December 27, 2010

RE: Snohomish County Blue Bridge #538 West Side Retrofit (RC 1549)

Dear Reviewer:

Snohomish County Public Works proposes to construct bridge structure improvements at the Snohomish County Blue Bridge #538 site. The purpose of these improvements is to provide long term structural and bank stability.

The existing bridge includes a 160-foot steel through-truss main span and two concrete approach spans for a total length of 210 feet. The bridge crosses the South Fork Stillaguamish River on the Mountain Loop Highway at Milepost 12.06. A spread footing foundation supports the existing west pier of the truss structure. This foundation would be retrofitted with new deep drilled shaft piers that would connect to the existing concrete pier.

The new drilled shaft piers would extend approximately 100 feet below the river channel to provide a deep foundation that would not be subject to localized scour and erosion from the river’s lateral migration. The 9-foot diameter drilled shafts would be constructed with steel reinforced concrete. The project also proposes steel-reinforced concrete wingwalls that would be constructed perpendicular to the retrofitted foundation and extend 40 feet west from the drilled-shaft pier. These wingwalls would lie parallel to the Mountain Loop Highway on both the upstream and downstream sides of the bridge approach roadway. The wingwalls would provide erosion protection for the west approach roadway and abutment in the event that the river migrates laterally in proximity to the bridge. A large woody debris logjam would be constructed upstream from the bridge to provide additional protection and enhance in-stream habitat.

Enclosed with this letter is the Notice of Determination of Nonsignificance. Snohomish County has determined that the bridge structure improvements do not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required. This decision was made after review by Snohomish County of a completed environmental checklist and other information on file with the agency. This information is available for public review upon request. If you have any questions about the environmental review phase of this project please feel free to call me at 425-388-3488 extension 4586 or by e-mail at crilly.ritz@co.snoco.org.

Sincerely,

Crilly R. Ritz
Senior Environmental Planner
Environmental Services Section
Transportation and Environmental Services Division
PUBLIC NOTICE
DETERMINATION OF NONSIGNIFICANCE (DNS)

PROJECT NAME: Blue Bridge #538 West Side Retrofit (RC 1549)

DESCRIPTION OF PROPOSAL: Snohomish County Public Works proposes to construct bridge structure improvements and other project features at the Snohomish County Blue Bridge #538 site. The purpose of these improvements is to provide long term structural and bank stability. The existing bridge includes a 160-foot steel through-truss main span and two concrete approach spans for a total length of 210 feet. The bridge crosses the South Fork Stillaguamish River on the Mountain Loop Highway at Milepost 12.06. A spread footing foundation supports the existing west pier of the truss structure. This foundation would be retrofitted with new deep drilled shaft piers that would connect to the existing concrete pier.

Past high flow flood events and associated high river flow velocities have caused chronic extensive damage to the bridge’s west approach roadway. More recently high flows have scoured the river channel near the west pier. These recurring high flow events since 2003 have caused the existing bridge pier to be at risk for undermining by the river and structural collapse (a condition commonly referred to as “scour critical”). With the proposed structural improvement, the steel truss superstructure currently supported by existing spread footing pier and foundation would be supported by the retrofitted drilled shaft piers.

The new drilled shaft piers would extend approximately 100 feet below the river channel to provide a deep foundation that would not be subject to localized scour and erosion from the river’s lateral migration. The 9-foot diameter drilled shafts would be constructed below the river grade to support thickened 8-foot piers above ground constructed with concrete and steel reinforced concrete. The retrofitted drilled-shaft piers would then be connected to the existing concrete foundation and all voids filled so that the truss would be supported by one seamless foundation. The purpose of providing one seamless foundation would be to avoid collecting woody debris that is carried by the river past the bridge.

The project also proposes other design features that would provide erosion protection for the approach roadway and approach span abutment. Steel-reinforced concrete wingwalls would be constructed perpendicular to the retrofitted foundation and extend 40 feet west from the drilled-shaft pier. These wingwalls would lie parallel to the Mountain Loop Highway on both the upstream and downstream sides of the bridge approach roadway. The wingwalls would match the existing profile of the roadside topography, and would provide erosion protection for the west approach roadway and abutment in the event that the river migrates laterally in proximity to the bridge.
Existing heavy riprap located on the river bank at the bridge structure would be re-shaped, requiring extensive in-water work to toe the riprap in to the subsurface. This riprap has been placed previously during emergency river high flow events to respond to erosion damage at the bridge. While the existing riprap prevents further damage to the bridge structure and foundation, its reshaping would be engineered to better protect the bridge.

A large woody debris logjam (LWD) would be placed upstream from the bridge. The LWD would provide additional bank protection by dissipating the energy of the river’s flow during high flow events and would also enhance in-stream habitat.

LOCATION OF PROPOSAL:

The Blue Bridge #538 project site is located nine miles east of Granite Falls on the Mountain Loop Highway in unincorporated Snohomish County. The project limits extend 70 feet west from the bridge, although construction disturbance would extend further to accommodate construction site access and provide traffic control during construction. The project is located within Section 15, Township 30 North, Range 8 East, W.M.

APPLICANT AND LEAD AGENCY: Snohomish County Public Works

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

The lead agency has determined that the requirements for environmental analysis, protection, and mitigation measures have been adequately addressed in the county’s development regulations and comprehensive plan adopted under chapter 36.70A RCW, and in other applicable local, state, or federal laws and rules, as provided by RCW 43.21C.240 and WAC 197-11-158. Our agency will not require any additional mitigation measures under chapter 30.61 SCC.

PUBLIC COMMENT PERIOD: This DNS is subject to a 14 day comment period. Written comments may be submitted by mail or e-mail to the lead agency’s contact person. See name and address below. Comments must be received by 5 p.m., January 10, 2011.

APPEALS: This DNS may be appealed pursuant to the requirements of SCC 30.61.300 and Chapter 2.02 SCC. There is a 14 day appeal period on the DNS that commences from the date of publication of notice. Any appeal must be addressed to the County Hearing Examiner, accompanied by a filing fee of $500.00, and be filed in writing at Snohomish County Public Works, 3000 Rockefeller Ave., Robert J. Drewel Building, 2nd Floor, Customer Service Center, Everett, Washington. The appeal must be received by 5 p.m., January 10, 2011.

The appeal must contain the items set forth in SCC 30.71.050(5). In addition, SCC 30.61.305(1) also requires that any person filing an appeal of a threshold determination made pursuant to chapter 30.61 SCC shall file with the hearing examiner, within seven days of filing the appeal, a sworn affidavit or declaration demonstrating facts and evidence, that, if proven, would demonstrate that the issuance of the threshold determination was clearly erroneous.
CONTACT PERSON: Crilly R. Ritz, Senior Environmental Planner
Telephone: (425) 388-3488, ext 4586
crilly.ritz@snoco.org

RESPONSIBLE OFFICIAL: Steven E. Thomsen, P.E., Director
Snohomish County Public Works

ADDRESS: 3000 Rockefeller Ave., M/S 607
Everett, WA 98201

Signature: [Signature] Date: 12/16/10

DISCLAIMER:

The determination that an environmental impact statement does not have to be filed does not mean there will be no adverse environmental impacts. Snohomish County codes governing noise control, land use performance standards, construction and improvement of county roads, drainage control, building practices will provide substantial mitigation of the aforementioned impacts.

The issuance of this Determination of Non-Significance (DNS) should not be interpreted as acceptance or approval of this proposal as presented. Snohomish County reserves the right to deny or approve said proposal subject to conditions if it is determined to be in the best interest of the County and/or necessary to the general health, safety, and welfare of the public to do so.

DISTRIBUTION LIST:

Federal Agencies:
NOAA Fisheries
U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers
U.S. Forest Service

State Agencies:
Department of Ecology (Environmental Review Section)
Department of Fish and Wildlife
Washington State Department of Archaeology and Historic Preservation
Washington State Department of Transportation - Northwest Region, Highways and Local Programs

Tribal Government:
Stillaguamish Tribe
Tulalip Tribes

County Departments:
Parks and Recreation
Other:
The Everett Herald

Attachments: SEPA Checklist, Vicinity Map, Aerial Map
SNOHOMISH COUNTY ENVIRONMENTAL CHECKLIST

Purpose of Checklist:
The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Blue Bridge #538 West Side Retrofit
   (RC 1549)

2. Name of applicant:

   Snohomish County Department of Public Works -
   Engineering Services Division

3. Address and phone number of applicant and contact persons:

   Steve Miller, P.E., Project Manager,
   Snohomish County Department of Public Works
   Engineering Services Division
   3000 Rockefeller Avenue M/S 607
   Everett, WA 98201
   (425) 388-3488 ext. 4225

   SEPA Contact Person: Crilly Ritz, Senior Environmental Planner
   Environmental Services Section
   Transportation and Environmental Services Division
   3000 Rockefeller Avenue M/S 607
   Everett, WA 98201
   (425) 388-3488 ext. 4586

4. Date checklist prepared: December 14, 2010

5. Agency requesting checklist: Snohomish County Public Works

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

   Snohomish County Public Works proposes to construct structural improvements at Blue Bridge #538 and install other features to protect the bridge and approach roadway from erosion in the summer of 2012.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   No

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

   - A Critical Area Study would be prepared to comply with Snohomish County Critical Area Regulations.
   - Biological Assessment documentation would be prepared to comply with Section 7 Endangered Species Act requirements associated with the project’s federal funding and Army Corps of Engineers Section 404 federal permit application.

9. Do you know whether applications are pending by your proposal? If yes, explain.

   The SEPA Checklist would be submitted with future permit applications that may apply to the project.

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

    - Flood Hazard Permit
    - Snohomish County Land Disturbance Activity and Drainage Approval
    - Snohomish County Shoreline Substantial Development Permit or Exemption
    - Washington Department of Fish and Wildlife- Hydraulic Project Approval
    - Army Corps of Engineers Section 404 Permit
    - Washington Department of Ecology Section 401 Water Quality Certification
    - Endangered Species Act-Section 7 Concurrence from Service Agencies

11. Give a brief, complete description of your project, including the proposed uses and the size of the project and property or site.

    Snohomish County Public Works proposes to construct bridge structure improvements and other project features at the Snohomish County Blue Bridge #538 site. The purpose of these improvements is to provide long term structural and bank stability. The existing bridge includes a 160-foot steel through-truss main span and two concrete approach spans for a total length of 210 feet. The bridge crosses the South Fork Stillaguamish River on the Mountain Loop Highway at Milepost 12.06. A spread footing foundation supports the existing west pier of the truss structure. This foundation would be retrofitted with new deep drilled shaft piers that would connect to the existing concrete pier.

    Past high flow flood events and associated high river flow velocities have caused chronic extensive damage to the bridge’s west approach roadway. More recently high flows have scoured the river channel near the west pier. These recurring high flow events since 2003 have caused the existing bridge pier to be at risk for
undermining by the river and structural collapse (a condition commonly referred to as "scour critical"). With the proposed structural improvement, the steel truss superstructure currently supported by existing spread footing pier and foundation would be supported by the retrofitted drilled shaft piers.

The new drilled shaft piers would extend approximately 100 feet below the river channel to provide a deep foundation that would not be subject to localized scour and erosion from the river’s lateral migration. The 9-foot diameter drilled shafts would be constructed below the river grade to support thickened 8-foot piers above ground constructed with concrete and steel reinforced concrete. The retrofitted drilled-shaft piers would then be connected to the existing concrete foundation and all voids filled so that the truss would be supported by one seamless foundation. The purpose of providing one seamless foundation would be to avoid collecting woody debris that is carried by the river past the bridge.

The project also proposes other design features that would provide erosion protection for the approach roadway and approach span abutment. Steel-reinforced concrete wingwalls would be constructed perpendicular to the retrofitted foundation and extend 40 feet west from the drilled-shaft pier. These wingwalls would lie parallel to the Mountain Loop Highway on both the upstream and downstream sides of the bridge approach roadway. The wingwalls would match the existing profile of the roadside topography, and would provide erosion protection for the west approach roadway and abutment in the event that the river migrates laterally in proximity to the bridge.

Existing heavy riprap located on the river bank at the bridge structure would be re-shaped, requiring extensive in-water work to toe the riprap in to the subsurface. This riprap has been placed previously during emergency river high flow events to respond to erosion damage at the bridge. While the existing riprap prevents further damage to the bridge structure and foundation, its reshaping would be engineered to better protect the bridge.

A large woody debris logjam (LWD) would be placed upstream from the bridge. The LWD would provide additional bank protection by dissipating the energy of the river’s flow during high flow events and would also enhance in-stream habitat.

(See Figure 1: Project Vicinity; Figure 2: Project Aerial; Figure 3: Blue Bridge #538 West Side Retrofit Project- Existing Plan & Elevation; Figure 4: Blue Bridge #538 West Side Retrofit Project – Plan View Retrofit Layout; Figure 5: Blue Bridge #538 West Side Retrofit Project - Cross Sections.)

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 of area, provide the range or boundaries of the site. 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 application.

Blue Bridge #538 West Side Retrofit Project (RC 1549)
Snohomish County Public Works
Location of site:

The Blue Bridge #538 project site is located nine miles east of Granite Falls on the Mountain Loop Highway in unincorporated Snohomish County. The project limits extend 70 feet west from the bridge, although construction disturbance would extend further to accommodate construction site access and provide traffic control during construction. The project is located within Section 15, Township 30 North, Range 8 East, W.M.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): flat, rolling, hilly, steep slopes, mountainous, other

The project vicinity is characterized by rolling topography. Topography in the project area is generally flat along the Mountain Loop Highway; however, gradient increases fairly quickly as you move out of the confined valley.

b. What is the steepest slope on the site?

The majority of the project has moderate to steep slopes associated with roadway embankments and the river bank. The steepest slopes are approximately 100 percent and are associated with roadway sideslopes and roadway embankments.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)?

The Natural Resources Conservation Service identifies two soil series in the project area. The two mapped soil series are described below:

**Nargar Variant sandy loam 3-30 percent slopes**
The area west of the bridge on the river’s right bank lies within this mapped soil unit. This soil map unit is mapped on terrace escarpments and mountainsides. Nargar Variant sandy loam is a very deep, well drained soil formed in sandy alluvium and volcanic ash. Permeability of this Nargar Variant soil is moderate to the substratum and rapid through. Available water capacity is low. Runoff is medium, and the hazard of water erosion is moderate.

**Skykomish gravelly loam 0-30 percent slopes**
The area east of the bridge on the river's left bank lies within this mapped soil unit. This soil map unit is mapped on terraces, terrace escarpments and outwash plains. Skykomish gravelly loam is a very deep, somewhat excessively drained soil. It formed in glacial outwash and volcanic ash. Permeability of this Skykomish soil is moderately rapid to the substratum and very rapid through it. Available water capacity is low. Runoff is slow, and the hazard of water erosion is slight.
d. Are there surface indications or history of unstable soils in the immediate vicinity?

There is a long history of unstable soils in the immediate vicinity associated with high river flow events that have scoured and eroded the streambanks in proximity to the bridge. Recurring erosion damage events have required extensive ongoing repairs, including emergency response placement of heavy rock riprap, to provide streambank stabilization at the bridge and to protect the bridge from scour that could undermine its structural support.

The stream channel in the project area is steep and has a relatively narrow floodplain. This, coupled with the fact that the streambank is highly erodible, makes it likely that erosion will continue and pose a threat to the piers and roadway approaches on the western and eastern ends of the bridge.

The left bank (east bank) of the South Fork Stillaguamish River immediately upstream from the bridge is composed of fine sand and silt that eroded during the 2003, 2006, and recent 2008 flood events. As a result of these flood events, approximately 150 linear feet of the left bank of the South Fork Stillaguamish River eroded and caused the bank to recede approximately 25 feet. The eastern pier of the Blue Bridge on the river's left bank has experienced scour damage during these events. The most recent flood event of November 12, 2008 required the emergency placement of approximately 197 cubic yards (cy) of large rock, riprap, and quarry spalls around the east pier and adjacent streambank.

Snohomish County Public Works constructed a bioengineered timber crib wall, combined with bioengineered soil lifts and rock riprap, to prevent additional loss of the riverbank and reinforce the pier on the river's east bank in the summer of 2010. Both projects will provide for long-term structural integrity of the bridge's support piers and roadway approaches and provide for increased overall safety of the bridge crossing.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Portions of the project area would require excavation of native material to accommodate the wingwall installation, and the retrofit of the bridge pier. The proposed deep foundations for the retrofitted west pier would require drilling shafts that would remove underlying sub-surface materials in preparation for installation of deep reinforced concrete piers. Approximately 470 cubic yards of material would be removed to accommodate installation of the new piers, and approximately 470 cubic yards of concrete would be imported to fill the drilled shafts in combination with reinforcing steel.

For wingwall installation, the project would also require excavating native soils and fill material to accommodate wingwalls measuring two feet wide, 40 feet in length, and wall heights ranging from 2-24 feet in height. Approximately 150
cubic yards of existing native soils/fill material would be excavated and would require importing approximately 60 cubic yards of concrete to construct the wingwalls.

An elevated construction trestle work platform would be installed in proximity to the new drilled shafts, parallel to the road and landward of the river, to support a heavy oscillating drill rig that would be used to construct the deep drilled shafts.

These fill materials and other materials such as gravel borrow, washed gravel, and compost-amended soils would be obtained from permitted commercial sites.

f. Could erosion occur as a result of clearing, construction, or use?

Yes. Erosion could occur during grading and other onsite soil disturbance activities. The risk of erosion for project area soils increases if the project area soils are left exposed during construction.

There may be temporary stockpiling of excavation spoils during construction. However, grading activity is not anticipated to result in significant adverse erosion related impacts. Temporary Erosion and Sedimentation Control Best Management Practices (BMPs) would be used for temporary erosion and pollution control. Water flow through areas under construction would be directed to existing roadside drainage ditches or temporary sediment basins. Wingwalls would be constructed as permanent design features to control erosion and provide slope stability.

Extensive in-water work would be required to reshape the existing riprap at the site while only minimal in-water work would be required to construct the drilled shaft piers. An elevated trestle landward of the river would support an oscillating drill rig that would be used during construction to drill the shafts waterward of the river’s ordinary high water mark for the retrofitted piers. A cofferdam would be installed during construction to isolate the riprap reshaping and drilling activity from the active flow of the river. The cofferdam combined with other erosion-control BMPs would prevent sedimentation and increased turbidity of the river during active construction.

g. About what percent of the site will be covered with impervious surfaces after project construction?

The existing project site limits total 3,600 square feet of impervious surface. No new impervious surface area would be added as part of the project. Existing drainage patterns would be retained.

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

No significant adverse impacts are anticipated. Application of erosion control Best Management Practices (BMPs) would be used throughout project construction. These BMPs would be in place around stockpiles of excavated materials, in proximity to project-area streams and ditches, active construction areas and would prevent sediments from entering
surface water and storm drainage systems. Excavated soils not re-used in the project would be disposed of offsite at a permitted facility. Bare soil areas would be seeded and planted where required after establishment of final grades.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

During grading, dust levels may increase temporarily. In addition, minor temporary increases in emissions would be released from construction equipment.

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 would affect intersection improvement construction.

c. Proposed measures to reduce or control emissions or other impacts to air.

During construction, equipment emissions would not exceed state and national air quality standards. The project would use only equipment and trucks in optimal operational condition. Dust control measures would be implemented to minimize airborne dust.

3. Water

a. Surface:

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)?

The South Fork Stillaguamish River generally flows from east to west but flows north to south at the project site. The Stillaguamish River system is the fifth largest tributary to the Puget Sound and is one of its most important salmon-bearing streams. The Stillaguamish River has two primary tributaries, the North Fork Stillaguamish River and South Fork Stillaguamish River. The South Fork Stillaguamish River drains 255 square miles, 37 percent of the Stillaguamish River watershed. The project area is located in the Robe Valley sub-basin, which contains about 4 miles of river channel and 10 tributary streams. About 60 percent of the Robe Valley sub-basin is in the Mount Baker Snoqualmie National Forest.

The streambed at the project site consists primarily of boulders, cobbles, gravel, sand, and silt. A large gravel bar is present about mid-channel and upstream of the Blue Bridge. The gravel bar is largely exposed during typical river flows and
summer low flows, but is wet during freshets and flood events. The riverbed contains a substantial amount of silt and fines from upstream landslides, bank sloughing, erosion, and logging practices.

2.) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters?

Project activity would require work within 200 feet of the river, and would include extensive in-water work that is required to retrofit the existing bridge pier and foundation, reshape the existing riprap, construct wingwalls, and install large woody debris for habitat enhancement. Additional project activity would occur landward of the river and would include clearing and grading to provide construction site access, and site preparation at the mitigation sites prior to planting. Culverts would also be removed at the downstream Monte Cristo Grade Road mitigation site in preparation for stream restoration.

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.

The project proposes no dredge activity in wetlands or surface waters. Permanent roadway embankment fill/or cut would not extend further into the river but would require extensive river channel excavation in proximity to the existing bridge pier to re-shape the existing riprap. The newly retrofitted west pier would include the installation of two 9-foot diameter drilled shaft piers below the grade of the river bed, and would support thickened 8-foot wide piers above grade. The piers would be constructed of steel-reinforced concrete.

Approximately 40 pieces of large woody debris (LWD) would be placed upstream from the bridge on the river’s right bank. These LWD pieces would be anchored with boulders.

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

No.

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

Yes, in-stream work would occur within the floodplain’s floodway and some of the work on the bank would lie within the fringe of the floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters?

No. The project proposes no discharges of waste materials to surface waters.
b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water?

The project proposes no withdrawals of ground water. If areas of excavation require dewatering during construction, pumped water would be treated with application of sedimentation control Best Management Practices (BMPS) prior to discharge to existing stormwater conveyance systems.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources.

None.

c. Water Runoff (including storm water):

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?

No additional stormwater runoff would be generated from the bridge structural retrofit improvement. Existing drainage patterns would be retained.

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

There would be no waste materials on the site to enter ground or surface waters.

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

Construction would occur primarily during the dry summer season. A Temporary Erosion and Sedimentation Control Plan would be included in construction contract documents. During and after construction, BMPs including, but not limited to, silt fences, mulching, and filter berms would be used to control and minimize adverse impacts in the event that there is a precipitation event that results in surface runoff. Bare soil areas exposed by construction activities would be reseeded, covered with mulch and/or planted to control erosion.

The project's mitigation site at the now closed Monte Cristo Grade Road and the old Mt. Pilchuck Road would be prepared for riparian buffer creation by removing their existing asphalt roadway and compacted gravel roadway surfaces. This will remove approximately 29,066 square feet of impervious surface.
4. Plants

a. Bold types of vegetation found on the site:
   **deciduous tree:** alder, maple, vine maple, aspen, other [willow
   **evergreen tree:** Douglas-fir, cedar, pine, other hemlock, Sitka
   spruce
   **shrubs:**
   _grass:_
   _pasture:_
   _wet soil plants: cattail, buttercup, bulrush,]
   _water plants: water lily, eelgrass, milfoil, other_____

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

Vegetation clearing would occur and site grades would be modified to accommodate construction access for heavy machinery, existing riprap re-shaping and wingwall installation. Roadside forested, scrub/shrub and gravely areas comprise the area proposed for disturbance during construction. Additional clearing would be associated with removing scattered trees and shrubs that would obstruct access to the river that would be required for large woody debris installation upstream from the bridge. Approximately 13,710 square feet of forested area would be cleared.

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

No threatened or endangered plant species are known to be on or near the site.

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

Clearing would be limited to those areas that would obstruct construction access. Trimming of trees and shrubs may also occur where needed to remove obstructions to equipment access. Where required, bare soil areas would be either re-planted with native trees and shrubs or re-seeded after final site grading is established. Native trees and shrubs would also be planted at nearby mitigation sites to compensate for unavoidable clearing impacts in stream buffer areas. Mitigation would comply with Snohomish County critical areas regulations requirements for riparian buffer impact mitigation.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site: in bold
   birds: hawks, heron, eagle, songbirds, other:
   mammals: deer, bear, elk, beaver, other: raccoon
   fish: bass, salmon, trout, herring, shellfish, other:
b. List any threatened or endangered species known to be on or near the site.

Threatened or endangered fish and wildlife species are known to be on or near the site. Endangered Species Act listed threatened salmonid species use the South Fork Stillaguamish River. Chinook salmon use the habitat in the river for rearing, holding, and migration. Steelhead use the habitat in the river for spawning, rearing, and migration. Bull trout use the habitat in the river for foraging, migration, and overwintering of subadults and adults. Marbled murrelets are likely to be located within a half-mile from the project site.

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

Yes. In addition to fish migration (noted in 5 b. above), the site is within the Pacific Flyway. Migratory waterfowl can be observed in the greater project vicinity, particularly along the river and open water areas in the South Fork Stillaguamish River valley.

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

Project construction would occur primarily during the summer months when rainfall is minimal. This timing of construction activity combined with temporary erosion and sedimentation control best management practices would minimize erosion and prevent sedimentation of surface waters that could adversely affect in-stream fish and their habitat. Bare soil areas would be revegetated and planted after site grades have been established. Other timing restrictions would also be applied to in-stream activities, and would coincide with “fish windows” for salmonid species. Additional timing restrictions could also be applied if it is determined that the project could potentially adversely affect eagles, marbled murrelets, and other bird species in the greater project area.

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.

No energy is needed to meet the completed project’s needs. However, during construction minor amounts of fuel would be used by construction equipment during site grading, shaft drilling, paving and other project activities.

b. Would your project affect the potential use of solar energy by adjacent properties?

No.

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

N/A.
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?

No potentially hazardous materials have been identified at or in proximity to the bridge project site. Fuel spills and other construction-equipment fluids could potentially occur during construction.

1) Describe special emergency services that might be required.

N/A.

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

An Environmental Site Assessment would be prepared prior to construction to address any potential soil contamination or other hazardous materials on the site. If any hazardous materials are discovered during project construction, they would be handled and disposed of according to adopted Washington State and local codes governing their disposal. Vehicle fueling and handling of other potential contaminants would occur away from the stream.

b. Noise

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

None.

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.

During construction (short-term) there would be increased noise levels generated by heavy equipment, and would be greater if pile driving is required for work trestle construction. These noise levels are likely to exceed existing background noise levels associated with surrounding residential properties. The completed project would not contribute to increased noise levels.

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

Construction would be normally limited to hours established by Snohomish County permit conditions. Equipment would meet OSHA and other applicable noise standards.
8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The project site is an existing Snohomish County roadway located in a rural residential area that provides a transition from rural residential areas to the west to mountainous forested timber and recreational lands further east. In the immediate project area, rural residences are located upstream and downstream from the bridge.

b. Has the site been used for agriculture? If so, describe.

The site proposed for construction has not been used for agriculture.

c. Describe any structures on the site.

The site has a steel through-truss bridge founded on concrete spread footing piers. There are no residential or other building structures.

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

No structures would be demolished during project construction. The existing west pier will be incorporated into the retrofitted structural improvement.

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

The residential areas adjacent to the roadway are zoned Rural Five Acres (R-5). This area lies approximately 9 miles east of the Granite Falls Urban Growth Area (UGA).

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

The project area lies nine miles east of the Granite Falls Urban Growth Area (UGA). The Snohomish County Comprehensive Plan designates the project area as Rural Residential 5 (1DU/5 Acres).

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

The Snohomish County Shoreline Master Plan designates the project site as Conservancy.

h. Has any part of the site been classified as an "environmentally sensitive" area?

The South Fork Stillaguamish River is regulated by Snohomish County Critical Area Regulations (CAR) as a critical area. CAR also regulates land use activities in critical area buffers that extend landward from the river.

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

None.
j. Approximately how many people would the completed project displace?

It is anticipated that the project would not displace residents. The project would be located primarily within existing Snohomish County right-of-way nut will require right-of-way acquisition to accommodate long-term access to the riverbank for potential future maintenance. The project may also potentially require temporary construction easements to construct project improvements.

k. Proposed measures to avoid or reduce displacement impacts:

Right-of-way acquisition of private property is likely to be necessary to construct the bridge structural retrofit and other improvements. It is anticipated that the project would acquire approximately 3,700 square feet located along the river bank north of the bridge. In the case acquisition or displacement becomes necessary, a complete and detailed set of relocation and right-of-way plans would be developed. Chapter 8.25 and 8.26 of the Revised Code of Washington would govern right-of-way acquisition proceedings. These laws ensure fair and equitable treatment of those displaced. In addition, right-of-way purchases would be in accordance with Civil Rights Act Title VI legislation and the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (42 U.S.C.) These laws would provide payment for reasonable and necessary costs to relocate persons displaced by the project and ensure prompt and fair relocation payments and requires agency review of aggrieved parties. Acquisition proceedings include appraisal, determination of just compensation, presentation of an offer and compensating the individual. Acquisition proceedings within the project vicinity would not be initiated until the environmental review process has been completed.

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

The project is consistent with the Transportation Element of the adopted Snohomish County Growth Management Act Comprehensive Plan. The plan designates the Mountain Loop High as a Major Collector Arterial (Rural). The proposed repair is designated as a Bridge Replacement and Rehabilitation project in the 2009-2014 Six-Year Snohomish County Transportation Improvement Program (TIP # F.36 Blue Bridge West Side Retrofit).

9. Housing

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

None.

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

None.
c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

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

The existing bridge truss structure extends 30 feet above the Mountain Loop Highway roadway surface. The project proposes no new aboveground structures other than the retrofitted piers, which will be located below the truss superstructure.

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

Views to and from the roadway would be altered temporarily by vegetation clearing required to accommodate construction and access. The bridge’s retrofitted west pier would be larger than the existing pier and would have a more bulky appearance compared to the existing pier.

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

Replacement plantings would be installed where clearing is required for construction and access.

11. Light and Glare

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

None.

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

No.

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

None.

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

None.

12. Recreation

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

There are no designated recreational opportunities in the immediate vicinity. Snohomish County Parks and Recreation provides recreational opportunities approximately six miles west of the project site at its 970-
Rohe Canyon Historic Park. The U.S. Forest Service manages recreational lands accessed from the Mountain Loop Highway east of the project in the Mt. Baker Snoqualmie National Forest.

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

No.

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

No measures are proposed other than keeping the roadway open so that recreational users can travel to recreation destinations east of the project site.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to this site?

There are no recorded archaeological sites, or known places or objects listed on or proposed for national, state, or local registers on or next to the site.

Blue Bridge #538 was constructed in 1954, and is considered a historic bridge because it is greater than 50 years. The bridge’s specific truss type, a Parker ‘Camelback’ Truss is considered to be modified ‘Pratt’ Truss because the top chord of the truss superstructure has been modified so that it does not stay parallel to the superstructure’s bottom chord. This structural modification creates a lighter structure without losing strength because there is less dead load in the structure’s design. The structural modification concentrates strength in the superstructure’s center. To date there have been no official determinations made as to the bridge’s significance, however it is likely that the bridge would be determined to be eligible for listing on the National Register of Historic Places. The project as proposed does not adversely affect the bridge’s historical character, which is primarily derived from its superstructure and will preserve the bridge for continued use.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

As noted above, there are no recorded archaeological or historical sites located in the project vicinity.

c. Proposed measure to reduce or control impacts, if any.

If, during construction, cultural resources are found, the Washington Department of Archaeology and Historic Preservation (DAHP) would be contacted. In consultation with DAHP and other parties, a professional archaeologist would be brought in to record site conditions and
conduct a systematic collection of artifacts if necessary before proceeding with the work. Continuation of construction work would conform to applicable regulations.

The project will be reviewed for compliance with the National Historic Preservation Act as part of its federal funding of the structural retrofit.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system.

The project site roadway is designated as a Major Collector rural arterial. Project construction would gain access from this existing roadway.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

The project site is not served by public transit. The closest service is provided by Community Transit (CT) bus routes in Granite Falls.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The project would not eliminate parking spaces.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways?

No.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation?

The project site does not lie in proximity to water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The project would not generate additional vehicular trips. The average daily traffic volume (ADT) in 2008 based on traffic counts ranged from 650 on weekdays and more than 2,000 on weekend days.

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

The project's design would be consistent with adopted Snohomish County Engineering Design and Development Standards and other applicable standards. A traffic control plan would be developed to maintain roadway safety during construction.
15. Public Services

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

No. The purpose of the project is to protect an existing bridge and approach roadway from flood related erosion damage. Maintaining this bridge is essential to assure continued access for public service on the Mountain Loop Highway.

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

The roadway would remain open to traffic during construction, although traffic may potentially be subject to one-lane closures during active construction to avoid conflicts with construction that could pose a safety hazard. There could be potential short-term closures of the roadway.

16. Utilities

a. Circle utilities currently available at the site [in bold]: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, cable.

Aerial utilities have been identified in the project area. Detailed information would be requested from each utility as the design is finalized. The design would be coordinated to minimize construction related service disruptions and utility relocations.

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

The project proposes no utilities. Existing electrical, phone and cable service overhead utilities located on utility poles and underground utilities may need to be relocated to accommodate the project design.

C. SIGNATURE

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

Prepared by: ____________________________

____________________________

Date Submitted: December 14, 2010
DISTRIBUTION:

Federal Agencies:
   National Marine Fisheries Service
   United States Fish and Wildlife Service
   Army Corps of Engineers
   U.S. Forest Service

Tribes:
   Stillaguarnish Tribe
   Tulalip Tribes

State Agencies:
   Washington State Department of Archaeology and Historic Preservation
   Washington State Department of Ecology (Environmental Review Section)
   Washington State Department of Fish and Wildlife
   Washington State Department of Transportation - Northwest Region, Highways
   and Local Programs

Cities:
   City of Granite Falls

County Departments:
   Parks and Recreation
   Public Works – Road Maintenance Division
   Public Works – Surface Water Management
   Planning and Development Services

Other Agencies:
   Snohomish County Fire District #23
   Granite Falls School District #332

Utilities
   Snohomish County PUD No. 1

Residents and landowners within 1000 feet of project or greater

Media:
   The Herald
Snohomish County disclaims any warranty of merchantability or warranty of fitness of this map for any particular purpose, either express or implied. Any user of this map assumes all responsibility for use thereof, and further agrees to hold Snohomish County harmless from and against any damage, loss, or liability arising from any use of this map.

Figure 1. Blue Bridge West Side Retrofit Project Location
Figure 2. Blue Bridge West Side Retrofit Project Aerial

Key to Features:

- Project Area
- County Bridges
- Mountain Loop Highway
- Roads
- Streams

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SECTION 15, T. 30 N., R. 8 E., W.M.

EXISTING PLAN

EXISTING ELEVATION

PRELIMINARY - 90% PLANS

SARGENT

SNOHOMISH COUNTY
DEPARTMENT OF
PUBLIC WORKS

BLUE BRIDGE #538
RETROFIT - WEST SIDE

FIGURE 3
EXISTING PLAN & ELEVATION

SARGENT ENGINEERS, INC.
320 Riverton Lane S #3
Everett, WA 98203
Tel: 425.355.3124
Fax: 425.355.4709

CHUCK HUNTER, P.E.
SNOHOMISH COUNTY ENGINEER

DATE APPROVED:

PROJECT NO. 5721559

BLUE BRIDGE #538
RETROFIT - WEST SIDE

FIGURE 3
EXISTING PLAN & ELEVATION

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