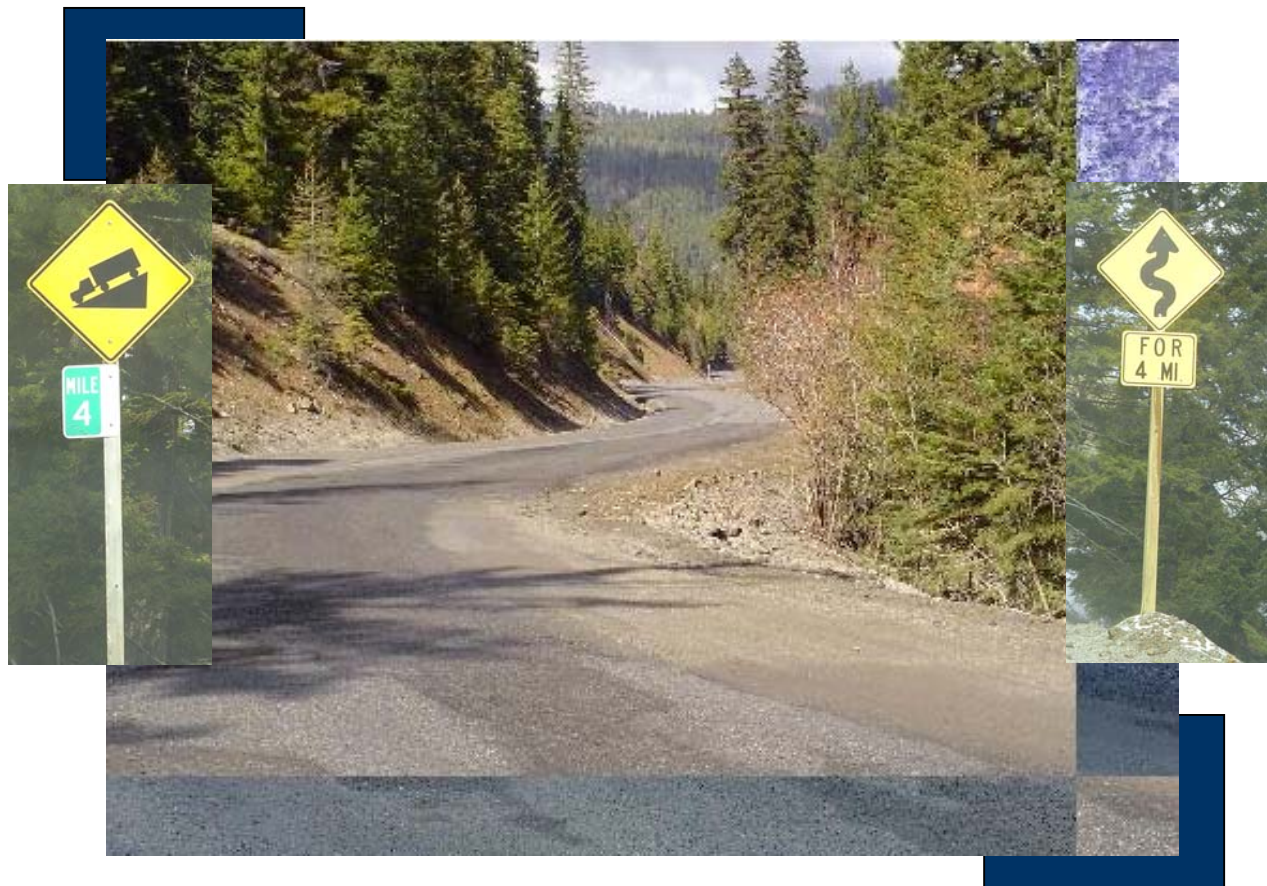


ENVIRONMENTAL ASSESSMENT

Mission Ridge Road
WA PFH 216-1(1)
April 2006



U.S. Department of Transportation
Federal Highway Administration
Western Federal Lands Highway Division



Mission Ridge Road
WA PFH 216-1(1)
Environmental Assessment

Submitted
Pursuant to Public Law 91-190
National Environmental Policy Act

US Department of Transportation
Federal Highway Administration
Western Federal Lands Highway Division

In cooperation with
Chelan County
USDA Forest Service

April 12, 2006
Date Approved


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April 2006

Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
APE	area of potential effect
BMP	best management practice
CR	county road
DOT	Department of Transportation
DBA	A-weighted decibel
EA	environmental assessment
Ecology	Washington Department of Ecology
EIS	environmental impact statement
ESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
Forest Service	USDA Forest Service
FR	forest road
MP	milepost
mph	miles per hour
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWP	Northwest Forest Plan
OAHP	Washington State Office of Archaeological and Historic Preservation
Pm10	particulate matter 10
ROS	recreation opportunity spectrum
SADT	seasonal average daily traffic
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SEE	social, economic, and environmental (SEE Study Team)
SHPO	State Historic Preservation Office
SOC	species of concern
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDI	United States Department of the Interior
U.S. EPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
vpd	Vehicles per day

WDFW
WFLHD
WRIA
WSDOT

Washington Department of Fish and Wildlife
Western Federal Lands Highway Division of FHWA
water resource inventory area (Washington state classification)
Washington State Department of Transportation

TABLE OF CONTENT

PROJECT INTRODUCTION 1
 Project name and Route Identification..... 1
 Partnering Agencies 1
 Contacts 1

DESCRIPTION OF PROPOSED PROJECT 2
 Location of the Proposed Project..... 2
 Scope and Nature of the Proposed Project..... 2
 Land Ownerships 2
 Funding 5
 Schedule..... 5

PURPOSE AND NEED FOR THE PROPOSED PROJECT 6
 Existing Road..... 6
 Purpose..... 6
 Road Use 6
 Traffic Volume..... 6
 Safety and Crashes..... 7
 Physical Deficiencies 7
 Need for the Proposed Project 8

ALTERNATIVES..... 9
 No-Action Alternative 9
 Action Alternatives 9

AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS 12
 Soils 12
 Land Use 13
 Socioeconomics 14
 Social 14
 Title VI..... 14
 Environmental Justice..... 15
 Economic 15
 Cultural Resources 16
 Water Quality 16
 Surface Water..... 16
 Ground Water..... 18
 Wetlands 19
 Only Practicable Alternative Finding 20
 Floodplains..... 20
 Air Quality 20
 Noise 21
 Aesthetics 22
 Vegetation..... 23
 Wildlife 24
 Fish..... 24

Threatened And Endangered Species	25
Fauna.....	25
Fish.....	27
Flora	27
U.S. Forest Service Survey and Manage Species	27
Recreation	29
Hazardous Materials	30
Utilities.....	30
Construction.....	30
Cumulative Impacts	31
Indirect Impacts	32
Mitigation Measures	32
 SECTION 4(F) EVALUATION.....	 36
Description of the 4(f) Property	36
Action Alternative.....	37
Impacts of the Proposed Project to Squilchuck State Park.....	38
Minimization/Mitigation.....	40
Coordination	41
 COORDINATION AND CONSULTATIONS	 42
Public Involvement	42
Social, Economic, and Environmental Study Team	43
Agency Coordination.....	43
Other Groups.....	43
 BIBLIOGRAPHY	 44
 APPENDIX	

PROJECT INTRODUCTION

Project name and Route Identification

Washington Primary Forest Highway 216
WA PFH 216-1(1)
Mission Ridge Road
Chelan County Road 10080

Lead Agency

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DESCRIPTION OF PROPOSED PROJECT

Location of the Proposed Project

Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA), in cooperation with the U.S. Forest Service (USFS), Washington Department of Transportation (WSDOT), and Chelan County, is proposing to improve approximately 4.2 miles of Mission Ridge Road (County Road 10080). The proposed project is located approximately 8 miles southwest of Wenatchee in an area of private properties, state land, and Wenatchee National Forest in Chelan County. It begins approximately 700 feet east of the intersection of Squilchuck Road and Mission Ridge Road near Squilchuck State Park and ends at the intersection of the access road to Mission Ridge Ski Area (Figures 1 and 2).

Squilchuck Road begins in Wenatchee. It terminates at Squilchuck State Park. Mission Ridge Road is a two-lane facility that begins at Squilchuck State Park and terminates at Mission Ridge Ski Area.

The proposed project begins east of the intersection of Squilchuck Road and Mission Ridge Road so that the intersection of the roads and the access road to Squilchuck State Park can be improved.

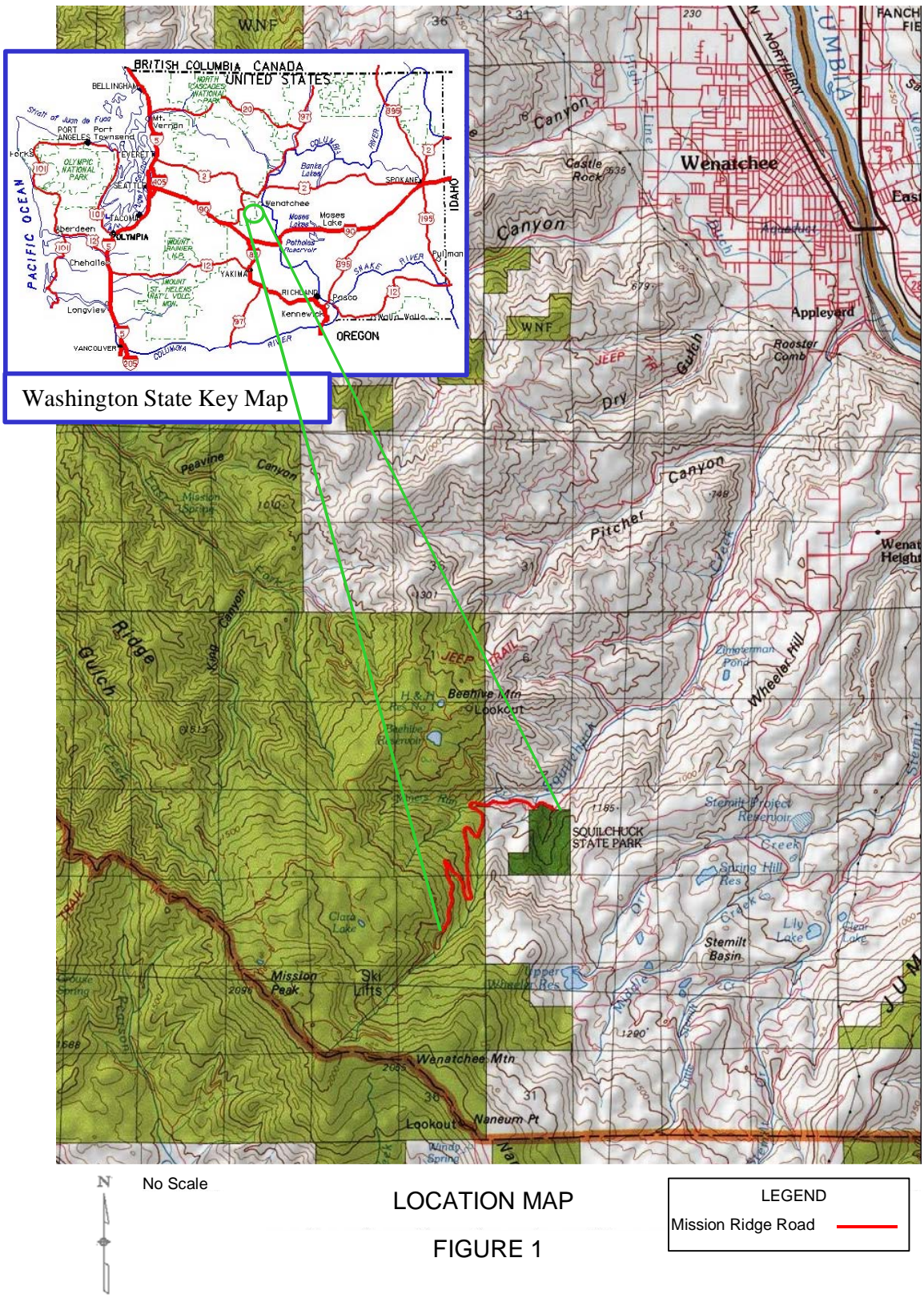
Scope and Nature of the Proposed Project

The proposed improvements consist of upgrading the existing unimproved portion of the Mission Ridge road to a safe, two-lane, paved road with better driving characteristics. The road would be designed for consistency in width, and improvements would be made generally along the existing road with two minor shifts in the alignment. The design would provide consistent horizontal and vertical alignments that would blend with the topography and enhance safety. More uniform driving conditions and safe travel speeds for the motorist would result.

The reconstruction will include flattening some curves and widening the road in some areas. Drainage crossings would be improved, including some fish passage improvements. Other improvements would include grading, placing road base material, paving, installing drainage facilities, and revegetating disturbed areas. More details about the proposed improvements and alternatives considered are presented in the Alternatives Section.

Land Ownerships

Mission Ridge Road is a county road that is maintained by Chelan County. The beginning portion of the proposed Mission Ridge Road reconstruction project crosses state and private land. As the road approaches Mission Ridge Ski Area, the road crosses onto Wenatchee National Forest Service Land. The ski area is located on land leased from the Forest Service. State land is located near the ski area.

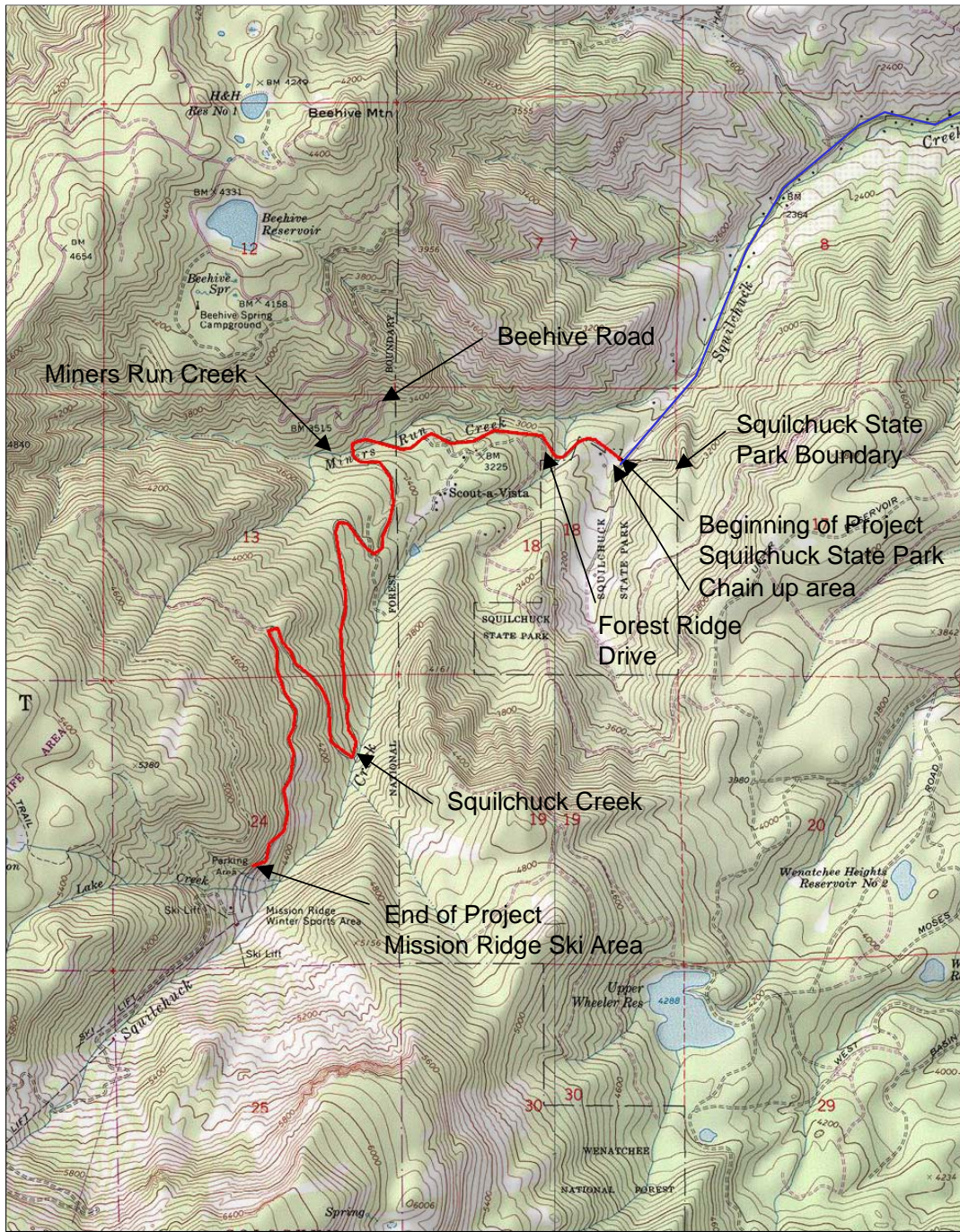


Washington State Key Map

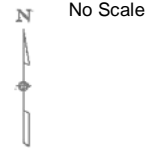
LOCATION MAP

FIGURE 1

LEGEND
Mission Ridge Road ———



Wenatchee
4 miles



MISSION RIDGE ROAD
FIGURE 2

LEGEND	
Mission Ridge Road	—
Squilchuck Road	—

Funding

In Washington, the FHWA, United States Forest Service (USFS), and Washington Department of Transportation (WSDOT) administer the Forest Highway portion of the Public Lands Highway Program. This proposed project construction would cost approximately \$10,000,000. The project would be funded by \$525,000 from state funds and \$75,000 from local funds with the remainder from Forest Highway Funds.

Schedule

The proposed project is scheduled for summer 2007. Construction would require two seasons to complete.

PURPOSE AND NEED FOR THE PROJECT

Existing Road

Mission Ridge Road, 26 to 32 feet wide, is a minor collector. A minor collector, as defined in *A Policy on Geometric Design of Highways and Streets* (American Association of State and Highway and Transportation Officials [AASHTO], 2004), is a road that is (1) spaced at intervals consistent with population density to accumulate traffic from local roads and brings all developed areas within reasonable distances of collector roads; (2) provides service to the remaining smaller communities; and (3) links locally important traffic generators with their rural hinterland.

The existing design speed is 30 miles per hour (mph). Design speed is defined by AASHTO as the maximum safe speed that can be maintained when conditions permit the design features of the highway to govern.

Purpose

The purpose and need of the proposed project is to improve safety and road stability, and reduce frequently needed maintenance and maintenance operational problems. Objectives include:

- Provision for snow storage after plowing operations;
- Replacement and/or repair of damaged facilities on the road;
- Stabilization of the road and its slopes;
- Consistent width;
- Addition of guardrail;
- Improved pavement and striping.

Road Use

Mission Ridge Road is the only access to Mission Ridge Ski Area and primary access to portions of Wenatchee National Forest, Beehive Recreation area, and other public and private land holdings. The road provides access to Forest Ridge Subdivision that is located near the beginning of the project. Logging trucks use the lower portion of the road to access Beehive Road.

Traffic Volume

The current seasonal average daily traffic (SADT) is approximately 1500 vehicles per day (vpd) during ski season. In the winter, the road carries a large volume of ski traffic. Summer traffic is less.

A large amount of year-round traffic is large recreational vehicles. In summer 2001, traffic at Squilchuck State Park was approximately 185 vpd. The average yearly average daily traffic (ADT) is 660 vpd east of Forest Ridge Road and 455 vpd west of Forest Ridge Road.

Using estimated growth factors, the year 2026 ADT will be 1070 vpd east of Forest Ridge Road and 740 vpd west of Forest Ridge Road.

Safety and Crashes

The Washington State crash rate for rural collectors is 2.05 crashes per million miles traveled. Between 1996 and 2005, the Mission Ridge Road crash rate was 4.05 crashes per million miles traveled. Some of the crashes involved vehicles going off the edge of the road and down the steep downhill slopes. Others involved collisions with roadside objects. Two fatalities have occurred.

Physical Deficiencies

The intersection of Squilchuck Road and Mission Ridge Road at Squilchuck State Park is confusing for motorists because Squilchuck Road intersects with the entrance to the park on a straight alignment. Motorists leaving the park proceed without looking for approaching vehicles on Mission Ridge Road. Both vehicles exiting the park and vehicles traveling from the areas served by Mission Ridge Road assume they have the right of way.

The road climbs the mountain in a series of switchback curves, some of which are sharp. The road width is not consistent. It is narrow with steep slopes on the downhill side of the road. Some areas have no guardrail.

Adequate area for snow storage after plowing is not available. Snow plows push snow mixed with sand over the edge of the road. Sand, used to increase traction on the road during snowstorms, over time, has built up and increased the width of the road with uncompacted material. The sand covers topsoil and vegetation on slopes down hill from the road. Runoff from rain and melting snow carries the sand farther down the slopes into streams.

Some of the excavated uphill slopes along the road are unstable. Rocks fall onto the road and into ditches and contribute to maintenance problems. Ditch sediment is carried downhill by runoff. Some of the road fill is also unstable and results in road slumps. In some places, the pavement is in poor condition.

In some locations, slumps have repeatedly occurred, and pavement has been added to repair the road. Consequently, in some areas, the depth of pavement is as much as 4 feet. The road has no centerline or shoulder lines marked.

Some of the drainage structures are plugged or the inlets or outlets of some structures are damaged. The road ranks high in the Chelan County priority array for road improvements.

Need for the Proposed Project

Improvements are needed on Mission Ridge Road to:

- Improve safety for year-round travel;
- Increase snow storage;
- Manage rock fall and repair unstable areas;
- Improve the road's stability, including substandard drainage.

ALTERNATIVES

No-Action Alternative

The No-Action Alternative would maintain the road in its current state. Unstable slopes would continue to slough rocks and soil onto the road and into ditches. Frequent ditch cleaning would continue to be necessary. Additional plowed-snow storage would not be provided, and snow would be pushed over the edge of the road. Safer travel would not be facilitated by installation of guardrail and other safety features. The subgrade would continue to fail resulting in an uneven surface and pavement would continue to deteriorate. This alternative would not meet the purpose and the need as described in the Purpose and Need section. The impact analysis in this document will compare the impacts of the No-Action Alternative to the impacts of the Action Alternative.

Action Alternative

The Action Alternative would improve the road mostly on the existing alignment with widening and minor realignment of some curves and is the preferred alternative. Drainage structures would be added, replaced, repaired, or extended; guardrail would be added in appropriate locations; and cut and fill slopes would be stabilized to minimize maintenance.

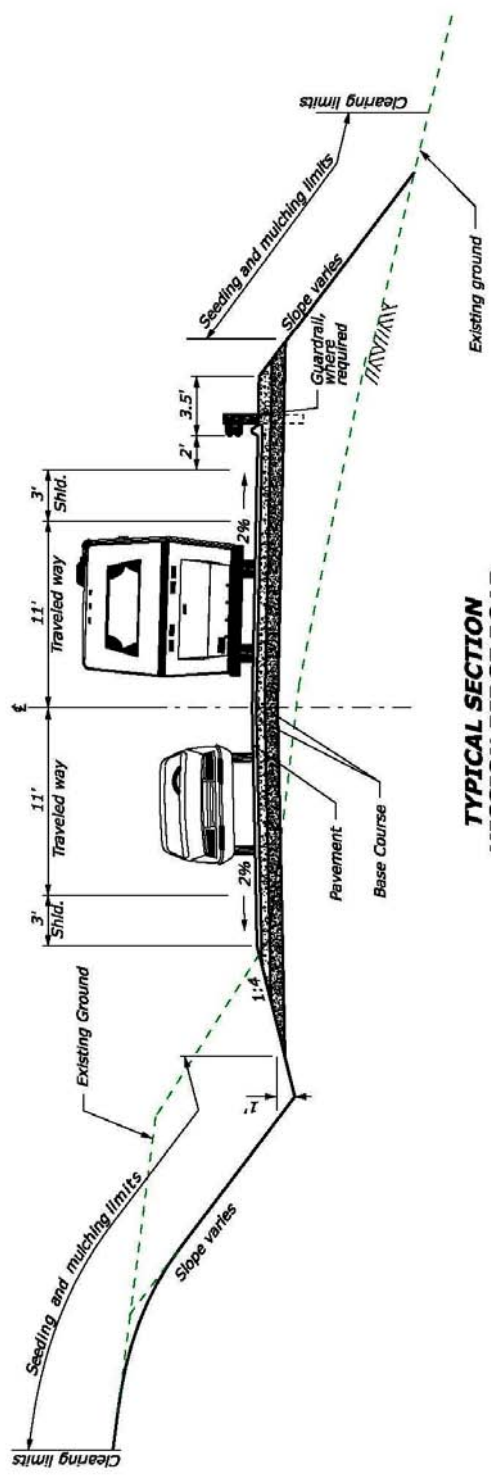
Travel lanes and shoulders would be paved and striped. Two 11-foot lanes and two 3-foot shoulders would be constructed (Figure 3). The total paved width would be 28 feet. The original proposal included a 32-foot width. The width was narrowed to reduce disturbance to vegetation, soils, residents, and Squilchuck State Park and reduce cost. The wider proposal created greater disturbance than the existing proposal and exceeded the funding amount provided. The reduced width would still meet the project's purpose and need, but with less disturbance and fewer impacts.

The design speed would remain at 30 mph. Additional right-of-way would be required.

This alternative would widen the road where appropriate within the existing corridor, and provide improved drainage, shoulders, pavement, and some new drainage crossings. A slow-vehicle pull out would be constructed up hill from the location where the road crosses Miners Run Creek.

The roadway at the beginning of the project north of the state park would be improved by paving striping, delineating, and signing to improve the state park intersection with the road.

The culvert at Squilchuck Creek would be retrofit with baffles to better accommodate fish passage. Two large culverts at Miners Run Creek would be left in place. No fish were found in Miners Run Creek, so modification of the Miners Run culverts for fish passage is not included in the Action Alternative.



**TYPICAL SECTION
MISSION RIDGE ROAD**

WENATCHEE NATIONAL FOREST
CHELAN COUNTY, WA

FIGURE 3

Concrete barrier at the base of the large cut slope near the beginning of the project would be replaced and strengthened to better resist falling rock and facilitate ditch cleaning. To shift the road away from the cut, a retaining wall on the north side would be required to reduce the road prism because of the steepness of the downhill slope.

At Milepost 2.6, the curve would be modified to shift the roadway away from Squilchuck Creek that is adjacent to the road. The shift would increase the distance between the road and the creek to prevent sand from eroding into the creek after snowplowing operations.

To minimize the footprint of the roadway on steep terrain on the upper segment of the road, and at one slump location, retaining walls would be installed on the downhill side of the road where the road is widened. The alignment would shift away from existing cut slopes to minimize disturbance of the cuts and provide space for debris that falls from the cuts.

The Action Alternative would not stabilize all slopes because of excessive cost that exceeds the funding for the proposed project, although some small slopes would be stabilized.

The Action Alternative meets the purpose and need of the proposed project by:

- Providing additional room for recovery of out-of-control vehicles;
- Installing guardrail to reduce the frequency of vehicles leaving the road;
- Providing additional areas for snow storage;
- Providing additional room for rock fall from excavated uphill slopes;
- Improving drainage by replacing or repairing damaged culverts;
- Repairing the subgrade, placing new pavement, and striping the road to decrease maintenance, improve safety, and road consistency;
- Enlarging ditches to hold falling rock.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

For purposes of evaluation of impacts in this environmental assessment, a corridor of 0.5 mile on either side of the roadway centerline is analyzed, unless otherwise noted.

Soils

The proposed project is located in the southern part of the Wenatchee Mountains of the North Cascade Range. The road begins at an elevation of approximately 3,000 feet, follows a 6 to 10 percent grade up the west flank of a north/south trending canyon, and terminates at approximately 4,500 feet. At the beginning of the project, slopes consist of very dense glacial tills with gravel, cobbles, and some boulders. Toward the end of the project, the slopes are weathered granite. Squilchuck Creek flows in the valley east of the road.

The excavated slopes near the beginning of the project are unstable, and debris falls from the slope face into the ditch and onto the road.

Impacts

Stabilized slopes would reduce the frequency of eroded debris in the road. Where slopes cannot be stabilized, the Action Alternative would provide increased storage for fallen debris.

During construction of the Action Alternative, soils would be disturbed and subject to erosion. Approximately 13.3 acres of soil would be disturbed.

Short-term minor adverse impacts to soils would occur until areas adjacent to the road revegetate. Long-term impact to soils would be beneficial.

Soils and rock would be mined for borrow materials. It is likely that the soil and rocks would come from commercial sources, but material could be extracted from contractor-selected sources. Commercial pits would be stabilized and reclaimed as specified under their permits.

The No-Action Alternative would not stabilize slopes and debris would continue to fall from slope faces onto the road. No new disturbance of soils would occur.

Mitigation

Short-term minor adverse impacts to soils would occur until areas adjacent to the road revegetate and stabilize. Until vegetation is established and soils are stabilized, erosion control measures included in the storm water pollution prevention plan (SWPPP) would be installed and maintained.

Land Use

The road traverses state, private, and National Forest Land. Squilchuck State Park, located at the beginning of the project, provides hiking, biking, camping, and snow sports opportunities. Mission Ridge Ski Area, on land leased from the Forest Service, is located at the end of the road.

National Forest hiking and biking trails, and private logging areas, are accessed by the road. Forest Ridge, a residential subdivision, is located near the beginning of the project and is accessed by Mission Ridge Road.

In the first portion of the project, the area adjacent to the road is residential. Scout-A-Vista, a Boy Scout of America-owned camp, is accessed by the road.

Management direction on the Wenatchee National Forest is guided by the *Wenatchee National Forest Land and Resource Management Plan and Record of Decision 1990* (United States Department of Agriculture (USDA) Forest Service 1990); as amended by the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl 1994* (USDA and United States Department of the Interior [USDI] 1994).

National Forest System lands in the project area are under the *Northwest Forest Plan* and are designated “Matrix” and “Administratively Withdrawn”, and “Scenic Travel” and “Developed Recreation”. The administrative withdrawal is to accommodate Mission Ridge Ski Area. The goal of “Scenic Travel” is to retain or enhance the viewing and recreation experiences along scenic travel routes. The general perception of the environment is to be one that is natural and has high scenic integrity. The goal of “Developed Recreation” is to provide developed recreation in an urban to semi-primitive Recreation Opportunity Spectrum (ROS) setting.

Adopted in 1994, the *Northwest Forest Plan* (NFP) is an integrated, comprehensive design for ecosystem management, intergovernmental and public collaboration, and rural community economic assistance for federal forests in western Oregon, Washington, and northern California. The proposed project does not alter the land designations in the project area. The proposed project complies with the *Wenatchee National Forest Land and Resource Management Plan and Northwest Forest Plan*.

The *Chelan County Comprehensive Plan 2000*, amended 2-14-05 (Chelan County. 2000), shows land uses in the areas adjacent to Mission Ridge Road. They are Public Lands and Facilities (Squilchuck State Park), Rural Residential/Resource (Forest Ridge Subdivision), and Commercial Forest Lands (Wenatchee National Forest).

No plans for new future development exist in the roadway corridor. Additional residences could be built on vacant lots in Forest Ridge Subdivision.

Impacts

The Action Alternative would not change land use adjacent to the road or in the immediate area, but would enhance the recreational experience by improving access to the ski area and hiking,

snow sport, and biking areas, and thus comply with *Wenatchee National Forest Land and Resource Management Plan and Record of Decision 1990*. Minor amounts of residential, recreational, and forest property would be acquired for road improvements, and land use would change to roadway use.

Capacity of the road would not increase. Improvements to the road would not result in new traffic generators. No other induced land-use changes as a result of the Action Alternative are anticipated. As a result of the proposed project, adverse impacts to land use would be negligible to minor.

The No-Action Alternative would not affect land use adjacent to the road.

Socioeconomics

Social

The 2000 U.S. Census indicated the population of the City of Wenatchee was approximately 28,000. Approximately 20% of the population was Hispanic, 79 % white and less than 1% black. Chelan County had a population of 66,616. The median household income in 1999 was \$35,000 in Wenatchee. The median 1999 income in the United States was \$41,994.

Mission Ridge Road is in Census Tract 9612. It crosses Blocks 1065, 1095, 1101, 1103, 1107, 1106, and 1109. Blocks 1065, 1100, and 1101 are the only occupied blocks. The total population of the blocks is 388. Of the total population, 369 were white, 4 American Indian, 15 were of mixed race, and 8 are Hispanic. (Note: Census race population numbers do not necessarily add up because of overlapping categories.) Although median income was not available for the census blocks, the 1999 median income of Census Tract 9612 was \$55,573, which is above United States and Chelan County Median incomes.

Impacts

Because the proposed project would have minor impacts on properties because of minor amounts of acquisition, no relocations would occur, and community cohesion would not be impacted, neither alternative would adversely impact particular social groups or populations.

Title VI

Title VI of the Civil Rights Act of 1964 requires federal agencies to ensure that no person on the grounds of race, color, or national origin is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance.

Neither the Action nor the No-Action Alternative would discriminate against or deny benefits to any group of people.

Environmental Justice

Executive Order 129898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* was issued February 11, 1994. The executive order requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The United States Department of Transportation (DOT) and the Federal Highway Administration (FHWA) issued orders to address Executive Order 12898. The DOT requires agencies to (1) explicitly consider human health and environmental effects related to transportation projects: and (2) implement procedures to provide meaningful opportunities for public involvement to members of low-income and minority populations during project planning and development. After evaluation, no disproportionately high and adverse human health or environmental effects of the project on minority and low-income populations have been identified. Both the Action and the No-Action Alternatives would comply with Executive Order 12898.

Economic

The city of Wenatchee and Chelan County are in a fruit-producing region that also has economic contributions from technology production, agriculture, tourism, and government.

Mission Ridge Road is in a rural area south of the city of Wenatchee. Mission Ridge Ski Area is the only commercial operation adjacent to the roadway. Areas that are commercially logged are located west of the road and are accessed by Beehive Road that intersects with Mission Ridge Road.

Impacts

The initial total estimated cost of the project is \$10,00,000. The short-term economic impacts of the project would be beneficial to the area. No long-term economic impacts would occur.

Repair of slump locations, stabilization of unstable slopes, and rock-fall ditches would save maintenance and associated costs of adding pavement to slump locations and removing fallen rock from roads. Some maintenance cost would be necessary for periodically removing rock from ditches, snow removal, and pavement maintenance.

Construction would occur in the summer and would not affect skier traffic to the ski area. During construction, the proposed project would not adversely affect the ski area. Ski area summer-maintenance personnel could experience construction delays.

Construction would not prevent logging, but could cause some delays in log hauling. Delay frequency and length would be determined during final design of the traffic control plan. A minor impact to log hauling would occur. In the long term, the proposed project would improve haul operations.

The Action Alternative would negligibly affect the long-term economy of the region. It would temporarily add money to the local economy in the short term during construction.

The No-Action Alternative would not affect the economy of the region or the area adjacent to the road.

Mitigation

Construction delays and traffic control would be coordinated with residents, timber companies and ski area personnel.

Cultural Resources

An early historic trash scatter (ca. 1905-15) and homestead with associated house and irrigation canal are located adjacent to the road near at the beginning of the project. Another historic and/or prehistoric site is located farther toward the ski area at the Boy Scout camp. The sites were evaluated and are not eligible for the National Register of Historic Places. A finding of no effect to historic properties was determined by WFLHD. The State Historic Preservation Officer (SHPO) concurred with the determination in a letter dated November 17, 2005 (Appendix). The proposed project would comply with Section 106 of the National Historic Preservation Act of 1966, as amended.

In a letter dated November 10, 2005, from the Confederated Tribes of the Colville Reservation, the Tribal Historic Preservation Officer (THPO) agreed that the project would have no effect on historic properties.

Impacts

Neither the No-Action Alternative nor the Action Alternative would impact known cultural resources.

Mitigation

If unknown cultural resources or burials are discovered during construction, work will cease until further investigation and consultation with the SHPO and THPO take place.

Water Quality

Surface Water

The road crosses Squilchuck Creek near the beginning of the project. It also crosses Miners Run Creek twice (Figure 2). The road parallels Squilchuck Creek for a short distance near the end of the project. Squilchuck Creek is in Washington State Department of Ecology Water Resource Inventory Area (WRIA) 40. (WRIA's are watershed areas of Washington State).

Headwaters of Squilchuck Creek are located in the upper reaches of Beehive Mountain, Mission Peak, Naneum Ridge, and Wenatchee Mountain. The creek flows through the ski area and then

northeast 10.6 miles to the Columbia River immediately south of Wenatchee. Lake Creek flows into Squilchuck Creek near the ski area. Miners Run Creek flows into Squilchuck Creek near the beginning of the project.

Between 2002 and 2003, Washington State Department of Ecology took water-quality samples from Squilchuck Creek approximately 4 miles downstream from the beginning of the project. The samples were taken 1 mile above tailings from gold mines and immediately downstream from the tailings. Iron and aluminum concentrations both above and below the tailings exceeded Environmental Protection Agency guidelines. No cause of the above-normal concentrations was identified. Turbidity was low, pH was in the normal range, and temperature was normal. (Washington Department of Ecology. 2005). No Squilchuck Creek or Miners Run Creek water-quality data are available for the project area.

Chelan County plows snow and sands the road to increase traction for vehicles. The sand mixes with the snow as the snow is plowed and is pushed off the edge of the road. In areas where Miners Run Creek and Squilchuck Creek are adjacent to the road, light-colored sand from road plowing and sanding operations is visible on the stream bottom. The sand is washed from the slopes into the streams by rain and melting snow. Runoff from the road currently enters the streams.

At MP 2.6, where the road closely parallels Squilchuck Creek, the road would be realigned away from the creek to provide a larger snow storage area and a buffer area between the road and the creek.

Impacts

The design of the proposed project would include areas for snow disposal. Currently, roadway runoff flows down the slopes where the road crosses Miners Run Creek and causes erosion of the slope into the creek. The proposed project would flatten slopes between the road and the stream to slow runoff and reduce erosion of the slopes. This would also reduce road sand in the stream. A long-term beneficial impact would result.

The larger area at MP 2.6 would allow storage of snow and sand and reduction of sand that enters the Squilchuck Creek. Chelan County has indicated that it will change snowplowing operations to reduce sedimentation of the streams. A moderate beneficial impact to surface water quality would result.

The paved surface area of the road would be increased in some areas and decreased in others. New impervious surface and additional runoff would result in some areas, while it would decrease in areas where the road surface would be reduced. Impervious surface would be reduced by approximately 0.6 acre, from 22.6 acres to 22 acres. Runoff would ultimately enter Squilchuck Creek and Miners Run Creek as it does now.

Adverse impacts to surface water quality from the road would be temporary and minor during construction. In the long term, providing areas to store snow so that the snow/sand mixture does not have to be plowed off the edge of the road would reduce the amount of sand sediment in the

stream and result in a beneficial impact. Flattening slopes to slow runoff and erosion would also result in a long-term beneficial impact.

Traffic would not increase as a result of the proposed project, because no capacity is being added and the proposed project would not result in development in the area. The amount of chemical pollutants such as oil and tire rubber washed from the new road by stormwater would remain essentially the same as is currently washed from the existing road.

The Action Alternative would result in short-term, temporary adverse minor impacts to surface water during construction. The long-term impacts of decreased sedimentation from plowed sand and slope erosion would be moderately beneficial.

The No-Action Alternative would not reduce erosion on roadway slopes or the amount of roadway sand that enters surface water. The No-Action Alternative would allow continued erosion from roadway runoff and sedimentation of streams. A long-term adverse moderate impact would result.

Mitigation

Crossroad culvert replacement, repair, or extension would occur during reduced summer flow. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented to reduce erosion and sedimentation into the streams during construction. The SWPPP would include Best Management Practices (BMP) such as silt fence, hay bales, and check dams in ditches.

An Hazardous Material Spill Plan would be prepared by the contractor to reduce likelihood of fuel or oil leaking from construction equipment into surface water. The Hazardous Material Spill Plan would also require that equipment staging areas be located away from surface water and that procedures are in place to clean material if spilled from equipment.

Areas would be vegetated as soon as possible after completion of construction in each area of the proposed project. The vegetation would be temporary until permanent native vegetation would be planted.

Groundwater

Groundwater in the project vicinity is relatively deep. According to well logs of the Washington State Department of Ecology, the well at the Scout A Vista Boy Scout Camp is 289 feet deep.

Impacts

It is unlikely that either the No-Action or Action Alternative would adversely impact groundwater because of the depth to groundwater and the limited depth of excavation for proposed construction.

Wetlands

Wetlands are areas inundated or saturated by water at a frequency or duration sufficient to support vegetation typically adapted for life in saturated soil conditions. Wetlands are characterized by specific soil types, aquatic plants, and hydrology.

Jurisdictional wetlands in the Mission Ridge corridor were delineated using the *US Army Corps of Engineers Wetland Delineation Manual* (Northern Resource Consulting, August 2004.) Twelve small, low-habitat value jurisdictional wetlands were identified. Design of the road would avoid a large wetland located at the beginning of the project.

The wetlands are riparian and are located in areas where the road is adjacent to either Squilchuck Creek or Miners Run Creek. Dams that resulted from sand deposited after snowplowing operations created some of the wetlands identified.

Impacts

Small amounts of five wetlands would be disturbed because of the road's proximity to them. All of the disturbed wetlands are those created by sand dams. The Action Alternative would permanently disturb a total of approximately 0.02 acre of wetlands. An Army Corps of Engineers Nationwide Section 404 authorization would be required for the proposed project.

The proposed project would have a beneficial impact to riparian areas and wetlands that are currently subject to road-sand sediment from road sanding and plowing operations. It would improve snow storage, mitigate erosion, and reduce road-sand sedimentation in streams. Sand from the road that is carried into the streams would be reduced and would result in improved water quality in Miners Run Creek and Squilchuck Creek. Riparian areas would benefit from reduced road sediment. The benefits to these areas outweigh the impacts of the small amount of wetlands disturbed.

The No-Action Alternative would not disturb wetlands, but would result in continued sedimentation of wetlands, riparian areas, and streams.

Mitigation

Fill in wetlands would be minimized to the extent possible in the design of the proposed roadway. Disturbance within wetlands would be limited to that necessary to construct the roadway.

Forest Service personnel were consulted regarding mitigation. No locations in the Squilchuck water shed that would be suitable for wetland creation or enhancement were identified. No opportunities for compensatory mitigation by creating or enhancing existing wetlands are available. The Forest Service representatives were of the opinion that mitigation would result by preventing plowed sand from eroding into wetlands, riparian areas, and streams in the project area. The prevention of erosion into streams and riparian areas would result in surface water quality benefits by

preventing further degradation of riparian and stream habitat. This prevention would surpass mitigation resulting from artificial creation or enhancement of wetlands.

Only Practicable Alternative Finding

The purpose of Executive Order 11990, *Protection of Wetlands*, is to “minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands”. The goal of Executive Order 11990, is to establish a national policy “to avoid to the extent possible the long- and short-term impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.”

To implement this goal, fill in wetlands would be minimized to the extent possible. Disturbance within wetlands would be limited to that necessary to construct the roadway. Two one hundredths of an acre of wetlands would be disturbed. The initial conceptual alignment of the road was moved to avoid the largest wetland at the beginning of the project across from the state park. Moving the road to avoid other wetlands would result in increased disturbance of habitat on the opposite side of the road and would require expensive walls on steep downhill slopes.

Controlling erosion of plowed sand in streams and riparian areas would reduce long-term impacts to wetlands and stream habitat all along the alignment and would be a beneficial impact to wetlands

Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

The proposed project would comply with Executive Order 11990, *Protection of Wetlands*.

Floodplains

Floodplains are relatively flat areas adjoining the channel of a natural stream or river that has been or may be covered or inundated by water. Floodplains have natural resource values such as groundwater recharge. A change in the hydrology of the floodplain can impact natural resource values and affect properties.

Where it crosses Miners Run Creek and Squilchuck Creek, the existing road crosses the floodplains associated with the two streams. The existing culverts in the road at these locations would remain. No new construction would take place in floodplains. No new floodplain impacts would occur with either the Action Alternative or the No-Action Alternative. The proposed project would comply with Executive Order 11988, *Floodplain Management*.

Air Quality

The U.S. Environmental Protection Agency and the Washington State Department of Ecology, Eastern Regional Office have jurisdiction over ambient air quality in the Mission Ridge Project

Area. Wenatchee is considered an attainment area for air pollutants. An air monitor for particulate matter (pm10) is located in Wenatchee. Pm10 levels are below both national and Washington state standards.

Impacts

Traffic volumes on Mission Ridge Road are relatively low compared to urban volumes on highly traveled roads and streets. Because proposed improvements to the road would not increase capacity or result in new development, the proposed project would not increase the number of vehicles using the road and associated pollutant emissions. The proposed project would not affect long term-air quality in the project vicinity.

During construction, dust would temporarily affect air quality. The Action Alternative would have a short-term minor and negligible adverse impact.

Neither the Action nor the No-Action Alternative would have a measurable long-term impact on air quality.

Mitigation

Dust palliative would be used to suppress dust until the roadway is paved. The contractor would be required to properly maintain construction equipment engines to avoid excess air pollutant emissions.

Noise

Traffic noise levels in the project are relatively low because of the low traffic count. The proposed project would not result in increased traffic.

No noise receptors are present on most of the project. A few houses are located close to the road near the beginning of the project. The residents of the houses currently experience noise from vehicular traffic on the road.

Although the proposed project would widen the road slightly, it would not result in a traffic increase or increased vehicular speed. The centerline of the road would be moved approximately 14 feet closer to one residence.

Impacts

A slight noise increase would result, but would not approach or exceed the FHWA noise criterion of 67 A-weighted decibels (dBA). The noise criterion is the noise level at which noise mitigation must be considered.

The existing noise level at the residence is 59 dBA. The noise level would increase to 61 dBA. A noise-level increase less than 3 dBA is not discernable to the human ear. The residents of the

home would not be able to hear the difference between existing noise levels and post-construction noise levels, and 61 dBA is below the 67 dBA criterion.

Squilchuck State Park campground is located more than 0.5 mile away from the road. A noise increase for the campground would not occur except during construction.

During construction, noise resulting from construction equipment and activities would increase. At developed areas near the beginning of the project, construction noise would occur during one construction season. A short-term adverse minor impact would result. Upon completion of construction, noise levels would return to ambient levels.

The No-Action Alternative would not change noise levels for residents along the road.

Mitigation

Construction equipment mufflers would be maintained. Night construction would not be allowed.

Aesthetics

The road travels through the forest. At some locations along the road, Wenatchee Valley can be seen.

The road would be widened slightly in some places and reduced in others. A small amount of vegetation would be removed.

Walls would be constructed on the downhill side of the road and would not be visible from the road.

Impacts

Roadside aesthetics would be altered slightly by the Action Alternative. Some trees and smaller vegetation adjacent to the road would be removed and guardrail would be installed. The amount of vegetation removed would be reduced to the extent possible. After construction, the area disturbed would be revegetated with native vegetation.

Views of the Wenatchee valley from the road would remain unchanged.

Views of a newly constructed road for residents would be a slight change because of uniform black asphalt and striping. The change would be a minor long-term impact.

Road sand used on Mission Ridge Road is a light gray in color. In some places, the sand forms berms or is piled against trees. It contrasts with brown soil and does not support vegetation. Road sand deposited along the road and on side slopes would be removed. Removal of sand

would result in a more natural look, would allow vegetation to grow in soil, and would result in a long-term beneficial impact.

Construction equipment and roadway disruption during construction would result in a short-term visual impact for residents adjacent to the road and for travelers.

The No-Action Alternative would not alter aesthetics. Continued sand build up would be a continued adverse visual impact in the area adjacent to the road.

Mitigation

Trees, shrubs, grasses, and flowers would be planted with native species where vegetation is removed.

Vegetation

The proposed project begins in dry forested habitat of second growth Ponderosa pine, Douglas fir, bitterbrush, Ceanothus, and pine grass. The road then climbs into smaller Ponderosa pine, larch, grand fir, ocean spray habitat. The last third of the proposed project is in old, multilayered Ponderosa pine, Douglas fir, grand fir, larch, boxwood, and pine grass forest. The road crosses two small streams and their associated small riparian communities.

Impacts

Trees, shrubs, plants, and grasses adjacent to the road would be removed. Approximately 13.3 acres of vegetation would be removed. Of that, 2.2 acres of disturbance would be temporary and vegetated upon completion of the proposed project.

The vegetation is currently adjacent to the road and is not high quality habitat. None of the area to be disturbed is Late Successional Reserve or designated critical habitat. Design of the road was modified to avoid large trees in Northern spotted owl habitat. Adequate forested habitat remains in the Squilchuck watershed and in Wenatchee National Forest, which covers 2.2 million acres of forest.

A small amount, less than 0.1 acre, of riparian habitat would be disturbed. Riparian habitat near the road would be improved by reducing erosion and sand deposits in the riparian areas next to the streams.

On some slopes downhill from the road, where feasible, existing, eroded bare slopes would be flattened, have topsoil added, and vegetated.

Removal of vegetation by the Action Alternative would be a minor adverse impact because vegetation removed would be a narrow band on both sides of the road. It would be mitigated by

planting native vegetation upon completion of construction. A minor beneficial impact would result from removal of sand from the roadside and riparian areas.

When soil is disturbed and vegetation removed, the potential of introduction of noxious weeds is created. Birds, wind, or construction equipment can carry seeds to the project area.

The No-Action Alternative would not remove vegetation, but would allow continued deposit of road-generated sediment into adjacent habitat. An adverse impact to vegetation would result.

Mitigation

The clearing limits would be reduced to the extent possible.

Measures to control introduction of invasive noxious weeds would be implemented. Soil stabilization measures would be implemented upon completion of construction. Planting native plants, trees, and shrubs upon completion of the project would mitigate vegetation removal and lessen the likelihood of introduction of noxious weeds.

Wildlife

Deer and elk are present in the Squilchuck Creek watershed. The Washington Department of Fish and Wildlife manages state land, the Colockum Wildlife Area, south of the ski area. The land is separated from the road by the ski area. Although elk and deer are present on the state land, they are rarely seen near the road because of better habitat at the wildlife area and topographical features that separate the wildlife area from the road. Other small mammals, birds, and amphibians are present in the area.

Impacts

During construction, small amounts of habitat adjacent to the road would be disturbed. Wildlife species in the disturbed habitat would relocate. Large amounts of forest habitat remain in the project area and watershed and are available for relocated species. A minor adverse impact to wildlife would result.

Mitigation

The amount of habitat disturbed would be reduced to the extent possible in the development of the design.

Fish

Squilchuck Creek adjacent to Mission Ridge road has brook trout and rainbow trout. Miners Run Creek had no fish identified during a fish survey and data search.

Impacts

Addition of sediment retention sills in the Squilchuck Creek culvert would improve fish access to stream habitat. The sills would allow build up of culvert bottom habitat in the culvert.

Road design, slope repair, and modified snow plowing operations would reduce the amount of sand and soil entering the streams and improve habitat for fish.

Erosion control best management practice measures during construction would prevent disturbed soil from entering the streams. The culverts at Miners Run and Squilchuck creeks would not be replaced and would not result in increased stream sedimentation during construction.

The Action Alternative would result in a long-term beneficial impact to fish because of decreased sedimentation.

The No-Action Alternative would result in no change in impacts to fish.

Mitigation

Best management practices would reduce stream sedimentation during construction. Work in the Squilchuck Creek Culvert would be done during the in-water work window in the summer when water flow is lowest. The in-water work window is July 1 to October 31 in Squilchuck Creek.

Threatened and Endangered Species

Fauna

The area adjacent to the road has potential habitat for federally listed gray wolf, grizzly bear, Canada lynx, and northern spotted owl. Surveys for the animals were conducted. None were found.

A Biological Assessment, Mission Ridge Road Improvement Project (USDA Forest Service. 2005), was prepared based on available scientific information, the project description in the *Mission Ridge Road Improvement Projects Environmental Analysis*, conversations with specialists and experts, and professional experience and judgment, it is determined that the project “**may affect, but is not likely to adversely affect**” Canada lynx (threatened), gray wolves (endangered), grizzly bears (threatened), or Northern spotted owls (threatened) or habitat for any of these species. Informal consultation was initiated and concurrence with the determination is documented in the U. S. Fish and Wildlife letter dated May 6, 2004 (Appendix). No designated critical habitat is located adjacent to the road.

The effect determinations were based on conservation measures and the fact that the habitat is minimal because of its proximity to the road, absence of species during survey, reduction of habitat disturbance to the extent possible, and inclusion of measures to minimize disturbance during construction.

Conservation/Mitigation Measures

Conservation Measures included in the Biological Assessment for the proposed project follow.

If an active lynx, grizzly bear, or wolf den or wolf rendezvous site is discovered at any phase of the project, construction activities and project associated disturbance will not occur within 0.50 mile of the site until after July 31.

Spotted owl surveys will be completed in suitable habitat (section 24) according to accepted protocol prior to initiating any project activity. Full surveys will be conducted each year until the project is complete.

If an active spotted owl nest is discovered during the project, construction activities will not occur within 0.25 mile of the nest site between March 1 and July 31 to limit noise effects, and no vegetation changes will occur between March 1 and August 31 within 0.25 mile to avoid the loss of important habitat.

High intensity noise disturbance will not occur from March 1 to July 31 within 0.66 mile of an active spotted owl nest or any unsurveyed spotted owl suitable habitat. (Distances may be modified if topographic features will aid in minimizing disturbance).

Project facilities (equipment staging, parking, offices, storage trailers) will be located in existing disturbed locations, 0.25 mile or more beyond riparian reserves, and at least 0.25 mile outside unsurveyed spotted owl habitat.

Rock crushing operations will not occur within 0.66 mile of unsurveyed or occupied suitable spotted owl habitat.

All work within riparian reserves will be consistent with the Master Memorandum of Understanding between the USDA Forest Service Region 6 and the Washington Department of Fish and Wildlife for Hydraulic Projects.

Vegetative and/or mechanical stabilization will be employed in areas where the cut or fill erosion may enter streams.

Fueling and fuel storage areas will be 0.25 mile outside of Riparian Reserves, away from water and drainage areas, and in locations where spills can be contained before entering water.

Machinery will be steam-cleaned, and hydraulic and fuel lines will be inspected and free of leaks before entering riparian reserves.

Only minimal brush cutting will occur as needed for site-distance safety concerns and in a manner that maintains root strength where the vegetation is stabilizing slopes. Brushing along forest roads will be especially limited in lynx habitat (above MP 2.3, Station 134) to retain cover and foraging opportunities

Information about the protected status of grizzly bears, wolves, spotted owls, and lynx and the penalties for poaching, harassing etc. will be provided to all project employees. Information about the need to avoid making food and garbage available to bears will also be provided to all project employees.

Fish

Federally listed endangered species summer steelheads are often observed in the Columbia River close to its confluence with Squilchuck Creek. Spring Chinook and bull trout, both federally listed endangered species, are located in the upper Columbia River. Downstream from the project area, barriers prevent anadromous fish from reaching the Mission Ridge Road area.

Impacts

The project will have **“no effect”** on spring Chinook or bull trout.

The No-Action Alternative would not affect threatened or endangered species and is documented in the U.S. Fish and Wildlife letter dated May 6, 2004.

Flora

Habitat is present for Ute-ladies’ tresses, a federally threatened plant. Survey for the plant was done. No Ute-ladies’ tresses were found.

Impacts

The proposed project would have **“no effect”** on Ute-ladies’ tresses.

Mitigation

Prior to construction, a US Forest Service botanist will survey for Ute-ladies’ tresses. If any are found, appropriate action would be taken in coordination with US Fish and Wildlife Service.

U.S. Forest Service Survey and Manage and Sensitive Species

Records of USDA Forest Service Wenatchee Ranger River District were reviewed for Threatened, Endangered, Sensitive, and Survey and Manage species and their habitat in the project area. Field visits to the project area for habitat assessments, species inventory, and project orientation were conducted in summer 2003, all seasons in 2004, and early 2005.

The following table displays Sensitive (and Survey and Manage) wildlife species analyzed for this project and possible effects.

Table 1

U.S. Forest Service Survey and Manage and Sensitive Species in the Project Area

Species	Habitat Present	Species Present	Design Criteria	Effects Determination
USDA Forest Service R6 Sensitive Species				
*Chelan mountain snail (<i>Oreohelix new sp. 1</i>)	No	No	None	No Impact
*Masked dusksnail (<i>Lyogyrus sp. 2</i>)	No	No	None	No Impact
*Blue-gray tailed dropper (<i>Prophyaon coeruleum</i>)	Yes	Unk	None	MIIH
*Puget Oregonian snail (<i>Cryptomastix devia</i>)	Yes	Unk	None	MIIH
*Larch mountain salamander (<i>Plethodon larselli</i>)	No	No	None	No Impact
*VanDyke's salamander (<i>Plethodon vandykei</i>)	No	No	None	No Impact
Northwestern pond turtle (<i>Clemmys marmorata marmorata</i>)	No	No	None	No Impact
Sharptail snake (<i>Contia tenuis</i>)	Yes	Unk	None	MIIH
Striped Whipsnake (<i>Masticophis taeniatus</i>)	No	No	None	No Impact
California mountain kingsnake (<i>Lampropeltis zonata</i>)	No	No	None	No Impact
Common loon (<i>Gavia immer</i>)	No	No	None	No Impact
Clark's grebe (<i>Aechmophorus clarkii</i>)	No	No	None	No Impact
Eared grebe (<i>Podiceps nigricollis</i>)	No	No	None	No Impact
Ferruginous Hawk (<i>Buteo regalis</i>)	No	No	None	No Impact
American peregrine falcon (<i>Falco peregrinus anatum</i>)	No	No	None	No Impact
Sandhill crane (<i>Grus canadensis</i>)	No	No	None	No Impact
*Great gray owl (<i>Strix nebulosa</i>)	Yes	No	None	No Impact
Gray flycatcher (<i>Empidonax wrightii</i>)	No	No	None	No Impact
Ash-throated flycatcher (<i>Myiarchus cinerascens</i>)	No	No	None	No Impact
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	No	No	None	No Impact
California wolverine (<i>Gulo gulo luteus</i>)	No	No	None	No Impact
Pacific fisher (<i>Martes pennanti pacifica</i>)	Yes	No	None	No Impact
Western gray squirrel (<i>Sciurus griseus</i>)	No	No	None	No Impact

Species present: Unk=Unknown Effects determinations for Sensitive species: ; MIIH=May impact Individuals or Habitat, but Will Not Likely Contribute to a Trend Towards Federal Listing or Loss of Viability to the Population or Species; In addition to being designated as Sensitive Species, these species are also designated as “survey and manage” species under the Northwest Forest Plan, as amended (USDA and USDI 1994, 2001, 2003)

Based on the available information, including field surveys, it has been determined that the proposed project would have “no impact” or “ may impact Individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species” of Sensitive or Survey and Manage wildlife species. Pre-disturbance surveys are not required for Survey and Manage wildlife species in the project area.

The Wenatchee River Ranger District does host known sites of seven fungi species listed as ‘survey and manage’ and ‘sensitive species’ but they are mostly near the Pacific crest with a cool, moist maritime climate, over 30 miles to the north and west of the Mission Ridge Road. Improvement Project.

Botanical surveys conducted in the summer months of 2004 included surveys for vascular plants, bryophytes, lichens, and fungi, listed as ‘Survey and Manage’ after the Annual Species Review

(USDA and USDI 2003). As documented in the final resource report dated October 2004, no sensitive vascular plant, bryophyte, lichen or fungi species were found. In addition, no 'survey and manage' bryophyte, lichen, or fungi species listed in the December 2003 Survey and Manage species list (USDA and USDI, 2003) were found.

Mitigation

If any previously undiscovered Endangered, Threatened, Sensitive or Survey and Manage species are encountered at any point prior to or during implementation of this project, or if new species are listed, the District or Forest biologist will be consulted and appropriate measures enacted.

Recreation

Mission Ridge Road provides access to hiking, biking, and skiing in the forest and fishing at Beehive Reservoir. It is also the access to Squilchuck State Park.

The run leg of the Ridge to River Race begins at Mission Ridge Ski Area and ends at Squilchuck State Park. The race is in April. Although relocation of the run leg of the race is under consideration for the 2006 race, the beginning of the bike leg would remain at Squilchuck State Park.

Impacts

The Action Alternative would increase safety and improve access for travelers to the ski area and surrounding recreation areas. It would also provide wider, smoother shoulders for bicyclists.

During construction, recreational travelers would be inconvenienced by delays and slow travel. This would be temporary until the road construction is completed.

The Action Alternative would have no adverse long-term impact on recreation.

The No-Action Alternative would not improve access to recreation in the vicinity or increase safety.

Mitigation

Construction would be scheduled to avoid disruption of the Ridge to River race.

Construction would not take place during the winter when the road is most heavily used by skiers. Inconvenience to road users would be minimized by the traffic control plan developed during design. The traffic control plan would be coordinated with Mission Ridge Ski Area.

Hazardous Materials

No property in the vicinity of the road is listed in the Department of Ecology Toxics Cleanup Program. No land use adjacent to the road has the potential to have soil or water contamination.

Dumping of unwanted household items, such as appliances and clothing, occurs along the road. None of it appears to have associated contamination.

Impacts

Neither the Action nor the No-Action Alternative has the potential to disturb contaminated property.

There is the potential of a spill when construction equipment is operating and being serviced.

Mitigation

A Hazardous Material Response Plan would be required, and adherence to the plan should adequately protect the project area from hazardous releases.

Utilities

Utilities in the roadway right-of-way include water, electricity, cable television, and telephone.

Impacts

The Action Alternative would require relocation of water, electricity, and telephone lines if they are in conflict with construction limits. Some disruption of utilities to residents would result during utility relocation that would be done by the utility companies in coordination with WFLHD.

No long-term adverse impacts to utilities would result from the Action Alternative.

The No-Action Alternative would not necessitate the relocation of utilities.

Mitigation

Utility relocation would be coordinated with property owners.

Construction

Impacts

During construction of the Action Alternative, the road might be temporarily closed during culvert installation. Generally, one lane of traffic would be open, and pilot cars would escort vehicles. Traffic would be delayed for short periods of time.

Construction would occur in the summer when traffic volume is the lowest. The residents who live near the beginning of the project, logging traffic from the Beehive area, those accessing recreation areas, and ski area workers would be inconvenienced during construction. Provisions

for emergency traffic would be coordinated with law enforcement, fire, and ambulance services. The inconvenience is temporary while construction is occurring.

Short-term adverse impacts to water and air quality from fugitive dust and erosion would result during construction. Construction equipment noise temporarily would increase for residents. Construction of the proposed project would result in no long-term adverse impacts.

Waste Disposal and Staging Areas

No areas in which to dispose of excavation material or store construction equipment and material have been identified. The contractor for the proposed project would identify the areas best suited to his needs. If the sources are not commercial, the areas would be surveyed for cultural resources, endangered species, and wetlands. Western Federal Lands Highway Division (WFLHD) would approve the areas for use based on results of the surveys and coordination with resource agencies if necessary.

If material sources for borrow selected by the contractor are commercial, they are likely located north of the area toward Wenatchee. Large trucks hauling material would increase on Squilchuck Road temporarily until construction is completed. The increased traffic would be a minor short-term impact to residents along Squilchuck Road.

Cumulative Impacts

Activities, recent and planned, in the watershed, in Chelan County, and in the Wenatchee National Forest include:

The Chelan County Conservation District and the Chelan County Fire District are developing a plan to thin timber to provide firebreaks at Mission Ridge Ski Area, Forest Ridge Subdivision, Wenatchee Heights, Beehive Recreation Area, and other areas. Timber is also commercially removed in the Beehive area.

Federal Highway Administration (FHWA) has administered enhancement projects in the Wenatchee Forest and has others planned. In 2002, a restroom was installed and the parking area improved at Chinook Pass. At Salmon La Sac Guard Station, the parking area was improved and landscaping and signing added in 2003. In 2004, the second phase of Chinook Pass summit restroom installation was completed. At Clear Creek Overlook near White Pass View viewpoint, parking improvements were made in 2005. A project to improve parking and signing at Wild Rose rest area at White Pass is planned for 2006.

In 2005, Mission Ridge Ski Area replaced an existing two-person chair lift with a faster four-person chair lift, expanded snowmaking, and began using an existing water reservoir for snowmaking. The chair lift was installed at the same location as the existing chairlift, after the existing chairlift was removed. The area of the reservoir was cleared of vegetation in 1996.

A public cross-country ski trail, that would connect the residential development at Forest Ridge Subdivision with Mission Ridge Ski Area, has been proposed.

Only those resources subject to incremental impacts caused by combination of impacts of the listed activities and the proposed project are addressed.

Threatened and Endangered Species

According to the Biological Assessment done for the project, no cumulative impacts to threatened and endangered species would result.

Vegetation

The amount of timber removed for the firebreaks, timber sale, and for construction of the road would, in combination, result in a minor adverse cumulative impact to vegetation in to the project area.

The combined impacts to vegetation from the road, ski-area snow making expansion, and a new high-capacity, faster chair lift at the ski area would be minor.

Recreation

The combined actions of improvements to the ski area, a new cross-country ski trail, and improved access to the ski area would provide a pleasant experience for motorists traveling to recreation areas.

Water Quality

These projects are small and cumulatively would add paved area. The paved area of a newly constructed Mission Ridge Road would be reduced, the impervious surface of the Mission Ridge project and enhancements projects would not result in an adverse cumulative impact.

Indirect Impacts

Impacts of the proposed project would be direct. No indirect impacts were identified.

Permits Required

US Army Corps of Engineers Nationwide Section 404 Permit
National Pollution Discharge Elimination System Permit (Environmental Protection Agency)

Mitigation Measures

Water Quality

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared to reduce erosion and sedimentation into the streams during construction. The SWPPP would include Best Management Practices (BMP) such as silt fence, hay bales, and check dams in ditches.

During construction of the Preferred Alternative until vegetation is established and soils are stabilized, erosion control measures included in the storm water pollution prevention plan (SWPPP) would be installed and maintained. Where possible slopes would be seeded to prevent erosion.

A would be prepared to reduce likelihood of fuel or oil leaking from construction equipment into surface water. The Hazardous Material Spill Plan would also require that equipment staging areas be located away from surface water and that procedures are in place to clean material if spilled from equipment.

Cultural Resources

If unknown cultural resources are discovered during construction, work will cease until further investigation and consultation with the State Historic Preservation Officer and the Tribal Historic Preservation Officer takes place.

Wetlands

Fill in wetlands would be minimized to the extent possible. Disturbance within wetlands would be limited to that necessary to construct the roadway.

Air Quality

Dust palliative would be used to suppress dust until the roadway is paved. The contractor would be required to properly maintain construction equipment engines to avoid excess air pollutant emissions.

Noise

Equipment mufflers would be maintained. Night construction in the residential portion of the road would not be allowed.

Endangered and Threatened Species

If an active lynx, grizzly bear, or wolf den or wolf rendezvous site is discovered at any phase of the project, construction activities and project associated disturbance will not occur within 0.50 mile of the site until after July 31.

Spotted owl surveys will be completed in suitable habitat (section 24) according to accepted protocol prior to initiating any project activity. Full surveys will be conducted each year until the project is complete.

If an active spotted owl nest is discovered during the project, construction activities will not occur within 0.25 mile of the nest site between March 1 and July 31 to limit noise effects, and no

vegetation changes will occur between March 1 and August 31 within 0.25 mile to avoid the loss of important habitat.

High intensity noise disturbance will not occur from March 1 to July 31 within 0.66 mile of an active spotted owl nest or any unsurveyed spotted owl suitable habitat. (Distances may be modified if topographic features will aid in minimizing disturbance).

Project facilities (equipment staging, parking, offices, storage trailers) will be located in existing disturbed locations, 0.25 mile or more beyond riparian reserves, and at least ¼ mile outside unsurveyed spotted owl habitat.

Rock crushing operations will not occur within 0.66 mile of unsurveyed or occupied suitable spotted owl habitat.

All work within riparian reserves will be consistent with the Master Memorandum of Understanding between the USDA Forest Service Region 6 and the Washington Department of Fish and Wildlife for Hydraulic Projects.

Vegetative and/or mechanical stabilization will be employed in areas where the cut or fill erosion may enter streams.

Fueling and fuel storage areas will be 0.25 mile outside of Riparian Reserves, away from water and drainage areas, and in locations where a spill possible can be contained before entering water.

Machinery will be steam-cleaned and hydraulic and fuel lines will be inspected and free of leaks before entering riparian reserves.

Only minimal brush cutting will occur as needed for site-distance safety concerns and in a manner that maintains root strength where the vegetation is stabilizing slopes. Brushing along forest roads will be especially limited in lynx habitat (above MP 2.3, Station. 134) to retain cover and foraging opportunities

Information about the protected status of grizzly bears, wolves, spotted owls, and lynx and the penalties for poaching, harassing etc. will be provided to all project employees. Information about the need to avoid making food and garbage available to bears will also be provided to all project employees.

Areas disturbed by construction would be surveyed for survey and manage flora species and Ute's ladies trusses prior to construction by a USFS botanist. Appropriate action would be taken with US Fish and Wildlife Service if any species are identified.

Vegetation

Measures to control introduction of invasive noxious weeds would be implemented. Equipment would be washed prior to arriving at the construction site. Vegetation removal would be mitigated by planting native plants, trees, and shrubs upon completion of the project.

Upon completion of construction, native trees, shrubs, and plants would be planted in disturbed soil. Locations where disturbance remains after the road is moved away from its existing location would be obliterated, contoured, and planted with native vegetation.

Construction

Provisions for emergency vehicles would be made. Construction would be coordinated with the ski area so that summer personnel travel disruption would be minimized. Construction activities would also be coordinated with property owners, the Forest Service, and logging companies. Construction would be scheduled to avoid disruption of the Ridge to River race.

Utility relocation would be coordinated with property owners.

Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966 states that the Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic sites resulting from the use.

This Section 4(f) Evaluation is a *de minimis* evaluation. Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, amended existing Section 4(f) legislation at Section 138 of Title 23 and Section 303 of title 49, United States code, to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This revision provides that once the U.S. Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete.

Impacts of a transportation project on a park, recreation area, or wildlife and waterfowl refuge that qualifies for Section 4(f) protection may be determined to be *de minimis* if:

- 1) The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
- 2) The officials with jurisdiction over the property are informed of FHWA's intent to make the *de minimis* impact finding based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f); and
- 3) The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource.

Description of the 4(f) Property

Squilchuck State Park, located at the beginning of the project, is adjacent to the road on both sides. The park provides hiking, biking, camping, and snow sport opportunities, including cross-country skiing, snowmobiling, snowshoeing, and snow play. The park includes 10 miles of hiking trails and biking trails and is owned by the state of Washington.

In the Chinook language, “squilchuck” means “muddy water.” The park was originally private and the park's first ski tow was installed in 1948. The park was sold to the state in 1952. A ski lodge was constructed in the park in 1953.

The park covers 288 acres. The only vehicular access to park facilities is off of Mission Ridge Road at the beginning of the proposed project. A large parking/chain-up/bus turnaround area is located next to the road on park property. Next to the parking/chain-up/bus turnaround area in the park is a residence for park employees (Figure 4).

The park has one group camp that accommodates up to 160 people. There are 20 tent spaces, one restroom and two showers. Campsites have no hook-ups. A lodge is available for rent for day-use and is popular for weddings and other group gatherings. The lodge features a huge fireplace with kitchen, stove, sinks, refrigerator, banquet tables, chairs and picnic tables outside.

In summer, hiking and mountain biking take place in the park. In the winter, the park is used for skiing, snowshoeing, and sledding. The recreational facilities, i.e., lodge, trails, and sledding areas, are located approximately 0.30 mile from the park entrance at Mission Ridge Road.

The parking area is not shown on the map provided by the park (Figure 5). The closest developed area of the park is a paved and striped parking area approximately 0.25 mile from the entrance and Mission Ridge Road.

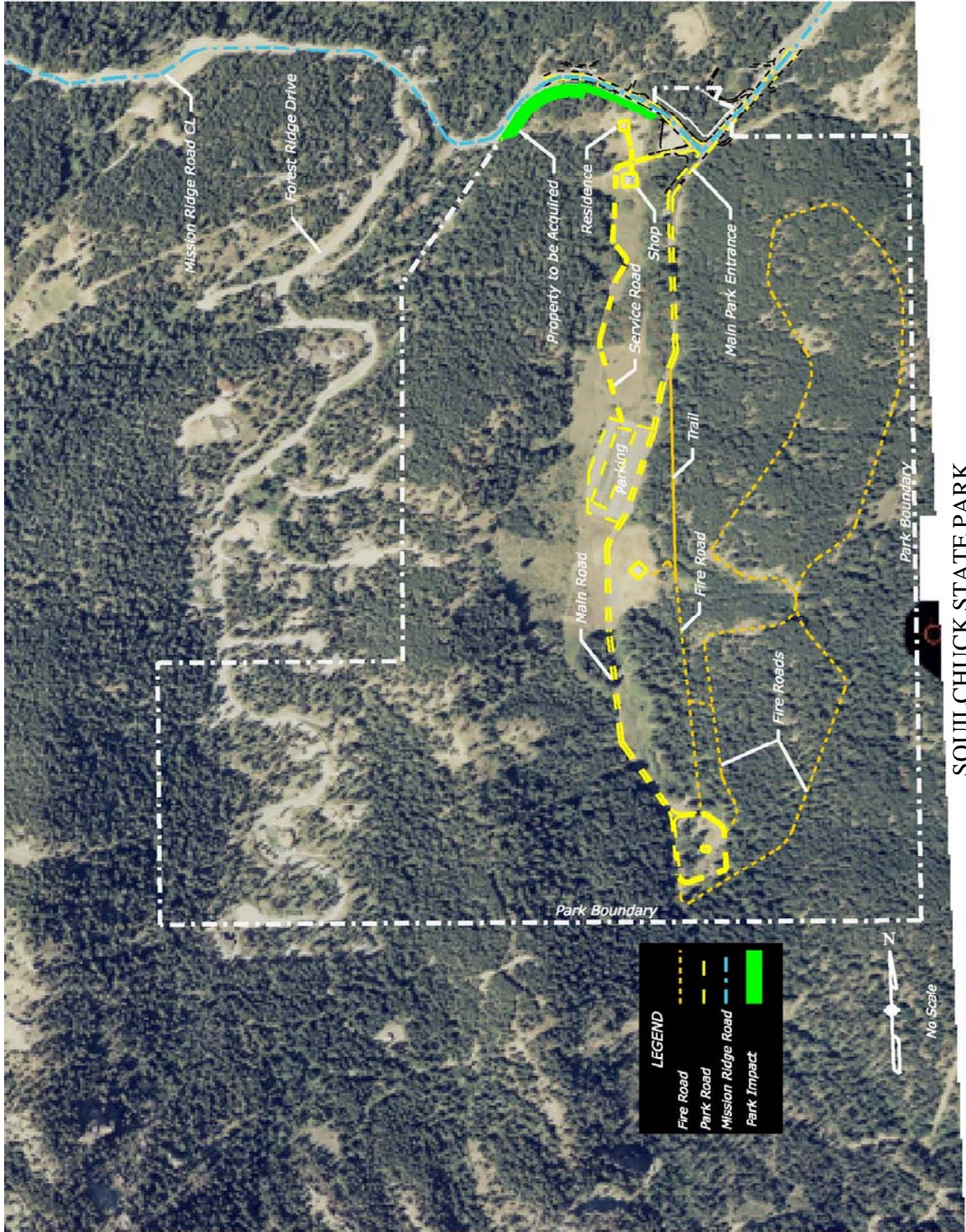
Action Alternative

The Action Alternative would require park property. The property to be acquired is approximately 1100 feet west of the entrance to the park. The road would be widened between 1 and 3 feet on either side where the road is adjacent to the park. A total of 33,000 square feet (0.8 acre) would be acquired from the park. The area to be acquired has two different functions. A portion of the area to be acquired is an unpaved parking/chain-up/bus turnaround area and would be a temporary easement acquisition for construction. The remainder of the area, to be permanently acquired, is an undeveloped, forested area.

The parking/chain-up/bus turnaround acquired would be a temporary construction easement and would return to its present use upon completion of construction. It is not currently utilized as part of the recreational facilities of the park. It is, rather, used as a chain up area for vehicles ascending the mountain in snowy weather and as a school bus turnaround in snowy weather. The area would function as it currently does upon completion of the project.

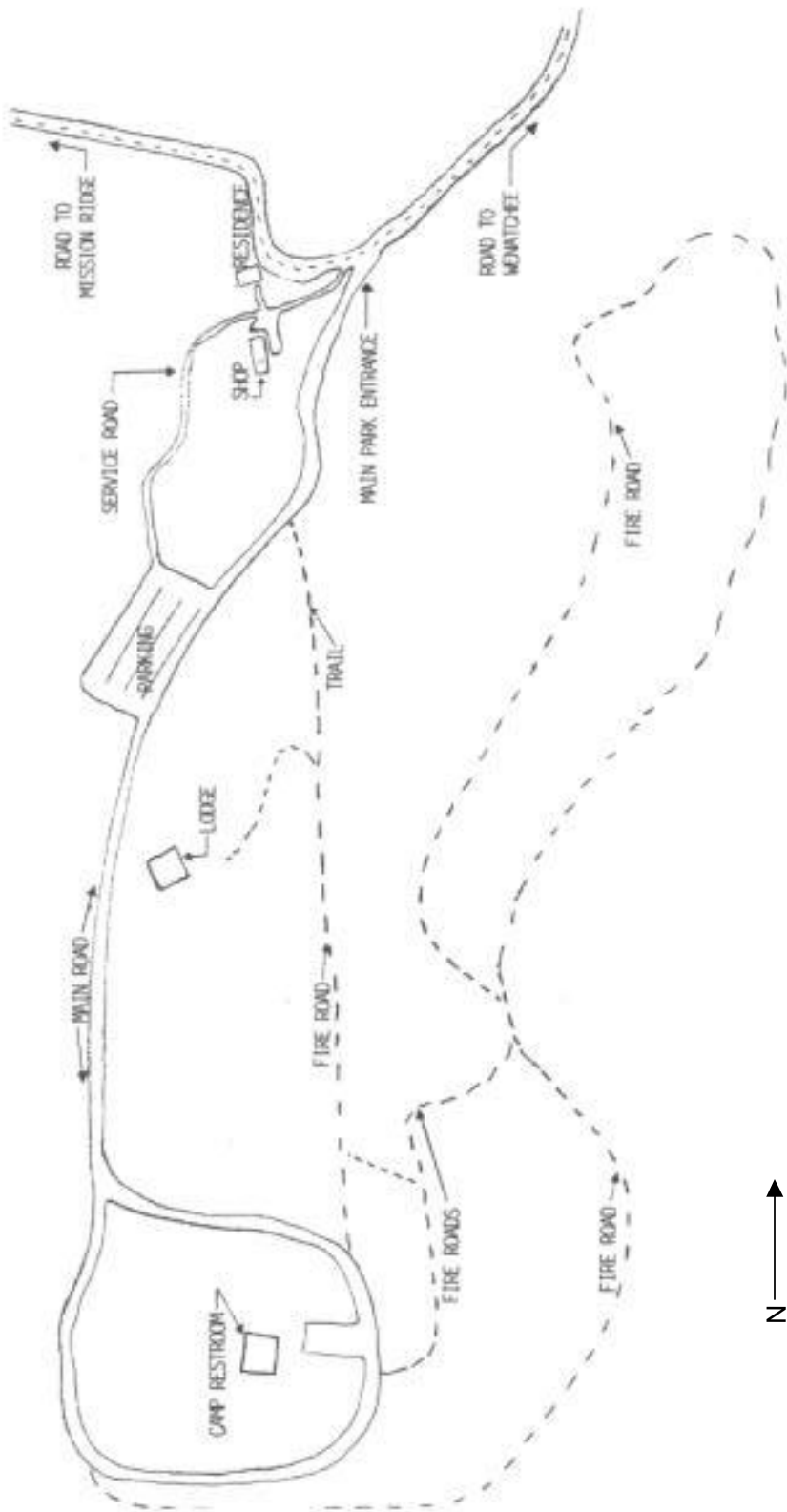
Reconstruction of the area would improve the drainage, reduce the erosion, and reduce the amount of water collecting in low spots in the chain up/bus turnaround.

The limit of construction would be approximately 10 to 15 feet outside the actual limit of impact. The new roadway slope would tie into existing ground 30 feet from the centerline of the roadway. The limit of construction would be 40 feet to 45 feet from the centerline. The additional width would allow traffic during construction.



SQUILCHUCK STATE PARK

FIGURE 4



N
 No Scale

SCHEMATIC OF
 SQUILCHUCK STATE PARK FACILITIES
 FIGURE 5

The following figure illustrates the encroachment of the road into the park.

TYPICAL SECTION

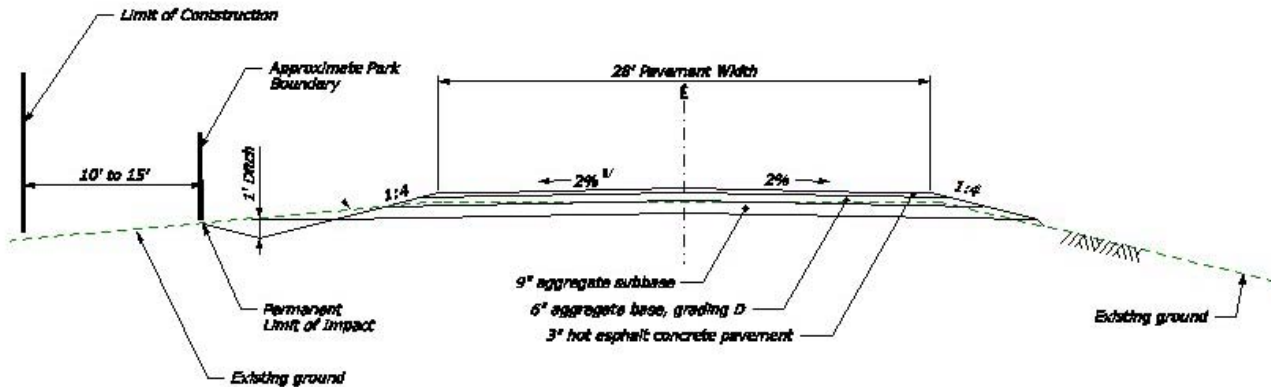


Figure 6

Impacts of the Proposed Project to Squilchuck State Park

No developed or recreational area of the park would be acquired or impacted. The park recreational facility closest to Mission Ridge Road is a trail accessed from the entrance road. It is approximately 1200 feet from the park entrance at Mission Ridge Road, and would not be impacted. Other recreational facilities, such as trails, parking lot, lodge, and campground, are farther from Mission Ridge Road and would not be impacted by property acquisition from the park. No impacts to park users would occur either during construction or upon completion of construction.

Although not a human recreational use, a resident herd of deer use the undeveloped portions of the park and are a concern of park managers. Less than an acre of deer habitat would be disturbed. Sufficient deer habitat would remain for deer to use.

During construction in the summer, noise in the vicinity of the park would temporarily be a minor annoyance for daytime users of the park. Construction on the road would not occur at night. Campers would not be disturbed.

Minimization/Mitigation

The original proposal for the road included a roadway width of 32 feet for the entire length of the proposed project. The width throughout the proposed project was reduced to 28 feet to minimize disturbance and reduce cost.

Acquisition of property from Squilchuck State Park was minimized during design of the proposed project by reducing the construction easement to the extent possible. To reduce the easement, the ditch was reduced in depth, the slopes were steepened, the road was shifted away from the park as far as possible, and the level of the road was raised.

At the request of park personnel, timber cut from the park would be stacked to be used by the park, rather than sold. The entrance to the park would be restriped and signed to improve entrance onto Mission Ridge Road by users exiting the park.

The property to be acquired would be appraised and fair market value would be paid to Washington State Parks Commission. WFLHD and park managers have agreed to discuss enhancements to the park during right-of-way negotiations.

Construction on the road would not occur at night.

Coordination

The proposed project was coordinated on site with the Washington State Parks and Recreation Division planners, who provided a map of the facilities, park real estate agents, and the manager of Squilchuck State Park. Right-of-way personnel and the manager of Squilchuck State Park were contacted and consulted and provided state-park documentation necessary for the Section 4(f) evaluation (Appendix).

De Minimis Determination

Impacts of a transportation project to Squilchuck State Park qualify for Section 4(f) protection have been determined to be *de minimis* because:

1. The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). No recreational facilities will be affected, design has minimized acquisition of state park land, and mitigation measures have been included as described above.
2. The officials with jurisdiction over the property are informed of FHWA's or FTA's intent to make the *de minimis* impact finding based on their written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f); (Letter in Appendix)
3. The public will be afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource. The document will be available at county facilities and availability would be advertised in the Wenatchee World, the Wenatchee newspaper.

COORDINATION AND CONSULTATION

Public Involvement

A public involvement meeting was held June 30, 2004 at the Beehive Grange following release and circulation of the Environmental Checklist.

The proposed project checklist was prepared and distributed in June 2004. The public open house for the checklist was announced in the Seattle Intelligencer and the Wenatchee World. Notices of the public house were sent to the project mailing list.

Displays of the proposed project alignment and photographic examples of retaining wall types were at locations around the room.

SEE team members attended. From Western Federal Lands Highway Division (WFLHD) were Mike Traffalis, Kirk Loftsgaarden, and Rochelle Byars. Gary Owen and Greg Petzholdt from Chelan County and Rick Emmick, Bob Hulet, and Dan Stoer from Wenatchee Okanagan National Forest attended. One county commissioner attended.

Fifteen members of the public attended the open house.

Two written comments were received.

- Comment: Commenter supported the project and was concerned about runoff and sand associated with snow removal.
Response: Erosion control and sand erosion prevention have been incorporated into the project
- Comment: Commenter requested pavement at Beehive Road Parking, a passing lane at Milepost 2, wide shoulders near the ski area for additional ski parking, additional paved parking at Graffiti Rock, paved parking at Lake Creek Trail Head, extension of culverts under Mission Ridge Parking lot, use of excess excavation at the parking lots, and disposal of boulders at the ski area.
Response: Pavement at Beehive Road parking is not within the scope of the project; a slow moving vehicle pullout will be provided at Milepost 2; paving at Graffiti Rock and Lake Creek Trail Head are not within the scope of the project, culverts under the Mission Ridge Parking lot are now within the scope of the project. The US Forest Service is working with the ski area to provide an approved area for excess excavation disposal. If the area is approved, FHWA will consider the site for disposal.

Three emails were received.

- Comment: The conservation chair of the Audubon Society is concerned about impacts to the Devil's Gulch area and wants the project to have minimum impact on wildlife. He is concerned that the road will have unreasonably large width requirements, excessive tree cutting and drainage impacts.

Response: The wildlife analysis did not find major adverse impacts to wildlife. The project design reduced the originally-proposed width of the road to two 11-foot lanes with two 3-foot shoulders. Only those trees necessary to construct the road would be cut. The proposed project would improve drainage and reduce erosion.

- Comment: The commenters were property owners who were concerned about impacts to their property.

Response: Design has minimized impacts to properties.

- Comment: The commenter supported the project but was concerned about federal funds being used for enhancing private enterprise without a fair share-cost project agreement.

Response: The project passes through state land, private land, and Forest Service land. As such, recreational users and property owners use the land and access to the divergent land uses will be enhanced.

Property owners were afforded the opportunity to meet with SEE team in October 2005. The team presented owners preliminary plans of proposed property acquisition. Five property owners and representatives of the ski area attended.

A notice of availability of this environmental assessment and *de minis* Section 4(f) evaluation will be published in the Wenatchee World. An opportunity to request a public hearing will be included in the notice.

Social, Economic, and Environmental (SEE) Study Team

Western Federal Lands Highway Division--Mike Traffalis, Kirk Loftsgaarden, and Rochelle Byars

Chelan County--Gary Owen, Greg Pezoldt

U.S. Forest Service--Bob Hulet, Rick Emmick

Agency Coordination

U.S. Fish and Wildlife Service

Washington Department of Fish and Wildlife

Washington State Parks and Recreation Commission

Washington State Historic Preservation Office

Yakama Nation

Confederated Tribes of the Colville Reservation

Other Groups

Boy Scouts of America

Mission Ridge Ski Area

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APPENDIX