

1. INTRODUCTION

1.1. PROJECT PURPOSE AND NEED

A Washington State Environmental Policy Act (SEPA) environmental impact statement (EIS) requires clear definition of the proposed project's purpose and need. This creates a foundation for the analyses of existing conditions, potential impacts, and mitigation for unavoidable impacts presented in the EIS. The purpose and need for this project, used in gathering formal SEPA EIS scoping comments in 2018 (Appendix A), are as follows:

- **Project Purpose:** The purpose of the White River Pacific Right Bank Flood Protection Project (the project) is to substantially reduce the potential for White River flooding within the Pacific city limits and to improve environmental conditions along this portion of the White River.
- **Project Need:** The need for increased flood protection became evident in January 2009, when significant river flooding directly impacted residents and businesses in the easterly portion of Pacific, including along Third Place SE, Third Avenue SE, Fourth Avenue SE, White River Drive, and Butte Avenue SE.

Flooding can occur from several points along the White River. Within the project area, floodwaters extend through Pacific City Park and neighborhoods near the river to the south. When the river is running high, river water also moves into Government Canal. Flows in Government Canal may then exceed the capacity of a mobile pumping system, causing flooding on streets and private properties surrounding the canal.

1.2. PROPOSED ACTION

King County – Department of Natural Resources and Parks, as a service provider to the Flood Control District, proposes the project to substantially reduce the potential for White River flooding in Pacific and to improve environmental conditions along the White River in the project area. The project area (see Figure 1-1), which is located on the right (west) bank of the White River, extends from the BNSF Railway bridge at river mile (RM) 6.3 south to the King County-Pierce County boundary line at RM 5.5. The project area is adjacent to the White River within the Pacific city limits and west of the Auburn city limits



Flooding at Pacific City Park and nearby residences in January 2009.

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north of the King County and Pierce County boundary. The project area includes Pacific City Park, a small residential area between Third Avenue SE and Third Place SE northeast of the park, open space to the north and east of the White River Estates neighborhood, and the Government Canal corridor between Butte Avenue SE and the river at the south edge of White River Estates. Adjacent land uses include single- and multi-family residences and the recently restored Lower White River Countyline Levee Setback Project (Countyline Levee Setback Project) floodplain along the river's left (east) bank.



HESCO barriers northeast of Pacific City Park that provide temporary flood containment until a more durable flood protection facility can be built (photo taken in May 2020 looking south from near Third Place SE).

HESCO barriers are collapsible wire mesh containers lined with heavy-duty geotextile fabric and filled with sand.

Chapter 2 describes the alternatives being considered—the No Action Alternative and four action alternatives. It also discusses alternatives considered but not carried forward for further analysis.

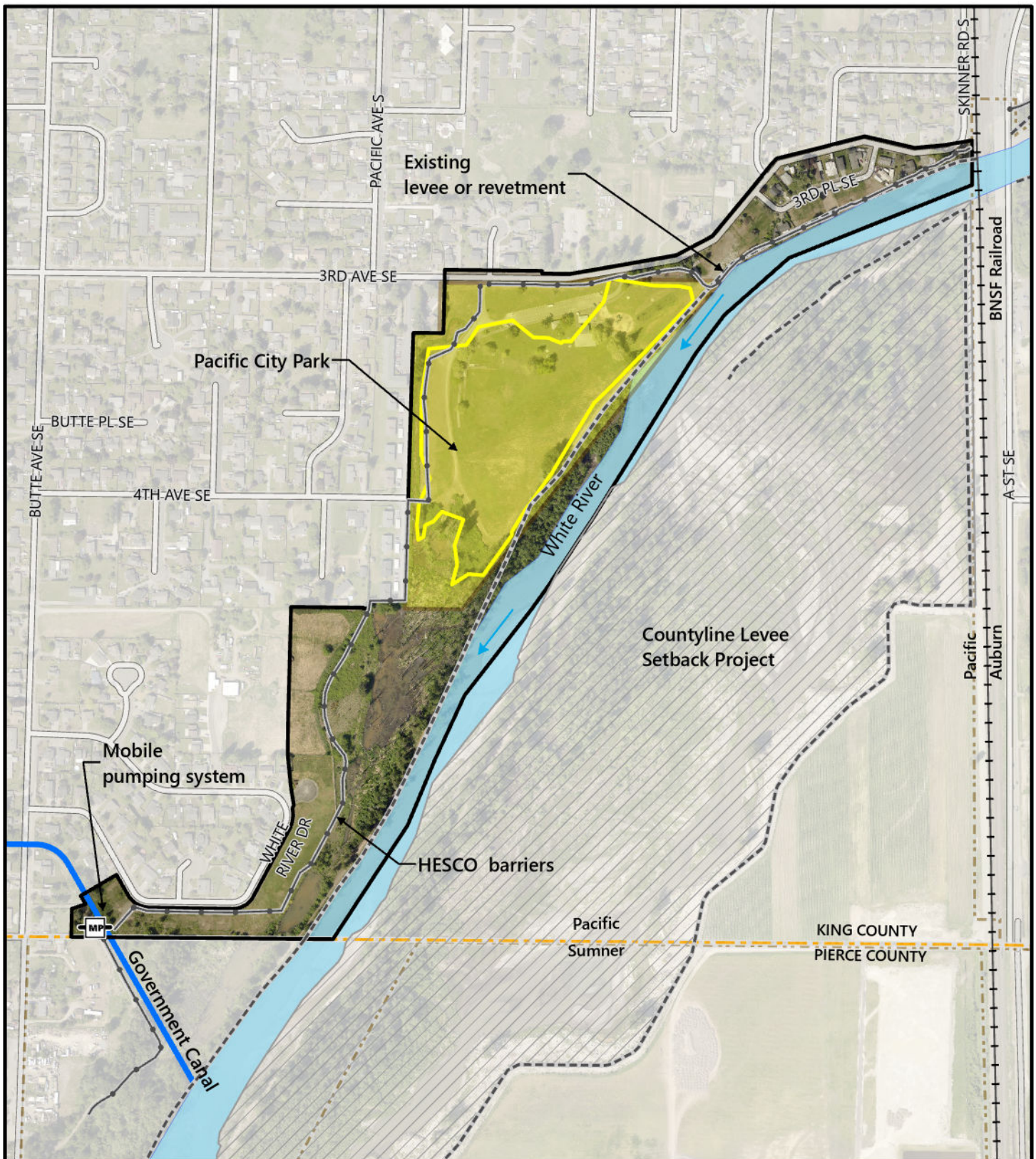
Chapter 3 describes the potential benefits and adverse impacts of the proposed action alternatives, as well as the No Action Alternative. The project would have many beneficial effects for the community by reducing the potential for flooding and improving environmental conditions along this portion of the White River.

Chapters 4, 5, and 6 list references, DEIS preparers, and distribution of the document to agencies and organizations. The appendices are incorporated by reference as required by Washington Administrative Code (WAC) 197-11-600 (4)(b).

The project, also referred to as the proposed action, would remove an existing levee and revetment (a bank of the river hardened to resist erosion) on the right bank of the river channel and replace existing HESCO flood barriers that were installed by King County after the 2009 flood with a new flood protection facility.

The facility would include a levee located inland from the river bank (also called a setback levee) and/or floodwalls and floodplain contouring to contain the extent of flooding and reduce flood risks while enhancing riverine habitat on the riverward side of the facility. The project design would address the relatively high rate of ongoing sediment deposition in the river channel, which affects river water levels in the project vicinity.

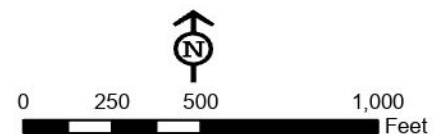
A **floodplain** consists of two parts: the main channel of the river itself (called the floodway) and the flood fringe, which extends from the outer banks of the floodway to the edges of a river valley.



Legend

- | | |
|---|----------------------|
| Mobile Pumping System | County Boundary |
| Lateral Extent of Dumpsite Waste and Fill | City Boundary |
| Restored Floodplain: County Line Project | Levees or Revetments |
| Project Area | HESCO Barriers |
| Pacific City Park Area | Government Canal |
| | Rail |

Figure 1-1.
Existing Conditions and Alternative 1: No Action.



HERRERA
Science + Planning + Design
King County, Aerial (2019)

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As part of the project, a former dumpsite that underlies Pacific City Park would be removed and/or remediated in coordination with the Washington State Department of Ecology's (Ecology) voluntary cleanup program oversight. Additionally, a new pump station would be installed on Government Canal to replace the existing mobile pumping system operated by the City of Pacific, which was installed as an interim approach for reducing backwater flooding in the canal when the White River is at flood stage. The project would provide flood protection up to the 100-year flood and is intended to have a design life of 50 years.

A **100-year flood** is a flood event that has a 1-in-100 chance (1 percent probability) of occurring in any given year.

The King County – Department of Natural Resources and Parks, Water and Land Resources Division (WLRD) prepared this EIS for the project under the SEPA (Chapter 197-11 Washington Administrative Code [WAC]). This EIS documents the potential impacts and benefits of a range of proposed alternatives on the environment and mitigation measures that would be needed to reduce or offset the anticipated impacts.

The proposed project considers the White River channel modifications that have been made over the past 100 years. These changes constrained the active channel of the lower White River and disconnected floodplain areas that previously conveyed floodwater and served as areas where sediment was deposited and stored. The White River carries a high sediment load due to conditions upstream in the watershed. Much of that sediment load is deposited along the river channel in Pacific; this process, called channel aggradation, reduces the channel's capacity to convey flows.

The channel was historically dredged to maintain its conveyance capacity, but dredging ceased in the 1980s after associated detrimental impacts to aquatic habitat were recognized. The ongoing sediment deposition process reduced channel capacity over time. Channel aggradation will continue in the future. A reliable flood protection solution is needed on the right (west) bank of the river in Pacific that is designed with river channel aggradation in mind.

The proposed project would be permanent, and the existing HESCO barriers would be removed. Within the project area, barriers currently extend from the BNSF Railway bridge, around the landward perimeter of Pacific City Park, and downstream along the White River Estates neighborhood to Government Canal. These barriers can contain floodwaters up to about a 100-year recurrence flood flow (estimated to be over 15,500 cubic feet per second [cfs]) in the river under 2019 modeled river channel conditions; however, conditions are evolving as aggradation slowly occurs. As the HESCO barriers are located landward of Pacific City Park, the river may flow into the park during high water events. In some locations, less than 1 foot of freeboard (the difference between the peak flood water surface elevation and the top of the barrier) is currently provided. In addition, the barriers are reaching the end of their intended design life. Floods larger than the 100-year flow are likely to cause substantial impacts to private properties, public infrastructure, and economic productivity, and the setback facility would reduce those risks.

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The proposed project would replace the existing mobile pumping system operated by the City of Pacific at Government Canal. When the river water surface rises to a level that would cause flooding adjacent to Government Canal, City personnel install plywood panels across the canal channel and turn on the pump, which pushes canal surface water out to the river over the top of the makeshift dam. This mobile pumping system, which was installed in 2017, was intended to be temporary, and the pump is undersized for the magnitude of storm runoff flows that can occur in Government Canal coincident with river flooding. The new pump station would be permanent, with much greater pumping capacity, and would reduce the risks of flood damage to residences and businesses adjacent to the canal and along Butte Avenue up to the Union Pacific Railroad and south to the Stewart Street bridge.

The proposed project would also improve aquatic and riparian habitat in and next to the reach of the White River adjacent to the project area. Natural habitat conditions in the lower White River corridor have been highly modified over the past 100 years. Levees and revetments constructed on the banks of the river disconnected much of the river from its historical floodplain areas, reducing the availability of off-channel habitats needed by federally listed aquatic species such as spring Chinook salmon, steelhead, and bull trout. The resultant concentration of flow in the confined river channel also reduces the diversity of habitat conditions within the channel that fish need for all of their life stages. Development and recreational use of the project area has resulted in reduced riparian forest along the river, limiting a variety of important habitat functions for fish and wildlife. In the White River basin, loss of connected floodplains, floodplain forests, and instream habitat complexity have been identified as factors limiting Chinook salmon recovery.

Riparian areas include forests and wetlands along the edge of a river or stream bank that provide food sources for fish and wildlife, reduce water temperatures due to shading of the stream channel, contribute logs and other woody material that help to form and sustain important habitat features in the stream channel, and filter pollutants entering the stream in stormwater runoff.

If a new flood protection facility were built within the Pacific City Park area, the project would need to include partial or complete removal of waste material that is buried in a former dumpsite beneath the park as part of Ecology's Voluntary Cleanup Program. Any dumpsite waste that remains on-site (whether relocated or in its current place) would need a sufficient cap on top to ensure it cannot be exposed in the future. The cap would be designed in accordance with Ecology requirements under the Model Toxics Control Act (MTCA). Therefore, the proposed action alternatives described in Chapter 2, Description of Alternatives, include dumpsite waste management measures in addition to the other project elements needed to address the project purpose and need. The selection of a final cleanup action will occur under the MTCA process subject to MTCA requirements, including the MTCA Disproportionate Cost Analysis (DCA), a cost-benefit analysis that will be performed in the cleanup Feasibility Study.

1.3. PROJECT AREA AND STUDY AREAS

The project area is shown in Figure 1-1. The specific study areas for this EIS, some of which are larger than the project area and vary by element of the environment (such as Noise, Environmental Health, and Wetlands), are discussed in Chapter 3, Existing Conditions and Potential Impacts and Mitigation.

1.4. SIGNIFICANT AREAS OF CONTROVERSY AND UNCERTAINTY

There are no significant areas of controversy that would influence the proposed project.

The magnitude and pace of channel aggradation in the White River, the associated effects of aggradation on river water levels and groundwater levels west of the river, potential for climate change to alter river flow characteristics in the future, and potential changes in Mud Mountain Dam operations collectively present scientific and technical uncertainties that could influence the outcomes of the proposed action. These same uncertainties would also influence conditions under the No Action Alternative.

Channel aggradation and the associated loss of flood flow capacity in the channel is certain to occur; however, the rate of sediment deposition in the project area in the future is uncertain. The rate of deposition is directly linked to the frequency and magnitude of flood events that occur (because high flows move the majority of the sediment downriver), and those future flood events cannot be accurately predicted. Increased sediment in the channel may be increasing local groundwater elevations, as is common in alluvial floodplains. Increased groundwater elevations may impact crawl spaces, basements, and other low-elevation infrastructure. However, groundwater flooding impacts are outside the scope of consideration in this EIS.

Depending on conditions, it may be necessary to install interim flood protection measures ahead of project construction. This would include placement of additional HESCO barriers or other types of interim measures.

University of Washington Climate Impacts Group (Mauger and Won 2020) studies of changes in future river and stream flow characteristics in the region due to expected climate change indicate that peak flood flows are likely to be higher than have occurred in the past. This means that operations at Mud Mountain Dam to manage flood flow storage and releases are likely to be adjusted in the future compared to how the dam has been operated in the past for flood control. Because the dam and the reservoir it forms are the primary means for regulating flood flows in the White River basin, this uncertainty is a major issue that the U.S. Army Corps of Engineers and other stakeholders will be evaluating for years to come, regardless of whether this project is implemented or not. Refer to the report in Appendix B and Section 3.13, Water Resources, for further information on how these areas of uncertainty are being evaluated for the project area and proposed action.

1.5. HISTORY OF THE PROJECT SETTING

The project area is located within the ancestral homelands of several Southern Lushootseed-speaking peoples. Euro-American settlers entered the White and Green River valleys in the 1850s. The City of Pacific was formally incorporated in 1909, and agriculture was central to the city's economy for the following decades. In the 1970s, many farms were converted to industrial properties, and today nearly 7,000 people reside in Pacific.

In the early nineteenth century prior to the settlers' arrivals, the White River followed a westward course along the present-day southern boundary of King County before joining the Green River near Auburn. The White River's flow was then conveyed via the Green River north to the Duwamish River and on to Elliott Bay. The much smaller Stuck River diverged from the White River south of its confluence with the Green River, paralleled the White River for 2 miles, and then flowed southward to the Puyallup River and on to Commencement Bay. During this period, Soatan Creek drained into the Stuck River and a large wetland complex south of the project area. In the late nineteenth century, early settlers struggled to manage the rivers' annual floods, often resorting to the use of dynamite to create new river channels. In 1898, dynamiting accidentally diverted portions of the White River flow down the Stuck River channel. In November 1906, heavy rains led to massive flooding in south King County. The volume of water pushed the White River fully into the existing channel of the Stuck River, and it no longer flowed into the Green River to the north after that point in time.

After the White River moved entirely into the Stuck River channel, historical imagery indicates that the project area was part of the White River channel and its floodplain. Efforts to straighten the White River (former Stuck River) channel by constructing levees and revetments took place in the years following the 1906 floods, including within the project area. These efforts proved only temporarily successful because large-scale flooding occurred again in 1933.

In the 1940s, Mud Mountain Dam was constructed on the White River 7 miles southeast of Enumclaw to control flood flows. The Congressionally authorized dam operations have changed over the years, and at present the dam does not regulate flow rates except when flood control operations are occurring. Sometime between 1944 and 1955, Government Canal was constructed in its current configuration to convey drainage from developed lands in areas that previously drained to Soatan Creek and the wetland complex south of the project area.

Channel modifications that constrained the active channel of the White River had the effect of disconnecting floodplain areas where previously sediment was deposited and flood waters were stored in the river system; as a result, until the 1980s, the river was dredged to remove sediments from the channel to provide flood conveyance (the transport of floodwaters downstream, with little if any damage). While the levees, revetments, and dredging contained nearly all flooding within the river channel, they significantly degraded environmental conditions in the river.

In 1999, Puget Sound Chinook salmon were listed as threatened under the federal Endangered Species Act (ESA), which led to a greater emphasis on preventing ongoing degradation of riverine habitat in the region, including in the Puyallup and White Rivers. Since dredging ceased in the mid-1980s, the White River channel capacity to convey flood flows gradually reduced and flooding conditions steadily worsened, which led to the 2009 flood that was the impetus for this project.

The right bank levee and revetment, HESCO barriers (initially installed in 2009), and the mobile pumping system on Government Canal (installed in 2016) provide flood protection, but a permanent solution is needed that can also improve environmental conditions. The HESCO barrier alignment and height were subsequently modified in 2010, 2013, and 2016 after properties were purchased for this project and to increase flood containment. The mobile pumping system has been used periodically since 2017 to alleviate backwater flooding along Government Canal.

The Countyline Levee Setback Project, which is located across the White River from the proposed project area, was designed to reduce flood risk, restore natural river processes, reconnect the river to its historical floodplain, and improve fish habitat along 1.3 miles of the lower White River (between RM 5.0 and 6.3). Since construction was completed in 2017, that project has accomplished those intended outcomes.

The area now occupied by Pacific City Park served as an informal dumpsite and thereafter a city dump from approximately 1921 until it was closed in 1965 due to public complaints (Shannon & Wilson 2016). It was subsequently converted into Pacific City Park, which opened in 1972. The history of the project setting is discussed further in Section 3.5, Cultural Resources.

1.6. KING COUNTY FLOOD CONTROL DISTRICT

In April 2007, the Metropolitan King County Council created a new countywide special purpose district, the King County Flood Control District, to provide funding and policy oversight for flood-risk-reduction capital projects and programs in King County. The Flood Control District is the project proponent for the White River Pacific Right Bank Flood Protection Project.

The Flood Control District's Board of Supervisors, which is its primary governing body, is composed of members of the Metropolitan King County Council. The Flood Control District is responsible for planning and funding maintenance and repairs of the flood control facilities throughout the county. The Flood Control District aims to protect lives and property and to ensure that a significant portion of King County's economic infrastructure is safe from damage that can be caused by fall and winter storms. The Flood Control District invests in regional programs and projects that reduce the risk to people and property from river flooding and channel migration in King County.

1.7. SEPA PROCESS

King County – WLRD, the lead agency for this project proposal, has determined that this project is likely to have a significant adverse impact on the environment. An EIS is therefore required under the Revised Code of Washington (RCW) 43.21C.030 (2)(c).

King County issued a SEPA Determination of Significance and Request for Comments on Scope of Environmental Impact Statement on March 12, 2018. Agencies, affected tribes, and members of the public were invited to comment on the scope of the EIS. Details of the scoping process and the comments received are in the Final Environmental Scoping Report provided in Appendix A. Comments on alternatives, mitigation measures, probable significant adverse impacts, and required permits or other approvals as well as coordination with regulatory agencies and tribes were considered in developing the alternatives and the analysis in this Draft EIS.

King County – WLRD has prepared this Draft EIS to cover elements of the built and natural environment for the No Action Alternative and four action alternatives. The public is invited to comment on the Draft EIS during a formal 45-day comment period, and those comments and King County's responses will be included in the Final EIS. The Flood Control District (as project proponent) will select the preferred alternative.

Because of the former dumpsite within the project area, King County has entered into Ecology's Voluntary Cleanup Program and is in the process of developing a Draft Feasibility Study documenting considerations and options for remediating the dumpsite waste as part of the project. The environmental impacts of waste remediation options are considered within this Draft EIS.

1.8. EQUITY AND SOCIAL JUSTICE

In late 2016, King County, led by the Equity and Social Justice (ESJ) Office, now the Office of Equity, Racial and Social Justice, launched its Equity and Social Justice Strategic Plan 2016–2022 (King County 2016). This plan was created with input from more than 700 employees and 100 local organizations. The deep engagement with employees and the community provided a body of data, evidence, and practices on how King County could become a more equitable employer, service provider, and regional partner.

The plan is a blueprint for action and change that guides King County's pro-equity policy direction; its decision-making, planning, operations and services; and its workplace practices in order to advance equity and social justice within County government and in partnership with communities.

The Equity and Social Justice Strategic Plan 2016–2022, along with The Determinants of Equity: Identifying Indicators to Establish a Baseline of Equity in King County (King County 2015), were the guiding documents for analyzing how the proposed project may affect ESJ.

The project team included ESJ considerations in the analyses of potential impacts. Technical subject matter authors met with community outreach and ESJ professionals to review the Equity and Social Justice Strategic Plan and overall ESJ goals, as well as potential effects of the project on ESJ issues in the communities in and near the project area and the resources those communities need. Chapter 3 contains a discussion of ESJ considerations for the project for those elements of the environment for which ESJ impacts are identified.

1.9. COMMUNITY CHARACTERISTICS

The city of Pacific, which includes the project area and the surrounding community, is located in southwest King County adjacent to the Pierce County line. Southwest King County has historically been underserved, and quality of life indicators for that portion of the county are below average (King County 2015). The County has also found that Black, Indigenous, and People of Color (BIPOC) and low-income residents typically do not experience the same quality of life as white residents.

Demographically, about 46 percent of Pacific's population are BIPOC (City Population 2021). Approximately one-third of families in Pacific are led by a single parent with no spouse present (Suburban Stats 2021).

Median household income in Pacific in 2016 was \$58,235, which was about 67 percent of the median household income for all of King County in 2016 and 87 percent of the median household income for Washington state in 2016 (City of Pacific 2021; Department of Numbers 2021).

1.10. SUMMARY OF OUTREACH FINDINGS

Key findings related to community outreach and engagement efforts for this Draft EIS are summarized below; the main themes and discussion topics that emerged from engagement activities conducted during the course of this project to date are highlighted. These findings are a culmination of two phases of community outreach conducted in 2018 (focused on EIS scoping) and in 2020/2021 (conducted during Draft EIS preparation, including a focus on ESJ issues).

Additional information is provided in the ESJ Action Plan (Appendix C).

1.10.1. 2018 Outreach Findings

Key findings from the input received during the formal EIS scoping process in 2018 are as follows:

- Community members expressed a desire for year-round access to the park.
- Community members and stakeholders are interested in wildlife and natural resource protection.

- HESCO barriers are seen as a nuisance, and some community members raised concerns about their impact on residential properties.
- Community members expressed frustration due to a lack of clear and concise information from King County.

1.10.2. 2020/2021 Outreach Findings

Key findings from the input received during outreach activities related to Draft EIS preparation include:

- Community members and stakeholders expressed a desire for more engagement with key audiences, such as Latinx, Russian and Ukrainian, and Pacific Islander communities, not reached during 2018 EIS scoping efforts.
- The presence of HESCO barriers at Pacific City Park and its vicinity discourages use of the park, and the barriers are considered undesirable to look at.
- Latinx community stakeholders expressed a desire for King County to direct outreach efforts to local Indigenous and Native communities in the area, and not solely through direct Tribal governmental engagement. Many Latinx community members are members of local Tribal groups.
- Community stakeholders are interested in staying involved during the EIS process and would like to give feedback but are hesitant because they do not know how impactful their feedback would be. There is a desire to be educated on the EIS process coupled with increased outreach.