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# STATE ENVIRONMENTAL POLICY ACT (SEPA)

## ENVIRONMENTAL CHECKLIST

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West Snoqualmie Valley Road NE  
Roadway Reconstruction Project  
(CIP #1026735)

January 2015



**King County**

Department of Transportation  
Road Services Division

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## A. Background

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

West Snoqualmie Valley Road NE Roadway Reconstruction Project (CIP #1026735)

**2. Name of applicant/lead agency:** King County Department of Transportation, Road Services Division

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

King County Department of Transportation, Road Services Division  
King Street Center, Mail Stop KSC-TR-0313  
201 South Jackson Street, Seattle, WA 98104-3856

Don Bleasdale, P.E., Project Manager, 206-477-3646 – [Donald.Bleasdale@kingcounty.gov](mailto:Donald.Bleasdale@kingcounty.gov)

Project Website: <http://your.kingcounty.gov/kcdot/roads/cip/ProjectDetail.aspx?CIPID=1026735>

**4. Date checklist prepared:** January 2015

**5. Agency requesting checklist:** King County Department of Transportation, Road Services Division, Engineering Services Section

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

Project construction is expected to start in fall 2015. Work below the ordinary high water mark (OHWM) of streams and work within drainage pipes under the road will only occur during the Washington State Department of Fish and Wildlife prescribed “fish window”, which is estimated to be from June 15 to September 30. Work in streams and drainage areas will resume during the fish window of 2016 to complete construction. Mitigation plantings will occur in the winter or spring following construction.

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

No future addition, expansion or further activity related to or connected with this proposal is anticipated.

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

Items that have been prepared that directly relate to this proposal:

- *Cultural Resources Technical Report: West Snoqualmie Valley Road NE Project (CIP# 1026735), King County, WA*, prepared for King County by ENTRIX, 2014
- *Critical Areas Report*, prepared by King County, May 2014
- *Cultural Resources Screening Memo*, prepared by King County, February 2013
- *Supplemental Geotechnical Memo*, prepared by King County, August 2012
- *Supplemental Geotechnical Report*, prepared by King County, May 2012
- *Cross Culvert Drainage Analysis*, prepared by King County, September 14, 2011
- *Geotechnical Evaluation*, prepared by King County, July 2011

Items that will be prepared that directly relate to this proposal: *Concept Development Report*

No other environmental information will be prepared that directly relates to this proposal.

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

There are no known applications pending governmental approval in this regard.

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

- National Environmental Policy Act (NEPA) Documented Categorical Exclusion
- U.S. Army Corps of Engineers Nationwide Permit
- State Environmental Policy Act Determination of Nonsignificance and Notice of Action Taken
- Washington State Department of Fish and Wildlife Hydraulic Project Approval
- King County Department of Permitting and Environmental Review: Clearing and Grading Permit, Flood Hazard Review, and Shoreline Exemption

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

This is a roadway reconstruction project for the traveling public. The total project site including staging area is 8.5 acres. The project meets WSDOT’s Local Agency Guidelines (LAG) Manual definition of a “resurfacing, restoration, or rehabilitation” (3R) project for roadways because it does not increase capacity. The roadway has a low average daily traffic count of approximately 600 vehicles a day and will remain a rural, paved, two-lane road at project completion. The roadway ranks fifth on King County’s rehabilitation/reconstruction priority array; in 2013, the short-span bridge was determined to be undersized and was appointed a Sufficiency Rating of 56 out of 100. The main elements of the project include the roadway, ditch, pipes, culverts, and a short-span bridge, which are explained in Table 1:

**Table 1:**

<b>Project Elements</b>	<b>Existing</b>	<b>Proposed</b>
<b>Roadway</b>	The roadway presently consists of a degraded three-inch-thick layer of asphalt over minimal base course that is estimated to be one inch thick.	For long-term stability, the project will provide nine inches of base course topped with three inches of asphalt.
<b>Drainage Ditch</b>	A roadway ditch that runs along the west side of the road is showing evidence of sediment overloading and wash-out that is subsequently undercutting the roadway pavement.	The ditch will be cleaned out and reconstructed in-kind to meet requirements in the King County Surface Water Design Manual.
<b>Drainage Pipes / Culverts</b>	There are six non-fish-passable drainage pipes and five undersized drainage pipes under the road.	The six non-fish passable drainage pipes will be replaced with fish passable pre-cast concrete box culverts. The five undersized drainage pipes will be replaced with appropriate larger-diameter pipes.
<b>Short-Span Bridge</b>	The existing short span bridge is 23 feet wide and has a 16-foot-long span over the tributary stream. It was built in 1951 with precast concrete slabs resting on creosote-treated timber piles that are below the OHWM.	The project will replace the bridge in the same alignment with a bridge that is 28 feet wide with a 30-foot-long span built with precast concrete deck panels on top of steel piles landward of the OHWM.

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

The project is located approximately two miles northwest of the City of Carnation, in unincorporated King County, within Section 12, Township 25N, Range 06E, and can be found on Thomas Brothers Guide page 538-G4. The roadway spans tributary streams and drainage conveyances that flow to Ames Creek (07.0278) within the Snoqualmie Valley. The project is within Water Resources Inventory Area 7 (Snoqualmie-Snohomish). The project's vicinity map is enclosed as Figure 1, aquatic area potential impact locations are found in Figures 2-4.

## Environmental Elements

### 1. Earth

- a. **General description of the site (circle one):** Flat,  rolling,  hilly,  steep slopes,  mountainous, other \_\_\_\_\_

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

The steepest slope on the site is off the roadway; in various locations, the slopes are approximately 30-45 percent slope.

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

According to the 2014 United States Geological Survey (USGS) Natural Resources Conservation Service Web Soil Survey, approximately 42-percent of the site is classified as Alderwood gravelly sandy loam; twenty-five-percent of the site is considered Everett gravelly sandy loam; twenty-five percent is Kitsap silt loam. A designated Agricultural Production District is located on the east side of the roadway within 300 feet of the project limits. Agricultural lands will not be impacted by the project because the area of ground disturbance will primarily occur within existing road right-of-way. Where ground disturbance extends outside the right-of-way, the disturbance will be immediately adjacent to the roadway, will be temporary, and will only include the minimum area required to replace the drainage feature or bridge. All areas temporarily disturbed will be restored to their previous condition when construction is complete.

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

It is possible that there is a history of unstable soils in the immediate vicinity or the property. According to King County iMap accessed December 2014, the road is bordered by the following geological critical areas: a Landslide Hazard Area to the west, a Seismic Hazard Area to the east, and the southern segment of the road crosses an Erosion Hazard Area.

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

To reconstruct the roadway, approximately 0.66 acre (28,830 square feet) of the project area will experience clearing, excavation, and grading.

Approximately 6,510 cubic yards will be excavated to reconstruct the roadway and adjacent driveways. The excavated material will be hauled off-site and appropriately disposed of by contractors. Approximately 3,780 cubic yards of suitable fill material will be imported for the project. King County Materials Lab will confirm that the contractor's fill is from approved sources. Any excess material will be hauled off-site and appropriately disposed of by contractors.

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

Erosion could occur as a result of vegetation removal and ground-disturbing activities during construction and depending on seasonal weather. The project construction timing and planned erosion-control measures were selected to address this possibility. Please see B.1.h for proposed measures to reduce and control erosion.

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

Presently, approximately 3.49 acres (152,090 square feet) of the site is covered with impervious asphalt surface; no additional impervious surfaces are proposed as part of the project so there will be no percentage increase.

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

Construction: During construction, temporary erosion and sedimentation control Best Management Practices (BMPs) required in the King County Surface Water Design Manual (SWDM) will be employed. The BMPs include the use of mulch, silt barriers, containment systems, interim stormwater controls, cover measures (e.g., seeding, straw or fabric blankets), and reseeding areas that are temporarily disturbed by construction. Additionally, existing vegetation will be preserved to the extent practicable.

Operation: Native planting and hydroseeding will be provided at project completion to ensure all bare-earth areas are revegetated and to limit the potential for erosion.

## 2. Air

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

Construction: Construction activities generate fugitive dust and odors that result in localized air-quality impacts. These short-term construction emissions are eliminated at completion of the project.

Operation: After construction, the improved roadway will not include additional capacity and therefore will not draw traffic from alternative routes in the project area, resulting in no higher traffic volumes in the project area, and no corresponding increase in carbon monoxide and particulate emissions. Future carbon monoxide concentrations in the project area will not exceed U.S. Environmental Protection Agency air-quality standards and will comply with the federal Clean Air Act (40 CFR Parts 50-99) and Washington State Clean Air Act (RCW 70.94).

Greenhouse Gas Emissions: The project will result in greenhouse gas (GHG) emissions that contribute to global warming and related climate-change concerns. Life-cycle GHG emissions for the project include embodied, operational, and construction emissions that are defined as follows:

- Embodied emissions are the emissions released during the extraction, processing, and transportation of the materials used in construction.

- Construction emissions are released during project construction and primarily come from fuel burned in the equipment used to build the project, such as bulldozers, pavers, and rollers.
- Operational emissions are emissions released by vehicles using project roadways.

Construction of the proposed project will involve activities that could temporarily increase emissions of GHG. Potential construction impacts include GHG emissions from the manufacture of paving materials, exhaust from construction equipment and vehicles, temporary traffic delays and detour route. Carbon dioxide equivalent life-cycle emissions generated by the construction of the project are estimated at 3,502.95 metric tons of carbon dioxide equivalents (MTCO<sub>2e</sub>). See Figure 5 for more details regarding the GHG estimate.

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

No off-site sources of emissions or odors have been identified that may effect this proposal.

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

Construction: During construction, mitigation measures for project impacts to air quality and GHG emissions could include, but are not limited to, the following:

- Spraying water, when necessary, during construction operations to reduce emissions of fugitive dust.
- Covering dirt, gravel, and debris piles as needed to reduce fugitive dust and wind-blown debris.
- Covering open-bodied trucks in accordance with RCW 46.61.655, wetting materials in trucks or providing adequate space from the top of the material to the top of the truck to reduce fugitive dust emissions.
- Sweeping public streets, when necessary, to remove mud and dirt deposited on paved roads.
- Paving or resurfacing with gravel staging areas and access roads to reduce dust.
- Using biodiesel or ultra-low-sulfur diesel fuels for vehicles and equipment to reduce diesel exhaust emissions.
- Conservation and reuse of construction materials on site, to reduce exhaust emissions and traffic delays.
- Implementing a construction traffic management plan to reduce construction-related traffic delays for the traveling public to the extent possible.
- Enforcing King County's no-idling policy for vehicles on the project site.

Operation: During operation of the proposed project, mitigation measures to minimize project effects on air quality will not be required because the predicted future carbon monoxide concentrations meet the National Ambient Air Quality Standards.

### 3. Water

**a. Surface Water:**

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

Ten riverine and/or slope Category II wetlands and associated tributaries, and possibly one additional wetland that is pending confirmation after approved property access, have been identified in the project area. All aquatic areas and roadside drainages in the project area eventually flow into Ames Creek, or infiltrate within the Snoqualmie River floodplain. Ames Creek is a tributary to the Snoqualmie River. Aquatic area potential impact locations are found in Figures 2-4.

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

Work will temporarily occur directly, over, and adjacent to the various waters as noted in 3.a.1. See attached plans showing impacted/restored areas.

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

Unavoidable wetland impacts will be temporary. Approximately 0.11 acre (4,934 square feet) of Category II wetlands will be temporarily impacted during construction; this does not include ditch impacts. Temporary impacts will include clearing vegetation for construction access and grading to tie-in the constructed stream channels into the replacement culverts and pipes under the roadway that drain into the existing downstream channels.

Approximately 261 linear feet of stream channel will also be temporarily affected by the project. The ditch has wetland characteristics and is regulated by the U.S. Army Corps of Engineers; approximately one mile of ditch will be cleaned out and revegetated.

**Estimated temporary aquatic area (wetland and stream) impacts:**

Category II Wetland/Stream Name	Location (by Road Station)	Category II Wetland Temporary Impact <sup>1</sup> (square feet)	Stream Temporary Impact <sup>2</sup> (linear feet)	Stream Type <sup>3</sup>
Wetland and Tributary B	STA 63+50	400	15	Type F
Wetland and Tributary D	STA 55+80	0	26	Type F
Wetland and Tributary E	STA 54+15	0	16	Type N
Wetland and Tributary I	STA 42+30, STA 41+80	385	30	Type F
Wetland and Tributary J	STA 39+32	1,525	30	Type F
Wetland and Tributary K	STA 36+50	75	10	Type N
Wetland and Tributary L <sup>4</sup>	STA 31+90	1,125	50	Type F
Wetland and Tributary M	STA 31+15	75	18	Type N
Wetland and Tributary N	STA 25+10	800	23	Type F
Wetland and Tributary O	STA 21+15	150	19	Type N
Wetland and Tributary P	STA 19+11	400	24	Type F
<b>Total</b>		<b>4,934 sf</b>	<b>261 lf</b>	

1. All areas of wetland impact also overlap with the associated stream buffer. To avoid double-counting impacts, the buffer impacts are accounted for in the wetland impact area.
2. This does not include the length of the existing pipe under the roadway because it is not an existing stream channel.
3. Water Type as defined in King County Code 21A.24.355 (aquatic areas) and in Washington State Code 22-16-030  
 Type S Water – Shorelines of the State under chapter 90.58 Revised Code of Washington  
 Type F Water – Segments of natural waters that contain fish or fish habitat do not meet the Type S criteria  
 Type N Water – Segments of natural waters without fish or fish habitat
4. Location of the short span bridge

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

No surface water withdrawals will be required for the project. To avoid impacts to aquatic life, for construction below the Ordinary High Water Mark (OHWM) of tributaries, water will be diverted as needed and occur during the in-water work window issued by WDFW, which June 15 to September 30.

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

According to the Federal Emergency Management Agency (FEMA), the project does not lie within a mapped 100-year floodplain.

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

No waste materials will be discharged to surface waters. BMPs will be implemented following the King County and Washington State Department of Ecology stormwater manual guidance.

**b. Ground Water:**

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

This project does not involve the withdrawal of ground water. Any encountered ground water will be removed and discharged to a vegetated upland area, and if needed, to a Baker tank and hauled off site. This will prevent turbid water from reaching surface water or ground water. The project will not discharge to ground water.

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

This project involves neither the construction nor operation of a septic tank system or any other waste-disposal system or facility. No waste material will be discharged into the ground as a result of this project.

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

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

The stormwater from the roadway presently sheet flows from the paved surfaces to the roadside vegetation and ditch that runs along the west side of the road. Stormwater generally drains toward the conveyances and tributary streams under the road, which flows into Ames Creek, which flows to the Snoqualmie River that eventually becomes the Snohomish River. The Snohomish River flows northwest entering Port Gardner Bay, part of Puget Sound, between Everett and Marysville.

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

It is unlikely, but possible, that fuel or concrete spills could occur from construction machinery. King County and Washington Department of Ecology spill prevention BMPs will be followed to avoid such spills. The contractor will be required to prepare a Spill Prevention Control and Countermeasures Plan for the project prior to beginning construction and submit it to King County for approval.

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

The project will maintain the ditch on the west side of the road.

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

Temporary impacts to wetlands, streams, and ditches during construction will be minimized by using approved Best Management Practices (BMPs). King County Critical Area Code requires a 1.5:1 compensatory mitigation ratio for temporary impacts to Category II wetlands. All areas temporarily disturbed during construction will be restored with appropriate soils, native wetland and riparian vegetation. The additional 2,467 square feet of required mitigation area will be achieved by purchasing wetlands credits from the Snohomish Basin Mitigation Bank (SBMB). Impacts to the stream are temporary and are designed to improve the overall hydraulic and habitat function; therefore, additional mitigation is not proposed for stream impacts.

**4. Plants**

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

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

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

Approximately 0.11 acre (4,934 square feet) of wetland / stream buffer vegetation will be temporarily impacted by the project.

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

There are no known threatened or endangered plant species on or near the site. There is no known "critical habitat" area on or near the site. According to the Department of Natural Resources, Washington Natural Heritage Program, no special-status plant species are known to occur in the project area.

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

During construction, existing vegetation will be temporarily disturbed or removed. These areas will be replanted with native vegetation and/or hydroseeded to ensure stabilization during the first growing season after construction is complete.

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

Noxious weeds were not identified during project site visits. Invasive weeds such as Himalayan blackberry and reed canarygrass were observed.

**5. Animals**

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

**birds:** hawk, heron, eagle, songbirds, crows

**mammals:** deer, raccoons, squirrels

**fish:** salmon

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

The United States Fish and Wildlife Services (USFWS) and National Marine Fisheries Service (NMFS) species lists were accessed via their websites on October 13, 2014. The potential presence of listed fish species includes bull trout (*Salvelinus confluentus*), Chinook salmon (*Oncorhynchus tshawytscha*), and steelhead trout (*O. mykiss*). No terrestrial species were identified as potentially occurring in the project area, including the recently listed (threatened) Oregon Spotted Frog (*Rana pretiosa*). The Oregon Spotted Frog can occur in King County but requires a specific habitat that is not present in the project area.

The potential presence of threatened and endangered species within the project area was further evaluated in October 2014 by reviewing the Washington State Department of Fish and Wildlife (WDFW) Priority Habitats and Species Database and the WDFW SalmonScape maps, and per consultation with the WDFW Area Habitat Biologist for the Snoqualmie River, Stewart Reinbold, on October 22, 2014. According to Mr. Reinbold, fish presence data contained on the reviewed databases was generated using modeling and various presumptions (with the exception of coho). Mr. Reinbold further stated that the species are not likely to be present in the action area between June 15 and September 30.

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

The project site is located within the Pacific Flyway, which is a major north-south route of travel for migratory birds, extending from Alaska to Patagonia. Every year, migratory birds travel some or all of this distance both in spring and in fall, following food sources, heading to breeding grounds, or travelling to overwintering sites. Migrating and nesting birds within the project area will be protected as required under the Migratory Bird Treaty Act.

The Washington Department of Fish and Wildlife, Priority Habitats and Species data was accessed on October 21, 2014; data provided indicated that the project area has potential to be a migration route for some non-ESA listed fish species during certain times of the year.

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

Site-specific mitigation measures for direct impacts during construction are summarized below.

- Avoiding construction work during critical life history periods for special-status species.
- Protecting breeding sites of wildlife species identified by the King County Code and as described in the King County Comprehensive Plan (King County 2012).
- Marking clearing limits prior to construction to preserve and protect vegetation from construction activities and equipment.
- Restoring any temporarily disturbed vegetation within one year or one growing season after construction is complete. Replanting vegetation removed during construction with native trees and shrubs.
- Monitoring restoration and mitigation work during and after construction using performance standards to observe the development of target habitat functions.

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

No invasive species were observed during site visits; however it is possible that invasive species use the site. If invasive species are observed during construction, then WDFW will be notified.

## 6. Energy and Natural Resources

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

Gas, diesel, or other fossil fuels will be consumed during project construction. Following completion of the project, periodic maintenance activities will require some use of energy. Routine maintenance will be short-term and energy consumption will not be significant.

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

The project will not affect the potential use of solar energy by adjacent properties.

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

Measures to reduce energy use during construction will be encouraged (e.g., efficient scheduling and staging).

## 7. Environmental Health

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

The accidental leakage of petroleum products (e.g., gasoline, diesel fuel, hydraulic fluid, anti-freeze, grease, etc.) from construction equipment could occur but is not likely. These substances can be toxic to nearby aquatic systems, and to humans upon prolonged skin contact, and can pose a fire hazard.

During construction, community health could be affected by dust and vehicle exhaust. Construction activities will intermittently generate particulate matter (PM) (i.e., dust, PM2.5, and PM10) and odors, and construction equipment will generate diesel engine exhaust. Any air quality impacts associated with construction activities will be most noticeable at sensitive land uses, such as schools or parks, near the construction site; however, there are not any sensitive land uses near the construction site, so these impacts are unlikely. In addition, air quality impacts will be short term, occurring only while construction is in progress; however, they will at times diminish the air quality in the project corridor. BMPs will be employed to reduce fugitive dust, odors, and exhaust emissions.

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

There are no known or possible contaminants at the site from present or past uses.

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

There are no known or possible hazardous chemicals/conditions at the site that might affect project development or design.

- 3) **Describe any toxic or hazardous chemicals that might be stored, used, or produced**

**during the project's development or construction, or at any time during the operating life of the project.**

Toxic or hazardous chemicals will not be stored or produced during the project's development or construction, or at any time during the operating life of the project. Petroleum products will be used on site to power construction equipment.

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

The need for special emergency services is not anticipated.

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

The contractor will be required to develop a Spill Prevention, Control and Countermeasures Plan and submit it to King County for approval. The plan will provide BMPs that will be used during construction to minimize the potential for hazardous spills from fuels used on the site. Spill kits will be available on site to be used in the rare event of a spill. Worker health and safety will be addressed as required by Washington State and federal regulations. Waste material generated from the construction will be properly managed and disposed of at permitted facilities.

The contractor will be required to submit a Fugitive Dust Control Plan to King County for approval. The plan will provide BMPs that will be used to minimize the amount of particulate matter (i.e., dust) generated during construction.

**b. Noise**

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

Existing traffic noise emanates from the roadway users. The project site is primarily surrounded by rural residential parcels and agricultural land uses. Existing noise in the area is not expected to affect the proposed project.

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

On a short-term basis, noise will be generated from the construction equipment (e.g., truck traffic hauling materials to and from the site; pile driver, drill truck; back hoe; generators; grader; dozer; and, asphalt-paving operations). On a long-term basis, the completed project is not expected to change the amount of existing traffic in the area and therefore is not expected to significantly change noise levels in the long term.

According to King County Code 12.94.020, Part B-1, the following sounds are exempt from the provisions of the noise ordinance: "Sounds created by construction equipment, including special construction vehicles, and emanating from temporary construction sites, if the receiving property is located in a rural or residential district of King County."

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

Standard mufflers will be used on all construction equipment. The construction crew will work during hours in accordance with the requirements of King County Code and permit conditions. The hours are typically 7:00 a.m. to 5:00 p.m.; however, hours worked outside of the typical hours have to be reviewed and approved by King County.

## 8. Land and Shoreline Use

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

West Snoqualmie Valley Road NE provides a roadway corridor for use by the traveling public. Properties adjacent to the project area west of the road are residential while the areas to the west of the road are used for agriculture. The proposed roadway reconstruction project will not affect the present land use on nearby or adjacent properties.

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

The project site is a roadway and has not recently been used as working farmlands or working forest lands. There are agricultural areas presently adjacent to the project to the east, but there are no forest lands of long-term commercial significance within the project area or in the near vicinity. No agricultural or forest land of long-term commercial significance will be converted to other uses or nonfarm or nonforest uses as part of this proposal.

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

The project will require temporary road closures that may affect normal access to working farms during normal business hours. Advanced notification to potentially impacted farms, signage, and a detour will be provided. Access to and from farms will be maintained throughout the project.

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

Structures presently onsite that will be impacted by the roadway reconstruction project includes eleven drainage pipes under the road that vary from 12 to 18-inches-diameter and a short span bridge that is 23 feet wide with a 16-foot-long span.

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

The existing roadway surfaces, drainage structures, and short span bridge will be demolished.

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

The project area is primarily located within King County road right-of-way. Properties adjacent to the project area west of the road are zoned as RA-10: rural area with one dwelling unit per ten acres; the east side of the road is zoned as A-35: agricultural area with one dwelling unit per 35 acres.

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

According to the 2012 King County Comprehensive Plan the project is located in an area designated as Rural Area.

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

The project site is not located in an area designated by the King County Shoreline Master Program. Adjacent to the project area on the east side, the valley is within the conservancy shoreline boundary of the Snoqualmie River.

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

According to King County iMap accessed December 2014; the road is bordered by the following King County critical areas: a Landslide Hazard Area to the west, a Seismic Hazard Area to the east, and the southern segment of the road crosses an Erosion Hazard Area. King County aquatic areas (tributary streams) are conveyed under the road. Wetlands are mapped and were recently delineated and ranked adjacent to the road. The project area is located within a King County Critical Aquifer Recharge Area, within an area that is highly susceptible to groundwater contamination.

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

No people will reside or work in the completed project.

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

No people will be displaced by the project.

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

No measures will be implemented to avoid or reduce displaced people because no one will be displaced.

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

The project listed as a Capital Improvement Project (CIP) by the King County Department of Transportation, Road Services Division (RSD), which is required to ensure projects are compatible with existing and projected land uses.

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

No measures are proposed to ensure the project is compatible with nearby agricultural and forest lands because the new roadway will be nearly the same as the existing roadway, which is compatible with nearby agricultural lands. There is no nearby forest land of long-term commercial significance.

## 9. Housing

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

No housing units are being provided by the project.

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

No housing units are being eliminated by the project.

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

Protective measures for housing impacts are not needed because housing will not be impacted.

## 10. Aesthetics

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

The structures proposed include pipes, culverts, and a short-span bridge; each of these structures will be no taller than the reconstructed roadway, which is essentially at ground level. The principle building materials are pre-cast concrete and steel.

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

In general terms, as a result of the project, the reconstructed roadway and fresh pavement striping will become a more prominent feature in the visual landscape, but impacts on the landscape character will be low. Visual impacts will generally be limited to locations on or immediately adjacent to the roadway.

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

To the extent possible, the proposed project has been designed to blend visually with the landscapes and communities through which it passes. An example of how the design aesthetic accomplishes this includes maintaining the rural character of the roadway; e.g., providing asphalt shoulders instead of sidewalks.

## 11. Light and Glare

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

The project does not include any lighting or other sources of additional light or glare.

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

The finished project will not produce any additional light or glare that will be a safety hazard or interfere with views.

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

No identified off-site sources of light or glare have been identified that will affect the proposed project.

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

Because lighting or other sources of additional light or glare are not proposed, no measures will be used to reduce or control light and glare impacts.

## 12. Recreation

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

There are no designated or informal recreational opportunities in the immediate vicinity of the project.

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

No existing recreational uses will be displaced.

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

Because no impacts are anticipated, no measures will be used to reduce or control impacts on recreation.

## 13. Historic and Cultural Preservation

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

Ten historic properties were identified within the project's Area of Potential Effects (APE). A cultural resources survey determined that five of the properties are eligible for listing in the National Register of Historic Places (NRHP), including: the Vincent School, W. Snoqualmie Valley Road NE, the Gust Ringdahl Agricultural Complex, the Svanhild and Ray Hansom Barn, and the John Hilmer Gustovson Barn. Five remaining historic properties identified in the survey were not eligible for listing in the NRHP (Vandermeer/Sinnema Dairy Barn, Rusch Residence, Nellie Tuttle Residence, Vanderpol Barn and the C. De Jong Residence). An historical-period archaeological site (45K11197) was also identified within the APE and was also not eligible for listing in the NRHP.

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

The properties and sites listed in 13.a. were identified in the, *Cultural Resources Technical Report: West Snoqualmie Valley Road NE Project (CIP# 1026735), King County, WA*, prepared for King County by ENTRIX in 2014.

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

Methods used to assess the potential impacts to cultural and historic resources on or near the project site included preparation of a proposed APE map followed by a cultural resources screening by the King County Road Services Division (Roads) Archaeologist. He reviewed both the King County Cultural Resource Protection Plan (CRPP) database and the Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) database; these databases have information regarding recorded, reported, or suspected cultural resources within the APE and within half a mile of the APE.

To initiate the required National Historic Preservation Act process under Section 106, the following was submitted to the Washington State Department of Transportation (WSDOT) for transmittal to the State Historic Preservation Officer (SHPO) for review / approval and transmitted to appropriate tribal governments for review and comment:

- Proposed APE
- Findings listed in 13.a
- Recommendations that included:
  - Preparing a comprehensive field inventory of structures and buildings within the APE
  - Conducting an archaeological survey with screened shovel probes of the APE

The results of the recommended investigations were presented in, *Cultural Resources Technical Report: West Snoqualmie Valley Road NE Project (CIP# 1026735), King County, WA*, The SHPO concurred with WSDOT's findings which concluded that the project will not have adverse impacts on the historic properties identified.

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

No impacts or adverse effects to any historic properties are anticipated as a result of the proposed project.

There is always a remote possibility that as-yet unidentified archaeological resources may be discovered during construction. Construction site inspectors, or other designated personnel, will monitor the site for indications of possible resources discovered during construction.

If resources are identified during construction, then work in the vicinity of the identified resources will cease and the Road's Archaeologist, WSDOT, the Washington State Department of Archaeology and Historic Preservation, the King County Historic Preservation Program, and other appropriate agencies will be notified immediately. Work will not be allowed to resume at the site in the vicinity of the identified resources until appropriate archaeological investigations are complete.

## 14. Transportation

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

West Snoqualmie Valley Road NE provides the primary access to the project site and is connected to NE 80th Street to the north and Ames Lake-Carnation Road NE to the southeast. Construction will require temporary road closures, see attached Sheet 27, road closure and detour plan.

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

The site is not presently served by public transit. The nearest transit stop is approximately six miles away.

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

The completed project will not provide or eliminate parking spaces.

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

The project will improve the condition of the road from cracked to smooth.

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

The project will not use or occur in the immediate vicinity of water, rail, or air transportation.

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

The project is limited to reconstruction and the completed roadway is not expected to generate additional vehicle traffic.

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

The project will require temporary road closures that may affect access to working farms during normal business hours.

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

Advanced notification to potentially impacted farms, signage, and a detour will be provided.

## 15. Public services

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

No increased needs for public services are anticipated as a result of the proposed project.

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

Because there will be no direct impacts on public services, no proposed measures will be needed.

## 16. Utilities

**a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other cable**

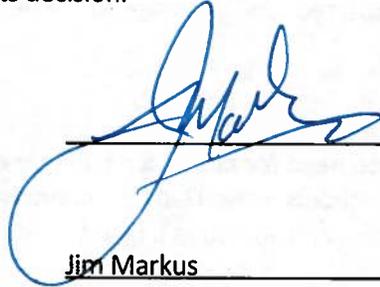
**b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

No new utilities will be installed as a result of the project. During project construction, impacted utilities will be contacted in advance to accommodate the project.

## Signature

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

Signature: \_\_\_\_\_



\_\_\_\_\_

Name of Signee: \_\_\_\_\_

Jim Markus

Position and Agency/Organization: \_\_\_\_\_

Managing Engineer,

Bridge, Construction, and Environmental Services Unit,

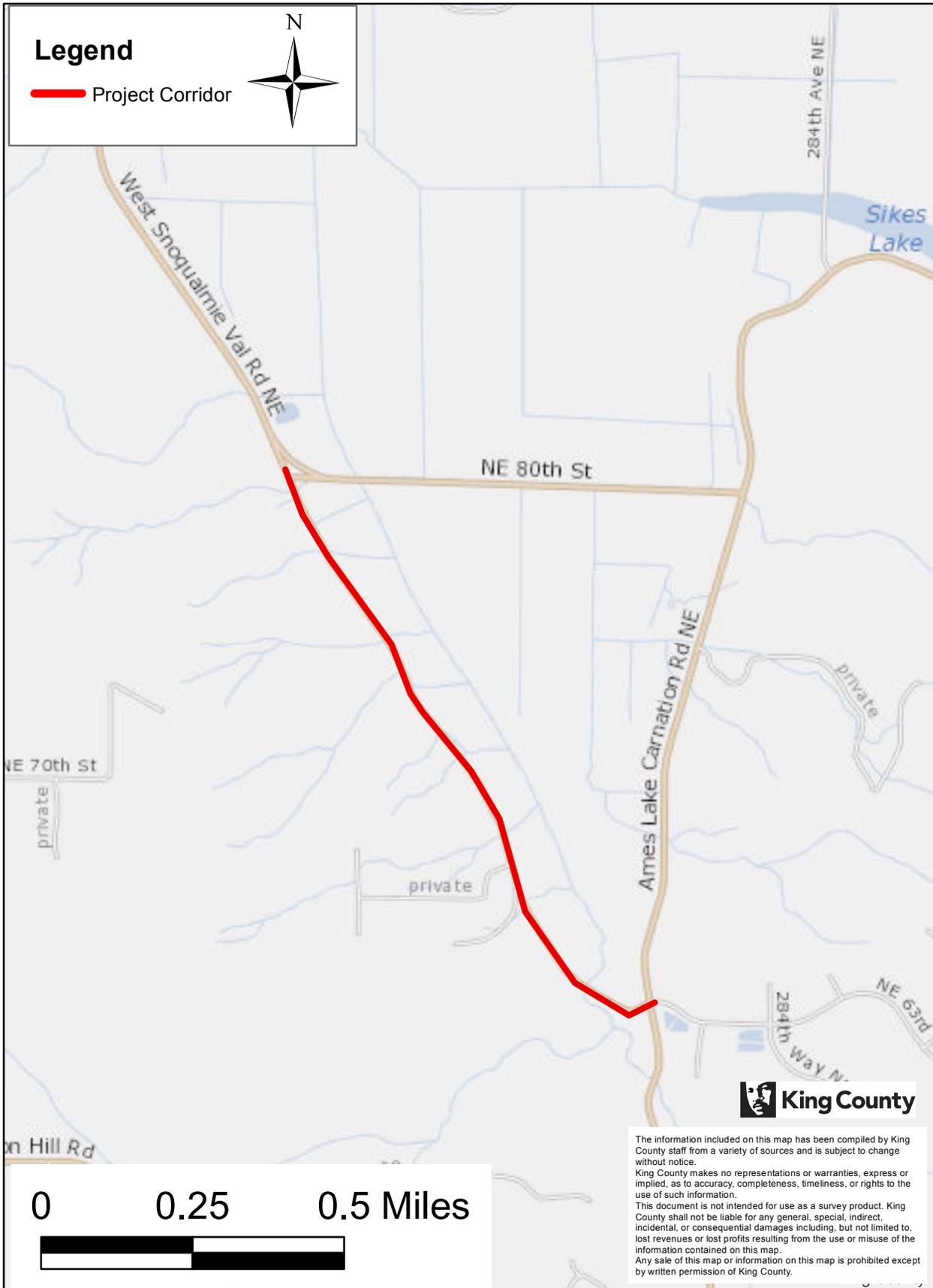
Engineering Services Section, Road Services Division

Date Signed: \_\_\_\_\_

1/12/15

# Figure 1: West Snoqualmie Valley Rd NE Vicinity Map

From NE 80th St to Ames Lake - Carnation Rd NE



# West Snoqualmie Valley NE Roadway Reconstruction

## Figure 2: Stream and Wetland Locations - North Project Area



### Legend

- - - - - Project Area Streams (Approximate)
- Project Area Wetlands (Approximate)

0 70 140 210 Feet



The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice.  
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# West Snoqualmie Valley NE Roadway Reconstruction

## Figure 3: Stream and Wetland Locations - South Project Area



# West Snoqualmie Valley NE Roadway Reconstruction

## Figure 4: Delineated Boundaries for Wetlands L and M



## Road Services Division Cost-Based GHG Estimator

### West Snoqualmie Valley Road NE – Roadway Reconstruction Project (#1026735)

	(C)	(EF)	(DC)	(E)	(FC)		(EMF)	(lbs)	(WC)	(MTCO2e)
Construction Activities	Construction Cost***	Energy Factor	Dollar Conversion (1973\$/2010\$)	Energy (btu)	Fuel Conversion Factor (Diesel)*	Fuel Consumption (Kwh-gal)	Emission Factor (Diesel)**	CO2e Emissions	Weight Conversion (lbs/MT)	Emissions
Rural Freeway		119,104	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Rural Conventional Highway	\$2,624,945	113,596	0.147135417	43,873,317,068.35	138691	316338.60	22.2	7,022,716.97	0.0004536	3,185.45
Rural Freeway Widen		74,354	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Rural Conventional Highway Widening		80,034	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Urban Freeway		47,332	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Urban Conventional Highway		43,201	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Urban Freeway Widen		42,340	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Urban Conventional Highway Widen		40,103	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Interchange		120,653	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Bridge Steel Box Girder		52,323	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Bridge Concrete Box Girder		48,364	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Landscape Planting	\$120,492.00	21,170	0.147135417	375,315,322.12	138691	2706.13	22.2	60,076.00	0.0004536	27.25
Lighting Signals		20,310	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Site Work	\$1,288,931	21,079	0.147135417	3,997,577,540.02	138691	28823.63	22.2	639,884.50	0.0004536	290.25
Electrical Systems		21,079	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Parking		50,100	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00
Structures		50,100	0.147135417	0.00	138691	0.00	22.2	0.00	0.0004536	0.00

**Total Emissions = 3,502.95**

**E = C x EF x DC** (Required energy in btu's)  
**lbs = E / FC x EMF** (Pounds of CO2 emitted by diesel fuel to achieve required btu's)  
**MTCO2e = lbs x WC** (Pounds of CO2 converted to megatons of CO2e)

- E = Energy (btu)
- C = Cost of Construction (2008\$)
- EF = Energy Factor (btu/1973\$)
- DC = Dollar Conversion (1973\$/2008\$)
- lbs = CO2 Emissions (lbs)
- FC = Fuel Conversion Factor (btu/Kwh-gal)\*
- EMF = Emissions Factor (lbs CO2/Kwh-gal)\*\*
- WC = Weight Conversion (lbs/MT)

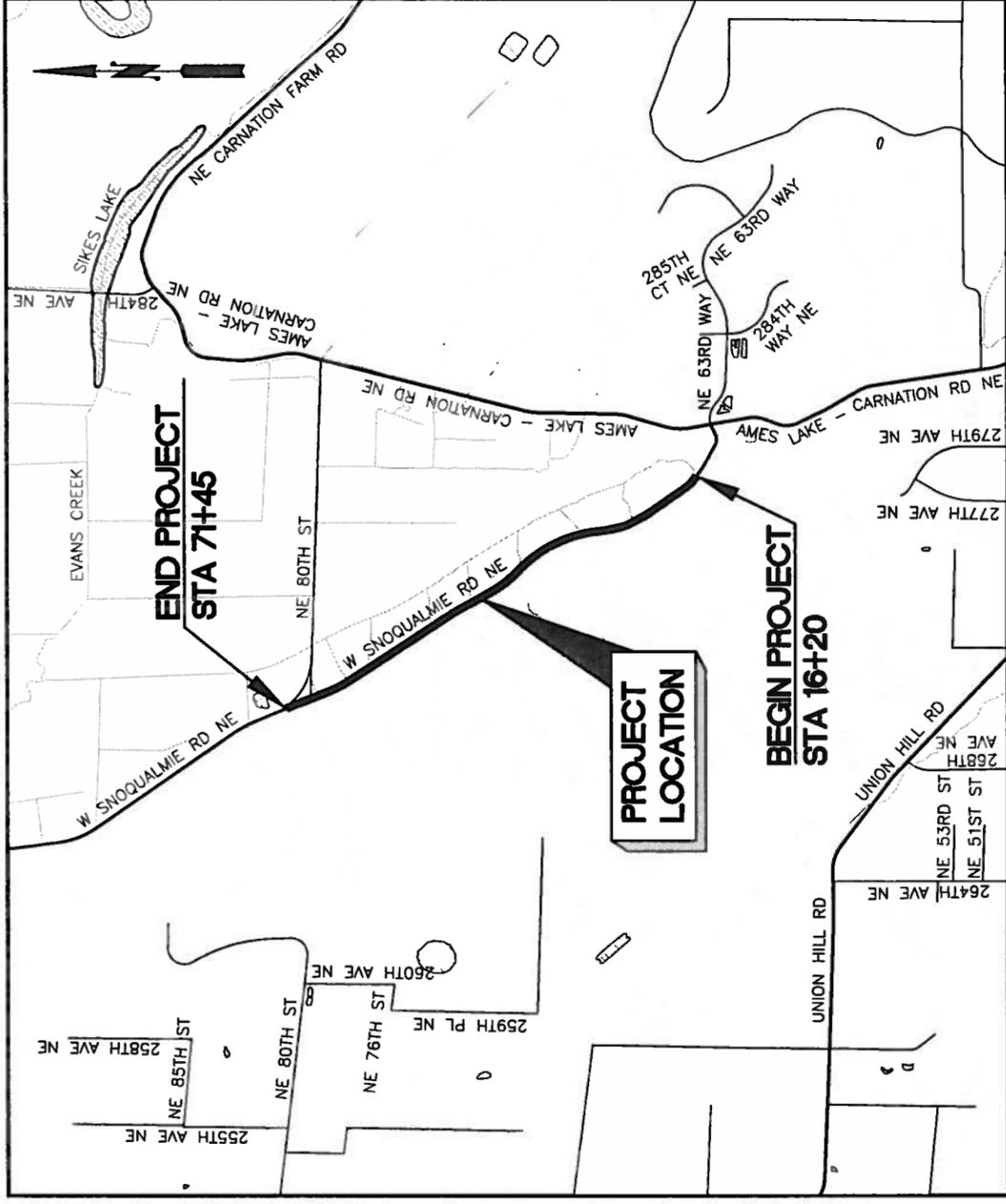
Source: Energy and Transportation Systems, 1983 State of California Department of Transportation, Division of Engineering Services, Office of Transportation Laboratory. Peter Chen, 2008. Columbia River Crossing, Energy Technical Report.

Only includes emissions related to construction activities and some embodied emissions. Does not include lifecycle or operation emissions.

\*Fuel Conversion Factor - Diesel - 13691 Gasoline - 123976 Electricity - 3412

\*\*Emissions Factor - Diesel - 22.2 Gasoline - 19.4 Electricity (n-gas) - 1.321 Electricity (coal) - 2.095

\*\*\* Cost Estimates are based on the 12/22/2014 Engineer's Estimate



VICINITY MAP  
NTS



**King County**

**Department Of  
Transportation  
Road Services Division**

**WEST SNOQUALMIE VALLEY RD NE  
FROM NE 80TH ST TO AMES LAKE - CARNATION RD NE  
ROADWAY RECONSTRUCTION**

**DRAWING INDEX**

SHEET	DESCRIPTION	SHEET	DESCRIPTION	SHEET	DESCRIPTION
1	COVER SHEET	32-34	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)	51	PRESTRESSED CONCRETE SLAB DETAILS -3
2	LEGEND & ABBREVIATION		GENERAL NOTES & LEGEND	52	APPROACH SLAB DETAILS-1
3	SUMMARY OF QUANTITIES	35-40	STORMWATER POLLUTION PREVENTION PLANS	53	APPROACH SLAB DETAILS-2
4	TYPICAL ROADWAY SECTION	41-42	TEMPORARY EROSION/ SEDIMENT CONTROL DETAILS	54	BEARING DETAILS
5-6	SUPERELEVATION DIAGRAM	43	PLAN, ELEVATION, SECTION AND GENERAL NOTES	55	BRIDGE RAILING DETAILS-1
7	STRUCTURE NOTES	44	PILE AND ABUTMENT LAYOUT	56	BRIDGE RAILING DETAILS-2
8-19	ROADWAY PLAN & PROFILE	45	FRAMING PLAN	57	ROCK FACING WALL PLAN & ELEVATION
20	DRIVEWAY NOTES AND DETAILS	46	TYPICAL ABUTMENT ELEVATION	58	REBAR LIST
21-23	DRIVEWAY PROFILES	47	CONCRETE DECK	59-63	RESTORATION PLAN & DETAIL
24	DRAINAGE DETAILS	48	ABUTMENT & WINGWALL DETAILS	64	ROAD CLOSURE AND DETOUR PLAN
25	BOX CULVERT & STREAM DETAILS	49	PRESTRESSED CONCRETE SLAB DETAILS 1		
26-31	BOX CULVERT PLAN & PROFILE	50	PRESTRESSED CONCRETE SLAB DETAILS 2		

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51	PRESTRESSED CONCRETE SLAB DETAILS -3
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57	ROCK FACING WALL PLAN & ELEVATION
58	REBAR LIST
59-63	RESTORATION PLAN & DETAIL
64	ROAD CLOSURE AND DETOUR PLAN

**95% PRELIMINARY DISTRIBUTION SET**

ROAD SERVICES: BLEASDALE / SAHAGUN 06/03/2014  
From Dept. Distributing Engineers Return On/Before  
To Dept. Approving Reviewer Initial & Date



**CALL 2 WORKING  
DAYS BEFORE YOU DIG**  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



FED. AID No. \_\_\_\_\_  
ARMS PROJECT No. 200311  
ORACLE PROJECT No. 1028735  
MAINTENANCE DIVISION No. 2

**95% DESIGN  
PROGRESS COPY  
05-2014**

NO.	DATE	BY	REVISION
10057	02/2011		
	03/2011	T. GRAY	
	05/2014	T. ZHANG/J. MA	
	05/2014	D. SAHAGUN	
	05/2014	D. BLEASDALE	
	05/2014	N. POSEY	
	05/2014	RB	

KING COUNTY DEPT. OF TRANSPORTATION  
HAROLD TANGUCHI, DIRECTOR  
**WEST SNOQUALMIE VALLEY RD NE**  
ROADWAY RECONSTRUCTION

SHEET **1** OF **64** SHEETS  
King County  
318-04 (1)  
COVER SHEET



**CONSTRUCTION NOTES**

- 1 EROSION CONTROL BLANKET (E.C.B.) SHALL BE INSTALLED PRIOR TO PLANTING. ALL PLANTINGS AND E.C.B. SHOWN SHALL EXTEND TO TOE OF SLOPE AND ABOVE ORDINARY HIGH WATER MARK (O.H.W.M.)
- 2 3 IN. MEDIUM COMPOST SHALL BE INSTALLED OVER ALL DISTURBED SLOPES PRIOR TO INSTALLATION OF E.C.B.
- 3 SEED DISTURBED AREA AS DIRECTED BY ENGINEER.
- 4 ORGANIC MULCH (2 IN. DEPTH) SHALL BE INSTALLED OVER ALL PLANTING AREAS AS A UNIFORM COVER UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

**PLANT LEGEND**

QUANTITY	SYMBOL	COMMON NAME
(PLANT TOTALS THRU 8-SHEET ONLY)		
22		DOUGLAS FIR
21		WESTERN RED CEDAR
20		BIGLEAF MAPLE
30		VINE MAPLE
20		RED OSIER DOGWOOD (R.O.)
22		RED FLOWERING CURRANT (R.C.)
30		SNOWBERRY (SNOW)
68		SALAL (SAL)
68		OREGON GRAPE (O.G.)
68		SWORD FERN (FERN)
46		LIVE STAKES (L.S.) (SITKA WILLOW)
32		SALMONBERRY (S)

6	-	R.O.
4	-	SAL
4	-	O.G.
4	-	FERN
2	-	SNOW
2	-	RC

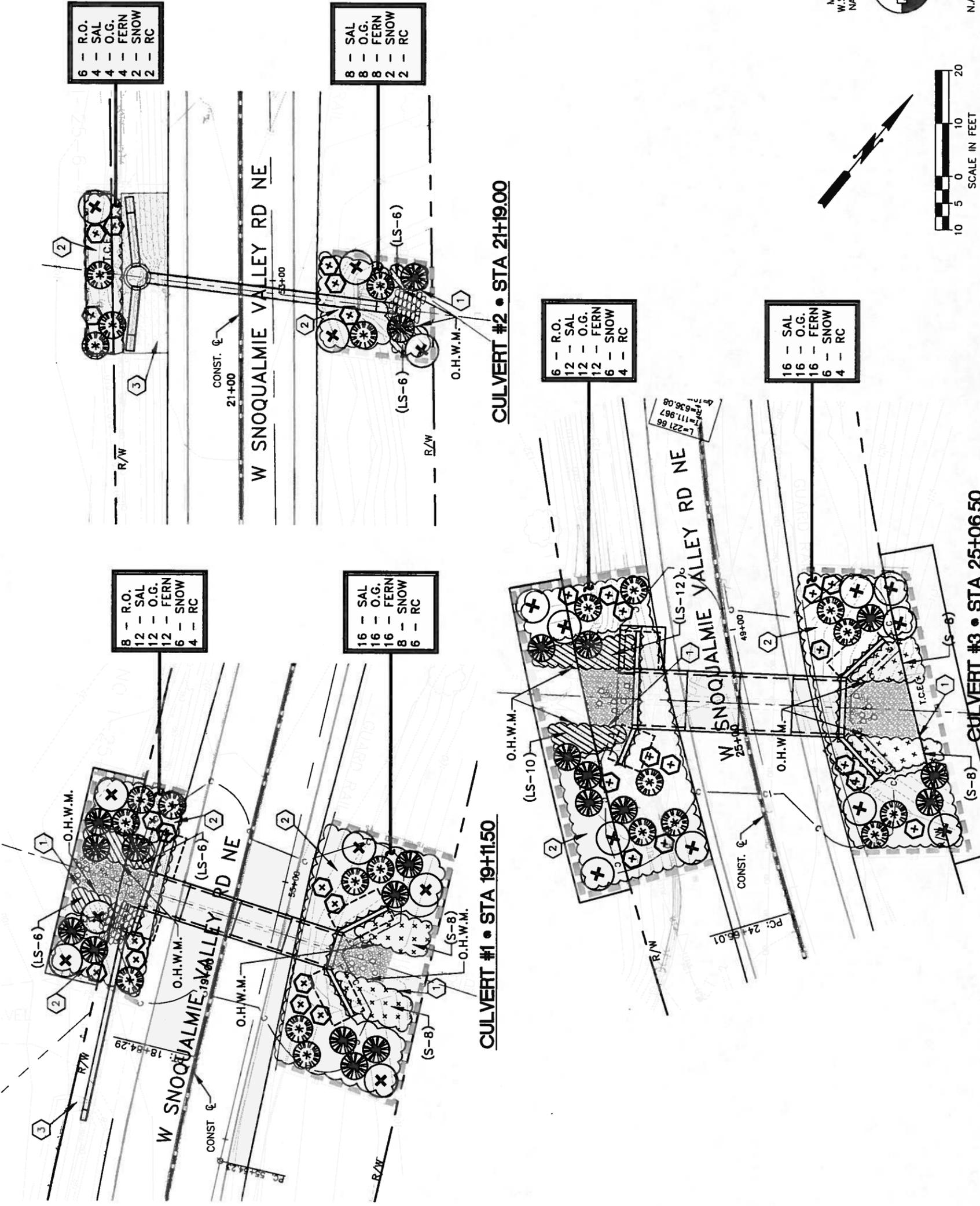
8	-	SAL
8	-	O.G.
8	-	FERN
2	-	SNOW
2	-	RC

8	-	R.O.
12	-	SAL
12	-	O.G.
12	-	FERN
6	-	SNOW
4	-	RC

16	-	SAL
16	-	O.G.
16	-	FERN
8	-	SNOW
6	-	RC

6	-	R.O.
12	-	SAL
12	-	O.G.
12	-	FERN
6	-	SNOW
4	-	RC

16	-	SAL
16	-	O.G.
16	-	FERN
6	-	SNOW
4	-	RC



MERIDAN  
W.S.L.G.N.Z.  
NAD 83/91



CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	10057	02/2011
CHECKED:	T. CRAY	03/2011
CAD ENTERED:	D. SAHAGUN	05/2014
DESIGNED:	D. WILSON	05/2014
CHECKED:	D. BLEASDALE	05/2014
SUPERVISOR:	N. POSEY	05/2014
SECTION MANAGER APPROVED:	R.B.	05/2014

NUM.	REVISION	BY	DATE

95% DESIGN  
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FED. AID No. \_\_\_\_\_  
ARMS PROJECT No. 200311  
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MAINTENANCE DIVISION No. 2



KING COUNTY DEPT. OF TRANSPORTATION  
HAROLD TANGIUCHI, DIRECTOR  
**WEST SNOQUALMIE VALLEY RD NE**  
ROADWAY RECONSTRUCTION  
RESTORATION PLAN  
STA 19+00 THRU STA 26+00

**CONSTRUCTION NOTES**

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QUANTITY	SYMBOL	COMMON NAME
(PLANT TOTALS THIS SHEET ONLY)		
9		DOUGLAS FIR
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41		SALAL (SAL)
41		OREGON GRAPE (O.G.)
41		SWORD FERN (FERN)
52		LIVE STAKES (L.S.) (SITKA WILLOW)
19		SALMONBERRY (S)

CALL 2 WORKING DAYS BEFORE YOU DIG  
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Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



SHEET **60** OF **64** SHEETS  
King County

318-04 (60)

KING COUNTY DEPT. OF TRANSPORTATION  
HAROLD TANIGUCHI, DIRECTOR

**WEST SNOQUALMIE VALLEY RD NE**  
ROADWAY RECONSTRUCTION

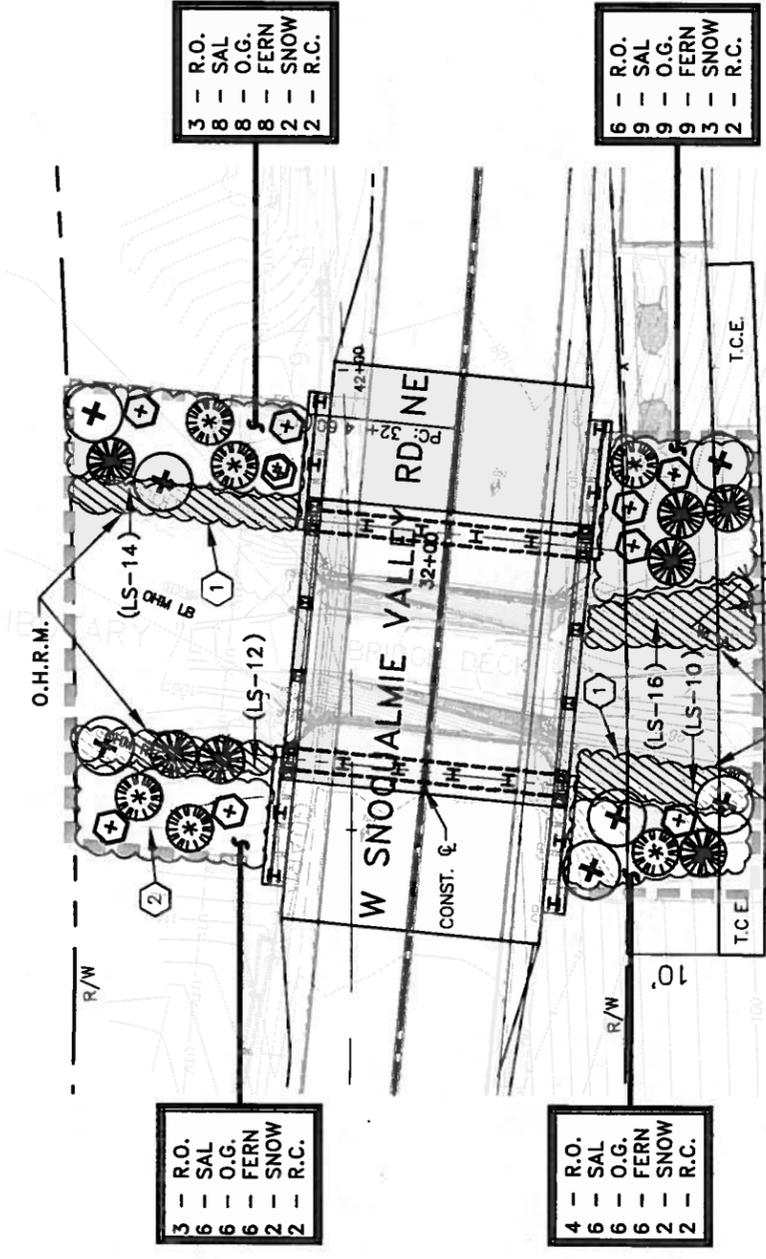
RESTORATION PLAN  
STA 31+00 THRU STA 37+00



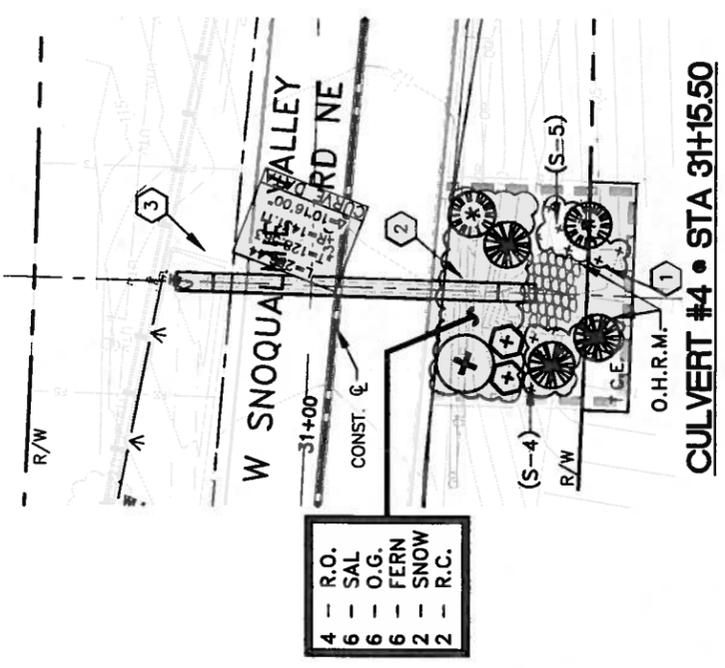
FED. AID No. \_\_\_\_\_  
ARMS PROJECT No. 200311  
ORACLE PROJECT No. 1028735  
MAINTENANCE DIVISION No. 2

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05-2014

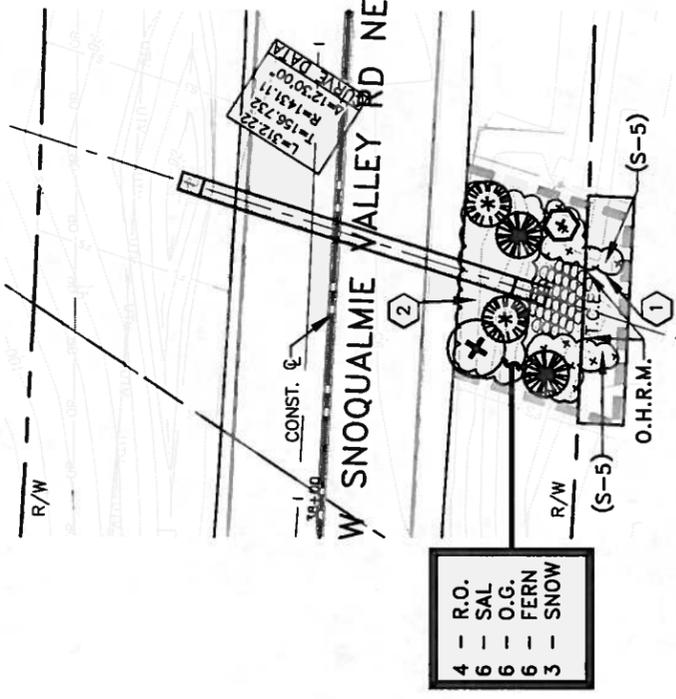
SURVEY JOB NO.	DATE	BY	DATE	REVISION
10057	02/2011	T. CRAY	03/2011	
		D. SAHAGUN	05/2014	
		D. WILSON	05/2014	
		D. BLEASDALE	05/2014	
		N. POSEY	05/2014	
SECTION MANAGER APPROVED: R.B. 05/2014				



**BRIDGE • STA 31H90**



**CULVERT #4 • STA 31H15.50**



**CULVERT #5 • STA 36+53**



MERIDAN  
W.S.L.G.N.Z.  
NAD 83/91



SCALE IN FEET  
0 5 10 20

N.A.V.D. 88

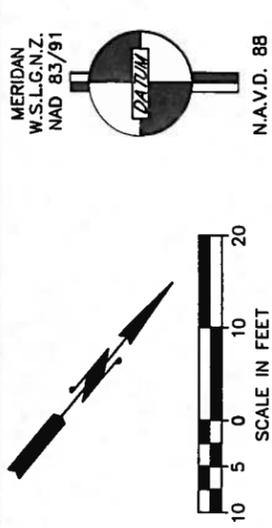


**CONSTRUCTION NOTES**

- 1 EROSION CONTROL BLANKET (E.C.B.) SHALL BE INSTALLED PRIOR TO PLANTING. ALL PLANTINGS AND E.C.B. SHOWN SHALL EXTEND TO TOE OF SLOPE AND ABOVE ORDINARY HIGH WATER MARK (O.H.W.M.).
- 2 3 IN. MEDIUM COMPOST SHALL BE INSTALLED OVER ALL DISTURBED SLOPES PRIOR TO INSTALLATION OF E.C.B.
- 3 SEED DISTURBED AREA AS DIRECTED BY ENGINEER.
- 4 ORGANIC MULCH (2 IN. DEPTH) SHALL BE INSTALLED OVER ALL PLANTING AREAS AS A UNIFORM COVER UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

**PLANT LEGEND**

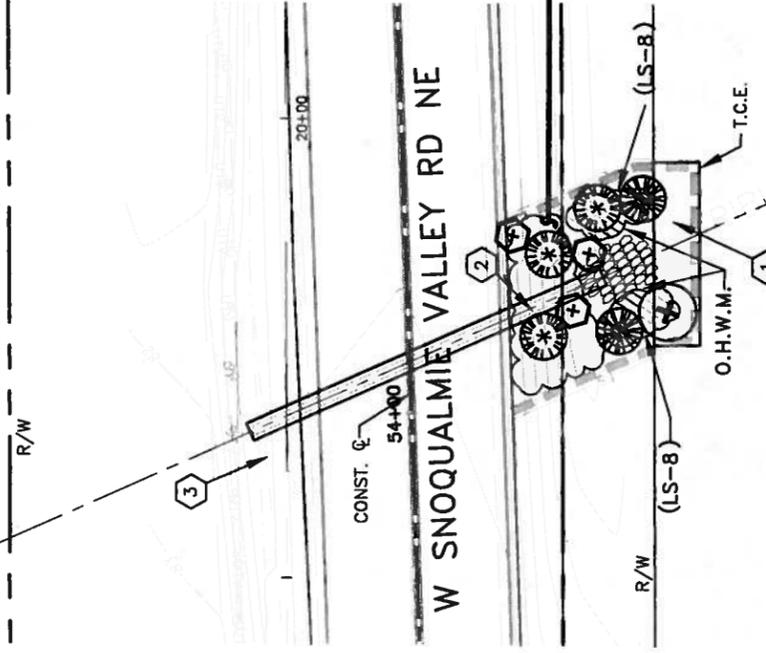
QUANTITY	SYMBOL	COMMON NAME
(PLANT TOTALS THIS SHEET ONLY)		
12		DOUGLAS FIR
10		WESTERN RED CEDAR
15		BIGLEAF MAPLE
20		VINE MAPLE
18		RED OSIER DOGWOOD (R.O.)
20		RED FLOWERING CURRANT (R.C.)
34		SNOWBERRY (SNOW)
44		SALAL (SAL)
46		OREGON GRAPE (O.G.)
46		SWORD FERN (FERN)
60		LIVE STAKES (L.S.) (SITKA WILLOW)
20		SALMONBERRY (S)



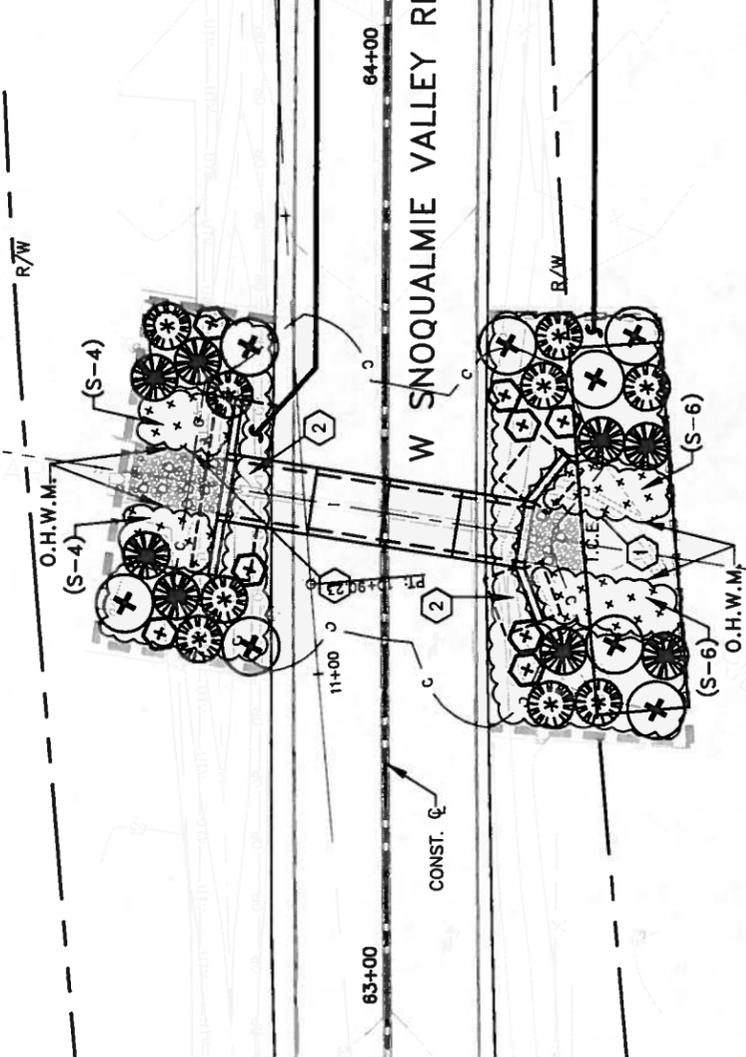
**811**  
Know what's below.  
Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555

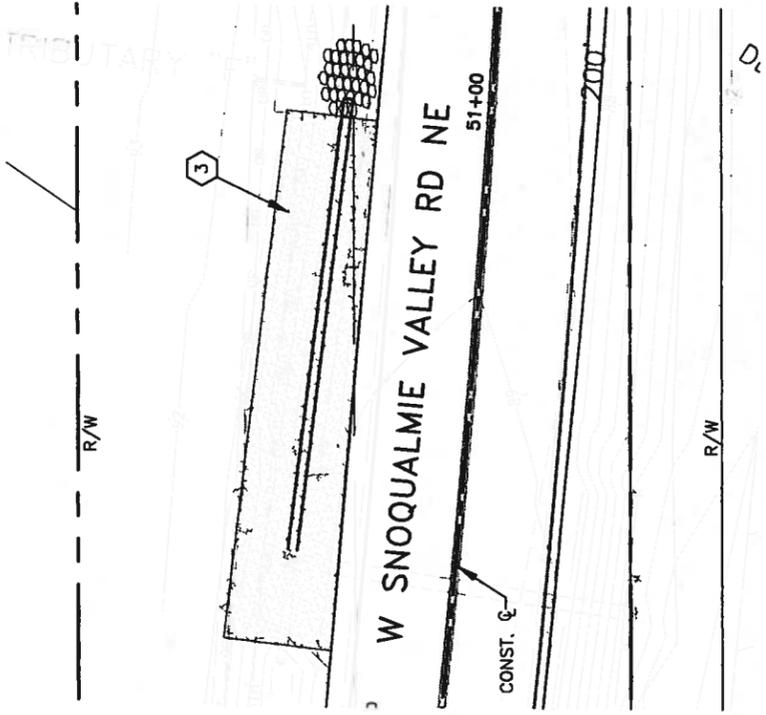
SHEET **62** OF **64** SHEETS  
King County  
**318-04 (62)**



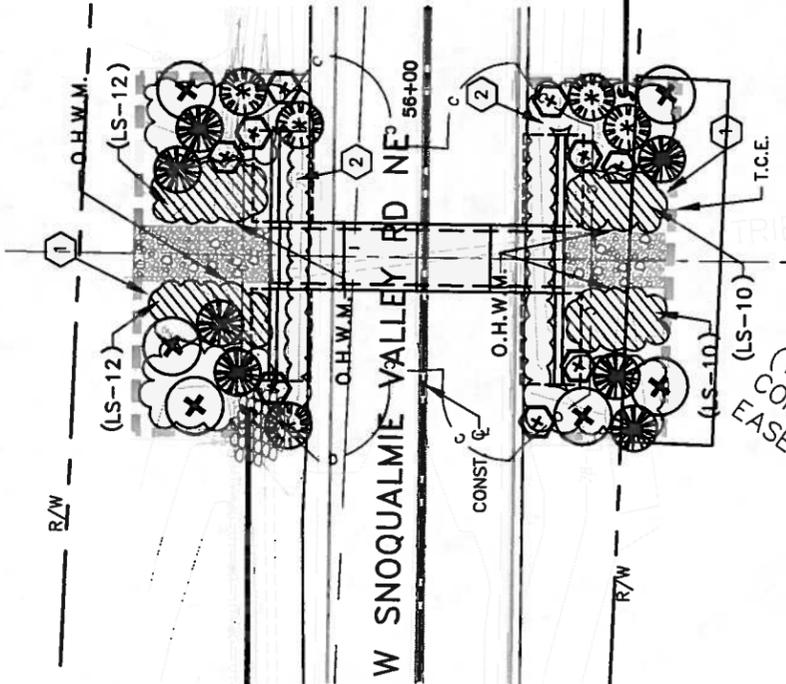
**CULVERT #9 • STA 54+05.6**



**CULVERT #11 • STA 63+50**



**CULVERT PIPE • STA 50+48**



**CULVERT #10 • STA 55+81.6**

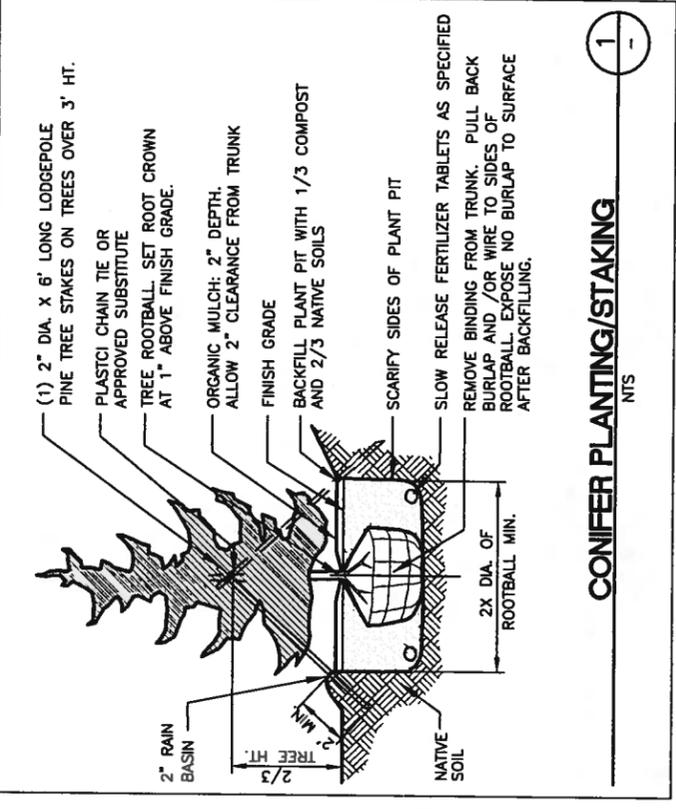
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PROGRESS COPY  
05-2014**

FED. AID No. \_\_\_\_\_  
ARMS PROJECT No. 200311  
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MAINTENANCE DIVISION No. 2

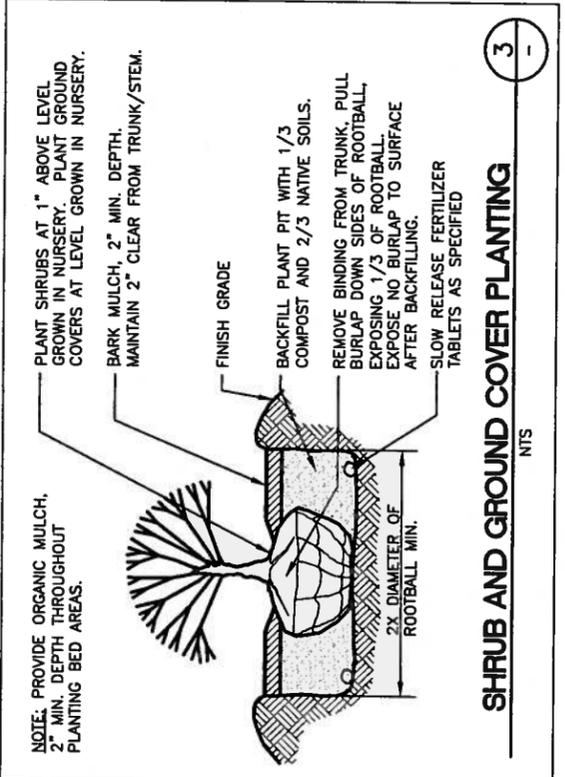


KING COUNTY DEPT. OF TRANSPORTATION  
HAROLD TANIGUCHI, DIRECTOR  
**WEST SNOQUALMIE VALLEY RD NE**  
ROADWAY RECONSTRUCTION  
RESTORATION PLAN  
STA 50+00 THRU STA 64+00

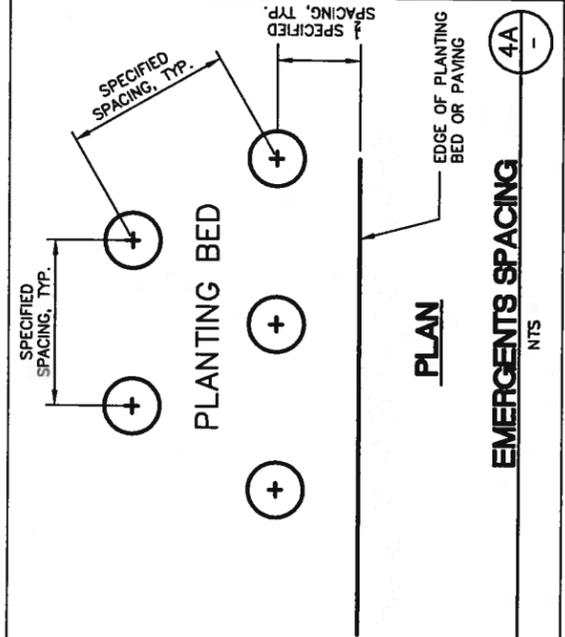
SURVEY JOB NO:	10057	02/2011
CHECKED:	T. CRAY	03/2011
CAD ENTERED:	D. SAHAGUN	05/2014
DESIGNED:	D. WILSON	05/2014
CHECKED:	D. BLEASDALE	05/2014
SUPERVISOR:	N. POSEY	05/2014
SECTION MANAGER APPROVED:	R.B.	05/2014
NUM.		BY DATE
REVISION		



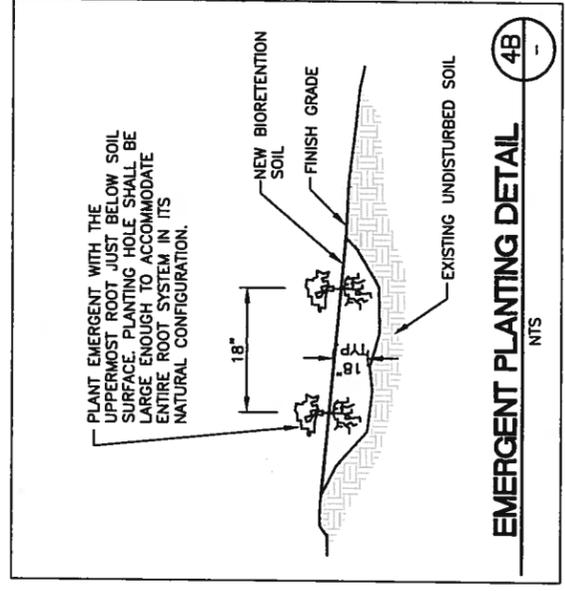
**CONIFER PLANTING/STAKING**  
NTS



**SHRUB AND GROUND COVER PLANTING**  
NTS



**EMERGENTS SPACING**  
NTS

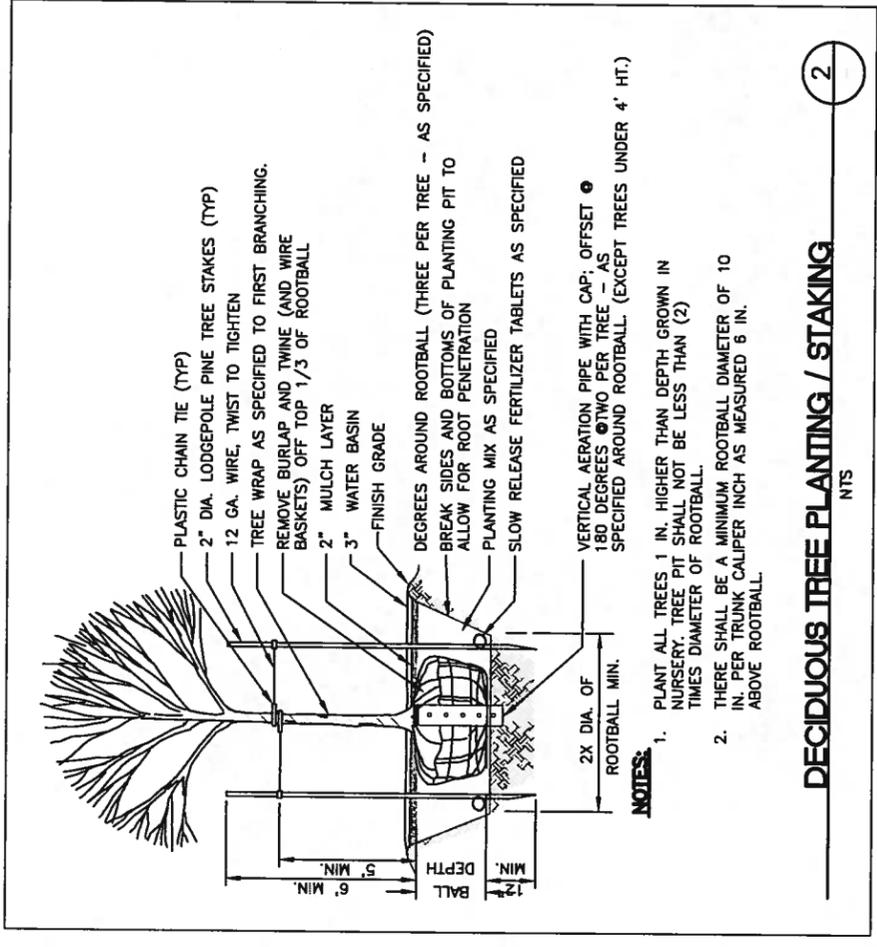


**EMERGENT PLANTING DETAIL**  
NTS

**PLANT SCHEDULE**

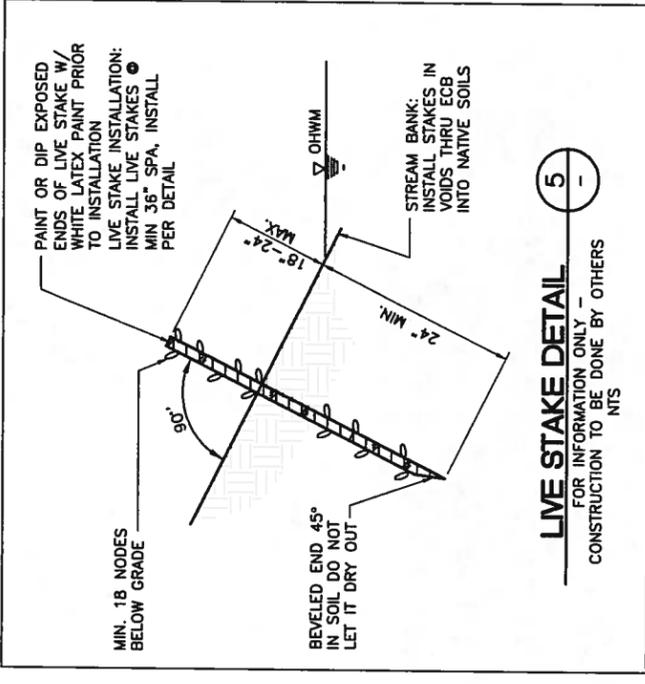
SYMBOL	QUANTITY*	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
	68	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	5'-6' HT., B&B, FULL AND DENSE, SYMMETRICAL, PLANT AS SHOWN
	62	WESTERN RED CEDAR	THUJA PLICATA	3'-4' HT., B&B, FULL AND DENSE, SYMMETRICAL, PLANT AS SHOWN
	64	BIG LEAF MAPLE	-----	X'-X' HT., B&B, FULL AND DENSE, SYMMETRICAL, PLANT AS SHOWN
	97	VINE MAPLE	ACER CIRCINATUM	2'-3' HT., B&B, MULTI-TRUNK, MIN. 3--STEMS, FULL, SYMMETRICAL, PLANT AS SHOWN
	84	RED OSIER DOGWOOD	CORNUS STOLONIFERA	MIN. 18" HEIGHT & SPREAD, CONTAINER, MIN. 3 STEMS, PLANT @ 5' O.C.
	85	RED-FLOWERING CURRANT	RIBES SANGUINEUM	MIN. 12"-18" HT. & SPREAD, CONTAINER, SYMMETRICAL, PLANT @ 4' O.C.
	120	SNOWBERRY	SYMPHORICARPOS ALBUS	MIN. 12" HT. & SPREAD, CONTAINER, FULL, DENSE, SYMMETRICAL FOLIAGE, PLANT ON RAIN GARDEN BERM IN MASS @ 3' O.C.
	227	SALAL		
	229	OREGON GRAPE		
	229	SWORD FERN		
	190	LIVE STAKES		
	117	SALMONBERRY		

\* PLANT QUANTITIES AREA BASED ON THE MAXIMUM ALLOWED CLEARING AREA SHOWN IN THE PLANS. IT IS LIKELY THAT THE ACTUAL CLEARING AREA WILL BE SMALLER. THE FINAL QUANTITY OF TREES AND SHRUBS PLANTED WILL BE DETERMINED FOLLOWING ALL CLEARING ACTIVITIES AND WILL BE RECALCULATED BASED ON THE ACTUAL AREA CLEARED DURING CONSTRUCTION.



**DECIDUOUS TREE PLANTING / STAKING**  
NTS

- NOTES:**
- PLANT ALL TREES 1 IN. HIGHER THAN DEPTH GROWN IN NURSERY. TREE PIT SHALL NOT BE LESS THAN (2) TIMES DIAMETER OF ROOTBALL.
  - THERE SHALL BE A MINIMUM ROOTBALL DIAMETER OF 10 IN. PER TRUNK CALIPER INCH AS MEASURED 6 IN. ABOVE ROOTBALL.



**LIVE STAKE DETAIL**  
FOR INFORMATION ONLY - CONSTRUCTION TO BE DONE BY OTHERS  
NTS

SURVEY JOB NO:	10057	02/2011
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DESIGNED:	D. WILSON	05/2014
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SECTION MANAGER APPROVED:	R.B.	05/2014
NUM.		
BY		DATE
REVISION		

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MAINTENANCE DIVISION No. 2



KING COUNTY DEPT. OF TRANSPORTATION  
HAROLD TANIGUCHI, DIRECTOR  
**WEST SNOQUALMIE VALLEY RD NE**  
ROADWAY RECONSTRUCTION  
RESTORATION PLAN DETAILS

SHEET **63** OF **64** SHEETS  
King County  
**318-04 (63)**

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