

MILLENNIUM BULK TERMINALS—LONGVIEW NEPA ENVIRONMENTAL IMPACT STATEMENT

NEPA SOCIAL AND COMMUNITY RESOURCES TECHNICAL REPORT

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Acronyms and Abbreviations

ACS	American Community Survey
ADA	Americans with Disabilities Act
AIAN	American Indian and Alaska Native
AMI	Area Medium Income
AMR	American Medical Response
APE	area of potential effects
Applicant	Millennium Bulk Terminals-Longview, LLC
CCC	Cowlitz County Code
CDID	Consolidated Diking Improvement District
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
City	City of Longview
County	Cowlitz County
CWCOG	Cowlitz-Wahkiakum Council of Governments
dba	A-weighted decibels
DEM	Department of Emergency Management
ECEAP	Early Childhood Education Program
Ecology	Washington State Department of Ecology
EDC	Economic Development Council
EIS	environmental impact statement
EMT	emergency medical technician
FHWA	Federal Highway Administration
FRA	Federal Railway Administration
FTA	Federal Transit Administration
FTZ	Foreign Trade Zones
GPM	gallons per minute
LCC	Lower Columbia College
MBTL	Millennium Bulk Terminals Longview
MBTL, LLC	Millennium Bulk Terminals – Longview, LLC
MGY	million gallons per year
MSA	Metropolitan Statistical Area
MTCA	Model Toxics Control Act
NEPA	National Environmental Policy Act
NHOPI	Native Hawaiian and Other Pacific Islander
OMB	Office of Management and Budget
RCW	Revised Code of Washington

SEPA	Washington State Environmental Policy Act
SR	State Route
USC	United States Code
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

This technical report assesses the potential impacts on social and community resources of the proposed Millennium Bulk Terminals—Longview project (On-Site Alternative), Off-Site Alternative, and No-Action Alternative. For the purposes of this assessment, effects on social and community resources refers to social and community cohesion effects, effects on the local economy, effects on public services and utilities, and environmental justice. This report describes the regulatory setting, establishes the method for assessing potential impacts, presents the historical and current social and community conditions in the study area, and assesses potential impacts.

1.1 Project Description

Millennium Bulk Terminals—Longview, LLC (Applicant) proposes to construct and operate an export terminal in Cowlitz County, Washington, along the Columbia River (Figure 1). The export terminal would receive coal from the Powder River Basin in Montana and Wyoming and the Uinta Basin in Utah and Colorado via rail shipment, then load and transport the coal by ocean-going ships via the Columbia River and Pacific Ocean to overseas markets in Asia. The export terminal would be capable of receiving, stockpiling, blending, and loading coal by conveyor onto ships for export. Construction of the export terminal would begin in 2018. For the purpose of this analysis, it is assumed the export terminal would operate at full capacity by 2028. The following subsections present a summary of the On-Site Alternative, Off-Site Alternative, and No-Action Alternative.

1.1.1 On-Site Alternative

Under the On-Site Alternative, the Applicant would develop an export terminal on 190 acres (project area). The project area is located within an existing 540-acre area currently leased by the Applicant at the former Reynolds Metals Company facility (Reynolds facility), and land currently owned by Bonneville Power Administration. The project area is adjacent to the Columbia River in unincorporated Cowlitz County, Washington near Longview city limits (Figure 2).

The Applicant currently and separately operates at the Reynolds facility, and would continue to separately operate a bulk product terminal on land leased by the Applicant. Industrial Way (State Route 432) provides vehicular access to the Applicant's leased land. The Reynolds Lead and the BNSF Spur rail lines, both operated by Longview Switching Company (LVSW),¹ provide rail access to the Applicant's leased area from the BNSF Railway Company (BNSF) main line (Longview Junction) located to the east in Kelso, Washington. Ships access the Applicant's leased area including the bulk product terminal via the Columbia River and berth at an existing dock (Dock 1) operated by the Applicant in the Columbia River.

¹ LVSW is jointly owned by BNSF Railway Company (BNSF) and Union Pacific Railroad (UP).

Figure 1. Project Vicinity

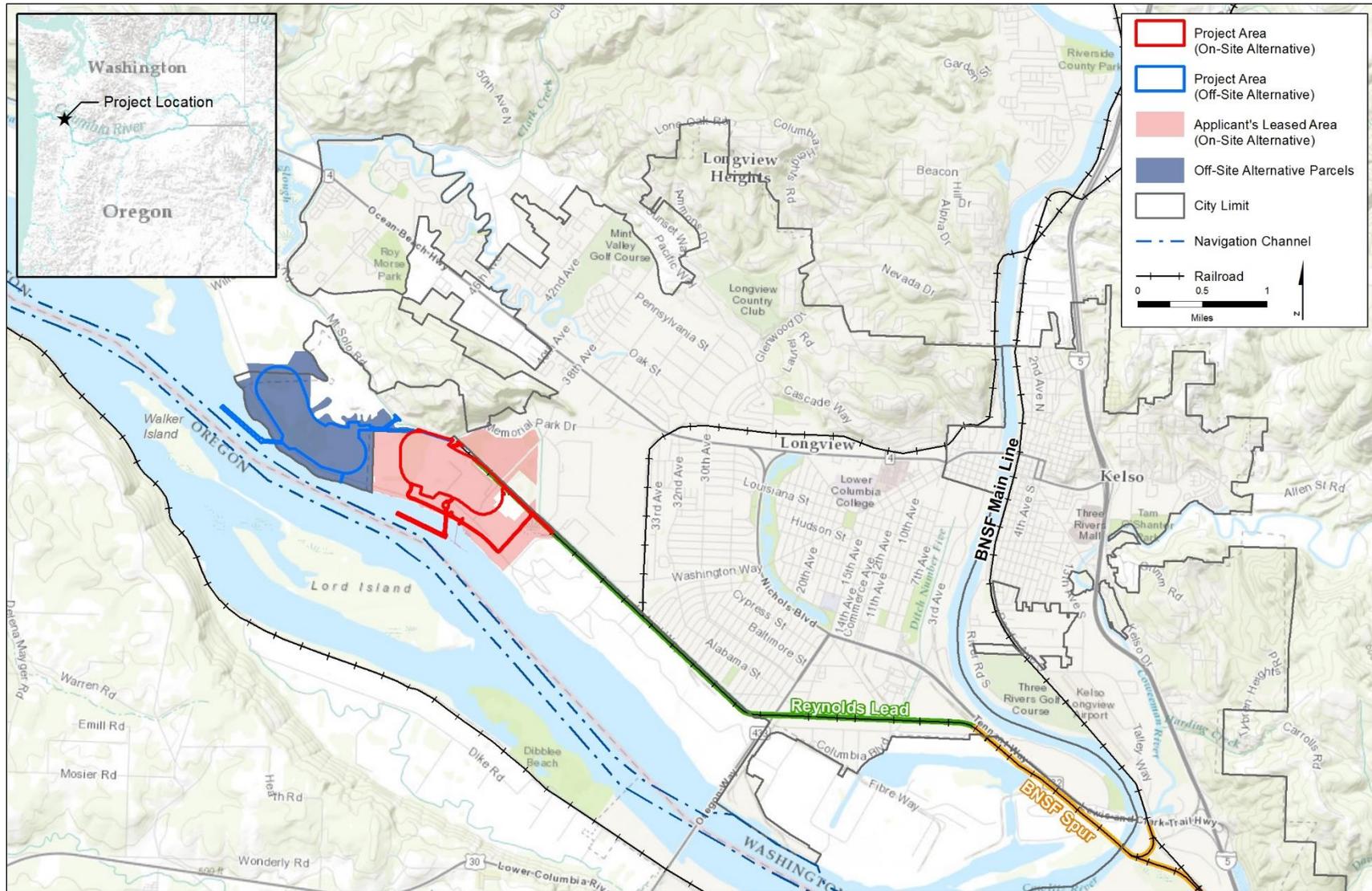
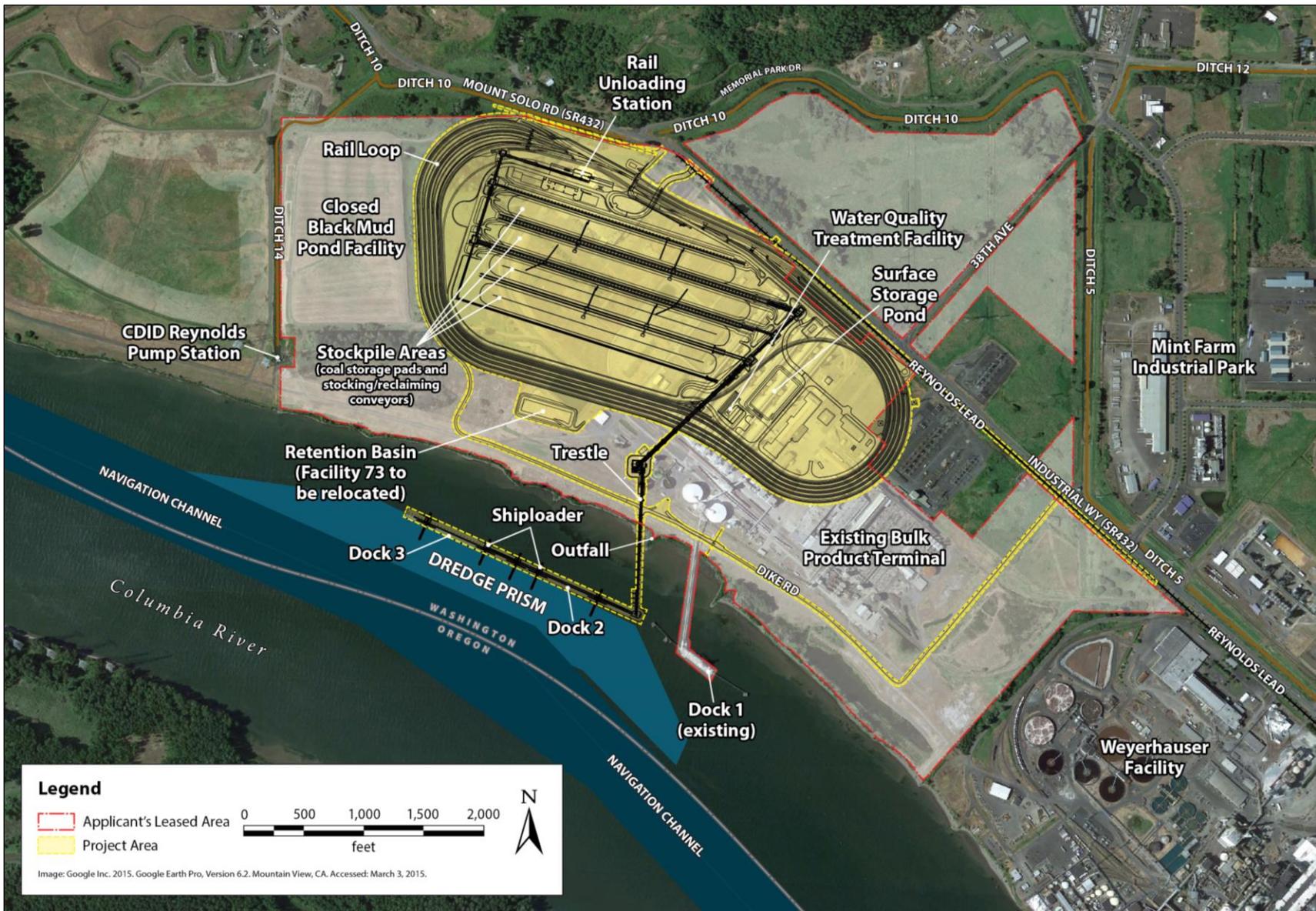


Figure 2. On-Site Alternative



Under the On-Site Alternative, BNSF or Union Pacific Railroad (UP) trains would transport coal in rail cars from the BNSF main line at Longview Junction to the project area via the BNSF Spur and Reynolds Lead. Coal would be unloaded from rail cars, stockpiled and blended, and loaded by conveyor onto ocean-going ships at two new docks (Docks 2 and 3) on the Columbia River for export to Asia.

Once construction is complete, the export terminal would have an annual throughput capacity of up to 44 million metric tons of coal.² The export terminal would consist of one operating rail track, eight rail tracks for the storage of rail cars, rail car unloading facilities, stockpile areas for coal storage, conveyor and reclaiming facilities, two new docks in the Columbia River (Docks 2 and 3), and ship-loading facilities on the two docks. Dredging of the Columbia River would be required to provide access to and from the Columbia River navigation channel and for berthing at the two new docks.

Vehicles would access the project area from Industrial Way (State Route 432). Ships would access the project area via the Columbia River and berth at one of the two new docks. Trains would access the export terminal via the BNSF Spur and the Reynolds Lead. Terminal operations would occur 24 hours per day, 7 days per week. The export terminal would be designed for a minimum 30-year period of operation.

1.1.2 Off-Site Alternative

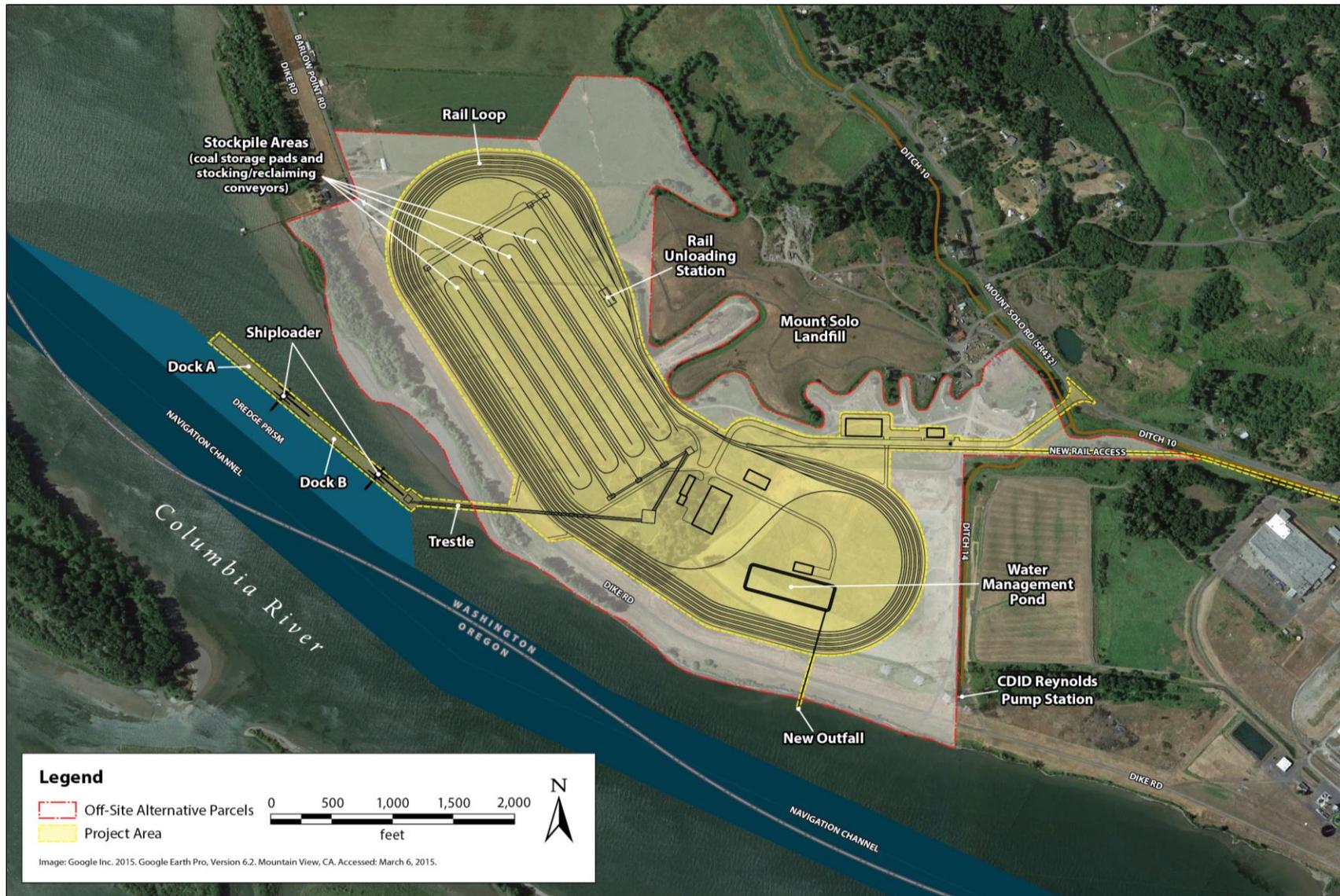
Under the Off-Site Alternative, the export terminal would be developed on an approximately 220-acre site adjacent to the Columbia River, located in both Longview, Washington, and unincorporated Cowlitz County, Washington, in an area commonly referred to as Barlow Point (Figure 3). The project area for the Off-Site Alternative is west and downstream of the project area for the On-Site Alternative. Most of the project area for the Off-Site Alternative is located within Longview city limits and owned by the Port of Longview. The remainder of the project area is within unincorporated Cowlitz County and privately owned.

Under the Off-Site Alternative, BNSF or UP trains would transport coal from the BNSF main line at Longview Junction over the BNSF Spur and the Reynolds Lead, which would be extended approximately 2,500 feet to the west. Coal would be unloaded from rail cars, stockpiled and blended, and loaded by conveyor onto ocean-going ships at two new docks (Docks A and B) on the Columbia River. The Off-Site Alternative would serve the same purpose as the On-Site Alternative.

Once construction is complete, the Off-Site Alternative would have an annual throughput capacity of up to 44 million metric tons of coal. The export terminal would consist of the same elements as the On-Site Alternative: one operating rail track, eight rail tracks for the storage of rail cars, rail car unloading facilities, stockpile areas for coal storage, conveyor and reclaiming facilities, two new docks in the Columbia River (Docks A and B), and ship-loading facilities on the two docks. Dredging of the Columbia River would be required to provide access to and from the Columbia River navigation channel and for berthing at the two new docks.

² A metric ton is the U.S. equivalent to a tonne per the International System of Units, or 1,000 kilograms or approximately 2,204.6 pounds.

Figure 3. Off-Site Alternative



Vehicles would access the project area via a new access road extending from Mount Solo Road (State Route 432) to the project area. Trains would access the terminal via the BNSF Spur and the extended Reynolds Lead. Ships would access the project area via the Columbia River and berth at one of the two new docks. Terminal operations would occur 24 hours per day, 7 days per week. The export terminal would be designed for a minimum 30-year period of operation.

1.1.3 No-Action Alternative

Under the No-Action Alternative, the Corps would not issue the requested Department of the Army permit under the Clean Water Act Section 404 and the Rivers and Harbors Act Section 10. This permit is necessary to allow the Applicant to construct and operate the proposed export terminal. The No-Action Alternative also includes the Applicant's expected future development of the On-Site Alternative project area, described below. This action is analyzed as part of the No-Action Alternative because it is a foreseeable consequence of a Department of the Army permit denial.

The Applicant plans to continue operating its existing bulk product terminal located adjacent to the On-Site Alternative project area, as well as expand this business. Ongoing operations would include storing and transporting alumina and small quantities of coal, and continued use of Dock 1. Maintenance of the existing bulk product terminal would continue, including maintenance dredging at Dock 1 every 2 to 3 years. Under the terms of an existing lease, expanded operations could include increased storage and upland transfer of bulk products utilizing new and existing buildings. The Applicant would likely undertake demolition, construction, and other related activities to develop expanded bulk product terminal facilities adjacent to the proposed export terminal.

In addition to the current and planned activities, if the requested permit is not issued, the Applicant would intend to expand its bulk product terminal business onto areas that would have been subject to construction and operation of the proposed export terminal. The Applicant has described a future expansion scenario that would involve handling bulk materials already permitted for off-loading at Dock 1. Additional bulk product transfer activities could involve products such as a calcine pet coke, coal tar pitch, cement, fly ash, and sand or gravel. While future expansion of the Applicant's bulk product terminal business might not be limited to this scenario, it was analyzed to help provide context to a No-Action Alternative evaluation.

1.1 Regulatory Setting

The jurisdictional authorities and corresponding regulations, statutes, and guidance for determining potential impacts related to social and community resources and environmental justice are summarized in Table 1. As shown, these laws and regulations pertain to the assessment of environmental justice.

Table 1. Regulations, Statutes, and Guidance for Social and Community Resources and Environmental Justice

Regulation, Statute, Guideline	Description
Federal	
National Environmental Policy Act (42 USC 4321 <i>et seq.</i>)	Requires the consideration of potential environmental impacts. NEPA implementation procedures are set forth in the President's Council on Environmental Quality's Regulations for Implementing NEPA (49 CFR 1105).
U.S. Army Corps of Engineers NEPA Environmental Regulations (33 CFR 320.4)	Requires the consideration of probable impacts, including cumulative impacts, of proposed activities and their intended use on public interest. Evaluations should reflect national concern for both protection and use of important resources including the cumulative effects on aesthetics and welfare of people.
Title VI of the Civil Rights Act of 1964 (42U.S.C. 2000d) as amended by the Civil Rights Restoration Act of 1987 (P.L. 100-209)	Prohibits discrimination based on race, color, sex, and national origin in the provision of benefits and services resulting from federally assisted programs and activities. Under the prohibition against national origin discrimination, recipients of federal funding are required to ensure that their programs and activities normally provided in English are accessible to limited English proficiency persons.
Americans with Disabilities Act	Prohibits discrimination based on disability.
Presidential Executive Order 12898, Environmental Justice	Promotes nondiscrimination in federal programs substantially affecting human health and the environment and provides minority and low-income community access to public information on, and an opportunity for public participation in, matters relating to human health or the environment.
CEQ Environmental Justice Guidance under NEPA	Provides guidance to assist federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed.
State	
Washington State Environmental Policy Act (WAC 197-11, RCW 43.21C)	Requires state and local agencies in Washington to identify potential environmental impacts that could result from governmental decisions.
Local	
Cowlitz County SEPA Regulations (CCC Code 19.11)	Provide for the implementation of SEPA in Cowlitz County.
NEPA = National Environmental Policy Act; USC = United States Code; CFR = Code of Federal Regulations; CEQ = Council on Environmental Quality; WAC = Washington Administrative Code; SEPA = State Environmental Policy Act; CCC = Cowlitz County Code	

1.2 Study Areas

The study areas for social and community resources assessment for both the On-Site Alternative and Off-Site Alternative are the same, as defined below.

- **Social/Community Cohesion and Public Services:** For direct impacts, the study area is the project area and the area within 0.5 mile of the project area. For indirect impacts, the study area is the project area and the area within 0.5 mile of the Reynolds Lead and BNSF Spur.
- **Local Economy:** For direct impacts, the study area is the cities of Kelso and Longview. For indirect impacts, the study area is Cowlitz County.
- **Environmental Justice:** The study area for direct impacts is the project area and the area within approximately 1 mile of the project area. This study area only relates to construction and operations of the On-Site Alternative and Off-Site Alternative. The study area for indirect impacts is the area within 0.5 mile of the Reynolds Lead and BNSF Spur.
- **Utilities:** For direct impacts, the study area is the project area and the area within 0.5 mile of the project area. This study area only relates to construction and operation of the On-Site Alternative and Off-Site Alternative. For indirect impacts, the study area is the project area and the area within 0.5 mile of the project area.

The direct impacts (0.5-mile) study areas around the project areas for the On-Site Alternative and Off-Site Alternative are shown on Figure 4. The direct and indirect impacts study areas for social and community cohesion are shown on Figure 5.

As discussed later in this report, demographic data has been compiled for the various study areas based on the U.S. Census Bureau (census) block group boundaries that most closely conform to the study area boundaries. For social/community cohesion and public services, the census block groups that represent the direct impacts (0.5-mile) study area around the project areas is shown in Figure 6. Because of the proximity of the On-Site Alternative and the Off-Site Alternative project areas, the same block groups represent the direct impacts study area for social/community cohesion and public services: Census Tract 3 Block Group 1, Census Tract 7.03 Block Group 1, and Census Tract 19 Block Group 1. For environmental justice, the census block groups that represent the direct impacts (1-mile) study area around the project areas and the indirect impacts (0.5-mile) study area around the Reynolds Lead and BNSF Spur are shown in Figure 7.

Figure 4. Direct Impacts Study Area near the Project Areas

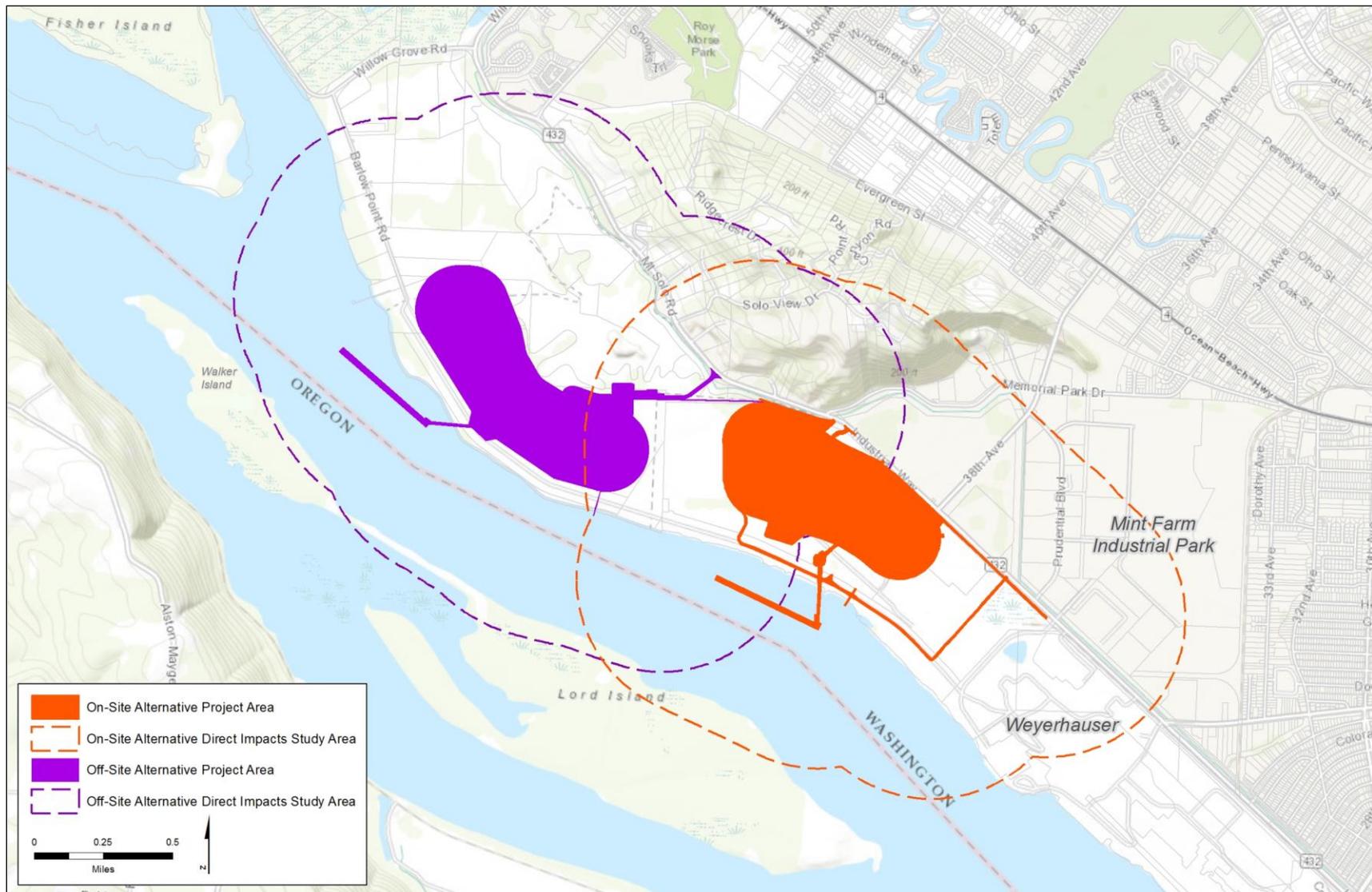


Figure 5. Social and Community Cohesion Direct and Indirect Impacts Study Areas

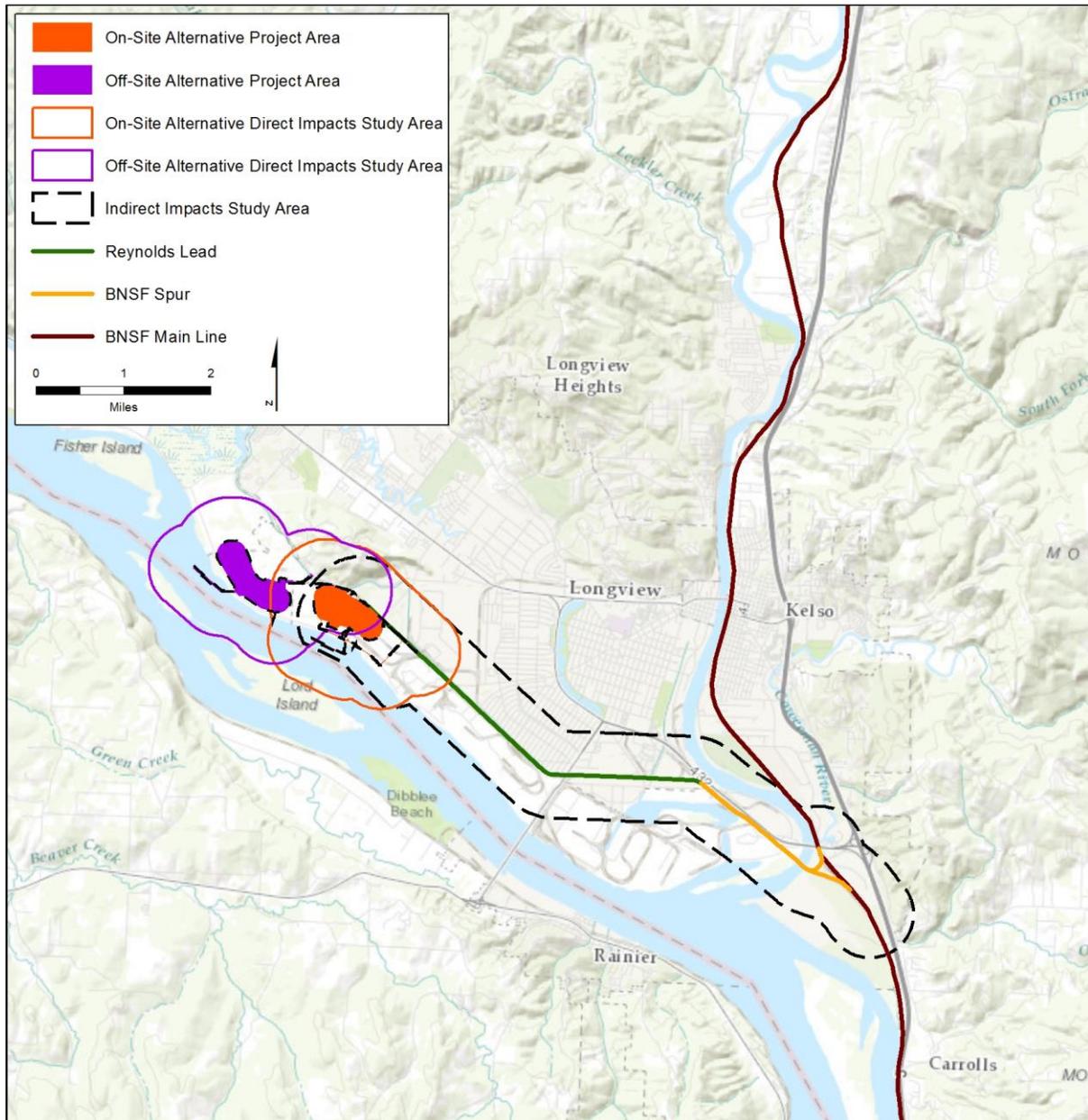


Figure 6. Direct Impacts Study Areas (Census Boundaries)

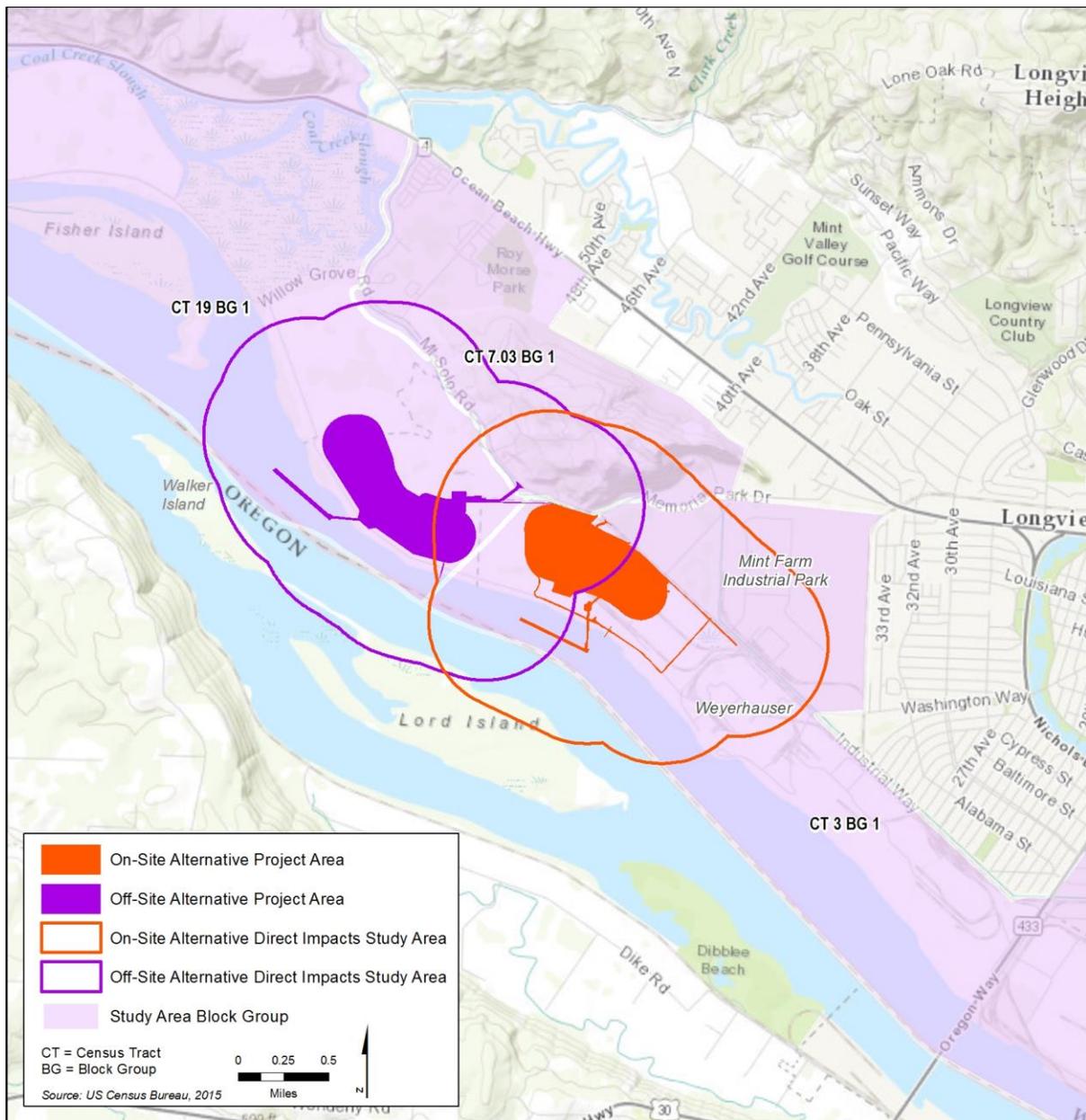
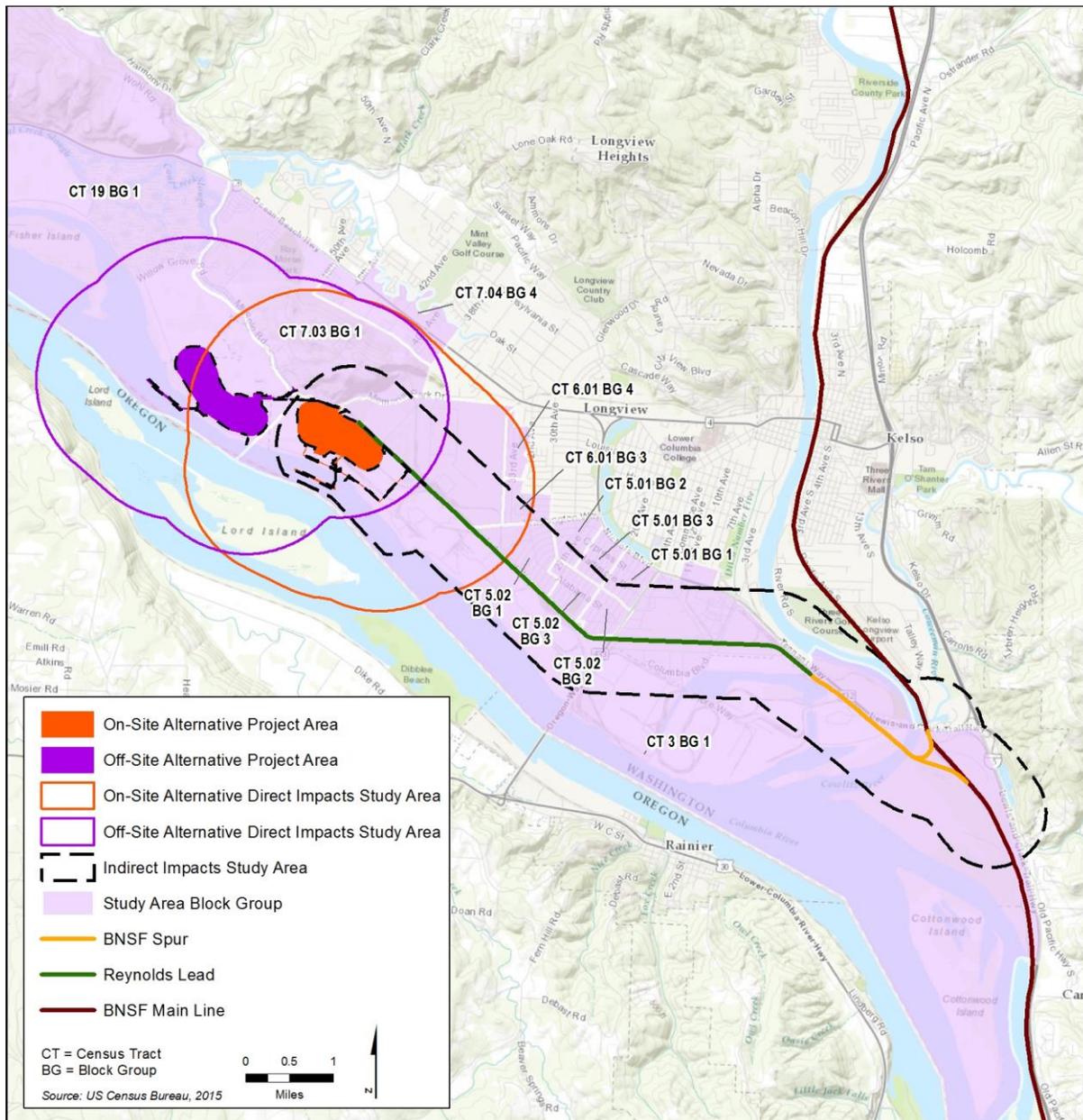


Figure 7. Environmental Justice Study Area



This chapter describes the methods for assessing the affected environment and determining impacts, and the affected environment in the study area as it pertains to social/community cohesion and public services, the local economy, environmental justice, and utilities.

2.1 Methods

This section describes the sources of information and methods used to characterize the affected environment and evaluate the potential impacts of the On-Site Alternative, Off-Site Alternative, and No-Action Alternative on social/community cohesion and public services, the local economy, environmental justice, and utilities.

2.1.1 Information Sources

The following sources of information were used to evaluate the social/community cohesion and public services, the local economy, environmental justice, and utilities characteristics of the study areas.

- U.S. Census Bureau, Census 2000 data, 2009–2013 American Community Survey (ACS) data, and 2013 County Business Pattern Data available on American FactFinder (<http://factfinder.census.gov/>).
- U.S. Census Bureau On the Map data (<http://onthemap.ces.census.gov/>).
- U.S. Census Bureau 2013 Zip Code Business Patterns data (<http://www.census.gov/econ/cbp/>).
- U.S. Department of Labor, Bureau of Labor Statistics Local Area Unemployment Statistics (<http://www.bls.gov/lau/>).
- State of Washington Office of Financial Management (<http://www.ofm.wa.gov/>).
- Cowlitz Economic Development Council (<http://cowlitzedc.com/>).
- Cowlitz-Wahkiakum Council of Governments (<http://www.cwcog.org/>).
- Various websites to inventory public service facilities in the study areas, including Google Maps and websites for Cowlitz County and the City of Longview.

2.1.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the On-Site Alternative, Off-Site Alternative, and No-Action Alternative on social/community cohesion and public services, the local economy, environmental justice, and utilities. For the purposes of this analysis, construction impacts are based on peak construction period and operations impacts are based on maximum throughput capacity (up to 44 million metric tons per year).

2.1.2.1 Social/Community Cohesion and Public Services

The analysis describes existing social and community cohesion in terms of the area's population characteristics, the various public services and social institutions that serve the community, and the access and linkages between the community and those services.

The analysis then evaluates if the proposed project could affect social and community cohesion by altering population characteristics, dividing or isolating a neighborhood, or separating residents from public services by changing travel patterns. This evaluation considers the location of public services in the study areas relative to characteristics of the On-Site Alternative and Off-Site Alternative. Impacts on social and community cohesion occur when an action:

- Divides or isolates part of a neighborhood.
- Displaces or alters a public service facility, such as an educational facility, library, public park, or recreational facility.
- Generates substantial new development or changes property values leading to the displacement of substantial portions of the existing community.

Impacts on public services occur when an action introduces a new population or service demand that affects the services delivered by a public service facility, or if an action separates residents from public services by changing travel patterns or access to the service.

2.1.2.2 Local Economy

The assessment of the local economy includes information describing existing economic conditions, including data on the labor force, unemployment, job inflows, major employers, local tax revenues, and business activity near the project areas. Future developments that would affect economic activity are also identified. The impact assessment projects potential direct, indirect, and induced economic and fiscal benefits associated with the proposed project, and evaluates the potential for them to affect business activity.

The projections of potential direct, indirect, and induced economic and fiscal benefits presented in this analysis are derived from the study titled *Economic and Fiscal Impacts of Millennium Bulk Terminals Longview* prepared by BERK (2012) on behalf of the Applicant. The data provided by this study have not been independently verified by the lead agency. This study used an input-output model to estimate the economic and fiscal impacts of the proposed project in terms of jobs, wages, and economic output. Specific technical details on the input-output model were not provided by the Applicant. Estimates of indirect and induced economic impacts were modeled using the Washington State Input-Output Model developed for the Washington State Office of Financial Management. The study also estimated the tax revenues generated by the construction and operation of the proposed project.

2.1.2.3 Environmental Justice

The environmental justice assessment was based on the CEQ guidance identified above and involved six basic steps.

1. Identify the areas where the proposed project could cause adverse impacts either during construction or operation (i.e., the study area described in Section 1.2, *Study Areas*).
2. Compile minority and low-income data for the census block groups within the study areas and identify minority and low-income populations
3. Identify the proposed project's potential adverse effects on minority and/or low-income populations.
4. Evaluate the proposed project's potential adverse effects on minority and/or low-income communities relative to the effects on the overall population to determine if potential adverse effects on those communities would be disproportionately high and adverse.
5. Discuss mitigation measures for any identified disproportionate adverse effects.
6. Describe the public outreach and participation process for effectively engaging minority and low-income populations in the decision-making process.

Identification of Minority and Low-Income Populations

Census block groups were selected as the geographic unit for analysis to avoid artificially diluting or inflating the affected populations, consistent with CEQ guidance. As shown in Figure 7, the study area for direct and indirect impacts includes 12 census block groups.

Data on race, ethnicity, and poverty status were gathered from the U.S. Census Bureau's 2009–2013 ACS for the census block groups in the study area. For comparison purposes, data for the City of Longview and Cowlitz County were also compiled. Based on census data and CEQ guidance, potential environmental justice areas were identified as follows.

- **Minority communities:** CEQ guidance defines minorities to include American Indians or Alaskan Natives, Asian and Pacific Islanders, African Americans or Black persons, and Hispanic persons. This analysis also considers minority populations to include persons who identified themselves as being either “some other race” or “two or more races” in the 2009–2013 ACS. Following CEQ guidance, minority populations were identified where either: (1) the minority population of the affected area exceeds 50%; or (2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate comparison unit of geographic analysis (Council on Environmental Quality 1997). For the purposes of this analysis, *meaningfully greater* is interpreted as *at least 50% greater*. This analysis used Cowlitz County as the primary comparison area. In Cowlitz County, the minority population in the 2009–2013 ACS was 14.6% of the total population. Therefore, this analysis considers any study area block group with a minority population of greater than 21.9% to be a minority community.
- **Low-income communities:** The study defines low-income populations as the percent of individuals living below the poverty level in each census block group, as presented in the 2009–2013 ACS. CEQ guidance does not specify a threshold for identifying clusters of low-income populations. Therefore, for this analysis, any census block group with a percentage of low-income population at least 50% greater than the percentage in Cowlitz County as a whole was

considered a low-income community. In Cowlitz County, the low-income population (the population with incomes below the poverty level) is approximately 17.6% of the total population. Therefore, low-income communities were identified where the census block group population living below the poverty level exceeds 26.4%.

Identification of Potential Disproportionately High and Adverse Effects

The technical reports and the resource sections in the environmental impact statement present the impacts resulting from construction and operation of the proposed project. These impacts were evaluated for their potential to result in disproportionately high and adverse effects on environmental justice populations. The determination of the potential to result in disproportionately high and adverse effects involved the following considerations.

- If the adverse project impact is considered significant.
- If the impacts on minority or low-income populations would appreciably exceed, or would be likely to appreciably exceed, the risk or rate to the general population.
- If the minority or low-income population would be affected by cumulative or multiple adverse exposures from environmental hazards.³

In making this determination following CEQ guidance, it was recognized impacts on minority or low-income populations may be different from impacts on the general population (e.g., due to a community's distinct cultural practices, such as a pattern of living relying on subsistence fish, vegetation, or wildlife consumption). The determination of disproportionately high and adverse effects also involved consideration of potential mitigation measures and offsetting benefits.

2.1.2.4 Utilities

The assessment of utilities in this report focuses on water utilities, including potable water and wastewater service, and electrical utilities. Electricity and natural gas consumption are addressed in the NEPA Energy Technical Report (ICF International 2016a). The evaluation assesses whether the proposed project would have the potential to affect utility service directly by altering the water supply or wastewater conveyance system or electrical utilities. The evaluation also assesses the potential for indirect impacts from new demands on water supply capacity and/or wastewater treatment capacity.

³ According to CEQ guidance, the term "environmental hazard" means a chemical, biological, physical, or radiological agent, situation, or source that has the potential for deleterious effects to the environment and/or human health.

2.2 Affected Environment

The affected environment related to social/community cohesion and public services, the local economy, environmental justice, and utilities in the study areas are described below. Given the proximity of the two project areas, the conditions described below generally apply to both the On-Site Alternative and the Off-Site Alternative; distinctions between the two alternatives are noted in the text where necessary.

2.2.1 Social/Community Cohesion and Public Services

This section describes social and community cohesion in terms of population, the various public services and social institutions that serve the community, and the access and linkages between the community and those services.

The direct impacts study area for the On-Site Alternative is characterized by predominantly industrial and transportation/utility land uses, along with limited residential uses to the north of Mount Solo Road. The area east of the project areas is part of a wide corridor of industrial land uses along the Columbia River. Notable uses within the direct impacts study area for the On-Site Alternative include the Weyerhaeuser Company lumber products manufacturing site/North Pacific Paper Corporation (NORPAC) facility and Mint Farm Industrial Park. The area west of the project areas is Barlow Point, which includes an undeveloped parcel owned by the Port of Longview (the Off-Site Alternative project area), the closed Mount Solo Landfill, and large-lot residential and agricultural land uses south of Industrial Way. Neighborhood areas in the direct impacts study area include Barlow Point, Memorial Park, and Mint Farm (City of Longview 2007).

The indirect impacts study area along the Reynolds Lead and BNSF Spur (within 0.5 mile of these rail lines) includes the Highlands neighborhood and the Industrial and California Way neighborhood in Longview. The Highlands neighborhood is predominantly residential. The Industrial and California Way neighborhood include a mix of commercial and industrial uses.

2.2.1.1 Population Characteristics

Population characteristics for the study area—including local population, population projections, age distribution, households, family composition, race and ethnicity, limited English proficiency, disability status, median household income and poverty status, and housing characteristics—are described in the following sections.

Population

Table 2 presents the population for the direct impacts study area, Longview, and Cowlitz County in 2000, 2010, and 2013. In 2013, the direct impacts study area had a population of approximately 2,964, compared to 36,656 in Longview and 102,110 in Cowlitz County. The population of the direct impacts study area has declined by approximately 3% since 2000. In comparison, the populations of both Longview and Cowlitz County grew from 2000 to 2010 and remained flat from 2010 to 2013.

Table 2. Population: 2000, 2010, and 2013 Estimates

Area	Population 2000	Population 2010	Percent (%) Change 2000–2010	Population 2013	Percent (%) Change 2010– 2013
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)					
Census Tract 3, Block Group 1 ^a	868	509	-41.4	570	12.0
Census Tract 7.03, Block Group 1 ^b	1,367	1,601	--	1,373	-14.2
Census Tract 19, Block Group 1	827	956	15.6	1,021	6.8
	3,062	3,066	0.1	2,964	-3.3
Longview	34,660	36,648	5.7	36,656	0.0
Cowlitz County	92,948	102,410	10.2	102,110	-0.3

Notes:

^a The drop in population in this census tract is largely due to the displacement of mobile home units in the area from 2000 to 2010. In particular, the 166-space River City RV and Mobile Home Park, located near the corner of California Way and 7th Avenue, closed in 2009 to make way for the development of a Super Walmart.

^b Census Tract 7.03 Block Group 1 applies to demographic data for 2010 and 2013. In the 2000 Census, this area is closely approximated by Census Tract 7.01 Block Group 4. The 2000 Census data is presented for informational purposes, but a percent change is not presented because the geographic areas are not identical.

Source: U.S. Census Bureau 2000 Census, 2010 Census, ACS 2009–2013 5-year estimates.

Population Projections

Table 3 shows the population projections of the Washington State Office of Financial Management for Cowlitz County to 2040 (Washington State Office of Financial Management 2012). The population of Cowlitz County is projected to grow by approximately 6% from 2010 to 2020 and then experience lower growth rates from 2020 to 2030 and 2030 to 2040. In 2040, the population of Cowlitz County is projected to be 116,897 people, compared to 102,410 people in 2010. Over the coming decades, it is expected the age distribution in Cowlitz County will shift, with an increase in the elderly population (age 65 and over) and a decrease in the school-age population (age 0 to 17) (Cowlitz County Department of Building and Planning 2015). It is also expected the proportion of the population with a disability will increase as the share of elderly population increases.

Table 3. Cowlitz County Population Projections to 2040

Area	Population 2010	Population 2020	Population 2030	Population 2040	Percent Change 2010–2040
Cowlitz County	102,410	108,588	114,158	116,897	14.1
Percent Change over Previous 10 Years	--	6.0	5.1	2.4	--

Source: Washington State Office of Financial Management 2012.

Age Distribution

Table 4 presents the age distribution of the population in 2013 for the direct impacts study area, Longview, and Cowlitz County. In 2013, most of this population was between 18 and 64 in age, generally considered working age. Compared to both Longview and Cowlitz County, the direct

impacts study area had a smaller proportion of people age 17 and under and a greater proportion age 65 and over.

Table 4. 2013 Age Distribution

Area	Total Population	School-Age (0-17)		Working Age (18-64)		Age 65 and Over	
		Number	%	Number	%	Number	%
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)							
Census Tract 3, Block Group 1	570	135	23.7	314	55.1	121	21.2
Census Tract 7.03, Block Group 1	1,373	240	17.5	726	52.9	407	29.6
Census Tract 19, Block Group 1	1,021	209	20.5	656	64.3	156	15.3
	2,964	584	19.7	1,696	57.2	684	23.1
Longview	36,656	8,348	22.8	21,720	59.3	6,588	18.0
Cowlitz County	102,110	24,399	23.9	61,087	59.8	16,624	16.3

Source: U.S. Census Bureau, ACS 2009–2013 5-year estimates.

Households

Table 5 shows the number of households and average household size in the direct impacts study area, Longview, and Cowlitz County. In 2013, there were approximately 1,321 households in the direct impacts study area, a 3.7% increase since 2000. In Longview and Cowlitz County, there were approximately 15,000 and 39,602 households, respectively. Compared to the direct impacts study area, the number of households in both Longview and Cowlitz County increased by a greater percentage from 2000 to 2013.

Table 5. 2013 Households and Average Household Size

Area	Households		Percent Change 2000–2013	Average Household Size	
	2000	2013		2000	2013
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)					
Census Tract 3, Block Group 1 ^a	446	273	-38.8	1.95	2.09
Census Tract 7.03, Block Group 1 ^b	515	660	--	2.65	2.07
Census Tract 19, Block Group 1	313	388	24.0	2.64	2.63
	1,274	1,321	3.7	2.40	2.24
Longview	14,066	15,000	6.6	2.40	2.39
Cowlitz County	35,850	39,602	10.5	2.55	2.55

Notes:

^a The reduction in number of households in this census tract is largely due to the displacement of mobile home units in the area from 2000 to 2010. In particular, the 166-space River City RV and Mobile Home Park, located near the corner of California Way and 7th Avenue, closed in 2009 to make way for the development of a Super Walmart.

^b Census Tract 7.03 Block Group 1 applies to demographic data for 2010 and 2013. In the 2000 Census, this area is closely approximated by Census Tract 7.01 Block Group 4. The 2000 Census data is presented for informational purposes, but a percent change is not presented because the geographic areas are not identical.

Source: U.S. Census Bureau 2000 Census, 2010 Census, ACS 2009–2013 5-year estimates.

Family Composition

Table 6 presents the family composition of the population in the direct impacts study area, Longview, and Cowlitz County. In census data, a family consists of two or more people related by birth, marriage, or adoption residing in the same housing unit. In 2013, approximately 20 to 25% of the families in all three areas were married couples with children under age 18, and approximately half of all families were married couples without children under age 18. In the direct impacts study area, approximately 12.6% of families were led by single parents with children under age 18, compared to approximately 17% in Longview and 15% in Cowlitz County overall.

Table 6. 2013 Family Composition

Area	Total Families	Percent of Total Families			
		Married Couple, with Children Under 18	Married Couple, No Children Under 18	Single Parent, with Children Under 18	Single Parent, No Children Under 18
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)					
Census Tract 3, Block Group 1	101	25.7	29.7	26.7	17.8
Census Tract 7.03, Block Group 1	381	22.6	54.1	11.5	11.8
Census Tract 19, Block Group 1	286	18.9	67.1	9.1	4.9
	768	21.6	55.7	12.6	10.0
Longview	9,125	22.5	48.9	17.3	11.3
Cowlitz County	26,726	24.6	51.1	15.0	9.3

Source: U.S. Census Bureau ACS 2009–2013 5-year estimates.

Race and Ethnicity

Population characteristics related to race and ethnicity are presented in Section 2.2.3, *Environmental Justice*, below.

Limited English Proficiency

Table 7 shows the percentage of the population over age 5 with limited English proficiency in the direct impacts study area, Longview, and Cowlitz County. In all three areas, a low percentage of the population over age 5 has limited English proficiency; approximately 3% of the population of the direct impacts study area, Longview, and Cowlitz County has limited English proficiency.

Table 7. 2013 Limited English Proficiency

Area	Population Age 5 and Over	Population Age 5 and Over with Limited English Proficiency ^a	Percentage Population with Limited English Proficiency ^a
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)			
Census Tract 3, Block Group 1	513	59	11.5
Census Tract 7.03, Block Group 1	1,270	31	2.4
Census Tract 19, Block Group 1	971	0	0.0
	2,754	90	3.3
Longview	34,354	1,194	3.5
Cowlitz County	95,579	2,939	3.1

Note:

^a Limited English proficiency includes individuals who speak English less than very well (defined as “well,” “not well,” or “not at all” in Census data.

Source: U.S. Census Bureau ACS 2009–2013 5-year estimates.

Disability Status

Table 8 presents the disability status for the population age 16 to 64 in the direct impacts study area, Longview, and Cowlitz County.⁴ In 2013, the direct impacts study area had a higher percentage of the population with a disability (approximately 28.6%) compared to both Longview (20.9%) and Cowlitz County (17.5%).

Table 8. 2013 Population with Disability

Area	Population Age 16–64	Percent with a Disability
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)		
Census Tract 3, Block Group 1	335	33.4
Census Tract 7.03, Block Group 1	749	23.0
Census Tract 19, Block Group 1	683	32.5
	1,767	28.6
Longview	22,559	20.9
Cowlitz County	63,915	17.5

Source: U.S. Census Bureau ACS 2009–2013 Five-Year Estimates.

Median Household Income and Poverty Status

Table 9 presents the median household income and the proportion of individuals living below the poverty level for the direct impacts study area block groups, Longview, and Cowlitz County. In 2013, the median household income for the direct impacts study area block groups ranged from approximately \$12,072 to approximately \$48,000, compared to approximately \$39,422 in Longview and approximately \$47,596 in Cowlitz County overall. The study area block groups, Longview, and Cowlitz County all experienced substantial decreases in median household income from 1999 to

⁴ In the ACS, disability data includes any respondent who reports having any one of the following six disability types: hearing difficulty, vision difficulty, cognitive disability, ambulatory disability, self-care difficulty, or independent living disability.

2013 and increases in the percentage of individuals living below the poverty level. The percentage of individuals below the poverty level in the study area block groups ranged from approximately 23.5 to 44.7%, compared to 22.6% in Longview and 17.6% in Cowlitz County overall. Census Tract 3, Block Group 1, in the direct impacts study area, had the lowest median household income and highest percentage of the population living below the poverty level in both 1999 and 2013. In general, the decreases in median household income shown in Table 9 are indicative of the decline in total manufacturing jobs and the average manufacturing wage, and reflect a larger trend in declining, inflation-adjusted incomes in Cowlitz County (City of Longview 2006).

Table 9. 1999 and 2013 Median Household Income and Poverty Status

Area	Median Household Income			Percent of Individuals Below Poverty Level ^d	
	1999 ^a	2013 ^a	Percent Change	1999	2013
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)					
Census Tract 3, Block Group 1 ^b	\$25,703	\$12,072	-53.0	28.1	44.7
Census Tract 7.03, Block Group 1 ^c	\$52,958	\$39,848	--	20.8	23.7
Census Tract 19, Block Group 1	\$84,037	\$48,000	-42.9	7.3	23.5
Longview	\$49,107	\$39,422	-19.7	16.7	22.6
Cowlitz County	\$55,566	\$47,596	-14.3	14.0	17.6

Source: U.S. Census Bureau 2000 Census, ACS 2009-2013 Five-Year Estimates.

Notes:

- ^a The 2013 ACS data reflects incomes over 2009 to 2013. Census 2000 reflects income data over the prior calendar year (1999). The median household income is presented in inflation-adjusted 2013 dollars using the U.S. Department of Labor's Annual 2013 Consumer Price Index for the "West Area."
- ^b The reduction in median household income in this census tract is largely due to the displacement of mobile home units in the area from 2000 to 2010. In particular, the 166-space River City RV and Mobile Home Park, located near the corner of California Way and 7th Avenue, closed in 2009 to make way for the development of a Super Walmart.
- ^c Census Tract 7.03 Block Group 1 applies to demographic data for 2013. In the 2000 Census, this area is closely approximated by Census Tract 7.01 Block Group 4. The 2000 Census data is presented for informational purposes, but a percent change is not presented because the geographic areas are not identical.
- ^d Percent of individuals with incomes below poverty level, as established by the U.S. Census Bureau.

Housing Characteristics

Table 10 presents housing unit characteristics for the direct impacts study area, Longview, and Cowlitz County. In 2013, there were approximately 1,386 housing units in the direct impacts study area, of which approximately 95.3% were occupied. The occupancy rate in the direct impacts study area was higher than in Longview and Cowlitz County, but the direct impacts study area lost almost 45% of its housing units between 2000 and 2013. In 2013, there were approximately 16,415 housing units in Longview and approximately 43,356 housing units in Cowlitz County. In both areas, the occupancy rate was approximately 91%.

Table 10. 2000 and 2013 Housing Characteristics

Area	Housing Units			2013 Occupancy Status		2013 Tenure, All Occupied Units	
	2000	2013	% Change	% Occupied	% Vacant	% Owner-Occupied	% Renter-Occupied
Direct Impacts Study Area (Project Area and Within 0.5 mile of the Project Area)							
Census Tract 3, Block Group 1 ^a	524	289	-44.8	94.5	5.5	49.5	50.5
Census Tract 7.03, Block Group 1 ^b	609	709	--	93.1	6.9	78.6	21.4
Census Tract 19, Block Group 1	333	388	16.5	100.0	0.0	63.7	36.3
	1,466	1,386	-5.5	95.3	4.7	68.2	31.8
Longview	15,225	16,415	7.8	91.4	8.6	56.0	44.0
Cowlitz County	38,624	43,356	12.3	91.3	8.7	66.2	33.8

Note:

^a The reduction in number of housing units in this census tract is largely due to the displacement of mobile home units in the area from 2000 to 2010. In particular, the 166-space River City RV and Mobile Home Park, located near the corner of California Way and 7th Avenue, closed in 2009 to make way for the development of a Super Walmart.

^b Census Tract 7.03 Block Group 1 applies to demographic data for 2013. In the 2000 Census, this area is closely approximated by Census Tract 7.01 Block Group 4. The 2000 Census data is presented for informational purposes, but a percent change is not presented because the geographic areas are not identical.

Source: U.S. Census Bureau ACS 2009–2013 5-year estimates.

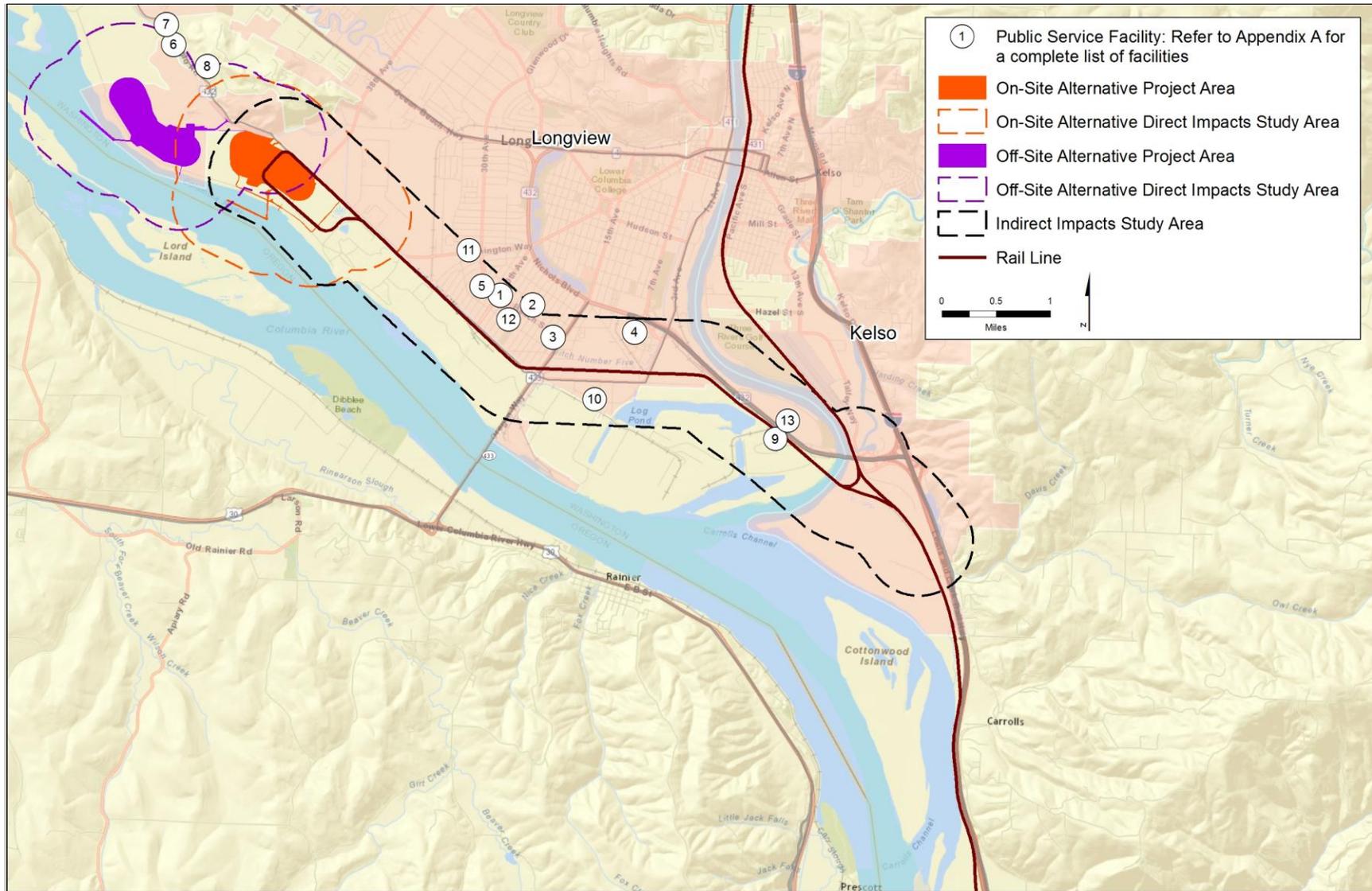
2.2.1.2 Public Services

For the purposes of this assessment, public services include educational facilities, religious institutions, social institutions (e.g., veterans groups), medical facilities, fire protection and emergency medical services, police services, cemeteries, public park and recreation facilities, and other notable public services and government institutions. This section identifies the existing public service facilities located within the direct and indirect impacts study areas.

As shown on Figure 8, there are no public services located within the direct impacts study area for the On-Site Alternative. There are 3 public service facilities (a funeral home and two cemeteries) within the direct impacts study area for the Off-Site Alternative. These 3 facilities are approximately 0.5 mile from the Off-Site Alternative project area.

There are several facilities located within indirect impacts study area (Figure 8). Appendix A lists the public service facilities in the study area, and Table 11 presents a summary of this list. The indirect impacts study area includes residential and industrial use areas along the Reynolds Lead and BNSF Spur.

Figure 8. Public Services in the Study Area



Transportation services (such as roads and pedestrian, bicycle, and transit facilities) that provide access and linkages to and among these facilities are discussed below. In addition, fire protection services are discussed in more detail below.

Table 11. Summary of Public Service Facilities in the Indirect Impacts Study Area (Within 0.5 Mile of the Reynolds Lead and BNSF Spur)

Type of Facility	Number of Facilities
Educational Facility	1
Religious Institution	3
Police Facility	1
Park and Recreation Facility	2
Other	3
Total	10

Note: See Appendix A for detailed list of public service facilities.

Access and Linkages

A variety of roadway, pedestrian, transit, and bicycle transportation facilities provide access to and among the various public service facilities. Local roadways, Interstate 5 (I-5), and state highways provide access to public service facilities and between the various urban areas within Cowlitz County.

River Cities Transit provides public transit throughout the Longview/Kelso area. The closest transit route to the project areas is Route 31, which runs along 32nd Avenue, Washington Way, and Alabama Street into downtown Longview. The nearest portion of Route 31 is approximately 1 mile from the project areas. Route 33 and Route 44 both run along Ocean Beach Highway and are approximately 1 to 2 miles from the On-Site Alternative project area and the Off-Site Alternative project areas. Frequent and comprehensive transit service is a critical support service to residents with no access to a vehicle, especially those who are low-income, homeless, and/or reliant on public transit (River Cities Transit 2015). However, no fixed transit routes directly serve the project areas, nor do any routes cross the Reynolds Lead.

Within Cowlitz County, there are various bicycle trails in parks and along certain waterfront areas. Several bicycle trails are located along the Columbia and Cowlitz rivers; however, there are no designated bicycle trails in the direct impacts study areas. The following bicycle trails may provide access to public services (as opposed to closed loop trails within small parks) within the study area.

- **Cowlitz Dike Trail** runs between the Cowlitz River and the BNSF Railway through downtown Kelso. This trail provides access to public services within downtown Kelso and Longview.
- **Highlands Trail** runs along the residential side of Industrial Way from State Route 433/Oregon Way to Carolina Street. This trail provides access from residential areas to industrial areas along the Columbia River. (Cowlitz on the Move n.d.)

Fire Protection and Emergency Medical Services

The Cowlitz 2 Fire & Rescue District, Longview Fire Department, and American Medical Response (AMR) provide emergency medical services (EMS) and fire protection for the project areas.

Cowlitz 2 Fire & Rescue

Cowlitz 2 Fire & Rescue provides fire protection services to the On-Site Alternative project area, and serves approximately 34,000 citizens in the city of Kelso and unincorporated Cowlitz County, responding to approximately 4,100 calls per year (Cowlitz 2 Fire & Rescue 2015). The district is staffed by approximately 120 full-time and volunteer members in five active fire stations, two of which are staffed with full-time EMT and paramedic firefighters. Volunteer firefighter EMTs also respond on an on-call basis. The district includes the following stations and apparatus.

- Station 21 (Headquarters) is staffed with 27 full-time personnel, and includes a main response fire engine, a volunteer/reserve ready fire engine, an advanced life support ambulance, and a reserve-ready advanced life support ambulance. This station includes three rotating shifts, 24 hours a day, 7 days a week, 365 days a year. During each shift, at least eight personnel staff a variety of apparatus.
- Station 22 (Baker's Corner) is staffed with one volunteer and includes a main response fire engine, a 3,000-gallon water supply, an EMS/wild-land response, and an EMS response/ambulance. This all-volunteer station serves as crucial first response before additional help arrives.
- Station 23 (Columbia Heights) is staffed full time by firefighter/EMT, firefighter/paramedic, and volunteer personnel, and includes a main response fire engine, an EMS/wild-land response, an advanced life support ambulance, a basic life support ambulance, and a hazardous materials response apparatus.
- Station 24 (Rose Valley) is staffed with one volunteer and includes a main response fire engine and an EMS/wild-land response. This all-volunteer station serves as crucial first response before additional help arrives.
- Station 25 (Lexington) is staffed with two volunteers and includes an initial response fire engine, a 2,000-gallon water supply, and an EMS/wild-land response. This all-volunteer station serves as crucial first response before additional help arrives.
- Station 27 (Kelso) is staffed with three volunteers and includes a main response fire engine and a 3,000-gallon water supply. This all-volunteer station backs up personnel at Station 21 (Headquarters) when they are on calls.

Cowlitz 2 Fire & Rescue maintains automatic aid agreements with the Longview Fire Department (discussed below) and mutual aid agreements with all jurisdictions in Cowlitz County and others in the region (i.e., Clark County and communities in Oregon) (URS Corporation 2014).⁵ Therefore,

⁵ Automatic aid is assistance dispatched automatically by contractual agreement between two communities or fire districts to all first alarm structural fires. For example, Cowlitz 2 Fire & Rescue does not have a ladder truck. Therefore, they have an automatic aid agreement with Longview in the case of an apartment fire where a ladder truck is needed. That differs from mutual aid or assistance arranged case by case. Mutual aid is requested in cases that require special equipment such as technical rescue or an incident that requires more fire engines than the primary responder has available.

although Cowlitz 2 Fire and Rescue would be a primary responder to incidents at the On-Site Alternative project area, other facilities would also respond to incidents as needed.

Longview Fire Department

The Longview Fire Department provides fire protection services to the Off-Site Alternative project area. The Longview Fire Department serves approximately 36,000 citizens spread over 14.7 square miles of urban/suburban development. The department is staffed with 39 full-time EMT/firefighters, and 4 paramedic/firefighters. Paramedic transport service is provided in the city by AMR, a private provider (see below). The Longview Fire Department responds to approximately 4,500 calls per year from two fire stations (City of Longview 2015). The department includes the following stations and apparatus.

- Station 81, at 740 Commerce Avenue in Longview, has a minimum of six line firefighters and one battalion chief on duty 24-hours a day. The station includes an aerial ladder truck and a fire engine.
- Station 82, at 2355 38th Avenue in Longview, has a minimum of three line firefighters on-duty 24-hours a day, with a maximum of five firefighters. The station primarily responds to the west end of Longview; however, they respond as backup to Station 81 if they have a significant incident, or if they are out-of-service at the time of the call. The station includes a fire engine.

American Medical Response

AMR is a private ambulance company that provides emergency and non-emergency medical transport service for the study area. AMR includes approximately 35 paramedics and EMTs, and handles an average of 7,500 calls annually (American Medical Response 2015). The medical transport vehicles are based out of the facility near the Cowlitz Way intersection with Long Avenue.

2.2.2 Local Economy

The local economy for the study area, including labor force, employment, job inflow and outflow, unemployment, local government revenues, business activity, and economic development activities, is discussed in the following sections. For direct impacts on the local economy, the study area includes the Cities of Kelso and Longview. For indirect impacts, the study area is Cowlitz County.

2.2.2.1 Labor Force

Table 12 shows labor force data, which include the total number of people employed or seeking employment, for Longview and Cowlitz County. In 2014, Longview had a total labor force of approximately 15,019 people, which was 4.4% less than in 2004. Over the same period, the labor force in Cowlitz County overall grew by approximately 3.0%, to 44,048 people.

Table 12. Average Annual Labor Force

Area	2004	2014	Percent Change
Longview	15,707	15,019	-4.4
Cowlitz County	42,763	44,048	3.0

Note: Data is only available for cities and towns with a population over 25,000.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics.

Employment

Table 13 presents employment by sector in Cowlitz County. In 2013, there were approximately 29,580 employees at 2,159 establishments within Cowlitz County. Approximately 20.8% of employment was concentrated in the manufacturing sector. The next highest concentration was in health care and social assistance, with 17.9% of the employment in the study area. Another notable industry sector was retail trade, with 15.8% of the employment in the study area.

Table 13. 2013 Employment—Cowlitz County

Industry Sector	Cowlitz County	
	Number	Percent
Agriculture, forestry, fishing, and hunting	868	2.9
Mining, quarrying, and oil and gas extraction	^b	N/A
Utilities	^b	N/A
Construction	2,785	9.4
Manufacturing	6,155	20.8
Wholesale trade	1,130	3.8
Retail trade	4,670	15.8
Transportation and warehousing	933	3.2
Information	324	1.1
Finance and insurance	883	3.0
Real estate and rental and leasing	404	1.4
Professional, scientific, and technical services	723	2.4
Management of companies and enterprises	^b	N/A
Administrative and support and waste management and remediation services	784	2.7
Educational services	347	1.2
Health care and social assistance	5,303	17.9
Arts, entertainment, and recreation	277	0.9
Accommodation and food services	2,531	8.6
Other services (except public administration)	1,212	4.1
Industries not classified	^a	N/A
Total	29,580	100.0

Notes:

^a 0–19 employees

^b 20–99 employees

Source: U.S. Census Bureau 2013 County Business Patterns.

Table 14 shows the number of business establishments by industry sector in Longview and Kelso. In 2013, there were approximately 1,192 business establishments in Longview and 409 in Kelso. In both cities, there were large concentrations of retail trade, construction, and accommodation and food service establishments. Longview also had large concentrations of health care and social assistance establishments and other services.

Table 14. 2013 Business Establishments by Industry Sector – Longview and Kelso

Industry Sector	Total Number of Establishments	
	Longview	Kelso
Agriculture, Forestry, Fishing and Hunting	9	7
Mining, Quarrying, and Oil and Gas Extraction	2	4
Utilities	2	1
Construction	97	48
Manufacturing	48	29
Wholesale Trade	51	21
Retail Trade	188	68
Transportation and Warehousing	29	26
Information	14	5
Finance and Insurance	83	11
Real Estate and Rental and Leasing	65	24
Professional, Scientific, and Technical Services	86	18
Management of Companies and Enterprises	4	18
Administrative and Support and Waste Management and Remediation Services	53	5
Educational Services	15	32
Health Care and Social Assistance	179	4
Arts, Entertainment, and Recreation	16	38
Accommodation and Food Services	109	49
Other Services (except Public Administration)	139	1
Industries not classified	3	0
Total for all sectors	1,192	409

Note: Longview is represented by zip code 98632 and Kelso is represented by zip code 98626.
Source: U.S. Census Bureau 2013 Zip Code Business Patterns.

According to the Kelso-Longview Chamber of Commerce, major employers in the area include the following businesses and government organizations: Peace Health St. John Medical Center (1,400 employees), Longview Fibre Company (1,600 employees), Weyerhaeuser (1,539 employees), Kelso School District (832 employees), Longview School District (773 employees), Foster Farms (707 employees), J.H. Kelly (600 employees), Cowlitz County (549 employees), Safeway (454 employees), NORPAC (450 employees), and Lower Columbia College (399 employees) (Kelso Longview Chamber of Commerce 2012; PeaceHealth 2015).

Job Inflow and Outflow

Table 15 presents data on the number of workers in Cowlitz County and where they reside, as well as the number of workers that live in Cowlitz County but work outside the county. As shown, there were approximately 31,988 employed workers in Cowlitz County in 2011. Approximately 65% lived in Cowlitz County, while 35% lived outside Cowlitz County. Of the workers not living in Cowlitz County, the highest proportions resided in Clark County to the south, Lewis County to the north, and across the river in Columbia County, Oregon. Cowlitz County employers also drew workers from larger labor pools in King County (the Seattle area) and Multnomah County (the Portland area). Approximately 20,353 workers reside in Cowlitz County but work outside of the county. Of the

workers that live in Cowlitz County but are employed outside the county, the highest proportions were employed in Clark County and Multnomah County to the south and King County to the north.

Table 15. 2011 Jobs Inflow and Outflow for Cowlitz County

Area	Number of Workers	Percent of Total
Total Primary Jobs in Cowlitz County	31,988	100.0
Employed in Cowlitz County and Living Inside the County	20,765	64.9
Employed in Cowlitz County but Living Outside the County	11,223	35.1
Clark County, WA	3,560	11.1
Columbia County, OR	1,080	3.4
Lewis County, WA	1,073	3.4
King County, WA	657	2.1
Pierce County, WA	523	1.6
Thurston County, WA	362	1.1
Grays Harbor County, WA	339	1.1
Multnomah County, OR	359	1.1
All Other Locations	3,270	10.2
Living Inside Cowlitz County but Employed Outside the County	20,353	100.0
Clark County, WA	4,256	20.9
King County, WA	2,907	14.3
Multnomah County, OR	2,148	10.6
Pierce County, WA	1,710	8.4
Thurston County, WA	1,220	6.0
Washington County, OR	1,019	5.0
Lewis County, WA	795	3.9
Yakima County, WA	591	2.9
Clackamas County, OR	547	2.7
All Other Locations	5,160	25.4

Source: U.S. Census Bureau, On The Map 2011

Unemployment

Table 16 presents unemployment numbers and rates in Longview and Cowlitz County. In 2014, there were 1,278 and 3,697 unemployed people in Longview and Cowlitz County, respectively, representing approximately 8.5 and 8.4% of the communities' respective labor forces. In contrast, in December 2014, the unemployment rate in Washington was 6.3%, and the rate for the nation as a whole was 5.6% (U.S. Department of Labor, Bureau of Labor Statistics 2015a, 2015b).

Table 16. Unemployment

Area	Unemployed Population		Unemployment Rate	
	2004	2014	2004	2014
Longview	1,395	1,278	8.9%	8.5%
Cowlitz County	3,705	3,697	8.7%	8.4%
Washington State	187,334	223,295	5.8%	6.3%
United States	7,934,000	8,704,000	5.4%	5.6%

Note: Data is only available for cities and towns with a population over 25,000.
Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics.

Local Government Revenues

Washington and its local governments, including Cowlitz County, rely on various taxes to fund state and local programs. These taxes include a combined state and local sales and use tax; business and occupation (B&O) tax; public utility tax; property tax; and other excise, real estate, and estate taxes. Table 17 presents all County revenue sources in calendar year 2012. Property taxes are one of the highest revenue generators for the County (Washington State Office of Financial Management 2014). Within Cowlitz County, sales taxes are the second largest source of general fund tax revenue after property taxes. County revenue is shared with cities and is allocated based on population.

Table 17. Cowlitz County Revenues for Calendar Year 2012

Revenues	Amount
Property Taxes	\$27,171,517
Retail Sales & Use	\$6,166,370
All Other Taxes	\$4,551,983
Licenses & Permits	\$1,666,929
Intergovernmental Revenue	\$29,181,286
Charges for Services	\$21,433,796
Fines & Forfeits	\$1,238,443
Miscellaneous Revenue	\$5,161,930
Other Financing Resources	\$11,196,454
Total Revenues	\$107,768,708

Source: Washington State Office of Financial Management 2014

As shown in in Table 18, Cowlitz County ranked 14 out of 39 counties in the state in taxable retail sales in 2012 compared to ranking 12 out of 39 counties in 2010. Cowlitz County's per capita taxable retail sales ranking fell from 13 to 21 of 39 counties between 2010 and 2012.

Table 18. County Taxable Retail Sales, Calendar Years 2010 and 2012

Area	Total				Per Capita			
	Amount (in thousands)		Rank in State		Amount		Rank in State	
	2010	2012	2010	2012	2010	2012	2010	2012
Washington	\$100,775,136	\$114,225,335	--	--	\$14,986	\$16,754	--	--
Cowlitz	\$1,331,068	\$1,366,812	12 of 39	14 of 39	\$12,997	\$13,264	13 of 39	21 of 39

Source: Washington State Office of Financial Management 2014

Business Activity

Business activity near the On-Site Alternative project area includes a mix of industrial and commercial uses. The 550-acre Weyerhaeuser Company lumber products manufacturing site/NORPAC facility is located upriver (southeast) of the project areas along the Columbia River. This manufacturing facility produces liquid packaging board, newsprint, and other specialty papers, and includes open-air storage of lumber (Weyerhaeuser 2014a, 2014b). The Mint Farm Industrial Park, a partially developed 445-acre industrial site operated as a public-private partnership between Longview and the Weyerhaeuser Real Estate Development Company, is located across Industrial Way from the On-Site Alternative project area. Current tenants include Epson Toyocom (manufacturer of quartz devices), Flexible Foam Products (manufacturer of polyurethane foam and carpet cushion), Northwest Renewables LLC (a proposed biomass energy facility), and the Mint Farm Energy Center (a natural gas energy plant) (The Mint Farm 2014).

The nearest business to the Off-Site Alternative project area is the existing bulk products terminal located adjacent to the On-Site Alternative project area in the Applicant's leased area.

Many commercial and industrial businesses are within the indirect impacts study area. This study area passes through several Columbia River ports—including the ports of Longview, Kalama, and Woodland—containing numerous industrial and marine-related businesses. The study area also passes through several urban areas containing a mix of industrial, commercial, and residential land uses.

Economic Development Activities

In addition to the existing businesses and economic activity within the study areas, several planned and proposed developments are expected to add activity to the local economy in the future. It is expected that Mint Farm Industrial Park will continue to attract new industrial tenants. In addition, public and private investments in the industrial waterfront area along the State Route 432 corridor are focused on developing a global bulk commodity trade center, which would improve integration of the intermodal transportation network (marine, highway, and rail users) along the State Route 432 corridor and its marine terminals (Cowlitz-Wahkiakum Council of Governments 2014). Specifically, the Cowlitz-Wahkiakum Council of Governments, along with other involved government agencies, is also leading an environmental review effort for the State Route 432 rail realignment and highway improvements project. This planned project is intended to address the safety, traffic congestion, system mobility, and freight capacity issues where the State Route 432 corridor intersects with the railway system to improve the area's freight transportation network and facilitate regional economic development.

Overall, Cowlitz County and Longview hold locational advantages for industrial and commercial development. The area's proximity to Portland International Airport, the ports of Longview, Kalama, and Woodland, and immediate access to I-5 are major economic advantages.

2.2.3 Environmental Justice

This section describes the existing minority and low-income populations in the study areas potentially affected by the construction and operation of the proposed project. For direct impacts on minority and low-income populations, the study area is the project area and the area within approximately 1 mile of the project areas. For indirect impacts on minority and low-income populations, the study area is the area within 0.5 mile of the Reynolds Lead and BSNF Spur.

2.2.3.1 Minority and Low-Income Populations

Race, ethnicity, and poverty characteristics were compiled for the study areas' block groups, Longview, and Cowlitz County as a whole. Table 19 provides the population, percent minority, and percent low-income for each block group in the study areas. Of the 12 census block groups within the study area, 7 have minority populations that exceed the 21.9% threshold (see Section 2.1.2.3, *Environmental Justice*), ranging from 23.7 to 42.4%. In addition, 6 of the census block groups have low-income populations that exceed the 26.4% threshold, ranging from 31.4 to 57.6%. Appendix B provides detailed data on race, ethnicity, and poverty status for the study areas.

Overall, 8 of the study areas' 12 block groups are considered minority and/or low-income communities for the purposes of this analysis. The remaining 4 block groups are not considered minority or low-income.

Within the direct impacts study area, three of six block groups are identified as minority or low-income communities.⁶ These block groups are located to the east of the project areas. These block groups contain industrial uses in the areas nearest the project areas, and residential uses are located approximately 1 mile or more from the project areas. The nearest residences to the project areas (those located north of SR 432) are not located within a minority and/or low-income community.

Within the indirect impacts study area, 5 of 6 block groups are identified as minority or low-income communities.

During interviews conducted for the proposed project's public involvement plan, stakeholders expressed the Highlands neighborhood in the City of Longview warranted environmental justice consideration under Executive Order 12898. Consistent with this recommendation, this analysis identifies the Highlands neighborhood in the City of Longview as a minority and low-income community. The Highlands neighborhood corresponds with Census Tract 5.02, Block Groups 1, 2, and 3.

Figure 9 shows the location of minority and low-income communities within the study area.

⁶ For the Off-Site Alternative, two of five block groups are minority or low-income communities. Census Tract 6.01 Block Group 4 is not within the direct impacts study area for the Off-Site Alternative.

Table 19. Environmental Justice Study Areas' Minority and Low-Income Status

Census Block Group	2013 Total Population	Minority Population	Minority (Percent)	Population for Whom Poverty Status is Determined	Individuals Below Poverty Level	Individuals Below Poverty Level (Percent)
Direct Impacts Study Area (Project Area and Within 1 Mile of the Project Area)						
Census Tract 3, Block Group 1	570	202	35.4	570	255	44.7
Census Tract 6.01, Block Group 3	1,025	435	42.4	1,025	328	32.0
Census Tract 6.01, Block Group 4 ^a	881	176	20.0	881	277	31.4
Census Tract 7.03, Block Group 1	1,373	207	15.1	1,373	325	23.7
Census Tract 7.04, Block Group 4	1,912	228	11.9	1,912	360	18.8
Census Tract 19, Block Group 1	1,021	20	2.0	1,021	240	23.5
Direct Impacts Study Area Census Block Groups^b	6,782	1,267	18.7	6,782	1,785	26.3
Indirect Impacts Study Area (Within 0.5 Mile of the Reynolds Lead and BNSF Spur)						
Census Tract 5.01, Block Group 1	846	206	24.3	846	209	24.7
Census Tract 5.01, Block Group 2	1,047	248	23.7	1,047	222	21.2
Census Tract 5.01, Block Group 3	952	79	8.3	943	177	18.8
Census Tract 5.02, Block Group 1	1,587	526	33.1	1,587	628	39.6
Census Tract 5.02, Block Group 2	1,841	517	28.1	1,841	1,061	57.6
Census Tract 5.02, Block Group 3	1,454	384	26.4	1,454	651	44.8
Indirect Impacts Study Area Census Block Groups^c	7,727	1,960	25.4	7,718	2,948	38.2
Longview	36,656	6,759	18.4	35,938	8,133	22.6
Cowlitz County	102,110	14,896	14.6	100,782	17,750	17.6

Notes: Shading indicates a minority and/or low-income community.

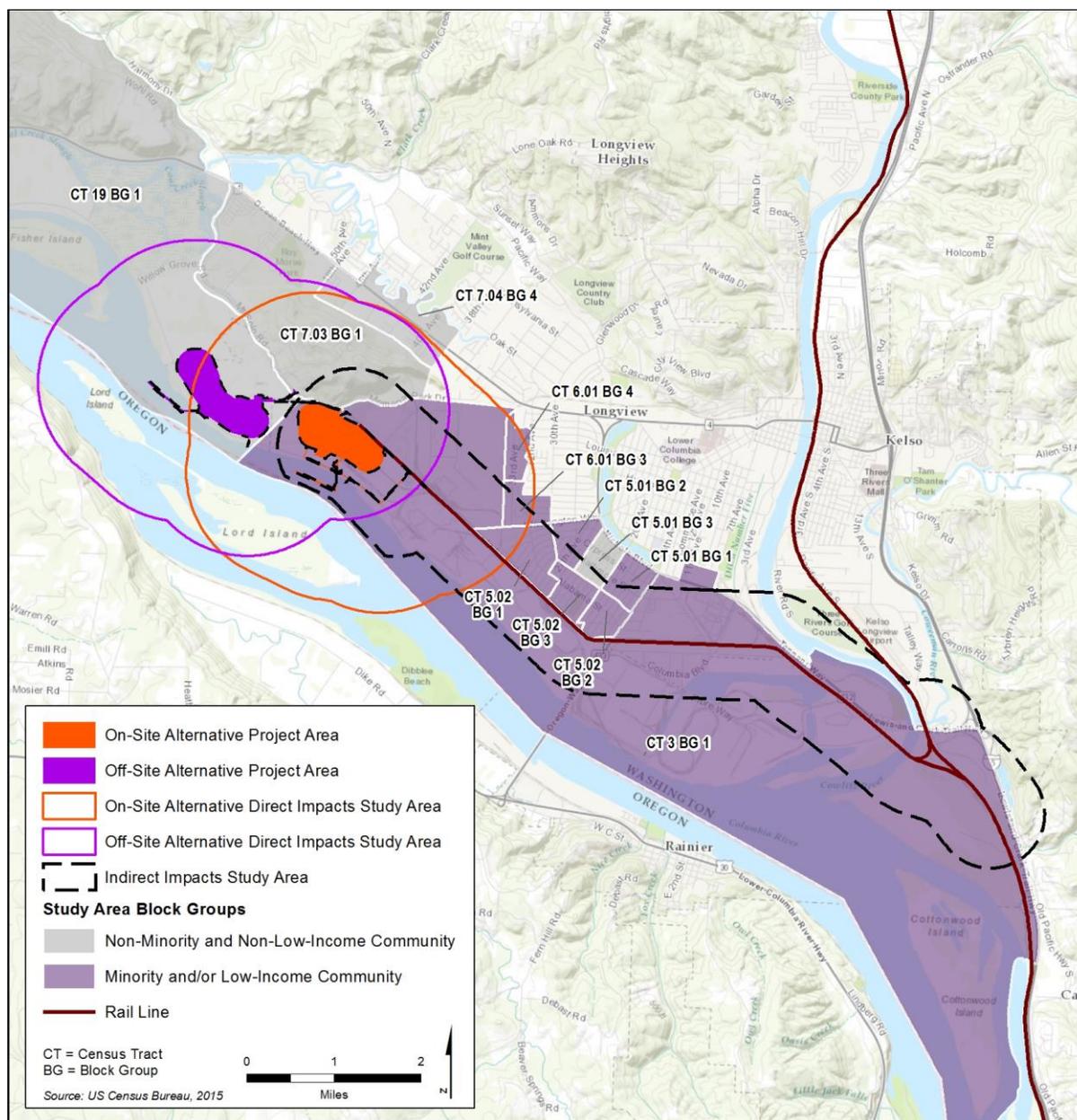
^a Census Tract 6.01 Block Group 4 is within the environmental justice study areas for the On-Site Alternative only; it is more than 1 mile from the Off-Site Alternative. All other block groups are within the environmental justice study areas for both alternatives.

^b Census Block Groups within 1 mile of the project areas.

^c Census Block Groups within 0.5 mile of the Reynolds Lead and BNSF Spur.

Source: U.S. Census Bureau ACS 2009–2013 5-year estimates.

Figure 9. Minority and Low-Income Communities



2.2.4 Utilities

This section describes existing utility services that are provided to the project areas. This assessment focuses on water utilities, including potable water and wastewater service, and electrical utilities. Electricity and natural gas consumption are addressed in the NEPA Energy Technical Report (ICF International 2016a). For direct impacts on utilities, the study area is the project area and the area within 0.5 mile of the project area. For indirect impacts on utilities, the study area is the area within 0.5 mile of the project area.

An existing sewage treatment system provides sewer service to the On-Site Alternative project area. An existing on-site industrial wastewater treatment facility and stormwater/wastewater collection

and treatment system provides wastewater treatment to the On-Site Alternative project area. The Applicant plans to replace the sanitary sewer collection and treatment systems with a new collection system and connection to the Longview sewer system (URS Corporation 2014). With the new connection, the On-Site Alternative project area sewage flows would be conveyed to the Three Rivers Regional Treatment Plant. This wastewater treatment plant has a design capacity of 26.0 million gallons per day (Washington State Department of Ecology 2012). From 2001 to 2009, the plant received an average wet weather flow (typically the highest rate) of 3.04 million gallons per day (Kelso 2011).

The Mint Farm Regional Water Treatment Plant supplies drinking water to more than 45,000 people in the Longview area. Groundwater is tapped from wells in the Mint Farm Industrial Park, and the water plant consists of four high capacity (4,000 gallons per minute) groundwater wells. The On-Site Alternative project area receives potable water from Longview through a connection on Industrial Way. This water is for domestic usage such as in sinks and toilets in the existing facilities (URS Corporation 2014).

In addition, the On-Site Alternative project area includes on-site stormwater ponds providing water for dust control and other production needs. The stormwater ponds are supplemented with groundwater well withdrawals during dry periods (URS Corporation 2014). The On-Site Alternative project area also includes two Bonneville Power Administration (BPA) parcels. One parcel includes high-power transmission lines and the second parcel includes a power substation with an access road.

The Off-Site Alternative project area does not have existing connections to sewer and potable water utility service. The Port of Longview is currently engaged in an ongoing planning effort for the project area to identify its infrastructure needs.

This chapter describes the potential direct and indirect impacts on social/community cohesion and public services, the local economy, environmental justice populations, and utilities from construction and operation of the On-Site Alternative, Off-Site Alternative, and conditions under the No-Action Alternative.

3.1 On-Site Alternative

Potential impacts on social/community cohesion and public services, the local economy, environmental justice, and utilities from the On-Site Alternative are described below.

3.1.1 Social/Community Cohesion and Public Services

Direct impacts on social and community cohesion would occur when a project divides a neighborhood, isolates part of a neighborhood, or separates residents from public services by changing travel patterns or accessibility. Direct impacts on public services would occur when a project physically displaces or alters a public service facility.

Indirect impacts on social and community cohesion would occur when a project generates substantial new development or changes property values. Indirect impacts on public services would occur when a project introduces a new population or service demand that affects the services delivered by a community facility.

3.1.1.1 Construction: Direct Impacts

Construction of the On-Site Alternative would not result in any direct impacts on social and community cohesion or public services. Construction activities would be limited to the project area, and therefore would not divide or isolate neighborhoods or disrupt community cohesion. Furthermore, there are no public services (as defined in Section 2.2.1.2, *Public Services*) on or adjacent to the project area and, therefore, the On-Site Alternative would not physically displace or alter any public services during construction.

In some cases, construction can also affect a community by temporarily lowering property values during construction. For example, potential buyers may find a property less attractive if views are altered by the visible and audible presence of construction equipment and activity. However, views of the project area from nearby residential locations are limited, and these views already include the active industrial use currently on the project area (ICF International and BergerABAM 2016). Furthermore, construction-related effects would be temporary, lasting only for the duration of these activities.

3.1.1.2 Construction: Indirect Impacts

Construction materials would be delivered to the project area by truck or rail (truck scenario and rail scenario). As described in the *Vehicle Transportation Technical Report*, construction activities would not adversely affect vehicle delay at grade crossings on the Reynolds Lead, and BNSF Spur because average vehicle delay would not substantially change during construction, except during the peak traffic hour at two public at-grade crossings on the Reynolds Lead under the rail scenario. However, this vehicle delay impact would only occur if a project-related construction train (average of 1.3 trains per day) passes during the peak traffic hour. Therefore, construction of the On-Site Alternative would have negligible impacts on social and community cohesion and access to public services.

3.1.1.3 Operations: Direct Impacts

Operation of the On-Site Alternative would not divide or isolate neighborhoods because operations would be confined to the project area, nor would it lead to the displacement of substantial portions of the existing community. Operations also would not physically displace or alter any public service facility, but it would place new demands on fire protection services, as discussed below.

Place New Demands on Fire Protection Services

The On-Site Alternative would result in the operation of a large new industrial use on the project area. This alternative could result in new or different demands on fire protection services; however, required fire and life safety systems would be installed in the project area according to fire code standards. These systems would be regularly inspected and maintained. The Applicant would also maintain a surface water storage pond with a reserve of 0.36 million gallons at all times for fire suppression. In addition, Cowlitz 2 Fire & Rescue has been involved in a pre-fire planning process with the Applicant and has indicated it will work with the Applicant to plan for the new facilities and operations (URS Corporation 2014).

3.1.1.4 Operations: Indirect Impacts

Operation of the On-Site Alternative would not result in indirect impacts on social and community cohesion because of changes to property values or by generating substantial new development. As noted above, the On-Site Alternative is located on an existing industrial site within a larger industrial area. Furthermore, the On-Site Alternative would use an existing freight rail line. Therefore, operation of the On-Site Alternative would not constitute a new land use with the potential to change property values substantially or induce new development in the surrounding area.

In addition, operation of the On-Site Alternative is not expected to draw a substantial number of new employees and their families to the area. The On-Site Alternative would employ 135 workers, some of whom would be drawn from existing residents in the surrounding area. People who relocate to the area to fill a position are expected to reside anywhere in Cowlitz, Clark, Columbia, or Lewis counties, based on current commute patterns. Therefore, the On-Site Alternative would not result in a new population that could place new demands on public service providers such as educational facilities, police and emergency medical services, parks and recreation facilities, or libraries. However, operation of the On-Site Alternative would increase rail traffic-related noise along the Reynolds Lead and BNSF Spur due to sounding train horns. This increased rail traffic-related noise would result in increased noise levels within Archie Anderson Park near the Reynolds Lead and

BNSF Spur. The operation of the On-Site Alternative could also result in vehicle and rail traffic potentially affecting accessibility to community resources and public resources within the study area community. Therefore, operation of the On-Site Alternative would result in the following indirect impacts.

Affect Accessibility to Community Resources and Public Resources

As described in the *Vehicle Transportation Technical Report*, project-related trains would not adversely affect daily average vehicle delay at public at-grade crossings on the Reynolds Lead and BNSF Spur because average vehicle delay would not change substantially. Peak traffic hour vehicle delay would also not be adversely affected if track improvements are made to the Reynolds Lead and BNSF Lead (as described in the *Rail Transportation Technical Report*) and only one project-related train travels during the peak traffic hour. Therefore, under these scenarios, accessibility to social and community resources and public resources would not change substantially under the On-Site Alternative.

However, if two On-Site Alternative trains travel during the peak traffic hour, or infrastructure improvements are not made to the Reynolds Lead and BNSF Spur (as described in the *Rail Transportation Technical Report*), vehicle delay would substantially change at selected public at-grade crossings along the Reynolds Lead and BNSF Spur during the peak traffic hour. (See the *Vehicle Transportation Technical Report* for the identification of crossings and discussion of vehicle delay impacts.) These vehicle delay impacts would be temporary (limited to the peak traffic hour) and the probability for two trains to pass during the peak vehicle traffic hour would be low. Under these scenarios, project-related trains would indirectly affect the accessibility to community resources and public services at selected public at-grade crossings on the Reynolds Lead and BNSF Spur.

The owner of the Reynolds Lead and BNSF Spur has indicated that track improvements would be made, though these plans have not been submitted or permitted.

Increased Noise Levels in Archie Anderson Park, Highlands Trail, and Gerhart Gardens Park

Project-related trains would increase rail traffic-related noise levels in Archie Anderson Park, along the Highlands Trail, and in Gerhart Gardens Park, all of which are located within 1,000 feet of the Reynolds Lead or BNSF Spur. The increased noise levels could reduce the attractiveness of the features in these parks that are more sensitive to increased noise levels, such as picnic facilities and sitting areas. Archie Anderson Park, the Highlands Trail, and Gerhart Gardens also include features not particularly sensitive to increased noise levels (e.g., facilities used for sports, exercise, or active play), such as walking and running trails, baseball fields, and basketball courts.

The increased noise levels would occur because project-related trains would be required to sound their horns for public safety at at-grade crossings per Federal Railroad Administration (FRA) regulations.

3.1.2 Local Economy

The On-Site Alternative would result in economic and fiscal benefits to the local area, Cowlitz County, and Washington. Overall, construction and operation of the On-Site Alternative would include new jobs, wages, output, and tax revenue.

3.1.2.1 Construction: Direct Impacts

Construction of the On-Site Alternative would result in the following direct impacts.

Generate Direct Economic Output

Initial construction of the On-Site Alternative would generate approximately 1,350 direct jobs during the construction period. Construction of the On-Site Alternative is expected to occur over 6 years with the peak construction activity occurring in 2018. The employees would be derived primarily from the local and regional labor pool. Assuming construction expenditures of \$600 million, there would be direct construction output of about \$232 million supporting about \$70 million in direct wages (Table 20).

Table 20. Direct Construction Economic Impacts

Economic Impacts	Value
Jobs Total ^a	1,350
Wages Total (in millions \$)	\$70.0
Output Total (in millions \$)	\$232.0

^a Direct impacts only include activity on the project area.
Source: BERK 2012

Overall, the additional construction jobs provided by the On-Site Alternative would have a positive short-term beneficial effect on the local and regional economies.

Generate Construction Sales and Business and Occupation Tax Revenues

Construction of the On-Site Alternative would generate state and local sales and use taxes and B&O taxes. Construction activities are estimated to provide a one-time construction sales tax of \$5.87 million for Cowlitz County, a 5% increase over the 2012 revenue of \$107.8 million (see Table 17). The state is estimated to receive \$37 million of the \$43 million total in anticipated one-time construction-related fiscal impacts. Table 21 shows the calculation of the fiscal impacts for Cowlitz County and Washington.

Table 21. Construction Fiscal Impacts

Fiscal Impacts	One-time Construction (millions \$) (2012)
County	\$5.87
Construction Sales Tax	\$5.87
State	\$37.21
Construction Sales Tax	\$34.70
Construction B&O Tax	\$2.51
Total	\$43.09

Source: BERK 2012

3.1.2.2 Construction: Indirect Impacts

Construction activity can disrupt local businesses with increased traffic, noise, dust, and other indirect impacts. However, as discussed above, all nearby businesses are industrial and commercial uses that are not expected to be disrupted by construction activity. The discussion of indirect construction impacts in section 3.1.1.1 describes how the On-Site Alternative would have negligible vehicle delay impacts during construction, and therefore negligible impacts on local business access. As described in the *Noise and Vibration Technical Report*, delivery of construction materials by rail would increase noise levels but would not cause adverse noise impacts. As described in the *Air Quality Technical Report*, project-related construction trucks and trains would not adversely affect air quality during construction and dust from construction activities would be limited to the project area. Therefore, construction of the On-Site Alternative would have negligible impacts on local business activity.

The On-Site Alternative would have the following indirect impact during construction on the local economy.

Generate Indirect and Induced Economic Output

As discussed above, construction of the On-Site Alternative would generate approximately 1,350 direct jobs. The direct construction economic output could generate an additional 1,300 indirect and induced local and regional jobs during construction with approximate wages of \$65 million and an additional economic output of \$203 million (BERK 2012) (Table 22). Input-output models used to estimate the impacts of total wages over multiple years provide estimates of jobs in terms of job-years. Therefore, 1,300 indirect and induced jobs resulting from construction wage expenditure over 5 years is the equivalent of 260 job positions held for the 5-year duration of construction.⁷ For example, if construction employment expenditures of \$70 million were to be spent uniformly over 5 years (\$14 million per year), the model indicates that the equivalent of 260 positions would be created in the local economy, and could employ those people for 5 years.

Table 22. Indirect and Induced Construction Economic Impacts

Economic Impacts	Value
Jobs Total ^a	1,300
Wages Total (in millions \$)	\$65.0
Output Total (in millions \$)	\$203.0

^a Indirect and induced jobs, wages, and total output were calculated using estimated multipliers from the Washington State Input-Output model.
Source: BERK 2012

⁷ The economic and fiscal impact study prepared by BERK for the On-Site Alternative used a 5-year construction duration for its assessment of economic impacts during the construction period.

3.1.2.3 Operations: Direct Impacts

Operation of the On-Site Alternative would result in the following direct impacts.

Generate Direct Economic Output

Operation of the On-Site Alternative would generate direct economic benefits based on the Applicant's expected staffing and expenditure plan.

Operation throughput could increase from 16-hour/2-shift days employing 112 employees annually to 24-hour/3-shift days employing 135 employees annually by Year 3 (Table 23). Wages could increase by almost 39% from \$14.5 million (Year 2) to \$20.1 million annually (Year 4). At full operation, the 135 total employees would include terminal administrative staff (25), waterfront staff (30), and terminal upland staff (80).

Table 23. Operation Ramp-Up (Year 1 through Year 4)

Operation Activity	Year 1	Year 2	Year 3	Year 4
Operating Hours per Day	16	16	24	24
Operating Days per Year	90	358	358	358
Shifts per Day	2	2	3	3
Total Employees	112	112	135	135
Terminal Admin Staff	25	25	25	25
Waterfront Staff	16	16	30	30
Terminal Upland Staff	71	71	80	80
Total Direct Wages (in millions \$)	\$3.5	\$14.5	\$19.5	\$20.1

Source: BERK 2012

As shown in Table 24, direct jobs could increase to 112 jobs during initial operations (Stage 1) and up to 135 jobs during full operations (full buildout). Total direct output at full buildout would be \$49 million supporting about \$16 million in wages. Unemployed and underemployed workers in the manufacturing industry could potentially fill new jobs in the area.

Table 24. Direct Operation Economic Impacts

Impacts	Operations (Stage 1)	Operations (Full Buildout)
Jobs Total ^a	112	135
Wages Total (in millions \$)	\$13.0	\$16.0
Output Total (in millions \$)	\$21.0	\$49.0

^a Direct impacts only include activity on the project area.
Source: BERK 2012

The wage information used in this analysis provided by the Applicant relies on wage data based on the International Longshore and Warehouse Union average salaries for the entire West Coast. Wages in Cowlitz County would likely be lower than the West Coast averages used in the economic impact analysis and overall economic impacts would be lower. For instance, the economic impact analysis assumed wages of approximately \$118,000 per employee, exclusive of benefits (BERK 2012). This is not representative of actual wages likely at the terminal and likely overstates the economic output of the On-Site Alternative. For comparison, the average annual wage for workers in transportation and material moving occupations, which would be similar to

the type of occupational employment created by the On-Site Alternative, was \$38,730 in Cowlitz County in 2014 according to the U.S. Bureau of Labor Statistics State Occupational Employment and Wage Estimates for Washington State. Wages reported in the State Occupational Employment and Wage Estimates do not include employer costs for benefits.

Generate Tax Revenues

Operation of the On-Site Alternative would generate property taxes, combined state and local sales and use taxes, and B&O taxes. Table 25 shows that the greatest share of state, county, and special purpose district taxes would be generated by property taxes. Operation of the On-Site Alternative is estimated to generate an annual average of \$1.65 million in Cowlitz County revenue and a 30-year present value of \$32.37 million in tax revenues. At the state level, operation of the On-Site Alternative is estimated to generate an annual average of \$2.18 million and a 30-year present value of \$41.77 million in tax revenues. County taxes are shared with cities, allocated based on population. Local taxes have historically been spent primarily on schools, roads, and emergency services, all of which have the potential for direct or indirect positive effects on public health and safety.

Table 25. Operation Fiscal Impacts

Fiscal Impacts	Annual Average (in millions \$) (2012)	30-Year Present Value (in millions \$) (2012)
County Total	\$1.65	\$32.37
Property Tax	\$1.50	\$29.47
Ongoing Sales Tax	\$0.15	\$2.90
State Total	\$2.18	\$41.77
Property Tax	\$0.92	\$18.05
Ongoing Sales Tax	\$0.91	\$17.12
Ongoing B&O Tax	\$0.24	\$4.59
Utility Tax	\$0.11	\$2.01
Special Purpose Districts Total	\$1.45	\$28.54
Property Tax	\$1.45	\$28.54
Total	\$5.28	\$102.68

Source: BERK 2012

Based on 2010 revenue levels for Cowlitz County, the On-Site Alternative could increase property tax revenues by 10% and sales tax revenues by 2%. Given the On-Site Alternative's size, it is likely that the overall net impact on Cowlitz County would be an increase in general fund revenues per capita, allowing more flexibility in meeting the service needs of residents. However, it is worth noting that over 50% of the property tax revenues are related to Cowlitz County's road levy, which requires dedicating funds to transportation purposes.

There would likely be additional revenues to the state from taxes associated with increased rail and shipping activity as well as increased fuel taxes resulting from increased rail use. Shipping traffic on the Columbia River between the Port of Longview and the mouth of the Columbia River would continue to increase during the ramp-up of operations.

New rail traffic associated with the On-Site Alternative would increase employment, wages, and tax revenue from rail companies serving the On-Site Alternative. However, these economic benefits would occur both in and out of Washington and mostly outside Cowlitz County. The

most likely localized benefit from the increased rail activity would be increases in state taxes from rail operators.

3.1.2.4 Operations: Indirect Impacts

In general, indirect impacts on the local economy occur when a project introduces a new use with the potential to make surrounding properties more attractive for development or to affect property values. Indirect impacts can also occur as a result of a project encouraging the development of supporting services, which can also put upward pressure on rents or property values. The On-Site Alternative would be located in an existing industrial area. It would not introduce a new type of use with the potential to make nearby properties substantially more attractive for development, nor would it encourage the growth of a substantial number of new support businesses because there is already an existing concentration of industrial development in the area.

The following direct impacts on the local economy related to operation of the On-Site Alternative have been identified.

Generate Indirect and Induced Economic Output

The On-Site Alternative would result in economic and fiscal benefits to the local area, Cowlitz County, and Washington. There would be benefits beyond the project area because the export terminal would support ship networks operating on the Columbia River and rail networks in Washington State. As discussed above, operation of the On-Site Alternative would directly employ approximately 135 workers at full buildout. As shown in Table 26, these jobs would generate an additional 165 indirect and induced local and regional jobs with approximate wages of \$9 million and total economic output of \$21 million.

Table 26. Indirect and Induced Operation Economic Impacts

Impacts	Operations (Stage 1)	Operations (Full Buildout)
Jobs Total ^a	118	165
Wages Total (in millions \$)	\$7.0	\$9.0
Output Total (in millions \$)	\$19.0	\$21.0

^a Indirect and induced jobs, wages, and total output were calculated using estimated multipliers from the Washington State Input-Output model.
Source: BERK 2012

Affect Local Business Activity

The discussion of indirect operational impacts in Section 3.1.1.1 above describes how project-related trains would affect vehicle delay at at-grade crossings on the Reynolds Lead and BNSF Spur. This vehicle delay could affect accessibility to local businesses during the peak traffic hour without track infrastructure improvements to the Reynolds Lead and BNSF Spur, or if two project-related trains travel during the peak traffic hour. As described in the *Noise and Vibration Technical Report*, project-related trains would increase noise levels but would not cause adverse noise impacts on businesses because the applicable noise criteria only applies to noise-sensitive land uses, such as residences. As described in the *Air Quality Technical Report*, project-related trains would not adversely affect air quality during operations. Therefore, operations of the On-Site Alternative would have negligible indirect impacts on local business activity. Overall, increased vehicle delay from project-related rail traffic would be unlikely to affect business

activities substantially, especially if the planned track improvements to the Reynolds Lead and BNSF Spur are implemented, as described in the *Rail Transportation Technical Report*.

The On-Site Alternative would also add rail traffic to the Reynolds Lead and BNSF Spur. Along the BNSF Spur and Reynolds Lead between Longview Junction, Washington, and the project area, neither track segment would have the capacity to handle all of the projected coal trains and the growth in baseline traffic. However, the Longview Switching Company (LVSW) has indicated that it would upgrade the traffic control technology on both the BNSF Spur and the Reynolds Lead, and this upgrade would provide sufficient capacity to handle both the coal trains and the projected growth in baseline traffic. With these investments and operating changes, increased rail traffic would not adversely affect local business activities.

3.1.3 Environmental Justice

3.1.3.1 Summary of Adverse Impacts

The various technical reports present the impacts resulting from construction and operation of the On-Site Alternative.

For some resource areas, the On-Site Alternative would not result in adverse impacts. In others, it would result in low or minor impacts that would be avoided or minimized with standard best management practices (BMPs), project design elements, or other mitigation measures. The On-Site Alternative would not have the potential to result in disproportionately high and adverse effects on environmental justice populations in these resource areas. These are listed below.

- Air Quality
- Climate Change
- Energy Resources
- Greenhouse Gas Emissions
- Hazardous Materials
- Land Use
- Rail Safety
- Rail Transportation
- Social and Community Resources
- Surface Water and Floodplains
- Vegetation
- Vessel Transportation
- Water Quality
- Wildlife

The On-Site Alternative would result in adverse impacts in the other resource areas. These impacts, as well as any mitigation measures to address them, are summarized below. An analysis of the On-Site Alternative's potential for disproportionately high and adverse effects on environmental justice populations is provided in the next section.

- **Aesthetics.** The On-Site Alternative would result in adverse impacts related to changes in the visual features of the project area during construction and operation and the introduction of new sources of light and glare during operation (ICF International and BergerABAM 2016). As discussed in the NEPA Draft Environmental Impact Statement (Volume I), the Applicant has proposed minimization measures and the Corps has identified potential mitigation measures to address the adverse impacts related to light and glare (ICF International and BergerABAM 2016).
- **Cultural Resources.** The On-Site Alternative would demolish identified resources that contribute to the historical significance of the Reynolds Metals Reduction Plant Historic District. The Reynolds Metals Reduction Plant Historic District has been determined eligible for listing in the National Register of Historic Places as a historic district. Demolition of the Reynolds Metals Reduction Plant Historic District would be an unavoidable adverse environmental impact. The Memorandum of Agreement currently being negotiated among the U.S. Army Corps of Engineers (Corps), Cowlitz County, the Washington State Historic Preservation Officer (SHPO), and the Applicant is intended to resolve this impact in compliance with Section 106 of the National Historic Preservation Act (NHPA).
- **Tribal Treaty Rights and Trust Responsibilities.** Construction and operation of the On-Site Alternative would affect fish and wildlife. Construction would result in the loss of both terrestrial and aquatic habitat. Temporary construction impacts would include underwater noise associated with the installation of steel piles and turbidity during dredging and disposing of dredged material. These impacts could result in behavioral responses by and/or injury to fish. During operation, new overwater structures could affect primary productivity, fish behavior, predation, and migration, and increased vessel traffic would increase the risk of fish stranding. Operation of the terminal could generate coal dust, which could affect wildlife through physical or toxicological means. However, implementing proposed best management practices would reduce coal dust emissions in the project area. The proposed project could affect culturally significant animal species. The Applicant would be required to obtain and comply with a National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Permit and an NPDES Construction Stormwater General permit and develop and comply with a site-specific construction Stormwater Pollution Prevention Plan (SWPPP). Impacts related to vessel transport could cause temporary, localized increases in turbidity, and could release fuel or hazardous materials as a result of a vessel incident or collision. Federal and state emergency response and cleanup programs would require cleanup actions if a spill were to occur. The On-Site Alternative would not likely result in a measurable impact to tribal fishing sites, and no culturally significant plant species are located on the On-Site Alternative project area.
- **Fish.** During construction, the On-Site Alternative would result in direct adverse impacts on fish related to the loss of aquatic habitat due to pile placement, increased underwater noise during pile driving, increased shading, and potential spills or leaks. During operation, the On-Site Alternative would result in direct impacts related to increased shading, potential spills or leaks, coal spills, and vessel noise, and indirect impacts related to fish stranding from vessel wakes, maintenance dredging, coal dust and spills, and commercial and recreational fishing. (See Fish Technical Report regarding both impacts [ICF International 2016b].) As discussed in the NEPA

Draft Environmental Impact Statement (Volume I), the Applicant has proposed minimization measures and the Corps has identified potential mitigation measures to address the potential adverse impacts on fish (ICF International 2016b).

- **Geology and Soils.** The On-Site Alternative would result in adverse impacts related to soil erosion and compaction and seismic-related events such as ground shaking and liquefaction (see NEPA Geology and Soils Technical Report [ICF International 2016c]). These would be direct impacts affecting the project area; this alternative would not result in indirect impacts on areas away from the project area. The Applicant has committed to implementing measures during construction to avoid and minimize Geology and Soils-related impacts.
- **Groundwater.** Construction of the On-Site Alternative would result in potential direct impacts to groundwater quality due to accidental leaks and spills or the displacement of contaminated groundwater through the use of vertical wick drains during construction preloading (see NEPA Groundwater Technical Report [ICF International 2016d]). As discussed in the NEPA Draft Environmental Impact Statement (Volume I), the Applicant has proposed minimization measures and the Corps has identified potential mitigation measures to address the potential adverse impacts on groundwater. Operation of the On-Site Alternative would result in indirect impacts to groundwater quality because of accidental collision or derailment. If a release of hazardous materials were to occur, the rail operator would implement emergency response and cleanup actions as required by Occupational Safety and Health Administration rules (29 CFR 1910.120) ; the Washington State Oil and Hazardous Substance Spill Prevention and Response regulations (90.56 RCW) and the Model Toxic Control Act Cleanup Regulations (Chapter 173-340 WAC).The On-Site Alternative would not result in adverse impacts to groundwater supply or recharge (ICF International 2016d).
- **Noise and Vibration.** The On-Site Alternative would result in potential adverse noise impacts during construction at one residence where noise levels would exceed Federal Railroad Administration (FRA) criteria (104 Bradford Place, adjacent to the On-Site Alternative project area; see the NEPA Noise and Vibration Technical Report [ICF International 2016e]).

During operations, this alternative would result in a potential direct noise impact at this location because operational activities would result in noise levels exceeding the applicable state limit for nighttime noise levels (see NEPA Noise and Vibration Technical Report [ICF International 2016e]). However, the predicted noise level during operations is likely comparable to the current nighttime noise level because of the proximity of the residence to Mount Solo Road traffic. The On-Site Alternative would also result in potential adverse indirect noise impacts during operation at residential properties (near 3rd Avenue and California Way, Oregon Way and Industrial Way, and Douglas Street and Washington Way) where noise levels would exceed FRA guidelines for moderate or severe impact due to rail operations; train noise would impact a total of 289 residential units (see NEPA Noise and Vibration Technical Report [ICF International 2016e]). Train noise would result in severe impacts at approximately 60 residential units and moderate impacts at 229 residential units. This impact would occur because of the trains sounding their horns at grade crossings. As discussed in the NEPA Draft Environmental Impact Statement (Volume I), the Applicant has proposed minimization measures and the Corps has identified potential mitigation measures to address the adverse impacts related to noise and vibration.

- **Vehicle Transportation.** Construction of the On-Site Alternative would result in indirect vehicle delay impacts during the peak traffic hour at two public at-grade crossings on the

Reynolds Lead under the rail scenario. This vehicle delay impact would only occur if a project-related train (average of 1.3 trains per day) passes during the peak traffic hour and would be temporary. Operation of the On-Site Alternative would result in indirect impacts to vehicle transportation if two On-Site Alternative trains travel during the peak hour, or infrastructure improvements are not made to the Reynolds Lead and BNSF Spur (as described in the *Rail Transportation Technical Report*). In these cases, vehicle delay would substantially change at selected public at-grade crossings along the Reynolds Lead and BNSF Spur during the peak traffic hour. (See the Vehicle Transportation Technical Report for the identification of crossings.) This vehicle delay impact would only occur if two project-related trains traveled during the peak traffic hour or if track improvements are not made to increase capacity of the Reynolds Lead and BNSF Spur. Emergency medical services and fire protection response times would also be affected by increased delay at at-grade crossings as a result of the On-Site Alternative. As discussed in the NEPA Draft Environmental Impact Statement (Volume I), the Applicant has proposed minimization measures and the Corps has identified potential mitigation measures to address adverse impacts on vehicle transportation.

3.1.3.2 Analysis of the Potential for Disproportionately High and Adverse Effects

In accordance with CEQ guidance, the determination of the On-Site Alternative's potential to result in disproportionately high and adverse effects involved consideration of whether the adverse impact is considered significant (as employed by NEPA); whether the effects on minority or low-income populations would appreciably exceed, or would be likely to appreciably exceed, the risk or rate to the general population; and whether the minority or low-income population would be affected by cumulative or multiple adverse exposures from environmental hazards. The determination of disproportionately high and adverse effects also involved consideration of potential mitigation measures and offsetting benefits.

The potential adverse impacts identified above are analyzed below for their potential to result in disproportionately high and adverse effects on minority and low-income populations.

- **Aesthetics.** The assessment of aesthetics considered three primary types of views: urban/industrial views, rural/residential views, and natural views. The On-Site Alternative would result in no impact or low impacts on urban/industrial views and rural/residential views. Furthermore, urban/industrial views are primarily experienced by workers and commuters, who would include both minority/low-income populations and non-minority/non-low-income populations. Therefore, the low level of impacts on urban/industrial views and rural/residential views would not have the potential to result in disproportionately high and adverse effects on minority and/or low-income populations. The On-Site Alternative would result in a potential moderate level of impact on natural views from Dibblee Point Beach. However, this viewpoint is a public park, and therefore minority and low-income populations would not bear a disproportionately high and adverse share of the impact. Overall, the On-Site Alternative's potential adverse aesthetics impacts would not result in disproportionately high or adverse effects on minority or low-income populations.
- **Cultural Resources.** The unavoidable adverse environmental impact related to the demolition of the Reynolds Metals Reduction Plant Historic District would be a direct impact affecting the project area. Because these impacts would not affect the public, they would not result in disproportionately high and adverse effects on minority or low-income populations. In addition,

the Memorandum of Agreement currently being negotiated among the Corps, Cowlitz County, the SHPO, and the Applicant is intended to resolve this impact.

- **Tribal Treaty Rights and Trust Responsibilities.** The adverse impacts related to tribal resources would only affect tribal communities, and would therefore disproportionately affect minority populations. However, the adverse impacts would not be disproportionately high. Best management practices and required permits would reduce coal dust and water quality impacts. Construction impacts on fish and wildlife would be temporary. Terrestrial habitat that would be removed provides degraded habitat conditions that are not suitable for many species of wildlife. Shading of aquatic habitat would be minimized with project design elements and the overall shading impact would be low. At full operation in 2028, the proposed terminal would represent approximately one-quarter of the projected vessel traffic volume in the Lower Columbia River. The additional traffic associated with the terminal would increase the risk of fish stranding, but the increased risk would not be disproportionately high given the overall volume of vessel traffic on the river.
- **Fish.** The potential adverse impacts related to fish would primarily affect biological communities, not human populations and the public. Furthermore, the increase in vessel traffic resulting from the On-Site Alternative would not likely reduce the catch from commercial or recreational fishing or limit access for commercial or recreational fishing activities. Therefore, the On-Site Alternative's potential adverse impacts to fish resources would not have the potential to result in disproportionately high and adverse effects on minority or low-income populations.
- **Geology and Soils.** As noted above, the potential adverse geologic impacts would be direct impacts affecting the project area. Because these impacts would not affect the public (i.e., they could affect employees on-site but not off-site residents), they would not result in disproportionately high and adverse effects on minority or low-income populations.
- **Groundwater.** Although the On-Site Alternative would result in potential adverse impacts associated with the displacement of contaminated groundwater through the use of vertical wick drains during construction preloading, the permeability of the earth materials affected by preloading would be relatively low and thus would not be particularly susceptible to the infiltration of contaminated groundwater. Furthermore, the groundwater in the project area is not used as a source of drinking water and has a severely limited potential to affect sources of drinking water. Therefore, any potential contamination of groundwater at the project area would have limited potential to affect the public. Overall, the potential adverse impacts on groundwater would not result in disproportionately high and adverse effects on minority or low-income populations.
- **Noise and Vibration.** The potential adverse noise impacts during construction and operation would occur at residences not located in minority and/or low-income communities. The direct noise impact during operation would be monitored by the Applicant at the start of operations, and, if necessary, the Applicant would reduce the project-related noise through facility modifications or the installation of building sound insulation. Therefore, the direct noise impacts during construction and operation would not result in disproportionately high and adverse effects on minority or low-income populations.

Indirect noise impacts due to rail operations would occur because of trains sounding their horns at grade crossings, as required by FRA horn noise regulations. These regulations are in place for the sake of safety at public at-grade crossings. Because there are minority and low-income

communities within the study area (as shown in Table 19 and Figure 9), there is a potential for a disproportionately high and adverse effect on minority and low-income populations from rail operations.

To address these impacts, before beginning export terminal operations, the Applicant will coordinate with the Longview Switching Company and affected communities along the Reynolds Lead on the FRA process to implement a Quiet Zone. Horn sounding, the source of the potential adverse noise impact, could be eliminated by establishing a Quiet Zone, which includes enhanced safety measures at grade crossings such that train horns would not be required to be used. Public outreach on the Quiet Zone process will include low-income and minority populations. Implementation of a Quiet Zone is subject to FRA approval. If the FRA does not approve the Quiet Zone for the Reynolds Lead, the Applicant will explore the feasibility of other measures to reduce sound levels along the Reynolds Lead to mitigate the moderate and severe impacts from project-related train noise.

Absent the creation of a Quiet Zone, the potential adverse indirect noise impacts during rail operations would result in a disproportionately high and adverse effect on minority and low-income populations. This potential disproportionately high and adverse effect would affect approximately 289 residences located in Census Tract 3 Block Group 1, Census Tract 5.02 Block Group 1, and Census Tract 5.02 Block Group 2, all of which have been identified as minority communities (see Table 18). See the Noise Technical Report for an additional discussion of the noise levels and a map with the location of the affected residences.

- **Vehicle Transportation.** As noted above, the indirect vehicle delay impacts during construction of the On-Site Alternative would only occur if a project-related train (average of 1.3 trains per day) passes during the peak traffic hour and would be temporary. The probability that a project-related construction train would travel during the peak hour is approximately 5% each day. Thus, it is unlikely a project-related construction train would travel through study crossings during the peak hour on a given day. Therefore, the indirect impacts to vehicle transportation during construction would not result in a disproportionately high and adverse effect on minority or low-income populations.

The indirect vehicle delay impacts during operation would only occur if two project-related trains traveled during the peak traffic hour, or if track improvements are not made to increase capacity of the Reynolds Lead and BNSF Spur. These impacts would be temporary (limited to the peak hour). Overall, potential for these impacts would be low because the owner of the Reynolds Lead and BNSF Spur has indicated that track improvements would be made, and the probability for two trains to pass during the peak hour would be low. Vehicle delay impacts would affect roadway users during the peak hour, which would include minority and low-income populations as well as non-minority and non-low-income populations, and therefore are not likely to affect minority or low-income communities at a rate that would appreciably exceed the rate to the general population. Therefore, vehicle delay impacts would not result in disproportionately high and adverse effects on minority or low-income populations. With respect to the potential emergency vehicle delay, these impacts would depend on the location of the incident and origin of the response in relation to the grade crossings. The areas along the rail line, where train traffic could result in delays in emergency response, include primarily minority and/or low-income communities. However, almost all of the residential uses and medical facilities are located on north of the Reynolds Lead and BNSF Spur, with only industrial facilities and the Columbia River waterfront located across the rail lines, which would minimize the need for emergency providers serving these communities to cross rail lines. Therefore, the potential

adverse impacts related to emergency response delay would not have the potential to result in disproportionately high and adverse effects on minority or low-income populations.

3.1.3.3 Public Participation

Executive Order 12898 requires federal agencies to work to ensure greater public participation in the decision-making process. In addition, CEQ guidance suggests that federal agencies should acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation.

The U. S. Army Corps of Engineers (Corps) implemented a public outreach effort to encourage full public participation in the EIS process. A primary component of this effort is providing two NEPA-required formal comment periods: 1) the scoping phase comment period, and 2) the comment period following public issuance of the Draft EIS. A public involvement plan developed for the environmental review process guided the public outreach effort.

Prior to the scoping meeting, stakeholder interviews were conducted to guide planning for the scoping process. These interviews were conducted with stakeholders representing a diverse range of interests and demographics including city and county jurisdictions, environmental and conservation groups, landowner organizations, labor organizations, economic development and business organizations, port authorities, river navigation pilots, and local community groups. A project website was also developed (www.millenniumbulkeiswa.gov/), providing information in English and Spanish. This website serves as an information hub, a public comment portal, and a document review and download repository throughout development of the EIS. The website was promoted in news releases, ads in local media, and printed project information.

The public scoping meetings were announced in various publications. Notices were published in the *Federal Register* and the Corps issued a press release. Display ads were placed in local newspapers where scoping meetings were held (*The Columbian* and *The Longview Daily News*). Announcements were also sent to a listserv group, and an informational flyer was mailed to 6,000 residents in neighborhoods near the On-Site Alternative project area, including the Highlands neighborhood in Longview. A Spanish translation of the informational flyer was also distributed.

The U.S. Army Corps of Engineers conducted two scoping meetings for NEPA-related comments. The NEPA-related scoping meetings were held on September 17, 2013, in Longview and on October 9, 2013, in Clark County. Both scoping meetings used an open-house format to provide EIS process information, details about the proposed project, and to receive scoping comments. Spanish-language handouts and Spanish translation services were available at each meeting. All facilities were Americans with Disabilities Act (ADA)-accessible.

The Corps will hold two public hearings to receive comments on the NEPA Draft EIS.

The public outreach program, including outreach to minority populations, low-income populations, and persons with limited English proficiency is ongoing throughout the environmental review process in accordance with applicable regulations.

3.1.3.4 Conclusion

Given all the facts and circumstances, the On-Site Alternative is not expected to result in any disproportionately high and adverse effects on minority and low-income populations, other than a potential disproportionately high and adverse effect related to noise from rail operations.

3.1.4 Utilities

3.1.4.1 Construction: Direct Impacts

Construction of the On-Site Alternative is not anticipated to result in direct impacts on water and sewer service. Construction activities would use groundwater for dust suppression and would not affect water utility service. Construction practices would ensure that the water supply and sewer connections are not disrupted for surrounding users.

Affect BPA-Owned Parcels

If the Applicant obtains an easement from BPA, construction of the On-Site Alternative would affect two BPA-owned parcels within the project area. One parcel has power transmission lines and the second parcel has a substation. The Applicant would coordinate with BPA on potential impacts to BPA infrastructure and operations.

3.1.4.2 Construction: Indirect Impacts

Demand for water and sewer utility services during construction of the On-Site Alternative would be confined to activities in the project area. Construction of the On-Site Alternative would not result in new indirect demands on water supply, sewer utility services, or wastewater treatment. Therefore, construction of the On-Site Alternative would not result in indirect impacts on utilities.

3.1.4.3 Operations: Direct Impacts

The On-Site Alternative would have the potential to directly affect water and sewer utilities and electrical utilities. Operation of the On-Site Alternative would result in the following direct impacts.

Affect BPA-Owned Parcels

If the Applicant obtains an easement from BPA, operation of the On-Site Alternative would be located on two BPA-owned parcels within the project area. The Applicant would coordinate with BPA on potential impacts to BPA infrastructure and operations.

Create New Sanitary Sewage Flows from the Project Area

As noted above, the sanitary sewer collection and treatment system serving the On-Site Alternative project area is expected to be replaced with a new collection system and connection to the Longview sewer system. A new sanitary sewer conveyance system and connection to the City of Longview sewer system would be developed under the On-Site Alternative. New sanitary sewer flows from the On-Site Alternative would be small and would be offset by the reduction in flows from the existing uses in the project area. The Three Rivers Wastewater Treatment Plant has sufficient capacity to treat additional wastewater flows. The Applicant would be required to obtain a permit to discharge wastewater, as described in Chapter 4, *Required Permits*.

The On-Site Alternative would not convey industrial process wastewater to the City of Longview sewer system or the Three Rivers Wastewater Treatment Plant. Industrial process wastewater would be treated in the on-site water treatment facility and would not add new demands to public sewer and wastewater utilities.

Create New Water Demand on the Project Area

The On-Site Alternative would use potable municipal water supplies for domestic uses, such as drinking, sinks, and toilets. This alternative would not use potable water supplies for industrial needs. Therefore, the On-Site Alternative would result in a small increase in demand for potable water (185 gallons per minute) compared to the overall capacity of the City of Longview water supply (16,000 gallons per minute).

Non-potable water would be used for industrial processes such as dust control, stockpile sprays, wash down, clean up, and fire protection. This water would be supplied by treated water from the proposed water management system and storage ponds and supplemented by wells during dry seasons. Therefore, the On-Site Alternative industrial water use would not place new demands on the City of Longview water supply.

3.1.4.4 Operations: Indirect Impacts

The On-Site Alternative would not result in indirect impacts on water and sewer utilities because demand for these utilities would be limited to the project area.

3.2 Off-Site Alternative

Potential impacts on social/community cohesion and public services, the local economy, environmental justice, and utilities from the Off-Site Alternative are described below.

3.2.1 Social/Community Cohesion and Public Services

3.2.1.1 Construction: Direct Impacts

Similar to the On-Site Alternative, construction of the Off-Site Alternative would not result in any direct impacts on social and community cohesion or public services.

3.2.1.2 Construction: Indirect Impacts

Similar to the On-Site Alternative, construction of the Off-Site Alternative would result in adverse impacts to vehicle delay during the peak traffic hour at two public at-grade crossings on the Reynolds Lead under the rail scenario. This vehicle delay impact would only occur if a project-related train (average of 1.3 trains per day) passes during the peak traffic hour and would be temporary. Therefore, construction of the Off-Site Alternative would have negligible impacts on social and community cohesion and access to public services.

3.2.1.3 Operations: Direct Impacts

Operation of the Off-Site Alternative would not divide or isolate neighborhoods, displace substantial portions of the existing community, or displace any public service facility. However, it would place new demands on fire protection services, as discussed below.

Place New Demands on Fire Protection Services

The Off-Site Alternative could result in new or different demands on fire protection services; however, required fire and life safety systems would be installed in the project area according to fire code standards. These systems would be regularly inspected and maintained. The Applicant should work with the Longview Fire Department to plan for new facilities and operations.

3.2.1.4 Operations: Indirect Impacts

Operation of the Off-Site Alternative would result in the following indirect impacts.

Affect Accessibility to Community Resources and Public Resources

The operation of the Off-Site Alternative would result in the same impacts to vehicle delay as the On-Site Alternative if two Off-Site Alternative trains travel during the peak hour, or infrastructure improvements are not made to the Reynolds Lead and BNSF Spur. Under these scenarios, the Off-Site Alternative would indirectly affect the accessibility to community resources and public resources at selected public at-grade crossings on the Reynolds Lead and BNSF Spur, similar to the On-Site Alternative.

Increased Noise Levels in Archie Anderson Park, Highlands Trail, and Gerhart Gardens Park

Operation of the Off-Site Alternative would result in the same increases in rail traffic-related noise along the Reynolds Lead and BNSF Spur due to sounding train horns, and the same increases in noise in Archie Anderson Park, along the Highlands Trail, and in Gerhart Gardens Park as the On-Site Alternative.

3.2.2 Local Economy

Similar to the On-Site Alternative, the Off-Site Alternative would result in economic and fiscal benefits to the local area, Cowlitz County, and Washington. Construction and operation of the Off-Site Alternative would include new jobs, wages, output, and tax revenue.

3.2.2.1 Construction: Direct Impacts

Construction of the Off-Site Alternative would result in the following direct impacts.

Generate Direct Economic Output

Construction of the Off-Site Alternative would require the same construction labor force as the On-Site Alternative. The Off-Site Alternative would result in the same economic impacts in terms of direct jobs, wages, and economic output during construction as those described for the On-Site Alternative. The additional construction jobs provided by the Off-Site Alternative would have a positive short-term beneficial effect on the local and regional economies.

Generate Construction Sales and Business and Occupation Tax Revenues

The Off-Site Alternative would generate similar state and local sales and use taxes and B&O taxes during construction activities as described for the On-Site Alternative. Given the location

of the Off-Site Alternative is in Longview, it is expected a greater share of tax revenues would go to Longview compared to the On-Site Alternative.

3.2.2.2 Construction: Indirect Impacts

Construction of the Off-Site Alternative would have the following indirect impact on the local economy.

Generate Indirect and Induced Economic Output

The construction of the Off-Site Alternative would generate the same indirect and induced local and regional jobs, wages, and economic output as the On-Site Alternative.

3.2.2.3 Operations: Direct Impacts

Operation of the Off-Site Alternative would result in the following direct impacts.

Generate Direct Economic Output

Operation of the Off-Site Alternative would require the same labor force as the On-Site Alternative and would generate the same economic impacts in terms of direct jobs, wages, and economic output as those described for the On-Site Alternative.

Generate Tax Revenues

Similar to the On-Site Alternative, the Off-Site Alternative would generate property taxes, combined state and local sales and use taxes, B&O taxes, and property taxes.

3.2.2.4 Operations: Indirect Impacts

Operation of the Off-Site Alternative would result in the following indirect impacts.

Generate Indirect and Induced Economic Output

The operation of the Off-Site Alternative would generate the same indirect and induced jobs, wages, and economic output as the On-Site Alternative. The Off-Site Alternative would result in economic and fiscal benefits to the local area, Cowlitz County, and Washington. There would be benefits beyond the project area because the export terminal would support ship networks that operate on the Columbia River and rail networks in Washington State.

Affect Local Business Activity

As with the On-Site Alternative, operations of the Off-Site Alternative would have negligible indirect impacts on local business activity. The Off-Site Alternative would not have adverse noise or air quality impacts on businesses. Increased vehicle delay from project-related rail traffic would be unlikely to affect business activities substantially, especially if the planned track improvements to the Reynolds Lead and BNSF Spur are implemented, as described in the *Rail Transportation Technical Report*.

3.2.3 Environmental Justice

3.2.3.1 Summary of Adverse Impacts

The various technical reports present the impacts resulting from construction and operation of the Off-Site Alternative. The Off-Site Alternative would not have the potential to result in disproportionately high and adverse effects on environmental justice populations in the resource areas listed above in Section 3.1.1.3 *Environmental Justice* for the On-Site Alternative.

The Off-Site Alternative would result in adverse impacts in the other resource areas. These impacts, as well as any potential mitigation measures to address them, are summarized below. An analysis of the Off-Site Alternative's potential for disproportionately high and adverse effects on environmental justice populations is provided in the next section.

- **Aesthetics.** In addition to the same potential adverse visual impacts identified for the On-Site Alternative, the Off-Site Alternative would also result in visually prominent industrial uses near residential uses. As discussed in the NEPA Draft Environmental Impact Statement (Volume I), the Applicant has proposed minimization measures and the Corps has identified potential mitigation measures.
- **Tribal Treaty Rights and Trust Responsibilities.** The Off-Site Alternative would result in the same impacts to tribal resources as the On-Site Alternative.
- **Cultural Resources.** The Off-Site Alternative would result in the same direct impacts on cultural resources as the On-Site Alternative, except demolition of portions of the Reynolds Metals Reduction Plant Historic District would not occur. Archaeological resources in the project area found during construction could be vulnerable to inadvertent disturbance during routine operations and maintenance. Undocumented archaeological resources would be addressed through implementation of an Unanticipated Discovery Plan.
- **Fish.** The Off-Site Alternative would result in similar adverse impacts on fish as the On-Site Alternative. The NEPA Draft Environmental Impact Statement (Volume I) documents the minimization measures identified by the Applicant and potential mitigation measures identified by the Corps.
- **Geology and Soils.** The Off-Site Alternative would result in the similar adverse impacts as those described for the On-Site Alternative. The NEPA Draft Environmental Impact Statement (Volume I) documents the minimization measures identified by the Applicant and potential mitigation measures identified by the Corps.
- **Groundwater.** The Off-Site Alternative would result in the same potential adverse impacts on groundwater as the On-Site Alternative. The NEPA Draft Environmental Impact Statement (Volume I) documents the minimization measures identified by the Applicant and potential mitigation measures identified by the Corps.
- **Noise and Vibration.** The Off-Site Alternative would result in the same potential adverse noise impacts during construction as the On-Site Alternative. It would also result in the same potential adverse indirect noise impacts during operation at residential properties (near 3rd Avenue and California Way, Oregon Way and Industrial Way, and Douglas Street and Washington Way) where noise levels would exceed FRA guidelines for moderate or severe impact due to rail operations. In addition, during operation the Off-Site Alternative would exceed the state nighttime noise standard at two residences (263 Barlow Point Road and 274 Barlow Point

Road) adjacent to the Off-Site Alternative project area. The NEPA Draft Environmental Impact Statement (Volume I) documents the minimization measures identified by the Applicant and potential mitigation measures identified by the Corps.

- **Vehicle Transportation.** The Off-Site Alternative would result in similar adverse impacts on vehicle transportation. The NEPA Draft Environmental Impact Statement (Volume I) documents the minimization measures identified by the Applicant and potential mitigation measures identified by the Corps.

3.2.3.2 Analysis of the Potential for Disproportionately High and Adverse Effects

The potential adverse effects identified above are analyzed below for their potential to result in disproportionately high and adverse effects on minority and low-income populations.

- **Aesthetics.** The assessment of aesthetics considered three primary types of views: urban/industrial views, rural/residential views, and natural views. Like the On-Site Alternative, the Off-Site Alternative would only result in a low level of impact on urban/industrial views. It would result in a moderate level of impact on rural/residential views from viewpoints 4 and 9 in Washington (from Barlow Point Road and the West Longview neighborhood, respectively) and from views in Oregon. However, these views are generally from single-family residential areas and would be visible to only a small number of viewers. Furthermore, the affected viewpoints in Washington are in an area that is not identified as a minority or low-income community. This alternative would also result in a moderate level of impact on on-water views from the Columbia River, but these views are accessible to the public, and minority and low-income populations would not bear a disproportionately high and adverse share of the impact. Overall, the Off-Site Alternative's potential adverse aesthetics impacts would not result in disproportionately high or adverse effects on minority or low-income populations.
- **Tribal Treaty Rights and Trust Responsibilities.** The adverse impacts related to tribal resources would only affect tribal communities, and would therefore disproportionately affect minority populations. However, the adverse impacts would not be disproportionately high for the same reasons described above for the On-Site Alternative.
- **Cultural Resources.** The Off-Site Alternative could result in direct impacts to cultural resources affecting the project area. Because these impacts would not affect the public, they would not result in disproportionately high and adverse effects on minority or low-income populations. In addition, the Unanticipated Discovery Plan would address potential impacts to undocumented archaeological resources in the project area.
- **Fish.** As with the On-Site Alternative, the potential adverse impacts related to fish would primarily affect biological communities, not human populations and the public. Furthermore, the increase in vessel traffic resulting from the Off-Site Alternative would not likely reduce the catch from commercial or recreational fishing or limit access for commercial or recreational fishing activities. Therefore, the Off-Site Alternative's potential adverse impacts to fish resources would not have the potential to result in disproportionately high and adverse effects on minority or low-income populations.
- **Geology and Soils.** As noted above, the potential adverse geologic impacts would be direct impacts affecting the project area. Because these impacts would not affect the public (i.e., they

could affect employees on-site but not off-site residents), they would not result in disproportionately high and adverse effects on minority or low-income populations.

- **Groundwater.** As with the On-Site Alternative, the Off-Site Alternative's potential adverse impacts on groundwater at the Off-Site Alternative project area would have limited potential to affect the public. Therefore, the potential adverse impacts on groundwater would not result in disproportionately high and adverse effects on minority or low-income populations.
- **Noise and Vibration.** As with the On-Site Alternative, the direct noise impacts during construction and operation would not result in disproportionately high and adverse effects on minority or low-income populations. This alternative would result in the same indirect noise impacts due to rail operations, and, like the On-Site Alternative, these potential noise impacts could result in a disproportionately high and adverse effect on minority and low-income populations absent the creation of a Quiet Zone. Near the project area, this potential disproportionately high and adverse effect would affect a total of approximately 289 residences located in Census Tract 3 Block Group 1, Census Tract 5.02 Block Group 1, and Census Tract 5.02 Block Group 2, all of which have been identified as minority communities (Table 18). See the Noise Technical Report for additional discussion of the noise levels and a map with the location of the affected residences. If a Quiet Zone is created at the public at-grade crossings near these affected residences, the disproportionately high and adverse effect would be eliminated.
- **Vehicle Transportation.** As with the On-Site Alternative, the Off-Site Alternative's potential adverse impacts related to vehicle transportation and emergency response would not have the potential to result in disproportionately high and adverse effects on minority or low-income populations.

3.2.3.3 Public Participation

The Off-Site Alternative has been part of the same overall public outreach program that was conducted for the On-Site Alternative.

3.2.3.4 Conclusion

Given all the facts and circumstances, the Off-Site Alternative is not expected to result in any disproportionately high and adverse effects on minority and low-income populations, other than a potential disproportionately high and adverse effect related to noise from rail operations.

3.2.4 Utilities

3.2.4.1 Construction: Direct Impacts

Like the On-Site Alternative, construction of the Off-Site Alternative is not anticipated to result in direct impacts on water and sewer service.

3.2.4.2 Construction: Indirect Impacts

Construction of the Off-Site Alternative would not result in indirect impacts on utilities in the study area because water and sewer utility demand during construction would be confined to the project area.

3.2.4.3 Operations: Direct Impacts

Operation of the Off-Site Alternative would result in the following direct impacts.

Create New Sanitary Sewage Flows from the Project Area

A new sanitary sewer conveyance system and connection to the City of Longview sewer system would be developed for the Off-Site Alternative. New sanitary sewer flows from the Off-Site Alternative would be small and, as discussed above, the Three Rivers Wastewater Treatment Plant has sufficient capacity to treat additional wastewater flows.

The Off-Site Alternative would not convey industrial process wastewater to the City of Longview sewer system or the Three Rivers Wastewater Treatment Plant. Industrial process wastewater would be treated in the on-site water treatment facility and would not add new demands to public sewer and wastewater utilities.

Create New Water Demand on the Project Area

The Off-Site Alternative would use potable municipal water supplies for domestic uses such as drinking, sinks, and toilets. Like the On-Site Alternative, this alternative would not use potable water supplies for industrial needs. Therefore, the Off-Site Alternative would result in a small demand for potable water (185 gallons per minute) compared to the overall capacity of the City of Longview water supply (16,000 gallons per minute).

With respect to water for industrial processes such as dust control, stockpile sprays, wash down, clean up, and fire protection, like the On-Site Alternative, this water would be supplied by treated water from the proposed water management system and storage ponds and supplemented by wells during dry seasons. Therefore, industrial water use by the Off-Site Alternative would not place new demands on the City of Longview water supply.

3.2.4.4 Operations: Indirect Impacts

The Off-Site Alternative would not result in indirect impacts on water and sewer utilities because demand for these utilities would be limited to the project area.

3.3 No-Action Alternative

Under the No-Action Alternative, the Corps would not issue a Department of the Army permit authorizing construction and operation of the proposed export terminal. As a result, impacts resulting from constructing and operating the export terminal would not occur. In addition, not constructing the export terminal would likely lead to expansion of the adjacent bulk product business onto the On-Site Alternative project area. The following discussion assesses the likely consequences of the No-Action Alternative related to social and community resources.

Construction and operations would be limited to the project area, and therefore would not likely result in direct impacts on social and community cohesion and public services.

The No-Action Alternative could result in new jobs, which would generate additional direct, indirect, and induced wages and economic output. The No-Action Alternative would also generate tax revenue to the county and state. However, it is possible the No-Action Alternative could result in

fewer new jobs and correspondingly lower new wages, output, and tax revenue than the proposed export terminal.

Under the scenario evaluated for the No-Action Alternative, approximately 2 additional trains per day would use the Reynolds Lead and BNSF Spur. Noise levels from rail traffic would be higher than under current conditions. Impacts on other environmental resource areas under the No-Action Alternative would likely be similar to or less than impacts under the On-Site Alternative. Therefore, the No-Action Alternative would not likely have disproportionately high and adverse effects on minority and low-income populations.

The No-Action Alternative would not likely result in direct impacts on water and sewer service but could result in new sanitary sewage flows and new water demand.

Chapter 4 Required Permits

No permits would be required in relation to social/community cohesion and public services, the local economy, or environmental justice populations for either the On-Site Alternative or the Off-Site Alternative. Permits would be required for water utilities, as described below.

The On-Site Alternative would require the following permits related to water utilities.

- **Wastewater Discharge Permit—Three Rivers Regional Wastewater Authority.** This permit would be required to discharge wastewater to the Three River Regional Wastewater Treatment Plant. A survey form would be completed first to allow the Three Rivers Regional Wastewater Authority to determine whether a permit is required.
- **Permit for Utility Service—City of Longview.** The On-Site Alternative project area receives potable water from the City of Longview through a connection on Industrial Way. This permit would be required to receive water service and to convey wastewater flows via the City of Longview's system.

The Off-Site Alternative would require the following permits related to water utilities.

- **Wastewater Discharge Permit—Three Rivers Regional Wastewater Authority.** This permit would be required to discharge wastewater to the Three River Regional Wastewater Treatment Plant. A survey form would be completed first to allow the Three Rivers Regional Wastewater Authority to determine whether a permit is required.
- **Permit for Utility Service—City of Longview.** The Off-Site Alternative would receive potable water from Longview. This permit would be required to receive water service and to convey wastewater flows via the City of Longview's system.

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Appendix A

Public Service Facilities in the Study Areas

Appendix A

Public Service Facilities in the Study Areas

Map No.	Name	Type	Address
1	St. Helens Elementary School	Educational Facility	431 27th Avenue, Longview, WA 98632
2	Longview Foursquare Church	Religious Institution	416 20th Avenue, Longview, WA 98632
3	Longview of Life	Religious Institution	420 17th Avenue, Longview, WA 98593
4	First Baptist Church-Longview	Religious Institution	747 Wheeler Street, Longview, WA 98632
5	Longview Police Department	Police Facility	216 30th Avenue, Longview, WA 98632
6	Steele Chapel Funeral Home	Cemetery	5050 Mt Solo Road, Longview, WA 98632
7	Longview Memorial Park Cemetery	Cemetery	5050 Mt Solo Road, Longview, WA 98632
8	Mt Solo Cemetery	Cemetery	5050 Mt. Solo Road, Longview, WA 98632
9	Cowlitz County-Landfill	Other	85 Tennant Way, Longview, WA 98632
10	Humane Society of Cowlitz County	Other	909 Columbia Blvd, Longview, WA 98632
11	City of Longview Parks Department	Other	706 30th Avenue, Longview, WA 98632
12	Archie Anderson Park	Park/Recreation Facility	Alabama Street and 21st Street, Longview, WA 98632
13	Gerhardt Gardens Park	Park/Recreation Facility	40 Tennant Way, Longview, WA 98632

Source: Websites for Cowlitz County and the City of Longview; Google Maps; and the public service facilities.

Appendix B
**Minority and Low-Income Status in the Environmental
Justice Study Area**

Minority and Low-Income Status in the Environmental Justice Study Area

Area	2013 Total Population	Race and Ethnicity ^a										Minority	Total Minority %	Percent of Individuals Below Poverty Level		
		White	%	Black	%	Asian and Pacific Islander	%	American Indian and Alaska Native	%	Other	%				Hispanic	%
Census Tract 3, Block Group 1 ^b	570	368	64.6	0	0.0	0	0.0	2	0.4	30	5.3	170	29.8	202	35.4	44.7
Census Tract 6.01, Block Group 3 ^b	1,025	590	57.6	0	0.0	110	10.7	0	0.0	135	13.2	190	18.5	435	42.4	32.0
Census Tract 6.01, Block Group 4 ^c	881	705	80.0	0	0.0	32	3.6	0	0.0	37	4.2	107	12.1	176	20.0	31.4
Census Tract 7.03, Block Group 1	1,373	1,166	84.9	0	0.0	14	1.0	9	0.7	58	4.2	126	9.2	207	15.1	23.7
Census Tract 7.04, Block Group 4	1,912	1,684	88.1	18	0.9	26	1.4	0	0.0	131	6.9	53	2.8	228	11.9	18.8
Census Tract 19, Block Group 1	1,021	1,001	98.0	20	2.0	0	0.0	0	0.0	0	0.0	0	0.0	20	2.0	23.5
Direct Impacts Study Area Total	6,782	5,514	81.3	38	0.6	182	2.7	11	0.2	391	5.8	646	9.5	1,268	18.7	26.3
Census Tract 5.01, Block Group 1	846	640	75.7	13	1.5	14	1.7	0	0.0	23	2.7	156	18.4	206	24.3	24.7
Census Tract 5.01, Block Group 2	1,047	799	76.3	0	0.0	0	0.0	0	0.0	248	23.7	0	0.0	248	23.7	21.2
Census Tract 5.01, Block Group 3	952	873	91.7	0	0.0	12	1.3	0	0.0	27	2.8	40	4.2	79	8.3	18.8
Census Tract 5.02, Block Group 1	1,587	1,061	66.9	17	1.1	29	1.8	49	3.1	106	6.7	325	20.5	526	33.1	39.6
Census Tract 5.02, Block Group 2	1,841	1,324	71.9	28	1.5	20	1.1	6	0.3	63	3.4	400	21.7	517	28.1	57.6
Census Tract 5.02, Block Group 3	1,454	1,070	73.6	11	0.8	9	0.6	11	0.8	55	3.8	298	20.5	384	26.4	44.8
Indirect Impacts Study Area	7,727	5,767	74.6	69	0.9	84	1.1	66	0.9	522	6.8	1,219	15.8	1,960	25.4	38.2

Area	2013 Total Population	Race and Ethnicity ^a												Minority	Total Minority %	Percent of Individuals Below Poverty Level
		White	%	Black	%	Asian and Pacific Islander	%	American Indian and Alaska Native	%	Other	%	Hispanic	%			
Longview, WA	36,656	29,897	81.6	161	0.4	852	2.3	346	0.9	1,920	5.2	3,480	9.5	6,759	18.4	22.6
Cowlitz County	102,110	87,214	85.4	489	0.5	1,554	1.5	1,028	1.0	3,717	3.6	8,108	7.9	14,896	14.6	17.6

Notes: Shading indicates a minority and/or low-income community.

- ^a The racial and ethnic categories are defined further as: White (White alone, not Hispanic or Latino); Black (Black or African American alone, not Hispanic or Latino); Asian and Pacific Islander (Asian alone, not Hispanic or Latino or Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino); American Indian and Alaska Native (American Indian and Alaska Native alone, not Hispanic or Latino); Other (Some other race alone, not Hispanic or Latino; Two or more races, not Hispanic or Latino); Hispanic (Hispanic or Latino; Persons of Hispanic origin may be of any race).
- ^b Census Tract 3 Block Group 1 and Census Tract 6.01 Block Group 3 are presented in the direct impacts study area, but are both also in the indirect impacts study area.
- ^c Census Tract 6.01 Block Group 4 is within the environmental justice study area for the On-Site Alternative only; it is more than a mile away from the Off-Site Alternative. All other block groups are within the environmental justice study area for both alternatives.

Source: U.S. Census Bureau ACS 2009-2013 Five-Year Estimates.