

State Route 305 Vicinity Poulsbo South City Limits to Bond Road

Environmental Assessment

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**Federal Highway Administration
Region 10**

**State Route 305
Vicinity Poulsbo
South City Limits to Bond Road**

Kitsap County, Washington
Environmental Assessment

Submitted Pursuant to 42 U.S.C. 4332(2)(c)
by the
U.S. Department of Transportation
Federal Highway Administration
and
Washington State Department of Transportation

1/26/05
Date of Approval

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1/27/05
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This project would add two new traffic lanes to SR 305 from approximately the Poulsbo south city limits to Bond Road (Mileposts 10.60 to 12.82). New lanes would be restricted to HOV usage during peak commuting periods. The project would feature improved shoulders and/or sidewalks for pedestrians and bicyclists, transit enhancements, signal synchronization, replacement of fish passage barrier culverts, and relocation of 1,200 feet of South Fork Dogfish Creek to provide a more natural setting and improve fish habitat. Wetland mitigation has also been proposed on 13.6 acres at the north end of the project adjacent to South Fork Dogfish Creek.

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Abbreviations and Acronyms

ac	Acre
ADT	Average Daily Traffic
AHS	Archaeological and Historical Services
APE	Area of Potential Effect
BA	Biological Assessment
BMP	Best Management Practices
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
CO	Carbon Monoxide
Corps	U.S. Army Corps of Engineers
dB	Decibels
dBA	Decibels, a weighted
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
ft	Foot or Feet
GMA	Growth Management Act (state level)
HRM	Highway Runoff Manual
HOV	High Occupancy Vehicle
Leq	Equivalent Sound Level
LOS	Level of Service (a measure of traffic congestion)
MIS	Major Investment Study
MP	Milepost
MSE	Mechanically Stabilized Earth Wall
MTCA	Model Toxics Control Act
NAC	Noise Abatement Criteria

NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NRCS	National Resource Conservation Service
NWI	National Wetland Inventory
OAHP	Office of Archeology and Historic Preservation
PSCAA	Puget Sound Clean Air Agency
PSRC	Puget Sound Regional Council
ROW	Right of Way
SCS	Soil Conservation Service
SEPA	State Environmental Policy Act
SIP	State Implementation Plan (Air Quality)
SOV	Single Occupant Vehicle
SPCC	Spill Prevention Control and Countermeasures Plan
sq ft	Square Feet
SR	State Route
SMMWW	Stormwater Management Manual for Western Washington
TDM	Transportation Demand Management
TESC	Temporary Erosion and Sediment Control Plan
TIP	Transportation Improvement Program
TNM	Traffic Noise Model of FHWA
TSM	Transportation System Management
UGA	Urban Growth Area
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish and Wildlife
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

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Background

The Vicinity Poulsbo South City Limits to Bond Road project (Milepost [MP] 10.60 to MP 12.82) is part of the Washington State Department of Transportation's (WSDOT) long-range route development planning program. This program identifies the need and type of future improvements to be made in the State Route (SR) 305 corridor to accommodate future growth in vehicle, bicycle, and pedestrian traffic. For the purpose of study, the corridor was divided into three segments: Bainbridge Island, Winslow ferry terminal to Agate Passage; Suquamish, Agate Passage to Poulsbo city limit; and Poulsbo, Poulsbo city limit to the SR 3 junction. This project is part of the Poulsbo segment listed in the study—Poulsbo City Limit to SR 3 (MP 10.72 to MP 13.31). As a result, the state, county, and city comprehensive plans each stated the need for a coordinated, multijurisdictional analysis to identify and evaluate a wide range of solutions.

In April 1997, WSDOT, Kitsap County, Kitsap Transit, Suquamish Tribe, City of Poulsbo, and Bainbridge Island jointly published the SR 305 Corridor Analysis Major Investment Study (MIS). Input from local transit authorities, cities, counties, tribes, citizens groups, and private individuals were integrated with WSDOT's needs to develop the SR 305 corridor plan. This MIS has led to recommendations for access control, new peak period High Occupancy Vehicle (HOV) lanes (one in each direction), bicycle and pedestrian facilities, expanded transit facilities, and intersection improvements.

An environmental assessment (EA) was produced for this project in January 2002 and submitted for public and agency review. Comments from the Washington State Department of Fish and Wildlife and from the Suquamish Tribe on the EA initiated discussion of possible changes to some aspects of the project. Due to the lapse in time since preparation of the original discipline reports (5 years) and new design changes, the EA has been revised. This new EA reflects the project additions and modifications that were undertaken to improve fish habitat and the condition of South Fork Dogfish Creek. The project as modified is described below.

Proposed Action

WSDOT proposes to improve 2.2 miles of SR 305 by adding two peak-hour HOV lanes to the existing two-lane highway. The improvements will occur from the south city limits of Poulsbo (vicinity of Baywatch Court) to Bond Road at the beginning of SR 307 (see figure 1).

The two new traffic lanes (one in each direction) will be signed as HOV lanes during peak commuter hours on weekdays and as general-purpose lanes during off-peak hours and on weekends. The HOV lanes will help move more people in fewer vehicles. This project will result in a four-lane highway and eliminate the existing two-way left-turn lane except for a 300-foot section, south of the Hostmark Street intersection.

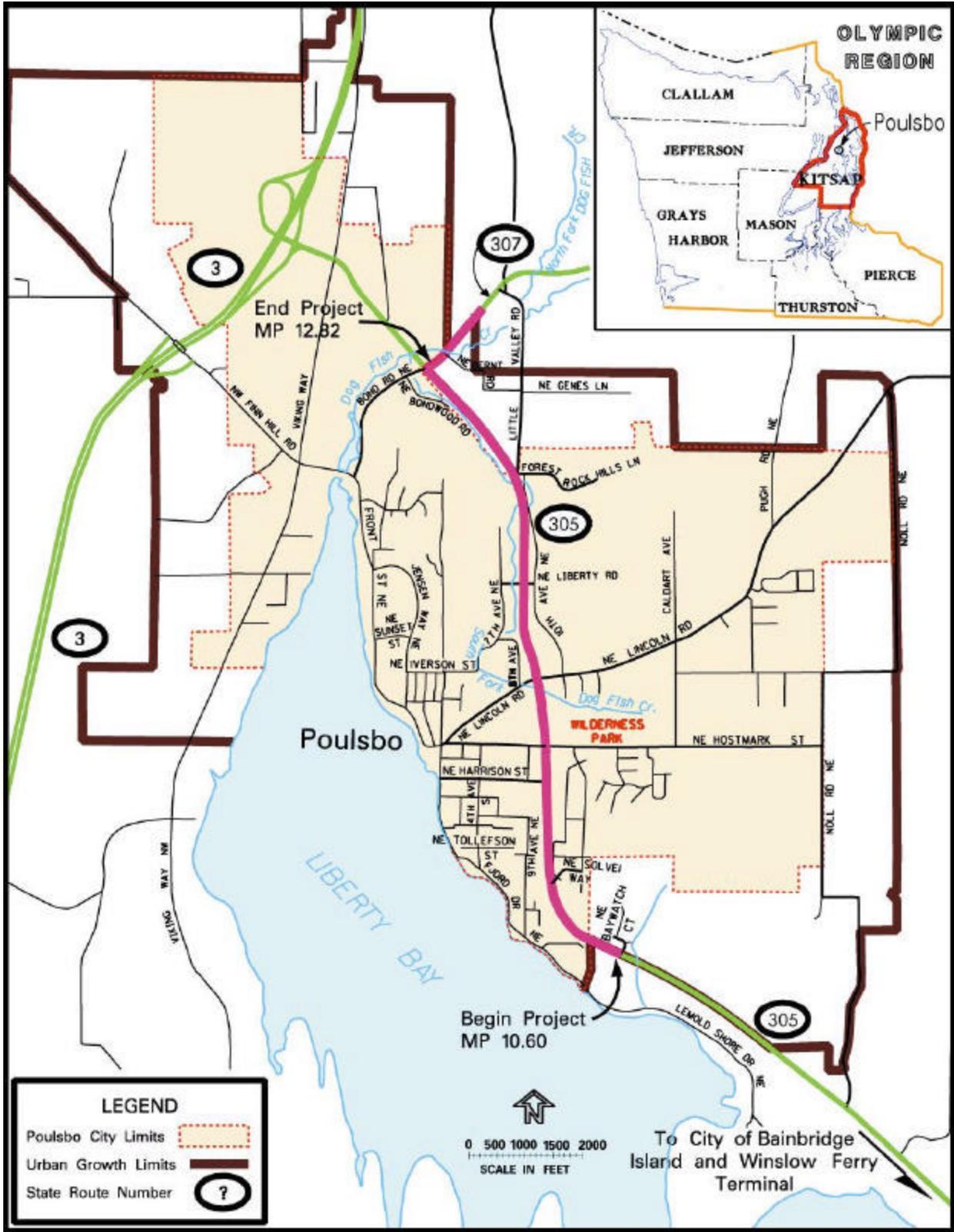


Figure 1
Vicinity Map SR 305 Poulsbo South City Limits to Bond Road

Left-turn channelization will remain in place at the signalized intersections, but vehicle storage capacity will be increased to handle traffic volumes forecasted through 2030. Acceleration and deceleration channelization will be added at the NE Sol Vei Way and NE Tollefson Street intersections. Access to NE Harrison Street will be limited to right-in/right-out traffic only.

Channelization and other turning movement improvements will be constructed at:

- Bond Road NE
- Little Valley Road/Forest Rock Hills Lane/7th Avenue Extension
- NE Liberty Road
- NE Lincoln Road
- NE Hostmark Street
- NE Sol Vei Way
- NE Tollefson Street

Sidewalks will be provided only in areas of reoccurring pedestrian traffic that have intersections with traffic signals. The areas identified for constructing continuous sidewalks are: the northbound side of SR 305 between Baywatch Court and Lincoln Road and the southbound side of SR 305 between Lincoln Road and Harrison Street. Pedestrian movement outside of these areas will be accommodated on the frontage roads between Lincoln Road and Forest Rock Hills Lane. Future widening of SR 305 for the southbound lanes from Tollefson to Baywatch will construct the remaining sidewalk sections.

Between Baywatch Court and Lincoln Road, the shoulders in both directions will be designated as bicycle lanes. North of Lincoln Road, bicyclists, pedestrians, and disabled vehicles will share the multipurpose shoulder.

Transportation demand management (TDM) and transportation system management (TSM) improvements include signal synchronization (timing of signals within the corridor to promote good movement) and transit enhancements. Far side bus pullouts (bus only areas just as you exit the intersection) will be constructed for northbound and southbound SR 305 at the Hostmark intersection. The project will integrate with the bus transfer station constructed in 2002 between Lincoln Road and Liberty Road without an interruption in service.

The roadway will be widened asymmetrically to the east from Lincoln Road to Bond Road to reduce impacts to South Fork Dogfish Creek in the areas where it flows along the west side of SR 305. South Fork Dogfish Creek will be relocated 20 to 100 feet further away from the roadway widening on the east side. The realigned stream will be constructed with a more natural meandering path, plantings of native shade trees and plants, and woody debris to promote a fish-rearing habitat. Mechanically Stabilized Earth (MSE) retaining walls will be used to minimize impacts to wetlands and South Fork Dogfish Creek along the east side of SR 305. The walls will be constructed along the stream realignment area and from just north of Little Valley Road to a point approximately halfway to Bond Road.

The project area has two drainage basins—North Basin and South Basin. The high point between the two basins is located near Harrison Street where it intersects

SR 305. Stormwater treatment facilities will be installed in both basins. The new system will collect highway runoff in a closed system which will be gravity fed to a series of bioswales. In the South Basin, stormwater will be treated by a series of bioswales before being released to the City's stormwater facility. In the North Basin, stormwater will be treated by bioswales in four locations before release to South Fork Dogfish Creek. Using a drainage system of bioswales in several locations will minimize "first flush" pollutants from mixing with cleaner stormwater in the rest of the system.

South Fork Dogfish Creek crosses SR 305 in three locations. The creek also crosses NE Bond Road, NE Lincoln Road, and four private driveways. Dogfish Creek crosses SR 307 just east of SR 305. Of the ten culvert crossings within the project corridor, nine represent fish barriers and will be replaced with fish passable culverts. The culvert crossings are shown in figure 2. Table 1 provides details about the existing culverts including whether it is a total or partial fish barrier and proposed culvert modifications. The proposed replacement of fish barrier culverts located outside of the project construction limits (private driveways, culverts 8 and 9, and Bond Road, culvert 11) are intended as "out of kind"¹ mitigation for direct discharge into South Fork Dogfish Creek and the associated wetlands at the Bond Road culvert.

1 "Out of kind" refers to compensatory mitigation for one type of impact, such as impact to stream flow, with another type of mitigation, such as fish passable culvert replacement.

**Table 1
Proposed Culvert Replacements**

No.	Crossing Location¹	Meets WDFW Criteria?	Existing Culvert	Proposed Culvert	Comments
1	Under SR 305 in vicinity of Lincoln Road	No	24-inch-diameter concrete pipe, 140 ft long, 3.7 percent grade. Undersized with periodic upstream flood-related property damage	Replace with 10-ft span precast concrete 3-sided box culvert, Stream Simulation Option.	Total fish passage barrier. Constructability issues. Opens potential upstream salmon habitat.
2	Under Lincoln Road	No	30-inch-diameter concrete pipe, 86 ft long, 2.7 percent grade.	Replace with 8 ft diameter CMP, no slope design.	Partial fish passage barrier. Pipe would be 20 percent countersunk at the downstream end and 40 percent countersunk at the upstream end to account for grade.
3	NE Liberty Rd at shopping mall entrance	Yes	Good condition. Corrugated metal pipe arch, 11 ft span and rise of 5.5 ft. Pipe arch is 20 percent countersunk.	No work proposed at Crossing 3.	Privately owned. South Fork Dogfish Creek confined between SR 305 and shopping mall. Is not a fish barrier.
4	Under SR 305 from channel fronting shopping mall to wetland area on opposite side	No	30-inch-diameter, concrete culvert pipe, 75 ft long, 1.62 percent slope	Replace with 8 ft diameter CMP, no slope design.	Partial fish passage barrier. If possible, existing pipe to remain in place as a supplemental wildlife crossing.
5	Under SR 305 from wetland area to confined channel parallel to SR 305	No	36-inch-diameter concrete culvert pipe, 106 ft long, 0.62 percent slope	Replace with 8 ft diameter CMP, no slope design.	Partial fish passage barrier. Existing culvert is skewed relative to SR 305. If possible, existing pipe to remain in place as a supplemental wildlife crossing.

1. Refer to figure 2 for locations of culvert crossings. More detailed plans are shown in Appendix D, Preliminary Plan Sheets.

**Table 1 (continued)
Proposed Culvert Replacements**

No.	Crossing Location¹	Meets WDFW Criteria?	Existing Culvert	Proposed Culvert	Comments
6	Under single-lane driveway near intersection of Little Valley Road	No	36-inch-diameter concrete culvert pipe	Remove existing culvert ; Crossing 7 would be replacement for this culvert.	Privately owned. This culvert is a partial fish barrier.
7	Under new access to private property near Little Valley Road intersection	Not applicable	No existing culvert at this site. This is site of new access for culvert 6 which would be removed permanently.	Install new 8 ft diameter CMP, no slope design as replacement for culvert removed as crossing 6.	New property access needed to be at safer distance from improvements at SR 305/Little Valley Road intersection. Partial fish barrier.
8	Under single-lane driveway	No	36-inch-diameter concrete culvert pipe, 0.3 percent slope, undersized	Replace with new 8 ft diameter CMP, no slope design	Privately owned. Existing culvert shows signs of scour. Downstream of new culvert, South Fork Dogfish Creek leaves the confined channel and moves away from SR 305. Partial fish barrier.
9	Under single-lane driveway	No	Two existing pipes, larger pipe is 36-inch-diameter CMP, 0.3 percent slope	Replace with 8 ft diameter CMP, no slope design	Privately owned. Existing situation shows signs of flooding. Pipes have been replaced at least twice following roadway failure during flooding events. Partial fish barrier.
10	Under SR 307 at Dogfish Creek, East of SR 305/SR 307 intersection.	No	60-inch-diameter concrete pipe, outlet perched a few inches above downstream scour pool	Replace with 16-ft span precast concrete 3-sided box culvert, no slope design	Partial fish barrier.
11	Under NE Bond Road at South Fork Dogfish Creek. West of SR 305/NE Bond Road intersection.	No	Two 42-inch-diameter CMP culverts spanning four lanes of NE Bond Road.	Replace with 12-ft span precast concrete 3-sided box culvert, no slope design	One pipe is perched 24 inches above the channel; empty most of the time; carries stormwater that discharges to the pipe. Second pipe takes most stream flow. Scour pool at downstream end of culverts. Partial fish barrier.

1. Refer to figure 2 for locations of culvert crossings. More detailed plans are shown in Appendix D, Preliminary Plan Sheets.

Project Purpose and Need

Introduction

A principal arterial, SR 305 is also classified as a scenic highway. It originates at the Winslow Washington State Ferry Terminal in the City of Bainbridge Island. The route continues north through Bainbridge Island onto the Kitsap Peninsula and ends at the SR 3/SR 305 junction. The SR 305 corridor is a vital transportation link for Western Washington, the Puget Sound Region, and the Pacific Northwest.

The project area lies between the south city limits of Poulsbo and Bond Road between Milepost (MP) 10.60 to MP 12.82. Presently, SR 305 is a two-lane highway with a two-way left-turn lane between Harrison Street and Liberty Road. North of Liberty Road and south of Harrison Street, SR 305 has two lanes. Eight intersections occur within the project limits. The intersections with Sol Vei, Tollefson, and Harrison streets are the only ones without traffic signals.

Stormwater from SR 305 within the project area currently receives no water quality treatment. South Fork Dogfish Creek crosses SR 305 in three places and runs close to the highway in many locations. The creek also crosses NE Bond Road, NE Lincoln Road, and four private driveways. North Fork Dogfish Creek crosses SR 307 in one location.

Ten culverts occur within the project corridor. Nine of these culverts are identified as fish barriers. One additional partial fish barrier culvert exists on South Fork Dogfish Creek—at 8th Avenue near Lincoln Road (city owned) and is not included as part of this project (see Related Projects).

MP 10.60 was chosen as a logical terminus. This location is near Poulsbo's south city limits and includes traffic from the new Baywatch development. SR 307 was chosen as the northern logical terminus. North of MP 12.82 (end of project), SR 305 has already been improved to match the proposed project.

Purpose

The purpose of the project is to improve mobility of people, goods, and services by relieving traffic congestion, providing continuity for bicycles, and improving pedestrian movement.

Need

Population, employment, and traffic in the vicinity of Poulsbo have grown substantially since 1990. These growth trends are expected to continue for both the immediate and long-term future. Forecasts predict Poulsbo traffic will increase by about 40 percent to 50 percent from 2004 to 2030. Existing transportation planning model data were used to establish the growth rate. The following agencies provided these model data:

- Puget Sound Regional Council
- Kitsap County
- City of Poulsbo

Each agency used different assumptions to generate growth predictions. WSDOT supplemented these figures with updated information.

Traffic volumes have increased in the last four years (1999–2003) by approximately 2.5 percent a year (2003 WSDOT Annual Traffic Report). Current average daily traffic (ADT) in 2003 ranged from 20,000 to 28,000 vehicles (ranges represent different locations within the project limits). From 2004 through 2015, traffic is predicted to increase by 3.5% annually. After 2015, annual growth is predicted to slow to 2%. By 2030, ADT through the corridor is predicted to range from 23,000 to 40,000.

Traffic engineers use a measure called level of service (LOS) to describe traffic congestion. Highways with LOS A through C conditions occur in low traffic areas with few or no delays. LOS D describes heavier traffic areas where traffic still flows smoothly most of the time. LOS E describes a situation where traffic flows at full highway capacity and delays become noticeable. At LOS E, any accident, stalled vehicle, or inclement weather disrupts traffic flow. LOS F characterizes highways that attempt to operate above capacity with resulting chronic traffic congestion and delays.

Southbound traffic volumes for 2004 on the SR 305 mainline are nearing roadway capacity (LOS E). Northbound mainline traffic currently functions at LOS E and is approaching LOS F. Chronic traffic congestion occurs during peak commute periods throughout the project area as shown in table 2.

Table 2			
Traffic Congestion Level of Service Predictions			
Location	LOS 2004	LOS 2030 No Build	LOS 2030 Build
SR 305 Mainline SB	E	F	E
SR 305 Mainline NB	F	F	E
Bond Road Intersection	F	F	D
Little Valley Road I/S	B	F	C
Liberty Road I/S	F	F	E
Lincoln Road I/S	D	F	E
Hostmark Street	E	F	C
SB = southbound, NB = northbound, I/S = intersection LOS A, the best, to LOS F, the worst LOS A represents good traffic flow without delays and LOS F represents gridlock with little to no traffic flow.			

The most congested location occurs at the Bond Road intersection with gridlock occurring during peak commute periods. The Hostmark Street intersection in Poulsbo is near capacity and frequently experiences congestion. Other signalized intersections also operate at moderately congested conditions. These conditions will continue to deteriorate without the proposed improvements.

When the project was initially proposed, the latest available traffic accident data period was from 1988 to 1995. These data showed that during the stated period accidents grew by 13.7 percent. Informal information from the Poulsbo State Patrol office indicated that this trend was continuing. Traffic data from 1996 to 2000 confirmed that accidents were increasing. Part of the reason for the increase was traffic growth and congestion.

Accident rate data provide a better measure of personal risk. During the 1988 to 1995 reporting period, the project area of SR 305 had an average accident rate of 3.45 per million miles. This was 26.8 percent higher than the statewide average. The injury accident rate on this portion of SR 305 was 1.45 per million miles. This was 25.3 percent higher than the statewide average. Available data from 2000 to 2003 show that the accident rate has continued to increase to 4.27 per million miles.

Continuing ferry traffic growth is also a major factor contributing to traffic congestion on the Poulsbo segment of SR 305. WSDOT desires to balance the need for the City of Poulsbo to serve its residents and businesses, as well as regional and commuter traffic.

Bicycle lanes along both sides of SR 305 through Poulsbo have been identified as high priority needs for this part of Kitsap County. This project will improve the safety and desirability of existing bicycle lanes. Sidewalks will be constructed in areas of reoccurring pedestrian use.

The project is designed to alleviate congestion and lower accident rates in the project area. Alternative modes of transportation will also be enhanced.

Related Projects

A Poulsbo city street project will improve SR 305 traffic flow, a new sewer line is to be installed within the project area, a large development is planned to be constructed within two miles of the project, and a regional stormwater project will reduce flooding along South Fork Dogfish Creek. These projects are described below:

- **Extension of 7th Avenue:** This city project will extend 7th Avenue north past North Sound Bank to Forest Rock Hills Lane. The project will tie in with SR 305 at the Forest Rock Hills Lane/Little Valley Road intersection, providing another entrance and exit for the Poulsbo Village shopping center.
- **New Sewer and Pump Station:** The City of Poulsbo is planning a new sewer project in the SR 305 project area. This sewer project includes a new pump station and sewer line. The pump station will be north of Bond Road outside the SR 305 project limits. The sewer force main will be installed within the west SR 305 right of way between Bond Road and Hostmark Street. The gravity sewer main continues south from Hostmark Street to Johnson Way.
- **Olhava Development:** A large private development is currently under construction in the vicinity of the SR 3/SR 305 interchange. This project includes constructing a multi-use facility. Traffic impact mitigation for the development includes adding lanes to the on- and off-ramps, using retaining walls, and widening SR 305 in the vicinity of the interchange.

The Scandinavian-themed Olhava, officially called College Marketplace, is the largest development in the city's history and one of the largest currently under way in the state. Plans for the site off SR 305 between NW Finn Hill Road and SR 3 include 840,000 square feet of commercial floor area, 325,000 square feet of business park floor area, 50,000 square feet for Olympic College, 420 multi-family units and 70 single-family homes

- **Regional Stormwater Detention Facility:** The City of Poulsbo is in the planning stages of constructing a regional stormwater detention facility near the headwaters of South Fork Dogfish Creek. The facility will collect runoff from area streets, schools, and churches. The quantity treatment of runoff from large areas of impervious surfaces near the headwaters of South Fork Dogfish Creek will reduce stormwater surges, scouring in the creek, and heavy siltation, which currently affect fish spawning habitat in the lower reaches of the stream within the project vicinity. WSDOT believes that upstream detention will help reduce peak flows in South Fork Dogfish Creek. This will ultimately lead to less flooding damage to the highway and less culvert maintenance on SR 305. Also, it will protect the investment of the nine new culverts that will be installed as part of the Vicinity Poulsbo South City Limits to Bond Road Project. Therefore WSDOT will contribute \$265,000 toward the development and construction of this facility.
- **8th Avenue Culvert Replacement:** A City of Poulsbo-owned culvert carries South Fork Dogfish Creek under 8th Avenue near Lincoln Road. The existing culvert is a partial fish barrier and does not have sufficient capacity. This culvert will not be affected by the proposed SR 305 project. The City of Poulsbo is aware of this issue and will need to address this culvert in the future.

Consistency With Major Investment Study Requirements

In the spring of 1997, WSDOT, Kitsap County, Kitsap Transit, Suquamish Tribe, and the cities of Poulsbo and Bainbridge Island each approved the SR 305 Corridor Analysis Major Investment Study (MIS) and its recommendations. The main purpose of the SR 305 corridor analysis was to determine the actions and improvements necessary to make the corridor accommodate future travel demand.

The process began in January 1995 and was completed in April 1997. The corridor was divided into three segments early in the process because of the different physical characteristics, land use, and traffic volumes. Each segment was studied to provide distinct technical analyses and recommendations. This project falls under the Poulsbo segment.

The three segments are:

- Bainbridge Island — Winslow ferry terminal to Agate Passage (MP 0.02 to MP 7.05)
- Suquamish — Agate Passage to Poulsbo city limit (MP 7.05 to MP 10.72)
- Poulsbo — Poulsbo city limit to the SR 3 junction (MP 10.72 to MP 13.31)

The SR 305 Corridor Analysis MIS included the study of several improvement alternatives for each segment of the corridor. It quantified the future traffic issues based on predicted population and traffic growth. Using this information, a range of single occupant vehicle (SOV) alternatives was considered.

In the Poulsbo segment, the MIS concluded that some signalized intersections would suffer severe congestion by the year 2010. It confirmed the feasibility of adding a lane in each direction and improving intersections. The MIS also recommended improving bicycle and pedestrian facilities.

The document recommended that the two new lanes operate as HOV lanes during peak hour traffic. This operational feature would provide a substantial carpool, vanpool, and transit travel time advantage during peak traffic hours, and thus encourage a mode shift from SOV to HOV usage. The proposed project is consistent with the policies, goals, and recommendations of the MIS.

Alternatives to the Proposed Action

These alternatives/improvements were studied during the MIS process for this segment.²

1. No Build — This alternative assumed only currently programmed roadway preservation and safety improvements. No mobility and capacity improvements are included.
2. Add a General Purpose Lane — This alternative assumed currently programmed improvements and the addition of one general-purpose lane to both northbound and southbound SR 305.
3. Add an HOV Lane With Two Passengers — This alternative assumed currently programmed improvements and the addition of one HOV lane to both northbound and southbound SR 305.
4. Add an HOV Lane With Three Passengers — This alternative assumed currently programmed improvements and the addition of one HOV lane to both northbound and southbound SR 305.
5. Add a General Purpose Lane and Transit Bypass Lane (six lanes total) — This alternative assumed currently programmed improvements and the addition of one general-purpose lane and one transit HOV lane to both northbound and southbound SR 305.
6. Refer to the paragraphs below for details on the selected alternative.

In addition to mainline analysis, seven at-grade intersections within the project limits were evaluated for deficiencies and improvements were recommended.

Alternatives 2, 3, and 4 for the Poulsbo segment would result in identical right of way requirements and impacts to adjacent property. The signing and striping plans would be the only design difference between the three alternatives. Alternative 5 would increase the amount of right of way and natural resource impacts.

The selected 2002 alternative combined alternatives 2 and 3. The new traffic lanes (one in each direction) would be signed for HOVs during peak commuter hours on weekdays and signed for general-purpose traffic during off-peak hours and on weekends. Widening was proposed to occur symmetrically on either side of the existing centerline.

Based on comments for the 2002 Environmental Assessment (EA) and further discussions with the Washington State Department of Fish and Wildlife and the Suquamish Tribe, changes were proposed to the design to minimize impacts to South Fork Dogfish Creek and provide for improved fish habitat. These changes resulted in the preferred alternative presented in this EA. To minimize impacts to the creek, SR 305 will be widened asymmetrically between Lincoln Road and Bond Road. The widening will occur mostly to the east to avoid impacts to the creek as it follows SR 305 to the west. Widening to the east will require relocating about 1,200 feet of the creek. The relocation will provide for a new meandering creek segment that will provide cover areas for fish, pools, spawning gravels, and promote overall stream health.

² The details can be found in SR 305, Corridor Analysis, WSDOT, April 1997.

Permits, Documentation, and Scheduling

This Environmental Assessment (EA) is being prepared in accordance with the requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. 4332(2)(C). The environmental assessment process is scheduled to be completed in June 2005. This NEPA EA will subsequently be adopted to meet the requirements of the State Environmental Policy Act (SEPA).

Due to funding constraints, the project will be constructed in two stages. Stage One will construct the proposed improvements from Hostmark Street to Bond Road and SR 307, develop the wetland mitigation site, complete the stream realignment and the proposed culvert replacements within the Stage One limits. Stage One construction is scheduled to start in summer 2006 and be completed within two years.

Stage Two will complete the remaining HOV lanes and intersection improvements from Baywatch Court to Hostmark Street. This stage is currently unfunded and no construction date has been determined. WSDOT has worked with the City of Poulsbo to determine the southern limit of Stage One, which will provide a functional facility that will meet the needs of the City and commuters until Stage Two is funded and constructed.

Table 3 lists the permits and approvals anticipated to be required before construction can begin:

Table 3 Permits and Approvals Required for Project Construction	
Permit	Agency
Concurrence for Biological Assessment (Section 7)	U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration
Section 404 Permit	Corps of Engineers
Section 401 Water Quality Certification	Washington State Department of Ecology
NPDES Stormwater Permit for Construction Activities	Washington State Department of Ecology
Coastal Zone Management Consistency Determination	Washington State Department of Ecology
Hydraulic Project Approval	Washington State Department of Fish and Wildlife
Critical Area Ordinance Compliance	City of Poulsbo

Impacts of the Proposed Action

Introduction

In preparing this Environmental Assessment (EA), the following areas were determined not to require in-depth review and analysis:

- **Pedestrians/Bicyclists** — This project will improve mobility and safety for pedestrians and bicyclists.
- **Other Disciplines** — This project will have no impacts to economics, farmland, floodplains, lighting, or wild and scenic rivers.

This section of the EA presents those disciplines where in-depth review was required to determine whether the proposed SR 305 project would have significant impacts. These sections describe the existing conditions for each discipline, discuss project impacts, and present mitigation measures to address those impacts when applicable. Discussions of Environmental Justice and Section 4(f) are included in the following section.

Of the disciplines discussed below, only Land Use, Hazardous Materials, Wetlands, and Water Resources were considered to have impacts that required further evaluation of indirect and cumulative impacts.

Land Use, Relocation, Environmental Justice, and Recreation

This EA section is based upon the 1999 and 2004 Land Use and Relocation discipline reports prepared for the SR 305 project. The 2004 report contains a detailed Environmental Justice analysis. See Appendix F for a list of discipline reports.

Studies and Coordination

Land Use and Relocation

Current land use throughout the project area of the proposed alternative was assessed by the Washington State Department of Transportation (WSDOT). Several regional and local plans and studies apply to the proposed project. The relevant documents include the following:

- VISION 2020 Update, Metropolitan Transportation Plan (Puget Sound Regional Council [PSRC], 1995)
- State Highway System Plan: 2003-2022 (WSDOT, 2002)
- SR 305 Corridor Analysis Major Investment Study (WSDOT, 1997)
- City of Poulsbo Comprehensive Plan (June 13, 1994)
- Kitsap County Comprehensive Plan (May 7, 1998)

These plans address continued population growth and changing land uses in the project area. The plans identify needed transportation projects, including improvements to SR 305.

Environmental Justice

In compliance with Presidential Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations* (February 11, 1994), this project evaluation addressed the potential for project effects on minority and low-income populations. EO 12898 requires “each federal agency to make the achievement of environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental impacts on minority or low-income populations.” The Order further stipulates that the agencies conduct their programs and activities in a manner that does not have the effect of excluding persons from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color, national origin, or income level.

The Order reinforces the requirements of Title VI of the Civil Rights Act by requiring the assurances that no person on grounds of race, color, or national origin is excluded from participating in, denied the benefits of, or in any other way subjected to discrimination under any program or activity receiving Federal assistance. Title VI further prohibits actions that reflect intentional discrimination or that exhibit “adverse disparate impact.”

Several documents have been issued to help clarify EO 12898, some of which include: U.S. Department of Transportation’s (DOT) Order 5610.4 on Environmental Justice, dated April 1997; the Federal Highway Administration’s Order 6640.23, dated December 2, 1998 on Environmental Justice; FHWA’s Technical Advisory 6640.8A dated 1987; and WSDOT’s Environmental Procedures Manual section on Environmental Justice updated in 2004.

EO 12898 is relevant to the SR 305 project because of federal funding through the Federal Highway Administration (FHWA). The environmental justice analysis for the project is documented as an appendix to the *Land Use and Relocation* discipline report, which provides the basis for discussing environmental justice in this EA. The purpose of this analysis was to determine whether or not the proposed SR 305 project would have disproportionately high and adverse human health and environmental effects on minority and/or low-income populations.

Six steps were taken to analyze the project’s impacts on environmental justice populations:

- The project area was defined and census block groups within it were identified.
- Preliminary identification of environmental justice populations was made using data from the U.S. Census Bureau.
- The project area population was compared to that of Kitsap County and the City of Poulsbo.
- Site visits to the project area were used to further identify low-income or minority populations.
- Project impacts were identified and an assessment of whether they fall disproportionately on environmental justice populations was made.
- Preliminary mitigation measures, if needed, were identified.

Planning for public involvement and agency coordination activities began in January 1995 when the SR 305 Corridor Analysis Major Investment Study (MIS) was initiated. These efforts will continue through project construction. The proposed project was created from one of the corridor segments, the Poulsbo segment, identified early in the MIS process. It provided a focused structure for public participation, technical analysis, and recommendations. A steering committee consisting of representatives of public agencies and organizations was formed. The steering committee met eleven times between November 1998 and November 2000. In 1995, the Steering Committee during the MIS process established a Corridor Community Council to assure that each community affected by SR 305 would have a voice in the decision-making. The council included representatives from 56 community organizations, neighborhoods and civic associations, and specific user groups (e.g., bike clubs and senior groups). This group met monthly throughout the MIS process.

Many methods were used to gather information on what issues the community felt were important. There was involvement not only with community members, but also with affected tribes, interested businesses, community organizations and local jurisdictions.

Public outreach for the project used several methods to inform and involve the public: open houses/hearings, steering committee, corridor community council, community briefings, media coverage, newsletters, tribal meetings, and mailing lists.

For all meetings open to the public, newsletters and meeting notices were mailed to over 10,000 residences and businesses in the project area, as well as to agencies, local jurisdictions, state elected officials, community organizations, and the Suquamish Tribe announcing the open houses and EA hearings. A media release was sent to the Bremerton Sun and North Kitsap Herald as well as local radio stations. Display advertisements were placed in local sections of the Bremerton Sun and North Kitsap Herald. In all written communications, the Civil Rights Act, Title VI Statement to the Public, and the Americans with Disabilities Act (ADA) Information were published encouraging persons with limited language proficiency and disabilities to contact WSDOT for accommodations. At all meetings, the Title VI Public Involvement Statement was made available for the community members to complete. A staff person was seated at the door to greet interested citizens, to explain the Title VI Statement, explain the meeting format, and answer initial questions.

To be consistent with the underlying principles and tenets of EO 12898 and Title VI of the Civil Rights Act, WSDOT intends to continue outreach to and involvement of affected communities until the project is completed. Because of the presence of a substantial Hispanic population within the affected area, WSDOT will include Spanish language meeting notices.

Additional details related to public involvement and outreach in the planning of the project are included in this EA in the Public Outreach and Agency Coordination section and in the Environmental Justice analysis (see Appendix A of the Land Use and Relocation discipline report).

Recreation

Section 4(f) of the U.S. Department of Transportation Act, codified as USC § 138 and 23 CFR § 771.135, requires that no FHWA approval may be granted for a project using land from a publicly-owned park, recreation area, wildlife and waterfowl refuge, or any significant historic site, unless (1) there is no prudent and feasible alternative to the use of such land, and (2) any such program or project includes all possible planning to minimize harm to these resources. However, if there is no “Section 4(f) use” of such a site, preparation of a Section 4(f) evaluation that demonstrates these two points is not needed.

The proposed wetland mitigation plan will restore wetlands to 1.3 acres of a 10-acre City of Poulsbo-owned property slated for development as Mitchusson Park. WSDOT is coordinating with the City of Poulsbo concerning joint planning for wetland mitigation. The City and WSDOT have entered a joint development process to plan the mitigation site without precluding access to the public. As such, the proposal is not considered a “Section 4(f) use” of the park property and a Section 4(f) evaluation is not needed. Appendix H contains letters exchanged between WSDOT and the City of Poulsbo related to the mitigation/park site.

Affected Environment

Land Use and Relocation

Substantial growth is forecast for the area around the project site. This area encompasses Kitsap County as a whole and the City of Poulsbo Urban Growth Area (UGA), which includes the existing city limits. This growth has been anticipated and planned for in the adopted local land use plans of the City of Poulsbo, Kitsap County, and PSRC.

The PSRC estimated that the Poulsbo area will experience a 140 percent population increase between 1990 and 2030. The Kitsap County Comprehensive Plan population allocations predict that between 1997 and 2012 the county will receive about 62,824 new residents. Of these new residents, 4,136 are anticipated to settle within the Poulsbo city limits. Approximately 4,000 of the county’s new residents are expected to settle in the unincorporated area within Poulsbo’s designated UGA. Population allocations in the adopted plans and PSRC forecasts are designed to be consistent with Washington State Office of Financial Management total population estimates for Kitsap County.

Two large developments are currently planned for construction in the city. The first, Poulsbo Place, will consist of 164 single-family townhouses near downtown Poulsbo. The second, the Olhava Master Plan, includes 490 single-family and multifamily units, 840,000 square feet (sq ft) of commercial space, 325,000 sq ft of business park space, and 50,000 sq ft of floor space for an Olympic Community College branch campus.

Land use along the SR 305 corridor in the project area is primarily residential from the project start to an area near NE Hostmark Street. Commercial uses extend from NE Hostmark Street to the project terminus near Bond Road. All of this area is located within the Poulsbo city limits, except for the east side of SR 305 from about Forest Rock Hills Lane to Bond Road, which is located in unincorporated Kitsap County.

The area adjacent to SR 305 from the southern city limits to an area near NE Hostmark Street is zoned Low Density Residential, which allows 0 to 5 units/ac. The

minimum lot size within this designation is 7,500 sq ft. From NE Hostmark Street to Forest Rock Hills Lane, the area along the SR 305 corridor is zoned Commercial. From Forest Rock Hills Lane to the project terminus at Bond Road, the area along the corridor is zoned for a variety of uses. Zoning designations include:

- Low Density Residential 0 to 5 units/ac
- Medium Density Residential 6 to 10 units/ac
- High Density Residential 11 to 14 units/ac; Commercial
- Light Industrial

Environmental Justice

To help determine the affected environment for environmental justice populations (minority and low-income), census tracts and block groups located in the project vicinity were evaluated. The evaluation focused on race/ethnicity, linguistic isolation (adults over 14 with limited English language ability), and income characteristics. Census Tract 905 and its block groups 1, 2, and 4 comprise the affected area. Block group 1 is located along the east side of SR 305. Block groups 2 and 4 border SR 305 to the west with block group 2 located north of block group 4.

The total proportion of minority populations (11 percent) within the potentially affected block groups is similar to those of the City of Poulsbo (11.9 percent) and Kitsap County (11.7 percent). Percentages of individual minority populations within the affected area vary slightly compared to individual minority populations within the City and County as a whole. The individual minority percentages within the affected area range from less than one percent to over five percent of the total affected area population. The highest individual minority group percentage is Hispanic in block group 2 (5.7 percent). Hispanics make up 5.1 percent of block group 1, representing about twice as many individuals as in block group 2 because of the overall larger population of block group 1.

The average median household income level in the project area (\$39,262) is slightly lower than the Kitsap County average, but slightly higher than that of the City of Poulsbo. The percentages of low-income households in the project area (5.9 percent to 8.0 percent) are less than both Kitsap County (8.2 percent) and the City of Poulsbo (8.8 percent). Census tract 905, block groups 2 and 4 have a substantially higher percentage of Mobility Self-Care Limitation and Elderly (65+ years) households, especially in block group 4 where the percentages are 24.1 percent and 35.2 percent, respectively.

Recreation

Mitchusson Park is a 10-acre site within the affected area owned by the City of Poulsbo. The City intends to develop the site as a park. The site currently is undeveloped. WSDOT proposes to restore wetlands to 1.3 acres of the site in conjunction with the City of Poulsbo's plan to develop this property into a park and maintain "open space" within the city limits.

Construction Impacts

Land Use

The proposed project will require 17.7 acres of land acquisition. To widen the alignment and improve the intersections will require 1.8 acres of right of way (ROW); stormwater treatment facilities will require 0.3 acre of ROW; and the wetland mitigation site and stream realignment will require 15.6 acres of ROW.

The ROW required for this project will not displace any residential or private commercial uses. One public facility is expected to be impacted. An outbuilding located at the Kitsap County Roads Division North Shop at the southwest corner of the SR 305 and Bond Road intersection will be displaced by the project. This building is a pump station and is scheduled to be abandoned.

A total of 732 total parking spaces serve 28 separate businesses at seven different locations within the project corridor. A total of 56 parking spaces will be displaced by the proposed action (see table 4). Forty-four of these spaces are situated in existing, state-owned ROW. The other 12 spaces will be displaced by the ROW acquisition process.

Location	Number of Affected Businesses	Total Parking Currently Available	Parking Spaces Displaced		
			in Existing ROW	by New ROW Acquisition	Total
Southwest corner, NE Hostmark Street intersection	8 (retail stores)	118	25	0	25
Southeast corner, NE Hostmark Street intersection	1 (gas station)	60	3	0	3
Northwest corner, NE Hostmark Street intersection	2 (retail stores)	104	13	0	13
Northeast corner, NE Hostmark Street intersection	1 (grocery store)	100	0	9	9
South side of NE Hostmark Street, west of SR 305	1 (office)	10	0	1	1
Southwest corner, NE Lincoln Road intersection	14 (retail and office)	140	3	0	3
Southwest corner, NE Bond Road intersection	1 (medical center)	200	0	2	2
Total	28	732	44	12	56

Construction activities will temporarily inconvenience those needing to access residences and businesses in the corridor.

Environmental Justice

No displacements or relocations of low income or minorities residents will result from the project.

The loss of three of the 140 parking spaces serving 14 businesses will not have a substantial impact on parking availability for customers and employees (table 4). As a result of meetings and discussions with business owners and property managers of businesses being affected by the project, WSDOT concluded that the decrease in parking spaces and consolidation of accesses will not create a hardship. Business along the corridor affected by parking space losses include a grocery store, bank, real estate office, small medical center, restaurant, and small strip mall businesses.

Other construction impacts important to environmental justice populations include increased congestion, reduced mobility, increased response time to emergency services, increased noise, and visual impacts. Construction impacts can temporarily alter neighborhood travel patterns. Rerouting traffic into residential neighborhoods could pose a temporary inconvenience to social interactions within the communities.

Temporary congestion could affect environmental justice populations in the project area and the organizations that serve them. Access to services will not be halted, but rerouting and disruptions in access could temporarily affect emergency service responders, such as ambulance, police, and fire protection, especially when traveling through construction areas. Once construction activities have been completed, it is expected that travel patterns will return to previous levels and mobility will be improved.

Noise from construction activities will occur throughout the construction period. Noise levels will depend on the type, amount, and location of construction activities. Noise levels from construction equipment will range from 69 to 106 dBA at 50 feet. Construction noise at residences farther away will decrease at a rate of 6 dBA per doubling of distance from the source. Because various pieces of equipment will be turned off, idling, or operating at less than full power at any time, and because construction machinery is typically used to complete short-term tasks at any given location, average noise levels during the day will be less than the maximum.

Most construction will occur during the daytime. Nighttime construction work is regulated by local ordinances, and WSDOT requires contractors to adhere to a variety of standard specifications aimed at reducing and minimizing nighttime construction noise impacts.

Construction activities will temporarily cause an increase in dust and odors. Hauling materials to and from the project site may generate fugitive dust. Vehicles leaving the site could deposit mud on the public street, which would become a source of airborne dust after it dries. Equipment on site will emit pollutants and some construction materials such as asphalt emit odors.

Construction impacts to views will result from removing vegetation, excavating material, providing temporary signing for traffic control, and operating and staging

construction equipment. These impacts will be temporary, although vegetation removal may have long-term effects.

Recreation

WSDOT and the City of Poulsbo plan to restore wetlands to 1.3 acres of Mitchusson Park as part of the wetland mitigation site for this project. This work will involve clearing, grading, and planting of wetland species and buffer enhancement. The City will grant WSDOT an easement for use of the site for mitigation. After the required monitoring period for the mitigation site, WSDOT will return the property to the City to be preserved for its intended mitigation purpose and for use by the City as “open space.” See Appendix H for more information on this plan.

Operational Impacts

Land Use and Relocation

Improving SR 305, as proposed, is consistent with local and regional land use plans and policies. Taking no action to improve SR 305 traffic flow would be inconsistent with these plans and policies. Planned urban growth within the Poulsbo UGA and within Kitsap County as a whole would not be supported without an adequate transportation infrastructure. Local and regional plans promote various improvements, such as additional HOV lanes and intersection improvements, within the SR 305 corridor. Adding HOV lanes in the SR 305 corridor from the southern Poulsbo city limit to Bond Road, as proposed, is consistent with policies promoting HOV lanes in regional and local plans.

Environmental Justice

Operational impacts are defined as having long lasting effects on community cohesion or social interaction. This type of impact can include isolating portions of a neighborhood, separating adjoining residential areas, and changing the character of a neighborhood. Alternatively, impacts could be beneficial.

In general, the completed project is anticipated to have an overall positive effect on the cohesiveness of the community, providing for the improved movement of people and goods throughout the project area. Community cohesiveness will thereby be supported by ease of access to family friends, businesses, and local services through an efficient and effective transportation system.

Removing vegetation and creating a wider roadway will give manmade objects more presence, especially in the southern portion of the project where the change will be more noticeable. Noise walls will dominate views in close proximity to the roadway. However, because the overall length of noise walls will be limited, visual impact will be localized. The relocation of South Fork Dogfish Creek will provide a more natural element where commercial structures are prevalent.

Some improvements in ambient air quality are likely to accompany reduced congestion and greater operational efficiencies along SR 305 compared to a No-Build condition.

Once construction is complete, school buses, police, fire, and emergency vehicles will be provided with improved mobility. No change in service area will occur.

Operation of the new HOV lanes will not separate Environmental Justice neighborhood residents from any social, public, or government services.

Recreation

No existing recreational facilities will be affected by the proposed project during operation.

Indirect and Cumulative Impacts

Pressure for accelerated development may be created by a number of factors. These factors include the following:

- Economic conditions and continued population growth in the Poulsbo UGA and Kitsap County
- Citizen or developer requests to extend urban services such as sewer
- SR 305 improvements from the proposed project

Over time, cumulative effects of these factors could create an incentive to:

- Expand the Poulsbo UGA boundary
- Change the zoning and increase density
- Extend urban services to some rural areas that are currently outside the UGA

The ferry connection from Seattle to Bainbridge Island is another factor contributing to traffic on SR 305. A portion of this ferry traffic passes through Poulsbo on SR 305. Washington State Ferries predicts increased ferry use in the future (Washington State Ferries, 1998).

Proposed improvements on SR 305 will be constructed in response to the cumulative effects from known projects, future development, and economic trends in Kitsap County. Because the Poulsbo UGA is expected to be large enough to contain anticipated growth through at least 2012, it is not likely that this project, or its cumulative effects, would expand the UGA.

No indirect or cumulative impacts that will affect environmental justice populations or recreational facilities have been identified.

Construction Mitigation

The following mitigation measures will be implemented during construction to reduce potential impacts on the community of residents, businesses, and users of SR 305. Members of environmental justice populations will benefit from these measures, as would the general public. No measures specifically targeted to environmental justice populations are proposed.

Mitigation measures will include maintaining accesses to existing uses and parking during construction whenever possible. Affected businesses in the project area will be

notified of construction activities in advance, and reasonable efforts will be made to assist in identifying alternate access during construction.

ROW acquisition will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. No displaced person, business, farm, or nonprofit organization would be required to move from any dwelling, property, or business facility without being given a written assurance at least 90 days prior to the earliest date they could be required to move.

Construction mitigation proposed for impacts related to noise and air quality are identified in the Noise and Air Quality sections of this EA.

Operational Mitigation

Implementing Access Management and using existing ROW will likely impact businesses and property owners. WSDOT will work closely with each owner to ensure they have a complete understanding of the laws governing Access Management. No other mitigation measures during operation are proposed.

Impact Summary

Land Use

No impacts to existing land uses will result from the project. The project will not displace any residential or commercial uses, but will displace one public building—a pump station at the Kitsap County Roads Division North Shop that is scheduled to be abandoned. A total of 56 parking spaces will be displaced for 28 separate businesses at seven different locations. Eighty percent of these spaces are in existing, state-owned ROW. A total of 17.7 acres will be needed for intersection improvements, stormwater treatment, wetland mitigation, and stream realignment.

Environmental Justice

The environmental justice analysis determined that the project will not have a disproportionate, adverse impact on minority or low-income populations. This conclusion is based on no displacements or relocations of low-income or minority residents or businesses; proposed mitigation to address noise and other minor construction impacts; and the temporary nature of construction impacts.

Recreation

No adverse impacts to existing recreational facilities are anticipated. Restoration of wetlands to 1.3 acres of the undeveloped 10-acre Mitchusson Park by WSDOT will provide long-term wetland areas within the park development. This is consistent with the City's need to maintain "open space."

Air Quality

This EA section uses background information from the 1999 Air Quality discipline report prepared for the SR 305 project. See Appendix F for a list of discipline reports.

Studies and Coordination

Air quality in the project area is regulated by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and Puget Sound Clean Air Agency (PSCAA). In the Clean Air Act, EPA established the National Ambient Air Quality Standards (NAAQS), which specify maximum concentrations for carbon monoxide (CO), particulate matter 10 parts per million (PM-10), PM-2.5, ozone, sulfur dioxide, lead, and nitrogen dioxide. Ecology and PSCAA have adopted air quality standards for Washington State and PSCAA's region in the state, respectively.

Air quality attainment areas are regions that currently comply with the NAAQS. The project lies within an area in attainment for NAAQS pollutants. Project level air quality analysis is not required for the proposed project because it is located within an attainment area.

Affected Environment

Although much of the central Puget Sound area is designated by EPA as a maintenance³ area for ozone, PM-10, and CO, the proposed SR 305 project lies outside the designated maintenance area. The air quality region in which the SR 305 project is located is considered to be an attainment area for pollutants under the NAAQS.

Construction Impacts

Construction activities will cause a temporary increase in emissions of dust and odors. Potential sources of construction-related dust include trucks hauling materials to and from the project site, soils disturbed during site grading, stockpiled gravel and dust exposed to sun and wind, and vehicles tracking mud onto adjacent roadways. The mud could become a source of airborne dust as it dries and is blown by the wind and passing vehicles. Potential sources of odors and other construction-related pollutants include construction equipment and materials, such as asphalt.

Emissions of very small particles (PM-10) in dust and equipment emissions will vary from day to day, depending upon the level of construction activity, specific operations, and weather conditions. A number of residences are within 250 to 500 feet from the project site. At these distances, PM-10 from construction activities could be noticeable, if uncontrolled. The Build Alternative will require mitigation measures to comply with PSCAA regulations to control dust during construction and prevent tracking of mud onto paved streets.

3 Maintenance refers to an area that has had past exceedances of the National Ambient Air Quality Standards. The jurisdiction for that area developed a plan to bring the area into compliance with the standards and is now working at "maintaining" compliance for a set period before being determined to be in attainment.

Operational Impacts

The project lies entirely outside of, and does not affect, the Puget Sound maintenance areas for CO, PM-10, and ozone; therefore, an air quality study for project level conformity is not required. The project is in the PSRC's current Transportation Improvement Program (TIP), which is part of a conforming State Implementation Plan (SIP). Therefore, this project meets regional conformity requirements.

Some improvement in ambient air quality is likely to accompany reduced congestion and greater operational efficiencies along SR 305 compared to a no-build condition.

Construction Mitigation

State and federal laws and regulations restrict dust, odors, and other fugitive emissions, and prohibit open burning in the project area. Enforcement in the project area is the responsibility of PSCAA. This is carried out via permit requirements for new sources of air pollution and monitoring emission standards for ongoing activities like roadway construction. Compliance with these existing standards for construction activities will be ensured by specific contract provisions that require the contractor to comply with emission standards. The Memorandum of Agreement between PSCAA/WSDOT, December 1999, recognized fugitive dust as an air pollution problem. Fugitive dust will be controlled with a dust control plan and best management practices (BMP). Compliance with the existing emission standards and contract provisions will reduce and minimize air quality impacts from project construction activities.

Possible mitigation measures to control PM-10, dust, and emissions of CO and nitrous oxide are spraying exposed soil with water, covering exposed soil during grading, covering trucks transporting material, providing wheel washers, requiring appropriate emission control devices, and planting vegetation as soon as possible to stabilize disturbed soils.

Operational Mitigation

No mitigation is proposed or required.

Impact Summary

The project is in the PSRC's current TIP, which is part of a conforming SIP. Therefore, this project meets regional conformity requirements, which means that it will not cause or contribute to a violation of ambient air quality standards and no project-level conformity analysis is required.

Hazardous Materials

This EA section is based on the Hazardous Materials Discipline Report prepared by Shapiro and Associates, Inc. (December 1999) and two addenda prepared by WSDOT

hazardous materials staff in September 2000 and June 2004. See Appendix F for a list of discipline reports.

This section presents information on potential environmental concerns related to properties affected by ROW expansion.

Studies and Coordination

To focus analysis on properties that could affect the highway design, acquisition, or construction, a site screening process was developed and implemented to identify properties with known or suspected environmental issues. Efforts included historical research on industrial and commercial land use, regulatory agency database list and file reviews, a site reconnaissance of the properties slated for acquisition, and surface water sampling at one location.

The following resources were used to assess the potential for finding hazardous materials along the SR 305 project corridor:

- Sanborn Fire Insurance Maps
- Metsker's Atlas 1955, 1973, and 1986
- Aerial Photographs from 1961, 1971, 1982, and 1992
- Interview with knowledgeable lifelong resident and property owner
- Interview with Kitsap County Public Works staff
- Interview with Project Manager, Chevron Site Assessment and Remediation

All applicable EPA and Ecology databases were reviewed. Ecology staff persons were contacted regarding two sites with hazardous materials potential.

Affected Environment

Fifteen sites were identified in the initial screening process. Of these, 13 sites were eliminated from further consideration because they were either located downgradient of or too far away from the planned ROW to suggest impacts to or from the project. Additional analysis eliminated the remaining two sites because they had been adequately remediated.

The two sites with a history of contamination were the Kitsap County Road Shop located at the intersection of SR 305 and SR 307, and a Chevron service station located at the intersection of SR 305 and Hostmark Street. Kitsap County worked with Ecology to clean up site contamination at the Road Shop. According to Kitsap County authorities, the Road Shop site has been cleaned up and there is no evidence of hazardous materials migration from the site. All documentation has been submitted to Ecology and a "Notice of No Further Action" was issued on January 11, 2000.

The Chevron service station with leaking tanks was completely rebuilt in the late 1990s. At that time, the old tanks were removed and new tanks were installed. Soils and groundwater were tested and found to meet state Model Toxics Control Act (MTCA) standards.

Although Ecology has determined that the Road Shop site and Chevron site have been remediated to MTCA cleanup levels, there is still a potential risk for residual contamination. Since remediation of petroleum contaminants, if present, is considered “reasonably predictable,” these properties are considered to be a low risk to the project.

The Kitsap County Road Shop site was initially considered for a stormwater detention pond. The site was avoided for that purpose because of concerns related to potential hazardous materials releases. A portion of the site adjacent to SR 305, however, would be used for a bioswale, which involves less soil excavation. To further assess levels of contaminants in the bioswale area, WSDOT obtained and tested soil, groundwater, and surface water samples from the proposed bioswale area in Fall 2004. All samples tested below MTCA cleanup levels.

The 2004 reevaluation identified five additional sites as potentially contaminated based on a regulatory records review and a windshield survey. Three sites identified are considered to present a low risk to the project because: the site is downgradient of the project, or is known to use potentially hazardous materials that are reasonably predictable when remediation is required. Such materials include those associated with petroleum and other auto service related solvents and metals.

Two sites identified in the 2004 reevaluation are considered to present a moderate risk. One site may use dry cleaning solvents, which are not considered reasonably predictable when remediation is required. This site is upgradient from the project and the regulatory records do not include it. The second site considered a moderate risk to the project might use pesticides, herbicides, and insecticides associated with plant nursery activities. The regulatory records do not include this site. Because these materials are not considered to be reasonably predictable in remediation and because runoff from the site has the potential to affect the project ROW at the culvert replacement on SR 307, the site is considered to present a moderate risk to the project.

The majority of the proposed wetland mitigation area consists of vacant, undeveloped land. Residential properties within the mitigation property may contain several potentially hazardous materials, including asbestos containing material, lead based paint, and underground heating oil tanks.

Construction Impacts

No impacts related to hazardous materials are anticipated. The potential for encountering unknown hazardous materials exists with any construction project involving excavation in urbanized areas. Construction activities could cause an inadvertent release of hazardous materials or wastes associated with construction equipment. Worker and public exposure to contaminants could occur and hazardous materials could spread in the environment.

WSDOT anticipates acquiring property for a wetland mitigation area. In acquiring contaminated property, WSDOT could become liable for an expensive site cleanup under federal (Comprehensive Environmental Response, Compensation and Liability Act) and state regulations (MTCA). To avoid and minimize cleanup liability, WSDOT must perform all appropriate inquiry prior to purchasing contaminated property.

The majority of the proposed wetland mitigation area consists of vacant, undeveloped land with the exception of a few residential properties. If demolition activities were to be needed for residential properties on the proposed wetland mitigation site could encounter asbestos containing material, lead based paint, and underground heating oil tanks. However, no demolition is currently planned for this project.

Operational Impacts

No operational impacts related to hazardous materials are anticipated from the proposed project improvements. Hazardous materials contamination adjacent to the highway, including South Fork Dogfish Creek and Dogfish Creek, could occur as a result of accidental releases from vehicles involved in collisions.

Indirect and Cumulative Impacts

Existing, unknown contamination that otherwise would remain in place and potentially migrate may be discovered and may be cleaned up faster as a result of discovery during construction. Removing potential hazardous materials release sources, such as heating oil tanks, may prevent environmental contamination from a potential future inadvertent release.

Due to potential cleanup activities associated with the project, fewer contaminated sites may remain within the project footprint. Also, constructing stormwater treatment facilities may decrease contamination migration.

Construction Mitigation

Mitigation measures for potential impacts to soils, air, groundwater, and surface water include construction planning, development of a spill prevention, control, and countermeasures (SPCC) plan; erosion and sedimentation control plans; and plans for handling unanticipated contamination.

Because considerable project work would occur adjacent to streams and wetlands, the Contractor will be required to prepare and implement an enhanced SPCC plan that specifically addresses construction work in water areas to avoid water quality violations.

To reduce potential liability from property acquisition, a thorough site reconnaissance at the proposed wetland mitigation site will be conducted prior to acquisition. The reconnaissance will focus on identifying signs of potential hazardous materials contamination (evidence of illegal dumping, underground storage tanks, stains in soil, distressed vegetation).

Pre-acquisition surveys will be conducted on structures planned for demolition to determine the presence of asbestos containing material, lead based paint, and underground oil storage tanks. Subsequently, removal and disposal of such materials will be conducted in accordance with applicable regulations. Depending upon the lead levels in the demolition debris, some debris may need to be disposed of as dangerous waste, which would require notifying Ecology.

Operational Mitigation

In the event of hazardous materials releases resulting from highway accidents or other uncontrolled releases in the ROW, response agencies, including the local fire department and Ecology, would implement emergency measures for containment, control, and clean up.

Impact Summary

Through substantial site assessment investigations, WSDOT has not identified potentially contaminated sites that would substantially impact the project. Through development and implementation of appropriate project design, construction measures and construction contingency plans, releases of contaminants to the environment will be avoided. Also, the proposed project design has avoided the Kitsap County Road Shop site to minimize the potential of encountering hazardous materials.

Wetlands

This EA section is based upon the 2004 Wetland Biology report prepared for the SR 305 project. See Appendix F for a list of discipline reports. This report covers the entire width and length of the project.

Studies and Coordination

Vegetation, soils, and hydrology within the project area were examined according to the Routine Determination Method outlined in the 1997 Washington State Wetland Identification and Delineation Manual (Ecology, 1997). Wetlands were classified according to USFWS's system (Cowardin et al. 1979) and rated using Ecology's 4-tier rating system (Ecology 1993). Requirements in the Poulsbo Critical Area Ordinance (Poulsbo, 1994) and the Kitsap County Critical Areas Ordinance (Kitsap County, 1998) were also reviewed and applied as needed. The City of Poulsbo and Kitsap County regulate alteration of wetlands and assess potential environmental impacts of development proposals through local ordinances and through their authority under the State Growth Management Act (GMA). In addition, the U.S. Army Corps of Engineers (Corps) regulates wetlands and other waters of the United States in accordance with Section 404 of the Clean Water Act.

To determine the presence and extent of wetlands within the project area, existing site-specific literature and data were reviewed and a site-specific field investigation was conducted. Data sources included: National Wetland Inventory (NWI) maps, U.S. Geological Survey (USGS) 7.5 minute topographic maps, Natural Resources Conservation Service (NRCS) soil surveys, county hydric soils lists, and aerial photographs.

To evaluate the quality of functions performed by the wetlands within the project corridor, the WSDOT *Wetland Functions Characterization Tool for Linear Projects* (WSDOT 2000) was followed and the assessments used best professional judgment. Some of the functions assessed include flood flow alteration, sediment removal, erosion control and shoreline stabilization, and general fish habitat.

During the field investigation, sampling plots were established in areas of homogenous vegetation to test for the presence of wetlands and to establish the point where wetlands transitioned to uplands. Plant species in the project area were identified and vegetation was considered hydrophytic (adapted to wet conditions) when over 50 percent of the number of dominant plant species had an indicator status of facultative wetland or obligate wetland.

In accordance with the methodologies, soil samples were taken at all sampling plots and other points in the project area. They were examined for indicators of hydric conditions. Hydrology in the project area was evaluated through observation of surface water, soil saturation, groundwater, and other indicators including evidence of drainage patterns. The boundaries of wetlands in the project area were flagged, surveyed, and mapped.

Preliminary wetland categories were assigned to each wetland based on definitions established by Ecology and the City of Poulsbo. Wetlands are generally rated in quality by category, with Category I wetlands being the highest quality and Category IV wetlands being the lowest. The regulatory jurisdictions (in this case, Ecology and the City) reviewing a particular project have the authority to determine wetland categories.

Category II and III wetlands are the most commonly observed categories. Wetland category is determined by a number of factors, including the overall wetland size, number of vegetative classes, quality of buffers, and diversity of habitat features, such as association with a salmon bearing stream.

Affected Environment

The project area has a mix of developed and undeveloped land adjacent to SR 305. A large shopping complex is located just west of SR 305 north of Lincoln Road. Extensive commercial development has occurred along the east side of SR 305. To the north, the project area has less development and forested tracts are present with scattered residential and commercial areas.

South Fork Dogfish Creek, a salmon bearing stream that generally drains from south to north, parallels the project site, crossing under SR 305 several times before joining Dogfish Creek near the northern end of the project. Dogfish Creek flows into Liberty Bay northwest of the project. The lower portion of Dogfish Creek flows through an extensive estuarine wetland prior to its discharge to Liberty Bay. Riparian areas of South Fork Dogfish Creek provide relatively intact habitat below Bond Road to its confluence with the mainstem of Dogfish Creek and the estuarine habitat and riparian area along lower Dogfish Creek. Several of the wetlands identified along the corridor are associated with or have been historically associated with South Fork Dogfish Creek. Development along the corridor has substantially altered drainage patterns, which has affected wetland hydrology.

Vegetation in the project corridor is typical of the western hemlock vegetation zone of western Washington. Vegetation is dominated by needle-leaved, evergreen tree species such as Douglas-fir, western hemlock, and western red cedar. Alder and big-leaf maple are also commonly found throughout the project area.

Upland vegetation where it persists in the project area is mainly second-growth mixed deciduous-coniferous forest with a shrub and herbaceous understory. Disturbed areas

associated with road construction and other development have been colonized by Himalayan blackberry, quackgrass, and many other weeds. Wetter areas also have been invaded by reed canarygrass. Common wetland species include cattail, creeping buttercup, soft rush, hard hack, willow, salmonberry, and other typical species. Pacific willow, western red cedar, and red alder dominate forested wetland areas.

The Soil Survey of Kitsap County Area, Washington (Soil Conservation Service (SCS), 1980) describes the area soils as Poulsbo-Ragnar series. This soil survey identifies four soil series in or adjacent to the project area:

- **Norma fine sandy loam, 0 to 3 percent slope (poorly drained, designated hydric):** Found on long, narrow stream bottoms and on till plain depressions in the uplands. The soil may have a high water table ranging from 1 foot below the surface to 1 foot above ground from November to April. This series is shown as dominating the entire central portion of the project area.
- **Poulsbo gravelly sandy loam, 0 to 6 percent slope (moderately well drained, not designated as hydric):** Sometimes this soil type can have a high water table to within 1 foot of the surface due to an underlying hardpan layer. This series is mapped in the northern and southern ends of the project.
- **Ragnar, 0 to 6 percent slope (well drained, not hydric):** This soil type is located on terraces and uplands, formed in glacial outwash. This series is mapped over a small area in the southern end of the project.
- **Urban land/Alderwood, 0 to 8 percent (moderately well drained, not considered hydric):** This complex soil is found on beaches and low terraces on broad uplands, and includes about 70 percent of the streets, parking lots, buildings, and other structures typical of urban areas. This series is found in a small area in the north end of the project.

The NWI maps show several palustrine emergent and scrub-shrub wetlands along the east side of SR 305 mainly in the northern and central portions of the project.

The field investigation identified seven wetlands along SR 305 (figure 3). These are shown in more detail on plans included in Appendix C. Detailed descriptions of each one are provided in the Wetland Biology report cited in Appendix F. It is notable that some of the numbered wetlands have been fragmented by highway and other development along the corridor. Prior to development many of the existing wetland fragments appear to have formed an extensive wetland complex associated with South Fork Dogfish Creek.

As a result of disturbance by adjacent land use activities, these wetlands contain many invasive and nonnative plants. Reed canarygrass, Himalayan blackberry, and thistle are invasive species in wetlands and adjacent disturbed areas.

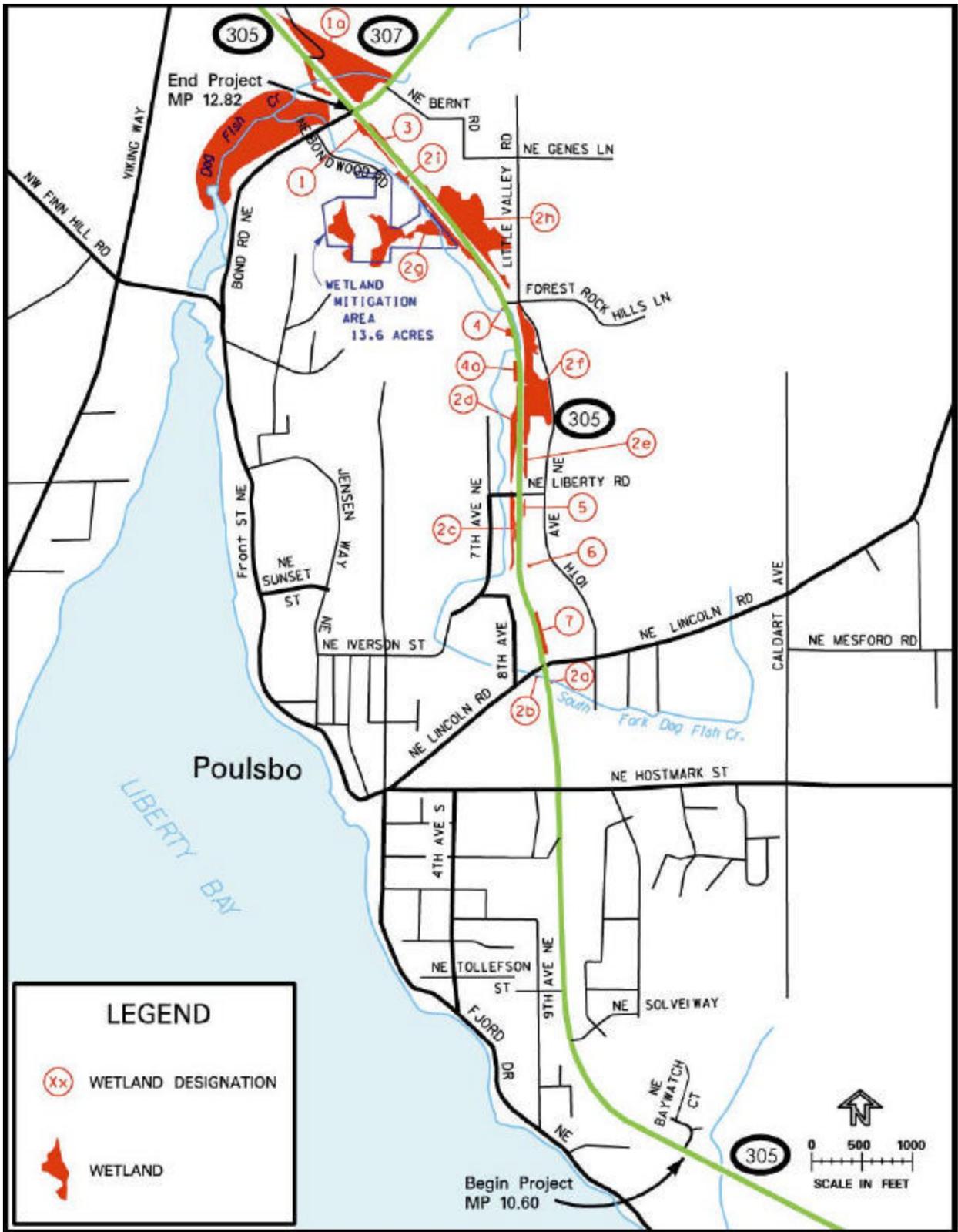


Figure 3
Wetlands Identified in Project Corridor

The wetlands contain several types of vegetation communities: forest, scrub-shrub, and emergent. These communities can provide a wide range of biological, chemical, and physical functions. Evaluations of wetland functions and values by WSDOT indicated that principal functions of all of the seven wetlands include sediment removal and nutrient and toxicant removal. In addition, Wetland 1 provides some flood flow alteration, and Wetland 7 provides for production of organic matter and its export. Wetland 2 is the largest (approximately 13 acres, including areas outside of the project limits) and most complex of the wetlands with forested, scrub-shrub, and emergent elements. Much of the Wetland 2 complex is associated with South Fork Dogfish Creek. In addition to functions shared by all of the wetlands, other principal functions of Wetland 2 include flood flow alteration and general habitat suitability. Other functions present in Wetland 2, but not evaluated as principal functions, include erosion control and shoreline stabilization, habitat for wetland-associated birds, and general fish habitat.

Per Cowardin et al. (1979), three wetlands are classified as palustrine forested and four are palustrine emergent. Both Ecology and the City categorize all but one wetland as Category III. The exception is Wetland 2, which is designated as a Category II wetland. All seven wetlands require a 40-foot buffer per County ordinance.

Construction Impacts

Wetland impacts are unavoidable because of their close proximity to both sides of the existing roadway. Proposed project plans were used to assess impacts to wetlands due to widening SR 305 and relocating 1,200 feet of South Fork Dogfish Creek. The proposed project will affect six of the seven identified wetlands. The excavation and fill required to construct the new roadway will permanently remove 1.9 acres of wetlands. Of this, 1.2 acres will be Category II wetlands and 0.7 acre will be Category III wetlands as shown in table 5. The location and extent of wetland impacts are shown in Appendix C.

The plans in Appendix C also show areas of temporary impacts to wetlands. Temporarily impacted wetland areas include areas affected by excavations to construct retaining wall footings and provide temporary construction access. About 0.3 acre of wetland will be affected temporarily during construction.

The site for relocating South Fork Dogfish Creek is located within a portion of Wetland 2 east of SR 305 (sheets 6 and 7, Appendix C and figure 5 in the section on Water Resources). An estimated 1.2 acres of this wetland will be used to create a new channel for the relocated creek. Currently, the affected portion of Wetland 2 is seasonally saturated, emergent wetland dominated by invasive species, including reed canarygrass and blackberry. After construction, the relocated South Fork Dogfish Creek system will provide an enhanced aquatic complex of wetland, floodplain, and stream channel.

Construction activities involving soil disturbance will increase the potential for sedimentation of wetlands. Uncontrolled sedimentation of wetlands could alter wetland conditions.

Wetland No.	Area (Acre)	Cowardin Class¹	Ecology Category²	City Category²	Impact (Acre)²
1	6.82	PFO	III	III	0.28
2	13.11	PFO	II	II	1.18
3	0.20	PEM	III	III	0.20
4	0.52	PEM	III	III	0.00
5	0.08	PEM	III	III	0.08
6	0.02	PEM	III	III	0.01
7	0.32	PFO	III	III	0.15
Totals					1.90

1. USFWS classification: PEM = Palustrine Emergent, PFO = Palustrine Forested
 2. Wetland categories range from I to IV based on quality with Category I wetlands the highest quality. Rating criteria include size, number of vegetative classes, buffer quality, and diversity of habitat features. Ecology and the City have their own rating systems.
 3. Wetland impact acreage was calculated from survey points by WSDOT.

Operational Impacts

Stormwater from the North Basin will be discharged without detention directly to South Fork Dogfish Creek and its associated wetlands downstream of Bond Road, about 300 feet upstream of the confluence of South Fork Dogfish Creek and Dogfish Creek. Uncontrolled discharge at this new discharge site could potentially erode streambanks and alter water surface profiles in downstream wetland areas. As proposed, however, an energy dissipater will be used at the new outfall to prevent streambank erosion and flow channelization within the wetland. The change in surface water fluctuation or hydroperiod resulting from the proposed stormwater discharge will not cause a substantial impact to the existing wetlands or nearshore area of Liberty Bay. The estimated increase in water surface profile is less than 0.1 foot during the 100-year flood event and will be negligible at the mean annual discharge rate. This level of impact is far less than the most stringent water level fluctuation allowed for hydroperiod limits found in Appendix D of Ecology’s 2001 Stormwater Management Manual for Western Washington (SMMWW). The depth and duration of the increased surface water is so small and brief, it will have no measurable effect on downstream wetlands. In addition, these wetland areas have developed along the stream fringe and experience a wide range of water depth and duration throughout the course of an average year. Additional wetland mitigation for this small effect is not warranted.

Indirect and Cumulative Impacts

Wetlands have not been recognized historically for their ecological importance. Many of these areas were filled, dredged, or developed to make the land useful for housing industry, and agriculture. Between 1780 and 1980, the state of Washington lost an estimated 31 percent of its wetlands.

The current and future context of wetlands conversion and development is radically different from the historical lack of regulation, which allowed substantial loss of wetlands in Kitsap County and throughout the Puget Sound area.

Wetlands are now recognized as an important and valuable natural resource, and their protection is a matter of public interest. As a result, rates and amounts of wetland losses in the proposed project area for the near future may be substantially less than past trends indicate. Many agencies and jurisdictions are responsible for permitting, regulating, and protecting wetlands. In 1989, Washington adopted state goals for no net loss of acreage or ecological function of wetlands. These goals reflect the Clean Water Act (CWA), federal legislation that prohibits the discharge of fill into waters of the United States unless authorized by a permit issued under Section 404 of the Act.

In relation to the proposed project, the most important jurisdictions and agencies are the U.S. Army Corps of Engineers (Corps), Kitsap County, the City of Poulsbo, WDFW, Ecology, and the USEPA. The Washington State Governor's EO 89-10 and EO 90-94 Protection of Wetlands declared a "no net loss" policy of wetland area and functions. The Corps has been given the responsibility and authority to regulate the discharge of dredged or fill materials into the waters, including wetlands, of the United States.

Wetland regulations adopted by the City of Poulsbo stipulate mitigation performance standards when regulated activities occur in wetlands, and call for no net loss of wetland area, functions, and values. The mitigation performance standards specify replacement ratios that vary among the regulating jurisdictions from 1:1 to 3:1 for Category II, III, and IV wetlands. Wetland buffer width requirements also vary among jurisdictions. Such policies regarding no net loss and replacement of wetlands will provide much greater protection of wetlands than in the past, and thereby limit future loss of wetlands from indirect and cumulative impacts of the proposed project.

Indirect effects for transportation projects typically include changes in land use such as the development of undeveloped areas when that change is induced by the transportation project, or can reasonably be expected to result from the proposed project. Other indirect effects also include long-term habitat changes to wetlands as a result of the project.

Indirect impacts to wetlands may result from the proposed project, resulting from increased development of the surrounding landscape in relation to the increased capacity of SR 305 through the project area. However, much of the project area corridor is already moderately or heavily developed, and extensive loss of wetland area has already occurred. Mitigation, as discussed above, will be required for any project indirectly related to the SR 305 project that impact wetlands. Mitigation for these projects will minimize adverse effects on wetlands.

Construction Mitigation

Wetlands and special aquatic sites are protected under Presidential Executive Order 11990, "Protection of Wetlands," Governor's Executive Orders EO 89-10 and EO 90-04, "Protection of Wetlands," and WSDOT Directives 22-27 and 31-12 (HR). These orders and directives require the use of all practicable measures to avoid impacts, minimize impacts, and compensate (provide mitigation) for any unavoidable impacts.

The anticipated wetland impacts are in areas that are considered unavoidable. For this reason, several minimization steps have been taken during the design process or will be required during preparation of the construction plans and specifications. These steps are:

- placing retaining walls as far upslope as possible from the wetlands and South Fork Dogfish Creek channel
- preserving native vegetation to provide buffers where feasible
- clearly identifying clearing and construction limits during construction
- developing and implementing a TESC plan to control runoff from disturbed soils, thereby minimizing sedimentation of wetlands during construction (see Water Resources section for details on the TESC plan)

Because some wetland impacts are unavoidable, a mitigation plan is being developed to offset wetland impacts. The conceptual mitigation proposal will create and enhance approximately seven acres of wetlands at a 13.6-acre site along the south side of SR 305 within the project limits (figure 3). The proposed mitigation will generally consist of enhancing existing degraded, emergent wetlands on the site (approximately 5 acres), as well as creating additional wetlands (approximately 2 acres). Shallow excavation and planting will be used to create the new wetlands in an upland area dominated mainly by grasses and forbs.

The general goal of the mitigation proposal is to create or enhance wetlands to establish forested wetlands, such as those which historically existed on the site. The site will be designed to establish a mature, mixed deciduous/coniferous forested canopy over enhanced or created wetland areas on the site. This will also create the type of wetland habitat that dominated the project corridor (and the South Fork Dogfish Creek riparian corridor) before urban development impacted the project area. Construction of the mitigation site will be concurrent with or in advance of wetland impacts resulting from the project.

Operational Mitigation

An energy dissipater has been designed for the new stormwater discharge to South Fork Dogfish Creek and the associated wetlands downstream of Bond Road. The energy dissipater will minimize the potential for undetained discharge to erode streambanks and wetland areas.

Impact Summary

WSDOT and FHWA are committed to providing appropriate compensatory wetland mitigation pursuant to the Presidential Executive Order, the Governor's Executive Orders, as well as WSDOT's Wetland policy.

By implementing the mitigation described above and developing and constructing a compensatory mitigation site in consultation with federal and state resource agencies, the proposal will result in no net loss of wetland functions and values in the project area. Widening the roadway will affect 1.9 acres of wetlands and the stream relocation will affect 1.2 acres of Wetland 2. An additional 0.3 acre of wetlands will

be temporarily affected during construction and restored. These impacts are unavoidable due to the proximity of the wetlands in relation to the existing roadway and work areas.

Water Resources

This EA section is based on the 2004 Water Resources discipline study. See Appendix F for a list of discipline reports.

Studies and Coordination

To identify surface and groundwater resources and potential impacts from the proposed project, several sources were reviewed, including basin plans, groundwater management plans, the SR 305 wetland report, *Highway Runoff Manual* (HRM) (WSDOT 2004), and Ecology's list of impaired and threatened water bodies. This review was supplemented by coordination with project consultants, natural resource management and regulatory agencies, City of Poulsbo, Kitsap County, and Native American tribes with usual and accustomed fishing interests in the project area.

Wetland delineation and stream reconnaissance investigations conducted for this project provided information on surface-water conditions, riparian land uses, riparian vegetation, channel morphology, and substrate composition of streams. These investigations also provided information on shallow groundwater and the hydrology of the study corridor.

Information was obtained through personal contact with various agencies and organizations (federal, state, county, city, tribal, and other). Water quality information was primarily taken from Ecology's list of impaired and threatened water bodies report and the basin plan section of the City of Poulsbo Comprehensive Plan, 1994. Bremerton-Kitsap County Health District recently collected water quality data during a study on water resources in August 2004 and these data were used in evaluating potential project impacts. Stormwater treatment designs were also compared with the new WSDOT standards in the 2004 HRM.

The project area was divided into two basins—North and South. The project area characteristics were considered in analyzing potential project impacts on water resources. The relevant issues are: impacts to surface and groundwaters through in-stream and near-stream construction activities, increased impervious surface, channel relocation, and stormwater runoff. Fish passage issues have also been evaluated as they relate to impacts from adding a drainage system and increasing paved surface area. These issues are discussed in the Fish and Wildlife section of this EA.

Affected Environment

The SR 305 project corridor is located within the City of Poulsbo in the north-central portion of the Kitsap Peninsula and the Kitsap Basin Water Resource Inventory Area (WRIA) 15 as established by Ecology. Private wells and city wells (public) supply the water needs of businesses and residents. The project is not located in any critical aquifer recharge area.

Surface waters in the vicinity of the project corridor and immediately downstream of the corridor include South Fork Dogfish Creek, Dogfish Creek, and Liberty Bay (see figure 1). South Fork Dogfish Creek, a small urbanized stream, drains into Dogfish Creek on the north side of Bond Road. The confluence of South Fork Dogfish Creek with Dogfish Creek is approximately 0.2 mile upstream from Liberty Bay.

Until recently, Ecology classified state marine and freshwater surface waters using a range from Class AA (extraordinary) to Class C (fair). Each class had established water quality standards. Ecology had classified the project area marine and freshwaters as Class AA. In 2003, Ecology adopted new water quality standards that classify water bodies by their beneficial uses. EPA approval of the new standards is pending, but approval is anticipated before construction begins. Under the new water quality standards, neither Dogfish Creek nor Liberty Bay was assigned a specific use designation; therefore, as a default, the most stringent water quality requirements apply.

The project elevation varies from approximately sea level to 141 feet above sea level. Geology of the South Fork Dogfish Creek valley consists of a thin surface layer of glacial recessional outwash gravel on top of a relatively impermeable silt and clay layer.

The SR 305 project has two major drainage systems that are separated just north of the Harrison Street intersection with SR 305. The drainage basin located south of Harrison Street (South Basin) covers about 131 acres. Most of the surface water drainage originating from this basin, including much of the stormwater draining from SR 305 ROW, flows overland and through culverts to a low area just east of the SR 305 ROW. This low area is about one-half mile north of the southern project terminus. From this location, a 24-inch pipe conveys water west under the SR 305 ROW, and then down a steep hill to an existing City-maintained stormwater conveyance system that flows to Liberty Bay. Figure 4 illustrates the drainage basins and proposed system.

The drainage basin north of Harrison Street (North Basin) drains to South Fork Dogfish Creek. This drainage basin covers about 950 acres. A system of pipes, culverts, and roadside ditches conveys surface water runoff from commercial properties, residential areas, and SR 305 to South Fork Dogfish Creek. South Fork Dogfish Creek runs roughly parallel to SR 305 for about 1.2 miles. Development has altered and degraded the buffer and riparian zone along the creek turning long stretches into narrow roadside ditches. The creek passes through 10 culverts before discharging to the main stem of Dogfish Creek (see figure 2).

Currently, runoff from the existing roadway is not treated with engineered BMPs. Water flowing from the paved roadway surface receives only incidental treatment associated with surface flow through vegetation, which does not provide effective pollutant removal. Most of the existing culverts along the project corridor do not have sufficient capacity to handle large storm flows. During large storm events, the existing culverts often become clogged with debris causing localized flooding (e.g., water over the roadway).

Interviews with the City of Poulsbo Public Works staff confirmed that flooding problems exist where South Fork Dogfish Creek meanders north and crosses 8th Avenue NE. Debris and sediment from upstream have blocked the culvert and caused the system to backup.

Under Section 303(d) of the federal Clean Water Act, Surface Waters, Ecology identifies the beneficial uses of bodies of waters that are impaired, threatened, or do not meet state water quality standards. The 1998 303(d) List of Impaired and Threatened Waterbodies included eight segments of Dogfish Creek that had elevated fecal coliform concentrations. In the 2002/2004 303(d) List, seven segments were listed as “polluted water” for fecal coliform and one segment for dissolved oxygen problems. Turbidity, dissolved oxygen, and bacteria problems also resulted in additional segments being categorized as “Waters of Concern.” Liberty Bay also appears on the 2002/2004 303(d) List of “Polluted Waters” for dissolved oxygen, fecal coliform, pH, and temperature. South Fork Dogfish Creek was not specifically included in either the 1998 or more recent 2002/2004 303(d) List.

Groundwater serves as the primary source of drinking water for the City of Poulsbo. Four city groundwater wells provide water to the city; two in the Big Valley area located approximately one-half to one mile north of the project area and two near the Lincoln Road area, approximately three-quarter mile to one mile east of the SR 305 corridor. These wells are located on hills and are elevated above the valley floor and away from the project corridor.

Wellhead protection areas have not been designated within the project vicinity (Hunter, B. personal communication) and no aquifer recharge areas have been identified (Svarthumle, K. personal communication).

Construction Impacts

Construction activities for the proposed project are not likely to cause substantial long-term impacts to water resources. Depending on the effectiveness of erosion and stormwater control measures, construction could temporarily increase suspended solids and result in short-term degradation of surface water quality due to stormwater runoff from construction areas. Suspended solids could be carried to streams within the runoff and could adversely affect water quality. Temporary increases in suspended solids typically decrease rapidly after construction as erosion control BMPs stabilize exposed sources of sediments.

Construction equipment, materials, and waste on the site present a potential for accidental spills of materials that would degrade water quality. Spilled material could be carried to the stream by stormwater and negatively impact water quality and fish habitat.

Culvert replacement and stream relocation work will physically disturb South Fork Dogfish Creek (see figure 5). Culvert replacement will occur directly in the streambed. A pumping system will be used to divert water away from the construction activity. This pumping system will include inlet screens to protect fish by preventing them from entering the construction area. The outlets will be placed to minimize downstream streambed disturbance (e.g., creation of holes in the streambed through scouring) from the diverted stream flow.

Approximately 6,600 cubic yards of material will need to be excavated to realign the stream channel. Almost all of this excavated material will be removed from the project site before the new channel receives flow from South Fork Dogfish Creek. Erosion impacts will be the highest during the first few days after the stream flow is diverted into the new channel. This is because the flow will move loose surface dirt from the new channel and transport it downstream raising the turbidity level. Elevated turbidity may be expected to last for several months, especially during the first rainy season following diversion of the stream into its new channel.

Operational Impacts

Expanding the roadway will increase impervious surface area. The North Basin’s impervious surface area will increase by 5.6 acres (0.6% of the total basin area) and the South Basin will add 2.4 acres (1.8% of the total basin area) of impervious area. The new impervious surface will reduce areas where precipitation will be able to infiltrate, resulting in a possible decrease in groundwater recharge and will increase runoff volumes and flow rates. However, groundwater recharge reduction will not be substantial as a result of the proposed action.

The proposed action will include water quality treatment facilities that will reduce pollutant loadings compared to existing (No Build) conditions. Table 6 shows the estimated annual pollutant loads for various pollutants from the SR 305 project area. For example, the proposed water quality treatment facilities are expected to reduce loads of total suspended solids to about 50 percent of the No-Build condition. For several other parameters the treatment reductions will be less.

Table 6 Estimated Annual Pollutant Load from SR 305 Project Area (Pounds per Year)				
	North Basin		South Basin	
	No Build	Proposed Action	No Build	Proposed Action
Impervious Surface (acres)	15.74	21.33	3.78	6.13
<i>Pollutant</i>				
Total Suspended Solids	512	223	126	64
Copper	0.27	0.22	0.07	0.07
Zinc	0.99	0.75	0.24	0.22
Total Kjeldahl Nitrogen	10.85	8.82	2.60	2.54
Phosphate	1.98	1.63	0.49	0.46

This project will improve drainage in the local area by replacing the existing undersized culverts (see table 1). In addition, replacing these culverts with larger fish passable culverts will pass floodwater more effectively.

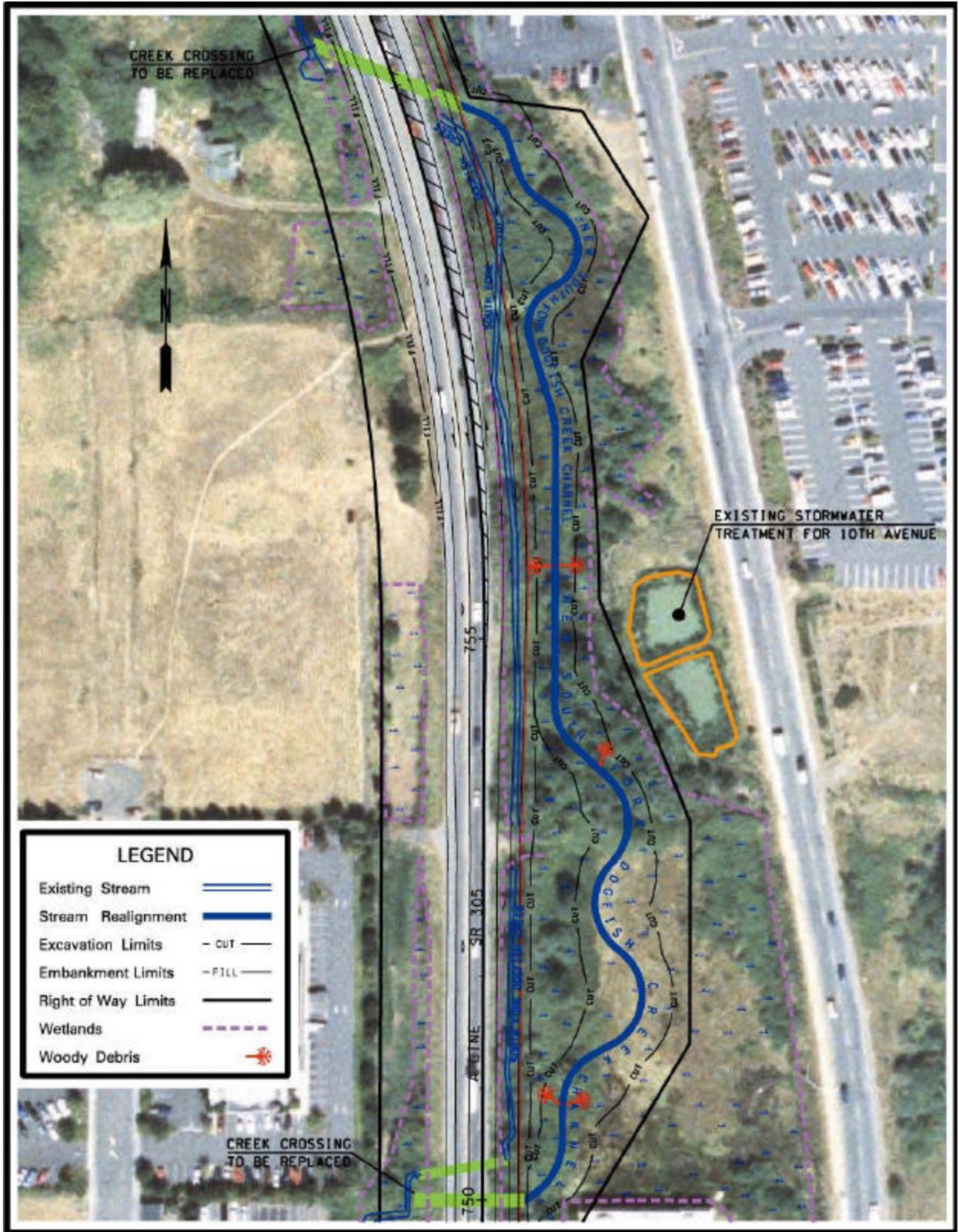


Figure 5
South Fork Dogfish Creek Relocation Site

Runoff from the North Basin will be collected, treated using bioswales, and discharged undetained to South Fork Dogfish Creek and its associated wetlands. The new stormwater outfall will be located just downstream of Bond Road, about 300 feet upstream of the confluence of South Fork Dogfish Creek and Dogfish Creek. Discharge of undetained stormwater could erode the wetland and streambanks around the discharge point; however, an energy dissipater will be installed to reduce the energy of the discharged stormwater so that it will not cause erosion. Discharge of undetained stormwater could also change the depth and duration of stormwater within the wetlands downstream of the discharge point. More information about the design and analysis of this stormwater impact is included under Operational Mitigation.

Runoff from the South Basin will be collected, treated in bioswales, and piped into the existing City of Poulsbo stormwater system, which discharges directly to Liberty Bay. Adding the undetained South Basin runoff will not have a substantial impact on the capacity of the existing system. Because the existing system discharges directly to Liberty Bay, there are no detention requirements for the South Basin.

Relocating almost 1,200 feet of South Fork Dogfish Creek stream channel will provide long-term beneficial project impacts. The existing ditch-like channel provides little in the way of habitat value. The realigned channel will have more in-stream habitat (pools) and also will have a more natural riparian corridor. Impacts to fish and wildlife are addressed in the Fish and Wildlife section of this EA.

Indirect and Cumulative Impacts

Construction of HOV lanes and their indirect impacts in promoting fewer car trips will result in indirect reductions in pollutant loads.

The roadway improvements could contribute incrementally to more impervious surface area associated with future road networks and general development in the drainage basins. This would reduce how much precipitation infiltrates to the groundwater, contributing to lower groundwater recharge rates for underlying aquifers that are used as drinking water sources. Reduced groundwater recharge could contribute to a cumulative reduction of base flow on creeks (e.g., South Fork Dogfish Creek and Dogfish Creek) hydraulically connected to affected aquifers. Although BMPs, existing programs and plans, and critical areas regulation implemented under the proposed project would reduce these impacts, such impacts would not be eliminated.

Although the proposed improvements will not have substantial adverse effects on water resources with the proposed mitigation measures, the improvements could contribute incrementally to cumulative impacts on water quality and groundwater availability in the project vicinity. Stormwater runoff to South Fork Dogfish Creek and storm sewers that convey flows to Dogfish Creek could contribute pollutants. This creek has been included on Ecology's 303(d) list for several pollutants (see Affected Environment section above). Although the biofiltration swales will reduce the amount of pollutants from highway runoff and represent a reduction over existing conditions, these facilities will not be 100 percent effective in removing pollutants. Also, project-generated stormwater runoff released to the City's storm sewers could contribute incrementally to cumulative increased levels of pollutants in Liberty Bay, also on Ecology's 303(d) List.

Construction Mitigation

A number of local, state, and federal permit requirements will be implemented to mitigate potential construction impacts on surface and groundwater resources. A TESC plan will be developed by WSDOT and implemented by the construction contractor. This TESC plan will address potential erosion problems during construction. The contractor will implement the plan before discharging runoff from the site. Monitoring requirements specified in the TESC plan will provide feedback to ensure that the erosion control practices are operating properly and effectively. Timing of construction, BMPs, and available sediment and erosion control measures can be used to reduce potential construction impacts. WSDOT will comply with TESC planning and implementation requirements included in the HRM (WSDOT 2004) and Ecology's *Stormwater Management Manual for Western Washington* (SMMWW) (2001).

Several measures will be used to minimize impacts during construction of the new stream channel. Flows will be maintained in the existing channel until the new channel has been established. Allowing the channel to "season" before flows are introduced will minimize erosion of the new bed. Using turbidity curtains in the new channel during the introduction of new flows will reduce downstream turbidity.

Staging areas for vehicles and equipment on the construction site could be covered with gravel to prevent erosion of the underlying soil. Toxic materials such as oil and fuel could be stored in the designated spill containment area. A SPCC plan will be developed and implemented during construction to mitigate impacts to soil, surface water, and groundwater.

Operational Mitigation

Potential measures to mitigate operational impacts on water resources will include implementing design specifications as described in several existing regulations, including WSDOT's NPDES permit for stormwater runoff. WSDOT has a municipal NPDES permit that regulates and defines methods to manage, control, and treat runoff from highway and associated shoulders within the project WRIA. Drainage system enhancements will provide water quality treatment for the existing and proposed highway runoff. Treatment will include BMPs to address runoff from both existing and added impervious surfaces and would comply with WSDOT's 2004 HRM, Ecology's SMMWW, and Kitsap County regulations. Water quality BMPs will provide complete treatment for the six-month, 24-hour storm event in both the North and South basins (see figure 4).

Proposed stormwater management facilities within the project corridor, including low-flow bioswales and high-flow bypass systems, will reduce erosion, sedimentation, and minor flooding effects compared to the existing situation.

North Basin

The existing impervious surface area in the North Basin totals 15.8 acres and the proposed impervious will be 5.6 acres. Bioswales will provide treatment at four locations within the North Basin. This approach addresses the fact that the "first flush"

theory of stormwater treatment does not work efficiently for long linear projects when stormwater treatment is provided only at the end of the project. The first flush of contaminants in the lower end of the project would be treated early during the storm, to be followed with cleaner stormwater later. However, it takes time for the first flush contaminants at the upper end of the system to reach the bottom. This causes contaminants to mix with cleaner stormwater, thus reducing the pollutant removal efficiency of the treatment system.

The proposed project diverts low “first flush” flows away from the storm sewer system and into bioswales at four locations along the project (see figure 4 for bioswale locations N1, N2, N4, and N5). The bioswales discharge to South Fork Dogfish Creek. Peak flows during larger storm events will be routed down the storm sewer system and discharged into the main channel of Dogfish Creek northwest of the SR 305/Bond Road intersection.

This system of bioswales provides the most efficient method of pollutant removal practicable for this project. Diverting stormwater from a closed pipe and into a bioswale provides more opportunity for runoff to infiltrate by increasing the time water flows over ground surface area. This treatment process will help improve summer low flow conditions in South Fork Dogfish Creek because flows from the bioswales will be discharged to the creek.

Runoff from the North Basin will be collected, treated using bioswales, and discharged without detention directly to South Fork Dogfish Creek and its associated wetlands. The new discharge outfall will be located just downstream of Bond Road, about 300 feet upstream from the confluence of South Fork Dogfish Creek with the main branch of Dogfish Creek. An energy dissipater will be installed at the new outfall.

WSDOT also proposes to replace the existing, undersized culvert at the Bond Road crossing (culvert 11 in table 1 and figure 2) as mitigation for the new stormwater outfall located near the Bond Road crossing. This crossing will not otherwise be affected by the project. Currently, the Bond Road culvert crossing fragments the riparian habitat along the creek. Replacing this culvert will provide a wildlife link between the downstream estuarine and riparian habitats and South Fork Dogfish Creek, improving ecological conditions for both habitat areas. The existing culvert also presents a partial barrier to salmon migration, so replacing this culvert will help salmon recovery efforts within the watershed. The existing Bond Road culvert is undersized and currently functions as a flow restrictor in-line with South Fork Dogfish Creek, at least until the creek overtops Bond Road. Pressurized flow from the existing culvert has created a scour hole at the culvert’s outfall. The proposed new culvert will accommodate larger flows and allow ecological functions, such as sediment transport, debris passage, and wildlife connectivity, to occur more naturally.

Wetland discharges of undetained stormwater are allowed under WSDOT and Ecology policies and guidelines (HRM p. 2-20 and the SMMWW p. 2-29), provided that certain conditions and considerations are met. Exemptions from flow control require the project to discharge stormwater directly or indirectly through a manmade conveyance system and that the conveyance extend to the ordinary high water line of the receiving water, in this case South Fork Dogfish Creek. The conveyance system also must be composed of non-erodible and stable elements.

WSDOT would design the system to meet these requirements. The discharge would be piped to an energy dissipater structure located adjacent to the creek. This structure will consist of stable, non-erodible materials and will effectively avoid erosion of the streambank and wetland soils. The energy dissipater will also prevent flow channelization within the wetland, as required by the flow control exemption guidelines (SMMWW p. D-13). The energy dissipater will effectively reduce the potential for channelization of discharged flows, as required by applicable guidelines for flow control exemptions to wetlands. It should be noted that the stormwater facilities in the wetland are not intended to impound water as in a detention pond.

An important consideration related to the flow control exemption is the potential for changes in the surface water levels of the receiving wetland to change. Such changes could alter the characteristics of the vegetation community and habitat of the wetland depending on the depth and duration of the water within the wetland. The change in surface water fluctuation or hydroperiod resulting from the proposed outfall will not cause a substantial adverse impact to the existing wetland or nearshore habitat of Liberty Bay. The water surface profile will increase less than 0.1 foot (3 cm) during the 100-year flood event and will be negligible at the mean annual discharge rate. This level of impact is far less than the most stringent water level fluctuations allowed under SMMWW requirements (Appendix D, p. D-15).

The wetland and stormwater guidelines emphasize avoiding structural, hydraulic, and water quality modifications of existing wetlands to the extent possible. Modifications to the hydrology and wetland hydroperiod, as stated above, will be minimal and impacts to the wetland avoided to the extent reasonably possible. WSDOT has made a good faith effort to find reasonable stormwater detention locations within the watershed, but none were identified.

Water quality will improve under the proposed project compared to existing conditions. The proposed project will also reduce erosion in the middle reaches of South Fork Dogfish Creek, where chronic erosion problems currently exist.

Two private driveway culverts that are not affected by the project will be replaced with larger fish passable structures to provide benefits to fisheries. Also, replacing the undersized Bond Road culvert (11 on figure 2) will provide wildlife habitat and fish passage benefits, thereby improving overall habitat quality of the stream system and associated wetlands.

According to the flow control exemptions, a wetland should not be structurally or hydrologically engineered to provide runoff quantity treatment if the present state of the wetland is primarily an estuarine or forested wetland (SMMWW p. D-10). Although the proposed stormwater outfall site to South Fork Dogfish Creek is within a forested wetland, this consideration does not apply, because the referenced section assumes the engineered design would convert the existing wetland to a stormwater detention facility complete with structural barriers and flow restrictors at the wetland's outlet. This project does not propose to convert the wetland to a stormwater detention facility.

South Basin

The existing impervious surface area in the South Basin totals 3.8 acres and the proposed project will increase the total impervious area to 6.1 acres. The proposed stormwater system will consist of catch basins and a pipe network. Runoff from the new and existing roadway will be treated with BMPs. Runoff from the south approximately 0.5 mile of the project will be piped to an existing drainage system about 0.2 mile from the south end of the project. Two bioswales will treat runoff before routing it through a pipe into the existing closed pipe system. This city-owned system runs along Nordness Street, west to Ninth Avenue, to Fjord, and then to Liberty Bay. This system has the capacity to receive the additional flows from the project. Stormwater will be discharged from this system into Liberty Bay below the low tide level. Since this stormwater system discharges directly to Liberty Bay, there are no flow control (detention) requirements.

Impact Summary

The proposed design includes BMPs for water quality treatment for operation and construction activities in compliance with WSDOT's *Highway Runoff Manual* and Ecology's *Stormwater Management Manual for Western Washington*. Water quality treatment provided by the project will reduce pollutant loads entering adjacent waterways, including reduction of total suspended solids to approximately 50 percent of existing pollutant loads. For several other water quality parameters the treatment reductions will be less or not substantially different from existing loads. As such, the proposed action will have fewer water quality impacts compared to the No-Build Alternative because 19.5 acres of existing pavement will be retrofitted for water quality treatment.

Undetained stormwater flows from the North and South basins will not cause substantial erosion, flow channelization, or alterations in habitat conditions in South Fork Dogfish Creek, Dogfish Creek, Liberty Bay, or associated riparian wetland areas. Expanding the roadway will increase impervious surface area in the drainage basins and somewhat reduce groundwater recharge. As a result of the proposed action, the drainage system design will provide measures to treat highway runoff for the existing and added impervious surface areas.

Fish and Wildlife

This EA section is based upon the 1999 Plants and Animals discipline report and the 2004 addendum for the SR 305 project. Additional information is based upon the 2004 Biological Assessment for the SR 305 project. See Appendix F for a list of discipline reports.

Studies and Coordination

The U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA Fisheries), and the Washington State Department of Fish and Wildlife (WDFW) were contacted regarding threatened and endangered species in the project area. Information was also gathered from WFDW's Priority Habitats and

Species Program regarding priority habitats and sensitive plant and wildlife species. The Catalog of Washington Streams for the Puget Sound Region was reviewed for stream and fisheries data. State and federal laws and regulations documented in the 1999 report were reviewed, and are considered up to date for the species potentially occurring in the project area.

Existing information was reviewed and supplemented by a two-day reconnaissance in 1999 to document habitats and determine the potential use of the project area by federal and state threatened, endangered, listed, proposed, candidate, or species of concern. Current aerial photographs were reviewed in 2004 and confirmed the information provided by the agencies. New field visits were conducted in June and July 2004 to confirm the presence of various species and their habitat as described in the 1999 discipline report and as provided in the agency lists.

A Biological Assessment (BA) was prepared to evaluate project effects on species protected under the Endangered Species Act (ESA). The 1999 Plants and Animals discipline report included an initial BA. In March 2002, the BA was revised to reflect changes in the project. Since that time additional project changes have occurred, including relocating 1,200 feet of South Fork Dogfish Creek. To address this, the design changes were reviewed to determine any effect the changes would have on protected species. These design changes did not affect the call for Puget Sound chinook salmon. Letters were sent to both NOAA Fisheries and the Federal Highway Administration to provide updated information on the project and confirm that the effects calls remained the same as those previously concurred with in 2002. Coordination with NOAA Fisheries and USFWS will continue as the project is prepared for bid and construction in conformance with ESA requirements.

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and the 1996 Sustainable Fisheries Act, the proposed project requires an Essential Fish Habitat (EFH) consultation with NOAA Fisheries. The information in the BA is intended to satisfy the EFH assessment.

Fish barrier concerns have been coordinated with WDFW and Native American Tribes with usual and accustomed areas that include the project corridor. Culverts for this project would be designed to allow safe fish passage according to criteria specified in the Washington Administrative Code (WAC) 220-110-070. Culvert design features are based on *Fish Passage Design at Road Culvert* (WDFW 1999)

Affected Environment

The SR 305 project corridor is located within the City of Poulsbo in the northcentral portion of the Kitsap Peninsula. Wetlands occur adjacent to SR 305 for 1.4 miles at the project's north end (see figure 3). Upstream of SR 305, South Fork Dogfish Creek flows in a forested canyon with a deep channel and limited floodplain. South Fork Dogfish Creek serves as the primary drainage within the project corridor. This small creek flows into Dogfish Creek 0.2 mile upstream from Liberty Bay. The headwaters of South Fork Dogfish Creek are located in a mixed coniferous/deciduous forested area, known as Wilderness Park. The proposed project would cross South Fork Dogfish Creek at several locations. The creek flows adjacent to SR 305 for approximately 1.2 miles of the project's length. Nine existing culverts within the project corridor are fish barriers (see figure 2 for locations and table 1). One of these

is considered a total fish barrier, while the remaining are considered at least partial barriers.

Plants

Remnant emergent, scrub-shrub, and forested wetlands occur throughout the corridor. These wetlands are dominated by red alder (*Alnus rubra*), Pacific willow (*Salix lasiandra*), Nootka rose (*Rosa nutkana*), cattail (*Typha latifolia*), reed canarygrass (*Phalaris arundinacea*), and soft rush (*Juncus effusus*).

Much of the vegetation in the corridor consists of non-native landscape species. Parcels of second-growth forested upland remain in the project area. Douglas fir (*Pseudotsuga menziesii*) is the dominant species. Numerous western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*) big-leaf maple (*Acer macrophyllum*), and black cottonwood (*Populus trichocarpa*) are located within the project corridor. The understory consists of salal (*Gaultheria shallon*), Oregon grape (*Berberis nervosa*), vine maple (*Acer circinatum*), and sword fern (*Polystichum munitum*).

Wildlife and Habitat

The project area contains a variety of wildlife and habitat types. Riparian and remnant wetland areas associated with South Fork Dogfish Creek provide habitat for a variety of amphibians, small mammals, and birds. These potentially include the northern red-legged frog (*Rana aurora*), Pacific chorus frog (*Pseudacris regilla*), roughskin newt (*Taricha granulosa*), and western redback salamander (*Plethodon vehiculum*). Existing habitat in the project area supports a variety of common mammals and birds, including great blue heron (*Ardea herodias*).

The urbanized nature of most of the project area limits its value as habitat for large mammals and many types of birds. Typical common birds are rufous-sided towhee (*Pipilo erythrophthalmus*), Stellar's jay (*Cyanocitta stelleri*), and American crow (*Corvus brachyrhynchos*). Common small mammals are deer mice (*Peromyscus maniculatus*), voles (*Microtus sp.*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*).

Upland habitats include small parcels of second-growth coniferous and mixed forest types. These habitats provide homes for a variety of common birds, small mammals, reptiles, and amphibians. Existing urban development has reduced the available wildlife habitat and limited its value to larger mammals that require large areas of unbroken habitat.

Fish

Fish species documented as present in the project area (located within WRIA 15, Dogfish Creek) include chinook salmon, a federally listed threatened species, coho salmon, chum salmon, steelhead, and cutthroat trout. South Fork Dogfish Creek supports coho salmon and cutthroat trout.

The City of Poulsbo conducted a fisheries inventory assessment in 1994 and determined that salmonids production in Dogfish Creek was limited by natural factors, including small stream size, passage barriers, and lack of suitable gravel beds for

spawning. Urban developments along the South Fork Dogfish Creek have made the effects of these limiting factors worse.

Nearby urbanization and stream channelization have negatively affected South Fork Dogfish Creek. A school and residential development contribute stormwater runoff to the upper part of South Fork Dogfish Creek. The upper channel has been heavily scoured. In the lower reaches, heavy sediment deposits have created a braided stream with a very shallow flow.

The culverts beneath Bond Road, west of the Bond Road and SR 305 intersection, and beneath SR 305 at Lincoln Road are barriers to fish passage most of the year. Figure 2 shows the locations of these culverts (table 1 in the Project Description section provides more details on these culverts). Debris blockages, vertical drops, and low water velocity within the creek present barriers to fish passage. High velocities during peak flows also limit fish passage at some culverts. These barriers limit fish use in South Fork Dogfish Creek. However, a few coho salmon and cutthroat trout are reported to return to the reach between 7th Avenue NE and Poulsbo Village almost every year. This indicates that the culverts are not completely impassable.

Threatened, Endangered, and Other Sensitive Species

The USFWS has identified the bald eagle, listed as threatened under ESA, as potentially occurring within vicinity of the project area (see table 7). Wintering populations of bald eagles use the habitats of Liberty Bay for breeding, foraging, and perch sites. Bald eagles may perch within the proposed project action area; however, quality breeding and foraging habitat typically associated with bald eagles does not occur within 1,000 feet of the proposed project footprint. The proximity of high quality foraging habitat along the shorelines of Liberty Bay west of the project reduces the potential use of the project corridor by eagles. Habitats in the project corridor are fragmented and disturbed by ongoing human activities and development. The nearest known bald eagle nest is approximately 1.6 miles west of SR 305.

Table 7 Endangered and Threatened Species				
Common Name	Scientific Name	Federal Status	State Status	Effect Determination
USFWS bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Threatened	no effect
NOAA Fisheries chinook salmon (Puget Sound Evolutionarily Significant Unit [ESU])	<i>Oncorhynchus tshawytscha</i>	Threatened	Candidate	may affect, but is not likely to adversely affect

Chinook salmon, listed as threatened under ESA, may occur in the project vicinity. According to WDFW and the Suquamish Tribe, Puget Sound chinook salmon are not known to exist in South Fork Dogfish Creek. However, they are known downstream

of project construction activities in Dogfish Creek and the marine waters of Liberty Bay. Small numbers of chinook salmon have been observed in Dogfish Creek between 7th Avenue and Poulsbo Village during Suquamish Tribe fish surveys (conducted periodically since 1992). These are thought to be the product of nest boxes rather than natural production.

Both Dogfish Creek and South Fork Dogfish Creek have limited spawning and rearing habitat. However, downstream of the project footprint, Dogfish Creek flows through relatively undisturbed forest and wetland habitat for about 0.4 mile before flowing into the marine waters of Liberty Bay. Most habitat indicators evaluated in the BA appear to be properly functioning in this reach of Dogfish Creek.

In South Fork Dogfish Creek, none of the habitat indicators evaluated in the BA appear to be properly functioning. Among the degraded indicators are water quality, habitat elements, and channel condition and dynamics. Nine culverts in the corridor represent some level of barrier to fish passage and do not meet WDFW fish passage criteria (see Project Description section, table 1 for details).

The project area includes habitat that has been designated as EFH for various life stages of chinook and coho salmon. The Puget Sound/Georgia Strait ESU of coho salmon is currently a species of concern, according to NOAA Fisheries and is managed under the Magnuson-Stevens Act.

Construction Impacts

Plants

Clearing for road widening will remove 15.7 acres of low to medium quality habitat. The types affected include grassland, shrub, and upland forest. Also, 1.9 acres of wetlands will be lost (see Wetland section of this EA). Bare ground or paved surface in the existing ROW will also be affected. However, the project will not fragment any large habitat tracts.

Clearing and grading associated with the project can create conditions susceptible to the invasion and spread of noxious weeds, such as reed canarygrass, blackberry, and thistles, which are common in the project corridor. Other weed species could become introduced depending on the health and vigor of existing adjacent vegetation and the timing and duration of clearing, reseeding, and replanting.

The area selected to relocate South Fork Dogfish Creek is an existing, degraded wetland that is mainly vegetated with noxious weeds (reed canarygrass, Himalayan blackberry, and thistle). As part of the creek's relocation, noxious species within and adjacent to the wetland will be removed and controlled, and native trees and shrubs will be established adjacent to the new stream channel.

Wildlife and Habitat

Wildlife within the construction area will experience temporary impacts due to increased noise levels and higher levels of human intrusion. Construction activities may cause wildlife to avoid portions of the corridor temporarily.

Habitat losses resulting from road widening are expected to be relatively small and will occur directly adjacent to the current SR 305 alignment in habitats already degraded by traffic and other human development. Impacts on higher quality habitats will be minimized, and no large habitat tracts will be fragmented.

Fish

Construction activities will cause minor increases in turbidity, mainly associated with culvert replacements and the relocation of 1,200 feet of South Fork Dogfish Creek. Disturbed areas near South Fork Dogfish Creek and Dogfish Creek could contribute increased sediment causing minor changes in water quality during construction.

Threatened, Endangered, and Other Sensitive Species

No habitats that are potentially used by listed and other sensitive species will be substantially affected by the proposed project during construction. Minor sedimentation may occur in creeks during culvert replacements and extensions, and during relocation of South Fork Dogfish Creek. Fish rearing in proximity of a project work site will likely move upstream or downstream to avoid temporary physical disturbance from construction.

Given the distance of the bald eagle nest from the project footprint, no effect is expected on the resident eagle pair of Liberty Bay. Seasonal construction restrictions are not anticipated.

Construction impacts that could affect EFH for chinook and coho salmon include temporary water quality impacts associated with stream work. With the implementation of proposed erosion and sediment control measures, project construction will not affect EFH for chinook and coho salmon.

Operational Impacts

Plants

Adjacent plant communities will not be affected by ongoing WSDOT operations of SR 305. The proposed wetland mitigation site will provide a dedicated natural setting in a rapidly urbanizing area.

Wildlife and Habitat

No substantial impacts to wildlife will occur once the project becomes operational. A small increase in ambient noise levels associated with increased vehicular traffic on SR 305 will be experienced by wildlife in adjacent habitats. Existing habitats, however, are already degraded by existing traffic noise. Incremental increases in noise level will not have substantial impacts on wildlife.

Due to the stream relocation, removal of noxious weeds, and planting of native vegetation, habitat will be improved for species that use riparian areas of South Fork Dogfish Creek.

Because the channel configuration remains fairly uniform at most of the crossings of South Fork Dogfish Creek, the same oversized culverts with a no-slope design are

proposed to replace the culverts designated as either partial or total fish barriers on this creek (see table 1). With the proposed culverts, a channel bed will likely form inside the new culverts, including banks within the culvert that will become exposed during lower spring and summer flows. This feature will allow terrestrial and semiaquatic wildlife to move more freely within the riparian corridor; the existing culverts block wildlife movement.

Fish

Fish passage conditions will be markedly improved due to replacing the nine culverts that are fish barriers as shown in table 1. Replacing just the culverts disturbed by the project would not improve fish passage for South Fork Dogfish Creek, because other fish passage barriers would persist. For this reason, two private driveway culverts (8 and 9 on figure 2) and the Bond Road culvert (11 on figure 2) that are not affected by the project will also be replaced with large fish passable culverts. As proposed by WSDOT, the project will provide substantially improved fish passage benefits in South Fork Dogfish. South Fork Dogfish Creek would be barrier free to 8th Avenue. The 8th Avenue culvert would remain as a partial fish barrier.

Relocating 1,200 feet of South Fork Dogfish Creek will improve fish habitat. This relocation will restore stream functions, including gravel deposition (improves spawning habitat by providing gravel streambed), future large woody debris recruitment (due to planting native trees), and pool-riffle complexes. These improved stream functions will create habitat for juvenile rearing and refugia (cover), and may eventually encourage spawning in this stretch of the creek (currently spawning takes place within a very limited area upstream of the proposed relocation).

Controlling noxious weed species and establishing native trees and shrubs along the stream will eventually develop a riparian canopy. This canopy will increase stream shading (reducing stream temperatures) and will increase organic detritus (e.g., leaves, etc., which provide food for aquatic insects) within the overall system.

Threatened, Endangered, and Other Sensitive Species

Operation of the SR 305 project will have “no effect” on bald eagles because of the 1.6-mile distance from the closest known nest. Also, the immediate project area planned for clearing lacks quality perching and foraging habitat. Over the long term, habitats available within the project corridor do not encourage future nesting, perching, and foraging activities by bald eagles.

Operation of the proposed project “may affect, but is not likely to adversely affect” the Puget Sound ESU chinook salmon. Operation of the improved facility will have a long-term “beneficial effect” due to stormwater treatment and fish passage barrier removal.

Proposed stormwater and fish passage improvements will have a long-term beneficial effect on EFH for chinook and coho salmon in the project area.

Indirect and Cumulative Impacts

The City of Poulsbo is planning a Regional Stormwater Detention Facility located on South Fork Dogfish Creek upstream of the project area. WSDOT plans to participate in developing the facility through a financial contribution. Detention and water quality treatment by the facility will likely reduce scour in the creek upstream of the first crossing of SR 305. A decrease in sediment carried by South Fork Dogfish Creek may reduce both siltation and degradation of spawning areas lower in the system. Water quality treatment provided by the facility will also benefit habitat conditions in lower parts of the system. These benefits will help maintain the improved habitat conditions in the relocated South Fork Dogfish Creek segment.

Fish passage in South Fork Dogfish Creek will be further enhanced in the future when the City of Poulsbo replaces the 8th Avenue culvert, which is a partial fish barrier.

Construction Mitigation

WSDOT will review the BA for the project at least six months before scheduled construction. Any change in conditions that could alter the BA conclusions will be coordinated with NOAA Fisheries and USFWS.

WSDOT policies require that a TESC plan be developed as part of the construction contract. The contractor will be required to install erosion control BMPs to protect water quality during construction (see Water Resources section for BMP examples).

WSDOT will place appropriate timing restrictions for in-water work activities, as directed by regulatory agencies (see Water Resources section for details on protections for South Fork Dogfish Creek during the stream relocation).

Existing undersized culverts will be replaced with culverts that improve fish passage.

Standing dead and dying trees associated with wetlands will be retained whenever possible.

Selected root wads will be retained from clearing activities to provide habitat and provide a visual barrier for wildlife.

Construction equipment will avoid unnecessary intrusion into vegetated areas.

Operational Mitigation

Stormwater quality, floodwater conveyance, fish passage, and stream habitat will all be improved by constructing the project as proposed. Therefore no special mitigation is required.

Impact Summary

As described in the BA completed pursuant to Section 7 (c) of ESA, the project “may affect, but is not likely to adversely affect” chinook salmon and will have “no effect” on bald eagles.

Construction of the project is “not likely to significantly impact populations, individuals, or suitable habitat” or Essential Fish Habitat (EFH) for chinook and coho salmon and will result in long-term beneficial effects on these species.

An improved drainage system will help resident and anadromous fish conveyance, water quality, and quantity in South Fork Dogfish Creek. Relocating 1,200 feet of South Fork Dogfish Creek will improve overall stream function and provide a more natural habitat. As such, the proposal will likely improve conditions both for wildlife that uses riparian habitat and anadromous fish.

Traffic Noise

This EA section is based upon the 2004 Traffic Noise discipline report prepared for the SR 305 project. See Appendix F for a list of discipline reports.

Studies and Coordination

Sound is created when objects vibrate, resulting in a minute variation in surrounding atmospheric pressure called sound pressure. The range the ear can hear, from the faintest to the loudest sound, is so large that sound pressure is expressed on a logarithmic scale in units called decibels (dB). Loudness, compared to physical sound measurement, refers to how people subjectively judge a sound and varies from person to person.

Environmental noise is composed of many frequencies, each occurring simultaneously at its own sound pressure level. The commonly used frequency weighting for environmental noise is A-weighting (dBA), which is most similar to how humans perceive sounds of low to moderate magnitude.

The human ear can barely perceive a 3 dBA increase, while a 5 or 6 dBA increase is readily noticeable and sounds as if the noise is about one and one-half times as loud. A 10 dBA increase appears to be a doubling in noise level to most listeners.

Noise levels from traffic sources depend on volume, speed, and the type of vehicle. Generally, an increase in volume, speed, or vehicle size increases traffic noise levels. Vehicular noise is a combination of noises from the engine, exhaust, and tires. Other conditions affecting traffic noise include defective mufflers, steep grades, terrain, vegetation, distance from the roadway, and shielding by barriers and buildings.

Noise levels decrease with distance from the noise source. For a line source such as a roadway, noise levels decrease by 3 dBA over hard ground (concrete, pavement) or 4.5 dBA over soft ground (grass) for every doubling of distance between the source and the receptor. For a point source such as construction sources, noise levels will decrease between 6 and 7.5 dBA for every doubling of distance from the source.

A widely used descriptor for environmental noise is the equivalent sound level (L_{eq}). This can be considered a measure of the average noise level during a specified period of time. L_{eq} measured over a one-hour period is the hourly L_{eq} , which is used for highway noise impact and abatement analyses.

Applicable noise regulations and guidelines provide a basis for evaluating potential noise impacts. This analysis followed the FHWA traffic noise assessment and abatement procedures published in 23 Code of Federal Regulations (CFR) 772 and WSDOT's Traffic Noise Analysis and Abatement policy.

For federally funded highway projects, traffic noise impacts occur when predicted noise levels approach or exceed noise abatement criteria (NAC) as established by the FHWA, or substantially exceed existing noise levels (U.S. Department of Transportation, 1982, Noise Abatement Council). Although "substantially exceed" is not defined, WSDOT considers an increase of 10 dBA or more to be a substantial increase.

The FHWA NAC specify exterior noise levels for various land activity categories. Two categories represent the land activities along the project corridor: B - 67 dBA (residences, parks, schools, churches, and similar areas) and C - 72 dBA (developed lands). WSDOT considers a noise impact to occur if predicted noise levels approach within 1 dBA of the NAC. Therefore, if a noise level were 66 dBA or higher for a category B property, it would approach or exceed the FHWA NAC of 67 dBA.

Methodology

FHWA's Traffic Noise Model (TNM) Version 2.5 computer model (2004) with updated traffic figures was used to predict traffic noise levels. Previous 1999 study used an older model, which predicted different traffic noise levels and noise abatement measures.

Existing noise levels were field measured at 10 locations representing 17 dwelling units, one commercial property, and one church. Fifteen-minute noise measurements were taken at each location during one or more periods of the day. The measured noise levels were used to calibrate the existing conditions traffic noise model. When measured and modeled values at each site were within 2.0 dBA the model was considered validated.

To represent 100 dwelling units and 19 commercial properties potentially sensitive to traffic noise from SR 305, 54 receivers (modeled points) were added to the TNM model. Figure 6 identifies the location of the measured sites (labeled with numbers) and the modeled-only sites (labeled with numbers preceded by the letter M).

Affected Environment

This project affects a section of SR 305 that crosses rolling terrain through the Poulsbo city limits. The speed limit is currently 40 mph throughout the project corridor and will not change due to the project. Existing land use in the project area consists of a mix of residential and commercial uses. Commercial uses include medical and dental centers, retail shops, grocery stores, automotive shops, and service related businesses. Two commercial sites (M11 and M17 in table 8) were observed to have outdoor use areas (e.g., outdoor eating areas).

**Table 8
Modeled Noise Results in Leq (dBA)**

Modeled Sites	Location	Dwelling Units	Existing (2004)	No Build (2030)	Build (2030)
1	Office Bldg. 19735 SR 305	commercial	65	66	70
2	Res. 951 NE Nordness St	1	57	59	57
3	Res. 17671 Baywatch Ct	1	54	55	57
6	St Charles Episcopal Church	Res Eq N/A	61	62	62
7	Res. 1134 NE Holm Ct	2	65	67	67
9	Res. 20509 SR 305	1	60	61	64
10	Res. 1135 NE Holm Ct	3	54	55	55
5	Res. 18068 9th Ave	6	61	63	63
8	Res. 18014 9th Ave	2	62	64	63
m1	Liberty Bay Dental Center	commercial	62	64	64
m2	Res. NW of SR 305/SR 307	1	56	57	58
m3	Valley Nursery	commercial	58	60	62
m4	Retail shops	commercial	60	62	64
m5	Medical Center Complex	commercial	65	67	68
m6	Res. 20594 SR 305	1	57	58	60
m7	Res. 20298 SR 305 - for sale	commercial	61	62	65
m8	Taco Time	commercial	62	63	66
m9	Res. 20190 SR 305 - for sale	commercial	62	63	66
m10	Holiday Inn	commercial	55	57	59
m11	Burger King	commercial	59	60	62
m13	Kitsap Children's Clinic	commercial	59	60	60
m15	Poulsbo Dental Center	commercial	65	66	67
m17	Dairy Queen	commercial	62	63	65
m12	Fire Station	commercial	62	64	67
m14	Olympic Resource Center	commercial	57	58	61
m16	Commercial 18960 SR 305	commercial	62	64	67
m18	Stripmall 187XX SR 305	commercial	66	67	69
m19	Res. 18643 9th Ave	4	58	59	59
m23	Stripmall 190XX SR 305	commercial	63	65	67
m20	Liberty Bay Presbyterian Church	Res Eq N/A	57	59	59
m24	Res. 18260 9th Ave	5	63	64	64
m43	Res. 18443 9th Ave	3	56	58	58
m44	Res. 18341 9th Ave	5	56	57	58
m29	Res. 18063 9th Ave	4	53	54	55
m33	Res. 17970 Thompson Pl	4	57	58	56
m34	Res. 17940 9th Ave	5	53	54	54
m45	Res. 17840 SR 305	1	61	62	60

Numbers in **bold** represent sound levels at or above impact level.
 Res. denotes residential receiver.
 Res Eq N/A indicates that noise levels are not approaching or at impact levels (66 dBA or above), residential units do not apply.
 N/A = these are supplemental receivers added after initial modeling to determine accurately whether barriers meet WSDOT's reasonable and feasible criteria.

**Table 8 (continued)
Modeled Noise Results in Leq (dBA)**

Modeled Sites	Location	Dwelling Units	Existing (2004)	No Build (2030)	Build (2030)
m46	Res. 17770/17780 Enden Pl	3	54	55	55
m39	Res. 1174 NE Holm Ct	2	62	63	64
m38	Res. 1064 NE Holm Ct	2	60	61	61
m37	Res. 1020 NE Holm Ct	2	56	57	57
m36	Res. 960 NE Holm Ct	2	53	54	54
m47	Res. 17660/17625 Lemolo Sh Dr	3	49	50	50
m35	Res. 17860 9th Ave	3	53	54	54
m42	Res. 17645/17635/17667 SR 305	3	60	61	61
m48	Res. 17373 SR 305	2	57	59	59
m49	Res. 200 ft. behind M42/M48	1	51	52	52
m21	Poulsbo Inn	commercial	60	61	63
m22	Res. 18661 10th Ave	4	54	55	58
m50	Res. 18511 10th Ave	5	56	58	61
m51	Res. 1067 Swanson Wy	5	56	57	59
m52	Res. 18480 SR 305	2	58	59	62
m27	Res. 1053 Rindal Ct	4	52	53	56
m26	Res. 1010 Rindal Ct	4	54	55	59
m28	Res. 1020 NE Tollefson	4	55	56	60
m30	Res. 18091 10th Ave	4	61	62	63
m31	Res. 18027 10th Ave	4	54	55	58
m32	Res. 17940 SR 305	1	59	60	62
m41	Res. 17641 Baywatch Ct	2	59	60	60
m40	Res. 17678 Baywatch Ct	6	56	57	58
m53	Res. 18167 10th Ave	1	66	68	71
m54	Res. 18315 10th Ave	2	60	61	67
m55	Res. Viking Hts (Supplemental)	1	N/A	N/A	67
m56	Res. Viking Hts (Supplemental)	1	N/A	N/A	65
m57	Res. Viking Hts (Supplemental)	1	N/A	N/A	68
m58	Res. Viking Hts (Supplemental)	2	N/A	N/A	68
m59	Res. Viking Hts (Supplemental)	1	N/A	N/A	67
m60	Res. Viking Hts (Supplemental)	2	N/A	N/A	60
m61	Res. Viking Hts (Supplemental)	1	N/A	N/A	55
m62	Res. Viking Hts (Supplemental)	2	N/A	N/A	55
m63	Res. Viking Hts (Supplemental)	2	N/A	N/A	55
m64	Res. Viking Hts (Supplemental)	1	N/A	N/A	59
m65	Res. Viking Hts (Supplemental)	3	N/A	N/A	55
m66	Res. Viking Hts (Supplemental)	1	N/A	N/A	55

Numbers in **bold** represent sound levels at or above impact level.
 Res. denotes residential receiver.
 Res Eq N/A – because noise levels are not approaching or at impact levels (66 dBA or above), residential units do not apply.
 N/A = these are supplemental receivers added after initial modeling to determine accurately whether barriers meet WSDOT’s reasonable and feasible criteria.

Residential areas are primarily located in the southern end of the project area, with the exception of three residences located in the northwestern section. One is located just north and west of the intersection of SR 305 and Bond Road. The other two are located at 20594 SR 305 and 20509 SR 305. Also, two vacant residences, just to the south, are zoned commercial.

Because the project would add a double left-turn lane from southbound SR 305 to SR 307, the area east of SR 305 along SR 307 was examined for receivers sensitive to traffic noise. No sensitive receivers are located within 500 feet of the project boundaries in this area.

Based on the modeling to determine existing conditions, one residential property has noise levels that exceed or approach the NAC as shown in table 8.

Construction Impacts

Construction activities will generate noise during construction and are considered temporary. Construction will be carried out in stages, each will have its own mix of equipment and, consequently, its own noise characteristics. These stages will also occur in different areas along the 2.46-mile project corridor.

Internal combustion engines will produce the most constant noise at construction sites. Operating jackhammers will generate the most noise during construction. Engine-powered equipment that could be used includes excavation, material-handling, and equipment. Mobile equipment operates in a cyclic fashion, while stationary equipment, such as generators and compressors, operates at sound levels fairly constant over time. Because trucks will be present during most phases and will not be confined to the project site, noise from trucks could affect more receptors.

Maximum noise levels from construction equipment will range from 69 to 106 dBA at 50 feet. Construction noise at residences farther away will decrease at a rate of 6 dBA per doubling of distance from the source. Occurrences of maximum noise peaks will increase during construction. Because various pieces of equipment will be turned off, idling, or operating at less than full power at any time, and because construction machinery is typically used to complete short-term tasks at any given location, average noise levels during the day will be less than the maximum.

Construction noise is exempt from local noise regulations during daytime hours. If nighttime construction is required for this project, WSDOT will apply for variances or exemptions from the noise ordinances of the City of Poulsbo and/or Kitsap County for the duration of the project to be performed at night. These noise variances or exemptions are granted with conditions for implementation of mitigation measures. Construction workers also will be subject to construction noise while working on the site.

Operational Impacts

No-Build Alternative

Under the No-Build Alternative, noise levels are projected to increase by 2 dBA from existing noise levels at most receivers in the project area (table 8). The predicted

increase in noise levels directly corresponds to increases in traffic on SR 305 in the design year 2030. Without the proposed action, two receivers, representing three residences, exceed the WSDOT criteria of 66 dBA or higher.

Actual maximum noise level increases may be less than the predicted increase, since congestion may reduce traffic speed during peak traffic hours. Should this occur, peak noise levels may be similar to existing noise levels; however, they would be sustained for a longer period each day.

Build Alternative

Under the Build Alternative, noise levels are projected to increase relative to the No Action Alternative by an average of 2 dBA (table 8). The proposed action will increase noise levels to 66 dBA or higher at 7 residential receivers representing 10 dwelling units, several of which reflect properties in the Holm Court and Viking Heights neighborhoods. For some receivers, however, noise levels will decrease under the Build Alternative. The Build Alternative widens the road, effectively spreading out traffic noise sources. It also extends the shoulder on the west side of SR 305, which actually shields traffic noise to many residences in the neighborhoods north and south of Tollefson off of 9th Avenue.

Construction Mitigation

Construction noise could be mitigated by using temporary noise shields near construction equipment, installing mufflers on engines, limiting time of operation, and locating equipment farther from sensitive receptors. To reduce construction noise at nearby receptors, these measures could be incorporated into construction plans and contractor specifications:

- Limit construction activities to between 7 a.m. and 10 p.m. to reduce construction noise levels during sensitive nighttime hours.
- Use haul vehicles with rubber bed-liners to reduce noise from loading trucks.
- Equip trucks with ambient backup alarms to reduce noise during equipment backing.
- Equip construction equipment engines with adequate mufflers, intake silencers, and engine enclosures to reduce their noise by 5 to 10 dBA (EPA, 1971).
- Turn off construction equipment during prolonged periods of nonuse will eliminate noise from construction equipment during those periods.
- Locate stationary equipment away from receiving properties to decrease noise from that equipment in relation to the increased distance.
- Construct temporary noise shields near stationary equipment (if feasible) that must be located close to residences to decrease noise levels at nearby sensitive receptors.

Operational Mitigation

Noise abatement is considered only where modeling predicts an expected noise level of 66 dBA or higher in the design year, or an increase of 10 dBA over existing

conditions for the build alternative. As noise impacts will occur with the proposed action, mitigation was considered per WSDOT guidelines (1999).

The only measure considered both reasonable (cost per benefited receiver, minimum 3 dBA reduction to be considered “benefited”) and feasible (level of noise reduction) for this project are noise barriers. Noise barriers are proposed on the south end of the project in two places: the vicinities of Viking Heights and the Holm Court neighborhoods (see figure 6).

A noise wall between SR 305 and the Viking Heights neighborhood, when optimized to an average height of 13 feet, will reduce noise levels by a range from 12 dBA at the central first-row houses to 1 dBA at third-row houses. Ten first-row houses will receive at least a 5 dBA noise reduction and at least one first-row receiver will receive a 7 dBA noise reduction. This reduction in noise levels meets WSDOT’s feasibility requirement⁴. The cost per benefited receiver for this wall also meets WSDOT’s reasonableness requirement.

A noise wall between SR 305 and the Holm Court neighborhood, when optimized to an average height of 12 feet, will reduce noise levels to a range from 10 dBA at those houses nearest SR 305 to 3 dBA at the westernmost residences. All five houses considered first-row receivers will receive at least a 5 dBA noise reduction and at least one first-row receiver will receive a 7 dBA noise reduction. This reduction in noise levels meets WSDOT’s feasibility requirement. The cost per benefited receiver for this wall also meets WSDOT’s reasonableness requirement.

Impact Summary

Traffic noise levels were predicted at sensitive receivers based on projected future traffic operations using FHWA’s TNM version 2.5. Noise impacts were based on FHWA noise abatement criteria and WSDOT’s approach and substantial impact criteria. Two noise walls have been proposed to mitigate impacts to residences in the Viking Heights and Holm Court neighborhoods. Both walls will effectively reduce noise levels below the NAC and will also meet WSDOT criteria for cost.

Cultural Resources

This section of the EA is based on cultural resource surveys prepared by Larson Anthropological/Archaeological Services in 1996 and Eastern Washington University Archaeological and Historical Services (AHS) in 2000 and 2004. See Appendix F for a list of discipline reports. These studies are incorporated by reference.

⁴ Feasibility and reasonableness are based on planning level cost estimates. If costs change substantially during final design, abatement measures may not be provided. For example, if noise wall cost increases due to special engineering, ROW acquisition, etc., the amount allowed per square foot decreases. A decrease in the mitigation allowance for square footage may prevent feasible mitigation of traffic noise impacts. A final decision will be made upon completion of the project design and the public involvement process.

Studies and Coordination

In 1996, Larson Anthropological/Archaeological Services surveyed properties along SR 305 for potential cultural resources. The results of this survey were presented in a report entitled *SR 305 Corridor Analysis: Cultural Resources Overview of Suquamish and Poulsbo Segments, 1996*.

AHS completed a more detailed cultural resources review of the project area along SR 305 and the wetland mitigation site. The review focused on new ROW to be acquired for the project. One property owner (Martinson) refused access to a 3.9-acre parcel, which is part of the proposed wetland mitigation site. AHS presented their findings in a report entitled *Results of Survey and Shovel Test Excavations for WSDOT SR 305, MP 10.60 to MP 12.82, August 2000*.

In 2004, AHS surveyed additional areas where new ROW will be needed for the project. The surveys included areas associated with portions of the proposed wetland mitigation site and the South Fork Dogfish Creek relocation corridor. One property (Martinson) associated with the proposed wetland mitigation site was not surveyed because the landowner had still not given permission. AHS presented their findings in a report entitled *Cultural Resources Investigations for Washington State Department of Transportation's SR 305/Poulsbo, South City Limits to Bond Road Mobility Project, Kitsap County, Washington, July 2004, revised August 2004*.

Cultural resources tasks documented in these reports include background archival research, intensive surveys, and shovel testing.

WSDOT initiated consultation with the Suquamish and Skokomish Tribes and Office of Archaeology and Historic Preservation (OAHP) under Section 106 of the National Historic Preservation Act. Copies of the 2000 and 2004 reports were submitted for review and comment to OAHP, the Skokomish Tribe, and the Suquamish Tribe. The OAHP responded with a letter dated October 26, 2004 stating concurrence with the recommendations of the report and determination of no effect on historic properties. The letter further states concurrence with the recommendations for monitoring and completion of the survey for parcel #3-85634 (the Martinson property). See Appendix E for related correspondence.

Affected Environment

The Area of Potential Effect (APE) for the project consists of the construction footprints of the road widening, culvert replacements, stream realignment, and the proposed wetland mitigation site. The cultural resource surveys (1996, 2000, and 2004) evaluated the areas associated with the proposed improvements of SR 305, SR 307, Bond Road, intersections, and affected adjacent land parcels for the presence of cultural resources. The only exceptions were the Martinson site (3.9 acres), two small parts of the stream realignment site (0.8 acre), and a part of the proposed wetland mitigation site (0.4 acre), where dense vegetation did not permit observations.

No information concerning traditional cultural properties in or near the APE was located during searches of records at the OAHP in Olympia. The Port Madison Indian Reservation is located less than two miles to the east of the project APE.

Consultations to date with the Suquamish Tribe have not identified traditional cultural properties in or near the APE.

No previously recorded cultural resources are located in or close to the APE. Previously recorded prehistoric sites are located well away from the APE. A number of historic buildings are inventoried or otherwise recorded in the Poulsbo town center, but all are situated at least one-quarter mile from the APE.

A total of 108 shovel probes were excavated during the AHS survey documented in the 2000 report. An additional 6 shovel probes were excavated during the 2004 AHS survey. No prehistoric or historic era artifacts or features were encountered as a result of shovel test excavations.

In summary, there are no known cultural resources on or eligible for the National Register of Historic Places in or close to the APE.

Construction Impacts

No traditional cultural properties, prehistoric sites, or historic buildings or sites were identified in cultural resource investigations within the APE. No construction impacts to identified cultural resources are anticipated.

South Fork Dogfish Creek runs near SR 305 in much of the project area. The 1996 report by Larson notes that this was an important salmon fishing creek to the Suquamish Tribe. Because of a limited understanding of the original course of South Fork Dogfish Creek and a high probability for prehistoric sites to be situated near the creek, it is possible that cultural materials could be encountered during construction activities associated with relocating the creek, replacing culverts, and other work near the creek.

A portion of the proposed wetland mitigation site, which has not been evaluated for cultural resources, is located near or adjacent to South Dogfish Creek. It is possible that cultural materials could be encountered on the site during development of the wetland mitigation site.

Operational Impacts

No operational phase impacts to cultural resources are anticipated.

Mitigation

Cultural resource evaluation on the unsurveyed property (Martinson) within the proposed wetland mitigation site will be completed when ROW is acquired and prior to initiation of any land altering activities. Shovel testing in portions of the site near South Fork Dogfish Creek will be conducted. In the event that cultural resources are discovered during the survey and testing, appropriate procedures under Section 106 will be followed.

Archaeological monitoring will be performed during excavation of the proposed creek realignment and during culvert replacements along South Fork Dogfish Creek. In the unlikely event that cultural resources are encountered during construction, work will

be halted in the immediate area until an archaeologist could evaluate the site. If cultural resources are discovered during the survey and monitoring, appropriate procedures under Section 106 will be followed.

Should final plans involve work in any area that is believed to be previously undisturbed, or demolition of any structure that may have historical potential, additional review by a qualified expert will be conducted.

Impact Summary

The project will not impact any known traditional cultural properties, archaeological, historical, or other cultural resources. Construction will be halted immediately upon discovery of cultural resources pending review by a qualified archaeologist.

Visual Quality

This EA section is based on the 1999 Visual Quality discipline report prepared for the SR 305 project. See Appendix F for a list of discipline reports.

Studies and Methodology

The visual quality analysis was performed under the guidelines of the U.S. Department of Transportation, FHWA publication *Visual Assessment for Highway Projects*, March 1981. Detailed definitions of these criteria and the rating scale used is included in the Visual Quality Report prepared by WSDOT. See Appendix F for a list of discipline reports.

The analysis evaluated how the project will change views in two representative locations along the project corridor. One view represents the rural, highly vegetated views found on each end of the project area. The second view represents the urbanized/commercialized areas found in the center portion of the corridor.

Affected Environment

The project area is in an expanding sprawl type residential and commercial location. The southern section consists of a two-lane roadway, bordered by densely vegetated buffers of conifers and deciduous trees. The trees and shrubs in the buffer range up to 30 feet in height and dominate the view. Manmade elements such as power lines and signs are present, although these are not conspicuous. Residential buildings are located on the backside of the buffer area. According to WSDOT's Roadside Classification Plan manual, this section of highway is rated as rural in nature.

The central section consists of commercial building complexes with parking lots and signs. Power lines, traffic signals, and roadway signs also occur. Scattered street trees and a landscape strip help to screen and soften the buildings. Views of the distant hillside are visible. According to WSDOT's Roadside Classification Plan manual, this section of highway is rated as semi-urban in nature.

The northern part of the project corridor is more similar to the southern section than the central section of the corridor. Coniferous and deciduous trees dominate roadside views. This section is considered rural.

Construction Impacts

Construction impacts to views will result from removing vegetation, excavating material, providing temporary signing for traffic control, and operating and staging construction equipment. These impacts will be temporary.

Operational Impacts

Removing vegetation and creating a wider roadway will give manmade objects more presence, especially in the southern portion of the project area where the change will be more noticeable.

Noise walls will dominate views in close proximity to the roadway. However, because the overall length of noise walls will be very limited, visual impact will be localized.

The relocation of South Fork Dogfish Creek will provide a more natural element where commercial structures are prevalent.

Construction Mitigation

No mitigation is proposed.

Operational Mitigation

WSDOT standard practice requires replanting areas where vegetation is disturbed adjacent to the highway and safety recovery zone. Noise walls will be vegetated with trees and shrubs on both sides to help screen and soften views of the structures.

Impact Summary

This project will not cause adverse visual quality changes to the surrounding environment. Proposed mitigation will help to minimize the visual impacts associated with the project.

Public Outreach and Agency Coordination

Planning for public involvement and agency coordination activities began in January 1995 when the SR 305 Corridor Analysis Major Investment Study (MIS) was initiated. These efforts will continue through project construction. This project was created from one of the corridor segments, the Poulsbo segment, identified early in the MIS process. It provided a focused structure for public participation, technical analysis, and recommendations.

Steering Committee

A steering committee consisting of representatives of public agencies and organizations was formed. The committee provided ongoing input to the project consultant staff of Skillings-Connolly, McClure Consulting, and Shapiro and Associates, Inc. Agencies and organizations represented on the steering committee included:

- Washington State Department of Transportation (WSDOT), Olympic Region Consultant Liaison
- City of Poulsbo
- Kitsap County
- Kitsap Transit
- Suquamish Tribe
- Washington State Department of Fish and Wildlife (WDFW)
- U.S. Environmental Protection Agency (EPA)
- Federal Highway Administration (FHWA)
- U.S. Army Corps of Engineers (Corps)

The steering committee met eleven times between November 1998 and its last meeting in November 2000.

Public Involvement

In 1995, the Steering Committee established a Corridor Community Council during the MIS process to assure that each community affected by SR 305 would have a voice in decision-making. The council included representatives from 56 community organizations, including Chambers of Commerce and business organizations, neighborhood and civic associations, and specific user groups (e.g., bicycle clubs and senior groups). This group met monthly throughout the MIS development.

Concurrently, open house meetings were held at key project milestones. Flyers were mailed or hand delivered to all nearby property and business owners and articles were published in local newspapers. Two written surveys were also distributed and the results were evaluated during the MIS process.

After the design process started in April 1999, WSDOT, City of Poulsbo, Kitsap Transit, Skillings-Connolly, and McClure Consulting met with local Hostmark Street business and residential property owners. The meeting served to provide a general project overview, identify problems, and work toward possible solutions for access management.

On July 11, 2000, WSDOT met with representatives from Holiday Express Hotel, City of Poulsbo, and some local businesses to discuss a possible fourth leg to the Forest Rock Hills Lane traffic signal for hotel access.

As design details were developed, the need for additional right-of-way (ROW) was identified. WSDOT initiated contact with the affected property owners. Business and property owners are being visited regularly on site to answer questions and take their comments about the project design and how it will affect them.

Because of the presence of a substantial Hispanic population within the affected area, WSDOT will post Spanish language meeting notices in various locations. A Spanish language translator will also be present at the open house.

Public Presentations and Open Houses

Steering committee members provided comment on technical findings throughout the design process. They also assisted in distributing newsletters and other project information, as well as hosting public presentations.

March 16, 1999 Open House

On March 16, 1999, WSDOT sponsored a public open house for the project at the Poulsbo Fire Station. A flyer was distributed to the surrounding businesses in the beginning of March to announce the event. In June 1999, WSDOT and local officials met with the Greater Poulsbo Chamber of Commerce to present the proposed project.

March 2002 Environmental Hearing/Open House

WSDOT scheduled a combined environmental public hearing and open house to answer questions and receive comments on the project. Persons wishing to comment could do so in writing, or provide verbal comments throughout the evening to a court reporter. Those who could not attend the open house could send comments to either FHWA or the WSDOT Olympic Region Administrator.

The March Hearing generated a variety of questions and comments. These included impacts to property owners, noise, drainage, fish barriers, and stream issues. Non-specific issues included how the project will affect the plants and animals in the area, how the project will affect the tribe, and whether there was a real need for the HOV lanes that would be constructed.

Newsletters

Newsletters in 1998, 1999, 2002, and spring 2005 provided project information to the public at key decision points and provided notices of public events. Each newsletter

included options for communicating with the project team and providing input on project choices by mail, e-mail, and telephone. The newsletters were distributed by bulk mail to all residents and businesses in Poulsbo as well as to people who signed up to receive project information at open houses, phoned the project office, or sent an e-mail.

Media Relations

The North Kitsap Herald, a local newspaper, also helped to raise public awareness of the project by reporting on related events and providing editorials.

Agency Specific Coordination

In March 1997, the cities of Poulsbo and Bainbridge Island, the Suquamish Tribe, Kitsap County, Kitsap Transit, Washington State Ferries, and WSDOT approved the SR 305 Corridor Analysis MIS and its recommendations.

This project was presented to the Corps and The Washington State Department of Ecology (Ecology) in November 2000 for the preapplication meeting. Subsequently, the Corps and Ecology representatives visited the site in February 2001.

In September 2002, WSDOT met on-site with the Suquamish Tribe and WDFW to discuss their concerns over impacts to South Fork Dogfish Creek. WSDOT revised the project design and features to best address the concerns presented by WDFW and the tribe and presented the changes to them in January 2003 for their approval.

In June 2004, WSDOT again met with the Suquamish Tribe and WDFW to discuss project features and reaffirm WSDOT's commitments to specific requested design aspects.

In October 2004, WSDOT met with Ecology on-site to present the revised project design and receive their comments about the drainage concepts and wetland impacts. Ecology's input and comments are reflected in this document.

Agency and Tribal coordination letters are included in Appendix E of this document. WSDOT will continue to meet with regulatory agencies and interested parties, as needed, to resolve any environmental issues that may occur during project construction.

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