



**DETERMINATION OF NONSIGNIFICANCE (DNS)**

**TITLE OF PROPOSAL:** Lake Hills Trunk/Northwest Lake Sammamish Interceptor Upgrade Project

**DESCRIPTION OF PROPOSAL:** The King County Wastewater Treatment Division (WTD) proposes to upgrade approximately 4.5 miles of new and/or replaced conveyance sewer pipeline in the City of Redmond and unincorporated King County. The project consists of two segments: The Northwest Lake Sammamish Interceptor (NWLSI) and the Lake Hills Trunk (LHT). Construction will be completed using a combination of open trench and trenchless technologies, and will require temporary and permanent impacts to wetlands, temporary impacts to streams, and temporary and permanent impacts to buffers. The project will increase sewer capacity for current and future growth within the North Lake Sammamish Conveyance System Planning Basin to convey up to 20 year peak flows through the year 2060.

**LOCATION OF PROPOSAL, INCLUDING STREET ADDRESS, IF ANY:** The project is located within the City of Redmond and unincorporated King County, Washington (Sections 2, 11, 13, 14, 24 and 25 of Township 25 North, Range 5 East, Willamette Meridian). The project begins approximately south of NE 85th Street on the east side of the Sammamish River in the City of Redmond, crosses under the Sammamish River north of Leary Way NE, follows the Sammamish River Trail and the eastern edge of West Lake Sammamish Parkway NE through Marymoor Park in unincorporated King County, follows West Lake Sammamish Parkway NE, 177th Avenue NE/NE 34th Street/179th Avenue NE, traverses through backyards located north of Audubon Elementary School, follows 180th Avenue NE/NE 24th Street, traverses through a King County-owned property and backyards, and ends south of NE 24th Street at the southern city limits of the City of Redmond.

**Responsible Official:** Mark Isaacson  
**Position/Title:** Director, King County Wastewater Treatment Division

**Address:** 201 South Jackson Street, MS KSC-NR-0501  
Seattle, WA 98104-3855

**Date:** 8-1-18

**Signature:** 

**Proponent and Lead Agency:** King County Department of Natural Resources and Parks  
Wastewater Treatment Division

**Contact Person:** Hillary Jones, Environmental Planner  
King County Wastewater Treatment Division  
201 South Jackson Street, MS KSC-NR-0505  
Seattle, WA 98104  
phone: 206-477-5504; e-mail: Hillary.Jones@kingcounty.gov

**Issue Date:** August 15, 2018

The State Environmental Policy Act (SEPA) lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

This Determination of Nonsignificance is issued under WAC 197-11-340 (2); the lead agency will not act on this proposal for 17 days from the issue date. **Comments must be submitted by August 31, 2018.** Submit comments to Katherine Fischer, Environmental Programs Managing Supervisor, King County Wastewater Treatment Division, 201 South Jackson Street, MS KSC-NR-0505, Seattle, WA 98104-3855.

The King County Wastewater Treatment Division has submitted applications for local permits with appeal periods thus there is no administrative appeal of this DNS pursuant to RCW 43.21C.075, WAC 197-11-680, KCC 20.44.120 and King County Public Rule 7-4-1. The public rule may be viewed at <http://www.kingcounty.gov/operations/policies/rules/utilities/put741pr.aspx>, or contact Hillary Jones at 206-477-5504 or [hillary.jones@kingcounty.gov](mailto:hillary.jones@kingcounty.gov) to obtain a copy of the rule.

[Statutory authority: RCW 43.21C.110. 84-05-020 (Order DE 83-39), §197-11-970, filed 2/10/84, effective 4/4/84.]



## **King County**

Department of Natural Resources and Parks

### **Wastewater Treatment Division**

King Street Center, KSC-NR-0505

201 South Jackson Street

Seattle, WA 98104

## **Environmental Checklist**

for the

# **King County Wastewater Treatment Division Lake Hills Trunk Northwest Lake Sammamish Interceptor Upgrade**

August 2018

Prepared in compliance with the State Environmental Policy Act (SEPA) (RCW 43.21C), the SEPA Rules (WAC 197-11), and Chapter 20.44 King County Code, implementing SEPA in King County procedures.

This information is available in accessible formats upon request at  
206-477-5371 (voice) or 711 (TTY).

# ENVIRONMENTAL CHECKLIST

## A. BACKGROUND

### 1. Name of proposed project, if applicable:

Lake Hills Trunk/Northwest Lake Sammamish Interceptor Upgrade Project

### 2. Name of applicant:

King County Department of Natural Resources and Parks, Wastewater Treatment Division

### 3. Address and phone number of applicant and contact person:

King County Department of Natural Resources and Parks  
Wastewater Treatment Division  
201 South Jackson  
Seattle, WA 98104

Contact: Hillary Jones, Environmental Planner

Phone: (206) 477-5504

Email: [Hillary.Jones@kingcounty.gov](mailto:Hillary.Jones@kingcounty.gov)

### 4. Date checklist prepared:

July 27, 2018

### 5. Agency requesting checklist:

King County Department of Natural Resources and Parks, Wastewater Treatment Division

### 6. Proposed timing or schedule (including phasing, if applicable):

Construction is scheduled to begin in early 2020 and to be completed by 2024.

### 7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No.

### 8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

- Critical Areas Report (Herrera Environmental Consultants [Herrera] 2017)
- Wetland and Stream Mitigation Plan (Herrera 2018)
- Biological Evaluation (Herrera 2017)

- Conceptual Fish-Passable Culvert Designs for Country Creek, Villa Marina Creek, Idylwood Creek, and Brae Burn Creek (Herrera 2017)
- Wetland and Stream Mitigation Plan (Herrera 2017)
- Stream Scour Analysis (Herrera 2017)
- Geological Floodplain and Compensatory Storage Report (Shannon & Wilson 2017)
- Hazardous Materials Corridor Assessment (Herrera 2015)
- Geotechnical Data Report (Shannon & Wilson 2017)
- Level II Hydrogeologic Assessment (Shannon & Wilson 2017)
- (Draft) Geological Hazard Areas Report (Shannon & Wilson 2017)
- Transportation Impact Technical Memorandum (HDR 2017)
- Existing Conditions Assessment (Environmental Science Associates [ESA] 2015)
- Historical Property Inventory Survey (ESA 2017)
- Results of Archaeological Survey (ESA 2017)
- Supplemental Archaeological Survey and Testing Work Plan (ESA 2017)
- Archaeological Resources Monitoring and Inadvertent Discovery Plan (ESA 2018)
- Tree Assessment and Preservation Plan (Berger Partnership 2018)
- Landscape Plan (Urban Forestry Services, 2018)
- Noise Study (pending)

**9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

None known.

**10. List any government approvals or permits that will be needed for your proposal, if known.**

City of Redmond

- Conditional Use Permit
- Shoreline Substantial Development Permit
- Site Plan Entitlement
- Civil Construction Review
- Right-of-Way Use Permit

City of Bellevue

- Right-of-Way/Street Use Permit

King County Department of Development and Environmental Review

- Shoreline Substantial Development Permit
- Grading Permit
- Critical Area Alteration Exception

King County Parks

- Interdepartmental Agreement/Special Use Permit

King County Industrial Waste Program

- Wastewater Discharge Authorization

Washington Department of Fish and Wildlife

- Hydraulic Project Approval

Washington Department of Ecology (Ecology)

- NPDES Construction Stormwater General Permit
- Clean Water Act Section 401 Water Quality Certification
- Shoreline Substantial Development Permit
- Coastal Zone Management Consistency

Washington State Department of Transportation

- Franchise – Sewerline
- Temporary Access Break
- Limited Access/Encroachment Variance
- Roadway Prism Open Trench Variance

Washington Department of Archaeology and Historic Preservation (DAHP)

- National Historic Preservation Act (NHPA) Section 106 consultation

United States Army Corps of Engineers (USACE)

- Nationwide Permit 12 (Clean Water Act Section 404/Rivers and Harbors Act Section 10)
- Section 408 Authorization

United States Fish & Wildlife Service / National Oceanic & Atmospheric Admin. - Fisheries

- Endangered Species Act (ESA) Section 7 Consultation

**11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

The King County Wastewater Treatment Division (WTD) proposes to upgrade approximately 4.5 miles of conveyance sewer pipeline in parts of the City of Redmond, unincorporated King County, and at the boundary of the Cities of Redmond and Bellevue (Figure 1). The project will accommodate sewer service capacity for current and future growth within the North Lake Sammamish Conveyance System Planning Basin to convey up to 20-year peak flows through the year 2060.

The project consists of two pipeline alignment segments: The Northwest Lake Sammamish Interceptor (NWLSI) and the Lake Hills Trunk (LHT). The NWLSI segment is the northern portion of the pipeline alignment, beginning just south of NE 85<sup>th</sup> Street in Redmond, meeting the LHT near the Sammamish Rowing Facility entrance. The LHT segment continues south, ending just south of NE 24<sup>th</sup> Street at the city limits with the cities of Redmond and Bellevue.

For most of the alignment, the new pipeline will be installed parallel to the existing pipeline. In some locations, the existing pipeline will be rehabilitated, likely by slip-lining, and remain in

service. In other areas, the existing pipeline will be decommissioned at the end of construction. Construction will occur within existing public trails and roads, and on private property. Traffic control may be necessary in the City of Bellevue.

Construction will be completed using a combination of open trench and trenchless construction technologies. Trenchless construction, likely microtunneling and auger bore, will be used for pipeline crossings under river and creek beds in order to minimize construction disturbance to critical areas and habitat. Construction will require temporary and permanent impacts to wetlands, streams, and associated buffers. Temporary impacts to existing public recreational trails and roads is also anticipated. Construction will require temporary impacts to private properties, including residential and business properties, and associated parking areas.

#### Northwest Lake Sammamish Interceptor

The NWLSI pipeline segment is approximately 11,000 linear feet. Most of the new pipeline alignment will be installed using open-trench construction. Trenchless construction (likely microtunneling) will be used to install approximately 250 linear feet of new pipeline beneath the Sammamish River. Beneath Clise Creek, approximately 320 linear feet of new pipeline will be installed using trenchless construction (likely auger bore). Access pits will be excavated on either side of the river or creek for the trenchless construction, and will range from approximately 25 to 30 feet in diameter and up to 50 feet deep for the Sammamish River crossing and 15 feet wide and 30 feet long with a depth around 15 feet for the Clise Creek crossing.

#### Lake Hills Trunk

The LHT pipeline segment is approximately 13,000 linear feet. Most of the new pipeline alignment will be installed using open-trench construction. Approximately 550 linear feet of the existing sewer pipeline will be rehabilitated, likely using the slip-lining method.

#### Mitigation

The project will avoid and minimize wetland, stream, and associated buffer impacts to the extent possible. Areas disturbed by construction would be restored to pre-construction conditions. Additional mitigation, such as enhancement of wetlands and buffers within and adjacent to the construction work limits, will also be implemented after construction is complete.

The project will provide compensatory mitigation to replace permanent and temporal losses of habitat area and functions, as a result of permanent and long-term temporary impacts on wetlands and buffers. The proposed compensatory mitigation site is along the banks of the Sammamish River in Redmond, between Redmond Way and Leary Way. The City of Redmond recommended the site because riparian restoration of native vegetation conditions is needed within this reach of the Sammamish River corridor. The proposed compensatory mitigation will contribute to improving conditions within the larger watershed.

- 12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The project is located in Sections 2, 11, 13, 14, 24 and 25 of Township 25 North, Range 5 East, Willamette Meridian.

The pipeline alignment begins south of NE 85th Street on the east side of the Sammamish River in the City of Redmond, crosses under the Sammamish River north of Leary Way NE, follows the Sammamish River Trail and the eastern edge of West Lake Sammamish Parkway NE through Marymoor Park in unincorporated King County, follows West Lake Sammamish Parkway NE, 177th Avenue NE/NE 34th Street/179th Avenue NE, traverses through backyards located north of Audubon Elementary School, follows 180th Avenue NE/NE 24th Street, traverses through a King County-owned property and backyards, and ends south of NE 24th Street at the southern city limits of the City of Redmond (Figure 1).

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

#### **a. General description of the site**

(circle one): Flat, rolling, hilly, steep slopes, mountainous,  other \_\_\_\_\_

The approximately 4.5 mile long pipeline alignment contains areas of flat, hilly, and steep slopes.

#### **b. What is the steepest slope on the site (approximate percent slope)?**

The steepest slopes within the construction area are approximately 30 percent. The steepest slopes adjacent to the proposed pipeline alignment occur along a ravine between NE 24th Street and NE 21st Street, where nearby slopes are approximately 100 percent (1 horizontal to 1 vertical).

#### **c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.**

Soils from the northern terminus of the pipeline alignment to the intersection of West Lake Sammamish Parkway NE and NE 50th Street consist of recent fill over river deposits consisting of lacustrine/overbank, peat, and alluvium deposits. The fill along this area generally consists of loose to medium dense, silty sand with gravel and sandy silt.

Soils from the intersection of West Lake Sammamish Parkway NE and NE 50th Street to the southern terminus of the pipeline alignment consist of recent fill over variable glacial deposits consisting of recessional outwash, ice-contact, recessional lacustrine, ablation till, till, advance outwash, glaciolacustrine, and till and till-like deposits.

#### **d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

Published hazard maps from King County indicate there are landslide hazards along two sections of the sewer alignment. These sections include the existing retaining wall along the east side of

West Lake Sammamish Parkway NE and south of State Route (SR) 520 and along the ravine associated with Brae Burn Creek located south of NE 24th Street. Structural supports are expected to be added to secure the retaining wall during construction, and structural shoring is expected to be used for construction in the ravine.

Published hazard maps from King County indicate the project alignment is located in a very low to moderate liquefaction hazard zone. Lateral spreading is not anticipated to be a significant hazard for pipelines. Mitigation measures, such as settlement monitoring, may be included to reduce the risk of settlement during construction.

**e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.**

The project will involve soil disturbance through excavation, fill, and grading. Excavation will be limited to the areas required to install the sewer pipe, pits for trenchless construction, and appurtenances and structures such as sewer pipeline manholes.

For the entire project approximately 100,000 cubic yards of soil will be excavated to install the pipes and structures using open trench or trenchless installation methods, with a similar amount of subsequent compacted fill. The trench for the sewer pipeline alignment will be approximately 5 to 10 feet wide and approximately 6 to 25 feet deep.

For all excavation activities, subsequent backfill will consist of native soil to the greatest extent possible, supplemented with clean fill from a borrow source as required by City of Redmond, King County, and City of Bellevue codes as applicable. It is expected that 100 percent imported backfill will be required for construction north of NE 48th Street and will consist of controlled density fill (CDF) in select areas. It is expected that construction south of NE 48th Street will consist of half imported and half native backfill, except in the roadways where CDF will likely be used. All excavated areas will be restored to their previous grade at project completion.

The project will be required to restore the existing Sammamish River trail to King County Park's regional trail standard, resulting in an increase of approximately 4,000 square feet of paved asphalt surface and approximately 26,000 square feet of gravel surface. Approximately 12,000 cubic yards of asphalt and 3,000 cubic yards of crushed travel will be used for trail restoration and improvements in the City of Redmond.

NWLSI

The trench widths for the pipeline will be approximately 4 feet wide and between approximately 3 to 9 feet deep. It is expected that the open trench construction for the sewer will be shored using sheet piles north of Leary Way NE and stacked trench boxes south of Leary Way NE during pipe installation.

Entry and exit pits for the trenchless pipeline installation beneath the Sammamish River will range from approximately 25 to 30 feet in internal diameter, and approximately 50 feet deep. Temporary shoring will be installed during construction of the entry and exit pits. Shoring is the process of supporting the excavation in order to prevent collapse, and also minimizes potential for settlement of nearby structures. Approximately 4,000 cubic yards of soil would be excavated for the trenchless pits and trenchless crossing of the Sammamish River.

For the river crossing, the shoring method for the entry and exit pits will be designed by the contractor; however, the pits may be shored using secant piles. There may be up to 40 secant piles for the launch pit, and up to 30 secant piles for the exit (receiving) pit. Secant piles are interlocking piles that are installed in a circular shape to form a nearly watertight wall around the perimeter of the pit. To construct the secant piles and concrete slab at the base of each pit, approximately 1,400 cubic yards of concrete would be required. After the river crossing is complete, approximately 1,200 cubic yards of backfill, likely CDF or soil, would be required.

#### LHT

To decommission and remove existing King County sewers which are embedded within a culvert, the project will involve replacing a portion of the Country Creek culvert beneath West Lake Sammamish Parkway NE. Streamflow will be temporarily bypassed around the work area. Approximately 10 cubic yards of sand bags or bulk bags will be temporarily placed in the channel of Country Creek to construct cofferdams to support the temporary streamflow bypass (see sections 3.a.2 and 3.a.4 below for more information about this bypass). The sand bags or bulk bags will be removed from the channel after a portion of the existing Country Creek culvert is replaced. The sand bags or bulk bags will be filled with streambed sediment (sand and gravel mix) and will be disposed of offsite.

**f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

Some erosion could occur during excavation of trenchless access pits, excavation and filling of trenches, and stockpiling of soil during construction. Erosion control measures will be implemented to minimize this potential. See section B.1.h. below for typical Best Management Practices (BMPs) that can be utilized to minimize the potential for erosion.

**g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

Approximately 33,000 square feet of new impervious surfaces will be created by the project from trail improvements and trail widening, which will occur in multiple areas along the Sammamish River Trail (this increase also represents a small amount of new impervious surfaces resulting from decommissioning of old manholes and installation of new manholes). Outside of these areas, other impervious surfaces removed during construction will be restored in-kind following completion of the project.

**h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

Appropriate erosion and sediment control measures will be installed to minimize impacts to the earth from clearing, grading, or excavation activities related to project construction.

Typical BMPs that can be utilized to minimize the potential for erosion include:

- Installation of high-visibility fencing to delineate clearing and construction work limits;
- Installation of filter fabric fences around disturbed areas;
- Installation of temporary sandbags where necessary;
- Installation of silt traps in storm drainage inlets;

- Installation of stabilized construction entrances where necessary;
- Covering soil stockpiles and exposed soils;
- Implementing containment measures at staging and/or material stockpile areas to prevent runoff;
- Regular street cleaning for mud and dust control;
- Regular inspection of erosion and sediment control measures;
- Restoration of disturbed areas by repaving, seeding, or replanting as soon as practical after construction is completed;
- Ensuring that no exposed soils remain unstabilized for more than 2 days between October 1 and April 30, and for no more than 7 days between May 1 and September 30;
- Designate personnel to inspect and maintain temporary erosion and sediment control measures;
- Use appropriate means to minimize tracking of sediment onto public roadways by construction vehicles.

Requirements for temporary erosion and sediment control measures will be specified in the project's construction plans and specifications, and will be implemented as required by permitting jurisdictions.

## 2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

Construction of the project may result in short-term dust emissions from exposed soils and will result in fossil fuel emissions from the operation of construction equipment. Approximately 33,000 square feet of new impervious surface will result from the project (see Section 1.g). A King County Greenhouse Gas Emissions worksheet is attached.

Operation of the project is not anticipated to result in emissions to the air.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

No.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:**

Dust emission impacts associated with the construction of the proposed project are not anticipated to be significant. Construction contractors will comply with regulatory requirements and implement appropriate dust control measures, as necessary. Measures to minimize dust emissions from construction may include:

- Spraying exposed soils and soil storage areas with water or otherwise covering them during dry weather periods.
- Covering exposed earthen stockpiles and loads of material being transported to and from the site.

Vehicular emissions associated with construction of the project are anticipated to be short-term. Measures to minimize vehicular emissions may include:

- Requiring contractors to use best available emission control technologies (e.g., mufflers).
- Maintaining all vehicles in proper working condition.
- Minimizing vehicle and equipment idling.

To control potential odor after construction, the project may include either an active odor control system in a stand-alone building, or an “air jumper” system which would be routed across the river.

### 3. Water

#### a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

A total of 19 wetlands and seven streams were identified and delineated in the project area (see Figure 2). The wetlands are primarily riverine depressional wetlands along the banks of the Sammamish River, Clise Creek, Country Creek, and Brae Burn Creek; and within the floodplain of the Sammamish River within Marymoor Park; and depressional and slope wetlands within residential developments.

In the project area, streams that flow into Lake Sammamish include Brae Burn Creek, Idylwood Creek, and Villa Marina Creek. Streams that flow into the Sammamish River include Country Creek, Tosh Creek, and Clise Creek. The Sammamish River flows to Lake Washington. All of these streams contain year-round flow.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Yes. The majority of the sewer pipeline from NE 85<sup>th</sup> Street to the Marymoor Park entrance are within the 200-foot shoreline jurisdiction of the Sammamish River. Shoreline Substantial Development Permits are being obtained from the City of Redmond and King County.

To minimize impacts to the Sammamish River, a portion of new pipeline will be installed using trenchless technology, likely microtunneling, under the river bed. New sewer siphons, approximately 16- and 30-inch-diameter, will be placed inside of an approximately 72- or 78-inch-diameter pipe casing and installed approximately 12 feet below the bed of the Sammamish River. The pipeline installation will be approximately 250 linear feet. Two pits, approximately 40 feet deep, will be excavated on either side of the river, landward of the ordinary high water mark (OHWM).

Trenchless technology, likely auger bore, will be used to install the new pipeline approximately eight feet beneath Clise Creek. The crossing under the creek is approximately 60 feet long. The

launching and receiving shafts for the trenchless crossing will be located landward of the OHWM and beyond the boundaries of adjacent wetlands.

In-water work may be required at the Country Creek crossing to decommission and remove existing King County sewers which are embedded within the existing culvert. A portion of the culvert will be removed and replaced. The in-water work will involve installing, operating, maintaining, and removing a temporary stream flow bypass system. Prior to installation, in-water work will include removal and isolation of fish from the channel at each end of the culvert (using seine nets, dip nets, and/or electrofishers consistent with state and federal guidelines). Fish would be safely released back to Country Creek downstream of the work area. Using sandbags or bulk bags lined with plastic, a cofferdam will be constructed across the channel to prevent flow from entering the culvert. With pumps and hoses (or pipes), water will be diverted around the work area and released back to Country Creek. If necessary, an additional cofferdam will be constructed at the outlet of the culvert to contain any water present within the work zone. The streamflow bypass and culvert replacement activities are anticipated to take up to five days to complete. See section 3.a.4 below for more information on this in-water work.

Where the new sewer crosses Country Creek, Villa Marina Creek, Idylwood Creek, and Brae Burn Creek, the pipeline will be installed within roadways and will cross either above or below the existing culverts that convey these streams. Crossing below the existing culverts will likely involve supporting the culverts in place while installing the new sewer pipeline below the culvert in the road prism. At Tosh Creek, the new sewer pipeline will connect to an existing pipe that was installed when Redmond constructed a fish-passable culvert beneath West Lake Sammamish Parkway NE for the purpose of this project.

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

Approximately 1,300 cubic yards of soils will be excavated from wetlands during installation of pipes and manholes, affecting approximately 0.9 acres. Excavations will be backfilled with imported aggregate fill materials (pit run, control density fill, and pipe bedding material), native soil, and topsoil. In total, approximately 1,000 cubic yards of backfill is proposed within wetlands. Native topsoil will be replaced at the surface to restore wetland soil and support native plantings (approximately 18-inches depth). Trenches will be backfilled to pre-construction ground surface elevations. The source of aggregate fill materials will be local quarries to be determined by the Contractor. If necessary, imported topsoil will be from a local topsoil provider.

**4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

Replacement of a culvert segment at Country Creek as described above in sections 1.e and 3.a.2 will require a temporary stream flow bypass. This work will involve temporary withdrawal of the entire flow of Country Creek which will be diverted around the culvert work zone. Using sandbags or bulk bags lined with plastic, a cofferdam will be constructed across the channel to prevent flow from entering the culvert. Immediately upstream of the cofferdam,

surface water will be withdrawn from the channel through a hose or pipe equipped with a fish screen in accordance with Washington State screening requirements for water diversions. The water will be pumped and discharged back into Country Creek downstream of the work area. At the discharge location, energy dissipation materials (e.g., plastic sheeting, rock, and geotextile fabric) will be placed as necessary to prevent erosion and sedimentation.

If necessary, an additional cofferdam will be constructed at the outlet of the culvert to contain any water present within the work zone. Any turbid water within the work zone will be pumped to an upland location for treatment prior to reentering the stream.

The proposed temporary stream flow bypass work will occur during allowable in-water work windows (anticipated to be between August 1 and August 31). During this time, seasonally low stream flow is anticipated (0.2 feet per second).

**5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

Yes, portions of the project area in the vicinity of the Sammamish River are within the floodplain (Figures 1 and 2).

**6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No.

**b. Ground Water:**

**1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

For the sewer trench north of Leary Way NE, groundwater will be withdrawn from dewatering wells to temporarily lower groundwater levels during excavation and installation of the new sewer line. To limit any effects on nearby facilities, dewatering and excavation will be conducted inside the sheet pile shoring. Dewatering wells are anticipated to be 12-inch diameter and installed to depths of approximately 30 feet inside the sheet pile shoring. Water may be pumped to storage tanks initially during well development where it would be treated prior to discharge, likely to the King County sewer system, or to the Sammamish River if water quality standards are met.

During construction, dewatering water will be treated and likely be discharged to the Sammamish River if water quality standards are met. Discharge rates are estimated to be between 2,000 and 6,000 gallons per minute during the winter months, and between 700 and 3,000 gallons per minute during the summer months. It is anticipated that discharge points into the Sammamish River will be located approximately every 1,000 feet.

The number of dewatering wells will be determined prior to construction. Power for dewatering pumps will likely be provided by generators or an external power source.

Generators would be required to meet local noise ordinances and may use a sound proof enclosure and/or noise wall.

To limit the extent of groundwater drawdown around the excavation, water produced during dewatering may be discharged back to groundwater using recharge wells in selected areas along the alignment.

All well installations, dewatering, and discharge operations will be conducted in accordance with local, state, and federal regulations.

No groundwater withdrawals will occur once construction is complete.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste materials are anticipated to enter the ground during construction or operation of the proposed project. Small spills or leaks of motor oil, diesel fuel, or hydraulic fluid may occur during construction. See section B.3.d. below for measures to avoid and minimize potential for these materials to be discharged to the ground.

**c. Water runoff (including stormwater):**

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The main source of runoff during and after construction of the proposed project will be rainfall. During construction, storm water will be routed through temporary erosion and sedimentation control facilities for proper discharge to the existing King County sewer system or storm drainage systems.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.**

No waste materials are anticipated to enter ground or surface waters during construction or operation of the proposed project. BMPs will be implemented to avoid and minimize releases of turbid water and spills from equipment.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

The project will temporarily affect drainage ways occurring within wetlands during trenching and construction access activities. Existing drainages will be restored to pre-construction conditions after pipeline installation. The project is not anticipated to have permanent effects on existing drainage patterns.

**d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:**

Section B.1.h. discusses typical BMPs that may be used during construction to control erosion and sedimentation resulting from stormwater runoff. A stormwater pollution prevention plan (SWPPP) will be prepared and implemented by the Contractor for this project. Additional construction BMPs that can be implemented to prevent the introduction of contaminants into surface water or groundwater during construction may include:

- maintaining spill containment and clean up materials in areas where equipment fueling is conducted;
- refueling construction equipment and vehicles away from surface waters whenever practicable;
- containing equipment and vehicle wash water associated with construction and preventing it from draining into surface waters;
- storing fuels and other potential contaminants away from excavation sites and surface waters in secured containment areas;
- conducting regular inspections, maintenance and repairs on fuel hoses, hydraulically operated equipment, lubrication equipment, and chemical/petroleum storage containers; and
- establishing a communication protocol for the unlikely event of a spill.

Restoration after pipeline installation includes replacing 18-inches depth of topsoil to support seed germination and plant growth. In addition, the project will provide compensatory mitigation along the bank of the Sammamish River. Wetland and buffer enhancement will consist of removing invasive plant species, mulching, and planting a diversity of native plant species that will develop into stable vegetation communities with adequate cover and native species composition.

**4. Plants**

**a. Check the types of vegetation found on the site:**

- alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- orchards, vineyards or other permanent crops.
- cattail, buttercup, bullrush, skunk cabbage, other
- water lily, eelgrass, milfoil, other
- other types of vegetation

**b. What kind and amount of vegetation will be removed or altered?**

Construction of the project involving trenching and adjacent construction access will require clearing or altering herbaceous/emergent plants, shrubs, and trees from landscaped areas,

wetlands, wetland and stream buffers, and infrequently-maintained or unmaintained vegetated areas.

Vegetation within the road rights-of-way (i.e. unpaved shoulders) of West Lake Sammamish Parkway NE, 180th Avenue NE and NE 24th Street, such as grasses and ornamental shrubs, may be cleared or altered for construction access during pipeline installation activities. Some trees within the road right-of-way may be removed due to the proximity of their root systems to construction activities.

Approximately 600 trees will be removed from public and private property and street right-of-way for construction along the pipeline alignment, including 241 significant trees. Tree species include, but are not limited to, pine (*Pinus species*), willow (*Salix species*), flowering crab apple (*Malus species*), black cottonwood (*Populus trichocarpa*), bigleaf maple (*Acer macrophyllum*), pin oak (*Quercus palustris*), red alder (*Alnus rubra*), sycamore maple (*Acer pseudoplatanus*), Kwanzan cherry (*Prunus serrulata 'Kwanzan'*), bitter cherry (*Prunus emarginata*), Norway Maple (*Acer platanoides*), and Austrian pine (*Pinus nigra*).

Up to 38,200 square feet of vegetation from wetlands and streambanks may be removed or altered. Affected vegetation classes will include shrub, herbaceous, palustrine emergent (PEM), palustrine forested (PFO), palustrine scrub-shrub (PSS). Areas cleared for project construction will be replanted as near as possible to pre-construction conditions.

**c. List threatened and endangered species known to be on or near the site.**

A search of the Washington Department of Natural Resources Natural Heritage Program database was conducted for listed plant species in the project area. No sensitive plant species or rare ecosystems are known to occur within a one mile radius of the project alignment.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**

Wetlands, streams, and buffers within the City of Redmond and unincorporated King County that would be affected by the project will be restored to preconstruction conditions, or better, once the pipeline installation is complete. Restoration includes replacing 18-inches depth of topsoil to support seed germination and plant growth, removing nonnative and invasive vegetation, and establishing native plant communities.

Trees within the project area will be retained where feasible. Tree removal will be completed according to the project drawings. Replacement trees will be planted in compliance with City of Redmond and King County codes, likely at a 1:1 and/or 3:1 replacement ratio depending on the size and kind of tree to be removed.

A Tree Protection Plan was prepared by Urban Forestry Services (2018) and Landscape Plan was prepared by Berger Partnership (2018), detailing which trees will be removed and protected within the project construction limits and vicinity, and how landscaping will be restored after construction. Tree protection fencing will be installed 5-feet beyond the dripline of protected tree prior to pipeline construction.

The Site Restoration plans prepared by Herrera (2018) provide additional information regarding trees to be planted within the wetland and stream buffers. The entire restoration area lies within the 200-foot shoreline buffer. The restoration plans will utilize a variety of native plants and trees in order to mitigate for impacts and meet local jurisdiction permitting requirements.

In addition, the project will provide compensatory mitigation to achieve no net loss of habitat area and functions associated with impacts on wetlands, streams, and buffers. Mitigation will be provided to replace permanent and temporal losses of habitat area and functions resulting from permanent and long-term temporary impacts on wetlands and buffers. The proposed mitigation site is on the bank of the Sammamish River in Redmond located between Redmond Way and Leary Way. Mitigation will be achieved by enhancing wetlands and buffers on-site, including areas within and directly adjacent to construction work limits. Wetland and buffer enhancement will consist of removing invasive plant species, mulching, and planting a diversity of native plant species that will develop into stable vegetation communities with adequate cover and native species composition.

The proposed compensatory mitigation site was selected to contribute to providing a contiguous corridor of restored riparian conditions along the Sammamish River. The City of Redmond recommended the site because riparian restoration of native vegetation conditions is needed within this Sammamish River corridor reach. Prior restoration efforts have restored riparian conditions upstream and downstream of that reach; therefore, the proposed compensatory mitigation along with past and future restoration projects on the river will contribute to improving conditions within the larger watershed.

**e. List all noxious weeds and invasive species known to be on or near the site.**

Examples of dominant noxious weeds and invasive species along the project alignment include: Himalayan blackberry (*Rubus armeniacus*), Japanese knotweed (*Fallopia japonica*), and reed canarygrass (*Phalaris arundinacea*).

## 5. Animals

**a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:**

birds: hawk, heron, eagle, songbirds, other:  
 mammals: deer, bear, elk, beaver, other:  
 fish: bass, salmon, trout, herring, shellfish, other:

**b. List any threatened and endangered species known to be on or near the site.**

Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*O. mykiss*), and bull trout (*Salvelinus confluentus*) are federally Threatened species that have been documented in the Sammamish River. Species could potentially be found in tributary streams; however, there is no designated or proposed critical habitat for the species in the project area.

The marbled murrelet (*Brachyramphus marmoratus*), streaked horned lark (*Eremophila alpestris strigata*), yellow-billed cuckoo (*Coccyzus americanus*), and North American wolverine (*Gulo*

*gulo luscus*) are listed on the United States Fish and Wildlife website as potentially occurring in the project area; however, there is no suitable habitat in the area for these species.

**c. Is the site part of a migration route? If so, explain.**

The project site is located within the Pacific Flyway which is a flight corridor for migrating waterfowl and other avian fauna. The Pacific Flyway extends from Alaska south to Mexico and South America.

The Sammamish River is a known migration route for a variety of fish species, including bull trout (*Salvelinus confluentus*) and steelhead (*O. mykiss*).

**d. Proposed measures to preserve or enhance wildlife, if any:**

Where possible, the project will enhance wildlife habitat by leaving trees cleared during construction as downed woody debris within wetland and stream buffers. Coarse woody debris provides habitat structure. As the wood decays, it become colonized by fungi and insects that provide food for other animals. Cleared trees that cannot remain on-site will likely be donated to the City of Redmond and the logs used to enhance fish and wildlife habitat at future restoration project sites, either as downed or instream woody debris.

During replacement of a culvert segment at Country Creek, fish will be excluded from the work zone using sein nets, dip nets, and/or electrofishers consistent with state and federal guidelines for fish exclusion.

To increase habitat functions for invertebrates, fish, amphibians, birds, and small mammals, invasive plant species will be removed in construction areas and the compensatory mitigation site (see Section 4.d.), and replanted with a diversity of native plant species that provide food, cover, and nesting material for fish and wildlife.

**e. List any invasive animal species known to be on or near the site.**

None.

**6. Energy and natural resources**

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

None needed.

**b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No.

- c. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

None proposed.

## 7. Environmental health

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

Potential soil and groundwater contamination could be encountered during construction activities such as excavation and dewatering. See section 7.a.1 below for information on the types of contamination that may be encountered during construction.

Construction dewatering will be required along most of the alignment to temporarily lower groundwater levels to allow pipeline construction. The proposed pipeline alignment lies in proximity to, and in some areas transects, areas of known or suspected adversely-affected groundwater.

- 1) **Describe any known or possible contamination at the site from present or past uses.**

No known contaminated sediment is located within the project working limits. Based on a review of regulatory databases provided by Environmental Data Resources, Ecology site files, historical data, and observed current site conditions, two sites within 0.25 miles of the pipeline alignments were identified to have a low risk of impacting the project because reported releases of hazardous materials occurred on properties located adjacent to or upgradient of the project corridor.

- 2) **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

None known.

- 3) **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

Fuel will be used for construction equipment and vehicles.

- 4) **Describe special emergency services that might be required.**

None.

- 5) **Proposed measures to reduce or control environmental health hazards, if any:**

As described in sections B.1.h. and B.3.d. above, BMPs and other measures will be used to avoid or contain/control any spills or other releases of hazardous materials during project

construction. Environmental due diligence has been conducted and reviewed along the project corridor to identify and address known or potential soil or groundwater contamination issues on or adjacent to the pipeline alignment that may require consideration during project design and/or construction. Identified soil or groundwater contamination issues will be addressed in the design, where appropriate, and the information provided to the construction Contractor in order for the Contractor to appropriately plan the work and incorporate those issues into Contractor-prepared health and safety plans.

The Contractor will prepare a health and safety plan as part of the contract for the proposed project. This plan will comply with all applicable health regulations and will detail measures to control environmental health hazards. Any contaminated soil encountered will be removed from the project site and properly handled and disposed of at an approved site.

#### **b. Noise**

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

The project is located within commercial and residential areas. Noises that exist in the area are not expected to affect the project.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

Temporary noise will be produced by construction equipment. Construction activity is anticipated to occur between the hours of 7 a.m. and 7 p.m. Throughout project construction, typical short-term, intermittent construction related noise may include engine and mechanical equipment noises associated with the use of heavy equipment such as bulldozers, excavators, cranes, haul trucks, vacuum trucks, drill rigs, generators, and air compressors.

Background noise levels along West Lake Sammamish Parkway NE and other roadways in the project area are approximately 67 decibels (dBA), based on traffic volumes and posted speed limits. Noise levels generated during construction will vary depending on the specific equipment used for particular activities. Based on previous construction projects, typical noise levels can be expected to range from about 75 to 90 dBA measured at a distance of 50 feet from the source.

During construction at the Sammamish River Crossing, a temporary soil separation facility (consisting of equipment on a mobile trailer bed) would be used as part of the microtunnel operations to handle excavated soils brought to the surface by the tunneling machine prior to being trucked off site. The soil separation facility would generate noise levels similar to the typical construction activities described above. Noise from this source would be relatively constant during microtunneling activities rather than intermittent. The soil separation facility will operate during working hours over a period of a few weeks to a few months.

The microtunneling shaft for the Sammamish River Crossing will be relatively close to multifamily buildings located near the banks of the river. Construction activity and

associated noise will be noticeable to residents. A noise study will be completed prior to construction. Additional noise attenuation may be required during construction.

The use of vibratory hammers to install excavation support systems could reach an average maximum noise level of 101 dBA measured at a distance of 50 feet from the source and is expected along the alignment north of Leary Way NE.

For construction of the sewer trench north of Leary Way NE, dewatering activity is expected to occur 24 hours per day at areas of active construction, specifically the northern end of the NWLSI. The use of dewatering pumps and generators may last up to one year during construction of the project. Dewatering pumps may use generators or an alternate power source. Generators would be required to meet local noise ordinances, and may also require use of a sound proof enclosure and/or noise wall.

During proposed construction at Country Creek, a temporary generator and pump would be necessary for the stream bypass and would be required to run 24 hours per day for the duration of construction at County Creek. The average combined maximum noise levels for both pieces of equipment is anticipated to be 83 dBA, as measured at a distance of 50 feet from the source. Proposed construction is anticipated to last between two (2) and four (4) days.

**3) Proposed measures to reduce or control noise impacts, if any:**

Most construction-related noise will be limited to construction working hours allowable by the City of Redmond and unincorporated King County's noise codes (generally anticipated between the hours of 7 a.m. and 5 p.m.). If work outside the daytime working hours is required, a request for expanded construction hours will be submitted to the appropriate jurisdiction. Once the project is completed, no change to background noise levels is expected.

Additional measures to reduce or control noise impacts during construction may include the following:

- Install mufflers on all gas powered equipment;
- Provide electricity from the power grid and encourage the use of electric or hydraulic tools when practicable;
- Notify residents and businesses near active construction areas of upcoming noisy construction activities;
- Establish 24-hour construction hotline to promptly respond to questions and complaints.
- Install noise barriers, if needed.

## **8. Land and shoreline use**

**a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.**

Major land uses along the alignment includes a mixture of residential, commercial, open space (including the Sammamish River Trail), and right-of-way.

The project is not anticipated to permanently impact current land uses on nearby or adjacent properties. Trenching activity would temporarily impact private residential yards, private parking in multifamily and commercial areas, and public parking areas along city streets. Temporary detours of vehicles and pedestrians would be required on roads and trails during construction. No permanent impacts to existing land use is anticipated; however, there may be short-term, temporary impacts to current land use intermittently over the three year construction period. The timing and duration of detours will be determined by the Contractor based on the construction schedule.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

No.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:**

No.

- c. Describe any structures on the site.**

A variety of structures are located on the proposed sewer pipeline alignment, including bridges and pedestrian overpass structures, commercial buildings, residential buildings, and appurtenances such as fences.

- d. Will any structures be demolished? If so, what?**

It is not expected that any above-grade buildings will be demolished as a part of this project.

- e. What is the current zoning classification of the site?**

In the City of Redmond: Single Family Urban Residential (R4), Single Family Constrained Residential (R1, R3), Multi-Family Urban Residential (R12, R20, R30), General Commercial (GC), Sammamish River Trail (SMT), River Trail (RVT), and River Bend (RVBD).

In King County: Residential, one dwelling unit per acre (R1).

- f. What is the current comprehensive plan designation of the site?**

In the City of Redmond: Park and Open Space, High Density Residential, Single-Family Constrained, Single-Family Urban.

In King County: Open Space (OS).

**g. If applicable, what is the current shoreline master program designation of the site?**

In the City of Redmond: Urban Conservancy.

In King County: Aquatic and Conservancy Shoreline.

**h. Has any part of the site been classified as a critical area by the city or county? If so, specify.**

Yes. Within Redmond, critical areas identified include wetlands, fish and wildlife habitat conservation areas (FWHCAs), buffers associated with wetlands and streams, frequently flooded areas (flood zone and floodplain), critical aquifer recharge areas (CARAs), and geologically hazardous areas (landslide hazards and areas of low to moderate liquefaction hazard).

Within unincorporated King County, critical areas identified include wetlands, aquatic areas, buffers associated with wetlands and streams, flood hazard areas, and liquefaction hazard areas.

**i. Approximately how many people would reside or work in the completed project?**

None.

**j. Approximately how many people would the completed project displace?**

None.

**k. Proposed measures to avoid or reduce displacement impacts, if any:**

None.

**l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**

The proposed project consists of underground pipelines that will not be visible following the completion of construction. New at-grade manholes will be installed, which are common throughout the corridor (additionally, some existing manholes will be decommissioned). Where planning or design documents are available from local agencies, King County will review to make sure the proposed design is compatible.

**m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:**

None.

**9. Housing**

**a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

None.

**b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

None.

**c. Proposed measures to reduce or control housing impacts, if any:**

None.

**10. Aesthetics**

**a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

Not applicable.

**b. What views in the immediate vicinity would be altered or obstructed?**

In the short-term, construction will be visible to adjacent properties along the alignment. Residents may see construction equipment and related vehicles due to temporary activities in residential backyards. View from public trails will be temporarily impacted by construction activities. Views may be obstructed or altered as a result site restoration, which requires the planting of 259 mitigation trees, the placement of large woody debris (logs) and planting of additional shrubs and plants along the river banks.

**c. Proposed measures to reduce or control aesthetic impacts, if any:**

None. Construction impacts will be temporary.

**11. Light and glare**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

If construction occurs during fall or winter, active lighting of the construction site may be required at the beginning or end of the work day.

**b. Could light or glare from the finished project be a safety hazard or interfere with views?**

No.

**c. What existing off-site sources of light or glare may affect your proposal?**

None.

**d. Proposed measures to reduce or control light and glare impacts, if any:**

If lighting is necessary during construction activities in the vicinity of residences, measures will be taken to minimize impacts to adjacent property owners by directing the lights away from residences. Lights will be positioned to minimize glare.

## 12. Recreation

### a. What designated and informal recreational opportunities are in the immediate vicinity?

The new pipeline alignment runs parallel to the Sammamish River, Lake Sammamish and along the Sammamish River Trail and the City of Redmond-owned trail (a continuation of the Sammamish River Trail) south of Marymoor Park. The pipeline alignment also runs parallel to several City and County parks, including Marymoor Park, Luke McRedmond Landing, and Dudley Carter Park. The Sammamish River Trail is heavily used by pedestrians and bicyclists. The trail also provides access to the river, Marymoor Park, and connects to other recreational opportunities such as nearby dog parks and bird watching trails. Marymoor Park contains several ball fields, tennis courts, playgrounds, and picnic shelters. The Sammamish River is used for swimming and watercraft activities like paddling and kayaking.

### b. Would the proposed project displace any existing recreational uses? If so, describe.

Yes. Temporary trail closures will be necessary during construction, which will limit access to portions of the trail during the three (3) year construction window, and temporarily displace trail users. The trail will be closed in segments and largely between public access points such as NE 85<sup>th</sup> Street and the Redmond Central Connector. Closures and detour routes will be provided to the Contractor prior to construction. The Contractor will determine the sequence and duration of each closure. Recreational use of the Sammamish River is anticipated to be impacted during the duration of the Sammamish River Crossing.

### c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

- King County WTD is coordinating directly with King County Parks and City of Redmond Parks.
- Trail detours will be provided for cyclists and pedestrians. Trail detours are being coordinated using feedback from local jurisdictions, community organizations and bike advocacy groups.
- The County will restore the existing trail to King County Parks regional trail standards by increasing the paved and gravel surfaces.
- The County intends to use a trenchless construction method to cross under the Sammamish River to avoid impacts to the water surface and recreational river users.
- The County intends to use a trenchless construction method to cross under the entrance to Marymoor Park to avoid any impacts to access of this regional resource.
- The County will, to the extent possible, avoid construction near the Marymoor entrance during the summer months when park use is at its peak.
- The County will, to the extent possible, coordinate with community groups to accommodate major trail events during construction.

## 13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.**

Yes. The NWLSI portion of the project is located within 400 to 900 feet of three National Register listed properties – The James W. Clise, House, Marymoor Farm Dutch Windmill, and Marymoor Prehistoric Indian Site (45-KI-9). These properties are all located on the opposite bank of the Sammamish River and will not be impacted by the project. The project is also within 150 feet of the western boundary of the Willowmoor Farm Historic District (also located on the east bank of the Sammamish River), which is a King County Landmark.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

Yes. The NWLSI portion of the project is located across the mapped boundaries of five recorded archaeological sites.

Site 45-KI-8 was recorded by Dr. Robert Greengo (1966) based on artifacts collected by an avocational; the assemblage reputedly included a “Llano” (i.e., Clovis) projectile point. Survey probes performed by ESA in 2016 identified no evidence for this site.

In 2016 and 2017, ESA (2017) recorded and investigated three new archaeological sites in the project area, each of which contains in situ (its original place) stone tools and/or debitage (material produced during the making of stone tools). Two sites also contain artifacts associated with historic occupation of Willowmoor/Marymoor Farm.

In June 2018, ESA recorded a potential new site, an abandoned road berm and allee of planted poplar trees that evidently served as the original main drive entrance to Willowmoor Farm during the time of occupation by the James Clise family (circa 1904-1921).

Professional studies conducted to identify such resources include a cultural resources screening by the King County Department of Natural Resources and Parks Historic Preservation Program (HPP) (2013); Existing Conditions Assessment (ESA 2015); Historic Property Inventory Survey (ESA 2017); and Report of Archaeological Fieldwork (ESA 2017).

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

The project was screened by the Department of Natural Resources and Parks HPP in 2013. HPP provided recommendations, including that a subsurface archaeological survey be conducted prior to construction. The anticipated Section 106 Consulting Parties, which include potentially affected tribes, the USACE, the DAHP, and King County, have discussed survey work, and informed the additional work being completed prior to construction.

An existing conditions assessment was conducted by ESA in 2015 to identify potential historic and cultural resources. WTD coordinated with the tribes, the USACE, and the DAHP early in 2016 to review ESA's proposed plan to monitor pre-construction geotechnical borings. The Archaeological Monitoring of Geotechnical Test Work Plan (ESA 2016) was reviewed the USACE, and the DAHP.

An Archaeological Survey Work Plan (ESA 2016) was reviewed by the tribes, the USACE, and the DAHP. Pre-design archaeological survey within the area of potential effect was conducted by ESA in 2016.

Additional archaeological survey and testing was conducted in late 2017 within portions of the NWLSI pipeline alignment, per input received from the anticipated Section 106 Consulting Parties. The additional testing was completed in order to determine the extent of and boundaries of archaeological sites within the vicinity of the project alignment, which had been partially delineated by ESA during the 2016 pre-design archaeological survey. A Supplemental Archaeological Survey and Testing Work Plan (ESA 2017) was reviewed by the tribes, the USACE, and the DAHP prior to commencing work. ESA prepared an archaeological delineation work plan 2017, which was also reviewed by the tribes, USACE, and DAHP prior to commencing work. Results of this work will inform the project Archaeological Resources Monitoring Plan and Inadvertent Discovery Plan that will be prepared for the project.

**d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

The project will require an USACE Section 404/10 approval. Consultation under Section 106 of the National Historic Preservation Act will be completed as part of the process, and King County will implement applicable mitigation and minimization measures resulting from the consultation.

Archaeological monitoring will be conducted during construction as described in the Archaeological Resources Monitoring and Inadvertent Discovery Plan prepared for the project. Construction specifications will include language for proper treatment of archaeological materials if they are encountered.

## 14. Transportation

**a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The project area can be accessed from the following streets and highway: SR 520, NE 85th Street, West Lake Sammamish Parkway NE, NE Redmond Way, Leary Way NE, NE Bellevue-Redmond Road, 177th Avenue NE, NE 34th Street, 179th Avenue NE, 180th Avenue NE, and NE 24th Street.

Temporary road closures will occur on some arterial and residential roads. See section B.14.h for additional information regarding temporary roadway closures and potential impacts to transportation and traffic.

**b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

The project area is currently served by both Sound Transit and King County Metro. King County operates 14 bus transit routes in proximity to the study area including Rapid Ride Lines, all-day routes, and peak-only routes. Only one route travels along the sewer alignment (249) and would expect possible detours during construction. Sound Transit routes operating near the project area are not anticipated to require detours.

**c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?**

The project will not have any permanent impacts on parking facilities.

It is anticipated that on-street parking will temporarily be eliminated along West Lake Sammamish Parkway NE for construction use. West Lake Sammamish Parkway NE, approximately between 172<sup>nd</sup> Ave NE and NE 40<sup>th</sup>, may also be closed to vehicular traffic to accommodate pedestrian traffic during construction. The timing and duration of the closure will be determined by the Contractor's construction schedule.

Off-street parking will likely be temporarily eliminated at nearby business and high-density residential buildings as a result of construction. Up to 39 parking spaces may be temporarily eliminated in Redmond during construction of the Sammamish River crossing, 32 of the anticipated eliminated parking spaces occurring at Westgate Business Park.

Some of the parking at the Sammamish Rowing Club will be temporarily eliminated during construction. Street parking in front of the retirement facility at the intersection of Bel-Red and West Lake Sammamish Parkway will be temporarily closed during construction activities between Bel-Red and 172<sup>nd</sup> Ave for approximately three (3) months.

A construction access easement between Redmond Way and Redmond Central Connector will impact a row of private parking adjacent to Redmond Way while construction is occurring between NE 85<sup>th</sup> Street and Redmond Way. This will be up to a year of construction. The Contractor will be responsible for identifying construction access and equipment staging locations, which may require additional temporary impacts to parking.

**d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

No new roads or improvements to existing roads are planned as part of this project. Restoration of existing road surfaces impacted by the project would occur following completion of construction.

Approximately 2.1 miles of the pipeline alignment is located within City of Redmond roadways and the southern terminus of the project is located at the jurisdictional boundary of the Cities of Redmond and Bellevue. The project will require excavation within these roads and sidewalks requiring roadway restoration. If the pipeline alignment crosses a cross-walk or curb cut pathway, curb ramps will be installed in compliance with American Disabilities Act (ADA) as a part of the restoration.

Approximately 1.5 miles of the pipeline alignment is located within or adjacent to the King

County-owned Sammamish River Trail and City of Redmond-owned trail directly south of the Marymoor Park Entrance. Trail improvements including asphalt trail widening to the current King County Park's trail standard will be included where the existing trail is used for construction access or where excavation for proposed pipelines disturb the existing trail.

**e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

No.

**f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

No additional vehicular trips will be generated by the completed project.

**g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

No.

**h. Proposed measures to reduce or control transportation impacts, if any:**

A Transportation Impact Technical memo was completed for the project (HDR 2017). Contractors will be required to comply with a traffic control plan, approved by the appropriate jurisdictions.

Typical traffic control measures that could be implemented include:

- Provide detours;
- Provide flaggers as necessary to manage traffic;
- Maintain access to businesses and residences;
- Provide advance notice of the project through postings and other means to alert potentially-affected residences and businesses, and users of affected roadways;
- Work with residents and businesses to minimize inconvenience when construction activities affect access to their properties.
- Provide continuous access to emergency vehicles and other services during construction.

The pipeline alignment is located within roadways including arterial roads such as West Lake Sammamish Parkway NE, NE 24th Street, and 177th Avenue NE and 180th Avenue NE, and residential roads such as 177th Avenue NE and 179th Avenue NE.

Installation of the new pipeline will require temporary closures of one or more lanes of vehicle traffic or rolling closures of all vehicle traffic lanes. It is anticipated that at least the southbound lane of West Lake Sammamish Parkway NE will be closed with a single lane remaining to alternate northbound and southbound traffic with a flagger. Temporary lanes closures are anticipated to be on an intermittent basis, and will be determined by the Contractor's construction schedule and sequencing.

180th Avenue NE between Audubon Elementary School and NE 24th Street will likely be closed for construction use, with the portion directly adjacent to Audubon being constructed during the summer when school is not in session. It is anticipated that the eastbound lane on NE 24th Street would be closed for construction. Possible detours include the following streets: Tosh Road/NE 51st Street, 156th Avenue NE, NE 40th Street, Bel-Red Road, 172nd Avenue NE, NE 36th Street, West Lake Sammamish Parkway NE south of NE 36th Street, and NE 24th Street east of 180th Avenue NE.

Detours will use existing local trails wherever possible. Detour signs will be provided for clear wayfinding. Proposed detour routes include the Heron Rookery Trail, Redmond Central Connector Trail, Bear Creek Parkway Trail, East Lake Sammamish Parkway Trail, and roadways such as West Lake Sammamish Parkway NE, Marymoor Way, 161st Avenue NE, and 158th Avenue NE. Detour routes will be reviewed and coordinated with King County and Redmond Parks.

Community residents will be notified in advance of all lane, street, trail, and crosswalk closures. Local and emergency vehicle access will be maintained throughout the project. Detour routes for motorized vehicles, bicycles, and pedestrians will be clearly signed and be as direct as possible. All construction-related traffic disruptions and construction working hours will be coordinated with the City of Bellevue, City of Redmond, King County Metro Transit, and private transit providers such as school buses.

## 15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

No.

- b. Proposed measures to reduce or control direct impacts on public services, if any.**

King County is coordinating directly with the City of Redmond to minimize impacts to public services. Coordination may include providing notification to property owners and residents about upcoming construction, and coordination with service providers such as transit, waste disposal, and postal delivery services.

## 16. Utilities

- a. Circle utilities currently available at the site:**

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other fiber optic

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

The King County Wastewater Treatment Division (WTD) proposes to upgrade approximately 4.5

miles of conveyance sewer pipeline in parts of the City of Redmond, unincorporated King County, and the City of Bellevue (Figure 1). The project will accommodate sewer service capacity for current and future growth within the North Lake Sammamish Conveyance System Planning Basin, including portions of Redmond, Bellevue, and a small portion of Kirkland, to convey up to 20 year peak flows through the year 2060.

The proposed alignment crosses a number of existing utilities including gas, power, water, storm sewer, communication, and fiber optic. Temporary utility relocation may be necessary during construction along pipeline alignments which may result in short-term temporary impacts to some services. Permanent relocation of existing City of Redmond water lines and Puget Sound Energy gas lines may be necessary during construction.

**C. Signature**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:   
Katherine Fischer, Supervisor  
Environmental Services Unit

Date Submitted: 7/30/18



**Legend**

-  Lake Hills Trunk and Northwest Lake Sammamish Interceptor
-  City limit
-  Stream



**Figure 1.**  
Vicinity Map for the Lake Hills Trunk and Northwest Lake Sammamish Interceptor Upgrade Project.

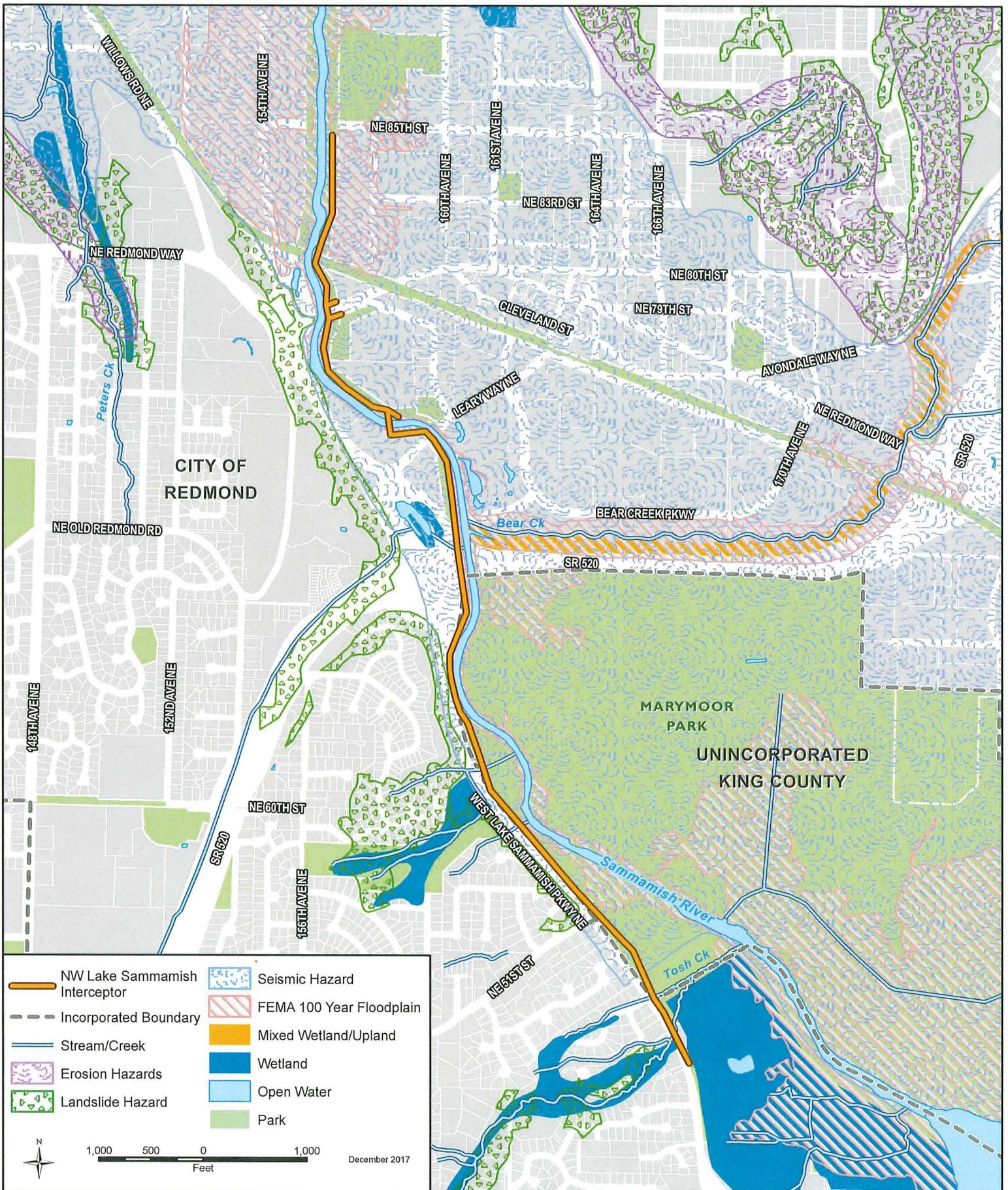


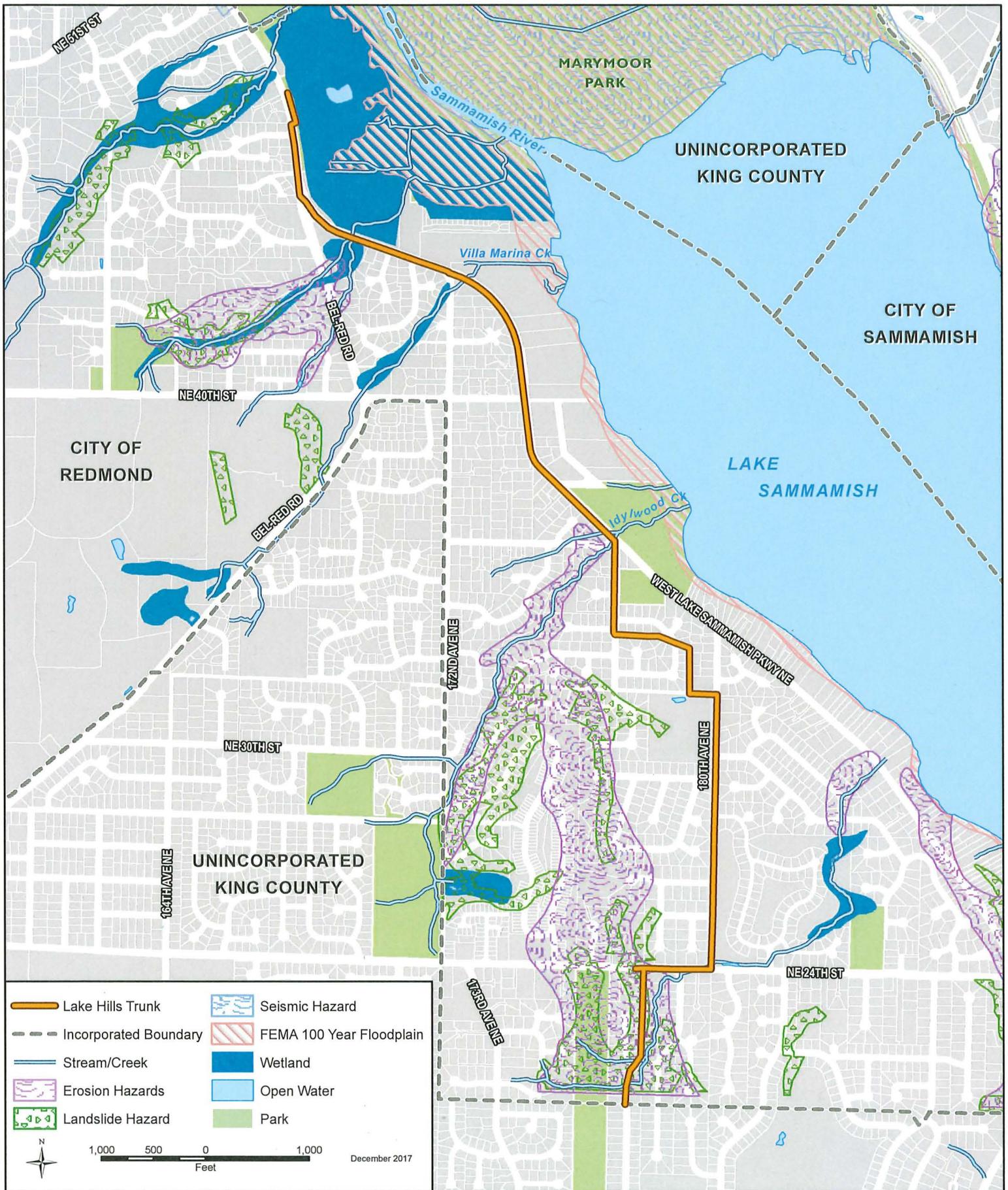
0 2,000 4,000 8,000  
Feet



Prepared for King County by Herrera

K:\Projects\12012\12-05356-000\Project\Report\NoEffect\vicinity\_map.mxd (8/27/2017)





- Lake Hills Trunk
- Incorporated Boundary
- Stream/Creek
- Erosion Hazards
- Landslide Hazard
- Seismic Hazard
- FEMA 100 Year Floodplain
- Wetland
- Open Water
- Park

1,000   500   0   1,000  
Feet
December 2017

King County Greenhouse Gas Emissions Worksheet - Lake Hills Trunk/NW Lake Sammamish Interceptor Upgrade Project

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			Lifespan Emissions (MTCO2e)
			Embodied	Energy	Transportation	
Single-Family Home.....	0		98	672	792	0
Multi-Family Unit in Large Building .....	0		33	357	766	0
Multi-Family Unit in Small Building .....	0		54	681	766	0
Mobile Home.....	0		41	475	709	0
Education .....		0.0	39	646	361	0
Food Sales .....		0.0	39	1,541	282	0
Food Service .....		0.0	39	1,994	561	0
Health Care Inpatient .....		0.0	39	1,938	582	0
Health Care Outpatient .....		0.0	39	737	571	0
Lodging .....		0.0	39	777	117	0
Retail (Other Than Mall).....		0.0	39	577	247	0
Office .....		0.0	39	723	588	0
Public Assembly .....		0.0	39	733	150	0
Public Order and Safety .....		0.0	39	899	374	0
Religious Worship .....		0.0	39	339	129	0
Service .....		0.0	39	599	266	0
Warehouse and Storage .....		0.0	39	352	181	0
Other .....		0.2	39	1,278	257	0
Vacant .....		0.0	39	162	47	0

Section II: Pavement.....

Pavement.....		33,000.00				1650000
---------------	--	-----------	--	--	--	---------

**Total Project Emissions:** 0

Note: Project will install approximtaily 24,000 linear feet of new or upgraded sanitary sewer pipeline. Approximately 33,000 square feet of new impervious surface will result from trail improvements, trail widening, and installation of new manholes.