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Environmental assessment Report_Mission
Ridge Expansion

	September 2024
WORKING DRAFT ENVIRONMENTAL IMPACT STATEMENT Mission Ridge Resort Expansion	

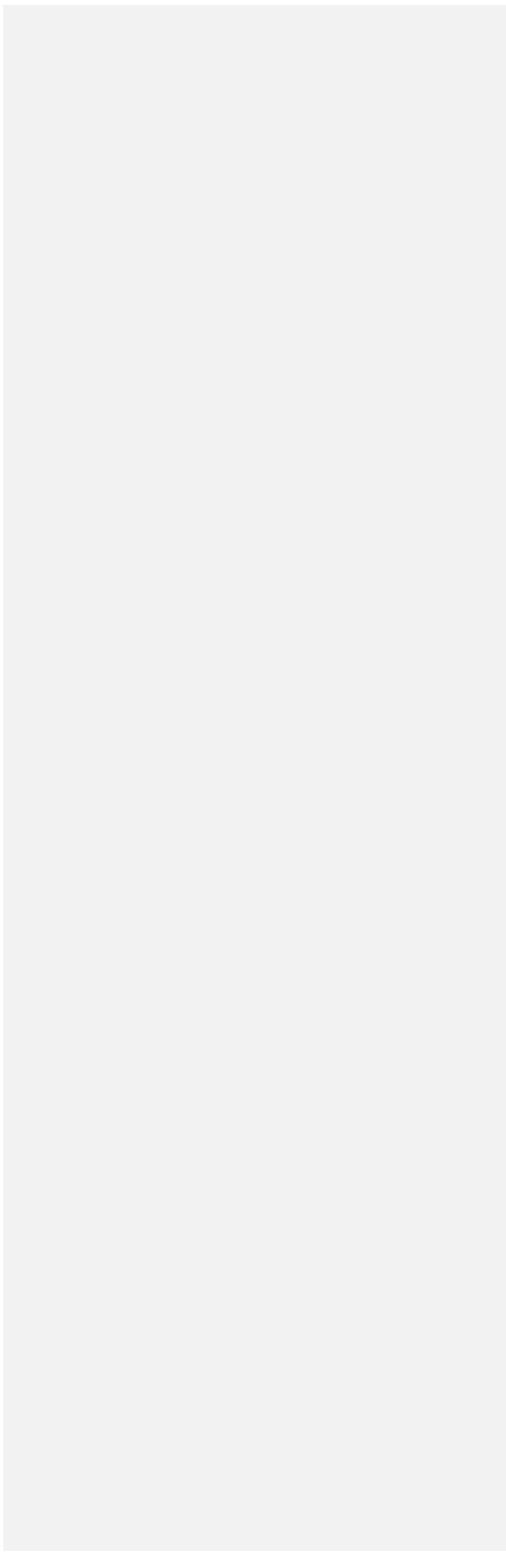


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 - 2017 Preliminary Geologic Site Reconnaissance Report
 - 2018 Geologist feasibility study Mission Ridge Access Road
 - 2019 Seismic Refraction Survey
 - 2020 Geotechnical Report Access Road
 - 2020 Geotechnical Hazards Report
- B Fire Protection Reports
 - 2019 Mission Ridge MPR Fire Protection Plan
- C Secondary Access Road Reports
 - 2023 Mission Ridge Expansion - Secondary Access Report
 - 2023 Analysis of 5 Secondary Road Options to Mission Ridge Ski and Board Resort
- D 2022 Water Resources Memo
- E 2019 Mission Ridge Hydrology Memorandum
- F Anchor QEA 2024 Resource Report – Pending**
- G Wetland Reports
 - 2023 Verification of Wetland Boundaries Memo
 - 2024 Wetland Delineation and Stream Typing Report for Mission Ridge
- H Energy and Power Reports
 - 2022 Power Needs Analysis Report
 - 2024 Power Needs Analysis Amendment Letter
- I Traffic Impact Analysis Reports
 - 2019 Traffic Impact Analysis Report
 - 2021 Traffic Impact Analysis Report Amendment
 - 2024 Traffic Impact Analysis Report
- J Cultural Resources Report - Pending**
- K Updated 2019 Economic Significance Report

- L 2020 USFS Mission Ridge Expansion Environmental Assessment

ACRONYMS + ABBREVIATIONS

ADD	Average Daily Demand
Applicant	Tamarack Saddle, LLC
Bgs	below ground surface
BMP	best management practices
CCC	Chelan County Code
CDHD	Chelan-Douglas Health District
CDTC	Chelan-Douglas Transportation Council
CEQ	Council on Environmental Quality's
CFR	Code of Federal Regulations
County	Chelan County Natural Resources Department
CSWGP	NPDES Construction Stormwater General Permit
Chelan PUD	Chelan Public Utilities District
CL	Cultural Landscape
CWPP	Community Wildfire Protection Plan
CWA	Clean Water Act
DAHP	Department of Archaeology and Historic Preservation
DEIS	Draft Environmental Impact Statement
DOH	Washington State Department of Health
DS	Determination of Significance
EA	Environmental Assessment
Ecology	Washington Department of Ecology
EPA	U.S. Environmental Protection Agency
ERU	Equivalent Residential Units
FC	Commercial Forest
FEIS	Final Environmental Impact Statement
FONSI	finding of no significant impact
GHG	greenhouse gas

Gpd	gallons per day
gpm	gallons per minute
HMMP	Habitat Management and Mitigation Plan
HPA	Hydraulic Project Approval
IDP	inadvertent discovery plan
IFC	International Fire Code
IFPL	Industrial Fire Precaution Levels
KOP	Key Observation Point
LOS	Level of Service
LOSS	Large onsite septic system
MDD	Maximum Daily Demand
Mission Ridge	Mission Ridge Ski and Board Resort
MPR	Master Planned Resort
mW	megawatts
National Forest	Okanogan-Wenatchee National Forest
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	U.S. National Parks Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHWM	ordinary high water mark
OSHA	US Occupational Safety and Health Administration
OSS	Onsite septic system
OWNF	Okanogan-Wenatchee National Forest
RCO	Recreation Conservation Office
RCW	Revised Code of Washington
SEPA	State Environmental Protection Agency
SPCC	Spill Prevention, Control, and Countermeasures
SUP	Special Use Permits
SWPPP	Stormwater Pollution Prevention Plan

TESC	Temporary Erosion and Sediment Control
TCP	Traditional Cultural Property
TIA	Traffic Impact Analysis
USACOE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forest Service
Village	Mission Ridge Expansion Village Base Area
WDFW	Washington State Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WSP	Washington State Parks and Recreation Commission
WUI	wildland urban interface
WUIC	Wildland-Urban Interface Code
WISSARD	Washington Information System for Architectural and Archaeological Record Data
WWTP	wastewater treatment plant

EXECUTIVE SUMMARY

Introduction and Background

Tamarack Saddle, LLC (the Applicant) proposes to expand the Mission Ridge Ski and Board Resort (Mission Ridge) to include year-round outdoor recreational facilities, short-term visitor accommodations, residential and commercial development, and associated infrastructure utilizing a phased approach over an approximate 20-year timeframe. The Proposed Project is located in Chelan County, Washington. Throughout this DEIS, the term “Project Area” refers to the area shown in Figure S.1.

The Proposed Project will include construction and operation of new outdoor recreation facilities, commercial and residential facilities, public services facilities, additional utilities, and maintenance of open space. Outdoor recreation includes expansion of the alpine ski area (up to 7 new ski lifts, 18 designated ski trails covering approximately 62 acres, and glade skiing covering approximately 9 acres) and construction of a new Nordic trail system (approximately 6.5 miles of trails) and a snow tubing area. Selected alpine and Nordic ski trails may also serve hiking and mountain biking uses during the snow-free seasons.

The proposed commercial and residential facilities include the Village/Commercial Development (approximately 110,000 square feet, 57-unit hotel/lodge), non-residential parking (4.3-acre day-use lot, underground parking areas), and residential development (621 multi-family units, 265 single-family residential units, 80 on-site employee housing bed).

The Applicant’s proposal includes provisions for public services, utilities, and other infrastructure necessary to support the resort. The DEIS considers improvements to the following facilities and infrastructure: operation and maintenance facilities,

The Applicant’s Proposed Project Within the Project Area:

- Alpine ski area expansion
- Snow tubing area development
- Nordic ski area development
- Up to seven new ski lifts
- Single-family residential development (265 units)
- Condominiums, townhouses, and duplexes (621 units)
- Hotel/lodge (57 rooms)
- Employee on-site housing (80 beds)
- Commercial and entertainment development (110,000 sq-ft)
- Access road and onsite parking
- Other supporting infrastructure and outdoor recreation facilities

Outside of the Project Area:

- Intersection improvements in City of Wenatchee
- Improvements to Chelan PUD power system
- Improvements to Chelan PUD public water system
- Improvements to Chelan PUD fiberoptic telecommunication system

potable water supply, wastewater, stormwater, electric power, phone and internet service (fiber optics), solid waste, transportation, public safety, fire protection, and snowmaking.

The Applicant has proposed a phased development approach, which is planned to occur in five phases over an approximate 20-year timeframe. Table ES-1 summarizes each phase of construction.

Table ES-1. Proposed Construction Phasing

Phase ¹	Multi-Family Residential (units)	Single-Family Residential (units)	Hotel/Lodge (rooms)	Commercial Space/Skier Services (sq. ft.)	Employee Housing (beds)
1 ²	172	102	-	60,000	-
2	162	50	57	20,000	40
3	156	41	-	18,500	-
4	131	41	-	11,500	40
5	-	31	-	-	-
Total	621	265	57	110,000	80
¹ Each phase would include necessary infrastructure to support operations, which would include infrastructure located both within and outside of the MPR Project Area. ² Phase 1 also includes the alpine ski area expansion, the Nordic trail system development, the snow tubing area, the new access road, the day-use parking lot, the maintenance and operations facilities.					

Development of the proposed MPR would also have impacts outside of the Project Area, including, but not limited to, infrastructure improvements located between the Project Area and the City of Wenatchee. This Draft Environmental Impact Statement (DEIS), reviews all areas of the affected environment associated with the Applicant's proposal, including those that occur outside of the Project Area.

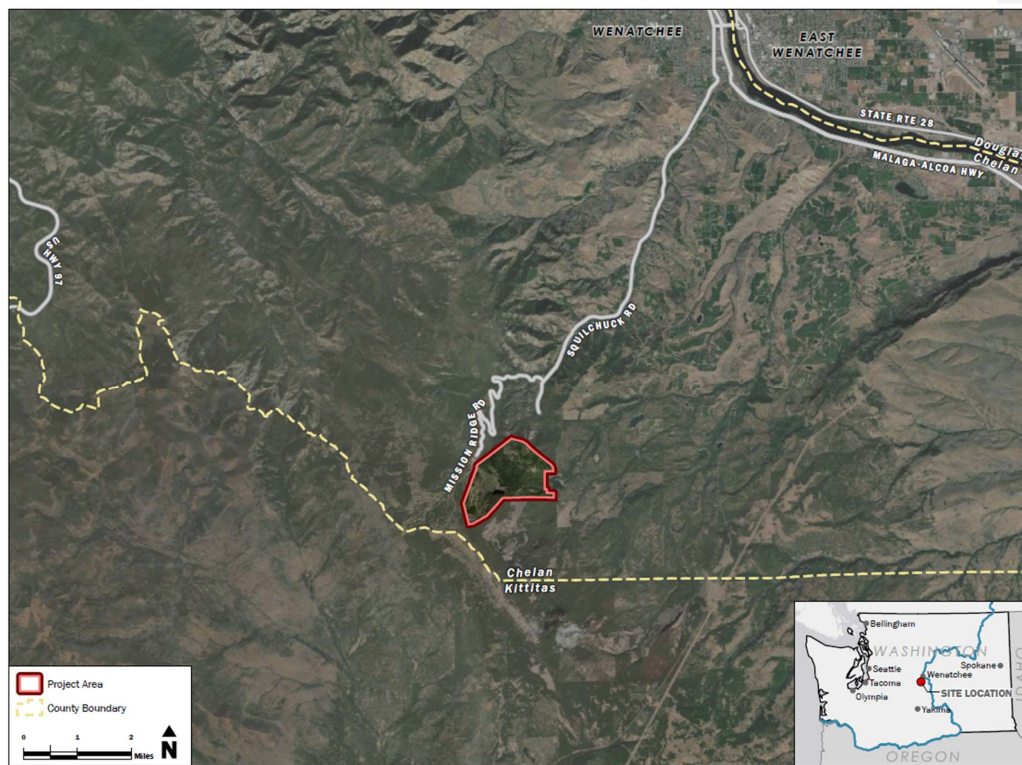


Figure ES.1: Project Vicinity

Site Background and Project History

The existing Mission Ridge resort opened in December 1966 and is located on over 2,000 acres of leased land managed by the United States Forest Service (USFS) and the Washington State Department of Fish and Wildlife (WDFW). Though primarily a day use and local use alpine ski area, Mission Ridge also serves regional skiers who rely on overnight accommodations in Wenatchee or surrounding communities for multi-day skiing experiences. Mission Ridge currently has 36 designated trails that are serviced by four chairlifts, two rope tows, and one surface lift (a.k.a., magic carpet). Facilities located at the base area of the resort include the Hampton Lodge (a day lodge), the Ski School, the Base Facilities buildings (first aid, daycare, maintenance facilities, administrative offices), and on-site parking.

A similar resort expansion project, referred to as the Mission Ridge/Constellation Ridge Resort Master Plan, was proposed in the mid-1980s by Wenatchee Mountain, Inc. (then Mission Ridge operator) and Bevis Buildings, Inc. The Mission Ridge/Constellation Ridge proposal included a larger overall resort footprint compared to the Proposed Project, though there is overlap between the project areas included in each proposal (Figure 1.5. Proposed Resort Areas Comparison). In 1986, the Chelan County Planning Department issued a Final Environmental Impact Statement (FEIS) on the proposed Mission Ridge/Constellation Ridge Resort Master Plan (CCPD 1986a). An addendum to the Mission Ridge/Constellation Ridge FEIS was prepared in 1986 (CCPD, 1986a) and again in 1993 (MRMC, 1993). However, the Mission Ridge/Constellation Ridge proposal did not advance beyond the planning stage.

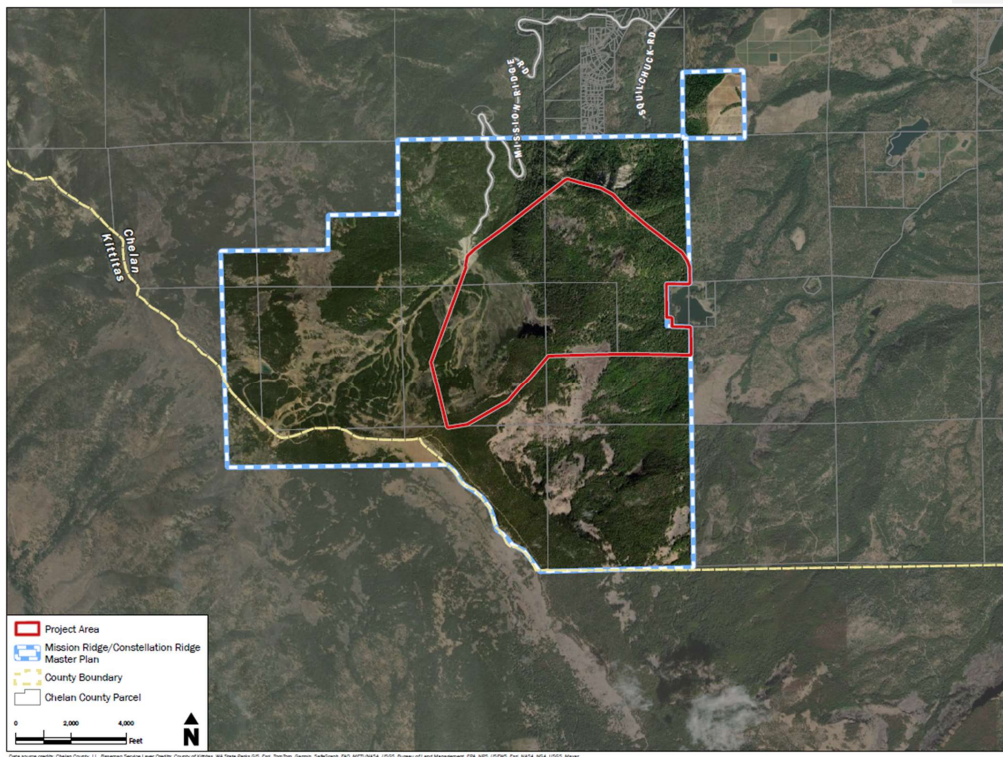


Figure ES-2. Proposed Resort Areas Comparison

Subsequent efforts to expand Mission Ridge include the Mission Ridge Ski Area Retroplan™ (MRMC, 1994) and later Mission Ridge Ski Area Master Plan Improvements (USFS, 2000), neither of which were implemented.

Purpose and Need

The Applicant's objective is to expand Mission Ridge as part of a Master Planned Resort (MPR) Overlay District to enhance existing services and meet the growing demand for year-round outdoor recreation opportunities. Current limitations that impede resort operations include:

- Insufficient on-site parking facilities to meet peak demand
- Undersized and crowded beginner skier terrain
- Lack of recreation options for non-skiers
- Lack of on-site overnight accommodations

The Applicant has determined that the Proposed Project is necessary to provide diverse outdoor recreation opportunities sufficient to meet public demand, both locally and regionally.

The Proposed Project is intended to meet the requirements of an MPR Overlay District pursuant to Chelan County Code (11.89, Master Planned Resorts Overlay District). Per the code, the purpose of an MPR is *"to enhance and diversify the recreational and economic opportunities in Chelan County through the development of master planned resorts that complement the natural and cultural attractiveness of the area without significant adverse effects on natural and environmental features, cultural or historic resources"*. The code allows for development of planned destination resorts that provide a designed mixture of visitor-oriented accommodations, including a variety of residential, recreational, and commercial facilities, consistent with the Chelan County Comprehensive Plan (County, 2017).

Environmental Review Process

The County prepared this DEIS under SEPA requirements described in RCW Chapter 43.21C, WAC Chapter 197-11, and CCC 13.04. The SEPA process is intended to ensure that environmental values are considered during decision-making actions by state and local agencies. The process helps agency decision-makers, applicants, and the public understand how the proposed project will affect the environment. The environmental review process in SEPA is intended to work with other regulations and documents to provide a comprehensive review of a proposal.

The SEPA EIS

Under SEPA, an EIS is necessary if a proposed action is likely to result in significant adverse environmental impacts.

The purpose of an EIS is to provide the public and agencies with information about the effects of a proposed action and inform local and state agency permitting decisions.

An EIS is not a decision to approve or deny a proposal.

The County, the lead agency for the EIS, has determined that the proposed project is likely to have a significant adverse impact on the environment and requires an EIS. This EIS provides a comprehensive and objective evaluation of probable significant adverse

environmental impacts, reasonable alternatives, and mitigation measures that would avoid or minimize impacts. This EIS evaluates two alternatives, the proposed project and a No Action Alternative. Separately, USFS is conducting environmental review of the proposed project under the National Environmental Policy Act (NEPA). The USFS is developing a NEPA Environmental Assessment (EA) that considers the environmental effects of the proposed project on lands owned or administered by the USFS, including state-owned WDFW lands. The USFS EA does not evaluate the impacts of the proposed project on privately-owned lands. The NEPA review process is separate from the SEPA review process, but this EIS was prepared in close coordination with USFS and this EIS relies in part on work completed in the EA.

SEPA Environmental Impact Statement Scoping Process

Since April 2018, the Applicant has made four submissions of the Mission Ridge Expansion Master Planned Resort Overlay and Development Agreement Application and SEPA checklist to the Chelan County Community Development Department (Chelan County File No. MPR 2018-128). Pursuant to the January 2020 application, the County issued a Notice of Amended Application (February 24, 2020), and, following review of the public comments received, a Determination of Significance (DS) and Scoping Notice (May 19, 2020; CCDCD, 2020a). The DS/Scoping Notice initiated the EIS process and associated public comment period (May 19, 2020 through June 12, 2020). The County summarized the scoping process, public comments received, and alternatives to be analyzed in the DEIS in a letter dated August 31, 2020 (revised September 21, 2020 (CCDCD, 2020b)).

The Applicant again revised and resubmitted the application (dated February 1, 2022, received February 2, 2022 (LDC, 2022)). The County reviewed the February 2022 application and determined that the revisions were not substantial changes to the January 2020 application and that the prior DS remained binding (CNRD, 2022).

Tribes, agencies, members of the public, and stakeholders were invited to participate in the scoping process and provide comments. Consulting agencies were invited for consultation following the scoping process to provide additional comment and information. Additional details on interagency and tribal consultation, the public comment process, and the comments received are available in Section 6.

National Environmental Policy Act Process

The USFS has reviewed the proposed action and determined that the National Environmental Policy Act (NEPA) process applies based on the Council on Environmental Quality's (CEQ) revised regulations at 40 Code of Federal Regulations (CFR) 1501.1 and regulations at 36 CFR 220.4(a). The NEPA review process started before this SEPA review process. However, the Responsible Official under NEPA may coordinate and cooperate with the SEPA Lead Agency on environmental analysis and may use elements of the environmental review prepared under SEPA for NEPA analysis (40 CFR 1506.2(b)).

For review of the proposed project, NEPA and SEPA processes overlap. A Draft EA was published by the USFS in February 2020. Following the scoping notice by Chelan County, the USFS and the County met to develop a coordination strategy for the two environmental reviews. This EIS makes extensive use of material prepared by USFS under

the draft EA. It is expected at this EIS will be finalized ahead of a Final EA. Following review of the Final EIS issued by the County, the USFS will either issue a finding of no significant impact (FONSI) and Final EA or will prepare a NEPA EIS.

The EA is expected to focus on the following proposed actions on lands owned or administered by the USFS:

- Amending the existing Mission Ridge Special Use Permit by expanding the permit area.
- Amending the existing Chelan PUD Special Use Permit to incorporate the new water transmission lines across federal property.
- Building a new access road across the Okanogan-Wenatchee National Forest (National Forest) from the existing base area to the proposed second base area.
- Constructing new alpine ski lifts, alpine ski trails, Nordic ski trails, and snowmaking on National Forest lands.
- Coordinating with WDFW on state-owned lands that are administered by USFS under the existing Mission Ridge USFS Special Use Permit and WDFW Land Use Agreement pursuant to the USFS/WDFW Cooperative Agreement.

Summary of Feedback Received During Scoping

Comments and feedback from the scoping period were about the SEPA process, project alternatives, the scope of analysis, mitigation, cumulative impacts, general project support or opposition, and many elements of the environment. The list below briefly summarizes some of the key issues or resources identified. A scoping status summary document was revised and published on September 21, 2020. Key themes in scoping comments included:

- Analysis of impacts of a single access road versus a secondary access road to the project site on emergency access, public safety, and evacuation during winter and summer season.
- Slope stability and erosion potential during construction and operation of the proposed project due to impacts such as infiltration of stormwater and wastewater on the project site.
- Feasibility and impact of expanding the Chelan PUD water, power, and telecommunications system to the project site.
- Water requirements for the project including impacts to water quality, streamflow, and groundwater availability.
- Potential adverse impacts to habitat and migration routes for migratory elk and mule deer populations, removal of habitat and vegetation on the site, and secondary impacts to habitat and wildlife.
- Consistency with existing recreation, community plans (Stemilt Partnership, Stemilt-Squilchuck Recreation Plan, Community Vision Report, Chelan County

Comprehensive plan, and Our Valley Our Future Action Plan) and local plans (Master Plan Resorts Overlay District CCC 11.89).

- Preservation of open space and conversion of land to a larger development.
- Traffic impacts on existing road systems including a refined traffic impact analysis (TIA), mitigation plan, and analysis of single road access.
- Evaluating the ability to provide additional public services including utilities, fire, police, and school services with the increased demand to the local area.
- Alteration of the site aesthetics and light due to construction and operation and change from the natural character to a developed stage.

Alternatives Considered

This section summarizes the Proposed Project, project background and history, and the No Action Alternative.

Proposed Project

The Applicant proposes to expand the Mission Ridge Ski and Board Resort (Mission Ridge) by establishing a Master Planned Resort Overlay District. The MPR would include year-round outdoor recreational facilities, short-term visitor accommodations, residential and commercial development, and associated infrastructure across 1,090 acres of the proposed project area (Figure 1.3).

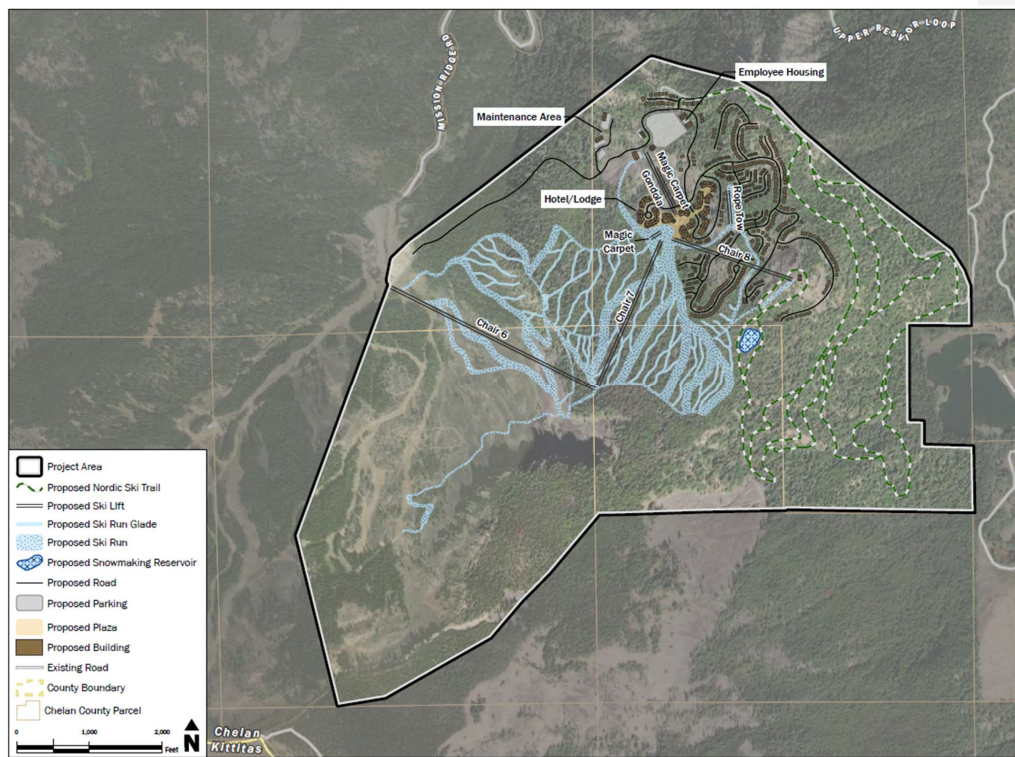


Figure ES-3 Proposed Project within the Project Area

This DEIS also evaluates components of the Proposed Project that necessitate infrastructure improvements include improvements to roads and utilities located in several areas between the existing Mission Ridge facilities, the City of Wenatchee, and the Columbia River.

The Applicant has proposed a phased construction approach (five construction phases) over an approximate 20-year timeline for project permitting and buildout. This DEIS provides a full environmental review of all phases of the proposed project at either a project-level or a programmatic-level (further described in Section 2).

No Action Alternative

The No Action Alternative represents the most likely future conditions if the proposed project is not constructed. Under the No Action Alternative, none of the proposed project would be constructed. The existing operations at Mission Ridge would continue as primarily a day-use and local and regional use alpine ski area. The no action alternative assumes no development beyond that permitted by current County zoning regulations.

Major Conclusions

Following review of scoping comments, Applicant technical reports, and consulting agency feedback, this EIS concludes that construction and operation of the proposed project would have probable significant adverse impacts on earth, fire risk, visual resources, and land use. These four categories have mitigation proposed by the Applicant, or imposed by the County, but cannot be fully mitigated as they are fundamental to the project goals and/or project site.

The proposed project area has a historically high risk of earth stability and fire hazards, and the introduction of additional construction and development within the area will likely increase the risk. The proposed project expansion of night-ski operations will have significant impacts on the light and glare relative to the existing conditions. Land use on the site will fundamentally change, which is permissible under County Code.

Table S-2 provides a summary of identified impacts from construction and operation of the proposed project for each environmental resource that was analyzed. Mitigation measures considered in the EIS include those proposed by the Applicant as well as those required by applicable permits or proposed to date by State agencies. The measures considered are those that could further avoid, minimize, reduce, or compensate for the identified impacts. Final mitigation measures would be included as conditions of the required project permits.

The EIS concludes that the Proposed Project would have probable significant adverse impacts on **earth, fire risk, visual resources, and land use.**

Earth: Construction and operation will create increased loading in an existing high landslide risk area.

Fire Risk: Operation will lead to increased activity in an existing high fire risk area.

Visual: Night ski operations will introduce new light and glare sources that cannot be mitigated.

Land Use: While consistent with local planning, land use determination will change as a result of operation of the Proposed Project.

EXECUTIVE SUMMARY

Table ES-2. Summary of identified construction and operation impacts from the Proposed Project

Section	Resource	Impact Finding	Summary Description	Summary of Proposed Mitigation ¹
4.1	Earth	Significant and unavoidable adverse impacts	Project Area overlays geologic conditions for long-term landslide risk and extreme slopes (>40%) and landslides have occurred in recent history. Construction would potentially increase slope instability in areas with mass wasting deposits and/or extreme slopes. Construction would potentially increase runoff to unstable areas. Operation would increase discharge to unstable areas through proposed septic discharge.	Drainage improvement Stabilization of unstable areas Long-Term Monitoring Global slope stability analysis to evaluate actual stability of slopes Prior to permitting, roadway design is necessary, slope creep at stream crossings should be evaluated, and review of "positive drainage" in relation to high stacking of snow. Further geotechnical investigation to classify hazards Periodic LiDAR review and recording of monument surveys
4.2	Fire Risk	Significant and unavoidable adverse impacts	Project Area is within a remote location with the prevalence of fire risk locally and the increased population will be subjected to that risk. Construction will introduce fire risk to the Project Area. Proper construction safety measures with IFPLs, fire flows, and emergency response protocols will be in place. Operation would reduce the acres of high to very high fire risk categories by 11 percent in the Project Area. Operation will introduce fire risk during the summer season and additional traffic on access roads. Population in the high-risk fire zone will increase.	Construction/Operation Risk Reduction Fuels Reduction/Defensible Space Emergency Access Planning Evacuation/Rescue Plans Public Outreach Applicant will update Wildfire Plan and Crisis Action Plan IFPL requirements will be followed. Additional measure to require 300-gallon pump truck during construction in all IFPL levels. Space for future Fire Department station Thinning and fuel reduction buffer along single-access road Emergency Access Planning, including a widened access road for
4.3	Visual	Significant and unavoidable adverse impacts	Proposed Project includes expanded night skiing and a change in visual character from a forested local ski area to a larger developed area. Given temporary nature and proper mitigation, construction would not significantly impact light, glare, or aesthetics.	Maintain visual character with building height maximums (45 ft building, 80 ft structures/ski lifts), building material, open space, and general high aesthetic value Reduce light glare impacts (acceptable construction hours, down shade lighting, and low-intensity, non-flashing lighting).
4.4	Land and Shoreline Use	Significant and unavoidable adverse impacts	While consistent with local planning, land use determination will change as a result of operation of the Proposed Project. The proposed project and utility improvements would be consistent with applicable plans and regulations including consistency with Chelan County Comprehensive Plan, Stemilt-Squilchuck Recreation Plan, Stemilt-Squilchuck Community Vision Report, Our Valley Our Future Action Plan, WRIA 40A Watershed Plan, Chelan County Zoning MPR Overlay District, Critical Areas, and Chelan County Shoreline Master Program. The project would not conflict with surrounding land uses, and would not be located on	Compliance with all Chelan County code requirements for MPR development Compliance with all permit requirements and conditions imposed by Chelan County, USFS, and other agencies Construction of the utility corridor improvements would not result in any permanent effects on the Scout-a-vista alpine camp nor will it impact any access or operations of the camp. Implementation of resource-specific measures identified in Section 4.1 (Earth), Section 4.4 (Visual), Section 5.2 (Groundwater), Section 5.3 (Surface Water), and Section 5.4 (Plants and Animals), Section 5.6 (Transportation), and Section 5.9 (Noise).
5.1	Air	Impacts likely mitigated below significance	Construction impacts minor due to temporary nature Operation impacts minor at scale and outside Ecology's area of concern	Construction Best Management Practices Fugitive Dust Control Plan
5.2	Groundwater	Impacts likely mitigated below significance	GW recharge increase due to out-of-basin import of water from CPUD No significant change to GW quality and withdrawals Minimal impacts to soils from OSS/LOSS GW withdrawals will not impair existing rights.	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, including a stormwater pollution protection plan (SWPPP), Temporary Erosion and Sediment Control (TESC) Plan, Spill Prevention, Control, and Countermeasures (SPCC) Plan, stormwater management, permit-required monitoring. On-site septic/Large on-site septic (OSS/LOSS) approval through Chelan-Douglas Health District and Department of Health (DOH) Wastewater Treatment Plan (WWTP) compliance with Clean Water Act and NPDES permit Ecology water right changes DOH well source approval Chelan PUD (CPUD) service agreement No groundwater impacts through reliance on CPUD if alternate wells are not approved by ecology
5.3	Surface Water	Impacts likely mitigated below significance	Riparian habitat and wetland impacts unavoidable but mitigated. Culvert replacement study required No significant change to SW quality and withdrawals Snowmaking and wastewater discharge will support recharge and stream flow	Habitat Management Mitigation Plan for riparian buffer impacts National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, including a stormwater pollution protection plan (SWPPP), Temporary Erosion and Sediment Control (TESC) Plan, Spill Prevention, Control, and Countermeasures (SPCC) Plan, stormwater management, permit-required monitoring. On-site septic/Large on-site septic (OSS/LOSS) approval through Chelan-Douglas Health District and Department of Health (DOH) Wastewater Treatment Plan (WWTP) compliance with Clean Water Act and NPDES permit. WWTP cannot cause downstream flooding Work below Ordinary High Water Mark (OHWM) conducted during in-water work windows. Wetland mitigation through Chelan County, Washington Department of Fish and Wildlife (WDFW), and Ecology Water crossings hydraulic capacity designed for 100-yr flood Potential Chelan County compensatory mitigation for Wetland 1 and 2 Chelan County Natural Resources and Ecology mitigation to Category III Wetland Riparian buffers maintained during construction based on guidance from WDFW and Chelan County Authorization for wetland fill by Ecology, as required Hydraulic project approval (HPA) permit with WDFW Ecology water right changes and reservoir permit Construction BMPs No SW impacts through reliance on CPUD if alternate wells are not approved by ecology

Table ES-2. Summary of identified construction and operation impacts from the Proposed Project (continued)

Section	Resource	Impact Finding	Summary Description	Summary of Proposed Mitigation ¹
5.4	Plants and Animals	Impacts likely mitigated below significance	Terrestrial: With property mitigating conditions, no probable significant construction/operation impacts to common, special status, and invasive species. Aquatic: No fish bearing streams in the resort area, snowmaking and OSS/LOSS could improve streamflow conditions with proper mitigation conditions.	Work below OHWM conducted during in-water work windows Construction BMPs (sediment control, hazardous material storage, fencing sensitive areas, invasive weed/plant control) Riparian buffers (300' federal fish bearing, 200' private fish bearing, 150' private non-fish bearing) Wetland Category III mitigation with CCNRD and Ecology Hydraulic Project Approval Habitat Management and Monitoring Plan Protect special status species sites Avoid disturbance to wolf den sites during breeding season Bear/fox resistant structures/facilities in the development Coordination with WDFW to reduce elk/deer impacts including seasonal use restriction areas Leave trees/snags > 21" BMP for ski/recreation operations such as trail guidelines/closures during sensitive periods Standards for residential impacts (i.e. fertilizer use, garbage, lighting) Native plants for re-vegetation Compensatory planning for whitebark pine impacts
5.5	Energy and Natural Resources	Impacts likely mitigated below significance	Energy supply from CPUD can support Phase 1 and part of Phase 2. Future phases will be evaluated in CPUD Long-Range Planning	State energy regulations will be followed during construction/operations 57% open space maintained (40% required by County Code)
5.6	Transportation	Impacts likely mitigated below significance	Phase 1-3 can be mitigated. Phase 4-5 would need to be reevaluated, additional mitigation to be determined. Assessment of parking lot culverts needed to determine access road specifications and potential mitigation requirements.	Construction BMPs Potential County Development Agreement Construction parallel to Squilchuck Road will maintain access to Squilchuck Road and Squilchuck State Park Supplemental TIA after Phase 3 Intersection improvements to include installation of compact roundabouts at Okanogan Avenue at Crawford Avenue and S. Miller Street at Crawford Avenue intersections will be completed prior to the completion of Phase 3. Analysis of Squilchuck Creek and Lake Creek culverts under parking lot Monitoring weekday/Saturday peak hour at S. Mission St./Stevens St. for Phase 1-2 Roadways and parking in compliance with CCC 8.24 and CCC 11.90, respectively.
5.7	Utilities and Public Services	Impacts likely mitigated below significance	Water: Service from Chelan PUD, but infrastructure improvements required to support extension. Sewer: OSS/LOSS and/or a WWTP. Electricity: Service from Chelan PUD, Phase 1-2 supported by existing infrastructure and planned improvements. Phase 2-5 require major improvements (substation, transmission line) evaluated in CPUD's Long-Range Planning. Telecommunication: Chelan PUD via an extension to the existing fiberoptic network. Public Services: Chelan County and other agencies/districts would need to provide additional public services to serve a larger resident and guest population.	Relevant conditions for water service as listed under and groundwater CDHD has required language to appear on final plat mylars Drain fields protected from cover by structures or other activity that may impact sewage system Utility service agreement with CPUD Road maintenance/upgrading agreement with Chelan County
5.8	Noise	Impacts likely mitigated below significance	Construction noise expected to be minor, comply with WAC 173-60 and CCC 7.35 Noise regulations Operation noise minor and, for the most part, far from sensitive receptors	Comply with CCC 7.25 Noise Control Code and OSHA standards Vehides/machinery required to turn off when not actively in use
5.90	Cultural	Impacts likely mitigated below significance	Construction will be in low potential area for archaeological resources. No operational impacts from recreational, residential, and commercial activity.	Development of an Inadverent Discovery Plan (IDP) during construction
5.1	Recreation	Impacts likely mitigated below significance	Construction: Minor changes in access and disruption to existing recreation could temporarily reduce visitation, minor impacts to quality of recreation. Operation: Increased quantity and quality of recreation.	Squilchuck Road remain open during construction to preserve access to Squilchuck State Park. Road construction prioritized during off-peak hours. Safety protocols and best practices to reduce disruption to recreation. Distribute information about road construction.
5.11	Climate Change	Impacts likely mitigated below significance	Construction: Minor/temporary impacts to GHG and water supply changes Operation: Minor impacts to GHG at scale; Artificial snowmaking increase snowpack and water supply availability Climate change to have potential impacts on earth, fire, energy, air, water, and plants & animals; No change to determination of significance if mitigation measures outlined in specific sections are followed.	Compliance with all permit requirements Potential electric charging stations/solar panels for use during operation

1. Mitigation measures include those proposed by the Applicant as well as those required by applicable permits or proposed by state agencies.

Areas of Controversy and Uncertainty

This section summarizes any areas of controversy and uncertainty still unresolved at the time of developing this DEIS. There is uncertainty related to the outcome of the NEPA and USFS EA adoption for this project. Due to staffing limitations, completion of USFS EA for cultural and biological evaluation for the proposed project area along the utility corridor improvements is delayed. Cultural and biological evaluation of the utility corridor is proposed to be addressed in the USFS Final EA or Chelan PUD's supplemental environmental review for long-term power planning, or both.

Due to uncertainties in the quantities and specific of off-site sources of construction materials and disposal locations, the Draft EIS uses assumptions for these considerations in the analyses related to transportation, energy use, and emissions. This uncertainty will be reduced as the Applicant's design is refined and appropriate conditions imposed during permitting.

Another area of uncertainty is the magnitude of the future effects of climate change and how the changing climate will affect water availability, as well as some species and habitats. However, based on the information available, it is not anticipated that these climate changes would substantially alter the impact determinations in the Draft EIS.

More detailed studies and review would be conducted during the permitting processes, before implementation of the proposed project, and would be expected to reduce uncertainties.

Next Steps

Chelan County as lead agency will review and consider all comments received during the public comment period and may make edits to the EIS as a result. The County may decide to issue a Supplemental Draft EIS for comment if substantial modifications occur. A Supplemental Draft EIS or a Final EIS is estimated to be completed in Mid-2025 and will be released to the public.

When issued, a Final EIS will provide information for public, local, and state agencies to support decision-making regarding permits for the proposed project. All primary local, regional, state, and federal permits must be issued before the proposed project may begin.

Environmental Impact Statement Scope of Analysis

The County considered the potential impacts of the proposed project, as well as comments received during scoping, to determine the scope of the DEIS. The County determined that the DEIS should include all sections of the affected environment to allow for a transparent and informed decision-making process. However, under WAC 197-11-408 and as adopted by reference pursuant to Chelan County Code 13.04, *"the lead agency*

shall narrow the scope of every EIS to the probable significant adverse impacts and reasonable alternatives, including mitigation measures. For example, if there are only two or three significant impacts or alternatives, the EIS shall be focused on those."

Therefore, for the purposes of this DEIS, discussion of affected environments is divided into two main chapters. Chapter 4 focuses on the four areas of affected environments where there are probable significant adverse impacts and the mitigation that is proposed to address them. Chapter 5 focuses on the remaining affected environments where probable adverse impacts are unlikely or may be mitigated below significance. Consistent with WAC 197-11-408, this approach allows for a more in-depth discussion and analysis for those sections where probable significant adverse impacts likely exist (Chapter 4), while being transparent about all potential adverse impacts that were raised during scoping and the MPR review process (Chapter 5).

Where previous SEPA evaluations in the same general project area contain information relevant to the Proposed project, this DEIS will incorporate those analyses by reference consistent with WAC 197-11-600 and CCC 13.04. This includes, but is not limited to, the 1986 FEIS for the Mission Ridge/Constellation Ridge Resort Master Plan, the Revised Master Planned Resort Overlay and Development Agreement Application and SEPA checklist dated February 1, 2022, and the USFS Draft Environmental Analysis dated February 2020. When referencing previous SEPA evaluations, this DEIS will note where circumstances have changed, where new information is available, and where new development, land use, and environmental regulations may now mitigate for previously identified probable significant adverse environmental impacts.

The introductions to Section 4 and Section 5 have more information on the study areas analyzed in this DEIS and the types of impacts considered.

1 INTRODUCTION & BACKGROUND

This section provides an overview of the proposed project and alternatives considered and summarizes the environmental review process.

1.1 Environmental Impact Statement Overview

Tamarack Saddle, LLC (the Applicant) proposes to expand the Mission Ridge Ski and Board Resort (Mission Ridge) to include year-round outdoor recreational facilities, short-term visitor accommodations, residential and commercial development, and associated infrastructure utilizing a phased approach over an approximate 20-year timeframe. This would be accomplished by establishing a Master Planned Resort Overlay District (MPR) in compliance with Chelan County Code¹. The project area (Project Area) is located on approximately 1,090 acres of public and private lands, overlapping with and adjacent to the existing Mission Ridge resort, approximately 12 miles southwest of the City of Wenatchee in Chelan County, Washington (Figure 1. Project Area). Throughout this Draft Environmental Impact Statement (DEIS), the term “Project Area” refers to the area shown in Figure 1.1, which includes portions of the proposed MPR Overlay District and adjacent U.S. Forest Service Special Use Permit area.

Development of the proposed MPR would also have impacts outside of the Project Area, including, but not limited to, infrastructure improvements located between the Project Area and the City of Wenatchee. This DEIS, reviews all areas of the affected environment associated with the Applicant’s proposal, including those that occur outside of the Project Area. As referenced in this DEIS, the “Proposed Project” includes all affected environments.

¹ Chelan County Chapter 11.89 - <https://www.codepublishing.com/WA/ChelanCounty/html/Chelco11/Chelco1189.html>

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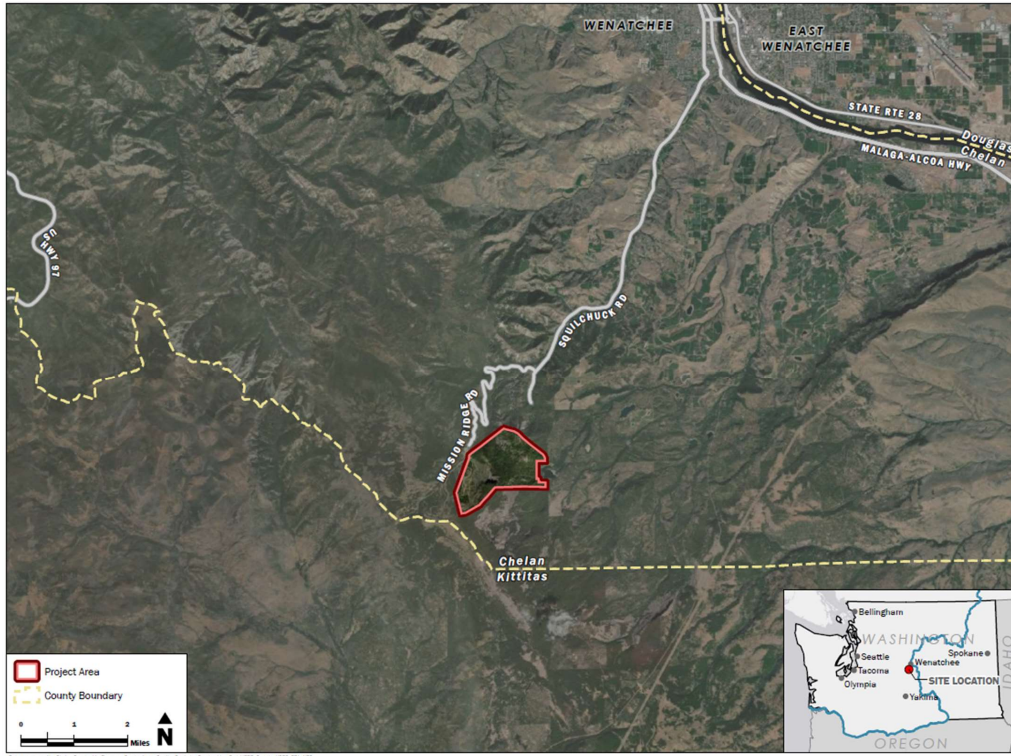


Figure 1.1: Project Area

In 2020, Chelan County Natural Resources Department (County), the lead agency for this DEIS, determined that the Proposed Project was likely to result in significant adverse environmental impacts and required an EIS. The EIS process is a tool for identifying and analyzing the probable adverse impacts on the environment that would result from construction and operation of a proposed project.

This DEIS evaluates two alternatives: the No Action Alternative and the Proposed Project. Additional alternatives using (1) a variety of potential secondary access roads and (2) fully integrated power planning were initially considered, but not moved forward because they did not complete the project objectives with less environmental impact (see Section 2.6).

The County has prepared this DEIS to meet the State Environmental Policy Act (SEPA) requirements in accordance with Washington Administrative Code (WAC) 197-11 (SEPA Rules) and Chelan County Code 13.04. An EIS provides a comprehensive and objective evaluation of a proposed project, existing site conditions, probable significant adverse environmental impacts, reasonable alternatives to the proposed project, and mitigation measures that would avoid or minimize impacts. The EIS does not approve or deny a proposed project. Federal, state, and local agencies will use the information in this DEIS, along with other publicly available information, to inform decisions on permits or other approvals.

PROPOSED PROJECT

Applicant: Tamarack Saddle, LLC.

Proposed Project: Expand Mission Ridge as part of a Master Planned Resort Overlay District and connected actions.

STATE ENVIRONMENTAL REVIEW TERMINOLOGY

Lead Agency: Agency responsible for preparing the EIS. Chelan County is the lead agency for this EIS.

State Environmental Policy Act (SEPA): Washington State law that is intended to ensure that environmental values are considered during decision-making actions by state and local agencies. This SEPA EIS will be used as part of any future permitting decisions or other approvals related to the project.

Environmental Impact Statement (EIS): Fact-based document that identifies the probable significant adverse impacts from the proposed project and alternatives. The EIS also looks at ways to avoid, minimize, or mitigate impacts.

EIS Alternative: An action(s) that meets the Applicant's objectives but at a lower environmental cost. This EIS has two alternatives: the No Action Alternative and the Proposed Project.

1.2 Proposed Project and Alternative

This section summarizes the Proposed Project, project background and history, and the No Action Alternative.

1.2.1 Proposed Project

The Applicant proposes to expand the Mission Ridge Ski and Board Resort (Mission Ridge) by establishing a Master Planned Resort Overlay District. The MPR would include year-

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round outdoor recreational facilities, short-term visitor accommodations, residential and commercial development, and associated infrastructure.

The existing Mission Ridge resort opened in December 1966 and is located on over 2,000 acres of leased land managed by the United States Forest Service (USFS) and the Washington State Department of Fish and Wildlife (WDFW). Though primarily a day use and local use alpine ski area, Mission Ridge also serves regional skiers who rely on overnight accommodations in Wenatchee or surrounding communities for multi-day skiing experiences. Mission Ridge currently has 36 designated trails that are serviced by four chairlifts, two rope tows, and one surface lift (a.k.a., magic carpet). Facilities located at the base area of the resort include the Hampton Lodge (a day lodge), the Ski School, the Base Facilities buildings (first aid, daycare, maintenance facilities, administrative offices), and on-site parking.

The Applicant has proposed to expand Mission Ridge as part of a MPR with the objective of enhancing existing services and meeting growing demand for year-round outdoor recreation opportunities. As described in the Applicant's Revised Master Planned Resort Overlay and Development Agreement Application dated February 1, 2022, current limitations that impede resort operations include insufficient on-site parking facilities to meet peak demand, undersized and crowded beginner skier terrain, lack of recreation options for non-skiers, and lack of on-site overnight accommodations.

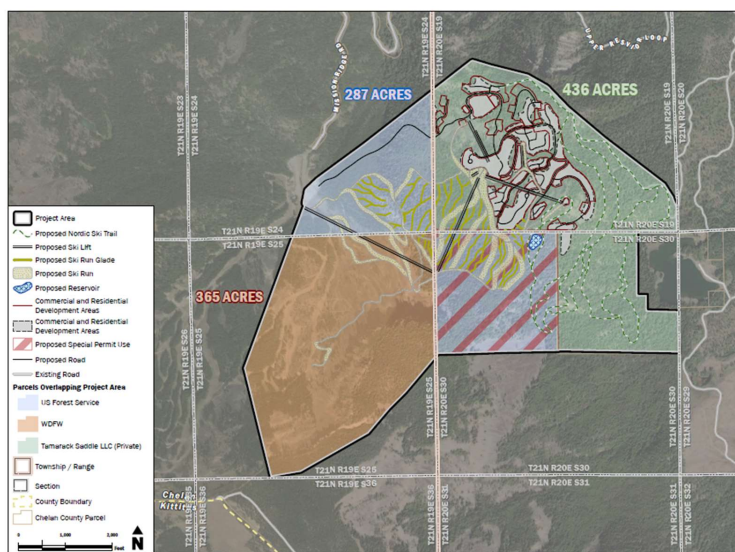


Figure 1.2. Project Area and Land Ownership [PLACEHOLDER: Two Commercial and Residential Development layers are shown, Applicant needs to provide final, complete version.]

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In 2014, the owner of Mission Ridge purchased approximately 779 acres of private land adjacent to the existing resort. Access to this newly acquired private land, along with permission to expand existing facilities on currently leased lands and permission to lease and develop additional lands in the future, could potentially allow Mission Ridge to provide new recreational opportunities and address elements that have inhibited growth of the existing resort. The Project Area would be located on 436 acres of the aforementioned private lands, along with 287 acres of adjacent USFS land and 365 acres of adjacent WDFW land, for a total project area of nearly 1,090 acres (Figure 1.2). Within the Project Area, the proposal includes the following elements (Figure 1.3):

- **Recreation facilities**, including new alpine ski runs connected to the existing resort, seven new ski lifts, a new Nordic (cross-country) trail system, a snow tubing area, hiking and biking trails, improved Americans with Disabilities Act (ADA) access, and other outdoor recreational activities that may include camping, horseback riding, zip lines, and alpine coasters (a type of rollercoaster found in mountainous areas).
- **Short-term visitor accommodations**, including a 57-unit hotel/lodge and/or short-term use of the residential units described below.
- **Residential units**, including 621 condominiums, townhouses, and duplexes, 265 single-family detached units, and 80 beds for on-site employee housing.
- **Commercial facilities**, including approximately 110,000 square feet of space for commercial and entertainment uses.
- **On-site parking**, including a 590-space day use parking lot.
- **Open space**, including nearly 622 acres of dedicated open space comprised of ski runs, undesignated open space, dedicated conservation areas, and managed open space (Figure 1.4).
- **Public services and utilities**, including provisions for emergency/medical services, fire protection, law enforcement/security, a new access road between two base areas (from the existing base area to the proposed second base area), other transportation-related facilities, stormwater management facilities, solid waste management facilities, water service with potable water sourced from both on-site groundwater wells and the Squilchuck Water System operated by Public Utility District No. 1 of Chelan County (Chelan PUD), sewer service from both wastewater treatment provided by Large On-site Sewage Systems (LOSS) and smaller/residential-scale On-site Sewage Systems (OSS) as well as the potential for conventional or advanced treatment and discharge to Squilchuck Creek, and electricity, and fiberoptic telecommunication service.
- **Other associated infrastructure**, including snowmaking facilities using a proposed reservoir.

The high density, mixed-use residential/commercial elements of the proposed project would be concentrated around a second base area, the Mission Ridge Expansion Village Base Area (Village), and would connect to the existing resort via a new road and trails.



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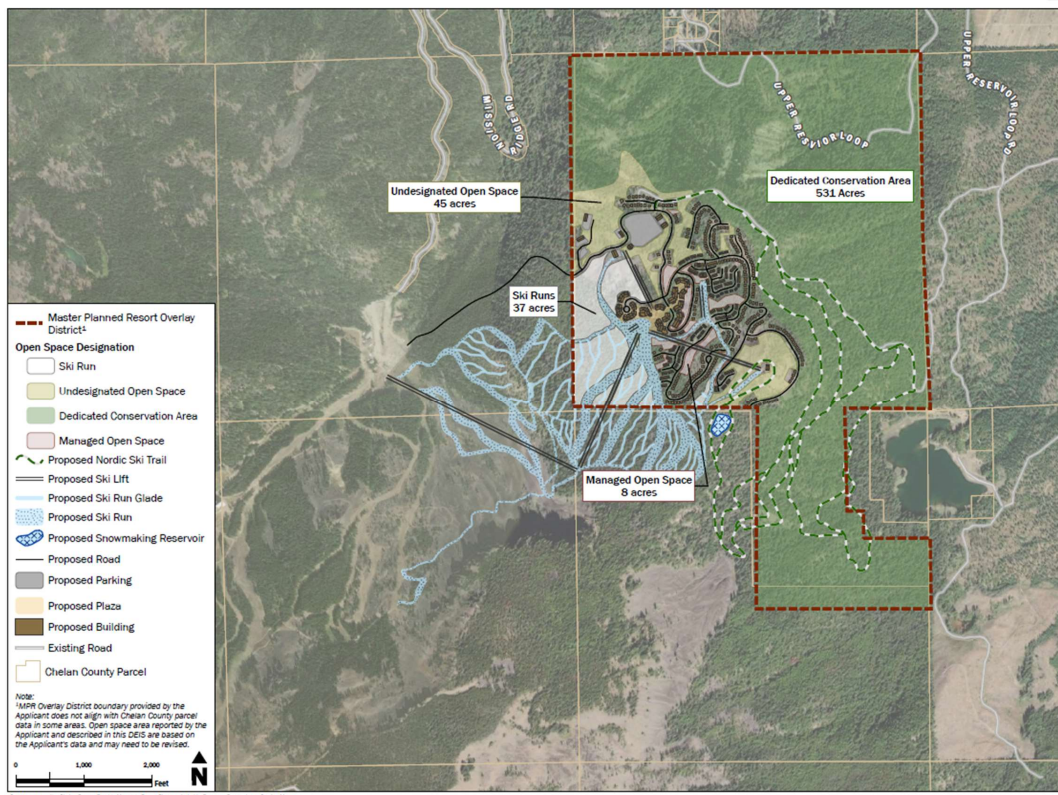


Figure 1.4 Proposed Open Space [PLACEHOLDER: alignment error, see figure note]

This DEIS also evaluates components of the Proposed Project that necessitate infrastructure improvements located in several areas between the existing Mission Ridge facilities, the City of Wenatchee, and the Columbia River. Infrastructure improvements located outside of the MPR Project Area, but which are necessary to serve the proposed resort expansion, include the following:

- Improvements to county and city road systems.
- Improvements to the Chelan PUD electric system, with potential for a new transmission main, substation, and distribution system.

- Improvements to the Chelan PUD fiberoptic telecommunications system.
- Improvements to the Chelan PUD public water system to augment supply from on-site groundwater wells.

The Applicant has proposed a phased construction approach (five construction phases) over an approximate 20-year timeline for project permitting and buildout. This DEIS provides a full environmental review of all phases of the proposed project at either a project-level or a programmatic-level (further described in Chapter 2).

1.2.2 Project Background and History

A similar resort expansion project, referred to as the Mission Ridge/Constellation Ridge Resort Master Plan, was proposed in the mid-1980s by Wenatchee Mountain, Inc. (then Mission Ridge operator) and Bevis Buildings, Inc. The Mission Ridge/Constellation Ridge proposal included a larger overall resort footprint compared to the Proposed Project, though there is overlap between the project areas included in each proposal (Figure 1.5. Proposed Resort Areas Comparison).

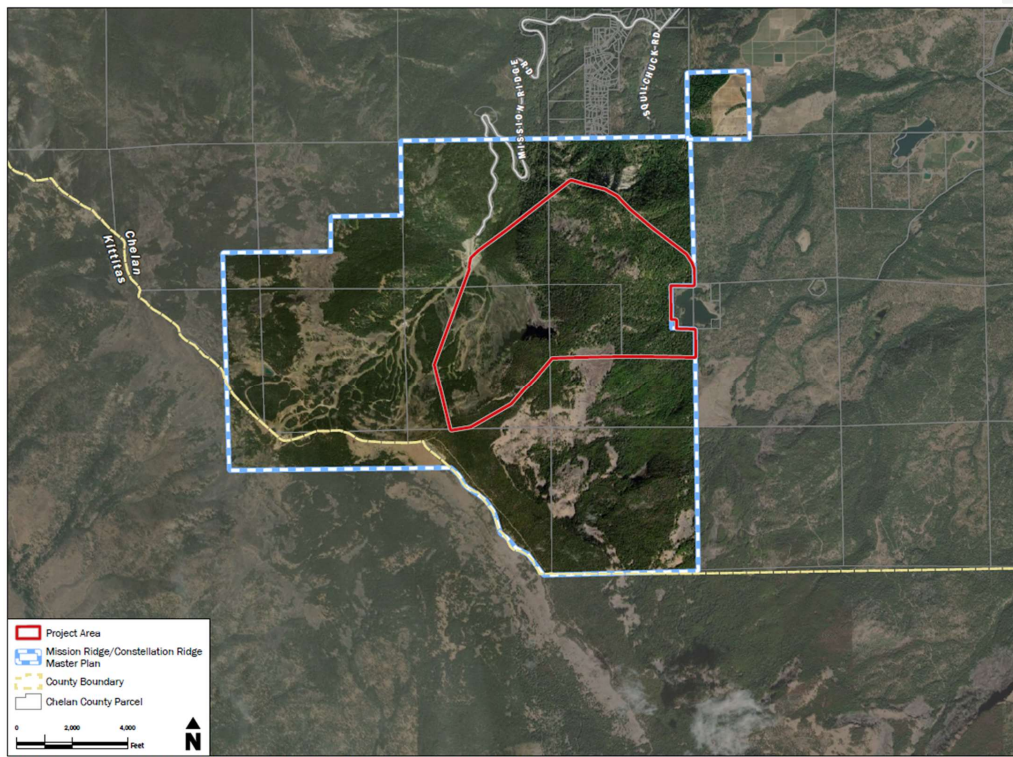


Figure 1.5. Proposed Resort Areas Comparison

In 1986, the Chelan County Planning Department issued a Final Environmental Impact Statement (FEIS) on the proposed Mission Ridge/Constellation Ridge Resort Master Plan (CCPD 1986a). An addendum to the Mission Ridge/Constellation Ridge FEIS was prepared in 1986 (CCPD, 1986a) and again in 1993 (MRMC, 1993). However, the Mission Ridge/Constellation Ridge proposal did not advance beyond the planning stage.

Subsequent efforts to expand Mission Ridge include the Mission Ridge Ski Area Retroplan™ (MRMC, 1994) and later Mission Ridge Ski Area Master Plan Improvements (USFS, 2000), neither of which were implemented.

1.2.2.1 Recent SEPA Application History

Since April 2018, the Applicant has made four submissions of the Mission Ridge Expansion Master Planned Resort Overlay and Development Agreement Application and

SEPA checklist to the Chelan County Community Development Department (Chelan County File No. MPR 2018-128), as summarized below.

- **April 2018 – MPR Development Application.** The original application was submitted in April 2018 (LDC, 2018) with additional information provided in June 2018. The County issued a Notice of Application in September 2018 and received public comments.
- **February 2019 – Revised MPR Development Application.** The Applicant submitted a revised application to the County in February 2019 (LDC, 2019).
- **January 2020 – Revised MPR Development Application.** The Applicant again submitted a revised application to the County in January 2020 (dated January 17, 2020, received January 21, 2020; LDC, 2020). Pursuant to the January 2020 application, the County issued a Notice of Amended Application (February 24, 2020), and, following review of the public comments received, a Determination of Significance (DS) and Scoping Notice (May 19, 2020; CCDCD, 2020a). The DS/Scoping Notice initiated the EIS process and associated public comment period (May 19, 2020 through June 12, 2020). The County summarized the scoping process, public comments received, and alternatives to be analyzed in the DEIS in a letter dated August 31, 2020 (revised September 21, 2020 (CCDCD, 2020b).
- **February 2022 – Revised MPR Development Application.** The Applicant again revised and resubmitted the application (dated February 1, 2022, received February 2, 2022 (LDC, 2022). The County reviewed the February 2022 application and determined that the revisions were not substantial changes to the January 2020 application and that the prior DS remained binding (CNRD, 2022).

This DEIS is based on the Revised Master Planned Resort Overlay and Development Agreement Application and SEPA checklist dated February 1, 2022. The SEPA DEIS supports the MPR application process by documenting how SEPA was compiled with.

The Draft EIS was published on XXX XX, 2024, and comments were accepted during a 45-day public comment period (DATE through DATE).

Additional details on interagency and tribal consultation, the public comment process, and the comments received are available in Chapter 6.

1.2.3 Alternatives

For this DEIS, the County looked for alternatives that could feasibly attain or approximate the Proposed Project's objectives, but at a lower environmental cost or a decreased level of environmental degradation. The county determined that the following alternatives be considered in this DEIS:

1. **No Action Alternative:** Assumes no development beyond that permitted by current County zoning regulations.
2. **Proposed Project:** The development as proposed.

More details on the No Action Alternative, Proposed Project, the Alternatives Considered but Eliminated are presented in Chapter 2.

1.3 Environmental Impact Statement Scope of Analysis

The County considered the potential impacts of the proposed project, as well as comments received during scoping, to determine the scope of the DEIS. The County determined that the DEIS should include all sections of the affected environment to allow for a transparent and informed decision-making process. However, under WAC 197-11-408 and as adopted by reference pursuant to Chelan County Code 13.04, *"the lead agency shall narrow the scope of every EIS to the probable significant adverse impacts and reasonable alternatives, including mitigation measures. For example, if there are only two or three significant impacts or alternatives, the EIS shall be focused on those."*

Therefore, for the purposes of this DEIS, discussion of affected environments is divided into two chapters. Chapter 4 focuses on affected environments where there are probable significant adverse impacts and the mitigation that is proposed to fully or partially address these impacts. Chapter 5 focuses on affected environments where probable adverse impacts are unlikely and/or are mitigated below significance". Consistent with WAC 197-11-408, this approach allows for a more in-depth discussion and analysis for those sections where probable significant adverse impacts likely exist (Chapter 4), while being transparent about all potential adverse impacts that were raised during scoping and the MPR review process (Chapter 5).

Where previous SEPA evaluations in the same general project area contain information relevant to the Proposed project, this DEIS will incorporate those analyses by reference consistent with WAC 197-11-600 and CCC 13.04. This includes, but is not limited to, the 1986 FEIS for the Mission Ridge/Constellation Ridge Resort Master Plan and the Revised Master Planned Resort Overlay and Development Agreement Application and SEPA checklist dated February 1, 2022. When referencing previous SEPA evaluations, this DEIS will note where circumstances have changed, where new information is available, and where new development, land use, and environmental regulations may now mitigate for previously identified probable significant adverse environmental impacts.

The introductions to Chapter 4 and Chapter 5 have more information on the study areas analyzed in this DEIS and the types of impacts considered.

1.4 State Environmental Policy Act Process

The SEPA process is intended to ensure that environmental values are considered during decision-making actions by state and local agencies. The process helps agency decision-makers, applicants, and the public understand how the proposed project will affect the environment. The environmental review process in SEPA is intended to work with other regulations and documents to provide a comprehensive review of a proposal. The County prepared this DEIS under SEPA requirements described in RCW Chapter 43.21C, WAC Chapter 197-11, and CCC 13.04.

Relevant DEIS Regulatory Definitions and Codes

Revised Code of Washington (RCW): The compilation of all permanent laws now in force in Washington State.

Washington Administrative Code (WAC): A set of administrative codes that are adopted by Washington State agencies.

Chelan County Code (CCC): A codification of the resolutions of Chelan County.

Master Planned Resort (MPR): Pursuant to Chelan County Code (11.89, Master Planned Resorts Overlay District), the purpose of a MPR is to enhance and diversify the recreational and economic opportunities in Chelan County through the development of planned destination resorts that complement the natural and cultural attractiveness of the area without significant adverse effects on natural and environmental features, cultural or historic resources. The code allows for development of planned destination resorts that provide a designed mixture of visitor-oriented accommodations, including a variety of residential, recreational, and commercial facilities, consistent with the Chelan County Comprehensive Plan.

1.5 National Environmental Policy Act Process

The USFS has reviewed the proposed action and determined that the National Environmental Policy Act (NEPA) process applies based on the Council on Environmental Quality's (CEQ) revised regulations at 40 Code of Federal Regulations (CFR) 1501.1 and regulations at 36 CFR 220.4(a). The NEPA review process is separate from the SEPA review process. However, the Responsible Official under NEPA may coordinate and cooperate with the SEPA Lead Agency on environmental analysis and may use elements of the environmental review prepared under SEPA for NEPA analysis (40 CFR 1506.2(b)).

For review of the proposed project, NEPA and SEPA processes are concurrent. The USFS is developing a NEPA Environmental Assessment (EA) that considers the environmental effects of the proposed project on lands owned or administered by the USFS, including state-owned WDFW lands. The USFS EA does not evaluate the impacts of the proposed project on privately-owned lands. Following the preparation of the EA, the USFS will either issue a finding of no significant impact (FONSI) or will prepare a NEPA EIS. A Draft EA was published by the USFS in February 2020. . The NEPA review process is separate from the SEPA review process, but this EIS was prepared in close coordination with USFS and this EIS relies in part on work completed in the EA. It is expected at this EIS will be finalized ahead of a Final EA..

The EA will focus on the following proposed actions on lands owned or administered by the USFS:

- Amending the existing Mission Ridge Special Use Permit by expanding the permit area.
- Amending the existing Chelan PUD Special Use Permit to incorporate the new water transmission lines across federal property.
- Building a new access road across the Okanogan-Wenatchee National Forest (National Forest) from the existing base area to the proposed second base area.
- Constructing new alpine ski lifts, alpine ski trails, Nordic ski trails, and snowmaking infrastructure on National Forest lands.
- Coordinating with WDFW on state-owned lands that are administered by USFS under the existing Mission Ridge USFS Special Use Permit and WDFW Land Use Agreement pursuant to the USFS/WDFW Cooperative Agreement.

Federal Environmental Review Terminology

National Environmental Policy Act (NEPA) Federal law that requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions.

Responsible Official: The bureau employee who is delegated the authority to make and implement a decision on a proposed action and is responsible for ensuring compliance with NEPA. The Forest Supervisor for the Okanogan Wenatchee National Forest is the NEPA Responsible Official.

1.6 Environmental Impact Statement Organization

This DEIS is organized to provide information in four ways.

1. **The Executive Summary** provides quick, high-level information on key findings and significant adverse impacts.
2. **The DEIS chapters** provide information on the DEIS impact analysis and findings. Within each DEIS chapter, terminology definitions and key summary points are showcased in call-out boxes.
3. **The appendices** contain supplemental information about the DEIS and DEIS process, including the Scoping Summary Report and resource analysis reports. The resource analysis reports include detailed methods and technical information about specific analytical topics that are summarized within the DEIS.
4. **The references** direct the public to other background information or key documents that have been organized for review on the County's dedicated website page for this project.

The DEIS is organized as follows:

- Publication and Contact Information, Cover Letter, and Fact Sheet

MISSION RIDGE DRAFT EIS
SECTION 1 INTRODUCTION & BACKGROUND

- Executive Summary
- DEIS
 - Chapter 1: Introduction and Background
 - Chapter 2: Proposed Project Description, Alternatives, and Phasing
 - Chapter 3: Required Permits and Approvals
 - Chapter 4: Affected Environment, Potential Significant Impacts, and Mitigation Measures
 - Chapter 5: Affected Environment, Potential Significant Impacts, and Mitigation Measures – Impacts Likely Mitigated Below Significance
 - Chapter 6: Consultation and Coordination
 - Chapter 7: List of Preparers and Contributors
 - Chapter 8: References

2 PROPOSED PROJECT DESCRIPTION, ALTERNATIVES, AND PHASING

This section details information provided by the Applicant about their proposed project (referred to as the Proposed Project). It also describes the No Action Alternative that was developed for the DEIS and the Alternatives Considered but Eliminated.

2.1 Applicant Project Objectives

As described in the 2022 Revised Master Planned Resort Overlay and Development Agreement Application (LDC, 2022), the Applicant's objective is to expand Mission Ridge as part of a Master Planned Resort (MPR) Overlay District to enhance existing services and meet the growing demand for year-round outdoor recreation opportunities. Current limitations that impede resort operations include:

- Insufficient on-site parking facilities to meet peak demand
- Undersized and crowded beginner skier terrain
- Lack of recreation options for non-skiers
- Lack of on-site overnight accommodations

The Applicant has determined that the Proposed Project is necessary to provide diverse outdoor recreation opportunities sufficient to meet public demand, both locally and regionally.

The Proposed Project is intended to meet the requirements of an MPR Overlay District pursuant to Chelan County Code (11.89, Master Planned Resorts Overlay District). Per the code, the purpose of an MPR is *"to enhance and diversify the recreational and economic*

The Applicant's Proposed Project

Within the Project Area:

- Alpine ski area expansion
- Snow tubing area development
- Nordic ski area development
- Up to seven new ski lifts
- Single-family residential development (265 units)
- Condominiums, townhouses, and duplexes (621 units)
- Hotel/lodge (57 rooms)
- Employee on-site housing (80 beds)
- Commercial and entertainment development (110,000 sq-ft)
- Access road and onsite parking
- Other supporting infrastructure and outdoor recreation facilities

Outside of the Project Area:

- Intersection improvements in City of Wenatchee
- Improvements to Chelan PUD power system
- Improvements to Chelan PUD public water system
- Improvements to Chelan PUD fiberoptic telecommunication system

opportunities in Chelan County through the development of master planned resorts that complement the natural and cultural attractiveness of the area without significant adverse effects on natural and environmental features, cultural or historic resources". The code allows for development of planned destination resorts that provide a designed mixture of visitor-oriented accommodations, including a variety of residential, recreational, and commercial facilities, consistent with the Chelan County Comprehensive Plan (County, 2017).

2.2 Location

The Proposed Project is located on the eastern side of the Cascade Range in Chelan County, Washington, approximately 12-miles southwest of the City of Wenatchee. The Project Area overlaps a portion of and adjoins the northeast boundary of the existing Mission Ridge Ski and Board Resort. Mission Ridge currently covers over 2,000 acres of leased land managed by the USFS and WDFW. The Project Area includes lands proposed for development within and outside of current resort boundaries (see Figure 1.2 and 1.3) from Section 1). This area totals approximately 1,090 acres and is comprised of both public lands (USFS 287 acres, WDFW 365 acres) and private lands (436 acres on parcel numbers 212019000000 and 212030100050). See Figure 2.1 for current ski area and proposed Project Area.

The majority of the Project Area is located within the Squilchuck Subwatershed (732-acres), with a smaller portion located within the Stemilt Subwatershed (357-acres). Both subwatersheds are part of Water Resources Inventory Area 40 (WRIA 40; Alkali-Squilchuck). Squilchuck and Stemilt creeks drain directly into the Columbia River at approximately 10.5-miles and 12.4-miles downstream, respectively. The elevation² of the Project Area ranges from 4,300 feet above sea level (ASL) at the junction with the existing Mission Ridge Base Area to 6,600 feet ASL along the highest ridges. The general area is described as upland foothill forested space. Critical areas including streams and wetlands (i.e., surface waters) and geologically hazardous areas are described in Section 5.3 (Surface Water) and Section 4.1 (Earth), respectively.

The portions of the project that are located on USFS-managed lands are within the Wenatchee River Ranger District of the Okanogan-Wenatchee National Forest. The portions of the project located on state-owned lands are within the WDFW Colockum Wildlife Area. Plants and animals affected by the proposal are described in Section 5.4.

The Proposed Project would also necessitate construction and operations located outside of the Project Area. These connected actions would occur in road and utility corridors located between Mission Ridge and the City of Wenatchee.

² Elevation datum NAVD88.



Figure 2.1. Photos of existing ski area (left) and planned expansion area (right)

2.2.1 Existing Facilities

Existing facilities at Mission Ridge are located across more than 2,000 acres of federal and state-owned lands. To operate a recreational ski area on public land, Mission Ridge maintains a Special Use Permit with the USFS for operations in the National Forest and a Land Use Agreement with WDFW for operations on WDFW lands (USFS Special Use Permit 2008, WDFW Land Use Agreement 2005). A Cooperative Agreement established between the USFS and WDFW designates the USFS to administer the ski area on WDFW lands (USFS and WDFW, 1985).

The Mission Ridge Base Area (Base Area) is accessed via Squilchuck Road to Mission Ridge Road, which is the sole route for visitor ingress/egress. The Wayhut Road (Forest Service Road No. 7122) provides vehicle access from the Base Area to higher elevations within the ski area when accessible (i.e., not snow covered).

Mission Ridge currently has 36 designated ski trails covering over 200 acres that are serviced by four chairlifts (three fixed-grip double chairlifts, one detachable quad chairlift), two rope tows, and one surface lift (a.k.a., magic carpet). Chair 1 and Chair 4 originate at the base of the ski area and run to the southwest and south, respectively. Chair 2 and Chair 3 are located midway up the ski area, both starting near the top of Chair 1, and run southwest and south, respectively. The surface lift and one rope tow are located at the base of the ski area, while the second rope tow parallels the upper portion of Chair 1. Select trails accessed from Chairs 1, 2, and 4 are lighted for night skiing. Ski patrol stations are located at the top of Chairs 2, 3, and 4. A map of the existing ski area is shown in Figure 2.2 below and is also available in the MPR application.

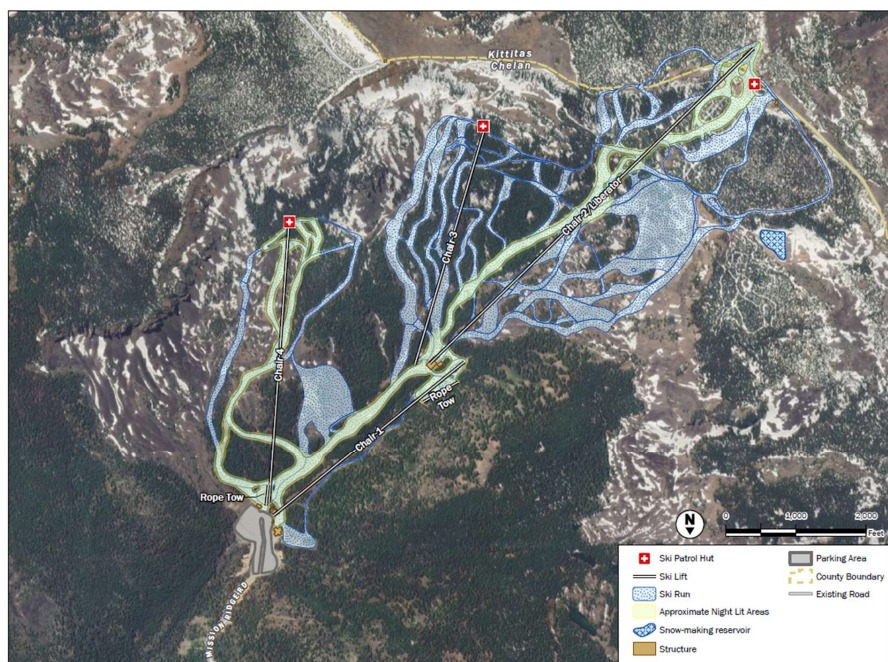


Figure 2.2. Existing Mission Ridge facilities

Facilities located at the Base Area of the resort include the Hampton Lodge (a day lodge), the Ski School, the Base Facilities buildings (first aid, daycare, maintenance facilities, administrative offices), and on-site parking. A second, smaller day use lodge (Midway Lodge) is located midway up the ski area and is accessible to visitors via chairlift from the Base Area. Snowmaking facilities are located across the ski area and include 22 fan guns, 5 stick guns, 80 hydrants, reservoir water storage, and water conveyance infrastructure (Mission Ridge, 2023a). Based on information provided by the Applicant, snowmaking facilities used between 42-62 million gallons of water per winter season over the 2017/18 and 2022/23 ski seasons (Mission Ridge 2023b, Jorgenson 2023). Produced snow is distributed across approximately 66 acres of ski terrain.

Existing utilities at Mission Ridge include potable water sourced from groundwater wells, wastewater treatment via two Large Onsite Sewage Systems (LOSS)³, electricity provided by Chelan County PUD, and landline telephone service.

³ The Base Area has a LOSS that was updated in 2018. The Midway Lodge has a separate LOSS.

Table 2.1. Existing Mission Ridge Facilities

Facilities ¹	Number
Mission Ridge Special Use Permit Area (acres)	2,000
Designated alpine ski trails (no.)	36
Designated alpine ski trails (acres)	200
Aerial lifts	4
Rope tows	2
Surface lifts	1
Lighted night skiing (acres)	26
Snowmaking coverage (acres)	66
Day lodges (no.)	2
Day lodges (sq-ft)	15,188
Other buildings (no.)	6
Other buildings (sq-ft)	21,240
Day use parking (vehicles)	900

¹ Acreages are approximate

2.3 Proposed Project

This section provides more detail on the Proposed Project beyond what was provided in Section 1.

2.3.1 Proposed Project Facilities

Proposed project elements are summarized here and described in more detail in the Applicant's application package.⁴

2.3.1.1 Outdoor Recreation Facilities

Proposed outdoor recreation facilities are primarily focused on expanding the alpine ski area and constructing a new Nordic trail system and a snow tubing area. Selected alpine and Nordic ski trails may also serve hiking and mountain biking uses during the snow-free seasons. Future recreation facilities proposed by the applicant, but not presented with specific locations on the current site plans, include camping, horseback riding, zip lines, and alpine coasters. Recreational motorized use is not anticipated to be offered during the summer season (e.g., ATVs, motorcycles), but may be offered during the winter season in some areas (e.g., snowmobiles).

⁴ All acreage figures are approximations based on best available information at the time. The actual acreage of project build out may differ slightly to better reflect on-the-ground conditions.

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Alpine Ski Area: The alpine ski area expansion proposed by the Applicant includes building up to 7 new ski lifts, including 3 chairlifts (Chairs 6-8), 1 rope tow, 2 surface lifts and 1 gondola. Chair 6 would originate from the existing Mission Ridge Base Area and run southeast to a ridgeline centrally located within the expanded alpine ski area. Chair 7 would originate at the Mission Ridge Expansion Village Base Area (Village) and run to the southwest, terminating near the top of Chair 6. Chair 8 would also originate from the Village and run to the southwest, terminating atop a peak at the eastern extent of the expanded alpine ski area where a new restaurant and observation area would also be located. The shorter surface lifts and rope tow would be located on trails adjacent to the Village. The gondola would run generally south from the new day-use parking area to the Village. Table 2.2 provides details for each lift.

Table 2.2. Summary of Proposed New Lift Infrastructure

Lift	Type	Length ¹ (feet)	Vertical Rise ¹ (feet)	Carrying Capacity ² (people/hour)
Chair 6	Quad ³	3,220	755	2,000
Chair 7	Quad ³	2,626	620	2,000
Chair 8	Quad ³	1,788	410	2,000
Rope tow	Platter/relay lift	469	60	600
Surface lift (south of hotel)	Magic carpet	156	20	1,200
Surface lift (parallel to gondola)	Magic carpet	598	83	1,200
Gondola	Pulse cabriolet	981	635	3,400

¹ Lift length and vertical rise are estimates and subject to change.

² Carrying capacity is approximate.

³ Quads may be fixed grip or detachable

Chairs 6 through 8 and the gondola would include a bottom operation terminal for lift loading and a motor room, and a top terminal with another lift operator station. Fixed-grip chairlift terminal structures would be approximately 20 feet by 40 feet. Detachable chairlift terminal structures would be approximately 30 feet by 80 feet. All chairlifts would include lift towers within the lift corridor. Underground electrical conduit would be buried along the lift line to bring power to both terminals.

Proposed new alpine ski terrain would include 18 designated ski trails covering approximately 62 acres. Glade skiing (i.e., off-piste or tree skiing) areas covering approximately 9 acres would be located in forested areas between some designated ski trails. Most new alpine ski trails are on the north and northeast aspect of the ridge located between the existing ski and proposed new ski area and terminate at the Village, though the new trails along the western extent of the MPR Project Area (western aspect of aforementioned ridge) connect with existing trails and terminate at the existing Mission Ridge Base Area. Some smaller trails immediately surrounding the Village intertwine with proposed commercial and residential spaces. All new designated ski trails would have lighting to provide night skiing and snowmaking to provide dependable snow

coverage throughout the normal operating season. During snow-free seasons, the alpine ski trails are proposed to be used for hiking and mountain biking. No night lighting of hiking or biking trails is proposed during the summer season. No public motorized use would be permitted at any time of the year within the alpine ski area.

Nordic Ski Area: The proposed new Nordic (cross-country) trail system includes a total of approximately 6.5 miles of trails located either atop existing roadbeds and trails (3.6 miles) or requiring new construction (2.9 miles). Trails would be approximately 18 feet wide. The Nordic trail system would be generally situated along the eastern portion of the project area, with access points from the new day-use parking area and the top of Chair 8. The Nordic trail system would be designed to accommodate skating and classic lanes, as well as snowshoeing and snow-biking (fat tire bikes). During snow-free seasons, the Nordic trail system is proposed to support hiking and mountain biking. Some recreational winter season motorized use (e.g., snowmobiles) may be allowed in designated areas; motorize used during the summer is not anticipated.

2.3.1.2 Commercial and Residential Facilities

The proposed commercial and residential facilities are located exclusively on privately owned land within the Project Area. The highest density, mixed-use (residential and commercial) space would be concentrated around the Village. Extending outward from the Village, the proposed multi-family and single-family residential areas would be located to the north, east, and south.

The Village/Commercial Development: Village facilities proposed in the Mission Ridge Expansion MPR include a day lodge, skier services, other commercial and entertainment spaces, pedestrian areas, and overnight accommodations. Buildings are planned to have an average of 3.5 to 4 floors, with the ground level floor generally reserved for lobbies, retail, restaurants, office space, and other guest services and the upper floors utilized for guest rooms and overnight accommodation. A 57-unit hotel/lodge is also proposed. Outside of the Village, a restaurant located at the top of Chair 8 is also proposed. In total, the proposed commercial space is approximately 110,000 square feet.

Non-Residential Parking: Three categories of parking are proposed:

1. A larger day-use surface parking lot
2. Two underground day-use and overnight parking areas
3. Limited short-term surface parking within the Village

The day-use parking lot would be located on the terrace below (north) of the Village and accessed from the existing Mission Ridge Base Area via the new access road. This 4.3-acre day-use parking lot would be surfaced with gravel and sized to accommodate 590 parking spaces. Underground and/or below building parking is planned to be located below the footprint of all buildings in the Village for overnight parking, along with surface parking. Two underground commercial parking areas (CP1 and CP2) located below the footprints of two separate Village plazas are proposed, CP1 is sized to accommodate 80 vehicles and CP2 is sized to accommodate 40 vehicles. The limited surface parking within the Village would be located to allow for drop-offs, pick-ups, and support services.

Residential Development: The residential units proposed in the Project Area are for full-time occupancy, vacation homes, and/or for short-term visitor accommodation.

Residential density, including transient accommodations (described above) and employee housing (discussed below), will be provided at 1.52 dwelling units per acre for the project based on the Applicant's total private property ownership (779 acres), including portions of parcels 212019000000 and 212030100050 located outside of the Project Area. The Applicant proposes 621-condominiums, townhouses, and duplexes (i.e., multi-family), 265-single-family residential units, and 80-beds for on-site employee housing.

As previously described, the multi-family and single-family residential units, with attendant parking, are planned to surround the Village to the north, east, and south. On-site parking would be built for proposed residential units, requiring approximately 1,800 spaces based on proposed unit counts. A centrally located ski trail through the middle of the residential development areas would provide ski-in/ski-out access to many of the single-family and multi-family units. The Applicant also proposes to provide on-site housing for seasonal employees in dormitory-style facilities located east of the day-use parking lot.

2.3.1.3 Open Space

The Proposed Project includes 622 acres of dedicated open space comprised of ski runs (37 acres), undesignated open space (45 acres), dedicated conservation areas (531 acres), and managed open space (8 acres). Dedicated open space is located on privately-owned lands on parcels 212019000000 and 212030100050 located within and outside of the Project Area. Within the Project Area there are approximately 323 acres of dedicated open space, outside the Project Area there are approximately 299 acres. More information is available in Section 4.4 (Land and Shoreline Use).

2.3.1.4 Public Service Facilities, Utilities, Other Infrastructure

The Applicant's proposal includes provisions for public services, utilities, and other infrastructure necessary to support the resort. For this section of the DEIS, public services, utilities, and other infrastructure are discussed in the following order: operation and maintenance facilities, potable water supply, wastewater, stormwater, electric power, phone and internet service (fiber optics), solid waste, transportation, public safety, fire protection, and snowmaking.

Operations and maintenance facilities: Within the Project Area, the Applicant's proposal includes operations and civil infrastructure facilities located along a spur road that branches off of the new access road (discussed below) at a point midway between the existing Mission Ridge Base Area and the new day-use parking area. A ski maintenance facility collocated with a volunteer fire station is proposed near the base of the gondola, just prior to where the new access road reaches the day-use parking area. An operations yard is proposed to be located just east of the day-use parking area.

Potable water supply: The Applicant anticipates the primary source of potable water would be from the Chelan PUD Squilchuck Water System in addition to use, as feasible, of on-site groundwater wells. At full build-out, estimated total water demand is 243 acre-feet per year (afy), with most water used for indoor purposes (233 afy) compared to outdoor purposes (10 afy). Maximum daily demand is estimated to be 302 gallons per minute (gpm).

Existing Mission Ridge water right authorizations may be used to meet water demand up to 90 afy. The Applicant describes in their application that no new water rights are

necessary to develop the Proposed Project, but that non-additive changes (i.e., no enlargement of authorized quantities) to existing water right authorizations would be needed (e.g., change purpose of use, place of use, point of withdrawal) to comply with RCW 90.03 and RCW 90.44. Actual available on-site groundwater supply will be determined after new wells are drilled and evaluated for productivity and water quality. A reconnaissance-level hydrogeological assessment (WNR Group, 2019) has been completed to inform potential well siting, but final well drilling locations have not been determined. More information on groundwater is available in Section 5.2.

In addition to use on-site water supply available within existing water rights authorizations, the remaining water demand (153 afy or more) would be provided by Squilchuck Water System, which uses sources located outside of the Squilchuck basin that are in hydraulic continuity with the Columbia River. Though an expansion to the Squilchuck Water System infrastructure would be needed to support full build-out of the Proposed Project, including a new water main connecting the Project Area to the existing water system and upgrades to or upsizing of existing transmission and storage infrastructure, the system appears to have adequate physical and legal source water availability to supply the Proposed Project.

The Applicant and Chelan PUD coordinated on an engineering study⁵ to further investigate the feasibility of expanding the Squilchuck Water System service area to supply the Proposed Project and to identify needed improvements to the existing system. The capacity analysis indicated pump station improvements and pipe sizing upgrades would be necessary to provide water service to the Proposed Project. Final locations for the potential service extension pipeline and three new booster pump stations will be determined through further engineering study, but would generally be located parallel to the existing Chelan PUD power corridor. A portion of the proposed water main extension would extend through USFS lands. Chelan PUD currently has a Special Use Permit with USFS and several easements with private landowners along the proposed water main alignment for power use. These authorities are proposed to be widened to accommodate the additional proposed utilities of water main and fiber optics. More information on the Squilchuck Water System expansion is available in Section 5.7 (Utilities).

The Chelan PUD potable water supply described above would not be used for snowmaking (discussed below).

Wastewater: The Applicant proposes to initially manage the collection, treatment, and disposal of wastewater with multiple residential on-site septic systems (OSS) and one or more LOSS with discharges to groundwater. Depending on the capacity and treatment efficacy of these systems, the Applicant may add conventional or advanced treatment with discharges to Squilchuck Creek. At full build-out, the Applicant estimates a total wastewater volume of approximately 208 afy. A reconnaissance level hydrogeological study has been completed to provide a preliminary assessment of site conditions, but the number and location of any potential OSS/LOSS would require more detailed hydrogeological analysis. More information on wastewater discharges to groundwater is available in Sections 4.1 (Earth) and 5.2 (Groundwater).

⁵ RH2, 2022, Squilchuck Water System Capacity Analysis Chelan PUD No. 1.

Construction of a wastewater treatment plant (WWTP) to provide conventional or advanced treatment options would require compliance with the federal Clean Water Act and state antidegradation policies under WAC 173-201A, including a National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit administered by Ecology. Until LOSS efficacy at the project site is determined, WWTP siting and design criteria are deferred to later phases (or not at all if LOSS proves suitable for all phases). More information on wastewater discharges to surface water is available in Section 5.3 (Surface Water).

Power: Electric power would be the primary source of power for the Proposed Project, though propane and solar power are proposed to supplement electric power. Electric power would be provided by Chelan PUD. At full build-out, the Applicant estimates a total electric demand of 6.9-megawatts (mW)⁶. As of January 2023, Chelan PUD identified peak loads on the near the project at 9.5 mW (95% of capacity). Organic growth in this area (without the proposal) is estimated by Chelan PUD at approximately 0.5 mW/year⁷. This has triggered planning by Chelan PUD to expand capacity in this area, which is required independent of the Applicant's proposal. Chelan PUD has short-term projects that are intended to make approximately 2.0 mW available to support organic growth and potentially to support the first phase (or two) of the Applicant's proposal, which are discussed in greater detail in Section 5.5 (Energy and Natural Resources) and/or Section 5.7 (Utilities).

Substantial infrastructure upgrades will be required for Chelan PUD to meet projected 20-year demand for organic growth and the Applicant's proposal at full build-out, including the potential for a new transmission main, substation, and distribution system. In consultation with Chelan PUD, the County determined that this DEIS will include a programmatic review of the entire power needs and affected environment for the proposal, and a project-level review for those elements planned initially to meet immediate organic growth and initial phases of the proposal, integrated with Chelan PUD's ongoing planning efforts. More information on energy is available in Section 5.5 (Energy and Natural Resources) and/or Section 5.7 (Utilities).

Fiberoptics: Fiberoptic internet service would be provided Chelan PUD with fiberoptic cable buried parallel to the proposed water main alignment.

Stormwater: The Proposed Project is expected to generate stormwater runoff from new impervious surfaces (e.g., roads, roofs, paved parking) and disturbed/compacted pervious surfaces. Runoff volumes would be determined during the permitting and engineering process. The Applicant expects to use on-site infiltration and dispersion to achieve water quality and flow control standards. Infiltration facilities would direct runoff into native soils and dispersion facilities would direct runoff towards vegetated areas. Design for treatment and disposal of stormwater from pollutant-generating impervious surfaces would be required to comply with the Ecology's Eastern Washington Stormwater Management Manual.⁸ Any changes to drainage patterns would need to be reviewed at

⁶ McKinstry, 2022, Mission Ridge Expansion Power Needs Analysis.

⁷ Chelan PUD, 2023a, Letter to Chelan County Natural Resources RE: Mission Ridge Expansion Plan (EIS),

⁸ <https://apps.ecology.wa.gov/publications/SummaryPages/1810044.html>

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that time. More information on stormwater is available in Section 5.3 (Surface Water) and Section 5.7 (Utilities).

Transportation: Within the Project Area, the Proposed Project has two primary transportation components: a public access road and internal private roads. The proposed County-maintained access road would cross USFS-managed lands to connect the existing Mission Ridge Base Area at the terminus of Squilchuck Road/Mission Ridge Road to the privately-owned lands within the proposed MPR Expansion. The new access road would be 0.9-miles long and consist of two lanes (each 12-feet wide), shoulders with ditches (each approximately 4-feet wide), associated cut and fill slopes, and turn-outs. Preliminary design indicates the cut slope would be at a 1:1 ratio and may reach heights of up to 180 to 200 feet. The fill slopes would predominantly consist of retaining walls that would range in height from about 8 to 20-feet. Guardrails would be installed where needed for safety.

The right-of-way would be of variable width to accommodate variations in topography. The entire road corridor, including the roadbed, all cut and fill slopes and turnouts, would cover approximately 25 acres. The access road would require two stream crossings (non-fish bearing perennial streams discussed in Section 5.3) on National Forest land, one at each end of the route. Stream crossings would be culverts or bridges, consistent with County, Washington State, and federal regulations, and determined with final engineered design.

The internal private roads with a total length of 6.0 miles would be for either private access and visitor use (4.2 miles, a.k.a., Village Roads) or mountain access for official use (1.8 miles, a.k.a., Mountain Service Road). Road design has not been completed but would need to be built to meet road standard requirements and to provide emergency vehicle turnarounds and access. Due to construction phasing, to accommodate where a road is proposed to temporarily end at between phased areas, temporary turnarounds would be provided.

Transportation impacts associated with the Proposed Project that would be located outside of the Project Area were evaluated in a 2019 traffic impact analysis (TIA, Gibson 2019) and three addendums thereto (Gibson 2021; and Kimley Horn, 2023, 2024), following consultation with state and local traffic authorities (see Section 5.6, Transportation). The TIA identified intersections in the City of Wenatchee that are below the level of service required and described the traffic infrastructure improvements that would be needed to maintain an adequate level of service. As mitigation, the Applicant would fund a proportionate share of these improvements in coordination with the transportation utility.

Due to the proposed phased construction schedule and the uncertainties associated with projecting traffic impacts 20 years in the future, it was recommended in the TIA that the 2019 TIA and 2021, 2023, and 2024 TIA Addendums be considered preliminary and that an updated TIA be required prior to approval of any development that would generate more than 550 PM (i.e., evening) peak-hour trips (approximately Phase 3).

More information on transportation is available in Section 5.6.

Solid waste management: The Applicant states that waste disposal services will be provided by a private contractor such as Waste Management.

Public safety: Similar to the existing Mission Ridge Ski and Board Resort, the Proposed Project would require provision of public safety services within the Project Area, including fire, police, and general medical services. Over the course of construction and operations, the Applicant would need to continue coordination with the Chelan County Sheriff's Office, Chelan County Fire District No. 1 (CCFD1), and other service providers to ensure the adequacy of services provided. As part of the Proposed Project, the Project Area would be annexed into the CCFD1, and a new fire station has been proposed adjacent to the new day-use parking lot. On-mountain first aid, emergency rescue care, and emergency transport may be rendered by Mission Ridge Pro Patrol (ski patrol). Ski patrol stations would be located at the top of Chair 6/7 and Chair 8. Ski patrol stations are typically staffed and include a warming station, dispatch center, and restrooms for response to guest needs.

A separate fire protection plan is described below.

Fire protection: The Applicant and their consultant (AEGIS Engineering) has been working with CCFD1 and the Chelan Country Fire Marshal to develop a fire protection plan for the Proposed Project⁹. The fire protection plan addresses:

- Fire hazards (i.e., structural fire, wildland fire)
- International Wildland-Urban Interface Code provisions adopted by the State of Washington
- Other relevant codes and standards (e.g., Chelan County Code, International Building Code)
- Water supply for fire protection (including distribution, fire flow, fire volume)
- Fuel management (including fuel breaks and defensible space)
- Ignition resistant construction (e.g., FireWise recommendations)
- Evacuation route signage, emergency planning, outreach and education
- Fire sprinklers, fire alarms, portable fire extinguishers, key box building access, and emergency escape from buildings
- Other mitigation measures outlined in a Community Wildfire Protection Plan

Within the residential and commercial development areas, the fire protection plan recommends standards for maintaining defensible space surrounding buildings and along roads and driveways. The plan also recommends a continuous fuel break along the southeastern portion of the Project Area in an area that generally approximates the boundary between the Squilchuck and Stemilt subwatersheds. The fuel break would be accomplished by either fuel reduction or with the presence of an early wildfire warning system together with equipment and materials capable of a rapid firefighter response to a detected threat. More information is available in Section 4.2 (Fire Risk).

⁹ AEGIS Engineering, Mission Ridge Expansion Master Planned Resort Fire Protection Plan, December 7, 2019

Snowmaking: The Applicant proposes to expand snowmaking facilities to service the new alpine ski terrain. The existing water reservoir on the upper mountain (outside of the Project Area) would be enlarged (an action that is already approved by USFS), and water would be delivered to the existing Base Area. From the Base Area, the water would then be pumped by a new pipeline to a new reservoir located on USFS-managed lands in Section 30. The proposed pipeline for the new snowmaking would be located under the new access road to the Village and then under the new Mountain Service Road. The new reservoir would be nearly one acre in size and hold 4.2 million gallons of water. Existing Mission Ridge water rights authorizations would be used for snowmaking. All new alpine runs would have snowmaking coverage, which would involve burying pipe and electrical conduit under each ski run. Snowmaking would begin during the early ski season, generally in November, and would continue, as needed, through April.

2.3.2 Proposed Project Construction and Phasing

The Applicant has proposed a phased development approach, which is planned to occur in five phases over an approximate 20-year timeframe (Figure 2.3; see Section 2.3.2.2 for a more detailed summary of the five proposed phases). Based on the current permitting schedule, the Proposed Project construction activities would be anticipated to begin in late 2024. The overall project schedule may be modified based on project final design details and permitting timelines. Also, because construction impacts would occur phases, implementation of some commensurate mitigation measure could also be phased.

Although the Proposed Project would be constructed in phases, this DEIS constitutes a comprehensive environmental review of potential impacts at full buildout. With one exception, this DEIS evaluates impacts at a project-level. The exception is the programmatic review of some elements of regional power planning for both organic growth and later phases of the proposal (Phases 3-5), through coordination with Chelan PUD and in keeping with WAC 197-11-060(5)(g). See Section 2.6.2 (Integrated Power Planning) for further discussion of the on this topic.

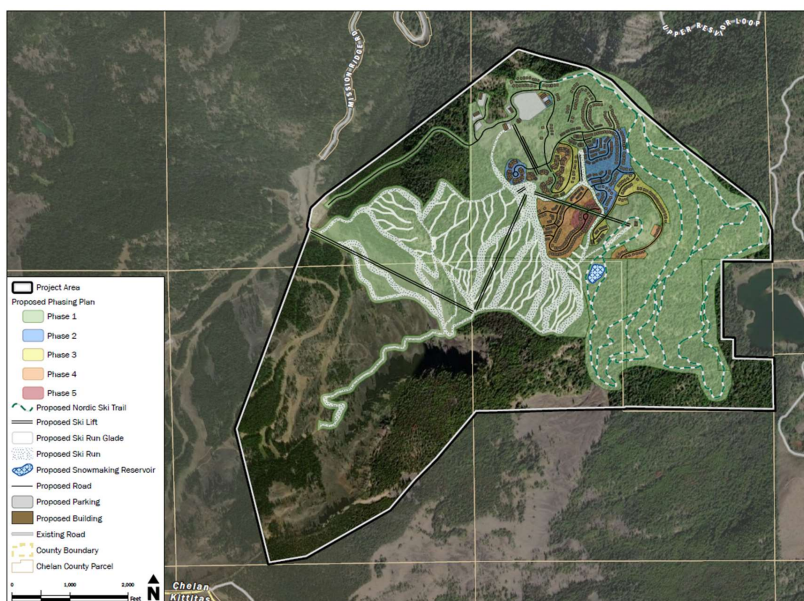


Figure 2.3 Proposed Phasing Plan

2.3.2.1 Construction Methods

Construction activities would include varying levels of construction area preparation, vegetation clearing, soil grading, topographic contouring, fill placement, soil compaction, excavation (e.g., building foundations, underground utilities, lift poles), concrete and asphalt paving, foundation construction, existing road improvement and new road construction, existing reservoir enlargement and new reservoir construction, drilling (groundwater wells), material and equipment storage and stockpiling, burning of nonmerchantable tree and coarse woody debris, and new construction or installation. Large construction equipment and vehicles would include bulldozers, compactors, graders, rollers, excavators, backhoes, scrapers, loaders, concrete trucks, well drill rigs, feller-bunchers, skidders, yarders, pickup trucks, dump trucks, miscellaneous material delivery by over-the-road semi-tractor trailers, and other similar types of heavy equipment. Helicopters may be used for transport and placement of concrete and structural components for ski lift towers. Small construction equipment such as, but not limited to, pumps, lifts, generators, welders, chainsaws, brushcutters, and lights would also be used.

Within the Project Area, the total disturbed area would be approximately XXXX acres of primarily mixed-conifer vegetation (conifers and associated understory). Canopy cover across the site varies from 0-70 percent and vegetation removal would depend on the type of construction occurring. For example, construction of roads, parking areas, and buildings would require more vegetation removal and earthwork, compared to the

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construction of ski runs, which would require less vegetation removal and earthwork. In the Mission Ridge MPR proposal, the Applicant states that the intent of the proposed design is to maintain the feel of the Cascade Mountains by minimizing disturbance and retaining as much natural vegetation as possible. Disturbed areas not permanently converted to developed areas would be revegetated with native plant species.

[PLACEHOLDER: Need disturbed area within Project Area (note that Applicant has provided two residential/commercial development areas that are not consistent) and disturbed areas associated with connected actions needs to be determined (Chelan PUD water system, fiberoptic, power; transportation improvements)]

Roads, parking areas, buildings, and utilities would be constructed using standard methods and practices, with specifics to be determined at final design. The general construction standards for the proposed outdoor recreation facilities are described below.

Designated alpine and Nordic ski trails would be cleared (trees removed and stumps pulled) and graded as necessary to create a smooth surface. Scree slopes would also be smoothed as necessary to create a well-contoured surface. Vegetation along the edges of ski runs would be feathered and/or scalloped to avoid severe looking linear features viewed from Base Area and other key viewpoints. For the new alpine ski trails, electrical conduit and snowmaking waterlines would be buried under runs and light towers and snowmaking guns/sprayers erected along the side of runs.

For the off-piste alpine ski areas, glading (i.e., selective removal, thinning, and trimming of vegetation) would be used to create corridors (20- to 30-feet wide) to allow skiers to descend and make turns through a forested setting.¹⁰ The Applicant's proposal illustrates conceptual ski corridors; however, actual ski line establishment would be selected after detailed on-site analysis and consideration for individual tree and vegetation removal. Where glading is applied, mature trees would be cut, prioritizing removal of diseased and damaged trees, but healthy trees over 20-inches diameter would not be cut. The lower branches of trees would be pruned to allow clearance for skiers passing under the lowest remaining branches.

Installation of chairlifts would require tree removal along the lift line corridor (approximately 80-feet wide) and ground disturbance for installation of the lift towers. Other vegetation modifications, such as brush removal, would depend on existing terrain and site vegetation. Temporary pioneer roads (approximately 15- to 20-feet wide) would be built to each chairlift tower location and a hole approximately 20-feet by 20-feet would be dug for each tower. Pioneer roads would be decommissioned after tower installation. Precise locations of towers and pioneer roads are not yet known. Topsoil on all pioneer roads and chairlift tower holes would be removed prior to disturbance, stockpiled, reinstated, and revegetated with native species after tower installation.

Trees and coarse woody debris removed from chairlift corridors, ski runs, and glades would be felled and whole-tree yarded over sufficiently frozen soil or deep snow to landings on the new ski runs. Merchantable trees (i.e., trees with commercial value that may be harvested and sold) greater than 20 inches diameter would be decked for sale;

¹⁰As described in the U.S. Forest Service Draft Environmental Assessment (2020)

boles over 20 inches diameter would be left on site. Unmerchantable trees and coarse woody debris (less than 20 inches diameter) would be chipped and used on-site or pile burned.

2.3.2.2 Construction Phasing

As currently proposed, the initial construction phase (Phase 1) would be the largest in terms of number and volume of on-site construction activities. A summary of the five proposed phases follows and Table 2.3 shows details of residential and commercial units proposed for development.

- **Phase 1** would include the alpine ski area expansion, the Nordic trail system development, the snow tubing area, the new access road, the day-use parking lot, the maintenance and operations facilities, 172 multi-family residential units, 102 single-family residential units, 60,000 square feet of commercial space in the Village, and associated infrastructure.
- **Phase 2** would add 162 multi-family residential units, 50 single-family residential units, 20,000 square feet of commercial space in the Village, a 57-room hotel/lodge in the Village, 40-beds for employee housing, and associated infrastructure.
- **Phase 3** would add 156 multi-family residential units, 41 single-family residential units, 18,500 square feet of commercial space in the Village, and associated infrastructure.
- **Phase 4** would add 131 multi-family residential units, 41 single-family residential units, 11,500 square feet of commercial space in the Village, an additional 40-beds for employee housing, and associated infrastructure.
- **Phase 5** would include 31 single-family residential units and associated infrastructure.

Table 2.3. Proposed Construction Phasing

Phase ¹	Multi-Family Residential (units)	Single-Family Residential (units)	Hotel/Lodge (rooms)	Commercial Space/Skier Services (sq. ft.)	Employee Housing (beds)
1 ²	172	102	-	60,000	-
2	162	50	57	20,000	40
3	156	41	-	18,500	-
4	131	41	-	11,500	40
5	-	31	-	-	-
Total	621	265	57	110,000	80

¹Each phase would include necessary infrastructure to support operations, which would include infrastructure located both within and outside of the MPR Project Area.

²Phase 1 also includes the alpine ski area expansion, the Nordic trail system development, the snow tubing area, the new access road, the day-use parking lot, the maintenance and operations facilities.

Planned infrastructure phasing includes development of roads and other infrastructure within each phased-area, as well as large-scale infrastructure system upgrades/additions as more development comes online. The latter may include the following:

- Transitioning from OSS/LOSS, to OSS/LOSS with some advance treatment, to a WWTP.
- Transitioning from on-site groundwater wells as the exclusive source of potable water to using groundwater wells in combination with water service from Chelan PUD's Squilchuck Water System.
- Beginning with initial minor electric power infrastructure upgrades (until organic demand develops along with later phases of the MPR proposal) requires the construction of a new transmission main, substation, and distribution system.

2.3.3 Proposed Project Operation and Phasing

If permitted, each phase of the Proposed Project would be self-sufficient and would not be dependent upon a future phase. Each phase would represent a logical and compact extension of infrastructure and services. Consistency with County MPR requirements for phasing is discussed more in Section 4.4 (Land and Shoreline Use).

[PLACEHOLDER: detail phasing plan and timeline requested by County]

2.3.4 Affected Environments Summary

Table 2.4 summarizes the existing environment that would be affected by the Proposed Project, including connection actions, and the geographic areas where those impacts are likely to occur. This table screens all proposed mitigation measures across this DEIS and compiles them temporally for each phase that it is required by. This table is suggested to be carried forward in a staff report to the Hearings Examiner.

[PLACEHOLDER: Table adapted from original version, need to review and final when all sections completed. Also, consider adding map that shows all affected environment areas or refer readers to section specific maps.]

Table 2.4. Summary of Existing Environment Affected by Proposed Project

Environment	Project Area	Squilchuck Road	City of Wenatchee Intersections	PUD Existing Utility Corridor	PUD Future Power Transmission Lines/ Substation	Squilchuck and Stemilt Subwatersheds	Views	Chelan County
Earth	x			x	x			
Land Use	x				x			x
Fire Risk	x			x	x			
Light Glare Aesthetics	x	x	x		x		x	
Air	x	x	x					
Groundwater	x			x	x	x		
Surface Water	x			x	x	x		
Plants and Animals	x			x	x			x
Energy and Natural Resources	x			x	x			
Traffic	x	x	x	x	x			
Utilities and Public Services	x	x	x	x	x	x		x
Noise	x	x	x	x	x			
Cultural	x			x	x			
Recreation	x	x	x			x	x	
Climate Change	x	x	x	x	x	x		
Environmental Justice	x	x	x	x	x	x	x	x
Cumulative Impacts	x	x	x	x	x	x	x	x

Table 2.4. Summary of Existing Environment Affected by Proposed Project

2.4 No Action Alternative

The No Action Alternative represents the most likely future condition if the Proposed Project is not constructed and provides a baseline for comparing the effects of other alternatives. Under the No Action Alternative, none of the Proposed Project facilities would be constructed. Operation of existing facilities at Mission Ridge would continue

under current management practices. The analysis for the No Action Alternative is based on the expected conditions in 2049 (25 years from anticipated 2024 FEIS), which is the year that construction of the Applicant's Proposed Project would be expected to be completed.

2.5 Determining Environmental Impact Statement Alternatives

SEPA requires lead agencies to evaluate reasonable alternatives to the proposed project (WAC 197-11-440, adopted by reference in CCC 13.04.120). Reasonable alternatives are defined as *"actions that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation"* (WAC 197-11-786, CCC 13.04.030). Per WAC 197-11-440(5)(d), when a proposal is for a private project on a specific site, the lead agency shall be required to evaluate only the No Action Alternative plus other reasonable alternatives for achieving the proposal's objective on the same site. As such, alternative locations for the Proposed Project were not evaluated as alternatives for the DEIS. Screening of alternatives included those identified in scoping comments regarding alternatives to be studied in the DEIS.

The County evaluated potential alternatives to determine whether they met the proposal's objective, using the following criteria:

- Do they feasibly obtain or approximate the proposal's objective?
- Do they provide a lower environmental cost or decreased level of environmental degradation than the proposed project?

In its 2020 Determination of Significance and Scoping Notice (CCDCD, 2020), the County initially identified the following alternatives to be analyzed in the DEIS:

3. **No Action:** Assumes no development beyond that permitted by current County zoning regulations.
4. **Alternative 1 Preferred Alternative:** The development as proposed.
5. **Alternative 2 Alternative Configuration:** Other reasonable alternatives for achieving the proposal's objective on the same site.

After reviewing the comments received during scoping, the County evaluated adding additional alternatives that would include potential construction of a secondary access road and comprehensive power planning for full buildout. The County later eliminated these alternatives from further consideration (described further below in Section 2.6).

The two alternatives evaluated in this DEIS are:

1. **No Action Alternative:** Assumes no development beyond that permitted by current County zoning regulations.
2. **Proposed Project:** The development with mitigation as proposed and required in this DEIS.

2.6 Alternatives Considered but Eliminated

In preparation for this DEIS, Chelan County engaged in public scoping and engaged with numerous consulting agencies to refine the scope and select reasonable alternatives for evaluation. Under WAC 197-11-786 and CCC 13.04.030, a “reasonable alternative” is one that could “feasibly attain or approximate a proposal’s objectives, but at a lower environmental cost or decreased level of environmental degradation”.

Under WAC 197-11-060 (adopted by reference in CCC 13.04.020), Lead Agencies are encouraged to develop reasonable alternatives, but need not consider alternatives where the costs to obtain and evaluate them are “exorbitant” or information to inform them is “speculative” (WAC 197-11-080). Finally, under WAC 197-11-060(5)(g), phased review is appropriate where “proposals are related to a large existing or planned network, such as highways, streets, pipelines, or utility lines or systems”, which is the case for regional power planning by Chelan PUD.

Based on this guidance, Chelan County considered but eliminated two alternatives from environmental review in this DEIS. The first related to requiring the applicant to construct and maintain a secondary transportation access to the site. The second involved assimilating the regional power planning for this area being conducted by Chelan PUD so all phases of power needs of the proposal could be evaluated. The following sections include a discussion of each of these Alternatives Considered but Eliminated.

2.6.1 Secondary Access

This Alternative Considered but Eliminated is the Proposed Project with additional development for a secondary access road. As described in Section 2.2.1 (Existing Facilities), motor vehicle access to Mission Ridge is currently limited to the single route provided via Squilchuck Road and Mission Ridge Road. During public scoping, comments were received describing concerns with a single access road as it relates to providing for emergency access and human safety. With only one access route, if the road were not available for motor vehicle travel (e.g., fire, smoke, debris, other factors) this could prevent ingress and egress from the expansion area. In the event of an emergency, this could mean that first responders, employees, and visitors may be unable to reach the expansion area or to evacuate the expansion area. Even in non-emergency situations, a full or partial road closure could hinder regular operations of the resort and the regular activities of employees and guests, such as getting to and from work or school. Fire hazard was the most cited concern in scoping comments, though consideration of an all-hazards approach (e.g., earthquake, hazardous materials) was also raised.

Balanced against these risks are the practicality of building and maintaining a road on land not owned by the Applicant, the greater environmental impacts of such construction and maintenance, and the mitigating potential of a single wider road, which is allowed in some circumstances under County Code. In response to public comments, the County identified secondary access as a potential project alternative for this DEIS within the scope of “other reasonable alternatives for achieving the proposal’s objectives on the same site.” The intent of a secondary access road would be to provide redundancy for motor vehicle access, so if Squilchuck or Mission Ridge roads were not passable, ingress and egress would be maintained via a secondary route. The County’s 2020 scoping memo

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further specified an analysis of “the impacts of a single road access to the project site on emergency access, public safety, and evacuation in both winter and summer seasons.”

Following scoping, the County consulted with the Chelan County Fire District No. 1, Chelan County Fire Marshal, and Chelan County Public Works to better understand the requirements for and feasibility of a secondary access road (Aspect 2022). Issues raised at this consultation meeting included the need to evaluate:

1. The existing Mission Ridge Crisis Action Plan (Mission Ridge 2022a) to determine if it is sufficient as-is or would need to be updated to account for the Proposed Project.
2. Options for safe evacuation or shelter-in-place for hazards that could arise either within the Project Area or surrounding areas.
3. Compliance with State regulations and County code.

The Applicant had previously submitted a Fire Protection Plan (AEGIS 2019) that was included as an appendix to the MPR Application and is discussed in detail in Section 4.3 (Fire Risk). A secondary access evaluation was envisioned to be an addendum to the Fire Protection Plan. The applicant also provided the Mission Ridge Mountain Ski Area Wildfire Plan for review following consultation (Mission Ridge, 2022b). Pursuant to the consultation meeting, the County requested additional information related to secondary access from the Applicant.

In response to the County’s request, the Applicant contracted with Torrence Engineering to draft secondary access road profiles (Torrence 2022), with EcoSign to provide an initial evaluation of the secondary access road options (EcoSign 2022), and with AEGIS Engineering to provide another evaluation of the secondary access road options (AEGIS 2023). Torrence Engineering developed five route options based on minimum design criteria which specified the road must be twenty-eight feet wide, paved, have a maximum slope of 8-12 percent, and be open and maintained year-round.

The five secondary access route options evaluated are shown in Figure 2.4 (streams and wetlands) and Figure 2.5 (geohazards). All route options would rely, at least in part, on crossing property that is not owned by the Applicant, which provides complicating access, permitting, and ownership factors through which the reasonableness of the alternative should be considered. Ownership of each route is summarized in Table 2.5.

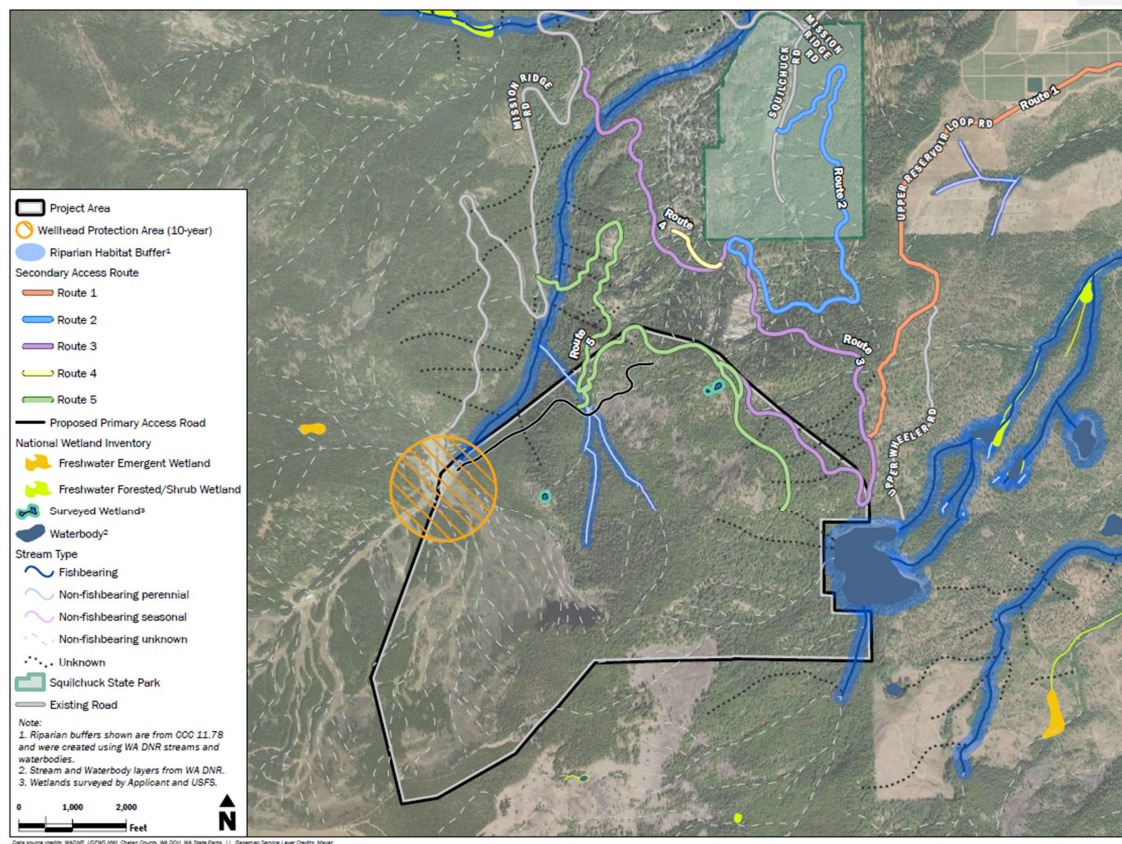


Figure 2.4. Secondary Access Route Options Evaluated, Focus on Streams and Wetlands

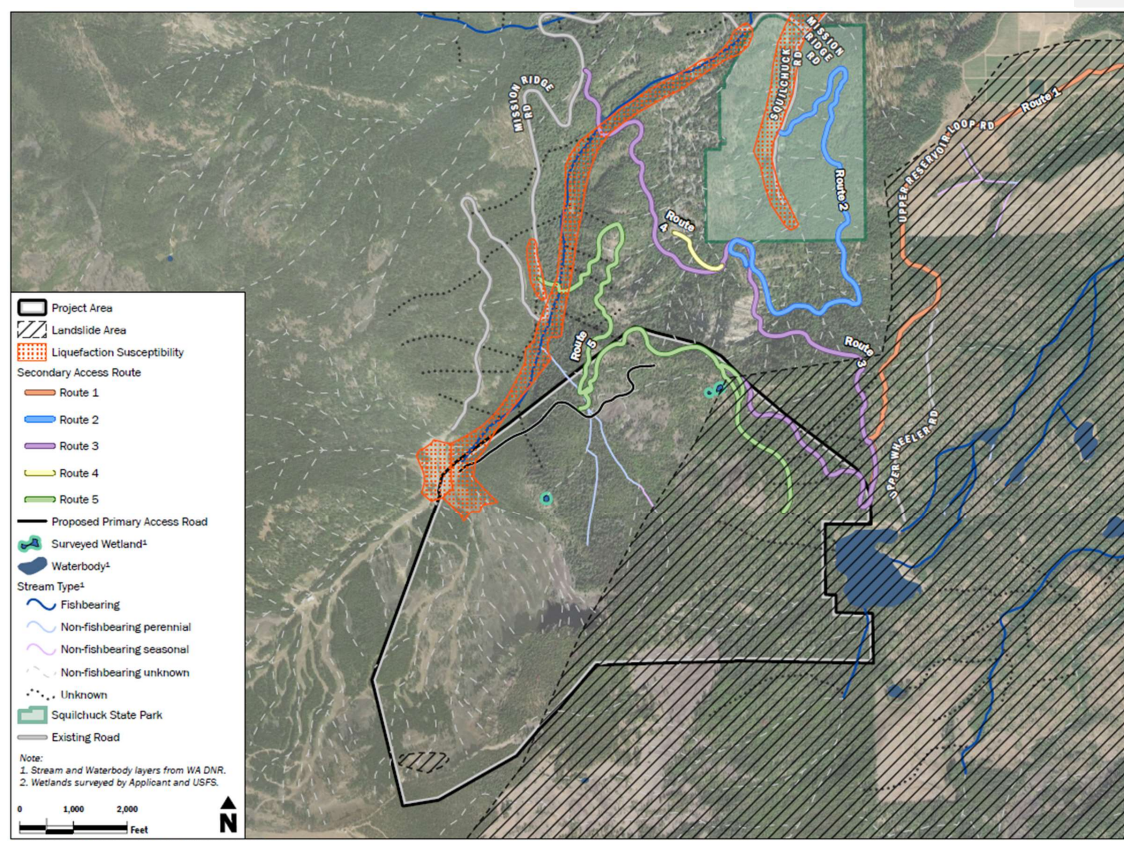


Figure 2.5. Secondary Access Route Options Evaluated, Focus on Geologically Hazardous Areas

Based on the routes evaluated, the County then conducted a preliminary assessment in this DEIS of potential impacts to critical areas. Table 2.5 summarizes secondary access land ownership; Table 2.6 summarizes secondary access alternatives and Table 2.7 summarizes secondary affected environment. The critical areas assessment relied on previously mapped information, but no field assessments were completed (e.g. no wetland delineations).

Table 2.5. Secondary Access Land Ownership Summary

Route Option	Parcels Impacted	Parcel Landowners
1	21202000000	
	0	
	21201700000	WA STATE DEPT FISH & WILDLIFE WHEELER RIDGE LLC
	0	
2	21201600000	WA STATE DEPT FISH & WILDLIFE
	0	
	21201840000	
	0	
3	21203010005	WA STATE PARKS & REC COMM <i>TAMARACK SADDLE LLC</i>
	0	
	21201823005	
	0	
4	21201823010	
	0	
	21191300000	NAISMITH CHARLES ETAL
	0	
	21201840000	NAISMITH CHARLES ETAL
	0	
	21201840000	SAWYER INDUSTRIES LLC
	0	
	21202000000	WA STATE PARKS & REC COMM
	0	
	21202000000	WA STATE DEPT FISH & WILDLIFE
	0	
5A/5B	21201823007	NAISMITH CHARLES ETAL
	5	
	21201823007	FRIENDS OF SCOUT A VISTA
	0	
5A/5B	21201821010	<i>TAMARACK SADDLE LLC</i>
	0	
	21203010005	
	0	
5A/5B	21201857817	
	0	
	21201857816	NAKONIECZNY RAFAL A & LYUDMILA SHUR
	0	
5A/5B	21203010005	BISHOP RONALD E & TAKI BISHOP SHARON M
	0	
	21203010005	<i>TAMARACK SADDLE LLC</i>
	0	
5A/5B	21201823010	
	0	
	21192400000	NAISMITH CHARLES ETAL
	0	
5A/5B	21203010005	U S FOREST SERVICE
	0	
	21203010005	<i>TAMARACK SADDLE LLC</i>
	0	

Notes: Ownership is based on the 2023 Chelan County assessor database.

Table 2.6. Secondary Access Alternatives Summary

[PLACEHOLDER: Discrepancy between road length described in AEGIS report and road length shown in GIS. Likely an error in GIS layer, but need to confirm. Would be best to get accurate secondary access routes in GIS from Applicant or their consultant. In the table below, the first length listed is from AEGIS report, the second length is from GIS. Table values should be considered provisional until road length is rectified as some routes appear to be missing segments.]

Route Option	Length of road (miles)	Total affected acres ¹	Maximum Grade ²	Earthwork (cubic yards) ³	Alignment and Other Considerations
1	3.3 or 2.6	17.45	12%	Cut: 69,453 Fill: 9,927 Hauled offsite: 59,527	<ul style="list-style-type: none"> Separate distinct route to Upper Wheeler Road Largely conforms to natural gradient Upper Wheeler Creek Road is unpaved for approximately 1.65 miles, potential improvements to Wheeler Creek Road are not included in this assessment, but would also be required to meet County standards
2	4.0 or 2.1	13.99	12%	Cut: 188,375 Fill: 23,707 Hauled offsite: 164,668	<ul style="list-style-type: none"> Reconnects to Squilchuck Road Traverses some steep terrain, deep cut and switchback required In and near Squilchuck State Park (potential impacts to sensitive receptors: air, noise, light, traffic)
3	3.3 or 3.4	23.33	10%	Cut: 342,029 Fill: 50,613 Hauled offsite: 291,415	<ul style="list-style-type: none"> Reconnects to Squilchuck Road Traverses some steep terrain, deep cut and switchback required Close proximity to Forest Ridge neighborhood (potential impacts to sensitive receptors: air, noise, light, traffic)

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4	2.4 or 0.2	1.64	20%	Cut: 10,272 Fill: 445 Hauled offsite: 9,927	<ul style="list-style-type: none"> Reconnects to Squilchuck Road Steep grade does not meet design criteria Connector road through Forest Ridge neighborhood (potential impacts to sensitive receptors: air, noise, light, traffic)
5A/5B	2.1 or 2.8	18.93	10%	Cut: 174,691 Fill: 21,413 Hauled offsite: 153,279	<ul style="list-style-type: none"> Reconnects to Squilchuck Road Traverses some steep terrain

Notes:

1. Affected acres estimated based on road length as estimated in GIS and an impact area width of 56 feet (or 28 feet on either side of the road) actual secondary access road footprint and associated impact area would need to be determined based on engineered design. The secondary access route options were developed by Torrence Engineering (2022). On the Torrence Engineering (2022) drawings, a typical cross section was shown to include 12 foot road as measured from the centerline and 25 foot right of way (ROW) as measured from the centerline. EcoSign (2022) discusses the need for a 28 foot wide road (14 foot from centerline) with no ROW specified. Given that the routes were conceptual and that a wider road (14-ft rather 12-ft from centerline might be needed), the analysis provided in this table used a wider corridor for the impact area calculation to account for variation. The impact area provided above is based on road length and an assumed impact area width of 28-feet from centerline or 56-feet total width.
2. Maximum grade for private roads is 10 percent under Chelan County Code 8.24.020.
3. Earthwork estimates from EcoSign (2022) and AEGIS (2023) and are assumed to be based on a typical cross section from Torrence Engineering (2022).



Table 2.7. Secondary Access Affected Environment Summary

Route Option	Landslide Area ¹ (acres)	Liquefacti on Risk ² (acres)	Slope >10% (acres)	Slope >40% (acres)	Riparian Habitat ³ (acres)	Stream Crossings (stream type: number of crossings, species, if fish bearing)	Habitat ⁵
1	17.44	-	10.71	1.25	-	Non-fish bearing unknown: 3 Unknown: 1	Colockum Elk Calving Area
2	-	-	9.20	6.31	-	Non-fish bearing unknown: 15	Shrubsteppe
3	9.04	0.37	22.16	11.92	0.52	Fish bearing ⁴ : 1, brook trout, rainbow trout Non-fish bearing unknown: 21 Unknown: 4	Colockum Elk Calving Area
4	-	-	1.45	0.25	-	Non-fish bearing unknown: 3	-
5A/5B	4.52	0.62	18.41	13.90	1.38	Fish bearing ⁴ : 1, brook trout, rainbow trout Non-fish bearing perennial: 1 Non-fish bearing unknown: 7 Unknown: 8	-

A complete cultural resources assessment along secondary access routes was not completed. However, preliminary screening in the publicly-accessible version of the Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Record Data (WISSARD) indicates that no eligible or registered properties are located along any of the alternative access routes. If needed for further evaluation, some cultural resources information may be available from other recent projects in the vicinity, including FEMA Fuel Reduction Projects (2020; portions of Upper Wheeler Road, area south of Squilchuck State Park, Scout-A-Vista), Stemilt-Squilchuck Community Forest Project (2021), and State Parks Stewardship (2023, Squilchuck State Park).

Chelan County development standards (Chapter 15.30 CCC) include requirements for connectivity and secondary access in new development. As described in CCC 15.30.230(4), interconnectivity of communities is a recognized objective and priority of the County and secondary access is required for projects that are projected to have more than 400 average daily trips, a condition which the Proposed Project meets. Only in unusual circumstances shall interconnectivity not be required, with the burden of proof on the applicant. CCC 15.30.230(4). The code further stipulates consideration of other means of assuring public safety where “secondary access and/or interconnectivity are not possible.” CCC 15.30.230(4). For situations where secondary access and/or interconnectivity is possible, the code provides further guidance. CCC 15.30.230(4)(A). In addition, the code addresses situations where “interconnectivity is not provided and secondary access within the development is not practical.” CCC 15.30.230(4)(B). Based on County Code, the default standard for the Proposed Project is to provide for secondary access; however, the Applicant is proposing to analyze secondary access and interconnectivity as impractical.

An additional regulation relevant to the secondary access road evaluation is Chelan County's adoption of the International Fire Code, as amended, as part of its building regulations. Chelan County Code section 3.04.080(5) states: “Whenever a proposed development, or portion thereof exceeds the thresholds set by Chelan County Code 15.30.230, provisions for at least two ingress-egress routes must be supplied, as required by Chelan County Code 15.30. The Fire Code Official is authorized to require additional fire prevention/fighting requirements if no secondary access is practical due to geographic or topographic features.” Although this code section uses slightly different language, the intent seems similar to CCC 15.30.230(4). There is a practicality concept that the Applicant suggests is appropriate here.

A key consideration for the secondary access requirement hinges on whether or not said access is “practical” under county code. For purposes of the reasonable alternatives analysis required by WAC 197-11-440(5), the County also must consider the “reasonable” standard required under SEPA. Per WAC 197-11-786, a Reasonable Alternative means “an action that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation. Reasonable alternatives may be those over which an agency with jurisdiction has authority to control impacts, either directly, or indirectly through requirement of mitigation measures.” For the purposes of this EIS, the review of reasonable alternatives also must be informed by consideration of whether a given alternative is on the same site as the proposal. WAC 197-11-440(5)(d).

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In their evaluation, EcoSign (2022) and AEGIS (2023) determined that secondary access was not practical, due mostly to the volume of excess cut material that would need to be hauled offsite and many of the underlying properties not being owned by the Applicant. AEGIS also provided its analysis of relevant County code to support this assertion. In part, AEGIS conclude: “[...] consistent with CCC Section 15.30.230(4)(B), we find secondary access is not practical. Additionally, given the unusual circumstances of the site, such as the remoteness of the development and extreme terrain, no logical location for access for future connectivity with a surrounding property is apparent. Therefore, consistent with CCC Section 15.30.230(4)(B), interconnectivity is not provided, and Section 15.30.230(4)(A) should not apply.”

AEGIS further notes that options 2-5 all loop back to Squilchuck Road, so do not provide a wholly separate and distinct access route. With option 1, they note that the route is shown to join an extension of Upper Wheeler Road on State-owned lands. “From that intersection down to Loop Road, the existing 1.65 miles of the road is unpaved and appears to involve at least one turn with an inside radius of less than 20 feet. Therefore, we find the route as presented in Option 1 would not achieve code compliance.”

AEGIS also cites CCC Section 15.30.100, which allows design deviations. CCC 15.30.100(2) states: “These standards are not provided to hamper the introduction of new ideas. It is fully expected that creative engineering will continue to take place. Situations will present themselves where design deviations may be preferred to allow conformance with existing conditions, to overcome adverse topography or to allow for more affordable solutions without adversely affecting safety, maintainability or aesthetics. These standards are intended to provide predictability yet still allow for the flexibility necessary for innovation.” Finally, AEGIS also suggests that the Fire Protection Plan should be considered toward the assessment of secondary access.

In this instance, the scope of environmental review for reasonable alternatives analysis under WAC 197-11-440(5), requires consideration of several public values.

1. It is probable that a secondary access would provide increased public safety over a single 28-foot-wide access, along with the additional mitigation measures presented in the Fire Protection Plan and Crisis Management Plan.
2. It is certain that a secondary access would have a greater disturbed area and effect on the environment than the single access.
3. It is questionable given the lack of ownership of the secondary access route whether such an alternative is reasonable to consider further.

[PLACEHOLDER: Discussion of International Fire Code Section 503.1.2 pending outcomes of meetings with Fire District/Fire Marshal]

A decision on the applicability of the code standards governing secondary access will be a part of the substantive review of the project by County staff, the hearing examiner, and potentially other decision makers. The code standards also include references to mitigation to assure public safety in the event secondary access is not provided. See CCC 3.04.080 (“The Fire Code Official is authorized to require additional fire prevention/fighting requirements if no secondary access is practical due to geographic or topographic features.”); CCC 15.30.230(4) (“If interconnectivity is not possible, other

means of assuring public safety shall be implemented.”). The present consideration of reasonable alternatives for SEPA purposes in this document does not limit, foreclose, or imply any substantive decision or conditional decision on any aspect of the project-level review of secondary access. Issuance of a DEIS and subsequent FEIS that excludes further detailed evaluation of off-site secondary access roads may be appropriate under WAC 197-11-440(5)(d) but is not an assurance by the County as to the feasibility of the Proposed Project with or without conditions including on the issue of secondary access or of the suitability of the Proposed Project under the County's codes or other standards of review.

2.6.2 Integrated Power Planning

This Alternative Considered but Eliminated is the Proposed Project with integrated, project-level planning and review for all project phases, as compared to the approach taken in this DEIS, which includes a phased programmatic-level and project-level review process.

As described in Section 2.3.1.4 (Public Service Facilities, Utilities, Other Infrastructure), Chelan PUD serves the existing Mission Ridge facilities with electrical services (currently 1.5 mW, Chelan PUD 2023b). The electrical line (Squilchuck 3-211 distribution feeder) is a single, radial and rural distribution line with a voltage of 12.47 KV (Chelan PUD 2018). In addition to the ski area, this line also serves residential and agricultural electrical services along the Squilchuck Road corridor.

As of January 2023, Chelan PUD identified peak loads on the grid in the vicinity of the Proposed Project at over 9.5 mW, which is approximately 95% of existing capacity (Chelan PUD 2023a). Organic growth in this area (without the Mission Ridge MPR) is estimated by Chelan PUD at approximately 0.5 mW/year. This has triggered planning by Chelan PUD to expand capacity in this area, which is required independent of the Applicant's proposal. Chelan PUD has short-term projects that are intended to make approximately 2.0 mW available to support organic growth and potentially the first phase or two of the Applicant's proposal. To provide sufficient power capacity to support the needs of the Proposed Project at full buildout, an additional 6.9 MW as estimated by the Applicant (McKinstry 2022) or 5-10 MW as estimated by Chelan PUD (Chelan PUD2023b) is required. Chelan PUD has determined that full-buildout of the Proposed Project would require a new standard configuration substation and corresponding transmission line to bring high voltage power from the

Project-level review: For proposals involving physical changes to one or more elements of the environment, a project-level EIS review is typically completed. Examples include new construction or facility operations changes.

Nonproject-level (or programmatic) review: A nonproject EIS may be prepared for planning decisions that provide the basis for later project review. Nonproject actions include the adoption of plans, policies, programs, or regulations that contain standards controlling the use of the environment or that will regulate a series of connected actions.

For this DEIS, Chelan PUD power improvements are divided into project and nonproject review as follows:

- Near-term actions, project-level
- Long-term actions, programmatic

transmission source in the City of Wenatchee to a new substation site in the upper Squilchuck area (Chelan PUD 2018).

The County consulted with Chelan PUD to determine an agreed upon approach for power planning. The intent of consultation was to ensure a comprehensive SEPA review of the Mission Ridge MPR, while also considering the long-range planning process utilized by Chelan PUD. Two options for SEPA review were discussed (Aspect 2023).

Option 1: Phased Programmatic/Project-Level Power Review

- County-led programmatic review of power needs for all Mission Ridge MPR phases (phases 1-5).
- County-led project-level review of initial MPR phases (likely phase 1 and 2), which would include Chelan PUDs short-term planned improvements along the Squilchuck Utility Corridor which are known with greater specificity.
- Chelan PUD-led supplemental project-level review for power improvements required to support later MPR phases (likely phases 3-5), which would include a new substation and transmission line and would be completed pursuant to Chelan PUD's Long Range Planning process.

Option 2: Integrated Project-Level Power Review

- Fully integrated project-level review of power needs for all Mission Ridge MPR phases (phases 1-5).
- County and PUD to co-lead, a co-lead agreement would be necessary.
- Additional disturbed environment studies.
- County and PUD to develop an integrated public outreach strategy.

SEPA allows phased review of some projects. WAC 197-11-060(5)(g):

Where proposals are related to a large existing or planned network, such as highways, streets, pipelines, or utility lines or systems, the lead agency may analyze in detail the overall network as the present proposal or may select some of the future elements for present detailed consideration. Any phased review shall be logical in relation to the design of the overall system or network, and shall be consistent with this section and WAC 197-11-070.

The County and Chelan PUD discussed both options, and ultimately agreed to the power planning approach outlined in Option 1 (Chelan PUD, 2023c). Some of the considerations raised by Chelan PUD that supported their Preferred Option 1 approach included:

- Introducing new utility infrastructure, including but not limited to upgrading existing lines, new substation, expansion of existing substations, and transmission, may vary based on organic customer growth outside of the Mission Ridge MPR and the various project phases.
- Chelan PUD performs annual system studies to validate capital improvement project schedules addressing near real-time capacity projects. Adjustments are made based on actual growth levels.

- Chelan PUD substation planning and site selection processes include significant levels of feasibility, alternative analysis, community engagement, permitting, and environmental assessments many years in advance of the energization plan.
- Premature and incomplete community engagement can sometimes foster opposition resulting in significantly more challenges for siting substations and utility infrastructure. Chelan PUD would prefer to lead the public outreach and ensure adequate community engagement and timelines for future capital improvement projects.
- Chelan PUD has a long history of leading environmental reviews and assessments for capital improvement projects that require conditional use permits from County's and Cities and are in-line with industry best practice.

As part of the decision to move Integrated Project-Level Power Review (Option 2) to an Alternative Considered but Eliminated, the County sought to ensure that that rationale for phased review would occur in the DEIS (this section) and that, to the extent possible, potential future power utility improvements and impacts to critical areas would be disclosed to the public in the DEIS. This would include Chelan PUD planning documents and procedures, as well as the existing franchise agreement between Chelan PUD and the County, which are discussed in Section 5.7 (Utilities and Public Services). Chelan County believes this meets the intent of phased review under WAC 197-11-060(5)(g), and the provisions under WAC 197-11-080 where agencies can proceed with phased review when project level information is speculative or not known.

When Chelan PUD is ready to advance planning for a new substation and transmission line, they will be responsible for ensuring that all elements of SEPA are completed.

2.7 Selection of Preferred Alternative

PLACEHOLDER: Leave blank at DEIS stage.

3 REQUIRED PERMITS AND APPROVALS

The proposed project will require many permits, license, agreements, and approvals, which are expected to include the following. Required permits, approvals, and agreements for each phase of the Proposed Project will be completed prior to its required phase or at the time when the permitting threshold is met.

3.1 Federal

- **Section 404 Clean Water Act (CWA) Permit – USACE – Prior to Phase 1 and any phase exceeding the permitting threshold:** Discharge of wastewater to surface water via a WWTP (if constructed in addition to or instead of OSS/LOSS) would require compliance with the federal Clean Water Act. Coverage for wetland fill under CWA Section 404 is unlikely to be required, but it is the sole responsibility of the USACE to make jurisdictional determinations.
- **Special Use Permits (SUP) – USFS – Prior to Phase 1:** The existing Mission Ridge special use permit is proposed to be amended to expand the current permit area to include the Proposed Project. Additionally, the existing Chelan PUD Special Use Permit will be amended to incorporate the new water and fiber transmission lines across federal property.
- **Cooperative Agreement – USFS/WDFW – Prior to Phase 1:** Coordinating with WDFW on state-owned lands that are administered by USFS under the existing Mission Ridge USFS SUP and WDFW Land Use Agreement pursuant to the USFS/WDFW Cooperative Agreement.

3.2 State

- **NPDES Wastewater Discharge Permit – Ecology – Prior to Phase 1 and any phase exceeding the permitting threshold:** Discharge of wastewater to surface water via a WWTP (if constructed in addition to or instead of OSS/LOSS) would require compliance with state antidegradation policies related to surface water under WAC 173-201A.
- **NPDES Construction Stormwater General Permit (CSWGP) – Ecology – Prior to Phase 1 and any phase exceeding the permitting threshold:** The Proposed Project would result in greater than 1 acre of ground disturbing activity requiring coverage under the NPDES CSWGP. NPDES CSWGP coverage would require the Applicant to develop, implement, monitor, and maintain a number of construction best management practices (BMPs) to comply with water quality standards and other permit requirements, likely including the following: Stormwater Pollution Prevention Plan (SWPPP), Temporary Erosion and Sediment Control Plan (TESC Plan), Spill Prevention, Control, and Countermeasures Plan (SPCC Plan), management of stormwater and construction dewatering water, implementation of permit-required monitoring during construction.

- OSS/LOSS Permitting – WA Department of Health and Chelan-Douglas Health District – Prior to Phase 1 and any phase exceeding the permitting threshold:** Discharge of wastewater to groundwater via OSS/LOSS would require approval from CDHD and DOH, respectively, to comply with Washington State antidegradation policies related to groundwater under WAC 173-200. If permitted as OSS, the system(s) would need to meet requirements set forth in WAC 246-272A, as well as requirements from CDHD. If permitted as a LOSS, the permitted system(s) would be required to meet requirements described in WAC 246-272B. These approvals will be required prior to permitting for each phase of the Proposed Project.
- Source Approval – Department of Health and Chelan-Douglas Health District – Prior to Phase 1 and any phase exceeding the permitting threshold:** New groundwater wells supplying the potable water system would need to receive source approval from DOH under WAC 246-290-130 including testing to demonstrate safe yield and source reliability. Proof of potable water must be provided to Chelan County prior to preliminary plat or building permit approval.
- Water Right Change Application – Ecology – Prior to Phase 1 and any phase exceeding the permitting threshold:** Water right changes/transfer application(s) for new wells and uses would need to be approved by Ecology. Any water right changes/transfers would need to demonstrate that the proposed use would pass statutory tests (see water rights/water supply discussion in Section 5.2.3.3). Ecology may place conditions on water rights authorizations, such as requirements for source metering.
- Hydraulic Project Approval (HPA) – WDFW – Prior to Phase 1 and any phase exceeding the permitting threshold:** All work conducted below the ordinary high-water mark (OHWM) will require obtaining appropriate permits such as an HPA. Water crossings (e.g., roads, utilities) must also be approved by WDFW via an HPA (RCW 77.55.021, CCC 11-78-040), which could include additional mitigation requirements.
- Reservoir Permit – Ecology – Prior to Phase 1 and any phase exceeding the permitting threshold:** Reservoir permits are required when filling impoundments that will retain 10 or more acre-feet of water. A reservoir permit under RCW 90.03.370 would be needed to construct and operate the proposed project and would allow the Applicant to fill the reservoir once a year, unless otherwise specified by the permit.
- Dam Construction Permit – Ecology – Prior to Phase 1 and any phase exceeding the permitting threshold:** Prior to construction and operation of the surface water storage reservoir, a Dam Construction Permit from Ecology would be required.
- Washington State Water Pollution Control Law Administrative Order – Ecology – Prior to Phase 1 and any phase exceeding the permitting threshold:** The proposed project would result in both the temporary and permanent placement of fill material into wetlands and streams (waters of the state) that may not be regulated as waters of the United States under Section 404 of the Clean Water Act. Impacts to wetlands or streams outside of federal

jurisdiction are authorized through administrative orders under the state Water Pollution Control Act.

3.3 Local and Regional

- **PUD Service Agreement – Chelan PUD – Prior to Phase 1 and any phase exceeding the permitting threshold:** For water supplied by expansion of Chelan PUD's public water system, the utility would be required to provide written confirmation agreeing to provide water for the Proposed Project. All water system improvements would need to be designed, constructed, and placed in accordance with Chelan PUD's standards and requirements. Completion of the improvements, including necessary easements, would need to be accepted in writing by Chelan PUD. Expansion of Chelan PUD's water system would be subject to applicable permitting processes including an update to its Group A Water System Plan to be approved by DOH. Proof of potable water should be provided to Chelan County prior to preliminary plat or building permit approval.
- **Capacity Reservation Agreement – Chelan PUD – Prior to Phase 1 and any phase exceeding the permitting threshold:** For power service to the Proposed Project, a Capacity Reservation Agreement must be obtained with Chelan PUD to reserve power service from the Squilchuck substation.
- **Road Maintenance Agreement – Chelan County – Prior to Phase 1:** The proposed new access road from the Base Area parking lot to the expansion area will be maintained by the County. An agreement between the County and the Applicant will be established prior to construction of the access road.
- **Landowner Easements and Agreements – Chelan PUD – Prior to Phase 1:** Existing easements along the utility corridor held by Chelan PUD are proposed to be specified or widened to be 30 feet to accommodate water, power, and telecommunications. Completion of the necessary easements would need to be accepted in writing by Chelan PUD.
- **Potential Habitat Management and Mitigation Plan (HMMP) – Chelan County – Prior to Phase 1 and any phase exceeding the permitting threshold:** Chelan County may require a habitat management and mitigation plan for riparian buffer impacts (CCC 11.78 – Fish and Wildlife Habitat Conservation Areas Overlay). Per Chelan County Code (11.80.070) the Applicant will coordinate with Chelan County, WDFW and Washington Department of Ecology (11.80.110) to mitigate impacts to wetland habitats and species. This includes preparation and implementation of an HMMP for plant, fish and wildlife habitat conservation areas.

4 AFFECTED ENVIRONMENT, POTENTIAL SIGNIFICANT IMPACTS, AND MITIGATION MEASURES – IMPACTS WITH SIGNIFICANT AND UNAVOIDABLE IMPACTS

Following review of scoping comments, Applicant technical reports, and consulting agency feedback, this EIS concludes that construction and operation of the proposed project would have probable significant adverse impacts within four elements of the proposed project's affected environment:

- **Earth.** Construction and operation will create increased loading in an existing high landslide risk area.
- **Fire Risk:** Operation will lead to increased activity in an existing high fire risk area.
- **Visual:** Night ski operations will introduce new light and glare sources that cannot be mitigated.
- **Land Use:** While consistent with local planning, land use determination will change as a result of operation of the Proposed Project .

The following four subsections discuss each of these four elements, respective impacts from the proposed project, and mitigation options in further detail.

4.1 Earth

Geology is the study of the earth, the materials that make it up, their structure, and the processes that act upon them such as earthquakes, landslides, and erosion. This section describes key features related to earth resources, including:

- Geology and soils
- Topography
- Geological hazards, including erosion, mass wasting, also called landslide, and seismic hazards.

The GN Northern, Inc. (2017, 2018, 2019a, 2019b, 2020) geotechnical reports supplied by the Applicant, as well as related reports¹¹ provided information for the analysis used to evaluate geologic resources. These reports evaluate geologic site characteristics, geotechnical hazards, landslide history, and feasibility of construction. The potential impacts of groundwater on landslide risk are discussed in this section. Groundwater-related impacts – expected to be mitigated below levels of significance – are discussed in more detail in Section 5.2.

The study area for geology and soils includes both aboveground and belowground components. Aboveground, the study area encompasses the Project Area and the Squilchuck utility corridor where construction will take place, plus a 250-foot buffer to capture potential impacts on adjacent geologic and soil resources.

Key Findings of Earth Analysis

The analysis focused on the following factors:

- Erosion hazard
- Landslide hazard
- Seismic hazard

The analysis found the proposed project would **have significant and unavoidable impacts** related to geology and soils because the Project Area overlays geologic conditions for long-term landslide risk, and landslides have occurred in recent history.

These impacts can be partially mitigated by:

- Drainage improvement
- Stabilization of unstable areas
- Long-term monitoring

¹¹ GeoEngineers 2016.

4.1.1 Geologic Conditions

The Proposed Project is located in the North Cascades Physiographic Province.

The North Cascade Range, located in northwestern Washington State, has some of the most geologically complex mountains in the United States. The peaks and rugged terrain of the northern portion of the range have an average elevation of 7,000 feet and are home to numerous alpine glaciers.

The geologic history of the North Cascade Range is a puzzle that records over 400 million years of various rocks and terranes that have been scraped off and smashed together, folded and faulted, finally making their way to their present-day position. After the assembly of the terranes, a chain of volcanoes grew and erupted, covering the already complex geology with lava and ash. Volcanism continues to this day.

Geologic Setting

Published geologic mapping of the area (Geologic Map of the Wenatchee 1:100,000 Quadrangle, Central Washington), the following geologic units are mapped within the Project Area and surrounding vicinity as shown on Figure 4.1 and described in Table 4.1¹². Key features to note are:

- Extent of mass wasting deposits, including much of the existing ski area, portions of the proposed alpine and Nordic ski areas, and all of the proposed commercial and residential development.
- Extent of sedimentary rocks and deposits, including portions of the proposed alpine and Nordic ski areas, as well as a stretch of the new access road.
- Extent of basalt in the southern portion of the Project Area.
- Artificial fill and modified land associated with construction of the existing Mission Ridge Base Area.
- Alluvium associated with stream drainages.

Figure 4.1 also shows locations of the anticline, faults, and an active landslide scarp.

Geology Terminology

Physiographic Province: A region having a particular pattern of relief features or landforms that differs significantly from that of adjacent regions

Terranes: Crust fragment formed on a tectonic plate (or broken off from it) and accreted or "sutured" to crust lying on another plate

Folds: Bending of rock layers caused by compression

Faults: Deep cracks or fractures caused by the movement of rock during earthquakes

Anticline: A geologic fold in which the fold's two limbs dip away from each other.

Syncline: A geologic fold in which the fold's two limbs dip toward each other.

¹² Surface geology unit codes may differ from those presented in GN Northern Inc. (2017) due to differences in naming conventions between the original map (1982) and digitized version (2005). The description of map units has not changed.

SECTION 4 AFFECTED ENVIRONMENT, POTENTIAL SIGNIFICANT IMPACTS, AND MITIGATION MEASURES – IMPACTS WITH SIGNIFICANT AND UNAVOIDABLE IMPACTS

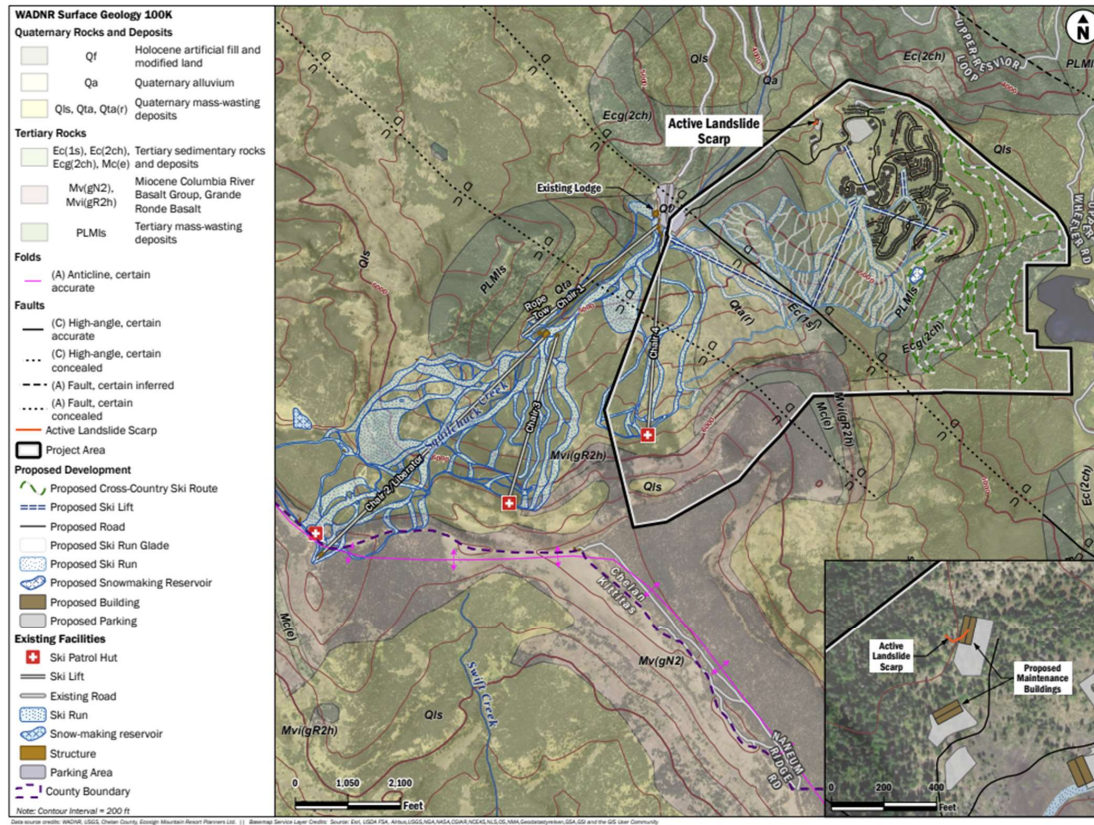


Figure 4.1-1. WADNR Surface Geology

Table 4.1-1. Surface Geology Descriptions

Unit	Type	Description
Quaternary Rocks and Deposits		
Qf	Holocene artificial fill and modified land	Fill material place for the construction of existing Lodge and Ski School areas at the Mission Ridge base area.
Qa	Alluvium	Moderately sorted boulder-to-pebble gravel of the few rock types that crop out in relatively small drainage basins.
Qls, Qta	Mass wasting deposits	Poorly sorted deposits ranging from muddy boulder gravel to boulder mid; clasts are angular and of only one or two local rock types; most slides have hummocky surfaces, toes that bulge, and ponded areas at the head and margins; smaller slides generally head at theater-shaped scars; some large slides merge headward with block slides.
Qta(r)	Mass wasting deposits and basalt boulder rubble (talus)	Diamicton mainly of angular basalt clasts, albeit matrix cemented; only rarely contains very large entablature boulders; deposited variously on minor divides and along modern stream valleys. Evidently formed by debris flows guided by existing topography; near Mission Peak derived directly from bedrock and is associated with large-block landslides.
Tertiary rocks and deposits		
PLMls	Mass wasting deposits	Older Diamicton of angular granule to boulder-sized clasts of basalt. Occupies divides descending toward the Columbia River valley parallel to tributaries like Squilchuck and Stemilt Creeks, which have incised as deeply as 300 meters into bedrock, inverting the ancient topography; debris derived from Mission Peak area.
Ec(2ch)	Chumstick formation	Sandstone, shale, and conglomerate: White, locally gray, medium- to coarse-grained, micaceous feldspathic sandstone averaging 35 to 40 percent quartz and 10 to 15 percent lithic clasts, 90 percent volcanic rock. Crossbedded and channeled, interbedded with lesser amounts of thin pebbly sandstone and green to bluish shale. Local Chumstick Formation has an average regional strike of ±300 degrees with a dip angle of ±60 degrees to the east.
Ecg(2ch)	Chumstick formation	Conglomerate and monolithologic conglomerate: In vicinity of Peshastin Creek, monolithologic conglomerate made of well-rounded cobble- to small boulder-size clasts of serpentized peridotite in green to rusty brown matrix interbedded with angular to subangular clasts of quartz diorite to 1 meter in size in angular matrix of quartz diorite to granodiorite sand. In Mission Ridge areas, quartz diorite to granodiorite material only.
Mv(gN2)	Grande Ronde Basalt	Upper flows of normal magnetic polarity. Fine- to medium-grained basalt flows. Nonporphyritic to very sparsely plagioclase porphyritic. Groundmass textures dominantly intersertal with small clots of plagioclase and clinopyroxene. Complexly jointed. Pillows, hyaloclastites, and invasive flows common. Locally includes thin sedimentary deposits of Ellensburg Formation. Jointing patterns in much of area are considerably affected by interaction of flows with water and sediment.
Mvi(gR2h)	Grande Ronde Basalt	Invasive flow of Hammond.
Ec(1s)	Swauk Formation	Continental sedimentary deposits or rocks with a similar lithology to the Chumstick Formation described above.

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SECTION 4 AFFECTED ENVIRONMENT, POTENTIAL SIGNIFICANT IMPACTS, AND MITIGATION
MEASURES – IMPACTS WITH SIGNIFICANT AND UNAVOIDABLE IMPACTS

[PLACEHOLDER: Utility corridor]

Soils:

Soil is the unconsolidated mineral or organic material that occurs in the upper portion of the Earth's surface and supports the growth of plants. It consists of a mix of minerals derived from weathered rock, organic material, and spaces filled with varying amounts of air or water. According to the USDA Natural Resources Conservation Service (NRCS) the typical soil profiles mapped at the Project Area very gravelly/cobbly/stony silt loam and ashy loam, which are generally considered to be 'well drained' materials. A more detailed description of soils in the Project Area, including NRCS soil mapping, is available in GN Northern 2017.

[PLACEHOLDER: Utility corridor]

Topography:

Current site topography is best characterized as variable and erratic landslide terrain. The top of the highest local peak ($\pm 5,142$ feet) in the southeastern portion of the Project Area grades down to the northwest ($\pm 4,500$ feet) and includes a series of steps in the terrain. Large rubble fields consisting of broken cobble- to boulder-size basalt (talus) are present on the northwestern faces of the slopes between the steps. Various displaced yet intact blocks of Grande Ronde basalt were observed at the crest of the slopes.

Topography is shown in Figure 4.2, which highlights areas of steep slopes, which are defined as areas with slopes greater than 40 percent. Slope gradient mapping was developed with LiDAR data downloaded from Washington State Department of Natural Resources¹³.

¹³ Composite of Colockum (2014) and Yakima Basin North (2018) LiDAR flights.

SECTION 4 AFFECTED ENVIRONMENT, POTENTIAL SIGNIFICANT IMPACTS, AND MITIGATION MEASURES – IMPACTS WITH SIGNIFICANT AND UNAVOIDABLE IMPACTS

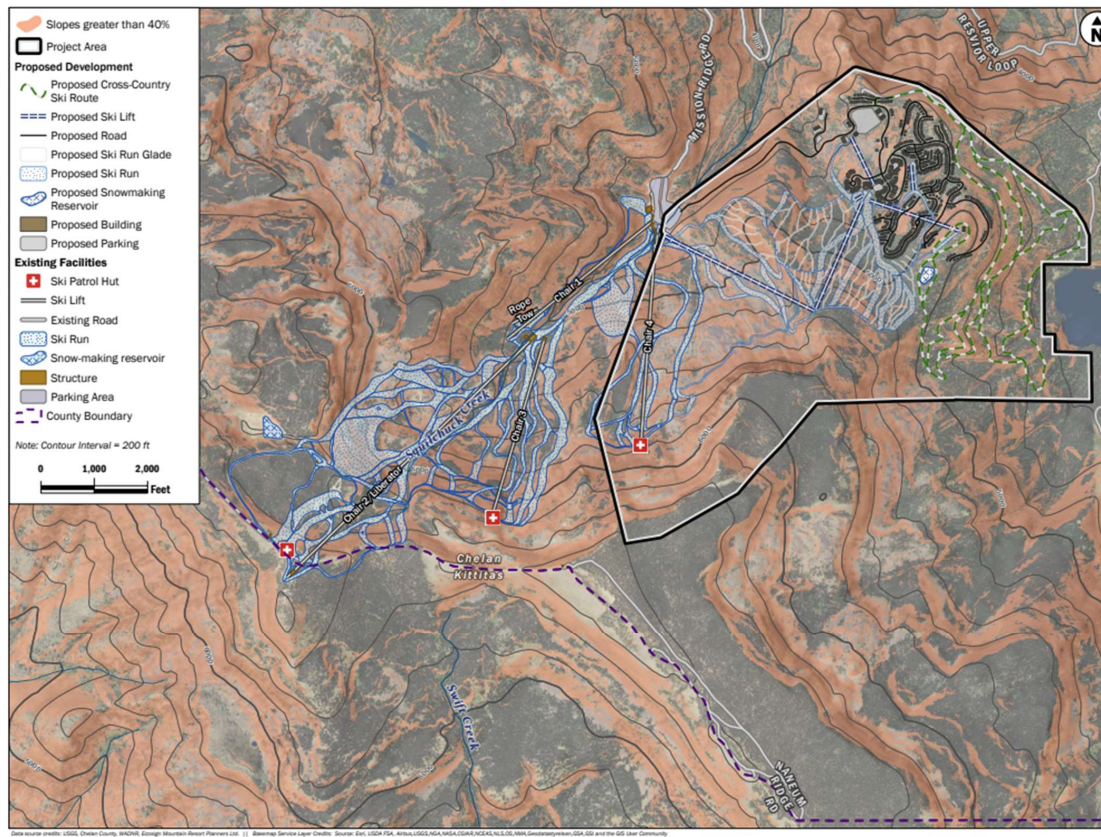


Figure 4.1-2. Topography with emphasis on steep slopes

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SECTION 4 AFFECTED ENVIRONMENT, POTENTIAL SIGNIFICANT IMPACTS, AND MITIGATION
MEASURES – IMPACTS WITH SIGNIFICANT AND UNAVOIDABLE IMPACTS

[PLACEHOLDER: Utility corridor]

Geologic Hazards:

Geologically hazardous areas refers to areas that because of their susceptibility to erosion, landslide, seismic hazard (e.g., earthquake), or other geological events, are not suited to siting commercial, residential, or industrial development consistent with public health or safety concerns as defined by Chelan County Code (Chapter 14.98.865). Geologic hazards are assessed based on factors such as, but not limited to, the following:

1. Erosion hazard – soil characteristics¹⁴ and slope (gradient).
2. Landslide hazard – a combination of geologic, topographic, and hydrologic factors, including areas susceptible to mass movement because of bedrock or soil characteristics, slope, slope aspect, rock or soil bedding and inclination or fractures or other geologic structure, hydrology, and/or damage or removal of vegetative cover.¹⁵
3. Seismic hazard – liquefaction susceptibility¹⁶ and/or proximity to a mapped or inferred fault.

Classification of geologically hazardous areas, requirements for geotechnical reports, and performance standards for development are described in Chelan County Code (Chapter 11.89).

¹⁴ Primarily based on the U.S. Department of Agriculture Natural Resources Conservation Service Chelan County Soil Survey.

¹⁵ Areas of known landslides or mass wasting deposits are designated on maps published by United States Geological Survey or Washington Department of Natural Resources (DNR) Division of Geology and Earth Resources.

¹⁶ Primarily based on mapping from DNR Division of Geology and Earth Resources.

4.1.2 How Impacts Were Analyzed

Existing conditions and potential impacts from the construction and operation of the Proposed Project on geology and geological hazards were determined by reviewing information provided by the Applicant, found in supplemental reports (GN Northern Inc, 2017, 2018, 2019, 2020), completing a geologic reconnaissance (Aspect, September 27, 2023), or obtained through consultation with Chelan County during a consulting agency meeting (Aspect, 2022). Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions. Factors considered in this evaluation included the following:

- **Erosion hazard:** impacts to soil, hydrology, and drainage and how that may affect soil movement.
- **Landslide hazard:** potential to increase instability of the localized failure or to reactivate the larger mapped landslide feature.
- **Seismic hazard:** assessment of faults, recent earthquakes, liquefaction, and other seismic-related risk.

Geology Effects Summary

The primary geologic hazards and site constraints for the Proposed Project include surface erosion and the potential for slope failures.

1. Construction would potentially increase slope instability in areas with mass wasting deposits and/or steep slopes.
2. Construction would potentially increase runoff to unstable areas.
3. Operation would increase discharge to unstable areas through proposed septic discharge.
3. Mitigation measures are proposed to reduce risk.

4.1.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures. Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions. It is noted that the geotechnical studies provided by the Applicant did not typically differentiate between direct and indirect impacts; rather, direct and indirect impacts are called out collectively. Since those reports were the primary sources for this DEIS, potential direct and indirect impacts on earth resources were also combined in this DEIS.

4.1.3.1 Impacts from Construction

Construction of the Proposed Project would disturb the existing geologic and soil resources of the area through vegetation removal, including stumps that provide root strength, scraping, grading, and both surface and subsurface excavation of soil and rock. Placement of fill material and/or pilings or other footings would also be needed to construct the building foundations, parking lots, roadbeds and embankments, stream crossings, backfilling utility trenches, and other project elements as determined in the final design. Construction of trails for the alpine and Nordic ski areas would also require vegetation clearing and slope contouring. The following subsections evaluate the

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potential hazards from erosion, landslides, and seismic conditions resulting from the Proposed Project.

Erosion Hazard: Construction of the Proposed Project would remove vegetation and expose soils to stormwater and wind, increasing the potential for erosion to occur. Such conditions would be more prone to occur in areas with moderate to steep slopes that have soils with moderate to high water and wind erodibility factors. If uncontrolled, stormwater could erode exposed soils and carry sediment into Squilchuck Creek or its tributaries. Only limited construction is proposed in the Stemilt Creek Subwatershed, so any stormwater induced erosion impacts would be minimal by comparison. Wind erosion is likely to be a minor concern compared to stormwater erosion, as wind has a seasonal component during the dryer summer months. However, wind blowing over exposed soils could also carry soil particles into adjacent waterways or onto vegetation where it could accumulate over time. Any potential impacts erosion/sedimentation on aquatic habitats and species are discussed in 5.2 (Groundwater), Section 5.3 (Surface Water), and Section 5.4 (Plants and Animals).

Portions of the Proposed Project, both within the Project Area and the Squilchuck Utility Corridor, include areas where sheet flow and erosion may occur. Erosion susceptibility from water is based on several factors, including the intensity of rainfall and runoff, soil erodibility, length and steepness of slopes, and surface condition. The erodibility factor of the soils is a measure of the soils resistance to erosion based on its physical characteristics. Typically, very fine sand, silt and clay soils are generally susceptible to erosion. Exposed materials at the surface in and around the Project Area range from cobble and boulder sized talus deposits to gravelly/cobbly silt and fine sand (Aspect, Reconnaissance September 27, 2023).

Some areas of the near-surface site soils and surface conditions are known to exhibit a moderate risk for erosion (Figure 4.3). No very severe erosion hazard soils are mapped, but there are severe erosion hazards soils on slopes greater than 15 percent. Soil erodibility is only one of several factors affecting the erosion susceptibility. Soil erosion by water also increases with the length and steepness of the site slopes due to the increased velocity of runoff and resulting greater degree of scour and sediment transport.

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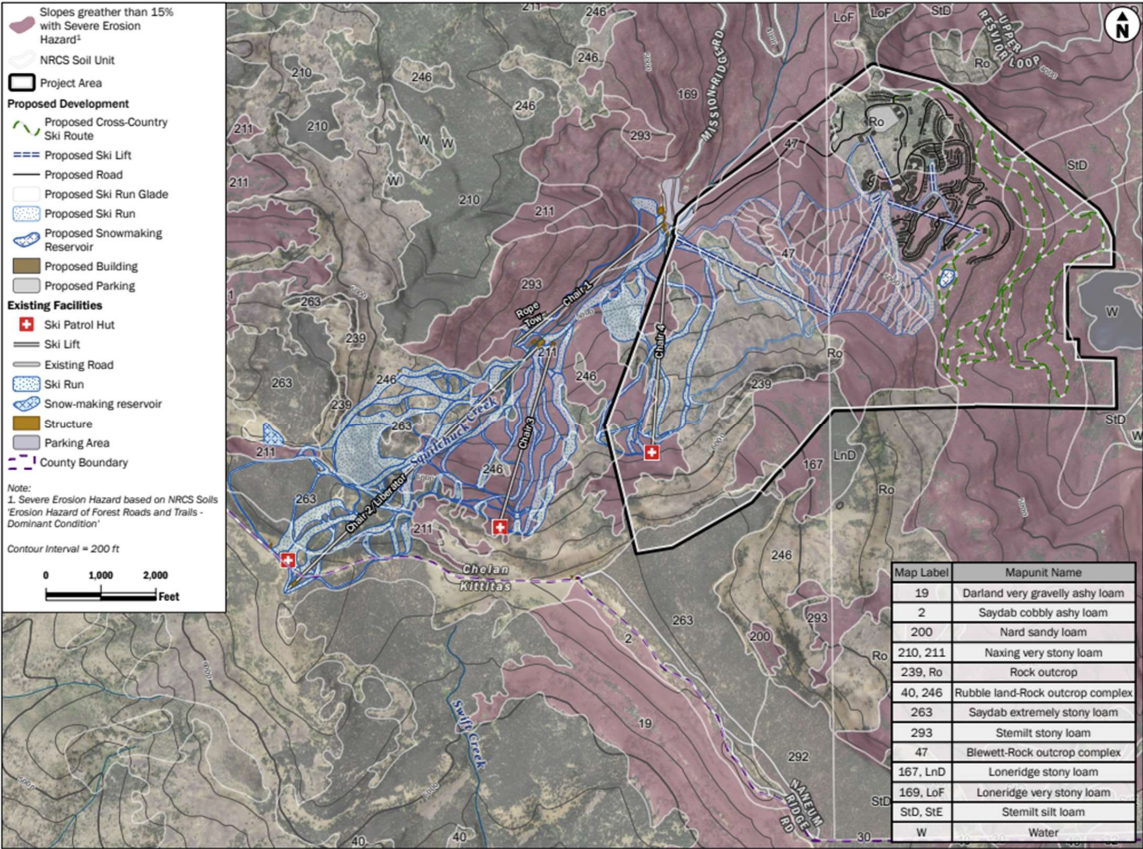


Figure 4.1-3. Erosion Hazard

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The Proposed Project includes measures to protect soils from erosion. These measures include retaining native soils and, as appropriate, reusing these soils onsite, replanting and/or maintaining native vegetation in some areas, utilizing designated construction access routes and staging areas, and decommissioning access routes and staging areas that are not permanently converted to other uses (e.g., temporary roads for ski lift tower installation). Further, in materials provided by the Applicant, there are recommendations to ensure that site development is completed in a way to avoid the concentration of runoff in areas prone to slope instability, including identified slide masses, particularly along the upper surface of the various slump blocks and upper scarp interface, and steep downslope area where sedimentary bedrock exists (GN Northern, Inc. 2017, 2019). In addition to these Applicant-proposed measures, the USFS has described required ground disturbance avoidance and minimization measures in the Draft EA.

With appropriate management, including compliance with state and local construction permitting, which will include erosion and sediment control plan(s) and drainage plan(s) prepared by a Civil Engineer with the final construction drawings, as well as the implementation of construction BMPs to reduce the occurrence of erosion (e.g., silt fencing, revegetation, dust suppression), erosion is not expected to be significant adverse impact. However, given the connection between erosion and landslide, and, as discussed in the following paragraphs, the risks and uncertainties associated with landslide in and near the Project Area, the County has determined that a significant adverse impact does exist. This impact may be partially mitigated through additional requirements for engineered design and monitoring as provided in Section 4.1.3.3, but cannot be wholly offset because they are inherent to the site selection for the project.

[PLACEHOLDER: Utility corridor]

Therefore, there are probable significant adverse construction-related impacts on erosion hazard from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.1.3.3.

Landslide Hazard: Construction of the Proposed Project has the potential to increase the risk of landslides. The majority of the Project Area is located within known landslide hazard areas. As shown in Figure 4.1, the Project Area includes the large scale DNR mapped landslide features (QIs) and also an active landslide scarp at the location of the proposed maintenance buildings. Other, recent landslides are also documented in the project vicinity.

The DNR mapped landslide features are generally described as large-scale slump block landslides. The characteristics of these landslides include clearly identifiable head scarps, rotated slump blocks, and hummocky topography of the slide mass (GN Northern, Inc. 2017, 2019). The noted slump-block failures and surrounding mass wasting deposits from older landslide events appear to have initiated in the late Pleistocene under notably different geologic and climactic conditions. GN Northern (2017) concluded that these mass wasting deposits appear to be relatively stable under modern conditions; however, it should be identified that ongoing mass wasting, including more near-surface disturbance is likely. Necessary additional geologic and geotechnical work is described below.

The currently active landslide scarp was identified on a reconnaissance site visit conducted by Aspect Consulting on September 27, 2023. The scarp includes a downset of

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less than 1 foot typically exposing fine-grained soils and the areas downslope include irregular slopes and tilted conifer trees that reflect slope movement that has impacted rooting depth of the trees and perhaps more deeply.

Additionally, two relatively recent landslides have been documented at the Mission Ridge ski area, the first occurred in 2006 and the second in 2016. Washington Department of Fish and Wildlife Details hired Geoengineers, Inc. to evaluate the 2016 landslide. The final report documents the landslide causes as follows (Geoengineers, Inc. 2016)¹⁷:

"It is our opinion that the chief mechanism of landslide movement was significant water flow into and through the very permeable basalt talus on top of the relatively impermeable and steeply inclined sandstone bedrock substrate, which then caused the talus and upper portion of the weathered sandstone material to mobilize downslope.

The site evidence suggests that groundwater flow within the talus deposit mobilized a mixture of weathered sandstone and talus into a debris flow within the lower part of the slide. The major, visible landslide events occurred on April 27, 2016; however, it is possible that some slow, creep movement of the landslide mass(s) may have occurred prior to that date. The aerial photos suggest some movement or movements had occurred/were occurring in the past.

Other talus covered slopes near the landslide area also exhibit undulatory topography, based on our review of the aerial photographs. Similar slopes likely exist throughout the ski area. The 2006 and 2016 landslide events indicate that future landsliding within the site area is possible, if not likely when weather conditions similar to the spring of 2006 and 2016 occur.

It appears unlikely that the cat tracks at either the bottom or top of the landslide area were significant or principal factors in the landslide. The lower cat track was visible in all of the historic aerial photographs.

We recommend that the identified landslide areas be monitored for additional movements. We also recommend that other areas similar in general landform to the 2016 landslide and the historic 2006 landslide be monitored, particularly when weather conditions similar to those that occurred prior to both landslide events occur within the site area."

Public scoping comments and research indicate that there are other landslides in the greater vicinity including near Beehive Road, Wenatchee Heights, Whispering Ridge, and Cramer Lane. While each of these areas has its own local geologic characteristics, it is evidence that the region is an area where modern landslide risk is a factor to be considered.

Proposed construction activities that would increase potential for slope instability include vegetation removal, soil disturbance, excavation, grading, fill, changes in hydrology (e.g.,

¹⁷ See Appendix A: Report Limitations and Guidelines for Use for conditions related to the below conclusions.

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stormwater generation and resulting erosion of susceptible soils as described above), and related activities.

Concerns related to landslide risk due to construction activity includes, but is not limited to, the following:

- **Vegetation removal and soil disturbance for construction of the Proposed Project may increase landslide risk.**

The DNR large scale mapped landslide areas generally show subdued features with straight conifer trees in vertical growth position that have not been impacted by forest practice activities that include ground-based harvest and the development of skid trails for yarding timber. This is primarily observed in the upper body and main scarp of the DNR large scale mapped landslide that include basalt outcrops and talus slopes. However, the area in the northwest portion of the Project Area does show recent harvest activity that and some degree of instability that includes tilted trees and a localized landslide scarp that shows minor displacement on the order of approximately 6 inches (see "Active Landslide Scarp" on Figure 4.1). The slide area is within the mapped DNR landslide area, however it differs from the upslope areas in that the underlying geology bedrock is deeply weathered Chumstick Formation Sandstone. Vegetation clearing and earth work for construction of the Proposed Project may pose a risk similar to what is observed and the current slide area.

- **Construction on and near steep slopes may increase landslide risk.**

Chelan County Code defines steep slopes as those with a gradient greater than 40 percent. As shown in Figure 4.2, steep slope present across the Project Area and surrounding vicinity. Development on sloping ground poses an inherent risk related to global and local stability of site slopes. The Proposed Project development will require careful design and construction including slope stabilization and drainage/erosion control measures to mitigate the observed geotechnical and geologic site constraints (GN Northern, Inc. 2017).

Topography in the upper and lower portions of the Project Area would be changed from the replacement of relatively natural landforms with excavated cut slopes and their associated fill embankments. Changes in the topography of the slopes greater than 40 percent locally are expected. Although for the construction that would occur in the bedrock and talus slope it is anticipated that the distribution of the rock could be used to mitigate areas that are more sensitive to slope movement elsewhere at the site. Features constructed on the locally flat slopes would not be expected to affect its geologic structure or stability. Other areas where slopes are greater than 40 percent or steeper would require global and local-scaled stability analysis.

- **Stormwater runoff generated from construction activities may increase landslide risk.**

Please see preceding section for details. Further, as evidenced by the 2016 landslide in the Mission Ridge ski area, hydrology can impact local stability in a similar geologic setting as the proposed expansion area.

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- **Uncertainty related to underlying geologic conditions may mean that higher than anticipated risk exists in some areas.**

Based on the Applicant's preliminary geologic hazards reports (GN Northern, Inc. 2017, 2019, 2020), construction of the proposed project could encounter multiple areas of instability in both the upslope and downslope portions of the Project Area. Most of those instances are associated with uncertain conditions in the underlying basalt formation layers.

Due to the risks and uncertainties associated with landslide in and near the Project Area, as well as the size, complexity, and dynamics of the many elements of the Proposed Project (e.g., structures, transportation, utilities, etc.), the County has determined that a significant adverse impact does exist. This impact may be partially mitigated through additional requirements for geotechnical study, engineered design, and long-term monitoring.

Many of these requirements are detailed in the Chelan County Building Code as they relate to geologically and seismically hazardous areas, setbacks, structures, and land use. Geotechnical and geological reports following appropriate standards of care should include specific explorations (e.g., test pit, boreholes, etc.) in determining, reducing, managing, or eliminating the hazards and associated risks and addressing different engineering designs for building foundations, roads and roadcuts, global and localized slope stabilities, and utilities.

To begin, the County shall require the Applicant to evaluate global stability along hillsides and steep areas within and, potentially, adjacent to the Project Area, including the active scarp mapped near the proposed Maintenance Area. This analysis will be a complete exploration to characterize subsurface conditions and may include borings with inclinometers and groundwater monitoring. The stability analysis would need to show how the developed condition impacts stability and provide recommendations for development design to mitigate sensitive areas with regard to slope movement downslope of development activities. This analysis may identify additional mitigating conditions.

Section 4.1.3.3 provides an outline for future Geotechnical study considerations.

[PLACEHOLDER: Utility corridor]

Therefore, there are probable significant adverse construction-related impacts on landslide hazard from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.1.3.3.

Seismic Hazard: The Proposed Project is located within an area of moderate seismic activity.

There are several significant active faults and seismic sources capable of producing moderate to strong earthquakes within a 100-mile radius from the Project Area. During the past approximately fifty years there have been a total of ten earthquakes with a magnitude greater than 4.5 that have occurred within this area. The strongest of these events was a 6.7 magnitude earthquake with an epicenter near Tacoma, Washington (95 miles away) that occurred in 1965.

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The Project Area is located in the immediate vicinity of the Leavenworth Fault Zone, with one of the mapped traces generally extending through the existing parking area of the Mission Ridge Base Area. Although present, the Leavenworth Fault Zone has not been identified with recent or older Quaternary activity. As such, this local fault is unlikely to produce earthquakes.

Also proximate to the Project Area is the newly discovered Spencer Canyon Fault located approximately 22 miles to the north near the towns of Orondo and Entiat. The USGS identified this fault 2014 and it is now believed to be the source and location of the historic North Cascades Earthquake of 1872, which was an estimated 6.8 magnitude earthquake that was felt throughout the Pacific Northwest.

Modern seismic design standards for new construction would be required for all buildings. These standards are designed to make buildings resilient to ground shaking from earthquakes.

In addition to ground shaking, earthquakes are associated with secondary hazards of liquefaction and landslides.

Liquefaction is the loss of soil strength from sudden shock, causing the soil to become a fluid mass. In general, for the effects of liquefaction to be manifested at the surface, groundwater levels must be within 50 feet of the ground surface and the soils within the saturated zone must also be susceptible to liquefaction. Based on the published Liquefaction Susceptibility Map of Chelan County, Washington (DNR, September 2004), the site is primarily mapped with a 'Low to Moderate' potential for liquefaction. The map indicates a 'Moderate to High' potential for liquefaction along the alluvial deposits of the Squilchuck Creek drainage. Excluding the areas of alluvial deposits, the Project Area has a low risk for liquefaction due to the presence of bedrock materials and depth to groundwater.

A detailed liquefaction analysis was not completed for the DEIS, but would be included during design.

Landslide hazard is discussed above.

There is a possibility that construction activities could moderately increase secondary seismic hazards, primarily associated with potential stability issues in the area, including the potential for landslides from disturbance of the soil surface. Due to the risks and uncertainties associated with landslide in and near the Project Area, the County has determined that a significant adverse impact does exist. This impact may be partially mitigated through additional geotechnical studies and requirements for engineered design and monitoring as provided in Section 4.1.3.3.

[PLACEHOLDER: Utility corridor]

Therefore, there are probable significant adverse construction-related impacts on earthquake-induced landslides from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.1.3.3.

4.1.3.2 Impacts from Operation

Operation of the Proposed Project could impact geologic and soil conditions. In particular, stormwater and wastewater generated during operations could increase the erosion hazard, landslide hazard, and secondary seismic hazards.

Erosion hazard, landslide hazard, and secondary seismic hazards related to stormwater

As required for ground disturbing activities greater than one acre, the Applicant will need coverage under Ecology's National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit (CSWGP). As part permit coverage, a permanent stormwater plan must be implemented. Stormwater management plans are typically designed to maintain existing hydrology to the extent practicable. As discussed in the section on construction-related impacts, the stormwater infrastructure would need to be designed with care to avoid certain landslide-prone areas. Assuming that the design is sufficient and the system is maintained consistent with an operating plan, use of the stormwater infrastructure would help reduce the risk against erosion hazard, landslide hazard, and secondary seismic hazards. However, any increased water disposal on-site will increase water flow through the subsurface increasing earth movement risk, which cannot be fully eliminated.

[PLACEHOLDER: Utility corridor]

Therefore, there are probable significant adverse operations-related impacts on erosion hazard, landslide hazard, and secondary seismic hazards from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.1.3.3.

Erosion hazard, landslide hazard, and secondary seismic hazards related to wastewater

Wastewater generated from the operation of the Proposed Project would be treated and discharged to either groundwater or surface water, depending on the location within the Project Area and the phase of construction. Wastewater management alternatives proposed by the Applicant include utilizing multiple individual residential On-site Sewage Systems (OSS) and one or more Large On-site Sewage Systems (LOSS) discharging to groundwater, and eventually, if needed, a centralized municipal wastewater treatment plant (WWTP) discharging treated effluent to surface water in Squilchuck Creek.

As discussed in Section 5.2 (Groundwater) and 5.3 (Surface Water), water supply is proposed to be developed from one or more on-site groundwater wells and/or by connecting to Chelan PUD's water system. Use of local groundwater alone would have only a minimal impact on overall groundwater level because most of that water supply would be discharge back to the ground as OSS/LOSS treated wastewater. However, when the connection to Chelan PUD is establish, operations would result in importing out of basin water into the Project Area. Depending on the wastewater treatment design at the time, OSS/LOSS or WWTP, there could be significant changes in the water budget/ For example, when Chelan PUD water is being used and if the development is reliant on OSS/LOSS only (i.e., no WWTP), then wastewater discharge to groundwater would be expected to locally increase groundwater levels. Increased groundwater levels and

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downgradient groundwater movement could impact slope stability, thereby increasing risk for landslides and secondary seismic hazards.

In order to address potential septic drainage impacts to landslides and secondary seismic hazards, the Applicant will be required to complete the following prior to permitting:

- Development of an exploration map showing exploration numbers and locations on a base map delineating the future system locations, and details on methods, depths, and installations.
- Complete soil infiltration testing at proposed OSS/LOSS location(s) following Chelan County and/or State requirements.
- Identify the type of systems to be installed (OSS/LOSS), including size, depth, capacity, drainage field design, and other considerations relevant to each installation.
- As needed, localized slope stability analyses for soil and cuts and fills, rockfall modeling and outcrop mitigations, soil stabilizations, and retaining wall designs.
- Drainage field design and considerations and construction specifications.

As described in the section on construction-related landslide impacts, an additional mitigating condition required by the County shall include additional geotechnical study to inform operational risks, including the potential decreases in global slope stability or localized issues.

[PLACEHOLDER: Utility corridor]

Therefore, there are probable significant adverse operations-related impacts on erosion hazard, landslide hazard, and secondary seismic hazards from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.1.3.3.

4.1.3.3 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project on earth resources. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

- Mitigation for each phase of the Proposed Project would be completed concurrent with construction of said phase; mitigation cannot be deferred to a later date or project phase.
- For each phase of the Proposed Project, notice will be provided through Chelan County of any state or local agency actions on the proposal (e.g., Chelan PUD Public Water System hookup, OSS/LOSS design submitted to Chelan-Douglas Health District [CDHD]/Department of Health [DOH]).

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- The Proposed Project would result in greater than 1 acre of ground disturbing activity requiring coverage under the NPDES Construction Stormwater General Permit (CSWGP). NPDES CSWGP coverage would require the Applicant to develop, implement, monitor, and maintain a number of construction best management practices (BMPs) to comply with water quality standards and other permit requirements, likely including the following:
 - Implementation of a construction SWPPP in accordance with Ecology's Stormwater Management Manual for Eastern Washington (Ecology 2019).
 - Implementation of a Temporary Erosion and Sediment Control Plan (TESC Plan) to limit sediment inputs to receiving waters during and after construction, which would include revegetating temporary disturbance areas after construction to stabilize soils.
- A global slope stability analysis will be developed with explorations for the DNR mapped landslide to evaluate the actual stability of slopes in and near the Project Area and to determine the risk of construction and operation of the Proposed Project to drive future slope failures.
- Final classification of the noted geologic hazards at the site (in accordance Chelan County Code Section 11.86.020) cannot be determined without further geotechnical investigation and analyses. Upon completion of additional feasibility-level and design-level geotechnical work, performance standards applied to the Proposed Project may include, but are not limited to, those described in CCC 11.86.060.
- A strategy to further evaluate landslide risk and identify mitigate measures, may include the following:

Project-wide:

- Desktop assessment based on available literature and Chelan County resources for geologically and seismically hazardous areas.
- Site geology mapping details, such as features and indications of old and recent slope instability, structural measurements of bedrock outcrops, defining risk areas, and the deliverables that would be included in the report.
- Exploration Map showing exploration numbers and locations, and details on methods, depths, and installations (inclinometer, piezometers, survey points).
- Slope stability analyses for soil and rock under static and seismic conditions, rockfall modeling and outcrop mitigations, installation monitoring results and future plans.
- Avalanche discussion and considerations
- Discussions on the hazards, risks, and stated opinions of the project and specific improvements that will mitigate the risk.

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Transportation and Utilities:

- Exploration Map showing exploration numbers and locations on a base map delineating the future roads, and details on methods, depths, and installations (inclinometer, piezometers, survey points).
- Descriptions, illustrations, and details on road cuts and fills, angles, and the material types.
- Slope stability analyses for soil and rock cuts and fills under static and seismic conditions, rockfall modeling and outcrop mitigations, soil stabilizations, and retaining wall designs.
- Pavement design
- Utility installation methods and depths.
- Drainage considerations.
- Construction considerations.

Structure Foundations:

- Exploration Map showing exploration numbers and locations on a base map delineating the future structure locations, and details on methods, depths, and installations.
- As needed, localized slope stability analyses for soil and cuts and fills under static and seismic conditions, rockfall modeling and outcrop mitigations, soil stabilizations, and retaining wall designs.
- Seismic design.
- Foundation designs and setback requirements.
- Drainage considerations
- Construction considerations
- Appropriate slope setbacks for future structures and other development should be incorporated in the final planning and design of the Proposed Project as recommended within a subsequent design-level geotechnical engineering investigation.
- All slope faces should be protected with appropriate erosion control measures to insure long-term surficial stability.
- Remedial site grading, as recommended within a subsequent design-level geotechnical engineering investigation, will be necessary to develop appropriate cut/fill slopes and provide uniform competent support for future structures and infrastructure improvements.
- Rockfall and avalanche hazard must be evaluated and mitigation measures identified.

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- Prior to permitting, an overall roadway design is necessary to show impacts on the area. This shall include retaining walls, ditches, any geotechnical mitigation, intersection design, stream crossings, and other relevant features.
- Prior to permitting, slope creep at stream crossings should be evaluated and findings presented to the County for development of permit conditions.
- Provide a review of "positive drainage" in relation to high stacking of snow due to plowing and its associated runoff and present this information to the County for development of permit conditions.

Applicant-proposed mitigation measures: The following Applicant-proposed mitigation measures are intended to further reduce potential effects from construction and operation of the Proposed Project.

The Applicant has agreed to conduct periodic LiDAR flights (at least once every 3 years) to provide high resolution topographic mapping of the Project Area and nearby vicinity. The purpose of collecting LiDAR data is to enable early detection of any changes over time and, if necessary, take measure to mitigation any slope movement. The Applicant has also agrees to install 10 new monuments across the Project Area. These monuments would be surveyed regularly (at least once every 3 years) and used as a second method for tracking slope movement.

4.1.4 Significant and Unavoidable Adverse Impacts

There would be significant and unavoidable adverse impacts related to geologic hazards from construction or operation of the proposed project.

4.1.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed. In the absence of the Proposed Project, the landslide area would experience continued episodic movement and sediment delivery to the creek.

4.2 Fire Risk

This section summarizes how potential fire Risk impacts and mitigation were evaluated and presents the findings from the analysis. This section will cover how the Proposed Project addresses fire safety strategies for the related structures and surrounding landscapes. Information related to services provided by the local fire district and emergency response is covered in Section 5.7 Utilities and Public Services.

The AEGIS Engineering (2019) fire protection report supplied by the Applicant, as well as related reports¹⁸ provided information for the analysis used to evaluate fire risk. This report evaluates the fire hazards (structural and wildland), fire protection (water supply, fuel management, construction), and emergency response (access, planning, education and outreach).

Fire risk was a frequent topic of interest during the scoping comment period, particularly surrounding the issue of emergency access and public safety. In this section, fire hazards, fire protection, and emergency response impacts and mitigation strategies are presented for the Proposed Project.

The study area for this section is defined as the Proposed Project Area and the PUD utility corridor where construction and operation related fire risk will take place.

Key Findings of Fire Risk Analysis

The analysis focused on the following factors: fire hazards, fire protection, and emergency access. The analysis found that although multiple mitigation measures are proposed and implemented as part of this EIS, the Proposed Project would **have significant and unavoidable impacts** related to fire protection that cannot be completely avoided due to the remote location of the site, the prevalence of fire risk locally, and the increased population subjected to that risk.

4.2.1 Fire Risk Overview

Fire risk includes any fire that may pose a risk to public safety and ecosystem health including both wildfires and structural fires. Wildfires are uncontrolled fires that burn in the wildland vegetation, often in a rural setting. The surrounding environment plays a role in the occurrence and intensity of a wildfire, as influences such as high temperatures, low rainfall, wind, fuel loading, and topography can determine how much a wildfire spreads. Wildfires are caused by both natural phenomena (e.g., lightning) and human influences (e.g., unattended campfires, burning debris, equipment/machinery use and malfunctions, discarded cigarettes), with nearly 85 percent of wildland fires in the United States originating from human influences (NPS 2022). On the other hand, a structural fire

¹⁸ Mission Ridge Expansion Project Draft Environmental Analysis (USFS, 2020).
Mission Ridge Mountain Ski Area Wildfire Plan (Mission Ridge, June 2022).

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is one that originates within or on a building and involves components of that building in combustion.

The zone of transition between unoccupied land and human development is called the wildland urban interface (WUI). The WUI is the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels (USFA 2022). As housing and development expands in proximity to the forest and rangelands within the WUI, more houses and people are at risk of a wildfire and wildfire management becomes more challenging (USFS 2023). Specifically, within Washington, From 1990-2020, there was a 33 percent increase in area in the WUI (USDA 2023). In 2018, Washington adopted portions of the International Wildland-Urban Interface Code (IWUIC) to become part of the state building code and the International Fire Code, both of which add additional requirements to construction to reduce wildfire and structural fire risk (CWPC 2021).

In 2015, the state of Washington saw its worst wildfire season in recent history with over 1 million acres burned, followed by another million acres burned in 2017 (Chelan County, 2020). Wildfire risk in Washington and Chelan County specifically has grown in recent years due to a combination of factors including population growth and development in the wildland-urban interface, a legacy of forest management, and warmer and drier summers that lead to drier fuels. The quantity of acres burned by wildfire in forested areas of central Washington is projected to double through the 2020s and increase 4-fold by the 2040s for a moderate greenhouse gas scenario due to wetter winters and springs that increase growth of fine vegetation which then dry and carry fire more easily during hot dry summers (Chelan County, 2020).

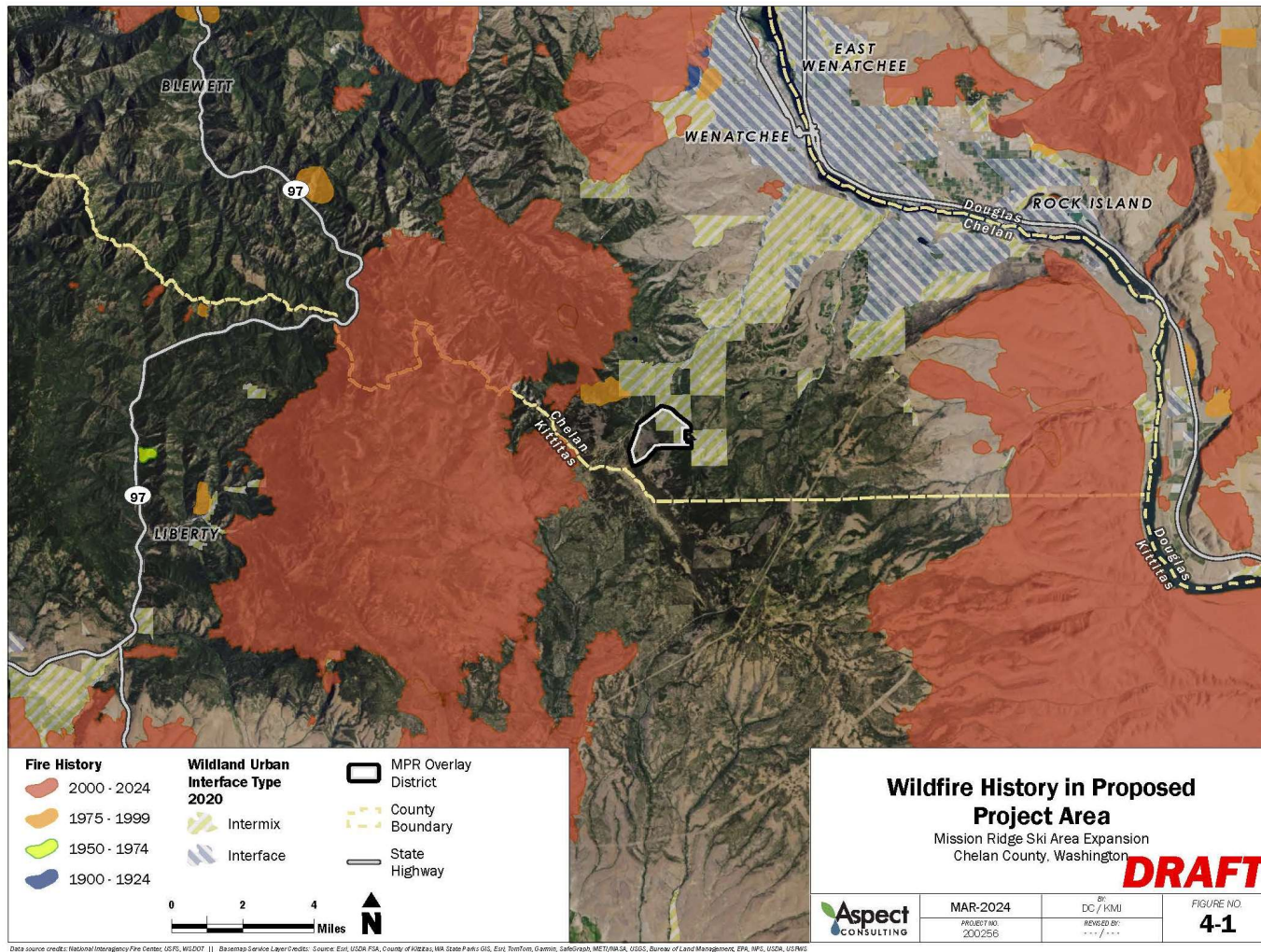


Figure 4.2-1: Wildfire History in Proposed Project Area

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The Proposed Project was evaluated by AEGIS Engineering under the 2018 International Wildland-Urban Interface Code (IWUIC) criteria as a “high hazard” severity, which was consistent with the 2005 Squilchuck Valley Area Community Wildfire Protection Plan (CWPP) and its 2018 amendment classifying the area as a “high” hazard rating. In the Project Area, 66 percent of the area is in the high to very high-risk categories, and these areas primarily occur on private and state lands (Table 4.3.1). Additionally, the project area includes 437.8 acres of WUI Intermix land. The fire risk and WUI areas are shown in Figure 4.2-2.

Table 4.2-1. Fire risk categories based on the Quantitative Risk Assessment

Risk Category	Land Ownership (Acres)			Total (%) ¹
	Private	State	Federal	
Very High	348	14	238	600 (56%)
High	44	51	14	109 (10%)
Moderate	0	133	6	139 (13%)
Low	45	160	19	224 (21%)
1. Does not add up to 100 percent due to additional acres that are rock/water 2. Showing the acres by risk category and land ownership in the Mission Ridge Ski Expansion Project Area, Adapted from EA 2020.				



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Current treatment efforts by DNR on public lands in the Stemilt/Squilchuck area over the last 20 years have aimed to reduce the high fire risk in the area towards a more resilient condition. The DNR Stemilt/Squilchuck Planning Area Landscape Evaluation identified an estimated 9,200 to 13,600 acres of forest to treat to improve forest health and resilience (WADNR, 2018). Ongoing work in the Stemilt/Squilchuck area continues to reduce the fire risk in the area.

The proposed project would be within distinct service areas within Chelan County for fire protection and emergency response. The Applicant has proposed that the Project Area be annexed into CCFD1 and a new fire station be constructed adjacent to the new day-use parking lot. For more information on public services provided by CCFD1, please refer to Section 5.7 on Utilities and Public Services.

The Proposed Project represents a WUI condition with inherent challenges with regard to fire protection given the isolated location and steep, mountainous terrain. Several fire safety measures and recommendations outlined from relevant entities are adopted for the proposed project including: Chelan County Community Wildlife Protection Plan (CWPP), International Wildland-Urban Interface Code (IWUIC), State Building Code Council with Appendix N of the International Fire Code (IFC), Forest Ridge Wildfire Coalition, and Squilchuck Valley Area Community Wildfire Protection Plan Steering Committee. Additionally, a Fire Protection Plan was prepared for the Proposed Project by AEGIS Engineering and the list of relevant state and county fire protection codes are provided in the Fire Protection Plan (AEGIS 2019)

4.2.2 How Impacts Were Analyzed

Existing conditions and potential impacts from the construction and operation of the Proposed Project on fire protection were determined by reviewing information provided by the Applicant, found in supplemental reports (AEGIS, 2023), or obtained through consultation with CCFD1 and Fire Marshal during a consulting agency meeting (Aspect, 2022). Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions or conflict with regulatory impacts. Factors considered in this evaluation included the following:

- **Fire Hazards:** direct or indirect impacts to structural and wildland fire hazards including fuel management.

Fire Risk Effects Summary

Fire risk will increase due to construction.

- Construction will introduce fire risk to the Project Area. Proper construction safety measures with IFPLs, fire flows, and emergency response protocols will be in place.
- Operation would reduce the acres of high to very high fire risk categories by 11 percent in the Project Area.
- Operation will introduce fire risk during the summer season and additional traffic on access roads.
- Population in the high-risk fire zone will increase.

Mitigation measures are proposed to reduce risk.

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- **Fire Protection:** direct or indirect impacts to the ability to combat a fire emergency including water supply fire flows.
- **Emergency Access:** direct or indirect impacts to emergency access roads, emergency planning, and public safety in response to a fire.

Information on the staffing of public safety services for the Chelan County Fire District No. 1 and the new fire station at the Project Area are discussed in Section 5.7.

4.2.3 Findings for the Proposed Project

4.2.3.1 Impacts from Construction

Fire Hazards

During construction, human activity, heavy equipment and motor vehicle operation, and electrical and other equipment use will introduce activities that can cause fire. The introduction of heavy equipment such as chainsaws for clearing are potential fire sources in the event of a spark that could incite a fire.

The logging activities and run clearing would result in increased surface fuels in some locations. Concentrations of branches and small trees may accumulate along logging skid corridors. These fuels could lead to increased wildfire risk in the years following harvesting operations until they sufficiently decompose. The increased fuel loading and wildfire risk can be reduced by piling and burning or chipping/masticating concentrations of logging and clearing slash. This would be especially important near the proposed development in the upper portion of the ski area (USFS 2020). Harvesting activities during construction can introduce a fire risk to the area. The practice of reducing fuels through slash burning or prescribed fires, if conducted, occur during the winter and not during the summer construction season when fire risk is higher. Minimum requirements for all burnings are outlined in WAC 332-24-205, which includes no fires within 50 feet of structures or within 500 feet of forest slash without a written burning permit and notifying DNR or Ecology of any burning prior to lighting.

During the summer fire season, Department of Natural Resources enacts Industrial Fire Precaution Levels (IFPLs) to reduce wildfire risk during industrial activities which are described under WAC 332-24-301. IFPL precautions can limit industrial operations and activities depending on the level that is activated at the time.

IFPL precaution levels can require fire watch services, which includes visual observations of a construction site for a minimum of one hour after the last power-driven equipment used has been shut down, restrict operations between 8 PM and 1 PM, or fully prohibit operations depending on the severity of IFPL. Under the four IFPLs, certain restrictions are in place for what equipment and operations are allowed:

(i) Level 1. Closed season - Fire precaution requirements are in effect. A fire watch/security is required at this and all higher levels unless otherwise waived.

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(ii) Level 2. Partial hootowl - The following may operate only between the hours of 8 p.m. and 1 p.m. local time: Power saws except at loading sites; Cable yarding; Blasting; Welding or cutting of metal.

(iii) Level 3. Partial shutdown - The following are prohibited except as indicated: Cable yarding - except that gravity operated logging systems employing nonmotorized carriages or approved motorized carriages may operate between 8 p.m. and 1 p.m. when all block and moving lines, except for the line between the carriage and the chokers, are suspended ten feet above the ground; Power saws - except power saws may be used at loading sites and on tractor/skidder operations between the hours of 8 p.m. and 1 p.m. local time.

In addition, the following are permitted to operate between the hours of 8 p.m. and 1 p.m. local time: Tractor, skidder, feller-buncher, forwarder, or shovel logging operations where tractors, skidders, or other equipment with a blade capable of constructing fireline, are immediately available to quickly reach and effectively attack a fire start; Mechanized loading and hauling of any product or material; Blasting; Welding or cutting of metal.

(iv) Level 4. General shutdown - All operations are prohibited.

WAC 332-24-405 provides requirements on spark emitting equipment and a required fire extinguisher and water supply standard associated with each equipment/activity type, which will be followed during construction of the Proposed Project. For example, under WAC 332-24-405(8), during land clearing activities, two serviceable five gallon backpack pump cans filled with water must be at each landing, and additional requirements may include a 300-gallon pump truck within five minutes round-trip of operation, a firewatch, or adequate facilities to report a fire within 15 minutes of detection. Additional levels of fire safety can be self-imposed higher than what the IFPL requires. As an additional measure for this project, construction will require contractors to have a 300-gallon pump truck during all IFPL levels during construction.

Other construction-related fire hazard topics to consider transport, use, and storage of combustible materials. Note that the outdoor construction has to happen during the snow-free season, so by necessity construction is occurring during the highest risk for wildfire. Construction workers and landowners may self-impose higher levels of fire safety on site than what the IFPL requires, and such precautions will be used at the judgement of the construction operators.

The Fire Protection Plan proposes several mitigation measures for fire safety regarding construction and subsequent operation of the Proposed Project. The following nonrequired additional safeguards are proposed to enhance level of safety:

- All structures to be of ignition-resistant construction
- Monitored fire alarm system in each individual dwelling unit
- Portable fire extinguisher or fire sprinklers in each individual dwelling unit
- Establish defensible space with FireWise practices around structures
- Exterior flame detection for early warning of wildfire or fire during construction

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- Store equipment and supplies for wildfire suppression or long-term retardant
- Key box with every building for access to each unit
- Emergency guide in each unit for reference by occupants
- Evacuation plan with community warning siren
- Install wildfire evacuation signs on internal road network

Therefore, there are probable significant adverse construction-related impacts on fire hazards from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.2.3.3.

Fire Protection

Consistent with IFC Section 3312, the total applicable fire-flow and water supply indicated in Table 4.3.2 should be maintained throughout construction of a building to provide reasonable level of protection during construction. In addition to fire-flow and water supply, fire safety during construction activities must be in accordance with IFC Chapter 33, and General precautions and responsibilities must minimally be established in accordance with IFC Section 3304 and 3308. An individual prefire plan should be developed for construction of each building to address applicable aspects of IFC Chapter 33, such as temporary heating equipment, temporary wiring, and hot work, including powder-driven fasteners, in accordance with IFC Sections 3303, 3304 and 3308, respectively.

Table 4.2-2. Fire-Flow and Water Supply Provided for MRE Commercial Construction

STRUCTURE	FIRE-FLOW (GPM)	DURATION (MINUTES)	WATER SUPPLY (GALLONS)
Noncombustible Construction or Up to 3,600 SF	1,000	120	120,000
Combustible Construction and Greater than 3,600 SF	1,500	120	180,000

Notes: Based on IFC Table B105.2. Table source: Fire Protection Plan

The existing Mission Ridge Wildfire Plan and Crisis Action Plan would be active during construction to ensure safety and best practices (Mission Ridge 2022). At the existing Mission Ridge facilities, each building has an extinguisher and escape route established. Fire hydrants are located behind the Hampton Lodge, and there are reservoir and lakes in the region that can be used to fill helicopter air attack units, with the closest being the Mission Ridge Reservoir, Upper Wheeler Reservoir, Beehive Reservoir, Spring Hill Reservoir, Wenatchee Heights, Reservoir Number 2, Lily Lake, Clear Lake and Columbia River within 1 to 8 miles by air.

Emergency Access

During construction, emergency access for fire and safety response measures should be maintained which includes road access to all construction areas. In the Fire Protection Plan, the Applicant proposes several strategies to ensure that fire reporting and emergency access is accessible during construction.

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Fire reporting in accordance with IFC Section 3309.1 requires readily accessible emergency telephone facilities. If not publicly accessible, then in accordance with IBC Section 3301.1, a public fire alarm box should be provided consistent with NFPA 241 Section 7.4.1. Due to the remoteness of the site, consideration should also be given to installation of an automatic fire detection device. These devices automatically transmit a signal upon detection of flames. Such automatic detection sensors shall be strategically located to afford early warning of a fire developing during construction. As construction was completed, detectors shall be added or repositioned to support early warning of a developing wildfire outside the MPR boundary.

Roads and driveways required for fire apparatus access as an Emergency Vehicle Access Road (EVAR) will comply with applicable provisions of CCC 15.30, including deviations to overcome adverse topography and allow for reasonable solutions without adversely affecting safety, maintainability or aesthetics as provided for in CCC 15.30.100.

Therefore, given the high fire hazard risk, there are probable significant adverse construction-related impacts on fire protection from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.2.3.3.

4.2.3.2 Impacts from Operation

Fire Hazards

The implementation of the Proposed Project would reduce the amount of area in high to very high fire risk categories by 6 acres on state lands and by 65 acres of federal lands. This would reduce the number of acres of high to very high fire risk categories by 11 percent in the Project Area. The activities associated with the Mission Ridge Expansion Project on private lands would treat vegetation on 124 acres that is in the high to very high-risk categories in place of development area such as paved roads, houses, and ski lodges. Vegetation treatment can include different methods such as prescribed burns, strategic fuel breaks, fuel thinning, grazing and mastication. The County will require specifications for all planned vegetation treatments to be approved by the Fire Marshall or CCFD1 prior to permitting.

This, in combination with activities on state and federal lands, would reduce the amount of area in high to very high-risk categories by 28 percent in the Proposed Project area (USFS 2020). There are also ongoing projects, not associated with the Mission Ridge Expansion Project, on 486 acres of county land and WDNR lands within in the Assessment Area, for forest thinning and fuel reduction treatments that could alter forest structure and composition. These treatments would occur in dry forest and create more of the stem exclusion-open canopy forests (USFS 2020).

While the high-risk category is being reduced, the Proposed Project would create higher summer use in the area, particularly in the proposed development area, and therefore influence the potential for increased human ignited wildfire. The removal of overstory and logging slash would promote the growth of forbs and grasses within some of the proposed ski runs. In other areas, proposed ski runs are in rocky terrain that would not have sufficient fuels to support a high-intensity wildfire. At this elevation, this understory vegetation will likely remain green for most of the summer months mitigating most accidental ignitions. In some years, this vegetation may never cure and carry fire. In the

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driest years, forbs and grasses would cure and carry fire in late August and September. The potential for human caused ignitions during this time is possible, but the probability is low, because most recreational use would occur on existing road and trail prisms (USFS 2020).

In and around the development area, defensible space will be maintained to reduce fire risk and provide fuel breaks around the perimeter, which may include tree thinning, brush removal, or prescribed burning. In the Fire Protection Plan, a proposed continuous fuel break depicted in Figure 4.3.3 is planned to follow the terrain and perimeter of structural development and separate the MPR development from forest area. The fuel break will be similar to that proposed in the 2005 Squilchuck Valley Area Community Wildfire Protection Plan (CWPP), which would follow the similar path but rather than extend northeasterly, it generally follows the terrain and perimeter of structural development (DNR 2005). Consistent with the CWPP, the fuel break would establish a 200-foot-wide shaded canopy fuel break on land adjacent to federal lands in the planning area, implement FireWise recommendations within 200 feet of all homes/structures, treat vegetation within 100 feet of roads and driveways, and conduct ecosystem thinning on noncommercial ground.



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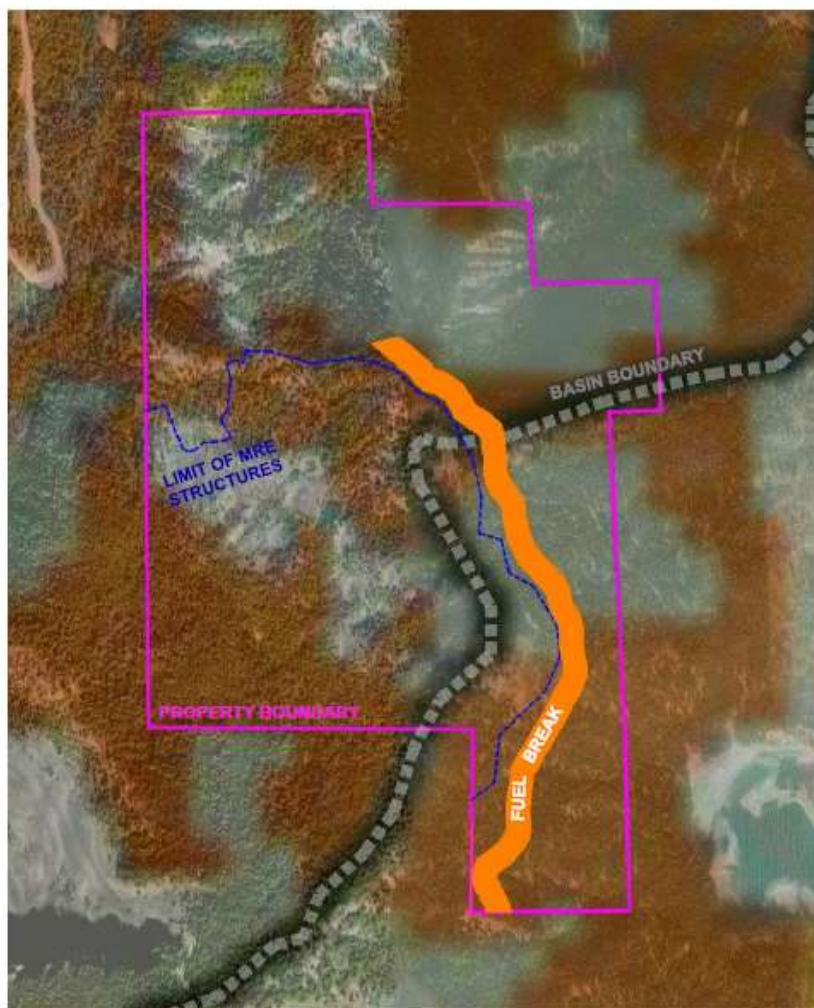


Figure 4.2-4. Proposed Fuel Break

Notes: Fuel break (orange) to establish defensible space along MRE at Stemilt Basin depicted on aerial photo with 2019 SSLE Priority Treatment overlay (NTS). *Image source: Fire Protection Plan*

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Subsequent review of the Fire Protection Plan and the proposed fuel break resulted in additional/modified measures to provide a more effective fuel break. The proposed fuel break currently traverses south along the MPR structure boundary across a steep hill. Other options for fuel breaks would include utilizing the proposed roads with additional buffers on the southeast side of the MPR development area or a secondary fuel break downslope towards Wheeler Reservoir to tie into ongoing fuels mitigation work completed by CENRD on WDFW ownership in Section 20.

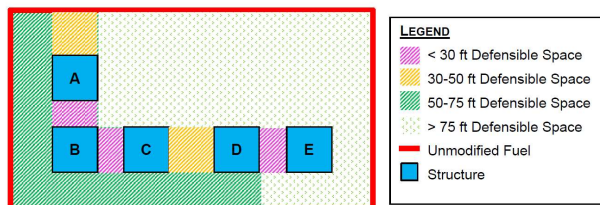
Defensible space, which is the area between a structure and unmodified fuel load, will also be established and maintained. In accordance with IWUIC Section 603.2, the defensible space for each structure in the MPR Area shall be minimum 30 feet or to the lot line, whichever is less, and a minimum of 10-foot horizontal distance shall be maintained between crowns of adjacent trees, structures, or unmodified fuel. Defensible space will be maintained in accordance with IWUIC Section 604. The defensible space provided also influences the construction type of the buildings, as described with Table 4.2-3 below.

Table 4.2-3. Recommended Defensible Space by Construction Type

DEFENSIBLE SPACE	CONSTRUCTION
< 30 feet	None
30 to 50 feet	IR 1
50 to 75 feet	IR 2
> 75 feet	IR 3

Figure 4.2-5 shows an example diagram of how structure type and defensible space can be arranged and maintained.

Figure 4.2-5. Ignition-Resistant Construction Diagram



Notes: Depicted is an arrangement of various defensible space conditions to illustrate selection of Ignition-Resistant construction criteria within this MPR. (NTS). Figure source: Fire Protection Plan.

Defensible space and fuel break maintenance practices and frequency were not specified in the Fire Protection Plan, but Mission Ridge currently maintains a Wildfire Protection

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Plan that should be updated to reflect the new operations which would include the defensible space around the residential areas and fuel breaks. As an additional mitigating condition, the Wildfire Protection Plan should be updated to outline maintenance practices and the Plan should be updated at each stage of construction to reflect current operations.

In addition to fuel management and human activity, the introduction of additional utilities to the area in the form of electrical service and propane sources poses a risk.

To reduce fire hazard risk during operation of the Proposed Project, recommendations excerpted from the CWPP that must be incorporated into this MPR fire protection plan with regard to fuel management are outlined below:

- Implement 2017 FireWise recommendations around all homes/structures. Actions shall include defensible space, adequate turn-around space for emergency equipment and clear consistent address signs.
- Mitigate fuels within 100 feet of roads and driveways. This shall include work to thin, limb and clear all road easements, and shaded canopy defensible space on both sides with road signs and evacuation arrows.
- Develop and maintain additional Safe Areas in strategic locations. This shall include constructing the base Lodge as a safe area, and providing sufficient parking to afford one space for each dwelling unit.
- Encourage adjacent landowners and agencies to perform complementary adjacent treatments.
- Ecosystem thinning on non-commercial ground. Specifications on thinning practices will be submitted to the County Fire Marshal for approval before permitting.
- Slash disposal planning and timing.
- Explore and employ methods to recycle biomass from fuel reduction project waste, construction waste and other wood products.

Therefore, there are probable significant adverse operation-related impacts on fire hazards from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.2.3.3.

Fire Protection

Mission Ridge has a Crisis Action Plan and a Wildfire plan in place. The Crisis Action Plan accounts for a variety of emergency procedures including weather, avalanche, earthquake, and fire emergencies.

The Wildfire Protection Plan is a proactive fire management program that both applies fire prevention and hazardous fuel reduction techniques and minimizes damages from wildfires. The current plan is active for their existing operations, which are for primarily winter sports with limited motorized vehicle use in paved and improved areas. This plan will require an update for the new summer operations.

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For the existing structures, fire protection measures are in place to aim to reduce risk. The vehicle shop is built from flame retardant metal material. The main lodge has fire extinguishers, escape routes, a rooftop sprinkler system, and asphalt roof shingles as well as conducts annual inspections to ensure fire protection measures are adequate. The base area, which includes the ticket building, skier services building, and snowmaking pumphouse are all surrounded by gravel/dirt parking surfaces and hundreds of feet of fire breaks. For the ski lifts and trails, pathways have been cut for clearance and ski runs as wide as 300 feet serve as natural fire breaks. Additionally, the Wildfire Protection Plan states that the 19 snow guns can be used in the event of a fire, and a generator is on site that could be utilized to run the machines if power was lost.

Across the mountain, employees are trained in fire protection and first response for small spot fires, and company vehicles and summer employees carry fire tools, extinguishers, and spark arrestors on powered equipment to reduce fire risk. Mission Ridge employees hold weekly safety meetings and use handheld radios with a repeater for communications and response to fire or smoke detected by staff to 9-1-1, the USFS, and the local fire agency.

Current summer operations are limited to one-day events with strict regulations on fires (i.e. no candles, torches, smoking, fireworks, open flames) that are expected to maintain for the Proposed Project with increase summer human activities.

For the proposed operation, the Wildfire Protection Plan will be updated to account for the summer activities and expanded operations. In order to reduce the risk of human ignited wildfires, Mission Ridge will include appropriate signage and education to its visitors to reduce fire risk such as burning restrictions or cigarette disposals.

The Fire Protection Plan proposes the strategies for reliable fire sprinklers, fire alarms, fire extinguishers, key boxes, and emergency escape. The full description is included in the Fire Protection Plan.

Emergency Access

The increase in traffic to the Proposed Project area will have an impact on emergency access through Squilchuck Road and the new proposed road to the development. Due to the remote location and extreme topography, the applicant proposed to maintain an access road of at least 28 feet width to meet Chelan County Code 15.30.230(4). Additionally, an annexed fire station would be staffed by a volunteer fire fighting team to complement coverage provided by CCFD1 to provide local immediate emergency response to any fire emergencies. Mitigation measures related to emergency access proposed by the applicant in consultation with CCFD1 are listed below:

- Space for a future CCFD1 station is designated with the Ski Operations and Maintenance area along the main MRE access road.
- Thinning and fuel reduction buffer along the single-access road as requested by CCFD1 (Chelan County Fire District #1, 2022). An example provided by CCFD1 presents a 100-foot buffer where slopes are accessible for thinning and fuel reduction.

The existing Crisis Action Plan and Wildfire Plan at Mission Ridge will require updates to reflect full buildout populations and new operations. In consultation with CCFD1, Fire

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Marshal, and Public Works, updates to the plans must consider fire hazards above, below, and within the MPR area and each of those events should provide safe evacuation or shelter-in-place options. Updated Crisis Action Plan and Wildfire Plan will be prepared to reflect these comments and changes in operation prior to permitting.

An evacuation/rescue plan and an education/outreach plan are proposed in the Fire Protection Plan, which would include the following:

Evacuation/Rescue Plan

- Road Signs – Develop uniformity of all road signs and install signs at strategic locations
- Address Coordination – use of reflective address signs.
- Escape Routes
 - Signage (e.g. hurricane/tsunami evacuation route)
 - Map provided with each dwelling unit showing emergency access routes and safe area
- Evacuation Plan – install community warning siren/giant voice:
 - Level 1 – Advisement Issued via phone, text, email, media, etc.
 - Level 2 – Evacuation Advised via Tone B (e.g. tornado watch)
 - Level 3 – Immediate Evacuation Advised via Tone A (e.g. tornado warning)
- Education/Outreach
- Post fire hazard level sign at MRE entrance
- Review and support improvements to the cell phone towers serving the CWPP area
- Develop appropriate information to be provided for each home/emergency guide, such as:
 - Individual fire safety responsibilities & residential and personal security
 - Individual preparedness: How to Create a Personal Emergency Action Plan; Provide information regarding the Ready, Set, Go! (RSG) program; How to Create a Wildfire Emergency Evacuation Checklist; Personal escape routes; Disaster supply list; Personal communication plan; Awareness of Chelan County Special Needs Registry.
 - What to do & what not to do in case of wildfire; protecting your home/land
 - Interacting with local Firefighting officials, neighborhood Firewise board
 - Firewise construction and landscaping information
- Public Outreach
 - Establish Firewise communities and Boards

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- Hold workshops for residents on Firewise landscaping, insect control, fire resistant construction methods, and other pertinent subjects.
- Encourage the use of the Firewise Communities/USA website.
- Outline specific measures/projects/tasks for disseminating information; determining audience, etc.
- Annually update and distribute community emergency phone trees for residents.
- Complete and distribute emergency access/evacuation information to existing owners that is updated as future roads in the MPR are developed.

Therefore, given the high fire hazard risk, there are probable significant adverse operation-related impacts on fire protection from the Proposed Project. These impacts can be partially mitigated for as described in Section 4.2.3.3.

4.2.3.3 Proposed Mitigation Measures

The Fire Protection Plan provided by the applicant lists mitigating conditions for fuel management and emergency planning. Additional mitigation measures have been proposed in the Applicant proposal and through consultation with CCFD1 and Chelan County. The mitigation measures described in each section are summarized below.

Applicant Proposed Mitigation

- **Construction and Operation Risk Reduction**
 - All structures to be of ignition-resistant construction
 - Monitored fire alarm system in each individual dwelling unit
 - Portable fire extinguisher or fire sprinklers in each individual dwelling unit
 - Establish defensible space with FireWise practices around structures
 - Exterior flame detection for early warning of wildfire or fire during construction
 - Store equipment and supplies for wildfire suppression or long-term retardant
 - Key box with every building for access to each unit
 - Emergency guide in each unit for reference by occupants
 - Evacuation plan with community warning siren
 - Install wildfire evacuation signs on internal road network
 - If readily accessible emergency telephone facilities are not publicly accessible, then in accordance with IBC Section 3301.1, a public fire alarm box should be provided consistent with NFPA 241 Section 7.4.1. Consideration should also be given to installation of an automatic fire detection device. Detectors could be added to support early warning of wildfire outside the MPR boundary.
- **Fuels Reduction and Defensible Space**

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- A fuel break will be established between the structural development and forested area similar to that proposed in the 2005 Squilchuck Valley Area Community Wildfire Protection Plan.
 - Implement 2017 FireWise recommendations around all homes/structures. Actions can include defensible space, adequate turn-around space for emergency equipment and clear consistent address signs.
 - Mitigate fuels within 100 feet of roads and driveways. This can include work to thin, limb and clear all road easements, and shaded canopy defensible space on both sides with road signs and evacuation arrows.
 - Encourage adjacent landowners and agencies to perform complementary adjacent treatments.
 - Ecosystem thinning on non-commercial ground. Specifications on thinning practices will be submitted to the County Fire Marshal for approval before permitting.
 - Slash disposal planning and timing.
 - Explore and employ methods to recycle biomass from fuel reduction project waste, construction waste and other wood products.
- **Emergency Access and Planning**
 - Develop and maintain additional Safe Areas in strategic locations. This could include constructing the base Lodge as a safe area, and providing sufficient parking to afford one space for each dwelling unit.
- **Evacuation/Rescue Plan**
 - Road Signs – Develop uniformity of all road signs and install signs at strategic locations
 - Address Coordination – use of reflective address signs.
 - Escape Routes
 - Signage (e.g. hurricane/tsunami evacuation route)
 - Map provided with each dwelling unit showing emergency access routes and safe area
 - Evacuation Plan – install community warning siren/giant voice:
 - Level 1 – Advisement Issued via phone, text, email, media, etc.
 - Level 2 – Evacuation Advised via Tone B (e.g. tornado watch)
 - Level 3 – Immediate Evacuation Advised via Tone A (e.g. tornado warning)
- **Education/Outreach**
 - Appropriate signage and education to its visitors to reduce fire risk such as burning restrictions or cigarette disposals.
 - Post fire hazard level sign at MRE entrance
 - Review and support improvements to the cell phone towers serving the CWPP area
 - Develop appropriate information to be provided for each home/emergency guide, such as:

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- Individual fire safety responsibilities & residential and personal security
- Individual preparedness: How to Create a Personal Emergency Action Plan; Provide information regarding the Ready, Set, Go! (RSG) program; How to Create a Wildfire Emergency Evacuation Checklist; Personal escape routes; Disaster supply list; Personal communication plan; Awareness of Chelan County Special Needs Registry.
- What to do & what not to do in case of wildfire; protecting your home/land
- Interacting with local Firefighting officials, neighborhood Firewise board
- Firewise construction and landscaping information

• **Public Outreach**

- Establish Firewise communities and Boards
- Hold workshops for residents on Firewise landscaping, insect control, fire resistant construction methods, and other pertinent subjects.
- Encourage the use of the Firewise Communities/USA website.
- Outline specific measures/projects/tasks for disseminating information; determining audience, etc.
- Annually update and distribute community emergency phone trees for residents.
- Complete and distribute emergency access/evacuation information to existing owners that is updated as future roads in the MPR are developed.

Additional Proposed Mitigation Measures

- The applicant will continue current safety practices and develop an updated Wildfire Plan and Crisis Action Plan to reflect the new operations, associated risks, and maintenance practices.
- The updated Crisis Action Plan will include additional options and strategies for egress in the event of a fire emergency. Such options and strategies could include providing shuttle service for evacuation, installing signage for evacuation paths to Squilchuck Park, and recruiting fire safety volunteers. The additional egress pathways for visitors will provide additional safety options in the event of a fire.
- The Developer has proposed voluntary mitigation in the form of an Updated Crisis Action Plan to include additional options and strategies for egress in the event of a fire emergency. The Updated Crisis Action Plan may include the following elements following consultation with the County, Fire District, and affected adjacent landowners:
 - 1) The Incident Command Structure for Mission Ridge will be updated with a hierarchy of egress methods.

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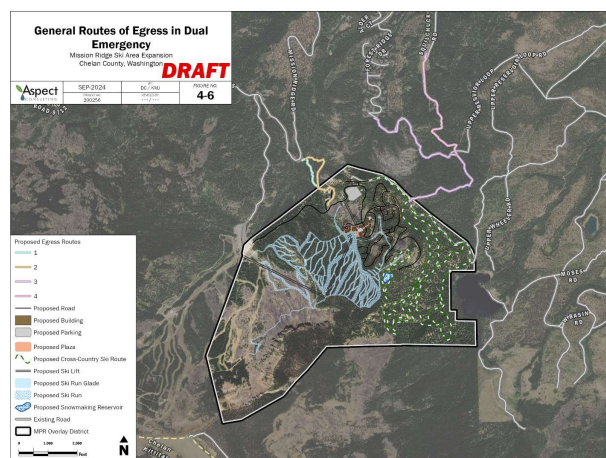
- (a) Primary egress will remain along Mission Ridge Road during advisories where evacuation is recommended (thence via Squilchuck Road).
- (b) Primary shelter-in-place will remain in homes, buildings, and in the parking lot where evacuation is not required and residents/visitors wish to stay on site. Mission Ridge's shelter in place facility will also be available to the others living on Squilchuck Road in the event egress is obstructed lower on the road.
- (c) When evacuation is required:
 - (I) Primary egress will remain along Mission Ridge Road.
 - (II) If Mission Ridge Road is compromised (e.g. by fire, by car accident), Mission Ridge will work with local fire authorities to determine best options for protecting public health until Mission Ridge Road is again passable. Options may include:
 - (III) Shelter in place at Mission Ridge.
 - (IV) Evacuation of some portion of the residents/visitors to other locations down Mission Ridge Road if a Squilchuck Road blockage is far enough north (e.g. to Squilchuck State Park, Boy Scout Camp), and it will reduce density for those sheltering in place or relocate them to a lower risk area. Mission Ridge will pursue cooperative relationships with those adjacent landowners as appropriate.
 - (V) Evacuation of some portion of the residents/visitors via existing unimproved roads/trails to Squilchuck State Park or other locations. Local residents who are aware of these roads/trails would likely use them in the event of fire, so we want to manage these safely. The following protocols would be recommended:
 - (i) The egress via these routes is currently gated from the Mission Ridge parking lot.
 - (ii) Mission Ridge staff would man each location to provide information and ensure appropriate vehicles are using these routes.
 - (iii) Mission Ridge has 3 shuttles, and 10 +/- vehicles with sufficient clearance to egress. Mission Ridge staff would use a shuttle / staff vehicle on the first egress to ensure the road is passable and does not create additional challenges, or otherwise only let foot traffic egress in these routes.
 - (iv) Routes would be placarded as "Wildfire Egress" routes at appropriate locations to avoid confusion.
 - (v) If routes appear safe to egress, the Command Center would approve additional private vehicles and/or foot traffic to leave the Parking Lot at a rate to avoid congestion.

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- (vi) Two-way radios would be used to communicate egress success rates real-time.
- 2) The Crisis Action Plan would be evaluated annually to determine if new adaptive measures, routes, or opportunities exist to reduce public health and safety risk.
- 3) Figure 4.2-6 shows the general routes of egress that could be used in the event of a dual emergency (fire risk and Mission Ridge Road closure). We will work closely with fire authorities during an actual incident to route residents and visitors to safer locations.
- IFPL precautions and spark emitting equipment requirements will be followed and as an additional measure for this project, construction will require contractors to have a 300-gallon pump truck during all IFPL levels during construction.
- Construction workers and landowners may self-impose higher levels of fire safety on site than what the IFPL requires, and such precautions will be used at the judgement of the construction operators.
- Space for a future CCFD1 station is designated with the Ski Operations and Maintenance area along the main MRE access road.
- Thinning and fuel reduction buffer along the single-access road as requested by CCFD1 (Chelan County Fire District #1, 2022). An example provided by CCFD1 presents a 100-foot buffer where slopes are accessible for thinning and fuel reduction.

Figure 4.2-6. General Routes of Egress in Dual Emergency



4.2.4 Significant and Unavoidable Adverse Impacts

Fire risk in the Proposed Project area is high and the introduction of construction activity, significant population/visitor increases, and the increased operation during the high-risk summer season is a significant impact. Mitigation measures are proposed to promote fire safety and reduce the impacts to fire hazard prevention, fire protection, and emergency access, but cannot fully offset the intent of this project which is to attract more people to an environment which is, at times, a high-risk location.

4.2.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed and there would be no impacts from construction and operation on fire hazards, fire protection, and emergency access. The Proposed Project would reduce the acres of high to very high fire risk categories by 11 percent in the Project Area, so a No Action Alternative would keep these acres in a high to very high fire risk category if not constructed.

4.3 Visual

This section will cover how the Proposed Project impacts visual resources including aesthetics, light, and glare to the surrounding landscapes as a result of construction and operation. The project narrative provided by the Applicant presents a detailed description of the anticipated operation of the Proposed Project and its impacts to the visual aesthetics of the project area.

The USFS EA (2020) report includes a detailed analysis of visual resources, which was used for this analysis to evaluate impacts to visual resources. Methodology for evaluating visual quality followed Chapter 459 of the WSDOT Environmental Manual and guidance by the Federal Highway Administration's Impact Assessment Process (USDOT 2015; WSDOT 2020). Additionally, a field visit in 2023 was conducted to collect photos of the existing visual conditions of the Proposed Project area and renderings were created to help clarify the difference in affected environment.

The USFS EA identified three key observation points (KOPs) located in Wenatchee Valley (Eastmont pullout viewpoint), Mission Ridge Road, and the Mission Ridge parking lot. The EA evaluated daytime visual impacts and demonstrated the visual changes due to construction and operation from these locations. This section supplements USFS's analysis by adding three additional KOPs in residential Wenatchee, residential East Wenatchee, and Squilchuck Road and by evaluating the nighttime visual impacts due to construction and operation.

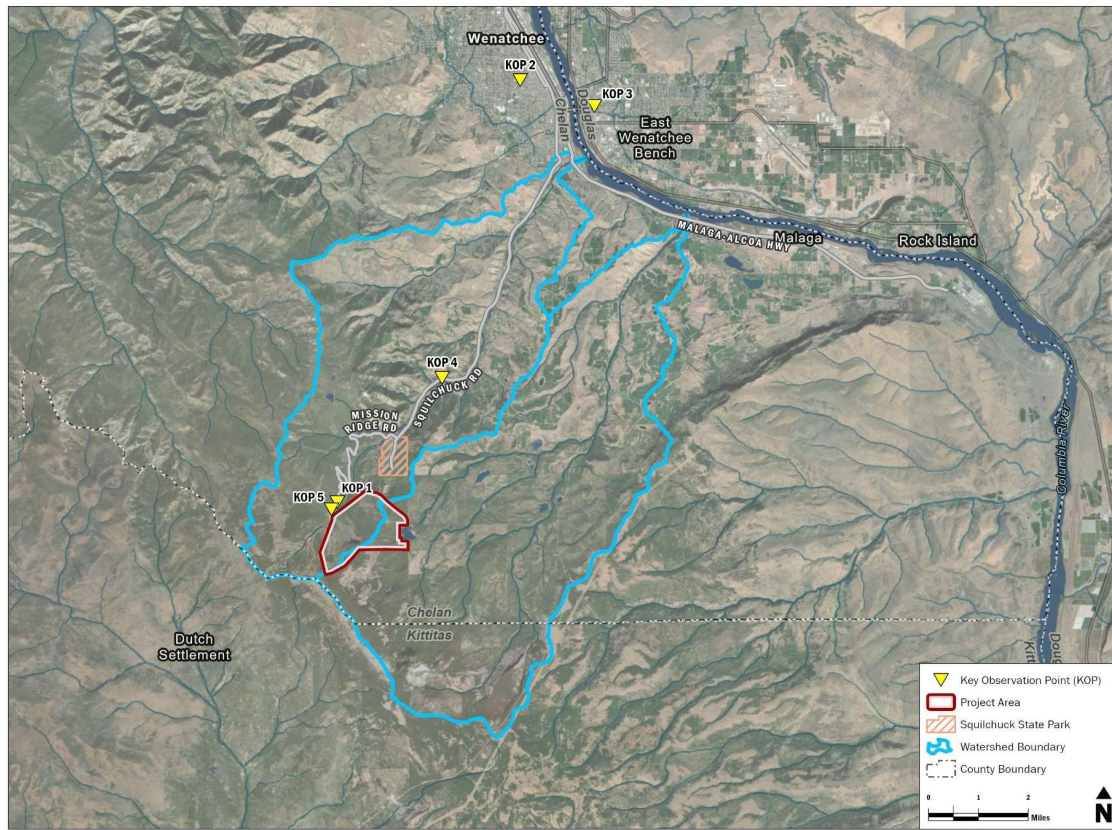
The study area for this section was delineated by places where viewed may perceive a change in visual character and quality. The viewshed extends from the Proposed Project towards Wenatchee and East Wenatchee. Figure 4.3-1 shows the viewshed from the highest point of the proposed project with the identified KOPs extending to Wenatchee and east Wenatchee.

Key Findings of Visual Analysis

The analysis focused on the impacts to aesthetics and light and glare. The analysis found the proposed project would **have significant and unavoidable impacts** related to visual resources that are intrinsically related to the project goal, which includes expanded night skiing and a change in visual character from a forested local ski area to a larger developed area.

The safety needs to have a well-lit ski run as well as increased overall development on the mountain will necessarily create greater ambient light conditions that will affect other values (e.g. stargazing, light pollution). In this EIS, mitigation measures focused primarily on construction-related mitigation for light/glare, while additional measures are proposed for operation of the project for other aesthetic values.

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Figure 4.3-1: Viewshed from the highest point of the proposed project with the identified KOPs extending to Wenatchee and east Wenatchee.

4.3.1 Visual Overview

Visual quality and aesthetics refer to natural and human landscapes and how people value their surrounding environment. Visual changes due to construction and changes to operation of an environmental space can alter the visual value of a landscape. Visual changes can direct changes to a view as a result of new construction or new light or glare sources.

Under the current conditions, the Proposed Project area contains developed winter recreation from Mission Ridge Road up to the Mission Ridge Ski Area. As visitors drive up Mission Ridge Road to the Ski Area, they will be surrounded by forested areas and talus slopes. At the end of Mission Ridge Road at the base area, visitors will see the Hampton Day Lodge, Base Facilities (including bathrooms, maintenance, and ski services), Ski School, and parking lots. From the base area, very little of the ski area is visible. Portions of Chair 1, 2, and 4 and portions of lower ski runs are visible. From higher up in the Ski Area, ski runs, chair lifts, and administrative use roads can be seen across the basin above the base area.

The sense of place is particularly strong at Mission Ridge. Mission Ridge is an important asset to residents of the Wenatchee Valley and the people who visit Mission Ridge have a specific image of what they expect to see. During cold weather seasons, people relate to a winter environment of snow and winter sports both at the Ski Area and adjacent areas. In the warm seasons, the ski area and environs provide roads and trails and expansive views with a wild feeling, close to town and often much cooler than the Wenatchee Valley, just 20 minutes away (USFS 2020). Consequently, Mission Ridge Ski Area has features and attractions that have special value. Thus, the KOPs selected for this analysis include the local residents and recreational users.

Light and glare are also elements that influence the perception of the environment that were raised during public comment and scoping of the EIS. Light pollution is the presence of unwanted, inappropriate, or excessive artificial lighting that can obscure the night sky and have potential impacts on human health, wildlife, and the environment. Programs such as the U.S. National Parks Service (NPS) Night Skies aims to protect the nighttime views and environments and collects night sky data across the County. In Chelan County, Burch Mountain was a particular case where the replacement of 3,693 county-owned streetlamps were retrofitted to LEDs in 2019 (Washington Post, 2023). The NPS Night Skies camera data showed the sky over local Burch Mountain was 60 percent brighter after the retrofit and a reduction in percent of stars visible from 0.61 percent to 0.49 percent (NPS, 2023). In addition to artificial light in the nighttime, daytime glare can be created by sunlight reflection of snow on the mountainside. These reflect conflicting values that cannot be fully mitigated or offset (e.g. safety versus aesthetics).

The existing Mission Ridge Ski Area hosts night ski events during the winter season, which includes lighting from the summit to the base along ski runs. Night skiing is typically open from 4 PM to 9 PM during dark hours on Wednesdays through Sundays from December to early March. The light produced by the night ski lighting and the glare from the snow on the mountain is visible across the existing summit and extends to a wide viewshed to Wenatchee and East Wenatchee. The existing operations are source of light during the nighttime and glare during the day.

4.3.2 How Impacts Were Analyzed

Existing conditions and potential impacts from construction and operation of the Proposed Project on visual resources were determined by reviewing information provided by the Applicant, analysis provided by the USFS EA (2020), or obtained through supplemental analysis and data collection. Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions or conflict with regulatory impacts. Methodology for evaluating visual quality followed Chapter 459 of the WSDOT Environmental Manual and guidance by the Federal Highway Administration's Impact Assessment Process (USDOT 2015; WSDOT 2020). The process involves establishing the study area and visual character, identifying KOPs based on project visibility, evaluating project impacts and sensitivities, and defining enhancement and mitigation efforts in the project design.

Specific concerns around visual quality raised during the scoping period included changes to aesthetic character due to conversion of natural site to a developed stage, the increased nighttime light visible in the Wenatchee Valley due to interior and exterior lighting, and increased reflective surfaces during the daytime.

The following factors were considered in this evaluation:

- **Visual Character and Aesthetics:** compatibility with the surrounding environment, preferences and sensitivities of viewers in the area
- **Light and Glare:** potential sources of nighttime light to KOPs, potential increase to daytime glare to KOPs, sensitivities of viewers in the area

The direct or indirect impacts to the aesthetic view during construction and operation were evaluated using representative images, comparisons to existing visual quality, estimates of changes in light pollution, and consideration of applicable laws and policies. Likely viewers and their self-interests and sensitivities were also considered. Two landscape units were selected where construction and/or operation of the Proposed Project could be viewed by receptors. For each landscape unit, receptor locations were selected based on where the Proposed Project could be seen by either residential areas or visitors to the resort and other neighboring recreational areas. At each KOP, photos of the existing operations during the nighttime were taken in March 2023, and for locations where photos are not readily available, Google Earth street view and renderings were used to estimate visual impacts. See Figure 4.3-2 for overview of landscape units and reflector locations.

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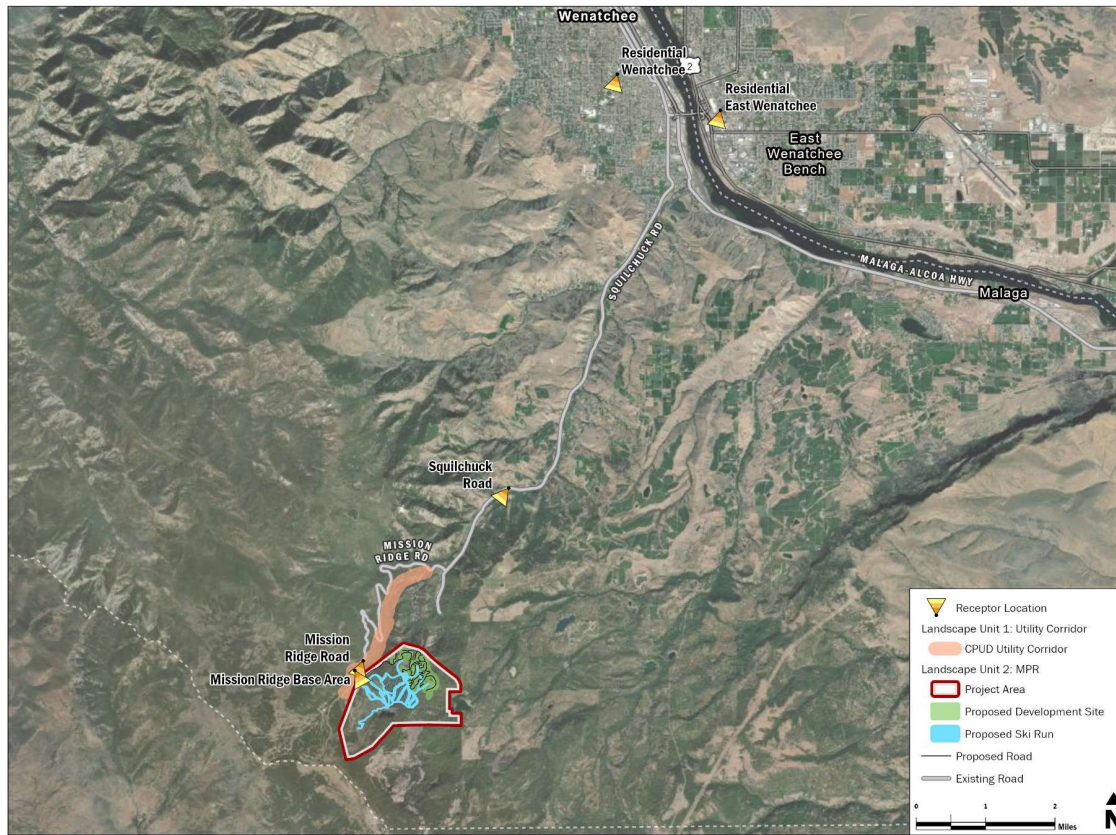


Figure 4.3-2: Landscape Units and Receptor Locations

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Landscape unit 1 is the utility corridor where construction is anticipated to expand the existing easement corridor. The utility corridor will extend from the northwest point of the Proposed Project area at the Base Area extending northeast running roughly parallel to Squilchuck Creek to Mission Ridge Road. Landscape unit 1 will also include the construction of Booster Pump 1, 2, and 3 along the utility corridor.

Landscape unit 1 would be visible from Mission Ridge Road (KOP 1) for drivers who are going to the Mission Ridge Ski Area. Since the utility corridor is in low elevations within the valley of the Squilchuck corridor, it is not visible past Mission Ridge Road. Within landscape unit 1, there is one KOP selected roughly 0.5 miles away from the Base Area on Mission Ridge Road facing in the southeast direction towards Squilchuck Creek. At KOP 1, drivers facing toward Squilchuck Creek can see an open space with trees and shrubs. Squilchuck Creek itself is not visible from the Road. In the background, drivers can see the hillside and area where the Proposed Project development will take place.

Landscape unit 2 is the development area of the Proposed Project, which would include the resort area with lodging, the ski runs and chair lifts, and lights installed along ski runs and chair lifts. The existing area in landscape unit 2 is an undeveloped private parcel containing open space with shrub and forested areas. Landscape unit 2 under its current conditions is visible during daylight hours, and the additional light for night ski operations on the nearby existing Ski Area is visible during the night. The viewshed extends to residential areas in East Wenatchee. The largest impact to visual resources will occur at landscape unit 2 during construction and operation, and as such, there are four KOPs selected:

- **KOP 2: Residential Wenatchee.** The residential areas of Wenatchee are located roughly 9 miles away from the Mission Ridge MPR area at a low elevation along the Columbia River. From this viewpoint, viewers see the Mission Ridge mountainside and during night ski operations, the lights are visible directly and indirectly from residential areas. While the Mission Ridge MPR development and existing ski area are not directly visible from residential Wenatchee, the light during night skiing is visible from this viewpoint and the light and glare impacts from the Proposed Project are evaluated in this analysis.
- **KOP 3: East Wenatchee.** East Wenatchee is roughly 9 miles away from the Mission Ridge MPR area and similarly includes residential areas that can see the MPR area. On top of the residential areas, Highway 28 passes through East Wenatchee and has a view of the MPR area. Drivers on Highway 28 can see the Mission Ridge ski area and the hillside of the Mission Ridge MPR. During night ski operations, the lights are visible directly and indirectly from residential areas and during the daytime, potential glare from the hillside could impact viewers. While the Mission Ridge MPR development and existing ski area is barely visible from residential Wenatchee, the light during night skiing is visible from this viewpoint and the light and glare impacts from the Proposed Project are evaluated in this analysis.
- **KOP 4: Squilchuck Road.** Squilchuck Road is the main access road to the Mission Ridge Ski Area and the MPR. Squilchuck Road provides access to recreation at Squilchuck State Park and connects to Mission Ridge Road. From Squilchuck Road, drivers can view a part of the expansion area where the access road would cross.

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The existing view is a forested area with Squilchuck Creek located at the base of the valley.

- **KOP 5: Mission Ridge Base Area.** The Mission Ridge Base Area is located at the base of the mountain surrounded by existing parking lots, base facilities, and the Hampton Lodge. From the Base Area towards the proposed MPR and expansion, viewers currently see a forested area on the hillside. No light sources exist in the direction of the proposed MPR from the Base Area.

4.3.3 Findings for the Proposed Project

4.3.3.1 Impacts from Construction

Construction activities for the proposed project would occur on landscape unit 1 and landscape unit 2, but the activities would only be visible from the KOPs in the vicinity of the project. Construction will be visible from KOPs 1, 4, and 5 and will be reviewed in this section. The construction visual impacts would be minor from KOPs 2 and 3 given the distance, so these viewpoints are not evaluated.

Visual Character and Aesthetics

Construction for the proposed project would include improvement to utilities through the Squilchuck Corridor and construction of the MPR area. Construction activities that would affect the aesthetics include the introduction of construction equipment and vehicles (i.e. bulldozers, compactors, pickup trucks, and other heavy equipment), clearing and grading activities to develop the new access road, and construction-related traffic that may occur near and within the proposed Project Area.

The visual character and aesthetic quality from KOPs 1, 4, and 5 would alter during construction. Where the current view from each KOP is a forested area within the natural environment, construction periods would temporarily introduce construction equipment, vehicles, and clearing and grading activities to the foreground and change the natural existing character of landscape unit 1 and 2. Clearing and grading activities may also increase dust and debris that may be visible through construction. For more information on dust impacts, see Section 5.1 Air.

For visitors to the existing Ski Area, construction of the MPR would not be entirely visible and the natural character of the ski trails and forested environment would have a minor impact on the visitors' experience of the aesthetics.

The visual impacts to aesthetics during construction would be disruptive to the visual character of the existing environmental and may affect viewed intermittently over the duration of construction. However, these impacts would be temporary in nature and would not impact any sensitive viewers.

Therefore, given the temporary nature of impacts, there would not be probable significant adverse construction-related impacts on visual character and aesthetics from the Proposed Project.

Light and Glare

Additional light sources during construction would come from construction lighting when activities take place during darker hours. A majority of construction activities will take place during the day time, and when necessary, construction lighting will be used which would be visible to viewers from KOPs 1, 4, and 5. The construction lighting would temporarily degrade nighttime views for viewers from KOPs 1, 4, and 5, and potentially impact the nighttime views for viewers further away at KOPs 2 and 3.

Creation of glare from construction equipment may also occur during the daytime, and the glare would be similarly visible to viewers from KOPs 1, 4, and 5. The glare from construction would temporarily degrade nighttime views and temporarily introduce new sources of glare to drivers and visitors at the viewpoints.

Since construction is temporary in nature, the impacts to nighttime views from additional light and glare would not post a significant impact in the long-term. The applicant proposes mitigation strategies to reduce the light and glare impacts during construction.

- The light and glare from the construction equipment would only occur during acceptable construction hours.
- Where possible, down shade lighting will be used to control light and glare impacts from the site.

Therefore, given the temporary nature of impacts and with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on light and glare from the Proposed Project.

4.3.3.2 Impacts from Operation

Permanent changes associated with the proposed project would occur at the booster pump locations along landscape unit 1 and across landscape unit 2. The operation of the proposed project will impact the visual quality from KOPs 1 through 5 and will be reviewed in this section.

The USFS EA evaluated the daytime impacts at locations analogous to KOP 1, 3, and 5 and focused the evaluation on a landscape analogous to landscape unit 2. Given the distance from KOP 2, the daytime operation impacts would not be visible from residential Wenatchee or East Wenatchee. In our visual rendering of daytime operational impacts from KOP 2 and 3, we rendered artificial buildings with a maximum building height of 40 feet and maximum ski lift height of 80 feet within the proposed developed area and observed no visual impacts from these KOPs (Figure 4.4.4). For viewers from KOP 4 during the daytime, while the viewshed would alter from a forested background to a developed area, the observer would be driving along the road viewing the project temporarily at a moving pace and the change in visual character would be expected and anticipated by the viewer. Thus, our analysis focused on the nighttime impacts from KOP 1 through 5 and the booster pump locations in landscape unit 1 to supplement the USFS EA evaluation of daytime impacts.

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Figure 4.3-3: Existing View (top) and Visual Simulation (bottom) of Proposed Project (Red Arrow) from KOP 2 Daytime

Visual Character and Aesthetics

As stated earlier, Mission Ridge has a strong sense of place and its existing visual character as a forested area and local ski resort is important to the viewers in the area. Operations for the Proposed Project will change the physical and aesthetic nature of the area as residential development and additional recreational activities will be introduced to the environment.

Booster pump station 2 will be visible for drivers along Mission Ridge Road with a similar existing viewshed to KOP 4, which is a forested and vegetated area. The proposed project will introduce three booster pump stations roughly 100 foot by 100 foot to the area that will look similar to other existing stations that the PUD operates (See Figure X). While the new station will be a change in viewshed, viewers along the road will be driving and the visual will be temporary in motion.

Booster pump station 3 will be visible from the Mission Ridge Base Area similar to KOP 5 but facing towards the existing structures rather than the mountainside. Booster pump station 3 will be installed near the existing buildings at the Base Area to maintain a consistent viewshed character to the existing view of structures at the Base Area.

Booster pump station 1 will be along the utility corridor but further from Mission Ridge Road and not likely visible for drivers.

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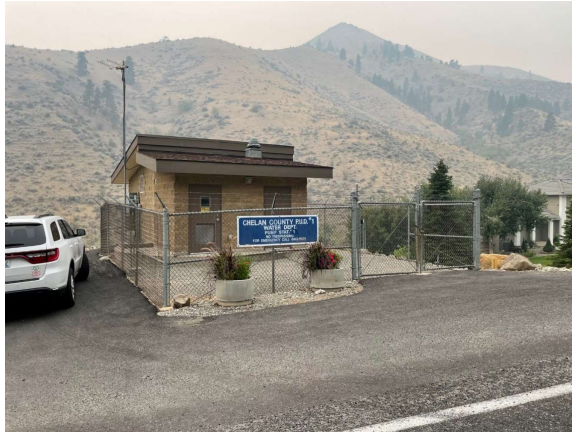


Figure 4.3-4: Example Booster Pump Station

Residential development of the MPR area will be visible from KOPs 1, 4 and 5. As shown in Figure 4.4.4, there will be little to no visibility from KOPs 2 and 3 given their distance away from the project. From all three viewpoints, the view will change from a forested hillside to a scene for recreational activity and residential development. The new access road, ski runs, and chairlifts would be visible from the road for passing drivers and visitors to the base area. From Squilchuck road, the residential development area would not be directly visible, but the new housing and lodges would be visible from Mission Ridge Road and visitors at the Base Area, and the visual character would change from the forested hillside to a residential ski resort area with multi-family and single-family residential units, commercial space in the Village, a hotel/lodge, and employee housing. For viewers from KOPs 1 and 4, the changes would be visible yet less noticeable as viewers in moving vehicles would see the change temporarily and at a rapid pace.

In order to maintain a high-quality aesthetic and visual character, the Applicant proposes their own conditions to ensure building heights do not obstruct views and visual character is of a high quality. The tallest building height will be approximately 45 feet and the tallest structure is 80 feet as the maximum height for poles associated with ski lifts. Pursuant to Chelan County Code 14.98.325, "Building height" means the vertical distance from the average elevation of the actual or proposed finished grade to the top of the highest roof beams on a flat or shed roof, the deck level on a mansard roof and the average distance between the eaves and the ridge level for gable, hip and gambrel roofs.

Additionally, most buildings will utilize wood as the principal exterior material. Metal may be used for ski lift poles as well as some roof structures. Ultimately, the architectural experience of the project will be contingent on a design strategy engaging the natural environment, unique takes on architectural form, to pursue something new, and fresh engaging modernist design aesthetic rooted in a deep NW palette in an attempt at being its own identity.

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While the site being proposed for a Master Planned Resort (MPR) designation is over 500 acres, the project will contain less than the two dwelling units per acre allowed within an MPR. Further, the Applicant proposes a significant amount of open space for the project to maintain a character that is in harmony with the surrounding area. Lastly, residential, and commercial structures will be built to high standards and required to meet adopted CCRs to ensure the area maintains a high aesthetic value.

Therefore, given proposed mitigating conditions, there would not be probable significant adverse operation-related impacts on visual character and aesthetics from the Proposed Project.

Light and Glare

Nighttime light during operation would come from additional night ski lighting to accommodate for the additional ski trails associated with the MPR and internal and external lighting associated with the MPR development. The existing ski area has nighttime ski operations, and the light is visible from KOPs 2 through 5. The nighttime light for the MPR and expanded ski operations would be anticipated to be at least as bright as the existing operation.

Figure 4.3-5 and 4.3-6 show visual renderings of the additional light impacts from KOPs 2 and 3, respectively, where residential viewers are located. The residential viewers at KOPs 2 and 3 would see a reduction in night sky views and a significant addition to light source on the mountainside where originally there was no light and have a negative impact on the night sky visibility.

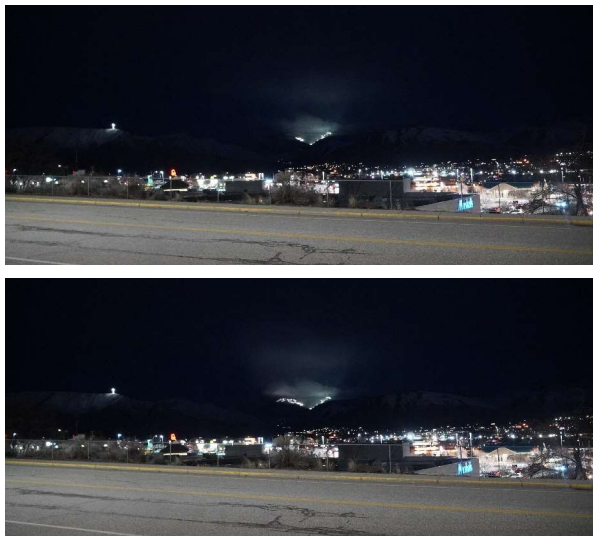


Figure 4.3-5: Existing View (top) and Visual Simulation (bottom) of Proposed Project from KOP 2 Nighttime

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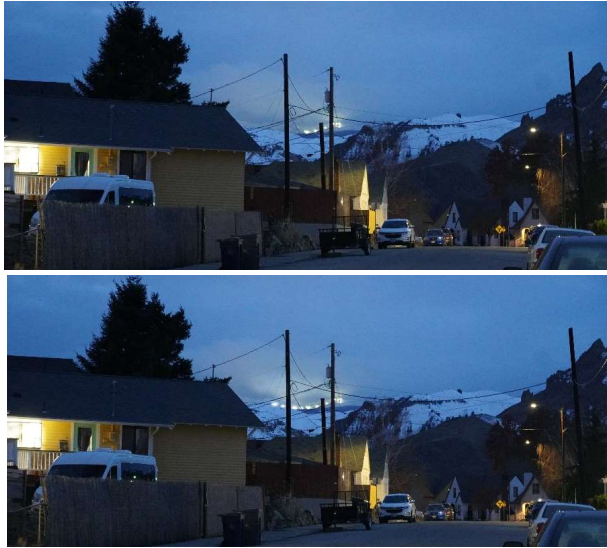


Figure 4.3-6: Existing View (top) and Visual Simulation (bottom) of Proposed Project from KOP 3 Nighttime

Daytime operations of the Proposed Project will introduce a new source of glare due to the clearing of forested areas in place of ski runs with snow on the mountainside. Ski runs will account for 37.2 acres of the MPR area and will create openings in the forest to create space for a snow face and source of glare.

The additional glare would also impact KOPs 1, 4, and 5 given their proximity to the new ski runs. Drivers from KOPs 1 and 4 would see the glare impacts at a moving pace and for a temporary period. Additionally, ski runs will be surrounded by the existing forested area which will provide a break in the glare.

Figure 4.4.7, and 4.4.8 shows visual renderings of the additional light impact from KOPs 4 and 5 where visitors to the ski area would observe the MPR while either driving or visiting the area itself. Photos or Google Earth Imagery for a nighttime view are not available for a visual rendering from KOP 1, but the light impacts for drivers along the road would be analogous to those observed from KOP 4. The additional nighttime light from KOPs 4 and 5 would have a positive impact for safety and accessibility for drivers and visitors to the resort as visibility would increase, but the additional light would also have negative impacts on the night sky view (e.g. stargazing, light pollution).

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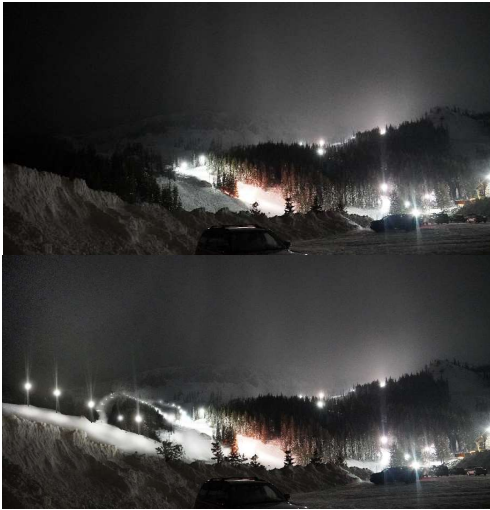


Figure 4.3-7: Existing View (top) and Visual Simulation (bottom) of Proposed Project from KOP 4 Nighttime



Figure 4.3-8: Existing View (top) and Visual Simulation (bottom) of Proposed Project from KOP 5 Nighttime

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The applicant proposes that light and glare impacts will be mitigated where possible through the requirements of CCC 11.88.08. This includes requirements that parking lot lights, security lights, or any exterior lighting shall be low-intensity, non-flashing and designed to project toward the property or shall be shielded to keep light from directly projecting over property lines.

Therefore, there would be probable significant operation-related impacts on light and glare from the Proposed Project due to the additional night ski operations. Mitigation measures are proposed for light and glare impacts where possible to reduce intensity of the residential operation.

Table 4.3-1. Summary of Operational Impacts of Viewpoints

Landscape Unit	KOP	Potential Impact Level
1	#1: Mission Ridge Road	Temporary construction, little to no potential visual impact to viewers
2	#1: Mission Ridge Road	Day: Aesthetic impacts change to visual character Night: Light impacts would not result in any significant impacts
2	#2: Residential Wenatchee	Night: Light impacts to nighttime view
2	#3: Residential East Wenatchee	Night: Light impacts to nighttime view
2	#4: Squilchuck Road	Day: Aesthetic impacts change to visual character Night: Light impacts to nighttime view
2	#5: Mission Ridge Base Area	Day: Aesthetic impacts change to visual character Night: Light impacts to nighttime view

4.3.3.3 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project on visual resources. Specific mitigation actions will be confirmed during project permitting.

Applicant-proposed mitigation measures:

- The light and glare from the construction equipment would only occur during acceptable construction hours.
- Where possible, down shade lighting will be used to control light and glare impacts from the site.
- Applicant proposes their own conditions to ensure building heights do not obstruct views and visual character is of a high quality. The tallest building height will be approximately 45 feet and the tallest structure is 80 feet as the maximum height for poles associated with ski lifts. Pursuant to Chelan County Code

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14.98.325, “Building height” means the vertical distance from the average elevation of the actual or proposed finished grade to the top of the highest roof beams on a flat or shed roof, the deck level on a mansard roof and the average distance between the eaves and the ridge level for gable, hip and gambrel roofs.

- To maintain aesthetic character, most buildings will utilize wood as the principal exterior material. Metal may be used for ski lift poles as well as some roof structures.
- The project will contain less than the two dwelling units per acre allowed within an MPR.
- The Applicant proposes a significant amount of open space for the project to maintain a character that is in harmony with the surrounding area.
- Residential, and commercial structures will be built to high standards and required to meet adopted CCRs to ensure the area maintains a high aesthetic value.
- The applicant proposes that light and glare impacts will be mitigated where possible through the requirements of CCC 11.88.08. This includes requirements that parking lot lights, security lights, or any exterior lighting shall be low-intensity, non-flashing and designed to project toward the property or shall be shielded to keep light from directly projecting over property lines.

4.3.4 Significant and Unavoidable Adverse Impacts

While construction of the proposed project poses impacts to visual resources, these impacts will be temporary in nature and can be mitigated through best practices to reduce light and glare.

On the other hand, the impacts to visual resources from operation of the proposed project will be significant and unavoidable as the changes are integral to the project nature. The aesthetics of the Mission Ridge Ski Area will change with additional development for a residential resort area and year-round activities. Additionally, more light sources will be added to the area from residential light for the proposed development, recreational light during the nighttime for night ski operations, and glare during the daytime given the additional structures and snow across the mountain. Mitigation measures are proposed to reduce the impacts, but cannot fully offset the intent of this project which is to develop residential areas and expand existing ski operations which will alter the visual quality.

4.3.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to visual resources.

4.4 Land and Shoreline Use

Land and shoreline use refers to how land is developed for various human uses or preserved for natural purposes. This section describes the current land use conditions in the study area and the potential changes resulting from the proposed project. It also evaluates the consistency of the project with applicable Chelan County codes, plans, and policies. Mitigation measures that can be used to reduce impacts are also described.

The land and shoreline use impact analysis encompasses the study area as well as connected areas that could be affected by construction or operation of the proposed project.

The USFS has published a draft NEPA Environmental Assessment (EA) that considers the environmental effects of the proposed project on lands owned or administered by the USFS, including state-owned WDFW lands (USFS 2020). The draft EA addresses the following proposed actions on lands owned or administered by the USFS:

- Amending the existing Mission Ridge Special Use Permit (SUP) by expanding the permit area.
- Amending the existing Chelan PUD SUP to incorporate the new water, fiberoptic system and transmission lines across federal property.
- Building a new access road across the Okanogan-Wenatchee National Forest (National Forest) from the existing base area to the proposed second base area.
- Constructing new alpine ski lifts, alpine ski trails, Nordic ski trails, and snowmaking on National Forest lands.
- Coordinating with WDFW on state-owned lands that are administered by USFS under the existing Mission Ridge USFS SUP and WDFW Land Use Agreement pursuant to the USFS/WDFW Cooperative Agreement.

This section addresses the impacts of the proposed project on privately owned lands, which are not covered in the USFS draft EA.

Key Findings of Land and Shoreline Use Analysis

The analysis focused on the following factors:

- Consistency with local zoning, planning, and policy documents
- Effects on surrounding recreation and land use patterns
- Restrictions or changes to land use
- Changes in area character

The proposed project would fundamentally change the overall character of the area. Therefore, the proposed project would **have significant and unavoidable adverse impacts** related to land and shoreline use. However, these changes are permissible under Chelan County Code.

4.4.1 Land and Shoreline Use Overview

Existing and Proposed Land Ownership and Land Uses

The existing Mission Ridge Ski and Board Resort is located on approximately 2,080 acres of leased land managed by the USFS, WDFW, and DNR. Mission Ridge operates under a Special Use Permit (2008) with the USFS to operate a recreational ski area on the National Forest and a Land Use Agreement with WDFW to operate a winter recreational ski area on WDFW lands. A Cooperative Agreement established between WDFW and USFS (1985) designates the USFS to administer the ski area on WDFW lands (USFS 2020).

Mission Ridge currently has 36 designated trails that are serviced by four chairlifts, two rope tows, and one surface lift (a.k.a., magic carpet). Facilities located at the base area of the resort include the Hampton Lodge (a day lodge), the Ski School, the Base Facilities buildings (first aid, daycare, maintenance facilities, administrative offices), and on-site parking.

The proposed project area overlaps a portion of and adjoins the northeast boundary of the existing Mission Ridge Ski and Board Resort. The lands proposed for development within and outside of current resort boundaries total approximately 1,090 acres and include both public and private lands. Within the 779 acres of private lands, 621.7 acres are dedicated to open space including ski runs (37.2 acres), undesignated open space (45.1 acres), dedicated conservation areas (531.4 acres), and managed open space (8 acres).

The Applicant and Chelan PUD coordinated on an engineering study to further investigate the feasibility of expanding the Squilchuck Water System service area to supply the Proposed Project and to identify needed improvements to the existing system. The capacity analysis indicated pump station improvements and pipe sizing upgrades would be necessary to provide water service to the Proposed Project. Approximate locations for the potential service extension pipeline and new pump stations located west and north of the project area are illustrated on Figure 5.7-1 (see Section 5.7 Utilities and Public Services below). A portion of the proposed water main extension would extend through USFS lands. Chelan PUD currently has Special Use Permit with USFS and several easements with private landowners along the proposed water main alignment for power use. These authorities are proposed to be widened to accommodate the additional proposed utilities of water main and fiberoptics.

The proposed project is located within the Squilchuck and Stemilt Subwatersheds, within Water Resources Inventory Area 40 (Alkali-Squilchuck). The elevation of the project area ranges from 4,300-feet at the junction with the existing Mission Ridge Base Area to 6,600-feet along the highest ridges. The portions of the project that are located on USFS-managed lands are within the Wenatchee River Ranger District of the Okanogan-Wenatchee National Forest. The portions of the project located on state-owned lands are within the WDFW Colockum Wildlife Area.

The natural setting of the proposed project area is similar to that within the existing Mission Ridge site, with a mix of alpine meadows, forest, ridges, rocky outcrops, talus slopes, and streams. Much of this area was harvested for timber in the mid-20th century but now supports diverse plant communities as described in Section 5.4.

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Aside from the existing ski runs and the gated, administrative access road, there are no designated trails or roads for public use in the proposed project area. There is an unofficial road on public lands that connects to a road system on the private parcel; it is lightly used by motorized vehicles and mountain bikes in the summer and by Nordic skiers and snowshoers in the winter. There is also a gated, administrative access road originating from the existing parking area that is used by project surveyors and recreational snowshoers, skiers, and hikers (USFS 2020).

Some portions of the proposed water and fiberoptic utility improvements follow existing roads or other cleared areas, while others are vegetated. The utility corridor and Booster Pump #1 are located adjacent to Scout-A-Vista alpine camp operated by the Boy Scouts of America.

Recreational activities that occur in the areas surrounding the proposed project include hiking, horseback riding, fishing, mountain biking, Nordic skiing, snowmobiling, snowshoeing, camping, hunting, and wildlife viewing. Surrounding public lands that provide some or all of these recreational opportunities include Squilchuck State Park, Naneum Ridge State Forest, Wenatchee National Forest, and the Colockum Wildlife Area.

WDFW and DNR land exchange

In 2020, the Washington state legislature directed WDFW to explore a land exchange “for near- and long-term facility replacement and expansion of the mission ridge ski and board resort” (Engrossed Substitute Senate Bill 6168; effective date April 3, 2020).

WDFW has indicated that the elk habitat value of its land in the Colockum Wildlife Area adjacent to the Mission Ridge resort is degraded, and that an expanded, year-round ski resort is not an allowable use of the land under the U.S. Fish and Wildlife Service (USFWS) contract that funded WDFW's purchase of the property. WDFW identified 780 acres within the Colockum Wildlife Area proposed for exchange with parcels of equivalent value owned by the Washington Department of Natural Resources (Figure 4.4-1; WDFW 2021). The eastern WDFW parcel proposed for exchange overlaps with the proposed project area. The USFWS indicated that it agrees with the proposed exchange subject to environmental review and a property appraisal (USFWS 2020).

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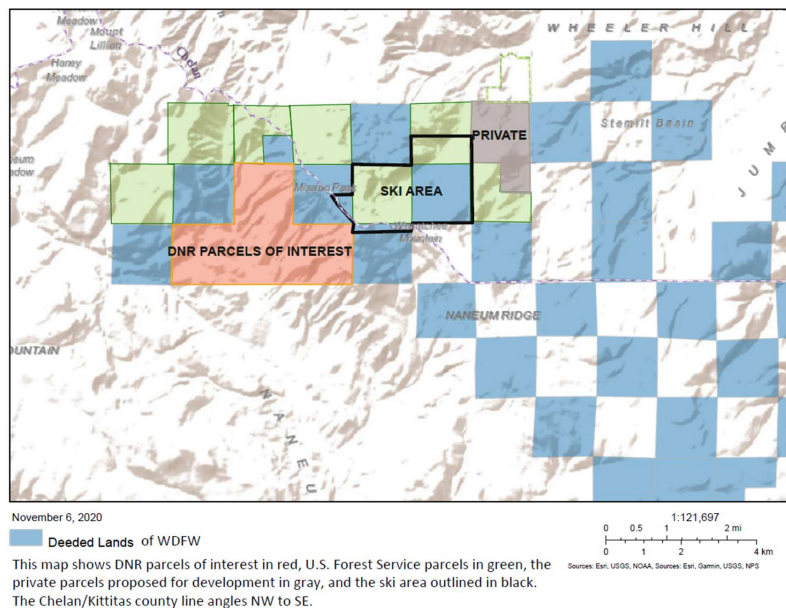


Figure 4.4-1. Proposed WDFW/DNR Land Exchange Areas; Source WDFW 2021

Note: The WDFW parcels proposed for exchange are the blue parcels inside the ski area (black line) boundary. The DNR parcels proposed for exchange are shown in red.

Chelan County Plans, Policies, and Regulations

This section describes relevant Chelan County plans, policies, and regulations considered in this analysis. The County's SEPA substantive authority includes adoption of the goals, policies and purposes of the Comprehensive Plan, zoning and development codes, the Squilchuck-Stemilt Watershed Plan, and the Shoreline Master Program (CCC 13.03.190). This includes consideration of the following plans referenced in the Comprehensive Plan: Stemilt-Squilchuck Recreation Plan, Stemilt-Squilchuck Community Vision Report, and Our Valley Our Future (OVOF) Action Plan. The Stemilt-Squilchuck Recreation Plan and Master Plan Resort Overlay District have also been adopted by resolution (respectively, Resolution No. 2019-114 and Resolution No. 2007-98).

Chelan County Comprehensive Plan

The Washington State Growth Management Act requires cities and counties to develop comprehensive plans and development regulations for their communities. A Comprehensive Plan is a legal document adopted by local elected officials establishing policies that guides the future physical development of the community. It is used by local

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elected officials, planning commissions, and others when making decisions about land use development or changes, capital improvements programming, and the enactment of development regulations and related growth management legislation (Chelan County 2017a).

The proposed project is located within the following Chelan County Comprehensive Plan future land use designations (Chelan County 2017b):

- Commercial Forest Lands
- Rural Residential/Resource: One Dwelling Unit per 20 Acres
- Rural Residential/Resource: One Dwelling Unit per 2.5 Acres

The County's zoning and other development regulations must be consistent with the Comprehensive Plan. The proposed project is intended to meet the requirements of an MPR overlay district pursuant to Chelan County Code (11.89, Master Planned Resorts Overlay District). An MPR is established by the County as an overlay zone that does not alter the existing underlying zoning; however, development standards applied to an approved MPR supersede those of the underlying zone (Chelan County Code [CCC] 11.89.020).

As stated previously, the Comprehensive Plan references the following additional plans, which are discussed below:

- Stemilt-Squilchuck Recreation Plan
- Stemilt-Squilchuck Community Vision Report
- OVOF Action Plan

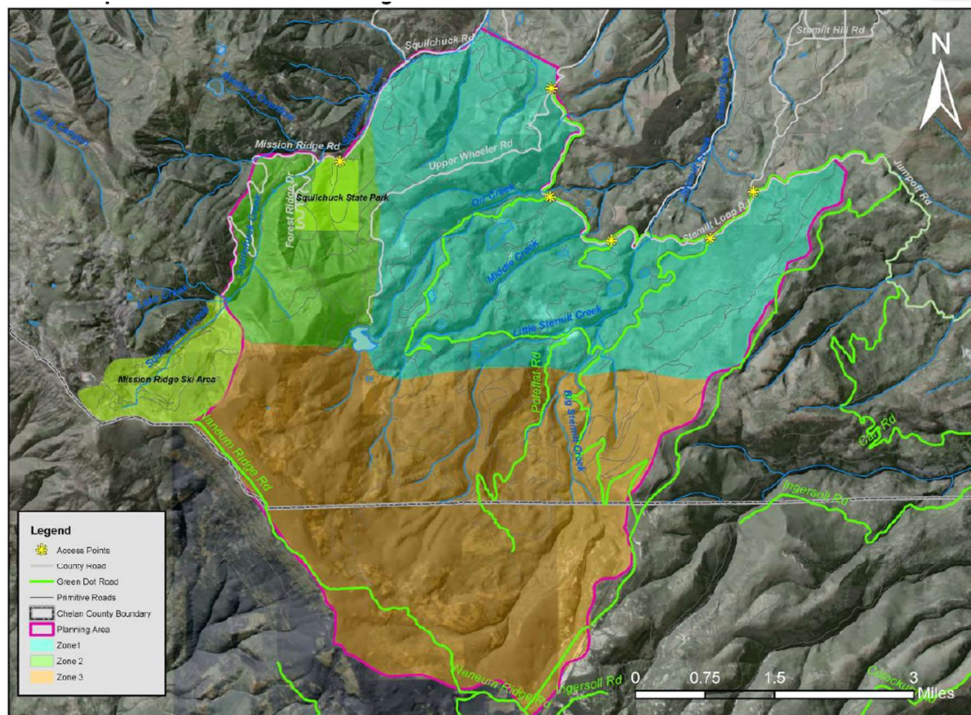
Stemilt-Squilchuck Recreation Plan

The Stemilt-Squilchuck Recreation Plan was written for and guided by the Stemilt Partnership, in collaboration with WDFW and DNR. The Stemilt Partnership was formed in 2007 in response to the proposed sale and privatization of over 2,500 acres of DNR upland forest in the Stemilt Basin. The Partnership includes agriculture, wildlife, recreation, and conservation interests working with Chelan County to create a vision for managing the landscape. The foundation of the Stemilt Partnership Vision is the protection of water resources, wildlife, and recreation in the Stemilt Basin. In 2012, Chelan County purchased about 2,500 additional acres in the basin from Longview Timberlands Co., with the intent of preventing privatization and development in the basin on this portion of land.

The Stemilt-Squilchuck Recreation Plan was adopted by Chelan County in 2019 (Resolution No. 2019-114). The purpose of the plan is to “provide guidance and recommendations for managing recreation in the Stemilt-Squilchuck basin in a manner that provides for the types of recreational opportunity desired by the community while also protecting the important values of wildlife, water, and natural resources.” As noted in Resolution No. 2019-114, recommendations in the plan are strictly voluntary for landowners and managers, but they provide guidance about how lands in the Stemilt-Squilchuck basins can be managed to meet recreational and conservation goals. The area

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covered by the plan, which excludes the existing Mission Ridge resort, is shown in Figure 4.4-2. The proposed project is located within planning Zone 2.



The planning area is defined by the Stemilt Watershed to the south and east, the Mission Ridge Ski Area boundary and Squilchuck Road to the west, and Stemilt Loop Road to the north. Data sources: Stemilt Vision Document 2008, Chelan County GIS, Erin McKay 2016.

Figure 4.4-2. Stemilt-Squilchuck Recreation Planning Area (Chelan County 2018)

The recreation plan identifies desired conditions in Zone 2 to act as guidelines for future development as follows:

- Sensitive ecological areas are protected and human disturbances limited to designated recreation sites, communities, and roads.
- Visitors have better access to more recreational opportunities; recreation expansion on private lands in Zone 2 leads to higher concentrations of use in these areas and on adjacent public lands.
- This zone includes day use; group camping available at Squilchuck State Park; and non-motorized recreation; ATV and snowmobile use are limited to designated areas and subject to seasonal wildlife closures.

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- Facilities are limited to rustic day use parking areas; sanitation facilities for trailheads; primitive trails and signs.

A number of recommended strategies for Zone 2 were identified for summer and winter use, including:

- Assess the feasibility of creating a north-south trail through this zone. Explore the potential for a high-elevation route within the buffer of the existing road corridors along Mission Ridge and Naneum Ridge roads.
- Improve the Clara Lake Trailhead at the Mission Ridge parking lot.
- Create groomed cross country ski trails in Section 19 and NE ¼ Section of 30. Evaluate feasibility of connecting to cross country ski trails in Section 17.
- Close some trails seasonally to protect wildlife.
- Link Mission Ridge with Squilchuck State Park and Scout-a-Vista Boy Scout Camp with non-motorized trails for summer and winter use.
- Designate a non-motorized winter use area that is accessible from Squilchuck State Park, Mission Ridge Ski Area, and Section 16.
- Consider strategic fuel breaks and wildfire/fuels reduction planning with trail development.

Stemilt-Squilchuck Community Vision Report

The Trust for Public Land worked with Chelan County and the Stemilt Partnership to develop the Stemilt-Squilchuck Community Vision Report (TPL 2008). The plan provides a vision for the Stemilt-Squilchuck watershed that includes the following:

- Water resources are protected, ensuring adequate water supply for irrigation and domestic purposes.
- Wildlife resources are conserved, maintaining critical habitat and corridors.
- Recreational access to hunting grounds, trails, fishing reservoirs, and other recreational lands is maintained and enhanced where appropriate.
- New development is low-impact and well-planned, considers multiple uses where appropriate, and meets the requirements of the community's shared goals.

In addition, the plan states the following:

- Resource lands in the upper watershed cannot support urban-level development. Therefore, Chelan County “should direct growth to areas most appropriate for development, considering the location of critical water, wildlife, and recreational resources and existing development patterns.”
- Careful land and water management in such an arid landscape is essential to sustain the local agricultural economy, conserve wildlife resources, and support the way of life in the community. Therefore, all new trails should consider impacts on water and wildlife and seasonal use restrictions in areas of high sensitivity.

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- New development can be supported in the watershed with careful planning and consideration of local interests. This includes maintaining access to public lands, as well as creating open space designs for protection of important resources.
- The watershed can be a model in the region for a balanced landscape, meeting agricultural, wildlife, and recreational needs while continuing to grow and prosper.

Figure 4.4-3 provides a conceptual plan from the vision document showing recreational resources, including Mission Ridge.

MAP 6.4 CONCEPTUAL PLAN

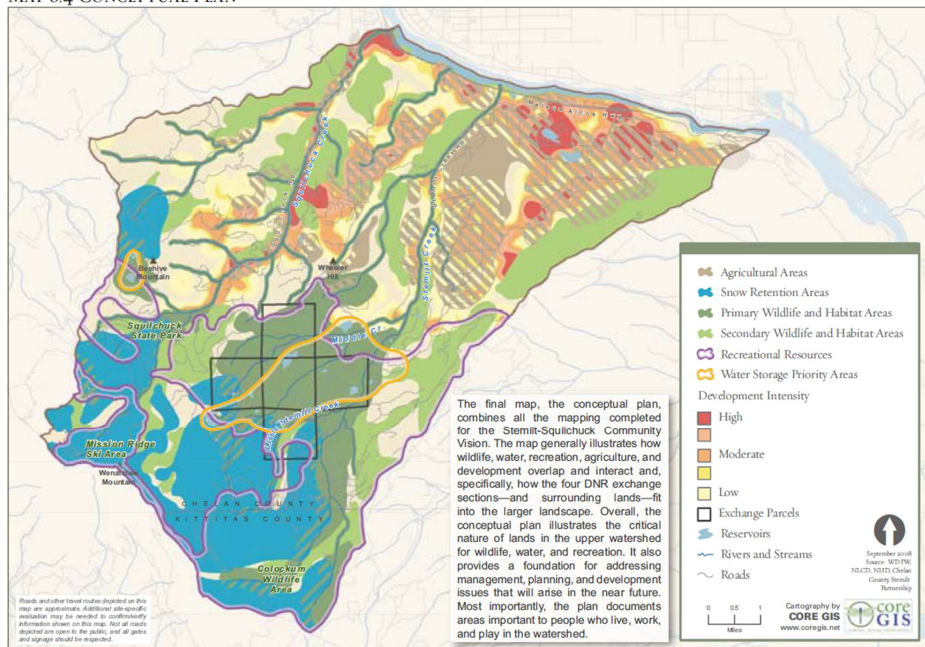


Figure 4.4-3. Stemilt-Squilchuck Community Vision Conceptual Plan (TPL 2008)

Our Valley Our Future Action Plan

Our Valley Our Future is a community-based organization. The 2022-2026 Our Valley Our Future Action Plan produced by the organization includes expanding Mission Ridge into one of the premier winter ski destinations in Washington state (OVOF 2022).

WRIA 40A Watershed Plan

The WRIA 40A Watershed Plan (RH2 Engineering 2007) includes the following recommendations relevant to the proposed project:

- Upgrade existing water reservoir storage for water conservation and continued fire suppression water.
- Implement cost-effective new water storage projects in both the Stemilt and Squilchuck creek watersheds to sustain flow during the agricultural water use period and the fall low flow period.
- Evaluate artificial snow-making and reservoir construction at the Mission Ridge Winter Sports Area to determine opportunities for enhancing water delivery in terms of timing and flow in the Squilchuck Creek watershed.
- Work with Chelan County and other State and local agencies to protect identified wetland, riparian and groundwater recharge areas.

See Section 5.2 (Groundwater) and Section 5.3 (Surface Water) for discussion of proposed project impacts and mitigation related to water resources.

Chelan County Zoning

Zoning districts are intended to carry out the goals and policies of locally adopted Comprehensive Plans and to establish permitted land uses and development standards. Applications for development permits and approvals are subject to the provisions of local zoning districts and regulations.

The proposed project is located within the following three Chelan County zoning designations (Figure 4.4-4):

- **Commercial Forest Lands.** The purpose of this zoning designation is “to assure the long-term conservation of commercial forest lands; to preserve and encourage existing and future forest land uses as a viable, permanent land use and a significant economic activity within the community; and to protect forest lands of long-term commercial significance not already characterized by urban development from encroachment of incompatible uses” (CCC 11.06.020).
- **Rural Residential/Resource:** One Dwelling Unit per 20 Acres. The purpose of this zoning designation is “to allow for low-intensity rural development, agricultural and forestry uses which do not require the extension of services or infrastructure. These areas provide greater opportunities for protecting sensitive environmental areas and creating open space typical of a rural setting” (CCC 11.06.020).
- **Rural Residential/Resource:** One Dwelling Unit per 2.5 Acres. The purpose of this zoning designation is “to maintain the range of rural development opportunities consistent with the rural character and rural development provisions outlined in the goals and policies of the comprehensive plan. These areas can provide buffering or transitions between existing rural developments and areas of higher or lower densities. This designation should not function as an

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urban reserve area, although these areas may someday be incorporated into an urban growth area” (CCC 11.06.020).

An MPR is established as an overlay zone and as such does not alter the existing underlying County zoning designations. Development standards applied to an approved MPR, discussed in the next section, supersede those of the underlying zone (CCC 11.89.020).

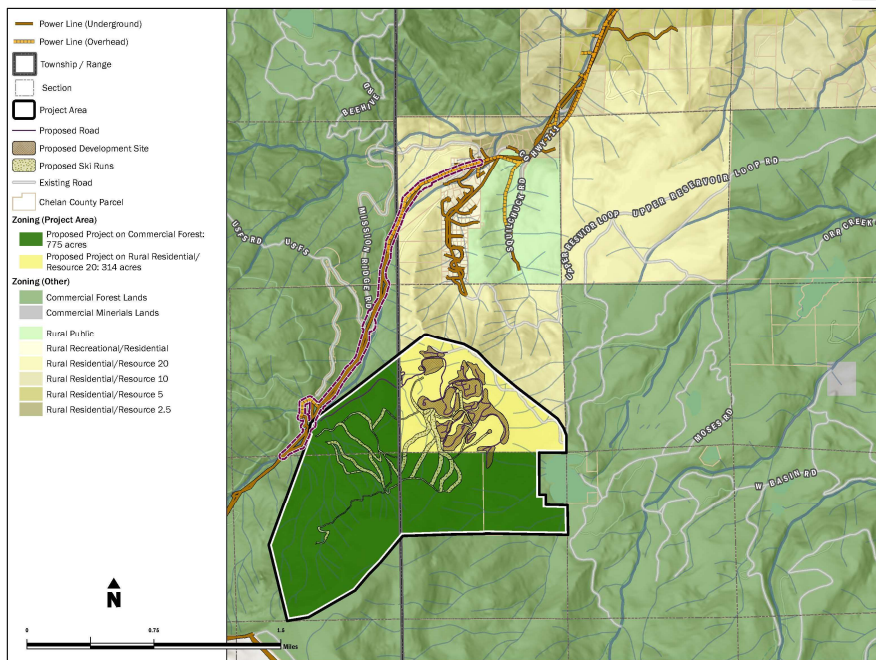


Figure 4.4-4. Proposed Project within Chelan County zone

Master Plan Resorts Overlay District

The MPR Overlay District would allow development of the proposed project on lands otherwise zoned for commercial forest and rural residential use, as described previously. The requirements for an MPR are codified in CCC 11.89. The primary focus of the MPR designation is for a destination resort with a range of on-site indoor and/or outdoor recreation facilities. Permitted uses in an MPR include developed recreation facilities, short-term visitor accommodations, residential and commercial development that supports the on-site recreational nature of the MPR, government services and utilities, and entertainment facilities. Other standards in CCC 11.89 relate to the following:

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- Affordable housing for resort employees
- Set-asides for open space and natural areas
- Setbacks and height limits for buildings and structures
- Density and lot coverage
- Protection of forest lands of long-term commercial significance
- Parking, landscaping, and signage
- Utilities (i.e., sewer, water, stormwater, fiberoptic), security, and fire protection
- Bicycle, pedestrian, and equestrian access
- Critical areas
- Architectural and design standards
- Potential to cause adjacent urban growth
- Traffic
- Public health, safety, and welfare
- Compliance with the Chelan County Comprehensive Plan and other County codes

The County has undertaken a preliminary analysis of the proposed project's consistency with the MPR standards of CCC Chapter 11.89 to inform the Draft SEPA EIS process. At the conclusion of the EIS process, the County's Hearing Examiner will consider the MPR application along with the results from the Final SEPA EIS.

Critical Areas

Chelan County has adopted critical areas regulations as required by the Washington state Growth Management Act. The County regulates the following types of critical areas:

- Fish and wildlife habitat conservation areas (CCC 11.78)
- Wetlands (CCC 11.80)
- Critical aquifer recharge areas (CCC 11.82)
- Frequently flooded areas (CCC 11.84)
- Geologic hazard areas (CCC 11.86)

The County requires development proposals affecting critical areas and/or special status species to demonstrate that reasonable efforts have been made to avoid, minimize, or compensate for unavoidable impacts (CCC 11.77.070). Critical areas impacts and mitigation sequencing measures for the proposed project are addressed in detail in Section 4.1 (Earth), Section 5.2 (Groundwater), Section 5.3 (Surface Water), and Section 5.4 (Plants and Animals).

Chelan County Shoreline Master Program

The Washington State Shoreline Management Act regulates streams, or segments of streams, whose mean annual flow is greater than 20 cubic feet per second or lakes whose area is 20 acres or greater. The act also regulates shorelands, which are defined as “those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter....” (RCW 90.58.030). This state act is implemented by the County through the Chelan County Shoreline Master Program (SMP; Chelan County 2021).

The only waterbody in the proposed project vicinity that is regulated under the County's SMP is the Upper Wheeler Reservoir, located just east and outside of the study area (Figure 4). The SMP assigns the reservoir a shoreline environment designation of Conservancy (Chelan County 2024).

4.4.2 How Impacts Were Analyzed

Land use information within the study area was identified by using information provided by the Applicant; Chelan County plans and regulations; aerial photographs; and Chelan County GIS data. The project team also reviewed EIS scoping comments related to land use. The analysis for impacts on land uses considered the following potential effects:

- **Zoning, Planning, and Policy Consistency:** Change of an existing land use and consistency with local zoning, planning, and policy documents
- **Effects on Recreation:** Effects of the proposed project on surrounding recreation facilities and experiences
- **Potential for Future Growth:** Potential for off-site facility improvements needed to support the project to accommodate other development
- **Restrictions on Future Land Use in Study Area:** Effects of the proposed project through precluding other future land uses in the study area
- **Changes in Character:** Potential for the proposed project to change the overall character of the area

This analysis assumed that a significant adverse impact would occur if the proposed project would:

- Result in a conflict or inconsistency with existing Chelan County zoning, planning, and/or policy documents
- Convert property to a new use that would not be compatible with surrounding recreation and land uses
- Change the overall character of the area through development that is not consistent with zoning, planning, and/or policy documents

4.4.3 Findings for the Proposed Project

4.4.3.1 Impacts from Construction

Construction of the proposed project and associated utility improvements could result in increased noise, dust, traffic, and disturbance that would be noticeable from other recreational areas in the vicinity. See Sections 4.4, 5.1, 5.4, 5.6, and 5.8 for discussion of visual resources, air, wildlife, traffic, and noise impacts, respectively, during construction.

Construction of utility corridor improvements north of the resort could temporarily disrupt recreational activities at the adjacent Scout-a-Vista alpine camp (for example, through increased dust, noise, or restricted access within construction and staging areas). However, such effects would be short term during the construction period, which is not anticipated to overlap with winter recreation at the camp.

Construction would not occur until after all required approvals and permits have been obtained and issued. Changes in land use related to construction would occur in phases over the 20-year construction period. The Applicant would be required to comply with Chelan County and USFS requirements during construction. Construction would not require a modification or amendment to an existing Chelan County zoning, planning, or policy document. Therefore, there would be no significant adverse impact related to land use conflicts during construction.

4.4.3.2 Impacts from Operation

Zoning, Planning, and Policy Consistency

The lands proposed for development encompass public and private lands both within and outside of the current resort boundaries. Once construction is completed and operations begin, land uses within this area would change from undeveloped to an expanded recreational resort facility. These changes would occur in phases over the 20-year construction period.

EIS scoping comments expressed concern that the proposed project may conflict with the principles of the Stemilt Partnership, which was formed to “keep future development from damaging the water, wildlife, and recreation of the upper Stemilt Basin.” These comments were considered in the following analysis.

Chelan County Comprehensive Plan

Table 4.2-1 summarizes the proposed project’s consistency with applicable Comprehensive Plan and supporting plan goals and policies. The proposed project would be consistent with these goals and policies.

Stemilt-Squilchuck Recreation Plan

The proposed project would be consistent with the desired conditions and recommendations of the Stemilt-Squilchuck Recreation Plan related to protecting sensitive ecological areas while providing additional recreational opportunities in planning Zone 2.

MISSION RIDGE DRAFT EIS

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Selected alpine and Nordic ski trails may serve motorized recreation (e.g., ATVs, motorcycles) uses during the snow-free seasons. The Applicant will work with WDFW to incorporate seasonal trail closures as needed to protect wildlife.

The proposed project includes overnight and year-round uses that are more intensive than the more rustic, day-use facilities described in the plan. However, the plan recognizes that “Mission Ridge Ski Area has purchased Section 19 and the northeast corner of Section 30, and is planning an expansion of ski area operations.”

The proposed project is consistent with recommendations of the plan to provide trail links to other recreational facilities. The proposed project will expand opportunities for skiing, hiking, and biking. Opportunities for camping, horseback riding, and other activities will be explored. The project would not preclude the trailhead improvements or non-motorized winter uses described in the plan.

The Applicant has been working with the Chelan County Fire Marshal to develop a fire protection plan for the proposed project (see Section 4.2).

Stemilt-Squilchuck Community Vision Report

The proposed project would be consistent with the vision and recommendations of the Stemilt-Squilchuck Community Vision Report related to protecting water and wildlife resources and recreational access. The proposed project has been planned to accommodate multiple uses and to protect sensitive areas by setting aside approximately 620 acres of open space.

The proposed project will be located adjacent to the existing Mission Ridge resort. The most intensive project land uses will be clustered at the New Village Base area, minimizing impacts on critical water, wildlife, and recreational resources and existing development patterns. The Applicant will work with WDFW to incorporate seasonal trail restrictions to protect wildlife. The proposed project will not prevent access to nearby public lands.

Our Valley Our Future Action Plan

The proposed project is consistent with the 2022-2026 Our Valley Our Future Action Plan, which includes expanding Mission Ridge into one of the premier winter ski destinations in Washington state.

WRIA 40A Watershed Plan

The proposed project would be consistent with the recommendations of the WRIA 40A Watershed Plan by constructing a new water storage reservoir to support snow making. The reservoir will provide additional storage for fire suppression water and can help to sustain streamflows in the watershed. The project layout will protect identified wetland and riparian areas. At full-build out, groundwater recharge and connected summer streamflow are expected to increase in response to importing water from outside the proposed project area and spring snowmelt from artificial snowmaking (see Section 5.2).

Chelan County Zoning: Master Plan Resorts Overlay District

The County has undertaken a preliminary analysis of the proposed project’s consistency with the MPR standards of CCC Chapter 11.89, which indicates the project is generally

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consistent with the MPR standards pending results of the SEPA EIS. The Applicant has requested an increase in allowed building heights (the maximum building height of the underlying zoning is 35 feet), which will be evaluated by the Chelan County Hearing Examiner. Additionally, other measures would need to be completed pending the Hearing Examiner's evaluation, including how open space will be managed.

Critical Areas

The proposed project will comply with County requirements for protection of critical areas, and with state and federal permit requirements related to effects on wetlands, streams, and wildlife. The Applicant will coordinate with Chelan County and other agencies to prepare and implement habitat management plans and mitigation measures. Critical areas are addressed in detail in Section 4.1 (Earth), Section 5.2 (Groundwater), Section 5.3 (Surface Water), and Section 5.4 (Plants and Animals).

Chelan County Shoreline Master Program.

The proposed project will not impact any waterbodies or shorelines regulated under the SMP.

4.4.3.3 Effects on Recreation

Recreational use of lands in the proposed project vicinity would likely increase because more people would visit or reside at the resort. The proposed project would allow for year-round use of selected alpine and Nordic ski trails for hiking, mountain biking, and motorized recreation (e.g., ATVs, motorcycles), potentially attracting more recreationists to the area throughout the year. Area trails may be more heavily used year-round, and more dispersed camping may occur during warmer months. Other recreation facilities proposed by the applicant, but not presented with specific locations on the current site plans, such as camping, horseback riding, zip lines, and alpine coasters, could also attract more people to the area year-round.

The proposed project would likely make it easier for recreationists to access surrounding public lands. For example, the existing old roadbeds in Section 19 would become a part of the proposed project's interior roads or trail system and would connect to existing roads in WDFW Section 20 and trails in Squilchuck State Park (USFS 2020).

These potentially increased and expanded recreational uses would still be consistent with current uses of the area. As previously described, the vicinity supports a state park, national forest, and state wildlife area, all of which already serve recreational uses. The proposed project would not conflict with these uses.

The proposed utility corridor improvements north of the resort would not have permanent effects on the adjacent Scout-a-Vista alpine camp.

4.4.3.4 Effects on Land Use through Potential for Future Growth

The proposed project would require off-site infrastructure improvements located in several areas between the existing Mission Ridge facilities, the City of Wenatchee, and the Columbia River. These include improvements to county and city road systems, the Chelan PUD electric and fiber optic internet service system, and potential improvements to the Chelan PUD public water system. The increased capacity provided by improved roadways and utilities could accommodate growth beyond the proposed project area.

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The Washington State Office of Financial Management predicts that Chelan County's population will continue to grow through 2050 (OFM 2022). The County reviews and updates its Comprehensive Plan and other planning documents to reflect revisions to these population estimates (Chelan County 2017a). Therefore, any new development that may indirectly result from off-site improvements related to the proposed project would be addressed through County plans, regulations, and permit requirements.

4.4.3.5 Effects on Land Use through Restrictions on Future Land Use in Study Area

Implementation of the proposed project would preclude the expansion area from other types of use in the future. The underlying zoning of the property would allow commercial forest or low-density residential use (in the absence of the MPR overlay district). However, the project site is not being used as working forest land, and the area of the project site designated as forest land of long-term commercial significance (129 acres) will be permanently preserved within a conservation area. The proposed project will provide residential units.

Construction of three new booster pump stations would preclude other future uses at these three sites. However, these are relatively small facilities relative to total parcel sizes and would not significantly affect potential future uses of the surrounding areas.

4.4.3.6 Changes in Area Character

Several EIS scoping comments related to general changes in character of the Mission Ridge area potentially resulting from the proposed project. Commentors expressed concern that the proposed project may:

- Change the rural character of the upper Stemilt and Squilchuck basins and the lower Squilchuck valley between the ski area and Wenatchee
- Change the “low-key” character of the existing ski area
- Contribute to sprawl in the Wenatchee Valley
- Locate “urban-type” or “urban-scale” growth outside of an urban growth area
- Degrade the outdoor experience, forcing residents to travel farther to find quieter outdoor areas

Construction and operation of the proposed project would result in some changes in the character of the area, for example increased traffic, changes in views, and the presence of new booster pump stations outside the main resort area. People who are accustomed to the existing resort may feel the expanded resort provides a different recreational experience than they have had in the past.

However, as noted elsewhere in this chapter, MPRs are subject to numerous Comprehensive Plan policies and code requirements intended to maintain rural character while allowing development to take advantage of natural amenities. The perceived “urban-type” character of the proposed project would be offset by preservation of open space, clustering of the most intensive activities at the Village Base area, design of human-scale buildings and an architectural style appropriate to the mountain setting, and other measures required by the County's MPR code.

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As described previously, it is likely that recreational use of the Mission Ridge area will increase with the proposed project. The extensive off-site recreational opportunities in the vicinity are expected to accommodate increased visitation. Expanding recreational opportunities is a goal of the applicable planning documents for the area. Some recreationists may choose to travel to other areas if they feel the Mission Ridge area becomes too crowded. However, this could also occur over time without the proposed project as the population of Chelan County and surrounding areas grows.

4.4.3.7 Proposed Mitigation Measures

Land use mitigation measures for the proposed project include the following:

- Compliance with all Chelan County code requirements for MPR development
- Compliance with all permit requirements and conditions imposed by Chelan County, USFS, and other agencies
- Construction of the utility corridor improvements would not result in any permanent effects on the Scout-a-vista alpine camp nor will it impact any access or operations of the camp.
- Implementation of resource-specific measures identified in Section 4.1 (Earth), Section 4.3 (Visual), Section 5.2 (Groundwater), Section 5.3 (Surface Water), and Section 5.4 (Plants and Animals), Section 5.6 (Transportation), and Section 5.8 (Noise).

4.4.4 Significant and Unavoidable Adverse Impacts

The proposed project would likely result in changes in the overall character of the Mission Ridge area. However, the proposed project and utility improvements would be consistent with applicable plans and regulations, would not conflict with surrounding land uses, and would not be located on any currently productive forestlands.

Compliance with all regulatory and permit requirements, and implementation of the mitigation measures described previously, would reduce land use impacts to less than significant levels.

4.4.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to land and shoreline use.

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Table 4.4-1. Summary of Proposed Project Consistency with Chelan County Comprehensive Plan Goals and Policies for Master Planned Resorts

Goal or Policy	Rationale	Summary of Proposed Project Consistency
GOAL LU 13: Provide opportunities for Master Planned Resorts (MPRs), consistent with the provisions of RCW 36.70A.360, to create a diversity of recreational, tourist and economic opportunities in Chelan County.	State law contains criteria that are required to be utilized in the review and formation of development standards for MPRs.	Chelan County has undertaken a preliminary analysis of the proposed project to inform the Draft SEPA EIS process. At the conclusion of the EIS process, the County's Hearing Examiner will consider the MPR application along with the results from the Final SEPA EIS to ensure consistency with the requirements of RCW 36.70A.360 as specified in Chelan County Code (CCC) Chapter 11.89.
Policy LU 13.1: The primary focus of Master Planned Resorts are as a fully-contained destination resorts consisting of short-term visitor accommodations associated with a range of developed on-site indoor or outdoor recreation facilities, mix of related convenience goods and services, short-term residential uses, capital facilities, utilities and services and, when feasible, an affordable housing component for employees.	RCW 36.70A.360 requires MPRs to have a primary focus on destination resort facilities.	The proposed project will expand an existing destination resort facility. It will provide a mix of outdoor recreational facilities, commercial and entertainment space, road access, onsite parking, and utilities. Employee housing is also included. A 57-unit lodge is also proposed as part of Phase 2.

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Goal or Policy	Rationale	Summary of Proposed Project Consistency
Policy LU 13.2: MPRs should not occur in areas that are designated as agricultural or forest lands of long-term commercial significance under RCW 36.70A.170, unless a finding can be made that the land is better suited in the long-term for development as a MPR than for the commercial harvesting of timber or agricultural production.	Chelan County places a prime importance on maintaining the current inventory of commercial forest and commercial agricultural land which is a significant economic contributor to the county. Development of MPRs in rural areas would reduce the amount of productive land for agricultural or forest uses, as required by RCW 36.70a.360(4)(c).	The proposed project area includes land zoned by the County as Commercial Forest. However, the proposed project site is not being used as working forest land. The area of the project site designated as forest land of long-term commercial significance will be permanently preserved withing a conversation area. This totals 129 acres of forest land that will be permanently conserved and not converted to other uses.
Policy LU 13.3: Ensure the compatibility of MPRs with adjacent land uses through appropriate site design which emphasizes physical and visual separation from the nearest existing developed areas, preservation and protection of critical areas, and cluster development surrounded by open space.	The urban characteristics of a MPR may create conflicts with rural uses.	The proposed project includes approximately 620 acres of dedicated open space. Development will be clustered within the new Village Base Area. Impacts to critical areas will be avoided, minimized, and mitigated as required by Chelan County critical areas code requirements and other state and federal permit requirements. Critical areas including streams and wetlands (i.e., surface waters) and geologically hazardous areas are described in Section 5.3 (Surface Water) and Section 4.1 (Earth), respectively.

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Goal or Policy	Rationale	Summary of Proposed Project Consistency
Policy LU 13.4: Development plans for MPRs should blend site development and architecture with the natural character and features of the land, topography, vegetation, geology, slope, soils etc. The MPR design should also reflect relevant cultural heritage and preservation of the area's rural character or natural resource uses.	MPRs are intended to take advantage of the natural amenities, and character of the area. In order to ensure that those amenities continue and are undiminished, the design of the MPR must be compatible with the surrounding area.	The scale of development within the village core is intended to resemble a traditional mountain village with human-scale buildings and an architectural style suitable for the mountains.
Policy LU 13.5: Permanent residential uses may be included within the boundaries of a MPR, provided such uses are integrated into and support the on-site recreational nature of the resort.	The primary focus of the MPR is for destination resort facilities with short-term visitor accommodations associated with a range of developed on-site indoor or outdoor recreation facilities. Given this focus, single-family or multi-family residential development shall not be the primary component of MPRs.	The proposed project integrates a variety of dwelling types (single-family homes, multifamily units, and an employee housing complex). Residential units are designed for full-time living, vacation homes, and short-term visitor accommodations, which will be managed by the resort.

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Goal or Policy	Rationale	Summary of Proposed Project Consistency
Policy LU 13.6: Necessary capital facilities, utilities and services may be provided to a MPR by outside service providers, including municipalities and special service districts, provided that all costs associated with service extensions and capacity increases directly attributable to the MPR are fully born by the resort, and provided that such facilities and utilities serve only the MPR and/or urban growth areas.	Due to the size and remote distance from existing services, significantly larger costs of extending services and capacity result from an MPR than from other forms of development. Limiting the use of those services outside of an UGA will limit unwanted development outside of those areas.	The proposed project includes provisions for public services, utilities, and other infrastructure necessary to support the resort.
Policy LU 13.7: Existing resorts seeking designation as Master Planned Resorts should have been completed before July 1, 1990 and planned as self-contained integrated developments focused on short-term visitor accommodations and recreational facilities.	None provided.	Mission Ridge was established in 1966. The proposed project integrates visitor accommodations, recreational facilities, and the public services, utilities, and other infrastructure necessary to support the resort.
Policy LU 13.8: After designation as a MPR, new urban and suburban land uses should be precluded in the vicinity surrounding the resort, except in areas otherwise designated for urban growth or LAMIRDS.	MPRs are created to maintain rural character while allowing development to take advantage to natural amenities. Additional urban or suburban land uses around an MPR will diminish the rural character and should be directed to other areas designated for those types of uses, and as required by RCW 36.70A.362(2).	Any additional development proposed by others in the project area would be subject to Chelan County and other agency reviews and permitting requirements.

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Goal or Policy	Rationale	Summary of Proposed Project Consistency
Policy LU 13.9: An existing resort may be included or expanded as an MPR when consistent with the provisions for a new MPR, critical areas and other regulations.	The impacts of the existing resort on the surrounding area have been mitigated in a prior process. The expansion of a resort may create new impacts that must be identified and mitigated with the MPR process prior to approval.	Chelan County has undertaken an analysis of the proposed project to ensure consistency with the requirements of RCW 36.70A.360 as specified in Chelan County Code (CCC) Chapter 11.89.

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Following review of scoping comments, Applicant technical reports, and consulting agency feedback, this EIS concludes that construction and operation of the proposed project would **not have** probable significant adverse impacts within the following 11 elements of the proposed project's affected environment:

- **Air**
- **Groundwater**
- **Surface Water**
- **Plants and Animal.**
- **Energy and Natural Resources**
- **Transportation**
- **Utilities and Public Services**
- **Noise**
- **Cultural Resources**
- **Recreation**
- **Climate Change**

The following subsections discuss each of these 11 elements, respective impacts from the proposed project, and mitigation options in further detail. That is followed by a summary of cumulative impacts.

5.1 Air

Air quality refers to the condition of the breathable air and the presence of pollutants. Pollutants can be local and affect a small area, or regional, such as ozone. These pollutants are regulated under state and federal laws. Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere from the Earth, like a greenhouse. The accumulation of GHGs contributes to global climate change, which affects people and the environment.

Effects on air quality were evaluated in areas likely to be affected by changes in pollutant concentrations due to increased traffic and other emission producing activities during construction and operations. Because air emissions move through the air and can be influenced by regional conditions such as weather, local air quality is measured at regional levels against national and state standards. Within this geographic area, Ecology monitors regional air quality and reports air pollutant concentrations at the county level. Therefore, the study area for air includes all of Chelan County.

For more details on the impacts associated with global climate change, refer to Section 5.11 Climate Change.

Key Findings of Air Analysis

The analysis focused on the following factors:

- Air quality impacts
- Greenhouse gas emissions

The analysis found the Proposed Project would **have no significant and unavoidable impacts** related to air resources.

5.1.1 Air Overview

Air Quality

Regional air quality is affected by the combination of all atmospheric emission sources and can vary over geography and time. The primary emission sources from existing human activity in the Project Area include vehicle emissions, building operation from the existing lodge, and equipment operation such as ski lifts and snowmaking machines.

Regulatory agencies regularly monitor air quality by measuring the amount of criteria pollutants (defined as carbon monoxide [CO], ground-level ozone [O₃], lead [pb], nitrogen dioxide [NO₂], particulate matter [PM], and sulfur dioxide [SO₂]) and fugitive dust present in the air and comparing levels to federal and state standards. The study area is located within an area designated as Attainment for all criteria pollutants (Ecology 2023a). This designation means that the area met federal air quality standards in the most recent designation, and the U.S. Environmental Protection Agency (EPA) and Ecology expect the area to continue to meet air quality standards.

Greenhouse Gases

In addition to criteria pollutants, EPA and Ecology review a category of pollutants that have the capacity to increase heating within the Earth's atmosphere. These pollutants—

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such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs)—are commonly referred to as greenhouse gases (GHGs) and can accumulate in the atmosphere and contribute to global climate change. The primary sources of GHGs from human activity include the combustion of fossil fuels, including for transportation, heating, and electricity generation. The transportation sector is Washington State's most significant contributor of GHGs (Ecology 2023b). Because Washington State relies on hydropower for much of its electricity, the electricity sector is a less significant GHG source, thereby resulting in a larger proportion of GHGs from the transportation sector.

In Chelan County, the climate is characterized by warm, relatively dry summers and freezing, snowy, and partly cloudy winters. Over the course of a year, the temperature in Wenatchee, the closest City to Mission Ridge, typically varies from 25°F to 88°F (U.S. Climate Data 2023). The elevation at the base of Mission Ridge is 4,570 feet and the top elevation is 6,820 feet, so temperatures are cooler than Chelan County in general. Average annual temperature in Chelan County is expected to increase 4.6° F and 5.9° F by the 2050s and 5.8° F and 9.7° F by the 2080s under a low and high greenhouse gas scenario respectively, relative to historical conditions (Chelan County 2020).

Most climate model projections of precipitation predict less precipitation in summer and more in winter, spring, and autumn (Chelan County 2020). Snowpack has declined, on average, in the past several decades primarily due to rising temperatures. In Chelan County, average spring snowpack is projected to decline 26.9% and 33.5% by the 2050s and 36.2% and 53.5% by the 2080s under a low and high greenhouse gas scenario, respectively (Chelan County 2020). Less snowpack can also contribute to lower streamflows in summer months. Mission Ridge currently receives approximately 200 inches of snowfall annually (Mission Ridge 2023).

Hazardous and Toxic Air Pollutants

Hazardous and toxic air pollutants are collective terms for hundreds of chemical pollutants that are known to cause cancer or other serious or fatal health effects. Ambient concentration levels for hazardous air pollutants are not routinely monitored; however, special studies are often assessed for individual types of hazardous air pollutants, particularly in urban or industrialized environments. Given the low population and lack of industrial development in the study area, elevated hazardous air pollutant concentrations would not be expected to exist in the study area. Additionally, there are no potential sensitive receptors for hazardous and toxic air pollutants in the immediate vicinity of the Project Area, which are typically schools, residences, and hospitals.

Definitions:

Criteria pollutants: Six common air pollutants for which National Ambient Air Quality Standards have been set.

Greenhouse gasses: Gases that trap some of Earth's outgoing energy, thus retaining heat in the atmosphere.

Hazardous and toxic air pollutants: Pollutants that are known or suspected to cause cancer, other serious health effects, or adverse environmental effects.

Fugitive dust: A particulate emission made airborne by human activity, forces of wind, or both, and which do not pass through a stack, chimney, vent, or other functionally equivalent opening.

5.1.2 How Impacts Were Analyzed

Existing conditions and potential impacts to Air were determined by reviewing information provided by the Applicant or found in other relevant reports. The analysis looked at how construction and operation of the Proposed Project could affect air quality and contribute to GHG emissions. The potential effects associated with emissions from operation of construction equipment, dust-generating activities, and trucking activities within major construction areas was qualitatively assessed. The analysis also considered the potential effects associated with changes in traffic conditions associated with increased visitor use during operations.

5.1.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.1.3.1 Direct Impacts from Construction

Air Quality

Direct impacts to air quality from construction in the Project Area and along the Utility Corridor would occur through use of construction equipment as well as trucks to move equipment and material. Air emissions generated by construction activities would consist of exhaust emissions from the operation of construction equipment and construction vehicles. Temporary odors could occur from construction activities such as paving and vehicle emissions. While most emissions would dissipate, there may be localized dust and odors. Because the study area is in attainment for criteria pollutants, construction emissions would not affect regional air quality.

Fugitive dust would be generated from the movement of construction equipment over roads and excavation, earthwork operations, and soil movement associated with construction of the new buildings, ski runs and lifts, the access road, parking, and other supporting infrastructure, including utility improvements along the Squilchuck Road corridor.

These effects are expected to be minor due to their temporary nature and implementation of best management practices (see Section 5.1.3.3).

Greenhouse Gas Emissions

Vehicles and construction equipment are a significant source of GHG emissions and contribute to climate change primarily through the burning of gasoline and diesel fuels. Vehicular activities associated with construction would generate GHG emissions, as would the additional electricity consumption required during construction, which could impact

Air Effects Summary

- Air quality and GHG impacts from construction are expected to be minor due to temporary nature.
- Air quality and GHG impacts from operation are expected to be minor due to the relative scale of the project.
- Best management practices during construction will reduce impacts.

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air quality in the area. These effects are expected to be minor due to their temporary nature.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on air quality or GHG emissions from the Proposed Project.

5.1.3.2 Indirect Impacts from Construction

No indirect impacts from construction of the Proposed Project on air quality or GHG emissions were identified.

5.1.3.3 Impacts from Operation

Air Quality

Operation of the Proposed Project would generate additional vehicular traffic during the winter season over current conditions due to increased visitation as well as the commutes of additional employees hired by Mission Ridge. Summer season traffic is also expected to increase, though to a lesser extent than during the winter months. The development has been analyzed to generate 9,811 new weekday average daily trips (ADTs) and 10,807 Saturday ADTs (Kimley-Horn 2023). These increased emissions due to fuel consumption could lead to minor impacts on air quality in the region; however, impacts to National Ambient Air Quality Standards are not anticipated because of the size of the project and because this region is not currently an area of concern for criteria air pollutants (Ecology 2023a).

New ski area infrastructure, including lifts and new buildings such as the residential units, lodge, commercial development, and other supporting infrastructure would require power and maintenance, resulting in additional emissions from fuel and electricity consumption. Overall, the continuous operation of the Proposed Project in the future could result in minor long-term impacts to regional air quality. Trees and shrubs in the surrounding forested area would reduce localized impacts to air quality.

There is a potential that the on-site septic systems and/or large on-site systems could produce odors from the collection, treatment, and disposal of wastewater. These types of wastewater treatment facilities are commonly used, and when properly designed, installed, and maintained, should produce minimal odors; therefore, only minor impacts would be anticipated.

Greenhouse Gas Emissions

Vehicular traffic due to an increase in visitation as described above, would result in GHG emissions due to fuel consumption. Emissions from the Proposed Project could incrementally contribute to climate change, including the temperature and precipitation patterns of the Project Area. However, because climate change is a global phenomenon, the impacts of the Proposed Project on climate change would likely be imperceptible at the project scale.

Variability in temperatures, and increased warming due to climate change may affect Mission Ridge's capacity to make artificial snow. Changes in the timing, duration, intensity, and frequency of precipitation may alter the amount of natural snow, artificial snowmaking capacity, and timing of snowmelt each spring. Climate change may also affect the duration, timing, and nature of visitation to the resort, which in turn may affect

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the types of operations and amenities provided. Overall, the impacts from additional visitation and use of the Master Planned Resort are anticipated to be minor at the scale of the project.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on air quality or GHG emissions from the Proposed Project.

5.1.3.4 Indirect Impacts from Operation

No indirect impacts from operation of the Proposed Project on air quality or GHG emissions were identified.

5.1.3.5 Proposed Mitigation Measures

No compensatory mitigation measures would be required because there would be no significant adverse impacts. Although not required to reduce any significant impacts, the Applicant is proposing the following mitigation measures to further reduce potential effects on air quality and GHG emissions from construction and operation of the Proposed Project (LDC, Inc., 2022).

- **Use of Best Management Practices During Construction.** Projects that require earthwork or otherwise have the potential to create dust are required to use best management practices to control dust in the Project Area and along the Squilchuck Road corridor. Best management practices that could be used to reduce construction impacts for all construction phases include the following:
 - Complying with applicable dust control policies and plans.
 - Watering could be used during summer months to reduce dust if deemed necessary.
 - Maintaining efficient off-site and on-site traffic flow and circulation will minimize idling vehicles.
 - All machinery utilized onsite will be turned off when not in use.
 - Ensuring that all construction equipment meets all applicable federal and state requirements, including maintenance standards.

In addition to the BMPs proposed by the Applicant, the contractor may also implement additional BMPs including preparation of a Fugitive Dust Control Plan and implementation of standard environmental controls and practices. These could include covering dirt and gravel piles and sweeping paved roadways to reduce mud and dust. Specific permit conditions and mitigation actions would be confirmed by regulatory agencies during permitting for the Proposed Project.

5.1.4 Significant and Unavoidable Adverse Impacts

Through compliance with laws and with implementation of the mitigation measures described in Section 5.1.3.5, there would be no significant and unavoidable adverse impacts related to Air from construction or operation of the Proposed Project.

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5.1.5 Findings for the No Action Alternative

Under the no-action alternative, Mission Ridge would remain in its existing condition and the ski area would continue to operate with existing terrain, lifts, and buildings, with no expansion. Climatic and air quality trends within Chelan County would continue.

No emissions would result from the No Action Alternative, and no significant adverse impacts to air are anticipated.

5.2 Groundwater

This section summarizes how potential groundwater impacts and mitigation were evaluated and presents the findings from the analysis. In this DEIS, “groundwater” means water in a saturated zone beneath the ground surface.

The American (2022) and WNR (2018, 2019) water resources reports supplied by the Applicant, as well as related reports¹⁹ provided information for the analysis used to evaluate groundwater. These reports evaluate groundwater quantity, groundwater quality, soil conditions, surface water quantity and quality, and water supply/rights. While surface water connected to groundwater is referred to briefly in this section, see Section 5.3 Surface Water for more detailed discussion on surface water potential impacts and findings in relation to the Proposed Project.

The study area for the groundwater analysis encompasses groundwaters and connected surface waters with the potential to be affected by construction or operation of the Proposed Project. This necessarily includes groundwater and surface water both within the Project Area and outside of the Project Area in downgradient or downstream regions of the Squilchuck and Stemilt subwatersheds to the confluence with the Columbia River. Connected surface waters are those in hydraulic continuity with groundwater, meaning that the withdrawal or recharge of groundwater may affect the flow of a surface waterbody.

An affected groundwater boundary does not exist for the proposal in the same way as affected surface water features, which are mapped by federal and state agencies. The full extent of affected groundwater from the proposal can be estimated by starting with the surface water drainage in which the proposal is located and then considering ways in which the proposal might affect subsurface conditions downgradient or downstream. Figure 5.2-1 illustrates surface conditions that help inform groundwater conditions.

Key Findings of Groundwater Analysis

The analysis focused on the following factors:

- Alteration of groundwater level or flow
- Groundwater quality impacts
- Alteration of soil infiltration characteristics
- Impairment of water supply/rights

The analysis found the proposed project would **have no significant and unavoidable impacts** related

¹⁹ The WRIA 40A (Stemilt-Squilchuck) Watershed Plan and Water Quantity Analysis (Chelan County, 2007a, 2007b), Mission Ridge Expansion Project Draft Environmental Analysis (USFS, 2020), Final EIS Mission Ridge/Constellation Ridge Resort (CCPD ,1986a), and Addendum to Final EIS Mission Ridge/Constellation Ridge Resort (CCPD ,1986b).

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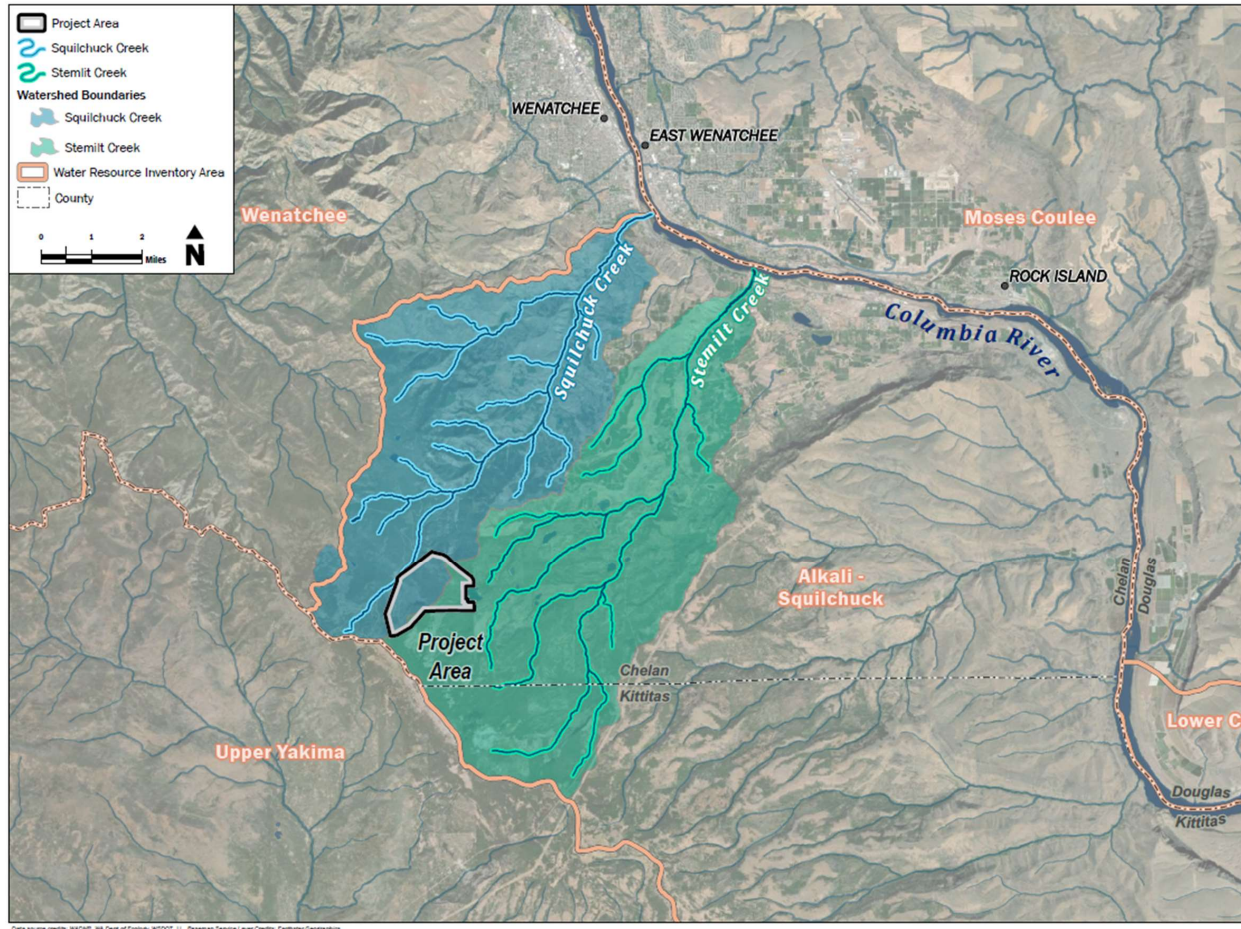


Figure 5.2-1. Squilchuck and Stemilt Subwatersheds

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Though the groundwater impacts analysis here includes some discussion of the potential Chelan PUD water system expansion (Section 5.2.3.5), the focus of this section is on the relationship between a water system expansion and on-site groundwater withdrawals, out-of-basin groundwater recharge, and physical and legal water availability. The potential effects of building and operating Chelan PUD water system infrastructure in relation to the Proposed Project are addressed in Section 5.7 (Utilities).

The potential effects of groundwater on landslide risk are addressed in Section 4.1 (Earth).

5.2.1 Groundwater Conditions

Average annual precipitation in the Stemilt and Squilchuck subwatersheds ranges from about 8 inches near the Columbia River to about 27 inches in the Project Area. Approximately 70 percent of annual precipitation occurs as snow between the months of October and April. With the occurrence of spring snowmelt, Squilchuck and Stemilt creeks experience peak flows between April and July, with approximately 65% of annual water flow occurring over this period (Chelan County, 2007b). Through the summer and late fall, when snowpack is gone and rainfall is scarce, baseflow from groundwater storage sustains streamflow. Squilchuck and Stemilt creeks and some of their tributaries are perennial (i.e., year-round water flow), though some tributaries are intermittent (i.e., seasonal water flow) and run dry during the low flow season.

Groundwater recharge occurs primarily by infiltration of precipitation (i.e., rain, snowmelt). In general, within the Project Area, relatively flat lying areas (e.g., in the SW Quarter of Section 19 where the residential and commercial development would be located) and areas comprised of basalt rubble and mass wasting deposits (see Figure 4.1-1) would be expected to promote recharge. Additionally, limited quantities of artificial recharge occurs in some portions of the study area because of seepage from irrigation return flows, On-site Sewage System (OSS) discharges, and seepage from unlined surface water reservoirs.

Groundwater flow direction is primarily controlled by topography, with shallow groundwater generally flowing perpendicular to local drainages while deep groundwater generally flows northeasterly toward the Columbia River. Shallow groundwater discharges to the surface in springs along canyon walls and to streams along drainage bottoms. Deep groundwater

Definitions:

Groundwater: Water in a saturated zone beneath the ground surface.

Baseflow: The portion of streamflow that comes from groundwater.

Aquifer: Saturated and permeable subsurface layers or geologic units that yield groundwater in recoverable quantities via wells or springs.

Infiltration: The movement of rain or snowmelt into the soil.

Recharge: The process of adding water to an aquifer.

Hydraulic continuity: The connection that exists between groundwaters and surface waters in some areas.

Gallons per minute (gpm): A flow rate and common measure used to express well yield.

Acre-foot (ac-ft): A unit of volume equal to the volume of a sheet of water one acre in area and one foot in depth. One ac-ft equals 325,850 gallons.

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is thought to discharge to the lower reaches of Squilchuck Creek and to the Columbia River.

As described in Section 4.1 (Earth) the underlying geology of this region is complex. Groundwater exchange between the hydrogeologic units across the study varies widely and depends on the permeability of the contact material (e.g., rubbly, porous landslide debris versus layers of impermeable clay). As a result, no distinct or extensive aquifers have been identified in the middle-to-upper reaches of the Squilchuck and Stemilt basins. Water-bearing zones within the geologic units exhibit both confined and unconfined conditions and are abruptly bounded by fractures or contacts with other units. These zones lead to an unpredictable occurrence of groundwater in and around the Project Area.

Ecology's wells database indicates about 100 wells are present within the Squilchuck and Stemilt subwatersheds, though most are in valley bottoms and hillsides at lower-to-middle elevations east of the Project Area. Wells have been completed in all four of the major geologic units present in the study area; however, groundwater occurrence is generally localized and unpredictable with varying groundwater yields.²⁰ Existing Mission Ridge wells AEH-922 and BJB-131 (located at the Mission Ridge Base Area) are completed in unconsolidated deposits (basaltic alluvium or mass wasting deposits) at depths of approximately 100 feet below ground surface (bgs) with reported yields between 40 and 100 gallons per minute (gpm). There are no known wells present within the Project Area.

In addition to the underlying geologic structures, soil type is an important factor in controlling the absorption, infiltration, and percolation of water. Soil can be classified based on drainage capacity. While much of the Project Area is bedrock outcrop having low drainage capacity, the soils where the proposed residential and commercial development and associated infrastructure would be located are classified as having moderately low to moderately high drainage capacity ranging from 0.06 to 0.20 inches/hour (American, 2022).

²⁰ Tertiary Sandstone Unit: 0-30 gpm; Tertiary Grande Ronde Basalt: 0-100 gpm; Tertiary to Quaternary Landslide Units: 0-30 gpm; Recent Alluvium Deposits and Landslide Units: 10-100 gpm (Chelan County, 2007b).

5.2.2 How Impacts to Groundwater Were Analyzed

Existing conditions and potential impacts to groundwater resources were determined by reviewing information provided by the Applicant or obtained from other reports, and from a consulting agency meeting with Ecology. A supplemental analysis using existing information was completed to estimate wastewater flow for each project phase (ADC 2024). Using this information, the analysis of potential impacts considered construction- and operation-related effects on groundwater and connected surface water quantity, groundwater and connected surface water quality, soil conditions, and water supply/rights. Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions. Factors considered in this evaluation included the following:

- **Alteration of groundwater quantity:** physical changes to groundwater level, groundwater flow, or disruptions of groundwater-surface water interactions.
- **Water quality impacts:** changes to groundwater or connected surface water quality, including potential impacts from the generation of wastewater.
- **Alteration of soil infiltration characteristics:** changes to the amount of water that can infiltrate or be stored in soils, such as reducing soil drainage capacity or increasing soil saturation. See Section 5.2.3.1 for further definition of soil infiltration.
- **Impairment of water supplies/rights:** impairment of water supplies or water rights relied upon by others, including those downstream or downgradient.

Groundwater Effects Summary

- Groundwater recharge would be expected to increase due to out-of-basin import of water from Chelan PUD to supply residential, commercial, and outdoor irrigation purposes. (Chelan PUD water would not be used for snowmaking.)
- Groundwater quality would not be expected to change significantly.
- More information on soils would be needed to determine wastewater treatment system types.
- Groundwater withdrawals would not increase.
- Locations of groundwater withdrawals could change, but only if Ecology approved well locations that didn't impair existing rights.

5.2.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.2.3.1 Direct Impacts from Construction

Water quantity: Construction-related impacts on groundwater quantity are largely related to the potential alteration of aquifer recharge. Within the Project Area, aquifer recharge occurs through infiltration of precipitation, either as rain or snowmelt. Construction activities that could decrease groundwater recharge by increasing surface runoff potential include the removal of vegetation, exposure and compaction of bare soils, and installation of impervious surfaces (e.g., paved roads, parking lots, building rooftops). Ground disturbing activities such as trenching for utilities, excavation and

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dewatering for building foundations, cut and fill for roads, and contouring of ski trails also have the potential to increase surface runoff and change existing surface drainage patterns. Such actions can direct water away from potential groundwater recharge areas and into channelized drainages or across impervious surfaces, potentially reducing local groundwater recharge. Reduced recharge could in turn reduce local groundwater levels and downgradient flows. Conversely, some construction activities (e.g., borrow pit construction, temporary stormwater or dewatering basins), under the right conditions, could increase groundwater recharge by increasing the detention time of accumulated waters.

Stormwater management practices are used to control off-site water that enters a construction zone and the stormwater generated in the construction zone both during and after construction. Typically, stormwater management plans are designed to maintain existing hydrology to the extent practicable. With appropriate stormwater management (e.g., a Stormwater Pollution Prevention Plan (SWPPP)), control measures, and compliance monitoring in place, impacts of construction-related reduction of groundwater recharge and associated changes in groundwater levels, flow, and downgradient effects would be expected to be minimized.

Water use during construction (e.g., spraying water for dust control/abatement, making concrete, washing construction equipment) could directly affect groundwater quantity if sourced from existing wells at Mission Ridge or new wells developed as part of the Proposed Project. Though the exact amount of water needed for construction is not known, minimal impacts would be expected due to the low volume of water anticipated for construction activities as compared to operations-related water demand that may be sourced from onsite groundwater wells, which is estimated to be up to 90 ac-ft/year. See “Water Quantity” in Section 5.2.3.3 for a full discussion of potential groundwater pumping impacts.

Connected actions including intersection improvements in City of Wenatchee, near-term and long-term power improvements by Chelan PUD, and installation of buried water line and fiberoptic line along the PUD utility corridor are not anticipated to have construction-related impacts to groundwater quantity as these actions would be unlikely to withdraw or otherwise consume groundwater.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on groundwater quantity from the Proposed Project.

Water quality: Any large construction project that relies on heavy equipment operation and provides on-site fueling or other chemical storage (e.g., hydraulic fluid, brake fluid, motor oil, paints, solvents) bears the risk of fuel or other hazardous materials spills or leaks. Contamination from spills have the potential to harm human health and the environment, particularly surface and ground water resources. Generally, the likelihood of a large spill (greater than 55 gallons²¹) resulting from timber harvest, earth moving, road, building, and utility construction activities as are proposed for this project is low. Smaller spills or leaks (less than 55 gallons) are more likely to occur, and also easier to secure and clean-up. Unless located in an area particularly prone to groundwater

²¹ U.S. Department of Transportation, 2020 Emergency Response Guidebook (2020)

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contamination (e.g., Wellhead Protection Areas, Critical Aquifer Recharge Areas²², wetlands, streams) or during an activity where there is a higher risk of groundwater contamination (e.g., during well drilling), localized spills that are rapidly identified, controlled, and cleaned-up are unlikely to reach groundwater. With proper equipment maintenance, refueling practices, material storage, secondary containment measures, materials handling procedures, site security, inspection, and maintenance, spill prevention and response planning, on-site spill kits, and installation of wellhouses and/or fenced areas surrounding wellheads the likelihood of groundwater contamination due to a construction-related spill is low. These spill prevention and response procedures would be documented in a Spill Prevention, Control, and Countermeasures Plan.

There is a Wellhead Protection Area around the existing Mission Ridge wells that supply the Mission Ridge Group A water system. The County may require an aquifer vulnerability evaluation for any development permit if the development is located within wellhead protection area (CCC 11.82 Aquifer Recharge Areas Overlay District). Construction of the proposed County-maintained access road, including possible replacement of existing culverts underlying the Mission Ridge parking lot, would be located within the wellhead protection area. If a hydrogeological evaluation determined that the area had a medium or high aquifer vulnerability rating, the Applicant would be required to meet certain conditions designed to protect groundwater quality, including development of a contingency plan that identifies the types of hazardous materials that would be stored or use on-site, containment facilities to handle accidental releases of materials and spill response notification procedures.

Connected actions that also have potential construction-related impacts to groundwater quality include the intersection improvements in City of Wenatchee and utility improvements by Chelan PUD for power, water, and fiber optics. These connected actions would be subject to the same spill prevention and response measures as described above; as a result, anticipated impacted to groundwater quality are expected to be low.

Surface runoff/stormwater and increased mobilization of sediments/other contaminants to surface water is discussed in Section 5.3 (Surface Water).

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on groundwater quality from the Proposed Project.

Soil infiltration: Soil infiltration can be described as the downward entry of water into soil. Factors controlling how quickly water can infiltrate into, percolate through, and be stored in the soil profile include soil texture (relative proportion of sand, silt, and clay content), the relative proportion of mineral and organic matter content, available pore space, and soil water content (i.e., soil saturation). Construction-related activities that could reduce soil infiltration include timber harvest, vegetation clearing, grading, compacting, contouring, as well as road, building, and utility construction. These activities could reduce soil infiltration by compacting the soil, resulting in reduced pore space, stripping topsoil, resulting in reduced organic matter content, or artificially increasing soil

²² There are no Critical Aquifer Recharge Areas mapped in Chelan County.

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saturation (e.g., ponding). If soil infiltration is reduced, more surface water runoff would be generated.

The Proposed Project includes measures to protect soils. These measures include retaining native soils and, as appropriate, reusing these soils onsite, replanting and/or maintaining native vegetation in some areas, utilizing designated construction access routes and staging areas, and decommissioning access routes and staging areas that are not permanently converted to other uses (e.g., temporary roads for ski lift tower installation). In addition to these Applicant-proposed measures, the USFS has described required ground disturbance avoidance and minimization measures in the Draft EA. With appropriate management, including compliance with state and local construction permitting and the USFS Draft EA conditions, potential reductions in soil infiltration capacity in construction areas would be low.

For the most part, connected actions are not expected to have potential construction-related impacts to soil infiltration due to the existing developed conditions at the City of Wenatchee intersections and locations of existing Chelan PUD utility infrastructure. One exception is Chelan PUD easement expansion in Section 24, where the existing 5-foot power easement is planned to be expanded to a width of 30-feet to accommodate installation of an underground waterline and fiberoptics. Because the exact location of a new water and fiber line within the proposed wider easement has not yet been determined, the County assessed a potential impact area width of 60 feet, 30 feet on either side of the existing power line, to ensure that the DEIS would be inclusive of nearby resources.

[PLACEHOLDER: PUD utility corridor potential soil infiltration impact to be informed by after geology section completed].

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on soil infiltration from the Proposed Project.

Water supply/rights: Construction of the initial phase of the Proposed Project would likely rely on the existing Mission Ridge groundwater wells for construction water. In some cases, a temporary water supply could be used if needed, or if one of more of the wells were temporarily out of service. For example, trucking water in from sources outside the Squilchuck subbasin could be utilized. Construction activities associated with later phases of the project would also likely use groundwater sourced from both existing Mission Ridge wells and from new wells drilled onsite if Ecology approves change applications authorizing their use. In the instance of exclusive reliance on trucked water, there would be no adverse impact to water supply or water rights in or downgradient from the Project Area. In the instance of at least some local groundwater use, water would be supplied under the Applicant's existing water right authorities or approved changes thereto. Full use of the Applicant's existing right is already authorized and cannot impair other existing rights. Any change in point of withdrawal would only be authorized if the new well location does not impair existing rights. No increase in quantity is allowed through a change application, only the location of the withdrawal. See "Water Supply/Rights" in Section 5.2.3.3 for further discussion of potential groundwater pumping impacts on water supply/rights.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on water supply/rights from the Proposed Project.

5.2.3.2 Indirect Impacts from Construction

No indirect impacts from construction on groundwater quantity, groundwater quality, soil absorption, or water supply/rights were identified.

5.2.3.3 Direct Impacts from Operation

Water quantity: The Applicant proposes to drill several wells for potable water supply in the early phases of the Proposed Project. A preliminary hydrogeological assessment prepared for the Applicant identified four locations for potential well siting (Figure 5.2-2). In addition to location relative to surface waters, the depth of well completion is also an important factor to consider as shallower withdrawals would generally be expected to have a higher degree of hydraulic continuity with nearby springs and streams when compared to deeper withdrawals. Actual well yield would determine the number of wells needed and the extent to which on-site groundwater could support resort operations before necessitating the eventual connection to Chelan PUD's water system. Chelan PUD's water is sourced from groundwater wells located outside of the Project Area that are in hydraulic continuity with the Columbia River. Chelan PUD's water rights are already authorized by Ecology.

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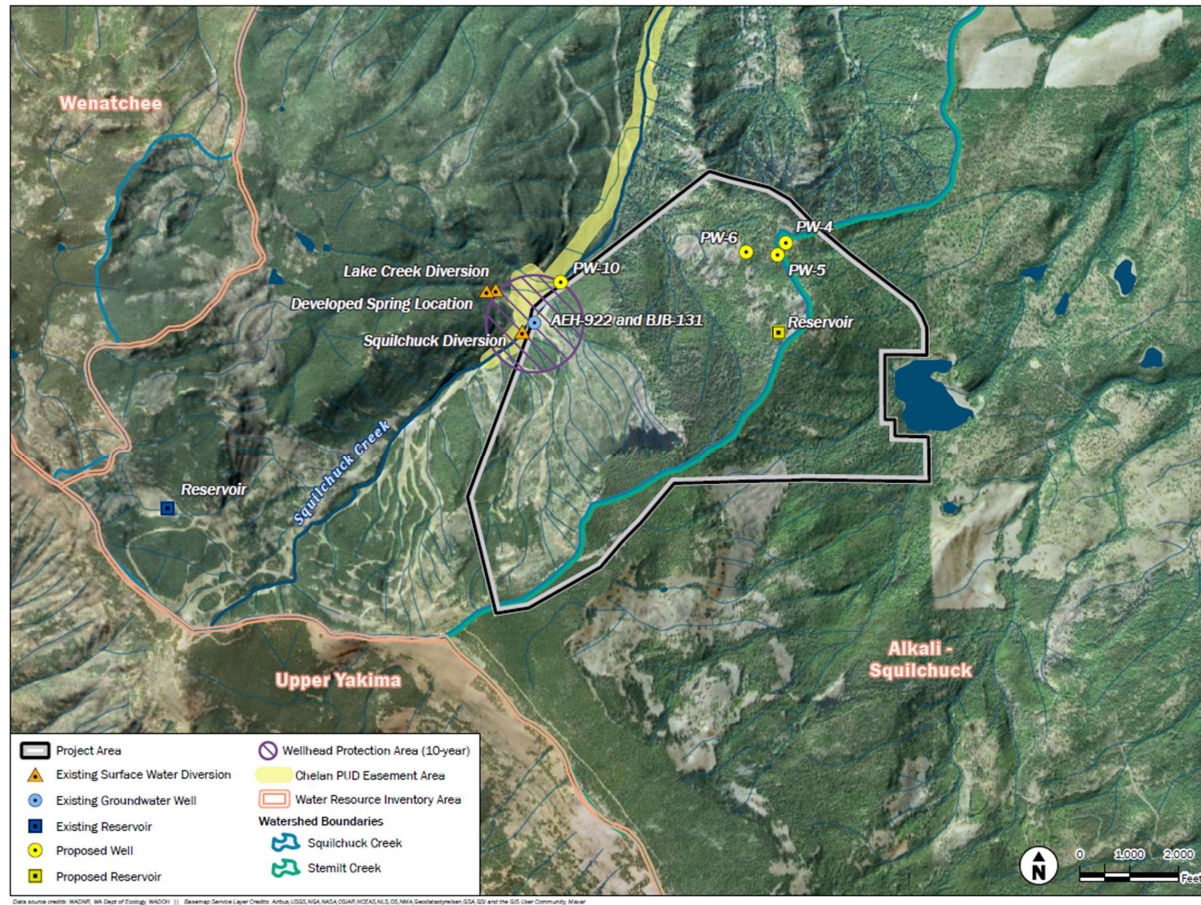


Figure 5.2-2. Existing and Proposed Water Supply Facilities

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At full buildout, the estimated total potable water demand for the Proposed Project is 241 ac-ft/year (American 2022)²³. Ninety-six (96) percent, or 231 ac-ft/year, of water use would be for indoor purposes such as cooking, cleaning, and sanitary purposes. Four (4) percent, or 10 ac-ft/year, of water outdoor use would be for outdoor purposes including landscaping. To meet estimated future demand, the Applicant has evaluated two potable water supply options:

- (1) Up to 90 ac-ft/year of demand met using existing Mission Ridge water rights, but withdrawn from a new well (or wells) for the initial project phase(s), with the balance of 151 ac-ft/year being supplied by Chelan PUD in a later project phase,
- (2) All 241 ac-ft/year of demand met using water supplied by Chelan PUD.

If option #1 were exercised, existing Mission Ridge water rights would be sufficient to meet project demand based on total annual volume of water authorized for use (American 2022). These quantities and aquifer impacts are already authorized by Ecology. The Mission Ridge water rights portfolio includes surface water rights with direct diversions from springs and streams near the existing resort. Transferring these diversions to groundwater withdrawals located sufficient distance from nearby springs and stream could effectively attenuate the impact of existing water use on streamflow. See “Water Supply/Rights” in this section below for more information on water rights.

Depending on the wastewater treatment system in use (e.g., anticipated Onsite Septic System (OSS)/Large OSS (LOSS) discharging to groundwater in early project phases, possible transition to WWTP discharging to surface water in later project phases), return flows would offset much of the total water demand. For indoor uses, Ecology has established a consumptive use rate of 10 percent (i.e., water lost to evaporation) and a non-consumptive use rate of 90 percent (i.e., wastewater to sewer) (Ecology 2018). Outdoor uses have higher consumptive use based on several factors (e.g., irrigation system efficiency, vegetation type) and are generally on the order of 90 percent consumptive and 10 percent return flow (Ecology 2005).

Based on a planning-level analysis provided by the Applicant, on-site well withdrawals based on 90 ac-ft/yr at full buildout would result in 18 ac-ft/yr of consumptive use and 82 ac-ft/year of return flows. However, depending on the phase at which a connection with Chelan PUD’s water system is established and the number of OSS/LOSS that remain in use, the 18 ac-ft/yr of consumptive use derived from local groundwater wells would

Definitions:

Consumptive Use: Consumptive water use causes diminishment of the source at the point of appropriation.

Non-consumptive Use: Non-consumptive use is when there is no diminishment of the source.

Diminishment: Diminishment is defined as to make smaller or less in quantity, quality, rate of flow, or availability.

²³ Estimated Maximum Daily Demand (MDD) assuming full-time occupancy at full buildout is 302 gpm based on an estimated 913 Equivalent Residential Units (ERUs) with an Average Daily Demand (ADD) of 250 gpd each (American 2022). This estimate does not include water demand for the proposed expansion of the snowmaking system.

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eventually be offset by return flows of up to 136 ac-ft/year from Chelan PUD sourced water, resulting in a net water supply benefit.

If option #2 was exercised, where all potable water service for all project phases is provided by Chelan PUD, there would be no drawdown of groundwater levels in the Project Area. Under this scenario, there would be some amount of return flow depending on the wastewater treatment systems in use at the time, which would support aquifer recharge above natural conditions. Chelan PUD reportedly has sufficient physical and legal water available to support this approach (American 2022).

The Applicant also plans to expand the existing artificial snowmaking operation to the proposed new ski trails and would do so using existing surface water right authorizations (see "Water Supply/Rights" below). The benefits of snowmaking to water supplies in Squilchuck Creek are recognized in the WRIA 40A Watershed Plan. Snowmaking can prolong the spring freshet period by increasing water storage (as snow) and increasing quantities of cold water infiltrating to groundwater (American 2022). This can increase baseflow to streams, especially during the period of late summer low streamflow. Existing snowmaking operations divert surface water from Squilchuck Creek from October 1 through April 1. Water is pumped to a surface storage reservoir and held until snowmaking occurs from October 1 through May 1.

The existing snowmaking operation has used between 129 ac-ft/yr to 206 ac-ft/yr over the period including the 2017/2018 through 2022/2023 ski seasons. The Proposed Project includes construction of a second surface water reservoir located in the Project Area, which would increase water storage capacity and allow artificial snowmaking to be expanded to the new ski trails. Expansion of snowmaking to new ski runs is anticipated to require a water supply of approximately 150 ac-ft/year. New snowmaking facilities would be operated similar to existing facilities.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on groundwater quantity from the Proposed Project.

Water quality: The operation of the Proposed Project introduces a risk of groundwater quality degradation. This risk stems from potential fuel or other hazardous materials spills, polluted stormwater runoff, and wastewater discharges, each of which is discussed separately below.

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As discussed in the section on construction-related water quality impacts, smaller, localized spills are anticipated to occur occasionally over the operational life of the MPR. Small spills resulting in localized release of contaminants to the environment would be expected to have short-term impacts at the site of the spill (e.g., soil contamination); however, small and short duration spills that are rapidly identified, controlled, and cleaned-up are unlikely to reach groundwater. With proper equipment maintenance, materials storage and handling procedures, site security, spill prevention and response planning, on-site spill kits, and other protocols, the likelihood of groundwater contamination due to operations-related spills is low.

Distinct from discreet spill events, cumulative impacts from pollutants conveyed in stormwater also have potential to degrade surface water and groundwater quality. Stormwater runoff from new impervious pollution-generating surfaces (e.g., paved roads, unpaved parking lots) has potential to contain trace amounts of contaminants including heavy metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), road salts, sediment, and others. Stormwater runoff from residential and commercial areas commonly includes nutrients, pesticides, bacteria, and sediment. Proper stormwater management is discussed in Section 5.3 (Surface Water) and is demonstrated to reduce the risk of polluted surface water runoff from degrading groundwater quality.

Wastewater generated from the operation of the Proposed Project would be treated and discharged to either groundwater or surface water, depending on the location within the Proposed Project area and phase of construction. Wastewater management alternatives proposed by the Applicant include utilizing multiple individual residential OSSs discharging to groundwater, one or more LOSS discharging to groundwater, and eventually, if needed, a centralized municipal wastewater treatment plant (WWTP) discharging treated effluent to surface water in Squilchuck Creek.

Domestic and commercial wastewater contains pollutants such as pathogens, nutrients, synthetic organic and inorganic chemicals, and oxygen-demanding substances. The alternatives listed above for treating and disposing of wastewater from the Proposed Project are regulated by state (DOH, Ecology) and local (Chelan-Douglas Health District [CDHD]) agencies and would require proper design and permitting before installation. To be approved, wastewater disposal systems must conform with Washington State's water quality standards and antidegradation policies for protecting groundwater and surface water under WAC 173-200 and WAC 173-201A, respectively.

Regulation of wastewater is tied to treatment system type and flow rates. OSS up to 3,500 gpd is permitted through CDHD. LOSS from 3,500-100,000 gpd is permitted through DOH. WWTP at any flow rate is permitted through Ecology. Based on information in the MPR application, the estimated daily wastewater flow rates for each phase of the Proposed Project are shown in Table 5.1 (ADC 2023). Daily peak design flows presented below were

Definitions:

Stormwater/surface runoff:

Stormwater runoff is generated from rain and snowmelt that flows over land or impervious surfaces (e.g., paved roads, parking lots, building rooftops) and does not soak into the ground.

Wastewater: Sewage and other waste that leaves a residence or business for disposal.

Wastewater must be treated to remove pollutants before it can be released back into the environment.

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developed based on proposed construction phasing description and use, WAC 246-272B-06150, and Ecology Publication #98-37 WQ Table G2-2 (Ecology 2008). These estimated flow rates represent higher flows than the Applicant thinks they can achieve, and therefore likely overestimates the maximum flow condition.

[PLACEHOLDER: Confirm with County/Applicant whether to include this analysis, will need to final ADC analysis for the record].

Table 5.2-1 Anticipated wastewater flow rates by phase

Project Phase	Estimated Flow Rate (gpd)
Phase 1	91,980
Phase 2	75,450
Phase 3	58,740
Phase 4	54,690
Phase 5	8,370
Total	289,230

For the OSS/LOSS, the liquid effluent from the treatment system is distributed into the soil absorption field (a.k.a., drainfield). The soil in the absorption field plays a crucial role in further treating the effluent. Microorganisms in the soil work to breakdown and treat any remaining contaminants in the effluent. The treated effluent is absorbed and filtered as it moves through the soil layers. This process helps remove pathogens and nutrients, preventing them from contaminating groundwater.

The LOSS permitting process has three phases.

1. **Site Review:** Includes a predesign report and site inspection. The predesign report must meet requirements set forth in WAC 246-272B-03000 and generally describes and maps the project and soils found onsite. Following DOH review of the predesign report, a DOH representative will meet the Applicant's engineer onsite to review and confirm the soil test pits described in the predesign report.
2. **Environmental Review:** Includes a site risk survey and hydrogeology report. The site risk survey must be prepared in accordance with WAC 246-272B-03200 and generally includes descriptions of design flows and waste strength, drainfield descriptions, critical areas, sensitive lands, basic hydrogeology of the drainfield area, and detailed maps. The hydrogeology report must be developed based on DOH's review of the site risk survey and include a ground and surface water monitoring plan.
3. **Engineering Review:** Includes an engineering report. The engineering report must meet the requirements of WAC 246-272B-04000, including the scope of the LOSS project, all necessary background information, and calculations for developing plans and specifications.

As part of the LOSS site risk survey (Environmental Review phase), a Level-1 Nitrate Balance would be conducted to identify if the proposed system(s) would be anticipated to impact water quality in the underlying unconfined or semi-confined surface aquifer. A

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nitrate balance considers nitrate concentration in precipitation, Total Nitrogen concentration in the wastewater, soil denitrification, and drainfield area parameters, as well as aquifer parameters including width, thickness, hydraulic conductivity, hydraulic gradient, and rate of recharge. Depending on the complexity and results of the Level-1 Nitrate Balance, DOH may require a Comprehensive Hydrogeologic Nitrate Balance. In general, the impact at the point of compliance should not exceed 2 mg/L above measured background nitrate levels. Wastewater treatment levels are determined by the impacts of the nitrate loading and calculated increases to background nitrogen levels.

Soil types and depths would inform the treatment level and size and type of absorption field required. Pursuant to requirements set forth in WAC 246-272B, WAC 246-272A, and CDHD OSS design code, an analysis of the soils onsite would be performed and an appropriately sized system designed. Options for drainfield distribution include subsurface drip systems, pressure distribution gravel trenches, and gravity drainfields. Site soils would need to be characterized to determine drainfield specifications. However, for illustrative purposes, the following hypothetical situation is described. Assuming a soil depth of 3-feet of Type 4 soils, a system sized to treat 289,230 gpd at full buildout would require a minimum drainfield area of 33.2 acres if a subsurface drip system were used (ADC 2023). Further, for subsurface drip systems installed in and amongst trees, drainfield size is typically increased by 20 percent, resulting in a total drainfield area of approximately 40 acres (ADC 2023).

Construction of a WWTP discharging treated effluent to Squilchuck Creek would require a National Pollutant Discharge Elimination System (NPDES) permit administered by Ecology. NPDES permits are required for all discharges to surface water bodies to set discharge limits for pollutants and monitoring and reporting requirements. The potential for a WWTP was assessed and dismissed as not practicable in the FEIS for the Mission Ridge/Constellation Ridge Resort (1986). At that time, it was determined that nearby streams did not have adequate flow to allow for discharge of treated effluent to surface waters (e.g., discharge would not meet minimum dilution criteria). Since that time, wastewater treatment technology has advanced, updated water quality standards have been adopted, permitted discharge limits for specific pollutants are lower (more protective), monitoring and reporting requirements are more stringent, and permitted mixing zones for wastewater discharges are better defined. These advancements suggest that previous SEPA findings related to wastewater treatment at this site are due for reconsideration and should not be controlling on potential future development using modern technology and subject to current regulation.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on groundwater quality from the Proposed Project.

Soil infiltration: The wastewater treatment alternatives under consideration (OSS/LOSS/WWTP) were assessed and dismissed as not practicable in the FEIS for the Mission Ridge/Constellation Ridge Resort (1986). At that time, it was determined that the soils in the area contained high clay content and were relatively impermeable, so a subsurface disposal system would require a large absorption area (approximately 16 acres) and would therefore not be suitable. Instead, the Mission Ridge/Constellation Ridge Resort FEIS encouraged an underground pipeline to convey raw sewage to lagoons

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for treatment and storage during the winters and land application (spray irrigation) during the summer months.

Since that time, wastewater treatment technology for OSS and LOSS has improved, particularly when coupled with advanced treatment (e.g., via bioreactor or membrane filtration) to treat effluent prior to discharge. Additional field work and design is necessary to determine whether the proposal can be fully met through LOSS, or whether a parallel or replacement surface water discharge system is required. Assuming that OSS/LOSS systems are appropriately sized and sited, potential impacts on soil infiltration from modern OSS and LOSS systems would be expected to be minimal because appropriate state agency approvals would require informed design, permitting, and monitoring. The Applicant is prepared to pivot to surface treatment and discharge through an NPDES permit if soils are not suitable.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on soil infiltration from the Proposed Project.

Water supply/rights: The Applicant has provided an analysis suggesting that existing Mission Ridge water rights would be sufficient to meet demand for up to 90 ac-ft/yr of the potable water needed serve residential and commercial uses, including landscaping, and a separate non-potable system for snowmaking (American 2022).

Existing Mission Ridge water right authorizations would require Water Right Change/Transfer application(s) to be approved by Ecology for the use of that water at the Mission Ridge Expansion MPR. Possible water right attributes subject to change are point of diversion/withdrawal, place of use, purpose of use, and season of use.

The Applicant has stated there would be no enlargement of existing water rights, meaning that the quantity of water that is already authorized and being put to use would remain the same. This is a requirement of state law. Though pumping a new well(s) would draw down groundwater at the new location, there would be no net change in total water use across the site because withdrawals at existing well sites would be reduced or eliminated. Further, to be permitted by Ecology, a water right change/transfer must meet certain criteria to ensure that the change/transfer:

- (1) Will not result in will not result in enlargement of authorized quantities.
- (2) Will not impair any existing water rights.
- (3) Is not detrimental to the public interest.
- (4) Will not result in a change of the water source.

If there were evidence that changing the point of diversion, place of use, purpose of use, and season of use would result in any of these findings, Ecology would be compelled to deny the change/transfer application. During the consultation meeting with Ecology, the County reviewed the Applicant's approach. The Applicant would be required to estimate or model the impacts on the closest wells in the same body of groundwater in order for a new well to be approved. The change application process requires public notice and consultation with the Washington State Department of Fish and Wildlife (WDFW) and

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affected tribal governments. Any decisions made by Ecology in response to a change application are appealable.

Based on the total quantity of water available in the Mission Ridge water rights portfolio, it is reasonable to assume that with demonstrated ongoing beneficial use, existing rights of sufficient quantity (up to 90 ac-ft/year) would be authorized by Ecology for change/transfer. Given the non-additive nature (i.e., no enlargement) of the proposed water right change/transfer, the absence of other water rights in the Project Area, and known hydraulic continuity indicating groundwater and proximate surface waters are within the same source, it is reasonable to expect that the water rights in the Mission Ridge portfolio could pass Ecology's criteria. If these assumptions are not born out, it simply means that the Applicant must rely to a greater extent on water imported to the basin from Chelan PUD. For the water supplied by Chelan PUD under either alternative, Chelan PUD water rights, which source water outside of the project area and in hydraulic continuity with the Columbia River, would be used. Chelan PUD reportedly has sufficient physical and legal water available to support this approach (American 2020).

Separate from the potable water system, the Applicant also proposes to expand existing snowmaking capabilities to the new ski area using existing water rights. Similarly, this would require a change authorization from Ecology. Snowmaking uses should move water supply from times of surplus to allow for later snowmelt, which is a hedge against the pressures of climate change. It would also create a longer runoff season which is likely to retain water in the basin longer.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on water supply/rights from the Proposed Project.

5.2.3.4 Indirect Impacts from Operation

No indirect impact from operations on groundwater quality or soil water absorption were identified. Potential indirect impacts from operations on water quantity and water supply/water rights are described herein.

Water quantity: At full-build out, groundwater recharge and connected summer streamflow is expected to increase in response to importing water from outside the Project Area and spring snowmelt from artificial snowmaking. While the timing of the connection with Chelan PUD's Squilchuck Water System and whether all (241 ac-ft/yr) or a portion (151 ac-ft/year or more) of the potable water supply would be provided by Chelan PUD is not immediately known, this lack of information is not expected to be significant. Either the Applicant will be successful in well drilling authorizations and no impairment will have been found by Ecology in their use, or water quantity will increase earlier because Chelan PUD water will be brought to site.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on groundwater quantity from the Proposed Project.

Water supply/rights: At full-build out, the Proposed Project is anticipated to increase overall water supply in the Squilchuck Basin (see "Water Quantity" above). Though this would not necessarily make new water supply available for appropriation, it may serve to offset some water shortages experienced during the summer months in areas

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downstream/downgradient of the project area. See Section 5.3 (Surface Water) for more information.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on water supply/rights from the Proposed Project.

5.2.3.5 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project on groundwater resources. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

- Mitigation for each phase of the Proposed Project would be completed concurrent with construction of said phase; mitigation cannot be deferred to a later date or project phase.
- For each phase of the Proposed Project, notice will be provided through Chelan County of any state or local agency actions on the proposal (e.g., Ecology Water Right Change Authorization, Chelan PUD Public Water System hookup).
- The Proposed Project would result in greater than 1 acre of ground disturbing activity requiring coverage under the NPDES Construction Stormwater General Permit (CSWGP). NPDES CSWGP coverage would require the Applicant to develop, implement, monitor, and maintain a number of construction best management practices (BMPs) to comply with water quality standards and other permit requirements, likely including the following:
 - Implementation of a construction SWPPP in accordance with Ecology's Stormwater Management Manual for Eastern Washington (Ecology 2019).
 - Implementation of a Temporary Erosion and Sediment Control Plan (TESC Plan) to limit sediment inputs to receiving waters during and after construction, which would include revegetating temporary disturbance areas after construction to stabilize soils.
 - Implementation of a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) to limit the potential for spills of fuels or other hazardous materials and to facilitate containment in the event a spill occurs, to minimize the potential for pollutant releases to groundwater or surface waters.
 - Management of stormwater and construction dewatering water in a way that allows it to infiltrate on site and/or ensure it is contained and treated to meet applicable permit water quality benchmarks and indicator levels prior to discharge to surface waters.

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- Implementation of permit-required monitoring during construction to ensure that all discharges to waters of the state comply with water quality benchmarks, that erosion, sediment, and pollution-control measures are regularly inspected and maintained, and that records are kept and submitted to Ecology as appropriate.
- Discharge of wastewater to groundwater via OSS/LOSS would require approval from CDHD and DOH, respectively, to comply with Washington State antidegradation policies related to groundwater under WAC 173-200. If permitted as OSS, the system(s) would need to meet requirements set forth in WAC 246-272A, as well as requirements from CDHD. If permitted as a LOSS, the permitted system(s) would be required to meet requirements described in WAC 246-272B. These approvals will be required prior to permitting for each phase of the Proposed Project.
- Discharge of wastewater to surface water via a WWTP would require compliance with the federal Clean Water Act and state antidegradation policies related to surface water under WAC 173-201A, including a NPDES wastewater discharge permit administered by Ecology.
- New groundwater wells supplying the potable water system would need to receive source approval from DOH under WAC 246-290-130 including testing to demonstrate safe yield and source reliability. Proof of potable water must be provided to Chelan County prior to preliminary plat or building permit approval.
- For water supplied by expansion of Chelan PUD's public water system, the utility would be required to provide written confirmation agreeing to provide water for the Proposed Project. All water system improvements would need to be designed, constructed, and placed in accordance with Chelan PUD's standards and requirements. Completion of the improvements, including necessary easements, would need to be accepted in writing by Chelan PUD. Expansion of Chelan PUD's water system would be subject to applicable permitting processes including an update to its Group A Water System Plan to be approved by DOH. Proof of potable water should be provided to Chelan County prior to preliminary plat or building permit approval.
- Water right changes/transfer application(s) for new wells and uses would need to be approved by Ecology. Any water right changes/transfers would need to demonstrate that the proposed use would pass statutory tests (see water rights/water supply discussion in Section 5.2.3.3). Ecology may place conditions on water rights authorizations, such as requirements for source metering.

Applicant-proposed mitigation measures: The following Applicant-proposed groundwater resources mitigation measures are intended to further reduce potential effects from construction and operation of the Proposed Project.

The primary proposal that came out of consultation with Ecology was the decision to ensure no groundwater impacts through phased or complete reliance on Chelan PUD water supplies if alternate/additional well sites cannot be approved by Ecology.

5.2.4 Significant and Unavoidable Adverse Impacts

Through compliance with federal, state, and local laws and regulations and with implementation of the mitigation measures described in this section, there would be no significant and unavoidable adverse impacts related to groundwater from construction or operation of the Proposed Project.

5.2.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to groundwater resources.

5.3 Surface Water

This section summarizes how potential surface water impacts and mitigation were evaluated and presents the findings from the analysis. In this DEIS, “surface water” means waterbodies such as rivers, streams, lakes, ponds, reservoirs, and wetlands.

Project-specific water resources reports supplied by the Applicant²⁴, as well as related reports²⁵ developed by local, state, and federal entities, provided information used to evaluate surface water. These reports analyze riparian habitat impacts, streamflow/water quantity, wetland impacts, water quality, and water supply/rights. The potential effects of constructing and operating the Proposed Project on specific aquatic plants and animals are addressed in Section 5.4 (Plants and Animals).

The study area for the surface water analysis encompasses surface waters and connected groundwater with the potential to be affected by construction or operation of the Proposed Project. This necessarily includes surface water and groundwater both within the Project Area and outside the Project Area in connected downgradient or downstream regions of the Squilchuck and Stemilt subwatersheds to the confluence with the Columbia River.²⁶ Connected surface waters are those in hydraulic continuity with groundwater (see Section 5.2). The study area also includes potential impacts to surface water resulting from connected actions occurring outside the Project Area, including intersection improvements in City of Wenatchee, utility improvements by Chelan PUD for power, water, and fiber optics, and Mission Ridge parking lot maintenance related to the proposed new County-managed access road. Potential surface water impacts from Chelan PUD’s future transmission corridor and substation improvements are discussed in this section at a programmatic-level and would be subject to later project-level SEPA analysis completed by Chelan PUD.

Key Findings of Surface Water Analysis

The analysis focused on the following factors:

- Riparian habitat impacts
- Alteration of streamflow/water quantity
- Wetland impacts
- Water quality impacts
- Impairment of water supply/rights

The analysis found the proposed project would **have no significant and unavoidable impacts** related to surface water resources.

²⁴ American (2022), Washington Conservation Science Institute (2018, 2020), WNR (2018, 2019), and Ecosystems North West (2017, 2023).

²⁵ The WRIA 40A (Stemilt-Squilchuck) Watershed Plan and Water Quantity Analysis (Chelan County, 2007a, 2007b), Mission Ridge Expansion Project Draft Environmental Analysis (USFS, 2020), Final EIS Mission Ridge/Constellation Ridge Resort (CCPD, 1986a), and Addendum to Final EIS Mission Ridge/Constellation Ridge Resort (CCPD, 1986b).

²⁶ Because no probable significant adverse impacts to water quantity or water quality were identified in Squilchuck or Stemilt creeks, the extent of impact analysis was terminated where the creeks enter the Columbia River.

5.3.1 Surface Water Conditions

The Proposed Project is located in the upper reaches of the Squilchuck Creek and Stemilt Creek subwatersheds (see Figure 5.3-1), which are in Water Resources Inventory Area 40 (Alkali-Squilchuck). Environmental conditions that influence surface waters, including precipitation type (rain, snow), precipitation timing, seasonal fluctuations in streamflow, and hydraulic continuity between shallow groundwater and surface waterbodies, are described in Section 5.2.1.

A small portion of Squilchuck Creek (approximately 240 feet) and several tributaries to Squilchuck and Stemilt creeks are present across the Project Area. Outside of the Project Area, connected actions are located in the Squilchuck Subwatershed.

Streams are categorized based on whether they are perennial (flowing water year-round) or intermittent (flowing water part of the year, sometimes called seasonal) and whether they are fish bearing or non-fish bearing. Stream types along Squilchuck and Stemilt creeks and their tributaries were determined by the Washington State Department of Natural Resources (DNR). However, Chelan County has revised several of the DNR stream types on parcel number 212019000000 based on a site visit and visual inspection conducted by County staff (WSCl 2020, see Appendix B). Based on the amended stream typing, Table 5.3-1 provides a summary of stream characteristics within the Project Area.

Chelan County regulates activities in riparian habitat. Riparian habitats are those areas in and near surface waters and their associated buffers, and, for the purpose of this DEIS, refer to streams and stream buffers. Riparian buffer widths vary depending on the stream type and proposed land use intensity.²⁷

Three wetlands are present within the Proposed Project area (Table 5.3-1, Figure 5.3-1). On the privately-owned land in Section 19, two depressional, emergent, Class III wetlands were delineated in 2017 (Ecosystems North West 2017). However, wetland boundaries were not surveyed at that time, so wetland mapping and acreage is approximate. The wetlands were named Wetland 1 and Wetland 2, both are estimated to be less than 1-acre in size, and neither have direct surface water connections to each other or to other waterbodies. Ecosystems North West revisited Wetland 1 and 2 in October 2023 and concluded that the wetlands were still present and had approximately the same size, configuration, structure, and quality as previously determined (Ecosystems North West 2023). The two Category III wetlands located on privately-owned land have a moderate level of function and can often be adequately replaced with mitigation (Hruby 2014).

On the federal lands, the USFS has identified one wetland (named Wetland 3 for the purposes of this DEIS) in Section 24. A formal wetland delineation was not completed so wetland type and category are not known, but a reconnaissance-level field survey indicates that Wetland 3 is roughly 0.21 acres and exists in a broad depression around a

²⁷ Riparian habitat designations under county code should not be confused with riparian reserves and riparian-aquatic habitat protection zones designated under the USFS Wenatchee Forest Plan (USFS 1990) and discussed in the USFS Draft Environmental Assessment (USFS 2020).

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stream flowing down a north-facing, forested slope (USFS 2020). Wetland 3 is connected to Squilchuck Creek via an unnamed stream.

Connected actions located outside the Project Area include areas where stream and wetland resources may be encountered. In particular, the existing PUD utility easement and power infrastructure parallels portions of Squilchuck Creek from the Project Area downstream to Squilchuck Road.

[PLACEHOLDER: PUD utility easement stream survey and wetland delineation results here]

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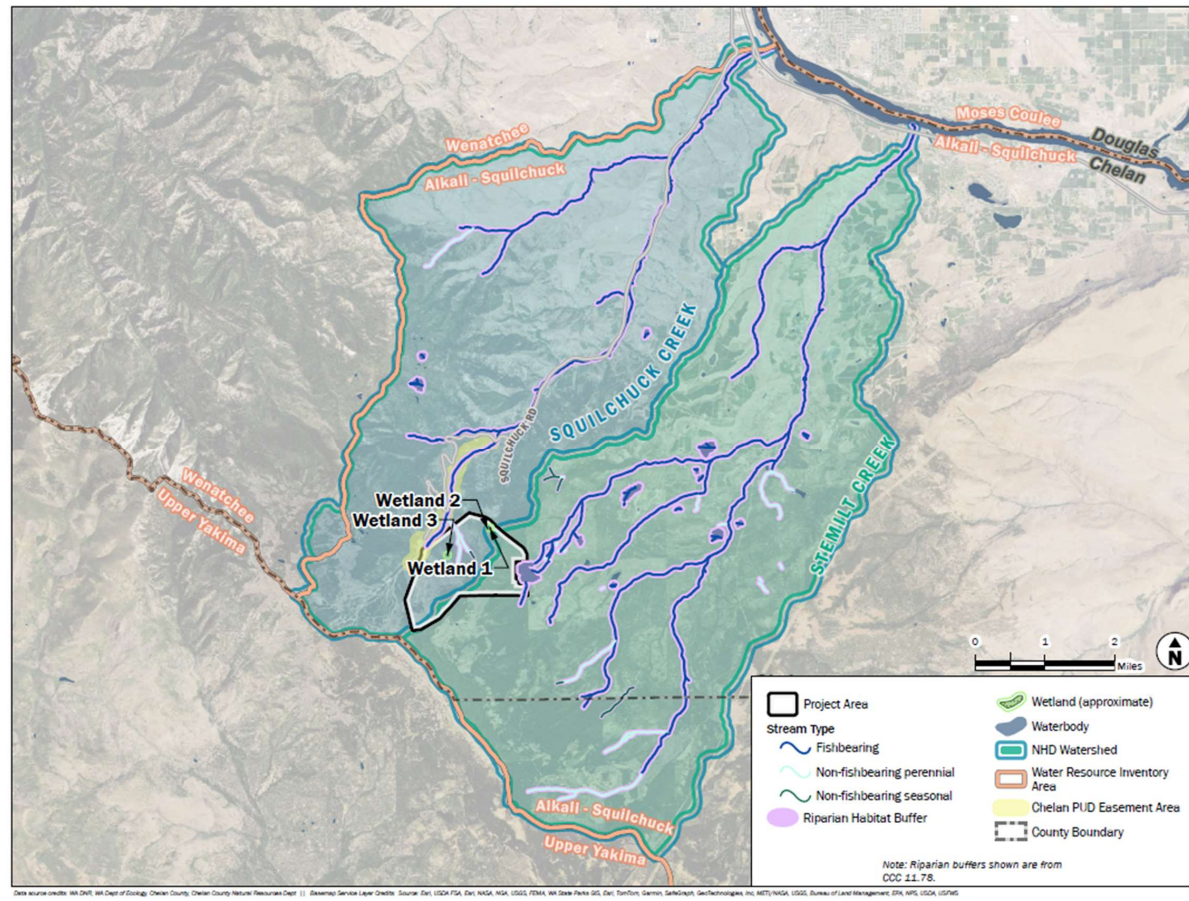


Figure 5.3-1. Surface Water Overview

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Table 5.3-1. Project Area Surface Water Summary

Resource Name	Resource Type	Project Area Resource Details ¹
Squilchuck Subwatershed		
Squilchuck Creek	Fish bearing, perennial stream ²	240 feet stream length 2.6 acres riparian habitat
Unnamed streams	Non-fish bearing, perennial streams ³	5,138 feet stream length 23.4 acres riparian habitat
	Non-fish bearing, seasonal streams ⁴	566 feet stream length 1.5 acres riparian habitat
	Non-fish bearing, unknown streams ⁵	52,466 feet stream length
	Unknown streams ⁵	1,357 feet stream length
Wetland 1	Category III,	0.23 acres
Wetland 2	Category III,	0.06 acres
Wetland 3	Category unknown	0.21 acres
Stemilt Subwatershed		
Orr Creek	Fish bearing, perennial stream ²	958 feet stream length 6.2 acres riparian habitat
Unnamed streams	Non-fish bearing, unknown streams ⁵	12,859 feet stream length
	Unknown streams ⁵	6,420 feet stream length
¹ All measurements are approximate ² 150-foot Chelan County buffer ³ 100-foot Chelan County buffer ⁴ 50-foot Chelan County buffer ⁵ No Chelan County buffer		

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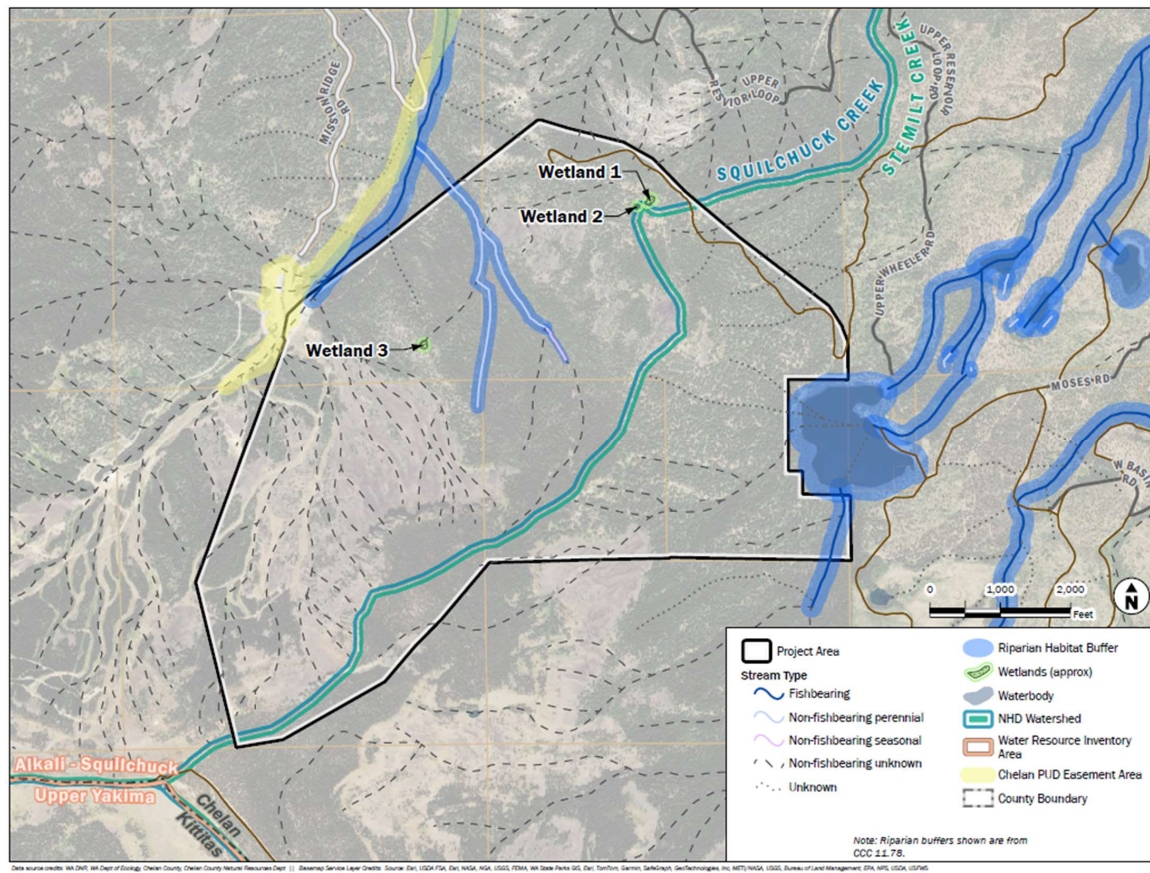


Figure 5.3-2. Surface Waters in the Project Area

[PLACEHOLDER: table and figure to summarize stream and wetland resources along PUD utility corridor here]

5.3.2 How Impacts Were Analyzed

Existing conditions and potential impacts from the construction and operation of the Proposed Project on surface water resources were determined by reviewing information provided by the Applicant, found in other reports, or obtained through consultation with Ecology, Department of Health (DOH), and Washington State Department of Fish and Wildlife (WDFW) during consulting agency meetings (Aspect 2022a, Aspect 2022b). The analysis did not include any additional data collection or modeling. Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions. Factors considered in this evaluation included the following:

- **Riparian habitat impacts:** direct or indirect impacts to riparian habitat including potential impacts from stream crossings and stream-adjacent construction and operations.
- **Alteration of streamflow/water quantity:** physical changes to streamflow or disruptions of groundwater-surface water interactions.
- **Wetland impacts:** direct or indirect impacts to wetlands or wetland buffers including potential impacts from fill, vegetation removal, and altered hydrology.
- **Water quality impacts:** changes to surface water and connected groundwater quality including potential impacts from the generation of stormwater and wastewater.
- **Impairment of water supplies/rights:** impairment of water supplies or water rights relied upon by others, including those downstream or downgradient.

Surface Water Impacts Conclusions

1. Impacts to riparian habitat and wetlands are unavoidable but can be mitigated.
2. Existing culverts require further study, replacement may be needed.
2. Surface water withdrawals would not increase.
3. Snowmaking and discharge of treated wastewater would support groundwater recharge and streamflow.
4. Surface water and groundwater quality would not be expected to change significantly.

5.3.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.3.3.1 Direct Impacts from Construction

Riparian habitat: The Applicant's proposal states that no construction would occur within 200 feet of the perennial fish-bearing reaches of Squilchuck Creek, but that construction may occur within 200 feet of other streams within the Proposed Project area, including perennial non-fish bearing tributaries and intermittent tributaries to Squilchuck and Stemilt Creeks. However, as part the DEIS development, it was determined that impacts to perennial fish-bearing reaches of Squilchuck Creek may occur during construction in two areas, at the existing Mission Ridge parking lot and along the PUD utility corridor.

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Squilchuck and Lake creeks are conveyed via culverts located underneath the existing Mission Ridge parking lot (Figure 5.3-3). The Squilchuck Creek culvert is approximately 650 feet in length and 4 feet in diameter; the Lake Creek culvert is approximately 550 feet in length and 4 feet in diameter. The current condition of the culverts is unknown, and no design specifications are available. The new County-maintained access road would cross the parking lot, so determining the condition of underlying culverts is necessary. Prior to permitting of Phase 1, the County will require the Applicant to provide an inspection of the culverts to identify potential issues, such as corrosion, buckling, mechanical instability, erosion, root infestation, and other points of failure. The County will also require the Applicant to provide a hydraulic analysis of the existing condition to determine whether the culverts are properly sized. An engineering report would describe the identified deficiencies, expected lifespan, and other factors. If the culverts are found to be in poor condition, undersized, or otherwise recommended to be replaced, the County will require the culverts to be replaced in a manner consistent with current regulations.

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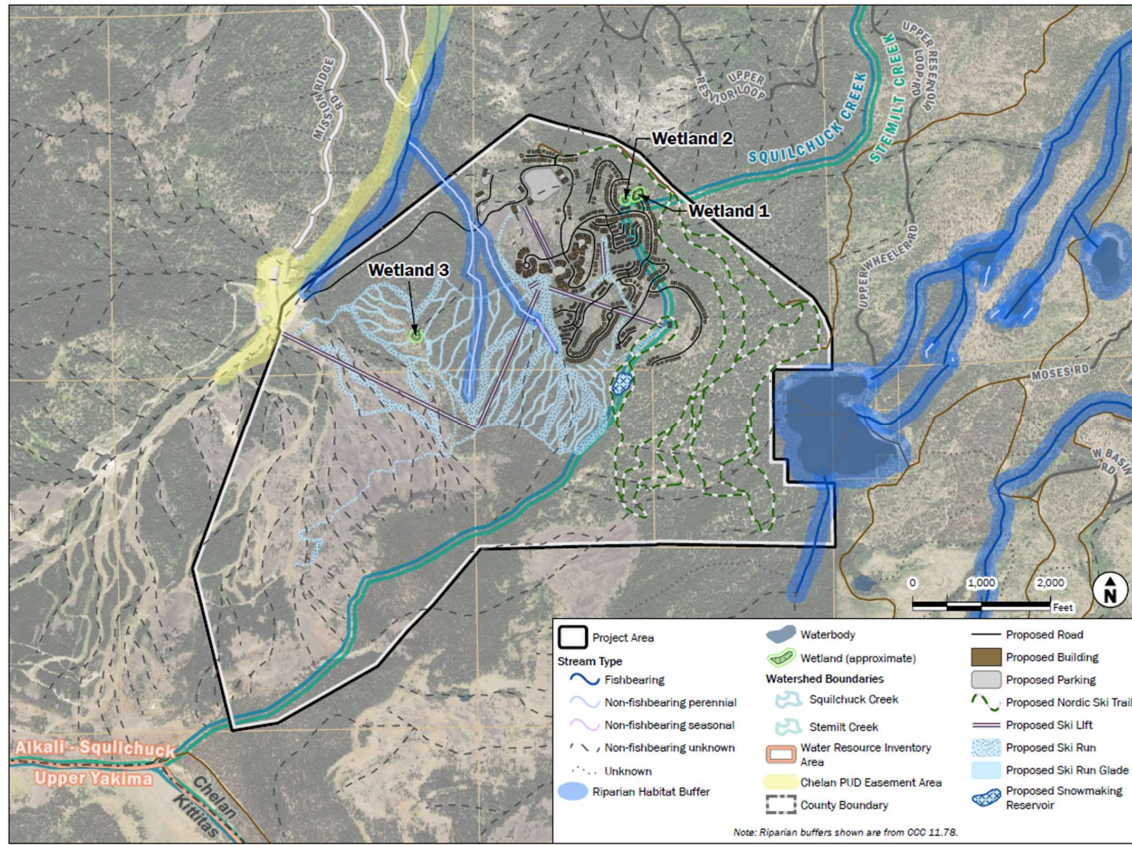


Figure 5.3-3. Surface Water Impacts in the Project Area

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The other potential area of impact to perennial fish-bearing reaches of Squilchuck Creek is along the Chelan PUD's utility easement where the easement is located south of Squilchuck road. The easements are currently for electric and communications or electric only purposes, and have either no stated easement width or a specified 5 foot width. To accommodate power, water, and telecommunications, Chelan PUD has determined the need for a 30 foot wide easement for all purposes of use. Widening the easement may result in riparian habitat impacts, which would require mitigation as described below (Chelan PUD 2024).

It is noted that although the existing Chelan PUD powerline appears to cross Squilchuck Creek at two locations, this is not accurate and is an artifact of imprecise mapping of the line location.

[PLACEHOLDER: Utility corridor stream and wetland impacts here]

Where possible, riparian habitat impacts to all stream types should be avoided or minimized to the maximum extent practicable. Only when there is no viable alternative to the riparian habitat impact, should such impacts be authorized.

Construction activities in and near streams may include building road and utility crossings and ski runs or ski lift corridors across streams (Figure 5.3-3. Road and utility crossings would impact riparian habitat where construction involves vegetation clearing, grading, fill placement, culvert or bridge footing installation, belowground utility conduit installation, installation of impervious surfaces, channel modifications, increased erosion risk, and increased potential for pollutants to enter surface waters. Some of these activities would result in permanent loss of riparian habitat (i.e., installation of impervious surfaces, filled/graded areas not returned to natural grade, channel modifications), while others would be temporary (e.g., disturbed areas returned to original grade and replanted with native vegetation). Construction of ski runs and lifts with stream crossings streams may occur and would have impacts similar to road crossings, including vegetation removal, ground disturbance, grading, and possible culvert installation.

In some instances, such as if the culverts underneath the parking lot need to be replaced, construction may require use of a cofferdam and temporary stream rerouting.

Development within riparian buffers is allowable but is subject to conditions pursuant to CCC 11.78 – Fish and Wildlife Habitat Conservation Areas Overlay District. Where road and utility crossings are unavoidable, crossings would need to be designed to span the stream at a near right angle to minimize the total disturbance area within the riparian buffer and with use of appropriate construction BMPs (e.g., construction during dry season, sediment and erosion control). Ski trails, along with other pedestrian and bike trails, may be permitted within the riparian buffer, but are generally subject to setback requirements (e.g., construction must occur a specified distance from ordinary high water mark [OHWM]) and size limits (e.g., maximum trail width). Chelan County may also require a habitat management and mitigation plan to avoid potential degradation of the riparian habitat functions, structure, and value resulting from stream crossings. In situations where vegetation would be permanently removed or unable to fully recover, the habitat management and mitigation plan could outline restoration requirements.

The Applicant does not have engineered design plans showing where in-water work (i.e., below the OHWM) would occur; however, the types of in-water impacts often associated

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with stream crossing construction includes dewatering, dredging, channel modification, culvert installation, or bridge footing/piling installation, installation of overwater structures, installation of impervious surfaces. Any in-water work would need to be conducted during an approved in-water work window authorized by the Washington State Department of Fish and Wildlife (WDFW) in a Hydraulic Project Approval (HPA). HPAs may also outline required construction BMPs to minimize potential impacts to fish and aquatic habitats, as well as impose additional mitigation requirements.

Potential stream and stream buffer impacts from construction activities occurring outside of the Proposed Project area may include water line and fiberoptic cable installation along Chelan PUD's existing easement and the future Chelan PUD power expansion that is expected to include a new substation and transmission line. The latter will be subject to project-level SEPA review led by Chelan PUD. Prior to any outside Proposed Project area construction, potential impacts from road and utility construction would need to be assessed and suitable mitigation determined. Generally, road and utility construction are constrained by existing infrastructure, often with little to no room to avoid or minimize impacts. As such, consideration of a range of potential compensatory mitigation options may be warranted.

[PLACEHOLDER: This section describes the construction activities that would occur in streams and riparian habitats and potential mitigation measures, but it doesn't provide any quantification for those impacts. Would like to revisit this section to provide riparian habitat loss for the project. How would the County like to quantify impacts where design is TBD?]

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on riparian habitat from the Proposed Project.

Streamflow/water quantity: Direct, construction-related impacts on streamflow/water quantity are expected to be minimal due to the following factors:

1. No surface water diversions would be used for construction water supply.
2. If required during stream crossing construction, stream channels may be temporarily altered or rerouted (e.g., cofferdam to allow bridge or culvert installation) but the drainage path would remain as close as possible to the original alignment and no change in stream conveyance or capacity would be anticipated.
3. All stream crossings would be designed with hydraulic capacity to pass a 100-year flood event and associated debris flow (USFS 2020).
4. Ground disturbance, vegetation removal, and installation of impervious surfaces associated with construction of the Proposed Project may impact local drainage patterns and increase stormwater runoff. For example, minor change in topography such as regrading, soil stockpiling, swales, or ditches may alter the direction and timing of runoff. However, when properly designed and implemented under a NPDES CSWGP, stormwater management practices could reasonably be expected to maintain existing hydrology and minimize potential impacts to streamflow/water quantity (see Section 5.2.3.1 for more information).

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Because no streamflow would be diverted out of stream or impounded and stormwater runoff would be managed pursuant to an approved CSWGP, construction activities would be unlikely to increase or decrease streamflow.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on streamflow/water quantity from the Proposed Project.

Wetlands: Mitigation sequencing requires that impacts to Wetland 1 and Wetland 2 should (1) be avoided (if possible) and (2) be minimized to the extent practicable. If wetland impacts are unavoidable, compensatory mitigation would be required to offset direct and indirect wetland impacts and wetland buffer impacts. Chelan County regulates development in and around wetlands (CCC 11.80 – Wetlands Overlay District), as does Ecology (Washington State Water Pollution Control Act) and the U.S. Army Corps of Engineers (USACE; Clean Water Act).

Though final design plans have not been completed, the development on the private land could result in the complete fill of Wetland 1 and Wetland 2, both approximately 1 acre in size, due to the large development footprint and the relatively limited areas suitable to development due to site topography. A determination on whether avoidance of wetland impacts is possible while still meeting the project purpose would be determined by the regulatory agencies when design plans are under review. Similarly, if compensatory mitigation for temporary and/or permanent wetland impacts is necessary, the specific mitigation requirements would be determined at the time of permitting.

Because Wetland 1 and Wetland 2 are not connected to any other surface waters, they are unlikely to be regulated under the federal Clean Water Act (CWA), which requires a permanent surface water connection to navigable waters for federal agencies to assert jurisdiction. However, only the U.S. Army Corps of Engineers (USACE) can make a jurisdictional determination under the CWA. Wetlands found to be non-jurisdictional by the USACE could be subject to regulation by Ecology and Chelan County. If this is the case, wetland fill in these areas could require authorization under an Administrative Order from Ecology.

No construction is proposed within Wetland 3. In the area surrounding Wetland 3, the USFS stipulates that no contouring or fill would be allowed within 50 feet of the wetland edge and that any vegetation removal for gladed ski runs should be located at least 25 feet, preferably 50 feet, from the wetland edge. The Proposed Project construction includes one ski run that is approximately 25 feet from the edge of Wetland 3. Per the USFS EA, selective brushing would be the only construction activity allowable adjacent to the Wetland 3.

Wetland and wetland buffer impacts from construction activities occurring outside of the Project Area may include utility installation along Chelan PUD's existing easement, which is proposed to be widened to 30 feet and the future Chelan PUD power expansion that is expected to include a new substation and transmission line. [PLACEHOLDER: PUD utility corridor wetland delineation results here] The latter will be subject to project-level SEPA review led by Chelan PUD. Prior to any construction, a current wetland delineation (within the past five years) would be performed and appropriate compensatory mitigation determined.

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Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on wetlands from the Proposed Project.

Water quality: Potential construction-related water quality impacts are related to spills and surface runoff/stormwater.

Fuel (e.g., diesel) or other hazardous materials (e.g., solvents) spills or leaks during construction activities are possible but are also preventable and mitigable with proper equipment maintenance, materials storage, spill prevention and response planning, on-site spill kits, and temporary fencing around surface water bodies. See Section 5.2.3.1 for a more detailed discussion of potential construction-related spills and water quality impacts.

Construction activities such as clearing, grading, and excavation expose soil to direct precipitation and stormwater runoff and can result increased erosion and the mobilization and delivery of sediments and other contaminants to downstream surface waters. The Proposed Project would result in greater than 1 acre of ground disturbing activity, thus requiring cover under the NPDES Construction Stormwater General (CSWGP) Permit. NPDES CSWGP coverage would require the Applicant to develop, implement, monitor, and maintain a number of construction BMPs to comply with water quality standards and other permit requirements. Potential downstream water quality impacts from construction-related stormwater would be expected to be mitigated with NPDES CSWGP compliance.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on water quality from the Proposed Project.

Water supply/rights: The Proposed Project would use existing Mission Ridge groundwater rights or trucked-in water during construction. No surface water from within the Project Area would be used and any groundwater use would rely on existing water rights (if authorized by Ecology) so would not impact existing and downstream water supply or water rights. During operations, the Applicant proposes to use existing Mission Ridge surface water rights and the existing surface water diversions for snowmaking in the new ski area (see Section 5.3.3.3). As part of the snowmaking expansion, a new (second) surface water storage reservoir is proposed to be constructed on USFS-managed land in Section 30. The proposed reservoir would require a Reservoir Permit and Dam Construction Permit from Ecology prior to construction and operation.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on water supply/rights from the Proposed Project.

5.3.3.2 Indirect Impacts from Construction

No indirect impacts from construction on streamflow/water quantity, wetlands, water quality, or water supply/rights were identified. Potential indirect impacts from construction on riparian habitat is described below.

Riparian habitat: Pursuant to CCC 11.78, to protect riparian habitat during construction occurring outside of the stream buffer, temporary fencing between the construction

activity and the stream buffer and other protective measures may be required. Fencing is intended to protect riparian habitat from adjacent construction activities by providing a visual and physical barrier to limit access to riparian areas and prevent accidental vegetation damage, ground disturbance, or other intrusions by people and equipment.

5.3.3.3 Direct Impacts from Operation

Riparian habitat: Operations-related impacts to riparian habitat are largely associated with human and pet access to streams and stream buffers and resulting damage to vegetation, shorelines, and instream resources. When snow covered, riparian habitats have some natural protection from human and pet disturbance. During the snow-free season, additional measures may be needed to minimize potential for vegetation and soil damage and introduction of pollutants (e.g., bacteria, sediment, solid waste). Human and pet impacts may be mitigated by excluding access (e.g., fencing), discouraging access (e.g., signage, dense native vegetation plantings, directing recreation activities away from sensitive areas), or concentrating access in designated areas (e.g., sanctioned trails). Permanent riparian habitat protection measures would be site-specific and further detailed in a habitat management and mitigation plan.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on riparian habitat from the Proposed Project.

Streamflow/water quantity: Surface water is currently used at Mission Ridge for snowmaking and the Applicant proposes to expand artificial snowmaking operations to the new ski area using existing water rights. As discussed in Section 5.2.3.3, snowmaking can be used not only to enhance winter recreation opportunities, but also to mitigate low summer streamflow. Snowmaking can prolong the spring freshet period by increasing water storage (as snow) and increasing quantities of cold water infiltrating to groundwater (American 2022). This can increase baseflow to streams, especially during the period of late summer low streamflow. Snowmaking is expected to result in an overall positive impact on water quantity in streams.

Another mechanism by which streamflow may be enhanced as a result of the Proposed Project is through wastewater return flows, which would discharge to either groundwater via OSS/LOSS or surface water via a WWTP, depending on the location within the Proposed Project area and phase of construction. In the early phases of the project, when reliance on OSS/LOSS is anticipated and potable water supply sourced from on-site groundwater wells is planned, any change in streamflow would be expected to be minimal due locally sourced and discharged water and generally low indoor consumptive use. For indoor uses, Ecology has established a consumptive use rate of 10 percent (i.e., water lost to evaporation) and a non-consumptive use rate of 90 percent (i.e., wastewater to sewer) (Ecology 2018). At the time when a connection to Chelan PUD's water system may be established, resulting in some or all of the potable water supply being sourced from outside the Squilchuck Subbasin, groundwater recharge would increase. Though the timing and magnitude of impacts to baseflow from increased shallow groundwater recharge is not precisely known, it is likely to have a positive impact on streamflow during the summer low flow season. Finally, if a centralized municipal WWTP is needed, treated effluent would be discharged to Squilchuck Creek, resulting in a direct increase in water quantity.

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While artificial snowmaking and wastewater return flows are expected to benefit streamflow in late summer and early fall, care should be taken to maintain or enhance existing hydrology without exacerbating the intermittent flash flooding that can occur in this area following heavy rainfall events. If a WWTP is determined to be necessary, the design flow would be carefully evaluated with respect to potential downstream flood impacts and mitigating measures, if any, taken.

A water budget is an accounting of all the water that flows into and out of a project area. Overall, operation of the Proposed Project would be expected to be water budget neutral (i.e., no change in water availability) or neutral-to-positive (i.e., no change or increased water availability), with some seasonal differences.

Neutral components of the water budget would include:

- On-site well(s) used for potable water supply coupled with OSS/LOSS for wastewater treatment with discharge to groundwater (year-round).
- Permanent stormwater infrastructure designed to mimic natural hydrology to the extent practicable (year-round).
- Because wetland extent is limited, wetland fill would be unlikely to impact the water budget in the project area (year-round).

Positive components would include:

- Importing potable water from outside the basin coupled with treated effluent discharge to groundwater via OSS/LOSS and/or to Squilchuck Creek via WWTP (year-round).
- Snowmaking activities that divert surface water to a reservoir during the fall and winter, eventually storing that water snow, and effectively extending the spring snowmelt season (seasonal).

See Section 5.2.3.3 for more information on wastewater management and groundwater.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on streamflow/water quantity from the Proposed Project.

Wetlands: As previously described, mitigation sequencing requires that wetland impacts be avoided, minimized, and then compensated for, in that order. If some wetland impacts are unavoidable, but Wetland 1 and Wetland 2 remain at least partially intact, protective measures would be required to reduce potential disturbance from the surrounding developed area on remaining wetlands. Potential disturbances may include human and pet access which could damage vegetation and soils, introduce pollutants such as bacteria (e.g., dog poop), sediment, and discharge solid waste to surface waters (e.g., littering), light and noise pollution from surrounding activities which can disturb wildlife, and, if the stormwater infrastructure is improperly designed or maintained, introduce stormwater runoff to surface water.

If Wetland 1 and 2 are wholly or partially filled during construction and on-site compensatory mitigation is required (CCC 11.80 – Wetlands Overlay District), then mitigation area siting would consider all phases of the Proposed Project and operations

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at full buildout to ensure that the mitigation area selected would be permanently protected. Measures to ensure permanency may include locating the mitigation site away from developed areas and otherwise limiting human and pet access to and disturbance of the mitigation area (e.g., fencing, signage). Off-site mitigation would require similar protections.

Wetland 3 could be impacted by recreation activities such off-run skiing, biking, and hiking. When snow covered, these recreation impacts would be due snow compaction, which could compact wetland soils and lead to reduced growth of early-flowering species, frozen soil killing root structures of perennials, and increased likelihood of disease (USFS 2020). When not snow covered, recreation impacts could include direct vegetation and soil damage due to trampling. Requiring signage to discourage use of this sensitive area is suggested by the USFS as a possible mitigating measure (USFS 2020). Considering the large amount of space available for outdoor recreation across the project site, signage around this relatively small area would be expected to effectively minimize an already limited amount of potential disturbance.

[PLACEHOLDER: PUD utility corridor wetland impacts here.]

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on wetlands from the Proposed Project.

Water quality: Operation of the Proposed Project introduces a risk of surface water quality degradation due to spills, stormwater runoff from new structures, roadways, and other impervious surfaces, and wastewater discharge. These topics were introduced in Section 5.2.3.3 in the context of potential impacts to groundwater. While surface waters are more exposed than groundwater, i.e., in the event of a hazardous materials spill or runoff from a pollutant-generating source, surface waters are potentially more quickly contaminated, many of the measures used to protect groundwater quality are also protective of surface water quality. See Section 5.2.3.3 for discussion of mitigation measures related to spill prevention and response and stormwater management.

In the event that a WWTP is determined necessary and following its construction, the operation of a WWTP discharging treated effluent to Squilchuck Creek would require a NPDES permit administered by Ecology. Flow rates over 100,000 gpd require a WWTP, but WWTPs can be designed for treatment of substantially lower flow rates (e.g., 10,000 gpd). In either instance, NPDES permits are required for all discharges to surface water bodies to set discharge limits, monitoring and reporting obligations, and additional provisions to safeguard water quality and public health, ensuring that the discharge minimizes adverse effects. Treatment levels for the WWTP would be established at the NPDES permitting phase and based on discharge point mixing, background constituent levels, and limits established by Ecology.

The WWTP option may involve the use of expandable Membrane Bioreactor (MBR) treatment skids. As the project develops, additional skids and equipment could be sequentially installed and activated. The initial design of the treatment plant would need to encompass the entire projected buildout, facilitating a streamlined process for future expansions in subsequent phases. This approach would ensure the treatment plant's scalability and allow for efficient integration of new components as the project advances. Other options for WWTP design may also be considered.

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See Section 5.2.3.3 (Groundwater) and Section 5.7.3.3 (Utilities) for more information.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on water quality from the Proposed Project.

Water supply/rights: The Applicant proposes to use existing surface water rights with diversions in Squilchuck Creek and its tributaries to supply water for snowmaking in the expansion area. Full use of the Applicant's existing rights is already authorized but may require water right change/transfer application(s) to be approved by Ecology for use in the Mission Ridge Expansion MPR (i.e., change in place of use). Any change in the place of use or other water right attributes would only be authorized if the change would not impair existing rights. No increase in the quantity of water used is allowed through a change application (i.e., no enlargement of the existing right). See Section 5.2.3.3 for more information on water supply/rights and groundwater.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on water supply/rights from the Proposed Project.

5.3.3.4 Indirect Impacts from Operation

No indirect impacts from operations of the Proposed Project on riparian habitat, wetlands, or water quality were identified. Potential indirect impacts from operations on streamflow/water quantity are described below.

Streamflow/water quantity: In instances where groundwater recharge increases, subsequent increases in downgradient stream baseflow may be anticipated. The discussion in Section 5.3.3.3 of direct impacts from the Proposed Project on streamflow (e.g., snowmaking and prolonged spring snowmelt, WWTP discharges (if a WWTP is determined necessary) to Squilchuck Creek) also touches on the indirect impacts of the Proposed Project on streamflow/water quantity, specifically as it relates to increased groundwater recharge from snowmaking and OSS/LOSS discharges.

5.3.3.5 Proposed Mitigation Measures

This section describes relevant mitigation measures that could avoid and minimize construction- and operation-related impacts from the Proposed Project on surface water resources. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

- Mitigation for each phase of the Proposed Project will be completed concurrent with construction of said phase; mitigation could not be deferred to a later date or project phase.
- Mitigation for each phase of the Proposed Project will be designed to be compatible with all phases of construction and will be intended to be permanent unless adaptive management plans allow otherwise.

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- Standard best management practices (BMPs) for construction activities will be implemented during all construction phases of the Proposed Project. Construction-related BMPs will address such activities as material storage and stockpiling; equipment use, fueling, and maintenance; fuel and chemical storage, erosion control; construction timing; and other measures related to specific construction activities (e.g., woody debris management).
- Chelan County will require a habitat management and mitigation plan for riparian buffer impacts (CCC 11.78 – Fish and Wildlife Habitat Conservation Areas Overlay)
- Based on published guidance from WDFW, which focuses on site potential tree height (SPTH), Chelan County may require larger riparian buffers along some streams than specified in code. WDFW indicates that 200 year old ponderosa pine in the area reach heights of approximately 120 feet. WDFW recommendations exceed County requirements for non-fish bearing perennial waters (100 feet) and non-fish bearing seasonal waters (50 feet).
- Any work below the ordinary high-water mark (OHWM) would be conducted during in-water work windows, and all erosion and pollution control BMPs would be employed. All work conducted below the OHWM will require obtaining appropriate permits such as a Hydraulic Project Approval. Per Chelan County Code (11.80.070) the Applicant will coordinate with Chelan County, WDFW and Washington Department of Ecology (11.80.110) to mitigate impacts to wetland habitats and species. This includes preparation and implementation of an HMMP for plant, fish and wildlife habitat conservation areas as previously mentioned.
- Water crossings (e.g., roads, utilities) must be approved by WDFW via an HPA (RCW 77.55.021, CCC 11-78-040), which could include additional mitigation requirements.
- Water crossings would need to be designed with hydraulic capacity to pass a 100-year flood event and associated debris flow.
- Chelan County may require compensatory mitigation for fill of Wetland 1 and Wetland 2 (CCC 11.80 – Wetlands Overlay District).
- The Applicant will coordinate with Chelan County Natural Resources and Washington State Department of Ecology to mitigate for impacts to Category III wetlands identified on the private parcel (Section 19) per guidance in “Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1)” (WADOE et al. 2006).
- In general, to address potential construction impacts on aquatic resources and fish species from the proposed project, the following mitigation measures and design criteria would be developed and employed:
 - Riparian areas and streams in the study area will have established riparian buffers per Chelan County Code 11.78.090 and US Forest Service Northwest Forest Plan (USDA and USDI 1994). Fish bearing streams on federal lands will be protected by a 300-foot riparian buffer; fish bearing streams on private land will be protected by a 200-foot buffer; and non-

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fish bearing streams on private land will be protected by a 150-foot buffer.

- Stream crossings and ground disturbance will avoid and not be conducted near any fish bearing streams.
 - Stream crossings or ground disturbance below the ordinary high water mark on non-fish bearing streams, will be conducted during in-water work windows, and all erosion and pollution control best management practices (BMPs) will be employed.
 - Sediment will be prevented from entering streams and wetlands through the use of BMPs.
 - Equipment and machinery will be maintained and stored in a manner to prevent spread of aquatic invasive species and to protect riparian buffered habitat from hazardous materials (i.e., fuel and oil leaks).
 - Access to streams and wetlands may be discouraged by physical controls (e.g., fencing, signage, dense native vegetation plantings, directing recreation activities away from sensitive areas), or by concentrating access in designated areas (e.g., sanctioned trails).
- Coverage for wetland fill under CWA Section 404 is unlikely to be required, but it is the sole responsibility of the USACE to make jurisdictional determinations.
 - Authorization for wetland fill may be required by Ecology under the Washington State Water Pollution Control Act. If Ecology asserts jurisdiction, authorization of impacts would require a state-issued Administrative Order.
 - Areas of potential future off-site construction, such as road widening and utility installation, must independently ensure compliance with CCC 11.78 – Fish and Wildlife Habitat Conservation Areas Overlay, CCC 11.80 – Wetlands Overlay District, and other applicable local, state, and federal rules and regulations.
 - The Proposed Project would result in greater than 1 acre of ground disturbing activity requiring coverage under the NPDES Construction Stormwater General (CSWGP) Permit. NPDES CSWGP coverage would require the Applicant to develop, implement, monitor, and maintain a number of construction BMPs to comply with water quality standards and other permit requirements. See Section 5.2.3.5 for more information.
 - Should a WWTP be determined necessary to construct, discharge of wastewater to surface water via a WWTP would require compliance with the CWA and state antidegradation policies related to surface water under WAC 173-201A, including a NPDES wastewater discharge permit administered by Ecology.
 - WWTP effluent flow cannot cause downstream flooding. The NPDES wastewater discharge permit should include flooding provisions to constrain discharge quantities depending on design flow.
 - Water Right Changes/Transfer Application(s) would need to be approved by Ecology. Any water right changes/transfers would need to demonstrate that the

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proposed use (1) will not result in enlargement of authorized quantities, (2) will not impair any existing water rights, (3) is not detrimental to the public interest, and (4) will not result in a change of the water source. Ecology may place conditions on water rights authorizations, such as requirements for source metering.

- Prior to construction and operation of the surface water storage reservoir, a Reservoir Permit and Dam Construction Permit from Ecology would be required.
- Any conditions required by the USFS as provided in their final Environmental Assessment (anticipated spring 2024).

5.3.3.6 Applicant-proposed mitigation measures

The following Applicant-proposed surface water resources mitigation measures are intended to further reduce potential effects from construction and operation of the Proposed Project.

The primary proposal that came out of consultation was the decision to ensure no streamflow/water quantity impacts from on-site groundwater withdrawal through a phased or complete reliance on Chelan PUD water supplies if alternate/additional well sites cannot be approved by Ecology (Aspect 2022).

5.3.4 Significant and Unavoidable Adverse Impacts

Through compliance with federal, state, and local laws and regulations and with implementation of the mitigation measures described in this section, there would be no significant and unavoidable adverse impacts related to surface water from construction or operation of the Proposed Project.

5.3.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to surface water resources.

5.4 Plants and Animals

This section summarizes the potential impacts of the Proposed Project on plants and animals in study area, which encompasses both the Project Area and other areas where connected actions would be performed. It includes a discussion of the existing plant and animal resources that occur, or have the potential to occur, in the study area and how those resources could be affected by the Proposed Project. It also discusses how those impacts would be mitigated and provides rationale for the proposed mitigation.

The information presented in this section is based primarily on wildlife studies, field surveys, fish and wildlife impact analyses, and other studies conducted by Chelan County²⁸, the Applicant's consultants²⁹, and the U.S. Forest Service³⁰. This section was developed alongside a companion Plants and Animals Resources Report, which contains the detailed analysis that supports the summary information provided herein³¹.

The study area for the plants and animals impact analysis encompasses the Project Area as well as other connected areas that have the potential to be affected by construction or operation of the Proposed Project. Potential impacts on plants and animals resulting from activities occurring outside of the Project Area for off-site infrastructure improvements are discussed in this section at a project-level. Those activities include improvements to county and city road systems, including the Squilchuck Road corridor, updates to the Chelan PUD special easement area for initial power supply, improvements to the Chelan PUD fiberoptic system for internet service, and potential improvements to the Chelan PUD public water system. Potential plant and animal impacts from Chelan PUD's future transmission corridor and substation improvements are discussed in this section at a programmatic-level and would be subject to later assessment under a project-level SEPA analysis completed by Chelan PUD. The study area and associated reference figures for the various habitats discussed in this section are included as Figures 5.4.1-5.4.7.

Key Findings of Plants and Animals Analysis

The analysis focused on the following factors:

- Terrestrial Habitat and Species Impacts
- Aquatic Habitat and Species Impacts

The analysis found the proposed project would **have no significant and unavoidable impacts** related to plant and animal resources.

²⁸ CCPD (1986)

²⁹ Beich and Tomassi (2017), WCSI (2018, 2020, 2022, 2024), Rossman (2022), Ecosystems North West (2024)

³⁰ USFS 2020

³¹ Anchor QEA (2024)

Map Legend:

- ▭ Project Area Boundary
- ▭ Utility Corridor
- TIA Study Intersection
- ▭ TIA Study Road
- ▭ City Limits
- ▭ County Boundary

Map Labels:

- WENATCHEE
- EAST WENATCHEE
- Douglas County
- Chelan County
- Kittitas County
- MISSION RIDGE RD
- SQUILCHUCK RD
- PITCHER CANYON RD
- CRAWFORD AVE
- STEVENS ST
- CLARK AVE
- WATKINS ST
- WATKINS ST

Scale: 0 1 2 Miles

North Arrow: N

Source: USGS, Google Earth, and local data.

5.4.1 Plants and Animals Overview

In this DEIS, “plants and animals” are divided into two general types of habitats and species: 1) terrestrial habitats and species, and 2) aquatic habitats and species. Wetlands and riparian areas are also discussed due to the habitats that they provide to both terrestrial and aquatic species. For more information on wetlands and riparian areas, refer to Section 5.3, Surface Water.

Definitions:

Terrestrial habitat: Places where plants and animals live where surface water is typically absent (e.g., forest, meadow).

Aquatic habitat: Areas that contain varying amounts and types of surface waters.

The study area is primarily located in the Yakima Plateau and Slopes subregion of the Eastern Cascades Slope and Foothills ecoregion, which occurs in the rain shadow of the Cascades Range (Bryce and Woods 2000). While this ecoregion is generally characterized by vegetation adapted to a dry, continental climate and frequent fire, the northerly aspect and topographic location of the study area may result in more mesic and subalpine variations in the plant community and a different historical fire regime (USFS 2020). Although the majority of the Chelan PUD utility corridor also occurs in this subregion, its northern third extends into the Chiwaukum Hills and Lowlands subregion of the North Cascades ecoregion. That ecoregion is generally characterized by high, rugged mountains underlain by sedimentary and metamorphic rock with variable climate conditions depending on location within the state. In this location, North Cascades ecoregion is characterized by a dry continental climate (Bryce and Woods 2000). Landforms in the Chiwaukum Hills and Lowlands subregion typically include low mountains, hills, and cuerdas (ridges with a gentle slope on one side and a steep slope on the other) that can be highly erodible and unstable (Bryce and Woods 2000).

A detailed analysis of existing conditions across the study area is provided in the Plants and Animals Resource Report and is incorporated into this DEIS by reference (Anchor QEA 2024). The information presented below is intended to provide a summary of the more detailed report.

Terrestrial Plants and Animals

Terrestrial habitats in the Project Area are similar to those within the existing Mission Ridge site with a mix of habitat types, including alpine meadows, subalpine forest, basalt rock outcrops, and talus (WCIS 2018). Other terrestrial habitat types include aspen stands and riparian zones (USFS 2020).

Terrestrial vegetation in the forested portions of the study area is primarily even-aged, closed-canopy, single-story forest stands dominated by Douglas-fir (*Pseudotsuga menziesii*) with a mixed conifer component consisting of grand fir (*Abies grandis*), subalpine fir (*Abies lasiocarpa*), ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*) and larch (*Larix occidentalis*) (WCSI 2018). Overstory species and characteristics are primarily driven by aspect and elevation with northeast to northwest facing areas typically dominated by Douglas fir and larch in the upper elevations with the presence of lodgepole pine increasing at lower elevations (USFS 2020). USFS also noted that much of the study area had been affected by prior timber harvest activities in the mid-20th

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century. When present, understory vegetation is primarily comprised of upland understory trees, shrubs, and herbs.

The USFS conducted plant surveys on National Forest and WDFW lands in the Project Area and documented 207 vascular plant taxa (USFS 2020). Though not a complete census of flora, this species list is available in the USFS project record.

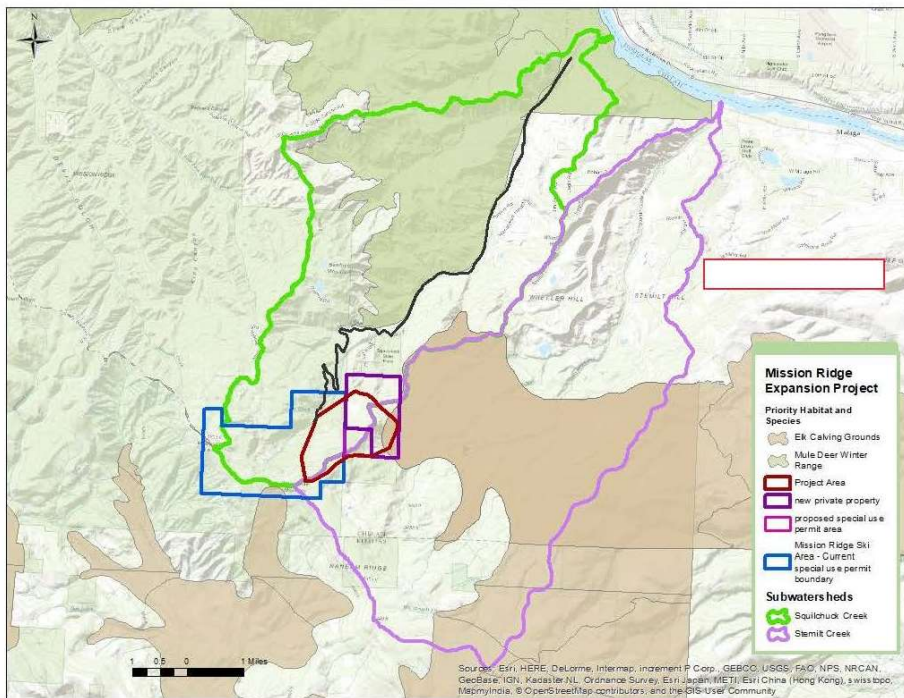
The study area provides habitat for a number of commonly occurring native and non-native terrestrial animal (see Figure 5.4-2 – 5.4-7 for habitat visualization of elk, mule deer, lynx, and grizzly bear as well as invasive species, special plant features, and white bark pine as it relates to the project area) including the following:

- Mammals including ungulates such as elk and deer; tree- and ground-dwelling mammals including mice, rats, squirrels, chipmunks, shrews, voles, rabbits, pikas, marmot, raccoon, and porcupine; wider-ranging carnivores such as black bear, wolf, bobcat, cougar, wolverine, lynx, marten, fisher, weasels, and fox; and bats.
- Birds including multiple species of songbirds, woodpeckers, ground-nesting birds, and raptors.
- Reptiles including various snakes, lizards, and turtles.
- Amphibians including frogs, toads, and salamanders.
- Invertebrates including various type of insects, spiders, worms, and other invertebrates.

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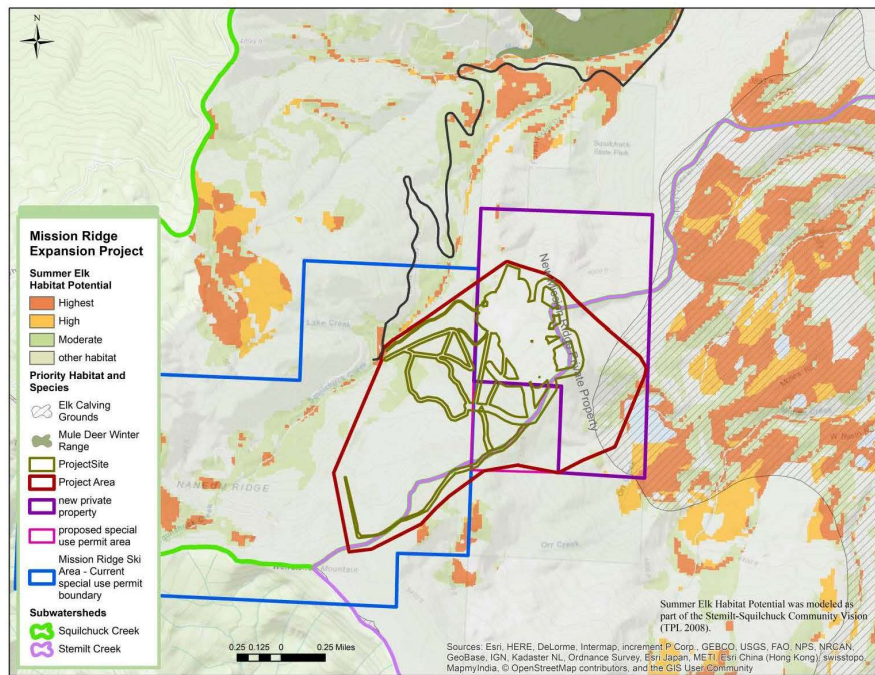
Figure 5.4-2: Elk and Mule Deer Range and Calving Area in relation to Project Area



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Figure 5.4-3: Elk Summer Habitat in Relation to Project Area



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Figure 5.4-4: Grizzly Bear and Lynx Habitat in Relation to Project Area

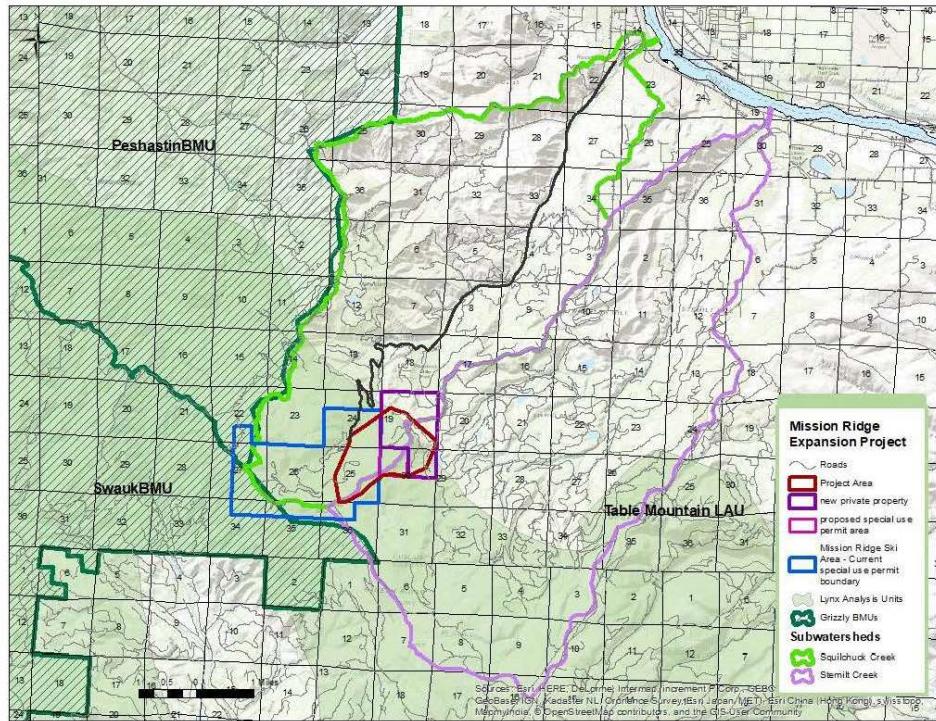
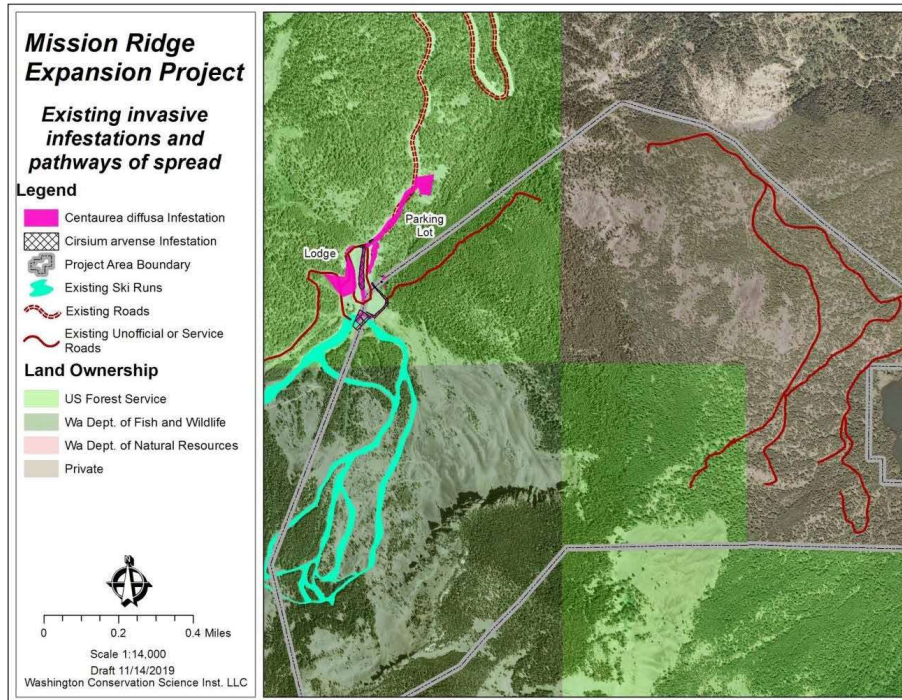


Figure 5.4-5: Invasive Species in Relation to Project Area



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Figure 5.4-6: Special Plant Features in Relation to Project Area

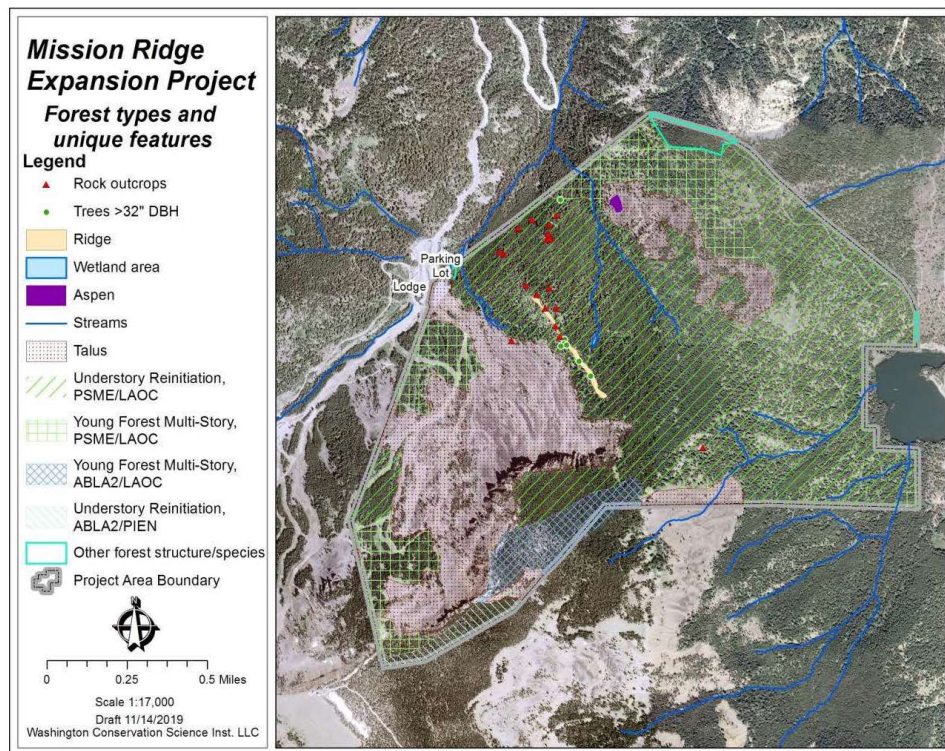
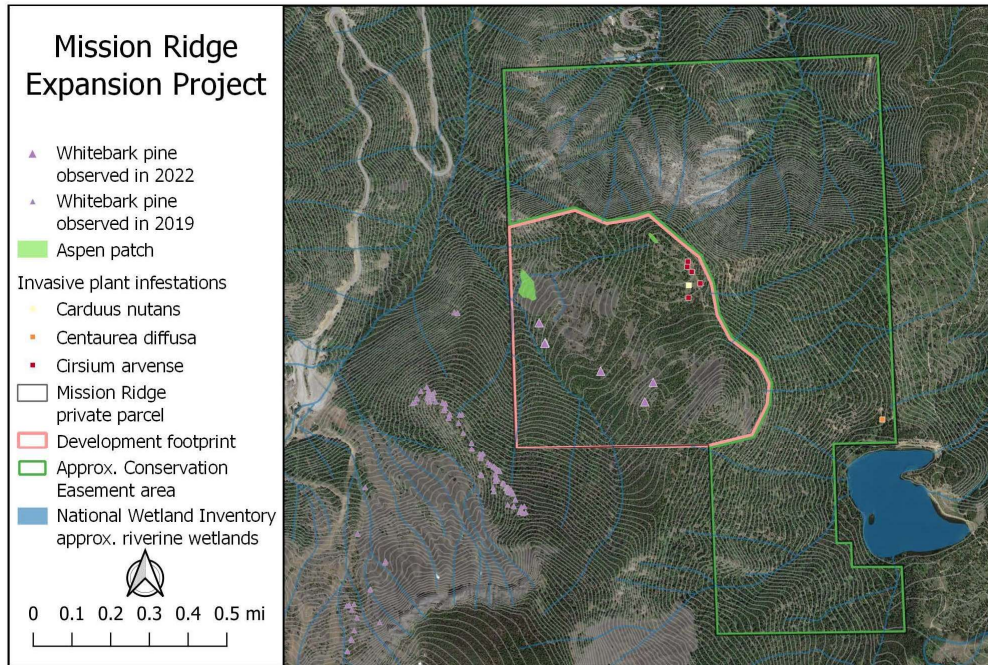


Figure 5.4-7: Whitebark Pine in Relation to Project Area



In addition to commonly occurring plants and animals, there are several special status species that are either known to occur or have the potential to occur within the study area. Table 5.4-1 shows special status species that meet one or more of the following conditions:

- Listed as threatened or endangered under the federal Endangered Species Act (ESA; United States Code [USC] 16.1531 et seq.)
- Listed as threatened or endangered by in the state of Washington under Washington Administrative Code (WAC) 220-610-010
- Identified by WDFW as Priority Habitats and Species (PHS; Washington Administrative Code [WAC] 220.610).

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Table 5.4-1: Terrestrial Special Status Species and Habitats that Potentially Occur Near the Study Area

Type	Common Name	Scientific Name	Federal Status	State Status	PHS Priority Area
Plants	Whitebark ¹ pine	<i>Pinus albicaulis</i>	Threatened	Sensitive	Any occurrence
	Aspen ¹	<i>Populus tremuloides</i>	None	None	Pure or mixed stands of aspen greater than 1 acre in size
Habitat Features	Talus ¹		None	None	Homogenous areas of rock rubble ranging in average size from 0.5 to 6.5 feet
	Snags and Logs ¹		None	None	Snags with a diameter at breast height of greater than 12 inches and a height of greater than 6.5 feet; logs greater than 12 inches at the largest end and greater than 20 feet long
Mammals	Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Species of Concern	Candidate	Any occurrence
	Roosting concentrations of big-brown bat, myotis bats, pallid bat		None	None	Regular concentrations in naturally occurring breeding areas and other communal roosts
	Cascade red fox ¹	<i>Vulpes vulpes Cascadens</i>	None	Endangered	Any occurrence
	Grey wolf ¹	<i>Canis lupus</i>	Endangered	Endangered	Regular occurrences
	Grizzly bear ¹	<i>Ursus arctos</i>	Threatened	Endangered	Any occurrence
	Canada lynx ¹	<i>Lynx canadensis</i>	Threatened	Endangered	Any occurrence
	Marten	<i>Martes americana</i>	None	None	Regular occurrences
	Elk ^{1,2}	<i>Cervus elaphus</i>	None	None	Calving areas, migration corridors,

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					regular concentrations in winter and in foraging areas along coastal waters
	Rocky Mountain mule deer ^{1,2}	<i>Odocoileus hemionus hemionus</i>	None	None	Breeding areas, migration corridors, regular concentrations in winter
Birds	Golden eagle	<i>Aquila chrysaetos</i>	None	Candidate	Breeding areas, foraging areas
	Northern goshawk ¹	<i>Accipiter gentilis</i>	Species of Concern	Candidate	Breeding areas including alternative nest sites, post-fledging foraging areas
	Dusky grouse ¹	<i>Dendragapus obscurus</i>	None	None	Breeding areas, regular concentrations
	Sooty grouse ¹	<i>Dendragapus fuliginosus</i>	None	None	Breeding areas, regular concentrations
	Flammulated owl	<i>Otus flammeolus</i>	None	Candidate	Breeding areas, regular occurrences
	Northern spotted owl ¹	<i>Strix occidentalis</i>	Threatened	Endangered	Any occurrence
	Pileated woodpecker	<i>Dryocopus pileatus</i>	None	Candidate	Breeding areas
	White-headed woodpecker	<i>Picoides albolarvatus</i>	Sensitive	Candidate	Breeding areas, regular occurrences
	Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened	Endangered	Any occurrence
Amphibians	Columbia spotted frog	<i>Rana luteiventris</i>	None	Candidate	Any occurrence
	Western toad ¹	<i>Anaxyrus boreas</i>	None	Candidate	Any occurrence
Insects	Monarch butterfly	<i>Danaus plexippus</i>	Candidate	Candidate	Breeding habitat areas

Notes:

Sources: USFWS 2024 [USFWS, 2024. IPaC Resource List: Mission Ridge Utility Corridor. Accessed August 14, 2024. Available at: <https://ipac.ecosphere.fws.gov/>.], Washington Department of Fish and Wildlife State Listed Species (WDFW 2023); and Priority Habitat and Species List (WDFW 2008).

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Adapted from Table 4 of *Mission Ridge Expansion Project: Supplement to SEPA Checklist, Aquatics, Wildlife and Botany Resources Report – Final Report* (WCSI 2018). Note that original list included wolverine (*Gulo gulo*), a federally threatened and state candidate species, however, because this species is not known to occur in the study area (Schuur 2024), it was removed from the table.

¹Detailed species/habitat information provided in Anchor QEA 2024

²Also a Chelan County species or habitat of local importance

Except for the proposed Chelan PUD utility corridor area, the study area has been surveyed for invasive plant species. Overall, most invasive plant infestations and non-native species were found in disturbed areas such as along the existing Mission Ridge parking lot, highway, and other existing roads. In their 2020 EA, USFS reports that the most common invasive species observed was diffuse knapweed (*Centaurea diffusa*), a Class B noxious weed (Washington State Noxious Weed Control Board 2019), which occurred in a nearly continuous, sparse to moderately dense population around the perimeter of the parking area, among the existing Mission Ridge buildings, and along the Mission Ridge Road (Chelan County Road 711) (USFS 2020). Occasional individuals of diffuse knapweed were also found in existing ski runs near the base area. Canada thistle (*Cirsium arvense*), a Class C noxious weed (Washington State Noxious Weed Control Board 2019), was also relatively common, with small to large patches found around the parking area perimeter (USFS 2020). Other non-native and invasive species were also found.

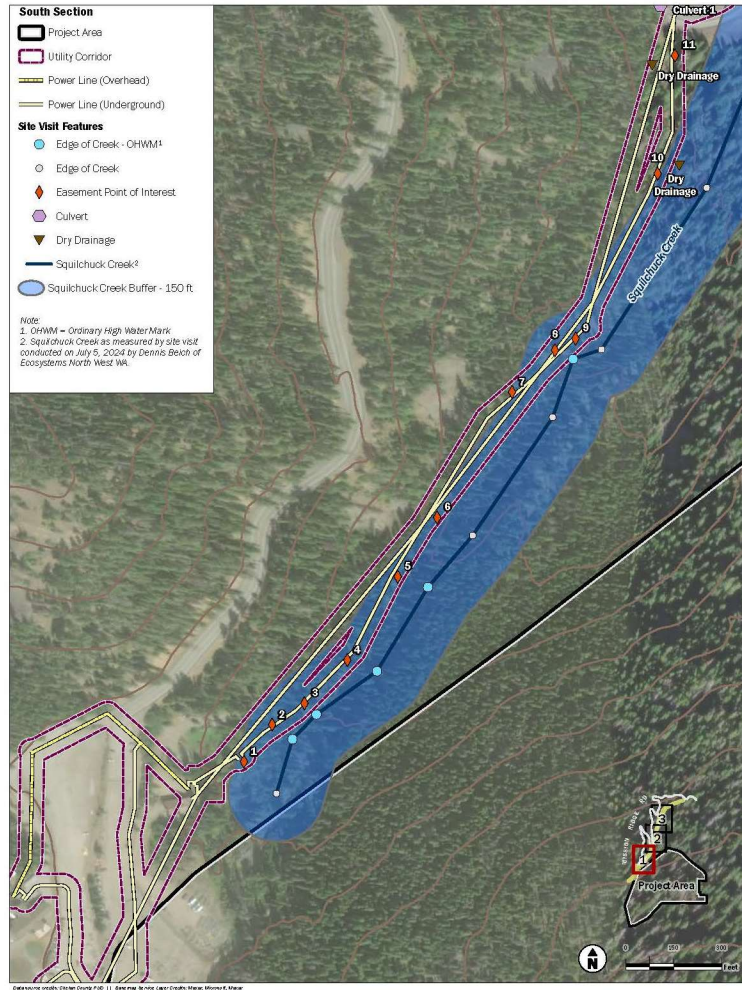
Aquatic Plants and Animals

Two non-fish bearing, perennial streams and three wetlands are located within the Project Area and one non-fish bearing perennial stream and one wetland are located in and adjacent to the Chelan PUD utility corridor. [PLACEHOLDER FOR COUNTY CONFIRMATION OF STREAM LAYER]. The three wetlands in the project area are shown, south, central, and north wetland areas, respectively, on Figures 5.4-8, 5.4-9, and 5.4-10, below.

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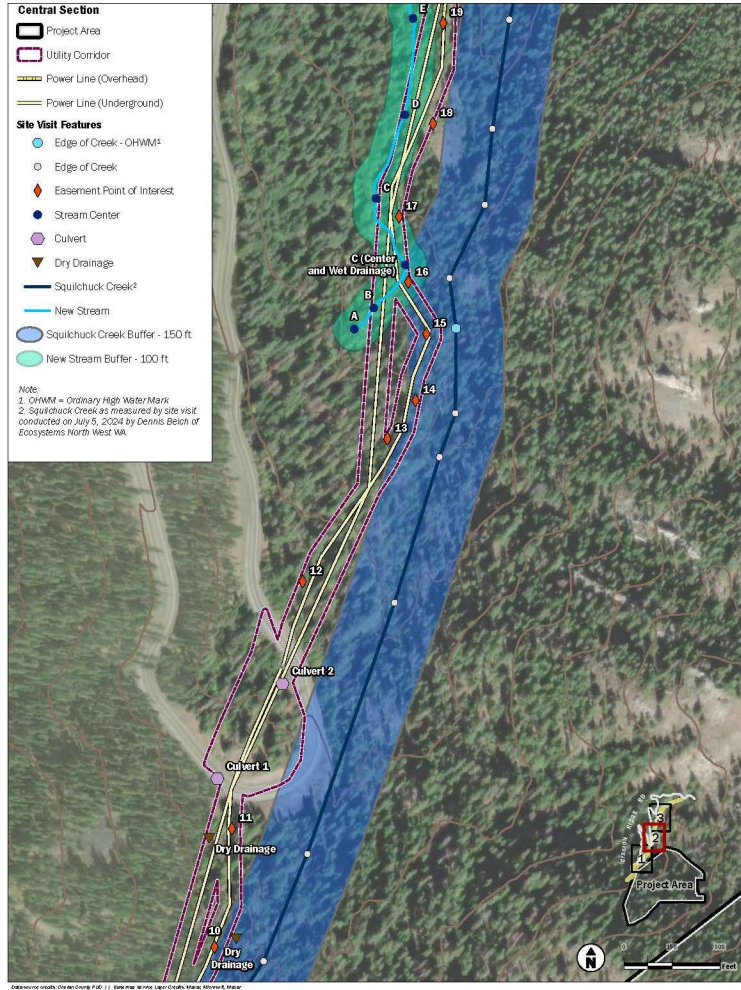
Figure. 5.4-8. Wetland Delineation South



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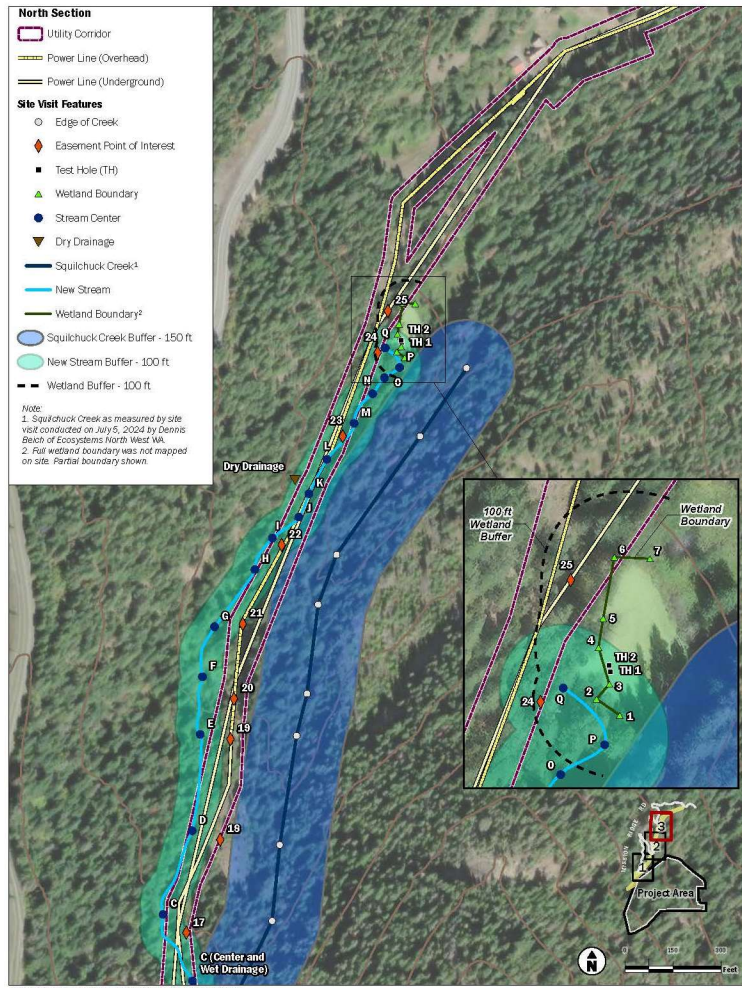
Figure. 5.4-9. Wetland Delineation Central



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Figure. 5.4-10. Wetland Delineation North



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Several intermittent and unclassified/unmapped seasonal streams also occur during the spring runoff season. Fish are not documented in any of the stream segments crossing the Project Area or within the streams in or adjacent to the Chelan PUD utility corridor as culverts, steep gradients, and human-created fish barriers in those areas preclude fish species from inhabiting them. However, these water bodies could and likely provide habitat for amphibian species. A new proposed reservoir within the Project Area to be used for snowmaking could provide additional aquatic habitat, although it is also not likely to support fish due mainly to a lack of connection to fish-bearing waters.

The perennial streams in the Project Area drain to Squilchuck Creek, a fish bearing perennial stream with headwaters within the existing ski area and just outside the Project Area. A small portion of the Project Area drains to neighboring Stemilt Creek. Squilchuck Creek flows from Mission Ridge Ski Area, through culverts located under the Mission Ridge parking lot, through mountainous forested areas, shrub-steppe areas, orchards and other agricultural, residential, and small industrial areas, and the larger developed City of Wenatchee before discharging to the Columbia River. Within the Project Area, Squilchuck Creek receives flow from Lake Creek, which is also culverted under the existing Mission Ridge parking lot. The upper extent of Squilchuck Creek habitat within the Project Area is limited by natural fish passage barriers, steep gradients, stream channel size, and insufficient flows. A culvert under the Mission Ridge ski area parking lot is the upstream extent of what are considered fish bearing reaches of Squilchuck Creek.

Downstream of the parking lot, the Chelan PUD utility corridor parallels Squilchuck Creek to the west extending to Squilchuck Road. Although some existing maps show at least two crossings of Squilchuck Creek by the existing corridor, a spring 2024 walkthrough by the Applicant confirmed that the existing corridor does not cross the creek and is located at least 150 feet away from the creek channel throughout its length (Jorgenson 2024). This was further verified during a September 2024 wetland delineation conducted by Ecosystems North West when the western ordinary high water boundary of Squilchuck Creek was identified and mapped (Figure 5.4-1; Ecosystems North West 2024). The section of Squilchuck Creek that parallels the utility corridor runs within a steep-sided ravine that supports dense riparian vegetation and abundant downed trees and woody debris.

The 2024 delineation also identified an unnamed perennial stream that runs between Mission Ridge Road and Squilchuck Creek, and a ponded wetland on the Scout-A-Vista camp property (Figures 5.4-2 and 5.4-3). That stream occurs between the proposed location for Booster Pump 2 and the northern end of the Chelan PUD utility corridor. It originates from a hillside seep and runs toward the northeast for approximately 2,400 feet before draining into the ponded wetland on the Scout-A-Vista property. The stream channel splits right before entering the wetland with the eastern branch draining directly into the wetland and the western branch flowing along a dirt road and through a culvert before entering the wetland. The channel of that stream has an average width of 3 feet and is classified as non-fish bearing.

Squilchuck Creek has numerous human constructed culverts and water diversions that impair fish passage, particularly in the lower elevations of the watershed. Major barriers include the Burlington Railroad culvert at RM 0.1, a partial fish passage barrier, and the Wenatchee Avenue culvert at RM 0.3, a full fish passage barrier for Chinook salmon (*Oncorhynchus tshawytscha*; WCC 2001), and a natural barrier at approximately RM 1.2

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that limits migration for adult Chinook and coho salmon (*Oncorhynchus kisutch*; WDFW 2006). In high water events, steelhead trout (*Oncorhynchus mykiss*) may be able to migrate past these barriers, but seasonal low flows and severely degraded habitat limits their productivity (WCC 2001).

Native fish species that are State Priority Species, and likely use the mainstem of Squilchuck Creek, include resident rainbow trout (*Oncorhynchus mykiss*), west slope cutthroat trout (*Oncorhynchus clarkii lewisi*), and mountain sucker (*Catostomus platyrhynchus*), which may occur in the upper reaches. However, their presence in the Project Area and proposed Chelan PUD utility corridor expansion area has not been confirmed. Habitat degradation has occurred to the extent that exotic aquatic species may now be dominant. Native species are typically not present in sustainable numbers due to population isolation and habitat limitations.

Native Chinook and coho salmon and steelhead trout are expected to use the lowest reaches Squilchuck Creek below fish passage barriers and near the confluence of the Columbia River. Because of the natural limiting factors, bull trout (*Salvelinus confluentus*) are not expected to be found in Squilchuck Creek (WCSI 2018).

Squilchuck Creek drains directly to the Columbia River approximately 9 miles downstream of the study area. The Columbia River provides rearing, foraging, spawning and adult habitat for numerous resident fish, shellfish, plants, and wildlife species unique to the Pacific Northwest, as well as migratory habitat for anadromous fish moving to upstream areas.

The Columbia River at the confluence of Squilchuck Creek is a migration corridor and for ESA listed Upper Columbia spring-run Chinook Salmon, Upper Columbia Steelhead Trout, Columbia Basin Bull Trout, as well as two federal Species of Concern, Pacific lamprey (*Lampetra tridentata*) and Pygmy Whitefish (*Prosopium coulteri*). In addition to the species with special Federal status, the Columbia River also provides habitat for the following State Candidate and Sensitive Species: leopard dace (*Rhinichthys falcatus*), mountain sucker, pygmy whitefish (*Prosopium coulteri*), and Umatilla dace (*Rhinichthys umatilla*).

Due to the limited extent of aquatic habitat, there are little to no aquatic plants present in the Project Area. Semi-aquatic plants occur in one of the two small wetlands located on the privately-owned land and include common emergent species such as common spikerush (*Eleocharis palustris*) and various types of sedges (*Carex* spp.). Those species were found growing in an area of seasonal ponding. Both aquatic and semi-aquatic herbaceous plants were observed in the ponded wetland identified in and adjacent to the Chelan PUD utility corridor on the Scout-A-Vista property. Species present in that wetland include panicked bulrush (*Scirpus microcarpus*), duckweed (*Lemna minor*), cattail (*Typha latifolia*), and common spike rush, Coyote willow (*Salix exigua*) is also common along the shoreline. No special status aquatic plants are known occur within the Project Area or in the surrounding areas.

Special status aquatic habitats present within the Project Area and Chelan PUD utility corridor include instream and freshwater wetlands, which are both considered aquatic priority habitats by WDFW. As previously noted, these habitats are not widespread and only occur in limited areas.

5.4.2 How Impacts Were Analyzed

Potential impacts from the construction and operation of the Proposed Project were determined by reviewing information sources cited in this section, and from consultation with WDFW during a consulting agency meeting (Aspect 2022). No additional data collection or modeling was conducted as part of this impact analysis.

Direct and indirect impacts were qualitatively assessed based on their potential to change baseline conditions or conflict with regulatory requirements. It is noted that the impact summaries provided by both the Applicant and USFS report did not typically differentiate between direct and indirect impacts; rather, direct and indirect impacts are called out collectively. Since those summaries were the primary sources for this DEIS, potential direct and indirect impacts on plants and animals were also combined. Factors considered in this evaluation included the following:

- **Terrestrial animal and plant impacts:** direct or indirect impacts on terrestrial animals, plant species and their habitats including potential impacts on special status communities.
- **Aquatic animal and plant impacts:** direct or indirect impacts on aquatic animals, plant species and their habitats including potential impacts on special status communities.

5.4.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.4.3.1 Impacts from Construction

Construction of the Proposed Project would occur in phases over an approximate 20-year period. Construction activities would include vegetation removal, excavation, soil grading, topographic contouring, fill placement, soil compaction, concrete and asphalt paving, foundation construction, infrastructure installation (e.g., new ski lift towers, utility lines, pump stations), stream crossing construction (e.g., culvert installation), existing road improvement and new road construction, existing reservoir enlargement and new reservoir construction, material and equipment storage and stockpiling, burning of nonmerchantable tree and coarse woody debris, and other related activities. Such actions would disturb and permanently alter the existing vegetation, contours, and soils of the Project Area and some offsite construction areas, which would in turn affect existing habitats and wildlife use of portions of the Proposed Project. In many instances, these actions would convert existing natural areas that are relatively undisturbed to developed areas with moderate to high levels of disturbance. It would also convert pervious surfaces to impervious surfaces, decreasing infiltration and increasing stormwater runoff and erosion potential, during the construction periods. Construction activities would also both temporarily and permanently alter existing drainage patterns and potentially change snow accumulation patterns within the Project Area.

Construction work would be performed using a variety of diesel- and gasoline-powered, construction equipment including but not limited to, excavators, backhoes, bulldozers, scrapers, loaders, dump trucks, compactors, rollers, cranes, light-duty work trucks,

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equipment service vehicles, mobile concrete batch plants; helicopters (for transport and placement of concrete and structural components for ski lift towers); manual and powered hand tools (e.g., chainsaws, brush cutters), portable generators, and portable lighting. Use of this equipment will produce dust, noise, vibration, and artificial light disturbances that are not currently occurring in the Project Area. It will also involve the increased presence of humans, associated human activities, and daily vehicular traffic on existing roads and trails both on and in the vicinity of the Project Area during the construction period.

Potential impacts on plants and animals from construction activities and the use of construction equipment include the following:

- Direct injury and mortality of plants and animals (e.g., cutting, crushing)
- Conversion, degradation, and loss of existing habitat
- Conversion of vegetation communities (e.g., conversion of forested areas to herbaceous/shrub-dominated in areas proposed for new ski runs or widened utility corridor easements)
- Disruption of animal behaviors (e.g., nesting, breeding, denning, foraging, migration)
- Conversion of natural areas to developed areas
- Increased risk of soil and water contamination from leaks and spills of fuel and other vehicle fluids and chemical used during construction (e.g., paints, solvents)
- Increased risk of human and wildlife interactions during construction activities
- Increased risk of construction vehicle collisions with wildlife
- Increased risk of invasive plant species spread and infestation

Construction Impacts on Terrestrial Habitats and Species

The following sections discuss the potential direct and indirect impacts of proposed project construction on terrestrial habitats and plant and animal species.

Commonly Occurring Terrestrial Plants: Construction of the proposed project will require varying levels of vegetation removal within approximately 232 acres of primarily mixed-conifer forest (conifers and associated understory) [placeholder: Outstanding question from Anchor related to acreage]. Of that area, approximately 158 acres occurs on private land and the remaining 72 acres on public lands outside of the Master Planned Resort boundary (WCSI 2018, LDC 2022) [placeholder: Outstanding question from Anchor related to acreage]. Construction of roads, parking areas and buildings, including the addition of three Chelan PUD booster pump stations for the proposed water line in the Chelan PUD utility corridor, will require nearly complete removal of vegetation; construction of ski runs, trails, and widening of utility corridors will require considerably less removal. The majority of the vegetation that would be removed consists of relatively common native trees, shrubs, and herbs, which are abundant on other portions of the study area and surrounding lands. Non-native and invasive species are also likely to be affected.

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An overall goal of the Proposed Project to keep the area as natural as possible with a combination of natural vegetation and infrastructure design (LDC 2022). The total proposed project includes 805 acres of proposed development [PLACEHOLDER: Discrepancy in “developed area” layers provided by Applicant. Keep placeholder here for correction to acreage if needed]. However, 621.7 acres of that development are dedicated to open space including ski runs (37.2 acres), undesignated open space (45.1 acres), dedicated conservation areas (531.4 acres), and managed open space (8.0 acres) (LDC 2022). This means that over 75% of the site is dedicated as open space. This vastly exceeds the requirements in CCC 11.89.050(2), which requires 40% of the site be left as open space. Leaving 75% of the site in open space also translates to permanent preservation of existing vegetation.

There is a relatively high amount of vegetation onsite that is currently diseased or dying (LDC 2022). As part of construction, the Applicant would consult arborists to ensure retained vegetation is healthy. Restoration requirements, where applicable, would meet CCC 11.77 – 11.80 requirements for revegetation. In addition, the landscaping requirements contained within CCC 11.89.050 and CCC 15.50 would also be met.

Therefore, with proper construction-related mitigating conditions including those described later in this section, there would not be probable significant adverse construction-related impacts on commonly occurring terrestrial plants from the Proposed Project.

Commonly Occurring Terrestrial Animals: Construction impacts on commonly occurring animal species would vary by animal type. Larger mammals (e.g., elk, deer, bear, cougar, coyote, fox) are the least likely to be directly affected by construction activities due their ability to move quickly and travel sufficient distances away from the disturbance. Smaller mammals such as bats, squirrels, chipmunks, rabbits, raccoons, and mustelids (e.g., fisher, marten, mink, otter) may experience slightly higher direct impacts from construction activities because they are somewhat dependent on ground burrowing, rock crevices, trees, and organic structures (e.g., snags and downed logs) for cover. Construction activities such as tree and other vegetation removal, excavation, ground compaction, and fill placement may result in impacts including harassment, temporary to permanent displacement, and possibly mortality. Mammals such as gophers, moles, voles, shrews, and mice may experience a higher degree of direct impacts from construction activities because they depend more on ground burrowing and rock crevices for cover and may experience direct harassment, injury, or mortality resulting from construction equipment use, excavation, ground compaction, fill placement, and the construction of project foundations and infrastructure including roads and utility corridors.

Mammals in the vicinity of construction activities could also be directly affected from dust, noise, vibration, and artificial lighting during construction that may disrupt behaviors such as foraging, breeding, or rearing, as well as altering behavior patterns. The presence of construction equipment and human activity may also trigger stress induced physiological changes in some mammals that are less capable of fleeing the area. Larger mammals may relocate to adjacent unaffected habitats, resulting in potentially increased competition for resources. These adjacent lands contain potentially suitable habitat and migration corridors (e.g., riparian corridors) that are similar to habitats in the study area. Mammals that remain in the construction area would also

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experience changes to their habitats that may result in a decrease in available resources (e.g., food, prey, cover) and an increase in competition for the remaining resources. However, relatively abundant supporting habitat will remain in adjacent areas.

Non-nesting, post-fledged, and adult resident and migratory birds are the least likely to be directly affected by construction activities due to their ability to fly away from the areas where those activities are occurring. Impacts on these birds would include harassment and temporary to permanent displacement to adjacent unaffected habitats that may result in an increase in competition for resources. The habitats adjacent to the proposed construction areas are similar and relatively abundant, so appropriate supporting habitat for displaced birds is readily available. Breeding and pre-fledged birds are more likely to be directly affected by tree removal and other construction activities, which could result in elimination of nesting and perching sites and a decrease in available remaining resources. Similar to mammals, birds in the vicinity of construction activities could be directly affected from dust and artificial lighting that may disrupt normal behaviors, including nesting.

Snakes and lizards may be killed or injured during construction activities. Typical habitat for ectotherms (species that use their environment to regulate their body temperatures) includes exposed rocky areas and talus, which are relatively abundant throughout the study area. Other exposed areas that may be used by these animals include existing and proposed roads, future equipment and material laydown yards, and other similar areas. Construction activities that could result in impacts on reptiles and their habitats include tree removal, construction equipment operation, excavation, ground compaction, and fill placement. Similar to mammals and birds, snakes, lizards, and other reptiles that live or use the study area would be exposed to dust, noise, vibration, and artificial lighting generated during construction periods, which may lead to disruptions in behaviors and behavior patterns. Daytime construction disturbance may constrain heat-seeking behaviors essential for ectotherms because that preferred habitat is along exposed surfaces in open areas. Such disturbances could affect the normal foraging and breeding behavior of reptiles.

Amphibians are closely associated with aquatic habitat and therefore would be most affected by impacts on wetlands and stream channels. Because the Project Area and Chelan UPD utility corridor contain limited aquatic habitat, the proposed project is likely to have fewer impacts on amphibians relative to other animal groups. Most impacts on amphibians are likely to occur in the Chelan PUD utility corridor, where the unnamed perennial stream and ponded wetland, and their associated buffers, could be affected by installation/extension of the new water supply line and fiber optic cable for the project. Such impacts would most likely result from vegetation removal and ground disturbance activities, especially those that would affect riparian areas, downed wood, or talus. Some amphibians may be able to relocate away from construction activities whereas others would likely be killed. Amphibian larvae may be directly affected by exposure to accidental spills and releases of pollutants into waterways from construction materials and equipment. Changes to their habitat may also limit the amount and distribution of suitable instream breeding habitat.

Insects, spiders, and other invertebrates would be injured or killed during construction activities. Similar to the other animal groups, invertebrates could be directly affected from dust and artificial lighting that may lead to disruptions in behaviors and behavior

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patterns. Non-winged invertebrates are more susceptible to direct impacts due to their limited mobility and relatively small home ranges. Winged invertebrates are likely to relocate to adjacent unaffected habitats. Due to their small size and adaptability, many invertebrates would likely continue to use the construction areas.

Overall, construction impacts on commonly occurring terrestrial animal species are expected to occur. However, as noted previously, many animals will leave the construction area to avoid the disturbance and occupy similar adjacent habitats, which are relatively abundant in the study area and surrounding lands.

Therefore, with proper construction-related mitigating conditions including those described later in this section, there would not be probable significant adverse construction-related impacts on commonly occurring terrestrial animal species from the Proposed Project.

Special Status Terrestrial Plants and Animals: As summarized in Table 5.4-2, there are several special status species that are either known to occur or have the potential to occur within the study area that may be impacted by construction of the Proposed Project.

Table 5.4-2. Potential Construction Impacts on Special Status Terrestrial Species and Habitats

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Common Name	Impact Summary	Resource Report (page no.)
ESA Listed Species		
Whitebark Pine	<p>Assessment focus: Potential for 1) impact to individual whitebark pine and 2) impact to whitebark pine population.</p> <p>Findings: 1) The proposed project would also have long-term adverse impacts on whitebark pine as the proposed footprint of construction activities would potentially be in conflict with 45 of the 167 (27%) documented whitebark pine stems in the Project Area (USFS 2020). The Applicant would also need to survey the portion of the Chelan PUD utility corridor where corridor widening is proposed for the presence of whitebark pine prior to performing any clearing work to determine if other individual plants would be affected by the project. The Applicant has made efforts to promote the conservation of whitebark pine including adjusting the footprint of soil contouring for alpine ski runs to protect documented whitebark pine trees. Additionally, project implementation would require compensatory planting to mitigate for both construction and operations impacts on existing whitebark pine. And 2) construction impacts on the entire local population of whitebark pine would be minor.</p>	
Cascade Red Fox	<p>Assessment focus: Potential for habitat impacts due to construction activities occurring at high elevation, such as ski runs.</p> <p>Findings: Cascade red fox unlikely to occur in or near the Project Area due to the location of the project being well east of primary habitat and outside of current and historic distribution.</p>	
Grey Wolf	<p>Assessment focus: Potential for 1) disturbance during the pup-rearing period, 2) changes to wolf security habitat, and 3) project effects on elk and mule deer, their primary prey base.</p> <p>Findings: 1) No known denning or rendezvous sites and mitigations to protect sites if discovered, 2) limited effects to security habitat within the study area, and 3) limited effects to prey species on lands within the study area, and partial mitigation through timing restrictions during critical time periods if needed.</p>	

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Canada lynx	<p>Assessment focus: Potential for 1) changes to lynx habitat components, and 2) changes to areas that would be groomed or designated as snow-play areas (e.g., ski runs, groomed Nordic ski trails, and snowmobile routes).</p> <p>Findings: 1) An insignificant and discountable reduction in lynx habitat on state and federal lands would result from project construction, 2) the location of the project occurs in an area designated as “peripheral” to the recovery of lynx, 3) the location of the project make it unlikely that lynx reside in this area because it is a considerable distance to known occupied lynx (core) areas, and 4) the project is consistent with the conservation measure for Canada lynx in “peripheral” areas.</p>	
Grizzly Bear	<p>Assessment focus: Potential for 1) changes to the availability of core areas within the North Cascades Grizzly Bear Recovery Area (but outside of any Grizzly Bear Management Unit (GBMU) and 2) the potential for grizzly bears to become habituated to human foods and garbage.</p> <p>Findings: 1) The Proposed Project would occur on the periphery of the North Cascades Grizzly Bear Recovery Area but outside of any GBMUs. In the portion of the site that is within the recovery area, there would be no change or reduction in the size of existing core areas that provide relatively disturbance-free habitats and seasonal food resources for grizzly bear. 2) Human food and garbage to be properly contained during construction so no opportunity for habituation.</p>	
Northern spotted owl	<p>Assessment focus: Potential for changes to Northern spotted owl habitat.</p> <p>Findings: 1) The activities associated with the Proposed Project do not occur in an area designated to emphasize spotted owl recovery, on either federal or state lands, 2) the study area is located on the eastern edge of the range of the spotted owl, 3) the project would not degrade or downgrade any suitable spotted owl habitat, dispersal habitat, or potential habitat, either within the study area or in the surrounding Squilchuck and Stemilt subwatersheds, and 4) there is a limited potential for disturbance to occur to nesting habitat; however, this potential is low and, surveys and timing restrictions would be implemented if a nest were to be found.</p>	

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Yellow-Billed Cuckoo	<p>Assessment focus: Potential for impacts on individuals and loss of riparian habitat.</p> <p>Findings: 1) Because yellow-billed cuckoo preferred habitat includes large, continuous riparian zones with cottonwoods (<i>Populus</i> spp.) and willows (<i>Salix</i> spp.) and sometimes Douglas fir woodland (WDFW 2013), there is a limited potential for the loss of yellow-billed cuckoo habitat as a result of proposed vegetation clearing in the Chelan PUD utility corridor, which crosses several areas of mapped riparian areas. 2) Potential impacts on the species from the potential loss of riparian habitat is expected to be minimal as WDFW considers yellow-billed cuckoo to be functionally extirpated in the state of Washington (WDFW 2022),</p>	
WDFW PHS Species		
Aspen	<p>Assessment focus: Potential for 1) impact to individual aspen stands and 2) impact to aspen population.</p> <p>Findings: 1) A small (0.9-acre) aspen stand would be partially eliminated during construction of the main access road. Because that stand is less than 1 acre in size, it does not meet WDFW's definition of a priority habitat. However, the Applicant has proposed to minimize impacts on the aspen stand through site design. 2) The project would have no impact the local or regional aspen population.</p>	
Elk1	<p>Assessment focus: Potential for 1) reduced elk habitat quality, 2) impacts to elk movement and/or displacement of elk.</p> <p>Findings: 1) Although elk habitat quality would change in the study area, those changes would be limited, 2) certain activities could be timed to reduce impacts (e.g., noise, human presence) during critical time periods such as elk calving and spring and fall migration, and 3) elk are highly mobile and capable of finding alternative routes between summer and winter ranges.</p>	
Mule deer1	<p>Assessment focus: Potential for 1) reduced mule deer habitat quality, 2) impacts to mule deer movement and/or displacement of mule deer.</p> <p>Findings: 1) Although mule deer habitat quality would change in the study area, those changes would be limited, and 2) mule deer are highly mobile and capable of finding alternative routes</p>	
Western Toad	<p>Assessment focus: Potential for reduced habitat quantity and quality.</p> <p>Findings: Suitable habitat for western toad in the study area primarily occurs in riparian areas. Because those areas will be protected by buffers during construction, potential impacts on western toad habitat are expected to be minimal.</p>	

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Dusky and sooty grouse	Assessment focus: Potential for reduced habitat quantity and quality. Findings: Abundant habitat is available within the study area, only a portion of which will be impacted.	
Northern Goshawk	Assessment focus: Potential for reduced habitat quantity and quality. Findings: The study area has very little old forest structure and impacts to lower quality goshawk habitat would not negatively impact goshawk populations.	
Monarch Butterfly	Assessment focus: Potential loss of monarch butterfly breeding habitat. Findings: 1) Monarch butterflies breed and travel through Washington but do not overwinter in the state (WDFW 2024). 2) Monarch butterfly is dependent on the presence of secure patches of milkweed (<i>Asclepias</i> spp.) for reproduction. 3) No significant patches of milkweed have been identified on the project site during any of the botanical surveys completed to date. 4) The project is not expected to have an adverse impact on habitat for monarch butterfly.	
Other PHS Animal Species	Assessment focus: Potential Species include Columbia spotted frog, golden eagle, flammulated owl, pileated woodpecker, white-headed woodpecker, American marten, roosting concentrations of bat species, Cascade red fox, and wolverine. Findings: Because of the low probability of occurrence in the study area, there would be no effect to these species.	
Talus	Assessment focus: Potential for loss of habitat feature. Findings: Due to the large extent of talus habitat present in the Project Area and the lack of impacts expected on wildlife species associated with talus, overall impacts are expected to be minor.	
Snags and Logs	Assessment focus: Potential for loss of habitat feature. Findings: 1) Snag habitat is limited on the private lands due to past timber harvesting activity; design standards would be incorporated to limit large snag removal where it is safe to do so and 2) past significant wind events have created a substantial amount of downed wood in portions of the study area. As such, log habitat is not limited and much of the log habitat would not be affected by development.	
Chelan County Species or Habitat of Local Importance (if not already described)		

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Migratory Birds	Assessment focus: Potential for changes to habitat availability. Findings: 1) Sight reduction the amount migratory bird habitat due to tree removal, habitat conversion of late-successional, mesic/moist forested areas, and wetland fill and 2) pursuant to CC 11.80.070, Applicant would coordinate with relevant agencies to mitigate impacts on migratory bird species from habitat conversion.	
¹ Also a Chelan County species or habitat of local importance.		

Therefore, with proper construction-related mitigating conditions including those described later in this section, there would not be probable significant adverse construction-related impacts on special status plant and animals from the Proposed Project.

Terrestrial Invasive Species: Invasive plant species are currently limited to areas of previous development including the existing Mission Ridge facilities including around the parking lot, access roads, buildings, and in some areas of existing ski runs. The Proposed Project would likely increase the number of invasive plant infestations in the study area. Road construction, alpine and Nordic ski run re-contouring, chairlift construction, and installation of underground water piping and electrical conduit would disturb approximately 182 acres of forest, displacing native plants and creating habitat for disturbance-adapted invasive species (USFS 2020). Re-seeding re-contoured ski runs with non-native species, a common practice and used previously in the existing Mission Ridge ski area, leads to significantly higher non-native plant cover (Van Ommeren 2001, Burt and Rice 2009). Design features for the proposed project would require that the seeding on federal and state lands to be locally sourced, genetically appropriate native species. Re-seeding of disturbed private lands with native species will also likely be required. Additional design measures, such as reinstating topsoil and cleaning equipment, would also aid in reducing new infestations in disturbed areas.

Therefore, with proper construction-related mitigating conditions including those described later in this section, there would not be probable significant adverse construction-related impacts on and invasive and non-native species from the Proposed Project.

Construction Impacts on Aquatic Habitats and Species

The following sections discuss the potential impacts of proposed project construction on aquatic habitats and plant and animal species.

Aquatic habitat modification and ground disturbance that may impact aquatic habitat is mainly proposed to occur within the Squilchuck Creek Watershed. Smaller areas of the Stemilt Creek Watershed may be impacted by Nordic trail construction.

Potential impacts on wetlands and riparian habitat, and conditions pursuant to CCC 11.78 – Fish and Wildlife Habitat Conservation Areas Overlay District are described in Section 5.3, Surface Waters.

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It is anticipated that impacts on aquatic habitat and the aquatic and amphibious animals that use it would be minimized by following the proposed mitigation measures listed below, and those described in Section 5.3, Surface Waters.

Although the Applicant's proposal states that no construction would occur in the Project Area within 200 feet of the perennial fish-bearing reaches of Squilchuck Creek, this assertion is incorrect and neglects to recognize that the proposed County-maintained access road would need to cross the existing Mission Ridge parking lot, underneath which Squilchuck and Lake creeks are located. This oversight was identified as part of the DEIS development. The Squilchuck Creek culvert is approximately 650 feet in length and 4 feet in diameter and is the upstream of the creek that is designated as fish bearing; the Lake Creek culvert is approximately 550 feet in length and 4 feet in diameter. The current condition of the culverts is unknown. Further, no design specifications are available.

As described in Section 5.3 (Surface Water) and Section 5.6 (Transportation), the condition of the Squilchuck Creek and Lake Creek culverts would need to be better characterized prior to permitting of Phase 1. The County will require the Applicant to provide an inspection of the culverts to identify potential issues, such as corrosion, buckling, mechanical instability, erosion, root infestation, and other points of failure. The County will also require the Applicant to provide a hydraulic analysis of the existing condition to determine whether the culverts are properly sized. An engineering report would describe the identified deficiencies, expected lifespan, and other factors. If the culverts are found to be in poor condition, undersized, or otherwise recommended to be replaced, the County will require the culverts to be replaced in a manner consistent with current regulations. Culvert replacement would result in surface water and riparian habitat impacts on Squilchuck Creek. In addition to the construction activities described above, culvert replacement may require use of a cofferdam and temporary stream rerouting. A detailed description of permitting requirements and mitigating conditions related to potential Squilchuck and Lake creek stream crossings is provided in Section 5.3 (Surface Water).

Potential aquatic habitat impacts from construction activities occurring outside of the Project Area may include electric power infrastructure upgrades, fiber optic cable installation, and a water line extension. These activities are most likely to affect the unnamed perennial stream that occurs in the Chelan PUD utility. That stream will likely need to be crossed in multiple locations by the new water supply and fiber optic lines. Road and utility construction are sometimes constrained by existing infrastructure or easements, often with little to no room to avoid or minimize impacts. In situations where impacts cannot be avoided or minimized, a range of potential compensatory mitigation options should be considered.

Special Status Aquatic Plants and Animals: There are no special status aquatic species known or suspected to occur in the Project Area or Chelan PUD utility corridor. However, as summarized in Table 5.4-3, there are two special status habitats that occur within the Chelan PUD utility corridor that have the potential to be affected by project construction.

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Table 5.4-3 Potential Construction Impacts on Special Status Aquatic Habitats

Common Name	Impact Summary	Resource Report (page no.)
WDFW PHS Habitats		
Freshwater Wetlands	<p>Assessment focus: Potential for loss or degradation of habitat.</p> <p>Findings: 1) Presence of freshwater wetland habitat within the Project Area and Chelan PUD utility corridor is limited to a ponded wetland on the Scout-A-Vista camp property, 2) Minor impacts on the buffer of the ponded wetland on the Scout-A-Vista property would occur from vegetation removal required to facilitate water supply line and fiber optic cable installation. 3. Direct impacts on the wetland can likely be avoided.</p>	
Instream	<p>Assessment focus: Potential for loss or degradation of habitat.</p> <p>Findings: 1) Presence of instream habitat within the Project Area and Chelan PUD utility corridor is limited to an unnamed perennial stream that crosses the utility corridor centerline in multiple locations. 3) Minor impacts on instream habitat in the unnamed perennial stream are likely to occur in locations where the new water supply line and fiber optic cable would cross the stream channel. 4) Impacts on the riparian zone and buffer of the unnamed perennial stream would occur from vegetation removal required to facilitate water supply line and fiber optic cable installation. 5) Impacts on instream habitat from water supply line/fiber option installation could be minimized by constructing these utilities during the driest time of the year and crossing the stream channel at right angles (or as close to a right angle as possible).</p>	

Therefore, with proper construction-related mitigating conditions including those described later in this section, there would not be probable significant adverse construction-related impacts on special status aquatic habitats from the Proposed Project.

5.4.3.2 Impacts from Operation

Operation of the proposed project would include such activities as parking lot and access road use; snow making; ski run/trail grooming; ski lift operation; winter alpine and Nordic ski run use (winter); Nordic trail use (skiing, snowshoeing, and snow-biking in winter;

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hiking, horseback riding, motorized/non-motorized vehicle³² use in summer); backcountry (i.e., non-trail) ski-touring; other winter recreation activities (e.g., tubing); ski run/trail, road/parking lot, and building/infrastructure maintenance; invasive plant/noxious weed control; overnight guest accommodation; year-round commercial use (e.g., restaurants/bars, retail shops, office space, outdoor concert venue); year-round residential and vacation home occupancy and use; groundwater pumping; LOSS system use and maintenance; stormwater management; propane and solar electrical generation; and wildfire suppression and fuel management.

Impacts on plants and animals from such activities will primarily occur from increased levels of human presence and associated increases in traffic, noise, vibration, air emissions, and artificial light levels. Active management and maintenance of the landscape and resort facilities within the Project Area will also affect the plants and animals and their associated habitats. Potential impacts from operation of the proposed project includes the following:

- Ongoing modification of terrestrial habitats
- Disruption of animal behaviors (e.g., foraging, nesting, denning, breeding, migration)
- Increased risk of vehicle collisions with wildlife from visitor, resident, and resort service vehicles
- Increased risk of human and domestic pet interactions with wildlife during use of resort facilities and occupancy of seasonal and year-round commercial and residential areas
- Increased risk of soil and water contamination from leaks and spills of fuel and other vehicle fluids, herbicide use, commercial/residential chemicals, domestic pet waste, and potentially malfunctioning OSS/LOSS
- Increased risk of invasive plant species spread and infestation
- Ongoing regular maintenance of vegetation in utility corridors involving periodic removal of tree species in the utility corridor and possible pruning or trimming trees along the corridor.

Operation Impacts on Terrestrial Habitats and Species

The following sections discuss the potential impacts of proposed project operation on terrestrial habitats and plant and animal species.

Commonly Occurring Terrestrial Plants: Operations of the Proposed Project would impact commonly occurring terrestrial plants in areas where ongoing maintenance would be required. However, similar to construction-related impacts, operation-related impacts on commonly occurring terrestrial plants are expected to be minimal.

³² Non-motorized vehicle use primarily includes bicycles and would occur on trails located on federal-, state-, and privately-owned lands. Motorized vehicle use includes off-road vehicles such as motorcycles and all-terrain vehicles and would only be permitted on privately-owned lands only; no motorized vehicle use would be allowed on federal or state lands within the study area.

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Therefore, with proper operation-related mitigating conditions including those described later in this section, there would not be probable significant adverse construction-related impacts on commonly occurring terrestrial plants from the Proposed Project.

Commonly Occurring Terrestrial Animals: Operations of the Proposed Project would cause impacts on commonly occurring terrestrial animal from ongoing activities in the Project Area. However, similar to construction-related impacts, operation-related impacts on commonly occurring terrestrial animals are expected to be minimal.

Special Status Terrestrial Plants and Animals: As summarized in Table 5.4-4, there are several special status species that are either known to occur or have the potential to occur within the study that may be adversely affected by operation of the Proposed Project.

Table 5.4-4. Potential Operation Impacts on Special Status Terrestrial Species and Habitats

Common Name	Impact Summary	Resource Report (page no.)
ESA Listed Species		
Whitebark Pine	Assessment focus: Potential for impact to whitebark pine population due to continued maintenance. Findings: Overall impacts of maintenance impacts on whitebark pine on the entire local population would be minimal.	
Cascade Red Fox	Assessment focus: Potential habituation of foxes to human foods and garbage. Findings: 1) Cascade red fox unlikely to occur in or near the Project Area due to the location of the project being well east of primary habitat and outside of current and historic distribution and 2) if Cascade red fox were to occur, the Proposed Project includes the installation of wildlife resistant sanitation facilities that would reduce the potential for access human foods and garbage.	
Grey Wolf	Assessment focus: Potential for disturbance during the pup-rearing period and at rendezvous sites Findings: 1) No known denning or rendezvous sites and 2) mitigations to protect sites if discovered.	
Canada lynx	Assessment focus: Potential for disturbance of lynx.	

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	Findings: Because the project occurs in an area designated as peripheral to the recovery of Canada lynx and it is unlikely that lynx reside in this area because it is relatively distance from core habitat area, such impacts are expected to be unlikely and minor in nature	
Grizzly Bear	Assessment focus: Potential for 1) disturbance to grizzly bear and 2) increased human and grizzly bear interactions. Findings: The likelihood of disturbance would be small, and any impacts would be minimal as the likelihood of resident, territorial spotted owls being present in the study area is extremely low.	
Northern spotted owl	Assessment focus: Potential for disturbance to Northern spotted owl. Findings: 1) The activities associated with the Proposed Project do not occur in an area designated to emphasize spotted owl recovery, on either federal or state lands, 2) the study area is located on the eastern edge of the range of the spotted owl, 3) the project would not degrade or downgrade any suitable spotted owl habitat, dispersal habitat, or potential habitat, either within the study area or in the surrounding Squilchuck and Stemilt subwatersheds, and 4) there is a limited potential for disturbance to occur to nesting habitat; however, this potential is low and, surveys and timing restrictions would be implemented if a nest were to be found.	
Yellow-billed Cuckoo	Assessment focus: Potential for impacts on individuals and loss of riparian habitat. Findings: 1) Yellow-billed cuckoo is not expected to be present in the project area or in adjacent areas because, per WDFW, it is likely extirpated from the state of Washington. 2) Operations activities that could affect suitable habitat for this species would include regular vegetation maintenance in the expanded 30 foot utility easement along the Chelan PUD utility corridor to including tree suppression and removal of potential hazard trees from adjacent areas. 3) Overall impacts of such activities on yellow-billed cuckoo habitat are expected to be negligible.	
WDFW PHS Species		
Aspen	Assessment focus: Potential for disturbance to aspen stands.	

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	Findings: Operations are not expected to directly impact the remaining portion of the aspen stand, however, increased future efforts to suppress wildfires in the project area to protect resort facilities and infrastructure, could result in the eventual replacement of aspen by other vegetation. Wildfires have been shown to be beneficial to aspen by reinvigorating growth, encouraging sprouting, and discouraging conifer encroachment (Utah Forest Restoration Working Group 2010; Krasnow and Stephens 1985).	
Elk	<p>Assessment focus: Potential for disturbance to elk.</p> <p>Findings: 1) Operations have the potential to temporarily displace elk from portions of the Project Area, though this is unlikely to cause population-level impacts and 2) a portion of the proposed Nordic ski area is considered part of the Colockum Elk Calving Area (USFS 2020) restrictions on summer hiking or biking on these trails may be necessary to avoid disturbances and impacts to elk during calving and fawning season.</p>	
Mule deer	<p>Assessment focus: Potential for disturbance to mule deer.</p> <p>Findings: Operations have the potential to temporarily displace mule deer from portions of the Project Area, though this is unlikely to cause population-level impacts.</p>	
Monarch Butterfly	<p>Assessment focus: Potential loss of monarch butterfly breeding habitat.</p> <p>Findings: 1) Project area and associated connected areas are unlikely to provide significant breeding habitat for monarch butterfly due to the absence or limited presence of secure milkweed patches. 2) Operation of the proposed project is not expected to alter the presence of milkweed in the project area or in connected areas. 3) Impacts on monarch butterfly breeding habitat from the proposed project are expected to be negligible.</p>	
Other PHS Animal Species	Assessment focus: Species with moderate potential of occurrence include Western toad, dusky grouse, sooty grouse, and northern goshawk. Species with low potential of occurrence include Columbia spotted frog, golden eagle, flammulated owl, pileated woodpecker, white-headed woodpecker, American marten, roosting concentrations of bat species, Cascade red fox, and wolverine.	

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	Findings: Because of the moderate-to-low probability of occurrence in the study area, there would be no effect to these species.	
Chelan County Species or Habitat of Local Importance (if not already described)		
Migratory birds	<p>Assessment focus: Potential for changes to habitat availability.</p> <p>Findings: Only a few species are likely to occur in the Project Area (including golden eagle, calliope hummingbird, white-headed woodpecker, peregrine falcon) and operations are not likely impact these bird species at a population level.</p>	

Terrestrial Invasive Species

The increased number of visitors that would use the expanded ski resort facilities during the warmer seasons would increase the potential for the transport and spread of non-native and invasive plant species. Major avenues for non-native and invasive plant transport and spread include the existing and proposed parking areas, access roads, trails, and the utility corridor. As noted in the current conditions section, there are known infestations of diffuse knapweed and Canada thistle present around the existing parking lot and along the access and administrative roads. Visitors using the parking lot could inadvertently collect and transport weed seeds on their shoes, clothing, and recreational equipment onto the trail system and into other areas of the study area, potentially allowing infestations to develop further away from developed areas to which they are currently limited.

Therefore, with proper operation-related mitigating conditions including those described later in this section, there would not be probable significant adverse operation-related impacts on invasive and non-native species from the Proposed Project.

Operations Impacts on Aquatic Habitats and Species

Potential operations-related impacts on wetlands and riparian habitat in the Project Area and connected areas are described in Section 5.3, Surface Water. Potential impact on special status aquatic habitats in the Project Area and Chelan PUD utility corridor are summarized in Table 5.4-5.

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Table 5.4-5 Potential Operations Impacts on Special Status Aquatic Habitats

Common Name	Impact Summary	Resource Report (page no.)
WDFW PHS Habitats		
Freshwater Wetlands	Assessment focus: Potential for loss or degradation of habitat. Findings: 1) Operational activities are likely to include regular maintenance of vegetation in the Chelan PUD utility corridor including areas that serve as buffers to the adjacent wetland on the Scout-A-Vista camp property. 2) Vegetation maintenance activities are most likely to focus on the suppression of tree regrowth and have the potential to reduce shading and wildlife habitat adjacent to the wetland, and to create areas for potential colonization by invasive species. 3) Potential impacts could be minimized by planting of native woody and herbaceous vegetation and implementing standard BMPs to minimize the spread of invasive species.	
Instream	Assessment focus: Potential for loss or degradation of habitat. Findings: 1) Operational activities are likely to include regular maintenance of vegetation in the Chelan PUD utility corridor including areas that support riparian vegetation and serve as buffers to the unnamed perennial stream. 2) Vegetation maintenance activities are most likely to focus on the suppression of tree regrowth and have the potential to reduce shading and wildlife habitat adjacent to the stream, and to create areas for potential colonization by invasive species. 3) Potential impacts could be minimized by planting of native woody and herbaceous vegetation and implementing standard BMPs to minimize the spread of invasive species.	

Artificial snowmaking and wastewater return flows may increase base flows in Squilchuck Creek, which could improve habitat connectivity and water temperature creating a small benefit for native fish and other native aquatic species, although this benefit is not easily quantified or monitored. Operation of the proposed project introduces a risk of surface water quality degradation due to spills, stormwater runoff, and wastewater discharge (from either OSS/LOSS or WWTP) which could further degrade habitat downstream.

Operations-related impacts on aquatic habitat would be associated with human and pet access to streams, wetlands, and riparian areas, resulting in damage to the aquatic habitat. During winter operations, cold temperatures and snow cover may naturally deter humans and pets from accessing the streams and wetlands. During summer operations,

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additional measures to minimize impacts to aquatic habitat may be implemented to exclude access (e.g., fencing), discourage access (e.g., signage, dense native vegetation plantings, directing recreation activities away from sensitive areas), or concentrating access in designated areas (e.g., sanctioned trails).

Impacts on fish species are not likely to occur within the Project Area from operations because no fish-bearing streams occur in the resort area. Downstream of the Project Area in the Chelan PUD utility corridor, the presence of utilities crossing the unnamed perennial stream and ongoing maintenance of the utility corridor may prevent natural functioning of the creek by limiting regrowth of riparian trees.

Therefore, with proper operations-related mitigating conditions including those described later in this section, there would not be probable significant adverse operations-related impacts on aquatic habitat and species or special status aquatic habitats from the Proposed Project.

5.4.3.3 Proposed Mitigation Measures

This section describes relevant mitigation measures that could avoid and minimize construction- and operation-related impacts from the Proposed Project on plants and animals. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

1. Mitigation for each phase of the Proposed Project would be completed concurrent with construction of said phase; mitigation could not be deferred to a later date or project phase.
2. Mitigation for each phase of the Proposed Project would be designed to be compatible with all phases of construction and would be intended to be permanent unless adaptive management plans allow otherwise.
3. Standard best management practices (BMPs) for construction activities would be implemented during all construction phases of the Proposed Project. Construction-related BMPs would address such activities as material storage and stockpiling; equipment use, fueling, and maintenance; fuel and chemical storage, erosion control; construction timing; and other measures related to specific construction activities (e.g., woody debris management).
4. Any work below the ordinary high-water mark (OHWM) would be conducted during in-water work windows, and all erosion and pollution control BMPs would be employed. All work conducted below the OHWM will require obtaining appropriate permits such as a Hydraulic Project Approval. Per Chelan County Code (11.80.070) the Applicant will coordinate with Chelan County, WDFW and Washington Department of Ecology (11.80.110) to mitigate impacts to wetland habitats and species. This includes preparation and implementation of an HMMP for plant, fish and wildlife habitat conservation areas as previously mentioned.
5. The Applicant will coordinate with Chelan County Natural Resources and Washington State Department of Ecology to mitigate for impacts to Category III

Commented [HP4]: To confirm with Gaines report

Commented [MK5R4]: Revised based on Ecosystem North West delineation report. Squilchuck Creek occurs outside of the utility corridor and would not be crossed by the proposed water supply line or fiber optic cable extensions. However, there is an unnamed perennial stream that occurs in and adjacent to the utility corridor that would need to be crossed in multiple locations by the new utility lines.

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wetlands identified on the private parcel (Section 19) per guidance in “Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1)” (WADOE et al. 2006).

6. In general, to address potential construction impacts on aquatic resources and fish species from the proposed project, the following mitigation measures and design criteria would be developed and employed:
 - a. Riparian areas and streams in the study area will have established riparian buffers per Chelan County Code 11.78.090 and US Forest Service Northwest Forest Plan (USDA and USDI 1994). Fish bearing streams on federal lands will be protected by a 300-foot riparian buffer; fish bearing streams on private land will be protected by a 200-foot buffer; and non-fish bearing streams on private land will be protected by a 150-foot buffer.
 - b. Stream crossings and ground disturbance will avoid to the extent possible and will not be conducted near any fish bearing streams.
 - c. Stream crossings or ground disturbance below the OHWM on non-fish bearing streams, will be conducted during in-water work windows, and all erosion and pollution control best management practices (BMPs) will be employed.
 - d. Sediment will be prevented from entering streams and wetlands through the use of BMPs.
 - e. Equipment and machinery will be maintained and stored in a manner to prevent spread of aquatic invasive species and to protect riparian buffered habitat from hazardous materials (e.g., fuel and oil leaks)
 - f. Access to streams and wetlands will be discouraged by physical controls (e.g., fencing, signage, dense native vegetation plantings, directing recreation activities away from sensitive areas), or by concentrating access in designated areas (e.g., sanctioned trails).
7. Per CCC 11.78.060, a HMMP for plant, fish and wildlife habitat conservation areas will also be prepared via a collaborative process between the Applicant, Chelan County, and WDFW. The HMMP will focus on identifying potential impacts from the proposed project on riparian habitat, listed or sensitive plant species, and elk and mule deer habitat and populations in the study area at a project specific scale. The HMMP will also identify any mitigation measures appropriate to the scale of potential impacts. Impact analyses relative to elk will apply the best available science as identified by WDFW, through the elk habitat model and recently completed literature review (Gaines et al. 2020). The HMMP will be completed and approved prior to initiation of Phase 1 of the proposed project.
8. To reduce the potential for an increase in noxious weeds and displacement of native forage for elk and deer, project activities would follow design criteria and mitigation measures for prevention of invasive weed spread. Specific mitigation measures for control of invasive species and noxious weeds include the following:

Commented [LR6]: Revisit with 2024 wetlands report

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cleaning equipment, properly inspecting, removing and disposing of weed seeds and plant parts, using only weed-free straw, mulch, gravel, fill, sand and rock.

9. Control of invasive plants would be managed by the Applicant in the Project Area and by Chelan PUD in the utility corridor easement and would help reduce new infestations. Increased invasive control efforts by the Applicant would be required. The new Special Use Permit would require on-going monitoring and treatment of invasive plants on federal lands, and design features of this project would require expanding the current Mission Ridge Vegetation Management Program to cover all new facilities and ground disturbance, including those on National Forest and WDFW lands. Permitting through Chelan County would likely require similar invasive plant management on the private land. Areas of particular attention would include roadsides, chairlift terminals, trailheads and trails, and ski runs that have been re-contoured. Management by Mission Ridge has thus far kept invasive infestations relatively contained, so their continued monitoring and treatment would likely limit the number of new infestations to an acceptable level.
10. Use native plant materials as the first choice for re-vegetation, where timely natural regeneration of the native plant community is not likely to occur.
11. Project implementation would also require specific compensatory planting to address project impacts on existing whitebark pine both within the Project Area and potentially within the expanded Chelan PUD utility corridor. The Applicant would be responsible for impacts that occur in the project area and Chelan PUD would be responsible for any such impacts in the expanded utility corridor. Following the completion of construction of the roads, lifts and ski runs, Whitebark pine seedlings would be planted at specified rates such that up to 1,305 seedlings being planted. On-site planting in the study area would be favored, though locations have not yet been determined. Seedlings would be grown from parent trees in the Mission Ridge vicinity. To maximize seedling survival at Mission Ridge, recently published planting guidelines by McCaughey (2009) would be followed. Seedling survivorship would be monitored for five years, and if survivorship falls below 25% in this time, additional seedlings would be planted. The collection, growing, and planting of seedlings would occur in collaboration with the USFS.

5.4.3.4 Applicant-proposed mitigation measures

The following Applicant-proposed plant and animal resources mitigation measures are intended to further reduce potential effects from construction and operation of the Proposed Project.

1. Protect all known special status species sites, and those discovered prior to or during implementation of project activities. Modify implementation activities, if protective measures prove inadequate, listed species are discovered, or new species are listed that could be affected.
2. If an active wolf den or rendezvous site is discovered in the vicinity of the project, modify activities to avoid disturbance while being used during the breeding season.

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3. To reduce potential interactions between humans and grizzly bears and Cascade red fox and to help prevent bears and foxes from becoming habituated to human foods and garbage, bear/fox resistant structures and facilities should be incorporated into appropriate areas of the development (e.g., dumpsters, trash cans).
4. To avoid disturbances and impacts on elk and deer during calving and fawning season, the Applicant will coordinate with WDFW to incorporate BMPs including seasonal use restrictions for areas within and adjacent to known elk calving and potential deer fawning areas.
5. Because old growth and mature forests are extremely limited in this area, Applicant would leave trees and snags greater than 21 inches DBH whenever possible.
6. Applicant would incorporate sanitation measures to reduce potential for wildlife-human conflicts during construction and as part of community operations.
7. Mitigation for operational impacts would include implementation of BMPs commonly used by ski resort and outdoor recreation facilities to reduce plant and animal impacts from resort operations. Such BMPs will include long-term erosion management, vegetation management, guidelines for the timing of daily and routine maintenance activities, and periodic run/trail closures during periods when wildlife may be more sensitive to disturbance (e.g., elk calving).
8. Mitigation for potential operational impacts from the proposed residential and commercial development areas on the private parcel would include the development and implementation of standards and guidelines for such issues as vegetation and property management, fertilizer and chemical use, domestic pets, sanitation and garbage management, and lighting. Other similar policies that dictate the management and operation of the various proposed onsite amenities (e.g., snow tubing area, aerial gondolas, outdoor concert venue).

5.4.4 Significant and Unavoidable Adverse Impacts

Through compliance with laws and with implementation of the mitigation measures described in Sections 5.3 (Surface Water) and 5.4 (this section), there would be no significant and unavoidable adverse impacts on terrestrial and aquatic habitats and species from construction or operation of the proposed project.

5.4.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts on plants and animals.

5.5 Energy and Natural Resources

This section summarizes how impacts to energy and natural resources were evaluated and presents the findings from the analysis. Pursuant the County's DEIS scoping summary (2020), the natural resources assessed in this section include open space and access to water and forest resources.

Reports and references from McKinstry (2022) and Chelan PUD (2023) provided information related to energy. These reports evaluate the energy demands for the Proposed Project and the necessary infrastructure improvement plans that would be needed to accommodate the Proposed Project. Natural resources related information was found in Chelan County Code (Chelan County).

The study area for energy and natural resources includes any location where construction or operation of the Proposed Project would occur. This includes the Proposed Project area and Squilchuck Corridor where utility improvements would be located.

For discussion on the impacts to utilities, refer to Section 5.7 Utilities and Public Services. The analysis completed by USFS in the EA did not specifically address the expanded utility needs to support the project, and that discussion is in greater detail in Section 5.7.

5.5.1 Energy Resources Overview

Energy is provided to Mission Ridge by Chelan PUD's Squilchuck Feeder 3-211 (See Figure 5.5.1). The current substation provides energy along Squilchuck Road to the base of the existing Mission Ridge ski area via single circuit distribution lines.

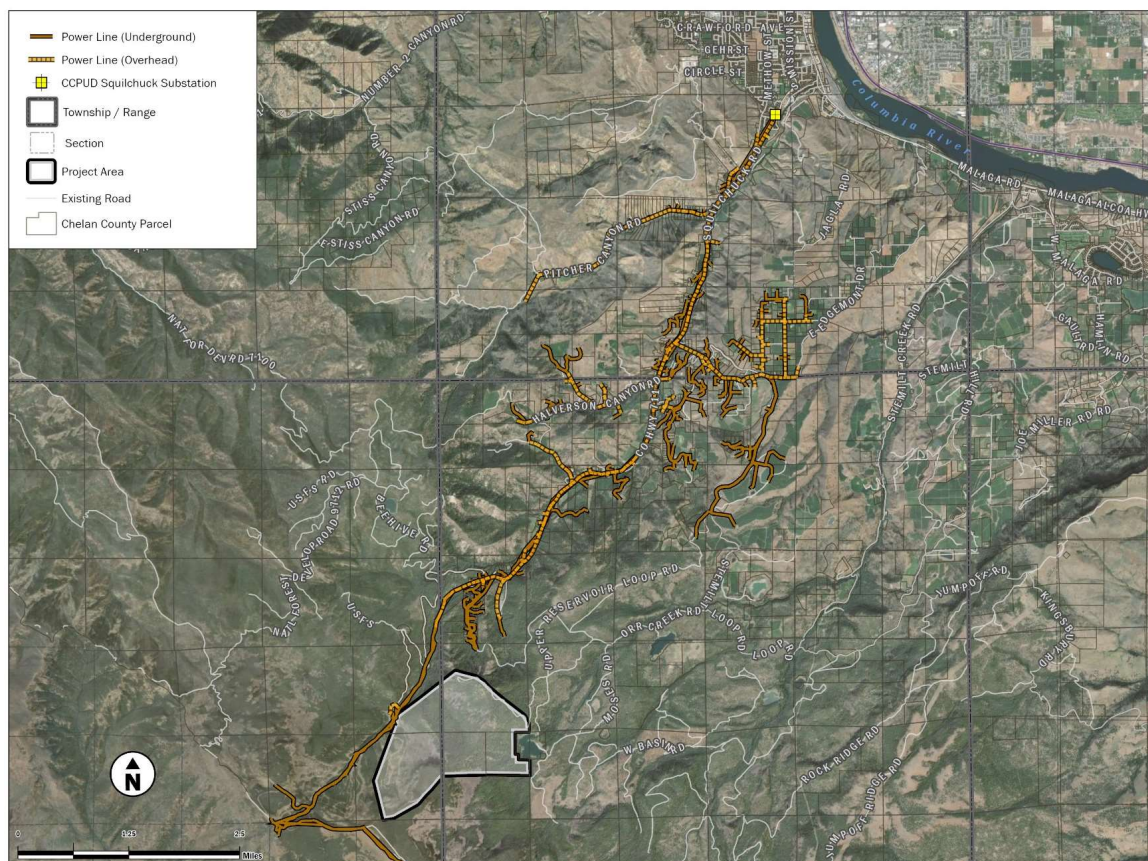
Key Findings of Energy and Natural Resources Analysis

The analysis focused on the following factors:

- Energy demands on existing supply from Chelan PUD
- Changes to open space
- Impacts to forest and water resources
- Consistency with State energy regulations

The analysis found the proposed project would **have no significant and unavoidable impacts** related to energy and natural resources.

Figure 5.5-1. Proposed Project and Energy Resources



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Since the primary energy resource in the region is owned and operated by Chelan PUD, Chelan PUD participated as a consulting agency for this DEIS to best characterize and assess the impacts of the Proposed Project on regional energy supplies. Chelan PUD provided consultation on the availability of energy from the Squilchuck Feeder 3-211, organic growth needs, near-term and long-range energy planning, including additional growth needs to support the Proposed Project at full buildout, and necessary infrastructure improvements to power, fiberoptic, telecommunication, and water utility lines necessary to support the Proposed Project.

The current peak demands on the Squilchuck Feeder 3-211 leave about 2 megawatts (MW) of energy availability for near-term future use (Chelan PUD 2023). Organic growth in the area accounts for roughly 0.5 MW per year (Chelan PUD 2023). With the limited available energy capacity remaining for the Squilchuck Feeder 3-211, Chelan PUD anticipates needing an additional substation to provide energy along Squilchuck Road, but the exact location and impacts associated with the additional substation and new utility lines will be determined later through Chelan PUD system planning. This Long-Range Planning process will be subject to separate SEPA review.

To ensure a comprehensive review of the Proposed Project and in consideration of Chelan PUD's long-range planning timeline, the County and Chelan PUD agreed to a sequential review of environmental impacts related to energy. This DEIS includes a project-level review of the energy impacts up to the point where the Squilchuck Feeder 3-211 is at its full capacity, and targeted improvements already planned by Chelan PUD along Squilchuck Road to maximize the longevity of this existing power supply. A programmatic-level review is reserved for Chelan PUD planning associated with new/alternate transmission lines and a power substation that will be necessary to serve later project phases. Given current energy availability and anticipated near-term demand, it is anticipated that the project-level review will be conducted for Phases 1 and 2 and the programmatic-level review will be conducted for phases 3 through 5. Chelan PUD will supply a supplemental project-level review of the subsequent phases 3 through 5 through their own internal Long Range Planning process.

The associated upgrades to utilities, including power, fiber optic, telecommunications, and water lines, is discussed in greater detail in Section 5.7.

Other energy needs associated with the Proposed Project include diesel and gasoline fuels that would be used for construction or operations of the Proposed Project. These fuels are available from licensed distributors in the region.

Definitions:

Kilowatt (kW): Unit of electrical power equal to 1,000 watts.

Megawatt (MW): Unit of electrical power equal to 1,000,000 watts or 1,000 kW.

Chelan County Zoning Codes (CCC 11.06.010):

FC: Commercial Forest Lands

RR-2.5: Rural residential/resource, one dwelling unit per 2.5 acres

RR-5: Rural residential/resource, one dwelling unit per 5 acres

RR-10: Rural residential/resource, one dwelling unit per 10 acres

RR-20: Rural residential/resource, one dwelling unit per 20 acres

5.5.2 Natural Resources Overview

The Proposed Project is located in an area that is zoned under Chelan County Code (Chelan County Code 11.06) as a combination of rural residential and commercial forest.

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Though the southern portion of the Proposed Project area is zoned as a commercial forest the area is not currently being managed for commercial timber harvest. The proposed project takes place on a total of 1,090 acres, of which 775 acres are designated as commercial forest and 314 acres are designated as rural/residential. All areas zoned as commercial forest are located within open space/conservation areas as defined by Chelan County Code Chapter 11.89.

The project area is located within portions of the Squilchuck Creek and Stemilt Creek subbasins. There are perennial fish-bearing reaches in these creeks downstream of the project area, but there is currently no state-managed commercial fishery (WDFW). Recreational fishing is allowed from Squilchuck and Stemilt Creek (WDFW).

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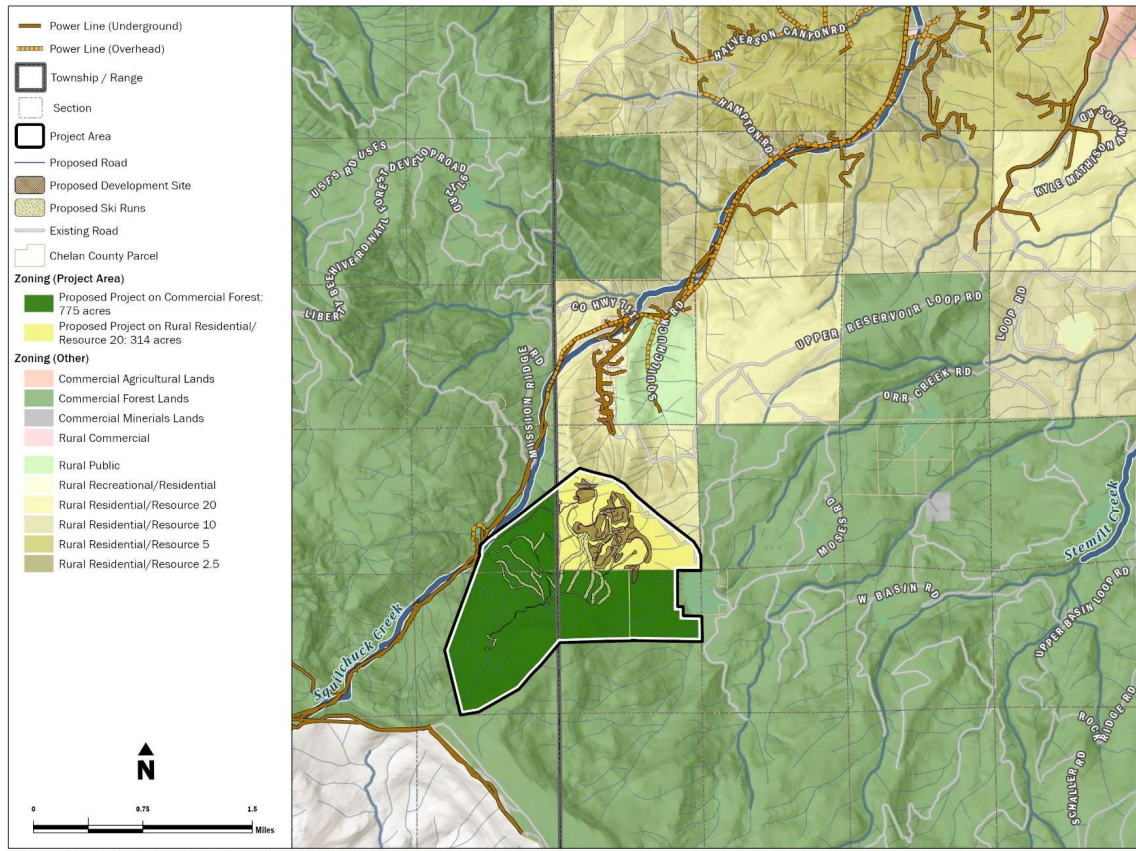


Figure 5.5.2. Proposed and Land Zoning

5.5.3 How Impacts Were Analyzed

The existing conditions and potential impacts to energy and natural resources were determined by reviewing information provided by the Applicant or found in other reports and in consultation with Chelan PUD. The analysis did not include any additional data collection or modeling. The analysis considered the potential impacts to energy provided by Chelan PUD's Squilchuck substation and changes to natural resources, specifically land and water resources, during construction and operation. The analysis focused on the following factors:

- **Energy Supply and Demands:** Energy demands necessary to support the Proposed Project construction and operation. Necessary utility improvements are discussed in greater detail in Section 5.7 (Utilities).
- **Open Space:** Changes to open space from construction and operation of the Proposed Project.
- **Forest and Water Resources:** Impacts to commercial forestry operations, commercial fishing, and downstream water rights as result of the construction and operation of the Proposed Project.
- **State Energy Regulations:** Consistency with state energy plans.

Energy and Natural Resources Effects Summary

1. Energy supply can be supported by Chelan PUD through Phase 1 and a portion of Phase 2. Future phases will be evaluated in Chelan PUD's Long-Range Planning.
2. Construction and operation will preserve open space in accordance with Chelan County Code.
3. No active commercial forest or water resources would be impacted.
4. State energy regulations for energy conservation will be followed during construction and operation.

5.5.4 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.5.4.1 Direct Impacts from Construction

Energy Supply and Demands: Early phases of construction would involve activities such as ground movement, grading, and fill to begin development of the Proposed Project commercial and residential areas. Initial phases of construction for this project would involve heavy equipment operation using on-site fueling with propane and gasoline to source energy demands. An estimated X gallons of fuel will be used throughout all phases of construction. In this first phase, the energy demand will not have a direct impact on the PUD's system as equipment will be sourced from portable supplies. For all phases, the amount fuel anticipated to be consumed during construction would not be expected to have a significant impact on locally available liquid fuel.

Following the initial phase of construction, the Proposed Project would be connected to the PUD's system to provide energy to support construction, in addition to ongoing liquid

Commented [DC7]: Developer Team: Do you have an estimate of the fuel demands for this project?

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fuel needs. Use of Chelan PUD energy during construction (e.g., powering equipment, lighting) would directly affect the peak load. However, energy impacts from construction would be temporary, phased (due to project phasing), and somewhat seasonal (for construction that must be conducted during dry, snow-free seasons). It is expected that construction activities would require a lower peak demand compared to energy demand at full buildout of the phase under construction, so any energy-related mitigation conditions for operations would necessarily cover construction-related impacts (e.g., a given project phase cannot be permitted for construction until utility access is reasonably established).

Utility line construction is expected to include minor relocation and improvements to utility poles from single-circuit distribution lines to double-circuit distribution lines. These improvements would not prevent the use of adjacent properties and would eventually improve the capacity of this area to serve additional rural residential property.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on energy supply and demands from the Proposed Project.

Open Space: Preservation of open space is a primary component of the Proposed Project. The project area covers a total of 1,090 acres, of which 622 acres are dedicated to open space including ski runs (37 acres), undesignated open space (45 acres), dedicated conservation areas (531 acres), and managed open space (8 acres). Dedicated open space is located on privately-owned lands within and outside of the project area. Within the project area there are approximately 323 acres of dedicated open space, outside the project area there are approximately 299 acres.

County Code 11.89.050(2) requires only 40 percent of the site be left as open space. The applicant's open space plan exceeds the minimum requirements. Further, as discussed in Section 5.11 (Recreation), the Proposed Project not only preserves open space, but also increases public access to open space.

Construction for the Proposed Project would include improvement of existing utility lines from Chelan PUD's substation along Squilchuck Road to and across the Project Area. Squilchuck Road intersects property zoned as RR-2.5, RR-5, and RR-10 for rural residential/resource use under Chelan County Code (CCC 11.06).

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on open space from the Proposed Project.

Forest and Water Resources: Construction within the Proposed Project area will take place on a combination of Commercial Forest (FC) lands and rural residential lands (RR-20) (CCC 11.06). The access road, alpine ski area, Nordic ski area, and other elements of the recreational infrastructure would be located on property zoned FC. All the commercial and residential development activity associated with the Mission Ridge Expansion would occur on the portions of the site zoned RR-20 (Figure 5.5.2). The undeveloped areas within the Project Area (i.e., outside of commercial, residential, and recreational areas) are zoned FC and would be preserved as permanent open space. For more details on land use and zoning, refer to Section 4.4 Land and Shoreline Use.

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Though much of the Project Area is zoned for commercial forestry, the land is not currently used for timber harvest. As a result, the use of land zoned for commercial forestry for the purposes of the Mission Ridge expansion would not impact an existing commercial forestry operation.

Construction of the Proposed Project would have potential impacts to surface waters, including Squilchuck Creek and tributaries to Squilchuck and Stemilt creeks. These impacts are discussed in Section 5.3 (Surface Water).

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on forest and water resources from the Proposed Project.

State Energy Regulations: Washington Administrative Code (WAC) Title 194 outlines state and local government and industry regulations administered by the Washington Department of Commerce (Energy). Specific regulations apply for emergency petroleum allocation, electric energy curtailment, allowable emissions output of greenhouse gases, use of energy by state and local government operations, energy independence, the Clean Energy Transformation Act, and adoption of building standards for energy efficiency. The Proposed Project would need to be constructed to comply with any applicable state regulations. The proposed project would have no foreseeable impact on the implementation of the regulations.

WAC 51.11C outlines the Washington State Energy Code and includes requirements for both residential and commercial buildings for the conservation of energy over the lifetime of each building. The Proposed Project buildings would be required to be constructed to comply with the energy conservation goals and requirements of WAC 51.11C.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on state energy regulations from the Proposed Project.

5.5.4.2 Indirect Impacts from Construction

No indirect impact from construction of the Proposed Project on energy and natural resources-related components were identified.

5.5.4.3 Direct Impacts from Operation

Energy Supply and Demands: The Chelan PUD's existing Squilchuck substation would provide power to the Proposed Project for Phase 1 and a portion of Phase 2, until the demands from organic growth and the Proposed Project meet the available existing capacity. For the purposes of this DEIS, only Phases 1 and 2 are evaluated at the project-level, Phases 3 through 5 are evaluated at a programmatic-level.

A report from McKinstry outlines the peak power demands for all phases of operation for the Proposed Project (McKinstry, 2022; Kimley-Horn, 2024). The Proposed Project demands for the five phases are listed below in Table 5.5.1.

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Table 5.5.1. Mission Ridge Expansion – Estimated Electrical Demand

Phase	Total Estimated Demand (kW)	Multi-Family Residential (units)	Single-Family Residential (units)	Hotel/ Lodge (rooms)	Commercial Space/Skier Services (sq. ft.)	Employee Housing (beds)
1*	2787.7	172	102	-	60,000	-
2	1813.6	162	50	57	20,000	40
3	1274.7	156	41	-	18,500	-
4	1212.5	131	41	-	11,500	40
5	240.5	-	31	-	-	-
Total	7329	621	265	57	110,000	80

* Phase 1 also includes the alpine ski area expansion, the Nordic trail system development, the snow tubing area, the new access road, the day-use parking lot, the maintenance and operations facilities.

The applicant states that propane may be used to supplement electric power provided by Chelan PUD, and solar power would be an option for commercial and residential buildings. Operation of the Proposed Project would not be expected to impact other potential users of regionally-sourced propane or solar energy use by adjacent properties.

Open Space: Following construction, operation of the Proposed Project would maintain open space. Open space associated with the ski runs will require maintenance for winter skiing which may include removal of trees and some shrubs. Ski runs create openings in the forest that can function as foraging habitat for several species, including elk and deer, and can act as fuel breaks within the contiguous canopy. CCC 11.89 allows the ski runs to be part of the open space. CCC 11.89.050 states that developed open space may be included, excluding streets and parking areas. Streets and parking areas are not included within the open space areas.

The area within the natural open space designation is adjacent to the proposed development site to the north, east and south. This is the largest open space designation and consists of a variety of habitat types and terrain. Natural open space will be retained predominantly for its wildlife habitat and recreational opportunities compatible with wildlife objectives. The natural open space will not be actively managed or maintained other than mitigation of potential fire risk.

Managed open space would be interspersed among the residential and business development and includes maintained landscaped areas. This open space will likely provide habitat for those species with a high tolerance for human activity and will provide a park-like setting within the development area itself.

By Chelan County Code 11.89.060, all designated open space shall be preserved in perpetuity for that purpose. Open space lands shall be preserved and managed to buffer native environments from intensive development or activities; to retain native plant communities; and, for developed areas, to provide an aesthetically pleasing landscape, provide habitat connections, and minimize risk of fire. The permanent commitment open

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space may be required by Chelan County through a conservation easement or similar mechanism.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse construction-related impacts on open space from the Proposed Project.

Water and Forest Resources: Impacts to forest and water resources due to operation of the Proposed Project are substantially similar to those discussed in the section on construction-related impacts. Namely, no commercial forestry operation or commercial fisheries would be impacted by operation of the Proposed Project. There are water rights downstream of the Proposed Project, but the full use of the Applicant's existing rights is already authorized, and any changes would only be authorized if the change does not impair existing rights. Additional detail on water resources in the Proposed Project area is described in Section 5.2 and 5.3.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on water and forest Resources from the Proposed Project.

State Energy Regulations: Similar to the construction impacts, operation of the Proposed Project would be required to adhere to the energy standards outlined in Washington Administrative Code (WAC) Title 194 and WAC 51.11C for energy conservation and any applicable state actions.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse construction-related impacts on state energy regulations from the Proposed Project.

5.5.4.4 Indirect Impacts from Operation

No indirect impact from operation of the Proposed Project on energy and natural resources-related components were identified.

5.5.4.5 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

- Permitting and construction of each project phase may proceed only if utility access is reasonably established or assured (i.e., construction of the Proposed Project cannot outpace the availability of energy, water, or other necessary utilities).
- Residential and commercial building energy conservation as required in WAC Title 194 and WAC 51.11C.

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- Permitting and construction of the project will comply with the bulk standard requirements and allowed uses for property as outlined in Chelan County Code.
- Open Space: Requirement in CCC 11.89.050(2), which requires 40 percent of the site be left as open space.
- Open Space Preservation: Requirement in CC 11.89.060, which requires all designated open space to be preserved in perpetuity for that purpose.
- Permanent commitment of open space via conservation easement or similar mechanism.

Applicant-proposed mitigation measures:

- Dedicated open space on privately-owned land exceeding County requirements, from 40 percent required to 57 percent committed.

5.5.5 Significant and Unavoidable Adverse Impacts

Through compliance with laws and with implementation of the mitigation measures described in Section 5.4.3.3, there would be no significant and unavoidable adverse impacts related to energy and natural resources from construction or operation of the proposed project.

5.5.6 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to energy and natural resources.

5.6 Transportation

This section summarizes how potential transportation impacts and mitigation were evaluated and presents the findings from the Transportation Impact Analysis (TIA). For the purposes of this DEIS, “transportation” refers to roads.

The Gibson Traffic Consultants (GTC 2019, 2021) and Kimley Horn (2023, 2024) transportation analyses supplied by the Applicant were used to assess potential impacts of the Proposed Project on transportation. Independent review of Applicant provided transportation analyses was completed by KPG Psomas under contract to Chelan County. KPG Psomas memorandums related to the Proposed Project are also referenced in this section (KGP 2023, 2024).

The study area (see Figure 5.6-1) for the transportation analysis includes specific roads and intersections in the City of Wenatchee, the Squilchuck Road/Mission Ridge Road corridor from the City of Wenatchee to the Mission Ridge Base Area, and all transportation facilities within the Project Area, including a proposed new County-maintained access road from the Base Area parking lot to the expansion area, internal private roads, and on-site parking.

[PLACEHOLDER: Pending final decision by County, may need a paragraph here to describe changes since scoping. The County Scoping Memo (2020) suggested the Transportation Section of this DEIS should provide an analysis of the existing single access road to Mission Ridge and consider impacts of the Proposed Project on emergency access, public safety, and evacuation in winter and summer. During DEIS development Secondary Access was determined to be an Alternative Considered but Eliminated (see Section 2.6.1). Discussion related to emergency access/evacuation and public safety has been moved to Section 4.2 Fire Risk.]

Key Findings of Transportation Analysis

The analysis focused on the following factors:

- Existing road systems
- New transportation infrastructure constructed with the project
- Future traffic operations without and with the Proposed Project

The analysis found the proposed project would **have no significant and unavoidable impacts** related to transportation.

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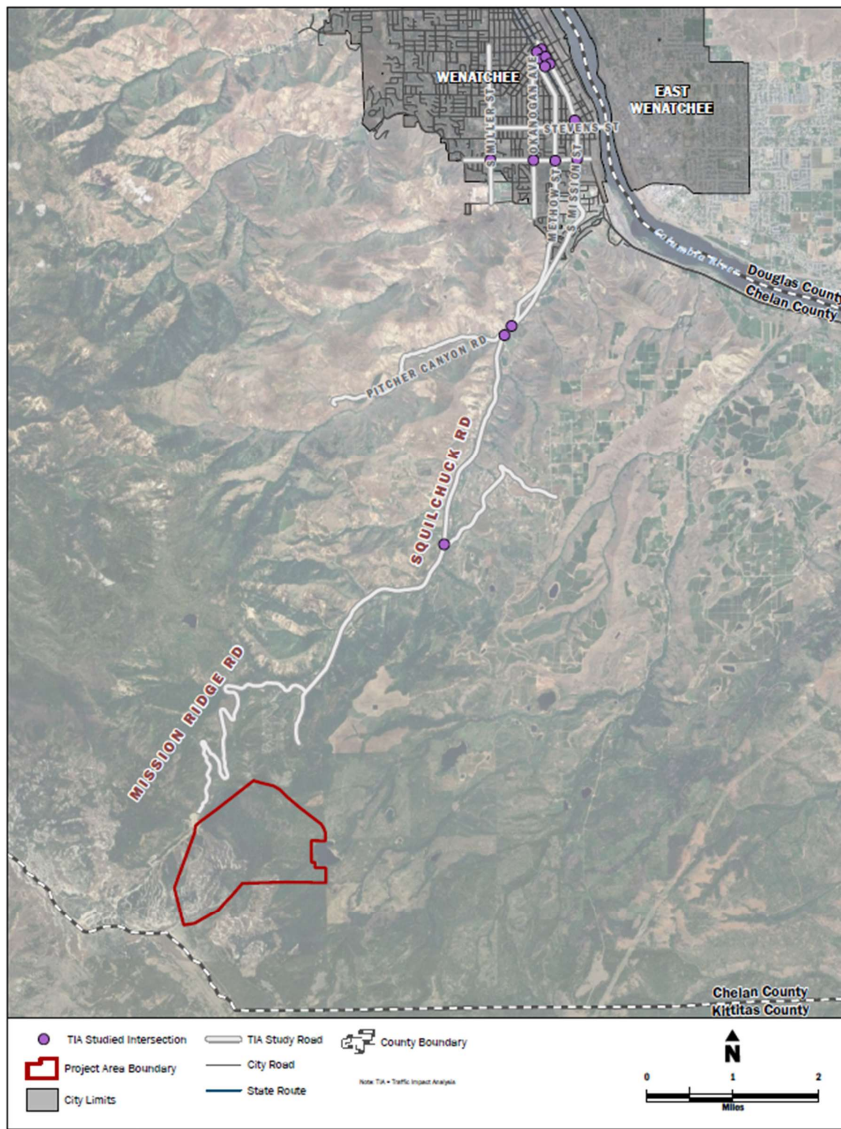


Figure 5.6-1. Existing Transportation Overview

5.6.1 Transportation Overview

Mission Ridge is accessed via Squilchuck Road/Mission Ridge Road through the City of Wenatchee (Figure 5.6-1). Squilchuck Road branches off into Mission Ridge Road at Squilchuck State Park and Mission Ridge Road terminates at the parking lot of the existing Base Area. Combined, Squilchuck Road and Mission Ridge Road (and adjacent easement and utilities) are referred to in this DEIS as Squilchuck Road corridor and comprise the only vehicular access route to the Project Area. USFS roads across the existing ski area are used for access to recreation facilities when not snow-covered. If permitted, the Proposed Project would necessitate improvements to intersections located in the Chelan County and City of Wenatchee, assessment and potential improvements to the existing Mission Ridge parking lot and underlying culverts, as well as the construction of new transportation facilities, including an access road, private roads, and parking.

Transportation impacts were evaluated in several studies (GTC 2019, 2021) that culminated in a Traffic Impact Assessment (TIA) completed in 2023 and revised in 2024 (Kimley Horn 2023, 2024). Based on consultation with state and local agencies, the TIA focused on specific roads and intersections in the City of Wenatchee and along Squilchuck Road and assessed the following:

- (1) Trip generation and trip distribution
- (2) Impacts to surrounding roads and intersections (i.e., intersection Level of Service [LOS], Squilchuck Road capacity)
- (3) Potential improvements to mitigate the transportation-related impacts of the Proposed Project
- (4) Collision analysis

Table 5.6-1 and Figure 5.6-2 describe the 15 intersections that were studied in the TIA and type of analysis conducted (i.e., weekday PM peak-hour, Saturday peak-hour).

Definitions:

Squilchuck Road corridor:

Squilchuck Road from Wenatchee to Mission Ridge Road, Mission Ridge Road to Mission Ridge, plus adjacent easements and utilities.

Traffic Impact Analysis (TIA): A study prepared by the Applicant detailing the traffic impacts and mitigation proposed by the Proposed Project.

Trip: Describes a one-way vehicle trip, analysis of trips is often expressed as Average Daily Trips (ADT).

Weekday PM peak-hour:

Describes evening (PM) peak-hour traffic, determined to occur between 3:00 PM and 6:00 PM.

Saturday peak-hour: Describes the highest peak-hour traffic occurring on a Saturday determined to occur between 3:45 PM and 4:45 PM.

Level of Service (LOS):

LOS criteria are used to assess traffic delays, with categories ranging from free-flowing traffic conditions to jammed conditions with long delays.

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Table 5.6-1. TIA Study Intersections

Study Intersection No.	Study Intersection Name	Analysis Type
1	S. Chelan Avenue at Orondo Avenue	Weekday PM Peak-Hour
2	S. Mission Street at Orondo Avenue	Weekday PM Peak-Hour
3	S. Chelan Avenue at Yakima Street	Weekday PM Peak-Hour
4	S. Mission Street at Yakima Street	Weekday PM Peak-Hour
5	S. Chelan Avenue at Kittitas Street	Weekday PM Peak-Hour
6	S. Mission Street at Kittitas Street	Weekday PM Peak-Hour
7	S. Mission Street at Ferry Street	Weekday PM Peak-Hour
8	S. Mission Street at Stevens Street	Weekday PM Peak-Hour
9	S. Mission Street at Crawford Avenue	Weekday PM Peak-Hour
10	Methow Street at Crawford Avenue	Weekday PM Peak-Hour
11	Okanogan Avenue at Crawford Avenue	Weekday PM Peak-Hour
12	S.2 Miller Street at Crawford Avenue	Weekday PM Peak-Hour
13	Squilchuck Road at Methow Street	Weekday PM Peak-Hour and Saturday Peak-Hour
14	Squilchuck Road at Pitcher Canyon Road	Weekday PM Peak-Hour and Saturday Peak-Hour
15	Squilchuck Road at Wenatchee Heights Road	Weekday PM Peak-Hour and Saturday Peak-Hour

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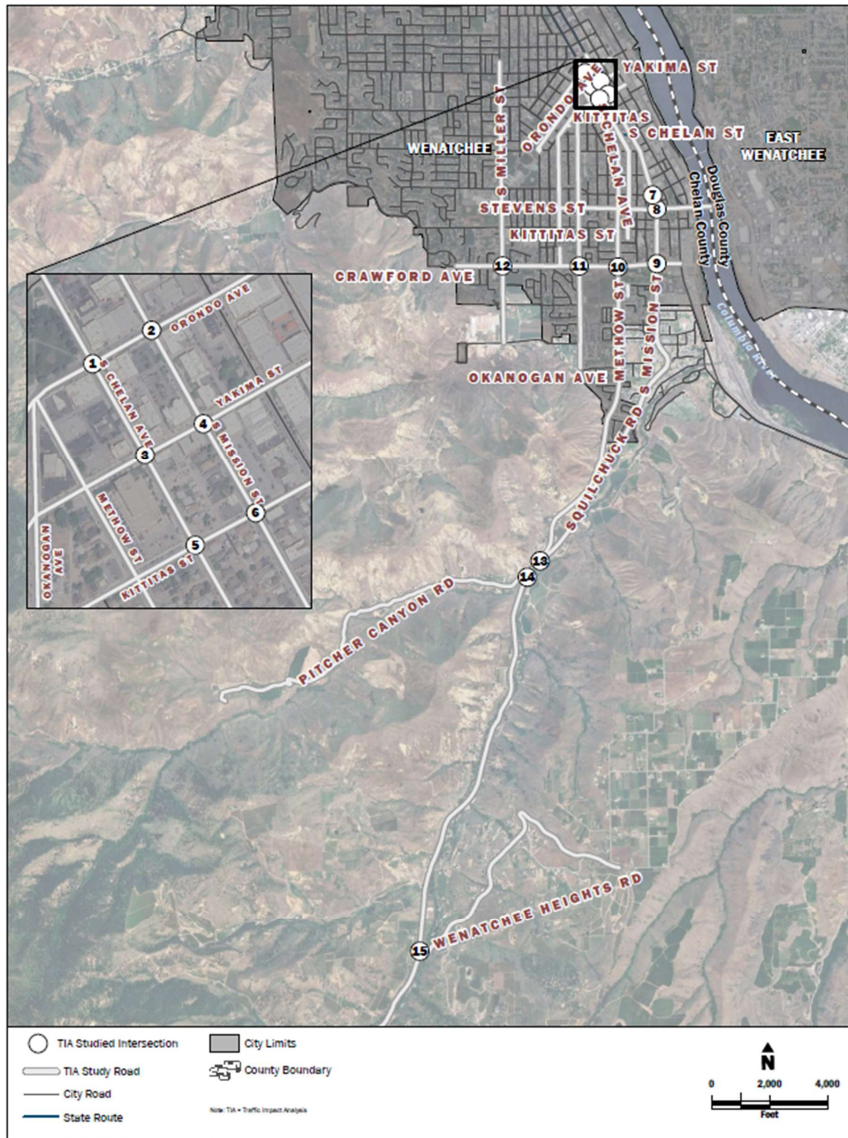


Figure 5.6-2. TIA Study Intersections

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TIA findings indicated that the Proposed Project would generate 9,655 new weekday daily trips with 799 weekday PM peak-hour trips and 10,766 Saturday daily trips with 940 Saturday PM peak-hour trips at the full buildout of the submitted proposal (Kimley Horn 2023, 2024). However, the Applicant anticipates that the actual trip generation from the Proposed Project would be lower than what is forecast in the TIA due to the potential for part-time and vacation use of residential units, and the potential for a higher level of crossover between uses than assumed of the Proposed Project³³ (e.g., people staying in the housing may also be skiers at Mission Ridge). For these reasons, as well as the proposed phased construction schedule and the uncertainties associated with projecting traffic impacts 20-years into the future, a key conclusion of the TIA was that the analysis should be considered a preliminary product and be reevaluated at a future date (approximately Phase 3) to better account for organic growth in the area, the actual trip generation of the Proposed Project, and any other constructed or planned improvements. Additional mitigation could be required following supplemental evaluation of traffic impacts.

[PLACEHOLDER: County determination on how the supplemental evaluation of traffic impacts will be completed, revised TIA and EIS Addendum is one approach.]

Within or immediately adjacent to the Project Area, the Proposed Project has several components, including a new internal access road (Phase 1), internal private roads (Phase 1-5), and onsite parking (Phase 1-5; Figure 5.6-3).

The proposed County-maintained access road would cross USFS-managed lands in Section 24 to connect the existing Mission Ridge Base Area to the privately-owned lands within the expansion area. The exact alignment of the access road has not yet been determined, but it would generally begin at the terminus of Mission Ridge Road, cross the Mission Ridge parking lot and underlying culverts conveying Squilchuck Creek and Lake Creek, and run generally northeast to a terminus at the proposed new day-use parking area. In addition to existing stream crossings at Squilchuck and Lake creeks, two new stream crossings (unnamed streams) would be required. As currently planned, the access road would be approximately 0.9-miles long and consist of two lanes (each 12-feet wide), shoulders with ditches (each approximately 4-feet wide), associated cut and fill slopes, and turn-outs.

³³An 85% internal crossover reduction was applied to the daily and peak-hour trip generation calculations for the shopping center portion of the Proposed Project (Kimley Horn 2023, 2024). A similar reduction was not applied to the residential uses or the existing trips at the site.

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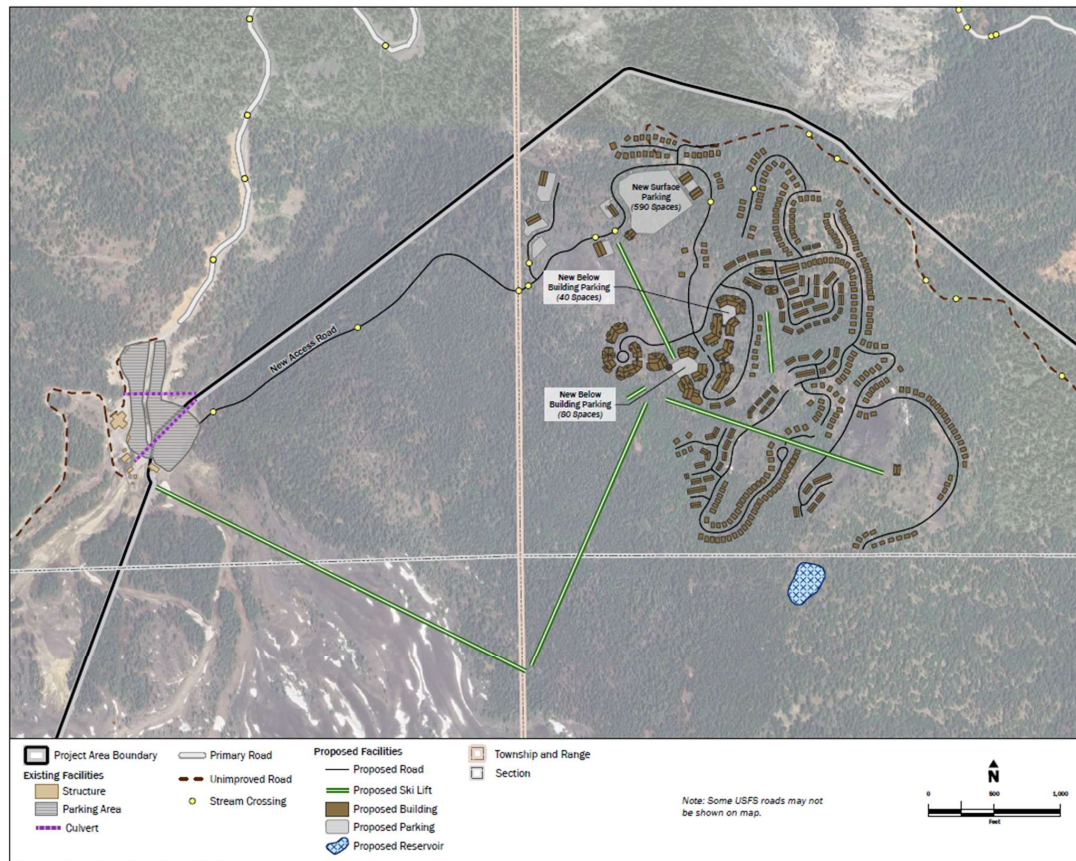


Figure 5.6-3. New and Improved Transportation Infrastructure Within or Adjacent to the Project Area

Although the Applicant's proposal states that no construction would occur within 200 feet of the perennial fish-bearing reaches of Squilchuck Creek, this assertion is incorrect and neglects to recognize that the proposed County-maintained access road would need to cross the existing Mission Ridge parking lot, underneath which Squilchuck and Lake creeks are located. This oversight was identified as part of the DEIS development. The Squilchuck Creek culvert is approximately 650 feet in length and 4 feet in diameter; the Lake Creek culvert is approximately 550 feet in length and 4 feet in diameter. The current condition of the culverts is unknown. Further, no design specifications are available.

[PLACEHOLDER: Possible additional information related to Section 24 new County access road and parking lot culverts.]

The internal private roads within the Project Area would have a total length of 6.0-miles and would be for either private access and visitor use (4.2-miles, a.k.a., Village Roads) or mountain access for official use (1.8-miles, a.k.a., Mountain Service Roads). Some of the internal roads may be established atop existing unimproved USFS or private roadbeds. Parking is proposed to include a new 4.3-acre day-use surface lot with approximately 590 parking spaces, underground parking beneath the Village with approximately 120 parking spaces, limited surface parking in the Village (number of parking spaces unknown), and parking spaces attendant to residential units.

5.6.2 How Potential Impacts to Transportation Were Analyzed

Existing conditions and potential impacts to transportation were determined by reviewing information provided by the Applicant or obtained from other reports, and from a consultation meeting with the Washington State Department of Transportation (WSDOT), City of Wenatchee, and City of East Wenatchee, and Chelan-Douglas Transportation Council (Aspect 2022a). The DEIS analysis did not include any additional data collection or modeling. The analysis of potential impacts considered construction- and operation-related effects of the Proposed Project on transportation. Direct and indirect impacts were assessed based on their potential to change baseline conditions. Factors considered in this evaluation included the following:

- **Transportation impacts on existing road systems:** assessment of increased traffic in the City of Wenatchee and along the Squilchuck Road corridor and potential impacts on intersection congestion, road capacity viability, risk of collision, and other traffic safety issues.
- **New public access road, private roads, and parking:** impacts related the proposed new County-maintained access road that would connect the existing Mission Ridge Base Area to the expansion area and the private roads and parking serving the proposed commercial, residential, and recreational facilities.

Transportation Effects Summary

- Traffic impacts associated with Phase 1-3 of the Proposed Project can be mitigated.
- Traffic impacts associated with Phase 4-5 of the Proposed Project would need to be reevaluated at a later date (after Phase 3), with additional mitigation to be determined at that time.
- Further assessment of the culverts underlying the existing Mission Ridge parking lot is needed to determine access road specifications and potential mitigation requirements.

5.6.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.6.3.1 Direct Impacts from Construction

City of Wenatchee, Squilchuck Road Corridor, Chelan PUD Easements: Construction of the Proposed Project would require worker, equipment, and materials trips to and from construction sites. Construction sites would include all areas where construction related to the Proposed Project would occur. This would include intersections with necessary improvements in the City of Wenatchee, PUD utility infrastructure improvements along existing easements, construction of the new access road, and construction within the Project Area during each phase of Proposed Project.

Construction-related traffic was not evaluated in the TIA; however, it is reasonable to expect that construction traffic would result in temporary increases in traffic interference and congestion on local roads throughout periods of construction. Construction would likely occur during off-season months, not to conflict with the higher uses of the area roadways during the ski season. Due to the limited roadway options in the area, only short-term and partial roadway closures would be allowed except where detour routes are available.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on transportation in the City of Wenatchee or along the Squilchuck Road corridor from the Proposed Project.

New public access road, private roads, and parking: Construction of the Proposed Project includes a new public access road, private roads, and parking. Construction activities would include, but not be limited to, vegetation clearing, grading, fill placement, compaction, bridge footing installation, culvert installation, channel modification,

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belowground utility conduit installation, installation of impervious surfaces, building retaining walls, and similar activities.

The proposed access road would be located on USFS and privately-owned property and constructed during Phase 1. Preliminary design indicates the cut slope would be at a 1:1 ratio and may reach heights of up to 180 to 200 feet. The fill slopes would predominantly consist of retaining walls that would range in height from about 8 to 20 feet. The entire access road corridor, including the roadbed, all cut and fill slopes and turnouts, would cover approximately 25-acres. The access road would cross the Squilchuck Creek (fish-bearing) and Lake Creek culverts located under the Mission Ridge parking lot. The access road would also require two new stream crossings at non-fish bearing streams (unnamed streams), one on National Forest land and one near the National Forest/private land boundary (exact location to be determined). Stream crossings would be culverts or bridges, and determined with final road design.

A right-of-way dedication (or an access easement) was requested from the USFS by the County/Applicant and is being evaluated as part of NEPA. The right-of-way could be of variable width to accommodate variations in topography. [PLACEHOLDER: Federal consultation status here]

Due to the topography and limited availability of feasible road access points from Mission Ridge to the Project Area, avoidance of new or replacement stream crossings is not possible. Unavoidable stream crossings would be designed to cross a given stream at a near right angle to minimize the total disturbance area within the riparian buffer. Construction BMPs and other mitigation requirements for stream crossings are described in Section 5.3 (Surface Water) and would apply to both the potential replacement of existing stream crossings and the installation of new stream crossings.

Additionally, the condition of the Squilchuck Creek and Lake Creek culverts and would need to be better characterized prior to permitting of Phase 1. The County will require the Applicant to provide an inspection of the culverts to identify potential issues, such as corrosion, buckling, mechanical instability, erosion, root infestation, and other points of failure. The County will also require the Applicant to provide a hydraulic analysis of the existing condition to determine whether the culverts are properly sized. An engineering report would describe the identified deficiencies, expected lifespan, and other factors. If the culverts are found to be in poor condition, undersized, or otherwise recommended to be replaced, the County will require the culverts to be replaced in a manner consistent with current regulations (CCC 13.16 and 15.30; WDFW 2013 *Water Crossing Design Standards*; DOE *Stormwater Management Manual for Eastern Washington*). Culvert replacement would result in surface water and riparian habitat impacts to Squilchuck Creek and/or Lake Creek. In addition to the construction activities described above, culvert replacement may require use of a cofferdam and temporary stream rerouting. A detailed description of permitting requirements and mitigating conditions related to potential Squilchuck and Lake creek stream crossings is provided in Section 5.3 (Surface Water).

[PLACEHOLDER: Additional information from Earth section related to steep slopes/mass wasting deposits here, if needed]

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Proposed private roads throughout the Project Area would be built to meet Chelan County road standard requirements (CCC 8.24; CCC 15.30) and to provide emergency vehicle turnarounds and access. Road design would be completed prior to permitting.

Construction of the Proposed Project would include day-use and overnight parking in surface and underground lots. Final parking design would need to be part of an approved circulation plan pursuant to Chelan County Code 11.90 (Off-street Parking and Loading; Kimley Horn 2024).

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts related to new transportation infrastructure built to serve the Proposed Project.

5.6.3.2 Indirect Impacts from Construction

No indirect impact from construction of the Proposed Project on transportation-related resources were identified.

5.6.3.3 Direct Impacts from Operation

City of Wenatchee: Operation of the Proposed Project would increase the number of average daily trips taken and PM peak-hour volumes in the City of Wenatchee as people and goods travel to and from Mission Ridge. Table 5.6-2 shows the total trip generation summary from the TIA as calculated for different components of the Proposed Project at full buildout (Kimley Horn 2024). As previously mentioned, the Applicant anticipates actual trip generation from the Proposed Project at full buildout would be lower than what is forecast in the TIA due to several factors described in Section 5.6.1. The number of trips generated by each phase of the Proposed Project is variable, with the initial phase anticipated to have the highest percentage of total PM peak trips and subsequent phases expected to have incrementally lower percentages of total PM peak trips (Table 5.6-3; Kimley Horn 2024). Trip distribution maps showing locations of new daily traffic and new peak-hour trips are available in the TIA.

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Table 5.6-2. Total Trip Generation Summary

Project Component	# Units/sf	Average Daily Trips (ADTs)	Saturday ADTs	PM Peak-Hour			Saturday PM Peak-Hour		
				In	Out	Total	In	Out	Total
Single Family (Detached)	265 Units	2,473	2,471	156	92	248	129	109	238
Apartments	621 Units	4,056	2,826	181	107	288	161	94	255
Resort Hotel	57 Rooms	316	280	10	13	23	10	13	23
Snow Ski Area	4 Lifts ¹	1,410	3,659	16	119	135	85	220	305
Shopping ² Center	110,000 sf	1,114	1,338	41	45	86	54	49	103
Employee Housing	80 Units	286	192	10	9	19	9	7	16
TOTAL		9,655	10,766	414	385	799	449	492	940

1. Snow Ski Area estimates includes 4 lifts (Chairs 6, 7, 8 and Gondola), but does not account for 3 surface lifts (i.e., rope tow, magic carpets).

2. Includes internal crossover reduction.

Table 5.6-3. Percentage of Peak Trips by Phase

Phase	Multi-Family Residential (units)	Single-Family Residential (Units)	Hotel/Lodge (rooms)	Commercial Space/Sister Services (sq ft)	Employee Housing (beds)	Lifts	% of Total PM Peak Trips	Cumulative % of Peak PM Trips	Estimated Completion Year ¹
1	172	102	-	60,000	-	3	43%	43%	2022-2027
2	162	50	57	20,000	40	1	24%	67%	2028-2030
3	156	41	-	18,500	-	-	15%	82%	2031-2034
4	131	41	-	11,500	40	-	13%	95%	2035-2040
5	-	31	-	-	-	-	5%	100%	2041-2043
TOTAL	621	265	57	110,000	80	4²	100%	-	-

1. Estimated construction completion schedule in TIA may not reflect actual construction timeline. Note that 2022 and a portion of 2023 had passed before the TIA was published.

2. Snow Ski Area estimates includes 4 lifts (Chairs 6, 7, 8 and Gondola), but does not account for 3 surface lifts (i.e., rope tow, magic carpets).

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A Level of Service (LOS) analysis was completed to characterize existing conditions (2023) and anticipated future conditions at two planning horizons (2034 and 2043) should the Proposed Project be approved. The 2034 planning horizon was selected to coincide with the anticipated occupancy of Phases 1 through 3 and the 2043 planning horizon was chosen to coincide with full buildout of the Proposed Project. The analysis of a 2043 horizon year is beyond the current Comprehensive Plan for the County. This 20-year forecast of traffic operations does not account for any potential roadway improvements, changes in mobility, or changes in travel patterns. As such, the results of the 2043 horizon year analysis were intended to be considered preliminary. To ensure that traffic impacts are accurately characterized and mitigated for across the development schedule, a supplemental TIA will be required to confirm and/or revise the recommendations of the TIA as related to the later phases of the Proposed Project. The supplemental TIA is likely to occur after Phase 3 is complete and may include additional mitigation requirements.

The LOS analysis indicated that five intersections would be anticipated to operate below an acceptable level of service³⁴ under the 2034 planning horizon and that two additional intersections would be anticipated to operate below an acceptable level of service under the 2043 planning horizon (Table 5.6-4; Kimley Horn 2024).

³⁴ The acceptable LOS for Chelan County, City of Wenatchee, and WSDOT is LOS D. LOS D is described in the Highway Capacity Manual (6th Edition) as: “during short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e., vehicles delayed one cycle or less at signal).”

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Table 5.6-4. Intersections Operating Below an Acceptable LOS and Proposed

Intersection	Expected to Operate Below an Acceptable LOS (Year)	Mitigation
Okanagan Avenue at Crawford Avenue	2034	Install compact roundabout, Applicant to pay a portion of cost
S. Chelan Avenue at Kittitas Street	2034 ¹	Already has planned improvement (signal)
Methow Street at Crawford Avenue	2034 ¹	Already has completed improvement (compact roundabout)
S. Miller Street at Crawford Avenue	2034	Install compact roundabout, Applicant to pay a portion of cost
S. Mission Street at Stevens Street	2034	Revisions to signal timing to maintain LOS standards; mitigation to be reevaluated after Phase 3
Mission Street at Crawford Avenue	2043	Restriping of north leg of intersection; mitigation to be reevaluated after Phase 3
Squilchuck Road at Pitcher Canyon Road	2043	Road widening to include an acceleration lane; mitigation to be reevaluated after Phase 3

¹ The intersections of S. Chelan Avenue at Kittitas Street and Methow Street at Crawford Avenue are planned for improvements. It is important to note that the improvements to the intersection of Methow Street at Crawford Avenue were completed after the traffic count data was collected. The analysis in this report reflects the channelization and control at the time of the data collection.

Of the five intersections expected to operate below an acceptable LOS from growth in Phase 1-3 of the Proposed Project, the Methow Street at Crawford Avenue intersection was improved prior to completion of the TIA and the intersection of S. Chelan Avenue at Kittitas Street already has a planned improvement to add a signal. [PLACEHOLDER: Would this intersection signal still require a proportionate share contribution? It is in Wenatchee's TIP and scheduled for 2027 and it seems like it should be included as mitigation.] For the intersections of Okanagan Avenue at Crawford Avenue and S. Miller Street at Crawford Avenue compact roundabouts are proposed for both intersections. The County does not have a standard traffic mitigation fee identified for new developments; however, it is expected the Applicant would be required to fund a portion of the cost to construct the roundabouts. At the intersection at S. Mission Street at Stevens Street, the analysis identified that by 2034 the intersection would exceed the LOS D standard during the PM peak hour with the addition of the Proposed Project. The Applicant identified that changes to signal timing, as part of ongoing signal timing maintenance, could improve the operations to an overall average delay of LOS D, meeting City of Wenatchee and WSDOT standards. However, review of the 2034 PM peak hour

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analysis results at this intersection found that the westbound left turn, northbound through, and southbound left turn movements would be over capacity and LOS F, which would result in congestion and vehicle queuing on the impacted approaches. This may also be a weekend issue (intersection was not part of Saturday analysis) as 616 trips are expected to be added at the intersection during the Saturday peak hour. The Applicant and City should monitor this intersection after the completion of Phase 1 and after Phase 2 to determine if additional analysis and mitigation is needed. The Applicant will also provide a supplemental TIA (after Phase 3) to determine whether additional study area improvements are needed at that time. Mitigation for traffic impacts associated with Phases 1-3 of the Proposed Project will be completed prior to permitting of each phase. Additional mitigation may be required to meet Chelan County and City of Wenatchee Transportation Concurrency requirements (WCC 13.32 and CCC 12.02.060).

For the two intersections expected to operate below an acceptable LOS by the year 2043 (Mission Street at Crawford Avenue, Squilchuck Road at Pitcher Canyon Road), the TIA recommends restriping the north leg at the Mission Street at Crawford Avenue signal and road widening for an acceleration lane on Squilchuck Road at Pitcher Canyon Road, but recommends that final mitigation be determined after a reevaluation of actual traffic impacts once Phase 3 of the Proposed Project is completed and occupied. A full analysis of study intersections will be included in supplemental TIA that will be completed after Phase 3 and include specific mitigation requirements as determined by the County. Mitigation for traffic impacts associated with Phases 4-5 of the Proposed Project will be completed prior to permitting of these phases.

The TIA also included a collision analysis. Collision data covering the January 1, 2018 through December 31, 2022 period were obtained from WSDOT for all 15 study intersections. These data showed a total of 176 collisions at the study intersections over the 5-year reporting period, all reported collisions were non-fatal. The collision rates at the study intersections were evaluated and compared to typical threshold rates as provided by Kimley Horn (less than 5 collisions per year for unsignalized intersections, less than 10 collisions per year for signalized intersections, and less than 1.0 collisions per million entering vehicles). None of the study intersections exceeded the thresholds and the TIA concluded that additional analysis of the collision history was unnecessary.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on transportation in the City of Wenatchee from the Proposed Project.

Squilchuck Road corridor: Operation of the Proposed Project would increase traffic on Squilchuck Road and Mission Ridge Road. To determine the adequacy of a two-lane roadway under full buildout conditions, a capacity analysis based on the Highway Capacity Manual 6th Edition methodology was conducted as part of the TIA. The capacity analysis found that with the full buildout of the Proposed Project a two-lane roadway would be sufficient to meet the County's LOS D standard during the 2043 weekday peak hour and Saturday peak hour. Consequently, Squilchuck Road and Mission Ridge Road would not need to be widened to accommodate future Proposed Project traffic.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on transportation along the Squilchuck Road corridor from the Proposed Project.

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New public access road, private roads, and parking: If the Proposed Project is constructed, the new public access road and private roads would be used as intended to allow vehicular access between the Mission Ridge Base Area and the expansion area and throughout the expansion area. New parking facilities would be operated to provide day-use or overnight parking. Road maintenance is discussed in Section 5.7 (Utilities and Public Services)

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on transportation within the Project Area from the Proposed Project.

5.6.3.4 Indirect Impacts from Operation

No indirect impact from operations of the Proposed Project on transportation-related resources were identified.

5.6.3.5 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project on transportation. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

- Prior to each phase of construction, the Applicant must have a construction traffic management plan approved by the appropriate jurisdiction(s).
- Standard best management practices (BMPs) for construction activities will be implemented during all construction phases of the Proposed Project. Construction-related BMPs will address such activities as material storage and stockpiling; equipment use, fueling, and maintenance; fuel and chemical storage, erosion control; construction timing; and other measures related to specific construction activities (e.g., woody debris management).
- All construction along the Chelan PUD utility easement that parallels Squilchuck Road would need to maintain through access to Squilchuck State Park and residences accessed from Squilchuck Road.
- Chelan County may require a Development Agreement or Voluntary Mitigation Agreement to manage risk associated with anticipated traffic impacts.
- Intersection improvements to include installation of compact roundabouts at Okanogan Avenue at Crawford Avenue and S. Miller Street at Crawford Avenue intersections will be completed prior to the completion of Phase 3.
- In order to meet City of Wenatchee or Chelan County Transportation Concurrency requirements, the project may be required to provide additional mitigation.
- A supplemental TIA will be completed after Phase 3 is completed and occupied to identify the cumulative impacts of the Proposed Project on local traffic. The

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supplemental TIA will be funded by the Applicant and completed in coordination with Chelan County and consulting agencies. The supplemental TIA will include new traffic counts, updated trip generation and distribution, and additional required mitigation measures as appropriate based on the updated assessment of project-related traffic impacts. Mitigation measures would be based on the cumulative transportation impacts of the development (Phases 1-5).

- Inspection and hydraulic analysis of the Squilchuck Creek and Lake Creek culverts underlying the existing Mission Ridge parking lot will be completed prior to Phase 1 permitting. If deficiencies are identified, the stream crossings will be replaced and additional mitigation may be required.
- Monitoring of weekday peak hour and Saturday peak hour at the S. Mission Street at Stevens Street intersection will be conducted following completion of Phase 1 and Phase 2 of the project to determine if additional analysis of signal timing adjustments or other mitigation improvements are required to maintain LOS D operation and to address individual intersection movements that are experiencing queuing.
- Road design and construction of roadways within Chelan County will comply with Chelan County Code 8.24.
- On-site parking will be provided for in accordance with Chelan County Code 11.90 and with a county-approved circulation plan.

5.6.3.6 Applicant-proposed mitigation measures

The following Applicant-proposed mitigation measures are intended to further reduce potential effects from construction and operation of the Proposed Project.

5.6.4 Significant and Unavoidable Adverse Impacts

Through compliance with federal, state, and local laws and regulations and with implementation of the mitigation measures described in this section, there would be no significant and unavoidable adverse impacts related to transportation from construction or operation of the Proposed Project.

5.6.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to transportation resources.

5.7 Utilities and Public Services

This section summarizes how potential utilities/public services impacts and mitigation were evaluated and presents the findings from the analysis. Utilities and public services addressed in this section include:

- Water service
- Power (i.e., electricity) service
- Telecommunication service (i.e., phone, television, internet)
- Sewer service
- Solid waste management
- Fire/basic life support (BLS)/police
- Public schools
- Road maintenance

The American 2022, McKinstry 2022, and Kimley Horn 2024 reports supplied by the Applicant were used to assess potential impacts of the Proposed Project on water/sewer and power services, respectively. Additional resources related to Chelan PUD delivered water, power, and telecommunication services were provided by Chelan PUD³⁵. Resources related to fire/BLS/police, public schools, roads were provided by local agencies/districts as available.

The study area from the utilities/public services analysis encompasses the Project Area as well as other connected areas that have the potential to be affected by construction or operation of the Proposed Project. Connected actions reviewed at the programmatic and project-level include actions occurring within the Squilchuck Road corridor from the City of Wenatchee to the Mission Ridge Base Area and within existing or proposed PUD utility easements for near-term power improvements (likely Phase 1-2), water system expansion, and telecommunication system expansion. Long-term power improvements (likely Phase 3-5) are discussed at a programmatic level only and will be subject to later project-level review lead by Chelan PUD.

The potential effects of expanding and operating Chelan PUD water system and power system infrastructure to allow operations of the Proposed Project are addressed in this section; however, some information relevant to this discussion was covered in previous chapters. For discussion of water availability and potential impacts of importing Chelan PUD water to the Project Area on groundwater and surface water resources, see Section 5.2 and Section 5.3, respectively. For discussion of how overall energy supply and demand would be impacted by the Proposed Project, as well as an evaluation of

Key Findings of Utilities/Public Services Analysis

The analysis focused on the following factors:

- Availability of water, sewer, power, telecommunication, and waste management services
- Capacity for expanded public services including fire/basic life support/police, schools, and road maintenance

The analysis found the proposed project would **have no significant and unavoidable impacts** related to utilities/public services.

³⁵ Chelan PUD 2018a, 2018b, 2022, 2023, 2023a, 2023b, 2023c, 2023d, 2023e, 2024; RH2 2022

Proposed Project consistency with state energy regulations, see Section 5.5 (Energy and Natural Resources).

5.7.1 Utilities/Public Services Overview

Water service: Potable water at Mission Ridge is currently sourced from on-site groundwater wells located at the Base Area (Figure 5.2-1 in Section 5.2-Groundwater). The Applicant proposes two options for extending water service to support the Proposed Project, which include expanding the Mission Ridge public water system including drilling of new wells and/or establishing a connection the Chelan PUD's Squilchuck public water system.

Chelan PUD currently serves potable water to the Wenatchee Heights and Forest Ridge neighborhoods located along the Squilchuck Road corridor. The water system is designed to provide water to serve rural homes and sees moderate to low growth in new usage each year (Chelan PUD 2018a). The existing water system would require improvements if potable water service were to be extended to supply the Proposed Project. Mission Ridge is outside of the current water service area. The exact location a new water line has not been determined but is proposed to be located generally parallel and adjacent to the existing power line alignment (Figure 5.7-1).

[PLACEHOLDER: USFS Special Use Permit modification information here]

[PLACEHOLDER: Information from utility corridor stream/wetland survey here]

Definitions:

Squilchuck Road corridor: Squilchuck Road from Wenatchee to Mission Ridge Road, Mission Ridge Road to Mission Ridge, plus adjacent easements and utilities.

Volt: a unit of potential energy, 1,000 volts equals 1 kilovolt (KV).

Watt: a unit of power in an electric circuit, 1,000 watts equals 1 megawatt (mW)

Transmission lines: bigger, high-voltage power lines that bring electricity from where it's made at generating stations to substations near communities.

Distribution lines: smaller, low-voltage lines that carry electricity from the substation to end users (e.g., homes, businesses).

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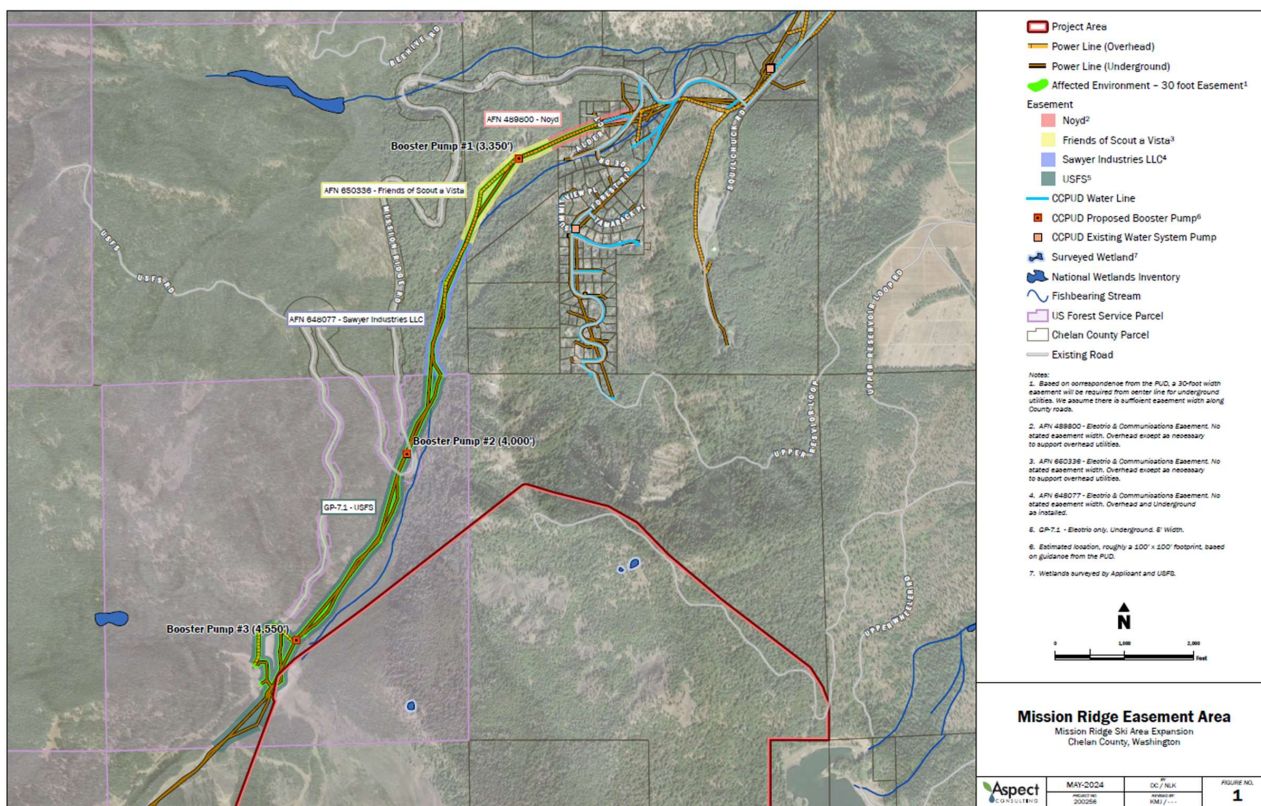


Figure 5.7-1. Existing Chelan PUD Power and Water Lines and Selected Easements

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Power service: Chelan PUD serves the existing Mission Ridge facilities with electrical services (currently 1.5 MW, Chelan PUD 2023b). The source power begins near City of Wenatchee city limits and extends along the Squilchuck Road corridor the intersection of Squilchuck Road and Mission Ridge Road. From the intersection, the powerline departs the road and follows several easements to the Mission Ridge parking lot (Figure 5.7-1). Some portions of the power line are aboveground, others are buried underground. The electrical line is a single, radial and rural distribution line with a voltage of 12.47 KV (Chelan PUD 2018a). In addition to the ski area, this line also serves residential and agricultural electrical services throughout the Squilchuck Road corridor.

As of January 2023, Chelan PUD identified peak loads on the grid in the vicinity of the Proposed Project at over 9.5 mW (95% of capacity; Chelan PUD 2023a). Organic growth in this area (without the proposal) is estimated by Chelan PUD at approximately 0.5 mW/year. This has triggered planning by Chelan PUD to expand capacity in this area, which is required independent of the Applicant's proposal. Chelan PUD has short-term projects that are intended to make approximately 2.0 mW available to support organic growth and potentially the first phase or two of the Applicant's proposal. To provide sufficient power capacity to support the needs of the Proposed Project at full buildout, the Applicant's consultant initially estimated an additional 6.9 MW would be needed (McKinstry 2022). Following revisions to the Proposed Project, including updated phasing, unit counts, and electrical capacity requirements, an updated power needs analysis was completed, which indicated a total demand of 7.3 MW at full buildout (Kimley Horn 2024). Relying on the earlier information Chelan PUD had estimated a potential need for between 5-10 MW, but also noted that actual demand would need to regularly reassessed to ensure that power needs are accurately characterized (Chelan PUD 2023b). Chelan PUD has determined that a new standard configuration substation and corresponding transmission line to bring high voltage power from the transmission source in the City of Wenatchee to a new substation site in the upper Squilchuck area would be required (Chelan PUD 2018a).

Chelan PUD's existing easements are for electric and communications or electric only purposes. The easements have either no stated easement width or a specified 5-foot width. To accommodate power, water, and telecommunications, Chelan PUD has determined the need for a 30-foot-wide easement for all purposes of use (Chelan PUD 2024a).

[PLACEHOLDER: USFS Special Use Permit modification information here]

It is noted that although the existing powerline appears to cross Squilchuck Creek at locations within the Sawyer Industries LLC easement, this is not accurate and is an artifact of imprecise mapping of the line location.

Renewable energy generated on-site via roof or ground mounted photovoltaic (PV) systems (a.k.a., solar panels), as well as coupled PV-battery storage systems may be used to reduce peak power demands from Chelan PUD (McKinstry 2022). Another consideration suggested by the Applicant is the coupling of a generator (possibly gas, diesel, or propane powered) or battery to ski lifts if warranted due to power loading conditions.

Telecommunication service: Chelan PUD owns, operates, and maintains a wholesale fiberoptic network and distribution system that provides high-speed bandwidth for

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phone, television, and internet throughout Chelan County (Chelan PUD 2022). Currently, the fiberoptic network terminates in the Forest Ridge development. Extending the fiberoptic network from Forest Ridge to the Project Area generally parallel and adjacent to the existing power line could be facilitated through Chelan PUD's fiber line extension policy. Entities who want to access Chelan PUD's fiber network work through service providers to attain services. See information above about existing easement purposes and widths

[PLACEHOLDER: New USFS Special Use Permit for telecommunications here (if needed)]

[PLACEHOLDER: Information from utility corridor stream/wetland survey here]

Sewer service: Mission Ridge currently manages wastewater via two LOSS, one located at the Midway Lodge and the other at the Base Area. The Base Area LOSS was updated in 2018. Even with recent updates, the existing systems would not be sufficient to serve the expansion area operations and several options are being considered to expand sewer service across the Project Area. Wastewater generated from the operation of the Proposed Project would be treated and discharged to either groundwater or surface water, depending on the location and phase of construction. Wastewater management alternatives proposed by the Applicant including utilizing multiple individual residential OSS discharging to groundwater, one or more Large OSS (LOSS) discharging to groundwater, or, if needed, a centralized municipal wastewater treatment plant (WWTP) discharging treated effluent to surface water in Squilchuck Creek. At full build-out, the Applicant estimates a total wastewater volume of approximately 208-afy. More information on wastewater treatment is available in Section 5.2 (Groundwater) for OSS/LOSS and Section 5.3 for WWTP.

Solid waste management: The Applicant states that waste disposal services would continue to be provided under contract to a private waste management company. Final disposal would likely occur at the Greater Wenatchee Regional Landfill and Recycling Center owned and operated by Waste Management of Washington, Inc.

Fire/basic life support (BLS)/police: The Proposed Project would require provision of public safety services, including fire, basic life support, police, and general medical services to a larger guest population, including new residents. The Applicant has proposed that the Project Area be annexed into Chelan County Fire District No. 1 (CCFD1) and a new fire station be constructed adjacent to the new day-use parking lot. On-mountain first aid, emergency rescue care, and emergency transport may be rendered by Mission Ridge Pro Patrol (ski patrol). Chelan County Sheriff's Office would be responsible for law enforcement.

[PLACEHOLDER: Additional information from Sheriff's Office here]

Schools: The Project Area is located within the Wenatchee School District No. 246. The District was not a consulting agency and did not provide comments during the public scoping period. However, the County's scoping memo (2020) indicated that the DEIS should consider impacts to the District associated with serving a potentially larger student population and how increased traffic might impact student pedestrian safety. Based on information provided by the District, student enrollment has been declining since 2015 and is expected to keep decreasing due to lower birth rates, smaller kindergarten classes, and new private and charter school educational options now

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available in the community (Wenatchee School District 2024). The District Superintendent confirmed that the public schools would be able to serve new students (Kalahar 2024). The District did not have a plan specific to traffic and student pedestrian safety, but indicated that, with or without the Proposed Project, students should not be walking along Squilchuck Road to get to or from school.

Road Maintenance: County-maintained roads are managed by the County's Public Works Department. Squilchuck Road is located within Maintenance District No 1 – Wenatchee. Regular maintenance activities include, but are not limited to, grading, patching potholes, resealing cracks, repaving, cleaning culverts, shoulder repairs, vegetation management, deicing, snowplowing, and similar activities. Ongoing maintenance of Squilchuck Road and Mission Ridge Road will be required with or without the Proposed Project. Maintenance of the new access road is expected to closely resemble activity for maintenance of Mission Ridge Road.

[PLACEHOLDER: Additional information from County Public Works here]

5.7.2 How Potential Impacts to Utilities/Public Services Were Analyzed

Existing conditions and potential impacts to utilities/public services were determined by reviewing information provided by the Applicant or found in other reports and in consultation meetings with Chelan PUD (Aspect 2022a), Chelan County Fire District No. 1 (Aspect 2022b), and Ecology and DOH (Aspect 2022c). With the exception of ADC 2024, the analysis did not include any additional data collection or modeling. Using the existing information, the analysis of potential impacts considered construction- and operation-related effects of the Proposed Project on utilities and public services. Direct and indirect impacts were assessed based on their potential to change baseline conditions or conflict with regulatory impacts. Factors considered in this evaluation included the following:

- **Utility availability:** Availability of water, sewer, power, telecommunication, and waste management services.
- **Public services capacity:** Capacity for expanded public services including fire/basic life support/police, public schools, and County road maintenance.

5.7.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.7.3.1 Direct Impacts from Construction

Water service: At full buildout, the estimated total water demand for the Proposed Project is 241 ac-ft/year, most of which would be for indoor use (231 ac-ft/year indoor use, 10 ac-ft/year outdoor use; American 2022). To meet estimated future demand, the Applicant has evaluated two water supply options:

- (1) Up to 90 ac-ft/year of demand met using existing Mission Ridge water rights but withdrawn from a new well (or wells) for the initial project phase(s), with the balance of 151 ac-ft/year being supplied by Chelan PUD in a later project phase.
- (2) All 241 ac-ft/year of demand met using water supplied by Chelan PUD.

Utilities/Public Services Effects Summary

- Water service could be provided by Chelan PUD's Squilchuck public water system, but improvements to existing infrastructure would be required to support a system extension.
- Sewer service could be provided by OSS/LOSS and/or a WWTP, see Section 5.2 and 5.3 for details.
- Electricity could be provided by Chelan PUD, with Phase 1 and a portion of Phase 2 supported by existing infrastructure and planned, near-term improvements.
- Major improvements, including a new substation and transmission line, would be needed to supply electricity to later project phases and would be evaluated in Chelan PUD's Long-Range Planning.
- Telecommunication service could be provided by Chelan PUD via an extension to the existing fiberoptic network.
- Chelan County and other agencies/districts would need to provide additional public services to serve a larger resident and guest population.

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If option #1 was exercised, construction impacts in the early project phases would include drilling new wells (if authorized by Ecology, see Section 5.2.3.3 – Water Supply/Rights) and, if drilled wells were determined to be a suitable potable water source, building wellhead facilities (i.e., pump house, treatment works, exclusion fencing) and trenching for distribution lines. Figure 5.2-1 (in Section 5.2 – Groundwater) shows potential well sites, though actual drilling sites have not yet been determined. Depending on well siting, water distribution line locations would also be determined at a future date but would be generally located in areas planned for commercial and residential development.

Options #1 and #2 both include a connection with Chelan PUD's Squilchuck public water system and would have substantially similar construction-related impacts, albeit the timing would differ. With Option #1, impacts would occur after the initial phase(s), with Option #2 impacts would occur at the initial project phase.

Chelan PUD had a water system study completed to determine initial feasibility to serve the Proposed Project. The study was conducted by RH2 Engineering, Inc. and focused on a capacity analysis of Chelan PUD's Squilchuck public water system (RH2 Engineering 2022). The study included impacts to existing infrastructure beginning at the system source near Hawley Street in the City of Wenatchee and up to the Forest Ridge development. The report identified system deficiencies resulting from the Proposed Project, described potential improvements, and provided guidance for developing scoping level costs. As described in the capacity analysis, necessary improvements to condition the system to provide water service to the Mission Ridge expansion would include replacement of water mainline, construction of new booster pump stations, and upgrading multiple existing booster pump stations (RH2 2022). Extending the mainline into the Project Area would require new mainline, new booster pump stations, and other development water infrastructure (RH2 2022, PUD 2024a).

The new mainline would be buried within a widened PUD easement, which is proposed to be expanded to 30-feet to accommodate water, power, and fiber optics. The 30-foot width was determined to be necessary by Chelan PUD to allow for construction, staging of materials, general construction access, and ongoing maintenance (PUD 2024a). Chelan PUD also recommended three new booster stations, 100-foot by 100-foot, adjacent to the new mainline corridor at approximate elevations of 3,350 feet and 4,000 feet (PUD 2024a). A third new booster station with similar dimensions would be located in the general vicinity of the existing Mission Ridge parking lot (PUD 2024b). The booster pump station footprint would be no larger than 100 feet by 100 feet. A typical Chelan PUD booster pump station is shown in Figure 5.7-2. Final siting of new booster stations would be determined by Chelan PUD after further study. Additional engineering analysis and DOH review would be required prior to construction.

Construction-related impacts from improvements to existing water system infrastructure and building new infrastructure would include ground disturbing activities such as vegetation clearing, soil grading, trenching, installing pipes and associated materials, backfilling, restoring disturbed areas to natural grade and cover (where possible), paving, and similar activities. Some improvement, such as upgrading booster pumps, could be accomplished via equipment replacement within existing facility footprints. The proposed new mainline would begin at the terminus of the existing water line in the northern Forest Ridge Neighborhood (see Noyd easement) and run generally parallel and adjacent to the exiting power line to the Project Area. Chelan PUD's existing easements are

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proposed to be specified (some easements have no designated width) or widened to be 30 feet to accommodate water, power, and telecommunications. Within the Project Area, the location of the water mainline has yet to be determined. Permitting and construction of improvements and new infrastructure would be completed by Chelan PUD to a designated location where connection with Mission Ridge public water system would be established. Beyond this point of service, the Applicant would be responsible for permitting and construction.



Figure 5.7-2. Example of Typical Chelan PUD Booster Pump Station

[PLACEHOLDER: Reference Chelan PUD's water line extension policy requirements if available]

As part of the DEIS development, Chelan PUD evaluated an alternative water transmission route that proposed a new utility corridor alignment adjacent to Mission Ridge Road. However, Chelan PUD determined that this alternative route would likely result in significant design and engineering challenges given the location of the road, slopes, contours, and general road maintenance practices (PUD 2024).

Chelan PUD has sufficient water rights to serve the Proposed Project and, with improvements to the existing water system, has the ability to physically deliver water to the Project Area. Improvements to the water system would be located in or immediately adjacent to already disturbed areas in and near existing easements. The new water mainline would not cross Squilchuck Creek but may be located within the riparian buffer in some areas. Where construction within the riparian buffer cannot be avoided, impacts would be minimized and mitigated following the procedures described in Section 5.3.3.1,

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including compliance with CCC 11.78 – Fish and Wildlife Habitat Conservation Areas Overlay District. The utility corridor was surveyed for wetlands in summer 2024.

[PLACEHOLDER: Information from utility corridor stream/wetland survey here]

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on water service from the Proposed Project.

Power service (programmatic and project-level review): Because of the independent planning responsibility Chelan PUD has for its power utility, the planning effort already underway by Chelan PUD to support organic growth in this area, and consultation meetings between Chelan County and Chelan PUD, the approach in this EIS is both programmatic and project level. The programmatic elements include a description of the overall scope of power planning needed in this area, both to support organic growth and the Proposed Project, which is expected to include a new transmission main and substation at unknown locations. These locations are expected to be developed in the next 5 to 10 years and will be the subject of environmental review conducted by Chelan PUD and will build upon the work in this DEIS. The project level review consists of a detailed analysis of immediate improvements needed to support the early phases of the proposed project through targeted improvements to existing power infrastructure along Squilchuck Road.

Based on consultation with Chelan PUD, Phase 1 and Phase 2 of the Proposed Project could be supplied power by Chelan PUD with a line extension from Mission Ridge to the expansion area and improvements to existing powerlines along the utility easements from City of Wenatchee to the Base Area. Chelan PUD is actively constructing capacity improvements on Squilchuck 3-211 distribution feeder and is scheduled to continue work in 2024. These improvements include the following (Chelan PUD 2023):

- (Phase 1) Increase system capacity on Squilchuck feeder 3-211 by introducing a second overhead distribution circuit from the existing Squilchuck substation to the intersection of Squilchuck Road and Pitcher Canyon (Figure 5.7-3). Transfer all Pitcher Canyon load to new second circuit. Scope is approximately 1.2 miles along the Squilchuck Corridor.
- (Phase 2) Increase system capacity on Squilchuck feeder 3-211 by introducing a second overhead distribution circuit from the existing intersection of Squilchuck Road and Pitcher Canyon to the intersection of Wenatchee Heights Road and Squilchuck Road. Transfer all Wenatchee Heights load to new second circuit. Scope is approximately 2.4 miles along Squilchuck Road, which may be broken into two stages (approximately 1.2 miles each).
- Utilize existing overhead distribution pole line system and alignment.
- Replace poles in place as needed to ensure compliance with National Electric Safety Code requirements.
- Utilize existing land use rights on private property.
- Utilize public right-of-way in accordance with the County/Chelan PUD franchise agreement (PLACEHOLDER: Copy of agreement for the record if available).

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- Mitigate any existing Clear Zone³⁶ deficiencies in accordance with County road standards.
- Perform customer and community outreach in accordance with Chelan PUD outreach planning standards.
- Coordinate with third-party telecommunication companies in compliance with current pole attachment licensing agreements.
- Develop all necessary County road permits and transportation flagging plans in line with County right-of-way requirements.
- Perform necessary vegetation management in line with Chelan PUD vegetation standards.



Single Circuit Distribution
(Existing Mission Ridge Configuration)



Double Circuit Distribution
(Typical double circuit configuration)

Figure 5.7-3. Comparison of Single Circuit Distribution to Double Circuit Distribution from Chelan PUD 2023

Construction-related impacts would include road-side and/or easement area construction to go from a single-line to a double-line and, as needed, boring for relocated utility poles along the existing power corridor, as well as installation of new utility poles along the new access road and throughout the Project Area.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on power service from the Proposed Project.

Power service (programmatic level only): With the current state of electrical demand on the Squilchuck feeder 3-211, Chelan PUD has incorporated the Squilchuck area and

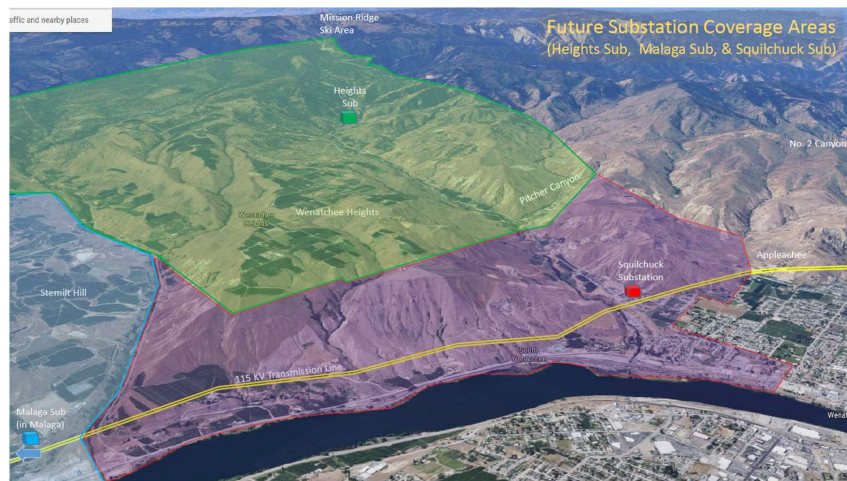
³⁶ A Clear Zone is an unobstructed, traversable roadside area that allows a driver to stop safely, or regain control of a vehicle that has left the roadway (USDOT 2023).

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other adjacent load centers into their comprehensive planning processes (Chelan 2023a). Typically, the results of such comprehensive planning yields recommendations for adding system capacity into areas based on growth projections, zoning, and other known factors. Chelan PUD expects that the moderate system improvements discussed above (i.e., second overhead distribution circuit along 3.6 miles of Squilchuck feeder 3-211) would be advanced as a prelude to building the substantially larger system improvements (i.e., new substation and transmission line) needed to support the Proposed Project after the initial phase or two. Chelan PUD anticipates that a new substation and transmission line could take up to a decade or more to plan, design, and bring into service (Chelan PUD 2023a).

Chelan PUD's long-range planning process for a new substation, transmission line, and other future infrastructure needs is described in various guidance documents (Chelan PUD 2023c, 2023d, 2023e). In general, after a capacity deficiency is identified and corresponding resolutions are recommended, Chelan PUD begins an initial project feasibility assessment. As part of initial feasibility, Chelan PUD will identify alternatives for siting new infrastructure, will assess potential right of way impacts, critical areas impacts, and permitting and land use requirements, and will develop a public outreach plan. A preliminary conceptual design for potential new substation and transmission line locations are shown in Figure 5.7-4 (Chelan PUD 2018b).

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Figure 5.7-4. Comparison of Existing Substation Locations and Service Areas to Preliminary Conceptual Design for Potential New Substation, Transmission Lines, and Services Areas Locations

Following the initial project feasibility assessment and if approved for further assessment, the project alternatives are moved forward for more detailed design, planning, and public engagement. Specific procedures and considerations for planning transmission systems, substations, and distribution systems are described in Chelan PUD 2023c. Substation siting is further described in Chelan PUD 2023d and 2023e. Eventually (exact timeline and chronology of events are project-specific), the project will reach a stage where land use rights would be secured and permitting acquired.

If the project is to reside in part or in whole within the public rights of way, the administering jurisdiction (e.g., Chelan County, City of Wenatchee) is informed and appropriate permit approvals are sought after. If the project requires a conditional use permit (CUP), Chelan PUD's team works to secure the CUP at this stage. In some instances, Chelan PUD projects may cross or utilize other public lands (e.g., managed by DNR, WDFW, USFS), which requires consultation with these agencies. As necessary, any environmental assessment and mitigation strategies required as part of the permitting process are completed at this stage.

Finally, when all permits and other approvals are secured, Chelan PUD will move a project to construction. Because the location of a new substation and transmission line will be determined at a future date, specific construction-related impacts will not be known until that time but would likely include ground disturbing activities greater than 1-acres in size.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on power service from the Proposed Project.

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Telecommunication service: To extend the fiberoptic network to the Project Area would require installing new lines from the Forest Ridge neighborhood to the Project Area. Fiberoptic lines may be buried or aboveground and generally follow closely the power alignment and would be constructed and extended in parallel. Construction impacts related to extending the fiberoptic network would include trenching and/or pole installation, burying conduit, backfilling, returning to natural grade, and revegetation. Supporting equipment, bandwidth capabilities, and other service requirements would be determined for each point of delivery and based on the Applicant's request (Chelan PUD 2018a).

Additionally, Chelan PUD anticipates some improvements to the existing fiberoptic network to ensure proper bandwidth and redundancy. Construction impacts from these improvements would occur in already disturbed or developed areas and would be subject relevant permitting requirements.

[PLACEHOLDER: Reference Chelan PUD's fiber line extension policy requirements if available]

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on telecommunication service from the Proposed Project.

Sewer service: See Section 5.2.3.1 (Groundwater) and 5.3.3.1 (Surface Water) for construction-related impacts related to sewer service.

Solid waste management: Any solid waste generated during construction activities would be properly sorted, contained, and disposed of at an approved waste collection facility.

Fire/basic life support (BLS)/police: During construction activities, the Proposed Project is not anticipated to generate need for fire/BLS/police services beyond what is already provided for at Mission Ridge. This is due to the temporary nature of construction as well as the relatively small number of construction workers who would be travelling from outside Chelan County to the job site (i.e., anticipated local workforce is already served by local fire/BLS/police).

Schools: No impacts to public schools are anticipated as a result of construction of the Proposed Project.

Road Maintenance: No impacts to existing road maintenance activities are anticipated as a result of construction of the Proposed Project.

5.7.3.2 Indirect Impacts from Construction

No indirect impact from construction of the Proposed Project on utilities/public services-related resources were identified.

5.7.3.3 Direct Impacts from Operation

Water service: For potable water sourced from on-site wells, direct impacts from operation on groundwater quantity and water supply/rights are described in Section 5.2.3.3. For the water supplied by Chelan PUD under either Option #1 or #2, Chelan PUD water rights, which source water outside of the Project Area and in hydraulic continuity

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with the Columbia River, would be used. Chelan PUD reportedly has sufficient physical and legal water available to support this approach (American 2020).

Regardless of the water source, a public water system must be designed and developed to meet Ecology, DOH, and County regulations and design guidelines as described in Section 5.2 (Groundwater). Water system planning requirements include, but are not limited to, system capacity design, system redundancy and reliability, system storage, and fire flow. A water system that is built current state and local standards would be expected to provide an acceptable level of service to new and existing water customers.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on water service from the Proposed Project.

Power service (programmatic and project-level): The planned improvements along Squilchuck Road (i.e., second overhead distribution circuit, pole replacement) and the new access road (i.e., distribution circuit and pole installation) would allow power service to Phase 1 and 2 of the Proposed Project to be accomplished in the near term. Following construction, ongoing Chelan PUD operations are expected to provide an acceptable level of service to new and existing power customers.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on power service from the Proposed Project.

Power service (programmatic only): Chelan PUD's long-range planning process is intended to ensure the electrical system operates within normal electrical standards but can also withstand abnormal events (e.g., extreme temperatures, sudden increase in electrical demand) that may occur (Chelan PUD 2023c). Planning completed consistent with Chelan PUD guidelines would be expected to provide for adequate, ongoing operation of the electrical system and continued provision of power service to Chelan PUD customers. With the new substation, transmission line, and other infrastructure determined to be necessary via Chelan PUD's long-range planning for Phases 3 through 5 of the Proposed Project, future Chelan PUD operations are expected to provide an acceptable level of service to new and existing power customers.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on power service from the Proposed Project.

Telecommunication service: If the existing fiberoptic network was improved, as anticipated by Chelan PUD, and extended to serve the Proposed Project, sufficient network speeds would be expected to be maintained.

Sewer service: See Section 5.2.3.3 (Groundwater) and 5.3.3.3 (Surface Water) for operations-related impacts related to sewer service.

Solid waste management: The Applicant would be required to provide adequate solid waste management facilities and services to ensure that waste generated during operations is properly contained, collected, and disposed of. Containment would be provided by the Applicant and collection and disposal would be provided by a private

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solid waste management company. It is expected that local solid waste management companies could grow meet the demand of a larger service population.

Fire/basic life support (BLS)/police: Operations of Proposed Project would result in an increased demand for fire, BLS, and police to serve new residents and a larger number of resort guests. As part of the Proposed Project, the Project Area would be annexed into Chelan County Fire District No. 1 (CCFD1) and a new fire station adjacent to the new day-use parking lot would be built. This fire station would be staffed to provide fire and basic life support services. On-mountain first aid, emergency rescue care, and emergency transport may be rendered by Mission Ridge Pro Patrol (ski patrol) in areas not accessible to CCFD1. The Chelan County Sheriff's Office is responsible for law enforcement in unincorporated Chelan County and may need additional staff or other resources to meet the demands of serving new residents and a larger number of resort guests.

[PLACEHOLDER: Information from Sheriff's Office here]

Fire risk and protection is discussed in more detail in Section 4.2.

Schools: Though the actual number of permanent residents of school age that may move to and reside in the expansion area housing as a result of the Proposed Project is expected to be low (Kimley Horn 2024b), the Wenatchee School District has indicated that additional students could be accommodated in area schools (Kalahar 2024).

Road Maintenance: Operations of Proposed Project would result in an increased traffic in the City of Wenatchee and along Squilchuck Road and Mission Ridge Road and in new traffic along the new County-maintained access road and private roads within the Project Area (see Section 5.6 for discussion of transportation). These roadways will require ongoing maintenance, and, in some cases, the increase in vehicular traffic may require additional maintenance above what is currently provided. For example, activities such as vegetation management, deicing, and snowplowing would likely remain consistent with current practices along a given stretch of road. Whereas activities such as patching potholes may increase in frequency due to the increase in traffic, which would be expected to increase damage to the road as compared to current traffic volumes. For County-owned roads, the Public Works Department would be expected to account for increases operational costs and staffing. For private roads, the Applicant will be responsible for maintaining road to County standards and will file a maintenance and upgrading agreement with the Chelan County auditor's office (CCC 8.24 and CCC 15.30).

[PLACEHOLDER: Information from Public Works here]

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on XXX from the Proposed Project.

5.7.3.4 Indirect Impacts from Operation

The indirect impacts of importing water from out of basin on groundwater and surface water are described in Section 5.2.3.4. and 5.3.3.4, respectively.

5.7.3.5 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project on transportation. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. These would include the following permit-required mitigation measures.

- Mitigation for each phase of the Proposed Project will be completed concurrent with construction of said phase. I.e., mitigation cannot be deferred to a later date or project phase.
- Construction activities resulting in greater than 1 acre of ground disturbing activity, such as trenching for utilities, will require coverage under the NPDES Construction Stormwater General (CGP) Permit. A NPDES CGP will need to be held by the responsible party, likely either Chelan PUD or the Applicant, depending on the location.
- Water right changes/transfer application(s) for new wells and uses would need to be approved by Ecology.
- New groundwater wells supplying the potable water system would need to receive source approval from DOH under WAC 246-290-130 including testing to demonstrate safe yield and source reliability. Proof of potable water must be provided to Chelan County prior to preliminary plat or building permit approval.
- Expansion of the Mission Ridge public water system would require DOH approval of infrastructure construction documents and a Water System Plan.
- Prior to any expansion of water service from the Mission Ridge public water system, the Applicant would need to contact DOH and Chelan-Douglas Health District (CDHD) for requirements and approval (CDHD 2020, 2022).
- For water supplied by expansion of Chelan PUD's public water system, the utility would be required to provide written confirmation agreeing to provide water for the Proposed Project. All water system improvements would need to be designed, constructed, and placed in accordance with Chelan PUD's standards and requirements. Completion of the improvements, including necessary easements, would need to be accepted in writing by Chelan PUD. Expansion of Chelan PUD's water system would be subject to applicable permitting processes including an update to its Group A Water System Plan to be approved by DOH. Proof of potable water should be provided to Chelan County prior to preliminary plat or building permit approval.
- **[PLACEHOLDER: USFS Special Use Permit modification, any new conditions here]**
- If water, power, or fiberoptic utility construction has unavoidable impacts to wetlands, wetland buffers, or riparian areas, those impacts will be minimized and mitigated following the process described in Section 5.3 Surface Water.

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- CDHD has required language to appear on final plat mylars as described in their March 21, 2023 letter.
- Prior to any expansion of the Mission Ridge LOSS, the Applicant would need to contact DOH and CDHD for requirements and approval (CDHD 2020, 2022).
- Onsite sewage systems meeting at least Treatment Level B, as described by WAC 256-272A, would likely be required for new or repaired systems (CDHD 2022).
- The areas designated for drainfields must be protected from cover by structures or impervious surfaces, surface drainage, soil compaction, grade alteration, excavation, and any other activity that may adversely affect the performance of the sewage system (CDHD 2022).
- [PLACEHOLDER: Sheriff's Office]
- [PLACEHOLDER: Public Works RE: County roads]
- Applicant will file a road maintenance and upgrading agreement with Chelan County (CCC 8.24 and CCC 15.30)

5.7.3.6 Applicant-proposed mitigation measures

The following Applicant-proposed mitigation measures are intended to further reduce potential effects from construction and operation of the Proposed Project.

From consultation with Chelan PUD: (1) the Applicant agreed to ensure no groundwater impacts through phased or complete reliance on Chelan PUD water supplies if alternate/additional well sites cannot be approved by Ecology, and (2) County-led project-level of power for Phase 1 and 2 and programmatic review of all phases, and Chelan PUD-led project-level review of Phases 3-5.

5.7.4 Significant and Unavoidable Adverse Impacts

Through compliance with federal, state, and local laws and regulations and with implementation of the mitigation measures described in this section, there would be no significant and unavoidable adverse impacts related to utilities/public services from construction or operation of the Proposed Project.

5.7.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant adverse impacts to utilities/public services-related resources.

5.8 Noise

Sound is mechanical energy transmitted by pressure waves through a medium such as air or water. The manner in which sound travels through this medium is influenced by the physical properties of the medium, such as temperature, density, and humidity. Noise is often defined as unwanted sound and can adversely affect both humans and wildlife. Of the various noise descriptors used to characterize the loudness of a sound, the sound pressure level is the most common, expressed in decibels (dB). A-weighted decibels (dBA) are the measurements used in this document, as they have been adjusted to account for human hearing.

Key Findings of Noise Analysis

The analysis focused on the following factors:

- Increases in noise from construction activities
- Increases in noise from operational activities, including increased traffic

The analysis found the Proposed Project would **have no significant and unavoidable impacts** related to noise.

Effects from noise were evaluated in areas likely to be affected by changes in noise levels from construction and operation of the Proposed Project. The study area for the assessment of noise impacts includes the Project Area and the Squilchuck Road corridor where humans and wildlife would encounter noise. It also includes the utility corridor west and north of the existing resort where improvements to water and fiberoptic utilities are proposed.

5.8.1 Noise Overview

Land uses that are considered sensitive to noise impacts are referred to as sensitive receptors. This can include schools, residences, libraries, hospitals, and other care facilities. Residences in the Forest Ridge neighborhood are more than 3 miles north of the proposed resort construction; approximately 0.25 mile east of the proposed utility corridor improvements; and approximately 0.15 mile east of Booster Pump #1 (Google Maps, 2024).

Sensitive receptors are also located along the Squilchuck Road Corridor, including additional residences as well as a hospital and schools in Wenatchee where intersection improvements are planned. The Scout-A-Vista alpine camp, operated by the Boy Scouts of America, is located directly adjacent to the utility improvement corridor north of the resort.

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Existing noise levels within the Project Area have not been measured, but the existing noise environment is typical of a forested setting and is relatively quiet. During periods of low use or when Mission Ridge is not open, natural sounds predominate in the study area, such as bird song and wind. There may also be noise from recreational use during summer months such as mountain biking and hiking; however, Mission Ridge does not currently have summer operations, and use is lower during summer months. Noise levels increase during periods of higher usage in winter months when Mission Ridge is open for skiing. Existing noise sources at the Proposed Project area include ski lift operations during winter months, people recreating, and vehicles traveling to and from Mission Ridge. Recreationists using Scout-A-Vista alpine camp, near Booster Pump #1 and the utility corridor, also generate some noise.

Definitions:

Sound: mechanical energy transmitted by pressure waves.

Loudness: can be characterized by sound pressure level and expressed in decibels (dB or dBA).

Noise: Unwanted sound that can adversely affect humans and wildlife.

Sensitive receptors: Land uses that are considered sensitive to noise impacts (e.g., schools, residences).

Existing noise levels along the Squilchuck Road corridor have also not been measured, but are typical of a two lane county road that generally serves recreation destinations. Noise primarily comes from traffic with more traffic noise closer to the City of Wenatchee and less as you move further from the City. Traffic noise along the Squilchuck Road corridor is higher in winter months during ski season.

For comparison purposes, typical noise levels (in dBA) associated with a variety of common sources are outlined in Table 5.8-1

Table 5.8-1: Noise Levels for Common Sources¹

Common Noise	Noise level (dBA)
Jet taking off (200 feet away)	130
Construction site	100
Freight train (100 feet away)	80
Conversation (3 ft away)	60
Urban residence	50
Soft whisper (5 feet away)	40
Silent study room	20

1. Source: OSHA 2023

5.8.2 How Impacts Were Analyzed

Existing conditions and potential impacts from noise were determined by reviewing information provided by the Applicant or found in other relevant reports. The analysis looked at how construction and operation of the Proposed Project could lead to noise effects, which were qualitatively assessed.

5.8.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.8.3.1 Direct Impacts from Construction

In the short term, the Proposed Project would result in increased temporary noise associated with construction at the Project Area. Heavy equipment including backhoes, bulldozers, loaders, and trucks have typical noise levels ranging from 74-89 dBA at 50-feet. Noise decreases with increasing distance; at 15,000- feet the same equipment is approximately 24-39 dBA.

During construction of the Proposed Project within the Project Area, operation of heavy machinery, construction traffic, and other human activity would temporarily increase the amount of noise heard in and around the Project Area. Certain activities such as rock crushing and blasting from the established rock pits would be louder and pose a greater risk of disturbance. Noise levels from construction would be louder than the typical environment; however, the effects would be limited in duration and would not occur close to any sensitive receptors. By the time the noise from construction at the resort reached the location of the sensitive receptors greater than 15,000 feet away in the Forest Ridge neighborhood, it would be in the 30-40 decibel range, which is approximately the sound of a soft whisper. Construction of the utility improvements and Booster Pump #1 would be located closer to the Forest Ridge neighborhood and directly adjacent to the Scout-A-Vista camp; however, utility construction would be short-term and comply with Chelan County Code. For this reason, construction effects from noise are expected to be minor.

Noise levels from construction of the Proposed Project would not exceed prescribed levels under WAC 173-60 (Maximum Environmental Noise Levels), and the project would comply with Chelan County noise regulations (Chelan County Code [CCC] Chapter 7.35). In addition, the US Occupational Safety and Health Administration (OSHA) regulates onsite construction-related noise. Contractors onsite would be required to adhere to these standards.

Birds and mammals may be temporarily disturbed or displaced due to construction noise. Noise effects to wildlife are discussed in Section 5.4.

Noise Effects Summary

- Noise effects from construction are expected to be minor and comply with WAC 173-60 and Chelan County Code 7.35 Noise regulations.
- Noise effects from operation are expected to be minor and, for the most part, far from sensitive receptors.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on sensitive receptors from the Proposed Project.

5.8.3.2 Indirect Impacts from Construction

No indirect impacts from construction of the Proposed Project on humans or wildlife were identified.

5.8.3.3 Direct Impacts from Operation

During operations, residential and commercial activity in the Project Area would increase ambient noise levels due to the new facilities. There would also be noise associated with increased winter recreation activities (e.g., alpine skiing, Nordic skiing, snow tubing) and summer recreation activities (e.g., mountain biking, hiking, motorized trail use), from the new lifts and, during the ski season, from snowmaking machines and grooming. As described in Section 5.8.1, the nearest existing sensitive receptors to the Project Area are residences that are more than 3 miles away, where the increased noise is likely to be imperceptible. In addition, due to the size of the area, recreationalists are spaced out so noise levels experienced by people recreating in the area will also likely not be very noticeable. For these reasons, operation effect from noise are expected to be minor.

On the public lands, only non-motorized use would be permitted. Motorized use (motorcycles/ATVs) would be permitted on private land. Additional trails may be built on the private land to develop loop opportunities for the motorized users, so they would not have to “dead-end” at the National Forest boundary. Motorized use would be restricted to designated routes on private land.

Noise levels from vehicles driving to and from the Project Area would also increase due to the increase in visitors. This includes an increase in noise along the existing Mission Ridge/Squilchuck Road as well as a new noise source from vehicle traffic on the new access road between the Base Area and the expansion area. The development has been analyzed to generate 9,811 new weekday average daily trips (ADTs) and 10,807 Saturday ADTs (Kimley-Horn 2023). Due to the location of the development, the potential for part-time residents, and the potential for significant crossover between uses at the development, actual trip generation is expected to be lower than what was analyzed in the traffic analysis. Increases in noise levels would generally be expected to be more pronounced in winter during ski and board season and would be expected to be lower in summer when Mission Ridge is primarily used for hiking and mountain biking, but is not as heavily used. Noise associated with increased traffic is expected to be moderate for sensitive receptors located along Squilchuck Road as Saturday volumes in February are expected to increase by 154% and 398% for northbound and southbound respectively. Traffic volumes will increase slowly as the development is implemented over a 20-year timeframe rather than all at once.

The Proposed Project includes new residential units that are designed for full-time living. Some onsite employee housing is also proposed (80-beds), which may provide seasonal or year-round housing. These residences and employee housing, as well as the 57-unit lodge would be considered new sensitive receptors (i.e., the people who occupy the new residences and overnight accommodations would be sensitive to noise impacts from operations). Since these residences do not currently exist, people living in them in the future would not experience a change in noise levels from existing conditions. In addition,

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individuals choosing to live at these residences would likely not be significantly affected by noise from operation of the Proposed Project. For these reasons, operation effects from noise on the new sensitive receptors are expected to be minor.

Operation of the improved utilities and booster pump stations is not expected to generate noise levels beyond those allowed in the Chelan County Code. Periodic visits by maintenance personnel to these facilities would not create enough traffic to create a perceptible increase in noise in the area.

Birds and mammals may be disturbed or displaced due to operation-related noise. Noise effects to wildlife are discussed in Section 5.4.

Therefore, with proper operation-related mitigating conditions, there would not be probable significant adverse operation-related impacts on sensitive receptors from the Proposed Project.

5.8.3.4 Indirect Impacts from Operation

No indirect impacts from operation of the Proposed Project on humans or wildlife were identified.

5.8.3.5 Proposed Mitigation Measures

No mitigation measures would be required because there would be no significant adverse impacts. Although not required to reduce any significant impacts, the Applicant is proposing the following mitigation measures to further reduce potential effects from noise from construction and operation of the Proposed Project (LDC, Inc., 2022).

- Complying with Chelan County's Noise Control Code (CCC Section 7.35) and OSHA's construction- and operation-related noise standards.
- Vehicles and machinery would be required to be turned off when not actively being used.

5.8.4 Significant and Unavoidable Adverse Impacts

Through compliance with laws and with implementation of the mitigation measures described in Section 5.8.3.5, there would be no significant and unavoidable adverse impacts related to Noise from construction or operation of the Proposed Project.

5.8.5 Findings for the No Action Alternative

Under the no-action alternative, Mission Ridge would remain in its existing condition and the ski area would continue to operate with existing terrain, lifts, and buildings, with no expansion. Noise levels would remain the same as they are currently, and no significant adverse impacts from noise are anticipated.

5.9 Cultural Resources

Cultural resources are often grouped together as “historic properties.” Historic properties are prehistoric or historic districts as well as historic and archaeological sites, structures, or objects that are listed in (or eligible for listing in) preservation registers such as the National Register of Historic Places (NRHP), the Washington Heritage Register, or local preservation registers. The cultural resources terminology used in this section is primarily adopted from the NRHP program because the program has extensive guidance on describing and evaluating historic properties.

An NRHP-eligible site, structure, object, or district may also qualify as a Traditional Cultural Property (TCP) or Cultural Landscape (CL). TCPs and CLs are defined by the National Park Service, in recognition that some historic properties have significant cultural meaning, use, or organization (Parker and King 1992; Birnbaum 1994). The identification of TCPs and CLs allows for the consideration of ongoing cultural meaning and holistic function in inventory and evaluation of historic properties. No TCPs or CLs have been identified in or near the study area.

In addition, archaeological sites are protected under Revised Code of Washington (RCW) 27.53 regardless of whether they are eligible for a preservation register. Under RCW 27.53, an archaeological site is “a geographic locality in Washington, including but not limited to, submerged and submersible lands and the bed of the sea within the state's jurisdiction, that contains archaeological objects.”

The cultural resources study area encompasses all areas with the potential to be affected by construction or operation of the Proposed Project; including improvements within the Project Area and improvements needed beyond the Project Area.

Key Findings of Cultural Resources Analysis

The analysis focused on potential impacts to:

- Archaeological sites
- Historic structures
- Traditional Cultural Properties or Cultural Landscapes

The analysis found the Proposed Project would **have no significant and unavoidable impacts** related to cultural resources.

5.9.1 Cultural Resources Overview

The cultural resources study area includes the area in which cultural resources could be directly or indirectly impacted by the Proposed Project. The study area is in Water Resources Inventory Area 40 (Alkali-Squilchuck watershed) on the east slopes of the Cascade Range. The study area includes the master plan area as shown on Figure 2.

Definitions: Historic property: a prehistoric or historic district, site, building, structure, or object eligible for inclusion in the National Register of Historic Places

Traditional Cultural Property (TCP): A historic property of any of the types listed above, that is associated with the beliefs, customs, and practices of a living community of people that have been passed down through generations.

Cultural Landscape (CL): A historic property of any of the types listed above, that shows evidence of human interaction with the physical

5.9.2 Environmental and Cultural Context

The area is part of the Northern Cascades physiographic province, characterized by deeply dissected mountains with glacially created features, crossed by east- and west-flowing streams (Franklin and Dyrness 1973:17-20). The study area is characterized by high relief and relatively sparse vegetation. Soils are typically thin and formed in glacially derived sediments, colluvium, and volcanic ash. Prior to historic-era and modern changes, the alpine terrain in the upper study area may have been a source of toolstone for local communities and certain faunal species such as bighorn sheep.

The study area is located within the Columbia Plateau culture area. General cultural histories have been developed for the plateau (Chatters and Pokotylo 1998), as well as various subregions and drainages. Most are focused on river valleys where larger sites are more plentiful (e.g., Grabert 1968). Because the prehistory of the mountain regions of Washington is poorly understood compared to the coasts and riverine lowlands, this section is primarily based on the better-understood riverine valley cultures; however, these communities also likely used the surrounding mountains as part of their seasonal movements.

At the end of the Pleistocene, hunters of large mammals fanned out across North America. This culture is known in the Columbia Plateau as Paleoindian (Ames and Maschner 1999:64-66), and dates to the Early Period, about 12,000 to 8,000 years ago. The earliest Paleoindian sites recorded in the Columbia Plateau are attributed to the Clovis culture, a regional expression of Paleoindian. Clovis sites are rare across the region, and in mountain environments “game density would have been too low, and exploitation costs too high relative to the lowlands to have attracted significant use” (Burtchard 2007: 17). However, there are a few sites near the study area, which includes the Ritchey-Roberts Clovis cache in nearby City of East Wenatchee, dating to 12,250 before present (BP) (Mehring and Foit, 1990). An undated Clovis projectile point has also been found near Cle Elum, near Snoqualmie Pass (Burtchard 2007).

After the brief but widespread Clovis occupation, a “broad-spectrum” hunter-gatherer culture developed in the Columbia Plateau region and persisted until the middle

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Holocene, around 5,300 years ago. A number of dated sites in the Cascade Range are attributed to this period, primarily lithic quarries and scatters (Mierendorf 1986).

A shift toward more permanent settlement began around 6,000 years ago. Known as the Late Middle Period in the Columbia Plateau, this period lasted until the beginning of the early Holocene around 3,000 years ago (Chatters and Pokotyl, 1998; Ames et al. 1998). In Cascade Mountain environments, there is an increase in dated sites consistent with the expectation of more intensive resources used (Burtchard 2007).

Late Holocene cultures in the Columbia Plateau region exhibit a “shift in adaptations...to storage-dependent collector strategies” (Chatters and Pokotylo 1998:76), which are characterized by intensive salmon fishing and associated storage features, social inequality, large permanent winter villages, and diverse tool assemblages. The Cascade Range continued to be used during this time, despite some expectation that long-range travel might decrease as villages became more important (Schalk 1984). Some sites contain multiple non-local toolstone types, indicating that they may have functioned as larger camps (Mierendorf 2004). The late Holocene archaeological cultures correlate with historic ethnographic descriptions.

The study area is in the traditional territory of the Wenatchee (Wenatchi) Tribe, a Middle Columbia Salishan group speaking Columbian, an Interior Salishan language. The cultural pattern in the Columbia River Basin at the time of historic contact was based on a seasonal round that took advantage of fish runs, abundant game, and root resources, as well as trade, kinship ties, and intermarriage among groups (Walker 1998). Prior to historic resettlement, permanent winter villages anchored the seasonal round. Villages often contained a large communal structure or “longhouse,” as well as smaller auxiliary structures (Miller 1998). Before the adoption of the horse, these structures were semi-subterranean, but after about 1720 AD, even winter village structures were aboveground mat houses. Villages were the basic political unit (Miller 1998).

The communities of the southern Columbia Plateau began to see the effects of Euro-American contact decades before the first explorers and traders arrived in the area. These effects, beginning around AD 1600, included introduced diseases, trade goods, and the introduction of the horse (Walker and Sprague 1998).

The Wenatchee Tribe signed the Yakima Treaty in 1855 at Walla Walla, which was followed by several years of warfare (Wilma 2006; Yakama Nation 2016). Many descendants are now part of the Confederated Tribes and Bands of the Yakama Nation, while others belong to the Confederated Tribes of the Colville Reservation (Wilma 2006).

Prospectors, traders, and missionaries began to arrive in the Wenatchee River area in the 1860s and 1870s, followed by homesteaders. The Wenatchee River discharges to the Columbia River through present day City of Wenatchee. The railroad arrived in 1892, and the City of Wenatchee incorporated the same year (Wilma 2006). With construction of the railroad and the growth of irrigation, the Wenatchee River area became primarily agricultural, known as the “Apple Capital of the World” (Wilma 2006).

The Wenatchee National Forest was created by President Theodore Roosevelt in 1907, headquartered in Leavenworth. The Okanogan National Forest and the Wenatchee National Forest were administratively joined in 2000, and became the Okanogan-Wenatchee National Forest (USFS 2016).

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Historical activities in the study area included mining and timber harvesting. The Mission Ridge resort opened in 1966, with a single chair lift, and has expanded steadily since that time, with at least seven additions.

5.9.2.1 Previous Research

No archaeological sites, historic structures, or TCPs are recorded within the study area, according to records on file at the Department of Archaeology and Historic Preservation (DAHP). There are six recorded sites located within a mile of the study area:

- A historic irrigation ditch (45CH1088, unevaluated for NRHP-eligibility)
- A set of four defunct ski lift bases (45CH1100, determined not eligible)
- A historic debris scatter (45CH1062, determined not eligible)
- A group of five formed concrete features (45CH1025, recommended not eligible)
- A homestead and dump site (45CH607, determined not eligible)
- A precontact lithic scatter (45CH202, unevaluated for NRHP-eligibility)
- An isolated projectile point (45CH828, recommended not eligible)

Four cultural resources surveys have been performed in the study area and are on file at DAHP. Two are in the ski area vicinity, and two along the Squilchuck Road corridor. The two surveys in the ski area vicinity cover approximately 40% of that portion of the study area. The two surveys in the Squilchuck Road corridor cover that entire portion of the study area.

In the ski area vicinity, the first survey was prepared for the Applicant's Master Planned Resort Application SEPA Checklist and consisted of a pedestrian and landform-based survey (Landreau 2017). The survey concluded that due to shallow soils and steep slopes, the area had low potential for archaeological resources. No historic structures were identified. The second was an older survey for a previous expansion project, which included pedestrian survey (Galm 1995). The portion of that survey within the current study area did not locate any cultural resources.

In the Squilchuck Road corridor, both surveys were conducted for roadwork projects and included pedestrian survey. The first, for road fill locations, did not locate any cultural resources and did not include subsurface testing (Schumacher 2008). The second survey was conducted for the Upper Squilchuck Road Improvement Project and included subsurface testing (Hartmann 2011). It located an isolated precontact projectile point in a shovel probe, in association with a ceramic fragment, indicated disturbed context.

Neither of the reports indicated that Tribal consultation had revealed TCPs in the study area or surrounding vicinity.

[PLACEHOLDER FOR POTENTIAL ADDITION OF CULTURAL RESOURCES SURVEY WORK
NEAR THE PROPOSED UTILITY CORRIDOR]

5.9.3 How Impacts Were Analyzed

Existing conditions and potential impacts to cultural resources were determined by reviewing information provided by the Applicant or on file at DAHP. The analysis looked at how construction and operation of the Proposed Project could lead to effects on historic properties.

5.9.4 Findings from the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides potential mitigation measures.

5.9.4.1 Direct Impacts from Construction

Direct impacts from construction would include disturbance to archaeological sites in areas of ground disturbance, demolition or modification of historic structures, and changes to the surrounding landscape that could affect TCPs.

Previous surveys and the landscape history indicate that the study area has low potential for archaeological resources. The proposed Project requires construction of utilities provided by Chelan County PUD. The utilities would be constructed, in part, on federal lands managed by the United States Forest Service (Forest Service). Future review will be completed by Chelan County PUD and by the Forest Service to analyze potential impacts to cultural resources by the respective agencies.

If Tribal consultation indicates that TCPs may be present, further evaluation should take place.

5.9.4.2 Direct Impacts from Operation

No impacts to cultural resources are expected from recreational, residential, and commercial activity onsite.

5.9.4.3 Potential Mitigation Measures

No mitigation measures would be required because there would be no significant adverse impacts. Although not required to reduce any significant impacts, the Applicant is proposing the following measure to identify and mitigation potential effects to unrecorded cultural resources from construction and operation of the Proposed Project.

- Development of an inadvertent discovery plan (IDP) to be used to guide actions in the event of a discovery of cultural resources during construction.

Future review by Chelan County PUD and the Forest Service may identify resources and potential impacts. If necessary, these entities will develop avoidance strategies, mitigation measures, and procedures for post-review discoveries, which may include development of an IDP.

5.9.5 Significant and Unavoidable Adverse Impacts

Through compliance with laws and with implementation of the mitigation measures described in Section 5.9.4, there would be no significant and unavoidable adverse

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impacts related to cultural resources from construction or operation of the Proposed Project.

5.9.6 Findings for the No Action Alternative

Under the no-action alternative, Mission Ridge would remain in its existing condition and the ski area would continue to operate with existing terrain, lifts, and buildings, with no expansion. No demolition of structures, ground disturbance, or changes to the landscape are expected, so no significant adverse impacts from cultural resources are anticipated.

5.10 Recreation

This section analyzes impacts on recreation stemming from construction and operation of the Proposed Project. It identifies potential adverse impacts and proposed mitigation measures.

The study area for this analysis includes the current and proposed Mission Ridge Ski Resort areas, Squilchuck State Park, nearby areas of the Okanogan-Wenatchee National Forest, and other nearby private ski areas. Relevant factors for identifying impacts in the area include disruption to existing recreation areas (including access and quality), changes in visitation, and changes in available recreational opportunities.

5.10.1 Recreation Overview

The region of the North Cascades which encompasses Chelan County plays host to a diversity of recreational activities. Residents in this region report a high rate of participation in walking/day walking along trails (91%), partaking in picnics and cookouts (70%), and general leisure (71%) (Eastern Washington University 2022). Over half (51%) of residents reported participation in tent camping in developed areas, while 47% reported tent camping in undeveloped areas. Snow and ice activity participation rates are also relatively high, with 43% participating in snowshoeing, 35% in sledding and inner tubing, 32% in Nordic skiing, and 30% in alpine skiing or snowboarding at developed facilities.

The Mission Ridge Ski Resort is open to visitors from November through April. The resort currently covers over 2,000 acres. Base elevation is at 4,570 feet and top elevation is 6,820 feet, resulting in a vertical rise of 2,250 feet. More than 70 alpine ski runs, and 36 designated trails make up the resort's skiing features and four chairlifts transport visitors to top elevations. The resort's entrance is accessible by way of Mission Ridge Road about 30 minutes south of the nearest town, Wenatchee, WA.

Directly northeast of the resort is Squilchuck State Park, managed by Washington State Parks (WSP). Open year-round, Squilchuck hosts group campgrounds, trails, bird watching scenic views, and an ungroomed ski route (Washington State Recreation and Conservation Plan n.d.). The summer season brings opportunities for hiking and biking while winter provides avenues for cross country skiing and snowshoeing.

Between 2018 and 2022, annual day-use summer visitation at Squilchuck State Park was about 32,000. Winter day-use visitation averaged 29,000, for an overall five-year average of more than 60,000 visitors—an increase of about 300% since 2014 (WSP n.d.). Overnight visitation averaged about 1,500 people each year between 2014 and 2022. Visitation rates have varied somewhat in the last five years, from high of about 2,100 visitors to about 1,000 in 2021, before rebounding to 1,500 in 2022.

Key Findings of Recreation Analysis

The analysis focused on the following factors:

- Quantity of recreation, including access and capacity
- Quality of recreation, including amenity profile, congestion, and disruption

The analysis found the proposed project would **have no significant and unavoidable impacts during construction and beneficial effects during operation** related to recreation resources.

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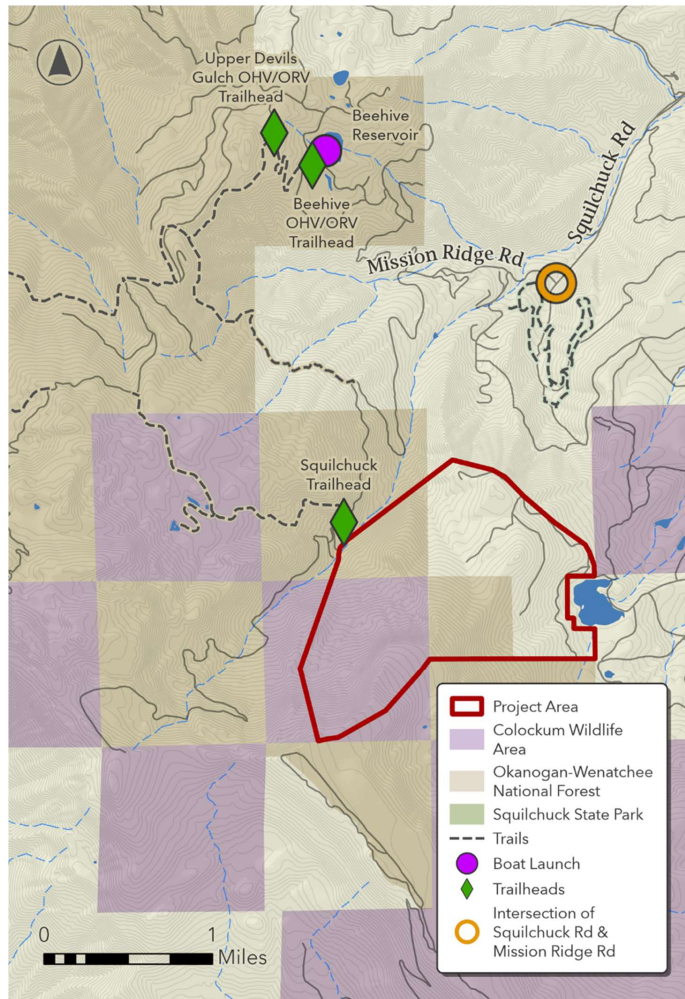


Figure 5-10-1. Recreation Overview

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The Mission Ridge ski area operates partly within the Okanogan-Wenatchee National Forest (OWNF), which covers about 2,700 square miles in central Washington. Several developed recreation areas within the OOWNF are near the ski resort. Directly within reach of the resort's entrance is Squilchuck Trailhead, which provides access to Squilchuck Trail, suitable for hiking or horseback riding. About 1 mile north of Mission Ridge, at the bend between Mission Ridge Road and Wenatchee Mountain Road, is Devil's Spur Trailhead. Beehive Trail stems from this trailhead and leads to the Upper Devils Gulch and Beehive Trailheads, all of which allow hiking and horseback riding, as well as mountain biking and offroad motorcycling. Beehive Reservoir is also accessible by way of Beehive Trail about 2 miles from Mission Ridge and provides water access, a boat launch point, and bathrooms.

Mission Ridge also operates partly within the Colockum Wildlife Area which covers 88,000 acres in Central Washington (Washington Department of Fish & Wildlife n.d.). Colockum is accessible year-round. While it does not provide developed amenities (e.g., parking areas, bathrooms, picnic areas, campgrounds), it provides opportunities for dispersed camping, hiking, wildlife viewing, mountain biking, fishing, and horseback riding. During the winter season, the area provides opportunities for cross country skiing, snowmobiling, and snowshoeing. Special to the nearby area are hunting opportunities for elk, deer, bighorn sheep, and migratory game birds.

The closest developed skiing areas to Mission Ridge are about an hour's drive. Badger Mountain Ski Area is a low cost, volunteer-run ski area to the north of Mission Ridge (Northwest Winter Sportman n.d.). Generally open from January to March, the area covers 10 acres and provides one lift and a small lodge. Farther north is a more comparable ski area in Plain Valley Ski Trails near Plain, WA. Covering nearly 6,000 acres, Plain Valley provides 14 ski runs and loops, permits horseback riding and snowmobiles, and houses three lodges (Plain Valley Ski Trails n.d.).

5.10.2 How Impacts Were Analyzed

Existing conditions and potential impacts to recreation in the area were determined by reviewing information provided by the Applicant, as well as data from the United State Forest Service (United States Department of Agriculture [USDA] 2020), the State of Washington Parks and Recreation Commission (WSP n.d.), and the State of Washington Recreation and Conservation Office (RCO 2023). Factors considered in this evaluation included the following:

- **Availability of recreation amenities:** Supply of trails, campgrounds, and ski lifts within nearby developed recreation facilities, as well as dispersed recreation use outside of developed areas relating to area closures or decrease to capacity.
- **Access to existing recreation areas:** Changes in temporary or permanent access or parking for existing recreation sites that may impact visitation, considering traffic disruptions due to construction and increased traffic volume from resort operations.
- **Quality of recreation amenities:** Conditions of developed recreation opportunities related to visitation congestion and change in environmental settings such as noise disruption from construction or nature and wildlife views.

Recreation Effects Summary

1. Availability of existing recreation amenities would not change during construction. Minor changes in access and disruptions to existing recreation areas could temporarily reduce visitation rates.
2. Minor impacts to quality of existing recreation amenities would be expected during construction.
3. Overall increased quantity and quality of recreation in the immediate region because of the Proposed Project.

5.10.3 Findings for the Proposed Project

5.10.3.1 Impacts from Construction

Availability of recreation amenities: Proposed project construction would not result in closure of any recreation areas or public lands. It would not meaningfully reduce the availability or capacity of the region's trailheads, trails, campgrounds, or other recreation facilities.

Therefore, the proposed project would not have an adverse impact on availability of recreation amenities during construction.

Access to existing recreation areas: Construction of the proposed project calls for improvements to utility corridor along the Squilchuck Road corridor (i.e., power, telecommunication, water). This construction may affect the intersection of Mission Ridge Road and Squilchuck Road with the introduction of additional workers and construction equipment to the site, which serves as the only public access into Squilchuck State Park. As this road also provides access to developed recreation areas, including trailheads, in

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the OWNF, recreation users destined to these areas and those engaging in scenic driving through the area may also experience disruption.

The Applicant has stated that Squilchuck Road would remain open during road/utility corridor construction, preserving access to Squilchuck State Park and other recreation areas on the OWNF throughout the construction period. Construction activities could temporarily create delays for vehicles traveling Squilchuck and Mission Ridge roads, and minor changes to traffic patterns may occur, such as reducing access to a single lane of traffic with flaggers controlling access as necessary to maintain safety. These impacts would be minor and mitigation including signage and flagging would minimize disruption for recreation users.

Therefore, with proper construction-related mitigating conditions, there would not be probable significant adverse construction-related impacts on existing recreation areas from the Proposed Project.

Quality of recreation amenities: Proposed Project construction would create disruptions in areas used for outdoor recreation surrounding the Project Area, including Squilchuck State Park, and parts of the OWNF and the Colockum Wildlife Area.

With construction occurring in the expansion area as well as the planned road and utility improvements along the Squilchuck Road corridor, construction noise may be heard in the Squilchuck State Park and nearby natural areas. Given the amount of construction planned, this noise may be persistent over long periods of time. This noise may affect the quality of visitor experiences within these areas.

Construction activity and resulting noise may have a more distinct impact on nearby wildlife activity, which could affect people's experience of nature, wildlife watching, or hunting activities. The impact to wildlife views would most impact Squilchuck State Park where bird watching is officially listed as a recreation activity, as well as Clockum Wildlife Area. The quality of hunting in Clockum may also be impacted, as wildlife activity may be disturbed due to nearby construction noise. For more information on noise-related impacts, see Section 5.8.

Where project construction activities (including clearing, grading, and road construction) generate noise and visual disruption, people may perceive a decreased quality of their recreation experience. If this happens, recreation users may choose to recreate elsewhere. A survey of visitors to the OWNF found that if recreation is not possible in the national forest, 45% of visitors would substitute with another activity elsewhere. Almost 30% reported that they would go elsewhere for the same activity, with half traveling up to 75 miles or more to an alternate location. Only 10% reported that they had come back another time (USDA 2020).

The proposed project would potentially diminish the quality of some recreation amenities temporarily during construction due to noise and other activities incompatible with natural areas. People using recreation areas closest to construction would experience the greatest impact, with wildlife-centered activities most affected. Because the changes in quality would be transitory and most visitors appear willing to substitute to other locations, recreation impacts would be minor.

Therefore, there would not be probable significant adverse construction-related impacts on the quality of recreation amenities from the Proposed Project.

5.10.3.2 Impacts from Operation

Availability of recreation amenities: The proposed expansion of the Mission Ridge Ski Area would enable the resort to operate year-round. It would increase the resort's covered acreage by more than 1,000 acres, bringing 18 new alpine ski runs, new lifts, a snow tubing area, hiking and biking trails, as well as camping, horseback riding, zip lines, and an alpine coaster. The expansion would also introduce a Nordic skiing trail system.

The expansion of the resort would increase the quantity, quality, and range of recreational activities in ski area. The addition of more alpine ski runs, and the introduction of a Nordic ski trails system would increase the supply of recreational amenities during the snow season, while potential amenities such as an alpine coaster, zip lines, horseback riding, camping, and hiking and biking trails would add recreational opportunities during the summer and shoulder seasons.

One potential adverse impact of this expansion may be the elimination of some areas currently used for backcountry skiing as these areas are developed for downhill and cross-country skiing. Backcountry skiing would still be available adjacent to and nearby the project area, but skiers may have to travel further to reach these areas. This impact would be minor, however, as the increase of available recreation amenities from the Proposed Project expansion would increase and opportunities for backcountry skiing would continue to be available in the region.

Therefore, the project would benefit recreation users by increasing the overall supply of recreation amenities in the area due to the introduction of new recreation facilities during winter and expanding park operations into summer seasons without impacting the supply of recreation amenities in surrounding areas. There would not be probable significant adverse operation-related impacts on recreation from the Proposed Project.

Access to existing recreation areas: The proposed expansion of the resort is expected to increase the number of visitors to the area over time, which could increase traffic in the area and potentially reduce availability of parking at nearby trailheads. However, newly constructed roadways to the park and improved access to Squilchuck State Park because of intersection improvements should address any potential local traffic impacts to existing recreation facilities. Impacts to parking availability at trailheads would likely be minimal compared to current use patterns during most of the recreation season.

Therefore, access to existing recreation areas such as Squilchuck State Park will experience no change or a modest benefit from the proposed project during operation through access road improvements.

Quality of recreation amenities: The introduction of new lifts to the Mission Ridge Ski Area under the proposed expansion would benefit recreation participants. Increased access to new and existing ski routes may decrease the time it takes visitors to return to higher elevations and expand their choices of recreation, therefore increasing visitor enjoyment. Additionally, an increase in capacity would reduce congestion within the ski area, leading to a more positive experience for existing and future recreation participants. Although demand is likely to continue to grow over time and may respond

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immediately in response to improvements, increased capacity and improved infrastructure should overall improve participants recreation experience.

Therefore, the project would benefit recreation users by improving the quality of recreation amenities, such as new ski lifts, expanded choice of activities, increased capacity, and reduced congestion.

5.10.3.3 Indirect Impacts from Operation

No indirect impacts from operation of the Proposed Project on availability of recreation amenities, access to existing recreation areas, or quality of recreation amenities were identified.

5.10.3.4 Proposed Mitigation Measures

These mitigation measures to address potential adverse impacts during construction are proposed:

- Squilchuck Road would remain open during road/utility corridor construction, preserving access to Squilchuck State Park and other recreation areas on the OWNF throughout the construction period.
- To maintain access to Squilchuck State Park, road construction at the intersection of Squilchuck Road and Mission Ridge Road should be prioritized during off-peak periods such as the middle of the week and during hours that avoid peak visitation.
- The applicant would follow all safety protocols and best practices for minimizing safety concerns, including flagging, signage, and clearly marked traffic pattern changes.
- The applicant would follow all construction safety and best practices to avoid noise and other construction-related disruptions to wildlife and natural areas, including prioritizing activity during off-peak periods as much as possible.
- Information about road construction would be distributed to the OWNF and State Parks district offices, and posted physically and electronically, such as park websites and local outfitters, where people may consult about trip planning.

5.10.4 Significant and Unavoidable Adverse Impacts

While the project may produce minor adverse impacts due to access to and quality of recreation opportunities during construction, they are not significant given their temporary and localized nature. Through compliance with laws and with implementation of the mitigation measures described above, there would be no significant and unavoidable adverse impacts related to recreation opportunities from the construction or operation of the proposed project.

5.10.5 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no significant effects to recreation in the area.

5.11 Climate Change

This section summarizes how potential climate change impacts and mitigation were evaluated and presents the findings from the analysis. A review of applicable literature was conducted to detail climate change impacts conditions in the Proposed Project area. The impacts of the Proposed Project construction and operation that contribute to climate change were evaluated. Finally, the climate change impacts that could increase or decrease adverse impacts from the proposed project relative to the other resources analyzed in the Draft EIS were evaluated.

The technical details and information on climate change impacts on the region and the Proposed Project area were provided by the Department of Ecology (2021), Chelan County (2020), and USFS (2020). These reports summarize the climate impacts to the state of Washington, including the watersheds and regions where the Proposed Project is located. The climate impacts discussed include changes to temperature, precipitation, hydrology, and extreme weather events and their associated impacts to various resources such as water, wildlife, and land.

The study area for the climate change analysis encompasses all areas to be affected by construction or operation of the Proposed Project. This necessarily includes the project area, impacted groundwater and surface water bodies, and surrounding areas where increased activity will occur as a result of the Proposed Project (i.e. incoming roads and intersections, utilities).

Key Findings of Climate Change Analysis

The analysis focused on the following factors:

- Anticipated climate change impacts on Proposed Project area
- Influence of Proposed Project construction and operation on Climate Change
- Impact of climate change on other resources evaluated.

The analysis found that the proposed project would **have no significant and unavoidable impacts** related to climate change, and climate change **would not alter impact determinations of other resources.**

5.11.1 Climate Change Conditions in the Region

There are multiple climate change impacts expected across Washington state and the Pacific Northwest, most of which will have specific consequences for Chelan County. The main concerns related to climate change are rising temperatures and changes in timing of precipitation and water supply.

5.11.1.1 Temperatures

Temperatures in Washington state have continued to rise over the last century and area expected to continue in the next century at a faster rate. The average year in the Northwest is 1.54°F warmer than during the first half of the 20th century, and the coldest day of the year between 1986 and 2016 was 4.78°F warmer than the coldest day historically between 1901 and 1960 (Chelan County, 2020).

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Average annual temperature in Chelan County is expected to increase 4.6° F and 5.9° F by the 2050s and 5.8° F and 9.7° F by the 2080s under a low and high greenhouse gas scenario respectively, relative to historical conditions (see Figure 5.12-1). Warming is expected in all seasons, with the most warming in summer months. Extreme heat events are expected to become more frequent and extreme cold events are expected to become less frequent (Chelan County 2020).

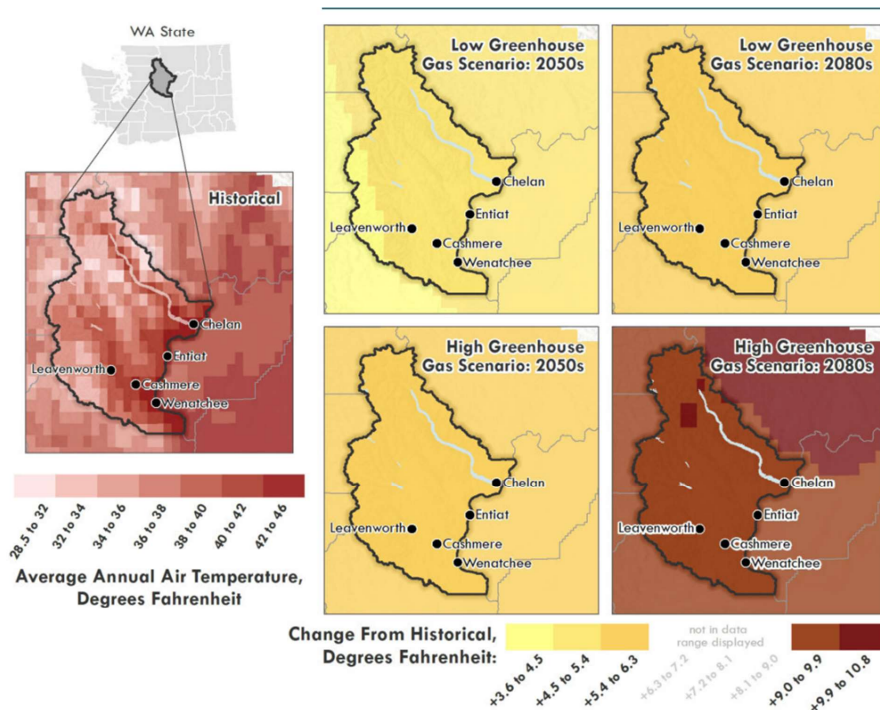


Figure 5.11-1: Projected Average Annual Air Temperature, Chelan County, Adapted from Chelan County Climate Resiliency Strategy

5.11.1.2 Precipitation

Precipitation variability is expected to change in the next century. Total annual precipitation is expected to increase slightly on average but will continue to be greatly influenced by year-to-year variability. Climate model projections of precipitation by season are mixed. Most models project less precipitation in summer, decreasing 6 percent and 8 percent by the 2050s for a low and high greenhouse gas scenario, respectively. Conversely, most models project more precipitation in winter, spring, and autumn.

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It is not only average precipitation that is expected to change, but short-term heavy rainfall events are also expected to become heavier and more frequent. Across Washington state, the number of days with more than one inch of rain is projected to increase by 13 percent for the 2050s under a high greenhouse gas scenario. The heaviest 24-hour rainfall events are expected to intensify by 22 percent and these events are expected to occur seven days per year on average by the 2080s compared to two days per year historically (Chelan County, 2020).

5.11.1.3 Wildfire

Washington and Chelan County specifically have experienced several large wildfires in recent years, and the increasing temperatures and water balance deficit expect to magnify the recent observed increase in wildfire occurrence. The area burned by wildfire in forested areas of central Washington is projected to double by the 2020s and increase 4-fold by the 2040s, relative to the 1980-2006 average, for a moderate greenhouse gas scenario. Projected increases in area burned are less for grassland and shrub-steppe ecosystems in Washington, but these areas are still projected to see twice as much area burned by the 2040s (Chelan County, 2020).

5.11.1.4 Water Supply

Climate change will also affect surface and groundwater supplies. The timing of surface water supplies is shifting earlier in the season, especially in the snowmelt-dominated Cascades watersheds where the Proposed Project is located. Climate change impacts evaluated by Ecology and WSU project increased high supply, decreased low supply, shifts in supply to earlier in the year, and decreases in minimum flows by 2040 (Hall et al., 2022).

Snowpack is expected to further decline with warming in the future. Mission Ridge currently receives approximately 200 inches of snowfall annually (Mission Ridge, 2023). In Chelan County, average spring snowpack is projected to decline 26.9 percent and 33.5 percent by the 2050s under a low and high greenhouse gas scenario, respectively. Total runoff in August, which includes any surface water flows in addition to subsurface runoff in shallow groundwater, is projected to decline 20.4 percent and 26.1 percent by the 2050s under a low and high greenhouse gas scenario, respectively. The decrease in spring snowpack and summer streamflows pose challenges in the future for water supply in Chelan County.

5.11.1.5 Flooding

Climate change is expected to increase both the frequency and magnitude of floods in and around Chelan County with the changes in precipitation events and runoff volumes. In Chelan County, total cool season (October to March) runoff is projected to increase 27 percent and 39 percent by the 2050s and 43 percent and 74 percent by the 2080s for a low and high greenhouse gas scenario, respectively (Chelan County, 2020).

5.11.2 Proposed Project Impacts to Climate Change

Climate change is a global issue driven by a multitude of different types of sources and magnitudes of emissions in locations worldwide. Greenhouse gas (GHG) pollutants mix within the atmosphere on a global scale to contribute to the greenhouse effect worldwide. For this analysis, the projected GHG emissions from the Proposed Project is

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compared with other regional sources of GHG emissions to provide context for the proposed project impacts.

The potential impacts to climate change as a result of the Proposed Project were determined by reviewing information provided by the Applicant or found in other reports. The impacts reference Section 5.1 evaluating impacts to air relating to greenhouse gas emissions and Section 5.2 and 5.3 evaluating impacts to groundwater and surface water supply, respectively, relating to snowmaking.

5.11.2.1 How it was analyzed

Climate includes the following metrics. Factors considered in this evaluation included the following:

- **Carbon Emissions:** GHG emissions are expected to increase as a result of construction and operations.
- **Changes in Water Supply:** The water supply is expected to change for the Project Area even under the No Action Alternative. The Proposed Project will change the local water supply through its groundwater pumping, intertie with the Chelan PUD water system, water storage, and wastewater disposal methods. Additionally, the Proposed Project will artificially create snow during the winter to support ski operations.

5.11.3 Findings for the Proposed Project

This section describes direct and indirect construction- and operation-related findings for the Proposed Project and provides proposed mitigation measures.

5.11.3.1 Impacts from Construction

Vehicles and construction equipment are sources of GHG emissions and contribute to climate change primarily through the burning of gasoline and diesel fuels. Vehicular activities associated with construction would generate GHG emissions, as would the additional electricity consumption required during construction, which could impact air quality in the area. These effects are expected to be minor due to their temporary nature. Additional discussion on the construction impacts to air, groundwater, and surface water are discussed in Sections 5.1, 5.2, and 5.3, respectively

Therefore, with proper construction-related mitigating conditions and due to the temporary nature of the impacts, there would not be probable significant adverse construction-related impacts on climate change from the Proposed Project.

5.11.3.2 Impacts from Operation

Emissions from the Proposed Project related to increased transportation to the ski area, additional residential development, and recreation operations could contribute to climate change due to GHG emissions. Most of these increases are related to car traffic because the Proposed Project is supplied by Chelan PUD, which is fed by hydropower rather than other types of energy production. Additionally, because climate change is a global phenomenon, the impacts of the Proposed Project on climate change would likely be imperceptible at the project scale.

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The Proposed Project's water supply methods are likely to retime water in opposition to climate change pressures. Climate change concentrates the water supply early in the year with higher peaks. The Project will pump groundwater, which will then be discharged through OSS/LOSS retiming it by weeks or months later in the year. If the Project is also fed through Chelan PUD, then well sources will import water uphill to the top of the mountain, which will then be discharged as retimed wastewater.

The Applicant also plans to expand the existing artificial snowmaking operation to the proposed new ski trails. Existing snowmaking operations divert surface water from Squilchuck Creek to enhance winter recreation opportunities. Snowmaking can prolong the spring freshet period by increasing water storage (as snow) and increasing quantities of cold water infiltrating to groundwater (American, 2022). This can increase baseflow to streams, especially during the period of late summer low streamflow. The Proposed Project is anticipated to have a direct benefit towards combatting climate change by increasing snowpack and water supply availability.

Therefore, with proper mitigating conditions, there would not be probable significant adverse operation-related contributions towards climate change from the Proposed Project.

Additional discussion of operation related GHG and water supply impacts are discussed in Section 5.1 (Air), Section 5.2 (Groundwater), and Section 5.3 (Surface Water).

5.11.3.3 Proposed Mitigation Measures

This section describes relevant mitigation measures that could reduce construction and operation-related impacts from the Proposed Project on climate change. Specific mitigation actions will be confirmed during project permitting.

Permit-required mitigation measures: The Proposed Project would need to comply with all applicable local, state, and federal rules and regulations, and would need to obtain all appropriate approvals and permits. The mitigation measures related to fire risk, air, and water resources are outlined in Sections 4.2, 5.1, 5.2 and 5.3, respectively

Applicant-proposed mitigation measures: The Applicant's-proposed water supply methods should help recharge the aquifer and potentially import water to the Project Area, which are intended to reduce potential effects from construction and operation of the Proposed Project. The proposed mitigation measures related to fire risk, air, and water resources are outlined in Sections 4.2, 5.1, 5.2 and 5.3, respectively.

Additional applicant-proposed mitigation measures specific to mitigating the impacts to climate change may include installing electric charging stations and solar panels for use during operation of the Proposed Project.

[PLACEHOLDER: any additional Applicant proposed mitigation measures?]

5.11.4 Significant and Unavoidable Adverse Impacts

Through compliance with federal, state, and local laws and regulations and with implementation of the mitigation measures described in this section, there would be no significant and unavoidable adverse impacts related to climate change from construction or operation of the Proposed Project.

5.11.5 Climate Change Impacts to Proposed Project

This section assesses the effects of projected climate changes on resources analyzed in the EIS, relative to the proposed and the No Action Alternative. The probable adverse environmental impacts for the Proposed Project may increase or decrease as a result of climate change. Climate change is not expected to affect the following resource areas and were not included in this analysis:

- Visual Resources
- Transportation
- Utilities and Public Services
- Land and Shoreline Use
- Noise
- Cultural
- Recreation

5.11.5.1 Earth

The impacts of climate change on temperature, precipitation, wildfire and flood risk influence earth resources for the Proposed Project. The increase in temperatures and wildfire risk and a decrease in natural winter snowpack, summer streamflows, and summer precipitation can reduce soil moisture on the Proposed Project area. The increase in flood risk and intense precipitation events can increase the risk of landslide events in the Proposed Project area.

The impacts to earth from the Proposed Project are concerning soil and slope stability due to the increase in activity in construction and operations on site.

It is not anticipated that these climate changes would alter the impact determinations for the Proposed Project or No Action Alternative that are discussed in Section 4.1.

5.11.5.2 Fire Risk

Climate change is anticipated to increase the risk of wildfires, which will have a direct impact on fire protection. The Proposed Project has determined fire risk as a potential significant impact to the environment as discussed in Section 4.2, and the influences of climate change are expected to further increase the fire risk. Mitigation measures are proposed to reduce the fire risk as a result of the Proposed Project.

It is not anticipated that these climate changes would alter the impact determinations for the Proposed Project or No Action Alternative that are discussed in Section 4.2.

5.11.5.3 Energy and Natural Resources

The primary energy use during the operation phase of the proposed project is electricity sourced from connection to the public utility grid. Electricity from the public utility grid may be generated from a variety of sources including wind and solar generation, hydroelectric dams, and fossil fuel combustion. The effects of climate change may impact both annual average and seasonal variation in generation of wind, solar, and

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hydroelectric facilities as these can be affected by weather events, streamflow, and snowpack. This may change how the proposed project conducts pumping and generation cycles over time. Specific magnitudes of change are difficult to anticipate as climate change impacts may both increase and decrease wind, solar, and hydroelectric generation potentials depending on location and seasonality.

The impacts of climate change are not expected to significantly change the availability of energy resources overall. Therefore, any change to the level of energy use is not expected to be significant.

Climate change may affect the proposed project's energy use, but it is not anticipated that climate change would alter the impact determinations for the proposed project or No Action Alternative that are discussed in Section 5.5.

5.11.5.4 Air

Increased temperatures and changes to precipitation as a result of climate change will influence the impacts to air resources outlined in Section 5.1.

Air emissions of PM₁₀ and PM_{2.5} from the proposed project are anticipated in the construction and operation phase from fugitive dust. Fugitive dust emissions occur with ground disruption or vehicle/equipment movement and are dependent on soil moisture content. Increased temperatures, decreases in summer precipitation, and reduction of snowpack will reduce soil moisture which can increase the fugitive dust emissions of various construction or operational impacts.

Provided the mitigation measured proposed in Section 5.1 are implemented, it is not anticipated that these climate changes would alter the impact determinations for the Proposed Project or No Action Alternative that are discussed in Section 5.1.

5.11.5.5 Groundwater

Climate change impacts to temperature, precipitation, and water supply will influence groundwater and surface water resources at the Proposed Project.

The Proposed Project impacts to groundwater are largely related to alterations of aquifer recharge during construction. Increases in temperature and decreases in precipitation may further reduce infiltration to groundwater as warmer temperatures will increase evaporation. As expressed in Section 5.2, the Proposed project includes measures to maintain soil infiltration during the construction phase, and under appropriate management, reduction in soil infiltration during the construction phase is likely to be low.

During operations of the Proposed Project, groundwater withdrawals for domestic use and snowmaking may be impacts by climate change influences on groundwater availability due to the projected decrease in snowpack and streamflows. However, the use of snowmaking will artificially increase snowpack on the Proposed Project area, which could benefit groundwater recharge and availability. Additionally, the Proposed Project anticipates using OSS and LOSS systems for wastewater treatment which will directly discharge water to soils, although potential impacts from modern OSS and LOSS systems is expected to be minimal.

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It is not anticipated that these climate changes would alter the impact determinations for the Proposed Project or No Action Alternative that are discussed in Section 5.2 Groundwater.

5.11.5.6 Surface Water

Climate change is expected to influence four of the factors evaluated in Section 5.3 related to the operational impacts on surface water: riparian habitat, wetlands streamflow, and water quality.

Riparian habitat and wetlands will be exposed to more risks as a result of climate change. Riparian habitat is expected to have some natural protection from human and pet disturbance when snow covered, but the decrease in snowpack as a result of climate change may reduce this protection for riparian habitat. Wetlands may be more susceptible to drying due to increased temperature or flooding due to changes in precipitation and flood behaviors. The existing mitigation measures to protect riparian habitat (i.e. fencing, signage) will be in place, and as described in Section 5.3, wetland delineations (within the past five years) should be required to understand changes in wetland extents and compensatory mitigation will be determined for any construction.

Climate change is expected to decrease surface water availability, which the existing operations at Mission Ridge utilize for artificial snowmaking. The proposed expansion in snowmaking operations will aid in mitigating low streamflows by increasing snowpack in the winter months. Additionally, streamflow may be enhanced as a result of the Proposed Project is through wastewater return flows, which will discharge to either groundwater via OSS/LOSS or surface water via WWTP. The Proposed Project also introduces risks of surface water quality degradation due to stormwater runoff, which can be magnified by the climate change impacts on flood risk and magnitude of precipitation events. Mitigation through permitting will be in place to protect stormwater runoff.

It is not anticipated that these climate changes would alter the impact determinations for the Proposed Project or No Action Alternative that are discussed in Section 5.3 Surface Water.

5.11.5.7 Plants and Animals

Impacts from extreme weather events within the Proposed Project area and surrounding areas would be adverse and could be short- or long-term causing minor to major impacts on Aquatic Resources. Because of these changes, the ecosystems that salmonids and other Aquatic Resources rely on will be altered and populations may be negatively impacted.

The heavier rain, decrease in snowpack, and reduced summer flows will result in changes to seasonal streamflows that salmonids rely on for cool water, flood refuge, and habitat forming processes. The increase in wildfire, flood, and intense precipitation events will also pose harms to salmonid species with increased sediment entering the river. Mitigation measures are proposed to address the impacts to plants and animals and discussed in greater detail in Section 5.4 Plants and Animals.

It is not anticipated that these climate changes would substantially alter the impact determinations for the Proposed Project or No Action Alternative that are discussed in Section 5.4 Plants and Animals.

5.11.6 Findings for the No Action Alternative

Under the No Action Alternative, the Proposed Project facilities would not be constructed and there would be no additional significant adverse impacts to climate change.

5.12 Cumulative Impacts

Cumulative impacts are effects that would result from the incremental addition of the proposed project to the impacts from past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant, actions that occur over time. The purpose of the cumulative impacts analysis is to ensure that decision-makers consider the full range of consequences for the proposed project under expected future conditions. Projected impacts related to climate change are evaluated in Section 5.11.

The cumulative impacts analysis was prepared in accordance with SEPA requirements (WAC 197.11.060) and also considered the federal Council on Environmental Quality approach for analyzing cumulative impacts (Council on Environmental Quality, 1997). The following steps were used:

- Identify the resources that could be adversely affected by the proposed project (see Chapter 4 of this EIS).
- Consider other actions in the same geographic study area for each resource.
- Consider other actions with effects during the same time period as effects from the proposed project, both during construction and operation.
- Analyze cumulative impacts using the best available data.

The geographic study area for cumulative impacts is primarily based on the study areas for the resources analyzed in the EIS. For some resources, the study area may extend further to determine the incremental impacts to the resource within a larger community or landscape.

The future time frame for cumulative impacts considers actions that would have effects during the same time as effects of the proposed project. This assumes the proposed project would be constructed over a 20 year-period and operated under its proposed conditions for the 30 years following for a term of up to 50 years. In practice however, we acknowledge that longer term operation is likely subject to continuing authorizations from USFS and other agencies. We also assume that construction would begin in mid-2026. Therefore, the timeframe for construction analyzed for the resources in this EIS is 2026 to 2046 and for operations from 2046 to 2076. This time frame conservatively accounts for future actions that may only be in the planning stages now but can reasonably be expected to be completed in the future.

Key Findings of Cumulative Impacts Analysis

Some other projects and actions are expected to happen in the same relevant geographic study area and time frame as the proposed project.

The proposed project – considered with reasonably foreseeable actions – could cumulatively contribute to impacts that are not expected to be cumulatively significant, related to the following:

- Earth
- Fire Risk
- Visual
- Groundwater and Surface Water
- Plants and Animals
- Energy and Natural Resources
- Transportation
- Utilities and Public Services
- Cultural

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Current conditions are a result of past and present actions. These current conditions in the study area were used as the baseline existing environmental condition for the resource analyses in this EIS and are described as part of the affected environment for those resources.

5.12.1 *Past, Present, and Reasonably Foreseeable Future Actions*

Table 5.12-1 outlines the other projects and actions happening in the relevant geographic study areas and time frames. State and local sources were used to identify the actions for consideration (Ecology, 2024). Only the actions that could impact resources considered in this EIS were included in this analysis. Note that the projects listed would be required to complete separate project-specific SEPA environmental reviews and permitting, as appropriate.

Table 5.12-1: Past, Present, and Reasonably Foreseeable Future Actions

Project	Project Description, Location and Resource Consideration.
Wheeler Ridge, LLC, Timber Harvest and Orchard Development	Wheeler Ridge, LLC proposed in 2020 to develop approximately 260 acres of cherry orchard within Chelan County Assessor's Parcel Numbers: 212017000000, 212016000000, 212009430010, and 212009440050. These parcels are located to the northeast of the Proposed Project area. An MDNS was issued on November 10, 2020, and the project appears complete as of 2024. Operation of the project may have cumulative impacts with air, water, plants & animals, recreation, public services and utilities. None of the impacts are likely to be significant. due to operation
Chelan PUD Long Range Planning	Chelan PUD has expressed the need for power system infrastructure expansions which would take place sometime after Phase 1 and before Phase 3 of the Proposed Project. This would include building a new substation and transmission lines from the City of Wenatchee to serve the Squilchuck Valley to the Proposed Project area. This project may have cumulative impacts to Fire Risk, Visual, Groundwater and Surface Water, Plants and Animals, Energy and Natural Resources, Transportation, Utilities and Public Services, and Cultural. The impacts of this specific project would be required to be addressed in supplemental environmental review.
East Wenatchee Transportation Improvement Plan	The City of East Wenatchee has a six-year transportation improvement program for 2022-2027. The plan includes improvement projects for infrastructure such as road, traffic, and sidewalk improvements. This project may have cumulative impacts to transportation.
Chelan-Douglas Transportation Improvement Program	The Chelan-Douglas Transportation Council has a current six-year transportation improvement program for 2024-2029. The plan includes improvement projects for infrastructure such as road, traffic, and sidewalk improvements. This project may have cumulative impacts to transportation.

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Ultimately, the Proposed Project is in a remote location and not likely to create opportunities for cumulative impacts. Many of the foreseeable actions are related to the off-site impacts associated with the Project.

5.12.2 Cumulative Impacts by Resource

This section provides an overview of potential cumulative effects and a qualitative assessment of adverse impacts as relevant to each of the resources analyzed in the EIS.

Any project construction during the same time as any of the phases for the Proposed Project would have the potential for cumulative impacts related to recreation, noise, and air quality in the construction vicinity. However, the impacts to recreation, noise, and air quality would only be during construction and temporary for the duration of construction activity and would not contribute to cumulative impacts. Only the elements of the environment that would potentially experience cumulative impacts are described below.

There would be no cumulative construction-related impacts associated with the No Action Alternative for any elements of the environment.

5.12.2.1 Earth

The study area for geology and soils includes both aboveground and belowground components. Aboveground, the study area encompasses the Project Area and the Squilchuck utility corridor where construction will take place, plus a 250-foot buffer to capture potential impacts on adjacent geologic and soil resources. This would overlap with Chelan PUD's Long Range Planning.

As discussed in Section 4.1, construction of the Proposed Project within the utility corridor would not have potentially significant impacts to geohazards with proper mitigation measures and compliance with state and local construction permitting. Chelan PUD's construction would likely include similar activities related to construction of a new substation and addition of transmission lines and within similar geotechnical conditions as the proposed construction in the corridor as the proposed project.

Implementation of the Proposed Project could contribute to cumulative impacts on the construction related impacts to earth, and not to the significant and unavoidable impacts associated with operation of the Proposed Project.

5.12.2.2 Fire Risk

The study area for this section is defined as the Proposed Project Area and the PUD utility corridor where construction and operation related fire risk will take place. This would overlap with Chelan PUD's Long Range Planning.

As discussed in Section 4.2, the construction related impacts in the utility corridor can be mitigated through various best management practices to reduce fire hazards, provide additional fire protection, and establish proper emergency access. The significant impacts associated with fire risk are related to the operational impacts of increased activity in a high fire risk area. The additional construction impacts associated with Chelan PUD's Long Range Planning would introduce additional construction related fire risk to the utility corridor, but the impacts would not be related to the public safety concerns raised in Section 4.2. Chelan PUD's construction would likely include similar fire safety measures.

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Implementation of the Proposed Project could contribute to cumulative impacts on the construction related impacts to fire risk, and not to the significant and unavoidable impacts associated with operation of the Proposed Project.

5.12.2.3 Visual

The study area for this section was delineated by places where viewed may perceive a change in visual character and quality including the Proposed Project area and viewpoints for travelers from the City of Wenatchee and East Wenatchee to the Proposed Project area. This would overlap with Chelan PUD's Long Range Planning.

As discussed in Section 4.3, the significant impacts associated with visual resources are focused on the introduction of additional light and glare for night ski operations. The visual impacts along the utility corridor where overlaps with Chelan PUD's Long Range Planning would occur would be changes in visual character from construction and addition of booster pump stations along Mission Ridge Road. The impacts associated with construction would be temporary in nature, and the booster pump stations would only be observed by viewers temporarily in motion. Similar impacts would be experienced related to Chelan PUD's Long Range Planning regarding construction and installation of a new power substation.

Implementation of the Proposed Project could contribute to cumulative impacts on the construction related impacts to visual resources, and not to the significant and unavoidable impacts associated with operation of the Proposed Project.

5.12.2.4 Groundwater and Surface Water

The study area for the groundwater analysis encompasses groundwaters and connected surface waters with the potential to be affected by construction or operation of the Proposed Project. This would include the utility corridor, which overlaps with Chelan PUD's Long Range Planning.

As discussed in Section 5.2 and 5.3, there are no significant and unavoidable impacts related to groundwater and surface water. The additional construction impacts associated with Chelan PUD's Long Range Planning may add additional impacts to related to riparian habitat, water quality, and wetlands. Construction of a new substation and additional transmission lines may impact the surface water resources in the utility corridor as described in Section 5.3. These impacts would be minimized through compliance with regulatory requirements of existing federal, state, and local regulatory programs and policies.

Implementation of the Proposed Project could contribute to cumulative impacts on groundwater and surface water. We assume that Chelan PUD's Long Range Planning would propose similar levels of mitigation in their construction efforts to address the impacts to groundwater and surface water.

5.12.2.5 Plants and Animals

The study area for the plants and animals impact analysis encompasses the Project Area as well as other connected areas that have the potential to be affected by construction or operation of the Proposed Project. This would include the utility corridor, which overlaps with Chelan PUD's Long Range Planning.

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As discussed in Section 5.4, there are no significant and unavoidable impacts related to plants and animals. The construction impacts associated with Chelan PUD's Long Range Planning would add additional disturbance to wildlife due to increased construction noise, excavation of new/alternate transmission lines, and construction of a new power substation. These could lead to potential impacts on plants and animals similar to those discussed in Section 5.4 such as injury and mortality to plants and animals, conversion and loss of existing habitat, disruption of animal behaviors, or increased risk of contamination or human and wildlife interactions.

Similar to the Proposed Project, Chelan PUD's Long Range Planning would be located on USFS land and would require additional NEPA review in addition to the supplemental review under SEPA for the non-federal land. The additional impacts to plants and animals associated with Chelan PUD's Long Range Planning would be covered by NEPA and SEPA review.

Implementation of the Proposed Project could contribute to cumulative impacts on plants and animals. We assume that Chelan PUD's Long Range Planning would propose similar levels of mitigation in their construction efforts to address the impacts to plants and animals.

5.12.2.6 Energy and Natural Resources; Utilities and Public Services

The study area for energy and natural resources and utilities and public services includes any location where construction or operation of the Proposed Project would occur. This includes the Proposed Project area and Squilchuck Corridor where utility improvements would be located, which overlaps with Chelan PUD's Long Range Planning.

As discussed in Section 5.5 and 5.7, respectively, there are no significant and unavoidable impacts related to energy and natural resources and utilities and public services. At the point where the existing Squilchuck Feeder 3-211 is at its full capacity, targeted improvements already planned by Chelan PUD along Squilchuck Road will initiate to maximize the longevity of this existing power supply. This will include infrastructure improvements such as new/alternate transmission lines and a power substation that will be necessary to serve later project phases.

The introduction of Chelan PUD's Long Range Planning infrastructure improvements would provide a positive cumulative impact for energy and natural resources and utilities and public services in conjunction with the Proposed Project.

5.12.2.7 Transportation

The study area for the transportation analysis includes specific roads and intersections in the City of Wenatchee, the Squilchuck Road/Mission Ridge Road corridor from the City of Wenatchee to the Mission Ridge Base Area, and all transportation facilities within the Project Area, including a proposed new County-maintained access road from the Base Area parking lot to the expansion area, internal private roads, and on-site parking. This would overlap with the transportation improvement plans proposed by East Wenatchee and Chelan-Douglas Transportation Council.

As discussed in Section 5.6, there are no significant and unavoidable impacts related to transportation with the proposed mitigation. Transportation impacts to intersections were evaluated along Squilchuck Road all the way to the City of Wenatchee. Two present/foreseeable projects are the East Wenatchee Transportation Improvement Plan

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(2022-2027) and Chelan-Douglas Transportation Improvement Program (2024-2029), which are standard improvement plans prepared by the city or county every six years. The proposed projects seek to improve traffic and transportation access in the same vicinity as evaluated in the Proposed Project.

Continued implementation of the transportation improvement plans would provide a positive cumulative impact for transportation in conjunction with the Proposed Project.

5.12.2.8 Cultural Resources

The cultural resources study area encompasses all areas with the potential to be affected by construction or operation of the Proposed Project; including improvements within the Project Area and improvements needed beyond the Project Area, which overlaps with Chelan PUD's Long-Range Planning.

As discussed in Section 5.9, there are no significant and unavoidable impacts related to cultural resources. Chelan PUD's Long-Range Planning would include construction to improve utilities within the same project vicinity. The construction impacts associated with Chelan PUD's Long-Range Planning could have potential impacts similar to those discussed in Section 5.9 such as disturbance to archaeological sites in areas of ground disturbance, demolition or modification of historic structures, and changes to the surrounding landscape that could affect TCPs. Previous surveys and the landscape history indicate that the Proposed Project area has low potential for archaeological resources.

Similar to the Proposed Project, Chelan PUD's Long Range Planning would be located on USFS land and would require additional NEPA review in addition to the supplemental review under SEPA for the non-federal land. The additional impacts to cultural resources associated with Chelan PUD's Long Range Planning would be covered by NEPA and SEPA review.

Implementation of the Proposed Project could contribute to cumulative impacts on cultural resources. We assume that Chelan PUD's Long Range Planning would propose similar levels of mitigation in their construction efforts to address the impacts to cultural resources.

6 CONSULTATION AND COORDINATION

This chapter describes the consultation and coordination process the County has taken to date and future actions that will occur.

6.1 SEPA Scoping

SEPA scoping is the process of soliciting input on a proposal to define the scope of the EIS. The Applicant submitted three different submissions for the Project in June 2018, January 2020, and January 2022 (See Section 1.4.1 for more details on the project's SEPA scoping timeline). Following each application and subsequent revision, Notices of Application (Notice) are published on the SEPA register and in the Wenatchee World. Public and agency comments were collected at during each Notice, and additional SEPA Scoping comments were received following the threshold determination and publishing on the SEPA Register.

The SEPA Scoping process began on May 20, 2020 when the County issued a determination of significance (DS) on the Mission Ridge Expansion MPR. The comments received during the scoping process allowed the County to identify significant issues, identify elements of the environment that could be affected, develop alternatives, and determine the appropriate environmental documents to be prepared.

Public notice of SEPA scoping was provided via publication in the SEPA Register. The County issued a press release through the Wenatchee World to provide information about the Mission Ridge Expansion MPR and the scoping deadlines. Public comments were received through June 12, 2020. Three additional comments were received after the deadline and were subsequently removed from consideration. However, these comments were not topically unique relative to others received. The final scoping summary document was revised by the County on September 21, 2020 (CCDC, 2020).

2018 - Present EIS Application Timeline Milestones

- April 2018 MPR application submitted.
- June 2018 additional information submitted to support the April 2018 submission.
- September 2018 County distributed Notice of Application and received public comments.
- February 2019 amended application submitted.
- January 2020 MPR revised application submitted.
- May 2020 County made determination of significance (DS), which initiated EIS process and public comment.
- January 2022 MPR Revised Application submitted.
- February 2022 County determined application as not substantially different, and the 2020 DS remains binding.
- **DATE 2024** Draft EIS released for public comment.

6.2 Agency Consultation and Coordination

The County is the lead agency responsible for the preparation of the DEIS and fulfilling lead agency obligations required by SEPA. Based on the comments received during the scoping notice and public comment period, the County decided that additional information was needed and a consultation process with other agencies was initiated as outlined in WAC 197-11-335. This approach was selected to ensure that sufficient information was collected and any uncertainties within the public and agency comments were clarified.

A “consulted agency” has the jurisdiction or expertise that is requested by the lead agency to provide information during the SEPA process (WAC 197-11-724). The County took the following approach (shown in Figure 6.1 below) to engage with consulting agencies and clarify comments.

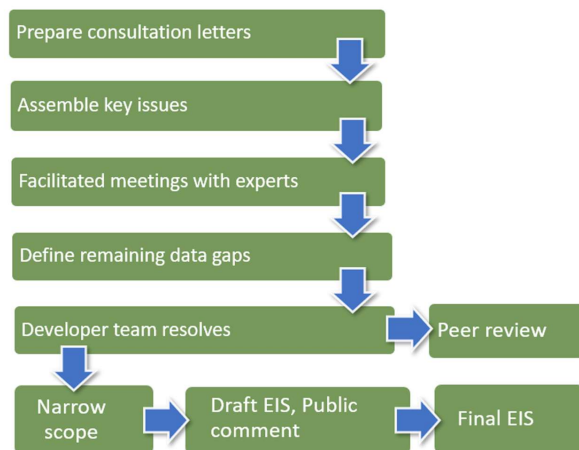


Figure 6-1. Chelan County Process for Consulting Agency Outreach

Of the comments received, seven consulting agencies were invited for a meeting. These seven agencies were selected because their comments were either incomplete or required more clarity to inform SEPA scoping. Invitations letters were delivered to each agency between June to October 2022. All seven agencies responded to letters, and initial meetings took place between June and November 2022. In some cases, follow-up meetings continued into mid-2024 as data gaps were further clarified and resolved.

6.2.1 United States Forest Service (USFS)

USFS was selected as a consultation agency because the Mission Ridge Expansion Project Draft Environmental Assessment (EA) under NEPA was published by USFS prior to launching this EIS. The feasibility of the EA's integration into this Project's EIS needed to be determined. USFS completed the draft EA for the Mission Ridge Expansion Project under NEPA in 2020 (USFS, 2020), but data gaps still remained before the final EA could be completed and adopted by the County. The first data gap was a study concerning White Bark Pine in the project area, which was complete on **DATE**. The second was USFS consultation with the USFWS on the EA, which was completed on **DATE**. The third data gap required clarity on the Chelan PUD utility expansion of service (water and fiber) and its associated impacts on Special Use Permits through USFS land.

An invitation for consultation with USFS was sent on June 10, 2022, and the consultation meeting took place on July 1, 2022. The consultation meeting and subsequent discussions concluded that:

1. The County could apply for "applicant" status to engage more formally with federal consultation.
2. The most appropriate sequencing would be for the County to issue its EIS and then the USFS to issue a Final EA.
3. That new PUD Special Use Permit modifications and disturbed area will be addressed in this EIS and then referenced into the Final EA.

PLACEHOLDER: Final consultation letter from USFS/WDFW Pending

USFS's consultation with USFWS also informed the decision in this EIS that impacts to plants and animals are mitigated below the significance level. Additional review of plants and animals is described in Section 5.4.

6.2.2 Public Utility District No. 1 of Chelan County (PUD)

The PUD was selected as they hold jurisdiction over the water, power, and fiber service to the Project. Comments were received from the PUD during the 2020 and 2022 comment period concerning the Project's power demands and water service. The PUD was invited for consultation on June 21, 2022 and the meeting took place on July 25, 2022. Meetings continued into mid-2024 to refine service discussions.

Consultation for power demands centered around how far into this Project's phased development Chelan PUD could provide under existing infrastructure, in the face of increased organic growth occurring simultaneously. It became apparent that additional infrastructure would be required which triggered the launch of the PUD's internal regional planning process for the area. This includes consideration of new substations and transmission routing. In consultation with Chelan PUD, the County determined that this DEIS will include a programmatic review of the entire power needs and affected environment for the proposal, and a project level review for those elements planned

initially to meet immediate organic growth and initial phases of the proposal, integrated with Chelan PUD's ongoing planning efforts (see Section 2.6)

Consultation with Chelan PUD also focused on the details of water and fiber expansion through the Squilchuck corridor to provide service to the proposed Project. Chelan PUD provided comments to affirm a 30-foot width corridor would be sufficient to support water and fiber lines within the existing 5-foot power utilities corridor authorized by Special Use Permit from the USFS, plus three additional booster pump stations with a footprint roughly 100 feet by 100 feet (Chelan PUD, 2024). USFS provided consultation on the PUD consultation, referenced in the section above. For more information on impacts to Utilities, refer to Section 5.7.

For additional information about utility improvements, refer to Section 5.7.

6.2.3 Chelan County Fire District (Fire District) and County Fire Marshall

The Fire District and County Fire Marshall was selected as a consulting agency as they are responsible for ensuring fire safety and secondary road access for the expansion in compliance with County Code. Fire safety and secondary access roads for the Project were an important component in the overall environmental review. Public comments were received from the District, Chelan County Fire Marshall, and Public Works surrounding secondary road access in compliance with county code 15.30.230(4), 15.40.020, and 3.04.080(5). An invitation for consultation with the Fire District was sent on June 20, 2022, and the consultation meeting took place on August 1, 2022.

Consultation focused on the "reasonable" and "practical" standard of a secondary access road and alternatives in the County code. The Fire District, Fire Marshall, and Public Works agreed on additional investigation of the five alternatives proposed as secondary access road options under the county standard of "reasonable" and "practical".

The additional investigation conducted by AEGIS Engineering determined that none of the secondary access road options were reasonable or practical. The report was shared with the Fire District, Fire Marshall, and Public Works for review and comments.

PLACEHOLDER: County decision on Secondary Access approach and analysis

Additional discussion of fire risks and Secondary Access are in Section 4.2 and Section 2.6, respectively.

6.2.4 Chelan County Public Works (Public Works)

Public Works was selected as a consulting agency to inform impacts concerning secondary access roads as described above with the Fire District and geohazard risks associated with the Project. Landslide risk was an outstanding item following public comments, and Public Works helped inform the scoping process for determining geohazard impacts. Public Works was invited to the consultation with the Fire District on August 1, 2022.

Following consultation, additional meetings and coordination between the County and Public Works took place through 2023 which focused on addressing any data gaps concerning geohazard risks. Consultation with Public Works concluded that an additional scope of work to address geohazard risks would be required to address any uncertainties and the scope of work would be sufficient at this stage of the EIS.

For more discussion on the geohazard risks and supplemental scope of work evaluated for the project, see Section 4.2.

6.2.5 Washington Department of Ecology (Ecology) and Department of Health (DOH)

Ecology and DOH were chosen as consulting agencies as they provided comments for water supply permitting and wastewater treatment, respectively. Additional clarity was needed to understand the water supply permitting requirements through the Project's development phases. Similarly, the impacts of two wastewater treatment options, Large On-Site Septic Systems (LOSS) and wastewater treatment to Squilchuck Creek, required additional consultation. Ecology and DOH were invited for consultation on July 5, 2022 and the meeting took place on August 22, 2022.

Outstanding water supply permitting concerns were brought to Ecology for the two alternatives for the Project: connect to existing water system supply through the Squilchuck Water System or drill a new well on site. Consultation with Ecology concluded that any impacts would be addressed at the permitting stage. The outstanding concerns for wastewater centered around the two wastewater alternatives: the use of Large On-site Septic Systems (LOSS) or a wastewater treatment plant. DOH consulted on the alternatives and concluded that wastewater treatment could be phased to use LOSS in the initial phases when development is smaller before developing full treatment at full development. For both water supply and treatment, consultation determined that impacts would likely be mitigated below significance.

The two agencies were consulted simultaneously as the water and wastewater issues discussed with Ecology were tied to DOH's perspectives. Additional discussion of water and wastewater impacts for the Mission Ridge Expansion MPR are described in Sections 5.2 and 5.3.

6.2.6 Washington State Department of Transportation (WSDOT), City of Wenatchee (CoW), City of East Wenatchee (CoEW), Chelan-Douglas Transportation Council (CDTC)

WSDOT, CoW, CoEW, and CDTC all have varying jurisdiction and influence on traffic management in the Project area, and as traffic was a key concern in the public comments from both scoping in 2020 and the notice of modification in 2022, the four entities were selected as consulting agencies. All four entities were invited for consultation on August 11, 2022 and the meeting took place on August 22, 2022.

The goal of consultation was to ensure that the Applicant's traffic impact analysis (TIA) incorporated all comments and addressed any data gaps remaining prior to the draft EIS. Data gaps addressed included phasing impacts and how far into development to evaluate, selecting intersections to evaluation, and time periods reviewed in the TIA. Consultation concluded that a supplemental TIA was necessary to address the data gaps of all four entities. The scope for the supplemental TIA was provided to the four agencies on January 23, 2023, and comments were provided by the agencies to inform a final iteration of the TIA completed in April 2024.

Based on the conclusions in the TIA, traffic and transportation were determined as impacts probably mitigated below significance. The impacts to transportation are described further in Section 5.6.

6.2.7 Washington Department of Fish and Wildlife (WDFW)

WDFW was selected as a consulting agency to inform comments received in both 2020 and 2022 concerning potential impacts to fish, wildlife, habitat, and recreation opportunities related to the project. WDFW also holds jurisdiction over 365 acres of land within the project area on Section 25, and an updated agreement on the Section 25 land is needed between the Applicant and WDFW.

WDFW was invited for consultation on September 29, 2022 and the meeting took place on November 1, 2022.

During the meeting, WDFW provided comments on the various wildlife studies in the expansion area (Botany, Stream, Elk Movement) and discussed the impacts to wildlife within the project's affected environment. WDFW raised specific awareness for impacts to Squilchuck Creek, but overall consulted that the impacts to wildlife would likely be mitigated below significance. Additional discussion of impacts to wildlife are included in Section 5.4.

6.2.8 Public Involvement

Public involvement allows interested and affected individuals, organizations, agencies, and other governmental entities to be consulted and included in the decision-making process. Public involvement was incorporated through public comment periods following the Notices of Application and SEPA Scoping notices (see Section 6.1 with Application Timeline Milestones). A public meeting is scheduled as part of release of the Draft EIS and additional discussion in this section will be added following that meeting and review of public comments on the Draft EIS.

6.3 Draft EIS Comment Period

Publication and distribution of the Draft EIS is anticipated to occur on MM/DD/YYYY. There will be a 60-day public comment period and an open-house forum on date.

7 LIST OF PREPARERS AND CONTRIBUTORS

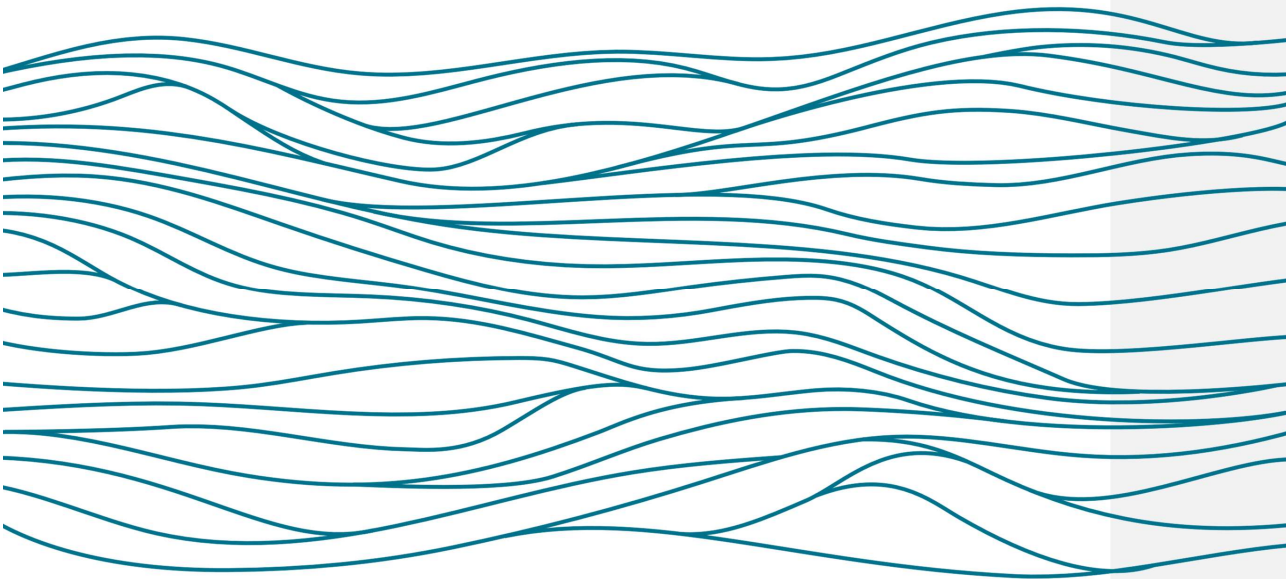
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8 REFERENCES

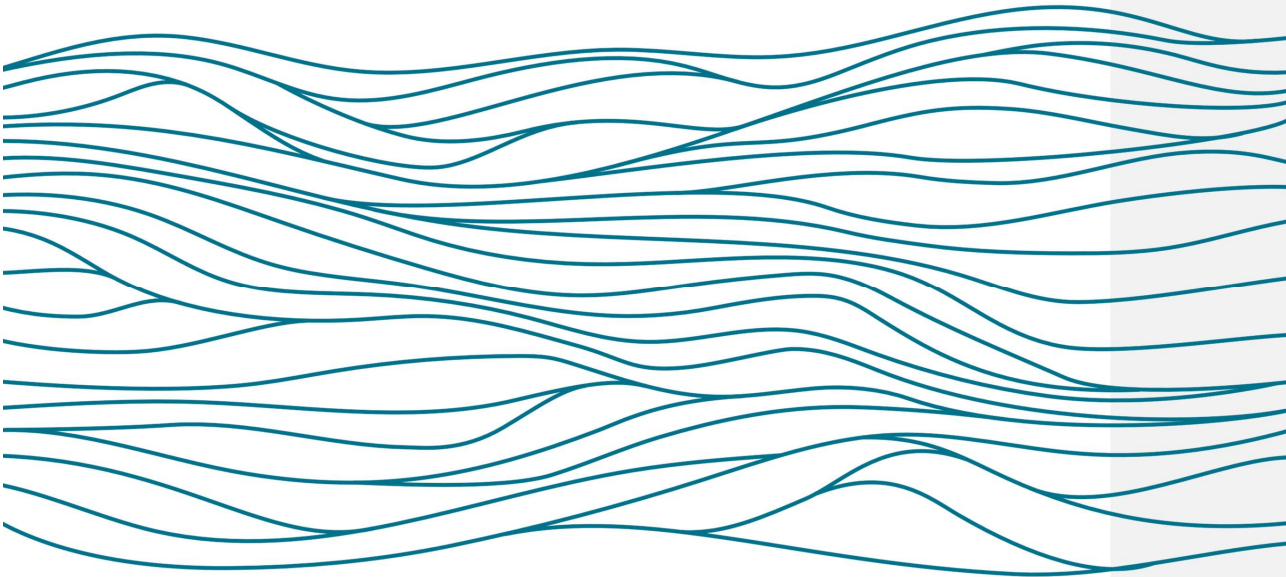
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TABLES

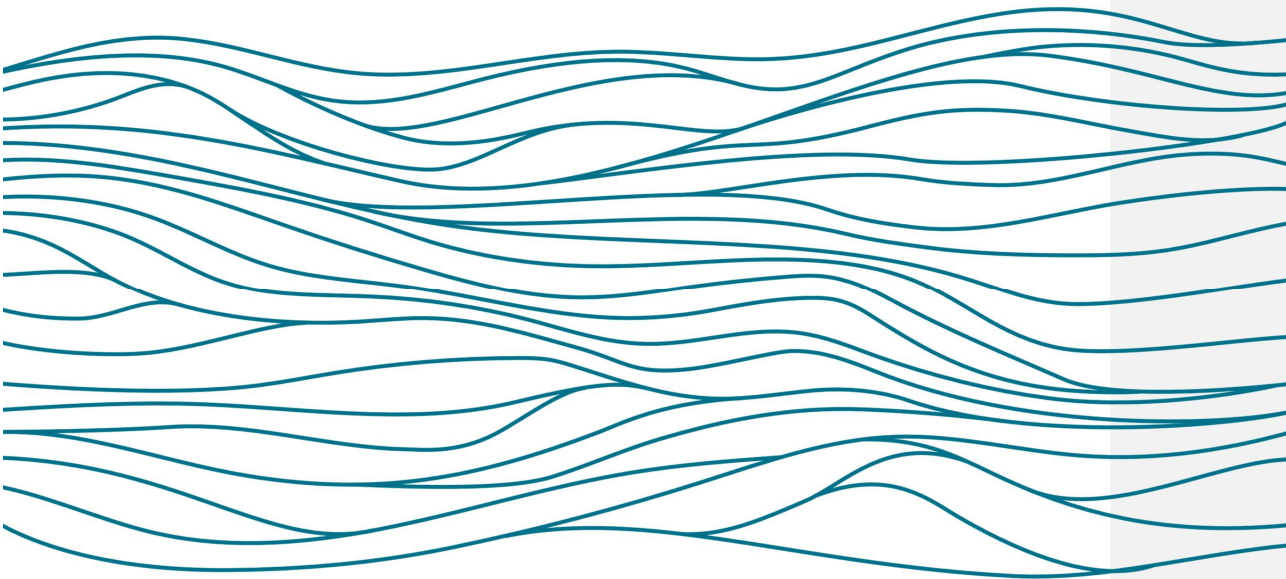


FIGURES



APPENDIX A

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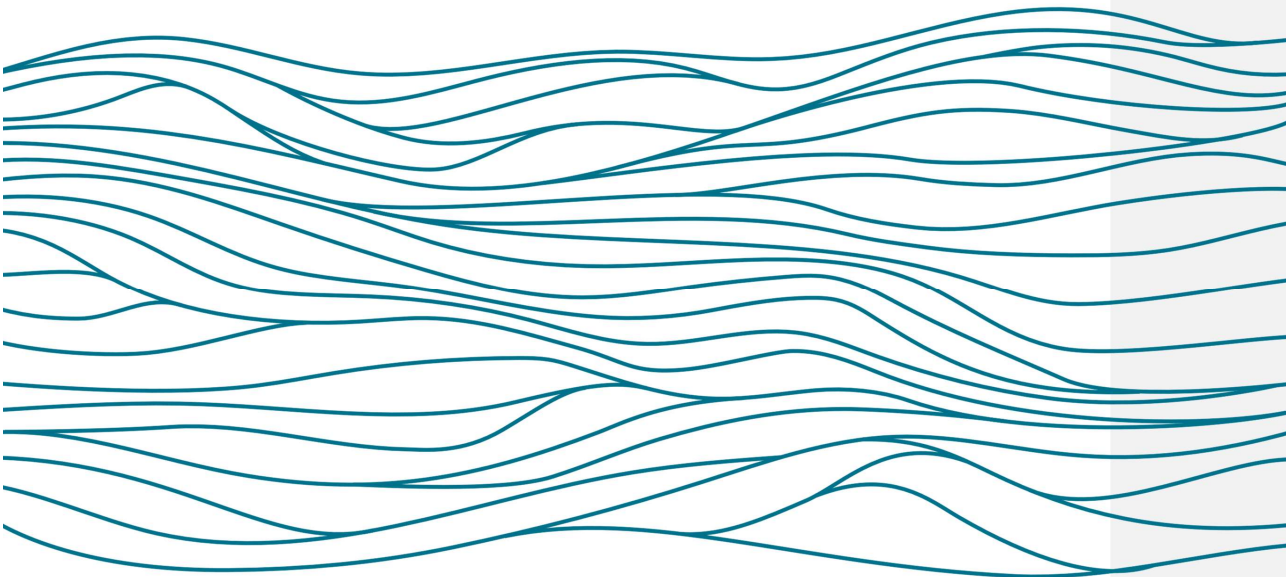
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APPENDIX B

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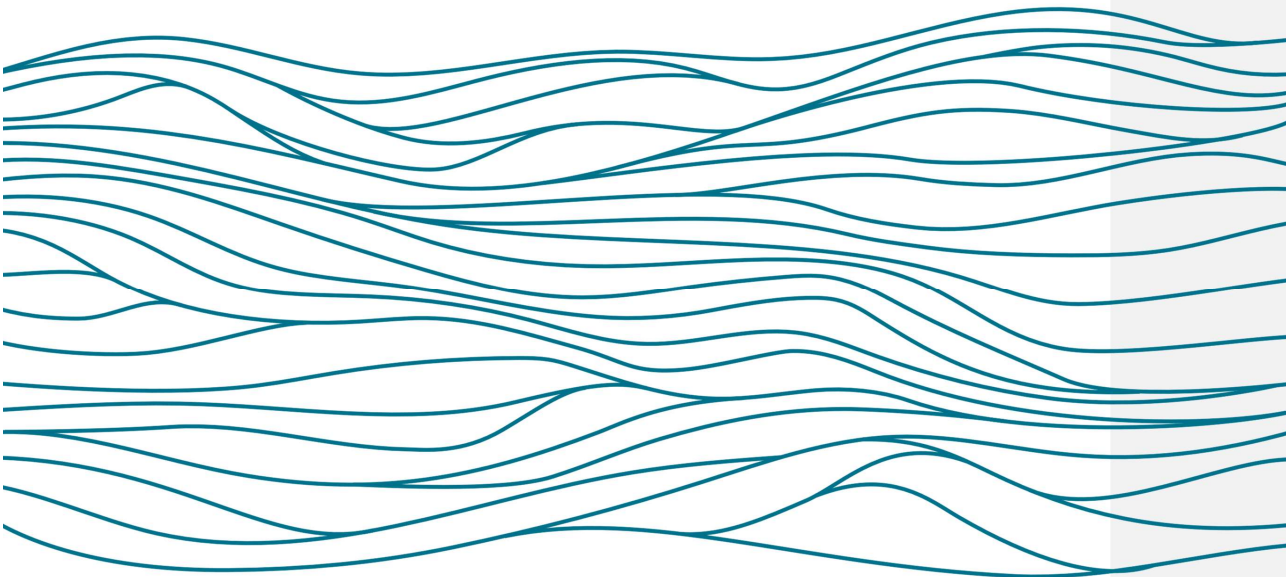
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APPENDIX C

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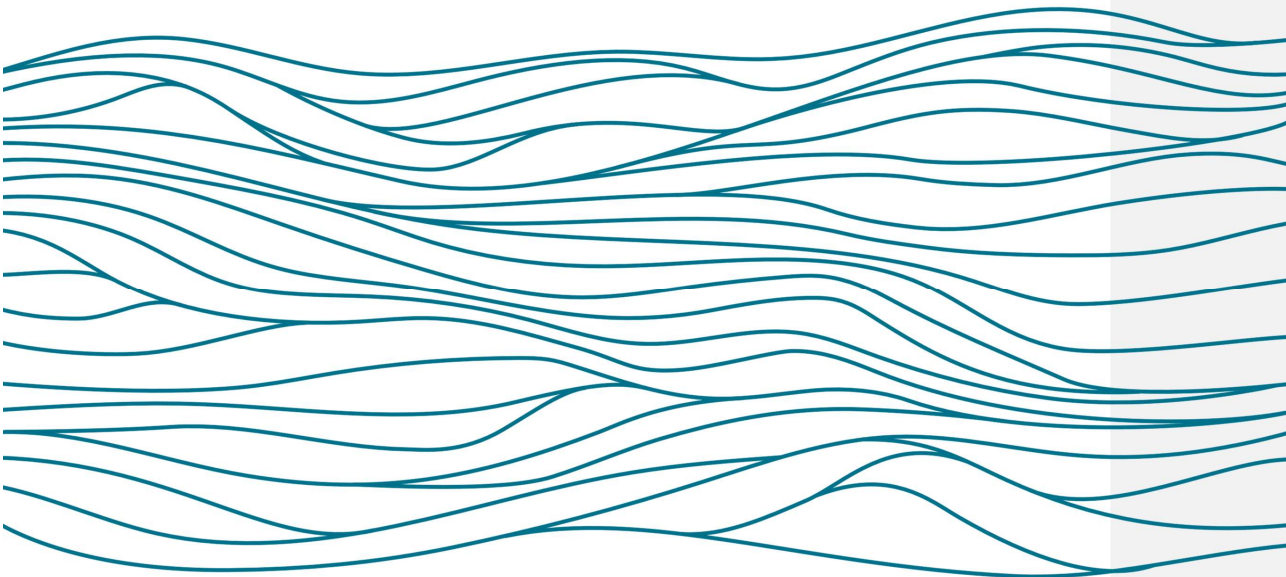
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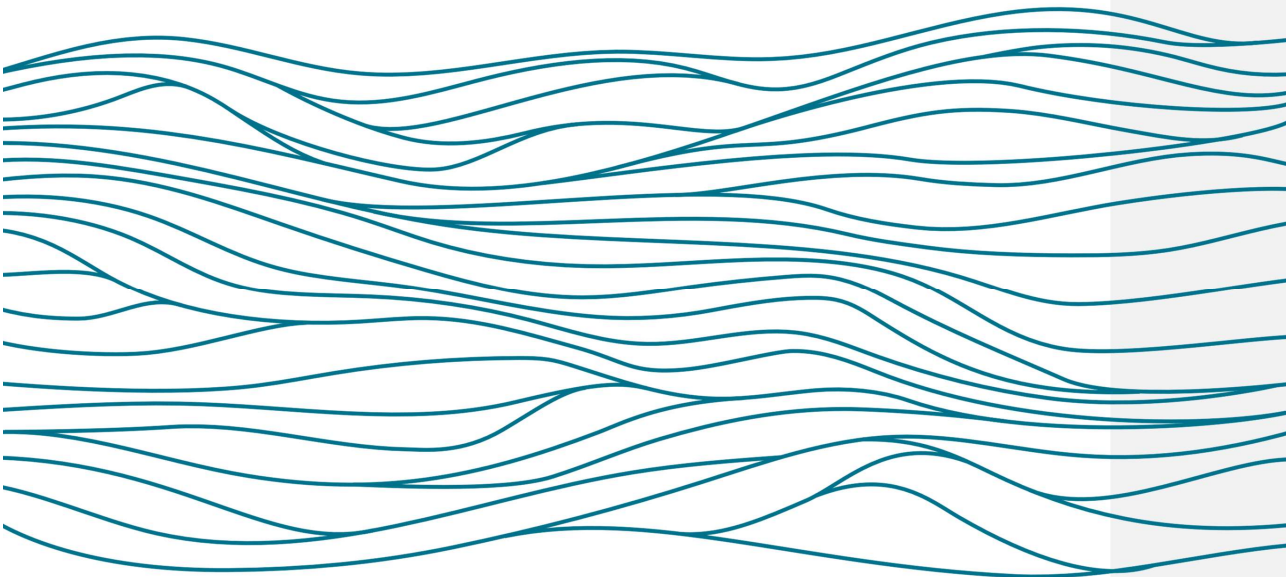
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APPENDIX E

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