Chapter 1. Proposed Project

1.1 Introduction

The Washington State Department of Transportation (WSDOT) proposes to perform a highway widening and safety project on SR 14 from MP 22.60 to MP 23.70 (Figure 1).

The project area is located in Sections 17, 19, and 20 of Township 1 North, Range 5 East within Skamania County, Washington. The project is situated between the vicinity of Cape Horn Bridge and the vicinity of Cape Horn Road. The proposed project will impact wetlands, a perennial stream, and associated wetland/riparian buffers during construction. This report identifies the proposed project impacts to wetlands, streams, and wetland/riparian buffers, and describes a proposal to mitigate for those unavoidable impacts.

This report will be used to obtain the following permits:

- U.S. Army Corps of Engineers (USACE) Section 404 permit
- Washington Department of Ecology (Ecology) Section 401 Water Quality Certification
- The Columbia River Gorge National Scenic Area (CRGNSA) Land Use Consistency Review and Land Use Permit
- Skamania County National Scenic Area Permit
- Washington State Department of Fish and Wildlife Hydraulic Project Approval

Observed conditions are discussed in the *SR-14 Marble Rd to Cape Horn Rd Safety Project Wetland Assessment Report* (Appendix A). This mitigation report addresses proposed project impacts and their associated mitigation. The following documents and guidelines were used in preparation of this report:

- *SR-14 Marble Rd to Cape Horn Rd Safety Project Wetland Assessment Report*
- WSDOT Wetland Mitigation Guidelines – (WSDOT 2008)
- Wetlands in Washington State, Volume 1 (Sheldon et al. 2005).
- Wetlands in Washington State, Volume 2 (Granger et al. 2005).
- Wetland Mitigation in Washington State, Part 1 (Ecology et al. 2006a).
- Wetland Mitigation in Washington State, Part 2 (Ecology et al. 2006b).
- Chapter 22 of the Skamania County Critical Area Ordinance.
- Columbia River Gorge NSA Management Plan - latest update (Columbia River Gorge Commission, 2004 and amendments through September 2011)

1.2 Project Location

The SR 14 Marble Road Vicinity to Belle Center Road Safety Improvement project is located along SR 14 between mileposts MP 22.60 to MP 23.70 in rural western Skamania County within the Columbia River Gorge National Scenic Area (CRGNSA). The project is located in Township 1 North, Range 5 East, Sections 17, 19, and 20. Nearby cities include Washougal and Stevenson, located to the west and to the east, respectively. The project is located within the sixth field hydrologic unit code (HUC) 170800010704 (Latourell Creek) in Water Resource Inventory Area 28.

1.3 Project Purpose and Description

Project Description

The project is an I-2 safety project that will improve safety by reducing vehicular accidents along the section of SR 14 from MP 22.71 to MP 22.88. This section of highway is experiencing an elevated rate of vehicular accidents and is listed on the WSDOT Southwest Regions High Accident Corridor (HAC) and High Accident Location (HAL) lists. Vehicular accidents will be reduced in the project area by realigning horizontal and vertical alignments and widening the roadway as necessary to address current accident trends.

Project Size

This linear transportation improvement project's total disturbance area is approximately 9 acres of various habitat and land use types.

Roadway Design

This project will realign the highway to the north from approximately MP 22.60 to MP 22.95. The SR 14/Marble Road intersection will be improved with realignment of Marble Road's centerline to the west. The realigned roadway will provide twelve foot lanes, four foot shoulder and wider lanes of fifteen feet where required in the realigned curve section to allow truck movement. The roadway prism consists of compacted subgrade, 0.3 ft of crushed surface base course, and 0.7 ft of Hot Mix Asphalt (HMA). The project will be delineated according to WSDOT standards. Delineation consists of pavement markings and guideposts.

Guardrail

Beam guardrail Type 31 with Corten/weathering steel rail will be installed within the project limits. Guardrail and anchor construction, modification, removal and installation will be in accordance with the contract plans.

Grading

New excavation and embankments will be required in areas where roadway geometrics do not match the natural slope. The realignment will require large excavated areas, up to approximately 165 feet wide and 60 feet high and embankment fill of approximately 15 feet high and 75 ft from centerline. The estimated cumulative quantity of cut material for the

project is 76,300 cubic yards. The estimated cumulative quantity of fill material for the project is 3,500 cubic yards, with 18,300 cubic yards fill within the proposed reversion area. There will be an approximate net excess of 54,500 cubic yards of material. It is anticipated that this material will be disposed of by the contractor at a permitted location outside the National Scenic Area.

Utilities

Known utilities that travel through the project are Verizon Telephone and Skamania County PUD Power. These utilities are located both below and above ground, with the majority of the utilities above ground on utility poles. The project will require utility pole relocation.

Water Quality Treatment and Culverts

Currently, the project area has no existing water quality treatment or flow control facilities. Most of the SR 14 runoff in the existing condition is collected in roadside ditches and inlets and conveyed to culverts crossing under SR 14, which enter into wetlands, unnamed tributaries, or sheet flow down the south embankment, eventually reaching the Columbia River. Since land use immediately adjacent to SR 14 is mostly undeveloped pasture or forest, runoff not captured in ditches is dispersed off the shoulder as sheet flow, infiltrating and dispersing naturally over densely forested areas to the south.

Stormwater management guidelines have been established for highway projects and must be strictly adhered to as condition of WSDOT's National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit issued by the Washington State Department of Ecology (DOE).

The proposed stormwater management strategy was approved by the Demonstrative Approach Team (DAT) on May 31, 2011. Made up of WA Department of Ecology and WSDOT stormwater experts, the team reviewed alternative treatment methods proposed for the project as well as existing environmental conditions and constraints. In the case of this project, implementation of standard WSDOT Highway Runoff Manual BMP's would have caused additional permanent impacts to a sensitive critical habitat, Oregon White Oak. The DAT determined that the proposed alternative strategy is adequate to protect the area's water resources.

Alternative treatment methods include:

- Compost amended vegetated filter strips (CAVFS) where feasible
- Design new highway shoulders (rolled shoulder and guardrail) to promote sheet flow and minimize buildup of sediments that could cause channelization of the water at the edge of pavement
- Establish maintenance practices that inspect and clean the shoulder as needed to maintain sheet flow

In addition, a catch basin will be placed at Marble Road to connect the three existing culverts, with the addition of a new inlet for hillside drainage. A biofiltration swale along the north side

of SR-14 will collect sheet flow from the roadway and connect to an existing culvert at MP 22.67 and a new culvert at approximately MP 22.85. A Compost Amended Vegetated Filter Strip (CAVFS) system is proposed on the south side of SR 14 at approximately MP 23.06 to MP 23.22 for flow control and treatment. Abandoned sections of SR-14 will be re-contoured to match the surrounding slopes as a natural reversion area and reclaimed as Oregon White Oak woodland.

SR 14 crosses two unnamed streams within the project limits that drain to the Columbia River. All tributaries within the project limits are impassible to listed fish from the Columbia River due to natural barriers downstream of the project site. There is an unnamed tributary at SR 14 MP 22.96 that passes through a 24" culvert heading south under Marble Road and continues through a 4x4 box culvert under SR 14. Both culverts will be modified or replaced under the contract. The second tributary crosses SR 14 at MP 23.50, passing through a 6x4 box culvert heading south. No work will occur at this location. WSDOT will apply for permits from the U.S. Army Corps of Engineers, Washington State Department of Ecology, and Washington State Department of Fish and Wildlife for approval to construct these culverts.

There are no listed FEMA floodplains within the project limits. The project will not impact floodplains or flooding characteristics due to the proposed stormwater flow control facilities.

Current use of the property and adjoining lands

The current use of the property proposed for improvement includes: State of Washington property (transportation facility), USFS Columbia River Gorge NSA properties and conservation easements for natural resource and scenic conservation, and private pasture. The Marble Road intersection is at the heart of the historic village of Mt. Pleasant, although no homes or historic structures will be affected by the project. Adjoining land uses consists of agricultural (pasture and nursery), protected forest, and rural residential.

Erosion Control Measures

Several Best Management Processes (BMPs) in accordance with the WSDOT Temporary Erosion and Sediment Control (TESC) Plan will be used to prevent erosion during construction.

TESC Element Mark Clearing 1: Limits

> Clearing limits will be marked on the plans and in the field with high-visibility fences prior to land-clearing activities, to protect sensitive areas and their buffers, as well as adjacent properties.

TESC Element 2: Establish Construction Access

> Stabilized construction access points will be installed prior to major grading operations. Access points will be limited to the fewest number possible—only one, whenever feasible.

TESC Element 3: Control Flow Rates

Permanent sediment control facilities will be installed as early in the construction process (prior to grading) as feasible to provide flow control. Stream by-pass systems will be re-routed and discharged at appropriate rates.

TESC Element 4: Install Sediment Controls

Sediment control BMPs will be installed prior to soil-disturbing activities. These BMP's may include silt fence, straw wattles, coir fabric, topsoil, and compost blankets. Coir logs are currently specified for the larger cut slopes to provide temporary erosion protection during construction, and stabilization for planned topsoil compost blanket, and bark mulch applications. Coir logs will be installed as the slopes are being constructed at a relatively dense horizontal spacing of 6 to 8 feet.

TESC Element 5: Stabilize Soils

Exposed and un-worked soils will be stabilized with appropriate measures by applying effective BMPs that protect the soil from wind, raindrops, and flowing water.

TESC Element 6: Protect Slopes

Cut-and-fill slopes are designed and will be constructed in a manner that will minimize erosion by (1) reducing continuous length and steepness of slopes with terracing and diversions, (2) reducing slope steepness, and (3) roughening slope surfaces (track walking).

TESC Element 7: Protect Drain Inlets

All operable storm drain inlets will be protected from sediment with approved inlet BMPs.

TESC Element 8: Stabilize Channels and Outlets

All temporary conveyance channels will be designed, constructed, and stabilized to prevent erosion. Stabilization will be provided at the outlets of all conveyance systems.

TESC Element 9: Control Pollutants

All pollutants, including construction materials, waste materials, and demolition debris, will be handled and disposed of in a manner that does not cause contamination of stormwater.

TESC Element 10: Control Dewatering

When groundwater is encountered during excavation or in other areas it shall be detained and treated until the turbidity of the groundwater is similar to or better than the turbidity of the site runoff, then discharged at a rate that will not cause erosion. When water is generated on site from construction and washing activities, it shall be detained and treated separately until the turbidity is similar to or better than the site runoff, then can be discharged at a rate that will not cause erosion. Offsite stormwater is not to be combined with onsite stormwater and will be piped through or around the project area and discharged at its pre-construction outfall without causing an increase in erosion.

TESC Element 11: Maintain BMPs

A Certified Erosion and Sediment Control Lead (CESCL) shall implement project BMPs until final stabilization is achieved. The BMPs will be maintained so they properly perform their function, are inspected regularly, and will be repaired or replaced immediately if damaged.

TESC Element 12: Manage the Project

The project will be managed so that vegetation is preserved, disruption, exposure and compaction of native soil is minimized, TESC and SPCC requirements are met, project BMPs are inspected, monitored, and maintained, and the ESL is on-site or on-call and the TESC/SPCC plans are on site or within reasonable access to the project site.

1.4 Project Schedule

The project is scheduled to start construction in the summer of 2012 and be completed by the end of 2013. Vegetation management, soil preparation, and habitat features at the various mitigation sites and additional on-site restoration in the project corridor will be completed during the project, with off-site revegetation of mitigation sites occurring during the first dormant planting season following construction. All in-stream work will be conducted during the in-water work window from the Washington Department of Fish and Wildlife (WDFW) (between June 30 and October 15). All in-water work is expected to be conducted during one in-water work window. A total of 100 working days are estimated to complete construction. Some project work may be conducted at night, but most activities will occur during daylight hours.

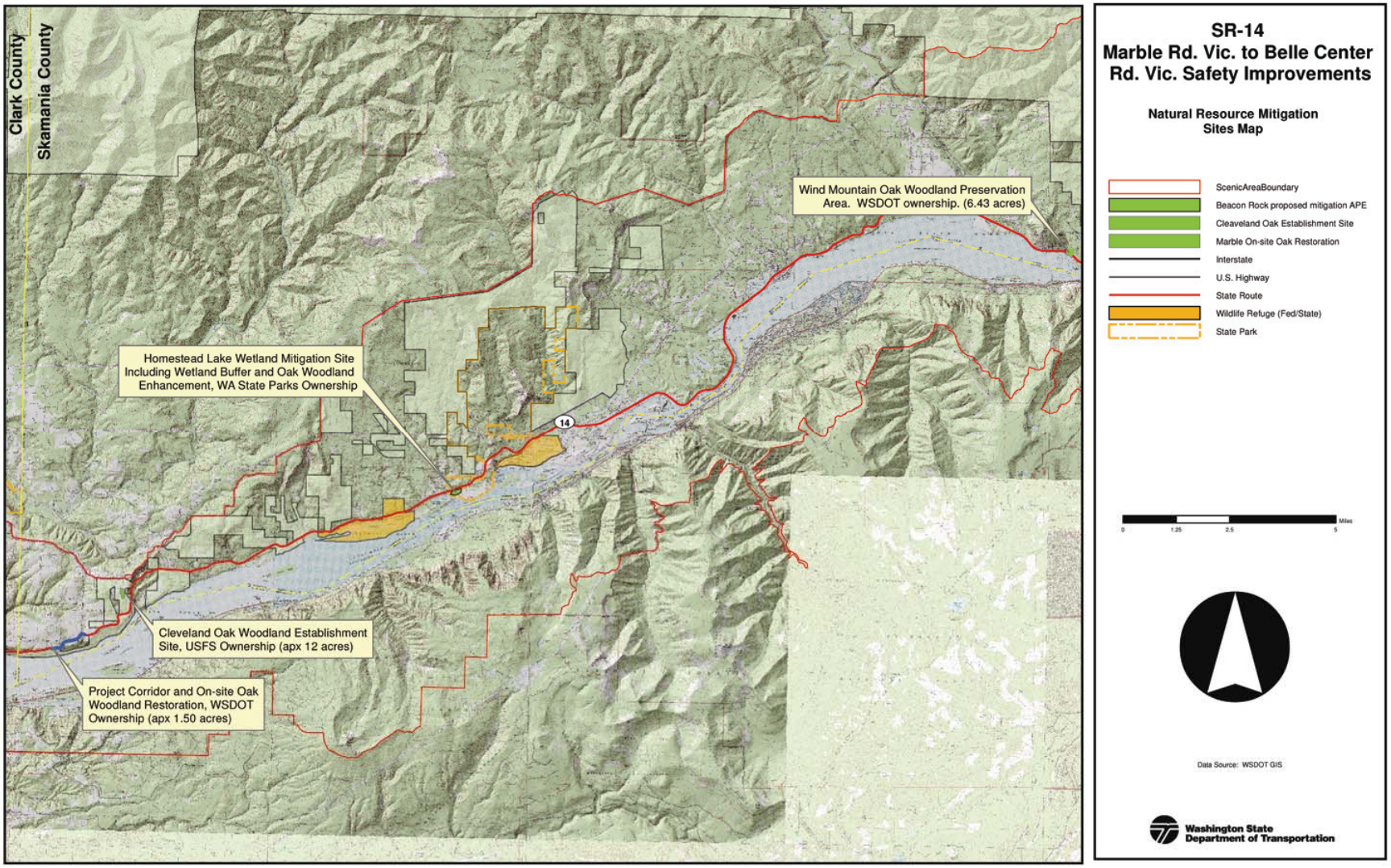

Figure 1. Project vicinity map showing proposed mitigation areas.