessment of potential impacts and the development of recommendations for mitigation.

4.2.3.2 Inventory

The project site is located within a highly industrialized area at the Port on the north bank of the Columbia River and west of the downtown area of the City. As described in earlier sections, the project includes construction and operations at five different locations within the Port. The dominant natural features of the area are the Columbia River, Vancouver Lake, and the Vancouver Lake Lowlands. The site, which is generally flat, is south of NW Lower River Road (SR 501). The adjacent natural areas include deciduous riparian vegetation, open grassland, and natural and modified shoreline conditions. The site has been highly modified by riverbank stabilization, imported fill, and the development of heavy industrial land uses and transportation corridors. The site is zoned IH. Surrounding uses include Farwest Steel, Kelley Steel, the CPU River Road Generating Plant, the Jail Work Center, a propane terminal, and various import-export facilities using the adjacent rail lines and Columbia River terminals. The site and its surroundings are heavily modified from their original natural state and are typified by industrial facilities including large industrial buildings, large expanses of impervious surfacing, utility and railroad corridors, fencing, and open storage. The stormwater and mitigation sites operated by the Port adjacent to the project site offer some vegetation; however, these limited sites are generally visually and physically disconnected from the surrounding landscape.

Past Industrial Use

Alcoa began operations at the Port of Vancouver in the early 1940s at the site of the proposed project. The new aluminum plant was constructed in Vancouver to take advantage of the inexpensive hydropower produced from the dams recently constructed along the Columbia River. The smelter and fabrication facilities produced rod, wire, cable, and other aluminum products that were shipped throughout the world. The extent of the aluminum smelting and manufacturing activity is illustrated on the historic aerial photo Figure 4.2-5. Alcoa operated the facility through the early 2000s. As indicated in section 2.1.1.1, the Port completed the purchase of the Alcoa properties in 2009 and, with the exception of the onsite water tower and the dock structure in the Columbia River, all structures of the former aluminum processing plants have been removed and remediation has been conducted at the site in accordance with Ecology approvals (see Figure 4.2-6 below for a current aerial photo of the site).

Since the plant's closure, site has been remediated to Ecology's standards and redeveloped for other industrial uses. Because of its industrial history, manufacturing processes and structures have dominated the appearance of the project site for more than 70 years. These historic uses

resulted in the development of numerous large structures, utility, and transportation facilities. The proposed project is consistent with historic industrial uses and will not result in new visual impacts to the site and adjacent areas.

Landscape Setting

In addition to adjacent industrial Port lands, the landscape setting is characterized by the Vancouver Lake Lowlands. This landscape area includes Frenchman's Bar Regional Park, Shillapoo Wildlife Area, Vancouver Lake Regional Park, and other open space lands owned by the state and managed for wildlife. East of the site, residential and industrial areas are found along Fruit Valley Road. Additional residential areas are located on the bluffs overlooking Vancouver Lake and the Port. These residential areas range from approximately 0.6 mile to 1.25 miles from the project site. The Columbia River is directly south of the site. The Port of Portland owns the western end of Hayden Island on the south shore of the Columbia River across from the Port of Vancouver.

Visual Quality

The general character and setting of the existing landscape are described above. Within the project limits, past and current industrial activities have modified the landscape character greatly. SR 501, other industrial uses, and overhead utility lines separate the project area visually and physically from the adjacent natural features. The visual quality of the project area is consistent with the manmade conditions within the Port.

Based on the described character and setting, three general descriptions were developed to characterize the visual quality of the project site. These visual quality descriptions were developed from the land uses and the visual patterns created by the existing natural and manmade features. The descriptions follow.

- **Urban/Industrial** – This landscape is common to urban areas and urban/industrial fringes. Human elements are prevalent or landscape modifications exist which do not blend with the adjacent natural surroundings (low visual intactness and unity). The character and setting of the site, and its visibility from surrounding areas, will be that of a heavily industrialized landscape, dominated by rail infrastructure, commodity storage, processing and shipping, with or without the project.
- **Rural** – The landscape exhibits reasonably attractive natural and human-made features/patterns, although these are not visually distinctive or unusual within the region. The area provides some positive visual experiences such as natural open space with some existing agricultural areas (farm fields, etc.) or well-maintained and landscaped urban areas.
- **Unique/Distinctive** – This landscape exhibits distinctive and memorable visual features (landforms, lakes and rivers, etc.) and patterns (vegetation/open space) that are largely undisturbed—usually in a rural or open space setting.

Viewer Sensitivity

Potential viewer sensitivity depends on viewer types and exposure (number of viewers and view frequency), view orientation and duration, viewer frame of reference and expectation, and viewer awareness/sensitivity to visual changes. For the purposes of this report, levels of viewer sensitivity were evaluated using the following criteria:

- **Low** – Viewer types representing low visual sensitivity include industrial/warehouse, utility, and shipping and transportation workers. Compared with other viewer types, the number of viewers is generally considered small and the duration of their view is short. The activities of these viewers typically focus their attention and limit their awareness/sensitivity to the visual setting immediately beyond the workplace.
- **Moderate** – Viewer types representing moderate visual sensitivity consist of highway and local travelers. The awareness and sensitivity of this set of viewers are considered moderate because destination travelers often have a focused orientation. The level of sensitivity is influenced by the rate and frequency of travel. Delivery drivers who often travel a particular route will have less sensitivity than pedestrians who move slowly through an area.
- **High** – Residential and recreational viewers and viewers accessing public places (parks, beaches, etc.) are considered to have comparatively high visual sensitivity. Their views may be of longer duration and higher frequency.

Viewpoints

To assess the potential visual impacts resulting from this project, the existing conditions were reviewed. This work included a photographic inventory of the landscape setting to identify important viewpoints where visual impacts from the project may be observed. This task considered sensitive viewers in determining final viewpoints. Areas of the project not visible from public roadways and lands, including adjacent Port industrial operations, were not included in the analysis. The viewpoints and the project vicinity are illustrated in Figure 4.2-7.

Four viewpoints were determined to assess potential impacts resulting from project:

- **Viewpoint 1** was selected to assess potential impacts for motorists, bicyclists, and pedestrians traveling SR 501 and viewing the storage area (Area 300). This viewpoint is approximately 400 feet from the storage area. Primary viewers include Port tenants and customers, park users traveling to/from Frenchman’s Bar and Vancouver Lake parks, and recreational bicyclists. Because of the short duration of view, recreational users passing by the storage area have been assigned moderate viewer sensitivity. Port tenants and customers have been assigned low viewer sensitivity (see Figure 4.2-8).
- **Viewpoint 2** was selected to assess potential impacts for users at Franklin Neighborhood Park and residents of the Northwest Neighborhood. This viewpoint includes two separate sub-viewpoints (Viewpoint 2a and Viewpoint 2b) with slightly different perspectives of the storage area to assess potential impacts for different viewers. It should be noted that other park and residential areas are located closer to the Facility in the Fruit Valley Neighborhood. Because of the flat topography and the existence of natural features and built structures located between the neighborhood and the Facility, the site is not visible from the Fruit Valley Neighborhood. No visual impacts are anticipated. Located on a bluff overlooking the Port, Franklin Park is approximately 1.25 miles from the storage area and the Northwest Neighborhood is approximately 0.65 mile from it. Because of the proximity of residential and park areas to the Facility, viewers have been assigned moderate viewer sensitivity rather than the high sensitivity typically associated with this viewer type (see Figure 4.2-9).
- **Viewpoint 3** was selected to assess potential impacts for commercial maritime and recreational boaters on the Columbia River. Dock facilities located at Area 400, and to a lesser extent the storage area, will be visible from the Columbia River. This viewpoint is approximately 0.30 mile from dock and 0.75 mile from the storage area. Maritime users have

been assigned a low sensitivity. Because of the proximity of boaters are likely to be viewing to the Facility from a distance of at least 0.3 miles, recreational viewers have been assigned moderate viewer sensitivity rather than the high sensitivity typically associated with this viewer type (see Figure 4.2-10).

- **Viewpoint 4** was selected to assess potential impacts for motorists traveling NW Old Lower River Road. This viewpoint is approximately 100 feet from the west boiler area (Area 600) and 750 feet from the unloading and office area (Area 200). Traffic through this roadway corridor is relatively light consisting primarily of Port tenants, customers, and agricultural workers. Because of the duration, frequency, and types of user groups traveling through this corridor, a low viewer sensitivity has been assigned (see Figure 4.2-11).

Table 4.2-4 below summarizes the four viewpoints that were selected for this analysis, the sensitivity of viewers, and existing visual quality from these viewpoints.

Table 4.2-4. Viewpoints, Sensitive Viewers, Existing Visual Quality

View Number	Viewpoint	Sensitive Viewers (Sensitivity)*	Visual Quality
1	SR 501, looking west	Motorists, bicyclists, and pedestrians traveling SR 501. Primary users include Port tenants and customers (L), park users traveling to/from Frenchman's Bar and Vancouver Lake parks (M), and recreational bicyclists (M).	Urban/Industrial Rural
2a & 2b	Franklin Neighborhood Park (2a) and Northwest Neighborhood (2b), looking southwest	Park users and residents of the Northwest Neighborhood (M).	Urban/Industrial Rural
3	Columbia River Shoreline, looking north	Maritime (L) and recreational river (M) users.	Urban/Industrial
4	NW Old Lower River Road, looking east	Motorists traveling NW Old Lower River Road (L). Primary users include Port tenants and customers and employees and visitors of adjacent industrial sites (e.g. Tidewater).	Urban/Industrial

*L = low; M = moderate; H = high viewer sensitivity

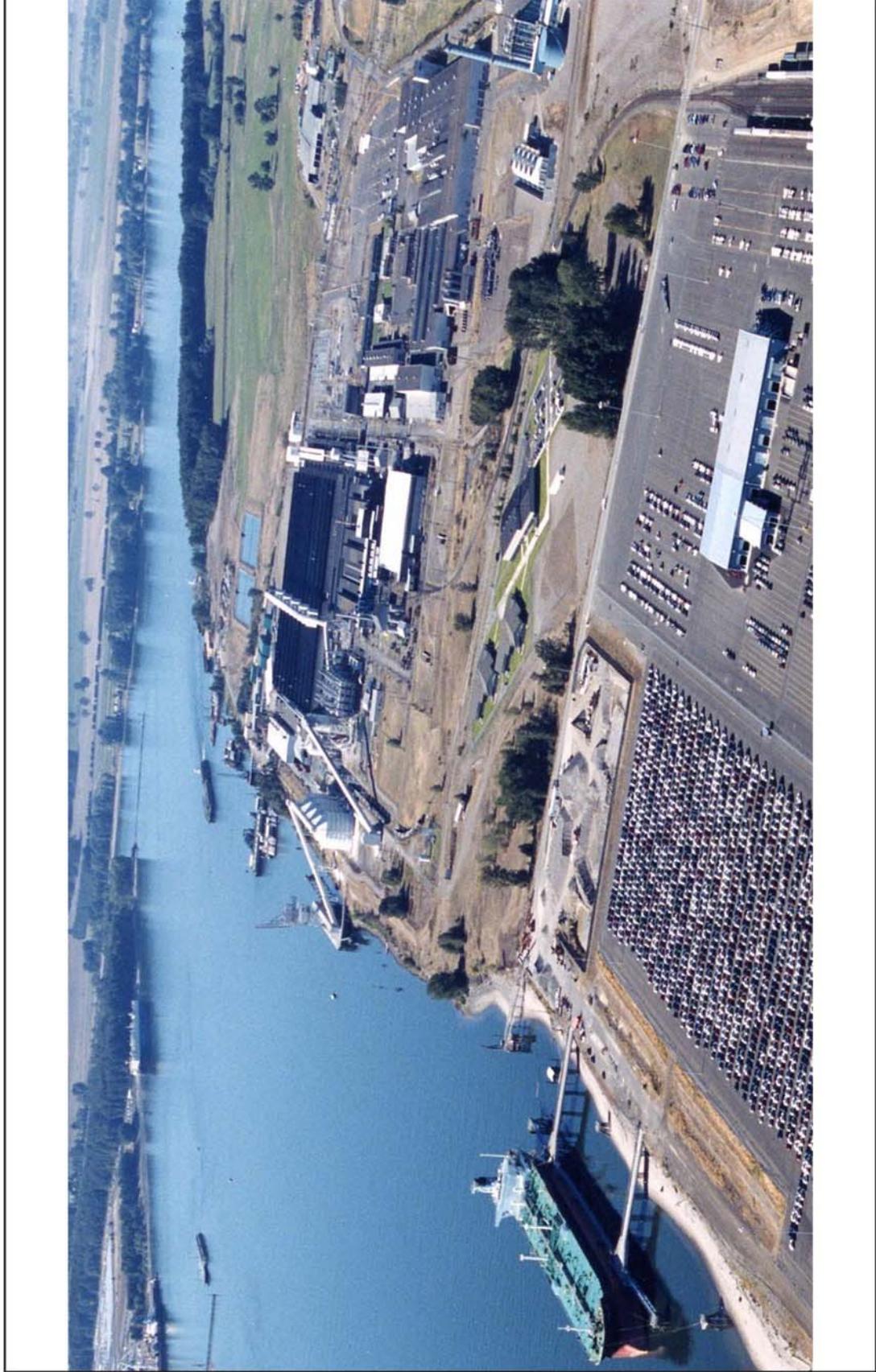


Figure 4.2-5. Historical Aerial Photo

Name of Park/Facility	Facilities	Owner
Burnt Bridge Creek Greenway Trail	<ul style="list-style-type: none"> • 8-mile hard-surfaced shared-use trail 	VCPRD
Franklin Park	<ul style="list-style-type: none"> • 12-acre neighborhood park • Play equipment • Sports fields • Picnic tables 	VCPRD
Fruit Valley Park	<ul style="list-style-type: none"> • 6-acre neighborhood park • Play equipment • Paved pathways • Picnic tables 	VCPRD
Liberty Park	<ul style="list-style-type: none"> • 0.2-acre park developed in conjunction with the completion of the Mill Plain Blvd. Extension • Play equipment 	VCPRD
Various Neighborhood Parks (Lynch, Hidden, Carter, Brickyard, and John Ball Parks)	<ul style="list-style-type: none"> • Small neighborhood parks (approximately 1 to 5 acres) located in neighborhoods west of I-5 and south of Burnt Bridge Creek • Play equipment • Multi-use fields/open lawn areas • Picnic tables 	VCPRD
Kelley Point Park	<ul style="list-style-type: none"> • 102 acre multi-use park • Canoe launch • Restroom • Historical site • Paved and unpaved trails • Picnic tables • Willamette and Columbia River Access 	Portland Parks and Recreation
Smith & Bybee Wetlands Natural Area	<ul style="list-style-type: none"> • Approximately 2,000 acre natural area • Paved 1-mile trail • Wildlife viewing platforms • Boat launch 	Metro

The City's comprehensive plan identifies the various types of parks in the community as neighborhood parks, community parks, regional parks, natural areas and open space, and trails and greenways (City of Vancouver, 2011). Neighborhood parks are approximately 2 to 5 acres in size and provide access to basic recreation opportunities for residents located nearby the park, community parks are typically 20 to 100 acres in size and provide a gathering place for larger groups of users, Regional parks serve residents both throughout the County and beyond and are typically larger than 50 acres in size and provide a diversity of recreational opportunities. Natural areas and open space are reserved for primarily undeveloped spaces that are managed for natural, ecological values as well as for light-impact recreational uses. Lastly, trails and greenways provide paths for non-motorized travel or passage by the general public. There are additional parks and recreation areas beyond the immediate vicinity of the proposed project area. These parks are not addressed in greater detail here because no impacts are anticipated because of their distance from the Facility.



Figure 4.2-22. Recreational Facilities (Revised)



Historic-period sites reflecting the early settlement of the County are common in the district as well. While several archaeological sites have been identified near Vancouver Lake, no recorded resources were identified within the present study area.

NW Old Lower River Road Area – Three cultural resource studies were conducted on the north side of NW Old Lower River Road in the Port’s Parcel 2, approximately 50 feet north of the portion of the current study area located in Terminal 5 (Davis and Ozbun 2011; Jenkins and Davis 2012; King 1995). One was a cultural resource survey for a utility substation and access road and included a pedestrian survey and excavation of six shovel tests (Davis and Ozbun 2011). Shovel tests appeared to be in undisturbed native soils; however, no archaeological materials were observed. Another study was a predetermination survey for a tree mitigation project and consisted of a pedestrian survey and excavation of four shovel tests (Jenkins and Davis 2012). Shovel tests appeared to be in undisturbed native soils, but no archaeological materials were observed. These recent cultural resource investigations encountered undisturbed native soils but did not encounter archaeological deposits.

Another study was a cultural resource survey for the River Road project (formerly the Cogentrix Pipeline Lateral project) (King 1995). The survey consisted of a pedestrian survey, shovel testing, and auger probing to tests for deeply buried deposits. While no archaeological materials were observed immediately north of the present study area, one archaeological site, 45CL408, was identified during this project and is located approximately 0.6 mile northwest of the present study area (King 1995).

Another cultural resource study close to the study area was conducted for a power plant project within a portion of the old Alcoa facility, located immediately adjacent to the present study area (Thomas 1995). A pedestrian survey was conducted and dredge fill material was noted on the surface. No archaeological materials were observed (Thomas 1995).

Parcel 1A Area – Parcel 1A was first investigated in 1982 as part of a larger survey (Thomas and Welch 1982). This investigation included a pedestrian survey and excavation of 30 shovel tests and augers. Although no archaeological materials were identified in subsurface excavations, the ruins of a 20th-century dairy farm and a portion of the original alignment of Lower River Road were observed southeast of the present study area. Thomas and Welch (1982) state that dredge spoils covered the entire Columbia River beach from the shore to 800 feet inland. Monitoring was recommended in high probability areas and in the vicinity of the old dairy farm and no further work was recommended in the present Parcel 1A study area (Thomas and Welch 1982).

Parcel 1A was investigated again in 1993 for the Port’s initial development of the larger Parcel 1 site. During the 1993 study, the area between the BNSF rail track and NW Lower River Road was described as a relatively undisturbed area with a series of ridges, swales, sloughs, and lakes formed by the changing course of the Columbia River over thousands of years (Forgeng and Reese 1993:1). A pedestrian survey was conducted and several backhoe trenches were excavated south of the railroad tracks to explore for buried archaeological sites. Trench excavation revealed dredge fill up to 5.3 feet deep in some places. No archaeological materials were identified and Forgeng and Reese (1993) concluded the native surface of Parcel 1 had been greatly impacted when dredge materials were deposited.

The Parcel 1A and berths 13 and 14 portions of the study area were investigated in 2009 for the Port’s Terminal 4 improvements project (Reese 2009a). The Terminal 4 improvements included

the expansion and upgrades of the Subaru facility and creation of marine cargo laydown area within Parcel 1A. Background research and a records review revealed much of the site had been surveyed. A pedestrian survey was conducted in areas that were never surveyed for cultural materials. Sandy fill was observed throughout the survey area and no artifacts were identified. No further work was recommended (Reese 2009a).

Terminal 5 Area – The Terminal 5 portion of the study area was first investigated in 2003 for the Alcoa remediation project (Becker and Roulette 2003). The investigation included background research, analysis of bore log data, and a limited pedestrian survey. The pedestrian survey was conducted in areas where excavation ~~would~~ will occur, south of the study area. The bank of the Columbia River was described as consisting of about 20 feet of dredge fill covered with riprap. An analysis of bore log data revealed that between 4 and 9 feet of dredge fill caps native soil. The pedestrian survey did not identify native soils or artifacts and monitoring was recommended for areas where deep excavation may encounter native soil (Becker and Roulette 2003).

Background research and a records review were conducted for the Terminal 5 portion of the study area in 2009 for the Alcoa/Evergreen development project (Fagan and Zehendner 2009). This investigation revealed that the shape and elevation of the north shore of the Columbia River had substantially changed when fill materials were added to facilitate construction of the Alcoa facility in the 1940s. Based on the historical evidence of extensive fill deposits on the parcel and because no archaeological deposits have been identified within or adjacent to the former Alcoa facility, no further archaeological work was recommended (Fagan and Zehendner 2009).

The Jail Work Center property, which borders the study area, was archaeologically investigated in both 1997 and 2012 (Ellis and Mills 1998; Moore et al. 1997; Fuld and Reese 2012). The 1997 fieldwork included a pedestrian survey and excavation of 18 shovel tests and 8 shovel scrapes. Coarse sand and gravel dredge fill deposits were observed on the surface and up to 4 feet deep throughout most of the property. Native soils were identified; however, they consisted of sterile flood deposits. No artifacts were observed during the 1997 survey (Moore et al. 1997). The area Ellis and Mills (1998) examined overlapped with the Moore et al. 1997 survey area. The 2012 fieldwork consisted of a pedestrian survey of a portion of the property. Disturbance representing continual modification of the area and dredge fill deposits were identified, and no artifacts were observed (Fuld and Reese 2012).

Three archaeological studies were performed in the project area in association with the Port's WVFA project (Hetzl et al. 2009; Reese 2009a, 2009b). These studies found no evidence of prehistoric or historic-period archaeological sites. The rail siding was determined to be not eligible for listing in the NRHP (Hetzl et al. 2009). Numerous other archaeological studies have taken place in the immediate vicinity of the study area (Becker and Roulette 2003; Forgeng and Reese 1993; Thomas and Welch 1982).

A cultural resource study was conducted approximately 575 feet south of the present study area in Terminal 5 for a bulk potash handling facility (Chapman and Blaser 2010). A field inspection was conducted to identify archaeological or historic resources. The entire project area had been graded, resurfaced, and covered with gravel, asphalt, or loose sand. Fill materials were observed on the shoreline. No archaeological or historic resources were observed. Remnants of buildings and structures associated with the former Alcoa plant were observed, but none were older than 50 years in age. The remnants consisted of a foundation from a former concrete storage bunker

that was built in the early 1970s, concrete silo foundations (late 1960s-early 1970s), a concrete block storage shed (circa 1970), and a log raft remnant on the shoreline (date unknown). The concrete foundations are no longer on-site. A dock that remains offshore was built circa 1967. Construction monitoring was recommended for areas of proposed excavation below the fill level and into native soils (Chapman and Blaser 2010). Construction monitoring did not identify archaeological deposits.

A 1941 Alcoa aluminum smelting plant water tower was previously recorded (Hetzel 2009) for another study and was determined not eligible for listing in the NRHP in 2011 by the DAHP. The water tower still stands but is not within the Facility study area footprint. It was not within the project APE for the Terminal 5 bulk potash handling facility, mentioned above.

Columbia River Shoreline Area – In 2008, background research and a records review were conducted for the Columbia River shoreline for a sediment remediation project at the former Alcoa facility (Zehendner and Fagan 2008). This study revealed the north shore of the Columbia River had undergone substantial changes in shape and elevation as dredge fill materials were gradually added during construction of the Alcoa facility. Aerial photographs from 1940 to recent times show the original Columbia River shoreline had been covered with fill and extended south well beyond the former shoreline (Zehendner and Fagan 2008).

Additional Surveys

As described above, several studies within the study area and in the vicinity have noted that dredge fill deposits from 4 to 20 feet thick cover the area. Based on the historical evidence of extensive fill deposits and the fact that several archaeological surveys and subsurface testing projects have found no evidence of intact archaeological deposits within or adjacent to the project area, an archaeological survey was not necessary for this project.

Impacts

All of the study area and the surrounding area have been studied extensively for cultural resources through previous surveys. ~~No cultural resources or archaeological deposits have been found.~~

Cultural resources includes both prehistoric and historic-period archaeological resources and historic resources of the built environment (buildings, structures, and districts). Cultural resources that are eligible for listing in the NRHP are referred to as historic properties. No archaeological or historic resources have been recorded in the Facility study area. No recorded historic buildings or structures from the 1940 Alcoa aluminum smelting plant or from previous industries remain in the Facility study area.

Although the study area is within the Vancouver Lakes Archaeological District (45DT101) and the area is mapped as Level A, or high (80 to 100 percent), probability on the County and the Washington archaeological predictive model, no archaeological sites have been identified within or adjacent to the study area. Many of the archaeological sites in the area between Vancouver Lake and the Columbia River are found near wetland environments. ~~Because of the marshy floodplain topography, archaeological sites are generally found on higher land than the study area, although buried features have been found in saturated soils. Prior to filling of the Facility study area, the land was a marshy floodplain. While buried features have been found in saturated~~

soils, most archaeological sites are generally found on higher land than the study area. These sites are outside of the study area and ~~would~~ will not be impacted.

4.2.5.7 Mitigation Measures

While findings from previous studies indicate a low likelihood for encountering cultural material during construction, an inadvertent discovery plan will be prepared and implemented. The inadvertent discovery plan will include, but not be limited to, these elements:

- Because of the possibility of encountering intact soils beneath the fill in some areas of the study area, and because the study area has been included in previous surveys, if project construction reaches the depth of intact native soils, archaeological monitoring will be conducted if soils are excavated to the surface.
- Should any archaeological resources be found, ground-disturbing activities will be halted in the area of the find 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 DAHP will be notified to define a course of action.

4.2.6 Agricultural Crops/Animals

4.2.6.1 Existing Conditions

The proposed Facility is not currently used for agricultural purposes. Terminal 5 has been used for industrial purposes since the establishment of the Alcoa facility in the early 1940s (Anchor Environmental LLC 2008) and there is no indication of the previous use of the site for agricultural crops or for grazing. As described in the cultural resource review report completed by AINW dated July 5, 2013 in section 4.2.5.4, land where Parcel 1A is located was identified as having been used for grazing and agriculture in the late 1800s and early 1900s and the Terminal 5 property would likely have been used for the same purpose. More recently, the Port has used the site as a cargo laydown area.

Agriculture in the vicinity of the proposed Facility began in the 1950s when the wetlands associated with the Shillapoo lakebed were drained to be used for farming (WDFW 2006). The Shillapoo Wildlife Area is now managed to restore wetland and wildlife habitat, although some farming still occurs on these properties. While there are lands near the project area that are still farmed, the lands are zoned agricultural/wildlife (AG-WL), which, according to the zoning code, are lands where agricultural and wildlife uses should be protected and preserved. The following agricultural land occurs within 1.5 miles of the site. The lands zoned AG-WL just to the northeast of NW Lower River Road across from the Facility are farmed, and farming also occurs approximately 0.5 mile just downriver on land also zoned AG-WL; farming and grazing occur on Sauvie Island located approximately 1.5 miles to the northwest across the Columbia River in Oregon (zoned multiple use agriculture [MUA20] and exclusive farm use [EFU]).

4.2.6.2 Impacts

The proposed Facility will be constructed primarily on previously developed areas located at the Port. The site does not contain any areas currently being used for agriculture. While there are agricultural lands within the vicinity of the project area, the Facility will not impact these areas because they fall outside of the boundary of the proposed project. The proposed Facility will not result in any impacts to agricultural crops or animals.

4.2.6.3 Mitigation Measures

Because no impacts are anticipated, no mitigation measures are proposed.

