Index-Galena Road
Milepost 6.4 - Milepost 6.9

Environmental Assessment
September 2016

U.S. Dept. of Transportation
Federal Highway Administration

Washington State
Dept. of Transportation

Snohomish County
Index-Galena Road  
(Milepost 6.4 – Milepost 6.9)  
Snohomish County, Washington

Environmental Assessment

Submitted pursuant to 42 U.S.C. 4332 (2)(c)

By the

U.S. Department of Transportation – Federal Highway Administration

and

Washington State Department of Transportation

and

Snohomish County Public Works

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In cooperation with

U.S. Forest Service, Mt. Baker-Snoqualmie National Forest

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Snohomish County Public Works
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Technical Appendices - Provided on CD Disc at back of NEPA EA

NEPA Discipline Reports

NEPA Discipline Reports prepared for the NEPA Environmental Assessment are provided on a disc at the back of the report in pdf format.

- Cultural, Historic, and Archaeological Resources Report
- Wildlife Discipline Report
- Wetland/Biology Discipline Report
- Botanical Resources Specialist Report
- Floodplain Discipline Report
- Environmental Justice Discipline Report
- Land Use/Recreation Discipline Report
- Visual Quality Discipline Report
- Geology, Groundwater and Soils Discipline Study
- Surface Water Discipline Report

Feasibility Study

- Index-Galena Road MP 6.4 to MP 6.9 Route Feasibility Study
Chapter 1 - Introduction To The Project

Snohomish County proposes to reconstruct and realign the flood-damaged Index-Galena Road between Milepost 6.4 and Milepost 6.9.

1.1 What is the purpose of the Index-Galena Road Milepost 6.4-6.9 project?

The purpose of the Index-Galena Road Milepost 6.4-6.9 project is to restore essential travel. Essential travel includes re-establishing access for property owners with land holdings in the North Fork Skykomish River valley upstream from the town of Index, re-establishing vehicular access for emergency service providers to these properties, re-establishing public recreational access to the North Fork Skykomish River valley, and re-establishing administrative access for the U.S. Forest Service to manage their lands located in the Mt. Baker Snoqualmie National Forest.

1.2 Where is the Project Area located?

Index-Galena Road is located in southeastern Snohomish County, Washington, approximately 35 miles southeast of Everett, in the North Fork Skykomish River valley. The proposal is located in Sections 35 and 36, Township 28 North, Range 10 East, Willamette, Meridian. (See Exhibit 1: Vicinity Map and Exhibit 2: Proposed Index-Galena Road Project Milepost 6.4-6.9.)

The roadway is classified as a Major Collector (Rural), and formally designated as County Road CRP 54600 in the Snohomish County roadway inventory. Index-Galena Road is also designated as U.S. Forest Service Forest Road 63 in the Mt. Baker Snoqualmie National Forest road system. Portions of the road, including the proposed project area, are located on National Forest land in a roadway right-of-way easement.

The portion maintained and operated by Snohomish County is 14.145 miles long. It begins (Milepost 0.0) at the turnoff for the town of Index from US 2 and extends to the roadway’s intersection with Forest Road 65 in the Mt. Baker Snoqualmie National Forest. At this point, the route continues on as a U.S. Forest Service maintained road. Index Galena Road is a paved two-lane rural road with varying lane widths from 10 to 12 feet wide. Shoulder widths also vary from 1 foot to 6 foot wide. It has a posted speed limit of 35 MPH.

1.3 What is the extent of damage to Index-Galena Road?

Extensive portions of the roadway between MP 6.4-MP 6.9 were lost during a major storm event of November 2006 where the river formed a new side channel separate from the existing mainstem, occupying the location of Index Galena Road between Milepost.
Exhibit 1: Vicinity Map

Key to Features:
- Project Location
- Creeks / Rivers
- County Line
- Freeways
- State Routes
- Incorporated Cities

WASHINGTON STATE
Snohomish County
Area Detailed

0 5 10 Miles
6.4 and 6.9. Index-Galena Road is located on the east bank (left bank as one looks
downstream) of the North Fork Skykomish River. The damaged portion located between
MP 6.4-MP 6.9 is located within the river’s 100-year floodplain and channel migration
zone. The 100-year floodplain refers to a high-risk area adjacent to the river that would be
inundated by a flood having a 1-percent chance of occurring in a given year (also referred
to as the base flood). The channel migration zone is the area within which a
river channel is likely to move over a period of time.

1.4 What does the area surrounding the damaged area look like?

The topography in the area is rugged, with steep slopes, high gradient slope streams and
debris flow channels. The northwest-facing valley slope climbs steeply for several
thousand feet above the river. The existing road is located outside of the Wild Sky
Wilderness. The Wild Sky Wilderness Act, signed into law on May 8, 2008, designated
106,577 acres within the Mt. Baker Snoqualmie National Forest as protected wilderness.
The wilderness area borders the project area to the south and upslope from the proposed
roadway relocation.

1.5 What is the history of the project being proposed?

In November 2006, a major flood event caused catastrophic damage to Index-Galena
Road. High flows from the North Fork Skykomish River eroded portions of Index-Galena
Road at multiple locations, resulting in partial loss in some areas and complete loss of the
roadway between Milepost 6.4 and Milepost 6.9. (MP 6.4 to MP 6.9) This damage caused
the road to be impassable for vehicular traffic and eliminated through-route access from
Index to areas further upstream. A side channel of the river now occupies extensive
sections of the existing Index-Galena Road roadway alignment from MP 6.4-6.9. The
2006 flood damage event resulted in Index Galena Road being closed from MP 6.4, just
east and upstream of Snohomish County’s Trout Creek Bridge #494 at MP 6.05, to
Milepost 6.9.

The only vehicular access to areas east of the damaged roadway is Beckler River Road
(U.S. Forest Service Road 65). Beckler River Road is located east of the town of
Skykomish in northeast King County. Beckler River Road gains nearly 1,000 feet in
elevation in order to cross Jack Pass (also known as Jack’s Pass). In order to access
Index-Galena Road, vehicles would descend from Jack Pass on U.S. Forest Service Road
#65 down to the North Fork Skykomish valley where Road #65 intersects with Index-
Galena Road at MP 14.3.

The approximately 40-mile detour to the upper end of the Index-Galena Road washout at
MP 6.9 is typically only open from late May to early November. This detour provides the
sole vehicular access to private properties, campsites, and trailheads. It is used by
property owners, emergency service providers, recreational users, and U.S. Forest Service
personnel.
1.6 When did project planning begin?

Shortly after the 2006 flood damage, Snohomish County determined that Index Galena Road should be repaired or relocated in order to re-establish roadway network connectivity. Snohomish County Public Works (SCPW) has coordinated with the Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) to secure Emergency Relief (ER) funding to initiate studies to determine the best method of repairing the road and avoid further flood damage. Additional coordination has also involved the U.S. Forest Service, on whose lands any relocated roadway would need to be constructed.

To date, the project team has conducted an extensive feasibility analysis and developed a design report to identify a safe, reliable, and cost-effective solution that restores roadway connectivity and essential travel while limiting impacts to the surrounding environment. The proposed project design has been refined since the design report. Comments from the NEPA scoping period initiated in February 2012 have also been taken into consideration and have been integrated into the proposed design.

1.7 Why is the project needed?

The following factors have been identified that contribute to the need for road repair and relocating the damaged road out of the floodplain:

- Index-Galena Road is a direct and vital transportation link to the upper North Fork Skykomish River area, both for National Forest administrative and public recreational access. Forest recreationists and recreational property owners who live west of Index now must drive approximately 42.5 miles (10.5 miles on gravel road) to reach the Galena area at the Silver Creek/North Fork Skykomish confluence, via US 2 and the Beckler River Road (Forest Road 65) over Jack Pass. Aside from the inconvenience and additional fuel consumption and emissions, this extended detour presents a safety risk to the public due to the increased drive time exposure and potential hazards of traffic and road conditions.

- Forest Road 65 over Jack Pass is a single-lane gravel road with turnouts, and has steep mountain grades and switchbacks. Although the U.S. Forest Service appreciates that Snohomish County Public Works has partnered with the U.S Forest Service to perform road maintenance to address additional wear and tear, this road is not designed to safely accommodate increased vehicular traffic that was displaced from Index-Galena Road. This access route provides additional challenges for transport of RVs and horse trailers to the upper North Fork Skykomish valley.

- The U.S. Forest Service’s Troublesome Creek and San Juan Creek campgrounds cannot be fully utilized by campers who drive motor homes or pull trailers, due to the inconvenience and hazard of driving the steep narrow grade over Jack Pass.
Exhibit 2: Proposed Index-Galena Road Project Milepost 6.4-6.9
The U.S. Forest Service’s timber sale planning and administration is hampered due to adverse conditions for hauling logs over Jack Pass from the North Fork Skykomish drainage. Recent planned timber harvest units and timber sales were dropped because of poor access. In addition, watershed restoration projects, and road maintenance or decommissioning contracts are more expensive to implement due to the detour.

Since the washout, response times have increased for emergency services, such as vehicle accidents, search and rescues, and fire suppression, due to the long detour.

Reestablishing the connectivity of the Index-Galena Road is important for providing an alternate access route into the North Fork Skykomish and upper Beckler River watersheds in case a major flood event were to wash out the Beckler River Road.

1.8 Who is leading this project?

There are several agencies involved with the proposal to construct the relocated roadway. The proposed roadway alignment lies within the jurisdiction of both Snohomish County and the U.S. Forest Service. Snohomish County has been responsible for initiating the roadway design process in coordination with the Washington State Department of Transportation (WSDOT), the Federal Highway Administration (FHWA), and the U.S. Forest Service (USFS). With use of federal Emergency Relief (ER) funding to pay for project costs, both the Federal Highway Administration (FHWA) and WSDOT are involved with roadway design guidance and NEPA and other federal environmental review oversight. The USFS, as the underlying land management agency for the land area affected by the project, has also provided NEPA and federal environmental review oversight as a cooperating NEPA agency, to ensure compliance with Mt. Baker Snoqualmie National Forest Plan requirements.

1.9 Who will decide on whether the project will be constructed and how can I be involved in this decision?

The lead agencies identified above (FHWA, USFS, and WSDOT) in partnership with Snohomish County will decide whether the project would be constructed. The decision will rely on the technical information and analysis provided in this Environmental Assessment (EA) and the studies that were prepared in support of the EA. You are invited to participate in this process by reviewing the EA and studies, attending a public meeting, and providing comments on the information and analysis. The input you provide will be considered in agency decision making.
The lead agencies look forward to hearing your comments on the proposed roadway design and mitigation that are being proposed. Comments may be sent to:

Crilly R. Ritz, Senior Planner
Snohomish County Public Works
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5th Floor Administration Building West
Everett, WA 98201
Or via e-mail to crilly.ritz@snoco.org
Chapter 2 - The Proposed Action

2.1 What is the purpose of this chapter?

The primary function of an Environmental Assessment (EA) is to help the lead agencies (FHWA, WSDOT) make an informed decision on the proposed action to construct the Index-Galena Road Milepost 6.4-6.9 project. The USFS as a cooperating agency has participated to ensure the project complies with USFS standards. This chapter provides a brief summary of the proposed action, including project history and design, the project location, and the design criteria being used. This chapter also describes the existing roadway conditions, summarizes how the project would improve roadway conditions in the future, and briefly describes how the project would affect several issues of concern identified by the public in past project meetings. A brief description of the no-action alternative is also provided. More detailed information on specific issues will be provided in the next chapter.

2.2 Where is the project located and why?

The western (downstream) end of the project (western terminus) is located on Index-Galena Road downstream from the Milepost 6.4 (MP 6.4) washout damage caused by the 2006 flood. This terminus is located approximately 200 feet east of the Snohomish County Bridge #494 crossing of Trout Creek, located at Milepost 6.05. The eastern terminus (upstream) is located on Index-Galena Road approximately 400 feet northeast from the MP 6.9 washout, the furthest upstream extent of the 2006 flood damage. These termini locations coincide with the approximate areas where the relocated roadway would match back into the existing undamaged roadway. (See Exhibit 3: Existing Index-Galena Road Milepost 6.4 Damage and Exhibit 4 –Existing Index-Galena Road Milepost 6.7-6.9 Damage.)

2.3 When did evaluation of the damaged Index-Galena Road begin?

Snohomish County initiated preliminary coordination on issues associated with Index-Galena Road shortly after the 2006 flood damage event that washed out the roadway. At the time of the damage event, there were multiple flood damaged sites located along the Index-Galena Road corridor that extended from the Index Bridge #122 (Wes Smith Bridge) site at Index to Index-Galena Road Milepost 13.8.

Access to the damaged areas was hindered by lack of a through-route from Index to areas upstream from the washout at MP 6.4. In order to assess the roadway damage, crews accessed the damaged areas by the current Beckler River Road/Jack Pass detour route or by hiking the adjacent steep slopes upstream from the damage at MP 6.4.
Exhibit 3: Existing Index-Galena Road Milepost 6.4 Damage  This shows the area at the downstream Milepost 6.4 washout shortly after the damage. Much of the asphalt shown here has since further eroded.

Exhibit 4: Existing Index-Galena Road Milepost 6.7-6.9 Damage  This shows the area at the upstream washout where the North Fork Skykomish River migrated to form a new side channel where the roadway was previously located. Asphalt and concrete debris would be removed as part of the proposed project.
2.4 What is the No-Action Alternative?

The no-action alternative proposes that nothing would be done in the areas where the existing roadway is currently washed-out. The existing pavement and other roadway debris would be left in the river channel. The proposed roadway relocation would not occur that would move the existing damaged roadway out of the floodplain and restore roadway connectivity to maintain essential travel.

Vehicular traffic would continue to use the approximate 42.5 mile detour route (10.5 miles on gravel road) to reach the Galena area at the Silver Creek/North Fork Skykomish confluence. Aside from the inconvenience and additional fuel consumption and emissions, this extended detour would continue to present a safety risk to the public due to the increased drive time exposure and potential hazards of traffic and road conditions. Long response times would continue for emergency services, such as vehicle accidents, search and rescues, and fire suppression. Only seasonal access would be provided.

No clearing, grading, or other land disturbance would occur. The no-action alternative would not require a new Right-of-Way easement. Any effort to restore the river with asphalt removal and other measures would require developing a separate project action for review and approval.

2.5 When was Index-Galena Road closed to traffic?

Due to extensive roadway damage that washed away portions of the roadway, SCPW decided to close the roadway in 2006 until future repairs in these areas were completed.

2.6 When did project design work begin?

The formal evaluation process for considering Index-Galena Road MP 6.4-MP 6.9 design alternatives began after receiving approval from FHWA that enabled use of federal Emergency Relief funds for project funding. Emergency Relief funds are authorized from Title 23 of the United States Code, Section 125. This is a special program from the Highway Trust Fund used for the repair or reconstruction of Federal-aid highways which have suffered damage as a result of natural disasters or catastrophic failures from an external cause. The initial funding approval received in July 2007 was used to prepare a feasibility study to evaluate project alternatives. After an extensive review of proposals, a design consultant was awarded the contract in the spring of 2008 to conduct the feasibility analysis.

Extensive field work was completed as part of the feasibility analysis to survey and map the project area topography, and to conduct sub-surface geotech borings to better understand geologic conditions in the project area. Wetlands and streams were identified and mapped.
The project’s *Feasibility Study* was completed in March 2009. A public meeting was held July 14, 2009 at the Monroe Senior Center to discuss the study’s findings and provide an update on progress made to date on all of the Index-Galena Road damage locations. The feasibility study evaluated several alternatives and recommended four alternatives considered as viable options for restoring roadway connectivity. These recommended alternatives would be move forward for further analysis in a more detailed Design Report. The goal of the Design Report that followed the feasibility analysis was to recommend a proposed project alternative that would be carried forward for more refined design work and National Environmental Policy Act (NEPA) environmental review.

The *Design Report* was prepared after the initial feasibility analysis and was issued in March 2011. A public meeting was held to accept public comments on May 31, 2011 at the Monroe Public Library. The Design Report recommended the *IG-3 - Lower Alignment* alternative, which would relocate Index-Galena Road slightly above the existing alignment into the adjacent hillside. It was recommended to be carried forward because it would restore roadway connectivity, relocate the damaged roadway outside of the 100-year floodplain and channel migration zone. The alignment would reduce overall impacts by having a smaller project footprint that would result in less vegetation clearing and land disturbance than alternatives that would have been located further upslope and less aquatic habitat impacts than alternatives that would have re-established the roadway in its existing in-stream location. At the meeting, SCPW said that it would continue working with project partners to proceed with more detailed data gathering and design work that would be needed for local, state and federal approval to build the relocated road, including environmental studies and reports.

### Roadway Location Reference Points Discussed in the EA

Because the Index-Galena MP 6.4-6.9 project would relocate and construct a replacement roadway that has no established roadway mileposts, the EA will refer to the project’s “design stationing" when referring to a specific location along the relocated roadway alignment. The proposed roadway’s design stationing includes a series of reference points located at 100-foot intervals along the full extent of the alignment. These points would be typically referenced to a number such as 22+00 or 85+00. The 22+00 number refers to a location that would be the 22nd 100-feet interval along the alignment and the 85+00 location would be at a point that lies at the 85th 100-foot interval located along the alignment. Where a station or a measurement is needed at some point other than an even 100 feet distance from the previous station, the station is given as a station plus feet; thus 22+65 is 65 feet from Station 22+00. You can see these stationing points in the map that is provided in *Exhibit 1: Proposed Index-Galena Road Alignment*. 
2.7 What is included in the proposed action project design?

The proposed project design would shift the existing roadway alignment to the south and establish a relocated roadway upslope from the existing damaged roadway. The alignment would shift from the existing Index-Galena Road approximately 200 feet east from Trout Creek Bridge #494 (near Milepost 6.1, at approximately 841 feet in elevation). The roadway would ascend the sideslopes at a 9 percent grade in order to raise the roadway out of the 100-year floodplain and channel migration zone. To accommodate the re-alignment, the project would require extensive soil excavation (cutting) and would place fill in low areas. Portions of the roadway constructed in bedrock and where large boulders are encountered will require blasting. The blasting would occur at different points between Station 25+00 to Station 28+00. The project would alternate between moderate to deep cuts (up to 13 feet) and fills (up to 22 feet) to provide a roadway grade suitable for motor vehicles.

The relocation would enable the roadway to be elevated above the 100-year floodplain and channel migration zone for most of the project length and would be landward of the river side channel stream that has formed in the existing roadway alignment. The initial climb would use a portion of the existing Trout Creek Road, a gravel road owned and maintained by the U.S. Forest Service. It would be necessary to cut into the adjacent upslope areas to accommodate the relocated roadway’s travel lanes and shoulders. A new Index-Galena Road/Trout Creek Road intersection would be constructed to allow for future continued use of Trout Creek Road by the U.S. Forest Service to carry out its long-term land management plans in the Trout Creek sub-basin. The U.S. Forest Service has closed Trout Creek Road for motor vehicle use. The intent of the closure is to eliminate vehicular access until the U.S. Forest Service completes a mine clean-up and make changes to roadway access to wilderness areas further up the Trout Creek drainage. (See Exhibit 5: Proposed Alignment Near Station 15+50 and Exhibit 6: Proposed Alignment near Station 21+50)

After the initial climb from the existing roadway at an 11 percent grade, the roadway grades would be more moderate for the rest of the project length and would vary, with a maximum grade of 4.6 percent. Roadway grade is the percent of rise or descent of the sloping roadway surface. A higher percentage roadway grade corresponds to a steeper roadway.

The relocated roadway would cross sideslopes and parallel the existing roadway. Non-fish bearing streams would be crossed by the alignment. See Exhibit 7: Proposed Alignment Near Station 29+00 for the unnamed stream that would be crossed at Station 29+00. The highest elevation achieved by the project, 901 feet above sea level, would be at Station 35+00. The roadway would begin its descent to the existing roadway near Station 36+00 and would tie back into the existing roadway at Station 60+00 near milepost 6.9 (at approximately 884 feet in elevation). A new 180-foot bridge with a deep drilled-shaft foundation would be constructed at a stream crossing near Station 54+00.
The proposed roadway alignment would shift southward from the existing road and upslope on this U.S. Forest Service maintained roadway up to where the road has a switchback.

Exhibit 5: Trout Creek Road Near Station 15+50

Exhibit 6: Proposed Alignment Near Station 21+50 The proposed roadway alignment would cross moderate to steep slopes. This photo shows the forested area immediately east of the Trout Creek Road switchback.
Exhibit 7: Proposed Alignment Near Station 29+00 The project proposes to cross this non-fish bearing stream with a vented ford box culvert to address potential future debris flows

### 2.8 What roadway design standards are being used for the project?

The proposed roadway design is based on design standards contained in the *2001 AASHTO Guidelines for Geometric Design of Very Low-Volume Roadways (ADT < 400)*. The use of these design standards responds to comments made by the public during the NEPA scoping period to consider use of design standards that would help to reduce the footprint of the proposed roadway relocation repair. These design standards enable the project to match the character of the existing roadway and fit in with the forested natural environment in the project area. For example, the use of low-volume roadway design standards enables the roadway width to be reduced by 26 percent from the 30-foot width standard identified previously in the design report.

The proposed design would include a pavement width of 22 feet that would feature 10-foot travel lanes and 1-foot shoulders. Additional land area would be required to install guardrail where warranted. The roadway posted speed limit would be 35 MPH. Based on these lane width design standards and other design criteria, including laying back of cut slopes, the project would require an estimated 11.5 acres of land disturbance. Of the 11.5 acres, approximately 3.2 acres would be permanently impacted for the roadway prism footprint and 8.3 acres would be cleared to accommodate roadway cuts and fills. These 8.3 acres would be restored after construction is completed. During the final design
process, a *Practical Design* effort would be undertaken to determine if there are other design measures that can reduce project impacts and costs. Practical design is an approach to making project decisions that focuses on the need for the project and looks for cost-effective solutions. These measures could include alignment refinements and other design modifications.

The proposed project would require a new right-of-way easement from the U.S. Forest Service due to the newly aligned roadway’s location on U.S. Forest Service lands in the Mt. Baker-Snoqualmie National Forest. The existing damaged roadway would be decommissioned and restored where feasible to natural riparian as part of construction. The restored areas and adjacent areas downslope from the roadway that would be used for roadway stormwater runoff dispersion would be included in the new roadway easement and would be permanently protected from future development.

### 2.9 What would happen with the existing damaged roadway?

The project would decommission the existing damaged roadway. Decommissioning would remove this area for use as a roadway and would include removing asphalt pavement, concrete, and other debris from the damaged existing roadway. Roadway debris would be removed from the river channel to the extent that it would be safe and practicable. This will require in-water work with heavy equipment as approved by agencies responsible for aquatic resource protection.

Some of the pavement has already been eroded by river flows. The remaining material removed by the project would be disposed of offsite at a facility permitted to accept asphalt and concrete debris. Once the decommissioned roadway is removed, soil decompaction and placement of organic materials, including forest duff salvaged during clearing and grading, would prepare the site for restoration where planting is feasible. This riparian buffer mitigation would restore a forested riparian corridor adjacent to the North Fork Skykomish River. Where planting is not feasible, natural stream channel conditions would be restored with the asphalt removal. Large woody debris would potentially be placed near the upstream inlet to the side channel to enhance in-stream habitat and would be placed within restoration areas to enhance wildlife habitat. *(See Exhibit 8: Existing Index-Galena Road Between Milepost 6.4 –Milepost 6.9)*

### 2.10 How much land area would be required by the project?

To construct the proposed design, the project would require an estimated 11.5 acres. This land area would be located within a new right of way easement. Existing areas within the current easement would be retained for riparian mitigation and stormwater runoff dispersion. These areas would be preserved with permanent protection. Because there is no existing right of way easement other than where the relocated roadway would match into existing roadways, the majority of the project area would need to be located within a new right-of-way easement on National Forest land.
**Right of way** is property that is purchased or an easement that is acquired to accommodate roadway construction and future roadway operation needs. It includes the area needed for the roadway, roadway shoulders, grading of roadway embankments, and other features such as guardrails, retaining walls, mitigation areas, and stormwater runoff dispersion areas.

Exhibit 8: Existing Index-Galena Road Between Milepost 6.4 – Milepost 6.9

The project proposes to remove the damaged roadway from the river and floodplain. This area would be replanted as part of riparian mitigation.

Finalization of actual right-of-way easement acquisition requirements would be fully determined once final design requirements have been identified and the project’s right of way plan is approved. All of the easement property acquired would lie within the boundaries of the Mt. Baker-Snoqualmie National Forest in unincorporated Snohomish County.

**2.11 When would the project be built?**

Construction could begin as early as 2018 if construction funds become available, and the right-of-way easement is approved, and all permits and approvals are obtained. It is
estimated that construction would require a minimum of two construction seasons and could extend to three seasons depending on construction sequencing. Preparation of final design plans and specifications would begin upon completion of the NEPA environmental review process if the project is approved for construction. Subsequent engineering approval of the project’s major design features would occur. Applications for permits and other regulatory approvals would be submitted as final plans and specifications are being developed.

2.12 What benefits would the relocated roadway provide?

- Restores roadway connectivity on Index-Galena Road to upper North Fork Skykomish River valley
- Reduces travel time (1 hour less driving time) and distance (35 to 40 miles) depending on the destination
- Provides a safer and shorter route than Beckler River Road for passenger vehicles
- Reduces traffic volumes on Beckler River Road (Forest Road 65), a single-lane gravel road with turnouts that is not designed for the traffic volumes diverted from Index-Galena Road
- Restored roadway connectivity allows for adequate response time for emergency service providers
- Improves recreation access for equestrian use, river recreationists, and U.S. Forest Service campgrounds located on Index-Galena Road
- Removes existing damaged roadway from the North Fork Skykomish River, its floodplain, and the channel migration zone
- Allows for riparian restoration once existing roadway is removed and allows in-stream habitat restoration to continue
- Encourages increased recreation tourism with its shorter access to the upper North Fork Skykomish River valley

2.13 How much would the project cost?

The estimated project costs total $26.7 million dollars. The costs include the following estimates:

- $4.9 million – Preliminary Engineering
- $2.3 million – Construction Engineering
- $19.5 million – Construction

2.14 What sources of project funding are available?

The project has applied for and would receive Emergency Relief (ER) construction funding from the Federal Highway Administration (FHWA) if the project receives construction approval. As noted previously, these funds are authorized from Title 23, United States Code (U.S.C.), Section 125, which is a special program from the Highway Trust Fund used for the repair or reconstruction of Federal-aid highways which have
suffered damage as a result of natural disasters or catastrophic failures from an external cause.

Additional finds are also being sought from the Federal Lands Access Program (FLAP) and local sources. The FLAP was established in 23 U.S.C. 204 to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. FLAP supplements state and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. A funding application has also been submitted to the Washington State County Road Administration Board (CRAB). County road improvements funded through CRAB come from two sources; pavement preservation through the County Arterial Preservation Program (CAPP), and construction of capacity, geometric, and safety improvement through the Rural Arterial Program (RAP). Both are funded from the statewide fuel tax.

2.15 When did the current NEPA environmental review process begin?

Preliminary coordination on the project’s National Environmental Policy Act (NEPA) requirements began at the onset of the planning for the project’s initial design efforts in 2007. Interagency meetings were held as the project progressed from feasibility report preparation to design report issuance. These meetings included representatives from the Federal Highway Administration (FHWA), U.S. Forest Service (USFS), Washington State Department of Transportation (WSDOT) and Snohomish County Public Works (SCPW).

A meeting was held in July 2011 after Design Report issuance because there was enough information available to begin identifying the environmental reports that would need to be prepared for the project’s NEPA environmental review. FHWA confirmed in August 2011 that the project would need to prepare a NEPA Environmental Assessment (NEPA EA). Consistent with earlier coordination efforts, it was decided that FHWA would be the federal lead for the NEPA EA environmental review process and that the USFS would serve as a cooperating agency. Continual coordination between these agencies has occurred during preparation of environmental studies and NEPA EA preparation.

2.16 What types of approvals and permits would be needed?

The permits and approvals that would be needed for the project are listed below:

- Section 404 Permit (Nationwide) U.S. Army Corps of Engineers for wetland fills, and stream crossings, in water work to remove existing damaged roadway
- Section 401 Water Quality Certification, Washington Department of Ecology
- Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife
- National Pollutant Discharge Elimination Discharge System (NPDES) Construction Stormwater General Permit for ground disturbance exceeding one acre
- Snohomish County: Land Disturbing Activity and Drainage Approval; Shoreline Substantial Development Permit; Flood Hazard Permit
- U.S. Forest Service Letter of Consent to grant an Easement Approval through FHWA
- Endangered Species Act -Section 7 consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service
- Section 106 National Historic Preservation Act consultation
Chapter 3 – Public Involvement

Public participation is an integral part of the transportation design process and helps to ensure that decisions are made in consideration of public needs, benefits and preferences. Early and continuous public involvement brings diverse viewpoints and values into the decision-making process. This process enables agencies to make better informed decisions through collaborative efforts and builds mutual understanding and trust between the agencies and the public they serve.

3.1 What public outreach was done during the initial emergency response?

Prior to formally beginning the NEPA process, the first open house public meeting was held at the Monroe Senior Center on May 1, 2007. This meeting provided the first opportunity for the public to learn about the extensive damages that occurred to Index-Galena Road in November 2006. Meeting notices were sent to project stakeholders, including private property owners affected by the road damage, regulatory agencies, and conservation organizations. SCPW provided information at the meeting that described the extent of roadway damages. The presentations included photos of each of the damage sites and County staff identified some of the engineering design and potential environmental issues associated with future repair responses. At the meeting, SCPW said that it would pursue federal Emergency Relief funding for roadway repairs and associated design efforts that would be needed for the larger damage sites. After the meeting update newsletters were sent out and a website established to keep stakeholders up to date on the progress of Index-Galena repair and design efforts.

3.2 How has the public been involved during the project’s NEPA review process?

A NEPA open house scoping meeting was held February 1, 2012 at Park Place Middle School in Monroe. The meeting provided an additional opportunity to meet with project stakeholders and to consult with the public about which issues should be addressed in the NEPA EA prepared for the project. Notice of the public meeting was provided through newsletters, newspaper notices, onsite posting, and a project website that has been in place since the beginning of the design process. (See Exhibit 9: NEPA Scoping Meeting - February 1, 2012 and Exhibit 10: NEPA Scoping Meeting - February 1, 2012.)

County staff in attendance included the project’s engineering design team, geotechnical, communications and environmental staff members. USFS staff members also attended the meeting and were available to answer questions. A total of 21 citizens signed in at the meeting. Project-related hand outs were provided, along with Title VI forms in Spanish and English. The exhibits provided information related to the preliminary proposed project design, including background information related to the project location, project work completed to date, project schedule, and environmental compliance requirements.
Six attendees completed comment forms at the meeting. An additional twelve comments were submitted by e-mail or through e-mail attachment letters after the meeting. Written comments ranged from those that were very specific to the proposed project’s potential environmental effects to those that were unrelated to the NEPA environmental review process.

Those attending the meeting identified several issues that they felt should be evaluated as part of the NEPA environmental review process. At the meeting, citizens identified the following as principal issues of concern:

- Consideration of alternative design standards that minimize the footprint of the project to reduce environmental impacts
- Recreational access to trailheads and campgrounds
- Recreation boating access to the North Fork Skykomish River
- Impacts to fish habitat

**Exhibit 9: NEPA Scoping Meeting - February 1, 2012** Citizens attended the NEPA Scoping and viewed exhibits that illustrated various issues associated with the proposed project.
Exhibit 10: NEPA Scoping Meeting - February 1, 2012  Snohomish County and U.S. Forest Service staff at the open house meeting answered questions. Comments were accepted regarding the proposed Index-Galena Road project and the NEPA environmental review.

The NEPA scoping comments and responses to the NEPA comments were posted on the project website June 12, 2012. A history of the extensive coordination that has occurred throughout the various phases of the project’s development, including public involvement, is summarized and provided in Appendix A: Coordination and Comments.
4.1 Which alternatives were evaluated early in the design process?

In the project planning process for the project, other alternatives were considered for lower cost or lower environmental risk while meeting the purpose and need to restore essential travel. The alternatives considered included various proposals for repair of the road in place, and various alternative alignments. Suggested actions that did not contribute toward meeting the purpose and need for restoring essential travel were eliminated from more detailed study, except for the no action alternative.

The Index-Galena Road MP 6.4 to MP 6.9 Route Feasibility Study was published March 30, 2009. (A copy of the study is provided on the disc in the back of this NEPA EA). Fourteen alternatives were generated during the course of the study’s development and evaluated by Snohomish County staff based on criteria that included environmental concerns, design standard considerations, amount of right-of-way required, and ability to satisfy the project’s purpose and need to restore essential travel. Some of the conceptual alignments evaluated in the feasibility study are shown in Exhibit 11: Index-Galena Road Feasibility Study Alignment Alternatives, which provides a schematic representation of how the alignments would be located relative to the North Fork Skykomish River and the adjacent steep slopes landward of the river.

Exhibit 11: Index-Galena Road Feasibility Study Alignment Alternatives
The Feasibility Study eliminated several alternatives from further consideration primarily due to the fact that they would not further the project purpose and need. The alternatives moved forward for consideration in the Design Report are shown schematically in Exhibit 12: Alignment Alternatives Considered In Design Report.

Exhibit 12: Alignment Alternatives Considered in Design Report

The alternatives considered but rejected for further consideration are discussed below.

**Alternative A: Reconstruct Roadway in Existing Alignment to Full Design Standards (Alternative 2-A in Feasibility Study)**

This alternative proposed to reconstruct the roadway in its existing alignment and rebuild to full County roadway design standards. County standards would require 11-foot travel lanes with 8-foot shoulders and a 50 miles per hour design speed. It would be constructed within the existing roadway right-of-way easement that includes both washed out areas and intact roadway segments. Additional right-of-way easement could potentially be required depending on what would be required to match the damaged and undamaged roadway portions back together. During construction, the river channel would be permanently diverted away from the roadway alignment, with much of the flow potentially diverted back to its former channel. The roadway would remain in the channel migration zone and within the 100-year floodplain. This alternative would meet the
primary purpose of the project, which is to re-establish a through route along the river corridor that restores essential travel. However, it would have substantial environmental impacts associated with moving the river channel away from where it had recently migrated laterally. It would adversely impact in-stream fish habitat and adjacent riparian areas that have formed since the damage event. The roadway would remain within the 100-year floodplain and would be at high risk for being washed out again due to its location within the channel migration zone. This alternative will not be carried forward because it has substantial environmental impacts as compared to the other alternatives, especially to fish habitat and the free flowing character of the river. In addition to environmental concerns, there were several engineering design concerns. There would be substantial increased costs related to extensive heavy armoring of the roadway base and embankment with large rock which would need to come from off-site sources. In addition, numerous large culverts or small bridges would be needed to enable hillside streams and a new river side channel to flow under the road and back to the main river channel. To remove the old pavement debris from the river and rebuild the roadway, sections of the river would need to be temporarily dewatered to allow heavy equipment in for the removal and construction processes. These increased costs were determined not to be reasonable, and sound engineering judgement determined that this alternative would be rejected due to the future risk associated with the roadway being washed away again in a high flow event.

Alternative B: Reconstruct Roadway within Existing Alignment with Deviations from Design Standards (Alternative 2-B in Feasibility Study)

This alternative proposed to reconstruct the roadway in the existing alignment with deviations from County standards that would be used for Alternative A. It would be reconstructed within the existing right-of-way easement. During construction, the river channel would be permanently diverted away from the roadway alignment, with much of the flow potentially diverted back to its former channel. The roadway would remain in the channel migration zone and would remain within the 100-year floodplain. This alternative meets the primary purpose of the project to reestablish a through route along the river corridor to restore essential travel. However, despite design deviations that would reduce shoulder width and other requirements it would have substantial environmental impacts associated with moving the river channel back from where it has recently migrated laterally, and would adversely impact in-stream fish habitat and adjacent riparian areas. The reconstructed roadway would be located within the 100-year floodplain and would be at risk of being washed-out again due to its alignment within the channel migration zone. This alternative will not be carried forward because it has substantial environmental impacts, especially to fish habitat and the free flowing character of the river and also has the same high costs and high risk of future damage as Alternative A.

Alternative C: Reconstruct Elevated Road within Existing Alignment with Deviations from Design Standards (Use Large Rock) Alternative 2-C in Feasibility Study

This alternative also proposed to reconstruct the roadway along the original alignment with deviations from County roadway design standards. Shoulder width reductions would
be the primary measure to reduce impacts. The roadway would be elevated above the 100-year floodplain by placing fill within the floodplain, using large rocks for the roadway base that would potentially extend beyond the existing roadway right-of-way easement. During construction, the river channel would be diverted permanently away from the roadway alignment, with much of the flow potentially diverted back to its former channel. This alternative meets the primary purpose of the project to re-establish essential travel but would have substantial environmental impacts associated with moving the river channel away from where it has recently migrated laterally. This alternative would adversely impact fish habitat and adjacent riparian areas. The roadway would be elevated above the 100-year floodplain and would create a new “hard point” feature that would shift the channel migration zone. This design would likely affect the river by causing a rise in the river’s water surface elevation during the 100-year flow event. Similar to the other alternatives within the existing alignment, this alternative will not be carried forward because it would adversely affect fish habitat the free flowing character of the river, the floodplain, and the channel migration zone and has the same high costs and high risk of future damage as Alternative A and Alternative B.

**Alternative D: Reconstruct Road within Existing Alignment on Elevated Structure (Bridge) (Alternative 2-D in Feasibility Study)**

This alternative proposed to reconstruct the roadway along the existing alignment on an elevated structure above the 100-year floodplain to meet current County roadway design standards. During construction, the river channel would be diverted out of the work area but after construction it would be allowed to re-establish its flow under the new roadway bridge.

This alternative meets the primary purpose of the project to re-establish through route access that restores essential travel. It would likely have moderate to substantial environmental impacts during construction associated with in-water work, moving the river channel and impacting in-stream fish habitat. It would have minimal impact to wildlife and wetlands and moderate impacts to adjacent riparian areas. The roadway would be above the 100-year floodplain and would not restrict the natural channel migration zone. The new roadway would be designed to current County roadway design standards and would not require substantial new right-of-way easement acquisition. This alternative will not be carried forward because even though it meets the primary project purpose, environmental impacts would be expected to be substantial during construction, especially to fish habitat and the free flowing river course. In addition, the visual character of the elevated roadway structure would be out of place in the project area. This structural alternative was estimated to have construction costs of greater than $100 million due to the requirement to have deep piers continually along the alignment that would need to be resistant to river scour. This exorbitant cost was determined to not be reasonable given that less costly alternatives were available that would better balance project costs with environmental impacts.
Alternative E: Relocation Landward of River and within 100-year Floodplain and Channel Migration Zone and use Remnant Section of Existing Undamaged Road (Alternative 3-A in Feasibility Study)

This alternative proposed to relocate the washed out sections of the roadway outside of the current right-of-way easement area. The roadway would be benched along the bottom of the adjacent hillside slopes and would match back into and utilize the remnant sections of undamaged roadway to the extent possible. The remnant sections of the existing roadway would remain in the river’s channel migration zone and within the 100-year floodplain. Bank protection would be provided along sections of the roadway that are located within the channel migration zone. Old roadway debris would be removed from the river channel. The new roadway would be improved to meet current County roadway design standards. Large sections of the new roadway would be located within the 100-year floodplain and the channel migration zone where it ties into the existing roadway. The new roadway would constrict the channel migration zone in places because new hard features would be constructed along the new alignment at the bottom of the hillside. This alternative meets the primary purpose of the project to re-establish a through route along the river corridor that restores essential travel, but would have substantial environmental impacts, caused by impacts to the natural free flow of the river, and would adversely impact in-stream fish habitat and adjacent riparian areas. This alternative was not carried forward because it has substantial environmental impacts as compared to the other relocation alternatives, especially with regard to fish habitat, adjacent riparian areas, and the free flowing character of the river. It was also determined not to be reasonable because portions of the reconstructed roadway would remain at risk for being washed away again in a high flow event.

Alternative F: Relocation Upslope Outside of Channel Migration Zone-Full-Design Standards (Alternative 4-A in feasibility Study)

This alternative proposed to relocate the roadway outside of the channel migration zone and the current County right-of-way easement area. It would be benched higher than the proposed alignment on the hillside slope area. Its alignment would be located substantially above the 100-year floodplain. Old roadway debris would be removed from the river channel when the existing alignment was abandoned. The new roadway would be designed to meet current County roadway design standards. This alternative meets the primary purpose of the project to reestablish through route access that restores essential travel. This alternative would have moderate to substantial environmental impacts associated with moving the alignment onto steep slope areas. The need for more slope excavation was estimated to have substantially more vegetation clearing and would have had more slope stability issues to address. There was an increased risk of rockfall associated with this alignment. There would also be more extensive impacts to seep wetland areas located higher on the slopes, and upland wildlife habitat as compared to the lower alignment. This alternative was not carried forward because it had more environmental impacts when compared to the lower alignment. In addition to environmental considerations, this alternative was determined to not be reasonable because of anticipated extremely difficult construction through steep bouldery colluvium.
slopes with increased rockfall hazard, and higher costs associated with the need to construct two bridges and several large culverts.

**Alternative G: Relocation upslope outside of Channel Migration Zone with Design Deviations (Alternative 4-B in Feasibility Study)**

Similar to Alternative F, this alternative proposed to relocate the roadway outside the channel migration zone and further upslope from the existing County right-of-way easement area. It would have been located above the 100-year floodplain. Old roadway debris would be removed from the river channel. The new roadway would deviate from adopted County standards to minimize new right-of-way acquisition and environmental impacts. This alternative meets the primary purpose of the project to re-establish a through route access that restores essential travel, but would have moderate to substantial environmental impacts, caused by impacts to seep wetland areas on steep slopes and wildlife habitat. This alternative was evaluated further in the Design Report but was not carried forward because it had more environmental impacts as compared to the proposed alternative. There would be extensive clearing impacts that would affect upland wildlife habitat, and grading that would affect extensive seep wetland areas. Similar to Alternative F, slope stability concerns also would require extensive measures to address, and was determined to not be reasonable to carry forward because of anticipated extremely difficult construction through steep bouldery colluvium slopes with increased rockfall hazard, and higher costs associated with the need to construct two bridges and several large culverts.

**Alternative H: Relocation to North Side of River Outside of CMZ (Alternative 5-A in Feasibility Study)**

This alternative proposed to relocate Index-Galena Road to the north side of the river, potentially requiring new bridge structures across the river or substantially extending the roadway beyond current project limits in order to take advantage of an existing bridge crossing at Milepost 10.1. The new roadway would be located outside the channel migration zone to the extent practical, and old roadway debris would be removed from the river channel in the existing alignment. This new roadway alignment would be constructed to meet current County roadway design standards, and would be located above the 100-year floodplain. This alternative meets the primary purpose of the project to re-establish a through route access that restores essential travel, but was expected to have substantial environmental impacts. These impacts include substantial adverse impacts to wildlife habitat, wetland areas, riparian areas and impacts to fish habitat. The new roadway would meet current County roadway design standards and would require extensive areas of new right-of-way easement. This alternative was not carried forward because it was likely to have substantial environmental impacts as compared to the other alternatives because of relocation into areas not presently disturbed by roadway development. There would be more impacts to riparian areas, wildlife habitat and wetlands. This alternative would require much more extensive acquisition of private property in addition to a new easement on U.S. Forest Service lands.
Alternative I - Two-way Single Lane with Pull Outs in New Alignment (Alternative 5-B in Feasibility Study)

This alternative proposed to relocate the roadway as a two-way, single lane roadway with passing areas outside the current County right-of-way easement area and would be benched along the hillside, elevated above the 100-year floodplain and outside the channel migration zone. Old roadway debris would be removed from the river channel. The new roadway would require design deviations from adopted County roadway design standards to minimize right-of-way easement acquisition and environmental impacts that would be associated with a one-lane roadway. The reduced, narrowed roadway cross-section would likely reduce impacts to the natural environment compared to a two-lane roadway, but the extent of reduction was not likely to be substantial given the need for cuts and fills to establish a drivable roadway profile on the steep terrain. This alternative would re-establish a vehicular through route but would not restore essential travel because it would not provide adequate access for emergency vehicles. This alternative would require substantial design deviations that may not be approved by state and federal agencies. While potentially reducing impacts on the natural environment, this alternative would still impact seep wetlands areas and wildlife habitat. Riparian area impacts could potentially be reduced with this alternative. This alternative was not carried forward because it does not meet the primary purpose of the project to restore essential travel, which includes accommodating access for emergency vehicles.

Alternative J: Pedestrian and Bicycle Trail (only) (Alternative 5-C in Feasibility Study)

This alternative proposed to construct a pedestrian and bicycle trail upslope from the existing County right-of-way easement area and above the 100-year floodplain. Old roadway debris would be removed from the river channel and vehicle turn-arounds would be constructed at the road closure locations. New right-of-way easement acquisition would be required for the pedestrian and bicycle trail. This alternative does not meet the primary purpose of the project to re-establish a roadway that restores essential travel. It would be expected to have low to moderate environmental impacts to wetland areas, wildlife habitat and riparian areas compared to constructing a roadway. This alternative was not carried forward because it does not meet the primary project purpose and need to restore essential travel.

Alternative K: Purchase all Private Property and Close Road at Trout Creek Bridge (Alternative 5D in Feasibility Study)

This alternative proposed to purchase the private property located upstream of the lower wash out area (MP 6.4), instead of re-establishing a roadway to restore essential travel. All property purchases would need to be voluntary. This alternative does not meet the primary purpose of the project to restore essential travel. This alternative was not carried forward because it does not meet the primary project purpose and need.
Chapter 5 - Effects and Mitigation

5.1 Introduction

5.1.1 What kinds of environmental effects are analyzed?

Direct effects, which are caused by the action and occur at the same time and place. Direct effects may be temporary (occurring only during construction) or permanent.

Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

5.1.2 What is mitigation?

Mitigation is defined in different ways to meet the requirements associated with different laws and regulations. A simple definition is that mitigation is a way for a project to lessen the effects and impacts of development. As part of a project’s development, several studies are prepared that describe the environmental effects associated with a proposed design. One benefit of gathering environmental information early and integrating it into the roadway engineering design process is that it is often possible to avoid some impacts. In other cases, unavoidable impacts can potentially be minimized.

When impacts are unavoidable, the project evaluates ways to compensate for these impacts. For example, when there are unavoidable impacts such as filling of wetlands or clearing of a stream buffer a project will usually propose to enhance, restore, or create these important environmental features somewhere else.

5.1.3 How did coordination with agencies and the public help to determine the project’s environmental effects?

The project team has closely coordinated with many agencies that are responsible for environmental protection. Local and state governmental agencies and Native American tribes were contacted to identify concerns they may have about the project. The project held public meetings and communicated, via the project website, newsletters, and direct outreach, with the public throughout the project’s design process to ensure that their issues are addressed by the project. This coordination and public involvement was instrumental in determining the studies that should be prepared and to identify relevant issues for discussion in this EA. A summary of the public involvement and agency coordination that has occurred to date has been provided in Appendix A: Coordination and Comments chapter of this document.
5.1.4 What studies were prepared and where can I review them?

Several studies were prepared to determine the project’s effects on the environment. The studies are listed in Appendix C and are incorporated by reference into this EA. These studies have been included as Technical Appendices on a disc with this document. A copy of the EA and the studies can also be viewed at the Snohomish County Index-Galena project website. Comments may be submitted to Crilly Ritz, Senior Planner, Snohomish County Public Works at (425) 388-3488 ext. 4586 or via e-mail at crilly.ritz@snoco.org.

<table>
<thead>
<tr>
<th>Copies of the EA and technical reports may be viewed at the following locations:</th>
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<td>Index City Hall</td>
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<td>511 Avenue A</td>
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5.1.5 What elements of the environment would not be affected by the project?

The following resources were determined to be nonexistent in the project area or have no measurable impacts in the study area and are not addressed in this EA:

- Utilities—there are no electrical, cable, water, or sewer utilities in the project area.
- Coastal Zone Barriers—the project does not lie in a coastal area.
- Farmlands—the project does not lie in proximity to farmlands.
- Section 4(f) Resources—there are no formally designated public recreation or National Register Eligible historic resources affected by the project. A discussion of Section 4(f) issues is provided in the Land Use/Recreation report prepared for the project. A brief discussion of Section 4(f) Resources is provided in the Land Use section of this EA.

5.2 Natural Environment

This part of the Effects and Mitigation Chapter evaluates the project’s effects on the natural environmental features in the project study area.
5.2.2 Geology, Soils, and Groundwater
Information about the characteristics of the geology, soil and groundwater is important because it helps to determine the foundation on which the proposed roadway would be built and to a large extent, helps determine the design and construction methods that would use to build the roadway. Geology, soils, and groundwater also affect long-term project operational issues.

**What geological processes have shaped landscape in the project area?**

The project is located within the Northern Cascades geologic province on the northwest-facing slopes of the North Fork Skykomish River valley. Glaciation has played an important role in forming the topography of the project area. The glacial history of the area is complex, with multiple advances of glacial ice into the Puget Lowlands from approximately 110,000 to 10,000 years ago, which closely followed alpine glacial advances from the North Cascade Mountains.

The last glaciation of the Puget Lowland (Vashon Stade of the Frasier Glaciation) occurred between 15,000 and 13,500 years ago. Glacial ice in the Puget Lowlands blocked the mouth of alpine valleys in many locations, including the North Fork Skykomish River valley, and created large dams of sand and gravel deposits. Alpine glacier streams backed up against the dams, creating glacial lakes. The estimated maximum top of the resulting lake beds correlates well with the top of the sand and gravel dams at the mouth of the valley. In the North Fork Skykomish River valley, the maximum top of the lake beds is approximately elevation 1,600 feet. This compares to the river’s water surface elevation at approximately 875 feet elevation near Milepost 6.9. Erosion and deposition during these glaciations sculpted and molded the present topographic terrain.

After the glaciers retreated and the glacial lakes drained, rivers and landslides have been the primary means of erosion and deposition in the area. Fluvial activity (moving water) reworked and incised the glacial lake beds that filled the North Fork Skykomish River valley. Landslides continue to shape the steep slopes that rise up from the valley floor. These processes formed large debris fans within the valley. (See Exhibit 13: Index-Galena Road Milepost 6.4-6.9 Project Area Geology)

**How were the soils and subsurface materials evaluated in the project area?**

The project staff performed a field reconnaissance and geologic mapping along the project area. Features noted included soil and rock exposures; existing cut and fill slopes; evidence of slope instability; erosion; vegetation that could give clues to underlying geologic conditions; and evidence of ground distress that might indicate landslides, rockfall, and subsurface conditions that might affect road construction.

The subsurface conditions along the proposed alignment were explored by drilling and sampling exploratory borings. Most borings were drilled using rock coring techniques. A few hand auger borings were made to sample shallow soil. These onsite subsurface explorations provided data to interpret the subsurface conditions that could affect roadway design, construction, and operation.
What geologic features would be potentially encountered by roadway construction?

Surficial geology in the project vicinity has been mapped by the U.S. Geologic Service. Surficial geology refers to the study of landforms and the unconsolidated sediments that lie beneath them. The majority of the unconsolidated sediments found at the land surface were deposited during glacial periods and subsequently redep sant by wind, water, and slides. Sand, gravel, clay, and other unconsolidated materials that overlie bedrock are known as surficial deposits.

The geology includes the following:

**Alluvium** contains recent deposits of the North Fork Skykomish River and Trout Creek. These deposits consist of loose to medium dense, rounded to subangular, slightly silty to silty, sandy gravel and sand. Alluvium typically has numerous cobbles and boulders and can contain logs and other debris that may have been transported by the river.

**Terrace Alluvium** contains deposits of the North Fork Skykomish River that now form terraces at the base of the valley walls. These deposits are similar in density and constituents to the alluvium described above; however, they are typically outside of the current channel migration zone.

**Alluvial Fan Deposits** were formed in Trout Creek and the unnamed drainages in the project area. The fans were primarily formed by stream deposition or debris flows starting in the steep upland areas upslope and south of the proposed roadway corridor. The deposits can contain organic material, including logs.

**Marsh Deposits** within the project area were deposited in a low-energy environment likely formed when runoff from the slopes was blocked by construction of Index Galena Road, and by natural river levees and beaver dams. These deposits typically consist of saturated sand, silt, and clay with abundant organic material. This area is located near the upstream terminus of the project near MP 6.9 and has a seasonally inundated wetland.

**Colluvium** is soil that is deposited on slopes by mass wasting processes, including rockfall, soil creep, and non-concentrated erosion caused by sheet wash and rain splash. The colluvium consists of heterogeneous silt, sand, gravel, cobble, and boulder deposits. Clay may be present where colluvium forms over or below lake beds. Along portions of the project alignment, the colluvium consists of talus and scree deposits (cobles and boulders) that formed mostly from rockfall from cliffs above the site.

**Glacial Lake Bed/Lacustrine Deposits** formed in a lake created when the lateral margin of the continental glacier dammed the drainage of the Skykomish Valley. These deposits consist of soft to stiff silt and clay with scattered gravel, cobbles, and boulders.

**Bedrock** consists of light gray, medium- to coarse-grained rock (granodiorite).
Exhibit 13: Index-Galena Road Milepost 6.4-6.9 Project Area Geology

Have soils been mapped in the project area?

The project area lies outside of the area mapped by the Natural Resource Conservation Service in Snohomish County. Limited soil information was obtained from the U.S. Forest Service (USFS) Snoqualmie National Forest West Side Soil Resource Inventory Soil Map for the Blanca Lake Quadrangle.

The USFS classifies soils based on characteristics that relate to soil development from the weathering of underlying parent material. Such soil classifications can be used to estimate erosion potential, infiltration capacity, and other soil properties. The soils in the project area classified by the USFS system are shown in Exhibit 14: Index-Galena Road Milepost 6.4-6.9 Project Area Mapped Soils.

In some project area locations, area, soils were derived from alluvium. These soils are part of mapping unit 10 as shown in Exhibit 14: Index-Galena Road Milepost 6.4-6.9 Project Area Mapped Soils. These soils are typically well- to moderately well-drained. They typically occur on slopes of less than five percent grade, and present a slight erosion hazard. The project area is also underlain by soils derived from glacial soils, such as the glacial lakebed lacustrine deposits. These soils include mapping units 12, 13, and 813. These soils are typically well drained, occur on slopes between 35 and 90 percent grade (13, 813), or less than 35 percent grade (12), and present a moderate to severe erosion hazard.

On the steep slopes along the project corridor, soils are primarily derived from rock outcrops or talus slopes. These soils include mapping units 7 and 8. These soils are typically well-drained, occur on slopes between 60 percent and 100 percent grade, and present a high erosion hazard.

What subsurface conditions exist under the proposed project alignment?

Most of the project area is underlain by colluvium, which are materials deposited on slopes by mass wasting processes (erosion, rockfall, landslides). The colluvium consists of heterogeneous (not uniform in size or texture) silt, sand, gravel, cobble, and boulder deposits. Lacustrine deposits of glacial lake beds overlie the colluvium in some areas. Along the valley floor, the proposed roadway is underlain by alluvium and/or marsh deposits. Granodiorite bedrock underlies the project area at varying depths, including several outcrops near the alignment.

How will the soils affect the roadway engineering design?

The engineering characteristics of soils found along the alignment are directly related to how they were formed (either deposited by glacial meltwater or by the glaciers themselves) and the range of sizes of the deposited material (silt, sand, or gravel). The suitability of these project area soils for different design features such as placement of
retaining walls, or re-use in the project for fill, or the ability to excavate and not require retaining walls is carefully considered to ensure that the roadway can be safely...
constructed and so that it can last for a long time with minimal maintenance. Soils are also evaluated to determine how the roadway design needs to provide for drainage and address the risk of earthquakes. Appropriate construction techniques are then incorporated into the project based on this soil information.

**What geologic hazards exist in the project area?**

Geologic hazards are geologic processes that can damage human construction. Geologic hazards in the project area include landsliding, rockfall, and erosion. They are described further below:

**Landsliding**

Several historic landslides were mapped along the proposed roadway corridor. Two observed landslide types include debris flows and slumps. Past debris flows in the proposed road corridor began in the steep uplands and scoured out existing stream channels, and then deposited logs, boulders, cobbles, gravel, and sand on gentler slopes or the valley floor below.

Debris flows are the primary mechanism in the formation of the alluvial fans present within the project corridor. The recurrence interval for the debris flows appears to be approximately 15 to 20 years. Slumps typically occur where lateral support was reduced by bank erosion or timber road construction. Slumps are characterized by movement along a curved surface such that the upper part flows vertically downward while the lower part moves outward. Slumps are present in areas underlain by glacial lake beds, colluvium, and alluvial fan deposits. The lake beds are characterized by low shear strength and poor surface drainage.

Shear strength is a material's ability to resist forces that can cause the internal structure of the material to slide. It is important to understand the amount of weight (or load) that a structure can support. It is especially important to understand the forces that are applied to a structure in different directions. Therefore, the knowledge of shear strength is important for the design of road embankments, roads, pavements, and excavations.

**Rockfall**

Rockfall is the process of bedrock fragmenting, detaching, and falling from a cliff or steep slope. Rockfall is typically triggered by cuts that create an unstable condition, by increased rainfall, or by freeze-thaw cycles. Rockfall hazards from slopes range from a single rock to rock slides, which can involve the failure of hundreds to thousands of cubic yards of rock.

**Erosion**

Erosion involves physical removal of material by forces such as running water, but can also be caused by high winds and glacial movement. In the project area, the USFS Soil
Resource Inventory maps show a moderate to high overall erosion hazard. During extended-duration or large-volume precipitation events, runoff from upslope areas could erode the surficial soil, leading to slope instability and potential roadway damage. Creeks and rivers could overflow their banks, eroding the roadway embankments. This is evidenced by the fact that the previous Index-Galena Road roadway was washed out during the record 2006 flood event.

**How would construction affect project area soils?**

The effects of construction activity are typically short term. Project construction would require extensive modification of the existing ground surface. Construction activities would include vegetation removal, clearing, grubbing and removal of topsoil, excavation into slopes, blasting where bedrock or large boulders need to be removed, fill placement for retaining walls and embankments, and construction of bridge foundations. These construction activities, discussed below, will result in short-term geology and soils related effects to the project area.

**Erosion and Sediment Transport**

Construction of the proposed roadway would require land clearing, removal of topsoil, blasting and other site preparation work. These cleared and stripped areas will have high erosion potential in the presence of surface water or if exposed during the rainy season. Surface water flow across exposed soil could remove sediment and deposit it in downslope areas. The amount of erosion and sedimentation would depend on the amount of soil exposed and/or disturbed, weather, surface water and groundwater conditions, and erosion control measures implemented. Eroded soil could be carried into adjacent water bodies.

Construction vehicle tires could sink into soft soils and carry soil onto roadways when leaving construction areas.

**Cuts into Existing Slopes**

Cuts are portions of the land surface from which soils have been removed by excavation. During construction of the proposed roadway, soils exposed in slope excavations or fills may be susceptible to erosion until vegetation or alternate erosion control measures are established. Roadway construction on steep slopes could result in rockfall and shallow sloughing on the slopes. Slopes above the roadway corridor could also experience landsliding, depending on the soil and water conditions and the slope angles. As the proposed retaining walls are constructed, landslides could occur if proper construction practices are not followed.

**Fill Embankments**

Fill is a portion of the land surface on which materials are deposited. Where these deposits are elevated above the surrounding area an embankment is created. During construction of fill embankments, slope failures could occur as the fill is placed and the shear strength of the soil resisting failure is exceeded. The analysis of the stability of the slope is done using shear strength and is used for the design of earth-retaining structures like retaining walls. Soil tends to consolidate and gain strength as the fill is placed.
Therefore, slope failures under the proposed fill embankments are primarily a short-term construction impact.

**Foundations**

The project proposes to construct a bridge near the upstream terminus, near Station 54+50, where the relocated roadway would cross a seasonally inundated wetland and fish-bearing stream. The bridge foundations could be constructed using deep drilled shafts. Exposed soil in proximity to the foundation work would have the potential to erode in the presence of surface water, rain or springs. The excavation could result in instability of the soil around the excavation and the excavation slopes themselves. If needed, construction dewatering activities for foundation excavations would temporarily lower the water table, reducing groundwater quantity. Drilled shaft deep foundations would typically have less potential for erosion as compared to shallow spread footings.

**How will the roadway affect the geology and soils once it is re-opened to traffic?**

The design and construction of proposed cuts, fills and structures that become incorporated into the normal operation of the proposed relocated roadway could affect onsite geology if not designed properly and result in unstable slopes. The project would be designed based on the available subsurface information, design procedures and approved criteria, and the existing site conditions to provide for longterm slope stability that will support the relocated roadway.

**Cuts into Existing Slopes**

Cut slopes and walls included in the proposed design would require excavation into the existing hillside slopes along the alignment. In most areas, sloped cuts would be used. However, in some areas, retaining walls are proposed to retain the cuts. Impacts related to the proposed cut slopes and walls could include erosion, slope instability, lateral wall movement, or future landslides. (See Exhibit 15: Retaining Walls In Cuts and Fills for an illustration of retaining walls).

When material is removed from the toe of a slope, the overall stability of a slope generally decreases. The proposed cut walls would result in excavation into the toes of existing hillsides along the proposed alignment. These cuts may reduce the stability of the slopes, especially in existing landslide areas. Future slope instability could result in sediment deposit on the highway and damage to the proposed and existing facilities.

In the existing landslide areas, landslides may occur in the future above the proposed walls. The location and source of these slides could come from areas above and outside the roadway corridor. Soil could move down the slope and slide over the top of the proposed walls onto the roadway.

**New Fill**

Construction of the proposed roadway would require placement of structural fill for retaining walls and embankments. Fill embankments constructed over marsh, lake bed, and alluvium deposits could settle if appropriate mitigation measures are not employed. Granular deposits (alluvium) would settle essentially as the load is applied during
Lake beds and organic soils would settle during the first few months after construction, which could cause pavement distress and drainage problems during roadway operation.

The marsh and lacustrine/lake bed soils may not have sufficient strength to support a stable fill embankment, especially during the short-term construction period. Over time, the stability of the embankments would improve as the soils beneath the embankment consolidate and gain strength. Instability during earthquakes may also result in embankment failure. This type of failure would cause potential damage to structures or pavement located on or near the embankments.

**Foundations**

**Exhibit 15: Retaining Walls In Cuts and Fills** - The above illustration shows a retaining wall structure. Retaining walls can support backfill or allow for a change of grade associated with excavation. The top portion shows a retaining wall that supports fill (shown in green) that has been placed as part of site grading while the bottom portion shows a wall that supports a slope where a cut has excavated the existing soils and removed them from the site. The dashed line shows the area that has been cut (excavated).
One elevated structure (bridge) is included in the proposed roadway. This proposed bridge may be supported by deep foundations bearing in the underlying competent soils. No soils-, groundwater-, or geology-related direct impacts are anticipated for the proposed bridge foundations.

**Permanent Drainage**

The overall intent of the drainage design is to maintain a dispersed flow pattern throughout the corridor by handling stormwater by natural dispersion. A dispersed flow pattern avoids concentrating stormwater runoff and helps to slow runoff velocities and promote infiltration. Stormwater treatment and flow control is achieved by dispersing runoff over existing vegetated areas. Flow dispersion takes advantage of existing soil infiltration and vegetation to filter the runoff and reduce the amount of runoff that reaches waterways as surface flow. The project area’s steep slopes do not match the established criteria for dispersal and design deviations would be required. However, conventional permanent drainage facilities would result in concentrated water flow to culverts or drainage ditches. Sediment from slope erosion may accumulate in ditches, culverts, swales, and other drainage features. Water that overflows or is concentrated onto slopes or properties could cause erosion, landslides, and other effects.

**How would the project minimize adverse effects to geology and soils?**

Altering the natural ground surface is unavoidable when roadway construction occurs. Mitigation to minimize effects would occur through appropriate project design that takes into consideration onsite conditions. During construction, Best Management Practices (BMPs) would be used that would provide erosion control, control surface water runoff, and employ other construction and operations techniques. BMPs would also include construction staging, barrier berms, filter fabric fences, temporary sediment detention basins, and use of slope coverings to contain sediment on site. These measures would be used to reduce erosion from areas with fills or excavations. Temporary erosion control measures would be installed prior to any site disturbance.

**How would the project address slope stability?**

Areas that would be disturbed by clearing and grading in addition to the roadway travel lanes would include cut and fill side slopes, and retaining walls and reinforced soil slopes where necessary, to support the roadway. Reinforced soil slopes in fill sections would typically be 0.5 Horizontal (H):1 Vertical (V), approximately 63 degree slopes, in most areas. Along the cut side of the alignment, slopes would range from 1.5 (H) to 2 (H):1(V) depending on whether the cuts are made through colluvium (landslide) and lacustrine (former glacial lake) deposit areas.

Retaining walls may be constructed in areas based on geotechnical recommendations, including structural earth walls (SEWs). The linear extent of these features and location may change during final design based on further analysis of detailed survey, geotechnical, seismic, hydrologic, and hydraulic information and construction considerations. The approximate locations are shown in Exhibit 2: Proposed Index-Galena Road Project.
Milepost 6.4-6.9. The current estimates for the linear extent (linear feet) of the various types of retaining walls or reinforced slopes includes the following:

- Reinforced Soil Slopes (RSS): 1,255 Linear Feet
- Structural Earth Walls (SEW): 200 Linear Feet
- Soldier Pile: 575 Linear Feet
- Rock Fill Slopes: 1,505 Linear Feet

Near Station 53+00, a diversion berm is proposed to be constructed in the adjacent upslope area and would tie into the roadway fill. The berm would prevent debris slide deposition onto the roadway in an area where geotechnical investigations have identified a risk for future debris flows. The ultimate location and extent of these soil stabilizing features may change during final design based on further analysis of more detailed survey, geotechnical, seismic, hydrologic, and hydraulic information and construction considerations.

**How could the risk of earthquakes affect the project’s design?**

The project is located in a region where numerous small to moderate earthquakes and occasional strong shocks have occurred in recorded history. Much of this seismicity is the result of ongoing relative movement and collision between the tectonic plates that underlie North America and the Pacific Ocean. These tectonic plates include the Juan de Fuca Plate and the North American Plate. The intersection of these two plates is called the Cascadia Subduction Zone (CSZ). As these two plates collide, the Juan de Fuca Plate is being driven northeast (subducted) beneath the North American Plate.

Within the present understanding of the tectonic setting and historical seismicity, three broad earthquake source zones are identified. These include a shallow crustal source zone, a deep source zone within the portion of the Juan de Fuca Plate subducted beneath the North American Plate (deep subcrustal zone), and an interplate zone where the Juan de Fuca and North American Plates are in contact in the CSZ. The anticipated earthquakes related to these sources are summarized below:

- **Shallow Crustal Zone:** Geologic evidence developed during the 1990s indicates that faults in western Washington are capable of producing earthquakes with magnitudes up to 7.5. The closest active fault to the site is the Seattle Fault (or Seattle Fault Zone), 30 miles southwest of the project area. While no large historical earthquakes have occurred in this fault zone, geologic studies have shown that it is an active fault, with the most recent large event (estimated at magnitude 7) occurring approximately 1,100 years ago. Historical shallow crustal seismicity has also been observed between a depth of 1 and 10 miles.

- **Deep Subcrustal Zone:** The largest historical earthquakes (magnitudes up to 7.1) to affect the site were located in the subducted Juan de Fuca Plate (deep subcrustal zone) at depths of 32 miles or greater. The depth of this zone is at least 35 miles below the project alignment.
• **Interplate Zone**: The interplate zone has produced, and remains capable of producing, strong earthquakes. Work to date suggests that earthquake magnitudes may range from 8.0 to 9.0 and may occur at time intervals ranging from about 400 to 1,000 years. The project alignment is located about 100 miles east of this zone.

**Where is the nearest fault?**

The project area is within 10 miles of the Straight Creek Fault and within 30 miles of the Devils Mountain Fault. There is no current evidence for recent activity along these faults. The Seattle Fault Zone is approximately 30 miles to the southwest of the project site and is the nearest structure with evidence of recent movement (in the past 10,000 years). The recurrence interval for large earthquakes in the Seattle Fault Zone is on the order of 3,000 to 5,000 years. No portion of the Seattle Fault crosses the proposed project corridor. Therefore, it has been determined that the risk posed by fault-induced ground rupture along the project corridor is low.

**What are the seismic considerations the project needs to address?**

An earthquake could trigger landslides on steep slopes and/or movement of the new retaining walls. Slopes that could slide or slough during an earthquake including existing slopes, retaining walls, new fill embankments and cut slopes. Seismic considerations have also been factored into the design of the proposed bridge foundation.

**What groundwater conditions exist in the project area?**

Groundwater is found within saturated geologic units, known as aquifers. Groundwater is present in the pore spaces between soil particles and in bedrock fractures within some of the geologic units in the project area. These saturated geologic units are known as water table aquifers. Water table aquifers are in contact with the atmosphere and are typically near the ground surface.

Shallow, unconfined groundwater occurs within the alluvium and colluvium deposits that overlie the bedrock in the project area. Groundwater levels range from between about 5 and 15 feet below ground surface (bgs) in the alluvium, and between about 5 and 50 feet bgs in the colluvium. Groundwater also occurs within fractures in the underlying bedrock. Groundwater levels in the bedrock range between about 25 and 50 feet bgs in the project area. Groundwater level measurements in the project area indicate seasonal groundwater level fluctuations of about 10 to 15 feet in the alluvium, colluvium, and bedrock.

It is estimated that the shape of the groundwater table generally follows the topography, and that groundwater flows from southeast to northwest in the project area as water drains toward the river and streams.

**What is the general groundwater quality in the project area?**

The groundwater quality of the shallow unconfined aquifer in the project area is generally considered to be good, with no widespread degradation. The nearest Washington State Department of Ecology (Ecology) water quality station is the Gold Bar station on the
main Skykomish River, downstream of the project area. Ecology reports that the water quality at this station “met or exceeded expectations and is of lowest concern” based on the water-year 2001 summary. Due to the permeable nature of the alluvium and colluvium under most of the project area and the close proximity to the North Fork Skykomish River, the proposed roadway is considered to be within an area susceptible to groundwater degradation.

**How is groundwater used in the project area?**

Groundwater in the greater project vicinity is used as a domestic water supply and as an irrigation and stock water supply. There is no groundwater use within the project limits. Particular groundwater uses have been identified from water rights records and water well records.

**Groundwater Rights**

A water rights search was conducted for the area within approximately one mile of the proposed project alignment, using Ecology’s Water Resource Program. In this area, the groundwater rights filed with Ecology include two claims. In the same area, the surface water rights filed with Ecology include one issued certificate and seven claims.

**Public Drinking Water Wells**

Eight wells are registered with Ecology within approximately one mile of the project area. All of these wells are designated as water supply wells by Ecology. There are no wells within the project limits.

**What regulatory programs affect groundwater resources along the project alignment?**

The project area is outside of the Snohomish County Groundwater Management Area and no regulatory designations, including sole-source aquifers, Wellhead Protection Areas, or Critical Aquifer Recharge Areas, have been assigned to aquifers in the project area.

**How would groundwater quality be affected by the project?**

Groundwater quality could be impacted by construction activities. Groundwater quality could be degraded by spills or inadvertent discharges of chemicals or other potential contaminants during construction. Exposing springs in the new cut slopes could lower groundwater in the immediate vicinity and alter existing subsurface drainage patterns.

**What are the hydrogeomorphic conditions in the project area?**

Hydromorphic conditions, which characterize how water modifies landforms, are an important consideration in the project area. The North Fork Skykomish River is a steeply sloped, high relief basin that flows from bedrock-lined canyons in the high Cascades to the confluence with the South Fork Skykomish River, located downstream from the town of Index. The upper valley is steep and confined in bedrock through a significant length of river. The project site is lower gradient and many areas are unconfined. Deposition of wood and sediment transported from upstream is more likely to occur through the project area, creating logjams and large gravel bar areas.
The project site is bounded along the left river bank (as one looks downstream) by two ancient alluvial fans, the Trout Creek fan on the downstream end (near MP 6) and an unnamed fan upstream (near MP 7.5). These fans represent hard points in the river where channel migration has not occurred in the historic record and field observations suggest that the river is not likely to migrate through these areas as the composition of the materials composing each fan is very large relative to materials being transported by the river. Between these fans, the floodplain materials are composed of alluvium and highly erodible. The existing roadway was placed on alluvium materials from approximately MP 6.2 to MP 7.3.

**How have past activities influence the river channel’s flow?**

Human impacts to the system (logging and channel clearing) in the 1960s and 1970s resulted in a straightened channel with increased hydraulic energy. The river is currently in a stage of recovery - wood and sediment are being stored, creating logjams and splitting the mainstem river into multiple channels. Logjams and multiple channel configurations reduce hydraulic energy and promote the deposition of additional wood and sediment. In this way, a feedback loop is created where logjams, sediment deposition and split flow conditions leads to more logjams, sediment deposition, and split flow conditions. Therefore, it is expected the river will expand its active channel width as it migrates and occupies a broader range of the valley floor in the next 50 years than it has occupied in the last 50 years. Logjam accumulation and extensive gravel bar development has occurred in the project reach and is at least partially responsible for causing the development of the side channel that washed out the roadway.

**How will channel migration affect the project area?**

Channel migration in the project area is characterized as avulsive, meaning that it is common for the river channel to abruptly move laterally from one location to another, sometimes moving the river from one side of the river valley to the other. Evidence of this type of activity is common in the historic record and this type of process is what is responsible for the existing washout. It is expected that these channel movement processes will continue in the future and that the active river channel is likely to occupy an increased width of the valley bottom in comparison to the river’s occupation area over the past several decades.

The projected Channel Migration Zone (CMZ) occupies nearly the entire valley bottom through this reach and most of the CMZ is delineated into the “high hazard zone” where it is likely that channel occupation will occur over the course of the next 50 years. This is primarily because of the character of channel migration, expected future morphology of the river given increased wood and sediment storage and the erodibility of existing floodplain materials. This places the current roadway alignment within the high risk area of the CMZ from MP 6.2 to MP 7.3.
5.2.3 Air Quality

Air quality refers to the cleanliness of the atmosphere. Clean air is vital to human health and is a resource protected by federal, state, and local regulations. Pollutants in the air not only can negatively affect humans but can also affect plants, animals, and manmade structures. Ambient (outdoor) air quality is affected by climate, topography, meteorological conditions, and airborne pollutants produced by natural or artificial sources. NEPA requires that the effects of a proposed project on air quality are evaluated.

Both the federal Clean Air Act (Title 42 USC Section 7401 et seq. 1970) and its amendments and the Washington State Clean Air Act (RCW 70.94) regulate air quality. Transportation conformity is an analytical process required for all federally funded transportation projects located in nonattainment or maintenance areas.

Under the 1990 federal Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that do not conform to the State Implementation Plan—the state’s plan for meeting and maintaining compliance with the National Ambient Air Quality Standards (NAAQS)—for achieving the goals of the Clean Air Act. Conformity with the Clean Air Act takes place on two levels: first at the regional level and second at the project level; the proposed project must conform at both levels to be approved.

What air quality standards apply to the project?

The federal Clean Air Act (42 USC Section 7401 et seq. 1970) and its amendments and the Washington State Clean Air Act regulate air quality. The Washington Department of Ecology and The Puget Sound Clean Air Agency maintain a network of air quality monitoring stations throughout the Puget Sound region. They are typically located where air quality problems commonly occur, and are usually in urban areas near large pollution sources.

Based on information collected over a period of time, state and federal agencies have designated particular regions as being in “attainment” or “non-attainment areas” for particular air pollutants. Attainment areas are geographical regions where air quality standards are not exceeded, while non-attainment areas are where regions where air quality standards are exceeded. Maintenance areas are regions where historical exceedances have occurred but which currently comply with air standards.

When a project in Snohomish County is located in or near a non-attainment or maintenance area, the Puget Sound Regional Council is contacted to determine whether the project has been included in the Puget Sound region’s Metropolitan Transportation Plan (MTP) and in a conforming Transportation Implementation Plan (TIP). The Index-Galena Project is included in the MTP.

How does the project conform to these standards?

The project area is located in attainment areas for carbon monoxide, ozone, and particulate matter. This means that the project area currently meets federal air quality standards. Consequently, the project is not subject to a transportation conformity review and modeling studies to determine whether there would be potential air quality impacts.
from the proposed project are not required. In addition to being located in attainment areas, the relocated roadway would maintain good congestion-free traffic flow in the future. The project will not cause adverse localized air quality concentrations. The future roadway would not result in adverse air quality impacts.

**How would the roadway project affect air quality?**

Improving traffic flow by providing a more direct route that reduces travel distance and travel time would provide air quality benefits. Reducing travel time and distance would reduce direct emissions of carbon monoxide and particulate matter in the greater project vicinity, particularly during the heaviest recreation traffic periods.

**How would construction affect air quality?**

There would be temporary air quality impacts during project construction. Excavation of soils and grading would contribute to higher dust levels (called “fugitive dust”), particularly during extended dry periods. Construction would also require using heavy trucks and smaller equipment such as generators and compressors. These engines would emit air pollutants that would slightly degrade local air quality. Some construction phases would cause odors detectible to some people near the project site, and would occur during paving operations using tar and asphalt. These odors would be short term.

Construction equipment, material hauling, and traffic control for excavation and grading would not affect traffic flow in the project area due to the project’s location at a current dead end closed to traffic.

**How would construction air quality impacts be minimized?**

The mitigation measures provided in the following list would be used to reduce potential impacts from vehicle exhaust and fugitive dust during construction of the project. This list was developed from control measures and best management practices suggested by the Puget Sound Clean Air Agency and the Associated General Contractors of Washington (*AGC Guide to Handling Fugitive Dust From Construction Projects*).

**Best Practices to minimize air quality emissions during construction would include:**

- Use only equipment and trucks that are maintained in optimal operational condition.
- Develop a dust control plan during project planning to identify sources and activities that would be likely to generate fugitive dust and the means to control such emissions.
- Spray exposed soil with water to reduce emissions of particulate matter and deposition of particulate matter; include dust controls on paved and unpaved roads and in site preparation, grading and loading areas.
• Cover or use moisteners or soil stabilizers to minimize emissions from storage piles; minimize drop heights involved in creating storage piles or haul-vehicle loading.
• Cover all trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce particulate matter emissions and deposition during transport.
• Pave or use gravel on staging areas and roads that would be exposed for long periods, and reduce speeds on unpaved roads or work areas.
• Use quarry spalls (rock entrances), vehicle scrapes, or wheel washers to remove particulate matter that would otherwise be carried off site by vehicles to decrease deposition of particulate matter on area roadways.
• Remove particulate matter deposited on paved, public roads, to reduce mud and dust; sweep and wash streets continuously to reduce emissions.
• Cover dirt, gravel, and debris piles as needed to reduce dust and windblown debris, and avoid dust-generating activities during windy periods.

5.2.4 Water Quality and Surface Water

Surface Water refers to fresh bodies of water such as lakes, rivers and streams. Surface water resources, along with groundwater, are protected under federal, state, and local regulations. The Clean Water Act (CWA) (33 USC 1251 et seq.) is the cornerstone of legislation protecting water resources in the United States. The Environmental Protection Agency (EPA) is the primary federal agency responsible for implementing and enforcing the CWA, which was passed in 1972 in response to widespread public concern about controlling water pollution and protecting America’s water bodies. In many cases, however, the EPA has authorized states to implement CWA programs, while retaining oversight responsibilities.

In Washington, the EPA has authorized Ecology to regulate discharges to the state’s water resources through the NPDES permit program and the Pretreatment and General Permits programs, which regulate point and nonpoint source (surface water flow not discharged from particular facilities, such as stormwater) discharges. Ecology has adopted laws that regulate the concentrations of toxic substances allowed in stormwater and surface water bodies and has developed manuals detailing approved stormwater treatment and detention procedures. In addition to the state, counties and incorporated cities have jurisdiction over water resources, wetlands, and other critical areas.

What streams are located in the project area?

The proposed project lies within the WRIA 07 Snohomish River Water Resource Inventory Area (WRIA) basin. Index-Galena Road parallels the North Fork Skykomish River, which is a sub-basin of the Snohomish River. The project is located on the left bank and upstream from North Fork Skykomish River Mile 6.9, located at the confluence of the Trout Creek tributary and the river. Portions of the existing damaged road are
located in a side channel of the river. All of the project area surface drainage drains to the North Fork Skykomish River.

The North Fork Skykomish River watershed drains an estimated 93,960 acres, most of which is located in the Mt. Baker Snoqualmie National Forest. Riparian habitat is largely second growth deciduous and conifer forest along the river. Old-growth is abundant in the watershed, but it is primarily at higher and more remote locations. While there is generally good riparian habitat along much of the river, roads that parallel the river in close proximity have somewhat reduced floodplain and riparian functions such as flood flow storage and wildlife habitat.

Most of the lower North Fork Skykomish River flows in a relatively confined, incised channel heavily armored with cobbles and boulders. Sections of the river have exhibited channel widening in recent years after many years of logging and other disturbance activities. The river’s flows are subject to recurrent rain-on-snow and other high flow events that promote channel meandering and pose risks for roads located near the channel migration zone. An increase in rain-on-snow and an increased frequency of high flow events are anticipated effects resulting from climate change that could pose greater risk to infrastructure located within flood hazard areas and channel migration zones.

The project proposes nine stream crossings. All non-fish-bearing tributaries to the North Fork Skykomish River crossings would be placed in culverts. While these streams do not provide suitable fish habitat because of their location on moderate to steep slopes, they are important for maintaining water quality downstream in the river. The project proposes a bridge crossing at the fish bearing stream/wetland located near Station 54+00.

**What are the streams like that will be crossed by the relocated roadway?**

All of the stream proposed for culverting are narrow streams that flow down steep to moderate slopes and flow into the North Fork Skykomish River. Most of these streams typically become dry or mostly dry by the end of summer except for the stream near Station 29+00.

The stream located at Station 54+00 flows through a wetland. The wetland typically becomes inundated up to several feet deep during the winter months. The stream through the wetland and the adjacent ponded areas provide rearing and refugia habitat for salmonid juvenile fish during winter high flows. In the late summer, the wetland typically becomes dry and the stream channel flow is greatly diminished. (See Exhibit 16: Unnamed stream near Station 29+00 and Exhibit 17: Stream at Station 44+84 for photos showing a couple of the streams where roadway cross culverts are proposed.)
Exhibit 16: Unnamed stream near Station 29+00 At this location, the project proposes a vented ford box culvert crossing that would convey stream flows. It would be sized to convey the 100-year design storm and associated debris.

Exhibit 17: Unnamed stream at Station 44+84 At this location, the project proposes to install a 48-inch diameter culvert that would convey stream flows and associated debris flows. This photo was taken in May, when flows have started to diminish.
How would the new roadway affect project area streams?

The proposed alignment’s stream crossings would require new culverts to be installed at each roadway stream crossing. In addition to streams, culverts would also be installed to convey slope drainage not flowing in defined stream channels. While culverts constructed at stream crossings would not be required to provide for unimpeded fish passage, they would be required to convey the 100-year design-year storm and associated debris flow without damage. Stream buffers would be impacted by vegetation clearing and grading site disturbance that would modify the drainage pattern slightly and increase impervious surface area. The proposed locations and sizes of proposed culvert crossings are shown in Exhibit 18: Proposed Index-Galena Road Culvert Locations and Sizes. Unless otherwise indicated, all culverts are round circular pipe culverts with sizes ranging from 36 inches to 48 inches in diameter. The final determination for number of culverts, their locations, and sizes would be determined during final design.

<table>
<thead>
<tr>
<th>Culvert Number</th>
<th>Approximate Station Location</th>
<th>Culvert Length</th>
<th>Culvert Size</th>
<th>Conveyance Type</th>
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<tbody>
<tr>
<td>1</td>
<td>13+28</td>
<td>35</td>
<td>49&quot; X 33&quot; Arch</td>
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</tr>
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</tr>
<tr>
<td>4</td>
<td>19+70</td>
<td>56</td>
<td>48-inch diameter</td>
<td>Stream</td>
</tr>
<tr>
<td>5</td>
<td>26+57</td>
<td>50</td>
<td>36-inch diameter</td>
<td>Stream</td>
</tr>
<tr>
<td>6</td>
<td>28+98</td>
<td>35</td>
<td>12-foot vented ford box culvert</td>
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<td>7</td>
<td>31+61</td>
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<td>36-inch diameter</td>
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<td>8</td>
<td>33+61</td>
<td>44</td>
<td>48-inch diameter</td>
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</tr>
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<td>50+20</td>
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<td>Drainage</td>
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<tr>
<td>14</td>
<td>51+20</td>
<td>40</td>
<td>36-inch diameter</td>
<td>Drainage</td>
</tr>
</tbody>
</table>

How would impacts be reduced by the project construction?

Grading would be limited to the dry season (typically April to October) to avoid and minimize erosion that could cause excessive sedimentation. Sedimentation could cause turbidity problems (cause the water to be muddy or cloudy). Erosion control best management practices (BMPs) would be used to prevent sediment from washing away from graded bare areas to streams.
Limits of disturbance would be clearly marked by high visibility barrier fencing to avoid unnecessary disturbance and minimize soil disturbance caused by vegetation clearing and grading.

Unavoidable project impacts to streams such as clearing and grading within their buffers would be compensated for by mitigation that meets the requirements of Snohomish County critical area regulations. The entirety of the project area is located within the buffer to the North Fork Skykomish River, so buffer mitigation will be determined for the project as a whole. Mitigation would include stream buffer enhancement, which would include stream buffer plantings using native plants. Offsite mitigation would occur at a mitigation bank to fully meet mitigation requirements that cannot be met in the project area.

To prevent scouling and erosion of stream channels, a detailed drainage plan would be part of the final project design. The drainage plan would be designed to both control the flow and filter construction stormwater runoff.

**How would stormwater runoff impacts to streams be addressed?**

Stormwater runoff will be managed in accordance with the Washington State Department of Transportation’s *Highway Runoff Manual* (HRM). The primary users of the HRM include “Counties, municipalities, and other jurisdictions that design transportation projects supported by federal or state funding” that have been identified, funded and are constructed for public use and necessity and public safety, within the public right of way.

The proposed approach for treatment is to use natural flow dispersion. Natural flow dispersion uses the existing vegetation, soils, and topography to effectively reduce runoff velocities and runoff treatment, and generally requires little or no construction activity. The pollutant-removal processes include infiltration into the existing soils and through vegetation root zones; evaporation; and uptake and transpiration by the vegetation. Typically this is used where there is a minimum width of native vegetation of 100 feet (measured in the direction of the flow path) and the area receiving flow would not be steeper than 6:1. It is advantageous not to concentrate stormwater to minimize the risk of downstream erosion by allowing stormwater runoff to disperse overland along the length of the project.

Due to the steep onsite slopes, approximately 10% of the receiving slopes on this site meet all of the design criteria. This rugged terrain along the proposed alignment makes constructing stormwater management facilities within or adjacent to the roadway right of way difficult, if not impossible, using standard Best Management Practices (BMPs). The Highway Runoff Manual presents a method to assist in determining when site-specific factors could make constructing stormwater management facilities within or adjacent to the highway right of way infeasible. This method is called the Engineering and Economic Feasibility (EEF) Evaluation.

This Evaluation was undertaken and demonstrates that the construction of standard stormwater facilities within the project area is not feasible within the majority of the project site. However, the combination of low traffic volumes, deep, mature forest soils, and an abundance of dense vegetation make the project site ideal for deviating from standard design criteria. According to the WSDOT Highway Runoff Program Manager,
this is a relatively common deviation for remote forest roads of this nature. This is because it is strongly preferable to avoid any concentration of site runoff in areas of steep slopes, and high soil infiltration rates of undisturbed soils provide effective stormwater dispersion. Geotechnical evaluations have confirmed that the site-specific conditions make Natural Dispersion a preferable BMP on this site. This is because most of the onsite soils have high infiltration rates, and shallow groundwater is not generally found onsite, and overland flows are not observable onsite, even during heavy rain.

How would the project address construction erosion and sedimentation?

As land disturbing activities associated with road construction occur, there is potential for increased erosion and sedimentation to occur. The project would develop a Stormwater Pollution Prevention Plan (SWPPP), and best management practices (BMPs) would be implemented to minimize the impacts of such activities. The SWPPP would evaluate twelve elements of erosion and sedimentation:

1. Marking Clearing Limits.
2. Establish Construction Access.
3. Control Flow Rates.
4. Install Sediment Controls.
5. Stabilized Soils.
6. Project Slopes.
7. Protect Drain Inlets.
8. Stabilize Channels and Inlets.
11. Maintain BMPs.
12. Manage the Project.

A menu of applicable BMPs would be used for each of the twelve elements, and the appropriate site-specific BMPs would be chosen, and shown on the Erosion and Sedimentation Control Plans. BMPs include, but are not limited to, silt fences, straw wattles, seeding and mulching, jute matting, managed project staging, etc. A Certified Erosion and Sedimentation Control Lead (CESCL) would be onsite during construction to ensure that BMPs installed on the project site are appropriately maintaining acceptable levels of project discharge, in accordance with the rules and regulations set forth by the DOE. As site conditions change, the CESCL would update the onsite Erosion and Sedimentation Control Plans as necessary to ensure that requirements for all twelve elements of the SWPPP are satisfied.

With careful monitoring and updating to the project site SWPPP and associated Temporary Erosion and Sedimentation Control (TESC) measures, water quality of the receiving waters is not anticipated to be negatively impacted by this project.

How would the project address its extensive in-water work?

Portions of the project’s proposed mitigation include restoring existing pavement areas to riparian forested conditions. This includes removing asphalt and other roadway features such as culverts, concrete barriers, guardrail, etc. Removing some of these features would
require extensive in-water work and/or water crossings to gain access. This method was identified as a less disruptive way to complete the work as compared to dewatering and installing extensive in-stream isolation dams that would pose a higher risk for sedimentation and increased turbidity and potentially contribute to stranding of fish in shallow water. It was developed in coordination with a habitat biologist, contractors and other construction professionals who were brought onsite to evaluate removal methods.

Potential water crossings include the placement of concrete “jersey” barriers in the water way, with large containers placed on top that will be large enough to allow construction equipment to cross the river without entering into the water surface. Another potential method would be to construct temporary bridge structures built from trees that will need to be removed as part of roadway construction. Using cranes has also been suggested, but their impact is estimated to be greater than the benefit offered by their use. It has also been suggested that rigging could be constructed to carry the roadway features over the water way for removal, but this has been deemed by construction professionals to be infeasible.

The exact construction process will not be fully known until the project bidding process is completed and a contractor selected. However, the contract will include provisions to ensure that the water quality of the river is not adversely affected during the removal of these roadway features. These provisions would include the containment of potential pollutants, seasonal and fish-window timing conditions, restrictions of what activity would occur at high water levels, and, if necessary, fish isolation practices. Potential staging areas would be identified prior to the start of construction, and would be limited to those areas deemed to provide the most access with the least impact such as the existing roadway.

Are there floodplains in the project area?

The existing Index-Galena Road roadway, in the area damaged by high flow floodwaters, lies within the 100-year floodplain. The proposed project would relocate the roadway away from the floodplain and move the roadway upslope and south from the damaged roadway. The proposed project would be constructed in elevated terrain higher than the North Fork Skykomish River floodplain. The portion of the damaged roadway located in the floodplain would be removed and restored to natural riparian conditions.

Would project construction occur in the floodplain?

The proposed project roadway relocation elevates the roadway largely outside the 100-year flood zone and the channel migration zone. A portion of the relocated roadway near Station 35+00 and the area from Station 53+00 to 54+00 would be in proximity to the floodplain and construction activity would occur to install a buried rock revetment. (See Exhibit 2: Proposed Index-Galena Road Project Milepost 6.4-6.9 for proximity of the existing and proposed relocated roadway to the mapped floodplain.) The close proximity in the area from 53+00 to 54+00 arises from the need for the relocated roadway to tie back into the lower elevation of the existing roadway at the upstream project limits.

Approximately 7,100 square feet of disturbance would occur within the 100-year floodplain for the buried revetment installation. This buried rock revetment would provide toe protection for the roadway in case of future lateral river migration. Existing
site elevations in this location would be restored once revetment overexcavation has been completed, and restoration plantings have been completed. Consequently, there would be no increase in the floodplain elevation resulting from this portion of the construction activity in the floodplain and channel migration zone areas.

**How would roadway relocation affect the floodplain?**

The roadway relocation is expected to improve floodplain conditions by restoring floodplain connectivity that has been historically impeded by the existing roadway alignment. Overall, moving the roadway further landward and removing the remaining asphalt and damaged roadway debris is expected to reduce future roadway flood hazard risk and associated damages to the relocated roadway. By relocating the existing Index Galena Road outside of the current right-of-way easement, it is estimated that floodplain connectivity would be restored to approximately 208,650 square feet (4.78 acres) of floodplain that is currently disconnected by asphalt surfaces and associated roadway debris (concrete, culverts).

Constructing the relocated roadway outside the flood hazard areas, and largely outside of the channel migration zones, is also expected to contribute to improved floodplain functionality with regard to attenuation of flood flows. Enabling the river to be conveyed in a wider area than has been available for more than 100 years would contribute to providing more conveyance of flood flows that would benefit downstream residential areas during high flow events.

Preliminary estimates indicate that there would be net removal of material from the floodplain associated with roadway asphalt removal, concrete removal, and removal of existing damaged culverts and other debris. It has been estimated that the volume of old concrete to be removed will be at least 65 cubic yards and as much as 180 cubic yards. The removal of this material will reduce the effects of the new alignment to achieve no net rise in the water surface elevation during the 100-year flood event due to the project. Due to inaccessibility, quantities of asphalt currently located within the side channel that would be removed have not been calculated.

The fourteen culverts proposed along the alignment to convey hillside streams and offsite slope drainage under the relocated roadway are located above the 100-year floodplain and are not expected to affect the floodplain areas.

The proposed bridge to span the wetland and seasonal stream located at the north end of the newly aligned roadway would maintain hydraulic connectivity to the river and would maintain seasonal pool habitat created in part by backwater of high river levels and from groundwater flows into the wetland. The bridge has been proposed as a method of reducing impact to the wetland, allowing the natural hydraulic connectivity of the river to remain intact and provide a roadway crossing that would be less vulnerable to future damage associated with river high flows. The bridge design reduces impediments to flood flow conveyance in the land area behind (landward) the road prism, and would contribute to improved attenuation of flood flows.
5.2.5 Fish, Wildlife and Vegetation

Information about fish, wildlife, and vegetation is important because over the last few centuries, these resources have been adversely affected by large-scale alteration of their habitat and the watersheds, as well as by direct harvesting. Fish and wildlife are protected under federal, state, and local regulations. Wildlife is part of an ecosystem and the movements of wildlife (foraging, breeding, refuge, dispersal, and migration) affect and are affected by both the built and natural environment. Wildlife can affect habitat by consuming vegetation, insects, fish, or other animals; providing a source of prey and nutrients to other animals; and serving as a mechanism to disperse seeds.

What Regulations Protect Fish, Wildlife, and Vegetation?

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service (USFWS), and Washington Department of Fish and Wildlife (WDFW) all have regulatory jurisdiction over fish and wildlife resources within the study area. See Exhibit 19: Special Status Species for a list of all the species and which agency regulates impacts on them.

Federal Regulations

NOAA Fisheries and USFWS regulate commercial and noncommercial fish stocks, as well as administer the federal Endangered Species Act (ESA) (16 United States Code [USC] 1531-1544, as amended). Federal agencies with jurisdiction over wildlife include USFWS and the NOAA Fisheries. USFWS is responsible for enforcing the Migratory Bird Treaty Act (16 USC 703 through 713) and the Bald and Golden Eagle Protection Act (16 USC 668-668c); NOAA Fisheries implements the Marine Mammal Protection Act (50 CFR 216).

Section 7 of the ESA requires Federal agencies to ensure that their actions do not jeopardize the continued existence of a federally-listed endangered or threatened species, or their critical habitats.

In addition to federally listed threatened and endangered species, wildlife species considered included Forest Plan Management Indicator Species (MIS) and species of concern from the Forest Plan, as amended, and Survey and Manage species.

State and Local Regulations

WDFW has the responsibility for preserving, protecting, and perpetuating all fish and shellfish resources of the state. The Hydraulic Code (Chapter 77.55 RCW) requires that any person, organization, or government agency wishing to conduct any construction activity that will use, divert, obstruct, or change the bed or flow of state waters must do so under the terms of a permit (called the Hydraulic Project Approval [HPA]) issued by the WDFW. Fish habitat requirements are additionally considered under the regulatory authority of the Water Resource Act (90.54 RCW). Additionally, fish and fish habitat needs are often addressed in WRIA Plans in accordance with 173-500 WAC. WRIA plans involve many local stakeholders, including federal, tribal, state, and local agency representatives. In addition, WDFW is charged with managing the wildlife resource,
including designating and protecting state-listed endangered, threatened, and candidate species (WAC 232-12-014 and WAC 232-12-011) as well as Priority Habitats and Species.

Local jurisdictions regulate fish and wildlife habitat by implementing critical areas regulations, as part of the Washington State Growth Management Act (36.70A.060 RCW). Local jurisdictions might also use their SEPA ordinances as regulatory protection mechanisms (197-11 WAC). Fish habitat is also addressed under both the State Shoreline Management Act (90.58 RCW) and local shoreline master programs (173-26 WAC).

What fish species are present in the project area?

Both anadromous species, those that spend part of their lifecycle in freshwater and part in salt water, and resident fish species use the North Fork Skykomish River, including side channels that branch off from the mainstem channel. The proposed roadway crosses only one fish bearing stream. This stream is associated with a wetland located near Station 54+00. This stream provides seasonal overwinter habitat. In most years the upper portions of this stream typically become dry by late summer.

Anadromous fish in the river include several salmonid species: chinook, steelhead, coho, chum, and pink salmon, in addition to sea-run cutthroat trout and bull trout. Other species that may be found in other basins within the watershed include crappie, mountain whitefish, speckled dace, smelt, sculpins, suckers, three spine stickleback, and non-native species such as large-mouth bass and sunfish.

What are the impacts of the project on fish species?

Fish may be temporarily exposed to increased turbidity when the asphalt is removed from the river side channel. Machinery moving back and forth through the stream to remove the asphalt could disturb the substrate (river cobbles). It is expected that fish would likely move out of the way as the equipment works in the river side channel. However, there could be fish that seek refuge in the substrate that could potentially be harmed. Fine sediment and turbidity that would be mobilized by substrate disturbance could potentially affect the behavior or feeding success of juvenile salmon. Suspended solids can also coat gills, reducing respiration efficiency.

How would the project mitigate for adverse effects to listed fish and their habitat?

The project would implement several avoidance and minimization measures as part of the project’s design and construction. They would include the following Construction Best Management Practices:

- Prior to use, all equipment will be checked daily for leaks and completely cleaned of any external petroleum products, hydraulic fluid, coolants, and other deleterious materials. Wash water will not be discharged to any water body.
- At least one employee is designated as the erosion and spill control (ESC)
lead. The ESC lead is responsible for installing and monitoring erosion control measures and maintaining spill contaminant and control equipment.

- All BMPs will be removed after construction is complete and the site stabilized.

Conservation measures to avoid and minimize impacts would include:

- The project would remove the remaining portions of the damaged road from the river.
- The pavement width of the proposed road was reduced to 22 feet to minimize the impact footprint to critical habitat. No designated critical habitat would be removed.
- Work would not inhibit passage of any adult or juvenile salmonid species during or after construction.
- Clearing limits would be identified by barrier fencing to prevent additional impacts to environmentally sensitive areas in proximity to streams and wetlands.
- In-water work would be conducted during the prescribed work window conditioned in the issued HPA. This is anticipated to be during the “Times When Spawning or Incubating Salmonids are Least Likely to Be Within Washington Fresh Waters” which is August 1-August 31.
- All reasonable and prudent measures would be taken to ensure fish are excluded in compliance with the WSDOT Fish Exclusion Protocols and Standards (2012)
- All equipment entering the water would use vegetable oil or other biodegradable hydraulic fluid substitute.
- Large Woody Debris (LWD) would be installed to provide in-stream habitat for listed fish and buried rock toe protection would be faced with LWD to “soften” the interaction of the rock protection with the river if the river migrates into the embankment.
- Approximately 53,000 sq. ft. of asphalt pavement would be removed from the water.
- 8.3 acres of temporary disturbance would be restored with native plants and salvaged forest duff material.
- Approximately 1 acre of riparian buffer would be created in the footprint of the old road.
- Bridge piers and abutments would be built landward of the ordinary high water mark (OHWM) to minimize impacts to the stream and wetland.

What wildlife are present in the project area?

Four primary habitat types are present: mature upland forest, streams, wetlands, and riparian areas. A variety of resident and migratory bird species and mammals use the area as well as amphibians and reptiles.

The riparian zone along the North Fork Skykomish River provides habitat connectivity to the upper drainage and higher elevations. The riparian area along the river corridor connects the mainstem Skykomish River downstream of the project area with the higher
elevations of the north Cascade mountains, providing a corridor pathway for wildlife. The corridor is used by birds and mammals seasonally. The forest in the project area has a variety of habitat elements that provide wildlife habitat. These include large boulder piles, rocky outcrops, abundant downed logs, stumps, and snags. The wetland near the Milepost 6.9 upper washout supports at least one beaver, a variety of resident and neotropical songbirds, amphibians, and salmonids.

Two bird species listed in the ESA as threatened could potentially be found in or adjacent to the project area. These are the northern spotted owl and marbled murrelet. There is a documented marbled murrelet nest approximately 4.5 miles upriver from the project site. It is likely that marbled murrelets fly up the North Fork Skykomish River corridor during nesting season to access nesting sites upstream of the project area. The project area does not contain suitable nesting habitat for marbled murrelets. Marbled murrelet suitable habitat is located more than 1,000 feet from the project area. Suitable northern spotted owl nesting habitat is approximately ½ mile from the project area within the study area. While there is no suitable nesting habitat within the project area, foraging and dispersal habitat are available. There is suitable habitat within the study area in the upper parts of the Trout Creek drainage.

The closest documented northern spotted owl nest to the project area is approximately 3.5 miles away. There is a mapped spotted owl site center approximately 1.7 miles from the project site. The project site is second growth mixed coniferous and deciduous forest. The closest old growth forest is approximately 1,900 feet above the project site at higher elevations. Dispersing juvenile owls and wintering pairs could potentially use the study area for foraging or shelter. Designated northern spotted owl critical habitat is mapped approximately 2 miles from the project site at higher elevations.

Marbled murrelet and northern spotted owl critical habitat are the closest critical habitats to the project area. The project area is not in federally designated critical habitat. The nearest marbled murrelet critical habitat is approximately 2,300 feet away and 1,000 feet higher in elevation than the project site.

In addition, gray wolf (endangered) and grizzly bear (threatened) could move through the project area but neither species presence has been confirmed. Grizzly bears tend to avoid areas with more than 1 mile of road per square mile. The Skykomish Forks watersheds have an average of 1.3 miles of road per square mile based on the U.S Forest Service’s 1997 analysis of the North Fork Skykomish and South Fork Skykomish watersheds. The study area lies between Bear Management Unit (BMU) 4-Index and BMU 5-Beckler, outside of the Grizzly Recovery Core Habitat Zone. Grizzly bears are considered rare and irregular in the Skykomish Ranger District. The primary food supply in the study area would be spawned salmon in the fall. The closest, recent grizzly sighting was in the Cascade River drainage in the North Cascades National Park. Historically, a grizzly female with two cubs was reported approximately five miles from the project area. It is not expected that grizzly bears would be found in the study area. Since the existing damaged road would be decommissioned, there would be no net loss of grizzly core habitat.
There are no known active wolf packs on the Skykomish Ranger District. Gray wolves tend to avoid roads, especially areas with more than 1 mile of road per square mile. Gray wolves are not known to be within the project area. According to the USFS (1997), there is not an abundant ungulate (hooved animal) population in the study area that would provide food for a pack.

Species identified by USFWS as ESA candidate species and species of concern that may be found in the study area include Western toad, coastal tailed frog, bald eagle, northern goshawk, peregrine falcon, olive-sided flycatcher, western long-eared myotis, Townsend’s big-eared bat, long-legged myotis, and California wolverine.

Sensitive species as defined by the Washington State Department of Wildlife and the U.S. Forest Service are also present. Based on the review of the previously listed sources and habitat surveys, the table below lists Special Status species documented as occurring in the study area, species not found or expected to be found in the study area, and species that may be present in the study area. Special status species include federally listed wildlife species, U.S. Forest Service listed wildlife species, and Washington State listed wildlife species. See Exhibit 19: Special Status Species for a complete list of species evaluated as part of the project’s review. A discussion of each species can be found in the Wildlife Discipline Report.

### Exhibit 19: Special Status Species

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Occurrence in Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INVERTEBRATES</strong></td>
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<td></td>
</tr>
<tr>
<td>Beller’s ground beetle</td>
<td>Federal species of concern</td>
<td>Found in sphagnum bogs. No suitable habitat in study area</td>
</tr>
<tr>
<td><em>Agonum belleri</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnson’s hairstreak</td>
<td>USFS sensitive</td>
<td>Old growth obligate species; not documented in study area</td>
</tr>
<tr>
<td><em>Callophyrs johnsoni</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puget Oregonian</td>
<td>USFS sensitive</td>
<td>Not found in study area</td>
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<tr>
<td><em>Cryptomastix devia</em></td>
<td>USFS Survey and manage</td>
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<tr>
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<td>Found only in Eastern Washington.</td>
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<td>USFS Survey and manage</td>
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<td></td>
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<tr>
<td><strong>AMPHIBIANS/REPTILES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western toad</td>
<td>Federal species of concern</td>
<td>Not documented; may occur in wetlands and upland area</td>
</tr>
<tr>
<td><em>Bufo boreas</em></td>
<td>State candidate</td>
<td></td>
</tr>
</tbody>
</table>

Effects and Mitigation

NEPA Environmental Assessment

Index-Galena Road Milepost 6.4-Milepost 6.9
<table>
<thead>
<tr>
<th>Species</th>
<th>Federal Status</th>
<th>State Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cascades frog <em>Rana cascadae</em></td>
<td>Federal species of concern</td>
<td>Not documented; not expected to occur in study area</td>
<td></td>
</tr>
<tr>
<td>Coastal tailed frog <em>Ascaphus truei</em></td>
<td>Federal species of concern</td>
<td>Not documented, not expected to occur in study area; may be in Trout Creek</td>
<td></td>
</tr>
<tr>
<td>Oregon spotted frog</td>
<td>Federal threatened State endangered</td>
<td>No habitat in study area</td>
<td></td>
</tr>
<tr>
<td>Van Dyke’s salamander <em>Plethodon vandykei</em></td>
<td>USFS sensitive State candidate</td>
<td>Not known to be found north of Highway 2</td>
<td></td>
</tr>
<tr>
<td>Larch Mountain salamander <em>Plethodon larselli</em></td>
<td>USFS sensitive State sensitive</td>
<td>Not known to be found north of Highway 2</td>
<td></td>
</tr>
<tr>
<td>Western pond turtle <em>Clemmys marmorata</em></td>
<td>Federal species of concern State endangered</td>
<td>Found in ponds and lakes; no suitable habitat in study area.</td>
<td></td>
</tr>
</tbody>
</table>

**BIRDS**

<table>
<thead>
<tr>
<th>Species</th>
<th>Federal Status</th>
<th>State Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harlequin duck <em>Histrionicus histrionicus</em></td>
<td>USFS sensitive</td>
<td>Occurs on river</td>
<td></td>
</tr>
<tr>
<td>Bald eagle <em>Haliaeetus leucocephalus</em></td>
<td>Federal species of concern USFS sensitive USFS management indicator State sensitive</td>
<td>Does not nest in Skykomish Ranger District; mid-winter visitor to area</td>
<td></td>
</tr>
<tr>
<td>Golden eagle <em>Aquila chrysaetos</em></td>
<td>State candidate</td>
<td>May occur seasonally in open areas along river</td>
<td></td>
</tr>
<tr>
<td>Northern goshawk <em>Accipiter gentilis</em></td>
<td>Federal species of concern State candidate</td>
<td>Nest within 2.5 miles of project site; juveniles may disperse into study area</td>
<td></td>
</tr>
<tr>
<td>Peregrine falcon <em>Falco peregrinus</em></td>
<td>Federal species of concern USFS sensitive USFS management indicator State sensitive</td>
<td>Nests on nearby Index Town Wall, approximately 4 miles from the project area. May hunt in floodplain adjacent to project area.</td>
<td></td>
</tr>
<tr>
<td>Marbled murrelet <em>Brachyramphus marmoratus</em></td>
<td>Federal threatened State threatened</td>
<td>Closest sighting 3 miles from project site; closest designated critical and suitable habitat 0.5 miles from site. Likely use river as flyway.</td>
<td></td>
</tr>
<tr>
<td>Yellow-billed cuckoo <em>Coccyzus americanus</em></td>
<td>Federal threatened State candidate</td>
<td>Not documented; likely extirpated in state. No suitable habitat.</td>
<td></td>
</tr>
<tr>
<td>Northern spotted owl <em>Strix occidentalis</em></td>
<td>Federal threatened USFS management indicator State endangered</td>
<td>Closest nest 3.5 miles from project site; closest designated critical habitat 3 miles from project site. Study area provides dispersal habitat.</td>
<td></td>
</tr>
<tr>
<td>Bird Species</td>
<td>Status</td>
<td>Observations</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| **Vaux’s swift**  
*Chaetura vauxi*                          | State candidate   | Observed feeding over river in summer                                         |
| **Pileated woodpecker**  
*Dryocopus pileatus*                          | USFS management indicator  
State candidate   | Signs on snags found; occurs in forest and riparian areas                     |
| **Black-backed woodpecker**  
*Picoides arcticus*                          | State candidate   | Found in high elevation old growth and burned area; no suitable habitat in study area |
| **Olive-sided flycatcher**  
*Contopus cooperi*                          | Federal species of concern   | Occurs in riparian areas                                                      |

| **MAMMALS** |
|--------------------------------------|-------------------|----------------------------------------------------------------|
| **Keen’s myotis**  
*Myotis keenii*                          | State candidate   | Not documented in Snohomish County; unlikely to occur in study area |
| **Western long-eared myotis**  
*Myotis evotis pacificus*                          | Federal species of concern   | Not documented; may occur in study area |
| **Long-legged myotis**  
*Myotis volans longricus*                          | Federal species of concern   | Not documented; may occur in study area |
| **Townsend’s big-eared bat**  
*Corynorhinus townsendii townsendii*                          | Federal species of concern  
USFS sensitive  
State candidate   | Not documented; may occur in study area |
| **Grizzly bear**  
*Ursus arctos*                          | Federal threatened  
USFS management indicator   
State endangered   | Very rare and irregular on Skykomish Ranger District |
| **Canada lynx**  
*Lynx canadensis*                          | Federal threatened  
State threatened   | Not known to occur west of the Cascade Crest |
| **Gray wolf**  
*Canis lupus*                          | Federal endangered  
USFS management indicator   
State endangered   | No known reports or evidence on Skykomish Ranger District. |
| **Fisher**  
*Peknia pennanti*                          | Federal candidate  
USFS sensitive  
State endangered   | Extirpated from County |
| **American pine marten**  
*Martes caurina*                          | USFS management indicator   | Not documented; may occur in forested areas |
| **California wolverine**  
*Gulo gulo*                          | Federal species of concern  
USFS sensitive  
State candidate   | Not documented; generally found at higher elevations but may use unplowed road for winter travel corridor |
| **Columbian black-tailed deer**  
*Odocoileus hemionus columbianus*                          | USFS management prescription   | A few have been documented in the project site |
| **Elk**  
*Cervus elaphus*                          | USFS management prescription   | Occasionally seen in South Fork valley. No large herds present. |
**Mountain goat**  
*Oreamnos americanus*  
USFS management indicator  
Mapped goat range within ½ mile of the study area. No steep slopes or bluffs are found within the project site. May use area as winter travel corridor.

*- species heard or seen in project area.

**How were the impacts of the project on wildlife analyzed?**

In addition to the assessment contained in the BA prepared for Section 7 ESA consultation, additional analysis was conducted for effects to all wildlife species. Impacts and presence of wildlife and their habitats were evaluated within a 1.5 mile radius of the project area. This was the study area for potential impacts. Existing information sources were reviewed for presence of species and habitat types. These sources included the Washington Department of Fish and Wildlife, U.S Forest Service, U.S. Fish and Wildlife Service, and a scientific literature search. In addition, field investigations were conducted during different seasons to identify species present. Field investigations included identifying wildlife tracks and scat and other signs of presence (e.g. bear scrapings on tree trunks), listening and identifying bird calls and songs, looking for amphibian egg masses, talking to local residents, and visual confirmation of species seen. A *Wildlife Discipline Report* was prepared that discusses the findings and can be found in the Technical Appendices of this NEPA EA.

**How would wildlife and their habitats be affected by the project?**

Temporary and permanent impacts in the project area include the loss of nesting, shelter, dispersal habitat, movement corridors, and foraging habitat for migratory and resident birds, amphibians, reptiles, and mammals. It is expected that most species would avoid the construction area except amphibians and reptiles. Direct mortality to amphibians and possibly reptiles, from construction and construction vehicles could occur throughout much of the project area if they have not dispersed prior to the beginning of construction.

Noise from blasting could potentially disturb marbled murrelets located in designated critical habitat approximately 2,500 feet east from the construction area. Designated critical habitat for spotted owls is located more than 3 miles away. However, it is assumed for analysis purposes that there is potentially suitable habitat for spotted owls located within the marbled murrelet critical habitat and that owls could be impacted by the blasting noise.

Once the relocated alignment is complete, there would be an increase in noise levels from vehicle traffic closer to marbled murrelets and spotted owl suitable habitat. This increase is not expected to be above the ambient level of the road before it was closed.

Approximately nine acres of mature upland forest and understory would be cleared to construct the relocated road and its associated cut and fill slopes. Of this total, approximately five acres would result in long-term temporary impacts that would be
restored after construction is completed. Approximately 3.2 acres would be permanently impacted by establishment of the roadway prism. Species such as neotropical birds and most mammals would move to adjacent appropriate habitats or leave the area during construction and return when construction is complete.

Seven seasonal streams would be placed in culverts and one perennial stream would flow through a culvert in the armored crossing. The remainder of proposed culverts would be used to convey cross drainage not associated with streams. These changes to the streams would eliminate the natural substrate within the stream segment conveyed by the culverted portion and would harden and channelize the small streams. This may impact movement and dispersal of amphibians and reptiles that live near the streams.

Amphibians and reptiles prefer natural substrates with vegetated cover for protection to move between habitats. If they choose to use the road for passage, there would be an increased likelihood of being hit by vehicles, especially during daylight hours when more traffic is using the road.

Openings created by vegetation clearing and grading would increase edges that allow predators easier access to adjacent forest-dwelling species. Modifications to the topography from the construction of roadway cut and fill prisms would create potential dispersal blockages for small mammals, amphibians, and reptiles that could reduce dispersal and foraging habitat. Simplification of the habitat structure would affect species such as Pacific wrens and pine martens that favor more structural complexity that is associated with multiple layers of vegetation (trees and shrubs of varying ages and sizes with dead tree snags). Due to the small area of impacts in comparison to the size of adjacent forested areas, it is expected that any permanent impacts to the species would not be substantial.

Approximately 940 square feet of wetlands would be filled and approximately 4,320 square feet would be shaded. Loss of the wetland area may temporarily fragment local amphibian populations causing dispersal blockage. It is expected that after construction amphibian populations would recover to pre-construction levels. Roadway construction related impervious surfaces in the forested area could change the hydrology of the seep wetlands that amphibians and other species rely on, as could increased sedimentation to streams, wetlands, and seeps.

It is expected that restoring the riparian area along the North Fork Skykomish River would improve the movement and dispersal corridor for large and wide-ranging wildlife and restore connectivity for a variety of other species. Scientific literature says that expected annual average daily traffic (AADT) volumes below 200 vehicles a day and a posted speed limit of less than 45 miles per hour (45 mph) may help to protect many species and reduce wildlife mortality related to roadway traffic. The project area would be posted at 35 mph. It is expected that there would be no change in human access to the surrounding area due to the relocated road alignment. There is a higher probability of amphibians being killed trying to cross the road if the AADT of the road exceeds 200.
What measures would be used to avoid or mitigate for impacts to wildlife and their habitats?

The riparian area along the North Fork Skykomish River would be restored by removing the existing damaged road out of the river and adjacent buffer areas and planting the area with native trees and shrubs in as large of an area as feasible. Forest duff salvaged during project construction would be placed back into cleared areas proposed for planting and areas temporarily impacted by construction.

The project includes salvaging logs, trees, boulders, and stumps and placing them in the riparian zone adjacent to the river and in temporarily impacted areas, where appropriate. Habitat structures such as standing tree snags, boulder piles, and rock and brush piles would be placed in areas temporarily impacted by road construction and on sections of the existing damaged road once it is removed. Restoration would provide a wider vegetated riparian movement corridor along the river’s left bank in the project area.

One of the mitigation goals would be to provide habitat diversity for wildlife. County biologists would monitor planted areas for 10 years to evaluate mitigation site success. Mitigation bank credits at the Skykomish Habitat Mitigation Bank would be purchased to offset permanent impacts not able to be mitigated at the project site.

In order to minimize impacts from noise to marbled murrelets flying along the river corridor, work would begin 2 hours after sunrise and stop 2 hours before sunset between April 1 and September 23.

Walls and other stabilization features such as reinforced slopes would be constructed to reduce the project footprint and minimize habitat impacts. Duff will be salvaged from the forest floor and redistributed on finished slopes to promote natural recruitment and growth of native plants. Staging would occur on the closed paved road.

What types of plant communities are located in the project area?

The project area is part of the larger Tsuga heterophylla Zone (Western Hemlock Zone), a vegetative zone that occupies extensive areas of western Washington. Plant communities that have not experienced alteration from timber harvest or development would typically consist of western hemlock (Tsuga heterophylla), Douglas-fir (Psuedotsuga menziesii), western redcedar (Thuja plicata), swordfern (Polystichum munitum), vine maple (Acer circinatum) and salmonberry (Rubus spectabilis) (Franklin and Dymess, 1988). Within this vegetative zone, riparian and wetland plant communities tend to be dominated by red alder (Alnus rubra), black cottonwood (Populus balsamifera ssp. trichocarpa), salmonberry, and several herbaceous species.

Botanical field investigations determined that the proposed project area is mostly mixed coniferous deciduous forest, in the western hemlock/swordfern-foamflower plant association with a scrub-shrub wetland near the eastern end.

Some invasive non-native plant species are also present in the project area. The existing damaged paved road is more or less lined with the invasives such as herb Robert (Geranium robertianum) and creeping buttercup (Ranunculus repens). There are also
some large patches of invasive reed canarygrass (*Phalaris arundinaceae*) and a relatively small infestation of Japanese knotweed (*Polygonum cuspidatum*) at the western end of the project where the alignment intersects with Trout Creek Road.

**Are rare plants located in the project area?**

No rare plants have been observed during the project’s botanical field work. The closest rare plants include boreal bedstraw (*Galium kamtschaticum*) located three miles to the northwest and round-leaved orchid (*Platanthera orbiculata*) two miles northeast of the project area.

On lands administered by the Mt. Baker-Snoqualmie National Forest, there are 50 Threatened and Endangered Species (TES) and/or Survey & Manage (S&M) species for which plant surveys are conducted whenever potential suitable habitat is suspected and habitat disturbing management projects are proposed such as the proposed roadway relocation. In addition, there are 38 S&M species that are required for protection if they are discovered, even though they are not targeted for surveys. The USFS performed field botanical surveys which determined that there are no known federally Threatened, Endangered or species proposed for federal listing known to occur on the Mt. Baker-Snoqualmie National Forest.

The Washington State Department of Natural Resources Natural Heritage Information System contains no records for rare plants, high quality native wetlands or high quality plant communities in the project vicinity.

**How would effects to vegetation be addressed during construction?**

Several mitigation measures have been identified by the U.S. Forest Service that would be implemented by the project as necessary to avoid, minimize and reduce adverse effects to vegetation. Some of the mitigation best management practices include:

- If any previously undiscovered TES or other rare or uncommon vascular plants, bryophytes, lichens, or fungi are discovered, before or during project implementation, halt work until a USFS botanist is consulted and necessary mitigation measures are enacted.
- As required by the U.S. Forest Service, the project would treat known infestations before ground disturbance begins. To be effective, a minimum lag time of 2 weeks is needed between the time of treatment and the time of ground disturbance. If the species has a seed-bank in the soil, treatments should begin at least 1 year before ground disturbance and must be continued 3-5 years post-implementation. (To date, there has been some limited treatment of infestations in the project area.)
- For actions conducted or authorized by written permit by the U.S. Forest Service that will operate outside the limits of the road prism, require the cleaning of all heavy equipment prior to entering NFS Lands.
- Suppliers must provide documentation indicating that the following products have been examined by a qualified inspector and deemed free of State listed noxious weeds:
  - Straw or other Mulch
- Gravel, Rock, or other fill
- Seeds (according to AOSA standards)

- If weeds are present in the project area, all equipment and gear must be cleaned before leaving the project area to avoid spreading the infestation further.
- If weeds are present in the project area, work from relatively weed-free areas into the infested area rather than vice versa.
- Revegetate all areas of bare soil exposed by project activities if there is a risk of noxious weed invasion. Native plant materials are the first choice in revegetation where timely natural regeneration of the native plant community is not likely to occur.
- Policy on National Forest System lands requires managers to: “Ensure genetically appropriate native plant materials are given primary consideration”
- If any Washington State Class A or B designate noxious weeds are encountered, notify USFS weed specialist immediately to coordinate treatment with the most effective method. After treatment has taken effect, cover the infestation with geotextile fabric to avoid spreading seed or roots remaining in the soil. Avoid disturbance to area. If disturbance cannot be avoided, treat infestation first, then wash equipment after working in the infested area before moving into an un-infested area.
- Use only APHIS and State-approved biological control agents. Agents demonstrated to have direct negative impacts on non-target organisms would not be released.
- Road construction ground disturbance could potentially promote the spread of invasive non-native species. Application of any herbicides to treat invasive plants will be performed or directly supervised by a State or Federally licensed applicator consistent with the MBSNF Plan, and applicable amendments that include the 2005 Invasive Plants Standards and Guidelines (S&Gs) the Pacific Northwest Region Record of Decision for Preventing and Managing Invasive Plants and subsequent amendments.
- All treatment projects that involve the use of herbicides will develop and implement herbicide transportation and handling safety plan.
- To minimize or eliminate direct or indirect negative effects to non-target plants, terrestrial animals, water quality and aquatic biota (including amphibians) from the application of herbicide, use site-specific soil characteristics, proximity to surface water and local water table depth to determine herbicide formulation, size of buffers needed, if any, and application method and timing. Consider herbicides registered for aquatic use where herbicide is likely to be delivered to surface waters.

What is proposed for revegetation mitigation?

The U.S. Forest Service botany field work identified dominant species suitable for revegetation that include the following herbaceous forb species: blue wildrye (*Elymus glaucus* – there is some growing around the eastern edge of the project area), large-leaved avens (*Geum macrophyllum*), piggyback (*Tolmiea menziesii*), and swordfern...
(Polystichum munitum). Shrub species recommended for revegetation include salmonberry (Rubus spectabilis) and vine maple (Acer circinatum).

If practicable and feasible, salvage and re-installation of topsoil including the native plants growing would be the highest priority for revegetation. Where this is not possible, mulch with free material erosion control mats or certified weed-free straw would be used and commercially grown plants would be used that meet native plant specifications for origin of plant materials.

It is expected that native duff materials (decomposed leaves, needles, fine twigs, and other organic material) would be able to be salvaged in quantities sufficient for revegetation efforts. The native duff would be salvaged during initial site grading and would be stored in staging areas prior to being placed in areas for planting and erosion control. It is expected that commercially grown plant materials meeting native plant specifications would be used rather than relying on salvage of onsite plants. It is expected that native plant species recruitment from adjacent forested areas and seed banks available in salvaged soils would promote site restoration over time.

**How is the project complying with the ESA and EFH?**

Because listed endangered or threatened species are known to occur in the project vicinity, the project prepared a Biological Assessment (BA) describing how the project would affect the species. When an evaluation determines that a listed species is likely to be harmed by the project, the project is required to enter into formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) to ensure that the federal actions will conserve the species and its critical habitats.

Federally listed aquatic species that may occur within the project action area include the Puget Sound Chinook salmon (Oncorhynchus tshawytscha), steelhead (Oncorhynchus mykiss) and bull trout (Salvelinus confluentus). In addition, terrestrial species that may occur include marbled murrelet (Brachyramphus marmoratus), northern spotted owl (Strix occidentalis caurina), Canada lynx (Lynx canadensis), gray wolf (Canis lupus), and grizzly bear (Ursus arctos horribilis).

Based on the analysis contained within the Biological Assessment (BA) that was prepared, the following determination was made for three aquatic species: **May Affect, Likely to Adversely Affect.** This determination was made for Chinook salmon, steelhead, and bull trout, and requires formal Section 7 ESA consultation. The following determination was made for two terrestrial species: **May Affect, Likely to Adversely Affect.** This determination was made for marbled murrelets and Northern Spotted Owl. The project as proposed would not result in adverse modifications to critical habitat for all of these species. The analysis in the BA considered potential direct and indirect effects, as well as an analysis of the effects of interrelated and interdependent actions associated with the project. Additionally, the project will have **No Effect** to Canada lynx, grizzly bears, or gray wolves. These species are not documented within the project action area. (See **Exhibit 20: Threatened or Endangered Species, Critical Habitat, and Essential Fish Habitat Findings for Index-Galena Road Milepost 6.4-Milepost 6.9 Project.**)

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Effects and Mitigation | NEPA Environmental Assessment
Index-Galena Road Milepost 6.4-Milepost 6.9
Exhibit 20: Threatened or Endangered Species, Critical Habitat, and Essential Fish Habitat Findings for Index-Galena Road Milepost 6.4-Milepost 6.9 Project

<table>
<thead>
<tr>
<th>Common Scientific</th>
<th>ESA Status</th>
<th>Life Stages Considered</th>
<th>Impacts Analysis Determination (Conditional Effect Determination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinook salmon <em>Oncorhynchus tshawytsha</em></td>
<td>Threatened</td>
<td>All freshwater phases</td>
<td>May affect, likely to adversely affect</td>
</tr>
<tr>
<td>Chinook salmon critical habitat</td>
<td>N/A</td>
<td>N/A</td>
<td>May affect, not likely to adversely affect</td>
</tr>
<tr>
<td>Bull trout <em>Salvelinus confluentus</em></td>
<td>Threatened</td>
<td>All freshwater phases</td>
<td>May affect, likely to adversely affect</td>
</tr>
<tr>
<td>Bull trout critical habitat</td>
<td>N/A</td>
<td>N/A</td>
<td>May affect, not likely to adversely affect</td>
</tr>
<tr>
<td>Steelhead <em>O. mykiss</em></td>
<td>Threatened</td>
<td>All freshwater phases</td>
<td>May affect, likely to adversely affect</td>
</tr>
<tr>
<td>Steelhead Critical habitat</td>
<td>N/A</td>
<td>All freshwater phases</td>
<td>May affect, not likely to adversely affect</td>
</tr>
<tr>
<td>Northern Spotted Owl <em>Strix occidentalis caurina</em></td>
<td>Threatened</td>
<td>All</td>
<td>May affect, likely to adversely affect</td>
</tr>
<tr>
<td>Northern Spotted Owl Critical Habitat</td>
<td>N/A</td>
<td>N/A</td>
<td>No effect</td>
</tr>
<tr>
<td>Marbled Murrelet <em>Brachyramphus marmoratus</em></td>
<td>Threatened</td>
<td>Nesting</td>
<td>May affect, likely to adversely affect</td>
</tr>
<tr>
<td>Marbled Murrelet Critical Habitat</td>
<td>N/A</td>
<td>N/A</td>
<td>No effect</td>
</tr>
<tr>
<td>Grizzly Bear <em>Ursus arctos = U. a. horribilis</em></td>
<td>Threatened</td>
<td>All</td>
<td>No effect</td>
</tr>
<tr>
<td>Canada Lynx <em>Lynx canadensis</em></td>
<td>Threatened</td>
<td>All</td>
<td>No effect</td>
</tr>
<tr>
<td>Gray Wolf <em>Canis lupus</em></td>
<td>Endangered</td>
<td>All</td>
<td>No effect</td>
</tr>
<tr>
<td>Oregon Spotted frog (<em>Rana pretiosa</em>)</td>
<td>Threatened</td>
<td>All</td>
<td>No effect</td>
</tr>
<tr>
<td>Yellow-Billed Cuckoo (<em>Coccyzus americanus</em>)</td>
<td>Threatened</td>
<td>All</td>
<td>No effect</td>
</tr>
<tr>
<td>Essential Fish Habitat (EFH)</td>
<td></td>
<td>All life stages of Coho, Pink and Chinook Salmon</td>
<td>Adversely Affect</td>
</tr>
</tbody>
</table>

The BA was submitted to NOAA and USFWS on August 25, 2015. The BA text was amended and re-submitted in April 2016. FHWA will not conclude its NEPA review, including issuing a Finding of No Significant Impact, for this project until USFWS and NOAA provide their Biological Opinions addressing their respective species.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires federal agencies to consult with NOAA Fisheries on activities that may adversely affect essential fish.
habitat (EFH). The objective of the EFH assessment prepared by the proposed project is to determine whether or not the proposed action(s) “may adversely affect” designated EFH for relevant commercially, federally-managed fisheries species within the proposed action area. It also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the proposed project. The EFH review was included in the BA and consultation would occur concurrent with ESA consultation.

*How is the project complying with USFS requirements?*

The potential impacts to U.S. Forest Service species are summarized in Exhibit 21: USFS Sensitive and Survey and Manage Species Evaluated.

**Exhibit 21: USFS Sensitive and Survey and Manage Species Evaluated**

<table>
<thead>
<tr>
<th>Species</th>
<th>USFS Listing</th>
<th>Affect to Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson’s hairstreak</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td>Puget Oregonian</td>
<td>USFS Sensitive, USFS Survey and Manage</td>
<td>No impact</td>
</tr>
<tr>
<td>Shiny tightcoil</td>
<td>USFS Sensitive, USFS Survey and Manage</td>
<td>No impact</td>
</tr>
<tr>
<td>Warty jumping slug</td>
<td>USFS Sensitive, USFS Survey and Manage</td>
<td>No impact</td>
</tr>
<tr>
<td>Evening field slug</td>
<td>USFS Sensitive, USFS Survey and Manage</td>
<td>No impact</td>
</tr>
<tr>
<td>Oregon megophix</td>
<td>USFS Sensitive, USFS Survey and Manage</td>
<td>No impact</td>
</tr>
<tr>
<td>Van Dyke’s salamander</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td>Larch mountain salamander</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td>Harlequin duck</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td>Bald eagle</td>
<td>USFS Sensitive, USFS management indicator</td>
<td>No impact</td>
</tr>
<tr>
<td>Species</td>
<td>Management Status</td>
<td>Impact</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Peregrine falcon</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td></td>
<td>USFS management indicator</td>
<td></td>
</tr>
<tr>
<td>Northern spotted owl</td>
<td>USFS Management indicator</td>
<td>May affect, likely to adversely affect</td>
</tr>
<tr>
<td>Pileated woodpecker</td>
<td>USFS Management indicator</td>
<td><strong>May impact</strong></td>
</tr>
<tr>
<td>Townsend’s big-eared bat</td>
<td>USFS Sensitive</td>
<td><strong>May impact</strong></td>
</tr>
<tr>
<td>Grizzly bear</td>
<td>USFS Management indicator</td>
<td>No impact</td>
</tr>
<tr>
<td>Gray wolf</td>
<td>USFS Management indicator</td>
<td>No impact</td>
</tr>
<tr>
<td>Fisher</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td>American pine marten</td>
<td>USFS management indicator</td>
<td><strong>May impact</strong></td>
</tr>
<tr>
<td>California wolverine</td>
<td>USFS Sensitive</td>
<td>No impact</td>
</tr>
<tr>
<td>Columbian black-tailed deer</td>
<td>Management prescription</td>
<td><strong>May impact</strong></td>
</tr>
<tr>
<td>Elk</td>
<td>Management prescription</td>
<td>No impact</td>
</tr>
<tr>
<td>Mountain goat</td>
<td>USFS management indicator</td>
<td>No impact</td>
</tr>
<tr>
<td>Primary cavity excavators</td>
<td>USFS Management indicator</td>
<td><strong>May impact</strong></td>
</tr>
<tr>
<td>Migratory birds</td>
<td>Species of concern</td>
<td><strong>May impact</strong></td>
</tr>
</tbody>
</table>

**May Impact** - This determination means that the project would have no impacts that would trend a species towards Federal listing under the Endangered Species Act.

**How is the project complying with the MBTA?**

The Migratory Bird Treaty Act (MBTA) (16USC 703), originally passed in 1918, makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or...
offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a
bird except under the terms of a valid Federal Permit. The term “take” is not defined in
the MBTA, but the U.S. Fish and Wildlife Service has defined it by regulation to mean to
“pursue, hunt, shoot, wound, kill, trap, capture, or collect” or to attempt those activities.
Under the provisions of the MBTA, the unauthorized take of migratory birds is a criminal
offense, even if it is unintentional

Migratory birds include neotropical migrants that fly between Mexico, Central and South
America and Canada, and some bird species that fly short distances. The term can also
include resident birds as protected by the Migratory Bird Treaty Act. Migratory bird
habitats vary between species. In the study area, most of the migratory birds would be
found within the riparian area closer to the river and the wetland area. They would also be
found at smaller numbers and less diversity in the forested area. They use these areas as
nesting, foraging, and shelter (e.g. snags). Some species may use the area as a stopover on
the way to preferred nesting habitat in higher elevations.

Removing trees and shrubs will remove migratory bird habitat. It is likely there are
existing nests in the study area. It is expected that the birds will leave the area during
construction and return when it is complete. It is anticipated the new understory planted
closer to the river will provide insects and seeds for food and new nesting habitat.

5.2.6 Wetlands

What are wetlands and why are they important?

Wetlands improve water quality by filtering and removing pollutants. They also provide
hydrologic functions, such as retaining floodwater to protect humans, natural resources,
and infrastructure. Wetlands also provide important habitat for native plants, fish, and
wildlife. Wetlands vary considerably in appearance, and their boundaries fluctuate over
time, making them difficult to recognize.

Wetlands are regulated at the federal level under Section 404 of the CWA, which is
implemented by the U.S. Army Corps of Engineers, with oversight by the EPA.
Applicants receiving a Section 404 permit from the U.S. Army Corp of Engineers are
required to obtain a Section 401 Water Quality Certification from Ecology. Issuing a
Section 401 Certification means that Ecology anticipates that the applicant’s project will
comply with state water quality standards and other aquatic resource protection
requirements under Ecology’s authority. Conditions of the certification become conditions
of the federal permit. Ecology, along with the Washington State Department of
Commerce, provides guidance to local governments regulating wetlands in compliance
with the state’s Growth Management Act (36.70A Revised Code of Washington [RCW]).

Local governments adopt critical areas ordinances (36.70A.170), which regulate activities
in and around wetlands and other critical areas, as designated by Washington’s Growth
Management Act. Wetlands are also protected under Executive Order 11990 of 1977,
which requires federal agencies to minimize the loss or degradation of wetlands and
enhance their natural state. To comply with this executive order, the U.S. Department of
Transportation, as stated in Order 5660.1A, set forth the policy that transportation projects should be planned, constructed, and operated to ensure the protection, preservation, and enhancement of the nation’s wetlands to the fullest extent practicable.

**Are there wetlands in the project area?**

Four wetlands were identified in proximity to the proposed roadway alignment. Descriptions of these wetlands and maps showing their location are provided in the *Wetlands and Streams* NEPA Discipline Report. A summary of the project area wetlands, including their classification, and function and value ratings are shown in **Exhibit 22: Wetland Functions**. The project area wetlands include the following:

**Wetland A (Palustrine scrub-shrub)**

Wetland A is located north of stations 52+00 and 53+00 downslope from the proposed relocated roadway alignment. Its vegetation is dominated by red-osier dogwood (*Cornus sericea*), salmonberry (*Rubus spectabilis*), sword fern (*Polystichum munitum*) and lady fern (*Athyrium filix-femina*). Overstory vegetation, the highest or uppermost vegetation layer, included western red cedar (*Thuja plicata*), big-leaf maple (*Acer macrophyllum*) and western hemlock (*Tsuga heterophylla*). Soils are dark grayish brown. Evidence of wetland hydrology includes standing water within the soil pit at a depth of 14 inches.

**Wetland B (Palustrine scrub shrub/Palustrine open water)**

Wetland B is located between stations 54+00 and 60+00. Its vegetation is dominated by devil’s club (*Oplopanax horridus*), Pacific willow (*Salix lasiandra*), salmonberry (*Rubus spectabilis*), youth-on-age (*Tolmiea menziesii*), violet (*Viola sp.*), Cooley’s hedge nettle (*Stachys cooleyae*) and lady fern (*Athyrium filix-femina*). Overstory species included red alder (*Alnus rubra*), western red cedar (*Thuja plicata*), and big-leaf maple (*Acer macrophyllum*). Soils are very dark grayish brown with strong brown redox concentrations. Evidence of wetland hydrology includes seasonal standing water to approximately 18 inches in depth and soils saturated to the surface. This wetland experiences greater inundation depth during the winter/early spring outside of the growing season up to four feet. The inundation typically dries to saturated soils to the surface during the late summer. Wetland B has a seasonal stream flowing through it to the North Fork Skykomish River. This stream provides rearing habitat for juvenile salmonids in the late winter to spring time period before the wetland and stream dry up later in the season.

**Wetland C and Wetland D**

Wetlands C and D are lightly vegetated seep wetlands. Wetland C is located at Station 24+50 and Wetland D is located just north and downslope from the proposed relocated road alignment at Station 19+00.

**How will the project affect these wetlands?**

The proposed project would result in unavoidable permanent fill impacts to 940 square feet of wetland for construction of the road prism. These impacts would affect habitat,
hydrology and water quality functions. A proposed 180-foot bridge crossing at station 54+10 would minimize impacts to Wetland B; however, a small portion of the wetland (10 sq. ft.) would be impacted by fill for the proposed roadway. The majority of project wetland fill impacts would occur at Wetland C and would total 530 square feet, while approximately 400 square feet of fill impact would occur at Wetland A. The bridge construction is expected to impact existing vegetation by removing area of scrub-shrub vegetation to facilitate construction access and bridge structure erection. The structure would increase shading to the plant species in proximity to the bridge crossing, which could hinder plant re-establishment. The project would temporarily impact 1,050 square feet of wetland through placement of temporary fill or land disturbance, and would be associated with construction access. A summary of wetland impacts is shown in Exhibit 23: Summary of Wetland Impacts.

Exhibit 22: Wetland Functions

<table>
<thead>
<tr>
<th>Wetland</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogeomorphic Class</td>
<td>Depressional</td>
<td>Depressional</td>
<td>Slope</td>
<td>Slope</td>
</tr>
<tr>
<td>Wetland Type (Cowardin Class)</td>
<td>PSS</td>
<td>PSS/POW</td>
<td>PEM</td>
<td>PEM</td>
</tr>
<tr>
<td>Category&lt;sup&gt;b&lt;/sup&gt;</td>
<td>III</td>
<td>II</td>
<td>III</td>
<td>III</td>
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<tr>
<td>Water Quality Functions&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5</td>
<td>9</td>
<td>3</td>
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<tr>
<td>Hydrologic Functions</td>
<td>10</td>
<td>20</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Habitat Functions&lt;sup&gt;b&lt;/sup&gt;</td>
<td>23</td>
<td>29</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>Total Score</td>
<td>38</td>
<td>58</td>
<td>33</td>
<td>31</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Based on Wetland Rating System for Western Washington, (Hruby, T., August 2004)
<sup>b</sup> - “Moderate” level habitat function is 20-28, “High” level habitat function is 29-36. “High” level water quality improvement is 24-32. Per SCC 30.62A.320(1)(a) Table 2b.

Exhibit 23: Summary of Wetland Impacts

<table>
<thead>
<tr>
<th>Wetland</th>
<th>Wetland Category&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Wetland Size (acre)</th>
<th>Wetland Impact Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Permanent (sq. ft.)</td>
<td>Temporary (sq. ft.)</td>
</tr>
<tr>
<td>A</td>
<td>III</td>
<td>3,000</td>
<td>400</td>
</tr>
<tr>
<td>B</td>
<td>II</td>
<td>5,000</td>
<td>10</td>
</tr>
<tr>
<td>C</td>
<td>III</td>
<td>5,000</td>
<td>530</td>
</tr>
<tr>
<td>D</td>
<td>III</td>
<td>1,000</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>940</td>
<td>1050</td>
</tr>
</tbody>
</table>

<sup>a</sup> Ecology rating according to Hruby (2004).
What would the project do to mitigate for wetland fill impacts?

The project was designed to avoid or minimize wetland impacts as much as practicable. Reinforced soil slopes are proposed near Wetland C to reduce the roadway embankment necessary to support the roadway. In other areas the roadway alignment was adjusted to the extent practicable to avoid Wetland D and minimize impacts at Wetland A. Constructing the bridge at Wetland B would minimize impacts.

How would impacts to these wetlands be minimized during construction?

Best Management Practices (BMPs) would be used during construction to avoid or minimize short-term sedimentation, and contamination impacts. Typical BMPs would include sediment fences, temporary seeding, and mulching. A Temporary Erosion and Sediment Control (TESC) Plan would be implemented before, during, and after construction.

How would unavoidable wetland impacts be mitigated?

Compensatory wetland mitigation would be used for unavoidable fill impacts and would ensure that there are no-net loss of wetlands. The wetland mitigation would likely occur at an offsite location, at an approved wetland mitigation bank. An approved wetland mitigation bank has been identified west of the project area near Monroe. Mitigation for buffer impacts would occur both onsite and offsite at the mitigation bank as required by regulatory review requirements.

The proposed mitigation would comply with Washington Department of Ecology and United States Army Corps of Engineers guidelines, applicable U.S. Forest Service requirements, and Snohomish County Critical Areas Regulations.

5.3 Built and Social Environment

5.3.1 Land Use

Why consider land use?

Information about land use in the project area is important because the project needs to consider land use patterns to determine how this project could affect adjacent land uses and whether the project may change land use patterns over time.

What land uses are in the project area?

The proposed Index-Galena Milepost 6.4-6.9 project lies in the North Fork Skykomish River valley, in a rural area outside of any Urban Growth Area (UGA). The proposed project would be constructed on undeveloped National Forest lands in the Mt. Baker - Snoqualmie National Forest (MBSNF) managed by the U.S. Forest Service (USFS). These forest lands are managed for multiple-use consistent with the adopted 1990 Mt.
Baker Snoqualmie-National Forest Land and Resource Management Plan, as amended (MBSNF Plan). The multiple uses include timber harvest, recreation, mining, and ecological habitat preservation in wilderness areas.

There are areas of privately-owned rural residential properties located on Index-Galena Road upstream from the town of Index. These residential areas are concentrated in multiple locations in proximity to the North Fork Skykomish River. The properties located upstream from the project area in the upper North Fork Skykomish River valley are within the boundaries of the National Forest lands. The November 2006 flooding related damage that washed out Index-Galena from Milepost 6.4 to Milepost 6.9 severely impacted access to these upstream residential properties. They currently have limited seasonal vehicular access by way of an extensive detour route that requires traveling on Beckler River Road, which originates near the town of Skykomish, to cross Jack Pass.

Who is responsible for land use policy and regulation in the project area?

Land use policy and regulation in the project area is governed principally by the MBSNF Plan. The 1990 plan and its multiple subsequent amendments designate land areas throughout the MBSNF for Land Allocations and other applicable designations. The adopted Land Allocations and designations identify standards and guidelines for allowed land uses, and the conditions that specific land uses must comply with to be approved by the U.S. Forest Service. Outdoor recreation plays a substantial role in the use of MBSNF lands in the North Fork Skykomish River valley. The USFS manages recreation through implementation of the MBSNF Plan.

Snohomish County land use policy and development regulations also apply in the project area. They apply to the proposed project because Index-Galena Road is located in unincorporated Snohomish County and the Snohomish County Public Works proposed project is considered to be *nonfederal development* that would be undertaken within an easement on lands owned by the federal government. A new easement would be required for the proposed relocated roadway and would need to be reviewed and approved by the U.S. Forest Service and the Federal Highway Administration. Accordingly, the proposed project is subject to certain elements of the Snohomish County Growth Management Act General Policy Plan (*GMA Plan*) and Snohomish County development regulations that implement the broad policy goals and objectives identified in the *GMA Plan*.

Index-Galena Road is maintained by Snohomish County from its beginning at the Index turnoff from US 2 to Milepost 14.1 The Index-Galena Road is designated as a Major Collector (Rural). The roadway is also designated as U.S. Forest Service Forest Road 63 in the Mt. Baker Snoqualmie National Forest road system. The U.S. Forest Service maintains the roadway beyond Milepost 14.1 The roadway’s location and functional classification as a major collector is consistent with the transportation and other elements of the *GMA Plan*.

Is the Wild Sky Wilderness affected by the project?

The Wild Sky Wilderness flanks both the Beckler River and North Fork Skykomish River but does not include the rivers. The proposed Index-Galena Road project is located
outside of the wilderness boundaries. The Wild Sky Wilderness Act was signed into law on May 8, 2008. The law designated 106,577 acres within the Mt. Baker Snoqualmie National Forest as protected wilderness. The wilderness designation prohibits logging, mining, motor vehicle use, including off-road vehicles and virtually all motors. The wilderness designation protects 25 miles of salmon and steelhead habitat and about 80,000 acres of old-growth trees - including 14,000 acres of rare low-elevation old growth. Hunting, fishing, rafting, and other outdoor recreation activities are permitted in the designated wilderness areas.

**How much population growth is there in the project area?**

Census data indicates no population within the immediate project area. This is due to the fact that the project is located on U.S. Forest Service land where there has been no residential development.

**What do I need to know about the Snohomish County Growth Management Comprehensive Plan?**

The Snohomish County GMA Comprehensive Plan designates land areas for low intensity land uses in the greater project area. The County’s Forestry designation applies only to privately owned land parcels outside of the Mt. Baker-Snoqualmie National Forest. This low density residential use designation is intended to protect the character of rural areas and avoid interference with adjacent resource lands which include forest uses and mineral lands. (See Exhibit 24: Snohomish County Comprehensive Plan and Zoning Designations)

**How does Index-Galena Road relate to land use in the project area?**

Index-Galena Road provides the only continuous vehicular roadway link between Index in the lower North Skykomish River valley to private lands located further upstream in the valley. Since the 2006 flood damage to the roadway, roadway connectivity has been severed and an extensive detour is required for property owners to access their properties and for recreation users to access campgrounds and river recreation areas.

The 40-mile detour originates on US 2 from the Index turnoff from US 2 and continues eastward to the Beckler River Road east of the town of Skykomish in northeast King County. Vehicles then turn north from US 2 onto Beckler River Road (also known as Forest Road 65) to ascend to and cross over Jack Pass to access the undamaged Index-Galena Road from MP 6.9 to MP 14.1 upstream from the flood damage washout. Beckler River Road as an alternative access route is limited seasonally due to high snowfall totals in the Jack Pass area and its gravel surface can present challenges to low clearance vehicles. Winter conditions may also cause rock debris slides to block vehicular access on the upper potions of Index-Galena Road. Typically the roadway can be used from late May/early June to mid-November/early December.
The land use and transportation relationship within the project study area is particularly important because at present there is no year round roadway connectivity providing vehicular access for land owners, recreation users, emergency service providers, and U.S. Forest Service personnel to land areas managed by the Skykomish Ranger District. The existing underdeveloped gravel road network on National Forest lands must accept increased traffic volumes associated with land owner and increasing recreational traffic.

The road system in the project area has changed little since the 1970s except for continual maintenance and repairs. The U.S. Forest Service has been working on closing and decommissioning former logging roads. The low-density land-use patterns in the greater area are not conducive to the development of transit routes.

**What kinds of land uses are permitted in the project area?**

Zoning regulations implement the Snohomish County *GMA Plan* goals and policies by applying the broad guidelines established by the comprehensive planning process and developing them into more specific regulations. Various zones are established where allowed uses are specified, and bulk requirements such as lot size, placement of structures, spacing, height of structures and density are identified for legally defined and described parcels. Another function of zoning is to avoid the siting of potentially incompatible uses in proximity to each other. Often a related goal is to protect property values. The overall goal is to provide for the health, safety and general welfare of a community and its citizens.

Snohomish County has zoned land areas for **Forestry**, a resource land designation, for areas that are subject to County jurisdiction. These areas are primarily concentrated along the North Fork Skykomish River downstream and upstream from the project area. The intent of the **Forestry** zone is to conserve and protect forest lands for long-term forestry and related uses. Forest lands are normally large tracts under one ownership and located in areas outside of UGAs and away from residential and intense recreational use. Some of the land areas zoned for forestry in the greater project vicinity are smaller tracts used primarily for vacation homes on a seasonal basis with some year round residences also present. *(See Exhibit 24: Snohomish County Comprehensive Plan and Zoning Designations and Exhibit 25: U.S. Forest Service Land Allocations in Index-Galena Road Project Area.)*

**What Snohomish County environmental regulations would apply to the project?**

In the project area, the North Fork Skykomish River is designated as a Shoreline of Statewide Significance under the Shoreline Management Act. Certain shoreline areas have been given this special status because they are major resources from which all people in the state derive benefit. Substantial development activities in areas within 200 feet of the river, including associated floodplains and wetland areas are regulated by the adopted Snohomish County Management Program and shoreline ordinance (Snohomish County Code Chapter 30.44 Shoreline Permits and Chapter 30.67 Shoreline Management Program). Substantial development is any development of which the total cost, or fair
market value, whichever is higher, exceeds $5,000, or any development that materially interferes with the normal public use of the water or shorelines of the state.

The shoreline area within the project limits has been designated as a Rural Conservancy environment according to the County’s adopted Shoreline Master Plan. The purpose of the Rural Conservancy shoreline environment is to allow low intensity development, while at the same time protecting ecological functions and providing public access and recreational opportunities in shoreline areas. The preferred uses are low intensity development, including but not limited to low density residential, water dependent commercial and recreation.

**What would Shoreline Management review take into consideration for the project?**

Shoreline permit review takes into consideration several factors when evaluating applications. Some of the principal factors specific to Rural Conservancy designated areas include the following:

**Management Policies:**

- The county's comprehensive plan is the primary guide for the location, type, density and distribution of uses in the Rural Conservancy shoreline environment designation. Regulations for the Rural Conservancy environment may limit uses and modifications to ensure consistency with these management policies and the Shoreline Uses in the Rural Conservancy environment should be limited to those which sustain the shoreline area's physical and biological resources and uses of a nonpermanent nature that do not substantially degrade ecological functions or the rural or natural character of the shoreline area.

- Developments and uses that would substantially degrade or permanently deplete the biological resources of the area should not be allowed.

New shoreline stabilization, flood control measures, vegetation removal, and other shoreline modifications should be designed and managed to ensure that the natural shoreline functions are protected. Such shoreline modification should not be inconsistent with planning provisions for restoration of shoreline ecological functions. The Index-Galena Road Milepost 6.4-Milepost 6.9 project would be evaluated for several considerations as part of the Shoreline Substantial Development review including recreation, vegetation management, shoreline restoration and enhancement, fill, and flood protection measures. The most directly applicable policies for roadways are discussed below.

**Transportation, Circulation and Parking Facilities**

The transportation and circulation element addresses the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public facilities, all correlated with the shoreline use element. The transportation system provides access to shoreline areas and scenic viewpoints but at the same time can damage shoreline ecological functions. The transportation goals and policies must balance the requirements needed to support shoreline uses with the protection of the shoreline ecology.
**Goals**
- Permit safe and convenient circulation systems appropriate to the shoreline environment which cause minimum disruption to shoreline access, shoreline environment, and minimum conflict between the different users.

**Policies**
- Permit the repair and maintenance of transportation structures within a channel migration zone or floodway so as to minimize significant ecological impacts.
- Encourage low impact development techniques.
- Encourage provision of view points, rest areas and picnic facilities in public shoreline areas along transportation corridors.
- Transportation facilities should be located and designed to avoid, or if that is not feasible, minimize impacts to shoreline ecological functions, especially channel migration and conveyance of flood waters and large woody debris.
- Road and railroad bridges should be designed to accommodate the existing floodways of streams and rivers.
- Design and maintain roads to minimize erosion and preserve natural drainage ways.
Exhibit 24: Snohomish County Comprehensive Plan and Zoning Designations
Exhibit 25. U.S. Forest Service Land Allocations in Index-Galena Road Project Area
• Construction debris, overburden and other waste materials should not be allowed to enter into any water body by disposal or erosion from drainage, high water or other means.
• Parking facilities should be located outside of shoreline jurisdiction or as far landward from the ordinary high water mark as feasible. When located within shoreline jurisdiction, the location and design of parking facilities should:
  • Minimize visual and environmental impacts to adjacent shoreline and critical areas.
  • Facilitate public access to and enjoyment of the shoreline.

A substantial development permit may be granted only when the development proposed is consistent with the policies and procedures of the Shoreline Management Act, the adopted local master program, the provisions of the State Environmental Policy Act, and other applicable county plans, policies, objectives, and land use regulations.

**What U.S. Forest Service land use regulations would apply to the project?**

Land use actions occurring in the proposed project area are required to be consistent with the requirements of the National Forest Management Act (USC 1604(g)(3)(E)) and its implementing regulations (36 CFR 219). The proposed project must also conform to the Land and Resource Management Plan (LRMP) for the Mt. Baker-Snoqualmie National Forest, as amended (USDA, USDI 1994, 2001, 2004). The plan and its amendments are referred to collectively as the *MBSNF Plan*.

The following discussion of U.S. Forest Service (USFS) related land use policies and regulations is in accordance with USFS regulations for implementing NEPA, and is tiered to the Final Environmental Impact Statement (FEIS) for the Mt. Baker-Snoqualmie Land and Resource Management Plan (USDA Forest Service 1990), as amended. Major plan amendments since 1990 include:

• *Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old-growth Forest Related Species Within the Range of the Northern Spotted Owl*, as adopted and modified by the April 1994 Record of Decision, which provides additional standards and guidelines (USDA, USDI 1994, and commonly known as the ROD, or the Northwest Forest Plan (NWFP)).

• *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and Other Mitigation Measure Standards and Guidelines* (USDA, USDI 2001).


The 1994 Record of Decision (ROD) includes seven land allocations, which amend the allocations in the 1990 Forest Plan. There is considerable overlap among some allocations, and more than one set of standards and guidelines may apply. Where the standards and guidelines of the 1990 Forest Plan are more restrictive or provide greater benefits to late-successional forest-related species than do those of the 1994 ROD, those existing standards and guidelines apply. The 1994 Forest Plan amendment also includes Forest-wide Standards and Guidelines, in addition to those in the 1990 Plan, and an Aquatic Conservation Strategy (ACS) designed to help improve the health of the aquatic ecosystem. The standards and guidelines that will be applied to the proposed Index-Galena Road project are discussed further in following sections.

**Which U.S. Forest Service Standards and Guidelines would apply to the proposed project?**

An overarching goal stated in the MBSNF Plan with regard to Forest-wide standards and guidelines for land uses directs the U.S. Forest Service to "be responsive in the consideration of the use and occupancy of the Forest by private individuals, Federal, State and local governments when such use is consistent with Forest management objectives, is in the public interest, and cannot be reasonably served by development on private land" and "grant needed easements to State and local governments for existing and relocated roads and highways" (MBS 1990 Forest Plan, page 4-137).

Several standards and guidelines are taken into consideration when evaluating proposed projects occurring on MBSNF lands, these include suitability of the proposed use, resource protection, safety, water quality, fish and wildlife habitat, and visual quality.

**How does the U.S. Forest Service designate the lands in the proposed project area?**

The 1994 ROD and the 2001 and 2004 amendments include additional Forest-wide Standards and Guidelines, which guide management of this National Forest. The following land allocations (which function similarly to zoning classifications as found in city and county regulations) are found in the project area:

- **Riparian Reserves:** This allocation, an Aquatic Conservation Strategy (ACS) component, includes areas along all streams, wetlands, ponds, lakes, and unstable or potentially unstable areas. Riparian Reserves are mapped overlaying all other allocations. Silvicultural practices can be applied to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain ACS Objectives. Riparian Reserves are located in the project area and are discussed in more depth following this section.

- **Matrix:** The matrix allocation includes federal lands not in the other allocations. It is the area in which scheduled full and partial yield timber harvest may occur. Matrix may also include non-forested areas and lands that are technically unsuited for timber harvest. (See Exhibit 25: U.S. Forest Service Land Allocations in Index-Galena Road Project Area)
In the Index-Galena Road project area, matrix allocations include:

- *Management Area (MA) 17 (Timber Emphasis)*, where timber removal is allowed
- *MA-5A (Recommended Recreation River)* for this segment of the North Fork Skykomish River; and
- *MA-14 (Deer and Elk Winter Range)*
- *MA 145A: Deer and Elk Winter Range, Recommended Recreation River*

What types of goals and policies are associated with the project area land allocations?

The applicable related goals and policies of the Matrix Allocations located in the proposed project area are outlined below:

*Management Area (MA) 17 (Timber Management Emphasis)*

The goal of this allocation is to provide for timber production. Areas allocated for this designation may be applied to any suitable forest acres. These areas take on the appearance of intensively managed timber lands, typified by even aged stands, well developed crown ratios, and low mortality levels. Granting of rights-of-way must meet Forest-wide Standards and Guidelines. Location of road facilities should minimize impacts on dedicated or sensitive lands, such as wilderness areas or semi-primitive dispersed recreation where practicable.

*MA-5A (Recommended Recreation River)*

The goal of this allocation is to protect from degradation the outstanding remarkable values and wild, scenic, and recreation characteristics of recommended rivers and their environment, pending a decision on inclusion into the National Wild and Scenic River System. This allocation is generally applied to National Forest lands .25 mile either side of the main channel of each river that has been recommended for inclusion into the system. Until designated by Congress, jurisdiction does not extend to outside of National Forest boundaries.

This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the U.S. Forest Service, Secretary of Agriculture, and the President of the United States. Congress has reserved the authority to make final decisions on designation of rivers to be included in the National Wild and Scenic Rivers System. Until Congressional action, the values contributing to a river’s particular classification will be protected on National Forest Lands. Forest lands in the 1/4 mile corridor on each side of the rivers are managed to maintain the river’s eligibility. Standards and guidelines for managing suitable rivers are provided in the Forest Plan. While roads and bridge crossings are allowed, the desire is to maintain natural conditions in streamside bank areas so that water quality can be maintained to keep rivers fishable and swimmable.
**MA-14 (Deer and Elk Winter Range)**

The goal of this allocation is to manage winter range to benefit deer and elk in terms of vegetational habitat. Winter range is generally located below 2,200 feet in elevation and contains a mix of successional stages to meet the forage and cover requirements for deer and elk. Optimum habitat is provided by the canopy cover, forest floor litter and understory vegetation found in mature and old growth forest. These provide for the thermal cover and forage needs of wintering deer and elk. Second growth as found in the project area may also provide habitat.

Typically, these areas would provide for different successional forest stages by having a mix of old growth, second growth stands, clearcuts, and plantations. Management activities would generally be scheduled to minimize disturbance between December 1 and April 1. Road design should be coordinated with a biologist to determine and reduce impacts. Road construction shall not be permitted between December 1-April 15.

**MA 14/5A: Deer and Elk Winter Range, Recommended Recreation River**

This allocation combines the goals and policies of both the Recommended Recreational River and Deer and Elk Winter Range allocations discussed above.

**What are some of the outstanding remarkable values for the Recommended Wild and Scenic River?**

The North Fork Skykomish River has outstandingly remarkable values for the following: scenic, recreation, fisheries, and wildlife. Prominent features along the river include Deer Falls, Bear Falls, Troublesome Mountain, Bear Mountain and Keyes Peak. Its landscapes range from the small town of Index to extraordinary mountain and river scenes. The North Fork Skykomish is one of Washington State’s most continuously challenging whitewater rafting runs. Eleven miles of the river is classified as Class III or Class IV, and is also a favorite for expert kayakers. Campers and many visitors drive Index-Galena Road for scenic driving in addition to access to trailheads and U.S. Forest Service campgrounds.

The river corridor provides an extensive winter range for black-tailed deer, and provides habitat for both bald eagles and golden eagles. The river supports populations of Chinook salmon, coho and pink salmon, steelhead and resident trout. The recommended river’s designation is Recreation in the Index-Galena Road project area. This designation extends from Troublesome Creek (near roadway milepost 11) to the confluence with the South Fork Skykomish River. Recreation rivers are typically readily accessible by roads and usually have some level of development along their shorelines.

**How does the Forest Plan’s Aquatic Conservation Strategy apply to the project?**

The Aquatic Conservation Strategy (ACS) is a primary component of the MBSNF Plan for the protection of aquatic and riparian-dependent species. The ACS was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained with them on public lands. Designation of land areas as Riparian Reserves along with specific standards and guidelines to protect them are a component of the ACS.
Riparian Reserves are lands along streams and unstable and potentially unstable areas where special standards and guidelines direct land use.

There are nine objectives that collectively help to assure protection of the ecosystem functions provided by Riparian Reserve areas. The standards and guidelines are designed to focus review of proposed projects to determine compatibility with ACS objectives. Project consistency determinations are made during review of a proposed project to determine whether projects “meet” ACS objectives. Alternatively, determinations may also conclude that a proposed project “does not prevent attainment.” Projects that do not maintain the existing condition or lead to improved conditions in the long term would be determined to not meet the intent of the ACS and would not be recommended for implementation or approval.

The nine ACS objectives include:

- **Objective 1**: Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.
- **Objective 2**: Maintain and restore spatial and temporal connectivity within and between watersheds, Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to critical areas for fulfilling life history requirements of aquatic and riparian-dependent species.
- **Objective 3**: Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.
- **Objective 4**: Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.
- **Objective 5**: Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage and transport.
- **Objective 6**: Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.
- **Objective 7**: Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.
- **Objective 8**: Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.
- **Objective 9:** Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian dependent species.

Roads in river valleys that parallel a river in close proximity, such as Index-Galena Road in some areas, typically limit the recruitment of large trees into the river. Extensive areas of large trees that would otherwise be located in the streamside zone are not there, due to the initial roadway construction clearing and then the ongoing maintenance of the road, or may be disconnected from the river by the roadway. During high flow flood events, the road itself limits channel migration of the river that would otherwise move laterally into the adjacent hillside slopes where it would recruit trees. Consequently, recruitment of trees is generally limited to those growing between the road and the river. Trees that fall onto the road from the landward side of the roadway would have less opportunity to contribute debris to the river because, during road maintenance, such trees are typically cut into smaller pieces and removed.

**What types of areas are designated as Riparian Reserves?**

Because Riparian Reserves are established along streams or waterbodies, they typically include a mosaic of riparian, wetland, and upland vegetation. The whole extent of the Index-Galena Road project is located in designated Riparian Reserves due to its proximity to the fish-bearing North Fork Skykomish River. Some of these areas are considered modified (such as the existing damaged Index-Galena Road asphalt roadway) while other areas are more natural or pristine in character.

**What types of Riparian Reserves Standards and Guidelines apply to the project?**

The MBSNF plan would apply the following Riparian Reserves standards and guidelines to the Index-Galena Road project:

**RF-1** - Federal, state, and county agencies should cooperate to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy objectives.

**RF-2** - For each existing or planned road, meet Aquatic Conservation Strategy objectives by:

a. minimizing road and landing locations in Riparian Reserves.

b. completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in Riparian Reserves.

c. preparing road design criteria, elements, and standards that govern construction and reconstruction.

d. preparing operation and maintenance criteria that govern road operation, maintenance, and management.

e. minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow.

f. restricting sidecasting as necessary to prevent the introduction of sediment to streams.

g. avoiding wetlands entirely when constructing new roads.
RF-3 - Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by:

a. reconstructing roads and associated drainage features that pose a substantial risk.
b. prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.
c. closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.

RF-4 - New culverts, bridges and other stream crossings shall be constructed, and existing culverts, bridges and other stream crossings determined to pose a substantial risk to riparian conditions will be improved, to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

RF-5 - Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is unfeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hillslopes.

RF-6 - Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

RF-7 - Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum, this plan shall include provisions for the following activities:

a. inspections and maintenance during storm events.
b. inspections and maintenance after storm events.
c. road operation and maintenance, giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources.
d. traffic regulation during wet periods to prevent damage to riparian resources.
e. establish the purpose of each road by developing the Road Management Objective.

How would roadway construction affect land use in the area?

There would be minimal temporary construction-related land use impacts associated with the proposed relocation of Index-Galena Road. Impacts are expected to be minimal because the existing roadway has been closed for vehicular use since the November 2006 washout and there are no residences in the project area. The primary impacts would be to property owners and recreation users who have walked on the damaged roadway and informal trails that have been established upslope from the existing roadway since the November 2006 damage event. These trails appear to be used primarily by upstream property owners during the months when vehicular access by way of the Jack Pass detour...
route is not open, but are also used by those exploring the area in proximity to the damaged roadway.

Pedestrian hiker access on these informal trails would be eliminated during construction because roadway construction would occur in these areas for three construction seasons. The area where the existing informal trails are located would be incorporated into the construction footprint although some remnants could potentially remain undisturbed. It is assumed that most of the potential future need for use of these informal paths would be eliminated once the relocated roadway is in place and through-route vehicular access is restored. Construction related traffic would potentially affect access to the one adjacent privately owned parcel where river access is provided for commercial rafting trips.

Transport of construction materials and other roadway construction activities could potentially increase traffic congestion in proximity to the Index turn off from US 2 and the area on Index-Galena Road near the Index Bridge #122 crossing of the North Fork Skykomish River to the town of Index.

**How would the relocated roadway permanently impact land use in the project area?**

The proposed relocated roadway would not adversely affect designated recreation areas. No campgrounds, trails, or other areas formally designated for recreational uses would be directly affected by the roadway construction. The relocated roadway in proximity to the Milepost 6.9 washout would cross near areas suitable for river access by white water recreationists and presently used for dispersed recreation. This area has a longstanding use for river access, both as a put-in and take-out location. The project would not eliminate this access. Project related design efforts would maintain and enhance river access.

Opening of the relocated roadway would likely attract additional recreational users to the North Fork Skykomish valley that would match or result in an increase from previous use levels prior to the 2006 damage event. These uses would be consistent with current forest plans and Snohomish County goals to promote recreation and recreation tourism. By re-establishing more year round and more direct access to the recreation areas in the North Fork Skykomish valley, the re-established route is expected to provide economic benefit for businesses in the greater Index area that provide services to recreation users. This would be consistent with one of the adopted GMA General Policy Plan Economic Development Element goals to encourage sustainable use of resources for economic development.

Index-Galena Road is located outside of the boundaries of the Wild Sky Wilderness. No designated wilderness areas would be affected. Direct roadway access would be restored to U.S. Forest Service campgrounds, Troublesome Creek Campground at Milepost 11 and San Juan Campground at Milepost 13. More direct access is expected to enable campground use to return to historic levels that occurred prior to the flood damage to Index-Galena Road.
The relocated Index-Galena Road roadway would not establish new access to areas currently without access. The roadway would match back into the existing roadway in proximity to the Milepost 6.4 and Milepost 6.9 washouts. In proximity to Milepost 6.4, the existing U.S. Forest Service Road #6320 (Trout Creek Road) and Index-Galena Road intersection would be relocated upslope from its existing location when Index-Galena Road is relocated. Re-establishing vehicular access to land areas upstream from the existing washed-out sections is not expected to exert more land development pressure to undeveloped private property areas. This impact is not considered to be substantial in the area along the existing roadway based on current zoning in place, and other factors that control development growth such as lack of availability of utilities, sewage disposal, and municipal water service.

The project would not adversely affect deer or elk winter range due to the small size and scope of the tree falling for the new roadway relative to the potential habitat in the greater project area. Tree felling for road construction could potentially improve forage habitat by letting more sunlight to the ground, which in turn will potentially create more forage currently unavailable due to the canopy cover present at the site. Project implementation would not occur during the winter range season (December 1 to April 15). Wildlife impacts are discussed in greater depth in the Wildlife section of this EA.

Reopening Index-Galena Road to through access is expected to reduce upper Index-Galena Road bound vehicular traffic from the current Beckler River Road/Road 65 detour route. This would be expected to reduce wear and tear on the Road 65 gravel roadway’s travel surface and reduce maintenance needs.

**How much land area is needed for the project?**

No private property acquisition would occur as part of the project. The project would acquire a new right-of-way easement from the U.S. Forest Service. The existing easement area where the damaged roadway is located would be abandoned, rehabilitated, and preserved for non-roadway uses. Approximately 0.9 miles of new right-of-way easement would need to be acquired for the relocated roadway alignment. A portion of the easement near the downstream terminus at MP 6.4 would be located on the present Trout Creek Road #6320.

Right-of-way easement approval and acquisition would reduce the amount of land available for ongoing timber management. The impact is not considered to be substantial because the National Forest has sufficient land reserves to accommodate anticipated future timber harvest levels. Where construction would occur in the established roadway easement in proximity to the existing roadway, right of way easement acquisition needs would be minimized through maximizing use of the existing right of way easement. The project’s right of way easement needs have been estimated to total 11.5 acres.

**Is the project consistent with the U.S. Forest Service requirements?**
Overall, the Index-Galena Road Milepost 6.4-Milepost 6.9 project would help preserve key ecological functions of the designated Riparian Reserves in the project area. The project, designed to maintain existing roadway access to land areas in the upper North Fork Skykomish River watershed, would have temporary impacts to the watershed during construction, but through project design, mitigation measures and best management practices as described, the project would be consistent with ACS objectives at the site and watershed scales.

The project would adhere to U.S. Forest Service requirements associated with relocating the existing roadway to a new alignment and right-of-way easement. A more in-depth discussion of consistency with these standards is provided in the Land Use-Recreation Discipline Report.

Land areas designated by the U.S. Forest Service as Riparian Reserves impacts would include temporary and permanent effects. Temporary impacts would include a short-term disturbance of vegetation, soils, or riparian function when asphalt is removed in the existing damaged roadway alignment. The principal short-term impacts include exposure of mineral soils and subsequent potential for erosion. Some temporary impacts may persist for longer periods. For example, loss of riparian shade associated with removal of vegetation in order to access the asphalt areas to be removed would persist until the vegetation has regrown. For the purposes of this analysis, impacts lasting for up to a few years are regarded as temporary, because they can be monitored and full restoration ensured within the timeframe of the project.

Permanent impacts occur when project actions cause a lasting change in vegetation or a change in functional characteristics of the affected Riparian Reserve. For example, riparian shade, fine litter inputs to streams, and stream microclimate may be permanently affected by removal of Riparian Reserves forests. The most extensive permanent impacts are those that involve removal of all vegetation, essentially negating riparian functions. This would occur in the area that would be occupied by the roadway’s travel surface. Under the Proposed Action, a total of approximately 9 acres of Riparian Reserves would be affected, all of which is currently in native vegetation types except for the damaged roadway that would be removed and restored. Of this total, approximately 4.20 acres would be converted to a new roadway prism footprint, while 4.84 acres would be long term temporary impacts associated with grading cuts and fills that would be restored with native vegetation planting after construction is completed. Of the native vegetation affected, most of the area is mature forest with small areas in scrub-shrub cover. The land area where the existing roadway is located would be considered modified and/or developed (1.58 acres). Roadway removal and subsequent restoration would help to offset the removal of riparian forest for the relocated road.

_How does the project comply with Aquatic Conservation Strategies?_

The project as proposed would be consistent with Aquatic Conservation Strategy objectives by relocating the roadway from the river and floodplain. This would contribute to maintaining diversity and complexity of watershed features by restoring free flow of the North Fork Skykomish River. Relocation enables the existing damaged roadway
asphalt to be removed and natural riparian site conditions to be restored. This promotes aquatic restoration including benefits to in-stream habitat, and the adjacent riparian habitat that would provide greater habitat diversity and promote enhanced wildlife habitat conditions in proximity to the river.

Incorporation of habitat restoration plantings and LWD placement would add habitat complexity and roughness elements in the channel. Approximately 1.5 acres of riparian buffer would be enhanced by abandoning the existing roadway. This area would be replanted with native shrubs and trees. All temporarily disturbed areas associated with asphalt removal and access to this area would be treated with salvaged duff and mulch and planted with native trees and shrubs above the ordinary high water mark, out of the most flood susceptible zone.

Removal of the existing roadway and relocation further landward is expected to enhance aquatic refugia as side channel development over time has a positive effect on riparian connectivity. Similarly, the project is not expected to obstruct the movement of terrestrial species, dependent upon riparian corridors for their habitat needs or movement between habitat areas.

Roadway relocation would maintain and restore the physical integrity of the river aquatic system, including shorelines, banks, and bottom configurations. During construction, the physical integrity of the aquatic system would be maintained with limiting in-water work associated with the project to the dry season and using containment systems and other measures to separate construction activity from the active flow of the river.

Relocating Index-Galena Road would help to prevent catastrophic roadway failure for the long term, eliminating a source of material that could be potentially introduced to the river that does not promote healthy riparian, aquatic ecosystems. Short term water quality impacts associated with construction would be managed by implementing project sedimentation control best management practices. All stormwater runoff on the completed roadway would be dispersed on the downslope adjacent areas, before sheet flowing and infiltrating through vegetated buffer areas. This process would filter and infiltrate the runoff. Thus, no measurable increases in the concentration or loading of stormwater contaminants would be expected to enter the river.

Culverts would be designed to maintain current sediment transport processes. Use of appropriate BMPs, management requirements, and mitigation measures would minimize and mitigate potential short-term increases in sediment mobility associated with any soil disturbance from construction activities. At both the reach and watershed scale, changes in the overall sedimentation rates attributable to the project would likely be non-detectable given the high variability in natural rates of sediment input along the river.

The completed project would contribute to maintaining stream flows because stormwater associated with the project is not expected to alter the hydrologic cycle, including low or peak river flows. Relocating the roadway further landward out of the floodplain would reduce the potential for floodwaters to overtop roadway surfaces, erode roadway prisms and associated roadway embankments. There would be a net decrease in impervious surface compared to the pre-damage roadway conditions.
The current floodplain function would be maintained and conveyance improved with the project due to the removal of the damaged roadway from the floodplain, relocation of the roadway above the floodplain, and restoration of more natural vegetated buffer floodplain conditions. The project would enable more extensive floodplain inundation than currently exists with the existing roadway. Floodplain connectivity would be enhanced with removal of obstacles and constructions presented by the existing roadway and its roadway prism. This would improve flood conveyance in the project area and not contribute to elevated flood flows.

**How would the project be consistent with Riparian Reserves Standards and Guidelines for Roads Management?**

The project as proposed would be consistent with Riparian Reserves standards and guidelines that apply to the Index-Galena Road project. The project team has coordinated with U.S. Forest Service, the Washington State Department of Transportation, the Federal Highway Administration and other agencies to ensure that road design and operation and maintenance will promote attainment of Aquatic Conservation Strategy objectives.

The project proposes to use the AASHTO Low Volume Roadway Design Standards to minimize the project footprint. Using these design standards enables the proposed project design to match the character of the existing roadway. Using these standards and incorporation of design features such as retaining walls, structural earth walls (SEW walls), and reinforced slopes also would reduce the clearing required for construction.

The project completed a channel migration zone analysis as part of the project’s early feasibility analysis. Roadway design efforts have been closely integrated and coordinated with extensive geotechnical analysis to determine the best location for the relocated roadway. The project’s design criteria, project elements, and standards have been closely coordinated with U.S. Forest Service oversight to ensure consistency with the MBSNF Plan. Snohomish County would continue to coordinate with the U.S. Forest Service to ensure that long term road operation, maintenance and management are consistent with USFS standards and guidelines as established in roadway right-of-way easement and special permit requirements.

Proposed roadway culverts and the bridge crossing of the wetland near Milepost 6.9 would be designed to accommodate the predicted 100-year flood flow including the associated bedload and debris. The box culvert vented ford near Station 29+00 would be designed to withstand predicted 100-year flow events and associated debris. Outsloping the roadway surface is proposed to promote natural dispersion of roadway stormwater runoff. The project design would minimize sediment delivery to project area streams by dispersing stormwater runoff and providing conveyance at roadway culverts and the proposed bridge to route roadway drainage from unstable channels, fills and hillslopes. A Stormwater Pollution Prevention Plan would be developed and implemented during construction to address construction-related sediment and erosion control.
How would the project address Wild and Scenic River allocation issues?

The project’s proposed relocation of Index-Galena, including roadway pavement removal from the river side channel and restoration of riparian areas to natural conditions, would promote protection from degradation the outstanding remarkable values and wild, scenic, and recreation characteristics of the North Fork Skykomish River. The proposed project would include maintaining natural conditions in streamside bank areas so that water quality can be maintained to keep rivers fishable and swimmable.

Roadway construction would not occur in the bed or on the banks of the river, and would require minimal vegetation removal adjacent to the river’s side channel. Accordingly, the project is not expected to adversely affect outstandingly remarkable values for which the river was recommended for future Wild and Scenic River designation. The relocated roadway would be screened from the river’s main channel by vegetation in most areas, but would be visible from some areas along the side channel until riparian vegetation becomes established in the area where asphalt would be removed and planted. This mitigation work would enhance outstandingly remarkable values in this reach of the river based on preliminary coordination and review by the U.S Forest Service.

The proposed Index-Galena Road relocation would protect and enhance the free-flowing condition, water quality, and outstandingly remarkable values of the North Fork Skykomish River. The relocation is designed to prevent repeated roadway washouts (and resultant effects) that Index-Galena Road has experienced in past events.

With the river channel’s 2006 migration and resultant erosion of the Index-Galena Road pavement, the proposed roadway relocation above the active flood plain would enhance free-flowing conditions by accommodating lateral channel migration that would not adversely affect the road. By relocating the road and enabling river migration to the extent practical (within the project area), there is decreased constriction of the floodplain.

The effects on water quality associated with the relocation construction would be of short duration and minimal when compared to background sedimentation rates that would occur with future roadway washout damage. Long term effects are beneficial for water quality with the roadway located further landward from the active channel flow.

The effects of construction on fisheries would be short-term to accommodate roadway removal, and would include short-term increases in roadway construction related noise and sediment. Long term effects are beneficial and in-stream spawning and side channel refugia habitat is expected to be enhanced by roadway removal and restoration of natural riparian conditions.

Changes in wildlife habitat and wildlife populations would be moderate due to the relatively small amount of habitat change, and this change occurring in very small areas separated by relatively large distances. There are no substantial effects to wildlife beyond a temporary increase in noise during construction.

The roadway and views would be improved relative to the pre-damage condition and the scenery would be enhanced in areas in proximity to the river. Areas upslope from the river would have bare soils resulting from construction activities. These would be stabilized and revegetated to minimize erosion potential. At the expected effectiveness for these mitigation measures, impacts to scenery would likely be short term.
Impacts to visual quality would be addressed with aesthetics as a consideration. Techniques such as colored and/or textured concrete or rock gabion walls would be implemented in accordance with USFS guidance. Guardrail color would be a muted earth tone color, such as a weathering steel type or a guard rail that has been painted a weathering steel color. Restoration plantings in critical visually sensitive areas would also consider placement of earth berming and rock boulders to promote a naturalized appearance for the proposed relocated road. For more discussion of visual quality considerations, see the Visual Quality section of the NEPA EA.

**Is the project consistent with the Snohomish County requirements?**

The established land use patterns in the project vicinity would continue to be consistent with Snohomish County plans and development regulations. The roadway alignment and its proposed relocation in the project area has been developed in accordance with these respective plans. The relocation alignment has been developed to minimize riparian and aquatic system impacts, habitat fragmentation, and impacts to steep slope areas. The route relocation is consistent with the County’s long-term economic development goals to increase recreation tourism. No further land use impact mitigation is proposed.

**How would the project conform to Snohomish County adopted development regulations?**

The proposed Index-Galena Milepost 6.4-Milepost 6.9 project would be constructed subject to permit conditions associated with Snohomish County development review. Applicable development regulations and regulatory review include SCC 30.44 Shoreline Permits; SCC 30.67 Shoreline Management Program; SCC 30.62 Wetlands and Fish & Wildlife Habitat Conservation Areas; SCC 30.62B Geologically Hazardous Areas; SCC 30.65 Special Flood Areas, SCC 30.63A Drainage, and 30.63B Land Disturbing Activity. Final mitigation requirements will be identified during these regulatory review processes and integrated into the construction plans and specifications as required. Proposed mitigation related to critical area impacts are identified in the wetland and streams section of the NEPA EA.

**5.3.2 Hazardous Materials**

**How likely are hazardous materials to be present in the project area?**

Historic and current property uses along the proposed alignment are not those that would typically contribute to extensive soil or groundwater contamination issues. The historic land use along the proposed alignment included logging that was conducted in support of mining and railroad activity in the North Fork Skykomish River valley. There are no commercial or industrial property uses located along the proposed alignment.

The only property in the greater project area that has been under commercial ownership historically includes a railroad alignment that parallels the existing damaged roadway. It was formerly a logging and mining railroad alignment that was abandoned in the early
20th century. Portions of the logging railroad also extended approximately two miles up Trout Creek Road higher in the Trout Creek watershed to the now closed Sunset Mine. A study of the inactive mine indicates that mine tailings contribute to elevated copper and lead levels in Trout Creek downstream from the mine. (See Exhibit 26: Historic Railroad and Sunset Mine for the locations of these properties.)

Are there any hazardous materials sites in the project area?

There are no records of hazardous waste sites located on the project site. No hazardous waste sites were indicated in the Environmental Protection Agency’s records, nor were there any listings of underground storage tanks in the project area. However, this review does not ensure that any potential future roadway right of way is free of hazardous materials. It is possible that hazardous materials could be present which are undiscovered or undocumented in agency records.

The abandoned railroad right of way and Sunset Mine have potential for contaminants based on historic railroad operations and mining. Normal railroad maintenance would typically involve use of petroleum-based lubricants that can be spread along the tracks resulting in low levels of petroleum hydrocarbon contamination. Due to the earlier era of railroad operation, it is not known whether past maintenance could also have included chemical weed control along the railroad alignment.

Are there risks associated with acquiring an easement for the roadway?

There is low probability of environmental liability associated with right of way easement acquisition based on assessments to date. While very limited types of environmental liability may exist along the proposed alignment, the risk is not deemed any higher than other environmental liability associated with right of way easement acquisition in the greater area.

Could roadway construction increase hazardous materials risks?

While investigations to date conclude that it is unlikely that the proposed right of way easement is contaminated, there is some potential that spills may have occurred sometime in the recent past that was never reported. There is minor potential that roadway construction could encounter soil contamination. There are no structures that could contain lead-based paint or asbestos-containing materials.

Accidental spills during construction could potentially cause short or long-term impacts via exposure to soil contaminants or groundwater.

How does opening the road to traffic affect hazardous materials risks?

Accidental spills on the roadway once it is opened to roadway traffic could potentially cause short and long-term impacts to the surrounding population via exposure to contaminants in air, soil, or groundwater. Based on existing information, no significant adverse environmental impacts relating to hazardous waste are expected during construction or roadway operation.
Key to Map Features:
- Waterbodies
- Streams / Creeks
- Existing Roads
- National Forest Land
- Wild Sky Wilderness
- Proposed New Alignment
- Historic Railroad
- Sunset Mine

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.

Exhibit 26. Historic Railroad and Sunset Mine
Environmental Risk Assessments

Prior to right of way easement acquisition, Environmental Risk Assessments (ERA) will be conducted for the land area proposed for easement acquisition. The ERA would further assess potential existing environmental contamination and whether or not more in-depth investigations are warranted.

Phase I and Phase II Environmental Site assessments would potentially be completed for the railroad alignment remnant. Acquisition of the easements would not occur until it is assured that past use and/or housekeeping practices on these properties has not resulted in a release of a hazardous substance into the ground or groundwater table.

5.3.3 Social and Economic Impacts

How would the relocated roadway relate to the local and regional economy?

Access to recreational opportunities that would be restored by the proposed relocated roadway are generally recognized as important to promoting rural economic development. Recreation opportunities in the North Fork Skykomish River valley such as U.S. Forest Service campgrounds and trails, kayak and river rafting trips, and scenic driving trips attract both day and overnight visitors. Economic activity is generated by recreation visitors through recreation-related spending such as purchase of equipment, food, and transportation related purchases such as gasoline. Spending can be made before, during, and after trips to the area. Services provided by local businesses such as river recreation guide trips and local area restaurants tend to have more direct benefit to local communities such as Sultan, Index, and Skykomish.

Re-establishing roadway access to the upper North Fork Skykomish River valley facilitates local economic development by encouraging out-of-area visitation. Roadway access is an integral part of a regional comprehensive tourism approach as identified in the 2010 Snohomish County Tourism Strategic Plan and promoted locally in the project vicinity by the Sky Valley Chamber of Commerce.

How would the relocated road affect the local economy?

The 2010 Snohomish County Tourism Strategic Plan identifies “anchor clusters and anchor attractions” as those that are intrinsically strong enough to attract large numbers of people from outside Snohomish County and those that have built in marketing infrastructure programs. The plan identifies Outdoor Recreation (nature-based tourism, adventure tourism, and active and leisurely adventures) as a type of anchor/anchor cluster. The plan notes that Snohomish County is known for its outdoor life, and that proximity to water, fishing, and abundance of hiking trails has attracted visitors since the early 20th century to areas such as nearby Index for its climbing, fishing, and hiking. Large land areas of public lands help to facilitate public access. The recent addition of the Wild Sky Wilderness has helped to draw additional attention to the area north and east of Index.
Why are social impacts evaluated?

The project evaluates the potential for social impacts because roadway construction and the relocation of an existing roadway can often be disruptive to community cohesion and cause unintended impacts.

Consideration of social impacts was heightened starting in 1994, when concern over low-income and minority populations bearing a disproportionate share of adverse health and environmental consequences led President Clinton to issue Executive Order 12898, focusing Federal agency attention on environmental justice issues. A recent strategy by the Federal Highway Administration to address these concerns includes FHWA’s Order 6640.23, dated 6/14/12, “FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.”

<table>
<thead>
<tr>
<th>Fundamental Principles of Environmental Justice are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.</td>
</tr>
<tr>
<td>To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.</td>
</tr>
<tr>
<td>To prevent the denial of, reduction in, or major delay in the receipt of benefits by minority and low-income populations.</td>
</tr>
</tbody>
</table>

How were environmental justice impacts determined?

The following steps were taken to analyze impacts of the project on environmental justice populations:

- The study area was defined and census tract and census block groups within the area identified. (See Exhibit 27: Index-Galena Road Census Tract and Block Group Boundaries)
- Preliminary identification of environmental justice populations was made using 2010 data from the US Census Bureau.
- Adverse impacts of the project were identified and an assessment of whether they fall disproportionately on environmental justice populations was made. Discipline reports were reviewed and their results taken into consideration for possible effects on environmental justice populations.
- The project’s public involvement plan was developed to include focused outreach to the identified environmental justice populations, and has included multiple public meetings, newsletter mailings, and a website that provides project updates. To date no environmental justice populations have been identified in the project’s affected area due to the fact that there are no residences or businesses in the affected area. There has been no need for translators at the public meetings or other communications conducted to date.
Exhibit 27: Index-Galena Road Census Tract and Block Group Boundaries
Which affected populations are found in the project area?

The area where project activities would occur, including road construction, proposed wetland fills, stream crossings, and displacement of residences is called the affected area. The census tract and block group within the project vicinity were evaluated. To determine the affected environment for environmental justice (low-income and minority populations), census tracts and block groups within the project vicinity were overlain over the affected area to determine the race, ethnicity, and income of populations in the project area. The affected area is located within Census Tract 538.01, with the project limits more specifically located in Census Tract 538.01 (Block Group 3). It should be noted that there are no residences or businesses in the project area affected area due to its remote location on U.S. Forest Service lands in the Mt. Baker Snoqualmie National Forest. (See Exhibit 27: Index-Galena Road Census Tract and Block Group Boundaries)

For this analysis, low-income was defined as households whose incomes are at or below the poverty line. The poverty guideline is established annually in the Federal Register during the month of January by the U.S. Department of Health and Human Services. The 2014 poverty guideline is established at $23,850 for a household of four persons. Minority was defined as individuals listed in the 2010 Census as black (a person having origins in any of the black racial groups of Africa); Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); American Indian/Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition); or some other race. The “some other race” category includes all other responses not included in the “White,” “Black or African American,” “Hispanic/Latino,” American Indian or Alaska Native, “Asian,” and “Native Hawaiian and Other Pacific Islander” race categories described above. Respondents providing write-in entries such as multiracial, mixed, or interracial in the “Some other race” write-in space are included in this category (U.S. Census Bureau 2010).

The total number of households and those determined to be low income for the census tract and the block group in the affected area are shown in Exhibit 28: Index-Galena Road Project Area Low Income Demographics. As shown in Table 1, census tract 538.01, Block Group 3, 33.77 percent of the population would be considered to be low income based on the criteria of household income at or below the poverty level. The percentage of low income population within census tract 538.01 stands at 14.92 percent, a smaller percentage of the population in the larger census tract land area.

Both the census tract and block group levels in the affected area have relatively low percentages of minority populations as shown in Exhibit 29: Index-Galena Road Race/Ethnicity Minority Population.
Exhibit 28: Index-Galena Road Project Area Low Income Demographics

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Number of Households/Numbers Below the Poverty Guideline ($23,850 for a family of four)</th>
<th>% At or Below Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT 538.01</td>
<td>1,267/189</td>
<td>14.92%</td>
</tr>
<tr>
<td>CT 538.01, BG 3</td>
<td>385/130</td>
<td>33.77%</td>
</tr>
</tbody>
</table>

Source: Low income population numbers were derived from Table B 19001 “Household Income in the Past 12 months (in 2012 inflation-adjusted dollars)” from the 2008-2012 American Community Survey. The percentage listed is the number of households in each income range (up to and including the range that contains the current poverty level amount) divided by the total number of households.

CT = Census Tract   BG = Block Group

Additional race/ethnicity and income related data was also obtained from the Washington State Office of Public Instruction (OSPI) Washington State Report Card database. This database provides student demographic data. Information provided for the Index School District, which provides PK-8 instruction serving an enrollment of 39 students. The OSPI data shows that 46.2 percent of the student population in the Index-School District is eligible for free or reduced-price meals. The data also indicates that 3.1 percent of the student enrollment is Hispanic/Latino.

Exhibit 29: Index-Galena Road Race/Ethnicity Minority Population

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>CT 538.01</th>
<th>Percentage</th>
<th>CT 538.01, BG 3</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Alone</td>
<td>3,046</td>
<td>92.7</td>
<td>630</td>
<td>92.11</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>37</td>
<td>1.13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Black or African American Alone</td>
<td>12</td>
<td>0.37</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>American Indian and Alaskan Native Alone</td>
<td>66</td>
<td>2.01</td>
<td>17</td>
<td>2.49</td>
</tr>
<tr>
<td>Asian Alone</td>
<td>31</td>
<td>0.94</td>
<td>14</td>
<td>2.05</td>
</tr>
<tr>
<td>Native Hawaiian and other Pacific Islander Alone</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Some other race alone</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two Races Including Some Other Race</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two Races Excluding Some Other Race, and Three or More Races</td>
<td>94</td>
<td>2.86</td>
<td>23</td>
<td>3.36</td>
</tr>
<tr>
<td><strong>Total Population</strong></td>
<td><strong>3,286</strong></td>
<td></td>
<td><strong>684</strong></td>
<td></td>
</tr>
</tbody>
</table>

Minority population numbers were derived from Table BO3002 “Hispanic or Latino Origin By Race” from the 2008-2012 American Community Survey. The choice “White Alone” was subtracted from the Total Population to calculate the minority population and percentage.

CT = Census Tract   BG = Block Group
How would the project affect environmental justice communities in the project area?

Once completed, the proposed action would provide a benefit to all area residents who live upstream from the Milepost 6.4 –Milepost 6.9 washout that has eliminated through-route access on the Index-Galena Road corridor. This through-route allows residents to travel directly to their private property parcels and from their parcels enables more direct commute trips to employment centers in the I-5 and I-405 transportation corridors and for trips to local and regional commercial areas for shopping and services.

By restoring traffic flow on Index-Galena Road, traffic circulation and safety would improve for all motorists. This roadway network connectivity restoration would also benefit recreation users which will include minority and low-income users of U.S Forest Service lands in the Mt. Baker Snoqualmie National Forest.

The proposed Index-Galena Road Milepost 6.4-Milepost 6.9 project is an integral part of the Snohomish County Transportation Element of its GMA Comprehensive Plan. Snohomish County expects roadway repair to improve roadway network connectivity in the project area, which will be consistent with the area’s use as a recreation resource as envisioned in the comprehensive plan.

Has the project needed to communicate with property owners/residents with limited English proficiency?

There are no parcels affected that have an owner/resident with limited English proficiency. In the larger census tract area 538.01, approximately 0.22% was identified to be of limited English proficiency. No negotiations with persons of limited English proficiency have been required as part of the project to date. Translators would be made available for both written and oral communication if the need arises as part of the public involvement process. Snohomish County will adhere to and implement provisions of its Title VI Plan, updated March 2015, in all of its project-related public involvement outreach.

How would impacts such as acquired property be addressed?

The project’s proposed alignment avoids right of way acquisition of private property and acquisition related impacts that would affect project area property owners. All land used for the proposed relocated roadway would be acquired from the U.S. Forest Service as part of a right-of-way easement. There is one private property parcel located on the north side of Index-Galena Road near Trout Creek. No acquisition would be required from this parcel.

The Index-Galena Milepost 6.4-Milepost 6.9 project corridor is located adjacent to an existing Major Collector (Rural) arterial roadway. The project requires approximately 9 acres to relocate the roadway and construct the relocated roadway. Areas within the existing right-of-way easement, including the flood damaged roadway prism, would be used for environmental impact mitigation. All easement acquisition activities would be consistent with the Federal Law: PL 91-646-Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and as amended in 1987. The impacts to the
U.S Forest Service associated with right-of-way easement acquisition from the U.S Forest Service would be mitigated by compensating for the timber value present in the project site that will be cleared. The timber value will be appraised prior to construction to determine the fair market value. An agreement would be reached between Snohomish County and the U.S. Forest Service. Right-of-way easement compensation would be done in accordance with the Civil Rights Act Title VI legislation and Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, as amended. Planned future interaction with citizens will ensure that citizens be kept informed of the proposed project actions.

**What Environmental Justice determinations were made?**

It has been determined that the proposed action would not have a disproportionately high and adverse impact on low-income or minority populations. Mitigation for the project impacts has been integrated into the project’s public outreach through extensive public outreach.

Efforts to avoid and minimize environmental impacts have been considered in the selection of the proposed action. Extensive public involvement has been conducted to involve the public. Public involvement as part of the NEPA scoping process has influenced the decision to use low volume roadway design standards. The use of these design standards has reduced the project footprint. Public involvement has also reinforced the importance of the Index-Galena Road corridor as an important recreation access to the general public. Many different types of recreation users have expressed the desire for restored roadway access to facilitate travel to trailheads and river recreation access points accessed by Index-Galena. Trail users have included both hikers and equestrian trail users. River recreation users have included both kayakers and river rafters.

Special accommodations, such as translation services, have not been required to date but would be offered and employed to help low-income and minority populations be informed and participate in the decision making process if needed.

**5.3.4 Historical and Archaeological Resources**

**How has history influenced development in the project area?**

The project area was used for fishing and as a travel route by a number of Northern Lushootseed-speaking Native American tribal groups. Limited information has been recorded for the project area specifically before European settlement. The research for the project’s cultural resources investigations gathered some of this information.

The Skykomish people lived along the river, from west of Monroe to Index. From these permanent winter villages, they participated in the kinds of seasonal gathering, hunting and fishing activities that characterized the subsistence patterns of the native western Washington people. Temporary summer dwellings were located in the Skykomish territory along the rivers and in the mountains.
Nearest to the project area, the Skykomish had a village site at the present town of Index. A large potlatch house was located here to accommodate groups heading up the Cascade slopes in quest of mountain goat, other game, and huckleberries. The area above Index was known for excellent hunting: Deer, elk, bear and goats were all hunted. This area was especially noted for the goat habitat. Additionally, the area above Index was also a favored location for gathering berries.

Also noted in or near the project area, an overland trail up the North Fork Skykomish River served to link the Skykomish people with the Wenatchi Indians of eastern Washington. Used by both the Skykomish and Wenatchi people, this trail breached the crest at Cady Pass and dropped down into the Little Wenatchee River drainage on the east side.

The Skykomish were represented in the Treaty of Point Elliott. After the establishment of the Tulalip reservation in 1855, the remaining Skykomish people eventually moved to the reservation. Today, the descendants of the Skykomish people are represented by the Tulalip Tribes.

Beginning in 1833, with the founding of Fort Nisqually, the Hudson Bay Trading Company had increasing influence in the Puget Sound Region and inland river drainages. Fur hunters and trappers were likely the only non-native visitors to the North Fork Skykomish River for most of the early to mid-1800s.

In the mid to late 1800s, the area was increasingly explored and settled, with mining and logging forming the two main industries in the region. Engineers such as E. F. Cady (for whom Cady Pass is named) searched for routes through the Cascades, including the North Fork Skykomish River. Prospectors hunted for gold and silver. Approximately two miles upstream of the project area, Silver Creek Mining District was one of the first discovered mining districts in the Cascades. The first claims were on Lost Creek in 1871. The district was not very active until 1882, when several more discoveries were made in rapid succession around the vicinity of Silver Creek.

The town site of Galena was then established at the confluence of Silver Creek and the North Fork Skykomish. To the north, the first discovery of valuable ore deposits at Monte Cristo District was made in 1889. The town site of Index was platted in 1893, at the confluence of the South Fork Skykomish River and the North Fork Skykomish River. Between 1890 and 1894, a road was completed from Index to Galena. This road was on the north side of the North Fork Skykomish River. The project area became part of the Washington Forest Reserve in 1897, and eventually proclaimed National Forest land by 1908.

The completion of the Great Northern Railroad in 1893 linked Seattle to the east through the Skykomish drainage, and provided transportation for the ore coming out of the mining districts. On June 18, 1897 the Sunset Lode mine was discovered by Arthur C. Egbert about a mile up Trout Creek, and the Sunset Mining Company was organized in July of that year. Trout Creek is a tributary of the North Fork Skykomish River, and its mouth is on the south bank, approximately 50 meters west of the beginning of the proposed Index-Galena road reroute. By 1903, a surface tram was transporting ore from Sunset Mine to the town of Index. However, by 1907 the tram was ruined by weather while the mine laid idle.
Logging began in the Skykomish valley around 1860. By 1904 a small mill was established in the town of Index. From this, the Index-Galena Logging Company was formed in 1907. They began building logging railroad grades up the North Fork Skykomish River drainage to access the timber. Near the confluence with Trout Creek, the history of the logging railroad is intertwined with the Sunset Mine. Production at the mine was able to resume in 1916, when a logging railroad was completed from Index to the mine.

In 1927 the Snohomish County Engineers Office published a map indicating the route of Index-Galena Road through the project area. This follows the current route of Index-Galena Road. As the automobile road was being developed, the railroad was in decline. The logging railroad discontinued operations by 1928. However, this did not stop the ore shipments from Sunset Mine. When the logging railroad was shut down, a Fordson tractor was rebuilt and equipped with four-wheel drive to haul two 5-ton cars with regular type railroad braking wheels down the tracks on a steep grade that at one point included a 12 percent slope to the mouth of the valley and on to Index. Presumably, this system was used until 1946, the last year of documented ore shipments from the mine.

**Why is a cultural resource investigation required for the project?**

The cultural resource investigation of historical and archaeological resources was conducted in fulfillment of the requirements of the State of Washington and the U.S. Code of Federal Regulations (36 C.F.R. 800). The 36 C.F.R. 800 regulations implement the National Historic Preservation Act.

As a recipient of federal funding Snohomish County is required to meet the Section 106 requirements. Section 106 of the National Historic Preservation Act (NHPA) requires agencies to consider the effects of their actions on historic properties and to consult with others in carrying out historic preservation activities. The Federal Highway Administration (FHWA) is the federal lead agency for this project but many of the Section 106 tasks have been coordinated with the U.S. Forest Service and delegated to the Washington State Department of Transportation (WSDOT). When projects occur on federal lands, the provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) also apply.

According to these regulations, properties determined to be significant are accorded heightened levels of consideration and/or protection. Under federal regulations (36 C.F.R. 60.4), significant properties are eligible for listing on the National Register of Historic Places (NRHP). Under Washington state law, properties that possess historical, architectural, or archaeological significance are eligible for inclusion on the Washington State Register of Historic Places maintained by the Washington State Department Of Archaeology and Historic Preservation (DAHP). DAHP considers the effects of a proposed project on significant resources, and suggests appropriate treatments or action.
What types of studies were done to identify historical resources in the project area?

Archaeological field investigations were conducted to get information regarding cultural, historic and archaeological resources in the project area. A cultural resources assessment was then prepared. The report included geographic, environmental, historical, ethnographic, and historic background information, including both pre-Euro-American contact and post Euro-American contact. The report also includes a literature search, a review of records maintained by DAHP and the U.S. Forest Service, and a survey of the project area.

What area was investigated for potential impacts?

Archaeological field investigations included the project’s proposed areas of disturbance including proposed mitigation areas that have the potential for ground disturbance. The areas investigated have been identified as the Area of Potential Effect (APE).

Were historical or archaeological sites found?

A report of findings determined that there were no recorded pre-contact archaeological sites located in the proposed alignment. Remnants of the historic logging railroad grade were found in proximity to the existing roadway corridor near milepost 6.9. The site was determined to not be eligible for listing on either the Washington State Register of Historic Places and Federal National Register of Historic Places. The DAHP concurred with the determination on March 5, 2015, and also determined that the project would not affect historic sites, thus concluding the Section 106 consultation process.

How would the project address inadvertent discovery of unanticipated cultural resources during construction?

The project in coordination with WSDOT and the U.S. Forest Service would develop an Inadvertent/Unanticipated Discovery Plan (I/UDP) and a NAGPRA discovery protocol prior to construction. The I/UDP would outline procedures to follow, in accordance with local, state and federal laws, if archaeological materials or human remains are discovered.

5.3.5 Public Services

What schools would be affected by the project?

The project’s study area lies within the boundaries of the Index-School District #63. The Index School District is a rural school district that provides educational instruction for students from pre-kindergarten to the 8th grade. All elementary students in the study area would attend Index School in Index. High school students have the option of attending high schools in the nearby Skykomish or Sultan school districts, or other districts. At this
time there are no students residing in the area above the Index-Galena Road washout and no school bus transportation routes operate in the area.

**Who provides police protection in the project area?**

The Snohomish County Sheriff provides these services within the project area. The department indicates that the project would help to provide shorter response times in emergency situations.

**Who provides fire protection in the project area?**

Fire Protect District #28 (FPD # 28) provides basic and advanced emergency medical services, fire suppression and rescue, and non-emergency fire prevention and public education activities.

Snohomish County Fire District #28 (FPD # 28) serves the Town of Index and the surrounding 170 square miles of unincorporated Snohomish County, which consists of mostly U.S. Forest Service lands. The district serves a population of approximately 1,000 in the fall and winter months and over 2,000 in the spring and summer months. FPD #28 district responds to 150 or more calls a year, with emergency medical responses comprising 70 percent of the calls.

Currently, the district has one main station in the Town of Index which houses firefighting equipment. The district is served by a part time administrative staff, a full-time Assistant Chief and 10 Volunteer firefighters, six of whom are Emergency Medical Technicians.

**Who provides electric service in the project area?**

There is no electric service provided in the project area. Snohomish County Public Utility District provides electric service to residential properties that are located downstream from the project.

**Are there plans for expanding the electric system in the project area?**

In recent years the PUD has evaluated the feasibility of installing geothermal energy facilities in the upper North Fork Skykomish River near Garland Mineral Springs. After extensive onsite drilling investigations the site proved to not feasible for geothermal energy generation for electricity. At this time there are no other plans for electrical system improvements in the project area.

**How has the Index-Galena Road damage affected emergency services?**

Project coordination with the U.S. Forest Service and emergency service providers (FPD #28, and Snohomish County Search and Rescue) has identified medical response to the U.S Forest Service campgrounds as a concern. Emergency service providers have identified that response times have tripled since first responders have had to use the Jack Pass detour route, compared to what it would take to respond by a rebuilt Index-Galena Road. Currently it takes 1-1.5 hours to respond from Index to the Troublesome Creek campground with use of the Jack Pass route as compared to a 20-30 minute response time if Index-Galena Road was open to through traffic from Index.
The USFS is also concerned about the potential for life-death situations associated and increased exposure to risk associated with delayed emergency response. There are additional concerns over the amount of time it takes for the companion of a victim in need of emergency services to drive to an area with cellphone service, or to Skykomish the nearest town, to call for help, if the companion is unable to transport the victim.

FPD #28 has expressed concern that vehicle response capability is adversely impacted by the existing washed out roadway that has severed connectivity to a portion of its service area. Emergency vehicles must travel a substantial distance on mountainous roads to serve areas upstream from the Milepost 6.4 washout.

In addition, search and rescue air support, such as use of helicopters, cannot always be relied upon due to inclement weather or approaching darkness. Search and rescue providers have stated that rebuilding Index-Galena Road would provide the shortest route for ground-based rescue crews to initiate search and rescue missions.

**How would police protection services be affected by the project?**

Access would be improved through relocation of Index-Galena Road and re-establishment of roadway connectivity. Restoring roadway connectivity would allow for more timely response to police calls.

**How would fire protection be affected by the project?**

Access would be improved through relocation of Index-Galena Road and re-establishment of roadway connectivity. Restoring roadway connectivity would allow for more timely response to fire and other emergency response calls.

### 5.3.6 Recreation

**Is Index-Galena Road located near recreation areas?**

The project area serves as a key access point to recreational resources in the Cascade Mountains and provides access to the North Fork Skykomish River. Index-Galena Road provides the primary vehicular access to areas located in the river valley east of Index. The valley area extending east from Index to the Cascade Crest provides multiple outdoor recreation opportunities. The area’s scenic beauty and proximity to Seattle and Everett population centers make it an attractive destination for outdoor recreationists that include primarily weekend trips to area lakes, rivers, campgrounds, and hiking trails. Roadway access to several trailheads afforded by Index-Galena Road also provides opportunities for more extended outings on a well-established trail network in the Mt. Baker-Snoqualmie National Forest.

**5.3.6.2 What recreation resources are in the project area?**

While there are no formal recreation sites in the project area, Index-Galena Road provides roadway access to various types of recreation sites and recreation opportunities. The various recreation types and sites are discussed in detail below. All of the recreation areas located in the upper North Fork Skykomish River valley are managed by the U.S. Forest Service. (See Exhibit 30: Existing and Proposed Trails.)
Exhibit 30: Existing and Proposed Trails
**Hiking Trails**

There are several trailheads directly accessed by Index-Galena Road and its continuation as USFS-maintained Forest Service Road 63 northeast from the Index-Galena Road intersection with Beckler River Road/Forest Road 65. Some of these trails also connect with a trail network that provides access to additional trails. The network allows for loop trips and access to the Pacific Crest Trail. These trailheads provide access for hikers and equestrians to backcountry areas located in the Henry M. Jackson Wilderness and Wild Sky Wilderness. The trailheads include the following:

- Blanca Lake Trail 1052
- North Fork Skykomish Complex: North Fork Skykomish Trail 1051, West Cady Ridge Trail #1054, Quartz Creek Trail 1050, Bald Eagle Mountain Trail #650 (connects with Quartz Creek Trail 1050) Pass Creek Trail #1053 (connects with North Fork Skykomish Trail 1051). Pacific Crest National Scenic Trail #2000 is accessed via Pass Creek Trail, North Fork Skykomish Trail 1051, and West Cady Ridge Trail #1054.
- Troublesome Creek Nature Trail #1079

All of these trails were inaccessible after the November 2006 floods due to flood damage to the road access system. In late summer 2008 road access was restored to Blanca Lake and the North Fork Skykomish Complex trailheads, via Jack Pass. The Jack Pass route adds at least an hour of driving time as compared to the more direct Index-Galena Road route from Index, and presents additional challenges for equestrians transporting horses in horse trailers.

Trail use figures prior to the November 2006 flood event for the Blanca Lake Trail, based on trailhead registration cards adjusted for noncompliance (about 50% do not register), totaled 4,062 hikers for the summer of 2006. Similarly, 2006 summer use figures for the North Fork Complex Trailhead was 3,626 visitors (hikers and equestrians). Data is not available for the period after the road was reopened via Jack Pass in late summer 2008, but based on USFS observations use is about half of the pre-November 2006 flood event due to the additional hour driving time via Jack Pass.

**Campgrounds**

There are two U.S. Forest Service maintained campgrounds located on Index-Galena Road, San Juan Campground and Troublesome Creek Campground. They are fee sites operated by a concessionaire. They were closed for public use for several years after the 2006 high flow flood events due to extensive site damage and poor site access due to the elimination of the Index-Galena Road access. The campsites re-opened in June 2012 after extensive repairs to the campgrounds and completed repairs to the upper segments of Index-Galena Road.

These campgrounds typically operate Memorial Day weekend to Labor Day weekend. With sole vehicular access to the upper part of Index-Galena Road now provided by the Jack Pass via Beckler River Road/Forest Road 65 detour, opening of the campgrounds...
may often be after the Memorial Day weekend due to snow at the pass. Prior to the 2006 flood damage, the sites generated the following camper use and revenues in the Summer of 2006:

- San Juan Campground - 226 campsite nights; Gross Revenues of $3,569
- Troublesome Creek Campground - 1,230 campsite nights; Gross Revenues of $25,468
- A description of the campgrounds is provided below:

Troublesome Creek Campground

- Located near Milepost 11 on Index-Galena Road, each of the 25 campsites has a picnic table and a fire ring. Six vault toilets are provided. A day-use picnic area with four sites and a ADA-accessible well is also available for potable water. A mile-long nature trail is also accessed from the campground. The campground was refurbished and reopened in June, 2012 after having been closed since it was heavily damaged from the November 2006 flood.

San Juan Campground

- Located near Milepost 13 on Index-Galena Road, each of the 9 campsites has a picnic table and a fire ring. Three vault toilets are provided. A day-use picnic area is also available. Potable water is not provided at the site. Campers may use water from the river but it needs to be filtered or treated.
- This campground sustained some minor damage in the November 2006 flood and was closed. After the damage was repaired and large hazard trees were removed, the campground reopened in August 2012.

Dispersed Camping

The U.S. Forest Service allows campers to camp anywhere in the National Forest outside of a designated campground not posted as closed. Campers are encouraged to use a campsite on bare or compacted soil when possible, or in areas that have already been established. Campers have historically used dispersed sites along the river and Trout Creek Road.

Backpacking

Backpackers use trails accessed from Index-Galena Road and U.S. Forest Service Road 63 for overnight or more extended trips, including access to the Pacific Crest trail via the North Fork Skykomish Trail to Dishpan Gap or via West Cady Ridge. Backpacking is also very popular at Blanca Lake.

Horse Riding/Horse Camping

Equestrian use is extensive on West Cady Ridge. Some equestrian use also occurs on the other North Fork Complex trail system. Equestrian access is presently more difficult due
to the lengthy Beckler River Road/Road 65/Jack Pass detour that includes steep grades and sharp curves on the route from Jack Pass to the North Fork Skykomish River valley.

**River Rafting**

Currently nine outfitter/guide companies are authorized under special-use permit from the U.S. Forest Service to provide rafting opportunities on the North Fork Skykomish River. The North Fork Skykomish is considered more challenging than the South Fork Skykomish. Only one company, Wave Trek, has continued rafting trips subsequent to the November 2006 flood event. They put in at Trout Creek on private property, and typically provide services for 50 rafter days per year.

Access to the North Fork Skykomish River was available at several locations for rafters and kayakers prior to the 2006 washouts at Milepost 6.4 and Milepost 6.9. Put in locations were located at Milepost 11.7 (near the Drumbeater rapid) for challenging upper canyon runs and at Milepost 10.9 where the river closely parallels Index-Galena Road. Prior to the 2006 road washouts, Trout Creek was a commonly used take out location. An additional take out location was also available at Milepost 6.9 near the upper washout.

Providing river access for river recreation was one of the major issues that was voiced by recreationists during the NEPA scoping comment period. The area near Milepost 6.9 was identified as a key location for access, both as a take-out location and as a put-in location.

**Kayaking**

Kayaking is a growth sport in the Skykomish valley. Use of the expert level North Fork Skykomish is currently very low but it is estimated that use could increase to reach a few hundred visitors per year if Index-Galena Road is re-opened and river access is expanded. With removal of the gate at MP 13.2 in June 2012, kayakers once again began using Milepost 10.5 as a put-in location and Milepost 6.9 just upstream from the upper washout as a take-out location.

**Mountain Climbing**

Mountain climbing activity was not extensive in the areas accessed by Index-Galena Road, but some climbing does occur in the area in proximity to Blanca Lake.

**Is the Wild Sky Wilderness affected by Index-Galena Road?**

The proposed Index-Galena Road project is located outside of the wilderness boundaries. The Wild Sky Wilderness Act was signed into law on May 8, 2008. The law designated 106,577 acres within the Mt. Baker Snoqualmie National Forest as protected wilderness. The wilderness designation prohibits logging, mining, motor vehicle use, including off-road vehicles and virtually all motors. The wilderness designation protects 25 miles of salmon and steelhead habitat and about 80,000 acres of old-growth trees - including
14,000 acres of rare low-elevation old growth. Hunting, fishing, rafting, and other outdoor recreation activities are permitted in the designated wilderness areas. The Wild Sky Wilderness flanks both the Beckler River and North Fork Skykomish River but does not include the rivers. (The Wild Sky Wilderness boundary is shown in Exhibit 2: Proposed Index-Galena Road Project Milepost 6.4-6.9 and Exhibit 20: Existing and Proposed Trails).

**Does Index-Galena Road provide access to the Wild Sky Wilderness?**

Index-Galena Road is one of the principal vehicular access routes to the Wild Sky Wilderness. The *Wild Sky Wilderness Trail Plan* was recently completed by the Mt. Baker Snoqualmie National Forest and released to the public on May 23, 2013. The plan was prepared as required by the legislation that designated the wilderness area. The plan was prepared in consultation with interested parties for National Forest System lands within the Wild Sky Wilderness and adjacent areas, including a system of hiking and equestrian trails within the designated wilderness area, and adjacent areas that provide access to the Wild Sky Wilderness. Public comments were received during the course of the planning effort and were used to develop criteria to prioritize which trails would be considered for improvement and new trail construction. The trail plan identifies 67 miles of existing summer trails associated with the Wild Sky Wilderness, and 12.7 miles of winter trails adjacent to the wilderness. As part of the planning effort to identify additional trails, the trail plan has identified three categories of trails. They include:

- High/Moderate Priority
- Future Study
- Drop from Further Consideration.

Trails that could be potentially accessed by use of Index-Galena Road include:

- **High/Moderate Priority**-
  - Frog Mountain-trail users could elect to use Index-Galena Road rather than Beckler River Road to access trailhead near Jack Pass
  - North Fork Skykomish River-has direct access at end of Index-Galena Road
  - Blanca Lake-has direct access to Index-Galena Road
  - Iron Mt. Conglomerate Pt.-trailhead access road (Trout Creek Road #6320) intersects with Index-Galena Road
  - Mineral Butte-trailhead access road (Road 6330) intersects with Index-Galena Road near Milepost 9.1

- **Future Study**
  - Hubbard’s Grove-trailhead would be near uppermost bridge crossing of North Fork Skykomish River near Index-Galena Road and Beckler River Road intersection-access would be quicker with use of Index-Galena Road
  - Twin Lakes-access would be near existing Troublesome Creek campground directly accessed by Index-Galena Road
  - Silver Lake- trailhead access road (Road 6340) would intersect with Index-Galena Road near Milepost 9.1
Old North Fork Skykomish—this trail would parallel Index-Galena Road and potentially connect the Troublesome Creek and San Juan campgrounds.

**Is recreation demand increasing in the project area?**

As population grows in the greater Puget Sound region, there is a corresponding increase in the demand on existing recreational areas. This increased demand results in a greater need to update and expand existing facilities and create additional facilities. The *Wild Sky Wilderness Trail Plan* estimates that trail use increases 10 percent per decade and that the rate of trail use on the 150 miles on the Skykomish Ranger District has met or exceeded this growth rate. In the greater project vicinity, the U.S. Forest Service has recently made improvements at various sites, including repairs at the Troublesome Creek and San Juan campgrounds on Index-Galena Road to keep existing facilities operational. Snohomish County Parks has recently coordinated with the *Friends Of Heybrook Ridge* to create a new Snohomish County Park that will create a trail system to connect to the Heybrook Ridge Lookout trail that gains access from US 2. Access from Index-Galena Road would also be provided near the town of Index.

A permit system requiring purchase of parking passes has been developed by the U.S. Forest Service to help pay for recreation improvements in local ranger districts. The fees have helped to repair and improve trails and trailhead areas. Other programs that have contributed funding to improve Forest Service recreation facilities include Secure Rural Schools, FHWA Recreational Trails, and the Recreation Conservation Office.

**How would the project construction affect recreation?**

There would be minimal temporary construction-related impacts associated with the proposed relocation of Index-Galena Road from its existing alignment. Impacts are expected to be minimal because the existing roadway has been closed for vehicular use since the November 2006 washout and there are no designated recreation areas in the immediate project area. The primary impacts would be to recreation users who have walked on the damaged roadway and informal trails that have been established upslope from the existing roadway since the November 2006 damage event. These trails appear to be used primarily by upstream property owners during the months when vehicular access by way of the Jack Pass detour route is not open, but are also used by those exploring the area in proximity to the damaged roadway. Pedestrian hiker access on these informal foot trails would be eliminated during construction because roadway construction would occur in these areas for two-three construction seasons.

The area where the existing informal foot trails are located would be incorporated into the construction footprint although some remnants could potentially remain undisturbed. It is assumed that most of the potential future need for use of these informal paths would be eliminated once the relocated roadway is in place and through-route vehicular access is restored. Temporary impacts would include construction-related noise and traffic that would occur mostly near the Milepost 6.4 terminus and to a lesser extent near the
Milepost 6.9 terminus. Disruption to established vehicular traffic patterns is expected to be minimal because most construction would occur either on a currently closed road or on a new roadway alignment away from traffic. Construction related traffic would potentially affect access to the one adjacent privately owned parcel where river access is provided for commercial rafting trips.

**How would the completed project affect recreation?**

The proposed project would construct a new roadway that would not adversely affect designated recreation areas. No campgrounds, trails, or other areas formally designated for recreational uses would be directly affected by the roadway construction. The relocated roadway in proximity to the Milepost 6.9 washout would cross near areas suitable for river access by white water recreationists and presently used for dispersed recreation. This area has a longstanding use for river access, both as a put-in and take-out location. The project would not eliminate this access. Project related design efforts would maintain and enhance river access, and are discussed below.

Opening of the relocated roadway would likely attract additional recreational users to the North Fork Skykomish River valley that would match or result in an increase from previous use levels prior to the 2006 damage event. These uses would be consistent with current forest plans and Snohomish County goals to promote recreation and recreation tourism. By re-establishing more year round and more direct access to the recreation areas in the North Fork Skykomish valley, the re-established route is expected to provide economic benefit for businesses in the greater Index area that provide services to recreation users.

Index-Galena Road is located outside of the boundaries of the Wild Sky Wilderness. No designated wilderness areas would be affected. Direct roadway access would be restored to U.S. Forest Service campgrounds, Troublesome Creek Campground at Milepost 11 and San Juan Campground at Milepost 13. More direct access is expected to enable campground use to return to historic levels that occurred prior to the flood damage to Index-Galena Road.

**How would the project affect river recreation access?**

There is an existing user-made foot path to the river at Milepost 6.9 which would remain available (and unimproved) for river recreation users. The project would reconfigure the existing roadway near the Milepost 6.9 washout to maintain river recreation access. A turnoff from the relocated roadway would provide vehicular access that would enable river recreation users to use the site as both a put-in or put-out access. A path would be provided for river recreation users to take their rafts and kayaks to and from the low-bank access currently in use at the dispersed recreation site. (An exhibit showing the conceptual design for the river recreation access is provided in Appendix G.)
5.3.7 Visual Quality

What is the visual character of the project area?

The project area and its visually linked outlying areas are endowed with a variety of visual resources that provide scenic vistas for those who visit the area. The project area and the greater project vicinity provides opportunities to experience a variety of scenery. The project area lies in a rural and remote portion of the lower North Fork Skykomish River valley. The closest town, Index, is located approximately 6 miles southwest of the project. The upstream reaches of the river in the upper North Fork Skykomish River allow for views of scenic Cascade Mountain peaks. The valley draws thousands of recreational users to the area every year, with peak visitation occurring in the late summer months.

When clear skies prevail, the foothills and peaks of the Cascade Mountains to the east are prominent from vantage points along the river. These views are somewhat obscured by dense vegetative cover but become more visually prominent in openings near the river shoreline adjacent to the proposed roadway relocation alignment. Cloudy conditions tend to obscure these distant background views. The snow-covered peaks of the upper valley provide outstanding scenery, and are prominent features of the valley landscape. Vegetation on the forested slopes is characterized by dense mixed stands of conifer trees and deciduous trees.

Who would be affected by the changes in visual quality and what are their sensitivities?

Visual quality changes would affect several potential viewers. Potential viewers include current and future roadway users. Roadway users would include local traffic to seasonal residences and recreation tourists on the weekends. Other potential viewers include river recreationists. The primary group affected by visual quality changes would be recreationists and residents traveling on Index-Galena to upper valley destinations. River recreationist sensitivity to visual changes would be greater than roadway users. Increased sensitivity for these viewers would be expected because the proposed roadway would be constructed in proximity to recreation use on the river where they would have a longer duration of exposure to visual changes compared with roadway users passing through.

Roadway users would see the changes on the landscape after the roadway is constructed. The most noticeable changes for this viewer group relative to existing conditions would be where the roadway would diverge from and then reconnect with the existing undamaged roadway. No residences or businesses would be affected by the project.

How are impacts to visual quality evaluated?

Existing visual resources were documented in photos and text descriptions in order to characterize the project area visual quality. Locations along the proposed alignment were
selected that would be affected by roadway construction. These locations represent some of the typical visual quality changes that would be seen by both recreationists and motorists along the roadway alignment. Observer viewpoints at ground level were supplemented with aerial views to provide a landscape perspective on changes that would occur with the relocated roadway. These aerial views are intended to further illustrate the changes associated with the project and do not show the views that would be seen by affected viewers.

**How do you measure visual quality effects?**

Existing conditions were evaluated according to guidance provided by the Federal Highway Administration publication *Visual Impact Assessment for Highway Projects*. This visual impact assessment guidance was used because it is the most applicable method to use for roadway projects. The U.S. Forest Service’s *Landscape Aesthetics A Handbook for Scenery Management* was also used to gain additional understanding of visual quality considerations for impact assessments in areas located on National Forest lands. The visual impact methodology described in the FHWA guidance provides a systematic method for identifying visual impacts. Once impacts have been identified, it aids project designers to incorporate design elements into the project that will promote consistency with U.S. Forest Service visual quality objectives as outlined in the in Mt. Baker Snoqualmie National Forest Plan as amended (MBSNF Plan).

**What does the visual quality evaluation consider?**

The principal visual characteristics evaluated, as outlined in the methods discussed in FHWA’s *Visual Impact Assessment for Highway Projects*, include the following:

**Vividness** - landscape features that combine to create a distinct visual impression through contrasts in form, line, texture, or color. Vividness heightens when a viewer encounters dramatic features in the viewshed. The various elements that combine to shape vividness include landforms, water features, vegetation and manmade structures.

**Intactness** - Evaluating intactness considers the degree to which the landscape retains its natural features or integrity. The extent of human-made features in the landscape is compared to the natural landscape in place prior to development. While not always the case, manmade elements often have adverse aesthetic impacts related to encroachment of discordant visual features (signs, utility wires, structures) that can cause a cluttered appearance that does not blend with the natural environment.

**Unity** - Consideration of unity looks at how all visual elements combine to form a coherent, harmonious visual pattern. Elements in the view, such as buildings, roadways, signs, vegetation and above ground utilities can create a chaotic appearance if they are not combined in a harmonious way.
**How do you determine overall visual quality?**

Overall visual quality is determined by assessing the extent to which vividness, intactness, and unity combine. One element may be out of balance with other elements. For instance, a highly vivid area may be so cluttered with discordant man-made development (signs, utility wires, equipment storage) such that overall visual quality is reduced. In other instances, characteristics such as dramatic topography or waterforms like lakes or rivers that contribute to vividness may be absent. Absence of these characteristics reduces overall vividness and contributes to a potential lack of balance between vividness, intactness and unity.

**How was the visual quality analysis organized over such a large area?**

The project area was subdivided into seven landscape units based on specific vantage points, location within the landscape and their relationship to those potentially affected by the proposed project. With the relocation of the existing roadway and taking into consideration the absence of established roadway mileposts along the relocated roadway alignment, the landscape units have been linked with the project’s design stationing for the relocated roadway landscape units. (The visual quality assessment is provided in the Visual Quality Technical Report included in the Technical Appendices.)

Roadway stationing includes a series of reference points at 100-foot intervals located along the full extent of the relocated roadway alignment. A map of Landscape Units 1 through 7 is shown in Exhibit 31: Visual Quality Landscape Units and include the following:

- **Landscape Unit-LU 1 Existing roadway MP 6.1-6.5**
- **Landscape Unit-LU 2 Existing Roadway MP 6.5-6.7**
- **Landscape Unit-LU 3 Existing Roadway MP 6.7-7.0**
- **Landscape Unit-LU 4 Proposed Station 10+00 to Station 20+00**
- **Landscape Unit-LU 5 Proposed Station 20+00 to Station 28+00**
  - **Landscape Unit-LU 6 Proposed Station 28+00 to Station 45+00**
  - **Landscape Unit-LU 7 Proposed Station 45+00 to Station 59+90**

**How would the project’s construction activity affect visual quality?**

Roadway construction activities would reduce visual quality temporarily by introducing heavy equipment activity, delivery and storage of construction materials, locating staging areas that will store stockpiles of imported storage materials and excavated soils in proximity to where visitors could view them. The visual impact would be reduced substantially by limited site access that would occur during construction.
Construction of the proposed improvements would create temporary changes in views of and from the project area. Construction activities would introduce considerable heavy equipment and associated vehicles, including dozers, graders, scrapers, and trucks, into the viewshed of the proposed relocated roadway.

Safety and directional signage would also be a visible element. Construction for the project is expected to require approximately two years, but could extend to three years depending on weather conditions that affect construction sequencing and scheduling.

While most construction would take place during typical business hours, roadway striping and other activities centered on the transition to roadway opening could potentially be scheduled to occur after 6:00 p.m. or on weekends. The limited viewer groups in the project area and vicinity would not be accustomed to seeing construction activities and equipment; their sensitivity to such impacts would be moderate. There are no residences that would be potentially used for construction easements to accommodate construction access.

**Would viewers in some areas be more sensitive to visual quality changes?**

The locations that are most sensitive to visual impacts during construction would include the recreation visitors in proximity to Landscape Units 1 and 7 respectively. Other prominent construction-related activities that would reduce visual quality temporarily would include vegetation clearing and ongoing modification of the topography to create fill slopes and excavated cut slopes that create unsightly areas of exposed bare soils. Additional construction-related elements that would present changes in views would be related to traffic control signage and potential use of lighting to maintain safety for motorists and construction crews. Localized glare and visual clutter would be associated with the temporary signage, construction activities and equipment, flaggers, and lighting. Existing site conditions are shown in **Exhibits 32 through Exhibit 39**.
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.

Key to Features:
- Landscape Unit 1
- Landscape Unit 2
- Landscape Unit 3
- Landscape Unit 4
- Landscape Unit 5
- Landscape Unit 6
- Landscape Unit 7

Proposed Alignment
Existing Right-of-Way
Creek
Wild Sky Wilderness Boundary

Exhibit 31: Visual Quality Landscape Units
Exhibit 32: Existing Index-Galena Road near Milepost 6.4 within Landscape Unit 1
The existing damaged roadway diminishes the natural character and relative harmony of natural and manmade features.

Exhibit 33: Existing Index-Galena Road between Milepost 6.4 - Milepost 6.9 within Landscape Unit 2
Landscape Unit 2 lacks a prominent water feature for most of its length and the presence of distinct human created features is prominent with the undamaged roadway. These elements contribute to a reduced vividness level that would have been otherwise higher due to the visual linkages to the river side channel and more distant background views located at the upstream edge of Landscape Unit 2.
Landscape Unit 3 provides slightly greater than average overall visual quality attributed to dramatic background views toward distant Cascade peaks and panoramic views up and down the valley that are afforded by openings in the vegetation. This results in high vividness levels for landform. Elevated vividness levels also result from the strong visual linkage to the river’s mainstem channel.

Landscape Unit 4 provides moderate overall visual quality. There are limited views of the river side channel down slope from the gravel road, contributing to moderate vividness levels for landform.
Exhibit 36: Proposed Relocated Index-Galena Road near Station 21+50 within Landscape Unit 5

Landscape Unit 5 provides average overall high visual quality attributed to high intactness and unity scores that compensate for low vividness totals due to the lack of dramatic scenery that contributes to low vividness landform levels.

Exhibit 37: Proposed Relocated Index-Galena Road near Station 29+24 within Landscape Unit 6

Landscape Unit 6 provides more than moderate overall visual quality and is distinguished by a lack of dramatic background views. Moderate vividness levels are countered by high intactness and unity scores, and occasional glimpses of the North Fork Skykomish valley through vegetation openings.
Exhibit 38: Proposed Relocated Index-Galena Road near Station 34+57 within Landscape Unit 6
This additional view from Landscape Unit 6 provides a view of the proposed staked centerline (wood stakes with pink ribbon flagging). This view also illustrates moderate vividness levels that are countered by high intactness and unity scores. A glimpse of the North Fork Skykomish River valley can be seen through vegetation openings.

Exhibit 39: Proposed Relocated Index-Galena Road near Station 54+24 within Landscape Unit 7
Landscape Unit 7 provides moderate overall visual quality due to a low level of vividness. There are moderately distinct landforms, including the wetland water feature shown here. The landscape unit is relatively free of encroachment despite its proximity to the existing roadway, with a moderately high intactness and unity levels. The overall visual quality is somewhat lowered by the relatively low vividness.
How would the new roadway affect visual quality after it is constructed?

The proposed roadway construction would permanently change views, with visual impacts resulting from topography and grade changes, removal of vegetation and resulting reduction of vegetative screening. These impacts would potentially affect all seven landscape units in the project area. New retaining walls and a new bridge near Station 54+00 would increase human-made elements in sections of Landscape Units 3, 4 and 5. Exhibits 40 through Exhibit 45 show before and after visual images associated with the project at several locations along the alignment.

In addition to the before and after visual simulations, additional simulations were created that used Geographical Information System (GIS) software. The future conditions of the proposed alternate route are presented using these simulation techniques to provide a graphic illustration of the relative changes in the landscape expected from the road project, but are not intended to show exactly what the project area would look like after the roadway is constructed from the perspective of a viewer at ground level. (See Exhibit 46: GIS Visual Simulation Perspective 1 and Exhibit 47: GIS Visual Simulation Perspective 2.)

How would vegetation removal affect visual quality?

Along the proposed relocated roadway corridor, the existing topography would be visually affected by ground modification associated with excavation (cut) and fill grading required to accommodate roadway construction. Existing vegetation along the proposed roadway alignment would be cleared within the planned roadway prism and adjacent areas to accommodate sideslope cut and fill embankments, retaining walls/reinforced slopes, and culverts where required. These encroachments in undeveloped areas reduce intactness and reduce unity by disrupting the existing harmonious pattern formed by vegetation and the landscape.

Most of the prominent clearing would occur in the forested areas located in the roadway corridor that extends from Landscape Units 4 to Landscape 7. This corridor is densely vegetated with mixed evergreen and deciduous forest cover. Landscape Units 1 to 3 include primarily the existing damaged roadway corridor with vegetation along the roadway. Most of this corridor would see limited clearing because the project would primarily be removing the existing damaged roadway and then replanting to provide riparian restoration.

Vegetation in the proposed right of way easement provides an attractive and natural environment of moderate visual quality. Under post-project conditions, roadway drivers would be introduced to a new alignment that passes through a cleared corridor that exposes views of the North Fork Skykomish River valley. The proposed project would introduce a newly constructed linear feature that would result in visual quality reduction in the landscape units crossed by the relocated roadway. The landscape units where the existing damaged roadway would be removed would have increased visual quality. No objects of outstanding scenic resource value would be eliminated or substantially impaired by the project.
In all cases, the greatest impacts are associated with views of the proposed road rather than views from the road. Establishing the new roadway in a largely undeveloped linear corridor would by its very nature increase the level of encroachment. Intactness is reduced by encroachment that disrupts the established visual pattern formed by topography, vegetation, and other features. Placing extended roadway fill and excavating extended roadway cuts to accommodate the desired roadway grade would reduce unity through landform modifications. These modifications disrupt harmonious relationships between the project area’s various visual quality elements.

**How would the project minimize construction-related visual quality impacts?**

Visual quality reduction impacts associated with construction staging of equipment and materials would be minimized by locating these areas away from visually sensitive viewers to the extent practicable, and would be based on the availability of land areas that could be used for staging. The existing Index-Galena Road would be used for staging. Disturbed soil areas would be covered with salvaged duff when they have received final grading. Construction activities would be limited to daylight hours, and would eliminate the need to introduce high wattage lighting sources to operate in the dark. Implementation of this measure would avoid a temporary adverse visual impact related to introduced light sources for construction.

**What measures would offset the permanent visual quality impacts?**

The project would consider several measures to reduce visual quality impacts associated with construction and operation of the proposed alternate route. Coordination of visual elements, such as signing, lighting, paving textures, and wall color and texture would be planned for the roadway corridor. The proposed measures would be consistent with U.S. Forest Service visual quality objectives.

**Reducing Project Footprint**

As part of the design process, the project has undertaken measures to reduce visual quality impacts. The use of low volume roadway design standards in coordination with evaluating alignment shifts and the use of retaining walls, reinforced soils slopes and MSE walls has reduced the project’s roadway permanent footprint from 9.5 acres estimated at the time of the 30% design report to approximately 3.2 acres at the 60% design stage. This reduces permanent vegetation clearing impacts which in turns reduces adverse effects associated with clearing that reduce the elements of overall visual quality such as vividness, intactness, and unity. Practical design efforts associated with final design would evaluate design refinements that could further reduce the project footprint.

**U.S. Forest Service Visual Quality Objectives**

Coordination of visual elements, such as signing, guardrails, bridge color, and retaining wall textures would be planned for the roadway corridor in coordination with the U.S. Forest Service (USFS) and would be included in the final design to ensure consistency.
with applicable USFS standards and guidelines. Implementation of these measures would reduce adverse impacts to less than substantial levels. Overall project elements that promote consistency with MBSNF Plan visual quality objectives for *Partial Retention* within the Recommended River Recreation River Management Area (MA) 5A include:

- relocating the road out and further away from the recommended Recreation River
- removing the damaged roadway sections from the recommended Recreation River
- restoring the damaged roadway corridor with native plantings
- reducing the project footprint as much as practicable with appropriate design standards
- employing visual elements as part of the project design that help the roadway to blend into the forest environment

**Visual Quality Impact Mitigation**

The project would preserve vegetated natural areas to the extent practicable, limiting the amount of clearing within the proposed right-of-way easement to that needed for construction.

Right-of-way easement areas adjacent to the roadway would be evaluated to see where plant restoration planting should occur to address not only ecological concerns but also provide visual buffering that screens the roadway and softens the appearance from offsite viewers. The existing damaged roadway asphalt pavement and other materials such as culverts and concrete would be removed and riparian restoration would establish natural riparian conditions. Revegetation plans would be included in the final design of the project that are consistent with USFS standards and guidelines, and would be incorporated into the final design plans.

Side slopes would be covered with wood mulch, salvaged downed trees/logs, and native duff salvaged during construction to cover bare mineral soils exposed by construction. Logs and other large woody debris would be placed near culvert outfalls to help blend outlet rock protection into surrounding areas. These measures would help to reduce erosion during construction, would help the constructed area blend in with the surrounding area, and is expected to promote revegetation by retaining organic matter. Revegetation through planting and natural site recruitment over the course of ten years is expected to help the finished project blend in visually with the adjacent forested environment.

Other measures to improve the aesthetics of the hard features of the project such as retaining walls, culverts, and guardrails would be incorporated in the final plans to promote consistency with USFS *Partial Retention* visual quality standards that require avoiding and minimizing impacts to middleground and background views in the viewshed. *Partial Retention* standards recognize that human activity may be evident, but must remain subordinate to the characteristic landscape. Partial retention also applies in foreground views but modification may be used for necessary structural facilities.

To implement these aesthetic considerations into the final project’s hard features, the project would construct retaining walls and other support structures with low-sheen and...
non-reflective surface materials to reduce potential for glare. Where determined appropriate, walls would have color (pigmented sealer with color pigment) and/or texture applied to the surface to blend with the surrounding environment. The finish would be matte and roughened, and the use of smooth trowelled surfaces and glossy paint avoided.

The use of form liners that mimic natural stone surfaces would also be considered. Guardrails would be installed that mimic a weathered steel (rust colored) appearance. The project would also incorporate aesthetic treatment (materials, pattern, texture, concrete stain color) on any retaining walls, and the bridge proposed at Station 54+00, and other hard feature constructed elements.

The specific mitigation measures that would be used to provide texture finishes and colors consistent with U.S Forest Service standards and guidelines are listed below.

<table>
<thead>
<tr>
<th>Design Feature</th>
<th>Aesthetic Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guardrail</td>
<td>Rusty-Brown Patina Stain</td>
</tr>
<tr>
<td>Soldier Pile Wall Texture</td>
<td>WSDOT form liner Fractured Granite</td>
</tr>
<tr>
<td>Soldier Pile Wall Color</td>
<td>WSDOT Mt. St. Helens Gray</td>
</tr>
<tr>
<td>Soldier Pile Concrete Barrier Texture</td>
<td>WSDOT Class 2 concrete finish (smooth)</td>
</tr>
<tr>
<td>Soldier Pile Concrete Barrier Color</td>
<td>WSDOT Mt. St. Helens Gray</td>
</tr>
<tr>
<td>Bridge Rail Type</td>
<td>Texas T223, concrete rail on concrete posts</td>
</tr>
<tr>
<td>Bridge Rail Texture</td>
<td>WSDOT Class 2 concrete finish (smooth)</td>
</tr>
<tr>
<td>Bridge Rail Color</td>
<td>Rusty-Brown Concrete Stain</td>
</tr>
<tr>
<td>Bridge Girder Color</td>
<td>Painted with Federal Standard 30045 Brown (or match with Guardrail color)</td>
</tr>
<tr>
<td>Bridge Abutment Texture</td>
<td>WSDOT form liner Cascadian Stone</td>
</tr>
<tr>
<td>Bridge Abutment Color</td>
<td>WSDOT Mt. St. Helens Gray</td>
</tr>
<tr>
<td>Bridge Approach walls</td>
<td>Gabion facing (rock filled wire basket)</td>
</tr>
<tr>
<td>Reinforced Soil Slopes</td>
<td>The slope will be constructed at 0.5:1 (horizontal: vertical) and planted. Initial installation will likely include USFS approved nonnative grass seed mix so root mass can begin to develop and provide greening of the slope. Most USFS grass seed mixes are not persistent past a few years. Willow stakes and red-osier dogwood stakes have been used in RSS, but final plant material selection will require coordination with USFS.</td>
</tr>
</tbody>
</table>

The project would be consistent with Snohomish County General Policy Plan Transportation Policy 6.A.3 which states: “Aesthetic and visual values shall be considered in the location and design of transportation facilities,” and the applicable implementation landscaping standards contained in the Snohomish County Engineering Development and Design Standards.
Exhibit 40: Before/After Simulation Near Milepost 6.4 lower washout Landscape Unit 1

This simulation shows how the project’s proposed asphalt removal at the lower washout could potentially modify the existing landform and remove the existing roadway encroachment. It is expected that this would improve intactness and unity, resulting in increased visual quality. The river’s side channel flows would continually transport streambed cobbles and gravels and the appearance would change frequently.
Exhibit 41: Before/After Simulation between Milepost 6.4-6.9 washouts Landscape Unit 2
This simulation shows how the project’s proposed removal of asphalt islands could potentially modify the existing landform and remove the existing roadway encroachment. It is expected that this would improve intactness and unity, resulting in increased visual quality. The river’s side channel flows would continually transport streambed cobbles and gravels and the appearance would change frequently.
Exhibit 42: Before/After Simulation near Milepost 6.7-6.9 washout Landscape Unit 3
This simulation shows how the project’s proposed removal of asphalt and concrete debris could potentially modify the existing landform and remove the existing roadway encroachment. It is expected that this would improve intactness and unity, resulting in increased visual quality in the area of the project with the highest visual quality. The river’s side channel flows would continually transport streambed cobbles and gravels and the appearance would change frequently.
Exhibit 43: Before/After Visual Simulation at Station 21+50 Landscape Unit 5

This simulation shows how the proposed design’s extensive cut through Landscape Unit 5 would modify the existing landform, affecting intactness and unity, and resulting in reduced visual quality. Guardrail would be placed on the left side of the alignment where required.
Exhibit 44: Before/After Visual Simulation at Station 30+88 Landscape Unit 6
This simulation shows how the proposed design’s extensive cut through Landscape Unit 5 would modify the existing landform, affecting intactness and unity, and resulting in reduced visual quality. Guardrail would be placed on the left side of the alignment in this area and a rock fill slope would extend downslope.
Exhibit 45: Before/After Visual Simulation at Station 54+20 Landscape Unit 7

This simulation shows how the wetland/stream would be affected by the proposed bridge crossing. At this point, a single-span concrete girder structure is proposed. The bridge crossing would modify the existing landform, affecting intactness and unity, and resulting in reduced visual quality. This simulation uses the Trout Creek Bridge crossing to help understand the potential visual quality impacts. The guard rail has been shown in the rust brown color that would be used for all project guardrails.
This perspective looks upstream from the Trout Creek Bridge towards the lower washout area near Milepost 6.4. The proposed relocated road is shown as a darker color roadway with centerline striping. The relocated roadway would use the existing Trout Creek Road alignment for approximately 750 feet before traversing forested slope areas. A new intersection would be constructed where Trout Creek Road switches back and ascends the Trout Creek drainage. The light gray roadway with centerline striping is the existing roadway from which the new alignment would turn off from. The lighter gray roadway alignment without centerline striping is where the existing roadway pavement would be removed. The relocated roadway would be located further landward from the river and its side channel and is expected to not be visibly prominent from the river’s main channel where river recreation is concentrated. The relocated roadway may be seen partially from the river near the upper washout as shown in Perspective 2. In both Perspective 1 and Perspective 2, the green areas adjacent to the new roadway depict the sideslope areas that would be affected by construction cut and fill.

Exhibit 46: GIS Visual Simulation Perspective 1: Looking Upstream from Trout Creek Bridge Near Milepost 6.4 washout
This perspective looks downstream from the upper washout area near Milepost 6.9. As in Perspective 1, the proposed relocated road is shown as the darker color roadway with centerline striping. As illustrated by this simulation, the relocated road’s traverse of forested slopes is screened from the river’s main channel by forest vegetation. The locations where views of the relocated road may potentially be seen from the river are concentrated where the river’s side channel has washed out the existing road and adjacent vegetation between Milepost 6.7 and Milepost 6.9. Also shown here is the proposed river recreation access turnoff upstream from the Milepost 6.9 washout.

Exhibit 47: GIS Visual Simulation Perspective 2: Looking Downstream from near Milepost 6.9 washout
Chapter 6 - Indirect and Cumulative Impacts

6.1 What are indirect and cumulative impacts?

Indirect impacts (also known as secondary impacts) are those that are caused by a project but that are either further removed from the project in distance or that could occur at a later time. These impacts typically happen as a result of the initial project construction, and can include changes in land use, economic vitality, and water quality. Cumulative effects are defined as the impact on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. For the proposed Index-Galena Road Milepost 6.4-6.9 project, the actions being evaluated are the proposed relocated roadway in combination with past, present, and future land use development and other relevant non-project actions within the project area.

6.2 Would the project contribute to cumulative impacts?

It was determined that the project would not contribute to cumulative impacts to adjacent land areas and planned land uses. When considered together with the Index-Galena project, the following projects and actions were considered and would be expected to contribute noise, dust, and traffic congestion impacts to the greater project area during their respective construction periods, which would add to temporary construction impacts to adjacent land uses with no measurable adverse impacts to planned land uses.

6.3 What are some of the project's indirect effects?

Re-establishing Index-Galena Road in combination with other planned improvements is not expected to indirectly stimulate land use changes in Index and unincorporated communities. The land areas in proximity to the project are primarily under U.S. Forest Service ownership and management and would not experience land use changes associated with residential and commercial development. The limited areas on private land in-holdings are limited by land use regulations and a lack of sewer and municipal water utilities that would be needed to support growth.

The Sky Forks Thin Timber Sale harvest units were originally considered for advertisement. While harvest could have occurred and then delivered to market through the longer Jack Pass route, the harvest was withdrawn due to the increased high costs associated with this sole remaining alternative route since the roadway damage closure. It is expected that re-establishment of through route access would provide for more economically feasible hauling of harvested timber, and that the U.S. Forest Service could conceivably reoffer the planned harvest units for sale (estimated 1.2 MMbf of volume on 62 acres) from this previously approved timber sale in the Salmon Creek drainage (approximately 3 miles north of the project site, on FS Road 6330). If the Index-Galena
Road is repaired, the U.S. Forest Service is expected to re-evaluate those units through NEPA review, and potentially offer for sale in a new contract if the timber is still suitable.

Restoring and maintaining long established year-round access to the upper North Fork Skykomish River valley is likely to encourage future land uses that focus on services to recreation through traffic. These services are likely to be located in already established settlements such as Index or Skykomish. These may become more prominent than at present once historic recreation use levels are restored after the roadway is constructed. These changes are not expected to result in substantial effects that would exceed recreation use levels already contemplated and addressed by Snohomish County and the U.S. Forest Service as part of their respective adopted plans.

### 6.4 What was considered for the cumulative effects analysis?

The proposed project represents one of multiple planned Snohomish County roadway capital improvements located on Index-Galena Road identified in its adopted Six-Year Transportation Improvement Plan (TIP). The TIP is updated annually. None of the planned improvements would increase roadway capacity. Other improvements that were evaluated include the following from the adopted TIP:

- **TIP # 41.16 Flood Repair Index-Galena (Milepost 5.8)**
  - This FHWA Emergency Relief (ER) funded project that was constructed in 2014 excavated unstable soils and constructed a rock buttress to stabilize the roadway embankment. The majority of the work occurred 200 feet or further landward of the river.

- **TIP # F. 41 Howard Creek Bridge #496 Replacement (Milepost 9.014)**
  - This planned project with FHWA bridge replacement funds would replace a structurally deficient timber stringer bridge. Construction is scheduled for 2017.

- **TIP # F. 50 Trout Creek Bridge #494 (Milepost 6.057)**
  - This more long-term planned and currently unfunded bridge replacement project would replace a scour critical concrete span with a longer span with a deep foundation to resist scour.

Past roadway repairs have occurred at multiple locations on Index-Galena Road, including storm damage repairs that required in-water work to maintain roadway connectivity. An extensive repair occurred in the early 1990s near the current Milepost 6.7 washout. Regular road maintenance activities include roadside mowing for brush/weed control, hazard tree removal after wind damage events, snow plowing, and pavement maintenance.

In addition to Snohomish County Public Works multiple planned roadway capital improvements projects, the U.S Forest Service has had past projects and may have future projects in the project vicinity. These are described below.
In 2009, a U.S. Forest Service contractor performed maintenance on Trout Creek Road 6320 to maintain the road at a Maintenance Level 2 (for high clearance vehicles). The contract work included constructing water bars and dips, repairing sags, replacing culverts, and adding riprap and surface rock. Closure barriers were also constructed on the road prior to the Wild Sky Wilderness boundary to prevent vehicles from entering the designated wilderness area.

The reasonably foreseeable U.S. Forest Service projects included the following:

**Sunset Mine CERCLA Cleanup:** The Sunset Mine CERCLA project is located on Forest Road 6320 (Trout Creek), approximately 1 mile southeast of the Index-Galena repair site. A Sampling and Pre-removal Action Inspection and Monitoring Report was completed in July 2011. The proposed Removal Action alternative consists of excavating heavy-metal laden (primarily arsenic and copper) mine and mill waste rock and local soils, then disposing in a constructed repository. Also, a pilot study for passively treating the lower adit’s discharge on site is being considered. Subject to funding, in 2014 the U.S. Forest Service plans to revise the 2008 Engineering Evaluation/Cost Analysis to include the costs of reconstructing the access route for heavy equipment access. There is no time frame for reconstructing the road or the cleanup, which is subject to CERCLA funding.

### 6.5 What is the conclusion of the cumulative effects analysis?

The project does not substantially contribute to cumulative effects. Analysis of the past and future reasonably foreseeable projects and additional additional factors such as the recent Wild Sky wilderness designation, the reduced timber harvest from historical levels, and management for recommended wild and scenic river considerations, as well as the various components of the Forest Plan (ACS, riparian reserves, etc.) did support this conclusion.

Cumulatively, impacts from the Index-Galena Milepost 6.4-Milepost 6.9 project would not be expected to contribute to impacts associated with other proposed and future changes that may occur in the upper North Fork Skykomish River valley area. The Index-Galena Milepost 6.4-Milepost 6.9 project has been integrated in planning efforts for this area. Efforts on the part of recreation users and others to promote recreation access would likely have a greater influence on the future of this area than would the proposed project alone.
6.6 How did you evaluate climate change effects associated with the project?

Environmental analyses of roadway projects, and other infrastructure type projects, typically consider two types of climate change effects:

**Type 1 - The effect of a proposed project on climate change**

Type 1 effects are those that are specifically related to greenhouse gas emissions and carbon cycling. Examples include short-term greenhouse gas emissions and alteration to the carbon cycle caused by project construction, greenhouse gas emissions embodied in production of construction materials, and effects associated with operation and maintenance of the roadway once it is constructed and opened to vehicular traffic.

**Type 2 - The effect of climate change on a proposed project.**

Type 2 examples include effects of expected shifts in rainfall and temperature patterns and how they would affect the completed roadway infrastructure—roadway surface, roadway culverts, and stream crossing structures such as bridges. Increased flood frequency, sea level rise, and increased incidence of landslides are some of the ways that climate change could affect roadways.

6.6.1 Which Type 1 Effects are associated with the project?

Most roadway projects undergoing NEPA evaluation would tend to have minimal Type 1 effects due to the scale of a particular project relative to the global environment. Consequently, the description of climate change impacts in NEPA documents tend to focus more on Type 2 effects. That is the case with projects such as the Index-Galena Road Milepost 6.4-Milepost 6.9 project, which would relocate the existing roadway farther landward from the river and then remove approximately 0.5 mile of existing paved asphalt roadway from the North Fork Skykomish River floodplain and from the river’s side channel in the project area.

The relocated roadway would result in a relatively small decrease in paved asphalt roadway in order to match into the existing roadway upstream and downstream from the milepost 6.4 and milepost 6.9 washout locations. The project would not provide additional roadway capacity to accommodate higher traffic volumes, and would not open up new areas for land use development that could induce growth and its associated greenhouse gas emissions. The project would not result in increased greenhouse gas emissions relative to no-action because a 40-mile detour now needed to gain vehicular access to the upper North Fork Skykomish River valley would be eliminated by re-establishing roadway connectivity on Index-Galena Road. The detour became necessary when the roadway washed out in 2006. Constructing the roadway to restore essential travel would likely reduce greenhouse gas emissions by providing a more direct route to residences, campgrounds, and various recreation destinations. Consequently, there would
be no discernible Type 1 effects associated with the completed project. Following is a discussion of the typical Type 1 effects the project could have with regard to an effect on climate change.

6.6.2 Type 1 Effects - What effect will the transportation improvements from this project have on greenhouse gas emissions?

Federal investments in the Emergency Relief (ER) transportation projects are made to improve current conditions of the multi-modal transportation network that result from natural disasters such as flood damage and landslides. The proposed project contains several features that will improve—or not increase—GHG. In general, the Index-Galena Road project-level actions would help reduce greenhouse gas emissions by reducing the travel distance to local residences, campgrounds, and recreational access locations, including hiking and equestrian trailheads and river recreation access points. Restoring the roadway would eliminate a 40-mile detour and would re-establish the roadway alignment further away from the river so that its risk and vulnerability to future damage events would be substantially reduced.

6.6.3 Type 1 Effects - How would the project minimize emissions while under construction?

Project construction is estimated to extend for up to three construction seasons. The project traffic plan would exclude public access to and through the project site. Consequently, there will be no project-related detours and associated backups to the traveling public. With site access control, the project would seek to establish active construction areas, staging areas, and material transfer sites in a way that would minimize standing wait times for equipment and maximize efficiency.

6.6.4 Type 2 Effects – How will climate change affect the project area?

Current predictions for climate change for the Pacific Northwest region call for increased overall warming, increased winter precipitation, and decreased summer precipitation, which will result in warmer, wetter winters and warmer, drier summers. The depth, extent, and duration of the snowpack in the Pacific Northwest Region are projected to decrease, especially at the lower elevations. Seasonal runoff patterns are likely to shift to an earlier spring peak flow and lower overall summer flows, especially in snowmelt-dominated watersheds. The amount of information is limited on climatic tolerance for many tree species, and even less information is available on the complex interactions that could result from ecosystem-wide exposure to a changing environment.

The Intergovernmental Panel on Climate Change projected a future with fewer cold days and nights, more hot days and nights, more heat waves, increasing area affected by drought, and an increase in precipitation that falls as rain and a decrease in snow. The
Pacific Northwest has seen increasingly warmer and wetter conditions in the last century. Climate change predictions for western North America and the Pacific Northwest region indicate continued warming at rates greater than the global average. Moderate increases in precipitation are also predicted. More severe weather extremes, including larger precipitation events, are expected worldwide. Sea level is also expected to continue to rise.

Projections for the Pacific Northwest indicate that through the 21st century, temperatures are projected to increase in all seasons, while precipitation is expected to decrease in summer months and increase in winter. A 2009 report from the Climate Impacts Group provides some probable regional impacts. April 1 snowpack is projected to decrease across the state with seasonal streamflow timing shifts, which will be especially noted in sensitive watersheds. Rising temperatures may result in increases in stream temperatures that will reduce quality and extent of freshwater salmon habitat.

On a regional basis, reports from the Climate Impacts Group predict a scenario for the Pacific Northwest with future warming of approximately 0.5°F per decade with temperatures increasing in all seasons, but particularly in June through August. A larger percentage of winter precipitation would fall as rain rather than snow, with an earlier spring snowmelt, lower summer stream flows, droughts becoming more common, and a greater risk of floods and wildfires.

Average annual precipitation in the Pacific Northwest as a whole is projected to increase by up to 10 percent. During summer months, precipitation is expected to decrease approximately 5-15 percent, and increase during winter months approximately 30 percent. “Rain-on-snow” events are expected to increase, potentially causing extreme runoff and contributing to severe flooding along waterways.

Over the next two decades, mean precipitation is projected to increase by roughly 3 to 5 percent for winter and fall seasons, with a likely range of approximately -3 to +12 percent. The spring seasons are estimated to experience a slightly lower increase of 3 percent, with a likely range of -1 to +7 percent. Precipitation in the summer months, on the other hand, is projected to decrease by more than 6 percent with a likely range of -17 to +3 percent.

Several factors indicate that in the coming decades, the severity of flooding is likely to increase on the rivers in Snohomish County. The consequence is that structures, most of which are designed to last 50 or more years, will potentially be subject to greater damages over their intended life span than what would be predicted by current risk conditions related to flooding and other climate change related risk factors (landslides, severe weather events). The most problematic secondary hazard effect of flooding in Snohomish County is bank erosion. In most cases, the threat and effects of bank erosion are worse than actual flooding as evidenced by the extent of damage to Index-Galena Road from the 2006 high flow events. Inundation of the roadway in itself would have caused only minor damage. However, scour erosion associated with the flood event caused extensive damage to several segments of Index-Galena Road resulting in catastrophic failure of the roadway from milepost 6.4 to milepost 6.9. Flooding and high precipitation can also be
responsible for landslides when either high flows or high precipitation over-saturate soils on steep slopes, causing them to fail.

6.6.5 Type 2 Effects- How did the project consider future conditions related to climate change?

The effects of climate change can potentially alter the function, sizing, and operations of roadway facilities. In addition to mitigating GHG emissions, Snohomish County must also ensure that its transportation facilities can adapt to the changing climate. To ensure that Index-Galena Road can function as intended for an extended time period, it should be designed to perform under the variable conditions expected as a result of climate change. For example, drainage culverts may need to be resized to accommodate more intense rainfall events or increased flows due to more rainfall and less snowfall.

A broader perspective in adapting to potential future climate change effects is provided below:

- **Avoidance** – Planning new facilities or rerouting existing facilities outside of hazard areas. An example includes construction of a bypass around a landslide prone area or relocating facilities out of flood prone areas.
- **Protection** – Improvements to existing facilities to increase their resilience or adaptive capacity to climate change impacts. Examples include increased height of sea walls, landslide fencing and monitoring, or retrofitting bridge designs to modify them from current standards. Standards and criteria should be continually evaluated or modified based on the newest climate research.
- **Abandonment** – Abandonment or closure of a facility may be the most cost effective.

The Mt. Baker-Snoqualmie National Forest in the area where Index-Galena Road is located has experienced major flood events over the last several decades, as has Snohomish County countywide. Out of necessity, both Snohomish County and The U.S. Forest Service have developed adaptations of road system design, construction, and maintenance practices to reflect higher flood flows, promote system resiliency, and limit environmental risks. Options derived from watershed analyses, ERFO and ER project experience, project monitoring and evaluation, and restoration contracts have proved useful and become routine for both entities. These have included:

- Relocating or moving roads away from river systems (U.S. Forest Service Suiattle River Road project)
- Increasing culvert sizes for increased flows
• Increasing number of relief drainage features
• Increasing use of bridges and decreasing use of culverts
• Constructing replacement bridges that fully span the wetted channel without in-channel piers
• Using fords, dips in road gradient, and rock-lined waterbars to restore hydrologic functions
• Putting roads put into storage (Level 1 maintenance) when not used, with removal of culverts and sidecast roadbed material. (Several roads have been treated in this manner in the Mt. Baker Snoqualmie National Forest)
• Decommissioning road systems no longer needed
• Incorporating large wood into projects along riparian areas to encourage capture of additional wood at the stream edge and to work with stream flow patterns.

6.6.6 Index-Galena Road Project Design Considerations to Address Climate Change

The proposed Index-Galena Road Milepost 6.4-Milepost 6.9 project reflects the approaches identified above by integrating the following adaptive elements into the proposed project design:

• **Avoidance** – Relocating the existing roadway out of the 100-year floodplain reduces the risk of flood flows that are expected to become more frequent with climate change. The relocation also promotes climate change resiliency by re-establishing floodplain connectivity in an area where floodplain connectivity has been compromised by the roadway and the need to maintain it. The project would also largely removed the roadway from the channel migration zone (CMZ) that was identified based on a hydrogeomorphic assessment. This helps to reduce future risks associated with more frequent high flows that are anticipated with climate change.

• **Protection** – The roadway relocation improves the existing roadway by re-establishing roadway connectivity in a way that does not put the rest of the Index-Galena Road at increased risk from future flood damage. Roadway fill embankments, located in proximity to the channel migration zone that was identified as part of the project’s evaluations of site conditions, where needed will be designed to withstand scour effects associated with future lateral migration of the river. The river will be allowed to migrate over a larger area than was available in the last 70 years, but the roadway would be designed to withstand erosion and prevent future damage.

  o Increasing culvert sizes for increased flows-providing for 100 year flows and expected debris
- Constructing a bridge at Station 54+00 where a culvert was damaged in the 2006 high flow event, the foundation will be designed to withstand scour and will be more resilient in the case of future channel lateral migration and flooding.
- The bridge will fully span the wetted channel without in-channel piers.
- The armored crossing at 29+80 is a type of ford that will maintain hydrologic functions during high flow events that trigger debris flows.

**Abandonment** – The project proposes to abandon and decommission the existing roadway located in the floodplain and channel migration zone. After asphalt removal, these areas will be restored to natural river riparian conditions with native species plantings where planting is feasible and restoring unimpeded stream flow where planting would not be appropriate.
Appendix A  Coordination and Comments

Public and Agency Coordination and Comments

Introduction

Since the inception of project planning in 2007, extensive public involvement and agency coordination has occurred. The purpose of this effort has been to gather input from citizens, agencies, and interest groups. A summary of public and agency involvement and preliminary engineering design process milestones that have occurred to date is provided below. Also provided are copies of the NEPA scoping comments, responses to comments, and letters of interagency coordination.

### SUMMARY OF INDEX-GALENA ROAD MILEPOST 6.4-6.9 PUBLIC AND AGENCY INVOLVEMENT

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>November 2006</td>
<td>Snohomish County notifies federal and state agencies that damage has occurred at multiple locations on Index-Galena Road, including the Milepost 6.4-Milepost 6.9 washout that severs through access on Index-Galena Road beyond Milepost 6.4.</td>
</tr>
<tr>
<td>Wild Sky Wilderness Coordination 2006-2007</td>
<td>One of the primary issues of concern at the onset of damage response planning in 2006 and early 2007 was that Index-Galena Road would likely need to be relocated if it was to be repaired, and that it was uncertain as to how the relocation would affect the then proposed Wild Sky Wilderness. Due to the uncertainty of how far the roadway would need to be relocated upslope from the existing alignment, extensive discussions were conducted between Snohomish County, Congressman Larsen and Senator Murray’s offices, USFS representatives, and conservation organizations. The discussions focused on how best to modify the wilderness boundaries to accommodate roadway relocation upslope from the existing alignment. These discussions led to successful efforts to modify the wilderness boundaries upslope from Index-Galena Road in the project area to accommodate roadway relocation. These modified boundaries were then incorporated into the Wild Sky Wilderness Act that was signed into law in May 2008.</td>
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<tr>
<td>May 1, 2007</td>
<td>Public Meeting held at East County Senior Center in Monroe to explain the extent of damage to Index-Galena Road and provide an update on the Snohomish County response to address the damage. It was announced that Snohomish County was seeking federal Emergency Relief (ER) funds to help pay for roadway repairs.</td>
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<td>June 29, 2007</td>
<td>Inter-Agency Coordination including first visit to damage locations Representatives from the Federal Highway Administration (FHWA), U.S. Forest Service (USFS), Washington State Department of Transportation (WSDOT) and Snohomish County Public Works (SCPW) visit 12 Index-Galena Road damage locations to assess damages and determine eligibility for federal funding. Environmental review requirements are discussed to identify agency roles and the review processes that would apply to the various potential repair sites. SCPW will prepare and submit Local Agency Damage Inspection Report-FHWA Emergency Relief forms to WSDOT and FHWA to get approval for federal ER funding. A NEPA kickoff meeting to discuss the extensive requirements for Index-Galena is recommended for late summer/early fall 2007.</td>
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<td>Date</td>
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<tr>
<td>July 13, 2007</td>
<td>SCPW submits <em>Local Agency Damage Inspection Report-FHWA Emergency Relief</em> forms to WSDOT and FHWA to get approval for federal ER funding.</td>
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<tr>
<td>July 31, 2007</td>
<td>FHWA approves <em>Local Agency Damage Inspection Report-FHWA Emergency Relief</em> forms. Funding is made available for repair efforts that occurred during the damage event, field repairs can begin on smaller damage sites, and funds are made available to begin a feasibility analysis on the Index-Galena Milepost 6.4-6.9 washout repair.</td>
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<tr>
<td>September 27, 2007</td>
<td><strong>Early Interagency NEPA Coordination for Index-Galena Road Milepost 6.4-6.9 washout</strong></td>
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<tr>
<td>November 6, 2007</td>
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<td>December 18, 2007</td>
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<td>January 2008-July 2008</td>
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<tr>
<td>August 7, 2008</td>
<td>Kick-Off Meeting with Lochner, RFP selected design consultant, for Feasibility Study.</td>
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<tr>
<td>November 21, 2008</td>
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<tr>
<td>March 2009</td>
<td>Feasibility Study Completed-Identifies five alternatives for further analysis in a 30% Design Report</td>
</tr>
<tr>
<td>June 1, 2009</td>
<td>USFS sends NEPA notification letter requesting comments for proposed geophysical explorations that would be conducted by Snohomish County.</td>
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<tr>
<td>June 1, 2009</td>
<td>Meet with FHWS, USFS, and WSDOT to discuss feasibility study findings. Discuss potential NEPA issues for future documentation. Project will now proceed with design report preparation to determine if preferred alternative can be identified that would be then be evaluated for NEPA. FHWA and WSDOT are evaluating whether NEPA streamlining, possibly a Documented CE rather than NEPA EA, could potentially apply to the project.</td>
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<tr>
<td>July 14, 2009</td>
<td><strong>Open House Public Meeting for Feasibility Study</strong></td>
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<td>July 23, 2009</td>
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proposed roadway relocation alignments.

### August-September 2009

Helicopters transported drilling equipment to the site and geotechnical borings were conducted.

### November 13, 2009

Preliminary geotechnical findings discussed with design team, based on borings undertaken in Summer 2009. Project design will need to use retaining walls, rock slopes, and reinforced slopes. Rock fall can be an issue depending on which alignment is used for the project. A couple of locations along the alignment exhibit signs of slope movement and will need to be addressed in design.

### January 22, 2010

**Interagency Coordination Meeting**

Coordination meeting with FHWA, USFS, and WSDOT to discuss preliminary alternatives being evaluated in design report that were identified as part of feasibility study. Design criteria are discussed, with attention given to the potential for design deviations so that the relocated road can the character of the existing roadway. Primary design goal is to get road out of floodplain and as far out of the channel migration zone as practicable. This would help to reduce the project footprint and environmental impacts. Team is working toward developing preferred alternative to be identified in 30% Design Report.

### April 25, 2011

FHWA sends a letter to WSDOT authorizing the project to move forward with NEPA evaluation of the preferred alternative identified in the Design Report. The letter identified NEPA EA as the appropriate level of documentation.

### May 31, 2011

**Open House Public Meeting at Design Report Issuance**

A public open house meeting was held at the Monroe Public Library to present the findings of the 30% Design Report, accept public comments, and update the public on what has occurred to date with project design efforts and what would follow after the design report’s recommendation to move forward with Alternative 3 in the report. This alternative would relocate the roadway slightly above the existing alignment into the adjacent hillside.

### July 6, 2011

**Interagency Coordination Meeting**

An Interdisciplinary Team (IDT) of SCPW and USFS staff meets with FHWA and WSDOT to identify NEPA documentation that would be prepared, and to identify the general framework for document preparation and submittal.

### August 22, 2011

**Section 106 NHPA Consultation Initiated**

Section 106 National Historic Preservation Act consultation is initiated with letters sent to the Sauk-Suiattle Tribe, Snoqualmie Nation, Tulalip Tribes, U.S. Forest Service, and the Washington State Department of Archaeology and Historic Preservation.

### August 31, 2011

FHWA sends letter to WSDOT confirming that a NEPA EA would be the appropriate level of documentation for the project. The project team moves forward with IDT coordination efforts.

### February 1, 2012

**NEPA Public Scoping Meeting**

Public Scoping Meeting for National Environmental Policy Act Environmental Assessment (NEPA EA) is held at Park Place Middle School in Monroe to accept comments on the scope of the NEPA EA. The meeting is an open house format with displays and handouts to familiarize attendees with the Index-Galena Road project location and the alignment under consideration. The range of issues proposed for evaluation are identified. Twenty-one people attended the meeting. Sic comments were handed in at the meeting and additional comments were received via mail and e-mail after the meeting.

### June 2012

The scoping comments received during and after NEPA EA scoping meetings are summarized and responses provided. They are posted to the project website.
A Public Open House Meeting is held at Park Place Middle School in Monroe to provide attendees with a design update and to accept comments on the project’s 60% design update. The design presented at the open house would provide the basis for environmental documentation underway for NEPA studies and eventually for the NEPA EA. The meeting is an open house format with displays and handouts to familiarize attendees with the Index-Galena Road project design. Among the design updates provided were a proposed bridge at the project’s Station 54+00 crossing of a wetland/stream and use of the existing Trout Creek Road at the project’s beginning near Milepost 6.4. Twenty-one people attended the meeting. Six comments were handed in at the meeting and additional comments were received via mail and e-mail after the meeting.

The project’s design and environmental review staff conduct a site visit with a Washington Department of Fish and Wildlife habitat biologist to discuss the project design and construction issues associated with constructing the project, including the need to do extensive in-water work for removal of the existing damaged roadway. It is determined that a subsequent site visit to evaluate the project area during late summer low flows would be useful to better understand how in-water work would affect in-stream habitat and fish species potentially present at the time of proposed future in-water work.

Snohomish County Public Works submits first batch of NEPA studies to FHWA/WSDOT and U.S. Forest Service for preliminary agency review. Studies include Land Use/Recreation; Visual Quality; Environmental Justice; and Floodplain.

Snohomish County Public Works submits second batch of NEPA studies to FHWA/WSDOT and U.S. Forest Service for agency review. Studies include Wetlands, Wildlife, Surface Water, Fish, and Biological Assessment submitted for Section 7 Endangered Species Act consultation.

Coordination meeting with FHWA, USFS, WSDOT to discuss status of NEPA reports and identify pending review process for NEPA Environmental Assessment.

Preliminary NEPA discipline reports are submitted for first-level interagency review by USFS and WSDOT.

The Cultural Resources Assessment prepared by the U.S. Forest Service as part of Section 106 consultation is sent to the Sauk-Suiattle Tribe, Snoqualmie Nation, Stillaguamish Tribe, Tulalip Tribes, and the Washington State Department of Archaeology and Historic Preservation.

FHWA, USFS, WSDOT and SCPW meet to re-evaluate project purpose and need and determine whether there was a need to modify the existing purpose and need statement that has been developed as part of the project’s current NEPA Environmental Assessment (NEPA EA) environmental review effort.

Washington State Department of Archaeology and Historic Preservation sends letter
with its finding of “no historic properties affected” for the project.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2015</td>
<td>NEPA Discipline Reports submitted for second level review by WSDOT/FHWA.</td>
</tr>
<tr>
<td>August 2015</td>
<td>Biological Assessment (BA) submitted to NOAA-NMFS and USFWS to initiate Section 7 Endangered Species Act consultation.</td>
</tr>
<tr>
<td>April 1, 2016</td>
<td>A newsletter is mailed to citizens and agencies and posted to the project website. The newsletter provides a project update including estimated schedule.</td>
</tr>
</tbody>
</table>

**Wetlands**

Early coordination has occurred with U.S. Forest Service and Washington Department of Fish and Wildlife to evaluate potential impacts to aquatic resources in the project area. Additional coordination with the U.S. Army Corps of Engineers and Washington State Department of Ecology would be initiated once NEPA review has concluded and permit applications are made for regulatory review. Preliminary determination has been made that a Nationwide Section 404 permit would be required for the project and compensatory mitigation would be provided for unavoidable impacts.

**Tribes**

Tribes that may be affected by the proposed road improvements include the Sauk-Suiattle Tribe, Snoqualmie Tribe, and the Tulalip Tribes.

The Section 106 National Historic Preservation Act consultation process was initiated with letters sent by the Washington State Department of Transportation (WSDOT) to each tribe asking them for their participation in Section 106 consultation. (See Appendix H). The tribal consultation process was initiated August 22, 2011 with circulation of the Area of Potential Effect (APE) documentation. Consultation with the Tribes is required and must occur before the project is approved. As part of this consultation, all affected Tribes received copies of the APE. No comments were received from the tribes. In addition, an invitation was extended to each tribe to attend the proposed project’s NEPA scoping meeting held on February 1, 2012.

**Public Involvement**

As noted in the table at the front of this Appendix, several public meetings have been held as part of the public involvement process to gather public input on the proposed alternate route project. Newsletters were emailed out to citizens and posted to the project website during the environmental review phase.

Copies of the comments received during the NEPA Scoping comment period are provided in Appendix A. Comments include filled-out forms that were provided at the February 1, 2012 NEPA Scoping Meeting, comment letters, and e-mails. A copy of the responses to comments that were posted to the website in June 2012 is also provided.
November 6, 2007

HFO-WA.3/Snohomish County

Barbara Busse, Skykomish District Ranger
Mt. Baker-Snoqualmie NF
United States Department of Agriculture
United States Forest Service
P.O. Box 305
Skykomish, WA 98288

Index-Galena Road, Milepost 6.4 To Milepost 6.9 - 2006 Flood Damage Request for NEPA Cooperating Agency Status

Dear Ms. Busse:

The Federal Highway Administration (FHWA), Washington State Department of Transportation (WSDOT), and Snohomish County Public Works would like to request your participation as a cooperating agency in the preparation of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) to examine the proposed action for a .5-mile-corridor of Index-Galena Road, located east of Index, Washington and north of United States Highway 2 (US 2) in Snohomish County, Washington. The proposed action would re-establish roadway connectivity on a road washed out by November 2006 flood flows in the North Fork Skykomish River.

The environmental review will describe the analysis undertaken to evaluate alternatives for re-establishing roadway connectivity and system linkage to the damaged Index-Galena Road corridor, and will summarize the basis for design solutions to reopen this damaged roadway.

Your continued participation in project development activities is welcomed as you have special expertise or permitting authority for this project’s affected environment, and have a stake in maintaining vehicular access to your land holdings that lie in proximity to the Index-Galena Road corridor. We invite you to work with us to identify those environmental factors you consider to be most critical, and to ensure that the NEPA EA adequately addresses your concerns.

PROPOSED PROJECT MOVING THE AMERICAN ECONOMY
The proposed project would achieve these objectives by re-establishing roadway connectivity to the existing Index-Galena Road damaged by November 2006 floods. The roadway design would be developed to be consistent with current design guidelines for a two-lane major collector rural roadway. Specifically, this includes re-establishing the roadway to accommodate two travel lanes. Extensive analysis will be conducted to determine how roadway connectivity can be re-established in the project area, an area with a highly dynamic floodplain that may require realigning the roadway’s horizontal and vertical alignment outside of the North Fork Skykomish River channel migration zone. Any potential re-alignment would require relocating the roadway onto U.S. Forest Service lands outside of the existing easement that has already been established with your agency.

The preliminary engineering phase for this project will develop design alternatives, and will be undertaken concurrently with the NEPA environmental review process. As the NEPA process is completed, and an alternative is selected for further design engineering, the project’s development would proceed further with finalizing the design, submitting permit applications, and developing real property agreements with the U.S. Forest Service if roadway re-alignment is proposed. Construction would occur once these processes have been completed and funding is in place.

ENVIRONMENTAL RESOURCES AND ISSUES

The following is an initial list of the environmental and land resources that are part of the project study area, and the issues the EA will address. If your agency elects to participate in the project as a Cooperating Agency, please indicate which Discipline Reports you would be interested in reviewing or any environmental resources not listed that should be considered during project development.

| Discipline Reports Anticipated for Index-Galena Road NEPA EA | Water Resources |
| Wetlands | Fish Resources |
| Land Use | Wildlife and Vegetation |
| Public Lands | Visual Quality |
| Cultural Resources | Public Services and Utilities |
| Environmental Justice | Transportation |
| Wild and Scenic Rivers | Earth (Soils and Geology) |

POTENTIAL FEDERAL, STATE AND LOCAL PERMITS AND APPROVALS
The following is a list of permits or approvals that may be required, depending on the alternative selected, its location, and its effects:

**Federal**

- Section 404 and Section 10, Clean Water Act, Permit – U.S. Army Corps of Engineers and U.S. Environmental Protection Agency

- Section 7, Endangered Species Act, consultation (northern bald eagle, Chinook salmon, bull trout) – U.S. Fish and Wildlife Service; National Marine Fisheries Service
• National Pollutant Discharge Elimination System Stormwater Permit (construction disturbing more than 1 acre) – Washington State Department of Ecology

• Section 401, Clean Water Act, Water Quality Certification (runoff) – Washington State Department of Ecology

• U.S. Forest Service approvals required for roadway construction and potential realignment of Index-Galena Road onto forest lands outside of the existing roadway easement

State

• Hydraulic Project Approval (construction in waters of the State) – Washington State Department of Fish and Wildlife

• Forest Practices Act permit-Washington Department of Natural Resources

County and City

• Snohomish County Critical Area Regulations (streams, wetlands, steep slopes)

• Snohomish County Shoreline Substantial Development Permit (development within 200 feet of the North Fork Skykomish River)

• Snohomish County Flood Hazard Permit

• Snohomish County Grading and Drainage Approval

As a cooperating agency, your agency’s involvement should entail those areas under its jurisdiction or special expertise that need to be addressed to satisfy your concerns. No direct writing or analysis will be necessary for the document’s preparation. However, you may elect to prepare some studies or provide analysis with available agency expertise. You are welcome to and are expected to tell us if, at any point in the process, your needs are not being met.

The following are actions we will take to maximize interagency cooperation:

• Invite you to coordination meetings and joint field reviews;

• Consult with you on any relevant technical studies that will be required for the project;

• Provide you with study results, meeting minutes, and project information;

• Invite you to joint public involvement activities;

• Provide a copy of the pre-final EA for 30-day review; and
• Provide adequate information for cooperating agencies to discharge their NEPA responsibilities and any other requirements regarding jurisdictional approvals, permits, licenses, and/or clearances.

We expect that at the end of the process the EA will satisfy your NEPA requirements including those related to alternatives, review of environmental consequences, and mitigation. We also expect that the document will address any concerns you may have resulting from your responsibilities under other federal and state laws and regulations. Please provide a response to us in writing by November 30, 2007 via surface mail if your agency elects to participate in the project as a Cooperating Agency.

If you have any questions or would like to discuss our agencies' respective roles and responsibilities during the preparation of the EA, please call Brian Hasselbach (FHWA) at (360) 753-9411. For project information, Sam Schuyler (WSDOT) at (206) 440-4729 or Steve Dolde (Snohomish County Public Works) at (425) 388-3488 Ext. 4391.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

By: Steve Saxton
Area Engineer

Enclosures

cc: Eric Ozog, U.S. Forest Service
    Brian Hasselbach, WSDOT
    Trevin Taylor, WSDOT
    Steve Dolde, P.E., Snohomish County
    Crilly Ritz, Snohomish County
    Jan Hollenbeck, Mt. Baker/Snoqualmie Forest
November 6, 2007

HFO-WA.3/Snohomish County

Barbara Busse, Skykomish District Ranger
Mt. Baker-Snoqualmie NF
United States Department of Agriculture
United States Forest Service
P.O. Box 305
Skykomish, WA 98288

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Milepost 6.9 - 2006 Flood Damage
Request for NEPA Cooperating Agency
Status

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PROPOSED PROJECT

MOVING THE
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If you have any questions or would like to discuss our agencies’ respective roles and responsibilities during the preparation of the EA, please call Brian Hasselbach (FHWA) at (360) 753-9411. For project information, Sam Schuyler (WSDOT) at (206) 440-4729 or Steve Dolde (Snohomish County Public Works) at (425) 388-3488 Ext. 4391.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

By: Steve Saxton
Area Engineer

Enclosures

cc: Eric Ozog, U.S. Forest Service
    Brian Hasselbach, WSDOT
    Trevin Taylor, WSDOT
    Steve Dolde, P.E., Snohomish County
    Crilly Ritz, Snohomish County
    Jan Hollenbeck, Mt. Baker/Snoqualmie Forest
Daniel Mathis, P.E.
Federal Highway Administration
Suite 501 Evergreen Plaza
711 S. Capitol Way
Olympia, WA 98501-1284

Re: Proposed Index Galena Road Repair, M.P. 6.4 to 6.9
  Request for NEPA Cooperating Agency

Dear Mr. Mathis,

I have received your letter of November 6, 2007, which requests that the Forest Service participate as a Cooperating Agency in preparation of an Environmental Assessment (EA) to analyze a proposal by Snohomish County Public Works to repair or relocate a 0.5 mile section of the Index-Galena road that was destroyed by severe flooding on the North Fork Skykomish River during November, 2006.

The Forest Service supports the role of FHWA serving as the Lead Agency (40 CFR 1508.16) and agrees to serve as a Cooperating Agency (40 CFR 1508.5) on this project under the National Environmental Policy Act (NEPA).

The Forest Service will have a continued need for administrative and public vehicular access to National Forest System (NFS) lands in the vicinity, as the Index-Galena road is a critical link in providing that access. Also, as a proposed EA alternative of relocating the damaged section of highway upslope of the river’s floodplain onto NFS land appears likely, the Forest Service is interested in participating as a cooperating agency in the EA process to meet requirements of NEPA.

I agree with the preliminary list of environmental resources and issues presented in your 11/6/07 letter, but would like to add Recreation Use and Wilderness as potential issues. The Index-Galena Road is important for public access to National Forest campgrounds and recreation areas, and is close to the boundary of the proposed Wild Sky Wilderness. Public scoping and Tribal consultation during the NEPA process may reveal additional issues to be addressed. The Forest Service is interested in reviewing all of the proposed Discipline Reports (Specialist Reports). I would prefer that the term “Specialist Report” be used instead of “Discipline Report” for this project, to be consistent with Mt. Baker-Snoqualmie terminology, unless the FHWA requires otherwise. I would also like the opportunity to review and comment on engineering designs of the alternatives as they become available during this process.

Caring for the Land and Serving People
I wish to add to your list other Federal permits or approvals required by federal law and regulations that must be complied with in this process:

- Section 106 of the National Historic Preservation Act (NHPA).
- The Archeological Resources Protection Act of October 31, 1979 (ARPA).
- The 1990 Mt. Baker-Snoqualmie National Forest Land and Resource Management Plan (MBS Forest Plan), as amended by the: (1) 1994 Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (a.k.a., Northwest Forest Plan), and (2) 2005 Record of Decision for the Pacific Northwest Region Invasive Plant Program—Preventing and Managing Invasive Plants.

The Forest Service wishes to formally designate FHWA as the lead federal agency for ensuring compliance with Section 106 of NHPA, with the Forest Service as the primary consulting party, because relocating the road could potentially affect cultural resources located on NFS land. It is my understanding that the FHWA has a Programmatic Agreement (PA) with the State Historic Preservation Officer (SHPO) of the Washington Department of Archeology and Historic Preservation (DAHP), which allows FHWA to delegate this responsibility to a non-federal agency, such as the Washington State Department of Transportation (WSDOT). I will agree to this, provided that the Forest Service is consulted with on all aspects of this undertaking, including the Area of Potential Effect (APE), within which a cultural resource survey (if performed by a non-federal entity) is conducted under an ARPA permit issued by the Forest Service, and provided that the Forest Service is given an opportunity to review and comment on the evaluation of findings, significance, and mitigation before consultation is initiated with DAHP.

The Section 106 process will involve government-to-government consultation with affected Tribes. I suggest that the Forest Service perform consultation with the Tribes, as it is our responsibility to do so per our tribal relations policy, and as a relocation alternative would occur on NFS land. As the Forest Service would be part of a NEPA decision through our Letter of Consent to grant an easement for a relocated section of the road, we want to give the Tribes the opportunity to contact the Forest Service directly with any concerns they may have. We also would like to have direct knowledge of those concerns in order to make an informed decision whether to grant an easement.

The proposed project will need to be consistent with all applicable standards and guidelines of the MBS Forest Plan, as amended by the 1994 and 2005 Records of Decisions. These three planning documents have specific standards and guidelines pertaining to the North Fork Skykomish key watershed, riparian reserve habitat, the matrix management area, visual quality, the recommended Recreation River, and invasive plant prevention, which must be addressed for new road construction.

The Highway Act of 1958, as supplemented in 1966, authorizes the FHWA to grant easements to state or local government road management agencies for highways that are part of the Federal-aid system or constructed under provisions of Chapter 2 of the Highway Act. The Forest Service
would consent to the grant of a highway easement, conditional upon construction stipulations to be implemented by the state or local highway agency. A 1998 Memorandum of Understanding between the Forest Service and FHWA defines the procedures of transferring federal land to a state or local Highway Agent for a highway right-of-way. These procedures should be followed for this project. The Index-Galena Road is a Forest Highway that is owned, operated, and maintained by Snohomish County. Clearly, a road relocation onto NFS land, if that is the selected alternative upon completing the EA, would require an FHWA easement grant to Snohomish County, subject to conditions specified by the Forest Service authorized officer in a Letter of Consent, to protect NFS lands, resources, and the public interest.

As a Cooperating Agency, Forest Service staff would participate in the NEPA and easement grant process in various ways. These would include:

- Participate in coordination meetings, field reviews, and public meetings.
- Provide readily-available National Forest resource data.
- Provide protocols for any field surveys of Forest Service Region Six Sensitive and Survey & Manage botanical and wildlife species.
- Provide information regarding federally-listed threatened and endangered fish and wildlife species, Forest Service Region Six Sensitive wildlife, fish, and botanical species, Management Indicator Species of wildlife, and Survey & Manage wildlife and botanical species, to support preparation of Biological Assessments (BA) and Biological Evaluations (BE) of project effects on those species. (This assumes FHWA or WSDOT would prepare the actual BA and BE reports.)
- Provide MBS Forest Plan (as amended) management direction for the EA to reference.
- Assist with public scoping (provide mailing list of public contacts who are interested in Forest Service projects on the Skykomish Ranger District)
- Consult with affected Tribes.
- Review and concur with NHPA Section 106 process as stated above.
- Review and comment on Biological Evaluations, and Biological Assessments for federally-listed threatened and endangered fish and wildlife species, prior to completing Endangered Species Act Section 7 consultation with the Services (assuming Consultation is performed by FHWA or WSDOT).
- Review and concur with each phase of EA development: identify issues, alternatives, mitigation measures, affected environment, and environmental consequences.
- Review and comment on the various Specialist Reports, technical studies, engineering designs, and easement plat(s).
- Review and comment on draft EA documents.
- Prepare a Letter of Consent.

Availability of Forest Service staff will be extremely limited during the rest of Fiscal Year 2008, and this limitation is expected to continue into 2009. As a result, it is unlikely that our staff would be available to perform field surveys or prepare Specialist Reports or other supporting analyses. To maximize the efficient use of staff time, and to determine an appropriate level of Forest Service involvement, it is critical to develop a well-defined proposed action that is narrow in scope but provides enough detail, including that an FHWA easement may be granted to Snohomish County for relocated section(s) of road. The EA’s action alternatives should fully
describe all facets of construction, to the extent practical as design plans are developed, including: construction limits (drawing showing the project footprint or APE), staging areas for equipment and materials, the removal and disposal of federal timber, sources for riprap, aggregate, and asphalt, and disposal plans for any excess excavated material. I have sent Steve Dolde at Snohomish County Public Works a Special Use application to describe the County’s request for an easement.

The cost of Forest Service staff time to participate in the NEPA process and to process an easement for this proposed project on NFS land is subject to Cost Recovery regulations contained in Title 36 Code of Federal Regulations Part 251, Subpart B, Section 251.58. This pilot program enables the Forest Service to recover processing and permitting costs from proponents of special use projects. As Snohomish County is the proponent, the Forest Service has requested the County to enter into a cost recovery agreement to fund this work, and will provide a good faith estimate. Again, more detail on the project would help to better estimate this cost, but given what we know today, the recoverable cost to the Forest Service may be in the range of $35,000 to $50,000.

We appreciate the opportunity to participate as a cooperating agency on this project. If you have any questions, or wish to meet again to further clarify our respective roles, please contact Eric Ozog, Realty Specialist, at (360) 691-4396, or myself at (360) 677-2414.

Sincerely,

/s/ Barbara A. Busse
BARBARA A. BUSSE
District Ranger

cc: Brian Hasselbach, FHWA
    Steve Dolde, Snohomish County Public Works
    Crilly Ritz, Snohomish County
September 8, 2015

HFO-WA.3/ WA1124

Joe Neal, Skykomish District Ranger
Mt. Baker-Snoqualmie NF
United States Department of Agriculture
United States Forest Service
P.O. Box 305
Skykomish, WA 98288

Dear Mr. Neal:

Back in November 2007, this office sent you a letter requesting that the Forest Service participate as a Cooperating Agency in the preparation of an Environmental Assessment (EA) to relocate a 0.5-mile section of the Index-Galena Road that was destroyed by flooding the previous year. Included in that letter was a list of anticipated Discipline (or Specialist) Reports that would be developed for the EA.

The purpose of this letter is to provide the updated list of the Discipline/Specialist Reports that will be included with the EA. Those reports are:

- Geology & Soils
- Surface Water
- Wetland and Stream
- Land Use and Recreation
- Floodplain
- Wildlife
- Environmental Justice
- Visual Quality
- Botany (prepared by USFS)
- Fish (prepared by USFS)

In addition to these listed discipline/specialist reports, FHWA served as the lead agency ensuring compliance with Section 106 of National Historic Preservation Act and FHWA will soon be
initiating consultation for Section 7 of the Endangered Species Act with both the US Fish and Wildlife Services and the National Marine Fisheries Service.

We appreciate the Forest Service’s continued cooperation and commitment in developing this challenging project.

If you have any questions or require additional information, please contact me at (360) 753-9411 or jeff.horton@dot.gov.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

By:  Jeffrey L. Horton, P.E.
Area Engineer

Cc:  Eric Ozog, U.S. Forest Service (via email)
       Melanie Vance, WSDOT (via email)
       Ed Conyers, WSDOT (via email)
October 18, 2012

Crilly R. Ritz, Senior Environmental Planner  
Transportation and Environmental Services  
Snohomish County Public Works  
3000 Rockefeller Avenue M/S 607  
Everett, WA. 98201  
(425) 388-3488 Ext. 4586

Subject: Index-Galena Rd M.P. 6.4 – 6.9 Flood Repair

Dear Crilly R. Ritz:

The Department of Natural Resources is steward of Washington’s aquatic lands and their resources. Aquatic lands are managed for current and future citizens of the state to sustain long-term ecosystem and economic vitality, and to ensure access to the aquatic lands and the benefits derived from them.

Washington DNR’s management authority derives from the State’s Constitution (Articles XV, XVII, XXVII), Revised Code (RCW 79.02 and 79.105) and Administrative Code (WAC 332-30). As proprietary manager of state-owned aquatic lands, DNR has been directed to manage the lands “…for the benefit of the public” in a manner that provides “…a balance of public benefits for all citizens of the state” that includes”

1) Encouraging direct public use and access
2) Fostering water-dependent uses
3) Ensuring environmental protection, and
4) Utilizing renewable resources.

In addition, generating revenue in a manner consistent with subsections 1) through 4) above is a public benefit (RCW 79.105.030).

Given the nature of the Index-Galéna road project, the Department of Natural Resources is choosing neither to assert nor disclaim ownership authority and no DNR authorization is required in this case.
We appreciate the County’s consultation with DNR on this project and look forward to working with you on future projects. If you should have any questions, please contact me at 360-854-2836.

Sincerely,

Brenda L. Werden, Land Manager
Aquatic Resources Division - Orca Straits District

cc: Read file - Snohomish County Public Works
Index-Galena Road Project: Milepost 6.4 to 6.9

During June 2011, Snohomish County held a public open house to provide information about alternative alignments that had been considered to address the flood-damaged portion of Index-Galena Road between Mileposts 6.4 and 6.9. The preferred alignment was also identified. Five alternatives were considered.

Features of the Design

The alternative that will be carried forward is being designed to move the alignment landward and out of the river migration zone to the degree practicable to reduce the risk of future damage. Moving out of the migration zone will also reduce impacts to the river. Retaining walls will be used along 10 to 30 percent of the road’s length to minimize the width of the footprint and need for clearing and excavation. The extent of the walls needed will be determined as part of the next phase of design work.

NEPA Scoping Comment Period is February 1-29, 2012

The February 1, 2012 NEPA Scoping meeting/Open House will be the start of the NEPA scoping comment period. The comment period provides an opportunity for agencies, tribes, and citizens to let the project team know what they feel should be addressed in the environmental review documents. The Open House will also allow those who are interested in the project to learn more about the process and talk with the project team.

There will not be a formal presentation. Exhibits will be on display, and the project team will be available to answer questions and discuss the project. You may provide written comments at the meeting; you may also send comments for the team, by mail or e-mail, to Tina Hokanson (see contact information to the left).

The Environmental Review Process

FHWA is the lead agency for the NEPA environmental review process. There were two potential approaches to satisfy NEPA requirements for this project: a Categorical Exclusion (CE) and a more in-depth NEPA Environmental Assessment (EA). Although a NEPA CE can typically shorten the timeframe for the environmental permitting process, it was determined that a NEPA EA was the more appropriate level of documentation for the project.

After extensive inter-agency discussion following a July 2011 interagency meeting and careful consideration. FHWA sent a letter to WSDOT requiring Snohomish County to prepare a NEPA Environmental Assessment (NEPA EA) for the Index-Galena Road project. A copy of the letter is posted on the project Web page, along with the complete report of the July interagency meeting. (continued)
A follow-up interagency meeting was held in October 2011; a report of this meeting is also posted on the project Web site. Visit www.sno.co.org, and type "Index-Galena" in the search box. The NEPA EA process, which is coordinated with other federally required reviews, is expected to add two years to the project schedule to provide a more in-depth environmental review. As a result, the current expected date for the start of construction is 2015. We will know more as the project progresses.

What Happens After the Scoping Meeting?
After the meeting the county team will continue its work on the project design. Environmental staff will review public comments to determine how they may affect the scope of the project’s environmental review. As the design progresses, the environmental review staff will be identifying impacts and continuing coordination with the federal agencies. The environmental and design staffs will coordinate to avoid impacts where possible; or reduce impacts, and design mitigation as needed. The results of this coordination will then be documented in several studies and summarized in the NEPA EA document. Issues that the team will address include: drainage; hydrology; hydraulics; where retaining walls will be needed; geologic issues; and impacts to fish and wildlife habitat, wetlands, and visual quality. These studies will be part of the NEPA EA.

When Will Additional Information be Available?
As each environmental study is reviewed and approved by FHWA, it will be posted on the project Web site. The public will have an opportunity to review the NEPA EA when all of the studies are completed and the EA is issued. This is anticipated to be late 2013 or early 2014.

The county’s project team expects to schedule another public open house at the 60 percent design stage during mid-2012. The design will be sufficiently developed by then to more fully identify project impacts and provide a more definitive description of the project. Project updates will be posted on the Web site as milestones are met.
Tina Hokanson, Communications  
Snohomish County Public Works  
300 Rockefeller Ave., M/S 607  
Everett, WA 98201  

February 3rd, 2012

RE: Index-Galena Road Repair, Mile Post 6.4-6.9

Dear Ms. Hokanson:

We are pleased to learn that the NEPA process is underway for the repairs to the Index-Galena Road at mile post 6.4-6.9. We support the decision to analyze this project through an Environmental Assessment as we believe this will allow all issues to be fully considered and reviewed while providing a more robust defense to any concerns that may be raised regarding this project. We strongly support restoration of vehicle access along this river corridor in light of its regional importance for river-based recreation. The river is a State Scenic Waterway and has been recommended by the Forest Service for Wild and Scenic designation in part due to its significance as a recreational resource. With this status, there are important considerations with respect to construction projects that could impact river values, but we believe the project can be designed to protect and enhance the river-dependent values unique to the North Fork Skykomish River. We provide our detailed scoping comments below.

Interest of American Whitewater

American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954. We have over 5000 members and 100 local-based affiliate clubs, representing thousands of whitewater paddlers across the nation. American Whitewater’s mission is to conserve and restore America’s whitewater resources and to enhance opportunities to enjoy them safely. As a conservation-oriented paddling organization, American Whitewater has an interest in the North Fork Skykomish River. A significant percentage of American Whitewater members reside in Washington State—a short driving distance from this river for recreation.

Importance of the North Fork Skykomish for Whitewater Recreation

The high quality scenic values of the North Fork Skykomish River and the unique whitewater attributes of this run that are highly desired by intermediate to advanced paddlers distinguish this river as one of the region’s best whitewater runs. The season for the river begins with fall rains in October, continues through the winter, and in most years extends into early summer as long as snow melt maintains elevated flows. In a survey of whitewater enthusiasts on Whitewater Paddling in the North Cascades,¹ American Whitewater found that the North Fork

¹ http://www.americanwhitewater.org/content/Document/view/documentid/554/
Skykomish was one of the most popular rivers in the North Cascades (41% of paddlers had done the run), it was rated as having outstanding recreational and aesthetic qualities of regional and national significance, and it was identified as one of the top five favorite runs out of 158 recognized whitewater runs in the North Cascades. In a study of River Recreation in Washington State, the National Park Service identified the North Fork Skykomish as having Grade A qualities for whitewater recreation. The reputation of the river extends beyond the boundaries of the state and the river is well known to paddlers from across the country and around the world—in fact, it is one of two rivers in the state featured in the book World Whitewater, a guidebook to the world’s best whitewater.

The North Fork Skykomish was identified as a potential Wild and Scenic River in the Nationwide Rivers Inventory (NRI) published by the National Park Service in 1982. The Forest Service conducted a formal suitability review of the river for wild and scenic designation during the most recent forest planning process. As an outcome of that process, the river was recommended to Congress for designation as a National Wild and Scenic River for its scenic, recreation, fish, and wildlife values. The Forest Plan specifically notes that the North Fork Skykomish receives high recreation use, much of which “is oriented toward river activity” and that the river is one of Washington State’s most “continuously challenging whitewater rafting and kayaking runs, with 11 miles of class III or IV river.” The North Fork Skykomish River is currently part of the Washington State Scenic River System, the legislative purpose of which is to “protect and preserve the natural character of such rivers and fulfill other conservation purposes.” Rivers in the system “shall be preserved in as natural a condition as practical.”

Access Considerations for the North Fork Skykomish

Since floods damaged the road in 2006, access to the river has been limited. Even those who have been willing to drive over Jack’s Pass have been deterred by the gate that does not allow the general public to proceed downstream to the desired access points that are between the gate and the two washouts at road mile 6.4 and 6.9. A small community of expert boaters runs the river above Bear Creek Falls, but most boaters put in below a rapid known as Drumbeater near North Fork Road mile 11.7 (47.8947, -121.393) located at the start of a short canyon reach approximately 0.5 miles upstream of the Troublesome Creek Bridge. This section from Drumbeater to Troublesome Creek Campground is known as one of the most scenic class IV river canyons in Western Washington. For those who do not wish to run the canyon, the next popular access point is at road mile 10.9 where the river closely parallels the road at a rapid...

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7 Revised Code of Washington 79A.55.005
known as Rooster Tail. There is a short portage trail here for those who do not wish to run the rapid that is one of the more challenging drops on the river. Rafters often access the river at road mile 10.5 on the upstream side of the bridge. There are two primary access points downstream that are used for take-outs but can also serve as put-ins for those paddling down to Index. There is a pull-out along the river at road mile 6.9 on public land. A second access point is downstream at road mile 6.1 on private land (47.864, -121.487) at the Trout Creek confluence. Boaters often choose one of these two access points depending on permission of the land owner at Trout Creek, available parking, and the time available. The approved alignment appears to bypass the historic public access at road mile 6.9. While we support removal of the damaged road segments, we request that the project evaluate an alternative that includes a provision for retaining a short spur of the remaining road near mile 6.9 so it can continue to serve as public access to the river.

Now that road repairs have been completed at mile 10.5, 10.9, 11.9, 12.8, 13.1, and 13.8, we request that the gate be set in an open position or moved to mile 10.5 as soon as feasible and preferably by April 1st of this year so that kayakers and rafters can more easily utilize the various access points that can be reached by coming in from Jack’s Pass. Our National Whitewater Inventory includes a complete description of the North Fork Skykomish and an interactive map that identifies the key features and access points utilized by the whitewater boating community.⁸

Conservation Value of the North Fork Skykomish

As a river identified as suitable for Wild and Scenic designation under the Wild and Scenic Rivers Act, the Forest Service Handbook provides management guidelines that must be used when carrying out projects and activities.⁹ Specifically the free-flowing character of the river must not be modified, the outstandingly remarkable values must be protected, and classification status must be maintained.

Our initial analysis of the proposed reroute from milepost 6.4 to 6.9 is that the project will be consistent with guidance for projects along a suitable wild and scenic river. Specifically, moving the road corridor out of the floodplain and channel migration zone will enhance the free-flowing character of the river. It will protect and enhance outstandingly remarkable values by enhancing the scenic experience from the river, restoring recreational access, protecting fishery values by removing a segment of road out of the floodplain, and protecting the river-dependent wildlife values by restoring floodplain habitat along the alignment of the old road. The project will have an impact on terrestrial resources but the opportunity to protect and enhance the river-dependent values is significant. This segment is along a section of the river identified for recreation classification and as stated in the Forest Service Handbook, “new roads and railroads

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⁸ http://www.americanwhitewater.org/content/River/detail/id/2212/
⁹ FSH 1909.12, 82.5
are permitted to parallel the river if such construction fully protects river values (including river’s free-flowing character).”\textsuperscript{10} We believe the proposed project can meet this standard.

We also believe the proposed action will be consistent with statutory requirements for conservation of the river under the State Scenic waterway designation. By moving the road out of the channel migration zone it will “protect and preserve the natural character of [the] river” and by allowing the river to more freely migrate within the floodplain it will serve to preserve the river in “as natural a condition as practical.”\textsuperscript{11} The scoping document notes that the State Scenic Waterway program has not been funded since 1993, and that no coordination with a responsible agency is required for approval under this law. While we concur that a program within Washington State Parks no longer exists, we believe the project can and should be completed in a manner consistent with state law and the management objectives outlined in RCW 79.72.

\textit{Conclusion}

Thank you again for the opportunity to provide scoping comments on this project. We are pleased to see the NEPA analysis underway and support the current approach of conducting the analysis under an Environmental Assessment. We look forward to enjoying restored access to this river that has historically provided one of the most highly valued whitewater recreation opportunities in the state. We believe the project can be completed in a manner that restores the access and the unique river-dependent recreational values, while enhancing the scenic, fish, and wildlife benefits of pulling a segment of road out of the channel migration zone. The added benefit of this project will be a reduction in long-term maintenance costs. If you have any questions regarding the interests of whitewater recreation and the impacts of the project on our activity please do not hesitate to contact me.

\textbf{Sincerely,}

\vspace{0.5cm}

\begin{flushright}
Thomas O’Keefe, PhD
Pacific Northwest Stewardship Director
\end{flushright}

\textsuperscript{10} FSH 1909.12, 82.51.4c
\textsuperscript{11} RCW 79.72
February 11, 2012

Tina Hokanson, Communication Specialist
Snohomish County Public Works, M/S 607
3000 Rockefeller Avenue
Everett, WA 98201

Subject: Index-Galena Road
Environmental Assessment Scoping Comments

I attended the February 1, 2012 open house EA scoping meeting for the Index-Galena Road. I must say that I was very disappointed in the lack of progress Snohomish County (SNOCO) has made on this project since the last public meeting nearly one year ago. In particular, I have not seen any advancement in the design as to exactly how flow control and enhanced water quality will be accomplished for this road. My discussions with County staff indicated that they too are uncertain as to exactly how stormwater runoff will be treated.

I have not received a response from Snohomish County relating to my comments forwarded to you last June. I am attaching a copy of those comments for your information and for response under the current EA scoping process to be included as additional comments.

I understand that this project is being funded under Emergency Relief (ER) funding for Federal Aid Highways. Procedures relating to the ER program for roads are stipulated in Title 23, United States Code, Section 125, a special program from the Highway Trust Fund established by Congress for the repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage. The ER Manual states:

"Unless there is satisfactory justification for project delay to warrant its retention, projects for permanent repairs that have not advanced to construction obligation by the end of the second FY following the year in which the disaster occurred cannot be authorized. Justification for such delay and request for time extension must be submitted to the FHWA Division Administrator for approval. Time extensions are granted in one-year increments. Such delays may be caused by the need for extensive environmental evaluation, litigation, or complex right-of-way acquisition."

Being busy with other work or insufficient staff is not justification for a time extension; SNOCO must demonstrate that it has made ER work the staff priority over its other non-emergency work. It is doubtful that this project qualifies for a

1 Reference ER Manual Page 54, Chapter VI, Section 1
time extension under the ER Manual. There has not been an extensive
environmental evaluation, litigation, or a complex right-of-way acquisition; indeed,
it has now been over 5-years since the 2006 flood and SNOCO is only now
commencing Environmental Assessment process. It appears fairly certain that if
ER funds are used on this project, it will be a violation of 23CFR, Section 125
and potentially subject to legal challenge.

As a part of the EA provide copies of all annual time extensions approved by the
FHWA, including SNOCO documentation supporting the time extension
request.

Furthermore it has become clear that SNOCO, FHWA, USFS, and other agencies
have not made this project a priority over its non-emergency work. The schedule
presented at the open house indicated that the road would not be re-opened until
at least 2015 or nearly 9-years after the date of disaster.

As part of the EA, provide documentation of regular employee salaries and
overtime salaries and wages of all regular and extra employees of the applicant
directly engaged in the performance of work on this project that are eligible for
ER reimbursement. Timekeeping procedures should facilitate allocating
employees’ time to projects, and/or other activities, each day on an hourly basis.
A timekeeping document, such as time slip, time and attendance report, or time
book, must be available for examination by audit personnel to support direct
labor costs claimed on any ER project. A responsible employee having
knowledge that the time distribution is accurately reported should sign the
document.\footnote{Reference ER Manual, Page16, Chapter II, Paragraph B.17.a}
The same is also true of outside consultants hired to expedite this
project or supplement SNOCO staff efforts.

Clearly disclose all project funding sources including but not limited to
Emergency Relief Federal Highway funds, normal Federal Highway funds, funds
provided by SNOCO, and any other State or Federal funding sources. These
costs should document all funds expended on this project to date and the
estimated cost to complete the work broken down in sufficient detail to evaluate
the true costs of the project.

Provide a detailed Gant schedule chart detailing the work accomplished from the
2006 flood to date and then detailed out to the anticipated completion date.
Show all mile stones, work completed and note if it is ahead or behind schedule
the critical path.

Relocating the road up slope is clearly a “Betterment.” Betterments are not
generally eligible for ER funding unless justified. Raising roadway grades,
relocating roadways to higher ground or away from slide prone areas are considered protective feature betterments. The ER manual states:

"If a betterment involving an added protective feature is included in an ER repair project, the betterment may be considered eligible for ER funding if it can be economically justified based on an analysis of its cost versus projected savings in costs to the ER program should future ER-eligible disasters occur within the normal design year for the basic repair work. This cost/benefit analysis focuses solely on benefits resulting from estimated savings in future recurring repair costs under the ER program. The analysis does not include other factors typically included in highway benefit/cost evaluations, such as traffic delays costs, added user costs, motorist safety, economic impacts, etc."3

For this project show a detailed design quantity takeoff for all options with a benefit cost analysis as a part of the EA. Increased maintenance costs should be amortized into present value costs and deducted from the project benefit.

Include an option for not opening the road at all with seasonal use from the east.

As a part of the EA, provide a Full Drainage Report detailing exactly how flow control and enhanced water quality treatment will be provided for this project. If flow dispersion is used, show that a slope of 15% or less for 100 feet horizontally measured can be obtained for treatment; or provide vaults, ponds, or similar detention facilities. Use media filtration drains where possible. Limit stormwater costs by making the road single lane with turnouts for a design speed less than 15 mph. Consider using pervious concrete and other LiD techniques.

As a part of the EA, provide a detailed Stormwater Pollution Prevention Plan (SWPPP) detailing the extent and location of temporary erosion and sediment controls; and a Spill Prevention, Control, and Countermeasures (SPCC) Plan.

While I do not oppose re-opening the Index-Galena Road, I am opposed to the current road design configuration and currently proposed inadequate environmental mitigation. If the project cannot be constructed without significant adverse impact or if it must rely on ER funding, then the project should be terminated and this section of the road decommissioned.

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3Reference ER Manual, Page 26, Chapter II, Paragraph D.2.f
Please keep me informed on the status of this project, including report updates as they become available.

Sincerely,
LIDER ENGINEERING, PLLC

[Signature]

William Lider, PE, CESCL
 Principal Engineer

Attachment: Lider Comments 2June2011
July 26, 2012

Tina Hokanson, Communications
Snohomish County Public Works
300 Rockefeller Avenue, M/S 607
Everett, WA 98201

RE: Index-Galena Road Repair, Mile Post 6.4-6.9

Dear Ms. Hokanson:

We are providing follow up comments to our earlier scoping comments of February 12, 2012 and specifically seeking additional clarity regarding potential plans to install a new barrier on the Index-Galena road at mile 9.0. Such a barrier would preclude access to the whitewater resource that recently became available with the removal of the gate that blocked public access to the segment of the Index-Galena Road from mile 6.9 to 11.7.

As outlined in our earlier comments, the North Fork Skykomish is one of the highest quality whitewater runs in the entire region, and specifically the segment between mile 6.9 and mile 11.7 on the Index-Galena Road, with a world-wide reputation. In our survey of whitewater enthusiasts we found the North Fork Skykomish to be among the most popular (among the top 5) in the North Cascades rated as having outstanding recreational and aesthetic qualities of regional and national significance. The river is a State Scenic Waterway and has been recommended by the Forest Service for Wild and Scenic designation in part due to its significance as a recreational resource. The National Park Service identified the North Fork Skykomish as having Grade A qualities for whitewater recreation and listed it in the Nationwide Rivers Inventory in part for its recreational values. The river is one of two rivers in the state featured in the book World Whitewater, a guidebook to the world’s best whitewater. The river is clearly one of the most highly valued whitewater destinations in this region and members of our community were thrilled to once again have access to the run this spring with the removal of the gate that had blocked access to this popular whitewater run. While the current access that requires one to drive up the Beckler River and over Jack’s Pass is more time

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1 http://www.americanwhitewater.org/content/document/view/documentid/554/
2 http://apps.leg.wa.gov/rcw/default.aspx?cite=79.71.100
5 Nationwide Rivers Inventory. National Park Service http://www.nps.gov/ncrc/programs/rтика/nri/states/wa2.html
consuming than the access that was available before the washouts from mile 6.4 to 6.9, the primary stretch of whitewater is now accessible.

Given the value of this resource and our excitement at once again having it available, we were extremely disappointed to learn of the possibility that a new barrier would be installed that would severely limit access despite the fact that the entire section of road between mile 6.9 and 11.7 is now drivable. On July 2nd the following notice was sent to parties on the email distribution list for the project:

Good afternoon,

The gate that was at the eastern end of Index-Galena Road has been removed. The purpose of the gate was to prevent the public from accessing the camp grounds that were damaged by earlier flooding, and to prevent access to the damaged portions of Index-Galena Road.

Now that the campgrounds are repaired and open to the public and the County's road repair project at Mile Post 10.9 is completed, the Forest Service, in cooperation with Snohomish County, is reestablishing access to the National Forest lands along the North Fork Skykomish, Salmon Creek, and Silver Creek drainages, for general recreation dispersed camping, and the mineral claimants.

Currently a barricade has been placed across Index-Galena Road at Mile Post 9.0 to prevent vehicles from proceeding west into the damaged area.\(^7\)

On July 3rd, in response to an inquiry regarding the purposes of the new barricade at mile post 9.0, American Whitewater received a response that indicated that a barrier at mile post 9.0 had not been installed. In fact, Snohomish County was “still deciding on where to install the gate or some other type of barrier.”\(^8\) The response referenced reports of vandalism to the mitigation site at milepost 6.9 and a specific concern related to dragging boats through the restoration plantings.

On July 5th American Whitewater staff conducted a site visit. We found no evidence of damage to restoration plantings caused by dragging boats. In fact, the best river access continues to be the beach access that was historically used at the dispersed site adjacent to the existing road prism. The restoration plantings extend downstream from this point to the road washout, an area that is not attractive as a take-out.

On July 6th the following notice was posted to the Snohomish County Project page:

July 6, 2012: The locked gate has been removed from the eastern end of Index-Galena

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\(^7\) Email from Tina Hokanson, Communications Specialist, Snohomish County Public Works, July 2, 2012.

\(^8\) Email to Thomas O’Keefe from Criley Ritz, Snohomish County, July 3, 2012.
Road to allow access to National Forest lands for general recreation, dispersed camping and mineral claims along the North Fork Skykomish, Salmon Creek and Silver Creek drainage basins. Troublesome Creek Campground is now open. San Juan Campground is expected to open later this season. Access is currently available from the east to milepost 6.1, just short of where the road washout begins.9

We are optimistic that this more recent posting indicates that a new barrier at mile post 9.0 will not be installed. Our interest is in maintaining the newly restored vehicle access between mile 6.9 and mile 11.7 on the Index-Galena Road. This section includes the signature whitewater rapids of Let’s Make a Deal, Rooster Trail, El Nino, and the Minefield. A vehicle barrier at mile 9.0 would split this run in half making the lower portion inaccessible except by doing the long shuttle back over Jack’s Pass and coming up the road from the Index side to mile 6.1.

We wish to make the following requests:

- Please do not install a gate or other barrier at mile 9.0. Such a barrier would significantly impact whitewater recreational users. If a barrier or gate is being considered, we request that an opportunity be made for a site visit with representatives from American Whitewater before a decision is made.

- While we support stabilization of the site of the road washout and the initial restoration work and planting that has been done, we request that additional work be fully evaluated through the NEPA process. In particular, the existing road prism provides important public access to the river. Further removal of pavement or more extensive restoration work could preclude options to protect the historic access at this site that we believe needs to be fully evaluated as part of the environmental review process.

Thank you for taking these comments into consideration and we look forward to a response. We also request that these comments be placed in the administrative record for the project.

Sincerely,

Thomas O’Keefe, PhD
Pacific Northwest Stewardship Director

9 http://www1.co.snohomish.wa.us/Departments/Public_Works/Services/Roads/Projects/indexgalenard.htm
February 27, 2012

Tina Hokanson, Communications
Snohomish County Public Works
300 Rockefeller Ave., M/S 607
Everett, WA 98201

RE: Index-Galena Road Repair

Dear Ms. Hokanson,

The Mountaineers, the Wilderness Society, the Washington Trails Association, American Whitewater, Washington Wild, and the Sierra Club – Washington Chapter submit this letter regarding our support for the Index-Galena Road repair at mile post 6.4-6.9. We are pleased that the NEPA process is underway and believe the proposed repairs will serve the dual purpose of restoring recreational access while protecting the North Fork Skykomish River by moving the road out of the river migration zone.

All of our organizations were deeply involved in the development and passage of the Wild Sky Wilderness Act. Early on, as we reached out to local stakeholders on the Wild Sky proposal, it was clear local residents and recreation users valued the access provided by the Index-Galena Road. After the road washed out in 2006, we worked with the Forest Service, Snohomish County, Senator Murray and Congressman Larsen and others to adjust proposed wilderness boundaries along the road corridor to ensure that the need for continued road would not be impacted by the proposal.

The boundaries of the Wild Sky Wilderness were also drawn to protect the tributaries of the North Fork Skykomish River, which has been identified as suitable for Wild and Scenic designation under the Wild and Scenic Rivers Act. Because the repair project has the potential to impact the river's Wild and Scenic qualities, we encourage the planning team to consider management guidelines provided by the Forest Service Handbook. Specifically the free-flowing character of the river must not be modified, the outstandingly remarkable values must be protected, and classification status must be maintained. We believe that the project’s goal of moving the road corridor out of the river’s channel migration zone is generally consistent with guidance for projects along a suitable wild and scenic river.

The repair of the Index-Galena Road will restore access to low elevation multi-season recreational opportunities along the popular Skykomish River. The Index-Galena provides drive-in access to popular family destinations such as Troublesome Creek and San Juan Campgrounds, popular launch sites for world-class whitewater boating opportunities, and incredible hiking trails in the Wild Sky and Henry M. Jackson Wilderness Areas. These trails include:
• Blanca Lake Trail (#1052)
• Troublesome Creek Nature Trail (#1079)
• Quartz Creek Trail (#1050)
• North Fork Skykomish Trail (#1051)
• West Cady Ridge Trail (#1054)
• Silver Creek Trail

While these destinations may be reached by way of a long detour on Beckler Road (FS #65), the Index-Galena Road provides the logical route for visitors coming from the Puget Sound region, as well as a paved approach all the way to Troublesome Creek.

Our organizations value access to our public lands, while working to protect them for future generations. We support repair and enhancement of important access roads like the Index-Galena Road. At the same time, we also support decommissioning those Forest Service roads that do not provide planned recreational access, but carry high aquatic risk to our watersheds due to excessive maintenance costs. As members of the Washington Watershed Restoration Initiative, we have worked to advocate federal funding for the last four years to address these legacy roads through strategic repairs, stormproofing, and decommissioning to address water quality issues.

We believe that the proposed action can be carried forth in a manner that benefits aquatic resources, enhances the wild and scenic values of the river, and restores access to outstanding recreational opportunities within the North Fork Skykomish corridor. Thank you for the opportunity to provide scoping comments on this project, we look forward to being involved and supporting this work throughout the coming years.

Sincerely,

Martinique Grigg  
*Executive Director*  
The Mountaineers

Jonathan Guzzo  
*Advocacy Director*  
Washington Trails Association

Peter Dykstra  
*Director, Pacific Northwest Region*  
The Wilderness Society

Mark Lawler  
*National Forests Committee Chair*  
Sierra Club - Washington State Chapter

Tom Uniak  
*Conservation Director*  
Washington Wild

Thomas O’Keefe, PhD  
*Pacific Northwest Stewardship Director*  
American Whitewater
Washington State Chapter
3728 Woodlawn Ave. N.
Seattle, WA 98103
February 27, 2012

Tina Hokanson, Communications
Snohomish County Public Works
300 Rockefeller Ave., M/S 607
Everett, WA 98201

RE: Supplemental Scoping Comments on Index-Galena Road Project

Dear Ms. Hokanson:

On behalf of the Sierra Club’s 25,000 members in Washington State, I would like to provide comments on the above-referenced proposal that supplement those in our joint comment letter with The Wilderness Society and other conservation organizations.

Many of our members use the Skykomish Ranger District on the Mt. Baker-Snoqualmie National Forest, including the valley of the North Fork Skykomish River where the project is to take place. Our members enjoy the area’s pristine roadless areas, wilderness, wild rivers and streams, opportunities to fish, and the extensive trail system accessed from public roads. The proposal has the potential to affect these interests of our members and the public.

We very much appreciate that the County has scaled back the scope of the project to just a half-mile of reconstruction. This design will create far fewer impacts than the original concept of rebuilding the road over a much longer distance into undeveloped forests.

As mentioned in the joint comment letter, we fully support restoring public access on the Index-Galena Road. In addition, we ask that the County consider the following measures to further
Sierra Club supplemental scoping comments – Index Galena Road repair
Page 2

enhance and restore the floodplain, hydrologic function, and wildlife and fish habitat along the North Fork Skykomish River, and to protect its wild and scenic character:

1. Remove all abandoned sections of pavement, gravel, and riprap rock, and all structural items such as jersey barriers, guide rails, and culverts. Please attempt to remove pieces of pavement that have been washed downstream.

2. Re-grade areas of the old road alignment as needed to restore original contours and hydrological gradients. Note that some of the old alignment might now be in the Wild Sky Wilderness. Nevertheless, under wilderness management regulations the Forest Service can authorize mechanized equipment to restore wilderness character.

3. In disturbed areas, scarify soils and plant with native plants and trees of local provenance; please limit seeding of non-native grasses to sterile mixes, and instead focus on planting native species that will provide long-term erosion control and wildlife and fish habitat.

4. New road construction will cause environmental impacts. These impacts can be mitigated by identifying unneeded spur roads in the vicinity and closing them. These closures will improve wildlife and fish habitat and reduce the likelihood of trash dumping, which has been a real problem in this area.

5. Limit the paved width and clearing limits of the new segment to be similar to, or even narrower than, the rest of the Index-Galena Road. Please design for a speed limit of no more than 35 miles per hour.

6. Consider whether a single-lane segment with turnouts would be adequate for the typical traffic expected. If so, adjust the speed limit accordingly.

7. Among the two-lane road design options, please consider adopting design standards similar to those that the Federal Highway Administration is proposing for the Middle Fork Snoqualmie Road near North Bend. That proposal has gone through a long public review process, and FHWA has been fairly responsive to local citizens concerned about keeping the road’s quiet, low-speed, backcountry character.

8. Consider measures to minimize the break in hydrological continuity caused by building the road on the hill slope east of the river.

Thank you for considering our views on the project. We look forward to the next phase of the design and review process. Please keep the undersigned on the mailing list for this proposal.

Mark Lawler
National Forests Committee Chair
Sierra Club Washington State Chapter
Tel.: 206 632-1550
Email: mark.lawler@sierraclub.org
February 28, 2012

Tina Hokanson  
Snohomish County Public Works  
3000 Rockefeller Ave., M/S 607  
Everett, WA 98201

Dear Ms. Hokanson:

On behalf of Pilchuck Audubon Society’s 1100 members in Snohomish County, I submit these comments for the Index-Galena Road Project: Milepost 6.4 to 6.9. Pilchuck Audubon Society (PAS) has a longstanding interest in the watersheds of Snohomish County.

The Index-Galena Road is a historic transportation route. It has a long history of washouts, landslides and relocations. It has required considerable upgrades at public expense to maintain safe public access. PAS supports Snohomish County’s intent to reestablish access in the North Fork Skykomish River valley, if it restores, enhances and protects water quality and endangered species habitat, as well as public road access.

Visitors to the project site since the flood event in 2006 know there to be considerable challenges for any relocation away from the former road footprint. This was a matter noted during negotiations in January 2007, in moving the proposed Wild Sky Wilderness boundary for Snohomish County to eventually relocate the road.

PAS has consulted with other groups as to their thoughts about alternative locations and mitigations required for the alternatives considered by Snohomish County, to meet standards imposed by Federal Highways Administration (FHWA) and the State of Washington. We have reviewed the comments submitted by the Mt. Baker-Snoqualmie National Forest.

PAS finds the Forest Service analyses to suitably identify a range of issues to be addressed in the ongoing environmental review. We highlight a few of those of particular interest to us.

1) The matter of the road standard, most importantly how large or small of a new footprint should be used, is challenging with each alternative. PAS urges selection of the smallest possible footprint. The road on both sides of the project was apparently designed to 40 miles-per-hour use (35 mph posted). We see no need to build this relocation to a higher standard or to higher speed. We understand that FHWA initially wanted a standard for 50 mph at perhaps 40 mph speed. It is our understanding the Washington State Department of Transportation and FHWA can deviate a bit from newer standards, and have done so elsewhere. We strongly encourage a design for no more than 40 miles-per-hour standard and 35 mph speed limit is done for this project.
2) Removal of the remains of the road now in the river channel will occur. The Mt. Baker-Snoqualmie National Forest Land Management Plan recommends this portion of the river be suitable for congressional designation as a “recreation river” under the National Wild and Scenic River Act of 1968. Removal of the remaining segments of the roadway which will have no further purpose, to include the constructed embankment, apparently requires further analysis. Any culverts and other structural items should be removed. We strongly request this all be done in a way to not impair continued suitability for the “recreation river” designation.

3) Use native plants only for revegetation! Where temporary grass cover is needed, use native seed if available; otherwise use non-native but sterilized seed in mixes. Our roads have become important vectors by which invasive species and noxious weeds move into our national forests. Please take defensive measures in the construction area and consider use of weed-free soil and rock imported to the site. Inspect equipment prior to entering the site, to prevent invasive and noxious weeds being transported to the project site.

4) Loss of Northern Spotted Owl and Marbled Murrelet habitat under some of the alternatives is a worrisome issue, given requirements in the amended Mt. Baker-Snoqualmie National Forest Land Management Plan. We strongly discourage loss of habitat for these birds whose populations continue to decline in Washington State.

5) The Aquatic Conservation Strategy (ASC) comes into play here. It appears that FHWA does not require its consideration for this project. We do ask that an ACS analysis be conducted. Lack of ACS analyses elsewhere has led to delays in highly desirable public projects. Public access has been denied on this road since 2006, and should not be further delayed due to this oversight.

PAS appreciates the opportunity to comment on this beneficial project. It reopens a popular public drive in Snohomish County. It restores easier access to public lands, trailheads, and to popular campgrounds also damaged by the 2006 floods which can now be repaired. It reopens access to launch sites for personal and commercial whitewater boaters. This is one of the state’s more popular whitewater sports sites.

I request that I, at the letterhead address for Pilchuck Audubon Society, be placed on your project public notification list, to receive future notices and reports about the Index-Galena Road Project.

Thank you.

Sincerely,

/s/

Allen Gibbs
Chair, Conservation Committee
Pilchuck Audubon Society
agibbspr@gmail.com
425-338-5466
Crilly Ritz, Senior Planner  
Snohomish County Public Works  
3000 Rockefeller Avenue, M/S 607  
Everett, WA  98201-4046

Re: Concurrence with Section 4(f) findings for Index-Galena Road M.P. 6.4-6.9 relocation project

Dear Mr. Ritz,

This letter is in response to your letter of April 6, 2016 that documented the applicability of Department of Transportation Act of 1966 Section 4(f) requirements to the Index-Galena Road relocation project, and whether a Section 4(f) protected property on National Forest System land would be used for this Federal Highway Administration-funded project.

Based on land management allocation information the Forest Service provided from the Mt. Baker-Snoqualmie Land and Resource Management Plan, as Amended (1990 Forest Plan) and analysis and findings from pertinent resource discipline reports supporting the Draft Environmental Assessment, I concur with conclusions that the Index-Galena road relocation project would not use a Section 4(f) property:

- There is no formally designated public park or recreation area of national, state, or local significance. Forest Plan land allocations within the Project Area are Recommended Recreation River, Timber Management, and Deer and Elk Winter Range, in which the lands are managed for multiple resources and may be used informally for public dispersed recreation. The 1990 Forest Plan also recommended a portion of the North Fork Skykomish River, which is adjacent to the project area, as a candidate for inclusion in the National Wild and Scenic River system as a Recreation River, but it was not designated or identified as a Study River, nor is it being considered at this time.
- There is no publically owned wildlife and waterfowl refuge of national, state or local significance that is open to the public.
- There is no historic site of national, state, or local significance in public or private ownership regardless if it is open to the public.

If you need other information or have any questions, please contact project liaison Eric Ozog at 360-691-4396 or email at eo ozog@fs.fed.us.

Sincerely,

\[Signature\]

JOSEPH R. NEAL  
District Ranger
April 6, 2016

Mt. Baker-Snoqualmie National Forest
Skykomish Ranger District
ATTN: Joseph Neal, District Ranger
P.O. Box 305
Skykomish, WA 98288

RE: Index-Galena Road Milepost 6.4-Milepost 6.9 - 4(f) Applicability (RC 1532)

Dear Mr. Neal:

Snohomish County Public Works has coordinated extensively with U.S. Forest Service staff as part of interdisciplinary team (IDT) efforts to identify key environmental issues to address in NEPA documentation for the proposed Index-Galena Road Milepost 6.4-Milepost 6.9 project. These ongoing coordination efforts began in July 2011 with the inaugural IDT meeting held at the Skykomish Ranger District offices. Follow-up interagency meetings were held in October and November 2011 here at Snohomish County Public Works offices, and have continued to the present with field work and preparation of reports for NEPA documentation.

One of the key issues identified early on was the need to determine applicability of Section 4(f) requirements for the proposed project. Although Section 4(f) requirements are codified at 23 U.S.C. Section 138 and 49 U.S.C. Section 303, the requirements regarding its applicability remain commonly referred to as Section 4(f) because of its origin in Section 4(f) of the Department of Transportation Act of 1966. The specific regulations for the Federal Highway Administration (FHWA), the project’s lead federal agency, are codified at 23 CFR Part 774 – Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Site.

The statute specifies that Section 4(f) applies when a U.S. DOT agency approves a transportation program or project that uses Section 4(f) property. FHWA’s approvals apply specifically to projects rather than programs. For the statute to apply to a proposed project, there are three conditions that must be met:

- The project must require an approval from FHWA to proceed
- The project must be a transportation project
- The project must require the use of land from a property protected by Section 4(f)

Section 4(f) requires consideration of:

1. Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public
2. Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge, and
3. Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public
Through coordination with U.S. Forest Service staff, it was determined that the following applicable land management allocation designations are currently in place in the project area as provided for by the Mt. Baker Snoqualmie National Forest Plan:

- 5A Recommended Recreation Rivers
- 17 Timber Management Emphasis
- 145A Deer and Elk Winter Range, Recommended Recreation River

It was further determined that the land management allocations identified above are consistent with the Mt. Baker Snoqualmie National Forest Plan’s management for multiple use. Section 4(f) policy and regulations require coordination with the official(s) of jurisdiction to determine Section 4(f) applicability when there are multiple-use properties affected. More specifically 23 CFR 774.11 (d) states:

(d) Where Federal lands or other public land holdings (e.g., State forests) are administered under statutes permitting management for multiple uses, and, in fact, are managed for multiple uses, Section 4(f) applies only to those portions of such lands which function for, or are designated in the plans of the administering agency as being for, significant park, recreation, or wildlife and waterfowl refuge purposes. The determination of which lands so function or are so designated, and the significance of those lands, shall be made by the official(s) with jurisdiction over the Section 4(f) resource. The Administration will review this determination to assure its reasonableness.

The following conclusions were developed as part of the project’s coordination:

- There are no formal designations for recreation in the project area and there are no formally designated recreation areas such as campgrounds, picnic areas, boat ramps, or trails/trailheads. While dispersed recreation is an allowed use in the project area, it is part of an area administered for multiple purpose management, and this does not constitute a major purpose for Section 4(f) applicability.
- Portions of the project area are adjacent to the North Fork Skykomish River, was studied for potential Wild and Scenic River (WSR) designation in the Final Environmental Impact Statement for the Mt. Baker-Snoqualmie National Forest Plan. The river segment adjacent to the project area was found to be suitable and recommended for designation as a Recreation River. Section 4(f) applicability for Wild and Scenic Rivers is limited to rivers and the adjacent area within the boundaries of a component of the National Wild and Scenic Rivers System (National System), pursuant to Section 3 (a) and 2 (a) (ii) of the National Wild and Scenic Rivers Act (WSRA) (36 C.F. R. 297.3). Accordingly, significant publicly owned recreation areas in a WSR corridor are subject to Section 4(f). The Wild and Scenic River designation also applies to designated “Study Rivers.” Recreation issues associated with the river’s recommendation for a Wild and Scenic River were evaluated as part of the project’s NEPA process. However, its review was to determine consistency with U.S. Forest Service management requirements to manage this land area as if it was a designated river. These review requirements prohibit any activities that would or could potentially change the area from being designated. Based on the river’s current status, it was concluded that significant publicly owned recreation areas are not located in the project area because the project area is not included as a component of the National System nor is it identified as a Study River at this time. Accordingly, the recommended recreational river status does not constitute a major purpose for Section 4(f) applicability.

In summation, we conclude that there are no Section 4(f) recreation resources in the project area. Additionally, we have also concluded that based on field investigations and other background research conducted as part of NEPA document preparation efforts that there are no publicly owned wildlife and waterfowl refuges of national, state, or local significance or historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public located in the project area. Consequently, there are no Section 4(f) resources requiring Section 4(f) documentation or review.
Snohomish County Public Works requests that you review the above findings with regard to Section 4(f) applicability. Please provide a reply whether you concur with these determinations.

If you need more information or have questions about the proposed project, you can contact me at (425) 388-3488, extension 4586 or via e-mail at crilly.ritz@snoco.org.

Sincerely,

Crilly Ritz, Senior Planner
Snohomish County Public Works - Environmental Services

cc: Larry Brewer, P.E., Project Manager, Engineering Services
    Doug McCormick, P.E., Environmental Services Manager
Tom, thank you for your comments. I will contact the County road maintenance dept. about moving the gate downstream this spring so the rafters, campers and mineral claimants can access their areas again without having to deal with the gate. Also, we are planning to schedule a field trip this spring with the County to look at mitigation options for removing sections of the damaged road prism from the river and replanting. At that meeting we can also discuss options for retaining recreational access to the river at MP 6.9. I’ll let you know when we get closer to scheduling a field trip.

Eric Ozog - Realty Specialist
USFS Verlot Public Service Center
33515 Mountain Loop Highway
Granite Falls, WA 98252
360-691-4396

Eric,

I am sure these comments will be logged in as part of the formal NEPA process as I have sent this letter directly to Tina but I wanted to send a copy to you and highlight two issues:

1) It would be extremely helpful to have the gate moved down to mp 10.5 so rafters can once again access the run. It will see limited use given the long shuttle over Jack’s Pass but having this alternative available is very important to our members.

2) Without doing a site tour I can’t tell exactly whether the proposed alignment bypasses the historic take-out at mp 6.9 but it appears that it might. Having public access to the river in this vicinity is important—the access at Trout Creek is privately owned. This could be a simple matter of retaining a short spur of the existing road but I think we need to do a site tour to see what is possible. I would like to set a time this spring or early summer to investigate this option with you and appropriate project staff. If a site tour comes together could you please let me know.

Thanks,

Tom

Thomas O’Keefe, PhD
Pacific Northwest Stewardship Director
American Whitewater
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From: Dace Campbell [mailto:dace.campbell@gmail.com]
Sent: Sunday, February 26, 2012 9:27 PM
To: Ritz, Crilly; Hokanson, Tina
Cc: Susan Campbell
Subject: Fwd: Index-Galena Rd NEPA EA scoping comment period

Mr. Crilly and Ms. Hokanson:

Thank you for sharing the latest information about the repair project for the Index-Galena Road, and for soliciting the feedback of homeowners and property owners like myself affected by the road closure. Although I missed the open house, we are pleased to review and learn so much repair work has been accomplished to the road in recent years -- thank you for providing the materials on-line to make such a review possible.

We have also read of the proposed delay to the completion of the project, previously scheduled to be COMPLETED by 2015, now only slated to BEGIN CONSTRUCTION at that time. This is extremely frustrating for us homeowners, as I'm sure it must be for you. This project is already well into it's sixth year, and we fear we are only at the half-way point in the total project timeline! We know this has been asked previously, but we must re-state: what, if anything, can you as the county or us as homeowners do to expedite the construction schedule? Is there any communication we can offer to local or national legislators to urge an expedited review period or a more aggressive project schedule?

As for comments regarding what we think should be addressed as part of the NEPA environmental review process: THE ABSOLUTE MINIMUM. That is, we trust the county completely to take appropriate action to protect the natural habitat when completing this repair project, and don't want you to waste more time completing further reports, reviews, surveys, analyses, studies, and permit applications. We want to stress that this is a REPAIR project of an existing, damaged two-lane road that has been running across the land for decades, and is not a "new" proposed road that merits intense scrutiny or a long permitting process. Execution of this project will have a minimal impact to the overall environment, and its completion will offer the only access through/into the wilderness area that is desperately needed.

On a more personal note, our home and property are rapidly falling into disrepair, as are many in the neighborhood behind the road closure, and this is a direct result of the limited access we currently have over Jack's pass. We cannot effectively maintain our homes and transport the necessary construction materials over the current, limited route, and because of this we want to see the project completed as soon as possible. Please do what you can to avoid any further delay in the completion of the project. The value of our precious property is at risk with every season the project completion is delayed.

Thank you again for soliciting these comments, and please do not hesitate to contact us for further discussion.

Dace and Susan Campbell
(206) 331-9232
I am a long term property owner affected by the washout. I do not understand why the county waited so long to get these reports done. By extending the time on reopening the road is causing a hardship on the property owners. Having to drive Jack Pass is wearing and tearing on our vehicles, not to mention the risk we take every time we drive that road. What is going to be done about Jack Pass during the time it is going to take to complete the washout road.? The year that the bypass road around Garland was constructed it was said that Jack Pass was to be paved at the same time. What ever happened then?

We have seen where the new placement of the road will be and from my experience up there in about 5 years the road will flood again. As I said we are long term owners, 38 years to be exact. We have seen that road do all kinds of things. Actually if the dike would of been replaced in 1975 all of these flood damage would not of occured. Every one making the decisions on this road should drive their personal vehicles over Jack Pass so you would have a comprehesion of what we have to endure.

Thank you
Good morning,

Thank you for taking the time to write to us about the Index-Galena project. Your comments will be included in the NEPA EA process.

Best regards,
Tina Hokanson
Communications Specialist II
Snohomish County Public Works MS607
3000 Rockefeller
Everett, WA 98201
425.388.3789

From: Jimmy & Courtney [mailto:j_c_nipper@comcast.net]
Sent: Friday, February 03, 2012 7:10 PM
To: Hokanson, Tina
Subject: North Fork Skykomish Road Repair

Hello Ms. Hokanson,

We are writing in response to the proposed road repair along the North Fork of the Skykomish River. We used to frequent this area often. Both my husband and I whitewater kayak and live in the Monroe area so this was one of our favorite runs. We are also avid hikers. Just before the road washed out, I gave birth to two children who were then 6 months and 2 years old. We would take them up there and hike around whether it was summer or winter and looked forward to taking them on more hikes when they got older and could explore. Now they are at the age to do all of these fun things but we can't take them because we can't get past the wash out. We can't paddle there either. This area is right in my "backyard" and we would really love to be able to show our children all that it has to offer as well as be able to finally get back on a great stretch of river again. It's a classic run and one that has really been missed. Please consider fixing this road and cleaning up the debris. It would mean so much to our family.

Thank you,
The Nipper's
(Jimmy, Courtney, Andy and Katey)
Good morning Rick,

Thank you for your comments. These will be included in the NEPA EA process and are being forwarded to the project team. We are looking into how and when to move that gate. The Forest Service has been repairing a camp site beyond the gate and will reopen it this year. I will send out an e-mail when I know more.

Best,
Tina Hokanson
Communications Specialist
Snohomish County Public Works MS607
3000 Rockefeller
Everett, WA 98201
425.388.3789

Tina,

I wish to comment on road repairs along the NF Skykomish river. I'm a local Washingtonian and a river kayaker. I have in the past spent many a day with friends on this stretch of river. It is truly a beautiful and fun stretch. It is a valuable regional waterway for multiple uses, and should become a wild and scenic river.

A few thoughts:

- River access at several points is important: From upstream over jack's Pass to mile 11.7, at mile 10.9 (rooster Tail) or 10.5 at bridge.
- Remove the gate from upstream until repairs are done.
- Move the road out of the channel migration zone. This will provide a more sustainable road and enhance river based values.
- Please remove road debris from the river; this can be a river hazard.
- Please look at opportunities to allow river access at mile 6.9, a historic take-out from the river. I believe that is by passed by the current proposal.

Thanks much
Enjoy your rivers,
Rick Schoen
Mr Crilly R. Ritz

I would like to apologize for the omission, Thanks for the meeting and reminder to get in my comments. It is imperative that the project goes ahead with all hast as you know we are having access problems further north, with the Index Galena road unusable it is 45min more one way from Bryant. With the bottle neck in the Sultan Gold Bar area it is that much more of a problem with stock during summer season.
As you know the Cascade Chapter and the Trail Dusters Chapter of BCHW have several work parties in the Benchmark area each year, thus the time and added fuel costs to get there mount up.
I appreciate your work and dedication on the project.
Thanks. Everett Lewis

On Thu, Feb 23, 2012 at 9:47 AM, Ritz, Crilly <spwerr@co.snohomish.wa.us> wrote:

Everett Lewis:

In looking through the scoping comments that came in I did not see one submitted from you or your fellow horse recreationists. Were you planning to send in comments identifying what you wanted to have addressed in the NEPA document with regard to recreation access for horses? At the meeting you identified several issues regarding the existing access situation using Beckler River Road and what you wanted to have addressed in the document. While I can attempt to summarize these comments, it would be best to get them directly from the horse recreationists.

Crilly R.Ritz, Senior Environmental Planner
Transportation and Environmental Services
Snohomish County Public Works
3000 Rockefeller Avenue M/S 607
Everett, WA. 98201

(425) 388-3488 Ext. 4586
Hi Judy,

Thank you for taking the time to consider what might be needed for this project. The official NEPA comment period ended, but we accept all comments for the project team to put into the mix and consider during the planning of this project. Plantings and erosion control are two important considerations that will be included.

Best regards,
Tina Hokanson
Communications Specialist
Snohomish County Public Works M5607
3000 Rockefeller
Everett, WA 98201
425.388.3789

--- Original Message ---
From: "Hokanson, Tina"
Sent: Feb 23, 2012 4:17 PM
To: undisclosed-recipients@null, null@null
Subject: Index-Galena Rd NEPA EA scoping comment period ends Feb 29
<!-[if !supportLineBreakNewLine]->
<!-[endif]-->

Good afternoon,
The NEPA EA scoping comment period for the Index-Galena Road project will end next week on February 29, 2012. The purpose of the scoping comment period is to give you the opportunity to offer written comments about what you think should be addressed as part of the NEPA environmental review process. For more information visit the project Web page.

Comments must be in writing and postmarked or e-mailed by February 29, 2012 to:

Crilly Ritz, Sr. Environmental Planner  
Snohomish County Public Works, M/S 607  
3000 Rockefeller Ave.  
Everett, WA 98201-4046  
crilly.ritz@snoco.org

or

Tina Hokanson, Communications  
Snohomish County Public Works, M/S 607  
3000 Rockefeller Ave.  
Everett, WA 98201-4046  
tina.hokanson@snoco.org

Thank you,  
Tina Hokanson
Index-Galena Road Open House – Feb. 1, 2012

Thank you for attending tonight's NEPA Scoping Meeting. We welcome your comments.

1. What should be considered during the NEPA Environmental Assessment process for the Index-Galena Road project? The comment period is Feb. 1-29, 2012.

Some of the issues that will be addressed in the environmental documentation include: the river, wildlife, fish, vegetation, recreation, visual quality, public access, emergency access, history, culture, archaeology, social and economic impacts, soils, drainage, wetlands, and water quality.

Please submit comments and suggestions in writing. You may provide comments about any of the issues listed above, or something else that is not listed. We appreciate your input.

Thanks for hosting another open house. Info displays were good. It would be nice if you had more printed materials to give out. More details on the project timeline. Also, let us know if we can contact any other agencies to perhaps move along the process. Thanks for the work you've done on Index-Galena so far.

Also, about Eicher Rd - from Index West - what's the status on that project? When will the road be repaired enough to allow traffic through? It's a vital road! Allows access to Gold Bar.

2. What is your interest in the project?

☐ I am a property owner affected by the washout
☒ I am a resident of the Town of Index
☐ I own or operate a business that provides a service for visitors
☐ Other ______________________________

3. How did you learn about the meeting?

☒ I received an e-mail
☒ I received the January 2012 newsletter
☐ I saw an article in the Herald
☐ I saw a notice on the Town of Index Web site
☐ I saw the announcement on the project Web page
☐ Other ______________________________

4. What worked well; how can we improve for the next meetings?

Please circle answer: 5=Excellent; 1=Inadequate

Notice of the meeting   5   4   3   2   1
Printed materials   5   ☒   3   2   1
Meeting format   5   ☒   3   2   1
Graphic displays   5   ☒   3   2   1
Project description   5   ☒   3   2   1

Name: Nora Davis
Address: PO Box 214, Index, WA 98256
E-mail: index@id1109@gmail.com

Thank you for your comments

Please place comments in the box at the check-in table or fold this mailer, seal and mail comments by February 29, 2012.
(Comments continued...) 

There is a problem on Wing 2. Please let me know an idea of when it is scheduled to be repaired.

Thank you!
Index-Galena Road Open House – Feb. 1, 2012

Thank you for attending tonight’s NEPA Scoping Meeting. We welcome your comments.

1. What should be considered during the NEPA Environmental Assessment process for the Index-Galena Road project? The comment period is Feb. 1-29, 2012.

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☐ I am a property owner affected by the washout
☐ I am a resident of the Town of Index
☐ I own or operate a business that provides a service for visitors
☐ Other

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☐ Other

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Printed materials 5 4 3 2 1
Meeting format 5 4 3 2 1
Graphic displays 5 4 3 2 1
Project description 5 4 3 2 1

Name RANDY SCHRODER
Address 5NOHOMISH, WA
E-mail RT+LOP.B.COM

Thank you for your comments
Please place comments in the box at the check-in table or fold this mailer, seal and mail comments by February 29, 2012.

(Use back side if needed.)
1. What should be considered during the NEPA Environmental Assessment process for the Index-Galena Road project? The comment period is Feb. 1-29, 2012.

Some of the issues that will be addressed in the environmental documentation include: the river, wildlife, fish, vegetation, recreation, visual quality, public access, emergency access, history, culture, archaeology, social and economic impacts, soils, drainage, wetlands, and water quality.

Please submit comments and suggestions in writing. You may provide comments about any of the issues listed above, or something else that is not listed. We appreciate your input.

2. What is your interest in the project?
- [ ] I am a property owner affected by the washout
- [ ] I am a resident of the Town of Index
- [ ] I own or operate a business that provides a service for visitors
- [ ] Other _______________

3. How did you learn about the meeting?
- [X] I received an e-mail
- [ ] I received the January 2012 newsletter
- [ ] I saw an article in the Herald
- [ ] I saw a notice on the Town of Index Web site
- [ ] I saw the announcement on the project Web page
- [ ] Other _______

4. What worked well; how can we improve for the next meetings?

Please circle answer: 5=Excellent; 1=Inadequate

Notice of the meeting 5  4  3  2  1
Printed materials 5  4  3  2  1
Meeting format 5  4  3  2  1
Graphic displays 5  4  3  2  1
Project description 5  4  3  2  1

Name  KEith Peter
Address  P.O.Box 190 Skykomish
E-mail  Keithpeter@yahoo.com

Thank you for your comments
Please place comments in the box at the check-in table or fold this mailer, seal and mail comments by February 29, 2012.
1. What should be considered during the NEPA Environmental Assessment process for the Index-Galena Road project? The comment period is Feb. 1-29, 2012.

Some of the issues that will be addressed in the environmental documentation include: the river, wildlife, fish, vegetation, recreation, visual quality, public access, emergency access, history, culture, archaeology, social and economic impacts, soils, drainage, wetlands, and water quality.

Please submit comments and suggestions in writing. You may provide comments about any of the issues listed above, or something else that is not listed. We appreciate your input.

2. What is your interest in the project?

☐ I am a property owner affected by the washout
☐ I am a resident of the Town of Index
☐ I own or operate a business that provides a service for visitors
☐ Other

[Handwritten: I am a county resident who has accessed this area for 50+ years]

3. How did you learn about the meeting?

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☐ I received the January 2012 newsletter
☐ I saw an article in the Herald
☐ I saw a notice on the Town of Index Web site
☐ I saw the announcement on the project Web page
☐ Other

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<td>Project description</td>
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</table>

Name: Jim Stiles
Address: 205 Skywall Dr., Sultan, WA 98294
E-mail: jim@jimstilesphotos.com

Thank you for your comments
Please place comments in the box at the check-in table or fold this mailer, seal and mail comments by February 29, 2012.
Index-Galena Road Open House – Feb. 1, 2012

Thank you for attending tonight's NEPA Scoping Meeting. We welcome your comments.

1. What should be considered during the NEPA Environmental Assessment process for the Index-Galena Road project? The comment period is Feb. 1-29, 2012.

Some of the issues that will be addressed in the environmental documentation include: the river, wildlife, fish, vegetation, recreation, visual quality, public access, emergency access, history, culture, archaeology, social and economic impacts, soils, drainage, wetlands, and water quality.

Please submit comments and suggestions in writing. You may provide comments about any of the issues listed above, or something else that is not listed. We appreciate your input.

2. What is your interest in the project?
   - [ ] I am a property owner affected by the washout
   - [ ] I am a resident of the Town of Index
   - [ ] I own or operate a business that provides a service for visitors
   - [ ] Other

3. How did you learn about the meeting?
   - [ ] I received an e-mail
   - [ ] I received the January 2012 newsletter
   - [ ] I saw an article in the Herald
   - [ ] I saw a notice on the Town of Index Web site
   - [ ] I saw the announcement on the project Web page
   - [ ] Other

4. What worked well; how can we improve for the next meetings?

Please circle answer: S=Excellent; 1=Inadequate

Notice of the meeting: 5 4 3 2 1
Printed materials: 5 4 3 2 1
Meeting format: 5 4 3 2 1
Graphic displays: 5 4 3 2 1
Project description: 5 4 3 2 1

Name: [Signature]
Address: [Address]
E-mail: [Email]

Thank you for your comments
Please place comments in the box at the check-in table or fold this mailer, seal and mail comments by February 29, 2012.

(Use back side if needed.)
1. What should be considered during the NEPA Environmental Assessment process for the Index-Galena Road project? The comment period is Feb. 1-29, 2012.

Some of the issues that will be addressed in the environmental documentation include: the river, wildlife, fish, vegetation, recreation, visual quality, public access, emergency access, history, culture, archaeology, social and economic impacts, soils, drainage, wetlands, and water quality.

Please submit comments and suggestions in writing. You may provide comments about any of the issues listed above, or something else that is not listed. We appreciate your input.

2. What is your interest in the project?

☐ I am a property owner affected by the washout
☐ I am a resident of the Town of Index
☐ I own or operate a business that provides a service for visitors
☒ Other: Mining claim approx. 9 miles

3. How did you learn about the meeting?

☐ I received an e-mail
☐ I received the January 2012 newsletter
☐ I saw an article in the Herald
☐ I saw a notice on the Town of Index Web site
☐ I saw the announcement on the project Web page
☒ Other: From County office in Everett

4. What worked well; how can we improve for the next meetings?

Please circle answer: 5=Excellent; 1=Inadequate

Notice of the meeting 5 4 3 2 1
Printed materials 5 ☒ 3 2 1
Meeting format 5 ☒ 3 2 1
Graphic displays 5 ☒ 3 2 1
Project description 5 ☒ 3 2 1

President, Bedrock Prospectors

Name: Richard Holcomb

Address: 154 5, 136th st nr 15th, Tacoma, WA, 9844

E-mail: PHolcomb2@Aol.com

Thank you for your comments

Please place comments in the box at the check-in table or fold this mailer, seal and mail comments by February 29, 2012.
Note:
The following was posted to the project’s website in June 2012 after the February 1, 2012 NEPA Scoping comment period was concluded.

Index-Galena Milepost 6.4-6.9 NEPA Scoping Comments and Responses to Comments

Index-Galena Milepost 6.4-6.9 NEPA Scoping Open House Public Meeting

Snohomish County Public Works hosted a NEPA Scoping Open House public meeting on February 1, 2012 at Park Place Middle School in Monroe. The purpose of the meeting was to accept public comment on what issues should be addressed in the NEPA Environmental Assessment (NEPA EA) and studies that would be prepared in support of the NEPA EA. Snohomish County staff assigned to the project were available to accept comments and answer questions about the proposed Index-Galena Milepost 6.4-6.9 project.

County staff in attendance included the project’s engineering design team, geotechnical, communications and environmental staff members. U.S. Forest Service staff members also attended the meeting and were available to answer questions. A total of 21 citizens signed in at the meeting. Project-related hand outs were provided, along with Title VI forms in Spanish and English. The exhibits provided information related to the preliminary proposed project design, including background information related to the project location, project work completed to date, project schedule, and environmental compliance requirements.

Six attendees completed comment forms at the meeting. An additional twelve comments were submitted by e-mail or through e-mail attachment letters after the meeting. Written comments ranged from those that were very specific to the proposed project’s potential environmental effects to those that were unrelated to the NEPA environmental review process.

Coordination on review of comments

The project team expresses its thanks to all who attended the public scoping meeting and to those who provided scoping comments for consideration. After the scoping comment period ended, the project team coordinated with Federal Highway Administration, U.S. Forest Service and the Washington State Department of Transportation to review public comments received during the NEPA EA scoping comment period. The comment period extended from February 1, 2012 to February 29, 2012.

All comments were evaluated in an effort to more fully identify potential environmental effects associated with the proposed action. These comments assist the project team in identifying potential effects that may not have been identified previously by the interdisciplinary team (IDT) assigned to the Index-Galena Road 6.4-6.9 project. Determinations of which issues would be addressed in the NEPA EA were based on the guidance provided in Council on Environmental Quality (CEQ) regulations at 40 CFR 1501.7 Scoping.
Responses to Scoping Comments

Responses to scoping comments are provided below. In some cases multiple comments that are similar in scope are addressed in a single response. Responses are first provided to what were determined to be significant issues. Responses are then provided for what were determined to be non-significant issues.

Significant Issues

Significant issues are used to develop the scope of analysis to be included in the NEPA EA and supporting documentation, identify environmental effects, and identify mitigation measures. Issues may be potentially significant due to their physical extent, the duration of their effects, or the intensity of public interest or resource conflict.

Some of the potentially significant issues identified for this project include:

**Issue #1 – Include an option for not opening the road at all with seasonal use from the east.**

The No-Action Alternative will be addressed in the NEPA EA.

**Issue #2 – Without doing a site tour I can’t tell exactly where the proposed alignment bypasses the historic take-out at mp 6.9 but it appears that it might. Having public access to the river in this vicinity is important—the access at Trout Creek is privately owned. This could be a simple matter of retaining a short spur of the existing road but I think we need a site tour to see what is possible.**

Recreation issues, including river access, will be addressed as part of the NEPA analysis. The analysis will include an evaluation of the potential for recreation access in proximity to the roadway washout near Milepost 6.9.

**Issue #3 – At the minimum, your environmental impact study should include an alternative, recreational only narrow road replacement, comparing its cost and reduced environmental impact with the other alternatives... Limit the paved width and clearing limits of the new segment to be similar to, or even narrower than, the rest of the Index-Galena Road. Please design for a speed limit of no more than 35 miles per hour...Consider whether a single-lane segment with turnouts would be adequate for the typical traffic expected. If so, adjust the speed limit accordingly.**

Several of the comments that were received identified concerns about the proposed relocated road being different in character than the existing road and expressed a desire to have the project consider designing a narrower road. The project team will coordinate with approval authorities to determine if design standards can be modified that would result in a narrower overall roadway cross-section (travel lanes, roadway shoulders) that would match into the existing roadway and...
still meet standards for a roadway designed for 40 miles per hour and posted at 35 miles per hour. The project does not propose to evaluate a recreation only narrow road replacement alternative in the NEPA EA. Such a road would not serve the project’s purpose and need which is to construct a roadway that restores essential travel and serves the needs of all roadway users including emergency service providers and other vehicle types requiring roads adequately designed to accommodate them.

Issue # 4 What’s the actual title of the funding source within Federal Highways?

There has been confusion about the source of federal funding for the proposed project. The project’s source of federal funding, the Emergency Relief (ER) program administered by the Federal Highway Administration Federal Aid program will be explained in the NEPA EA. The ER program was authorized by Congress in Title 23, United States Code, Section 125 as a special program from the Highway Trust Fund for the repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of natural disasters or catastrophic failures from an external cause. This program helps to supplement the commitment of resources by States, their political subdivisions (i.e., cities and counties) or other Federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

Issue # 5—River access at several points is important: From upstream over Jack’s Pass to mile 11.7, at mile 10.9 (rooster Tail) or 10.5 at bridge. Remove the gate from upstream until repairs are done.

Recreation issues will be addressed as part of the NEPA analysis. The analysis will include an evaluation of the potential for recreation river access in proximity to the roadway washout near Milepost 6.9 and will discuss how other access issues out of the immediate project area would be affected by the proposed project. Removal of the gate on Index-Galena Road is not planned until Index-Galena Road is re-opened for through access. However, Snohomish County will coordinate with the U.S. Forest Service to relocate the gate now that the Index-Galena Road Milepost 10.9 repair has been completed. The gate will be moved farther downstream from its Winter 2011-2012 location. The gate’s relocation will enable seasonal vehicular access via Jack’s Pass to the San Juan and Troublesome Creek campgrounds and there is a potential for the gate to be installed downstream from Milepost 10.5.

Issue # 6 —Move the road out of the channel migration zone. This will provide a more sustainable road and enhance river based values.

The NEPA EA will discuss the proposed roadway alignment in detail. While one of the principal design goals is to remove the road from the Channel Migration Zone (CMZ) to the degree practicable, the ultimate roadway alignment may be partially located within the CMZ to minimize the amount of clearing and ground disturbance that would be associated with
placement further upslope on the adjacent forested steep slope where geologic conditions and effects to habitat, wildlife, and watershed resources may prove to be unfavorable.

**Issue #7** — Please remove road debris from the river; this can be a river hazard...Remove all abandoned sections of pavement, gravel, and riprap rock, and all structural items such as jersey barriers, guide rails, and culverts. Please attempt to remove pieces of pavement that have been washed downstream.

The project is evaluating the removal of road debris from the river that would be part of the effort to restore more natural river conditions to the area where the existing damaged roadway is located. Some road debris is located in portions of the river where high flow velocities and side channel crossing may present challenges for equipment access. The short and long term effects of removing this debris that requires in-water work will be evaluated in the NEPA EA.

**Issue #8** — *We cannot effectively maintain our homes and transport the necessary construction materials over the current, limited route and because of this we want to see the project complete as soon as possible. Please do what you can to avoid any further delay in the completion of the project. The value of our precious property is at risk with every season the project completion is delayed.*

Part of the identified project purpose and need is to restore vehicle access to residential property. This will be included in the NEPA EA. While efforts are being made to move forward with the roadway design, design challenges associated with relocating the road onto the adjacent side slopes combined with complex regulatory requirements have and will require extensive coordination. Work to date has included feasibility analysis and identifying a preferred alignment. Moving forward with the more detailed engineering design will require time to ensure that the project can comply with all regulatory requirements.

**Issue #9** — *Because the repair project has the potential to impact the river’s Wild and Scenic River qualities, we encourage the planning team to consider management guidelines provided by the Forest Service Handbook. Specifically the free-flowing character of the river must not be modified, the outstandingly remarkable values must be protected, and classification status must be maintained. We believe that the project’s goal of moving the road corridor out of the river’s channel migration zone is generally consistent with guidance for projects along a suitable wild and scenic river.*

The project team has coordinated with the U.S. Forest Service, which is serving in the capacity of a NEPA cooperating agency, and has integrated several U.S. Forest Service staff into the project’s NEPA Interdisciplinary Team (IDT). The proposed project will evaluate several land use and natural resource issues, including recreation and the river’s recommended wild and scenic river status. These evaluations will be conducted to determine what is required to ensure consistency with U.S. Forest Service plans, policies and regulations that govern land use in the project area. Evaluations will include reviewing the project for consistency with Wild and Scenic River standards, U.S. Forest Service Land Allocation standards, Aquatic Conservation Strategy Standards, Riparian Reserves, and other requirements.
Issue #10 — Use native plants only for revegetation! Where temporary grass cover is needed, use native seed; otherwise use non-native but sterilized seed in mixes. Our roads have become important vectors by which invasive species and noxious weeds move into our national forests. Please take defensive measures in the construction area and consider the use of weed-free soils and rock imported to the site. Inspect equipment prior to entering the site, to prevent invasive and noxious weeds being transported to the project site if available.

The project team will identify Temporary Erosion and Sedimentation Control Best Management Practices (BMPs) that will help to address the threat of noxious weeds and invasive species. The project team has initiated coordination and will continue to coordinate with the U.S. Forest Service on noxious weed and invasive species issues, and also to identify the best measures to address revegetation, which will include using native plants species. The project will also evaluate the extent to which post-construction monitoring and noxious weed control would be conducted to address this issue.

Issue #11 — Re-grade areas of the old road alignment as needed to restore original contours and hydrological gradients. Note that some of the old alignment might now be in the Wild Sky Wilderness. Nevertheless, under wilderness management regulations the Forest Service can authorize mechanized equipment to restore wilderness character.

The project proposes to remove the existing road alignment, de-compact soils and recontour modified slopes to restore natural hydrological processes. The extent of the contour restoration would be determined as part of the final mitigation design. A conceptual mitigation plan would be included as part of the NEPA EA. This area is not located within the boundaries of the Wild Sky Wilderness.

Issue #12 — In disturbed areas, scarify soils and plant with native plants and trees of local provenance; please limit seeding of non-native grasses to sterile mixes and instead focus on planting native species that will provide long term erosion control and fish habitat.

Areas with compacted soils to be replanted will include scarification to improve hydrologic processes and vegetative growth. Techniques such as seeding or placement of mulch/duff to provide long term erosion control would also be used if determined necessary for restoration success. Native plant species will be used and revegetation efforts will be coordinated with the U.S. Forest Service. Riparian restoration efforts will be integrated into the project’s overall effort to improve fish habitat in the project area. These issues will be identified in the NEPA EA.

Issue #13 — Loss of Northern Spotted Owl and Marbled Murrelet habitat under some of the alternatives is a worrisome issue, given requirements in the amended Mt. Baker Snoqualmie National forest Land Management Plan. We strongly discourage loss of habitat for these birds whose populations continue to decline in Washington State.

The project will evaluate effects on listed threatened and endangered terrestrial species and their habitat as part of its Section 7 Endangered Species Act consultation. The findings will be included as part of the NEPA EA.
Issue #14 — The Aquatic Conservation Strategy (ACS) comes into play here. It appears that FHWA does not require its consideration for this project. We do not ask that an ACS analysis be conducted. Lack of ACS analyses elsewhere has led to delays in highly desirable public projects. Public access has been denied on this road since 2006, and should not be further delayed due to this oversight.

The U.S. Forest Service has been included as a Cooperating NEPA Agency from the beginning of the project. The NEPA EA being prepared for the project will also include compliance with U.S. Forest Service requirements. The need to include Aquatic Conservation Strategy analysis as part of the NEPA EA was identified early on by the Forest Service staff assigned to the project’s Interdisciplinary Team (IDT).

Issue #15 — Among the non-lane road design options, please consider adapting design standards similar to those that the Federal Highway Administration is proposing for the Middle Fork Snoqualmie Road near North Bend. That proposal has gone through a long public review process, and FHWA has been fairly responsive to local citizens concerned about keeping the road’s quiet, low-speed, backcountry character.

The project team will coordinate with FHWA to determine if similar standards could be considered for Index-Galena Road.

Issue #16 — Consider measures to minimize the break in hydrological continuity caused by building the road on the hill slope east of the river.

The project team will evaluate hydrologic processes including continuity as part of its stormwater runoff and geology/soils/groundwater analysis. The project design will incorporate findings from the analysis to minimize effects to hydrologic processes.

Issue #17 — New road construction will cause environmental impacts. These impacts can be mitigated by identifying unneeded spur roads in the vicinity and closing them. These closures will improve wildlife and fish habitat and reduce the likelihood of trash dumping, which has been a problem in this area.

The project proposes to provide onsite mitigation by providing riparian restoration in the location of the existing roadway that would be removed. Offsite mitigation will supplement what cannot be achieved onsite. The project will coordinate with the U.S. Forest Service to determine the feasibility of closing unneeded spur roads that would provide similar environmental functions. To date, none have been identified in the project area.

Non-Significant Issues

Non-significant issues are identified as those:

- Outside the scope of the proposed action;
- Already decided by law, regulation, Forest Plan, or other higher level decisions;
- Irrelevant to the decision to be made in the NEPA process; or
• Conjectural and not supported by scientific or factual evidence.

Some of the non-significant issues identified in the scoping comments include those associated with the following comments:

**Provide a benefit cost analysis as part of the EA**

The project will not be providing a benefit cost analysis as part of the EA because it is not required by NEPA. NEPA requirements say that if a cost-benefit or other economic report was being prepared, and relative costs and benefits of alternatives were to be used in making decisions between alternatives in an EA, then relevant information should be summarized in the EA or the cost-benefit analysis should be attached as an appendix. The primary factors discussed in the NEPA EA relevant to decision-making for the Index-Galena Road project will not be project costs weighed against benefits provided by the project. The factors relevant to decision-making will include the assessment of several environmental effects associated with the project. The NEPA EA and supporting documentation will be used to evaluate the effects of the project that will provide the basis for decision making.

**Provide copies of annual time extensions required by the Emergency Relief funding program that approve funding for long term ER projects**

Time extensions have been submitted by Snohomish County to FHWA to ensure continual ER funding. The project has progressed from the technical feasibility analysis phase, to the subsequent 30% Design Report stage, and the present phase of the project which includes the environmental review and 60% design phase, all with FHWA approval. The copies of time extensions will not be included in the NEPA EA because they are irrelevant to the decision to be made by this document—namely whether there are significant environmental impacts or not. The FHWA administrative decision to approve extensions has already been decided by other regulations associated with the Federal Highway Administration Emergency Relief program.

**Provide documentation of regular employee salaries, overtime salaries, wages, consultant costs, and other costs eligible for ER reimbursement that are associated with the Index-Galena Road project.**

This information will not be included in the NEPA EA because it is irrelevant to the decision, referred to above, that will be made based on the NEPA EA analysis. In addition, costs incurred by the project are subject to other regulations and procedures that are beyond the scope of the NEPA EA.

**Provide a Gantt schedule chart detailing the work accomplished from the 2006 flood and then detailed out to the anticipated completion date.**

Gantt charts are used by the project for project management purposes to show the start and finish dates of various project tasks and the various elements of project development. It also helps to
understand how various project elements are related and interdependent. A detailed Gantt schedule chart will not be provided in the NEPA EA because the information it conveys is irrelevant to the decision to be made, determining environmental impact significance. The NEPA EA will identify a general project timeline in its discussion.

*Provide a Full Drainage Report detailing exactly how flow control and enhanced water quality treatment will be provided for this project.*

The NEPA EA will not provide a Full Drainage Report as part of the NEPA EA. NEPA documentation will include a NEPA Discipline/Specialist stormwater report that conforms to FHWA/U.S. Forest Service requirements. This report will identify the potential effects of the project related to stormwater runoff. Mitigation measures to minimize effects would be identified in the report. A Full Drainage Report is not typically prepared until after the 60% design stage and is used as part of applications for permit approval.

*Provide a detailed Stormwater Pollution Prevention Plan (SWPPP) detailing the extent and location of temporary erosion and sediment controls; and a Spill Prevention, Control, and Countermeasures (SPCC) Plan.*

The NEPA EA will not provide a SWPPP or SPCC Plan. These documents are prepared as the project design plans are finalized and contract specifications are developed, and are beyond the scope of NEPA review. These documents will be submitted as part of Land Disturbance Activity review and approval from Snohomish County and are required to be prepared to receive permit coverage approval from the Washington Department of Ecology for a Construction Stormwater General Permit. The NEPA EA will identify Temporary Erosion and Sediment Control Best Management Practices (TESC BMPs) in the EA’s discussion of effects associated with Geology and Soils and in other applicable sections of the NEPA EA.
# Appendix B  List of Principal Contributors

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<thead>
<tr>
<th>Name/</th>
<th>Discipline</th>
<th>Association</th>
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<tbody>
<tr>
<td>Shannon And Wilson</td>
<td>Geology, Soils and Groundwater</td>
<td>Consulting Firm</td>
</tr>
<tr>
<td>Melanie Vance</td>
<td>Guidance and Review</td>
<td>Washington State Department of Transportation</td>
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<tr>
<td>Trevin Taylor</td>
<td>Guidance and Review</td>
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<tr>
<td>Renae Larsen</td>
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<tr>
<td>Jeff Horton</td>
<td>Guidance and Review</td>
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<tr>
<td>Sharon Love</td>
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<td>Eric Ozog</td>
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<td>Carl Burdick</td>
<td>Cultural, Historic, and Archaeological Resources</td>
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<tr>
<td>Laura Potash</td>
<td>Botany</td>
<td>U. S. Forest Service</td>
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<tr>
<td>Clarissa Barrett</td>
<td>Guidance and Review</td>
<td>Snohomish County</td>
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<tr>
<td>Crilly Ritz</td>
<td>Author-NEPA Environmental Assessment</td>
<td>Snohomish County</td>
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</tbody>
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Elizabeth Larsen  
*Wetlands/Biology*  
Snohomish County

Irene Sato  
*Biological Assessment*  
Fish  
Snohomish County

David Lucas, P.E.  
*Floodplain*  
Snohomish County

Lisa Tario, P.E.  
*Surface Water*  
Snohomish County

Terri Hawke  
*Wildlife*  
Snohomish County

Steve Cole  
*Geographic Information Systems (GIS)*  
Snohomish County
Appendix C  Discipline Studies

Burdick, Carl June 2013. *Index-Galena Road Milepost 6.4-Milepost 6.9 Cultural, Historic, and Archaeological Resources Report. U.S. Forest Service*


Potash, Laura L and Hee, Shauna *Mount Baker-Snoqualmie National Forest Specialist Report NEPA Environmental Assessment Index Galena Road Relocation MP 6.4-6.9 Botanical Resources September 30, 2013*


Sato, Irene. August 2015. *Index-Galena Road Milepost 6.4-Milepost 6.9 Project Biological Assessment.* Snohomish County Public Works


Climate Change References

Impacts Group (Center for Science in the Earth System, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington, Seattle).


Appendix D Distribution List

Federal
U.S. Army Corps of Engineers
U.S. Department of Commerce, National Marine Fisheries Service – NW Regional NEPA Coordinator
Federal Highway Administration
W. Division - Area Engineer; Environmental Program Manager
U.S. Department of the Interior, U.S. Fish and Wildlife Service; Environmental Review-Western Washington Fish and Wildlife Office
U.S. Environmental Protection Agency,
Region 10-EIS Review Coordinator; Environmental Review
U.S. Forest Service, Mt. Baker-Snoqualmie National Forest – Supervisor’s Office;
Skykomish Ranger District

Tribes
Tulalip Tribes
Sauk-Suiattle Tribe
Snoqualmie Tribe
Stillaguamish Tribe

State
Department of Archaeology and Historic Preservation
State Historic Preservation Officer
Department of Ecology - SEPA Unit
Department of Fish and Wildlife – Habitat Program
Department of Natural Resources – SEPA Center
Department of Transportation
Northwest Region Local Programs; Headquarters-Local Programs
Office of the Attorney General – Transportation Division
Washington Parks and Recreation Commission- Northwest Region Office

Snohomish County
Executive’s Office
County Council

Planning and Development Services
Public Works –
Transportation & Environmental Services
Surface Water Management
Appendices

Road Maintenance
Sheriff’s Department

Regional
Northwest Indian Fisheries Commission
Puget Sound Clean Air Agency
Puget Sound Partnership
Puget Sound Regional Council
Snohomish County Economic Development Council

Public Service Organizations
Snohomish County PUD #1
Index Fire District # 28

Schools
Index School District

Local
City of Index
Mayor

Media -Notices
Herald

Community Groups
Pilchuck Audubon Washington Trails Association
Sierra Club The Mountaineers
Sky Valley Chamber of Commerce The Wilderness Society
American Whitewater Washington Wild

Libraries
Skykomish Library – King County Library System
Monroe Library, Sultan Library - Sno-Isle Library System
University Of Washington Suzzallo Library
Appendix E Preliminary Commitment List

The following preliminary commitments describe the measures that Snohomish County would include in the project to avoid or minimize effects during construction and operation.

1. **Wetlands**: Snohomish County would compensate for unavoidable wetland impacts by use of an approved offsite mitigation bank and minimize wetland impacts by constructing a bridge near Station 54+00. Project construction affecting wetlands would be consistent with Army Corps of Engineers Section 404 permit requirements.

2. **Endangered Species Act (ESA)**: Snohomish County will coordinate with WSDOT biologists to review Endangered Species Act listings prior to construction to evaluate the need for further consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Biologists will also reevaluate the project should new listings of species or critical habitat occur during project construction. The project would be constructed consistent with terms and conditions identified as part of the Section 7 ESA consultation. These would include timing restrictions for certain project activities generating high noise levels such as clearing, grading, and blasting. In order to minimize impacts from noise to marbled murrelets flying along the river corridor, work would begin 2 hours after sunrise and stop 2 hours before sunset between April 1 and September 23.

3. **Stormwater Treatment**: Snohomish County would provide natural dispersion as the method to provide stormwater treatment for roadway stormwater runoff. Stormwater treatment will be designed according to the most recent Highway Runoff Manual.

4. **Erosion Control**: Snohomish County will develop a Stormwater Pollution and Prevention Plan (SWPPP) including temporary erosion and sediment control measures in compliance with the project’s Construction Stormwater General Permit and Snohomish County Land Disturbing Activity requirements. The SWPPP will be included in the construction contract documents.

5. **Geology and Soils**: Snohomish County will construct retaining walls, reinforced soil slopes and other features as required to stabilize roadside soils where required and to minimize side slope intrusion onto adjacent land areas. Unsuitable soils would be removed from the project area and disposed of at a facility permitted to receive the materials.

6. **Land Use**: Snohomish County and the U.S Forest Service will determine fair market value for timber to be cleared for roadway construction within a new roadway right-of-way easement. The U.S. Forest Service (USFS) will be compensated for loss of timber located within the roadway easement. No private property is proposed for acquisition. The project proposes no acquisition of private property.
7. **Land Use:** The project as proposed would be consistent with Riparian Reserves standards and guidelines that apply to the Index-Galena Road project. The project team has coordinated with USFS, the Washington State Department of Transportation, the Federal Highway Administration and other agencies to ensure that road design and operation and maintenance will promote attainment of Aquatic Conservation Strategy objectives. The project proposes to use the AASHTO Low Volume Roadway Design Standards to minimize the project footprint. The project completed a channel migration zone analysis as part of the project’s early feasibility analysis. Roadway design efforts have been closely integrated and coordinated with extensive geotechnical analysis to determine the best location for the relocated roadway. The project’s design criteria, project elements, and standards have been closely coordinated with USFS oversight to ensure consistency with the MBSNF Plan. Snohomish County would continue to coordinate with the USFS to ensure that long term road operation, maintenance and management are consistent with USFS standards and guidelines as established in roadway right-of-way easement requirements.

8. **Land Use:** The project would be constructed subject to permit conditions associated with Snohomish County development review. Applicable development regulations and regulatory review include SCC 30.44 Shoreline Permits; SCC 30.67 Shoreline Management Program; SCC 30.62 Wetlands and Fish & Wildlife Habitat Conservation Areas; SCC 30.62B Geologically Hazardous Areas; SCC 30.65 Special Flood Areas. Final mitigation requirements will be identified during these regulatory review processes and integrated into the construction plans and specifications as required.

9. **Visual Quality:** Snohomish County will minimize clearing to the extent practicable and implement design measures to address visual quality impacts.

10. **Visual Quality:** To implement these aesthetic considerations into the final project’s hard features, the project would construct retaining walls and other support structures with low-sheen and non-reflective surface materials to reduce potential for glare. Where determined appropriate, walls would have color (pigmented sealer with color pigment) and/or texture applied to the surface to blend with the surrounding environment. The finish would be matte and roughened, and the use of smooth trowelled surfaces and glossy paint avoided. Due to the project’s proximity to the North Fork Skykomish River, these design features would also be incorporated into the project to be consistent with USFS standards for development located in proximity to a recommended Wild and Scenic River.

11. **Visual Quality:** The use of form liners that mimic natural stone surfaces would also be considered. Guardrails would be installed that mimic a weathered steel (rust colored) appearance. The project would also incorporate aesthetic treatment (materials, pattern, texture, concrete stain color) on any retaining walls, and the bridge proposed at Station 54+00, and other hard feature constructed elements.
12. **Recreation**: Existing river access for river recreationists near Milepost 6.9 will be retained. The project will coordinate with the USFS- Mt. Baker Snoqualmie National Forest on the final design.

13. **Plants**: Native forest duff soils from the project would be salvaged and re-used in areas identified for riparian restoration where the existing damaged roadway would be removed and would also be placed in areas temporarily disturbed by site clearing and grading. Reused duff soils would provide organic materials that promote plant survivability and would also provide a potential seed bank for native plant re-establishment once onsite final grades have been established. Road construction ground disturbance could potentially promote the spread of invasive non-native species. Application of any herbicides to treat invasive plants will be performed or directly supervised by a State or Federally licensed applicator consistent with the MBSNF Plan, and applicable amendments that include the 2005 *Invasive Plants Standards and Guidelines (S&Gs) the Pacific Northwest Region Record of Decision for Preventing and Managing Invasive Plants* and subsequent amendments.

14. **Air Quality**: Mitigation measures would be used to reduce potential impacts from vehicle exhaust and fugitive dust during construction of the project. Measures include BMPs suggested by the Puget Sound Clean Air Agency and the Associated General Contractors of Washington (*AGC Guide to Handling Fugitive Dust From Construction Projects*). These would include using only equipment and trucks that are maintained in optimal operational condition; developing a dust control plan during project planning to identify sources and activities that would be likely to generate fugitive dust and the means to control such emissions; removing particulate matter deposited on Index-Galena Road to reduce mud and dust; sweeping and washing streets continuously to reduce emissions; spraying exposed soil with water to reduce emissions of particulate matter and deposition of particulate matter; include dust controls on paved and unpaved roads and in site preparation, grading and loading areas. Additional measures would include covering all trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce particulate matter emissions and deposition during transport. The project would use quarry spalls (rock entrances), vehicle scrapes, or wheel washers to remove particulate matter that would otherwise be carried off-site by vehicles to decrease deposition of particulate matter on area roadways. The project would locate construction staging zones where diesel emissions will not be noticeable to the public.

15. **Cultural Resources**: The project in coordination with WSDOT and the U.S. Forest Service would develop an Inadvertent/Unanticipated Discovery Plan (I/UDP) and a NAGPRA discovery protocol prior to construction. The I/UDP would outline procedures to follow, in accordance with local, state and federal laws, if archaeological materials or human remains are discovered.
16. **Streams**: Portions of the project’s proposed mitigation include restoring existing pavement areas to riparian forested conditions. This includes removing asphalt and other roadway features such as culverts, concrete barriers, guardrail, etc. Removing some of these features requires extensive in-water work and/or water crossings to gain access. The exact construction process will not be fully known until the project bidding process is completed and a contractor selected. However, the contract will include provisions to ensure that the water quality of the river is not adversely affected during the removal of these roadway features. These provisions would include the containment of potential pollutants, seasonal and fish-window timing conditions, restrictions of what activity would occur at high water levels, and, if necessary, fish isolation practices. Potential staging areas would be identified prior to the start of construction, and would be limited to those areas deemed to provide the most access with the least impact.

17. **Streams**: Grading would be limited to the dry season (typically April to October) to avoid and minimize erosion that could cause excessive sedimentation. Erosion control best management practices (BMPs) would be used to prevent sediment from washing away from graded bare areas to streams. Limits of disturbance would be clearly marked by orange barrier fencing or other types of fencing to avoid unnecessary disturbance and minimize soil disturbance in proximity to streams.

18. **Fish**: Several conservation measures have been developed to avoid and minimize impacts and would include removing the road from the river; the project would not inhibit passage of any adult or juvenile salmonid species during or after construction; clearing limits would be identified by barrier fencing to prevent additional impacts to environmentally sensitive areas in proximity to streams and wetlands. In-water work would be conducted during the prescribed work window conditioned in the issued HPA. This is anticipated to be during the “*Times When Spawning or Incubating Salmonids are Least Likely to Be Within Washington Fresh Waters*” which is August 1-August 31. If fish exclusion is necessary during construction, all reasonable and prudent measures would be taken to ensure fish are excluded in compliance with the WSDOT Fish Exclusion Protocols and Standards (2012). All equipment entering the water would use vegetable oil or other biodegradable hydraulic fluid substitute. Large Woody Debris (LWD) would be installed to provide in-stream habitat for listed fish and buried rock toe protection would be faced with LWD to “soften” the interaction of the rock protection with the river if the river migrates into the embankment. Bridge piers and abutments would be built landward of the OHWM to avoid impacts to the stream.

19. **Wildlife**: The riparian area along the North Fork Skykomish River would be restored by removing the existing damaged road out of the river and adjacent buffer areas and planting the area with native trees and shrubs in as large of an area as feasible. Forest duff salvaged during project construction would be placed back into cleared areas proposed for planting and areas temporarily impacted by construction. The project includes salvaging logs, trees, boulders, and stumps and placing them in the riparian zone adjacent to the river and in temporarily impacted areas, where appropriate. Habitat structures such as standing tree snags, boulder piles, and rock and brush piles would be
placed in areas temporarily impacted by road construction and on sections of the existing
damaged road once it is removed. In order to minimize impacts from noise to marbled
murrelets flying along the river corridor, work would begin 2 hours after sunrise and stop
2 hours before sunset between April 1 and September 23.

20. **Environmental Justice**: Translators would be made available for both written and oral
communication if the need arises as part of the public involvement process. Snohomish
County will adhere to and implement provisions of its Title VI Plan, updated March
2015, in all of its project-related public involvement outreach.

21. **Hazardous Materials**: The project would use standard construction BMPs to avoid and
minimize effects associated with hazardous materials and comply with all applicable
environmental procedures, rules, and regulations. These BMPs would include
implementing a Spill Control and Containment Plan to minimize spills, and ensure that
all harmful materials are properly stored and contained.
Appendix F  Endangered Species Act Consultation

Endangered Species Act Consultation
Information regarding threatened and endangered species in the project area has been received and is being reviewed by the following federal agencies:

- National Marine Fisheries Service (NMFS)
- U.S. Fish & Wildlife Service (USFWS)

A Biological Assessment (BA) was submitted to NMFS and USFWS (Services) on August 25, 2015 to fulfill requirements under section 7(c) of the Endangered Species Act of 1973. Based on the analysis contained within the Biological Assessment (BA) that was prepared, the Federal lead agency (FHWA) has determined that the proposed project May Affect, Likely to Adversely Affect Chinook salmon of the Puget Sound Evolutionarily Significant Unit (ESU), bull trout of the Coastal/Puget Sound Distinct Population Segment (DPS), and Steelhead. FHWA has determined that the project May Affect, likely to adversely affect the marbled murrelet and Northern Spotted Owl. The project May Affect, not likely to adversely affect Chinook salmon critical habitat, Bull trout critical habitat, Steelhead, and would have No effect on spotted owl and marbled murrelet critical habitat. The analysis in the BA considered potential direct and indirect effects, as well as an analysis of the effects of interrelated and interdependent actions associated with the project. It was determined from these analyses that potential impacts to these species will be negligible and will not result in take or adverse modification of habitat.

Additionally, the project will have No Effect to Canada lynx, grizzly bears, gray wolves, Oregon spotted frog and the Yellow-billed cuckoo which the USFWS indicates may be present within Snohomish County per the species list obtained from the USFWS.

Additionally, the project will Adversely Affect Essential Fish Habitat (EFH) for Pacific salmon including all life stages of coho, pink, and Chinook salmon.

Dear Mr. Kratz:

The Federal Highway Administration (FHWA), as the lead Federal agency, is submitting this request for formal consultation with National Marine Fisheries Service (NMFS), as required under Section 7(a)(2) of the Endangered Species Act (as amended). FHWA is providing a Biological Assessment, prepared by the Snohomish County, to facilitate this request.

Snohomish County is proposing to relocate an approximate half-mile segment of Index-Galena Road. The project is located in Section 35-36 of Township 28 North, Range 10 East Willamette Meridian, roughly 6 miles northeast of Index in Snohomish County, Washington.

A portion of Index-Galena Road was damaged in November 2006 by a major flood event. The North Fork Skykomish River formed a new side channel that now occupies Index-Galena Road between Mile Post 6.4 and Mile Post 6.9. A replacement road alignment will be constructed higher on the hillside above the river to connect existing road segment on each side of the washout. Work below the ordinary high water mark (OHWM) will include removal of remaining asphalt pieces from the damaged road section. All in-water work will be done during the approved in-work window, which is anticipated to be August 1 - August 31.

A biological assessment (BA) was prepared as required under Section 7(c) of the Endangered Species Act. Based on the effects and exposure analyses, and implementation of all impact avoidance and minimization measures, as documented in the BA, FHWA has determined that the
project activities, as proposed, warrant an effect determination of **May Affect, and is Likely to Adversely Affect** for Chinook salmon (*Oncorhynchus tshawytscha*) and Steelhead trout (*Oncorhynchus mykiss*). The project warrants an effect determination of **May Affect, but Not Likely to Adversely Affect** for Chinook salmon critical habitat and a determination of **Will Not Destroy or Adversely Modify** for Steelhead trout critical habitat. FHWA has also determined that the project will **adversely affect** essential fish habitat (EFH) of fish species covered under the Magnuson-Stevens Fisheries Conservation Act.

Therefore, FHWA is requesting formal consultation on Chinook salmon and Steelhead trout, informal consultation on Chinook salmon critical habitat and Steelhead trout critical habitat, and consultation on EFH.

We are providing an electronic version of the biological assessment which is posted on FHWA’s Endangered Species Act Webtool website at [http://www.environment.fhwa.dot.gov/esa/webtool](http://www.environment.fhwa.dot.gov/esa/webtool). The BA is located within the digital file cabinet under the project titled “Index Galena Road Relocation Between MP 6.4-6.9”.

It is our understanding that following the completion of formal consultation on Chinook Salmon and Steelhead trout, we will have satisfied our responsibilities under section 7(c) of the ESA. FHWA will reinitiate consultation (as necessary) if the amount or extent of take is exceeded, if new information reveals potential effects not previously considered, if a new species is listed (or critical habitat designated), or if the project is modified to include actions not fully considered and addressed by the current BO.

If you have any questions about this project, or need additional clarification, please contact Jeff Horton, FHWA Area Engineer, at [jeff.horton@dot.gov](mailto:jeff.horton@dot.gov) or (360) 753-9411.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

[Signature]

By: Jeffrey L. Horton, P.E.
Area Engineer

cc: Melanie Vance, WSDOT Local Programs (via email)
Ed Conyers, WSDOT Local Programs (via email)
September 8, 2015

HFO-WA.3/WA1124


Dear Mr. Rickerson:

The Federal Highway Administration (FHWA), as the lead Federal agency, is submitting this request for formal consultation with the US Fish and Wildlife Service (USFWS), as required under Section 7(a)(2) of the Endangered Species Act (as amended). FHWA is providing a Biological Assessment, prepared by the Snohomish County, to facilitate this request.

Snohomish County is proposing to relocate an approximate half-mile segment of Index-Galena Road. The project is located in Section 35-36 of Township 28 North, Range 10 East Willamette Meridian, roughly 6 miles northeast of Index in Snohomish County, Washington.

A portion of Index-Galena Road was damaged in November 2006 by a major flood event. The North Fork Skykomish River formed a new side channel that now occupies Index-Galena Road between Mile Post 6.4 and Mile Post 6.9. A replacement road alignment will be constructed higher on the hillside above the river to connect existing road segment on each side of the washout. Work below the ordinary high water mark (OHWM) will include removal of remaining asphalt pieces from the damaged road section. All in-water work will be done during the approved in-work window, which is anticipated to be August 1 - August 31.

A biological assessment (BA) was prepared as required under Section 7(c) of the Endangered Species Act. Based on the effects and exposure analyses, and implementation of all impact avoidance and minimization measures, as documented in the BA, FHWA has determined that the project activities, as proposed, warrant an effect determination of May Affect, and is Likely to Adversely Affect for Bull trout. The project warrants an effect determination of May Affect,
but Not Likely to Adversely Affect for Bull trout critical habitat, Northern Spotted Owl, and Marbled Murrelet. FHWA has also determined that the project will have No Effect on Northern Spotted Owl Critical Habitat, Marbled Murrelet Critical Habitat, Grizzly Bear, Canada Lynx, Gray Wolf, Oregon Spotted frog, and Yellow-Billed Cuckoo.

Therefore, FHWA is requesting formal consultation on Bull trout and informal consultation on Northern Spotted Owl, Marbled Murrelet, and Bull trout critical habitat.

FHWA is providing a hard copy of the biological assessment. In addition, an electronic version of the BA has been posted on the our Endangered Species Act Webtool website at http://www.environment.fhwa.dot.gov/esawebool. The BA is located within the digital file cabinet under the project titled “Index Galena Road Relocation Between MP 6.4-6.9”.

It is our understanding that following the completion of formal consultation on Bull trout, we will have satisfied our responsibilities under section 7(c) of the ESA. FHWA will reinitiate consultation (as necessary) if the amount or extent of take is exceeded, if new information reveals potential effects not previously considered, if a new species is listed (or critical habitat designated), or if the project is modified to include actions not fully considered and addressed by the current BO.

If you have any questions about this project, or need additional clarification, please contact Jeff Horton, FHWA Area Engineer, at jeff.horton@dot.gov or (360) 753-9411.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

By: Jeffrey L. Horton, P.E.
Area Engineer

Enclosure

cc: Melanie Vance, WSDOT Local Programs (via email)
    Ed Conyers, WSDOT Local Programs (via email)
Appendix G River Recreation Access Conceptual Design
Index Galena Road 6.4-6.9
RIVER ACCESS PLAN AT M.P. 6.9

EXISTING FOOT ACCESS TO RIVER REMAINS INTACT

EXISTING ASPHALT TO REMAIN

REMOVE ASPHALT

PROPOSED ACCESS ROAD DRIVEWAY

PROPOSED INDEX-GALENA ROADWAY

NORTH FORK SKYKOMISH RIVER

PREVIOUS PAVEMENT REMOVAL

EXISTING PLANTING AREA

EXIST. R/W

SCALE IN FEET

PRELIMINARY
Appendix H Section 106 Consultation

Section 106 Consultation (Archaeological and Historic Resources)

Field investigations for cultural, historic and archaeological resources have been performed by the U.S Forest Service on the proposed project alignment and other land areas potentially affected by the project. The Cultural Resource Assessments meet federal standards for compliance with historic preservation laws and guidelines including Section 106 of the National Historic Preservation Act of 1966. The studies were submitted to the Washington State Department of Archaeological and Historical Preservation (DAHP). Archaeological sites have not been identified that would be affected by the project.
August 22, 2011

The Honorable Janice Mabee
Sauk-Suiattle Tribe
5318 Chief Brown Lane
Darrington, Washington 98241

Snohomish County
Index-Galena Road, Milepost 6.4-6.9 Project
Initiation of Section 106 // APE
Fed Aid # ER-0701 (063)

Dear Chairperson Mabee:

Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Highways and Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

FHWA and WSDOT would like to initiate government-to-government consultation for this project. Among other things, we would like this consultation to address the cultural and historic resource issues, pursuant to the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR Part 800). WSDOT has entered into the environmental review phase of this project and will prepare documentation to support the determination of this project as a Documented Categorical Exclusion under the National Environmental Policy Act (NEPA). We are inviting your comments on the Area of Potential Effects (APE) for this project pursuant to 36 CFR 800.4.

Recognizing the government-to-government relationship that the Federal Highway Administration has with the tribe, FHWA will continue to play a key role in this project as the responsible federal agency. If this project requires a permit from the US Army Corps of Engineers (USACE), this consultation will also serve to meet their Section 106 responsibilities. However, since WSDOT has been delegated the authority from FHWA to initiate consultation and to directly manage the cultural resources studies as part of carrying out this undertaking you may contact FHWA at any time for assistance with the process and/or the undertaking.

The proposed project is located between Milepost (MP) 6.4 to MP 6.9 on Index-Galena Road in Snohomish County (Township 28 North, Range 10 East, Sections 35 and 36). The project will construct a relocated roadway to restore roadway connectivity. The relocated roadway would shift to the south and would be established upslope from the existing damaged roadway. The proposed roadway design would include 11-foot travel lanes and 4-foot shoulders. Rock curtains are also proposed along the steep rock cut areas.
to minimize area needed for rock falls. Retaining walls would be constructed in some areas based on geotechnical recommendations. In addition, four large arched culverts are proposed along the alignment to convey hillside streams where the new roadway crosses them. The project also proposes four 24-inch diameter culverts that would carry overflow water draining from the hillside during peak flow events. Vegetative filter strips would be used along both sides of the new roadway to treat stormwater runoff. Along the cut (excavated) side of the roadway a rock ditch would be constructed to collect hillside runoff from small streams. Asphalt and other debris from the decommissioned section of the damaged existing roadway would be removed. Other roadway debris would be removed from the river channel to the extent that it would be safe and practicable. The decommissioned roadway would then be restored with soil preparation and plantings to provide a forested riparian corridor adjacent to the North Fork Skykomish River.

The APE is defined as the footprint of the construction items listed above. An estimated 62,220 cubic yards of native material consisting of onsite soils and rock would be excavated in the new alignment during construction to accommodate the proposed roadway alignment. Fills up to 15 feet deep will be utilized for portions of the project while excavation cuts could be as deep as 45 feet in some areas.

Your response to this letter, acknowledging your interest in participating in this undertaking as a consulting party, in identifying any historic properties, including Traditional Cultural Properties (TCPs) that may exist within the project's APE, and providing any key tribal contacts, is greatly appreciated. We are also inviting comments regarding any other tribal concerns the proposed project may raise. Please provide a response by 26 September 2011 so that we may discuss this undertaking and any of those identified areas of interest. Electronic versions of this letter were sent to the State Historic Preservation Officer and the technical staff at the Sauk-Suiattle, Snoqualmie, and Tulalip Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboert@wsdot.wa.gov.

Sincerely,

[Signature]

Trent de Boer, RPA
WSDOT Archaeologist
Highways & Local Programs Division

TDB:ac
cc: Norma Joseph, Sauk-Suiattle Cultural Resources (electronic, w/attachments)
    Richard Wolten, Sauk-Suiattle Natural Resources (electronic, w/attachments)
    Jeff Horton, FHWA, MS 40943 (electronic, w/attachments)
    Ed Conyers, Northwest Region Local Programs Engineer (electronic, w/attachments)
August 22, 2011

The Honorable Shelley Burch
Snoqualmie Nation
PO Box 969
Snoqualmie, Washington 98065

Snohomish County
Index-Galena Road, Milepost 6.4-6.9 Project
Initiation of Section 106 // APE
Fed Aid # ER-0701 (063)

Dear Chairperson Burch:

Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Highways and Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

FHWA and WSDOT would like to initiate government-to-government consultation for this project. Among other things, we would like this consultation to address the cultural and historic resource issues, pursuant to the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR Part 800). WSDOT has entered into the environmental review phase of this project and will prepare documentation to support the determination of this project as a Documented Categorical Exclusion under the National Environmental Policy Act (NEPA). We are inviting your comments on the Area of Potential Effects (APE) for this project pursuant to 36 CFR 800.4.

Recognizing the government-to-government relationship that the Federal Highway Administration has with the tribe, FHWA will continue to play a key role in this project as the responsible federal agency. If this project requires a permit from the US Army Corps of Engineers (USACE), this consultation will also serve to meet their Section 106 responsibilities. However, since WSDOT has been delegated the authority from FHWA to initiate consultation and to directly manage the cultural resources studies as part of carrying out this undertaking you may contact FHWA at any time for assistance with the process and/or the undertaking.

The proposed project is located between Milepost (MP) 6.4 to MP 6.9 on Index-Galena Road in Snohomish County (Township 28 North, Range 10 East, Sections 35 and 36). The project will construct a relocated roadway to restore roadway connectivity. The relocated roadway would shift to the south and would be established upslope from the existing damaged roadway. The proposed roadway design would include 11-foot travel lanes and 4-foot shoulders. Rock curtains are also proposed along the steep rock cut areas
to minimize area needed for rock falls. Retaining walls would be constructed in some areas based on geotechnical recommendations. In addition, four large arched culverts are proposed along the alignment to convey hillside streams where the new roadway crosses them. The project also proposes four 24-inch diameter culverts that would carry overflow water draining from the hillside during peak flow events. Vegetative filter strips would be used along both sides of the new roadway to treat stormwater runoff. Along the cut (excavated) side of the roadway a rock ditch would be constructed to collect hillside runoff from small streams. Asphalt and other debris from the decommissioned section of the damaged existing roadway would be removed. Other roadway debris would be removed from the river channel to the extent that it would be safe and practicable. The decommissioned roadway would then be restored with soil preparation and plantings to provide a forested riparian corridor adjacent to the North Fork Skykomish River.

The APE is defined as the footprint of the construction items listed above. An estimated 62,220 cubic yards of native material consisting of onsite soils and rock would be excavated in the new alignment during construction to accommodate the proposed roadway alignment. Fills up to 15 feet deep will be utilized for portions of the project while excavation cuts could be as deep as 45 feet in some areas.

Your response to this letter, acknowledging your interest in participating in this undertaking as a consulting party, in identifying any historic properties, including Traditional Cultural Properties (TCPs) that may exist within the project’s APE, and providing any key tribal contacts, is greatly appreciated. We are also inviting comments regarding any other tribal concerns the proposed project may raise. Please provide a response by 26 September 2011 so that we may discuss this undertaking and any of those identified areas of interest. Electronic versions of this letter were sent to the State Historic Preservation Officer and the technical staff at the Sauk-Suiattle, Snoqualmie, and Tulalip Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboert@wsdot.wa.gov.

Sincerely,

Trent de Boer, RPA
WSDOT Archaeologist
Highways & Local Programs Division

TDB:ac
cc: Ray Mullen, Snoqualmie Cultural Resources (electronic, w/attachments)
Cindy Spiry, Snoqualmie Natural Resources (electronic, w/attachments)
Jeff Horton, FHWA, MS 40943 (electronic, w/attachments)
Ed Conyers, Northwest Region Local Programs Engineer (electronic, w/attachments)
August 22, 2011

The Honorable Melvin Sheldon, Jr.
Tulalip Tribes
6406 Marine Drive Northwest
Tulalip, Washington 98271

Snohomish County
Index-Galena Road, Milepost 6.4-6.9 Project
Initiation of Section 106 // APE
Fed Aid # ER-0701 (063)

Dear Chairperson Sheldon:

Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Highways and Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

FHWA and WSDOT would like to initiate government-to-government consultation for this project. Among other things, we would like this consultation to address the cultural and historic resource issues, pursuant to the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR Part 800). WSDOT has entered into the environmental review phase of this project and will prepare documentation to support the determination of this project as a Documented Categorical Exclusion under the National Environmental Policy Act (NEPA). We are inviting your comments on the Area of Potential Effects (APE) for this project pursuant to 36 CFR 800.4.

Recognizing the government-to-government relationship that the Federal Highway Administration has with the tribe, FHWA will continue to play a key role in this project as the responsible federal agency. If this project requires a permit from the US Army Corps of Engineers (USACE), this consultation will also serve to meet their Section 106 responsibilities. However, since WSDOT has been delegated the authority from FHWA to initiate consultation and to directly manage the cultural resources studies as part of carrying out this undertaking you may contact FHWA at any time for assistance with the process and/or the undertaking.

The proposed project is located between Milepost (MP) 6.4 to MP 6.9 on Index-Galena Road in Snohomish County (Township 28 North, Range 10 East, Sections 35 and 36). The project will construct a relocated roadway to restore roadway connectivity. The relocated roadway would shift to the south and would be established upslope from the existing damaged roadway. The proposed roadway design would include 11-foot travel lanes and 4-foot shoulders. Rock curtains are also proposed along the steep rock cut areas.
to minimize area needed for rock falls. Retaining walls would be constructed in some areas based on geotechnical recommendations. In addition, four large arched culverts are proposed along the alignment to convey hillside streams where the new roadway crosses them. The project also proposes four 24-inch diameter culverts that would carry overflow water draining from the hillside during peak flow events. Vegetative filter strips would be used along both sides of the new roadway to treat stormwater runoff. Along the cut (excavated) side of the roadway a rock ditch would be constructed to collect hillside runoff from small streams. Asphalt and other debris from the decommissioned section of the damaged existing roadway would be removed. Other roadway debris would be removed from the river channel to the extent that it would be safe and practicable. The decommissioned roadway would then be restored with soil preparation and plantings to provide a forested riparian corridor adjacent to the North Fork Skykomish River.

The APE is defined as the footprint of the construction items listed above. An estimated 62,220 cubic yards of native material consisting of onsite soils and rock would be excavated in the new alignment during construction to accommodate the proposed roadway alignment. Fills up to 15 feet deep will be utilized for portions of the project while excavation cuts could be as deep as 45 feet in some areas.

Your response to this letter, acknowledging your interest in participating in this undertaking as a consulting party, in identifying any historic properties, including Traditional Cultural Properties (TCPs) that may exist within the project’s APE, and providing any key tribal contacts, is greatly appreciated. We are also inviting comments regarding any other tribal concerns the proposed project may raise. Please provide a response by 26 September 2011 so that we may discuss this undertaking and any of those identified areas of interest. Electronic versions of this letter were sent to the State Historic Preservation Officer and the technical staff at the Sauk-Suiattle, Snoqualmie, and Tulalip Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboert@wsdot.wa.gov.

Sincerely,

[Signature]

Trent de Boer, RPA
WSDOT Archaeologist
Highways & Local Programs Division

TDB:ac

cc:    Hank Gobin, Tulalip Cultural Resources (electronic, w/attachments)
Richard Young, Tulalip Natural Resources (electronic, w/attachments)
Jeff Horton, FHWA, MS 40943 (electronic, w/attachments)
Ed Conyers, Northwest Region Local Programs Engineer (electronic, w/attachments)
August 29, 2011

Mr. Trent de Boer
WSDOT, Highways & Local Programs
PO Box 47390
Olympia, WA 98504-7390

In future correspondence please refer to:
Log: 082911-17-FHWA
Property: Index-Galena Road Relocation, Fed Aid #ER-0701(063)
Re: Archaeology - APE Concur

Dear Mr. de Boer:

We have reviewed the materials forwarded to our office for the Index-Galena Road Relocation project. Thank you for your description of the area of potential effect (APE) for the project. We concur with the definition of the APE. We look forward to the results of your cultural resources survey efforts, your consultation with the concerned tribes, and receiving the survey report. We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4) and the survey report when it is available.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised.

Please note that DAHP requires that all historic property inventory and archaeological site forms be provided to our office electronically. Also, please note that DAHP requires that all cultural resource reports be submitted in PDF format on a labeled CD or electronically. For further information please go to http://www.dahp.wa.gov/documents/CR_ReportPDF_Requirement.pdf.

Thank you for the opportunity to review and comment. If you have any questions, please feel free to contact me.

Sincerely,

Matthew Sterner, M.A.
Transportation Archaeologist
(360) 586-3082
matthew.sterner@dahp.wa.gov
Mr. Trent de Boer  
Washington State Department of Transportation  
310 Maple Park Ave S.E.  
Olympia, WA 98504-7300

Re: Snohomish County Index Galena Road MP 6.4-6.9 Relocation #ER-0701(063); Forest Service Heritage Event R2011060500042

Dear Mr. de Boer,

I received the Initiation of Consultation letter regarding the APE for the above FHWA project (email August 22, 2011). I concur that the APE is appropriately identified for the described undertaking. From the maps I reviewed, however, it appears that the APE for the new road alignment is larger than that of the existing roadway, but the acreage is much less. I would appreciate it if you would confirm the acreage provided on page 2 of the project description.

If the area of potential effect changes during design or further refinement of this undertaking, or if you become aware of information that would cause reconsideration of the APE, through consultation with Tribes or other interested parties, please contact me. I understand that a Forest Service Archaeologist will be conducting a survey for this undertaking; it would be most efficient if Carl Burdick was notified immediately of any new information that may affect the field review (cburdick@fs.fed.us or 425-888-8754).

Feel free to contact me if you have any questions (jhollenbeck@fs.fed.us 425-783-6025).

Sincerely,

Jan L. Hollenbeck  
Heritage & Tribal Programs Specialist

Cc: Eric Ozog, MBS  
Carl Burdick, MBS
February 11, 2015

Dr. Allyson Brooks  
Washington State Historic Preservation Officer  
Department of Archaeology and Historic Preservation  
PO Box 48343  
Olympia, WA 98504-8343

Snohomish County  
Index-Galena Road, Milepost 6.4-6.9 Project  
Determination of Effect  
Fed Aid # ER-0701 (063)  
DAHP Log # 082911-17-FHWA

Dear Dr. Brooks:

As you know, Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

Enclosed please find the cultural resources assessment prepared by Carl Burdick, Archaeologist for the Mt. Baker-Snoqualmie National Forest (dated 10 November 2014). As you’ll note in the report, Mr. Burdick inventoried two segments of a historic railroad grade (Site 45SK83) in the project’s area of potential effects (APE). Neither segment is eligible for listing in the National Register of Historic Places. No other cultural resources were identified during the systematic survey of the APE.

I look forward to your concurrence with our determination of eligibility for Site 45SK83 and our determination of no effect to historic properties. Similar letters were sent to the Sauk-Suiattle, Snoqualmie, Stillaguamish, and Tulalip Indian tribes. Please contact me at (360) 705-7879 or deboert@wsdot.wa.gov if you have any questions.

Sincerely,

Trent de Boer  
WSDOT Archaeologist  
Local Programs

TD:ac  
Enclosure  
cc:  Jeff Horton, FHWA, MS 40943  
     Ed Conyers, Northwest Region Local Programs Engineer
February 11, 2015

Mr. Richard Young
Tulalip Tribes
6406 Marine Drive Northwest
Tulalip, WA 98271

Snohomish County
Index-Galena Road, Milepost 6.4-6.9 Project
Determination of Effect
Fed Aid # ER-0701 (063)

Dear Mr. Yong:

As you know, Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

Enclosed please find the cultural resources assessment prepared by Carl Burdick, Archaeologist for the Mt. Baker-Snoqualmie National Forest (dated 10 November 2014). As you'll note in the report, Mr. Burdick inventoried two segments of a historic railroad grade (Site 45SK83) in the project's area of potential effects (APE). Neither segment is eligible for listing in the National Register of Historic Places. No other cultural resources were identified during the systematic survey of the APE.

We are asserting a determination of no effect to historic properties for this project. Similar letters were sent to the State Historic Preservation Officer and the Skagit, Squaxin, Snoqualmie, and Stillaguamish Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboert@wsdot.wa.gov.

Sincerely,

[Signature]

Trent de Boer
WSDOT Archaeologist
Local Programs

TD:ac
Enclosure

cc: Honorable Herman Williams, Sr., Tulalip Tribal Chairperson
    Jeff Horton, FHWA, MS 40943
    Ed Conyers, Northwest Region Local Programs Engineer
Mr. Steven Mullen-Moses  
Snoqualmie Nation  
PO Box 969  
Snoqualmie, WA 98065

Snohomish County  
Index-Galena Road, Milepost 6.4-6.9 Project  
Determination of Effect  
Fed Aid # ER-0701 (063)

Dear Mr. Mullen-Moses:

As you know, Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

Enclosed please find the cultural resources assessment prepared by Carl Burdick, Archaeologist for the Mt. Baker-Snoqualmie National Forest (dated 10 November 2014). As you’ll note in the report, Mr. Burdick inventoried two segments of a historic railroad grade (Site 45SK83) in the project’s area of potential effects (APE). Neither segment is eligible for listing in the National Register of Historic Places. No other cultural resources were identified during the systematic survey of the APE.

We are asserting a determination of no effect to historic properties for this project. Similar letters were sent to the State Historic Preservation Officer and the Sauk-Suiattle, Stillaguamish, and Tulalip Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboer@wsdot.wa.gov.

Sincerely,

Trent de Boer  
WSDOT Archaeologist  
Local Programs

TD:ac  
Enclosure  
cc:  
Honorable Carolyn Lubenau, Snoqualmie Tribal Chairperson  
Jeff Horton, FHWA, MS 40943  
Ed Conyers, Northwest Region Local Programs Engineer
The Honorable Norma Joseph  
Sauk-Suiattle Tribe  
5318 Chief Brown Lane  
Darrington, WA 98241

Snohomish County  
Index-Galena Road, Milepost 6.4-6.9 Project  
Determination of Effect  
Fed Aid # ER-0701 (063)

Dear Chairperson Joseph:

As you know, Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

Enclosed please find the cultural resources assessment prepared by Carl Burdick, Archaeologist for the Mt. Baker-Snoqualmie National Forest (dated 10 November 2014). As you’ll note in the report, Mr. Burdick inventoried two segments of a historic railroad grade (Site 45SK83) in the project’s area of potential effects (APE). Neither segment is eligible for listing in the National Register of Historic Places. No other cultural resources were identified during the systematic survey of the APE.

We are asserting a determination of no effect to historic properties for this project. Similar letters were sent to the State Historic Preservation Officer and the Snoqualmie, Stillaguamish, and Tulalip Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboert@wsdot.wa.gov.

Sincerely,

Trent de Boer  
WSDOT Archaeologist  
Local Programs

[Signature]

TD:ac  
Enclosure  
cc: Jeff Horton, FHWA, MS 40943  
     Ed Conyers, Northwest Region Local Programs Engineer
Dear Chairperson Yanity:

Snohomish County is proposing to construct a relocated roadway with funding from the Federal Highway Administration (FHWA). The Washington State Department of Transportation (WSDOT) Local Programs Division is assisting the County and acting on behalf of the FHWA in processing federal environmental compliance documentation.

FHWA and WSDOT would like to initiate government-to-government consultation for this project. Among other things, we would like this consultation to address the cultural and historic resource issues, pursuant to the regulations implementing Section 106 of the National Historic Preservation Act (36 CFR Part 800). WSDOT has entered into the environmental review phase of this project and will prepare documentation to support the determination of this project as a Documented Categorical Exclusion under the National Environmental Policy Act (NEPA). We are inviting your comments on the Area of Potential Effects (APE) for this project pursuant to 36 CFR 800.4.

Recognizing the government-to-government relationship that the Federal Highway Administration has with the tribe, FHWA will continue to play a key role in this project as the responsible federal agency. If this project requires a permit from the US Army Corps of Engineers (USACE), this consultation will also serve to meet their Section 106 responsibilities. However, since WSDOT has been delegated the authority from FHWA to initiate consultation and to directly manage the cultural resources studies as part of carrying out this undertaking you may contact FHWA at any time for assistance with the process and/or the undertaking.

The proposed project is located between Milepost (MP) 6.4 to MP 6.9 on Index-Galena Road in Snohomish County (Township 28 North, Range 10 East, Sections 35 and 36). The project will construct a relocated roadway to restore roadway connectivity. The relocated roadway would shift to the south and would be established upslope from the existing damaged roadway. The proposed roadway design would include 11-foot travel lanes and 4-foot shoulders. Rock curtains are also proposed along the steep rock cut areas to minimize area needed for rock falls. Retaining walls would be constructed in some areas based on geotechnical recommendations. In addition, four large arched culverts are proposed along the alignment to convey hillside streams where the new roadway crosses them. The project also proposes four 24-inch diameter culverts that would carry overflow water draining from the hillside during peak flow events. Vegetative filter strips would be used along both sides.
of the new roadway to treat stormwater runoff. Along the cut (excavated) side of the roadway a rock ditch would be constructed to collect hillside runoff from small streams. Asphalt and other debris from the decommissioned section of the damaged existing roadway would be removed. Other roadway debris would be removed from the river channel to the extent that it would be safe and practicable. The decommissioned roadway would then be restored with soil preparation and plantings to provide a forested riparian corridor adjacent to the North Fork Skykomish River.

The APE is defined as the footprint of the construction items listed above. An estimated 62,220 cubic yards of native material consisting of onsite soils and rock would be excavated in the new alignment during construction to accommodate the proposed roadway alignment. Fills up to 15 feet deep will be utilized for portions of the project while excavation cuts could be as deep as 45 feet in some areas.

Enclosed please find the cultural resources assessment prepared by Carl Burdick, Archaeologist for the Mt. Baker-Snoqualmie National Forest (dated 10 November 2014). As you’ll note in the report, Mr. Burdick inventoried two segments of a historic railroad grade (Site 45SK83) in the project’s area of potential effects (APE). Neither segment is eligible for listing in the National Register of Historic Places. No other cultural resources were identified during the systematic survey of the APE.

We are asserting a determination of no effect to historic properties for this project. Your response to this letter, acknowledging your interest in participating in this undertaking as a consulting party, in identifying any historic properties, including Traditional Cultural Properties (TCPs) that may exist within the project’s APE, and providing any key tribal contacts, is greatly appreciated. We are also inviting comments regarding any other tribal concerns the proposed project may raise. Similar letters were sent to the State Historic Preservation Officer and the Sauk-Suiattle, Snoqualmie, and Tulalip Indian tribes. Should you have any questions about this project, please contact me at (360) 705-7879 or deboert@wsdot.wa.gov.

Sincerely,

[Signature]

Trent de Boer  
WSDOT Archaeologist  
Local Programs

TD:ac

cc:  Kathy Lyste, Stillaguamish Cultural Resources (electronic, w/attachments)  
Pat Stevenson, Stillaguamish Natural Resources (electronic, w/attachments)  
Jeff Horton, FHWA, MS 40943  
Ed Conyers, Northwest Region Local Programs Engineer
March 5, 2015

Mr. Trent de Boer
WSDOT, Local Programs
PO Box 47390
Olympia, WA 98504-7390

In future correspondence please refer to:
Log: 082911-17-FHWA
Property: Index-Galena Road Relocation, Fed Aid #ER-0701(063)
Re: Not Eligible, No Historic Properties

Dear Mr. de Boer:

Thank you for contacting our office and providing a copy of the cultural resources survey report completed by the United States Forest Service. I concur with their professional recommendation that remnants of the historic rail line (45SK83) that was identified within the project area is not eligible for listing in the National Register of Historic Places. Therefore, I concur with your finding of no historic properties affected for the project.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800.

Should additional information become available, our assessment may be revised. In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and this office and the concerned tribes notified.

Thank you for the opportunity to review and comment. If you have any questions, please contact me.

Sincerely,

Matthew Sterner, M.A.
Transportation Archaeologist
(360) 586-3082
matthew.sterner@dahp.wa.gov