

Attachment 8

# NE 4th Street/ 120th Avenue NE Corridor Project

## Fisheries, Wildlife, and Vegetation Technical Report

*prepared for*  
City of Bellevue

*prepared by*  
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April 15, 2011





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## Acronyms and Abbreviations

BNSF	Burlington Northern Santa Fe
CMP	corrugated metal pipe
Corps	U.S. Army Corps of Engineers
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
GIS	geographic information system
NPDES	National Pollutant Discharge Elimination System
NMFS	National Marine Fisheries Service
PEM/SS	palustrine emergent, scrub-shrub wetland
S&W	Shannon & Wilson
SR	State Route
TWLTL	Two-way, left turn lane
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington State Department of Fish and Wildlife
WNHP	Washington Natural Heritage Program

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## Executive Summary

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The proposed NE 4th Street/120th Avenue NE Corridor Project would affect limited natural resources, including fish, wildlife, and vegetation, because of its location in an urban environment where most surfaces are covered by impervious buildings, asphalt, and concrete. Four wetlands, identified as Wetlands A, B, C, and D, were delineated in the central and northern portions of the project corridor. Native vegetation in the study area is limited to these four palustrine wetlands and a small area of nearby forested uplands. In addition, native trees have been planted along the entire corridor as part of the landscaping.

Sturtevant Creek crosses NE 4th Street at roughly its intersection with Interstate 405 (I-405), more than 500 feet west of the project corridor. The creek is in a highly developed area and has been urbanized. Lake Bellevue, the headwaters to Sturtevant Creek, is approximately 100 feet west of 120th Avenue NE and is surrounded by urban development. As such, vegetation is limited to small areas of cattails and willows along the lake fringe. The West Tributary of Kelsey Creek begins at Wetland D in the northern portion of the project corridor and flows east beneath 120th Avenue NE in a 36-inch culvert into Wetland C. No fish use has been documented in the tributary between its headwaters at Wetland D and the downstream culvert at Bel-Red Road.

Washington Department of Fish and Wildlife (WDFW) priority habitats in the project corridor include freshwater wetlands (Wetlands A, B, C, and D), fresh deepwater habitat (Lake Bellevue), riparian (West Tributary of Kelsey Creek), and instream (West Tributary of Kelsey Creek).

Pileated woodpeckers (a state candidate species) likely use Wetland A for foraging and may also use snags observed in Wetlands C and D. Given the presence of aquatic habitat in Wetland D, the Western toad, a state candidate species, and the Pacific pond turtle, listed by the state as endangered, could be present. However, the project area does not contain sufficient upland/terrestrial habitat to sustain a Western toad population, and any Pacific pond turtles found would be an isolated population.

Waterfowl that may use Lake Bellevue include Western grebe (a state candidate species), other grebes, cormorants, dabbling ducks, diving ducks, geese, and wading birds. The Great blue heron also may be found foraging in Sturtevant Creek, Lake Bellevue, and the West Tributary of Kelsey Creek.

The project would fill approximately 10 linear feet of the stream channel of the West Tributary of Kelsey Creek and daylight approximately 150 linear feet of new stream channel. The existing non-fish-passable culvert at the 120th Avenue NE crossing would be replaced with a fish-passable culvert that would be large enough to allow for some wildlife passage. In areas not adjacent to the culvert, the widening of 120th Avenue NE would make it more difficult for

1 wildlife to cross safely. Approximately 8,260 square feet of pileated woodpecker  
2 habitat in Wetland A would be cleared. The project would result in permanent  
3 removal of vegetation in the project corridor, including wetland fill, wetland  
4 buffer clearing/filling, and upland forest clearing.

5 Potential indirect effects include more contaminants and sediment entering  
6 roadway stormwater runoff as a result of increases in vehicle usage. No  
7 cumulative effects have been identified as a result of project construction and  
8 operation.

9 Mitigation measures include avoiding and minimizing clearing, grading, and  
10 filling of project corridor wetlands, streams, and forested areas during  
11 preliminary engineering design; protecting these habitats during construction;  
12 and mitigating unavoidable impacts to the areas after construction is complete.  
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# 1.0

# Introduction

## 1.1 Purpose of This Report

This *Fisheries, Wildlife, and Vegetation Technical Report* is being prepared as part of the NE 4th Street/120th Avenue NE Corridor Project for the City of Bellevue (City). The project proposes to extend NE 4th Street east from its current terminus at 116th Avenue NE to a new intersection with 120th Avenue NE, and widen and realign 120th Avenue NE north from the new intersection with NE 4th Street northward to Northup Way. The project is located in Section 28, Township 28 North, Range 5 East, Willamette Meridian.

The purpose of this report is to describe the potential effects of the project on fish, wildlife, and vegetation. This report discusses existing conditions, the proposed project, potential effects of the project, and measures taken to minimize those effects.

## 1.2 Permits Needed

Several federal, state, and local permits and approvals are required for projects involving work in or near aquatic resources, protected wildlife habitat areas, and protected vegetation communities. Table 1-1 summarizes common permits that likely would be required for this project, but this is not an exhaustive list.

**Table 1-1. Permits Needed**

Permit/Approval	Lead Agency	Trigger
National Environmental Policy Act	Lead Federal Agency	Federal nexus (federal land, federal funding, federal permit)
Clean Water Act Section 404	U.S. Army Corps of Engineers (Corps)	Dredge or fill of waters of the U.S., including jurisdictional wetlands, streams, and lakes
Hydraulic Project Approval	Washington State Department of Fish and Wildlife	Work in or over streams
Clean Water Act Section 401	Washington State Department of Ecology (Ecology)	Impacts to waters of the U.S., including jurisdictional wetlands, streams, and lakes
National Pollutant Discharge Elimination System (NPDES) Permit	Washington State Department of Ecology	Ground disturbance of 1 acre or more
State Environmental Policy Act	Local City	Proposed government action defined in the State Environmental Policy Act rules that is not categorically exempt (Washington Administrative Code 197-11-704 and 197-11-800 through 890)
Critical Areas Review	Local City or County	Work in or near critical areas, including streams, lakes, wetlands, protected wildlife and wildlife habitat, and steep slopes (some jurisdictions include additional critical areas)
Clearing and Grading Permit	Local City	Clearing and grading activities over a certain size threshold and/or in a critical area (varies by jurisdiction)

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## Proposed Project

### 2.1 Project Overview

The City of Bellevue (City) proposes to implement arterial street transportation improvements to NE 4th Street and 120th Avenue NE in Bellevue, Washington. The improvements along the combined roadway corridors are referred to as the NE 4th Street/120th Avenue NE Corridor Project. The project corridor is located approximately 1 mile east of the Downtown Bellevue center. Major regional transportation connections and facilities in the project vicinity include Interstate 405 (I-405) to the west and State Route 520 (SR 520) to the north.

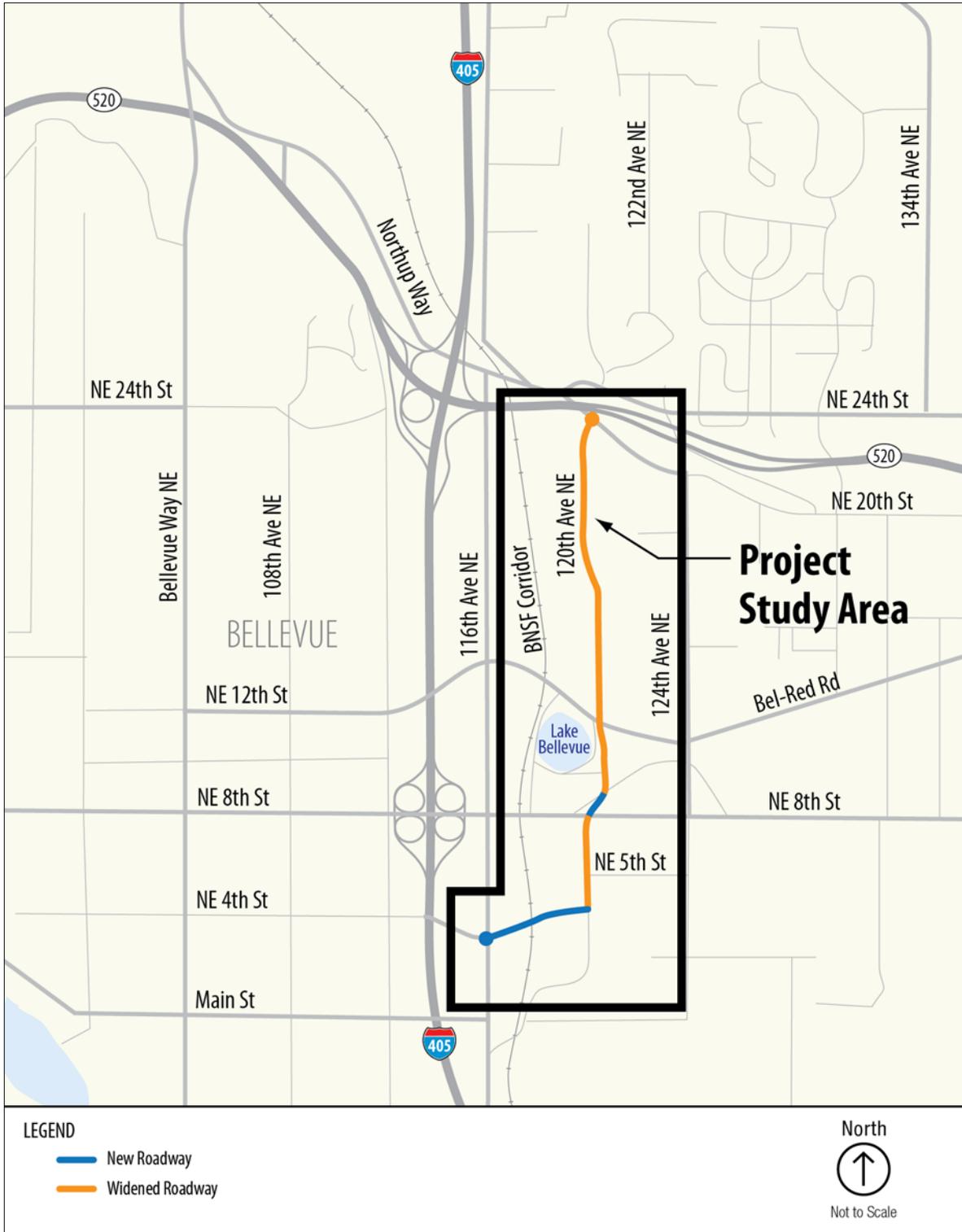
The project extends from the intersection of NE 4th Street with 116th Avenue NE eastward to 120th Avenue NE and then northward along 120th Avenue NE to Northup Way. Key project elements include—the extension of NE 4th Street from its existing terminus with 116th Avenue NE eastward to 120th Avenue NE; widening of existing 120th Avenue NE from the proposed intersection with NE 4th Street northward to Northup Way; and the realignment of a new segment of 120th Avenue NE between NE 8th Street and Bel-Red Road. Figure 2-1 shows the project study area.

The NE 4th Street/120th Avenue NE Corridor Project is one of a number of high priority transportation investments that make up the City of Bellevue’s Mobility and Infrastructure Initiative. This initiative was formed to address unprecedented growth in Downtown Bellevue and to support planned growth in the Bel-Red, Spring District, and Wilburton areas.

Other key projects included in the initiative that would complement the proposed project include the following:

- NE 5th Street neighborhood project improvements
- NE 6th Street Extension from 112th Avenue NE to 120th Avenue NE
- NE 15th Street multi-modal corridor improvements north of NE 12th Street (also supporting Sound Transit’s East Link Project)
- 124th Avenue NE improvements from NE 8th Street to Northup Way.

For each of these projects, new travel lanes, non-motorized facilities, signal enhancements, illumination, and various structure and utility relocations would be included.



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Figure 2-1. Project Study Area

1    **2.2 Project Purpose and Need**

2       The purpose of the proposed project is to achieve the following:

- 3           • Support and accommodate the City’s adopted future land use changes and  
4           resulting travel demands.
- 5           • Improve local traffic circulation.
- 6           • Bring corridor features into compliance with current and proposed design  
7           standards and guidelines.
- 8           • Prepare the project corridor to support connections to planned transit  
9           facilities, specifically Sound Transit’s East Link Project light rail alignment.

10       Collectively, the proposed project elements (see Figure 2-2) would enhance area-  
11       wide mobility by adding capacity to support the expected growth in travel  
12       demand, constructing critical missing links in the City’s traffic distribution  
13       network, and easing congestion in other travel corridors. Moreover, the project  
14       would provide planned pedestrian and bicycle facilities, as well as enhanced  
15       connections to transit facilities identified in City plans.

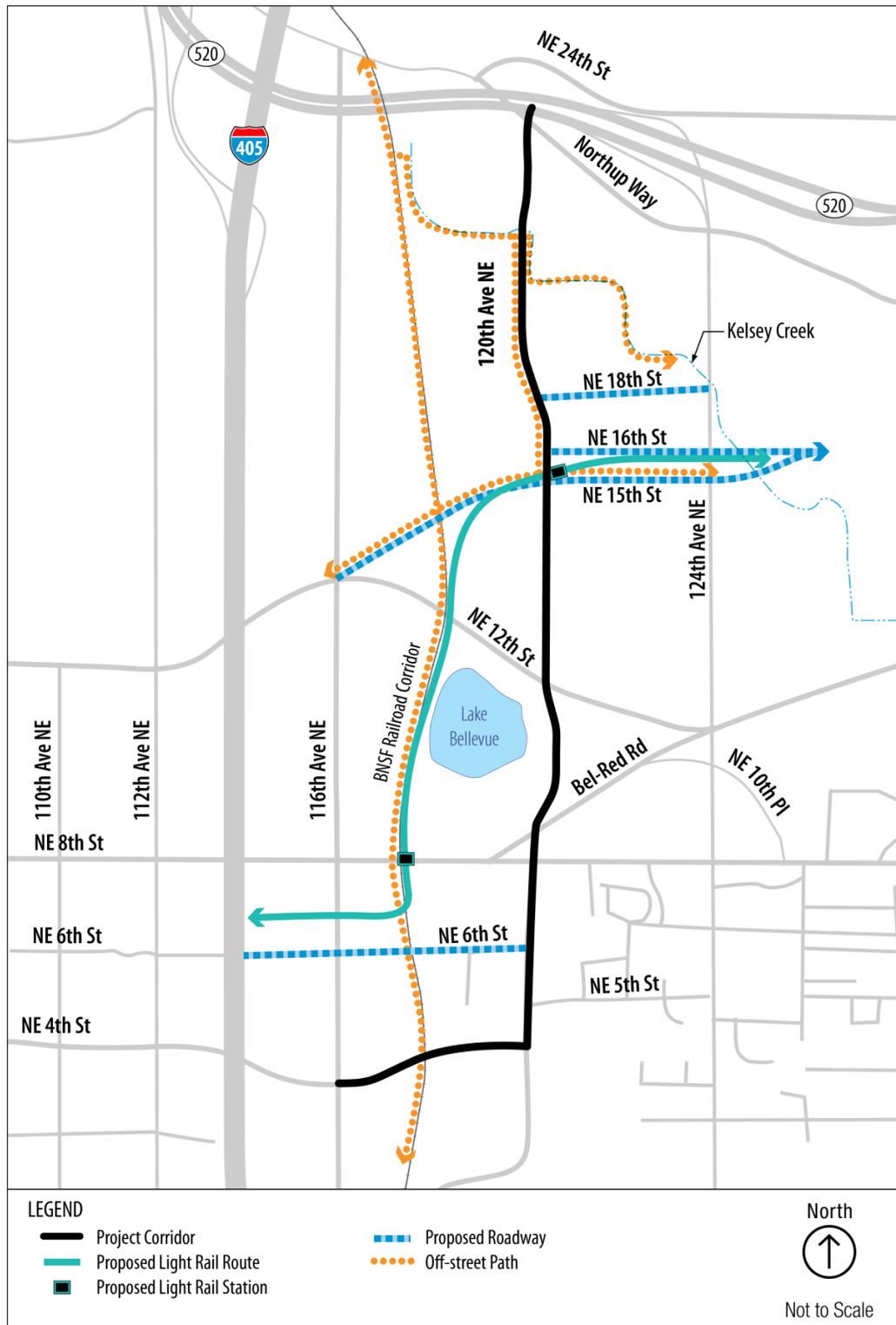
16       It would improve access for other modes to local recreational facilities,  
17       businesses, and the planned Link light rail stations at NE 8th Street and  
18       118th Avenue NE and between NE 15th and NE 16th Streets just east of  
19       120th Avenue NE.

20       In summary, the proposed project would meet the following objectives:

- 21           • To provide acceptable level of service at existing and planned study area  
22           intersections to meet anticipated long-term travel demands.
- 23           • To improve access and connectivity with the regional and local  
24           transportation networks.
- 25           • To enhance long-term traffic operations over time by incorporating design  
26           standards that serve a variety of transportation modes, including the needs  
27           of large trucks and freight vehicles, as well as buses.
- 28           • To improve quality of life by improving mobility and transportation choice,  
29           particularly for transit, bicycle, and pedestrian traffic.

30       As shown in preliminary traffic analysis work for the NE 4th Street extension and  
31       the widening and realignment of 120th Avenue NE, the project elements would  
32       enhance the Wilburton/NE 8th Street and Bel-Red Subareas as well as the region  
33       in terms of travel mobility and access to neighborhoods and businesses. This is  
34       primarily the result of new and enhanced connections across the Burlington  
35       Northern Santa Fe (BNSF) corridor and NE 8th Street, respectively. The proposed  
36       project also provides expanded arterial street capacity and driveway  
37       consolidation along 120th Avenue NE. The project termini are logical because  
38       they bracket the extent of the expected future development in the Wilburton/

- 1 NE 8th Street and Bel-Red Subareas and would complement adjacent roadway
- 2 improvements and planned light rail transit facilities.



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Figure 2-2. Planned Transportation Connections in the Study Area

1 **2.3 Corridor Improvements**

2 **2.3.1 Programmed Corridor Improvements**

3 This corridor is comprised of two projects currently listed in the regional and  
4 state transportation improvement programs. These projects are described below.

- 5 • **NE 4th Street Extension (116th to 120th Avenue NE)**—Construct a new  
6 four to five lane roadway with arterial standard curb, gutter, sidewalk  
7 (including planting strips) and five-foot bike lanes on both sides. The  
8 project includes a new signalized intersection at 120th Avenue NE and  
9 illumination, landscaping, and stormwater drainage/detention. The  
10 extension will be designed to accommodate future development and uses  
11 of the BNSF corridor.
- 12 • **120th Avenue NE Corridor—NE 4th Street to Northup Way**
  - 13 □ From NE 4th to NE 18th Streets—Widen to five lanes with a two-  
14 way center turn lane; provide bike lanes along selected segments;  
15 install continuous sidewalks to arterial standards; realign the  
16 roadway between Bel-Red Road and NE 8th Street; and improve  
17 intersections (including additional turn lanes) at NE 8th, NE 12th,  
18 and NE 16th Streets.
  - 19 □ From NE 18th Street to Northup Way—Widen to four lanes with  
20 arterial standard sidewalk and a separated multi-use path on the  
21 west side. The project will be constructed in phases. Federal  
22 funding awarded to improvements, including bike lanes, planned  
23 between NE 4th and NE 8th Streets.

24 This revised description was submitted to Puget Sound Regional Council [PSRC]  
25 April 8, 2011 for the June 2011 Amendment to the Statewide Transportation  
26 Improvement Program (STIP).

27 **2.3.2 Proposed Corridor Improvements**

28 Specific design elements include the following:

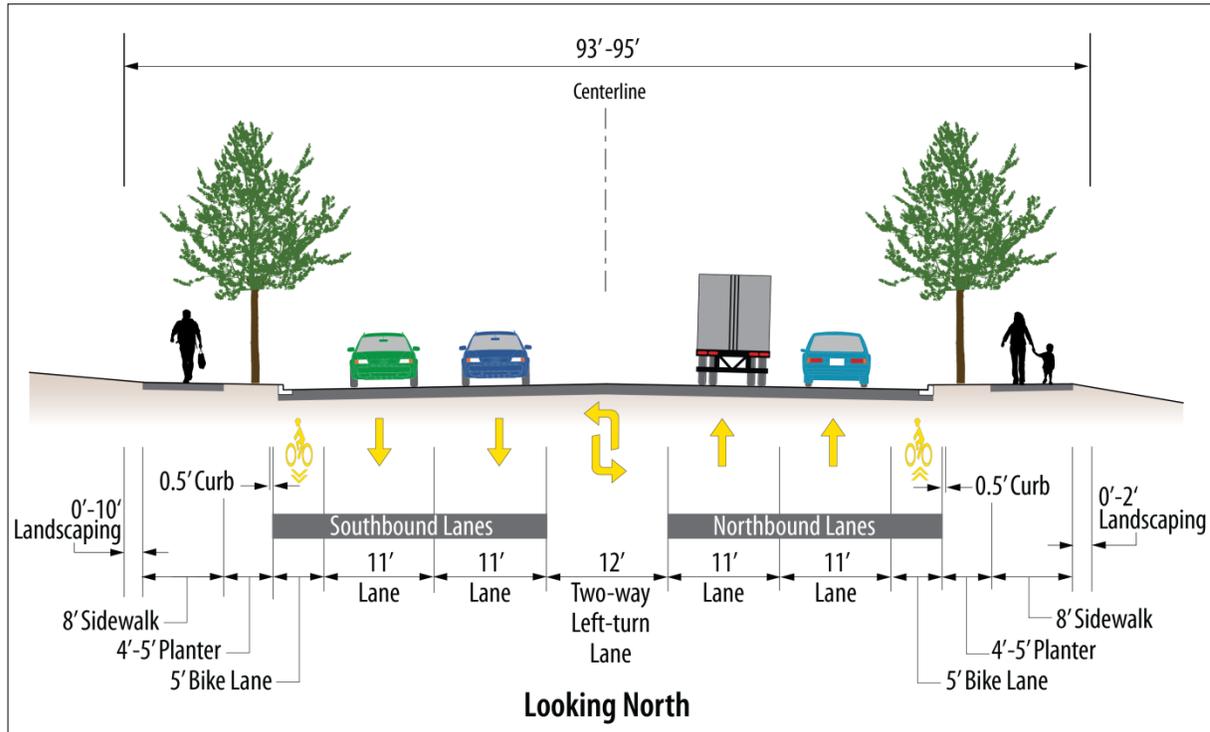
- 29 • Extend NE 4th Street as a five-lane roadway from 116th Avenue NE to  
30 120th Avenue NE. There are two minor alignment options under  
31 consideration for this proposed roadway extension east of the BNSF  
32 corridor. Impacts of both options are considered in this analysis.
- 33 • Widen 120th Avenue NE to five travel lanes from the NE 300 block to the  
34 planned NE 15th Street intersection.
- 35 • Extend 120th Avenue NE south of Bel-Red Road to NE 8th Street. The  
36 existing section of Bel-Red Road between NE 8th Street east and  
37 120th Avenue NE, roughly 300 feet long, would be abandoned.
- 38 • Widen 120th Avenue NE to four lanes north of NE 18th Street to just south  
39 of Northup Way with a transition section occurring between NE 15th and  
40 NE 18th Streets.

- 1           • Construct improvements that support the planned new intersections at  
2           NE 15th/16th and NE 18th Streets and Sound Transit’s East Link light rail  
3           line that would pass under 120th Avenue NE.
- 4           • Install continuous sidewalks and bicycle facilities designed to arterial  
5           street standards on NE 4th Street and 120th Avenue NE north to  
6           NE 15th Street. North of NE 15th Street, a two-way bicycle trail would be  
7           located on the west side of the roadway to allow connection with planned  
8           regional trails west, north, and east of 120th Avenue NE. Sidewalks will still  
9           be present on both sides of 120th Avenue NE north of NE 15th Street.
- 10          • Install planting strip(s) on both sides of the roadways and create other  
11          green spaces where possible.
- 12          • Install stormwater conveyance, detention, water quality treatment  
13          facilities, and use natural drainage practices to the extent practicable.
- 14          • Connect with and minimize effects to wetlands and open space areas,  
15          including a planned community park near Northup Way.
- 16          • Provide other project elements, including illumination, landscaping,  
17          structural retaining walls, traffic signals, and new and relocated utilities.

18          The five-lane roadway design is proposed for both the extension of NE 4th Street  
19          from 116th Avenue NE to 120th Avenue NE and the widening/realignment of  
20          120th Avenue NE north to NE 15th Street. This proposed roadway cross-section  
21          is shown in Figure 2-3. The roadway would be designed to meet City standards  
22          for an urbanized arterial that has four through travel lanes—two 11-foot-wide  
23          lanes in each direction. A center 12-foot-wide, two-way, left-turn lane would  
24          allow turning movements to adjacent properties. Generally, a 5-foot-wide bike  
25          lane would be provided on each side of the roadway adjacent to the curb. A 4- to  
26          5-foot-wide planter strip is proposed between the curb and the 8-foot-wide  
27          sidewalk. However, the size and location of the sidewalks, bicycle facilities, and  
28          planter strips vary somewhat along the corridor to accommodate natural  
29          drainage practices, retaining walls, and existing buildings.

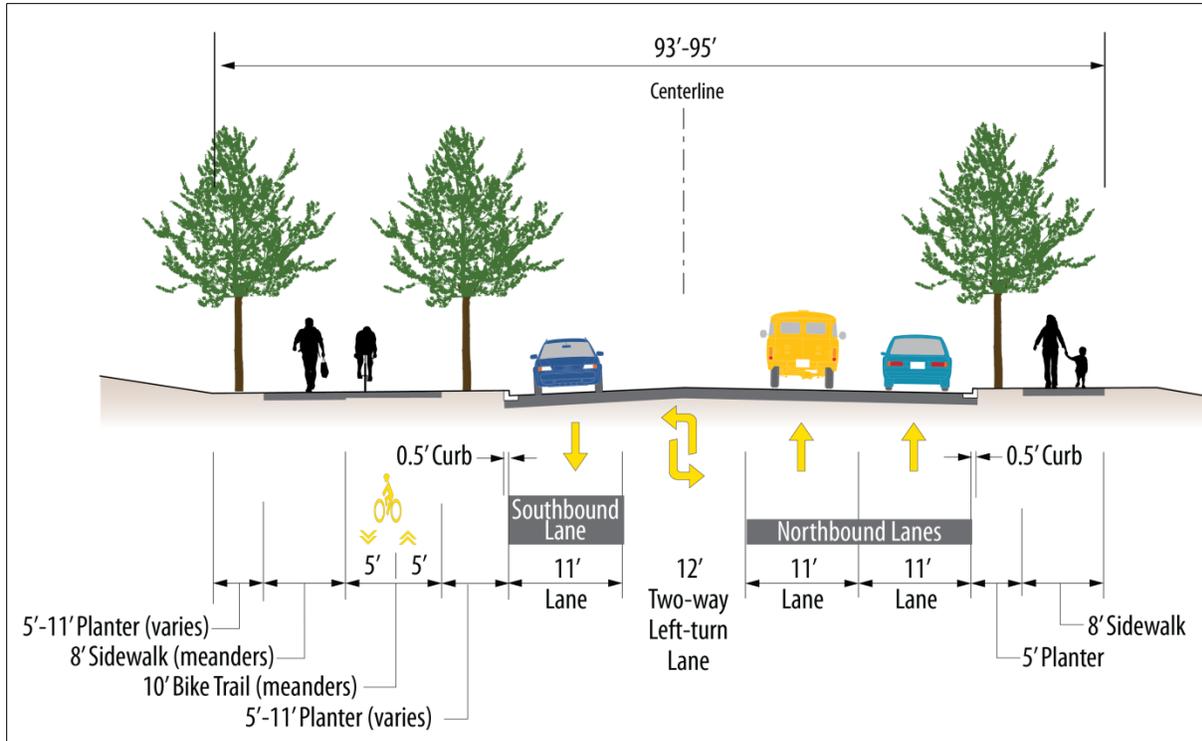
30          As mentioned earlier, this analysis addresses the potential impacts of two minor  
31          alignment options for the extension of NE 4th Street east of the BNSF corridor.  
32          The alignment for Option 1 is farther north than that of Option 2. The Option 1  
33          alignment would require acquisition of a portion of the southern side of the Best  
34          Buy building and displace access to the loading dock located on the west side of  
35          the building. Negotiations with the property owner are ongoing and may include  
36          construction of a building addition on the north side of the existing structure  
37          and/or realignment of the loading dock access to the north of the building.  
38          Option 2, roughly 55 feet south of the Option 1 alignment, would not require  
39          acquisition of any portion of nearby buildings, but would displace a substantial  
40          amount of parking on the Home Depot property as well as displace the Best Buy  
41          building’s access to the loading dock area. Again, negotiations are ongoing with  
42          the property owners and mitigation may include construction of a new loading

1 dock access for the Best Buy property on the north side of the existing structure  
2 and/or a new parking garage on the Home Depot property. Note, the design for  
3 improvements along 120th Avenue NE south of NE 8th Street do not assume  
4 either option has been selected, but rather improvements are based on existing  
5 curb cuts for the driveway access to parking for the Best Buy and Home Depot  
6 properties.



7  
8 **Figure 2-3. Typical Section—Five-lane Roadway Design**

9 A four-lane roadway section is proposed for 120th Avenue NE from  
10 NE 18th Street to just south of Northup Way with a transition section occurring  
11 between NE 15th and NE 18th Streets. At the intersection at Northup Way, the  
12 cross-section would again be five lanes to allow for adequate turning movement  
13 capacity. This proposed four-lane cross-section is show in Figure 2-4. The  
14 roadway would be designed to meet City standards for an urbanized arterial that  
15 has three travel lanes—two 11-foot-wide lanes northbound and one southbound.  
16 The two directions of travel would be separated by a 12-foot-wide two-way, left-  
17 turn lane that would permit turning movements to adjacent properties. A 5-foot-  
18 wide planter strip is proposed between the curb and the 8-foot-wide sidewalk on  
19 the east side of the street. A variable-width planter strip is proposed for each side  
20 of a two-way, 10-foot-wide bike trail and 8-foot-wide sidewalk that would be  
21 constructed on the west side of the street. There would be no bike lanes in the  
22 roadway north of NE 18th Street.



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**Figure 2-4. Typical Section—Four-lane Roadway Design**

3 Both of the proposed roadway cross-sections also include the use of retaining  
4 walls, which would further increase the width of the required right-of-way  
5 beyond 95 feet. Retaining walls are proposed at numerous locations along the  
6 corridor and they would be located on both sides of the roadway. They would be  
7 used for both cut walls and fill walls. When retaining walls are required, these  
8 structures would generally be located immediately adjacent to the sidewalk. The  
9 width of the retaining walls would vary depending on the design, but would be a  
10 maximum of about 3 feet in width. To the outside of the retaining  
11 walls for maintenance and repair, the acquired right-of-way would include the re-  
12 graded area to the outside of the retaining walls. This re-graded area would likely  
13 be a minimum of 10 feet. As such, the acquired right-of-way width could be  
14 121 feet or more where retaining walls are needed on both sides of the roadway.  
15

16 Note, the term “right-of-way,” as used in this report, includes both right-of-way  
17 owned by the City and permanent easements (i.e., the complete footprint of the  
18 project).

1    **2.4    Project Construction**

2    **2.4.1   Construction Duration and Phasing**

3           Project construction would be phased and is expected to be completed from late  
4           2011 to at least 2016 to match the programming of local, state, and federal  
5           funding sources. Each phase would last approximately 12 to 15 months. The  
6           planned phases, which may be further sub-divided into construction stages, are:

- 7           • Phase 1—120th Avenue NE widening between approximately the NE 300  
8           block north to NE 7th Street.
- 9           • Phase 2—120th Avenue NE new construction between NE 8th Street and  
10           Bel-Red Road, and realignment and widening between approximately  
11           Bel-Red Road north to NE 12th Street.
- 12           • Phase 3—NE 4th Street extension between 116th Avenue NE east to  
13           120th Avenue NE.
- 14           • Phase 4—120th Avenue NE widening between approximately  
15           NE 12th Street north to NE 16th Street.
- 16           • Phase 5—120th Avenue NE widening between NE 16th Street north to  
17           Northup Way.

18           Based on the Wilburton/NE 8th Street and Bel-Red Subarea Plans, it is essential  
19           that all phases of the NE 4th Street/120th Avenue NE Corridor Project be  
20           implemented in order to meet the purpose and need of the project. The City has  
21           committed to constructing all phases of the project, with cross sections  
22           appropriate to meet the multi-modal demand anticipated in the next 20 years. In  
23           addition, construction of the project phases could occur sequentially or some  
24           phases could overlap.

25    **2.4.2   Construction Approach**

26           The approach to project construction along the corridor differs. The following  
27           paragraphs describe the varying approaches to construction.

28           The improvements for NE 4th Street consist of constructing a new roadway, and  
29           would not involve working within an existing operable roadway. Construction for  
30           this phase would include clearing the full roadway right-of-way; grading;  
31           installing utilities and the roadway gravel base; constructing the curb, gutter and  
32           sidewalks; paving the roadway; and installing illumination/signals and  
33           landscaping. The construction activities would not disrupt existing traffic  
34           patterns along NE 4th Street, 116th Avenue NE, or 120th Avenue NE. However,  
35           the construction zone for NE 4th Street may extend somewhat into the existing  
36           roadways (116th and 120th Avenues NE) in order to connect new and existing  
37           pavements and existing and planned utilities at these locations.

38           Generally, the construction along 120th Avenue NE from the NE 300 block to  
39           NE 7th Street would widen the existing roadway on both sides of the existing  
40           centerline. Construction in this area would occur along an operational roadway.

1 The improvements in this area would be sequenced to manage potential traffic  
2 impacts. Every effort would be made to keep one lane open for traffic in each  
3 direction along 120th Avenue NE during all construction stages. All City  
4 requirements limiting roadway construction activities (e.g., seasonal, time of day,  
5 access) would be enforced. Construction activities would be closely coordinated  
6 with adjacent property owners and businesses to minimize disruptions to the  
7 greatest extent possible.

8 Construction of the realignment and widening of 120th Avenue NE between the  
9 intersection at NE 8th Street and about NE 12th Street would occur along an  
10 operational roadway. Thus, the construction in this area is anticipated to occur in  
11 the following manner:

- 12 • Contractor mobilization
- 13 • Install traffic control and temporary erosion control measures
- 14 • Relocate and/or install utilities
- 15 • Roadway Side 1—retaining walls, grading, paving, signals, and illumination
- 16 • Roadway Side 2—retaining walls, grading, paving, signals, and illumination
- 17 • Construction zone landscaping, restoration, and clean up.

18 The corridor could not be closed during construction though both directions of  
19 travel may be constrained to perhaps only a single lane. Use of Bel-Red Road  
20 between NE 8th Street and 120th Avenue NE, however, would be closed at the  
21 start of roadway construction between Bel-Red Road and NE 8th Street. With this  
22 road closure, construction could occur unhampered for the new roadway. Parcels  
23 along this portion of the alignment would be fully acquired and construction  
24 activities would not affect adjacent businesses. Traffic on Bel-Red Road east of  
25 120th Avenue NE would continue to be able to travel north on 120th Avenue NE  
26 during construction. To the north of Bel-Red Road, the roadway alignment is  
27 generally shifted eastward. Construction work would likely start on the eastern  
28 half of the expanded right-of-way. When completed, traffic would be shifted to  
29 the new roadway, while the western portion of the roadway is constructed. All  
30 construction sequencing would be planned to minimize impacts to traffic and  
31 adjacent businesses.

32 Lastly, construction along the remaining northern portion of 120th Avenue NE  
33 from NE 12th to just south of Northup Way would also widen the existing  
34 roadway on both sides of the existing centerline. The improvements along  
35 120th Avenue NE would be sequenced to manage potential traffic impacts. Every  
36 effort would be made to keep one lane open for traffic in each direction along  
37 120th Avenue NE during all construction stages. All City requirements limiting  
38 roadway construction activities (e.g., seasonal, time of day, access) would be  
39 enforced. Construction activities would be closely coordinated with adjacent  
40 property owners and businesses to minimize disruptions to the greatest extent  
41 possible.

1    **2.5    Project Funding**

2           The total cost of the proposed project improvements based on the final City  
3           Council Direction for the 2011-2017 General Capital Improvement Plan would be  
4           between an estimated \$67.3 and \$67.6 million, depending on the selected option  
5           for extending NE 4th Street. Construction would cost approximately \$32 million  
6           and right-of-way acquisition would cost roughly \$35 million.

7           Funding for the overall project would likely include monies from the following  
8           sources:

- 9           • Federal grants
- 10          • State Transportation Improvement Board funding
- 11          • State Local Revitalization Financing funding
- 12          • Local contributions from transportation-dedicated sources, long-term  
13            general obligation bonds, impact fees, and other private participation  
14            programs including possible local improvement districts.

15          The specific mix of federal, state, and local funding contributions for each  
16          construction phase could differ.

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## 3.0

## Methods

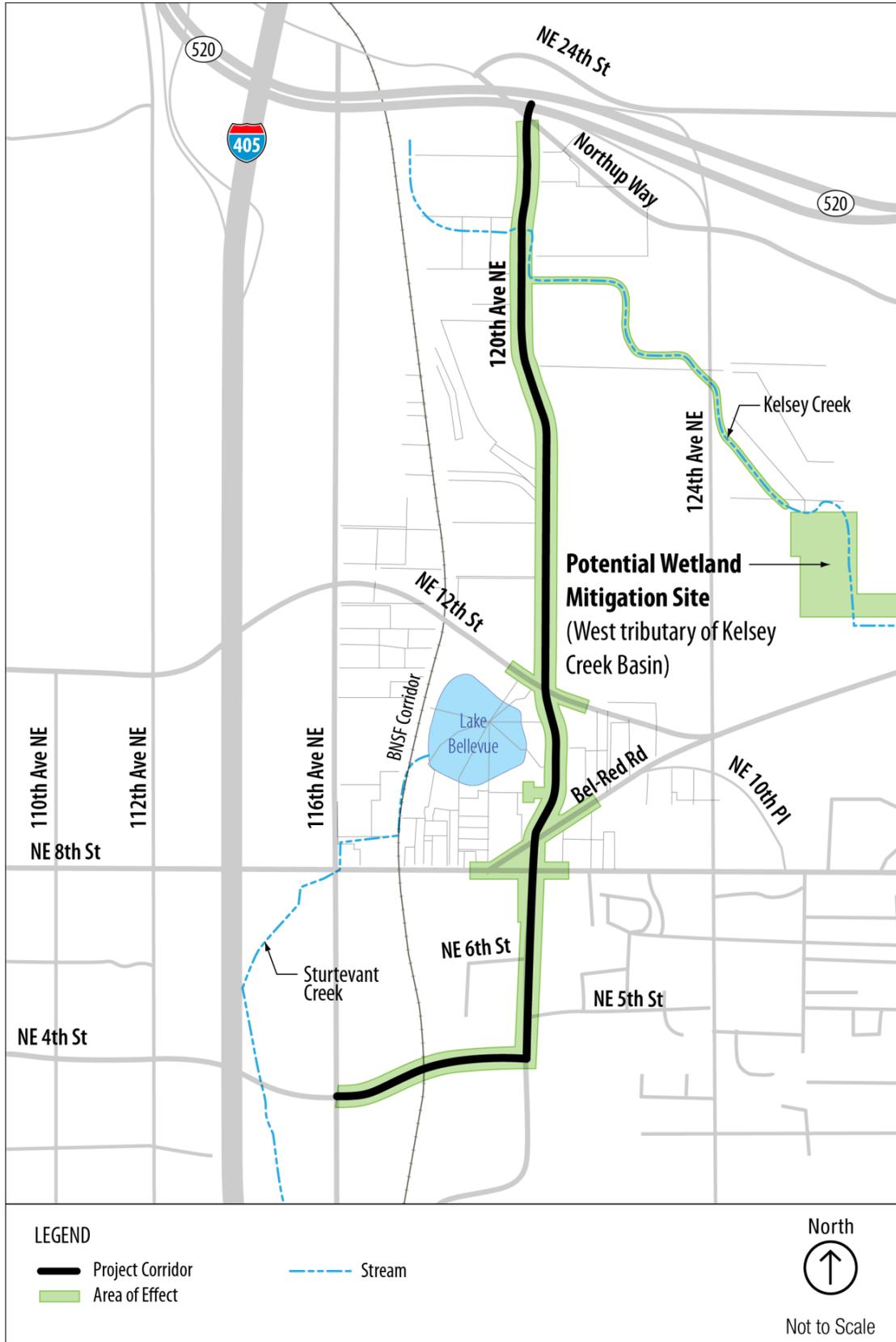
The following methods were used in the effects analysis presented in this report. Where methods varied from Washington State Department of Transportation standards and/or guidance, the reasons for such variation are provided.

### 3.1 Project Effect Area

The project effect area encompasses all areas potentially affected directly or indirectly by the project. This includes the existing roadway and all areas surrounding the existing and proposed roadways where construction activities could affect the environment, either directly, indirectly, or through interrelated or interdependent actions. Project elements that were considered included the following:

- Removal of existing pavement
- Extension, realignment, and expansion of roadways
- Construction of sidewalks and planters
- Removal and replanting of vegetation
- Construction of new stormwater conveyances
- Connecting to, extending, or replacing existing culverts within the study area
- Potential wetland mitigation site

The project is located in Sections 28 and 33, Township 25 North, Range 5 East, Willamette Meridian, and within the Cedar-Sammamish Watershed (Water Resource Inventory Area 8). Figure 3-1 shows the project effect area.



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Figure 3-1. Project Effect Area

1    **3.2    Review of Existing Information**

2           Existing information regarding corridor fisheries, wildlife, and vegetation was  
3           collected by reviewing the following available resources:

- 4           • Priority Habitat and Species database (WDFW 2010a)
- 5           • King County iMAP on-line interactive geographic information system (GIS)  
6           data (King County, 2010)
- 7           • SalmonScope interactive, computer mapping system (WDFW 2010b)
- 8           • Salmon and Steelhead Habitat Limiting Factors Report for the Cedar-  
9           Sammamish Basin (Water Resource Inventory Area 8)(Kerwin 2001)
- 10          • City of Bellevue Drainage Basin Maps, West Tributary Basin and Sturtevant  
11          Creek Basin (City of Bellevue 2002a and 2002b)
- 12          • Washington Department of Natural Resources Natural Heritage Program  
13          (WNHP) GIS data (WNHP 2010)
- 14          • National Wetland Inventory maps (U.S. Fish and Wildlife Service [USFWS],  
15          2010)
- 16          • Shannon & Wilson (S&W) Biological Assessment (S&W 2010a)
- 17          • S&W Wetland and Stream Delineation Report (S&W 2010b)

18    **3.3    Site Survey**

19           On December 7, 2009, July 28, 2010, and March 8, 2011, S&W biologists surveyed  
20           and characterized the fisheries, wildlife, and vegetation habitat in the study area.  
21           Stream substrate and fish habitat, vegetation communities, wildlife habitat types,  
22           and direct wildlife observations were documented throughout the project  
23           corridor.

24           Wetlands were delineated using the routine methodology described in Ecology's  
25           *Washington State Wetland Identification and Delineation Manual* (Ecology 1997),  
26           the Corps 1987 *Wetland Delineation Manual* (Corps 1987), and the *Regional*  
27           *Supplement to the Corps of Engineers Wetland Delineation Manual: Western*  
28           *Mountains, Valleys, and Coast Region Version 2.0* (Corps 2010).

29           The ordinary high water mark of the West Tributary of Kelsey Creek was  
30           delineated following the guidance provided within *Determining the Ordinary High*  
31           *Water Mark on Streams in Washington State* (Olson 2010) and *Ordinary High*  
32           *Water Mark (OHWM) Identification* (Corps 2005).

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## 4.0

## Existing Conditions

Because the project is located in an urban environment, most study area surfaces are covered by impervious buildings, asphalt, and concrete.

Sturtevant Creek generally runs north-south, exiting from the southwest portion of Lake Bellevue and crossing NE 4th Street at roughly its intersection with I-405 more than 500 feet west of the project corridor. A small wetland on the southeast corner of NE 4th Street and I-405 is associated with Sturtevant Creek, approximately 400 feet west of the project corridor.

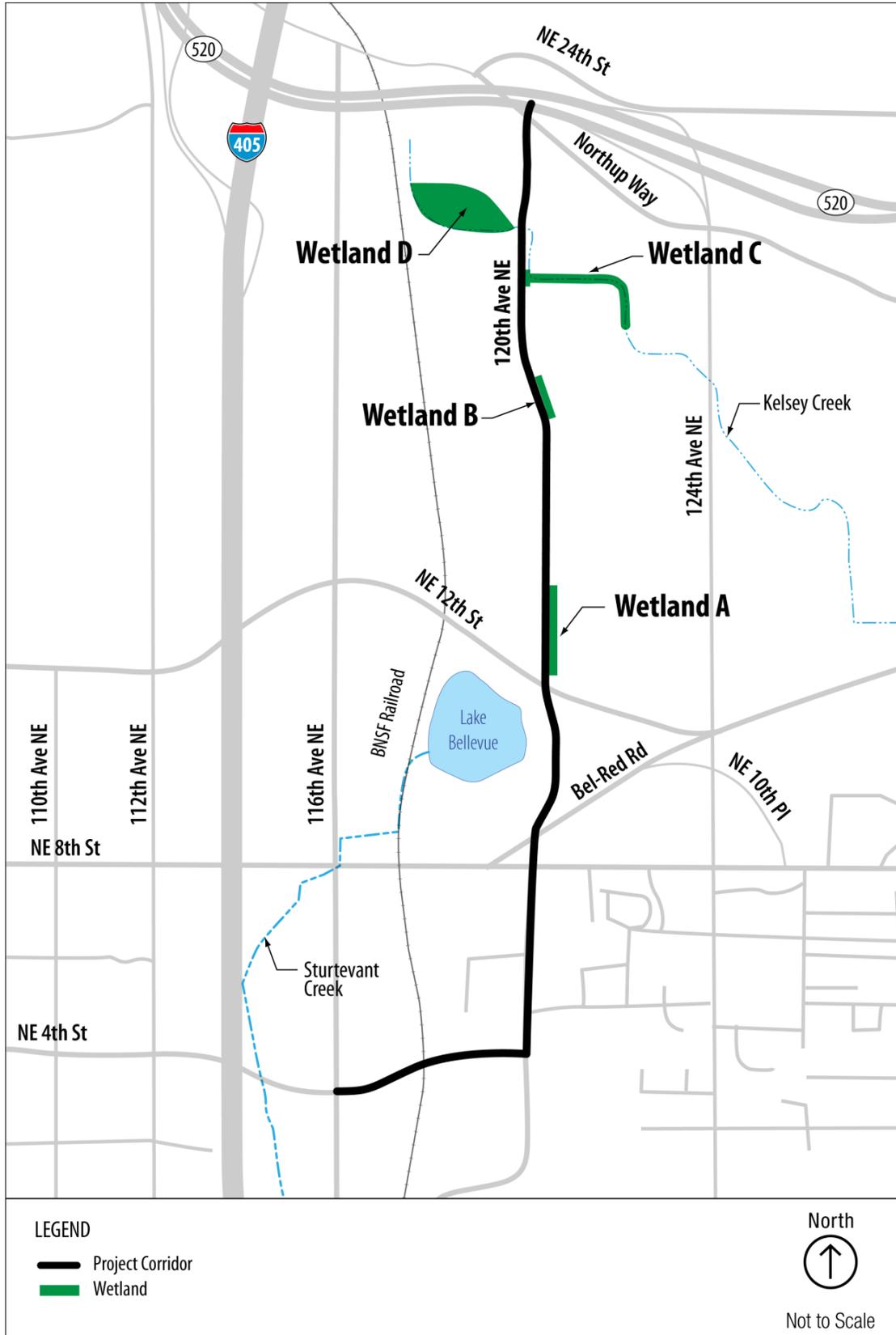
Lake Bellevue's eastern shoreline is approximately 100 feet west of 120th Avenue NE. Because the lake is surrounded by urban development, vegetation is limited to small sections of cattails and willows along the lake's fringe.

Four wetlands, identified as Wetlands A, B, C, and D, were delineated along 120th Avenue NE in the project corridor (Figure 4-1).

The West Tributary of Kelsey Creek begins at Wetland D in the northern portion of the project corridor and flows east beneath 120th Avenue NE in a 36-inch culvert into Wetland C.

The topography in the area of the proposed NE 4th Street extension rises approximately 55 feet in elevation between 116th Avenue NE on the west and the elevation of the existing BNSF railway corridor. This change in elevation is concentrated in a narrow band immediately west of the railroad corridor. Based on the City's critical areas map, this area exceeds a 40 percent slope. To accommodate the steep slope, the horizontal alignment of the proposed extension would curve up the hillside with a 10 to 15 percent slope. The roadway design would require the construction of substantial retaining walls on both sides of the roadway. For the remainder of the proposed extension of NE 4th Street, the topography is relatively flat. Within the project corridor along 120th Avenue NE, the area is relatively flat but exhibits a regional topography that slopes to the southwest. Multiple retaining walls would be required along the eastern side of 120th Avenue NE.

Seven soil types are located along the project corridor. For the proposed extension of NE 4th Street, the project would encounter three soil types—Norma sandy loam, Alderwood gravelly sandy loam, and urban land. Along 120th Avenue NE, the alignment from roughly the NE 300 block to roughly NE 6th Street would encounter Alderwood gravelly sandy loam, entering Bellingham silt loam to roughly NE 8th Street. From that location, the project would encounter urban land again, with a small area of Tukwila muck that occurs at NE 12th Street associated with Lake Bellevue. In the vicinity of the West Tributary of Kelsey Creek, the project would cross urban land soils again and then Seattle muck. The northernmost portion of the project corridor would encounter Everett gravelly sandy loam (U.S. Department of Agriculture [USDA] 2010).



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Figure 4-1. Habitat Map

1 **4.1 Fisheries Resources in the Project Corridor**

2 **4.1.1 Sturtevant Creek**

3 Sturtevant Creek begins at Lake Bellevue and extends generally south. It crosses  
4 NE 4th Street roughly 500 feet west of the project corridor. At its discharge  
5 location from Lake Bellevue, the channel of Sturtevant Creek reportedly contains  
6 little water and is muddy with a thick organic soil layer. Although coho salmon  
7 were historically known to be present in the Sturtevant Creek system in the  
8 1970s, the City's current records indicate that it is unlikely that they still use any  
9 areas upstream of I-405 (City of Bellevue 2002b).

10 **4.1.2 Lake Bellevue**

11 Lake Bellevue is a small urban lake that, as stated above, is the headwaters to  
12 Sturtevant Creek. Because the lake is surrounded by urban development,  
13 vegetation is limited to small sections of cattails and willows along the lake's  
14 fringe. Coho were historically known to be present in the Sturtevant Creek  
15 system and presumably would have been in Lake Bellevue as well, but the City's  
16 current records conclude that it is unlikely that coho salmon are still present.  
17 Documented fish use in the lake is limited to a non-native goldfish population.

18 **4.1.3 West Tributary of Kelsey Creek**

19 The West Tributary of Kelsey Creek originates in Wetland D. The tributary  
20 crosses beneath 120th Avenue NE through a 36-inch corrugated metal pipe  
21 (CMP)/concrete culvert. The culvert crosses perpendicular to 120th Avenue NE  
22 and connects with another culvert from the north. The creek within the combined  
23 culverts then flows through a CMP to the south for approximately 250 feet and  
24 discharges into Wetland C.

25 West of 120th Avenue NE, the stream gradually flows in a 5-foot-wide active  
26 channel. In this location, the creek bed is comprised of 6 inches of silt. The stream  
27 then enters a 36-inch CMP culvert under 120th Avenue NE. The stream daylight  
28 east of 120th Avenue NE and runs into a channel within Wetland C. The active  
29 channel in Wetland C is approximately 4 feet wide with a bed comprised of sand  
30 and well-rounded gravels. As the stream exits the 36-inch CMP under 120th Ave-  
31 nue NE, the ordinary high water mark for the stream fans out above the banks of  
32 the active channel and encompasses much of Wetland C.

33 As the stream exits the project corridor to the east it flows through a riparian  
34 corridor highly confined and fragmented by developed warehouse and  
35 commercial properties on each side for approximately 0.6 river mile. Despite the  
36 confined riparian corridor, aerial photographs suggest this reach is densely  
37 vegetated by emergent and scrub-shrub species with trees scattered throughout.  
38 Habitat features, such as downed large woody debris, are present.

39 Downstream of this upper reach, the stream enters a culvert where it is conveyed  
40 below ground for approximately 1,100 feet south of Bel-Red Road. Downstream  
41 of its crossing under Bel-Red Road, the West Tributary of Kelsey Creek joins Goff

1 Creek, which is tributary to Kelsey Creek. Goff Creek eventually connects to  
2 Kelsey Creek, which drains through Mercer Slough and into Lake Washington.

3 No fish use has been documented in the Kelsey Creek tributary between its  
4 headwaters at Wetland D and the Bel-Red Road culvert. Electro-fishing  
5 conducted by the City in the West Tributary of Kelsey Creek in 2001 yielded no  
6 fish on either side of 120th Avenue NE (City 2002a). A limiting factors report,  
7 prepared by the Washington Conservation Commission in 2001, also indicates  
8 that the Bel-Red Road culvert is impassible.

9 The West Tributary of Kelsey Creek is not listed on the Washington State  
10 Department of Transportation fish passage barrier list or located within a  
11 recognized tribal fishing area.

#### 12 **4.1.4 Priority Fish Species**

13 No federally or state-listed aquatic species, or other species of concern, are  
14 documented for the West Tributary of Kelsey Creek within the project effect area.  
15 Sockeye, chinook, and coho salmon and cutthroat trout are documented  
16 approximately 0.6 mile downstream in the portion of the West Tributary of  
17 Kelsey Creek south of Bel-Red Road. Puget Sound chinook are listed as  
18 threatened under the Endangered Species Act.

19 Appendix A summarizes the federally and state-listed species, proposed species,  
20 candidate species, and species of concern that are known to be present in King  
21 County. These data are based on county-specific lists prepared by WDFW,  
22 USFWS, and the National Oceanic and Atmospheric Administration's National  
23 Marine Fisheries Service (NMFS). A discussion of the likelihood of species  
24 occurrence in the project corridor is included for each fish species.

#### 25 **4.2 Wildlife in the Project Corridor**

26 Wildlife habitat types in the study area are limited to the deciduous forest  
27 associated with Wetlands A and B and a small upland area, in-stream habitat  
28 associated with the West Tributary of Kelsey Creek, and ornamental landscaped  
29 areas (including lawns and ornamental trees and shrubs). Lake Bellevue offers an  
30 open water habitat in the vicinity of the project corridor, and Sturtevant Creek is  
31 outside of the study area. Wildlife observed during fieldwork included direct  
32 observation of passerine birds and evidence of woodpecker use (holes in snag)  
33 along 120th Avenue NE.

34 Wetland D and Lake Bellevue are mapped by WDFW as priority habitats.  
35 Specifically, they are designated as wetlands associated with smaller tributary  
36 streams in urbanized areas that discharge to Lake Washington. Although not  
37 mapped by WDFW, Wetland C also meets these criteria. Other WDFW priority  
38 habitats in the project corridor are as follows:

- 39 • Freshwater wetlands (Wetlands A, B, C, and D)
- 40 • Fresh deepwater habitat (Lake Bellevue)

- 1           • Riparian (West Tributary of Kelsey Creek)
- 2           • Instream (West Tributary of Kelsey Creek)

3 Appendix A summarizes the WDFW designated and proposed critical habitat  
4 known to be present in King County.

5 Evidence of pileated woodpecker foraging was observed in one snag in  
6 Wetland A. Pileated woodpeckers are a state candidate species and a City species  
7 of local importance. Based on the presence of snags in Wetlands C and D, these  
8 areas are also likely used by pileated woodpeckers. Based on site observations  
9 and discussions with Michael Paine at the City of Bellevue, these wetlands are  
10 likely regulated under the Bellevue City Code as habitat associated with species  
11 of local importance.

12 Given the presence of aquatic habitat in Wetland D, the Western toad, a state  
13 candidate species, and the Pacific pond turtle, listed by the state as endangered,  
14 could be present. However, the project area does not contain sufficient upland/  
15 terrestrial habitat to sustain a Western toad population, and any Pacific pond  
16 turtles found would be an isolated population.

17 Waterfowl that may use Lake Bellevue include Western grebe (a state candidate  
18 species), other grebes, cormorants, dabbling ducks, diving ducks, geese, and  
19 wading birds. The Great blue heron also may be found foraging in Sturtevant  
20 Creek, Lake Bellevue, and the West Tributary of Kelsey Creek.

21 Based on the urban nature of this area, it is unlikely that any other listed species  
22 occur in the project corridor. Appendix A summarizes the federally and state-  
23 listed wildlife species, proposed species, candidate species, and species of  
24 concern that are known to be present in King County. These data are based on  
25 county-specific lists prepared by WDFW, USFWS, and NMFS. A discussion of the  
26 likelihood of species occurrence in the study area is included for each species.

## 27 **4.3 Vegetation in the Project Corridor**

### 28 **4.3.1 Vegetation Communities**

29 The study area's native vegetation is limited to four palustrine wetlands, forested  
30 uplands, and native trees planted as part of landscaping amenities.

31 Along NE 4th Street, there is little natural vegetation in the project corridor  
32 except along the inactive railroad corridor. Between 116th Avenue NE and the  
33 railroad corridor the land has been developed as automobile dealerships and is  
34 covered with impervious surfaces. From the railroad corridor west to 120th Ave-  
35 nue NE, the area is dominated by two large retail stores and parking lots. Areas  
36 that are vegetated include ornamental landscaped areas, the slope on the west  
37 side of the railroad corridor, and a ditch to the east of it. The slope is dominated  
38 by Himalayan blackberry (*Rubus armeniacus*, FACU) with some red alder saplings  
39 (*Alnus rubra*, FAC).

1 Along 120th Avenue NE, vegetation consists of lawns and non-native ornamental  
2 trees and shrubs. Non-native ornamental trees consist predominantly of oaks  
3 (*Quercus* sp.) and pines (*Pinus* sp.) with a few maples (*Acer* spp.) and cherry trees  
4 (*Prunus* sp.). Non-native ornamental shrubs include English laurel (*Prunus*  
5 *laurocerasus*), photinia (*Photinia* sp.), *sarcococca* (*Sarcococca* sp.), cotoneaster  
6 (*Cotoneaster horizontalis*), yew (*Taxus* sp.), privet (*Ligustrum* sp.), arborvitae  
7 (*Thuja* sp.), dogwood (*Cornus* sp.), heavenly bamboo (*Nandina domestica*),  
8 boxwood (*Buxus* sp.), and rhododendron (*Rhododendron* sp.). Groundcover  
9 vegetation consisted of kinnikinnick (*Arctostaphylos uva-ursi*), currant (*Ribes* sp.),  
10 and lawn grasses. Invasive weeds were also present and consisted of Himalayan  
11 blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*).

## 12 **Wetlands**

13 One data plot was recorded in the ditch on the eastern side of the railroad  
14 corridor along the proposed extension of NE 4th Street to determine whether it  
15 met the three parameters for wetlands. In general, the ditch was dominated by  
16 black cottonwood (*Populus balsamifera*, FAC), red elderberry (*Sambucus*  
17 *racemosa*, FACU), and Himalayan blackberry (*Rubus armeniacus*, FACU). The soil  
18 was moist during the site visit and consisted of 12 inches of very dark grayish  
19 brown (10 YR 3/2) sandy loam underlain by olive (5Y 4/3) silt loam with one  
20 percent redoximorphic concentrations. Based on the local topography, water  
21 likely ponds in this area for short durations; however, it does meet the vegetation  
22 or soil parameters for wetlands.

23 The four wetlands identified along 120th Avenue NE are discussed below.

### 24 **Wetland A**

25 Wetland A is approximately 8,260 square feet in size and is located entirely  
26 within the project corridor. Based on the Cowardin classification system  
27 (Cowardin 1979), Wetland A is palustrine emergent, scrub-shrub (PEM/SS)  
28 wetland, and its hydrogeomorphic classification (Brinson 1993) is “depressional  
29 outflow.”

30 Dominant vegetation within Wetland A includes Pacific willow (*Salix lasiandra*,  
31 FACW) and Douglas spirea (*Spirea douglasii*), with an emergent strata of  
32 bentgrass (*Agrostis* sp.).

### 33 **Wetland B**

34 Wetland B is located along an open roadside ditch east of 120th Avenue NE and is  
35 entirely within the project corridor. Wetland B is approximately 4,420  
36 square feet in size. Wetland B’s Cowardin classification is PEM/SS, and its  
37 hydrogeomorphic classification is “depressional outflow.”

38 Dominant vegetation within Wetland B includes a scrub-shrub layer of sitka  
39 willow (*Salix sitchensis*) and Douglas spirea (*Spiraea douglasii*) with an emergent  
40 strata dominated by reed canarygrass (*Phalaris arundinacea*), small-fruited  
41 bulrush (*Scirpus microcarpus*), and soft rush (*Juncus effusus*).

1           **Wetland C**

2           Wetland C is part of a larger wetland system associated with the West Tributary  
3           of Kelsey Creek that extends off site to the east. This wetland is approximately  
4           2 acres in size. Wetland C's Cowardin classification is PEM/SS, and its  
5           hydrogeomorphic classification is "riverine."

6           Dominant vegetation within the portion of Wetland C that is located in the project  
7           corridor includes a scrub-shrub layer of Pacific willow (*Salix lasiandra*) and  
8           Douglas spirea (*Spiraea douglasii*) above an emergent strata dominated by reed  
9           canarygrass (*Phalaris arundinacea*).

10           **Wetland D**

11           Wetland D is the headwaters of the West Tributary of Kelsey Creek. The wetland  
12           is 4.9 acres in size. Based on the Cowardin classification system, Wetland D is a  
13           palustrine aquatic bed, emergent, scrub-shrub, forested wetland. Wetland D's  
14           hydrogeomorphic classification is "depressional outflow."

15           Dominant vegetation within that portion of Wetland D located in the project  
16           corridor includes a forested canopy of Pacific willow (*Salix lasiandra*) and black  
17           cottonwood (*Populus trichocarpa*) with a scrub-shrub layer of Pacific willow  
18           (*Salix lasiandra*, FACW), black cottonwood (*Populus trichocarpa*), sitka willow  
19           (*Salix sitchensis*), and Douglas spirea (*Spiraea douglasii*) above an emergent  
20           strata dominated by small-fruited bulrush (*Scirpus microcarpus*), swordleaf rush  
21           (*Juncus ensifolius*), common cattail (*Typha latifolia*), hardstem bulrush  
22           (*Schoenoplectus acutus*), and soft rush (*Juncus effusus*).

23           **Forested Uplands**

24           Forested uplands in the project corridor are limited to the following areas:

- 25           • An isolated patch of black cottonwoods on the west side of 120th Ave-  
26           nue NE between Wetlands A and B
- 27           • An isolated strip of Douglas fir and western red cedar running  
28           perpendicular to the roadway and north of Wetland B
- 29           • Mixed black cottonwood and conifers around Wetlands C and D

30           Six sequoias were observed along the east side of 120th Avenue NE, and  
31           ornamental pines, maples, sweetgum, and other landscaping trees were observed  
32           in planting strips along the corridor.

1 **4.3.2 Plant Species of Concern**

2 No federally or state-listed plant species, proposed species, candidate species, or  
3 species of concern are known to occur in the project corridor. Based on the urban  
4 nature of the area, it is unlikely that any of these species occur in the project  
5 corridor.

6 Appendix B summarizes the federally and state-listed plant species, proposed  
7 species, candidate species, and species of concern that are known to occur in King  
8 County. These data are based on the Washington State Department of Natural  
9 Resources Natural Heritage Program Rare Plant Database.

10

## 5.0 Environmental Effects

### 5.1 Fisheries, Wildlife, and Vegetation Policies and Regulations

Aquatic resources for fisheries, wildlife, and vegetation communities are protected under federal, state, and local policies and regulations.

#### 5.1.1 Federal Policies and Regulations

- National Environmental Policy Act
- Clean Water Act—NPDES permit program (administered by the U.S. Environmental Protection Agency [EPA] for federal projects and projects on federal land)
- Clean Water Act—Section 404
- Clean Water Act—Section 401 (administered by EPA for projects on tribal lands)
- Endangered Species Act

#### 5.1.2 State Policies and Regulations

- State Environmental Policy Act (administered by local agency)
- Clean Water Act—NPDES permit program (administered by Ecology for non-federal projects and projects not located on federal land)
- Clean Water Act—Section 401 (administered by Ecology for projects not occurring on tribal land)
- Hydraulic Code (Chapter 77.55 of the Revised Code of Washington)
- Shoreline Management Act (administered by local agency)

#### 5.1.3 Local Policies and Regulations

- Critical Areas Ordinances
- Clearing and Grading Requirements
- Shoreline Master Programs

### 5.2 Direct Effects on Fisheries, Wildlife, and Vegetation

Wetland A, which contains pileated woodpecker foraging habitat, would be cleared and filled. Other wetland vegetation, upland forest, and landscaped areas also would be cleared and graded as part of this project. These habitats are adjacent to 120th Avenue NE, a busy arterial road. With the exception of the pileated woodpecker habitat in Wetland A, these habitats have limited value for wildlife. Habitat removal would occur as a narrow strip along the road edge.

1 The project would fill approximately 10 linear feet of the existing stream channel  
2 of the West Tributary of Kelsey Creek and daylight approximately 150 linear feet  
3 of new stream channel. The existing non-fish-passable culvert at the 120th Ave-  
4 nue NE crossing would be replaced with a fish-passable culvert. This culvert  
5 would be approximately 8 to 10 feet wide and 4 to 6 feet tall to also allow for  
6 some wildlife crossing.

7 Potential staging areas have not been identified for the project. However, due to  
8 the presence of vacant paved lots in the southern portion of the project corridor  
9 and the multiple parking lots along 120th Avenue NE in the project corridor that  
10 could be used for staging, it is unlikely that fisheries, wildlife, or vegetation  
11 impacts would occur associated with staging areas.

## 12 **5.2.1 Effects during Construction**

### 13 **Fisheries**

14 Erosion and sediment control measures would be used during construction to  
15 control erosion and prevent transport of sediment to Sturtevant Creek, Lake  
16 Bellevue, the West Tributary of Kelsey Creek, and any other nearby water bodies.

17 During construction, stream flow would be diverted around the culvert at the  
18 West Tributary of Kelsey Creek to prevent water quality violations or erosion of  
19 the stream channel during culvert installation. Sediment-laden water would enter  
20 the West Tributary of Kelsey Creek when the stream flow is redirected into the  
21 new stream channel. This would be a temporary, short-term condition.

### 22 **Wildlife**

23 The project would affect wildlife by reducing the amount of habitat available  
24 within the project corridor and by creating noise above ambient levels during  
25 construction, which could disturb wildlife in the project corridor.

26 Approximately 8,260 square feet of pileated woodpecker habitat in Wetland A  
27 would be cleared. The City would likely require mitigation for woodpecker  
28 habitat impacts. No impacts to Wetland D, where the Western toad and Pacific  
29 pond turtle could be present, are expected.

30 If construction occurs when pileated woodpeckers and other birds are nesting,  
31 construction activities may lead to the loss of nests and potentially of eggs or  
32 nestlings. Similarly, eggs or young of wetland-breeding amphibians may be  
33 present in the project wetlands during the spring. The proposed wetland fill in  
34 Wetland C could have direct effects to these eggs and/or young amphibians if  
35 construction occurs in the spring.

### 36 **Vegetation**

37 No effects to federally or state-listed plant species, proposed species, candidate  
38 species, or species of concern are expected.

The project would result in the permanent removal of the following vegetation in the project corridor:

- 0.30 acre of wetland fill
- 0.84 acre of wetland buffer clearing/filling
- 0.06 acre (2,650 square feet) of upland forest clearing/filling

In 2006, the Corps, Ecology, and EPA developed a joint guidance document for compensatory mitigation in Washington State (Ecology 2006). These guidelines provide recommended replacement ratios and guidance for on-site and in-kind mitigation that Ecology and the Corps have adopted. The replacement ratios for the Corps/Ecology and City of Bellevue are summarized in Table 5-1.

**Table 5-1. Required Replacement Ratios**

Wetland	Category	Wetland Replacement Ratios <sup>1</sup>					
		Bellevue	Corps/Ecology				
		R/C	R/C	RH	R/C and RH	R/C and E	E
A	III	3:1	3:1	4:1	1:1 R/C + 2:1 RH	1:1 R/C + 4:1 E	8:1
B	III	3:1	3:1	4:1	1:1 R/C + 2:1 RH	1:1 R/C + 4:1 E	8:1
C	II	2:1	2:1	6:1	1:1 R/C + 4:1 RH	1:1 R/C + 8:1 E	12:1
D	II	2:1	2:1	6:1	1:1 R/C + 4:1 RH	1:1 R/C + 8:1 E	12:1

<sup>1</sup> Replacement ratios are for on-site and in-kind mitigation only. Replacement ratios reflect area of required mitigation to the area of wetland impact.

E = Wetland Enhancement  
 R/C = Wetland Re-establishment or Creation  
 RH = Wetland Rehabilitation

Mitigation for this project is currently in the conceptual phase. Based on conversations with City staff, the City would require mitigation to be performed in the subbasin where impacts occur. Therefore, mitigation for impacts to Wetland A would occur in the Lake Bellevue/Sturtevant Creek subbasin and impacts to Wetlands B and C would occur in the West Tributary of Kelsey Creek subbasin.

A potential wetland mitigation site within the Lake Bellevue/Sturtevant Creek subbasin has not yet been identified. One potential site in the West Tributary of Kelsey Creek subbasin has been identified—the City has purchased three parcels comprising approximately 7 acres near the intersection of NE 14th Street and 124th Avenue NE (see Figure 3-1). These parcels are considered an ideal location for wetland and stream mitigation in the West Tributary of Kelsey Creek subbasin because they include a piped portion of the West Tributary of Kelsey Creek that could be daylighted, with wetlands created along the stream channel.

Impacts to wetlands and buffers, and conceptual mitigation strategies, are described in detail in the *Wetland and Stream Delineation Technical Report* prepared for this project.

1 Although no mitigation is planned for the clearing of upland forest and  
2 landscaped areas, vegetated planters would be constructed on both sides of the  
3 extended NE 4th Street and widened 120th Avenue NE.

#### 4 **5.2.2 Effects during Operation**

##### 5 **Fisheries**

6 Stormwater runoff currently is not detained or treated. As part of this project,  
7 stormwater and water quality treatment facilities would be constructed to collect  
8 and retain sediments and pollutants from traffic operations. With the stormwater  
9 treatment measures being designed for this project corridor, there would be an  
10 approximate 10 percent decrease in total suspended solids and an increase in  
11 dissolved metals. Dissolved zinc and copper would increase by approximately  
12 3.5 percent and 7.5 percent, respectively. Based on dilution modeling conducted  
13 for the project, background levels of dissolved metals would be reached within  
14 one to six feet of entering the project water bodies (Sturtevant Creek, Lake  
15 Bellevue, and the West Tributary of Kelsey Creek) and these discharge locations  
16 are several thousand feet upstream of any native fish habitat. Please see the  
17 *Biological Assessment and Essential Fish Habitat Assessment Report* and the *Water*  
18 *Quality Technical Report* prepared for the project for details.

##### 19 **Wildlife**

20 The roadway design throughout the project corridor will typically be 93 to  
21 95 feet wide. The extension of NE 4th Street is proposed for an area that is  
22 already highly developed and mostly paved, and it is not anticipated that this  
23 additional length of roadway in the area would adversely impact any wildlife.

24 Along 120th Avenue NE, the project proposes to widen the roadway. This would  
25 make it more difficult for wildlife to cross the roadway safely. However, the  
26 project design would include a wildlife-passable culvert at the crossing of the  
27 West Tributary to Kelsey Creek.

##### 28 **Vegetation**

29 Vegetation maintenance along the corridor is not likely to change in any  
30 substantial way as a result of the project.

#### 31 **5.3 Indirect Effects on Fisheries, Wildlife, and Vegetation**

32 Indirect effects are associated with a project and occur later in time or farther  
33 removed in distance; but they are still reasonably foreseeable.

34 The extension of NE 4th Street and the widening and realignment of 120th Ave-  
35 nue NE would likely generate more vehicle use of both roadways. Potential  
36 indirect effects include more contaminants and sediment entering stormwater  
37 from an increase in vehicle usage. However, the proposed enhanced runoff  
38 treatment includes capturing and treating stormwater from additional  
39 impervious surfaces. This likely would be accomplished via bioretention in  
40 roadway planters. Because the project corridor is highly urbanized and  
41 developed, the proposed project is not expected to substantially alter surface

1 water quality. The built-out level of development also suggests that long-term  
2 changes to non-point source water quality problems are unlikely.

### 3 **5.4 Cumulative Effects on Fisheries, Wildlife, and Vegetation**

4 Cumulative effects result from the incremental effects of the action when added  
5 to other past, present, and reasonably foreseeable actions, regardless of the  
6 agency or person initiating the other actions. At this time, reasonably foreseeable  
7 projects in the area include the following:

- 8 • Spring District—Wright Runstad & Company, in joint venture with  
9 Shorenstein Properties, LLC, has planned the development of the Spring  
10 District, a 36-acre mixed-use urban neighborhood within the Bel-Red  
11 Corridor. The Spring District will consist of up to 1,000 multi-family  
12 residences, more than 3 million square feet of office space, and several  
13 high-density buildings that will provide retail services. The proposed  
14 development will be located at the northeast corner of 120th Avenue NE  
15 and NE 12th Street.
- 16 • Sound Transit's East Link Project—This project will consist of an electric  
17 light rail train system that will connect areas between Seattle and the  
18 Overlake Transit Center in Redmond. It is anticipated that the system will  
19 have a station just east of the intersection of 120th Avenue NE and  
20 NE 15th/16th Street in the Spring District development. This project is  
21 expected to be completed between 2016 and 2021.
- 22 • Construction of the light rail will result in the acquisition of property at  
23 1445 120th Avenue NE. Since not all of the property will be used for the  
24 light rail track, some portion of it will be redeveloped. As this is already a  
25 commercial property, the nature of the land use is unlikely to change  
26 significantly.
- 27 • NE 15th Street/NE 16th Street/124th Avenue NE—In concert with the East  
28 Link Project, NE 15th Street/NE 16th Street will be constructed through to  
29 124th Avenue NE, which will be widened to five lanes. The anticipated  
30 traffic flow pattern from Downtown to eastbound SR 520 is NE 4th Street  
31 to 120th Avenue NE to NE 15th/NE 16th Street to 124th Avenue NE to  
32 SR 520.

33 In addition, the City purchased the potential wetland Mitigation Site (Figure 3-1)  
34 to convert it into a public park. The City's conceptual urban redevelopment for  
35 the area includes daylighting the West Tributary of Kelsey Creek from Bel-Red  
36 Road to the existing wetland east of 124th Avenue NE and creating an urban trail  
37 along the stream corridor.

38 Cumulative effects of the Bellevue NE 4th Street/120th Avenue NE Corridor  
39 Project and the projects listed above could include the following:

- 1 • A potential increase of impervious surfaces and non-vegetated areas in the  
2 Sturtevant Creek and West Tributary of Kelsey Creek basins due to urban  
3 redevelopment.
- 4 • A potential extension of fish use of the West Tributary of Kelsey Creek into  
5 the project corridor due to removal of downstream fish barriers.

## 6 **5.5 Mitigation Measures**

7 Mitigation measures include the following:

- 8 • Avoiding and minimizing clearing, grading, and filling of project corridor  
9 wetlands, streams, and forested areas during conceptual design
- 10 • Protecting these habitats during construction
- 11 • Mitigating unavoidable wetland, stream, and buffer impacts after  
12 construction is complete

### 13 **5.5.1 Avoidance and Minimization of Impacts**

14 During preliminary design, the project biologists and design engineers discussed  
15 ways to avoid and minimize impacts to the wetlands, stream, and forested areas  
16 in the project corridor. The design team concluded that filling Wetlands A and B  
17 would be required for the project to be constructed. During the upcoming design  
18 phases, the design team will look at ways to minimize impacts to the project  
19 corridor stream and Wetlands C and D. One example may be to remove the  
20 proposed middle turn lane in the vicinity of Wetlands C and D to narrow the  
21 overall road footprint.

### 22 **5.5.2 Habitat Protection during Construction**

23 Erosion and sediment control measures would be used during construction to  
24 control erosion and prevent transport of sediment to Sturtevant Creek, Lake  
25 Bellevue, the West Tributary of Kelsey Creek, and other nearby water bodies.  
26 Stream flow would be diverted around the culvert at the West Tributary of Kelsey  
27 Creek to prevent water quality violations or erosion of the stream channel during  
28 culvert installation.

### 29 **5.5.3 Mitigation for Unavoidable Impacts**

30 The proposed project is a stream enhancement, as stream mitigation includes  
31 replacing the existing non-fish passable culvert at the 120th Avenue NE crossing  
32 with a fish-passable culvert and constructing approximately 150 linear feet of  
33 new stream channel to facilitate potential future fish use. As stated earlier, there  
34 are no fish species currently in this portion of the West Tributary of Kelsey Creek  
35 because of existing downstream fish passage barriers. The project's replacement  
36 of the non-fish passable culvert at the 120th Avenue NE crossing with a fish-  
37 passable culvert would allow for fish passage once the downstream barriers are  
38 replaced with fish-passable systems, which is in the City's long range plans.

1 Because the project would not directly impact Sturtevant Creek, no mitigation is  
2 anticipated.

3 Wildlife mitigation includes designing the new culvert to be large enough to allow  
4 for some wildlife crossing beneath the new roadway. Other potential wildlife  
5 mitigation could include the following:

- 6 • Prohibit tree clearing in Wetland A from late March to early July to avoid  
7 the pileated woodpecker nesting season. If work must be performed in the  
8 area during the nesting season, a survey could be performed by a qualified  
9 biologist for nests prior to any disturbance, and nests could be protected  
10 and monitored until the young have fledged. These activities would be  
11 coordinated with WDFW if pileated woodpeckers are nesting in Wetland A.
- 12 • Include the installation of pileated woodpecker habitat features (e.g., snags  
13 and/or large woody debris) into the design of the conceptual wetland and  
14 stream mitigation design.

15 Vegetation mitigation includes constructing vegetated planters along the  
16 roadway and wetland mitigation. Wetland mitigation for this project is currently  
17 in the conceptual phase. Conceptually, wetland mitigation could include creating  
18 a new wetland on City-owned parcels. Conceptual wetland mitigation strategies  
19 are described in Section 5.1.1 of this report and in more detail in the *Wetland and*  
20 *Stream Delineation Technical Report* prepared for this project.

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**Appendix A**  
**Priority Species and Habitat in King County**

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## Priority Species and Habitat in King County

Common Name	Scientific Name	State Status	Federal Status	Rationale
<b>Priority Habitats</b>				
Biodiversity Areas and Corridors				<b>Not present.</b> The existing project corridor roads, impervious surface development, and fish-impassible culverts preclude the presence of undisturbed and unbroken tracts of vegetation that connect fish and wildlife habitat conservation areas, etc.
Herbaceous Balds				<b>Not present.</b> No grass or forb vegetation located on shallow soils above bedrock was observed in the project corridor.
Old-Growth/Mature Forest				<b>Not present.</b> Forests observed in the project corridor are less than 200 years old (based on diameter of trees and the 1936 aerial photograph on King County iMAP).
Oregon White Oak Woodlands				<b>Not present.</b> Oaks observed in the project corridor are planted, ornamental species.
West Side Prairie				<b>Not present.</b> Areas in the project corridor that were dominated by grasses and other herbaceous species were limited to commercial landscaped areas (lawns).
Riparian				<b>Present.</b> A riparian corridor is associated with the West Tributary of Kelsey Creek.
Freshwater Wetlands and Fresh Deepwater				<b>Present.</b> Four freshwater wetlands were identified in the project corridor. Lake Bellevue, a fresh deepwater habitat, is located nearby.
Instream				<b>Present.</b> Although no fish are documented in the project corridor, the West Tributary to Kelsey Creek is considered instream habitat.
Puget Sound Nearshore				<b>Not present.</b> No shore, intertidal, or subtidal habitat is present in the project corridor.
Caves				<b>Not present.</b> No caves were observed in the project corridor.
Cliffs				<b>Not present.</b> No cliffs were observed in the project corridor.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Snags and Logs				<b>Present.</b> Snags and logs were observed in Wetlands A and B.
Talus				<b>Not present.</b> No native rock rubble was observed in the project corridor.
<b>Fish</b>				
Bull trout	<i>Salvelinus confluentus</i>	Candidate	Threatened	<b>Unlikely.</b> Due to fish barriers present at the Bel-Red Road NE culvert and the I-405 culvert, as well as electro-shocking data from the City, these anadromous fish species are likely precluded from the project corridor.
Dolly varden	<i>Salvelinus malma</i>	Candidate	Similarity of Appearance (Threatened)	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Candidate	Threatened	
Chum salmon	<i>O. keta</i>			
Searun cutthroat	<i>O. clarki clarki</i>		Concern	
Coho salmon	<i>O. kisutch</i>		Concern	
Kokanee	<i>O. nerka</i>			
Pink salmon	<i>O. gorbushka</i>			
Sockeye salmon	<i>O. nerka</i>			
Steelhead	<i>O. mykiss</i>		Threatened	
Rainbow/inland redband trout	<i>O. mykiss</i>			<b>Unlikely.</b> Based on the lack of observed fish presence upstream of the Bel-Red Road NE culvert and upstream of I-405 during City stream electro-shocking efforts, and the lack of habitat connectivity in the sub-basin due to culverts, it is unlikely that these resident fish species exist in the area.
Resident cutthroat	<i>O. clarki clarki</i>		Concern	
Pygmy whitefish	<i>Prosopium coulteri</i>	Sensitive		
Pacific lamprey	<i>Lampetra tridentata</i>	Monitor		
River lamprey	<i>Lampetra ayresi</i>	Candidate	Concern	
Olympic mudminnow	<i>Novumbra hubbsi</i>	Sensitive		
<b>Amphibians and Reptiles</b>				
Larch mountain salamander	<i>Plethodon larselli</i>	Sensitive	Species of Concern	<b>Unlikely.</b> The larch mountain salamander inhabits steep, forested or nonforested slopes associated with talus, scree, gravelly soils, or other rocky substrates. Therefore, this species is not likely to be present.
Oregon spotted frog	<i>Rana pretiosa</i>	Endangered	Candidate	<b>Not likely.</b> The Oregon spotted frog is typically found near permanent quiet water and usually occurs at the grassy margins of streams, lakes, ponds, springs, and marshes. However, it is unlikely that the Oregon spotted frog is present in the project area because no known populations have been inventoried in or around Bellevue.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Western toad	<i>Bufo boreas</i>	Concern	Candidate	<b>Potentially.</b> The western toad needs both aquatic breeding habitat and upland/terrestrial nonbreeding habitat. This species potentially could be found in the Bellevue Regional Pond downstream. Western toads could potentially migrate to the project area from the regional pond but the project area does not contain sufficient upland/terrestrial habitat to sustain a Western toad population.
Pacific pond turtle (formerly western pond turtle)	<i>Actinemys marmorata</i>	Endangered	Concern	<b>Potentially.</b> Pacific pond turtles typically occupy permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs. Because there is some aquatic habitat associated with the slow-moving stream flow through Wetland A, this species could be present, albeit in an isolated population.
<b>Birds</b>				
Common loon	<i>Gavia immer</i>	Sensitive		<b>Unlikely.</b> Common loons are typically found in marine habitats and clear lakes containing both shallow and deep water areas. Loon studies have indicated that loons avoid turbid water bodies. Although Lake Bellevue provides a lacustrine environment, common loons are likely not present due to the poor water quality of the lake.
Common murre	<i>Uria aalge</i>	Candidate		<b>Unlikely.</b> Common murre are found along rocky sea coasts and cliffs. Due to lack of suitable habitat, this species is not likely to be present.
Marbled murrelet	<i>Brachyramphus marmoratus</i>	Threatened	Threatened	<b>Unlikely.</b> Marbled murrelet forage along the Puget Sound shoreline during the day and move farther off-shore to late successional reserves in the evening. Due to the project corridor's urbanized nature and lack of old-growth forest, any marbled murrelet sightings would be limited to incidental flyovers. Therefore, this species is not likely to be present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Western grebe	<i>Aechmophorus occidentalis</i>	Candidate		<b>Potentially.</b> Western grebes generally prefer lakes with marshy vegetation. Although Lake Bellevue is small and contains minimal vegetation along the fringe of the lake, the species could potentially utilize this water body.
Western Washington nonbreeding concentrations of grebes, cormorants,	<i>Aechmophorus occidentalis</i>	Candidate		<b>Potentially.</b> These species generally prefer lakes with marshy vegetation. Although Lake Bellevue is small and contains minimal vegetation along the fringe of the lake, the species could potentially utilize this water body.
Western Washington nonbreeding concentrations of loons, fulmar, shearwaters, storm-petrels, alcids	n/a			<b>Unlikely.</b> These species generally prefer lakes with marshy vegetation or coastal waters. Due to the small size of Lake Bellevue and minimal vegetation along the fringe of the lake, it is unlikely that these species are present.
Western Washington breeding concentrations of cormorants, storm-petrels, terns, alcids	n/a			
Great blue heron	<i>Ardea herodias</i>			<b>Likely.</b> Great blue herons generally prefer lakes with marshy vegetation. Because this species is relatively common, it likely utilizes Sturtevant Creek, Lake Bellevue, and the West Tributary of Kelsey Creek for foraging.
Brant	<i>Branta bernicla</i>			<b>Unlikely.</b> Brants prefer saltwater bays and estuaries. Due to lack of suitable habitat, this species is not likely to be present.
wood duck, hooded merganser	n/a			<b>Potentially.</b> These species may be present in Lake Bellevue, but are not likely because they are cavity nesters; they would only be foraging if present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Barrow's goldeneye, common goldeneye, bufflehead	n/a			<b>Unlikely.</b> These species generally prefer rivers, bays, and/or lakes with marshy vegetation or trees around them. Due to the small size of Lake Bellevue and minimal vegetation along the fringe of the lake, it is unlikely that this species is present.
Harlequin duck	<i>Histrionicus histrionicus</i>			<b>Unlikely.</b> Harlequin ducks winter along rocky coastlines and nest along fast-moving rivers and mountain streams on rocky islands or banks. Due to lack of suitable habitat, this species is not likely to be present.
Trumpeter swan, Tundra swan	<i>Cygnus buccinatoris</i> , <i>Cygnus columbianus</i>			<b>Unlikely.</b> These swans overwinter on open ponds, lakes, and sheltered bays and estuaries in Puget Sound. Due to the small size of Lake Bellevue and minimal aquatic/emergent vegetation along the fringe of the lake, it is unlikely that these species are present.
Waterfowl concentrations	n/a			<b>Likely.</b> Waterfowl generally prefer lakes with marshy vegetation. Due to the small size of Lake Bellevue and minimal vegetation along the fringe of the lake, waterfowl that use the lake are generally limited to urbanized species (e.g., Canada geese, mallards, etc.).
Bald eagle	<i>Haliaeetus leucocephalus</i>	Concern	Sensitive	<b>Unlikely.</b> Bald eagles are usually found near lakes, rivers, and coasts where prey is abundant. Due to Lake Bellevue's small size and minimal prey source, it is unlikely that this species is present for more than an occasional flyover.
Golden eagle	<i>Aquila chrysaetos</i>	Candidate		<b>Unlikely.</b> Golden eagles prefer open country relatively far from people. Based on the project corridor's urban setting, it is unlikely that this species is present.
Northern goshawk	<i>Accipiter gentilis</i>	Candidate	Concern	<b>Unlikely.</b> Northern goshawk's prefer mature or old-growth forest, and prefer larger tracts of forest. Due to lack of suitable habitat, this species is not likely to be present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Peregrine falcon	<i>Falco peregrinus</i>	Sensitive	Concern	<b>Unlikely.</b> Peregrine falcons typically nest on ledges or in holes in rocky cliffs, and sometimes nest on skyscrapers in urban environments. Because no cliffs or skyscrapers are present in the project corridor, it is unlikely that this species is present.
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	Sensitive	Concern	
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Threatened	Candidate	<b>Unlikely.</b> The greater sage-grouse is found in sagebrush-dominating shrub-steppe habitat. Because no shrub-steppe habitat is present in the project corridor, it is unlikely that this species is present.
Western Washington nonbreeding concentrations of charadriidae, scolopaciidae, phalaropodidae	n/a			<b>Unlikely.</b> These species are shorebirds. Due to the small size of Lake Bellevue and its lack of shoreline along the fringe of the lake, it is unlikely that these species are present.
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	Candidate	<b>Unlikely.</b> Although yellow-billed cuckoo prefer tall cottonwoods and willow riparian woodland, this species is considered extirpated from Washington. Due to the urban setting of the project corridor, it is unlikely that this rare bird is present.
Northern spotted owl	<i>Strix occidentalis caurina</i>		Threatened	<b>Unlikely.</b> Northern spotted owls prefer old-growth forests. Because no old-growth forests are present in the project corridor, it is unlikely that this species is present.
Vaux's swift	<i>Chaetura vauxi</i>	Candidate		<b>Unlikely.</b> Vaux's swift is typically found in mature or old-growth forests that have large-diameter hollow trees. Although forested areas are present in the project corridor, they are not considered mature or old-growth and do not contain large, hollow trees. Therefore, this species is unlikely to be present.
Black-backed woodpecker	<i>Picoides arcticus</i>	Candidate		<b>Unlikely.</b> The black-backed woodpecker prefers boreal and montane coniferous forests. Due to lack of suitable habitat, this species is not likely to be present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Pileated woodpecker	<i>Dryocopus pileatus</i>	Candidate		<b>Documented presence.</b> Although pileated woodpeckers prefer dense coniferous forests, the species has been found in second growth and wooded residential areas of towns. The City of Bellevue has documented the presence of the pileated woodpecker in the vicinity of Wetland D.
Purple martin	<i>Progne subis</i>	Candidate		<b>Unlikely.</b> Although suitable habitat (woodpecker holes or natural cavities for nests) is present in the project corridor, purple martins are likely outcompeted for this habitat by invasive birds such as European starlings and house sparrows that thrive in urban environments. Therefore, it is unlikely that this species is present.
<a href="#">Aleutian Canada goose</a>	<i>Branta canadensis leucopareia</i>		Recovery	<b>Unlikely.</b> Aleutian Canada goose is typically found on maritime islands. Because the project corridor is at least 10 miles from the nearest Puget Sound island, it is unlikely that this species is present.
<b>Mammals</b>				
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Candidate	Concern	<b>Unlikely.</b> Pacific Townsend's big-eared bat prefers caves, lava tubes, and/or abandoned buildings. In addition, this bat is extremely sensitive to disturbance. Due to lack of suitable habitat and the urban setting of the project corridor, this species is not likely to be present.
<a href="#">Louie's western pocket gopher</a>	<i>Thomomys mazama louiei</i>		Candidate	<b>Unlikely.</b> The Louie's western pocket gopher prefers glacial outwash prairies. Because no prairies are located in the project corridor, it is unlikely that this species is present.
<a href="#">Tacoma western pocket gopher</a>	<i>Thomomys mazama tacomensis</i>		Candidate	<b>Unlikely.</b> The Tacoma western pocket gopher prefers glacial outwash prairies. Because no prairies are located in the project corridor, it is unlikely that this species is present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Fisher	<i>Martes pennanti</i>	Endangered	Candidate	<b>Unlikely.</b> Fishers prefer old-growth habitat. Due to the lack of old-growth in the project corridor and/or a wildlife corridor to this habitat, it is unlikely that fishers are present.
Gray wolf	<i>Canis lupis</i>	Endangered	Endangered	<b>Unlikely.</b> Gray wolves prefer undisturbed areas and prey primarily on ungulates. Based on the lack of suitable habitat and prey, it is unlikely that this species is present in the project corridor.
<a href="#">Grizzly bear</a>	<i>Ursus arctos horribilis</i>	Endangered	Threatened	<b>Unlikely.</b> The closest known grizzly bear population is in the North Cascades area of north-central Washington. Due to the highly urbanized nature of the project corridor and lack of wildlife corridors to undeveloped habitat, it is unlikely that this species is present.
<a href="#">Canada lynx</a>	<i>Lynx canadensis</i>	Threatened	Threatened	<b>Unlikely.</b> The Canada lynx prefers undisturbed, forested areas and are most likely to persist in areas that receive deep snow and have high-density populations of snowshoe hares, its principal prey. Due to the lack of undisturbed forested habitat and the highly urbanized nature of the site, it is unlikely that this species is present.
Wolverine	<i>Gulo gulo</i>	Candidate	Concern	<b>Unlikely.</b> Wolverines are found in alpine and arctic tundra, and boreal and mountain forests. Due to lack of suitable habitat, it is unlikely that this species is present.
<b>Invertebrates</b>				
Beller's ground beetle	<i>Agonum belleri</i>	Candidate	Concern	<b>Unlikely.</b> These beetles are found in sphagnum bogs. Due to the lack of bog habitat in the project corridor, this species is unlikely to be present.
Hatch's click beetle	<i>Eanus hatchi</i>	Candidate	Concern	
Bog idol leaf beetle	<i>Donacia idola</i>	Candidate		
Johnson's hairstreak	<i>Callophrys johnsoni</i>	Candidate		<b>Unlikely.</b> Johnson's hairstreak is typically found in old-growth forests. Because no old-growth is present in the project corridor, this species is not likely to be present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Valley silverspot	<i>Speyeria zerene bremnerii</i>	Candidate		<b>Unlikely.</b> Valley silverspot prefers open prairies and alpine and sub-alpine glades. Due to lack of suitable habitat, this species is not likely to be present.

1 Source: WDFW County-Specific Lists of Priority Habitats and Species, 2008

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**Appendix B**  
**Rare Plants in King County**

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## Rare Plants in King County

Common Name	Scientific Name	State Status	Federal Status	Rationale
Swamp sandwort	<i>Arenaria paludicola</i>	Possibly extinct or extirpated from Washington	Endangered	<b>Unlikely.</b> Swamp sandwort prefers saturated acidic bogs and sandy soils with a high organic component. No extant populations of swamp sandwort are known in Washington State. Although soils in the project corridor have a high organic component, no peat soils and/or bog vegetation was observed. Due to the highly urbanized location of the project corridor, it is unlikely that this plant is present.
Stalked moonwort	<i>Botrychium pedunculosum</i>	Sensitive	Species of Concern	<b>Unlikely.</b> Stalked moonwort is found in moist or dry meadows, along perennial streams, and in coniferous forests. Elevations range from 1,800 to 6,300 feet. One known population of this species is in eastern King County. Most populations are found in the mountainous areas of northeast Washington. Based on the elevation of the project corridor (around 150 feet above sea level) and its highly urbanized setting, it is unlikely that this plant is present.
Alaska harebell	<i>Campanula lasiocarpa</i>	Sensitive		<b>Unlikely.</b> Alaska harebell prefers rock crevices in alpine zones, usually in unglaciated areas. Based on the elevation of the project corridor (around 150 feet above sea level) and its highly urbanized setting, it is unlikely that this plant is present.
Bristly sedge	<i>Carex comosa</i>	Sensitive		<b>Potentially.</b> Bristly sedge is found in marshes, lake shores, and wet meadows. Associated species may include <i>Carex utriculata</i> , <i>Potentilla palustris</i> , <i>Typha latifolia</i> , <i>Spiraea douglasii</i> , <i>Lulichium arundinaceum</i> , and <i>Phalaris arundinacea</i> . This species was not documented during the project wetland delineation; however, the site wetlands meet the habitat requirements above.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Large-awn sedge	<i>Carex macrochaeta</i>	Threatened		<b>Unlikely.</b> This species grows in seepage areas, around waterfalls, in wet meadows, and along streams and lakes, and is frequently found near the coast. Observed plant associations include <i>Sullivantia origana</i> , <i>Dodecatheon dentatum</i> , and <i>Stenanthium occidentale</i> . Because this plant association was not observed in the project corridor, and due to the highly urbanized nature of the project corridor, it is unlikely that large-awn sedge is present.
Few-flowered sedge	<i>Carex pauciflora</i>	Sensitive		<b>Unlikely.</b> Few-flowered sedge grows in sphagnum bogs and acidic peat, usually on open mats, but also in partial conifer shade. Because the project corridor wetlands are not sphagnum bogs or dominated by acidic-loving vegetation, it is unlikely that this plant is present.
Long-styled sedge	<i>Carex stylosa</i>	Sensitive		<b>Unlikely.</b> Long-styled sedge is mainly found in coastal regions of Washington and in shallow marshes, gravelly loam, stream banks, and moist meadows. Some occurrences in Washington are known to be growing over hardened lava flow. Because there are no known documented populations in King County, and due to the highly urbanized nature of the project corridor, it is unlikely that this species is present.
Clubmoss cassiope	<i>Cassiope lycopodioides</i>	Threatened		<b>Unlikely.</b> Clubmoss cassiope is found more commonly in circumboreal regions and at higher elevations. The Washington occurrence is found at around 6,562 feet. Based on the elevation of the project corridor (around 150 feet above sea level) and its highly urbanized setting, it is unlikely that this plant is present.
Golden paintbrush	<i>Castilleja levisecta</i>	Endangered	Threatened	<b>Unlikely.</b> Golden paintbrush occurs in prairies and open grasslands in the Puget Trough. Because no prairies or open grasslands were identified in the project corridor, it is unlikely that this plant is present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Golden chinquapin	<i>Chrysolepis chrysophylla</i> var. <i>chrysophylla</i>	Sensitive		<b>Unlikely.</b> Golden chinquapin prefers dry open sites to fairly thick woodlands. Plant associations include <i>Pseudotsuga menziesii</i> , <i>Tsuga heterophylla</i> , and <i>Rhododendron macrophyllum</i> . Known populations in Washington are limited to Mason County near Hood Canal and Skamania County near the Columbia Gorge. Based on its limited range and lack of coniferous forests in the project corridor, it is unlikely that this plant is present.
Tall bugbane	<i>Cimicifuga elata</i> var. <i>elata</i>	Sensitive	Species of Concern	<b>Unlikely.</b> Tall bugbane is found in undisturbed, old-growth forests. Because the project corridor does not include old-growth forests, it is unlikely that this plant is present.
Spleenwort-leaved goldthread	<i>Coptis asplenifolia</i>	Sensitive		<b>Unlikely.</b> Spleenwort-leaved goldthread occurs in undisturbed, old-growth forests. Because the project corridor does not include old-growth forests, it is unlikely that this plant is present.
Toothed wood fern	<i>Dryopteris carthusiana</i>	Of potential concern but needs more field work to assign another rank		<b>Unlikely.</b> Toothed wood fern is found in sphagnum swamps. Because this habitat was not found in the project corridor, it is unlikely that toothed wood fern is present.
Black lily	<i>Fritillaria camschatcensis</i>	Sensitive		<b>Unlikely.</b> Black lily prefers open woodland and sub-alpine meadows. Because these habitats were not observed in the project corridor, it is unlikely that this species is present.
Canadian St. John's-wort	<i>Hypericum majus</i>	Sensitive		<b>Unlikely.</b> Canadian St. John's-wort is found in ponds and lakesides. Although a population of Canadian St. John's-wort was historically found in King County, this plant is now only found in Benton, Franklin, Skagit, and Spokane Counties. Based on the highly disturbed vegetation around Lake Bellevue, it is unlikely that this species is present. No other suitable habitat is available in the project corridor.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Water lobelia	<i>Lobelia dortmanna</i>	Threatened		<b>Unlikely.</b> Water lobelia is found in shallow water at the margins of lakes and ponds. Based on the highly disturbed vegetation around Lake Bellevue, it is unlikely that this species is present. No other suitable habitat is available in the project corridor.
Bog clubmoss	<i>Lycopodiella inundata</i>	Sensitive		<b>Unlikely.</b> Bog clubmoss is primarily found in sphagnum bogs. Because this habitat was not found in the project corridor, it is unlikely that bog clubmoss is present.
Treelike clubmoss	<i>Lycopodium dendroideum</i>	Sensitive		<b>Unlikely.</b> Treelike clubmoss prefers rock outcrops, talus, or boulder fields. Because this habitat was not found in the project corridor, it is unlikely that treelike clubmoss is present.
White meconella	<i>Meconella oregana</i>	Threatened	Species of Concern	<b>Unlikely.</b> White meconella is found in open grassland and sometimes within a mosaic of forest/grassland. Because no grasslands were observed in the project corridor, it is unlikely that this species is present.
Branching montia	<i>Montia diffusa</i>	Sensitive		<b>Unlikely.</b> Branching montia is typically found in open fir woodlands and is often found in recently burned or logged areas. Because no open fir woodlands were observed in the project corridor, it is unlikely that this species is present.
Texas toadflax	<i>Nuttallanthus texanus</i>	Sensitive		<b>Unlikely.</b> Texas toadflax is found in glacial outwash prairies. Because no prairies were observed in the project corridor, it is unlikely that this species is present.
Choris' bog-orchid	<i>Platanthera chorisiana</i>	Threatened		<b>Unlikely.</b> Choris' bog-orchid prefers tundra-like hillsides and grassy mossy turf. Because these habitats were not observed in the project corridor, it is unlikely that this species is present.
White-top aster	<i>Sericocarpus rigidus</i>	Sensitive	Species of Concern	<b>Unlikely.</b> White-top aster is typically found in open grassland habitat. Because no grasslands were observed in the project corridor, it is unlikely that this species is present.

Common Name	Scientific Name	State Status	Federal Status	Rationale
Humped bladderwort	<i>Utricularia gibba</i>	Of potential concern but needs more field work to assign another rank		<b>Unlikely.</b> Humped bladderwort occurs in lake and lake edges and muddy disturbed sites. This species has been observed in Kitsap, Thurston, and Cowlitz Counties. It was historically found in King County, but it is believed to be extirpated here. Based on its limited range and the highly disturbed condition of Lake Bellevue, it is unlikely that this species is present. No other suitable habitat is available in the project corridor.
Flat-leaved bladderwort	<i>Utricularia intermedia</i>	Sensitive		<b>Unlikely.</b> Flat-leaved bladderwort prefers open wet meadows. Because no meadows were observed in the project corridor, it is unlikely that this species is present.
Lesser bladderwort	<i>Utricularia minor</i>	Of potential concern but needs more field work to assign another rank		<b>Unlikely.</b> Lesser bladderwort is found in low nutrient lakes and peat bogs. Based on the land use in the project corridor, it is unlikely that Lake Bellevue is a low-nutrient lake. No other suitable habitat is available in the project corridor; therefore, it is unlikely that this species is present.

1 Source: Washington Natural Heritage Information System, List of Known Occurrences of Rare Plants in Washington, King  
 2 County, updated February 2009

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