Appendix F

Expanded Regulatory and Environmental Setting

Expanded Regulatory and Environmental Setting

INTRODUCTION

This section summarizes the framework of laws, regulations, and agreements pertaining to the sites and actions outlined throughout this Environmental Assessment (EA). The relevant legislation is organized by resource category, and while most regulations discussed within the document are described here, this list is not comprehensive and is limited to the primary regulations relevant to the analysis within the EA.

AIR QUALITY – SECTION 3.2 OF THE EA

Federal

Clean Air Act of 1970

The Clean Air Act (CAA; 42 United States Code [USC] Chapter 85) is the federal legislation for the protection of air quality. The CAA gives the United States Environmental Protection Agency (USEPA) authority to regulate air quality by promulgating standards and levels for air quality and enforcing those standards and levels on federal, state, and tribal land. The CAA requires the USEPA to regulate hazardous air pollutants, which are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.

National Ambient Air Quality Standards

The CAA of 1970, as amended, authorizes the USEPA to identify common air pollutants that impact air quality on a national level, and allows the USEPA to establish corresponding National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. Accordingly, the USEPA has identified six criteria air pollutants (CAP): ozone (O_3), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb), as shown in **Table 1**.

The NAAQS are divided into primary standards to protect public health, and secondary standards to protect public welfare. Areas are designated attainment or nonattainment by the USEPA depending on whether concentrations of CAPs in each area exceed the established NAAQS. Nonattainment areas are required to take steps towards attainment within a specific period of time. Once an area reaches attainment for a particular CAP, then the area is redesignated as in attainment and in maintenance. Once an area is in maintenance status, the CAA requires states to implement a Maintenance State Implementation Plan to keep meeting NAAQS for 20 years. The CAA places most of the responsibility on states to achieve compliance with the NAAQS. States, municipal statistical areas, and counties that contain areas of nonattainment are required to develop a state implementation plan (SIP) that outlines policies and procedures designed to bring the nonattainment area into compliance with the NAAQS.

Table 1: National Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS
Ozone (O_3)	8 hours	0.070 ppm
Carbon Monoxide (CO)	1 hour	35 ppm
	8 hours	9 ppm
Nitrogen Dioxide (NO_2)	Annual Mean	53 ppb
	1 hour	100 ppb
Sulfur Dioxide (SO_2)	3 hours	0.5 ppm
	1 hour	75 ppb
Respirable Particulate Matter (PM_{10})	24 hours	150 $\mu g/m^3$
Fine Particulate Matter ($PM_{2.5}$)	24 hours	35 $\mu g/m^3$
	Annual Mean	12.0 $\mu g/m^3$
Lead (Pb)	Rolling 3-month average	0.15 $\mu g/m^3$

Source: USEPA, 2023a

Notes: $\mu g/m^3$ = micrograms per cubic meter; ppb = parts per billion; ppm = parts per million

Attainment Status

To determine conformance with the NAAQS, states are responsible for providing ambient air monitoring data to the USEPA. The USEPA then determines, using the violation criteria, if the results of the monitoring data indicate compliance with the NAAQS. The EPA classifies areas in compliance with the NAAQS as being in "attainment". Areas that do not meet the NAAQS are classified as being in "nonattainment" by the USEPA. As shown in **Table 2**, the County meets the federal standards for all pollutants. The City of Lacey (City) is within a portion of Thurston County (County) which is designated by the USEPA as a maintenance area for PM_{10}. The USEPA approved the second 10-year PM_{10} maintenance plan in 2013 (USEPA, 2013).

Table 2: Thurston County NAAQS attainment status

Pollutant	NAAQS
Ozone (8-hour)	Attainment
PM_{10} (24-hour, annual)	Attainment (Maintenance)
$PM_{2.5}$ (annual)	Attainment
Carbon Monoxide (8-hour, 1-hour)	Attainment
Nitrogen Dioxide (annual, 1-hour)	Attainment
Sulfur Dioxide (24-hour,1-hour)	Attainment
Lead (30-day average)	Attainment

Source: USEPA, 2000; USEPA 2022

Federal Conformity

The federal General Conformity Rule implements Section 176(c) of the CAA and establishes minimum thresholds for reactive organic compounds (ROGs) and nitrogen oxides (NOx) (ozone precursors), PM, and other regulated constituents for nonattainment and maintenance areas. Under the General Conformity Rule, the lead agency with respect to a federal action is required to demonstrate that the proposed federal action conforms to the applicable SIP before the action is taken. There are two phases to a demonstration of general conformity:

1. The Conformity Review process, which entails an initial review of the federal action to assess whether a full conformity determination is necessary, and
2. The Conformity Determination process, which requires that a proposed federal action be demonstrated to conform to the applicable SIP.

The Conformity Review requires the lead agency to compare estimated emissions to the applicable general conformity *de minimis* threshold(s). If the emission estimates from step one are below the applicable threshold(s), then a general conformity determination is not necessary and the full Conformity Determination is not required. If emission estimates are greater than *de minimis* levels, the lead agency must conduct a formal Conformity Determination. The County is in attainment or unclassifiable for all national ambient air quality standards; however, the Project Site is within a maintenance area for PM_{10}. The associated *de minimis* level for PM_{10} is 100 tons per year.

Federal Class I Area

Title 1, Part C of the CAA was established, in part, to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value. The CAA designates all international parks, national wilderness areas, and memorial parks larger than 5,000 acres and national parks larger than 6,000 acres as "Class I areas." The CAA prevents significant deterioration of air quality in Class I areas under the Prevention of Significant Deterioration (PSD) program. The PSD program protects Class I areas by allowing only a small increment of air quality deterioration in these areas by requiring assessment of potential impacts on air quality related values of Class I areas.

Any major source of emissions within 100 kilometers (62.1 miles) from a federal Class I area is required to conduct a pre-construction review of air quality impacts on the area(s). A "major source" for the PSD Program is defined as a facility that will emit (from direct stationary sources) 250 tons per year (tpy) of regulated pollutant. For certain industries, these requirements apply to facilities that emit (through direct stationary sources) 100 tpy or more of a regulated pollutant. Mobile sources (e.g., vehicle emissions) are by definition not stationary sources and are therefore not subject to the PSD program.

Tribal New Source Review

A Tribal New Source Review (NSR) permit is required prior to construction in both attainment and nonattainment areas if the projected aggregate operational emissions from stationary sources at the proposed facility exceed the minor NSR thresholds listed in 40 Code of Federal Regulations (CFR) 49.153 and shown in **Table 3** below. NSR programs must comply with the standards and control strategies of the Tribal Implementation Plan (TIP) or SIP. If there is not an applicable SIP or TIP, the USEPA issues permits and implements the program. If applicable, the Tribe would apply for and obtain a site-specific or, if promulgated prior to the start of construction, a general minor NSR permit in accordance with the USEPA guidelines and Tribal NSR regulations.

Table 3:Tribal Minor New Source Review Thresholds

Pollutant	Emissions Thresholds for Attainment Areas (tpy)	Emissions Thresholds for Nonattainment Areas (tpy)
Nitrogen Oxide	10	5
Reactive Organic Gas	5	2
Particulate Matter	10	5
PM_{10}	5	1
$PM_{2.5}$	3	0.6
Carbon Monoxide	10	5
Sulfur Dioxide	10	5
Lead	0.1	0.1

Source: 40 CFR 49.153.

The purpose of the NSR program is to protect public health and the environment, even as new industrial facilities are built, and existing facilities expand. Specifically, its purpose is to ensure that air quality:

- Does not worsen where the air is currently unhealthy to breathe (i.e., areas that do not meet one or more of the national air quality standards known as nonattainment areas); and
- Is not significantly degraded where the air is currently clean (i.e., areas that meet the national air quality standards known as attainment areas).

On June 10, 2011, USEPA finalized a Federal Implementation Plan (FIP) to ensure that CAA permitting requirements are applied consistently to facilities in Indian country. Permits under this rule limit air pollutants such as particle pollution and sulfur dioxide that are associated with numerous health effects. The FIP laid out requirements for USEPA to issue air permits to sources of air pollution in Indian country, or to allow tribes to take responsibility for issuing air permits according to USEPA's requirements.

On April 17, 2015, the USEPA finalized options to simplify the CAA permitting process for certain smaller sources of air pollution commonly found in Indian country. This action ensures that air quality in Indian country is protected by facilitating the implementation of the Indian Country Minor Source NSR Rule issued by the USEPA in July 2011. Minor sources are typically smaller sources of air emissions. A permit by rule contains a standard set of requirements that can apply to multiple stationary sources with similar emissions characteristics. The permits by rule program allows an individual source to notify the reviewing authority that it meets the eligibility criteria for the permit and the permit conditions without having to submit a completed application for review and approval.

NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (2023)

On January 9, 2023, the Council on Environmental Quality (CEQ) issued NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (88 Fed. Reg. 1196). This interim guidance directs agencies to consider the potential effects of a proposed action on climate change and the effects of

climate change on a proposed action and its environmental impacts. CEQ recommends that agencies quantify a proposed action's projected GHG emissions for the expected lifetime of the action and provide additional context for GHG emissions, including the use of the best available social cost of GHG (SC–GHG) estimates, to translate climate impacts into the more accessible metric of dollars. This guidance does not propose a specific, quantitative threshold of significance; however, it states that agencies should consider the potential for mitigation measures to reduce or mitigate GHG emissions and climate change effects when those measures are reasonable and consistent with achieving the purpose and need for the proposed action. CEQ recommends that agencies explain how the proposed action and alternatives would help meet or detract from achieving relevant climate action goals and commitments, including federal goals, international agreements, state or regional goals, Tribal goals, agency-specific goals, or others as appropriate.

Secretarial Order 3399

On February 19, 2021, Secretary of the Interior Deb Haaland issued Secretarial Order (SO) 3399 to prioritize action on climate change throughout the Department and to restore transparency and integrity in the Department's decision-making processes. SO 3399 specifies that when considering the impact of GHG emissions from a proposed action, Bureaus/Offices should use appropriate tools, methodologies, and resources available to quantify greenhouse gas (GHG) emissions and compare GHG quantities across alternatives. SO 3399 acknowledges that identifying the interactions between climate change and the environmental impacts of a proposed action in National Environmental Policy Act (NEPA) documents can help decision makers identify opportunities to reduce GHG emissions, improve environmental outcomes, and contribute to protecting communities from the climate crisis.

State and Local

State Agency Climate Leadership Act

In 2020, the Legislature and Governor updated the State Agency Climate Leadership Act codified in Revised Code of Washington (RCW) 70A.45. The Act directs state agencies, including universities, colleges, and community and technical colleges to lead by example in reducing their GHG emissions to:

- 15% below 2005 baseline by 2020
- 45% below 2005 by 2030
- 75% below 2005 by 2040
- 95% below 2005 by 2050, achieve net zero.

Climate Commitment Act

In 2021, the Washington Legislature passed the Climate Commitment Act (or CCA), which establishes a comprehensive program to reduce carbon pollution and achieve the greenhouse gas limits set in state law. The CCA establishes a "cap and invest" program that sets a limit on the amount of greenhouse gases that can be emitted in Washington (State) (the cap) and then auctions off allowances for companies and facilities that emit greenhouse gases until that cap is reached. Over time, the cap will be reduced, allowing total emissions to fall to match the greenhouse gas emission limits set in state law.

Thurston County Climate Mitigation Plan

The Thurston Climate Mitigation Plan, completed in 2020, provides strategies and actions for the County, and the Cities of Lacey, Olympia, and Tumwater to reduce greenhouse gas emissions. The Thurston Climate Mitigation Plan identifies emission reduction targets of 45 percent by 2030 and 85 percent by 2050. Strategies and actions are identified for five emission sectors: buildings and energy, transportation and land use, water and waste, agriculture and forests, and cross-cutting. The strategies and actions are non-binding but identify means to meet climate goals.

Thurston Climate Adaptation Plan

The Thurston Climate Adaptation Plan, completed in 2018, identifies actions to help the region prepare for and remain resilient to climate change. The plan identifies and prioritizes actions to respond to the region's most severe climate risks, including general actions, drought and water quality actions, flood and erosion actions, plant and animal actions, transportation and energy actions, and wildfire and extreme heat actions.

Thurston County Comprehensive Plan

The Comprehensive Plan guides the growth of unincorporated portions of the County (areas outside of the cities). It details policies and goals for zoning and development regulations, and addresses requirements of Washington State's Growth Management Act (GMA). It also includes specific guidelines for the subareas of Grand Mound, Rochester and Nisqually, as well as Joint Plans for the Urban Growth Areas (UGAs) of Lacey, Olympia, Rainier, Tenino, Tumwater, and Yelm. The Comprehensive Plan includes objectives and policies to address climate change impacts.

Environmental Setting

Sensitive Receptors

Sensitive receptors are generally defined as land uses that house or attract people who are susceptible to adverse effects from air pollution emissions and, as such, should be given special consideration when evaluating air quality impacts from projects. Sensitive receptors include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent homes, parks and recreational facilities, and residential areas are examples of sensitive receptors.

The nearest sensitive receptors in the Project Site vicinity include an apartment complex that abuts the western site boundary and apartment complexes and single-family houses to the northwest that are approximately 150 feet from the site boundary. There is also residential housing across I-5 to the south that is approximately 450 feet from the site boundary. The nearest school is approximately 1,300 feet to the south of the Project Site boundary.

BIOLOGICAL RESOURCES – SECTION 3.3 OF THE EA

Federal

Federal Endangered Species Act

The U.S. Fish & Wildlife Service (USFWS) enforces the provisions of the federal Endangered Species Act (ESA) for all terrestrial species. Section 9 (§ 1538) prohibits the "take" of a listed species by anyone, including private individuals and state and local agencies. Threatened and endangered species on the federal list (50 CFR Sections 17.11 and 17.12) are protected from take, which is defined as direct or indirect harm. If "take" of a listed species is incidental to an otherwise lawful activity, this triggers the need for consultation under Section 7 of the federal ESA for federal agencies, including tribes.

Pursuant to the requirements of the federal ESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present on the proposed project site and whether the proposed project will have a potentially significant impact upon such species. A discussion of regionally listed species is provided in consideration of potential impacts associated with project implementation. Under the federal ESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under the federal ESA or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]). Therefore, project-related impacts to these species, or their habitats, would be considered significant.

Migratory Bird Treaty Act

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. As such, project-related disturbances must be reduced or eliminated during the nesting season. The general nesting season extends from February 15 to September 15.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act was originally enacted in 1940 to protect bald eagles and was later amended to include golden eagles (16 USC Subsection 668-668). This act prohibits take, possession, and commerce of bald and golden eagles and associated parts, feathers, nests, or eggs with limited exceptions. The definition of take is the same as the definition under the federal ESA. In 1995, the USFWS reclassified the bald eagle from endangered to threatened under the federal ESA in the contiguous 48 states, excluding Michigan, Minnesota, Wisconsin, Oregon, and Washington where it had already been listed as threatened. In 2007, the bald eagle was federally delisted under the federal ESA. However, the provisions of the act remain in place for protection of bald and golden eagles.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSMA) mandates the conservation and management of fishery resources off the coasts of the U.S., anadromous species, and Continental Shelf fishery resources of the United States, including the conservation and management of highly migratory species through the implementation and enforcement of international fishery agreements. The National Marine Fisheries Service (NMFS) enforces the MSMA and regulates commercial and recreational fishing and the management of fisheries resources. The Sustainable Fisheries Act of 1996 amended the MSMA to include new fisheries conservation provisions by emphasizing the importance of fish habitat in regards to the overall productivity and sustainability of U.S. marine fisheries (Public Law [PL] 104-267). The revised MSMA mandates the identification and protection of essential fish habitat (EFH) for managed species during the review of projects conducted under federal permits that have the potential to affect such habitat. Essential Fish Habitat (EFH) is defined as those waters[1] and substrate[2] necessary to fish for spawning, breeding, feeding, or growth to maturity. Federal agencies are required to consult with NMFS on all actions and proposed actions that are authorized, funded, or undertaken by the agency, which may adversely affect EFH (MSMA 305.b.2). Adverse effects can be direct (contamination or physical disruption), indirect (loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Four Fishery Management Plans (FMPs) occur in California, Oregon, and Washington. The FMPs identify EFH for groundfish, coastal pelagic species, salmon, Pacific halibut, and highly migratory fisheries.

CWA – Section 404 and Section 401

Any project that involves discharge of dredged or fill material in off-reservation navigable Waters of the United States must first obtain authorization from the United States Army Corps of Engineers (USACE), under Section 404 of the CWA. Projects requiring a 404 permit under the CWA also require a Section 401 certification from either USEPA for trust land, or the Washington Department of Ecology for non-trust land. These two agencies also administer the NPDES general permits for construction activities disturbing one acre or more.

The term “Waters of the United States” is defined as:

- all waters currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the flow of the tide;
- all interstate waters including interstate wetlands; or
- all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, where the use or degradation of which could affect interstate or foreign commerce including any such waters.

The term “Wetlands” is defined as:

[1] “Waters” include aquatic areas and their associated physical, chemical, and biological properties used by fish, and may include aquatic areas historically used by fish where appropriate.

[2] “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities.

- waters of the United States that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands that meet these criteria during only a portion of the growing season are classified as seasonal wetlands.

State and Local

Washington Administrative Code 220-610-110

Provisions protect wildlife species designated by the Washington Department of Fish and Wildlife as endangered, threatened, or candidate, as well as their habitat. The purpose of this rule is to identify and classify native wildlife species that have need of protection and/or management to ensure survival, and to define the process by which listing, management, recovery, and delisting of a species can be achieved. The rules are established to ensure that consistent procedures and criteria are followed when classifying wildlife as endangered, or the protected wildlife subcategories threatened or sensitive.

Washington Wildlife Commission Permanent Rules

The Washington Wildlife Commission, as part of the Washington Department of Fish and Wildlife, adopts permanent rules regarding the protection of fish and wildlife resources on lands under State jurisdiction. These rules become part of the Washington Administrative Code (WAC). The Washington Wildlife Commission is also responsible for designating species as state endangered, state threatened, or state sensitive.

Washington State Wetland Rating Systems for Western Washington

The Washington State Wetland Rating Systems are designed to help agencies make decisions about standards for protecting wetlands, including buffers. The rating systems categorize wetlands based on specific attributes such as rarity, sensitivity to disturbance, and the functions they provide. There are two wetland rating systems, one for the west side of the state and one for east of the Cascade Range. The rating categorizes are intended to be used as the basis for developing standards for protecting and managing wetlands to reduce further loss of their value. Some decisions that can be made based on the rating include the width of buffers needed to protect the wetland from adjacent development and permitted uses in, and around, the wetland.

Washington State Growth Management Act

The State's GMA requires the state to identify urban growth boundaries and to classify and conserve natural resource land outside of urban growth boundaries. The GMA contains goals to guide the development and adoption of comprehensive plans and development regulations within the State. Under the GMA, local governments are responsible for designating and protecting wetlands by adopting critical areas ordinances and are encouraged to augment regulatory protection with incentives for voluntary conservation. The GMA also requires local regulations to protect "Critical Areas," which includes wetlands and fish and wildlife conservation areas.

Chapter 14.32 of the City's Municipal Code

The purpose of this chapter is to implement strategies for the management and protection of Lacey's urban forest resources pursuant to the goals and policies of the Lacey Urban Forest Management Plan. This chapter also serves to implement the purposes of the State's GMA relating to conservation of natural resources, including the City's urban forest resources, and to promote the public health, safety, and welfare of the citizens without preventing the reasonable development of land.

Chapter 14.28 of the City's Municipal Code

The purpose of this chapter is to define the City's wetland preservation and protection policies. This chapter also establishes wetland buffers and standards for avoiding, minimizing, and mitigating wetland impacts.

Thurston County Habitat Conservation Plan

This plan is a response to the federal ESA's listing of animals in the County. The purpose of the plan is to save building permit applicants the extra step of getting federal permits and county permits if their building project will impact listed species.

CULTURAL RESOURCES – SECTION 3.4 OF THE EA

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations found in 36 CFR Part 800 require federal agencies to identify cultural resources that may be affected by actions involving federal lands, funds, or permitting. The significance of the resources must be evaluated using established criteria outlined in 36 CFR 60.4, as described below.

If a resource is determined to be a historic property, Section 106 of the NHPA requires that effects of the federal undertaking on the resource be determined. A historic property is defined as:

> *…any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and material remains related to such a property… (NHPA Section 301[5])*

Section 106 of the NHPA prescribes specific criteria for determining whether a project would adversely affect a historic property, as defined in 36 CFR 800.5. An impact is considered adverse when prehistoric or historic archaeological sites, structures, or objects that are listed on or eligible for listing in the National Register of Historic Places are subjected to the following:

- physical destruction of or damage to all or part of the property
- alteration of a property
- removal of the property from its historic location

- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
- neglect of a property that causes its deterioration
- transfer, lease, or sale of the property out of federal control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance

If the historic property will be adversely affected by the undertaking, then prudent and feasible measures to resolve adverse impacts must be taken. The State Historic Preservation Office must be provided an opportunity to review and comment on these measures prior to project implementation.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 (ARPA; PL 96-95; 16 USC 470aa-mm) provides for the protection of archaeological resources and sites that are on public and Indian lands and fosters increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979. ARPA also provides for penalties for noncompliance and illegal trafficking.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA; 25 USC 3001 et seq.) provides a process for museums and federal agencies to return Native American cultural items – human remains, funerary objects, sacred objects, or objects of cultural patrimony – to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on federal and Tribal lands, and penalties for noncompliance and illegal trafficking.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation subtitle of the Omnibus Public Land Management Act (16 USC 470aaa to 470aaa-11) requires the United States Department of Agriculture and the United States Department of the Interior to issue implementation regulations to provide for the preservation, management, and protection of paleontological resources on federal lands and ensure that these resources are available for current and future generations to enjoy as part of America's national heritage.

State and Local

Washington State Environmental Policy Act

43.21C RCW comprises the Washington State Environmental Policy Act, which includes state policies to encourage productive and enjoyable harmony between humankind and the environment, including regulations to preserve the State's historic, archaeological, architectural, and cultural heritage.

Environmental Setting

Prehistoric Overview

Human occupation of the region followed the retreat of the glaciers during the terminal Pleistocene. The pre-contact material culture of the area has been generally described as an early adaptation of inland technologies such as Fluted Point and Stemmed Point traditions, with a subsequent transition to later coastal-adapted technologies focused on marine, littoral, riverine and inland resources (Kiers, 2017). The prehistory of the region has been divided into three basic periods: the Paleoindian Period (14,500 B.P. to 10,000 B.P.), Archaic Period (10,000 B.P. to 6,000 B.P.), and Pacific Period (6,000 B.C. to 200 B.P.). Over the course of this time span, there was a gradual shift from small, nomadic groups relying on generalized hunting and gathering to larger sedentary groups with increased social complexity and specialized exploitation of marine and riverine resources, eventuating in the ethnographically observed lifeways in place when Europeans entered the area (Appendix J-1 of the EA).

Ethnographic Overview

The Nisqually Indian Tribe lived in the region for thousands of years before the first European settlement on Puget Sound, Fort Nisqually. The Nisqually people came north from the Great Basin, across the Cascade Mountains, to settle near the Mashel River. Subsistence included exploitation of riverine, marine, and terrestrial resources; the prairie was regularly burned to encourage the growth of medicinal and food plants (Appendix J-1 of the EA).

The Nisqually Reservation, as it has become known today, was established by the Medicine Creek Treaty of December 26, 1854. The Reservation consisted of 1,280 acres in what is now Thurston County. However, in their analysis of ceded tribal territory, Bjorgen and Uebalacker point out that Nisqually territory was vastly larger, including travel from settlements along the Nisqually River to Mt. Rainier, the Cowlitz River valley, and the present town of Tenino (Bjorgen and Uebalacker, n.d.). On January 20, 1856, an executive order enlarged it to 4,717 acres on both sides of the Nisqually River, including areas currently in both Thurston and Pierce Counties (Tribe, 2023).

On September 30, 1884, acreage was set aside and divided into 30 family allotments on both sides of the Nisqually River, though the acreage did not include the river itself. The Nisqually continued their lifeways until the winter of 1917, when the U.S. Army moved onto Nisqually lands and ordered them from their homes without any warning. Later, Pierce County condemned 3,353 acres of Nisqually land, nearly three quarters of the Reservation, and transferred it to the Army to expand the Fort Lewis base (Tribe, 2023).

Historic Overview

The first non-native settler in the region was Tyrus Himes who arrived with his family in 1853. Himes filed a donation land claim for several parcels in the area and proceeded to cultivate the land until his death in 1879. William Pix claimed land in the project area in the 1860s with an eye toward real estate speculation. At the age of 77, Pix married a young Seattle physician named Celia Britton in 1892. The union produced a single child born in 1895. William Pix died ten years later at the age of ninety leaving his land holdings to his wife Celia M. Pix. By 1905, Celia M. Pix owned much of the project area in Section 11. Most of that land was within the 1854 boundaries of Tyrrells Prairie, currently Hawks Prairie. The land may have been managed as timber land rather than farmed. The cessation of prehistoric and ethnographic period prairie burning coupled with the lack of cultivation for farming, probably allowed for the encroachment of forest

into prairie grasslands. If the land in Section 11 was indeed managed as timber land, this suggests that the encroachment of forest took place within approximately 40 years between 1854 and 1890.

Agricultural and lumbering operations were the dominant industries in Lacey during the late nineteenth and early twentieth centuries. The abundance of prairie land for grazing led to beef and dairy production. Farmers also raised poultry as well as cash crops such as hops. Hop farming became an important commercial crop in the early twentieth century until it was stalled by the onset of prohibition. Farmers turned to the production of other crops including a variety of grains, fruits, and vegetables.

Paleontological Resources

An online search of paleontological specimens noted 20 fossils recorded in Thurston County (University of California Museum of Paleontology, 2022). These have been recovered from locations south of the Project Site and consist of bivalves and gastropods from the Oligocene, Miocene, and more recent contexts. None have been reported from the Project Site. The geologic formation on which the Project Site is located has not produced significant paleontological specimens of scientific consequence and is unlikely to do so in the future.

Records and Literature Search

A records search was completed on February 10, 2021, using the Washington Department of Archaeology and Historic Preservation Information System for Architectural and Archaeological Records Data (WISAARD) database. The search results extended for 0.5 miles from the APE and indicated that the I-5 corridor along the southern portion of the APE has been the subject of several surveys. None of the I-5 surveys resulted in the identification of any cultural resources.

In 2021, AES examined General Land Office Plat maps from 1854, 1865, 1912, 1923, and 1929, aerial photographs taken between 1954 and 2017, topographic quadrangle maps from 1937 through 1997, and Google Earth images from 1984 through 2022 but none depicted any development within the APE.

Field Surveys

2006 HRA Field Survey

HRA completed a field survey of the Project Site in 2006 with the exception of a 2.4-acre portion which was later added to the site. The survey utilized shovel test pits (STPs) in the southwestern corner of the APE, with pedestrian transects elsewhere. The STPs identified glacially-deposited soils throughout the Project Site. Three fragments of a light aqua “BALL” canning jar with a lightening type closure were observed on the surface. The lightening type closure was used on canning jars beginning in the late 1800s to early 1900s, however canning jars with lightening closures can still be obtained currently. Other cultural materials observed on the surface consisted of modern debris including electronics and auto parts as well as several derelict cars and trucks as well as multiple domestic trash dumps with glass and plastic beverage and condiment bottles, paper food containers, shoes, clothes, and food waste. None of the discarded materials were over 50 years old. The area has apparently been used as an illicit dumping ground for approximately the past 20 to 30 years. Several isolated bottles had trademarks or labeling that dated to the 1970s. No historic properties were identified, and the conclusion was that the Project Site had a low to moderate potential for significant prehistoric or historic resources.

2021 AES Field Survey

On May 10-11, 2021, the AES team completed a pedestrian survey of the APE accompanied by members of the Tribal Historic Preservation staff, using transects spaced approximately 30 meters apart. This survey included four STPs in the 2.4-acre parcel added to the Project Site after the 2006 HRA survey. Glacially-deposited soils were observed but no cultural resources were identified. The Project Site was largely open land, with some trees near the I-5 corridor. Dense weeds, grasses, and brambles obscured much of the ground surface, leaving an average ground surface visibility of less than 5%.

The only find consisted of a series of concrete foundations and pads near the southeastern part of the Project Site. Beginning in 1957, aerial photographs indicated structures in that location, likely associated with the quarry activities that begin sometime after that date. The building foundations were jumbled, partially dislodged, and lacked structural integrity. They were recommended not eligible for listing on the NRHP because there were no specific ties to historically significant events or individuals (NRHP Criteria A and B), they have been greatly disturbed and lack artistic or architectural values (NRHP Criterion C), and they do not appear to be any significant data values (NRHP Criterion D). No historic properties were identified, and the conclusion was that the Project Site had a low potential for buried archaeological deposits.

GEOLOGY AND SOILS – SECTION 3.5 OF THE EA

Federal

Clean Water Act

The CWA prohibits sediment and erosion discharge into navigable waters of the United States and establishes water quality goals. Regulated construction activities in excess of one acre are required to apply for coverage under the NPDES General Construction Permit. The provisions of this permit include preparation of a site-specific Storm Water Pollution Prevention Plan. For more information on the CWA, see **Hydrology and Floodplains** below.

International Building Code

The International Building Code is a model code that provides minimum requirements to safeguard public health, safety and general welfare. The International Building Code addresses structural strength, means of egress, sanitation, adequate lighting and ventilation, accessibility, energy conservation and life safety in regard to new and existing buildings, facilities, and systems.

Environmental Setting

Geological Setting

The Project Site is located within the Puget Lowland geologic province in Washington (WDNR, 2023a) and lies at the end of the Puget Sound. With the Olympic Mountains to the west and the Cascade Range to the east, the Puget Lowland region is a wide low-lying area between these that extends from Puget Sound to the San Juan Islands in the north. The Puget Lowland acquired most of its defining geological features during the Vashon Stade of the Fraser Glaciation, about 13,000-15,000 years ago, when a lobe of the Cordilleran Ice Sheet occupied the Puget lowland of western Washington (WDNR, 2023b). In Thurston

County, the northwestern and southeastern areas have low mountains that range from 1,700 to 3,000 feet above mean sea level (amsl). The County is spotted with lakes and ponds that are a result of past glacial activities (Thurston County, 2004). The geological units that constitute most of the area in the County are related to glacial drifts and volcanic rocks, with the remaining primarily related to alluvium and marine and nonmarine rocks (USGS, n.d.).

The geology of the Project Site and the vicinity have been mapped at the 1:24,000 scale in the Washington Geological Information Portal. The Project Site and surrounding area have been mapped as Quaternary glacial till, Quaternary glacial advance outwash, and Quaternary glacial outwash. The glacial till deposits are described as Vashon Stade till, which consists of a highly compacted mixture of clay, silt, sand, and gravel deposited directly by glacier ice. The glacial advance outwash deposits are described as Vashon Stade Advance Outwash consisting of sand, gravel, lacustrine clay, silt, and sand of northern or mixed northern and Cascadian source, deposited during glacial advance. Vashon recessional outwash consists of recessional and proglacial sand and gravel of northern or mixed northern and Cascade source, locally containing silt and clay. Surficial soils appear to typically consist of sandy gravel and gravelly sand (Appendix E of EA Appendix D).

Volcanos

There are five volcanoes within the Cascade Range that have been deemed high to very high threat potential with regards to erupting: Mount Baker, Glacier Peak, Mount Rainier, Mount St. Helens, and Mount Adams. Hazards associated with volcanic eruptions include volcanic ash and debris, lahars (a hot or cold mixture of water and rock fragments that flows down the slopes of a volcano and typically enters a river valley), landslides, and lava. The volcano with the most potential to pose a risk to the Project Site is Mount Rainier, which is approximately 49 miles southeast of the City of Lacey (WDNR, 2023d). In addition to volcanic ash, the City of Lacey has been identified as within the potential pathway of a lahar associated with Mount Rainier, which would follow the Nisqually River's pathway until it reaches the Puget Sound. The Project Site is within 2.2 miles of the path of this potential lahar (WDNR, 2019).

Seismic Conditions

The State of Washington is located within a convergent continental margin, which is defined as the collisional boundary between two tectonic plates. In this case, the Juan de Fuca Plate is subducting downward beneath the edge of North America (National Park Service, 2020). The Project Site is in a seismically active area (Thurston County, 2004). Mapped faults near the Project Site include the Olympia Structure faults located approximately 4 miles west, the Tacoma faults approximately 20.5 miles north, and the Lucky Dog fault approximately 24 miles northwest. The Cascadia Subduction Zone is mapped as close as 60 miles west of the Project Site (Appendix E of EA Appendix D). The Olympia Structure faults can be seen in Figure 19 in the EA.

Seismic intensity is a measure of the strength of ground shaking experienced in an earthquake. The Modified Mercalli Intensity (MMI) scale is a common measure of earthquake effects due to ground shaking intensity, but it is an arbitrary ranking of intensity based on observed effects from an earthquake and does not have a mathematical basis. The MMI scale is composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction and are expressed by Roman numerals. The intensity reported generally decreases the farther the location is removed from the earthquake epicenter (USGS, 2022). For reference, levels of intensity ranging from IV to X have the potential to cause moderate to significant structural damage. The Project Site is located in an area with multiple Washington

State modeled seismic scenarios, where seismic scenarios are used to estimate possible earthquake events that could occur. In these scenarios, the Earthquake Magnitude Scale value used to model the earthquakes ranged between 5 to 9 (WDNR, 2023c). In the Olympia Fault scenario with a Magnitude 5.7 earthquake, the nearest fault system to the Project Site, the Project Site could be subject to an approximately MMI XII. This MMI rating is described as very strong perceived shaking and there could be moderate potential damage (WDNR, 2012). This is the highest MMI rating out of all of the scenarios reviewed on the Washington State website that the Project Site would experience (WDNR, 2023c), but this does not necessarily mean the Project Site could not experience greater MMI ratings from earthquakes.

Thurston County's building codes reflect the 2015 International Building Codes, and uses Seismic Design Categories (Thurston County, 2023b). This is a classification system that is based on a structure's occupancy category and the design earthquake ground motion severity at a site. The categories range from A to F, with category A identifying structures that need the least design features for seismic activities and category F identifying structures that need extensive design features (U.S. Department of Veterans Affairs, 2013). In Thurston County, the Seismic Design Category is D2 unless United States Geological Survey Seismic Design Maps demonstrate that a site has an Sds that is less than or equal to 0.83g (Thurston County, 2023b). Potential seismic shaking at the Project Site was estimated using American Society of Civil Engineers (ASCE) 7-16 as part of the Preliminary Geotechnical Report, and it anticipated 0.64g for the site (for additional information, see Appendix E of EA Appendix D).

Depth to Water Table

Depth to water table indicates how soils will behave during wet conditions and provides information concerning the depth to a constricting layer (a layer that prevents or restricts the horizontal movement of water through soils). Furthermore, the depth is utilized to predict how soils will perform during high rain events or seismic events. A shallow water table can indicate potential geologic hazards that will require special consideration during construction (NRCS, 2023). All soils within the Project Site have a depth to the water table of over 80 inches except for Alderwood gravelly sandy loam located on the Central-Northern portions of the Project Site. Furthermore, the approximate depth to groundwater on the majority of the Project Site is over 120 feet below ground surface level.

Drainage Class

Drainage class is a measure of the frequency and duration of wet periods under the conditions in which soils develop (NRCS, 2023). In the somewhat excessively drained areas within the Project Site, water is removed from the soil readily and rapidly, and free moisture is encountered only very deep or very rarely below ground surface.

Soil Hazards

Soil Erosion and Corrosion

Erosion susceptibility is a qualitative description of the erosion hazard of soils and ranges from slight to very severe. Erosion factor (K Factor)[3] indicates the susceptibility of soil to sheet and rill erosion by water.

[3] K Factor is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate (in tons per acre per year) of soil loss by sheet and rill erosion. K Factor estimates are based primarily on percentage of silt, sand, and organic matter, on soil structure, and

As presented in Table 3.5-2 in the EA, the soils within the Project Site with reported K Factors have slight erosion susceptibility. Soils with slight erosion susceptibility are unlikely to erode under normal conditions.

The soils within the Project Site have a moderate to high risk for corrosion for steel and mostly a moderate risk for corrosion to concrete. The corrosivity to steel and concrete pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens steel or concrete.

The soils on the Project Site have a low linear extensibility rating (although values are not reported for two soil types). This rating indicates that the soils have a low shrink-swell potential when subjected to wet and dry conditions. Shrink-swell potential is related to the clay content. When a soil with high enough clay content absorbs water, the soils swell. When dried out, these soils can shrink and crack, which can result in potential soil hazards to building foundations (NRCS, 2023).

Liquefaction

Liquefaction is the temporary transformation of water saturated, non-cohesive material from a relatively stable solid condition to a liquefied condition. Strong shaking, such as from seismic events, can cause water saturated sediment to suddenly lose its grain-to-grain contact and undergo liquefaction (WDNR, 2012). When this phenomenon occurs, the soil strength to support buildings is diminished (Johansson, 2000) and this can cause structural damage, such as sinking and toppling buildings and weakening building foundations; buried infrastructure, such as pipes and tanks, and other structures can surface upwards and float (WDNR, 2012). Because the surface soils present on the site are considered to be moderately well drained to somewhat excessively drained, the potential for liquefaction is considered low. Furthermore, according to the WDNR Washington Geological Information Portal, the Project Site is located within an area of very low susceptibility to liquefaction(WDNR, 2019).

Landslides

Areas susceptible to landslides are comprised of weak soils on sloping terrain. Heavy rains or strong seismic shaking events can induce landslides. No historic landslides have been reported on the Project Site (WDNR, 2019) and based on its relatively level ground surface topography; none would be expected.

Mineral Resources

Minerals of potentially long-term commercial significance in the County include sand and gravel deposits, coal deposits, and a few rock resources, such as sandstone and columnar basalt. There are 142,666 acres of Designated Mineral Lands in the County as of 2020. The Project Site does not contain County Designated Mineral Resource Land and is therefore not considered a source of mineral resources (Thurston County, 2020). Furthermore, a search of the USGS Mineral Resources Data System found no known mineral resources within the Project Site. There are several former mining sites for sand and gravel in the vicinity of the Project Site with only the Lacey Pit labeled as an none-past producer to the west of the Project Site (USGS, 2023). There is also the Miles Sand & Gravel pit located on the western border of the Project Site.

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saturated hydraulic conductivity (Ksat). K Factor estimates range from approximately 0.02 to approximately 0.69. Other factors being equal, the higher the K Factor, the more susceptible the soil is to sheet and rill erosion by water (NRCS, 2023).

HAZARDOUS MATERIALS – SECTION 3.6 OF THE EA

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) regulates the land disposal of hazardous materials from cradle-to-grave. This means establishing a regulatory framework for the generation, transport, treatment, storage and disposal of hazardous waste. Specifically, Subtitle D of RCRA pertains to non-hazardous solid waste and Subtitle C focuses on hazardous solid waste. A solid waste can consist of solids, liquids and gases, but these must be discarded in order to be considered waste. Additionally, the USEPA has developed regulations to set minimum national technical standards for how disposal facilities should be designed and operated. States issue permits to ensure compliance with USEPA and state regulations. The regulated community is comprised of a diverse group that must comprehend and adhere to RCRA regulations. These groups can consist of hazardous waste generators, government agencies, small businesses, and gas stations with underground petroleum tanks.

Food, Drug, and Cosmetic Act

Under the federal Food, Drug, and Cosmetic Act, the USEPA sets maximum residue limits, or tolerances, for pesticides residues on food. When the USEPA sets a tolerance level for a food, this is the level deemed safe. In defining safe, this means that, "reasonable certainty that no harm will result from aggregate exposure to the pesticide residue." When determining a safety finding for a tolerance level, the USEPA considers the toxicity of the pesticide and its break-down products, aggregate exposure to the pesticide in foods and from other sources of exposure if applicable, and any special risks specific to infants and children. If a tolerance is not set for a pesticide residue, a food containing that pesticide residue will be subject to government seizure if deemed appropriate. However, once a tolerance has been established for a pesticide residue, then residue levels below the tolerance will not trigger enforcement actions. If the residue level is detected above that tolerance, then the commodity will be subject to seizure. Some pesticides do not have a set tolerance level as the USEPA may grant exemptions in the cases where the pesticide residue does not pose, under foreseeable situations, a significant dietary risk.

Federal Insecticide, Fungicide, and Rodenticide Act

The federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) addresses the sale, distribution, and labeling of pesticides, as well as the certification and training of pesticide applicators. FIFRA establishes recordkeeping and reporting requirements on certified applicators of restricted use pesticides. Furthermore, FIFRA imposes storage, disposal, and transportation requirements on registrants and applicants for the registration of pesticides. Pesticide use is regulated through requirements to apply pesticides in a manner consistent with the label. The labeling requirement includes directions for use, warnings, and cautions along with the uses for which the pesticide is registered (e.g., pests and appropriate applications). This includes the specific conditions for the application, mixture, and storage of the pesticide. Additionally, the label must specify a time period for re-entry into an area after the pesticide has been applied, and when crops may be harvested after the application of the pesticide. If a pesticide is used in a manner contrary to specifics on its label, then the use constitutes a violation of the FIFRA.

Hazard Communication Standard

The Occupational Safety and Health Administration helps ensure employee safety by regulating the handling and use of chemicals in the workplace. For instance, it administers the Hazard Communication Standard (HCS). The HCS ensures safety in the workplace concerning chemicals through requiring information to be provided and understood by workers about the identity and hazards associated with chemicals they may work with. This also requires that chemical manufactures and importers evaluate the hazards associated with the chemicals they create or import, and that these chemicals have proper labels and material safety data sheets concerning their hazards to others (e.g., customers). Downstream of the production, employers who utilize these hazardous chemicals in their workplaces are obligated to have labels and safety data sheets for their workers and to train them on the proper handling of these chemicals.

Federal Hazardous Substances Act (FHSA)

The Consumer Product Safety Commission has a limited role in regulating hazardous substances; it primarily deals with the labeling of consumer products through the federal Hazardous Substances Act (FHSA). FHSA only requires products that may at some point be in the presence of people's dwellings to be labeled, including during purchase, storage, or use. These labels must alert consumers of the potential hazards that the product may pose. However, in order for a product to be required for labelling, the product must be toxic, corrosive, flammable/combustible, an irritant, a strong sensitizer, or have the ability to generate pressure through decomposition, heat, or other means. Furthermore, the product must possess the ability to cause severe personal injury or substantial illness during or as a result of any customary or reasonably predictable handling or use, including reasonably foreseeable ingestion by children.

Toxic Substances Control Act

The federal Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, permits the USEPA to evaluate the potential risk from novel and existing chemicals and address unacceptable risks chemicals may have on human health and the environment. The USEPA oversees the production, importation, use, and disposal of certain chemicals. This includes the USEPA having the authority to require record keeping, reporting, and test requirements and restrictions associated with certain chemical substances and/or mixtures. However, certain groups of chemicals are excluded from TSCA consideration, including—but not limited to—food, drugs, cosmetics and pesticides. Examples of chemicals included in TSCA consideration are lead paint, asbestos, mercury, formaldehyde, and polychlorinated biphenyls.

Emergency Planning and Community Right-to-Know Act

The federal Emergency Planning and Community Right-to-Know Act (EPCRA) is designed to assist local communities protect public health, safety, and the environment from chemical hazards. The Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. The EPCRA also requires industry to report on the storage, usage, and releases of hazardous substances to federal, state, and local governments, and states and communities can use the information gained to improve chemical safety and protect public health and the environment.

Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)

CFR Title 40, Chapter I, Subchapter I, Part 280 is a federal regulation that sets technical standards and corrective action requirements for owners and operators of USTs. These standards apply to the following topics: UST system design, construction, installation and notification; general operation requirements; release detection; release reporting, investigation, and confirmation; release response and corrective actions for USTs containing petroleum or hazardous substances; out of service UST systems and closure; financial responsibility; lender liability; operator training; and UST systems with field-constructed tanks and airport hydrant fuel distribution systems.

Environmental Setting

Hazardous Materials

Phase I Environmental Site Assessment

The Project Site is vacant land in a commercial center. It has several utility and road easements. The current landowner, the Nisqually Tribe, provided extensive documentation of past land uses and associated contamination and remedial activities, via the previous landowner — Wig Properties, LLC. No environmental liens or value reductions were found in association with the Project Site, and no indication of heavy industrial uses was detected from title review. The Project Site was not listed in any of the queried environmental databases, but was included in case files provided by County and Washington Department of Ecology. The two key cases relevant to the Project Site are as follows:

- Evergreen Sportsman Club: Trap shooting contaminated soil with lead and carcinogenic polycyclic aromatic hydrocarbons (PAHs) on the southeastern portion of the Project Site . A remedial action plan was implemented, which concentrated the impacted soils into a raised pad that was subsequently paved on a parcel east of the Project Site, and an environmental covenant placed upon it. In 2015, the Washington Department of Ecology (WADOE) issued an No Further Action (NFA) letter closing the case. This is considered a historic recognized environmental condition (HREC).
- Tacoma Smelter Plume: The former Asarco copper smelter that operated for about 100 years in Tacoma (approximately 20 miles from the Project Site) caused lead and arsenic to be deposited in an aerial plume resulting in widespread soil contamination in parts of King, Pierce, Kitsap, and Thurston counties. This 1,000 square mile area is known as the Tacoma Smelter Plume (TSP). Concentrations of arsenic and lead in soils are generally highest near the Asarco copper smelter site and decrease proportional to the distance from the site. In 2009, Washington received a settlement from Asarco, including $94.6 million to pay for cleanup of the TSP (WDOE, 2023a). Since then, WDOE has conducted studies and remediation within the area affected by the TSP. Including, publishing the Tacoma Smelter Plume Model Remedies Guidance (Remediation Guidance; WDOE, 2019) to provide cleanup and sampling guidance for properties affected by the TSP.

The Project Site was impacted by this aerial deposition and has lead and arsenic in the surficial layers of soil in the western and southern portions of the Project Site: this is a current REC.

Additionally, the ESA noted that the Project Site has been subject to illegal dumping of waste, primarily household waste, which constitutes a *de minimis* condition.

While the ESA report noted a few minor data failures ("data gaps") with the physical setting and historical information sources, a combination of other data sources was available such that these data gaps were considered to be insignificant and did not represent RECs for the Project Site.

Overall, the Phase I ESA found one HREC and one current REC (lead and arsenic soil contamination from the TSP) were found in connection with the Project Site pursuant to the ASTM Practice E1527-21 (Appendix K of the EA).

As described below, a TSP Cleanup Action Plan/Phase II ESA (CAP; Appendix E of the EA) was prepared by Terra Associates, Inc., and approved by WDOE in 2012. While standard soil blending procedures are required in conjunction with onsite grading activities like most other developments in the region within the TSP plume that covers 1,000-square-miles, no further site investigation is recommended because a Phase II ESA has already been completed and a remedy identified. Other standard procedures stipulated by the Cleanup Action Plan include testing imported soils and implementation of a dust control plan and a construction Health and Safety Plan (HSP). The Phase I ESA determined that following successful implementation of the 2012 CAP, the REC will be considered an historical environmental condition and requires no further environmental evaluation or action (Appendix K of the EA).

TSP Cleanup Action Plan/Phase II Environmental Site Assessment

Based on the testing completed in 2012 by Terra Associates, Inc. (TAI), the soil and duff (decaying vegetation covering the ground under trees) in the forested areas in the western and southern portions of the Project Site has elevated levels of arsenic and lead that exceed their respective State cleanup levels of 20 mg/kg and 250 mg/kg (Appendix E of the EA). The areas with elevated lead and arsenic levels can be seen in Figure 8 in the EA.

The Cleanup Plan (Appendix E of the EA) was prepared by TAI, in general accordance with the Model Remedies in Appendix C of the 2012 WDOE Tacoma Smelter Plume-Interim Action Plan. The Cleanup Plan recommended mixing of the upper layers of soil and duff, which would dilute lead and arsenic concentrations, followed by compliance sampling to ensure that sufficient mixing has occurred to reduce the presence of lead and arsenic to acceptable levels. WDOE issued an opinion on September 24, 2012, that concurred with the Cleanup Plan and noted that no further remedial action will likely be necessary upon completion of the proposed Cleanup Plan (Appendix E of the EA). Since 2012, no development has occurred on the Project Site and, therefore, the soil mixing included in the Cleanup Plan has not occurred.

In July 2019, WDOE published the Remediation Guidance[4] to provide cleanup and sampling guidance for properties affected by the TSP (WDOE, 2019). TAI prepared a subsequent memo in 2022 that reviewed the recommendations of the 2012 Cleanup Plan considering the 2019 Remediation Guidance and results from the remediation of other sites affected by the TSP (Appendix E of the EA**;** WDOE, 2019). The 2022 memo confirmed that the soil mixing recommended in the 2012 Cleanup Plan continues to be appropriate and supplemented their recommendations with specific procedures outlined in Section 2.1.6 of EA Appendix B that have been approved by WDOE for other TSP remediation in the area.

[4] The Remediation Guidance encourages cleanup of contaminated sites during property development and confirms that soil mixing is a permanent remedy for sites with arsenic and lead levels that are less than twice their respective cleanup levels (>40 ppm average arsenic, >500 ppm average lead).

Because TAI's 2012 Cleanup Plan did not include soil sampling from an 8.92-acre area in the northeastern quadrant of the Project Site, TAI conducted soil testing in this area and prepared a report in July of 2022, which is included in Appendix E of the EA. The soil sampling confirmed that no remedial measures are required in that northeastern portion of the Project Site (Appendix E of the EA).

Wildfires

Annually, the WDNR prepares a summary of the most recent wildfire season. As of December 2022, 662 fires were counted and burned a total of 55,611 acres in WDNR jurisdiction, which is well below the 10-year average of 904 fires for 204,589 acres (WDNR, 2022). Of these WDNR fires, 49% were determined to be human caused, 18% were caused by lightning, and for 33% the cause was undetermined (WDNR, 2022). Of all the wildfires that burned across the State, 14 fires were larger than 100 acres in timber or 300 acres in grass, which is the definition of a large wildfire (WDNR, 2022). The 14 large wildfires of 2022 burned a total of 84,311 acres, and less than half of this acreage was on WDNR jurisdiction (WDNR, 2022).

The WDNR has six upland regional offices. The Project Site is located within the South Puget Sound Region, which is within WDNR's westside regions. In 2022, the westside regions incurred about half the amount of wildfire activity as compared to the eastside regions (WDNR, 2022).

To reduce the occurrence of human-caused wildfires, WDNR regulates outdoor burning using burn restrictions and burn permits for all silvicultural burners. When burners request to burn over 100 tons of forest material on their permits, the agency smoke management program must authorize the burn prior to ignition to prevent nuisance smoke and impacts to human health and activities.

The Project Site itself is undeveloped but has been previously disturbed by historic logging and grading activities associated with development of the adjacent Cabela's sporting goods store . Vegetation on the Project Site consists of ruderal vegetation, with mixed conifer-hardwood stands interspersed throughout. It is not densely vegetated, and therefore a wildfire would be unlikely to occur on the Project Site. Additionally, no past wildfires have been reported on or in the immediate vicinity of the Project Site.

HYDROLOGY AND FLOODPLAINS – SECTION 3.7 OF THE EA

Federal

Disaster Relief Act (Federal Emergency Management Agency)

The Disaster Relief Act of 1974 as amended by the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 created the Federal Emergency Management Agency (FEMA), which is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing Flood Insurance Rate Maps, which are used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains (FEMA, 2021).

Executive Order 11988

Executive Order (EO) 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Specifically,

EO 11988 states that agencies shall first determine whether the proposed action will occur in a floodplain. EO 11988 defines a floodplain as an area that has a one percent or greater chance of flooding in any given year. Second, if an agency proposes to allow an action to be located in a floodplain, "the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains." If the only practicable alternative action requires siting in a floodplain, the agency shall "minimize potential harm to or within the floodplain," (FEMA, 2015).

Clean Water Act (CWA)

The federal CWA, 33 USC Section 1251(a)(2), sets forth national goals that waters shall be "fishable, swimmable" waters (CWA Section 101 [a][2]). The CWA addresses both point and non-point sources of pollution (Sections 402 and 319, respectively), both of which are controlled through the National Pollution Discharge Elimination System (NPDES). An NPDES permit must be obtained in order to discharge policy pollutants into "Waters of the U.S." In some states, the USEPA has delegated permitting authority to the regional water quality agency. This agency, as specified under RCW 90.48.261, is the Washington State Department of Ecology. However, the USEPA retains authority to regulate discharges to waters on tribal lands. The CWA also directs states to establish water quality standards for waterways in their jurisdiction and to review and update these standards every three years (Section 303(c)).

Section 303(d) of the CWA requires states to periodically prepare a list of all surface waters in their respective jurisdictions for which beneficial uses of the water – such as for drinking, recreation, aquatic habitat, and industrial use – are impaired by pollutants. These include water bodies that do not meet state surface water quality standards and are not expected to improve within the next two years. States establish a priority ranking of these impaired waters for purposes of developing water quality control plans that include Total Maximum Daily Loads (TMDL). A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards and includes an allocation for each of the pollutant's sources. These water quality control plans describe how an impaired water body will meet water quality standards through the use of TMDLs.

Safe Drinking Water Act

Under the mandate of the Safe Drinking Water Act, the USEPA sets legally enforceable National Primary Drinking Water Regulations (primary standards) that apply to public water systems, including those in the Washington State. These standards are established to protect human health by limiting the levels of contaminants in drinking water. The USEPA also defines National Secondary Drinking Water Regulations (secondary standards) for contaminants that cause cosmetic and aesthetic effects, but not for health effects. The USEPA recommends that these secondary standards be met but does not require systems to comply with them. Both primary and secondary drinking water standards are expressed as either Maximum Contaminant Levels (MCL), which define the highest level of a contaminant allowed in drinking water, or MCL Goals, which define the level of a contaminant below which there is no known or expected risk to health.

The USEPA does not oversee the construction and permitting of groundwater wells, but requires that public health standards, such as an effectively installed sanitary seal, are in place, and recommends that water systems be installed to meet state standards. The USEPA will also primarily establish monitoring and operational requirements, which will typically be specific to the project area. The on-site water supply system under Alternative A described in Section 2.1.2 of the EA would be characterized as a Transient Non-Community Water System (USEPA, 2021). Monitoring requirements for Transient Non-Community

public water systems typically include total coliform, nitrate, inorganic chemicals, volatile organic chemicals, non-volatile synthetic organic chemicals, secondary drinking water standard constituents, and general chemistry (including alkalinity, hardness, and minerals). The frequency of sampling varies and may be reduced over time.

State and Local

Municipal Water Law

Municipal Water Law governs public water systems in the State to ensure they supply safe and reliable drinking water to the public in a way that is consistent with federal drinking water and water rights regulations. The Washington Department of Ecology and the Washington Department of Health co-regulate municipal water suppliers in the State of Washington. The Washington Department of Ecology oversees municipalities' water rights, how much water they have, and where they can use it; the Washington Department of Health is responsible for ensuring safe and reliable drinking water as well as regulating the planning and engineering components of water systems.

While most water rights are governed by the "use it or lose it" principle — meaning that a water right holder can lose a water right if it's not beneficially used for an extended period — municipal water rights are not. Under municipal water law, municipal water suppliers can retain water rights they are not currently using. This gives municipal suppliers certainty about maintaining their water rights while allowing them flexibility to plan for future growth. With this flexibility, however, comes the requirement to conserve water.

Chapter 173-201A Washington Administrative Code

Chapter 173-201A of the WAC establishes water quality standards for surface waters of the State of Washington consistent with public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of RCW 90.48. The surface water quality standards for the State include both narrative and numerical water quality objectives to keep the State's waters swimmable, fishable, drinkable, and suitable for use by industry, agriculture, and the citizens of the State.

Water Resource Inventory Area 13 Watershed and Restoration and Enhancement Plan

Per the Streamflow Restoration law (RCW 90.94) that passed in January 2018, the Washington State Department of Ecology developed a Watershed Restoration and Enhancement Plan in Water Resource Inventory Area (WRIA) 13 that identifies projects to offset potential consumptive impacts of new permit exempt domestic groundwater withdrawals on instream flow that also provide net ecological benefits to the watershed. Ecology considered all available information while following current laws, the Streamflow Restoration Policy and Interpretive Statement (POL-2094), and Ecology's Final Guidance on Determining Net Ecological Benefit (NEB; GUID-2094) when finalizing the watershed plan. Over the planning horizon (2018-2038), it is estimated there will be 2,616 new permit-exempt domestic well connections that will create 434 acre-feet per year (AFY) in water demand in the WRIA 13. The projects and actions specified in the WRIA 13 Watershed Plan are designed to address and offset this consumptive water use with an anticipated offset of 1,801 acre-feet per year to benefit stream flows and enhance the watershed. Additional projects in the plan provide benefits to fish and wildlife habitat, such several thousand feet of streambed improvements, dozens of acres of restoration and protection, and many miles of riparian

restoration across WRIA 13. The watershed plan divides the watershed into nine subbasins to help describe the location and timing of estimated new consumptive water use, the location and timing of impacts to instream resources, and the necessary scope, scale, and anticipated benefits of projects. Groundwater offset projects identified within the Woodland Creek Subbasin consist of the Hicks Lake Stormwater Retrofit or Managed Aquifer Recharge Project. These projects are anticipated to offset approximately 296 AFY, which is sufficient to cover the projected 28 AFY increase in future consumptive use from permit exempt projects and create a surplus offset of 268 AFY. The watershed plan would achieve a net ecological benefit, as required by RCW 90.94.030 and defined by the Final NEB Guidance.

Woodland Woodard Creek Drainage Basin Plan

The County's Department of Water and Waste Management Storm and Surface Water Utility prepared the plan to identify water resources problems related to urban and rural development in the Woodland and Woodard Creek basins and to find solutions to these problems. The plan evaluates nonstructural measures and structural improvements that provide increased protection for water resources. The Woodland and Woodard Creek Basin Plan addresses flooding, water quality, and stream habitat. Plan goals are to:

- Preserve and/or enhance water quality, stream morphology, wetlands, groundwater, fisheries/wildlife habitat, and aesthetic amenities.
- Promote sustainable development within each basin (i.e., minimum impact on water resources and habitat).
- Promote public interest and involvement in water resource management.
- Establish short-term and long-term solutions to existing and future stormwater quality and quantity problems.
- Promote a regional approach for financing, ownership, and operation/maintenance of regional facilities and programs.

Completion of the drainage basin plan is anticipated to accomplish the following:

- There will be a rational basis for making decisions about capital expenditures, financing options, land use regulation, source reductions, and stormwater facility location, design, and maintenance. Decision-making information and tools generated by the basin plan will include:
- There will be active ongoing public involvement in stream restoration, enhancement, and education activities addressing problems identified in the plan.
- The public will understand and support plan recommendations.
- Responsible jurisdictions will have agreed on a common implementation and financing strategy for the drainage basin including.

Environmental Setting

Regional Watersheds and Hydrology

The Project Site is located within the Water Resources Inventory Area (WRIA) 13. This is defined as the area that drains to the Deschutes River, but also includes Woodland and Woodard creeks that flow directly to marine waters (WDOE, 2022a). The Project Site is also located within the Woodland Creek Drainage Basin, which empties into the southern tip of the Henderson Inlet (Thurston County Department of Water and Waste Management, 1995). Henderson Inlet is one of five inlets that form the southern terminus of

Puget Sound. The Puget sound is a large inland estuary connected to the Pacific Ocean that is approximately 95 miles long and one to five miles wide (Puget Sound Estuarium, 2023). Woodland and Woodard Creeks drain 80% of the Hendeson Inlet watershed and are the largest main tributaries. Dobbs Creek (East Henderson), Meyer Creek (Inlet), and Sleepy Creek (West Henderson), drain small areas of the watershed at Dickerson Point and Johnson Point peninsulas. Because most of the basin lies at an elevation of less than 200 feet above sea level, groundwater is the primary source of streamflow during low flow months. Groundwater-fed springs maintain year-round base flow in Woodard Creek and Woodland Creek (WDOE, 2022b).

Drainage

A site visit was completed by Olson Engineering during the wet season on April 22, 2022, and included walking the perimeter of the Project Site. It was observed that the Project Site slopes away from both Britton Parkway and Marvin Road and has a high point located approximately in the center. The Project Site was observed to have varying levels of vegetation (see Section 3.3.2 in the EA for additional information on vegetation types, density, and characteristics), and signs of grading and other development activity in the eastern portion of the site north and south of Main Street NE. Several drainage features were observed on the Project Site. In general, there is a drainage way running in an east-west direction across the majority of the Project Site. Different drainage features were observed in the western and eastern portions of the Project Site:

- The western portion of the Project Site drains to the drainage way that slops gradually to the western property line. Along the western property line there is also a large depression just to the east of the gravel mine located on the adjacent property. Any runoff west of the drainage way would flow to this area. No standing water was present in this area and there was no evidence of any runoff leaving the Project Site due to the pervious nature of the onsite soil.
- The eastern portion of the Project Site that is east of the high point drains to the drainage way. This drainage way slopes gradually to the east and then curves to the south where it disperses into the southern slope of the eastern portion of the Project Site. In addition, directly south Main Street NE, there are small depressions adjacent to I-5. The location of the depressions and pervious nature of the surface soils means that no runoff leaves the Project Site along the southern property boundary.

In general, there were no signs of runoff within the treed areas, the less vegetated area adjacent to the west property line, or the disturbed area in the eastern part of the Project Site. Based on the above information and additional data in Appendix D of the EA, no runoff was determined to leave the Project Site.

Flooding

FEMA is responsible for predicting the potential for flooding in most areas. FEMA routinely performs this function through the issuance of Flood Insurance Rate Maps (FIRMs), which depict various levels of predicted flood inundation. The FEMA FIRM for the region indicates that the Project Site is located outside of the 100-year floodplain in Zone X5 (500 Year Floodplain), indicating the area has a minimal flood hazard (FEMA, 2018). This can be seen in Figure 21 in the EA.

Groundwater

The northern part of the County where the Project Site is located has been delineated to have approximately seven geohydrological units. Groundwater in this portion of the County tends to move towards major surface drainage channels and marine water (Drost et al., 1998). Approximately 232 square miles of northern Thurston County has been designated a groundwater management area with the goal of protecting the groundwater system within the hydrogeological boundaries. Groundwater in this management area is fairly distinct and hydraulically isolated. It does not receive water from the Cascade or Olympic Mountains or other distant locations. Instead, groundwater is primarily recharged through local water surface features with rainwater providing most of the recharge.

There are three principal aquifers that the City obtains its drinking water from: Vashon Advance Outwash (Qga/Qva), "Sea Level Aquifer" (Qpg/Qc), and permeable strata within older undifferentiated strata(Qpg/TQu). Groundwater flow underneath the Project Site and in the immediately surrounding area differs depending on the aquifer, and additional information about this can be found in Appendix B of EA Appendix C.

Water Quality

Surface Water Quality

The surface water quality standards for the State include both narrative and numerical water quality objectives (for additional regulatory information, see Appendix F of the EA). The Project Site is located within WRIA 13, and every two years the WDOE evaluates surface waters in this WRIA with water quality assessments. Based on the assessments, waterbodies are classified into the water quality categories described in **Table 4** per the CWA (for additional information, see Appendix F of the EA).

Table 4: CWA Water Quality Categories

Category	Water Quality Description
1	Meets tested standards for clean waters.
2	Waters of concern, which means the waters in this category have some evidence of a water quality problem, but not enough to show persistent impairment.
3	Insufficient data.
4	Impaired waters that do not require a Total Maximum Daily Load (TMDL).
5	Polluted waters that require a water improvement project.

Category 5 means that the water is impaired or threatened by pollutant(s) for one or more designated uses and a TMDL is required. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive while still meeting water quality standards for that particular pollutant. WRIA 13 has Category 5 listings for exceedance of water temperature, dissolved oxygen, pH, bacteria, and total phosphorus water quality standards. In addition, the Deschutes River has fine sediment listed as impaired. Four TMDLs have been completed in WRIA 13 to address water quality impairments:

- Deschutes River, Percival Creek, and Budd Inlet Tributaries Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment TMDL: Water Quality Improvement Report and Implementation Plan.

- Henderson Inlet Watershed Fecal Coliform Bacteria Total Maximum Daily Load: Water Quality Implementation Plan.
- Nisqually Watershed Bacteria and Dissolved Oxygen Total Maximum Daily Load (Water Cleanup Plan).
- Totten, Eld, and Little Skookum Inlets Fecal Coliform Bacteria and Temperature TMDL: Water Quality Implementation Plan.

Woodland Creek, the nearest major water feature to the Project Site, is classified as Category 5 for dissolved oxygen, pH, temperature, and fecal coliform in addition to benthic macroinvertebrates bioassessments. Woodland Creek is under the Henderson Inlet Watershed Multiparameter TMDL to improve water quality (WDOE, 2023b).

Groundwater Quality

While groundwater is isolated in the management area that the Project Site is in, it is susceptible to contamination (City of Lacey, 2016b). There are areas of the County that have experienced groundwater contamination, including fertilizers, petroleum products, and inadequately treated waste (Thurston County, 2012). While the Project Site itself has no reported groundwater quality problems (Appendix B of EA Appendix C), there are groundwater quality issues in the surrounding area that can potentially occur in the aquifers beneath the Project Site. The adjacent area to the south is reported to have elevated nitrates (Thurston County, 2021), and there are localized areas where iron and manganese exceed the USEPA's secondary maximum contaminant levels. This is the case for the City's Hawk Prairie wells and is also probable to be present at the Project Site. However, neither the State or USEPA considers these hazardous, but they can lead to nuisance staining and odor issues in the water distribution system and fixtures. Water systems can be designed to treat these if necessary (Appendix C of the EA).

Other contamination risks in the area include five documented contamination sites within a 1-mile radius of the Project Site. However, only one of them, 7131-7239 Martin Way E (Lacey Urban Center), with the detection of halogenated solvents from a former dry cleaner is a potential water quality issue due to the chemicals being difficult to remediate because they descend through groundwater and are persistent (Appendix B of EA Appendix C). These solvents are suspected or below detectable levels for groundwater and are suspected or at detectable levels for soil at the site. The Lacy Urban Center site is enrolled in the Department of Ecology's Voluntary Cleanup Program (WDOE, 2023c).

The Hawks Prairie Reclaimed Water Ponds located approximately 0.32 miles northeast of the Project Site (labeled as "LOTT Infiltration Pond**"** on Figure 20 in the EA), have been the subject of a multi-year study conducted by the LOTT Alliance for water quality effects. *Perfluoropentanoic acid* (PFPeA) and N-*Nitrosodimethylamine* (NDMA) have been found to be leaching into the aquifer from the Hawks Prairie Reclaimed Water Ponds based on the Reclaimed Water Infiltration Study commissioned by LOTT Alliance (see Appendix A of EA Appendix C). PFPeA is present in several consumer products from preserved food items to fire resistant coatings and firefighting foams. NDMA is more commonly found in rubberized coatings but can also be found in certain cosmetics and pesticides. Both chemicals are considered to be persistent in the environment and similar chemicals have been associated with an increased risk of cancer in laboratory testing. While there are no current regulatory limits on either of these chemicals, the USEPA is actively working on research and rules regarding perfluoroalkyl substances in general. A 10-year reclaimed water infiltration study was completed by LOTT in August of 2022 to determine what, if any, steps should be taken to reduce the concentrations of these chemicals in the wastewater effluent feeding the Hawks Prairie Reclaimed Water Ponds. The infiltration study's 100-year projections show that without intervention the aquafers underlying the Project Site will be impacted by the presence of PFPeA and

NDMA from the Reclaimed Water Ponds. The results of the study indicate that the addition of a granular activated carbon (GAC) filter will be effective in removing the PFPeA from the effluent stream. The GAC filter would also prevent the formation of NDMA during the disinfection stage of the treatment process. To reduce NDMA that exists prior to disinfection, the addition of biological activated carbon and ozone processes would be necessary. Additional details concerning these two chemicals and potential treatment options are provided in Appendix A of EA Appendix C.

LAND USE – SECTION 3.8 OF THE EA

Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that federal programs are administered in a matter that is compatible with state and local units of government, and private programs and policies to protect farmland (7 USC § 4201).

The Natural Resource Conservation Service is responsible for the implementation of the FPPA and categorizes farmland in several ways. These categories include prime farmland, farmland of statewide importance, and unique farmland. Prime farmland is considered to have the best possible features to sustain long-term productivity. Farmland of statewide importance includes farmland similar to prime farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Unique farmland is characterized by inferior soils and, depending on climate, generally needs irrigation. Per 7 CFR § 658.2(a), "'[f]armland' does not include land already in or committed to urban development or water storage…Farmland already in urban development also includes lands identified as 'urbanized area' (UA) on the Census Bureau Map." The Project Site is within the Olympia-Lacey UA designated by the Census Bureau (U.S. Census Bureau, 2023); therefore, the Project Site is not considered "farmland" under the FPPA.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, administered by the National Oceanic and Atmospheric Administration, provides for the management of the nation's coastal resources. The goal of the CZMA is to preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone. The CZMA aims to balance competing land and water issues through state and territorial coastal management programs. The Project Site is located over 200 feet from shorelines subject to the Washington State Shoreline Management Act and, therefore, is not within a coastal zone.

State and Local

Washington State Growth Management Act

The Washington Legislature enacted the State's GMA in 1990 to guide planning for growth and development in Washington State. The GMA requires local governments in fast-growing and densely populated counties to develop and adopt comprehensive plans. The GMA is primarily codified under 36.70A RCW, although it has been amended and added to in several other parts of the RCW. 36.70A RCW includes state mandates relating to Land Use, summarized in **Table 5** below:

Table 5: RCW Applicable Comprehensive Goals

Topic	Code Section	Goal
Rural Element	RCW 36.70A.070 (5)	Counties shall include a rural element [in their comprehensive plans] including lands that are not designated for urban growth, agriculture, forest, or mineral resources…
Urban Growth Area	RCW 36.70A.110 (1)	Each county that is required or chooses to adopt a Comprehensive Land Use Plan under RCW 36.70A.040 shall designate an Urban Growth Area or areas within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature....
Sufficient Area for Population Growth	RCW 36.70A.110 (2)	Based upon the population projection made for the County by the Office of Financial Management, the county and each City within the County shall include areas and densities sufficient to permit the urban growth that is projected to occur in the County or City for the succeeding twenty-year period...each Urban Growth Area shall permit urban densities and shall include green and open space areas.
Public Facilities and Service Capacities	RCW 36.70A.110 (3)	Urban growth should be located first in areas already characterized by urban growth that have existing public facilities and service capacities to serve such development, and second in areas already characterized by urban growth that will be served adequately by a combination of both existing public facilities and services and any additional needed public facilities and services that are provided by either public or private sources, and third in the remaining portions of the urban growth areas...
Requirement for Agricultural Land within UGAs	RCW 36.70A.060 (4)	...Agricultural land located within Urban Growth Areas shall not be designated by a county or city as agricultural land of long-term commercial significance.... unless the city or county has enacted a program authorizing transfer or purchase of development rights.

Shoreline Management Act

The Shoreline Management Act of 1972 requires all counties and most towns and cities in the State to develop and implement Shoreline Master Programs. The law also defines the Washington Department of Ecology's role in reviewing and approving local programs. The Shoreline Management Act defines shorelands as those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high-water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the State's Department of Ecology.

City of Lacey Comprehensive Plan

The City of Lacey 2016 Comprehensive Plan was prepared in compliance with the Washington Growth Management Act of 1990 and is intended to present a clear vision for future growth within the City over a twenty-year planning horizon. The plan is intended to contain urban sprawl through the designation of urban growth areas, and the development of policies aimed to achieve a "a more efficient, affordable and sustainable land use [pattern that] would evolve through more compact and mixed-use development. The plan recognizes that economic development within the City is needed for the region to stay competitive in the regional marketplace, and to create job opportunities for Lacey residents to

move away from its "bedroom community" past. Consistent with the zoning of the Project Site, discussed below, the City's Comprehensive Plan designates the majority of the Project Site as "Hawks Prairie Business District-Business Commercial" (HPBD-BC) with a portion along the eastern boundary designated as Hawks Prairie Business District – Commercial (HPBD-C). The plan recognizes opportunities for compact, mixed-use development within the Hawks Prairie Planning area and within the Gateway Town Center Area as described in more detail below.

Hawks Prairie Planning Area

The Project Site is located within the Hawks Prairie Planning Area of the City's 2016 Comprehensive Plan, as well as within the Northeast Plan Sub-area as defined in the Northeast Area Planning Element, which was adopted in 1992. The Hawks Prairie Planning Area has been identified as the planning area within the City with the most potential for economic development due to available vacant land resources; availability of utilities, including sewer and water; and proximity to Interstate 5.
Within the Hawks Prairie Planning area, the Project Site is within an area identified as the Gateway Town Center Commercial Node (see page 3-8 of the Land Use Element). The Comprehensive Plan states that the Gateway Town Center is a prime example of the development potential within the Hawks Prairie Planning Area. The Gateway Town Center Node, including the Project Site, was envisioned to consist of both a destination retail center and an intensely developed mixed-use district with commercial, retail, and up to 500 residential units (City of Lacey, 2016).

Northeast Area Planning Element

In addition to being within the Hawks Prairie Planning area, the Project Site is part of the Northeast Area Planning Element, which is a subarea plan that includes approximately 970 acres. This subarea plan intended the area to become an aesthetically pleasing and employment hub while offering a mixture of uses. The Northeast Area Planning Element specified a strong arterial and gateway design framework for development, and site and building design guidelines in addition to other design guidelines. Utility expansions and the development of transportation infrastructure, including Britton Parkway, and Gateway Boulevard, have been implemented since the adoption of the Northeast Area Planning Element in 1992. These developments and other elements in the planning area have been influenced by the Northeast Area Planning Element and design guidelines specified within are still being implemented. Implementing Strategies for the Hawks Prairie Planning Area include completing an update to the Northeast Area Plan to reflect existing and future development patterns (City of Lacey, 2016).

City of Lacey Municipal Code

The City's Municipal Code includes the ordinances which govern the City, including ordinances regarding land use. The City's Zoning Ordinance (Title 16 of the Lacey Municipal Code) is intended to facilitate orderly growth and development of the City's urban growth area, consistent with the policies, goals and objectives of the City's Comprehensive Plan for urban growth. The Project Site is primarily zoned HPBD-BC with a portion along the eastern boundary zoned HPBD-C. Permitted uses within HPBD-C include commercial; hotels and motels; convention centers and conference facilities; restaurants; entertainment and recreation (e.g., museums, cinemas), financial institutions, and residential units located within a mixed-use building. Permitted uses within HPBD-BC include all uses permitted for HPBD-C as well as public services (e.g., schools); mass transit; offices and manufacturing, warehouse and distribution activities, and medical facilities.

Environmental Setting

Onsite Land Uses and Zoning

The Project Site is primarily undeveloped but has been previously disturbed by historic logging and grading activities associated with the adjacent Cabela's development. and The only development on the Project Site includes existing roadways, both paved and several gravel, that were constructed in anticipation of future development on the Project Site (see Figure 10 in the EA). Addition details on vegetation and surface water features can be found in Sections 3.2.2 and 3.7.2 in the EA, respectively.

The zoning of the Project Site and surrounding area per the City's 2016 Comprehensive Plan and Zoning Code (Municipal Code, Title 16, Zoning) is shown in Figure 22 in the EA. Both the Comprehensive Plan and Zoning Code designate the eastern third of the Project Site as Hawks Prairie Business District (Commercial) (HPBD-C) and the remaining land as Hawks Prairie Business District (Business/Commercial) (HPBD-BC). The City began planning for significant growth of dense and mixed-use land uses in the Hawks Prairie area in the 1980s and the Hawks Prairie District was established in the City's 1992 Northeast Area Plan (City of Lacey, 2010). The City has been completing traffic and circulation improvements as well as public utility upgrades in the area since the 2000s to support growth in the Hawkes Prairie District (City of Lacey, 2010).

Table 6: Permitted Uses of Chapter 16.37 of the Zoning Code

Zoning Code	Permitted Uses
HPBD-C	▪ Commercial (retail and service businesses including, but not limited to, automotive sales, convenience stores and service stations, department stores, food stores, and general merchandise) ▪ Hotels and motels ▪ Convention centers and conference facilities ▪ Restaurants ▪ Entertainment and recreation (e.g., museums, cinemas) ▪ Financial institutions ▪ Residential units located within a mixed-use building ▪ Other similar and related uses consistent with the intent of the zone
HPBD-BC	▪ All uses permitted for HPBD-C ▪ Public Services (e.g. higher education and vocational schools, fire stations, police stations) ▪ Mass transit ▪ Office and manufacturing ▪ Warehouse and distribution activities ▪ Medical facilities ▪ Other similar and related uses consistent with the intent of the zone

As described in Section 1.4.2 in the EA and shown on Figure 15 in the EA, the majority of the Project Site is located within an approximately 250-acre potential commercial development node of the Comprehensive Plan identified as the "Lacey Gateway Town Center." The previously planned Lacey Gateway Town Center designation begins at the western boundary of the Project Site and extends east across the site until it ends in a north-south line at the current terminus of Main Street NE. The Final Supplemental Environmental Impact Statement (2010 FSEIS; City of Lacey, 2010) developed to analyze the potential environmental consequences of the proposed Lacey Gateway Town Center Project in accordance the State Environmental Policy Act described the land uses proposed for the initial

development (Phase I) and maximum buildout (Future Phases). Table 3.8-2 in the EA outlines the size and extent of the Phase I and total build-out for the proposed Lacey Gateway Town Center Project and related land use components. The Lacey Gateway Town Center Project was never constructed, and the only development in the area is the Cabela's sporting goods store and the partial extension of Main Street that were both constructed prior to the 2010 FSEIS.

The Project Site is located over 200 feet from shorelines subject to the Washington State Shoreline Management Act and, therefore, is not within a coastal zone.

Surrounding Land Uses and Zoning

Areas to the north, west, and east of the Project Site are within the city limits of the City of Lacey, while areas south of the Project Site across I-5 are within the City's Urban Growth Area. As shown on Figure 22 in the EA, the zoning designations of surrounding properties include High-Density Residential to the northwest, HPBD-BC to the north and west, Community Office to the north, HPBD-C to the east, and Low-Density Residential (LD 0-4) and General Commercial to the south. Surrounding land uses consist of commercial development (a Cabela's sporting goods store) adjacent to and surrounded by the Project Site to the south; residential and commercial land to the south across I-5; a gravel extraction facility to the west; and high-density residential housing to the west/northwest. As described in Section 3.1.1 in the EA, the Tribe owns the undeveloped property directly south of the Project Site, immediately east of the existing Cabela's (see Figure 15 in the EA) and has submitted a separate fee-to-trust application for a future gaming development in this area. Roadways near the Project Site boundaries include Britton Parkway NE to the north, Marvin Road NE to the east, and I-5 to the south. Gateway Boulevard NE and Main Street NE bisect portions of the Project Site. The aforementioned land uses and features in the vicinity of the Project Site are shown in Figure 3 in the EA.

There are no airports within five miles of the Project Site and the Project Site is not located in an airport compatibility zone. The nearest airport is Hoskins Fields, which is approximately 9.5 miles to the south.

NOISE – SECTION 3.9 OF THE EA

Federal

Federal Highway Administration Construction Noise Abatement Criteria

The Federal Highway Administration (FHWA) Construction Noise Handbook (2006) provides guidance with respect to the development of construction noise level thresholds. Based on that guidance and measured ambient noise levels in the Project Site vicinity, the criteria in **Table 7** were developed for use in evaluating the significance of construction noise impacts.

Table 7: Federal Construction Noise Thresholds

Noise Receptor Locations and Land Uses	Daytime (7 a.m. – 6 p.m.)	Nighttime (10 p.m. – 7 a.m.)
Noise-Sensitive Locations (residences, institutions, hotels, etc.)	90 L_{max}	80 L_{max}
Commercial Areas (businesses, offices, stores, etc.)	None	None
Industrial Areas (factories, plants, etc.)	None	None

Source: FHWA, 2006

[1] Leq thresholds were empirically determined.

Federal Noise Abatement Criteria

23 CFR 772 establishes Noise Abatement Criteria (NAC) for various land uses that have been categorized based upon activity. The FHWA NAC is based on noise generated from peak traffic hour noise levels, and land uses are categorized on the basis of their sensitivity to noise as indicated in **Table 8**. Sensitive receptors with the potential to be impacted by the project alternatives primarily consist of residential land uses; thus, the Category B noise standard (67 dBA L_{eq}) would apply to those uses.

Vibration Standards

The effects of groundborne vibrations typically cause only a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although groundborne vibration can be felt outdoors, it is typically an annoyance only indoors, where the associated effects of the building shaking can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may consist of the rattling of windows or dishes on shelves.

Peak particle velocity (PPV) is often used to measure vibration. PPV is the maximum instantaneous peak (inches per second) of the vibration signal. The PPV levels are used to estimate L_v or VdB levels (vibration decibels with a reference velocity of one micro-inch per second). Scientific studies have shown that human responses to vibration vary by the source of vibration, which is either continuous or transient. Continuous sources of vibration include construction while transient sources include truck movements. Generally, the thresholds of perception and annoyance are higher for transient sources than for continuous sources. **9** summarizes the Federal Transit Administration's (FTA) guideline vibration damage criteria for various structural categories. As shown therein, buildings extremely susceptible to vibration damage could be damaged if vibration levels exceed 90 VdB. Additionally, although humans have a perceptibility threshold of 65 VdB, human response to vibration is not usually significant unless the vibration exceeds 70 VdB (FTA, 2006). Background vibration velocity in residential areas is usually 50 VdB or lower.

Table 8: Federal Noise Abatement Criteria Hourly A-Weighted Sound Level Decibels[1]

Activity Category	Activity Criteria Leq (h), dBA	Evaluation Location	Activity Category Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67	Exterior	Residential.
C	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	Interior	Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or non-profit institutional structures, radio studios, recording studios, schools, and television studios.
E[1]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	–	–	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, shipyards, utilities (water resources, water treatment, electricity), and warehousing.
G	–	–	Undeveloped lands that are not permitted.

Source: 23 CFR 772

[1] Includes undeveloped lands permitted for this activity category.

Table 9: Construction Vibration Damage Criteria

Building Category	Approximate PPV (in/sec)	Approximate Lv (VdB)
Reinforced-concrete, steel, or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Non-engineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA, 2006

State and Local

Chapter 173-60 Washington Administrative Code (WAC)

Establishes maximum noise levels permissible in identified environments and provides use standards relating to the reception of noise within such environments. These rules were adopted pursuant to chapter 70.107 RCW, the Noise Control Act of 1974, in order to establish maximum noise levels permissible in the identified environments, and thereby to provide use standards relating to the reception of noise within such environments. The noise limitations established are as set forth in the table below.

Class A are lands where human beings reside and sleep, and Class B are lands involving uses requiring protection against noise interference with speech. Class C are lands involving economic activities of such a nature that higher noise levels than experienced in other areas is normally to be anticipated. Persons working in these areas are normally covered by noise control regulations of the department of labor and industries. Uses typical of Class A are generally not permitted within such areas.

Table 10: Maximum Permissible Environmental Noise Levels (WAC 173-60-040)

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

Between the hours of 10:00 p.m. and 7:00 a.m. the noise limitations of the foregoing table shall be reduced by 10 dBA for receiving property within Class A environmental designation for noise abatement (EDNA). At any hour of the day or night, the applicable noise limitations above may be exceeded for any receiving property by no more than 5 dBA for a total of 15 minutes in any one-hour period, 10 dBA for a total of 5 minutes in any one-hour period, or (iii) 15 dBA for a total of 1.5 minutes in any one-hour period. There are exceptions to these noise standards. Exemptions during the hours of 7:00 a.m. to 10:00 p.m. include the following:

- Sounds originating from residential property relating to temporary projects for the maintenance or repair of homes, grounds and appurtenances.
- Sounds created by the discharge of firearms on authorized shooting ranges.
- Sounds created by blasting.
- Sounds created by aircraft engine testing and maintenance not related to flight operations, provided that aircraft testing and maintenance shall be conducted at remote sites whenever possible.
- Sounds created by the installation or repair of essential utility services.

The following shall be exempt from the provisions of WAC 173-60-040, except insofar as such provisions relate to the reception of noise within Class A EDNAs between the hours of 10:00 p.m. and 7:00 a.m.:

- Sounds originating from temporary construction sites as a result of construction activity.
- Sounds originating from forest harvesting and silvicultural activity.

The following shall be exempt from all provisions of WAC 173-60-040:

- Sounds created by motor vehicles when regulated by chapter 173-62 WAC.
- Sounds originating from aircraft in flight and sounds that originate at airports which are directly related to flight operations.
- Sounds created by surface carriers engaged in interstate commerce by railroad.
- Sounds created by warning devices not operating continuously for more than five minutes, or bells, chimes, and carillons.

- Sounds created by safety and protective devices where noise suppression would defeat the intent of the device or is not economically feasible.
- Sounds created by emergency equipment and work necessary in the interests of law enforcement or for health safety or welfare of the community.
- Sounds originating from motor vehicle racing events at existing authorized facilities.
- Sounds originating from officially sanctioned parades and other public events.
- Sounds emitted from petroleum refinery boilers during startup of said boilers: Provided, That the startup operation is performed during daytime hours whenever possible.
- Sounds originating from existing natural gas transmission and distribution facilities. However, in circumstances where such sounds impact EDNA Class A environments and complaints are received, the di- rector or his designee may take action to abate by application of EDNA Class C source limits to the facility under the requirements of WAC 173-60-050(5).

Nothing in these exemptions is intended to preclude the State from requiring installation of the best available noise abatement technology consistent with economic feasibility. The establishment of any such requirement shall be subject to the provisions of the Administrative Procedure Act, chapter 34.04 RCW.

City of Lacey, Chapter 16.57 - Environmental Performance Standards

The City municipal code, specifically Title 16, Chapter 16.57.030 governs noise within the city limits. This chapter in the municipal code outlines the permitted noise levels for different land uses. These permitted noise levels can be seen in **Table 11**. It should be noted that Chapter 16.57.030 has adopted by reference Chapter 173.60.40 WAC. In addition to information outlined in **Table 11**, Chapter 16.57.030 specifies additional noise limitations:

- Between the hours of 10:00 p.m. and 7:00 a.m., the maximum permissible environmental noise levels as presented in Table 11 shall be reduced by 10 dBA for Class A EDNA of receiving property.
- At any hour of the day or night, the maximum permissible environmental noise levels as presented in Table 11 may be exceeded for any EDNA of receiving property by no more than:
    - 5 dBA for a total of 15 minutes in any one-hour period; or
    - 10 dBA for a total of 5 minutes in any one-hour period; or
    - 15 dBA for a total of 1.5 minutes in any one-hour period.

Table 11: City of Lacey Maximum Allowable Noise Levels

Environmental Designation for Noise Abatement of Noise Source	Environmental Designation for Noise Abatement of Receiving Property		
	Class A[1]	Class B[2]	Class C[3]
Class A[1]	55 dBA	57 dBA	60 dBA
Class B[2]	57 dBA	60 dBA	65 dBA
Class C[3]	60 dBA	65 dBA	70 dBA

Source: City of Lacey, 2012
Note: between the hours of 10:00 p.m. and 7:00 a.m., the noise limitations shown in the table above shall be reduced by 10 dBA for receiving property at Class A Environmental Designation for Noise Abatement.
[1] All living areas and public/institutional areas
[2] All commercial areas
[3] Light industrial, industrial, mineral extraction

Fundamentals of Sounds, Effects of Noise on People, and Characteristics of Vibrations

Fundamentals of Sound

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected, or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers, and therefore, to avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals) as a point of reference, which is defined as 0 dB (decibels) at this threshold. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness. Since the decibel scale is logarithmic, not linear, two sound levels 10-dB apart differ in acoustic energy by a factor of 10.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (dBA) and the way the human ear perceives sound. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average,

or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. **Table 12** lists several examples of the noise levels associated with common situation.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction.
- Interference with activities such as speech, sleep, and learning.
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. Regarding increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response.

Table 12: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	100	
Gas Lawn Mower at 1 m (3 ft.)	90	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	80	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	70	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	60	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	50	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans, 2013

Stationary point sources of noise—including stationary mobile sources such as idling vehicles—attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Characteristics of Vibrations

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, amplitude and frequency of the source, and the response of the system that is vibrating. Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and

receptor, duration, and the number of perceived vibration events. **Table 13** shows the vibration levels that would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second. **Table 13** indicates that the threshold for architectural damage to structures is 0.20 in/sec PPV. A threshold of 0.20 inches/second PVV is considered to be a reasonable threshold for short-term construction projects.

Table 13: Effects of Vibration on People and Buildings

Peak Particle Velocity	Peak Particle Velocity	Human Reaction	Effect on Buildings
mm/second	in/second		
0.15–0.30	0.006–0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of “architectural” damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize “architectural” damage
10–15	0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” dam age and possibly minor structural damage

Source: Caltrans, 2002

PUBLIC SERVICES – SECTION 3.10 OF THE EA

Federal

Public Law 280

PL 83-280 (PL 280) was enacted in 1953 and delegated federal criminal jurisdiction to certain states for offenses involving tribal members in Indian Country in addition to permitting civil litigation involving tribal members to be heard in state courts. In six states, the transfer was mandatory unless a specific tribe in one of these states was excluded from the change while other states volunteered, such as Washington State. The federal government relinquished all special criminal jurisdictions over Indian offenders and

victims in these states. However, PL 280 does not grant states any civil-regulatory authority over lands held in federal trust for tribes.

State and Local

The Growth Management Act

The State's GMA is described in detail above under **Land Use**.

Environmental Setting

Fire Protection and Emergency Medical Services

Lacey Fire District #3 services an approximately 70-square mile area that encompasses the Project Site, City, northern Thurston County, and the Reservation, including the Red Wind Casino and facilities, per the amended Memorandum of Agreement between the Tribe and District described in Section 1.5.1 in the EA and included in Appendix A of the EA. The agreement obligates Lacey Fire District #3 to provide fire and emergency medical services to the Reservation and Tribal trust lands, including visitors and employees on those lands, that are within their service area. In exchange, the Tribe compensates Lacey Fire District #3 per incident responded to at an agreed-upon rate per incident and call, which is paid quarterly.

Lacey Fire District #3 includes five stations, four of which are staffed while the fifth station, Station 32, is completely staffed by volunteers. At the staffed stations, there is one engine company of three career firefighters with volunteer firefighters providing a fourth crewmember. In addition, Station 33 has a staffed aid unit, Station 34 has a staffed medic unit, and Station 31 has a ladder truck and medic unit as well as the battalion chief (Lacey Fire District #3, 2022a). Two of the five Lacey Fire District 3 stations are in close proximity to the Project Site: Station 34, located approximately 1.2 miles south of the Project Site, and Station 35, located approximately 1.5 miles northeast of the Project Site. Both stations offer emergency medical and fire services in addition to blood pressure checks and special operations responses that include hazardous materials and static water (Lacey Fire District #3, 2022b). In 2022, Lacey Fire District #3 received 16,822 calls for service, which consisted of approximately 74% medical, 2% fire, 9% service/other related, and 16% unintended, canceled, or false alarms (Lacey Fire District #3, 2023). At a population of approximately 105,650 people within the Fire District boundaries, this equates to a call rate of approximately 0.16 calls per person (Lacey Fire District #3, 2023).

Law Enforcement Services

The City is served by the LPD which is currently the primary agency responsible for law enforcement within the Project Site. The police department is comprised of the patrol, detective, community resources, school resources, records, evidence, community services, management analyst, resources unit (volunteer program), and police explorer divisions (youth program). The patrol division is responsible for responding to emergency and non-emergency calls. Personnel at the patrol division consists of one commander, six sergeants, six corporals, and thirty patrol officers. In 2020, the personnel at this division had a total of 5,502 cases that resulted in 1,514 arrests and 1,202 tickets (LPD, 2020). The number of total cases increased slightly for the reporting years of 2021-2022, but the number of arrests and tickets issued stayed relatively stable between 2020 and 2022 (LPD, 2022). The crime rate in 2021 was approximately 54.5 per 1,000 persons based on a population in the City of 57,293 (LPD, 2022). This police department has a service agreement with the Thurston County Sheriff's Department (City of Lacey, 2016a)

The Tribe maintains a comprehensive Public Safety Department composed of its own police department (the Nisqually Police Department), Department of Corrections, and Fish and Wildlife program. The Nisqually Police Department is responsible for enforcing the law on the Reservation. In total, the Tribe's Public Safety Department employs over 92 full-time equivalent employees. In addition to the Public Safety Department, the Tribe maintains its own Emergency Management Services program. The Emergency Management Services program employs nearly 24 full-time equivalent employees.

Schools

The Project Site is located within the North Thurston Public School District (NTPSD). NTPSD currently provides educational services through three high schools, four middle schools, 13 elementary schools, and four alternative schools (NTPSD, 2022). NTPSD provides education to over 14,000 students (NTPSD, 2022). The nearest school to the Project Site is Olympic View Elementary School, located approximately 1,200 feet south of the Project Site, across I-5.

Parks and Recreation

The City contains over 1,200 acres of parkland and open space, miles of walking and biking trails, a regional athletic complex, three indoor public pools and several community buildings (City of Lacey, 2023b). The Project Site is located within 2 miles of several parks, including, but not limited to, Pleasant Glade Park, Lake Lois Park, Woodland Creek Community Park, and the Regional Athletic Complex.

SOCIOECONOMIC CONDITIONS – SECTION 3.11 OF THE EA

Federal

Executive Order 12898

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, as amended, directs federal agencies to develop an Environmental Justice Strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. The CEQ has oversight responsibility of the federal government's compliance with EO 12898 and NEPA. The CEQ, in consultation with the USEPA and other agencies, has developed guidance to assist federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed.

The document *Final Guidance for Incorporating Environmental Justice Concerns in the USEPA's NEPA Compliance Analyses* provides the following direction on how to analyze the impacts of actions on low-income and minority populations:

> *Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to*

> *alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population. (USEPA, 1998)*

As previously stated, according to guidance from the CEQ (1997) and USEPA (1998), agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by a proposed action and, if so, whether there may be disproportionately high and adverse environmental effects to those populations. Communities may be considered "minority" under the executive order if one of the following characteristics apply.

- The cumulative percentage of minorities within a census tract is greater than 50 percent (primary method of analysis).
- The cumulative percentage of minorities within a census tract is less than 50 percent, but the percentage of minorities is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (secondary method of analysis).

According to USEPA, either the county or the state can be used when considering the scope of the "general population." A definition of "meaningfully greater" is not given by the CEQ or USEPA, although the latter has noted that any affected area that has a percentage of minorities above the state's percentage is a potential minority community and any affected area with a minority percentage double that of the state's is a definite minority community under EO 12898.

Communities may be considered "low-income" under the EO if one of the following characteristics applies.

- The median household income for a census tract is below the poverty line (primary method of analysis).
- Other indications are present that indicate a low-income community is present within the census tract (secondary method of analysis).

In most cases, the primary method of analysis will suffice to determine whether a low-income community exists in the affected environment. However, when a census tract income may be just over the poverty line or where a low-income pocket within the tract appears likely, the secondary method of analysis may be warranted. Other indications of a low-income community under the secondary method of analysis include limited access to health care, overburdened or aged infrastructure, and dependence on subsistence living.

Environmental Setting

Environmental Justice

As defined by the USEPA, environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. An environmental justice community is a neighborhood or community of concern, composed predominantly of persons of color or a substantial proportion of people below the poverty line, that are subject to a disproportionate burden of environmental hazards and/or experiences that lead to a significantly reduced quality of life.

Census tracts are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions. Therefore, statistics of census tracts provide a more accurate representation of the racial and economic composition of a community than other geographic areas. Block groups are a further division of census tracts; however, at this scale less data is available, and data can have a very high margin of error (e.g., exceeding 50 percent).

The most recent mean household incomes for the Project Site census tract and adjacent census tracts are well above the poverty threshold. Additionally, as presented in the Table 3.11-5 in the EA, the minority population for the Project Site census tract and adjacent census tracts is below 50%. As the Applicant, members of the Tribe are considered a minority population for the purposes of the environmental justice analysis, regardless of residency.

USEPAs Environmental Justice Screening Tools

The USEPA has several tools that can be used to access environmental and demographic information for locations in the U.S. and compare selected locations to the rest of the state, USEPA region, or the nation. These tools can help identify areas with people of color and/or low-income populations, potential environmental quality issues, or a combination of environmental and demographic indicators that are greater than usual. The Environmental Justice Screening and Mapping Tool (version 2.1) and the Climate and Economic Justice Screening Tool were used to identify disadvantaged communities and other demographics near the Project Site.

TRANSPORTATION AND CIRCULATION – SECTION 3.12 OF THE EA

State

The State Commute Trip Reduction Law, adopted in 1991 and incorporated into the Washington CAA as RCW 70.94.521 through 70.94.551, affects worksites with 100 or more, specifically full-time employees that begin their shift between 6 and 9 a.m. on weekdays, in the nine most populous counties in the State. Worksites develop and manage their own programs based on:

- Transportation demand management strategies identified as having the greatest effect for their employees.
- Locally adopted goals for reducing vehicle trips and miles traveled.

Worksites conduct commute trip reduction surveys every other year to measure vehicle miles traveled and the mode choices of their employees. Washington State Department of Transportation (WSDOT) and jurisdictions use these survey results to report on collective progress toward drive-alone and vehicle miles traveled reduction targets.

WSDOT provides technical assistance to jurisdictions and employers implementing commute trip reduction, lead performance-focused data analytics, develop statewide policies and practices, and support the Transportation Demand Management Technical Committee and Executive Board.

Members of the technical committee fulfill the governance requirements in the State Commute Trip Reduction Law. With direction from the executive board, technical committee members develop policy to support a diverse set of transportation demand management solutions, including updates to WSDOT's

Commute Trip Reduction Program, Mobility on Demand, Mobility as a Service, first-last mile solutions and more. The groups represent diverse perspectives of citizens, businesses, state agencies, transit agencies and jurisdictions around the state.

Local

City of Lacey 2030 Transportation Plan

he 2030 Transportation Plan is the City's long-range plan for developing its transportation system into the future. As described within the 2030 Transportation Plan, the Project Site is within the Hawks Prairie Planning Area and the Hawks Prairie Business District. The Hawks Prairie Business District, specifically the Lacey Gateway Town Center Site (see Figure 15 of the EA), is anticipated to include high density, multistory mixed-use development with both residential and commercial components. The 2030 Transportation Plan states:

> *Development of the Hawks Prairie Business District will need transportation options with an emphasis on local walkability to accommodate the residential component, while taking advantage of the convenient access to I-5 for the traveling public and commercial opportunities. In addition, focus needs to be given to developing transportation connections between this area, commercial centers to the South and the Central Planning Area.* (City of Lacey et al., 2012).

The City has designated certain segments of roadway as "strategy corridors." Within the City's 2030 Transportation Plan, strategy corridors are defined as:

> *Strategy corridors are those streets or intersections which typically have been constructed or improved to four or five lanes in width between intersections, or are streets or intersections bounded by existing land use or environmental features that preclude further widening. These strategy corridors are in areas where growth is encouraged and typically coincide with the designation of a high density corridor, city center, core area or activity center where a concentration of commercial and other uses is desired, especially when that growth increases densities and proximity of different types of land uses. Peak hour vehicular congestion in these corridors is likely to exceed levels of service, which would otherwise be acceptable within the transportation system.*

As described above, it is acceptable for strategy corridors to exceed acceptable LOS, but the 2030 Transportation Plan stresses that these roadways may require strategies tailored to their specific needs and that such strategies should include a mix of those outlined in **Table 14**. Additionally, strategy corridors in the vicinity of the Project Site are listed in **Table 14** and can be seen in Figure 1 of EA Appendix H**.**

Table 14: Suggested and Implemented Strategy Corridors

2030 Transportation Plan Suggested Strategies
▪ High quality and fully-integrated bike, pedestrian, carpool, vanpool, and transit facilities and services;
▪ Complete and connected street grids;
▪ Transportation technology measures that improve overall system operating efficiency and safety;
▪ Access management;
▪ Parking management; and
▪ Aggressive travel demand management strategies.
▪ Land use intensification; consideration of more compact high density and mixed use alternatives;
▪ Improvements to adjacent pedestrian connections and consideration of specialized improvements to key pedestrian intersections designed to encourage pedestrian use.
Strategy Corridors in the Vicinity of the Project Site
▪ Willamette Drive NE between Marvin Road NE and 31st Avenue NE.
▪ Marvin Road between Willamette Drive NE and the south city limit line.
▪ Martin Way from the west city limit line to Carpenter Road.
▪ Martin Way from Galaxy Drive NE to Marvin Road.
▪ College Street between Martin Way and Yelm Highway SE.
▪ Pacific Avenue SE from the west city limit line to east city limit line.
▪ Lacey Boulevard SE from Golf Club Road SE to Homann Drive SE.
▪ Sleater-Kinney Road SE from I-5 to Pacific Avenue SE.

Environmental Setting

Traffic Safety

The five most recent years of collision records (January 1, 2017 to December 31, 2021) provided by WSDOT were reviewed within the vicinity of the Project Site to identify any existing traffic safety issues at the study intersections. A summary of the collision records is provided in Table 4 of EA Appendix H. As seen in this table, the highest number of annual average collisions within the vicinity of the Project Site occurred along Marvin Road at the following three study intersections: Britton Parkway NE (30 collisions), Martin Way E (19 collisions), and at at Pacific Road SE (18 collisions). Both Britton Parkway and Pacific Road intersections along Marvin Road SE are roundabout controlled and, although there was a high number of collisions reported, over 90% of the collisions were property damage only (PDO) with low severity. At the signalized Martin Way/Marvin Road SE intersection, approximately 75% of the collisions were PDO with the remaining 25% resulting in injury. Within the study area, 1% of the overall reported collisions during the 5-year review period involved a pedestrian or bicyclist, and one collision resulted in a fatality. The fatality occurred at the Martin Way E/Sleater Kinney Road signalized intersection when a truck traveling eastbound turned left and struck a motorcycle traveling westbound through the intersection.

Of the five existing intersections along the project frontages of Marvin Road SE and Britton Parkway, there were 32 total collisions reported, or an annual average of three or fewer collisions per year, with only five total collisions resulting in an injury (approximately 15%).

Existing Bicycle, Pedestrian, and Transit System

Existing bicycle and pedestrian facilities in the vicinity of the Project Site are summarized in Table 3.12-1 in the EA. Signalized crossings are provided at all of the intersections along Marvin Road NE and at the intersection of Carpenter Road NE/Martin Way E.

Transit within the City is provided by Intercity Transit[5] that currently provides bus services on fixed bus routes, as well as carpool, vanpool, and dial-a-lift services within the City. Intercity Transit currently receives most of its funding from sale tax revenues and grants with a limited quantity from other sources, such as van pool shares (Intercity Transit Finance Division, 2023a).[6]

Intercity Transit provides public transportation near the Project Site via the 65 Hawks Prairie bus line. In 2020 during the COVID-19 pandemic, Intercity Transit experienced 1,905,876 fixed-route boardings, which was a decrease of 52.7% from 2019 (approximately 4,907,051 fixed-route boardings; Intercity Transit Development Department, 2020). In 2021, Intercity Transit experienced 2,321,035 fixed route boardings, which was an increase of 21.8% from 2020 (Intercity Transit Development Department, 2022). The 65 Hawks Prairie line spans from Lacey Transit Center to Marvin Road NE at Spencer Avenue. The closest stop to the Project Site is Britton Parkway NE at Marvin Road NE that is adjacent to the northwestern portion of the Project Site. Approximately two buses run per hour with buses starting at approximately 6:00 a.m. and ending at 8:00 p.m. (Intercity Transit, 2023b). Route 65 has no dedicated bus fleet, and therefore any of the Intercity Transit's 86 fixed route heavy-duty coach buses can be assigned to this route. These buses range in seating capacity of 27 seats or 37 seats and a standing capacity of 41 or 56, respectively. The seating and standing capacity combined equals a total capacity of 68 for smaller buses and 93 for larger buses. In January 2023, the average weekday ridership on Route 65 was 208 riders/day while average weekend ridership was 137 riders/day. In October 2022, the month that experienced the highest ridership in 2022, the average weekday ridership was 217 rides/day while average weekend ridership was 151 rides/day. Passenger loads in October 2022, which indicate the likely number of actual passengers in the vehicle at a specific time, were usually between 0 to 10 passengers during all times of the day with occasional spikes between 10 to 15 passengers. At highest, passenger loading was nearly 20 passengers. Therefore, it can be inferred that approximately half of the available seating on a given bus was being occupied by passengers (LaFontaine, 2023).

In addition, there is another bus stop at Britton Parkway NE/Marvin Road NE served by Route 62A with service between Orion Drive NE/Willamette Drive NE and the Olympia Transit Center, with half-hour headways throughout the day on both weekdays and weekends. This route stops at this location only in its westbound direction heading to downtown Olympia and does not travel close to the Project Site in its eastbound heading.

[5] A regional transit agency providing service to Lacey, Olympia, Tumwater and outlying areas including Yelm.
[6] No revenue is generated from fixed-route and dial-a-list fares because these fares were suspended in 2020 as part of the zero-fare demonstration project that will continue until approximately 2028 or when service levels return to March 2020 projected levels, whichever is later (Intercity Transit, 2023a).

Transportation Infrastructure Planning

The City began planning for significant industrial, commercial, and residential growth in the Hawks Prairie Planning area, including the Project Site, in the early 1980s. The Marvin Road corridor and the I-5/Marvin Road interchange system were envisioned to serve this anticipated growth. The City's Northeast Area Plan detailed the vision for the area, and its Comprehensive Plan set the land use designations of the Northeast Area and identified the needed transportation facilities for the region. At that time, the population and employment projections for the area predicted that significant growth would occur and that the transportation facilities in place would not be able to adequately serve the new growth.

The City has completed numerous improvements to help accommodate the anticipated growth, including widening Marvin Road to a four-lane boulevard between I-5 and Willamette Drive (including installation of two multi-lane roundabout intersections), constructing Britton Parkway (a new east-west arterial between Marvin Road and Carpenter Road), and rebuilding and widening I-5/Marvin Road diverging diamond interchange. Transportation Plan

The 2030 Transportation Plan is the City's long-range plan for developing its transportation system into the future. As described within the 2030 Transportation Plan, the Project Site is within the Hawks Prairie Planning Area and the Hawks Prairie Business District. The Hawks Prairie Business District, specifically the Lacey Gateway Town Center Site (see Figure 15 in the EA), is anticipated to include high density, multistory mixed-use development with both residential and commercial components. The 2030 Transportation Plan states:

> *Development of the Hawks Prairie Business District will need transportation options with an emphasis on local walkability to accommodate the residential component, while taking advantage of the convenient access to I-5 for the traveling public and commercial opportunities. In addition, focus needs to be given to developing transportation connections between this area, commercial centers to the South and the Central Planning Area.* (City of Lacey et al., 2012).

The City has designated certain segments of roadway as "strategy corridors." Within the City's 2030 Transportation Plan, strategy corridors are defined as:

> *Strategy corridors are those streets or intersections which typically have been constructed or improved to four or five lanes in width between intersections, or are streets or intersections bounded by existing land use or environmental features that preclude further widening. These strategy corridors are in areas where growth is encouraged and typically coincide with the designation of a high density corridor, city center, core area or activity center where a concentration of commercial and other uses is desired, especially when that growth increases densities and proximity of different types of land uses. Peak hour vehicular congestion in these corridors is likely to exceed levels of service, which would otherwise be acceptable within the transportation system.*

As described above, it is acceptable for strategy corridors to exceed acceptable LOS, but the 2030 Transportation Plan stresses that these roadways may require strategies tailored to their specific needs and that such strategies should include a mix of those outlined in **Table 14**. Additionally, strategy corridors in the vicinity of the Project Site are listed in **Table 14** and can be seen in Figure 1 of EA Appendix H**.**

I-5/SR 510 (Marvin Road) Interchange Project

The I-5/SR 510 (Marvin Road) Interchange Project was completed between 2018 and 2021 and included the reconfiguration of the former Marvin Road overpass to create a diverging diamond interchange, and the establishment of a freeway frontage road with two local access points south of the Project Site for southbound traffic on I-5. The two new local access points include a right-in, right-out ramp adjacent to the southeastern portion of the Project Site, and an off-ramp that is on the Project Site in the southwestern portion (Figure 10 in the EA). The Interchange Project was planned to help ease congestion, reduce the potential for accidents, and to accommodate future traffic volumes anticipated from planned major development in Lacey north of I-5 between Marvin and Carpenter Roads, including the Project Site. The diverging diamond interchange configuration was selected to improve traffic flow by allowing drivers to make a free left turn onto the highway without stopping at a traffic signal. In addition, pedestrians can use a network of crosswalks and are able to cross the overpass through a barrier separated walkway. Bicyclists can also use the pedestrian path to cross the overpass or use dedicated bike lanes (WSDOT, n.d.).

Memorandum of Understanding: WSDOT and City of Lacey

In 2018, WSDOT and City entered into a memorandum of understanding with regards to the I-5/SR 510 Interchange Project (described above). The memorandum of understanding describes the responsibilities of WSDOT and the City in relation to four different aspects of the I-5/SR 510 Interchange outlined in **Table 15** below

Table 15: I-5/SR 510 Memorandum of Understanding

Responsibility	Description of Responsibilities
Maintenance Responsibilities	The City has some responsibilities for portions of SR 510 (Marvin Road NE) within the interchange area and has also agreed to maintain the special concrete islands with the State maintaining the bridge structure and approach slabs.[7]
Future Right-of-way Division (turn back lines)	The construction of the collector-distributor and the frontage road added two access points to the planned future City Street network. Since WSDOT constructed the access points prior to the City's street network, the right-of-way or "turnback" agreement was not finalized before the signing of the memorandum of understanding, but both parties agreed on the location of the future right-of-way boundary that would be dedicated to the City upon completion of the local roadway network connections.
Opening of New Access Points and Frontage Road to Traffic	While the frontage road and access points were constructed by WSDOT, they cannot be opened to traffic until all the requirements from the Interchange Justification Report (IJR) Amendment (November 2017) have been met. The IJR Amendment states that the frontage road and the access points will be opened to traffic concurrently when the local network connections to both access points are open to traffic, and a traffic analysis of the local network shows additional capacity is needed and addressed by the access points from the frontage road. Once these conditions have been satisfied, the turn back lines and the right-of-way plan will be finalized and WSDOT will allow opening the frontage road. The City will be responsible for the work to open the frontage road as specified in the memorandum of understanding, including providing a traffic analysis showing that additional capacity is

[7] It is expected that the City and WSDOT will negotiate a comprehensive maintenance agreement to further define City maintenance responsibilities within the State-owned right-of-way.

Responsibility	Description of Responsibilities
	needed. The City will also coordinate with WSDOT for review and approval of final striping and signing plans. All work shall meet WSDOT standards and specifications.
New Permanent Signs within City	Approximately five guide signs in conjunction with I-5 shield pavement markings were deemed necessary along Marvin Road NE southbound, north of the interchange, to minimize weaving at the diverging diamond interchange crossover intersection. On Quinault Drive NE, WSDOT agreed to remove and relocate six Motorist Information and guide signs to the northbound off ramp with other regulatory signs in the project area being removed and replaced in kind.

Previous Traffic Analysis

As discussed in **Section 1.4.2** in the EA, the *Lacey Gateway Transportation Analysis* by Shea, Carr & Jewell, Inc. (2009 Traffic Report; April 2009) was prepared in support of the 2010 FSEIS, which addressed development of the Project Site and surrounding areas. The 2009 Traffic Report provided a comprehensive analysis of specific project-related traffic impacts and mitigation solutions for Phase 1 of the Lacey Gateway Town Center development, including studying 27 intersections and performing traffic analysis for the 2030 horizon with build-out of the entire Lacey Gateway Town Center development. The proposed Lacey Gateway Town Center was anticipated to function as a local urban hub with some of the development anticipated to have a regional draw. Much of the local traffic trips were anticipated to be diversions from other local employment and shopping opportunities, with regional traffic exclusively arriving via I-5. Subsequently, the development was anticipated to increase traffic volumes on the roadways in the immediate vicinity of the project, but not significantly increase the total traffic flows in the region.

The traffic volume projections used to account for the changes in travel patterns were generated by the regional Emme/2 transportation demand model, prepared by the Thurston Regional Planning Council. Traffic counts at the study intersections were taken in 2006 and 2007 during the PM peak period between 4:00 p.m. and 6:00 p.m. The 2010 scenarios for development were developed by incrementally increasing the 2007 employment and household baseline, in addition to adding pipeline development projects and the trips produced by and attracted to the Lacey Gateway Town Center. Estimated trips were projected using the traffic demand model mentioned above with the standard methodologies contained in the Institute of Transportation Engineers (ITE) Trip Generation report serving as a secondary method. The traffic demand model predicted that Phase 1 of Lacey Gateway Town Center would generate 2,874 trips in total during the PM peak hour. Full buildout of Lacey Gateway Town Center was estimated to generate approximately 9,000 PM peak hour trips on the local and regional transportation system. Of the intersections and roundabouts studied, Phase 1 of the Lacey Gateway Town Center project traffic only caused two of the existing study intersections to drop below the acceptable City designed LOS. The majority of intersections remained at acceptable LOS or would have decreased to unacceptable standards with or without the project. The traffic impacts of Phase 1 of the Lacey Gateway Town Center project were proposed to be mitigated in three areas: developer funded off-site infrastructure improvements, site access and circulation improvements, and traffic mitigation fees. Recommended off-site infrastructure measures included, but were not limited to, several improvements to the I-5 interchange that have been addressed through the recently constructed I-5/SR 510 (Marvin Road) Interchange Project.

UTILITIES – SECTION 3.13 OF THE EA

Federal

Clean Water Act and Safe Drinking Water Act

The CWA and Safe Drinking Water Act are described in detail above under **Hydrology and Floodplains**.

State and Local

House Bill 1799 – Organic Materials

House Bill 1799 requires local governments and businesses to manage organic material waste, such that organic materials are diverted from landfills for productive uses of organic waste; local governments are to consider state organic material management goals in their solid waste plans. House Bill 1799 establishes a statewide goal for the landfill disposal of organic materials at a level representing 75% reduction by 2030, relative to 2015, and a goal of 20% reduction in volume of edible food disposed (relative to 2015) to be recovered for human consumption by 2025.

Water Well Construction Act

18.104 RCW constitutes the Water Well Construction Act, which governs the regulation and licensing of well contractors and operators and for the regulation of well design and construction on lands under State jurisdiction. The purpose of the Water Well Construction act is to protect the public health, welfare, and safety of the people because drilling, making, or constructing wells within the State is a business and activity of vital interest to the public.

Washington State Growth Management Act

The GMA provides a comprehensive framework for managing and providing public services and utilities at the time growth occurs. One of the primary goals is to ensure that there are adequate public facilities and services necessary to support new development without decreasing current service levels below locally established minimum standards. The GMA requires a Utilities Element within a local jurisdiction's Comprehensive Plan. For more information on the GMA, see **Land use** above.

Environmental Setting

Water Supply

The Project Site is within the City's service area and there are multiple water lines either immediately adjacent to or within the Project Site as shown on Figure 6 in the EA. The City supplies water to a population of approximately 75,000, which equates to approximately 25% of the County population. Based on the City's water system plan update, dated April 2022, the City's source of supply consists of 20 groundwater wells located throughout the service area that draw from three distinct aquifers. The peak reliable pumping capacity of the well system during maximum demand days is approximately 28 million gallons per day (MGD) or 19,500 gallons per minute (gpm). Undeveloped water rights currently held by the City would allow a total withdrawal of 34 MGD or 23,500 gpm. In addition to the wells, the City's water system plan indicates that the system contains a total of seven water storage reservoirs with a total

storage capacity of 13.0 MG. An additional 2 MG is currently under construction and another 1.25 MG is in design. The City has two well construction projects (Well S04 and the Marvin Road Well) currently anticipated to be completed in 2026 that will increase its pumping capacity (City of Lacey, 2022; Appendix C of the EA).

Wastewater Service

The Project Site is within the City's service area and there are multiple wastewater lines either immediately adjacent to or within the Project Site as shown in Figure 6 in the EA. The City provides wastewater service to approximately 58,000 people, which equates to approximately 15% of the County population. Based on the City's sewer system plan update, dated April 2015, the City's wastewater system consists of 47 pump stations and in excess of 1,000,000 feet of sewer pipe. On average, this system currently transports approximately 3 MG a day to Lacey, Olympia, Tumwater, Thurston Clean Water Alliance (LOTT) treatment plants (Appendix C of the EA). The primary plants are the Budd Inlet Treatment Plant and the Martin Way Reclaimed Water Plant. The Martin Way Reclaimed Water Plant has a treatment capacity of 2 MGD while the Budd Inlet Treatment Plant has a primary treatment capacity of 37.5 MGD and a hydraulic capacity of 60 MGD (LOTT, 2022). In 2021, Budd Inlet Treatment Plant treated an average daily flow of 12.4 MGD and a peak flow of 45.1 MGD while the Martin Way Reclaimed Water Plant treated an average daily flow of 1.4 MGD. Both of these facilities also produce reclaimed water. In 2021, the Budd Inlet Treatment Plant and Martin Way Reclaimed Water Plant produced 0.6 MGD and 1.1 MGD of reclaimed water, respectively (LOTT, 2021). Each facility is capable of producing 1.5 MGD of reclaimed water for a combined total of a 3 MGD (LOTT, 2023). Each facility was also constructed with the potential for future expansion in increments of 1 MGD to accommodate future growth in the area (LOTT, 2023).

Solid Waste

Solid waste from the Project Site vicinity is collected by LeMay Pacific Disposal and brought to the Waste and Recovery Center (WARC) Transfer Station which is operated by Thurston County in partnership with Republic Services. The WARC is located approximately 0.6 miles east of the Project Site. The WARC accepts solid waste from municipal, commercial, and self-haul customers. The peak operational capacity of the WARC is generally 159 tons per hour or 1,590 tons per day (based on a 10-hour day); however, compactor capacity is 870 tons per day and traffic capacity is 800 vehicles per day. These capacities are approximate and short-term exceedances may be accommodated by increased on-site storage or longer operating hours. Based on estimated per capita disposal rates and growth projections, the WARC is anticipated to receive 224,721 tons per year in 2025 and 263,196 tons per year in 2040. Solid waste from the WARC is transported to Roosevelt Regional Landfill in Klickitat County for disposal (Thurston County Public Works, 2019). Roosevelt Regional Landfill has a permitted capacity of 120 million tons over 40 years, and can accept residential, commercial, and industrial waste streams, including construction and demolition debris and petroleum-contaminated soil (Republic Services, 2023). In 2017, the landfill received approximately 2.4 million tons of solid waste and was originally intended to receive up to 5 million tons per year. At this rate of solid waste acceptance, the landfill lifespan could be extended up to 85 years (DeMent, 2017).

Electricity and Natural Gas

Puget Sound Energy (PSE) provides electricity and natural gas to the County and City. PSE currently provides electrical services to over 1.1 million customers and natural gas services to more than 840,00 customers in 10 counties, which is an area that covers more than 6,000 square miles. PSE intends to

become carbon neutral by 2030 and provide electricity free of carbon by 2045. One of the methods that will be used to achieve this will be phasing out electricity generated from coal. It is anticipated that by 2026, PSE will experience a potential shortfall in meeting peak hour capacity needs due to the phasing out of coal. However, the projections for PSE overall energy resources predict it can satisfy energy demands until 2031. With regards to natural gas demand, PSE projects its current supplies will be sufficient to meet demand until the winter of 2031/2032. PSE has identified various measures to meets these energy demands, such as increasing its renewable energy supply, within its 2021 Integrated Resource Plan (PSE, 2021). The nearest electrical substation and high voltage transmission line (345 kilovolt) are approximately 0.7 miles west of the Project Site (Energy Information Administration, 2023). While no natural gas lines are located near the Project Site, a high pressure gas line and gate station are proposed approximately 0.7 miles west of the Project Site, near the previously mentioned electrical substation and transmission line (City of Lacey, 2016b).

VISUAL RESOURCES – SECTION 3.14 OF THE EA

State

Washington State Scenic Byway Designation Program

As codified by RCW 47.39, corridors within the scenic and recreational highway system that showcase the state's historic agricultural areas and promote the maintenance and enhancement of agricultural areas may be designated as agricultural scenic corridors. State Route 3 (SR-3) is a designated state scenic highway (WSDOT, 2022).

Planning and design standards established for highways falling within the scenic and recreational highways system may include, but shall not be limited to, provision for the following:

- Hiking, bicycle, and bridle trails, including regulations for their use;
- Campsites and shelters;
- Boat launching sites;
- Access trails to lakes, rivers and streams, and easements along their shores;
- Safety rest areas;
- Historic and geologic interpretative facilities;
- Scenic observation facilities;
- Roadside landscaping, restoration and aesthetic enhancement;
- Specifically delineated highway corridors and means for the preservation of natural beauty, historic sites, or viewpoints; and/or
- A uniform system of signs and markers designating the various features and facilities of the scenic and recreational highway systems.

Local

City of Lacey Comprehensive Plan

The 2016 City of Lacey Comprehensive Plan was prepared in compliance with the Washington Growth Management Act of 1990 and is intended to present a clear vision for future growth within the City over

a twenty-year planning horizon. The City of Lacey Comprehensive Plan designates the Project Site for commercial and business uses and encourages a high-quality design aesthetic for new development within the City's jurisdiction.

City of Lacey Zoning Ordinance

Title 16 of the City's Zoning Ordinance establishes basic regulations for the development of land within the jurisdiction of the City. The Zoning Ordinance promotes and protects the health and general welfare of residents of the Lacey urban growth area by facilitating orderly growth and development consistent with the policies, goals, and objectives of the City's Comprehensive Plan, as described above. Section 16.37.070 of the City's Municipal Code includes development standards for the Project Site's zoning designations of HPBD-BC and HPBD-C.

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