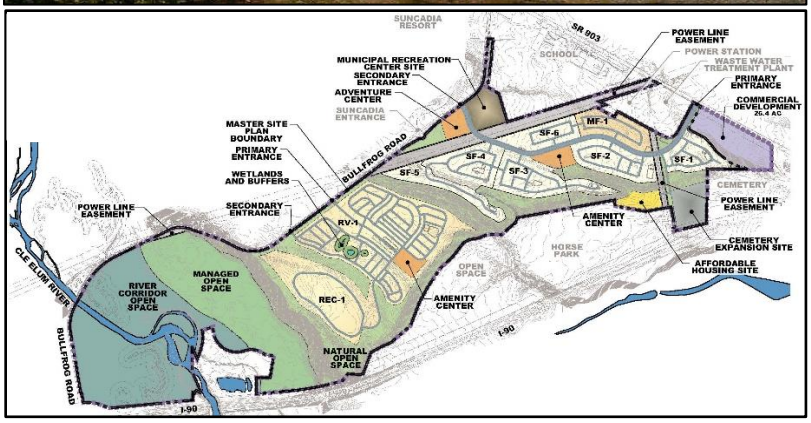

47° NORTH

Proposed Master Site Plan Amendment

Supplemental Draft Environmental Impact Statement

Prepared by

September 18, 2020

City of Cle Elum
119 West First Street
Cle Elum, WA 98922

Phone: (509) 674-2262
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www.cityofcleelum.com

September 18, 2020

Dear Interested Party:

The following document is the Draft Supplemental Environmental Impact Statement (SEIS/DSEIS) for the *47° North Proposed Master Site Plan Amendment*. It supplements the 2002 Cle Elum UGA EIS. The purpose of this DSEIS is to evaluate the probable significant impact of several SEIS Alternatives, and to identify measures to mitigate these impacts. The DSEIS is primarily a disclosure document that is intended to inform agencies, tribes, and interested parties about the environmental consequences of possible courses of action. The SEIS does not authorize, or recommend for or against, any particular course of action. The DSEIS is one of several different documents and submittals that the City will consider in the decision-making process for this proposal.

The approximately 824-acre 47° North site is located in the City of Cle Elum, generally bounded by I-90, Bullfrog Road, SR 903, and the city cemetery. The proposal is for mixed-use development, including: 707 residential units, an RV resort with 627 RV sites, 477 acres of open space, public and private recreation amenities, dedication of properties to the City, and a 25-acre future commercial development (owned by others). Full buildout is expected to occur by 2028 (buildout of the residential and recreational uses would occur in 7 years, and buildout of the adjacent 25-acre property could occur in 17 years).

In general, the DSEIS is organized into the following chapters:

- **Fact Sheet** provides an overview of the SEIS Alternatives, identifies the SEPA responsible official and contact person, notes expected permits and approvals that will be required, provides information on DSEIS comment opportunities, open house and the availability of the DSEIS, and contains the table of contents of this document.
- **Chapter 1 – Summary** includes a comprehensive summary of the SEIS Alternatives, environmental impacts, mitigation measures, and significant unavoidable adverse impacts. An overview comparison of the impacts of the alternatives is also provided.
- **Chapter 2 – Description of the Proposed Actions and Alternatives** provides further description of the two SEIS Alternatives: 1- the Applicant's proposal, and 2- the Approved Master Site Plan, updated to current conditions and regulations (the No Action Alternative).
- **Chapter 3 – Affected Environment, Impacts, and Mitigation** contains an analysis of probable significant environmental impacts that could result from implementation of the SEIS Alternatives in the following areas of concern: Earth; Water Quantity and Quality; Plants, Animals, and Wetlands; Air Quality/Greenhouse Gas Emissions; Noise; Land Use; Relationship

to Plans and Policies; Aesthetics/Light and Glare; Cultural Resources; Parks and Recreation; Transportation; Public Services; Utilities; and, Economic and Fiscal Impacts.

The City is providing a 45-day comment period on this DSEIS, which is the maximum permitted by state law. The comment period begins on September 18, 2020 and ends on November 2, 2020. You can review paper copies of the DSEIS at: Cle Elum City Hall and the Cle Elum Branch Library. An electronic version of this document can be viewed or downloaded on the City's website using the following link: http://cityofcleelum.com/city-services/administrative-services/public-notices/proposed-47-north-project/

Comments will be accepted through **November 2, 2020** at 4:30 PM. Comments can be provided in one of four ways:

1. **By email** to SEPA ResponsibleOfficial@cityofcleelum.com;
2. **In writing** to SEPA Responsible Official at City of Cle Elum, 119 First Street, Cle Elum, WA 98922;
3. **Virtually in person** at the public meeting (details below); and,
4. **Comment by phone,** using a dedicated telephone voice mail system, to leave a (3-minute) message. The phone comment system will be operative from October 1 to October 30.

Note that all comments, regardless of how they are received, are given the same consideration, i.e., a written letter or email comment is no more or less significant that a spoken comment at the virtual meeting.

Governor Inslee's Proclamations on the Covid-19 pandemic continue to limit in-person public meetings. Therefore, the City will conduct a "virtual" public meeting on **Thursday, October 22, 2020**, from **6 PM to 8 PM** to provide information and solicit comments on the DSEIS. Note that this meeting is focused on the SEIS and is not a hearing on the project itself; a public hearing on the application will be provided following conclusion of the SEPA process. Information about how to pre-register for the meeting and how it will operate will be provided soon on the City's website (see the link above).

A Final Supplemental EIS (FSEIS) will be prepared to address comments received during public review of the DSEIS. The proposal will then be reviewed according to the City's established land use review process. Information about the steps in this process are available on the City's website.

For further information or to request a thumb drive of the DSEIS, please contact Lucy Temple at: lucy@cityofcleelum.com or (509) 674-4097.

Sincerely,

Richard Weinman

Richard Weinman
Designated SEPA Responsible Official

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

for the

47º NORTH

Proposed Master Site Plan Amendment

City of Cle Elum

The Draft Supplemental EIS (DSEIS and Draft SEIS) for the ***47º North Proposed Master Site Plan Amendment*** has been prepared in compliance with the State Environmental Policy Act of 1971 (Chapter 43.21C, Revised Code of Washington) and the SEPA Rules, effective April 4, 1984, as amended (Chapter 197-11, Washington Administrative Code) and the City of Cle Elum Environmental Policy (CMC 15.28). Preparation of this DSEIS is the responsibility of City of Cle Elum. The City has determined that this document has been prepared in a responsible manner using appropriate methods and has directed the areas of research and analysis that were undertaken in preparation of this DSEIS. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form, it will accompany the *Proposed Actions* and will be considered in making the final decisions on the proposal.

Date of DSEIS Issuance ..... **September 18, 2020**

Date Comments are due on the DSEIS ..... November 2, 2020

FACT SHEET

Name of Project	**47º North Master Site Plan Amendment**
Proponent	Sun Communities, Inc.
Location	The approximately 824-acre project site is located in the City of Cle Elum, generally bounded by I-90, Bullfrog Road, SR-903, and the city cemetery.
Environmental Review	In 2002, a State Environmental Policy Act (SEPA) Environmental Impact Statement was prepared for the approximately 1,100-acre Bullfrog Flats Urban Growth Area (UGA). The 47° North site occupies a portion of the Bullfrog Flats UGA. This Supplemental EIS (SEIS) supplements the 2002 Cle Elum UGA EIS. Per the SEPA Rules (WAC 197-11-405(4)), a SEIS is prepared if there are substantial changes to a proposal so that the proposal is likely to have significant adverse environmental impacts, or there is significant new information indicating, or on, a proposal's probable significant adverse impacts. This SEIS provides SEPA review for the proposed 47º North Master Site Plan Amendment**.**
Prior Approvals	The following approvals were granted in 2002 for the Bullfrog Flats Master Site Plan : • Cle Elum UGA annexation to the City; • Subarea Plan approval; • Planned Mixed Use (PMU) zoning final plan approval; • Master Site Plan approval; and • Development Agreement approval. The present proposal would modify the previously approved Master Site Plan and Development Agreement.
SEIS Alternatives	The SEIS evaluates the following alternatives: **SEIS Alternative 5 – Approved Bullfrog Flats Master Site Plan** (No Action Alternative): The approved Bullfrog Flats Master Site Plan, updated to incorporate current conditions and regulations. The approved project includes:

- 1,334 residential units;
- 524 acres of open space;
- Public and private recreation amenities;
- Dedication of several properties to the City; and,
- A 75-acre business park.

SEIS Alternative 6 – Proposed 47° North Master Site Plan Amendment: Revise the approved 2002 Bullfrog Flats Master Site Plan to allow development on 824 acres of the 1,100-acre property, including:

- 707 residential units;
- RV resort with 627 RV sites;
- 477 acres of open space;
- Public and private recreation amenities;
- Dedication of properties to the City; and,
- A 25-acre future commercial development (owned and operated by New Suncadia).

Lead Agency

City of Cle Elum

SEPA Responsible Official

Richard Weinman, Designated SEPA Responsible Official
SEPAResponsibleOfficial@cityofcleelum.com

EIS Contact Person

Lucy Temple, Planner
City of Cle Elum
119 First Street
Cle Elum, WA 98922
Telephone: (509) 674-4097
Email: lucy@cityofcleelum.com

Required Approvals and/or Permits

Preliminary analysis indicates that the following approvals and/or permits may be required from agencies with jurisdiction[1] for development of either of the SEIS Alternatives. Additional permits/approvals may be identified during the review process associated with specific development projects.

State of Washington

- Dept. of Natural Resources, Forest Practices Permit

[1] An agency with jurisdiction is "an agency with authority to approve, veto or finance all or part of a nonexempt proposal (or part of a proposal)" (WAC 197-11-714(3)). Typically, this refers to a local, state or federal agency with licensing or permitting approval responsibility concerning a project.

- Dept. of Ecology, Construction Stormwater General Permit
- Dept. of Health, Group A Water System Approval
- Dept. of Transportation, Access Permits

Kittitas County

- Access Permits

City of Cle Elum

- Major Amendment to Bullfrog Flats Master Site Plan
- Planned Mixed Use Approval
- Revised or New Development Agreement Approval
- Binding Site Plan and/or Subdivision Approval
- Grading Permits
- Building Permits
- Mechanical, Electrical, and Plumbing Permits
- Utility Permits

SEIS Authors & Principal Contributors

EA Engineering, Science and Technology, Inc., PBC

- SEIS Project Manager, Primary Author: Project Description; Land Use/Relationship to Plans & Policies; Housing, Population & Employment; Aesthetics/Light & Glare; Parks & Recreation; and, Public Services.

HLA

- City Engineer

Fehr & Peers

- City Transportation Consultant

ESM

- Civil Engineering, Water Resources, Utilities (Sewer, Water, Solid Waste), Visual Simulations

Associated Earth Sciences, Inc. (AESI)

- Earth, Groundwater

Raedeke Associates

- Plants & Animals

Landau Associates

- Air Quality/Greenhouse Gas Emissions, Noise

Cultural Resource Consultants (CRC)

- Cultural Resources

Transportation Engineering Northwest (TENW)

- Transportation

ECONorthwest

- Economic and Fiscal Conditions

Previous Environmental Documents

Under WAC 197-11-405(4), this SEIS supplements the 2002 Cle Elum UGA EIS. This SEIS, together with the 2002 Cle Elum UGA EIS, comprehensively address the environmental impacts of the Proposed Actions.

Location of Background Information

Background material and supporting documents are available at the offices of:

EA Engineering, Science and Technology, Inc., PBC
2200 Sixth Avenue, Suite 707
Seattle, WA 98121

City of Cle Elum
119 First Street
Cle Elum, WA 98922

Date of Issuance of this DSEIS

September 18, 2020

Date DSEIS Comments Are Due

November 2, 2020

Written comments should be submitted to:
Via Mail:
SEPA Responsible Official
City of Cle Elum
119 First Street
Cle Elum, WA 98922
Via Email: SEPAResponsibleOfficial@cityofcleelum.com

Opportunities for Public Comment / Date of DSEIS: Online Public Meeting & Open Dedicated Phone Line

Due to the Governor's Proclamations on the COVID-19 pandemic which limit in-person meetings, the City has identified several opportunities to allow agencies, organizations, and individuals to provide verbal comments on the 47° North DSEIS.

An **online public meeting** concerning this DSEIS is scheduled for:
Oct. 22, 2020, from **6:00 to 8:00 PM**.

A **dedicated phone line** will also be available from **Oct. 1 through Oct. 30, 2020**, to receive brief comments via voicemail.

Details of how to register for and access the virtual meeting, and the phone number for voicemail comments will be provided on the City's website:
http://cityofcleelum.com/city-services/administrative-services/public-notices/proposed-47-north-project/

Availability of this DSEIS

Notices of Availability of the Draft SEIS have been distributed to agencies, organizations, and individuals noted on the Distribution List. The DSEIS can also be reviewed and downloaded from the City's website by following the link above. Printed versions of the DSEIS can be reviewed at:

- **City of Cle Elum City Hall**
  119 First Street
  Cle Elum, WA 98922

- **Cle Elum Public Library Branch**
  302 N Pennsylvania Avenue
  Cle Elum, WA 98922

USB drives may be purchased at City of Cle Elum for $7.00 per thumb drive, plus tax and postage (if mailed). Printed copies can be ordered for the cost of printing, which is estimated at $145, plus tax and postage.

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SUMMARY

CHAPTER 1
SUMMARY

1.1 INTRODUCTION

This chapter provides a summary of the Draft Supplemental Environmental Impact Statement (Draft SEIS or DSEIS) for the *47° North Proposed Master Site Plan Amendment*. The chapter briefly describes the SEIS Alternatives; compares the significant environmental impacts of the SEIS Alternatives to those of the preferred alternative in the 2002 Cle Elum Urban Growth Area (UGA) Final EIS; provides a high-level summary of the key impacts; and, lists the mitigation measures and significant unavoidable adverse impacts of the proposal. Please see **Chapter 2** of this DSEIS for a more detailed description of the Proposed Actions and Alternatives, and **Chapter 3** for a complete presentation of the affected environment, significant impacts, mitigation measures, and significant unavoidable adverse impacts.

Bullfrog Flats is an approximately 1,100-acre property located in the southwestern portion of the City of Cle Elum, generally bounded by I-90, Bullfrog Road, SR-903, and the City cemetery. The property is currently owned by New Suncadia, LLC ("New Suncadia"). In 2002, the City approved a Subarea Plan, Master Site Plan, and Development Agreement for the property, and it was annexed to the City that same year. Sun Communities, the Applicant, is in the process of acquiring approximately 824 acres of the Bullfrog Flats property from New Suncadia and is proposing changes to the approved Master Site Plan. New Suncadia is retaining a portion of the property and intends, in the future, to possibly develop approximately 25 acres for commercial use.

The City of Cle Elum concluded that the proposed revisions to the approved Master Site Plan would constitute a "major amendment," as that term is defined in the Development Agreement. Because of the proposed changes, and the time that has passed since the original EIS was published, the City determined that an SEIS should be prepared to update all aspects of the 2002 Cle Elum UGA EIS, as necessary, to reflect the changes that have occurred. Per the SEPA Rules (WAC 197-11-405(4)), an SEIS should be prepared if there are substantial changes to a proposal so that the proposal is likely to have significant adverse environmental impacts, or there is significant new information indicating, or on, a proposal's probable significant adverse impacts. This SEIS assesses the potential environmental impacts and required mitigation measures associated with the proposed amendments to the approved Master Site Plan. The SEIS also provides a basis for amending the approved Development Agreement (or preparing a new Development Agreement) and modifying or identifying conditions of approval and development standards, as appropriate.

1.2 SEIS ALTERNATIVES

Two alternatives have been identified for study in this SEIS: SEIS Alternative 5, the Approved Bullfrog Flats Master Site Plan (the No Action Alternative), and SEIS Alternative 6, the Proposed 47° North Master Site Plan Amendment (the Applicant's proposal). Both of the SEIS Alternatives are compared to FEIS Alternative 5, the Original Bullfrog Flats Master Site Plan from the 2002 Cle Elum UGA EIS to help show relative changes in impacts. SEIS Alternative 5 is essentially the same as FEIS Alternative 5, as the Master Site Plan was ultimately approved and conditioned by the City; it has also been updated to reflect current conditions and regulations. Further descriptions of the SEIS Alternatives are provided below; the SEIS Alternatives are described in detail in **Chapter 2** of this DSEIS.

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Under SEIS Alternative 5, the site would be developed with the following land uses in phases over a 30-year buildout period:

- Residential Uses – 1,334 residential units (810 single family units and 524 multi-family units);
- Parks/Trails – Pocket parks, ponds/lakes, and a trail system;
- Recreation Centers – A 12-acre site reserved and dedicated to the City for a future municipal (community) recreation center and a neighborhood clubhouse;
- Open Space – 524 acres (49% of the site) of open space;
- Cemetery Expansion Site – A 10-acre site would be reserved for future expansion of the Laurel Hill Memorial Park cemetery;
- Affordable Housing Site – A 7.5-acre site would be required to be reserved and dedicated to the City for future development of affordable housing;
- Business Park/Commercial Uses – A 75-acre property would be developed with approximately 750,000 sq. ft. of business park use, potentially including: light industrial, research and development, warehousing, offices, and retail; and,
- School Expansion, Water Treatment Plant, Horse Park Sites – 222 acres reserved for school, utility, and recreational (Horse Park) uses were subsequently dedicated to various governmental entities and have been developed.

The above types and amounts of uses are largely the same as those under FEIS Alternative 5.

SEIS Alternative 5 serves as the "no action" alternative that is required by SEPA and compared to the proposal. According to the SEPA Rules, "no action" does not necessarily mean that nothing (no development) would occur on the site. This alternative is typically defined as what would most likely happen if the proposal did not occur (i.e., if the City took

no action on the proposal). Given that there is an approved Master Site Plan and Development Agreement for the Bullfrog Flats project, the No Action Alternative studied in this SEIS represents development of that approved project, which could go forward, but updated to reflect current conditions and regulations.

***SEIS Alternative 6** – Proposed 47° North Master Site Plan Amendment*

SEIS Alternative 6 represents the Applicant's proposed amendment to the approved Bullfrog Flats Master Site Plan. The 824-acre 47° North site and 25-acre adjacent property would be developed in the following land uses in phases over a 17-year buildout period (the residential and recreational uses would buildout over 7 years and the future commercial uses on the adjacent property would buildout over 17 years):

- Residential Uses – 707 residential units (527 single family units, 180 multi-family units;
- RV Resort – 627 RV sites;
- Parks/Trails – Two private community parks and three public trail parks, and a 6-mile trail/sidewalk system;
- Recreation Centers – A 6-acre adventure center open to residents and the public; two private recreational amenity centers totaling 11 acres; and a 12-acre site reserved and dedicated to the City for a future municipal (community) recreation center;
- Open Space – 477 acres of open space (58% of the site);
- Cemetery Expansion Site – A 13-acre site reserved for future expansion of the Laurel Hill Memorial Park cemetery, to be dedicated to the City;
- Affordable Housing Site – A 6.8-acre site reserved and dedicated to the City for future construction of affordable housing; and,
- Commercial Uses – A 25-acre contiguous property that is not part of the 47º North Master Site Plan that could be developed in the future with 150,000 sq. ft. of commercial uses, potentially including: grocery store, retail, restaurant, and medical office uses.

The types and amounts of land uses would differ from those under FEIS and SEIS Alternative 5.

1.3 IMPACTS

This section initially includes a summary of the key impacts that would potentially result from construction and operation of SEIS Alternatives 5 and 6**.** Following the key impacts discussion is **Table 1-1**, which provides greater detail on the significant impacts of the SEIS Alternatives. The key impacts discussion and summary table are not intended to be a substitute for the complete discussion of each element that is contained in **Chapter 3** and

should not be relied on by readers to make judgements about the completeness or sufficiency of the discussion in the DSEIS. Note that FEIS Alternative 5 is not included in **Table 1-1** as the differences between this alternative and SEIS Alternative 5 are negligible.

Summary of Key Impacts

Construction and operation of SEIS Alternatives 5 and 6 would result in impacts to the natural and built environment, similar to other large, mixed-use developments in urban areas. The impacts of SEIS Alternative 5 would be almost identical to those described under FEIS Alternative 5 in the 2002 Cle Elum UGA EIS because the mix and layout of uses and the buildout period would be nearly the same. However, the impacts under SEIS Alternative 5 would be somewhat less due to adherence to current, typically more stringent regulations. In general and overall, the impacts of SEIS Alternative 6 would be less than those for FEIS and SEIS Alternative 5 because the buildout period would be shorter; most of the residential units would be manufactured offsite and assembled onsite; there would be fewer residential units and smaller permanent population; there would be less commercial development; and, a greater percentage of the site (although fewer acres) would be preserved in open space.

Major issues raised repeatedly in SEIS Scoping comments emphasized potential impacts of proposed development on the natural environment; rural character/scenic experience; public infrastructure, services, and facilities; and, economic and fiscal conditions. The conclusions of the DSEIS analyses on these topics for SEIS Alternative 6 are highlighted below; impact comparisons are relative to SEIS Alternative 5.

Natural Environment

SEIS Alternative 6 would result in:

- substantial but less clearing and grading and associated potential for erosion and sedimentation;
- no significant impacts to geologic hazards, mostly because development would be located outside of these areas (similar to SEIS Alternative 5)
- substantial but less impervious surface area and potential for pollution and other impacts on surface and groundwater;
- no direct impacts to water resources, including the Cle Elum River and on-site wetlands and their buffers;
- adequate water supply through existing water rights to serve the project (similar to SEIS Alternative 5); and,
- a larger percentage of the site maintained in open space.

Rural Character/Scenic Experience

SEIS Alternative 6 would result in:

- conversion of a vacant, largely forested site to urban mixed-use development, consistent with its location in the Cle Elum UGA and mixed-use zoning (similar to SEIS Alternative 5);
- less residential and commercial development/lower density;
- development of an RV resort;
- construction activities that could be visible or noticeable from surrounding roadways but would occur over a shorter buildout period;
- no significant land use conflicts due to the proposed layout of land uses, proposed open space and buffers incorporated into the site plans, and existing physical barriers within and adjacent to the site (similar to SEIS Alternative 5);
- views of on-site development and visual change that would be limited or blocked by preserved vegetation and topography (similar to SEIS Alternative 5);
- fewer new light sources occurring onsite due to less permanent development; however, the RV resort would be a source of light, particularly during the peak visitor season; and,
- new light sources onsite that would be limited or obscured by preserved vegetation and topography and implementation of Dark Sky provisions (similar to SEIS Alternative 5).

Public Infrastructure, Services, & Facilities

SEIS Alternative 6 would result in:

- substantial but less additional permanent population; plus temporary population from the RV resort;
- less demand for public services (police, fire/EMS, emergency dispatch, hospitals, and schools) due primarily to less permanent population; the RV visitor population would not impact schools;
- fewer construction-related traffic impacts, such as the number of truck trips, due to the manufacturing of homes offsite and less grading/hauling;
- an increase in traffic volumes and congestion on area roadways (similar to SEIS Alternative 5); and,
- less demand for water, sewer and solid waste services due to less development and the type of development (including the RV resort).

Economic & Fiscal Conditions

SEIS Alternative 6 would result in:

- fewer local construction jobs due to fewer residential units and the manufacturing of homes offsite;

- fewer new permanent employees at full buildout due to the smaller commercial space on the adjacent property;
- revenues that would exceed costs for the City of Cle Elum; however, fiscal surpluses in the City would be lower;
- fiscal deficits in the City for the commercial component in the early years of development, but surpluses in later years;
- costs to Hospital District No. 2 and KITTCOM that would be slightly higher due to timing variations of development and when additional employees would be needed; and,
- less revenue generated for the School District, but also lower staffing costs due to fewer residents and students.

Table 1-1 summarizes the impacts of the alternatives in greater detail.

Table 1-1
IMPACT SUMMARY TABLE

SEIS Alternative 5	SEIS Alternative 6
3.1 EARTH	
• SEIS Alternative 5 would result in approximately 403 acres of clearing onsite. • SEIS Alternative 5 would require approximately 644,000 CY of cut and 420,000 CY of fill. • Potential construction impacts (e.g., erosion and sedimentation) could occur from site preparation, structural fill placement, and foundations construction. • All of the on-site areas classified as erosion, steep slope, and landslide hazard areas would be located outside of the areas proposed for development. The risk of liquefaction within the proposed development area during seismic events, as well as the risk of coal mine hazard and subsidence of underground mine workings is considered to be low.	• SEIS Alternative 6 would result in approximately 315 acres of clearing onsite. • SEIS Alternative 6 would require approximately 351,000 CY of cut and 310,000 CY of fill. • Potential construction impacts could occur but would be less due to less proposed development onsite. • Impacts to geotechnical hazards (erosion, steep slope, landslide, seismic, and coal mine) under would be similar.
3.2 WATER QUANTITY & QUALITY	
• No direct construction impacts to water resources are anticipated; however, a new wetland was identified subsequent to the 2002 Cle Elum UGA EIS, and the Master Site Plan for SEIS Alternative 5 would impact the new wetland.	• No direct construction impacts to water resources are anticipated under SEIS Alternative 6, including to the new wetland.

SEIS Alternative 5	SEIS Alternative 6
• Clearing and grading operations could result in erosion and sedimentation of surface water runoff, and could also deliver fine sediments, accidental spills of petroleum products, or construction waste such as concrete leachate to the Cle Elum River by way of the underlying alluvial aquifer.	• The potential for erosion and sedimentation, and other pollution of surface waters would be less because there would be less clearing and development onsite, and development would include temporary stormwater management that would comply with current regulations.
• A permanent stormwater management system would be installed onsite and significant impacts to surface water resources are not anticipated. Infiltration would be the primary form of stormwater management; potential water quality impacts to groundwater would also be mitigated by incorporating water quality treatment into the stormwater management system.	• Like SEIS Alternative 5, a permanent stormwater management system would be installed that would comply with current regulations. Also like SEIS Alternative 5, infiltration would be the primary form of stormwater management. A water balance analysis determined that the project would not impact groundwater quantity. Potential water quality impacts to groundwater would be mitigated by infiltration of stormwater and water quality treatment.
• Sufficient water rights are now available to serve SEIS Alternative 5, as well as full buildout of Suncadia, and significant impacts to water supply are not be anticipated.	• Like SEIS Alternative 5, sufficient water rights are available to serve SEIS Alternative 6 and Suncadia. However, there would be fewer residential units and commercial development that would result in less domestic water use.
3.3 PLANTS, ANIMALS, & WETLANDS	
• A total of 524 acres (48% of the site) would be retained in largely forested open space under SEIS Alternative 5	• A total of 477 acres (58% of the site) would be retained in largely forested open space under SEIS Alternative 6.
• SEIS Alternative 5 would reduce the vegetation onsite which would case fragmentation, alteration, and removal of wildlife habitat.	• SEIS Alternative 6 would result in essentially the same vegetation reduction and associated habitat impacts.
• Subsequent to the 2002 Cle Elem UGA EIS, a new wetland was identified (Wetland 6). Development under SEIS Alternative 5 would impact Wetland 6 and its buffer.	• SEIS Alternative 6 would result in no direct impacts to wetlands and their buffers.
• Stormwater runoff would be collected and treated in accordance with applicable regulations and no impacts to fish or fish habitat in the Cle Elum or Yakima Rivers are expected.	• Like SEIS Alternative 5, stormwater would be collected and treated in accordance with current regulations and no fish or fish habitat impacts are expected.
• SEIS Alternative 5 would convert existing forest areas to urban uses but a large portion of the site would be maintained in open space (48% of the site), including along the Cle Elum River corridor.	• SEIS Alternative 6 would convert forest areas to urban uses but would maintain a larger percentage of the site in open space (58% of the site), including along the river corridor. No

SEIS Alternative 5	SEIS Alternative 6
No impacts to threatened, endangered, or sensitive plants are anticipated. • SEIS Alternative 5 would result in the displacement of wildlife and wildlife habitat within the development areas. Development would not substantially affect threatened, endangered, or sensitive wildlife species. Priority species, such as elk, could be minimally impacted.	impacts to endangered, threatened, or sensitive plants are anticipated. • Like SEIS Alternative 5, SEIS Alternative 6 would result in displacement of wildlife and habitat, but would not substantially affect endangered, threatened, or sensitive wildlife species. Priority species, such as elk, could be minimally impacted.
3.4 AIR QUALITY	
• Demolition and construction under SEIS Alternative 5 would generate dust and emissions from construction activities. Construction would comply with applicable regulations but could still cause temporary localized impacts over the 30-year buildout. • Operational air quality impacts under SEIS Alternative 5 would occur from transportation-related sources, heating, and wood-burning. Tailpipe emissions would be the major source of air pollutants. However, since the site is located in an attainment area for criteria pollutants, it is unlikely that localized air pollutant concentrations could cause a hot spot or result in significant impacts. • SEIS Alternative 5 would generate approximately 44,753 metric tons of CO_2e per year by 2037 and 72,368 metric tons of CO_2e per year by 2051. The GHG emissions increase would be only a small fraction (0.04%) of total statewide annual GHG emissions and no single project emits enough GHG emissions to solely influence global climate change.	• SEIS Alternative 6 would result in dust and emissions, but at a reduced level due to fewer residential units, a shorter buildout period (7 years for 47° North, and 17 years for the adjacent commercial development), and construction of manufactured homes offsite. • Operational air quality emissions would be generated by similar sources as under SEIS Alternative 5. Tailpipe emissions would be the major source of air pollutants but are anticipated to be less. • SEIS Alternative 6 is anticipated to generate less GHG emissions, 35,719 metric tons of CO_2e per year by 2037, and would represent a slightly smaller percentage of statewide annual GHG emissions.
3.5 NOISE	
• Construction activities under SEIS Alternative 5 would result in temporary increases in noise from equipment and vehicle traffic and could result in temporary localized impacts to adjacent land uses. • The primary source of operational noise under SEIS Alternative 5 would be vehicle traffic on local roadways. Increases in noise levels would	• Construction noise and its associated impacts on adjacent land uses under SEIS Alternative 6 would be less due to less proposed development and construction of manufactured homes occurring offsite. • Like SEIS Alternative 5, vehicle traffic would be the primary source of noise under SEIS

SEIS Alternative 5	SEIS Alternative 6
range from one to four dBA (below WSDOT's threshold of 10 dBA). Noise levels exceeding WSDOT's threshold of 66 dBA were modeled to occur at two residential receivers and the existing cemetery.	Alternative 6; the differences in modeled noise under SEIS Alternative 6 would be negligible.
• Increases in noise would also occur from additional residential and commercial uses; noise from these uses would be regulated by the Cle Elum Municipal Code and state regulations.	• Increases in noise from residential and commercial uses would be less due to less proposed development. Operational noise would be regulated by the City code and state regulations.
3.6 LAND USE	
• SEIS Alternative 5 would convert the existing undeveloped, largely forested site to a mix of urban uses, including residential, business park/ commercial, recreational, and public facilities.	• SEIS Alternative 6 would convert the site to a mix of urban uses but would feature less residential and commercial development and would also include an RV resort.
• Development would result in a transition to a mix of higher intensity urban land use, consistent with the site's location in a UGA. Residential density on the site under SEIS Alternative 5 would be 6.0 DU/acre.	• Development would convert the site to higher intensity urban uses. Residential density under SEIS Alternative 6 would be less, at 4.9 DU/acre.
• The site layout, open space/buffers, and existing physical barriers within and adjacent to the site under SEIS Alternative 5 would limit conflicts with adjacent land uses.	• Like SEIS Alternative 5, land use conflicts are not anticipated due to the proposed site layout, the amount and location of open space/buffers, and existing physical barriers within and adjacent to the site.
• Increases in activity levels would occur under SEIS Alternative 5 due to the increased population on the site.	• Increases in activity levels would occur but would generally be less due to a smaller permanent residential population. However, there would be increased seasonal activity from the proposed RV resort.
• New residents under SEIS Alternative 5 would create additional demand for goods and services which could indirectly cause pressure for commercial development. Cumulative development in the area, together with development under SEIS Alternative 5, would increase the total developed area and associated housing/population, and represent a conversion and intensification of land use in the area.	• A smaller permanent resident population would generate less demand for goods and services and create less indirect pressure for commercial development; potential commercial development on the adjacent site would also reduce any pressure. However, seasonal population from the RV resort would increase total demand. Cumulative development in the area, together with development under SEIS Alternative 6, would increase the total developed area and associated housing/population, and represent an intensification of land use on site.

SEIS Alternative 5	SEIS Alternative 6
3.7 RELATIONSHIP TO PLANS & POLICIES	
• Development under SEIS Alternative 5 would be generally consistent with relevant Washington State, Kittitas County, City of Cle Elum, and neighboring city/town (e.g., Town of Roslyn, Community of Ronald, and City of South Cle Elum) plans, policies, and regulations.	• Similar to SEIS Alternative 5, development under SEIS Alternative 6 would be generally consistent with relevant Washington State, Kittitas County, City of Cle Elum, and neighboring city/town plans, policies, and regulations.
3.8 AESTHETICS/LIGHT & GLARE	
• Construction activities under SEIS Alternative 5 could be visible from locations along Bullfrog Road and SR 903. However, most clearing and grading work would occur behind the site perimeter buffer and would be blocked from view.	• Construction activities could be visible from surrounding roadways but would occur over a shorter buildout period and with less development. Similar perimeter buffer would be preserved.
• The primary visual impact would be the conversion of forested area to residential neighborhoods and commercial uses. Vegetated buffers on the perimeter of the site would minimize visual impacts from surrounding areas. Development would be most visible from higher vantage points.	• Visual simulations were prepared to illustrate proposed development under SEIS Alternative 6. Although development would convert the primarily forested area to residential neighborhoods, an RV resort, and commercial uses, the proposed site layout, preserved vegetated buffers, and existing landforms would avoid or minimize visual impacts from surrounding areas.
• New light sources would be introduced to the site (including building and landscape lighting, and additional lights from vehicle traffic) and would increase the amount of visible light during the evening hours. Vegetated buffers and other mitigation (e.g., Dark Sky provisions) would minimize lighting impacts.	• New light sources would occur on the site but would be less due to less development. However, light and glare would also be generated by the RV resort, particularly during the peak visitor season. Vegetated buffers and other mitigation would minimize lighting impacts.
3.9 HOUSING, POPULATION, & EMPLOYMENT	
• Construction of SEIS Alternative 5 would occur through a combination of local and non-local construction which would result in some workers moving to the area. The largest demand for construction workers would occur during the first five years of construction.	• Demand for local construction workers would be less under Alternative 6 because there would be less development onsite and manufactured housing would be constructed offsite and assembled onsite.
• Under SEIS Alternative 5, the following approximate housing, population, and employment would be generated by buildout in 2051: – 1,334 housing units	• Under SEIS Alternative 6, the following approximate housing, population, and employment would be generated by buildout in 2037: – 707 housing units

SEIS Alternative 5	SEIS Alternative 6
– 2,809 permanent residents – 1,900 employees The housing and population would help the City meet its growth targets which area not caps and may understate anticipated growth.	– 1,489 residents – 409 employees The housing and population would help the City meet its growth targets. The RV resort would include 627 RV sites with an equivalent/proxy population (used to estimate approximate service demand) of about 941 that would not count toward the City's growth targets.
• A 7.5-acre site would be set aside for future affordable housing under SEIS Alternative 5. The housing under SEIS Alternative 5 is expected to largely be market rate.	• An approximately 6.8-acre site would be set aside for future affordable housing. The estimated monthly mortgage payment for the manufactured housing of $518 to $863 could be affordable to city/county residents earning 60% of Median Household Income. Estimated monthly rental rates have not been determined.
3.10 HISTORIC & CULTURAL RESOURCES	
• Unidentified cultural resources could potentially be inadvertently impacted or destroyed with site development under SEIS Alternative 5. 23 cultural resource sites were identified in the project area in the 2002 Cle Elum UGA EIS. Most of the sites were located in the lower third of the site that would be reserved for open space, while development would occur in the upper two thirds of the site.	• Like SEIS Alternative 5, unidentified cultural resources could be impacted or destroyed with site development under SEIS Alternative 6. However, similar areas would be reserved in open space.
• Potential impacts to known cultural resources under SEIS Alternative 5 are not expected to be significant because on-site archaeological sites identified in 2002 have since been determined to be not eligible for listing on the National Register of Historic Places (NRHP) or Washington Historic Register (WHR).	• Like SEIS Alternative 5, potential impacts to cultural resources are not expected to be significant because known archaeological sites that are located onsite have since be determined to be not eligible for listing on the NRHP or WHR.
3.11 PARKS & RECREATION	
• During development of SEIS Alternative 5, construction workers could choose to live in local RV campgrounds which would affect the number of sites available for recreational users.	• Any potential for construction workers that would live in local RV campgrounds would be less due to less development overall and less on-site construction.
• Increased population under SEIS Alternative 5 would result in increased demand for park and recreation facilities in Cle Elum and the site vicinity. A range of recreational facilities would be provided onsite to help meet demand,	• Demand for parks and recreation facilities would be less due to fewer permanent residents; visitors to the RV resort would also contribute to increased demand, but demand would still be lower than under SEIS Alternative 5. A range of

SEIS Alternative 5	SEIS Alternative 6
including: parks, trails, a Community Recreation Center, a neighborhood clubhouse, lake, and two soccer fields.	recreational facilities would be provided onsite, including: parks, trails, an adventure center, two recreation amenity centers, and a site reserved for a future Municipal (Community) Recreation Center. These facilities would generally be consistent with goals and policies in the City Parks and Recreation Plan and would meet or exceed the Plan's targets.
3.12 PUBLIC SERVICES	
• Development under SEIS Alternative 5 and its associated population would generate demand for public services (i.e., police, fire/emergency medical, medical dispatch, hospital, and school services) during the construction and operation phases • SEIS Alternative 5 population would generate the following approximate need for additional public services staff at buildout in 2051: – 6.7 police officers (City Police Dept.) – 3.1 paid full-time firefighters (City Fire Dept.) – 6.0 EMTs and 7.4 paramedics (Hospital Dist. No. 2 Medic 1) – 0.7 physicians, 5.4 APCs, and 4.0 RN (Hospital Dist. No. 2 clinics in Cle Elum) – 1.0 physicians, 0.2 APCs, and 6.1 RNs (Hospital Dist. No. 1 in Ellensburg) – 0.9 dispatchers (KITTCOM) – 22.9 teachers based on 334 additional students (Cle Elum – Roslyn School Dist.)	• SEIS Alternative 6 would generate less demand for public services due to fewer permanent residents, less commercial development, and a shorter buildout period. The RV visitors would also generate some demand for public services; however, the visitors would not impact school. • SEIS Alternative 6 population would generate the following approximate need for additional public services staff at buildout in 2037: – 5.5 police officers (City Police Dept.) – 2.8 paid full-time firefighters (City Fire Dept.) – 5.2 EMTs and 6.4 paramedics (Hospital Dist. No. 2 Medic 1) – 0.6 physicians, 4.6 APCs, and 3.5 RNs (Hospital Dist. No. 2 clinics in Cle Elum) – 0.9 physicians, 0.2 APCs, and 5.3 RNs (Hospital Dist. No. 1 in Ellensburg) – 0.8 dispatchers (KITTCOM) – 12.1 teachers based on 177 additional students (Cle Elum – Roslyn School Dist.)
3.13 TRANSPORTATION	
• SEIS Alternative 5 would result in temporary construction-related traffic impacts over the 30-year buildout period. Based on estimated grading, 200 to 400 trucks per month would be generated to haul grading materials. • SEIS Alternative 5 would increase traffic volumes and congestion on area roadways (e.g., in the City, County, and on state facilities such as SR 903, SR 907, and I-90); this is an unavoidable effect of urban development. • The following study intersections are anticipated	• SEIS Alternative 6 would result in temporary construction-related traffic impacts over the 17-year buildout period. Based on estimated grading, approximately 200 trips per month would be generated to haul grading materials. • Like SEIS Alternatives 5, SEIS Alternative 6 would increase traffic volumes and congestion on area roadways. • The same study intersections are anticipated to

SEIS Alternative 5	SEIS Alternative 6
to operate at non-compliant LOS during the weekday summer PM peak hour by 2037 with future Baseline conditions, and continue to operate at non-compliant LOS with SEIS Alternative 5: – #11 – Douglas Munro Blvd / W 1st Street – #12 – N Pine Street / W 1st Street – #13 – N Stafford Ave / W 2nd Street (SR 903) – #15 – N Oakes Ave / W 2nd Street (SR 903)	operate at non-compliant LOS during the weekday summer PM peak hour by 2037 with future Baseline conditions and would continue to operate at non-compliant LOS with SEIS Alternative 6.
• The following study intersections are anticipated to operate at non-compliant LOS during the weekday summer PM peak hour by 2037 as a result of the additional traffic generated by SEIS Alternative 5: – #1 - Bullfrog Road / I 90 EB Ramps – #3 - Bullfrog Road / Tumble Creek – #7 - Denny Ave / W 2nd Street (SR 903) – #9 - N Pine Street / W 2nd Street (SR 903) – #17 - Pennsylvania / 2nd Street – #21 - Pennsylvania Ave / N 1st Street (SR 903) in Roslyn – #30 - SR 903 / Site Access Connector Road Additional study intersections are expected to operate at non-compliant LOS during the Friday and Sunday summer PM peak hour as a result of project traffic.	• The following study intersections are anticipated to operate at non-compliant LOS during the weekday summer PM peak hour by 2037 as a result of the additional traffic generated by SEIS Alternative 6: – #1 - Bullfrog Road / I 90 EB Ramps – #2 - Bullfrog Road / I-90 WB Ramps – #3 - Bullfrog Road / Tumble Creek – #7 - Denny Ave / W 2nd Street (SR 903) – #9 - N Pine Street / W 2nd Street (SR 903 – #21 - Pennsylvania Ave / N 1st Street (SR 903) in Roslyn – #30 - SR 903 / Site Access Connector Road – LOS F by 2031 Additional study intersections are expected to operate at non-compliant LOS during the Friday and Sunday summer PM peak hour as a result of project traffic.
• Increased traffic volumes on area roadways from SEIS Alternative 5 could result in moderate increases in accident rates; however, none of the study intersections were identified as high accident locations.	• Like SEIS Alternative 5, traffic volumes on area roadways due to SEIS Alternative could result in moderate increases in accident rates.
• New trails and sidewalks would be provided throughout the site and would connect with off-site trails.	• An approximately 6-mile network of non-motorized trails and sidewalks would be provided throughout the site that would connect with off-site trails.
3.14 UTILITIES	
• SEIS EIS Alternative 5 would generate demand for water, sewer, and solid waste service during construction and operation of the project. The	• SEIS Alternative 6 would generate demand for water, sewer and solid waste service during construction and operation; the same entities

SEIS Alternative 5	SEIS Alternative 6
City of Cle Elum would provide water and sewer service, Waste Management of Ellensburg would provide solid waste service.	would provide service.
• Solid waste would be generated during construction of SEIS Alternative 5.	• Solid waste generated during construction of SEIS Alternative 6 would be less due to less on-site construction and less overall population.
• Under SEIS Alternative 5, average daily treated water demand would range from 0.31 to 0.50 MGD. The City Water System would require the following improvements to serve the project together with other approved/vested projects: – New filtration train – New Zone 3 finished water pump – New Zone 3 reservoir storage	• Under SEIS Alternative 6, average daily treated water demand would range from 0.22 to 0.42 MGD. The same improvements to the City Water System would be required as under SEIS Alternative 5.
• Monthly wastewater flow would range from 0.24 to 0.30 MGD under SEIS Alternative 5. The City Wastewater Treatment Plant (WWTP) has adequate capacity to serve the project.	• Monthly wastewater flow would range from 0.19 to 0.24 MGD under SEIS Alternative 6. Like SEIS Alternative 5, the City WWTP has adequate capacity to serve the project.
• SEIS Alternative 5 is estimated to generate approximately 2,885 tons of solid waste per year at buildout. Improvements to the Cle Elum Transfer Station would be required to increase the station's capacity and serve the project.	• SEIS Alternative 6 would generate approximately 2,335 tons of solid waste per year at buildout. Like SEIS Alternative 5, improvements to the Cle Elum Transfer Station would be required to increase the station's capacity and serve the project.
3.15 FISCAL & ECONOMIC CONDITIONS	
• SEIS Alternative 5 is anticipated to create demand for approximately 2,025 local construction jobs over full buildout.	• SEIS Alternative 6 would create demand for approximately 607 local construction jobs, which is less due to fewer residential units and the manufacturing of homes offsite.
• Operational economic impacts of SEIS Alternative 5 would include increased employment opportunities, higher potential personal income, lower unemployment, and new business commerce.	• Operational economic impacts under SEIS Alternative 6 would be similar to under SEIS Alternative 5 and are expected to be positive. Increased site population would result in increased retail spending but would be less due to fewer permanent residents. Future commercial development on the adjacent 25-acre site could also provide new offerings that could compete with existing businesses.
• Development of SEIS Alternative 5 commercial (business park) uses would increase permanent employment by approximately 1,900 new employees at full buildout.	• Development of SEIS Alternative 6 (including future commercial development) would result in approximately 400 new permanent employees at full buildout.

SEIS Alternative 5	SEIS Alternative 6
• SEIS Alternative 5 would generate revenues to the City of Cle Elum that would exceed costs (including for police, fire, parks, and public works services), which would create fiscal surpluses for the City over the course of the project and at full buildout.	• SEIS Alternative 6 would generate revenues to the City that would exceed costs, but fiscal surpluses would be lower than SEIS Alternative 5. The future commercial component of SEIS Alternative 6 could generate fiscal shortfalls in earlier years but fiscal surpluses in later years; the 47° North residential and recreational component would generate fiscal surpluses throughout buildout.
• The public service purveyors' (e.g., Hospital District No. 2, KITTCOM, and Cle Elum-Roslyn School District) costs could exceed revenues to serve SEIS Alternative 5; however, mitigation may or may not be required, as the purveyors have a number of funding sources.	• Costs to Hospital District No. 2 and KITTCOM under SEIS Alternative 6 would be slightly higher than under SEIS Alternative 5 due to timing variations of development and when additional employees would be needed. SEIS Alternative 6 would generate less revenue for the School District due to less development but would also generate lower staffing costs due to fewer residents onsite. Similar to SEIS Alternative 5, mitigation may or may not be required, as the purveyors have a number of funding sources.

1.4 MITIGATION MEASURES & SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The following section lists the mitigation measures that have been identified in the DSEIS to address the significant adverse impacts of the SEIS Alternatives. Where significant impacts from construction and operation of the SEIS Alternatives cannot be mitigated by known mitigation measures, significant unavoidable adverse impacts are noted. The mitigation measures are separated into several categories, as described below.

- **Proposed Mitigation Measures (Included in the Project)** are measures which the Applicant has proposed, that are included in the proposed Master Site Plan, and that are above and beyond the "Required Mitigation Measures" described below. These measures include certain conditions of approval from the 2002 Bullfrog Flats Development Agreement. The conditions in the Development Agreement were developed to mitigate the environmental impacts of the Bullfrog Flats Master Site Plan and arose from the 2002 Cle Elum UGA Final EIS and various other approval processes for the project. Because of the time that has passed since the Development Agreement was executed, and the lack of complete documentation, the reasons for certain of the conditions or some specific requirements is not clear. Also, certain of the conditions no longer apply because they have been performed (e.g., certain properties have already been dedicated to the City). Therefore, only the conditions of approval that pertain to the current proposal, and which the Applicant has agreed to include in the project, are listed with appropriate modifications.

- **Required Mitigation Measures** are measures required by code, laws, or local, state, and federal regulations.

- **Approved Bullfrog Flats Conditions of Approval (Not Included in the Project)** are measures that are based on the conditions of approval contained in the 2002 Development Agreement. These are the conditions that are not certain to apply to SEIS Alternative 6 and will depend on changes to the adopted Development Agreement that may be proposed. They are not included in the project at this point in time.

- **Other Possible Mitigation Measures** are other measures identified by the SEIS team and the City that could be implemented to further reduce the impacts of SEIS Alternative 6.

The mitigation measures listed in the Draft SEIS will serve as a basis for development conditions that the City may impose in conjunction with approval of a new or updated Development Agreement for the proposed 47° North Master Site Plan Amendment.

Earth

Required Mitigation Measures

Structural Standards

- The Cle Elum Municipal Code includes performance standards for development in geologically hazardous areas (CEMC 18.01.070 (F)) that would be followed for development on the 47º North site. These standards include the following:
  - Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to the existing topography.
  - Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation.
  - The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties.
  - Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer.

Erosion Hazards

- A Temporary Erosion and Sediment Control (TESC) and Stormwater Pollution Prevention Plan (SWPPP) would be developed for the project and erosion and sedimentation control Best Management Practices (BMPs) would be implemented during construction as described in the 2019 *Washington State Department of Ecology Manual for Eastern Washington* (2019 Ecology Manual). BMPs may include but are not limited to the following:
  - Use of stabilized construction entrances;
  - Stabilization of construction roads and parking areas;
  - Applying water to exposed soil surfaces to control dust;
  - Use of wheel washes for construction traffic leaving the site;
  - Use of sediment traps and inlet/outlet controls where applicable;
  - Use of perimeter silt fencing; and,
  - Use of temporary cover measures such as sheet plastic, mulch, and hydroseed.

- During construction, monitoring of erosion and sediment control by a Certified Erosion and Sediment Control Lead would be required for the project by Ecology.

Landslide Hazards

- Foundation setbacks for buildings and other structures would comply with criteria established in Section 1808.7 of the 2015 *International Building Code* (IBC), including:
  - For foundations located adjacent to the top of steep (> 33.3%) slopes, the face of the foundations would be set back from the steep slope a distance equal to or greater than the lesser of 40 feet of H/3 where "H" is equal to the height of the steep slope.
  - For structures located adjacent to the toe of a steep (> 33.3%) slopes, the face of the structures would be set back from the toe of the steep slope a distance equal to or greater than the lesser of 15 feet or H/2 where "H" is equal to the height of the steep slope.

- Placement of structural fill would be avoided on or adjacent to the top of steep (greater) than 40% slopes.

- Permanent cut or fill slopes would not exceed a maximum inclination of 50%.

- Infiltration facility setbacks from steep slopes would comply with requirements outlined in the 2019 Ecology Manual. Specifically, the 2019 Ecology Manual requires that infiltration ponds be set back from the top of a slope of 15% or steeper at a distance equal to or greater than the height of the slope. The 2019 Ecology Manual allows for lesser or greater setbacks where a comprehensive site assessment concludes that the alternate setback is justified based on the site conditions. Slopes in excess of 15% exist on the adjacent 25-acre commercial property and on the municipal recreation center site. Siting of infiltration facilities in these areas would consider the slope setback requirements of the 2019 Ecology Manual.

Other Possible Mitigation Measures

Coal Mine Hazards

- Although there is low risk for coal mine hazard impacts, mitigation of this risk could be achieved by using building methods and construction materials that would reduce the risk of structural damage, such as:
  - Reinforce concrete foundations supporting a flexible superstructure (e.g., wood framing or other flexible building materials);
  - Use flexible (asphalt) pavement for road construction; and,
  - Use flexible pipes, couplings, and fittings for underground utilities.

Significant Unavoidable Adverse Impacts

Significant amounts of earthwork would be required for development of the SEIS Alternatives, similar to other urban master plan projects, and are unavoidable. However,

with implementation of the mitigation measures listed above, no significant unavoidable adverse earth-related impacts are anticipated.

Water Quantity & Quality

Proposed Mitigation Measures (Included in the Project)

- Proposed development under the revised Master Site Plan would not directly impact any on or off-site water resources (e.g., wetlands and streams). No mitigation is warranted.

Bullfrog Flats Conditions of Approval (Included in the Project)

- Sufficient water rights are available from New Suncadia to supply water for proposed development of the 47° North site and the adjacent 25-acre property. New Suncadia and Ecology signed an agreement in December 2015 regarding how they would use their water rights and their mitigation obligations, including putting water rights into Ecology's Trust Water Rights Program and transferring water rights to the City of Cle Elum. The transfer of water rights to the City is pending.

Required Mitigation Measures

- Temporary stormwater management measures would be implemented that would follow the BMPs and requirements of the Construction SWPPP and the currently-active National Pollutant Discharge Elimination System (NPDES) Permit (No. WA0052361) for the project.

- A Master Drainage Plan would be prepared and implemented, consistent with the 2019 Ecology Manual.

- Stormwater Infiltration facilities would be sited to avoid increasing the potential for landslides in any steep slope or landslide hazard areas.

- Design-level exploration and infiltration testing would be performed for the proposed infiltration ponds to assess suitable infiltration rates for infiltration facility design, as described in the 2019 Ecology Manual.

Significant Unavoidable Adverse Impacts

Impacts on water quality or wetlands under the SEIS Alternatives, if any, would be short term, with no significant broad, enduring, or cumulative effects. If inadvertent isolated and localized releases of turbid water or petroleum products does occur during construction, significant water quality impacts could result. However, with implementation of the proposed TESC plan and SPPP, these impacts could be avoided.

Heavy metals, landscape chemicals, and fecal coliforms would increase in stormwater runoff with the proposed urban development, even after treatment by BMPs. With the proposed permanent water quality treatment facilities, no adverse impacts to water resources are anticipated.

No significant water supply impacts are expected because the water rights that are now owned by New Suncadia, and will be conveyed to the City, are adequate to provide water to development of both the Suncadia resort and the 47° North site; would mitigate consumptive use by induced off-site development caused by Suncadia development; would mitigate consumptive use resulting from development of the fallowed land formally irrigated; and, would place water in Ecology's Trust Water Rights Program for instream flow purposes and for purchase for new development by third parties within certain portions of the rule area.

Plants, Animals, & Wetlands

Proposed Mitigation Measures (Included in the Project)

- No direct impacts to wetlands or the Cle Elum River would occur. The riparian wetlands along the Cle Elum River would be retained within dedicated open space that would encompass their required buffers and the entire river corridor, as well as additional forest habitat. Isolated Wetlands 4, 5, and 6 and their buffers would be retained in an open space tract.

- Conservation easements that were granted for the Managed Open Space and River Corridor Open Space onsite by Trendwest to the Kittitas Conservation Trust would remain in effect with the proposed project.

- The proposed landscaping onsite would generally consist of natural, local, and drought tolerant plants, including hydroseed mixes that could include wildflowers, but not any plants considered to be noxious weeds – a Noxious Weed Plan would be prepared to ensure that such plants are not planted. Imported soil materials would also be weed-free. The use of native plant material could benefit wildlife.

Bullfrog Flats Conditions of Approval (Included in the Project)

- With respect to overall fish and wildlife habitat, the project would include those provisions in the Cooperative Agreement between Trendwest (now New Suncadia), Washington State Department of Fish and Wildlife (WDFW), and the Yakama Nation that apply to potential cumulative impacts from the Suncadia resort and development of the 47° North and adjacent 25-acre property. This could include the City of Cle Elum enforcing use and access restrictions in designated areas, especially

within the Cle Elum River open space, to minimize disturbance to fish and wildlife during mating and breeding seasons.

Required Mitigation Measures

- The 47° North project would adhere to the City of Cle Elum critical areas ordinance and Shoreline Master Program regulations regarding avoidance and minimization of impacts, as well as buffer requirements and protection of fish and wildlife habitat conservation areas.

- Construction limits, including staging areas, would be clearly marked in the field prior to beginning construction activities

- The limits of wetland buffer areas would be clearly marked on construction plans and in the field to prevent unauthorized damage to critical areas during construction.

- Construction staging areas would be located outside of wetland buffers within the RV resort area to minimize impacts to vegetation.

- Any wetland buffer areas temporarily disturbed for construction access and staging would be revegetated with a mixture of native plant species following completion of construction activities, pursuant to an approved mitigation plan.

- Vehicle re-fueling and maintenance activities would be avoided within wetland buffers, or within at least 100 feet of wetlands.

- Appropriate BMPs and TESC measures would be implemented in accordance with an approved SWPPP, consistent with standards of the 2019 Ecology Manual, including specific measures to prevent and control spills of pollutants, and to handle, control, and store potential contaminants and their potential to damage surface waters and fisheries resources.

- A permanent stormwater management system would be designed and installed consistent with the 2019 Ecology Manual and applicable City of Cle Elum development regulations in place at the time of permitting for project. Operation of this system would avoid and minimize the potential for impacts on surface waters and fisheries resources.

- As necessary, clean stormwater runoff would be directed to the wetland's catchment area to retain the wetland hydrology.

Other Possible Mitigation Measures

- Where feasible, conservation easements could be conveyed to additional large forested open space areas across the site – beyond those associated with the Cle Elum River corridor – which would enable these areas to be managed for healthy forests and wildlife habitat in coordination with recreational uses.

- To address impacts of increased angler fishing pressure on fisheries resources and habitat, WDFW is expected to continue to manage the regional fishery. They would continue to monitor fishing in the Cle Elum and Yakima Rivers and evaluate local fish populations. If problems were identified, the WDFW would likely implement selective gear rules in affected areas. If fish populations continued to decline, WDFW could apply catch and release regulations in additional areas, narrow the fishing season, or as a last resort enact closures.

  To mitigate impacts of increased fishing pressure on fisheries resources with proposed development, the Applicant could: 1) explore angler management options with the WDFW and Yakama Nation, such as increased angler education, dispersing angling pressure to underused areas, and providing alternatives to traditional fishing opportunities; 2) implement creel surveys (coordinated with WDFW) to address issues directly related to angler fishing presence; and/or 3) implement fish population surveys (coordinated with WDFW to assess quantitative changes in discrete stream reaches).

- Hiking trails could be located outside the Cle Elum River corridor so that elk viewing would be possible without traversing the elk habitat. Elk viewing areas could be established.

Significant Unavoidable Adverse Impacts

No significant impacts to wetlands, aquatic, or fish habitat are expected. Development of the site under the SEIS Alternatives would result in the following unavoidable adverse impacts:

- Removal of a substantial area of the existing native vegetation and soils and replacement by non-native communities or impervious surfaces; retained native vegetation communities among the various development areas would become primarily edge habitat;
- A reduction in the local populations of most native wildlife species in the area, and continuation of a shift in species composition to favor species more adapted to urban environments; those animals displaced from the site would likely perish; and,
- An increase in disturbance of adjoining areas of native forest and riparian habitat and on adjacent lands as a result of increased human activity including vehicular traffic.

Such impacts are typical and unavoidable in the context of urban development.

No additional significant unavoidable adverse impacts to plants and animals, or wetlands would likely occur under SEIS Alternative 6 with implementation of the mitigation measures listed above.

Air Quality/Greenhouse Gas Emissions

Proposed Mitigation Measures (Included in the Project)

- Construction Emission Control: All contractors would be required to implement air quality control plans for construction activities. Air quality control plans would include BMPs to control fugitive dust and odors such as:
  - Use water sprays or other non-toxic dust control methods on unpaved roadways.
  - Minimize vehicle speed while traveling on unpaved surfaces.
  - Prevent track-out of mud onto public streets.
  - Cover soil piles when practicable.
  - Minimize work during periods of high winds when practicable.

- The following mitigation measures would be used to minimize air quality and odors issues caused by construction equipment tailpipe emissions:
  - Maintain the engines of construction equipment according to manufacturers' specifications.
  - Minimize idling of equipment while the equipment is not in use.
  - If there is heaving traffic during some periods of the day, schedule haul traffic during off-peak times (e.g. between 9:00 AM and 4:00 PM) when it would have the least effect on traffic and would minimize indirect increases in traffic-related emissions.

- Single family and some of the multi-family residences under SEIS Alternative 6 would consist of manufactured housing, which research has shown, can result in reduced construction-related GHG emissions compared with stick-built houses.

- Wood-burning stoves would not be permitted in the proposed residences.

- Wood-fueled campfires would not be permitted in the RV resort area.

Required Mitigation Measures

- Construction and development would comply with applicable air quality regulations, including:
  - National Ambient Air Quality Standards (NAAQS);

- State Ambient Air Quality Standards;
- Ecology's Indoor Burning Smoke Reduction Zone regulatory framework;
- State and City of Cle Elum outdoor burning regulations; and,
- State of Washington GHG laws.

Other Possible Mitigation Measures

- The Applicant should consider using energy efficient lighting in the project.

- The use of solar energy could be considered and analyzed further.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on regional or local air quality are anticipated due to construction activities under the SEIS Alternatives. Temporary, localized dust and odor impacts could occur during construction. The regulations and measures identified above are anticipated to mitigate any potential adverse construction air quality impacts.

No significant unavoidable adverse operational impacts on regional or local air quality are anticipated under the SEIS Alternative. The 47^{o} North site is located within an air quality attainment area for all criteria air pollutants and the project is not expected to pose issues related to air toxics.

Although no threshold of "significance" has been established by state law to determine GHG impacts, modeled GHG emissions related to the project in 2037 would be negligible relative to the forecasted total statewide annual GHG emissions

Noise

Proposed Mitigation Measures (Included in the Project)

- A large portion of the site would be preserved in undeveloped, forested/vegetated open space. Forested/vegetated areas and buffers that would be retained and possibly enhanced along the site boundary would assist in reducing noise impacts on surrounding uses.

Bullfrog Flats Conditions of Approval (Included in the Project)

- Construction would be limited to 7:00 AM to 7:00 PM, Monday through Saturday. Sunday construction would be on an emergency basis only and would need to be approved by the City.

- All construction equipment would have adequate mufflers, intake silencers, and engine enclosures to minimize construction equipment noise.

- Any stationary equipment that generates noise would be located away from sensitive receivers, including residential uses, the school property, the cemetery, and open space areas.

- Equipment servicing and maintenance times would be unrestricted. The City may review and approve case-by-case exceptions to this condition if justified to comply with Washington State Department of Natural Resources industrial restrictions.

Required Mitigation Measures

- Construction and operation of the project would be generally consistent with numerous Cle Elum Municipal Code requirements related to noise, including Chapter 2.48.130, Chapter 8.12.020, Chapter 10.20, Chapter 10.24.020, and Chapter 17.51.010. The CEMC, however, is focused primarily on nuisances and does not address or provide numerical thresholds for construction, transportation, or operational noise. As such, Washington State noise regulations would apply where the CEMC has not established noise thresholds.

- Consistent with the Cle Elum Municipal Code, the proposed RV resort would be required to submit a management plan, including rules governing park quiet hours, as part of the conditional use permit process or development agreement.

- Roof equipment in the commercial development could require noise baffling, if necessary, to meet state noise standards. This condition will be reviewed and any baffling requirements imposed as part of the building permit review for the commercial buildings.

Other Possible Mitigation Measures

- Construction noise could be reduced by using enclosures or walls to surround noisy stationary equipment, substituting quieter equipment or construction methods, and minimizing time of operation. To reduce construction noise at nearby receiver locations, the following mitigation measures could be incorporated into construction plans and contractor specifications:
  - Erect portable noise barriers around loud stationary equipment located near sensitive receivers;
  - Turn off idling construction equipment;
  - Require contractors to rigorously maintain all equipment; and,
  - Train construction crews to avoid unnecessarily loud actions (e.g., dropping bundles of rebar onto the ground or dragging steel plates across pavement) near noise-sensitive areas.

Significant Unavoidable Adverse Impacts

Noise levels would increase in the study area due to short-term clearing/grading, demolition and construction noise, and long-term traffic and human noise. The noise from the proposed residential, commercial, and parks/recreational uses is expected to be minor; with implementation of the mitigation measures listed above, no significant impacts are expected.

Land Use

Proposed Mitigation Measures (Included in the Project)

- Approximately 477 acres (58% of the site) would be retained in open space, including critical areas such as the Cle Elum River, wetlands, and steep slopes. Existing easements are in place to protect the River Corridor Open Space and Managed Open Space in the western portion of the site. These easements could be retained by New Suncadia or transferred to the Applicant (Sun Communities).

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- A minimum of 10 acres would be set aside and dedicated to the City for future expansion of the Laurel Hill Memorial Cemetery.

- Approximately 12 acres would be reserved and dedicated to the City for the development of a future municipal (community) recreation center.

- Natural open space buffers at least 100 feet wide would be maintained along Bullfrog Road. In addition, undeveloped, forested open space would be preserved onsite within the northeastern quadrant of the Bullfrog/I-90 Interchange.

Required Mitigation Measures

- Mitigation measures identified through this SEIS would minimize land use impacts from construction activities, consistent with City regulations (see Section 3.1, **Earth**, Section 3.4, **Air Quality/GHG Emissions**, Section 3.5, **Noise**, and Section 3.13, **Transportation**).

- The proposed uses and land use standards would be consistent with the City of Cle Elum Comprehensive Plan and zoning for the site (see Section 3.7, **Relationship to Plans & Policies**, for details). This conclusion would be verified based on submittal of the 47° North Master Site Plan application and consistency analysis contained in a staff report for the proposal.

- The 50-foot wide platted buffer adjacent to the SR 903 right of way would be maintained with possible commercial development on the adjacent 25-acre property.

Approved Bullfrog Flats Conditions of Approval (Not Included in the Project)

- A useable area of 7.5 acres is required to be conveyed to the City of Cle Elum, or another public or non-profit entity approved by the City to develop a minimum of 50 affordable housing units. The 50 housing units would not be counted towards the 1,334-unit cap for the project. The parcel or parcels must be identified and conveyed prior to approval of the 250th residential housing unit. Under the current proposal, a 6.8-acre affordable housing site has been identified; this site would need to be increased to meet the 7.5-acre requirement.

- The current development condition applicable to the Bullfrog Flats site would only permit small-scale retail uses that would serve the convenience needs of residents and employees to be included on the commercial site. Retail uses would be limited to 10% of the floor area of the commercial development, and no individual retail use would contain over 5,000 sq. ft. of areas open to the public. Primary entrance to the retail uses would not be allowed from SR 903 or Bullfrog Road. The conceptual plan for the future possible commercial development would not comply with the existing development condition. Either the types and sizes of retail uses would need to be adjusted, or the condition changed or eliminated in the new or updated Development Agreement.

Other Possible Mitigation Measures

- Internal buffers/screening could be provided onsite between single and multi-family residential development (MF-1, SF-4, SF-5, and SF-6) and the powerline easement where a recreational trail is proposed.

Significant Unavoidable Adverse Impacts

The conversion of the 824-acre 47° North site from undeveloped forest/vegetation to a master plan community under any of the alternatives would represent a significant change in the existing land use of the site, and such change would be unavoidable if the Master Site Plan is implemented. The change would be consistent with the City of Cle Elum land use and zoning classifications for the site and is not per se an adverse impact to land use or land use patterns. The site is located within a City/UGA and is considered appropriate for urban development. The proposal would represent a continuation of the existing trend of intensifying development in the City and adjacent area. With implementation of the mitigation measures listed above, no significant adverse land use impacts are expected. It is acknowledged, however, that some residents may consider the proposed development to be significant and adverse because of its size, location, or other factors.

Aesthetics/Light & Glare

Proposed Mitigation Measures (Included in the Project)

- Approximately 477 acres of the site would be preserved as open space, including natural open space, Managed Open Space, River Corridor Opens Space, wetlands and their buffers, and power line easements.

- Development areas onsite would be arranged based, in part, on existing topographic features, as reflected in the proposed Master Site Plan. Combined with existing, retained vegetation, site planning would block views of most elements of the project from most public off-site locations, and/or reduce the perceived visibility or scale of the overall project for viewers at ground level from locations where vegetation or topography does not.

- Proposed development would be consistent with architectural design and materials guidelines that would be developed by the Applicant for residential and other structures, and specifically tailored for the 47° North project site to ensure an overall consistent visual quality. Building materials would include muted colors and textures that are intended to blend into the existing natural setting and would be comprised primarily of wood and stone.

- Low-pressure sodium lights and full-cutoff shielding would be used on outdoor light fixtures.

- Residential area light fixtures would not be mounted higher than 30 feet.

- Unnecessary lighting of building facades would be avoided.

- Landscaping would be provided throughout the site and would create transitions and buffers between various land uses on and adjacent to the site, where necessary.

- Landscaping with native plants is proposed to help visually and aesthetically connect the site to the surrounding area.

Bullfrog Flats Conditions of Approval (Included in the Project)

- Natural open space buffers at least 100 feet wide along Bullfrog Road would be maintained to screen or diffuse views to the interior of the site from this roadway. In addition, undeveloped, forested open space would be preserved onsite within the northeast quadrant of the Bullfrog/I-90 Interchange.

- Standards/recommendations for roadway lighting intensity consistent with the Illuminating Engineering Society of North America would be adopted.

- Lighting designs would be implemented in accordance with the International Dark Sky Association's Zone E1 Standards. These standards are recommended for use in "areas with intrinsically dark landscapes." Examples are national parks, areas of outstanding natural beauty, areas surrounding major astronomical observatories, or residential areas where inhabitants have expressed a strong desire that all light trespass be strictly limited."

Required Mitigation Measures

- The 50-foot wide platted buffer adjacent to the SR 903 right of way would be maintained with possible commercial development on the adjacent 25-acre property. The existing forested vegetation in this area could be retained to partially screen the development and help maintain a natural, forested entry to the City of Cle Elum.

Other Possible Mitigation Measures

- The vegetation in the perimeter buffer should be maintained and replaced if, when, and where necessary in response to natural forces, selective thinning, and fire-wising activities.

Significant Unavoidable Adverse Impacts

Proposed development on the 47° North site under the SEIS Alternatives would significantly and unavoidably change the visual character of a portion of the site, from undeveloped to developed and urban in character. Some might consider this change to be an adverse impact. However, based on the analysis, the nature and extent of change would not be visible, or would be only partially visible, from most public off-site locations. The site would be visible to the greatest extent from higher elevation vantage points.

Development of the 47° North site under the SEIS Alternatives would result in additional ambient light from accumulated buildings and landscape lighting. This would contribute to existing skyglow effects created by Cle Elum, South Cle Elum, Roslyn, Suncadia, and I-90. However, the increase in skyglow would be mitigated through implementation of International Dark Sky Association lighting designs. With implementation of the mitigation measures listed above, no significant adverse aesthetic/light and glare/skyglow impacts are expected.

Housing, Population, & Employment

Proposed Mitigation Measures (Included in the Project)

- The estimated monthly mortgage payment for proposed single family housing could be affordable to city residents, based on 60% of the city's and county's 2018 Median Household Income (MHI) and dedication of 30% or less of a household's monthly gross income to housing and utilities. This affordable housing would be located onsite throughout the proposed residential development.

Bullfrog Flats Conditions of Approval (Included in the Project)

- Access, water, and sewer would be constructed, consistent with development standards, up to the affordable housing parcel boundaries, as with every other parcel in the Master Site Plan.

- Sun Communities, as successor to New Suncadia, could be given the option in a new or revised Development Agreement to assist in the selection process for potential owners/developers of the affordable housing parcel.

- A minimum of 150 residential dwelling units, not including the 50 possible affordable housing units, would remain rental units and a covenant would be recorded on the property to ensure this condition continues for 20 years. Note that all of the 180 proposed multi-family housing units in 47º North would be leased/rented, and manufactured housing would be available for rent as well.

Required Mitigation Measures

- A housing policy in the 2019 City Comprehensive Plan (H-1.9) requires that affordable housing be provided in projects with more than 20 units. The proposal could far exceed this requirement.

Bullfrog Flats Conditions of Approval (Not Included in the Project)

- A useable area of 7.5 acres is required to be conveyed to the City of Cle Elum, or another public or non-profit entity approved by the City. Under the current proposal, a 6.8-acre affordable housing site has been identified; either this site would need to be increased, development density on the affordable housing site could be increased, or the City could determine that the proposal would provide sufficient affordable housing.

- The existing supply of affordable housing in Upper Kittitas County would periodically be monitored and inventoried, and as necessary advocated for, to help ensure that a continuous supply of housing is affordable for those earning the wages paid at the Suncadia resort. This condition may not be relevant to 47º North since construction

labor demand would be considerably less than for Bullfrog Flats due to the inclusion of manufactured housing.

- The existing labor pool would be actively recruited, hired, and contracted with to minimize in-migration employment and associated housing impacts. This condition may not be relevant to 47º North since construction labor demand would be considerably less than for Bullfrog Flats due to the inclusion of manufactured housing.

Significant Unavoidable Adverse Impacts

Development of the 47° North site under the SEIS Alternatives would increase housing demand, permanent population, and employment in the City. The amount of planned growth could be considered significant, and it is an unavoidable consequence of developing the Master Site Plan. In and of itself, however, growth is not necessarily an adverse impact if it has been properly planned for, including providing for adequate housing, infrastructure, and services (see Section 3.12, **Public Services**, Section 3.13, **Transportation**, and 3.14, **Utilities**, for information on the capacity of infrastructure and services to accommodate the SEIS Alternatives, and mitigation measures to address any significant impacts). It is recognized, however, that some people may consider any additional growth, and/or particular types of development, to be an adverse impact.

Historic and Cultural Resources

Proposed Mitigation Measures (Included in the Project)

- When the 25-acre property contemplated for future commercial use is proposed to be developed, a field investigation of the property should be conducted.

Required Mitigation Measures

- Consultation with Department of Archaeology and Historic Preservation (DAHP) and Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) would continue.

- Compliance with all state regulations (e.g., RCW 27.44, RCW 27.53, SEPA) related to cultural resources would continue.

- An inadvertent discovery plan would be adopted for the project and made available onsite during construction.

- Onsite monitoring by a professional archaeologist or cultural resources specialist would take place during all ground disturbing activities with potential to intersect Holocene deposits, which were observed up to 8.5 feet below ground surface, including clearing, grubbing, grading, and construction excavations.

- Construction personnel would be trained on the identification of archaeological resources.

- In the event that ground disturbing or other activities result in the inadvertent discovery of archaeological deposits, work would be halted in the immediate area and contact made with DAHP. Work would be halted until such time as further investigation and appropriate consultation is concluded. See **Appendix I** for details on protocols for inadvertent discoveries.

- In the unlikely event of the inadvertent discovery of human remains, work would be immediately halted in the area, the discovery covered and secured against further disturbance, and contact made with law enforcement personnel, consistent with the provisions set forth in RCW 27.44.055 and RCW 68.60.055. See **Appendix I** for details on protocols for inadvertent discoveries.

Significant Unavoidable Adverse Impacts

With implementation of the mitigation measures listed above, no significant unavoidable adverse impacts on historic and cultural resources are expected with construction and operation of the SEIS Alternatives.

Parks & Recreation

Proposed Mitigation Measures (Included in the Project)

- A total of approximately 477 acres of open space, including the Natural, Managed, and River Corridor Open Space areas, perimeter buffers, wetlands and their buffers, and on-site power easements, would be included in the project.

- Three public trail parks totaling 1.5 acres and two Community Trail Parks totaling 1.0 acres would be provided.

- A 6-acre adventure center open to residents and the public would be provided.

- Two private recreational amenity centers totaling 11 acres would be provided, one in the RV resort and the other in the residential area.

- A 627-site RV resort, including recreational facilities, would be provided.

- An approximately five-mile trail system and one mile of sidewalks would be provided that would connect on-site development and link to off-site trails in several locations.

Bullfrog Flats Conditions of Approval (Included in the Project)

- A 12-acre parcel would be dedicated to the City for future construction of a municipal (community) recreation center.

- The Applicant would support the City's efforts to obtain the necessary right of way or easement to construct an off-site connection from the 47° North site to the existing Coal Mines Trail and would contribute to the cost of the materials to construct the off-site trail connection.

Required Mitigation Measures

- The proposed recreational uses would be generally consistent with the City of Cle Elum Parks and Recreation Plan and would meet or exceed the Plan's LOS goals/targets for active parks, open space, trails/tracks/connections, and associated facilities.

- The specific locations and sizes of parks would be identified in the application and on the Master Site Plan in accordance with Parks and Recreation Targets/Goals in the City's Comprehensive Plan.

Significant Unavoidable Adverse Impacts

An increase in demand for park and recreational services and facilities would be an unavoidable impact of population growth under the SEIS Alternatives. With implementation of the mitigation measures listed above, no significant unavoidable adverse impacts to parks and recreational resources are expected.

Public Services

Proposed Mitigation Measures (Included in the Project)

- All the non-residential buildings would include sprinkler systems in case of fire. Fire hydrants would be provided throughout the residential areas.

- Traditional wood campfires would not be allowed within the RV resort.

Bullfrog Flats Conditions of Approval (Included in the Project)

- Mitigation measures for each public service provider would include execution of a separate mitigation agreement and a program to monitor actual revenues and expenses for that provider. The program would, to the maximum extent possible, strive to time expenditures to when revenues are available and strive to time capital expenditures to when the jurisdiction has sufficient capacity to issue bonds for the improvements and sufficient tax revenue to service the debt. The program would also rely on shortfall mitigation payments to address any identified fiscal impacts.

- Site development would follow the Land Stewardship Plan (LSP) that is used for Suncadia, which includes provisions for control of noxious weeds during construction, and fire-wising (e.g., thinning small trees, cutting limbs, raking debris and other fuel-reduction techniques) during operation of the project. The LSP would be reviewed and updated, as necessary.

- Any emergency vehicle access, other than the public right of way should be coordinated with the City of Cle Elum Fire Marshall.

Required Mitigation Measures

- Worker safety measures would be implemented consistent with Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA).

- A comprehensive construction plan would be developed. This plan would include, in part, a Fire and Life Safety plan, which would be consistent with the City of Cle Elum's adopted building code requirements for construction, a snow management plan, designated emergency haul routes and access areas, and provisions for fencing and signing the construction site.

- Roadway design would conform with applicable requirements for vehicular access, including roadway width, adequate turning radius, fire hydrant access, provisions for vehicle back up, and weight bearing capacity.

- A secondary access would be provided when more than 30 single- or multi-family units are built, in accordance with the International Fire Code.

Approved Bullfrog Flats Conditions of Approval (Not Included in the Project)

- Washington State Department of Natural Resources (WDNR) Industrial Precautions would apply to all equipment and clearing and grading until hydrants are operational to provide fire prevention.

Other Possible Mitigation Measures

- An on-site security presence could be provided during the initial construction phase of the project.

- As an interim measure, the Applicant could emphasize and encourage membership in the volunteer fire department among its residents and employees while the department is transitioning to full-time staff.

- Community education regarding domestic and recreation fire protection measures could be provided to help reduce the potential for wildfires.

Significant Unavoidable Adverse Impacts

Development under the SEIS Alternatives would generate additional demand for public services primarily as a result of new population and visitors to the site; this increase in demand is unavoidable. Increased demand in itself, however, is not necessarily an adverse impact, if it is planned for and addressed. To the extent that resulting requirements for additional staff, equipment, and facilities are addressed through increased revenues to affected agencies, and through implementation of committed and recommended mitigation measures listed above, no significant impacts are expected. Also see Section 3.15, **Fiscal and Economic Conditions**.

Transportation

Mitigation Measures for SEIS Alternatives 5 & 6

Intersection improvements to mitigate future non-compliant LOS with SEIS Alternative 5 and 6 in future years 2025, 2031, and 2037, for the weekday summer PM peak hour are shown in **Table 3.13-19**. Improvements to address non-compliant LOS under 'Baseline'/background conditions are also included. As shown in **Table 3.13-19**, the mitigation measures for SEIS Alternative 5 are anticipated to be similar to the mitigation measures identified for SEIS Alternative 6. This is due to the fact that the development amounts and weekday PM peak hour trip generation estimates for SEIS Alternatives 5 and 6 would be similar in the time periods analyzed; the RV sites proposed in SEIS Alternative 6 would generate approximately the same number of trips as the multi-family residential units in SEIS Alternative 5. The only intersection not shown in **Table 3.13-19** that would require intersection improvements with SEIS Alternative 5 (but not with SEIS Alternative 6) to comply with LOS standards is #17 – Pennsylvania Ave / 2nd Street which is anticipated to operate at LOS D in 2037 during the weekday PM peak hour with SEIS Alternative 5.

Table 3.13-19 also includes a preliminary estimate of the pro-rata share for the 47° North (residential and RV uses) and the future commercial development based on forecast future traffic volumes with SEIS Alternative 6 during the year in which mitigation is necessary to maintain acceptable LOS (i.e., 2025, 2031, and 2037). For intersections where improvements would be needed by 2037, there would be no pro-rata share for 47° North since the project is anticipated to be built out before 2031; therefore 100% of the pro-rata share would be the responsibility of the commercial development.

The pro-rata shares summarized in **Table 3.13-19** are preliminary estimates based on forecasts of future traffic; the final pro-rata share percentages for the 47° North development and commercial parcel are anticipated to be confirmed using a recommended

Monitoring Program that should be established in a new or updated Development Agreement. The detailed pro-rata share calculations are included in Appendix F to **Appendix J**.

Additionally, although improvements to mitigate future non-compliant LOS at study intersections with SEIS Alternative 6 during the weekday PM peak hour for peak summer conditions have been preliminarily identified in **Table 3.13-19**, the specific mitigation to be constructed and the timing of the mitigation is anticipated to be further refined based on input and evaluation from the Applicant and the City of Cle Elum, and with potential input from other stakeholders (e.g., Kittitas County and WSDOT), as appropriate. Other factors that may be considered by the stakeholders in determining the specific improvement and timing as part of a new or updated Development Agreement may include right-of-way acquisition, engineering criteria and feasibility, and cost.

Note that the mitigation measures identified in **Table 3.13-19** are intended to mitigate the anticipated weekday PM peak hour conditions during the peak summer months. However, improvements identified to mitigate weekday PM peak hour non-compliant LOS during peak summer conditions would also improve conditions during Friday and Sunday PM peak hour conditions during both the peak summer and non-summer periods.

Other Mitigation Measures

Traffic Monitoring Program

The 47° North development should prepare and implement a traffic monitoring program as part of a new or updated Development Agreement. It is expected that the traffic monitoring program would be similar in format and function to the previously established program documented in the 2002 Development Agreement (Condition 92). The monitoring program would be coordinated with the City, in cooperation with Kittitas County and WSDOT, and would have the following objectives:

A. Document traffic volumes at key locations (roadways and/or intersections) in the local transportation network that would be impacted by traffic generated by the 47° North development.
B. Separate traffic volumes at key locations by background traffic, 47° North development traffic, and traffic associated with development of the commercial property.

Table 3.13-19
SUMMARY OF MITIGATION MEASURES - SEIS ALTERNATIVE 6

Off-Site Study Intersection	First Estimated Year Improvement Required (Forecast LOS)	Identified Improvement to Mitigate LOS Deficiency [1]	Mitigation Required with SEIS Alt 5?	Estimated Pro-Rata Share [2]		
				Back-ground Share [3]	SEIS Alt 6 Share	
					47° North	Commercial Parcel
IMPROVEMENTS NEEDED FOR 'BASELINE'/BACKGROUND CONDITIONS						
#11 – Douglas Munro Blvd / W 1st Street	2025 (LOS E)	Traffic Signal	--	96.7%	2.9%	0.4%
#12 – N Pine St / W 1st Street	2025 (LOS D)	Traffic Signal	--	97.4%	2.3%	0.3%
#13 – N Stafford Ave / W 2nd Street (SR 903)	2025 (LOS E)	Traffic Signal	--	80.7%	16.8%	2.5%
#15 – N Oakes Ave / W 2nd St (SR 903)	2031 (LOS E)	Traffic Signal	--	81.8%	11.6%	6.6%
IMPROVEMENTS NEEDED FOR CONDITIONS WITH SEIS ALTERNATIVE 6 [4]						
By Year 2031:						
#8 – Ranger Sta Rd / Miller Ave / W 2nd St (SR 903)	2025 (LOS F)	Traffic Signal	Yes	n/a	87%	13%
#7 – Denny Ave / W 2nd St (SR 903)	2031 (LOS E)	Refuge/merge lane on SR 903	Yes	n/a	64%	36%
#9 – N Pine Street / W 2nd St (SR 903)	2031 (LOS F)	Traffic Signal	Yes	n/a	64%	36%
By Year 2037: [5]						
#1 – Bullfrog Road / I-90 EB Ramps	2037 (LOS F) [4]	Traffic Signal	Yes	n/a	0%	100%
#2 – Bullfrog Road / I-90 WB Ramps	2037 (LOS E)	Traffic Signal	No	n/a	0%	100%
#3 – Bullfrog Road / Tumble Creek Dr	2037 (LOS F)	Refuge/merge lane on Bullfrog Rd	Yes	n/a	0%	100%
#21 – Pennsylvania Ave / 1st St (SR 903)	2037 (LOS E)	All-Way Stop	Yes	n/a	0%	100%

Source: TENW, 2020.

1. Improvement needed to mitigate non-compliant LOS during weekday PM peak hour; with improvement the intersection LOS would meet standard.
2. Estimated pro-rata share for 47° North and commercial parcel are preliminary estimates and will be adjusted based on a future Monitoring Program.
3. Share of future traffic volume growth associated with background traffic growth not specifically from SEIS Alternatives 5 or 6.
4. Mitigation not triggered by 'Baseline' conditions but triggered by traffic generated by SEIS Alternative 6 (47° North and/or commercial parcel).
5. 47° North is anticipated to be built out by 2031. Therefore, pro-rata share of mitigation triggered by SEIS Alt 6 in 2037 is 100% to the commercial parcel.
6. City of Cle Elum *Transportation Element of Comprehensive Plan* identifies this intersection will require improvements by 2040 to meet LOS D or better standard.

C. Establish the methodology by which to determine the timing and pro-rata share financial contributions for implementing transportation improvements required for mitigation.

The specific details of the traffic monitoring program, including the number of phases of monitoring, appropriate timing of phases of monitoring (i.e., at defined development years or relative to percent or number of units constructed), time periods to be counted, key locations to be counted, and reporting requirements will be coordinated with the City as part of the new or updated 47° North Development Agreement.

Construction Management Plan

The 47° North development should prepare a Construction Management Plan prior to beginning construction to minimize construction traffic impacts. Truck routes and haul route agreements for construction-related traffic would be established in coordination with the City of Cle Elum, Kittitas County, and WSDOT, as necessary. Additionally, provisions should be made in the new or updated Development Agreement between the Applicant and the City for restoration of road surfaces damaged by construction traffic, if any.

Trail System & Sidewalks

The 47° North development would provide an approximately 6-mile network of trails and sidewalks throughout the site, including: hike/bike, equestrian, and golf cart paths. The trails would connect to on-site development, as well as to existing off-site trails. Sidewalks would also be provided along one side of the on-site road connecting SR 903 and Bullfrog Road for non-motorized circulation.

Significant Unavoidable Adverse Impacts

Proposed development under SEIS Alternatives 5 and 6 would increase traffic volumes and congestion on area roadways (e.g., in the City, County, and on state facilities such as SR 903, SR 907, and I-90); this is an unavoidable effect of urban development. The LOS analysis indicates that several of the studied intersections would exceed LOS standards during the PM summer peak hours in the future analysis years with the additional traffic generated by the SEIS Alternatives; some of these intersections would also exceed the LOS standards without the projects due to continued growth in background traffic, without the projects. The mitigation measures listed above would offset or reduce the significant adverse impacts under SEIS Alternative 6. These measures will be refined in the Final SEIS to represent the project's proportional share of required improvement measures more accurately. The measures will ultimately be included in a new or updated Development Agreement between the Applicant and the City.

Utilities

Proposed Mitigation Measures (Included in the Project)

- Recycling within the 47° North development would be encouraged.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

Water & Sewer

- Draft Water Use Standards would be updated as part of the Development Standards for the proposed development. The standards would be required under the project Covenants, Conditions, & Restrictions (CC&Rs).

- Water use and conservation policies would be contained in the CC&Rs for the project, including low-flow fixtures, limitations on landscaping, and other water-conservation measures, as coordinated with the City of Cle Elum.

- Limitations would be set on the area allowed for irrigation for each type of residential unit.

- Irrigation efficiency would be promoted through educating and recommending the use of drought-tolerant landscaping to the residential and commercial property owners.

- The Applicant would be responsible for the costs to design and construct all water, sewer, and stormwater facilities onsite.

- In accordance with the City of Cle Elum's adopted water policy for the UGA, the City will initially issue certificates of water availability for the project based on the water use rate set forth in the City's 2015 Comprehensive Water Plan. The Washington State DOH design criteria requires a minimum of three years of historical consumption data be used in establishing ERU average demand.

Solid Waste

- A Construction C&D recycling program would be developed that would require contractor participation and would be approved by Kittitas County Solid Waste Department prior to the start of construction.

Required Mitigation Measures

Water & Sewer

- The Applicant would contribute a pro-rata share to construct the improvements to the City's water system required to serve the project, including: a filter train in the water treatment plant, a finished water pump in Pressure Zone 3, and a reservoir in Pressure Zone 3. Projected water demands will be translated into actual consumption as the development phases are constructed. Triggers for the needed improvements are contained in the 2001 Water Supply System Project Development Agreement between the City of Cle Elum and Trendwest (now New Suncadia).

  Projected water demand would be translated into actual consumption as the phases of development are constructed. Consistent with the 2001 Water Supply System Project Development Agreement between the City of Cle Elum and Trendwest, the filter train mitigation "trigger" should be based on when either of the following conditions have been met: potable water production equals 4.0 million gpd for three or more days within a 12-month period, or when 47° North has added 1,334 new residential water service connections. The Zone 3 finished water pump mitigation "trigger" should be based on when either of the following Zone 3 conditions have been met: Zone 3 potable water production equals 2.0 million gpd for three or more days within a 12-month period, or when 47° North has added 1,334 new residential water service connections. The Zone 3 reservoir storage mitigation "trigger" should be based on when either of the following Zone 3 conditions have been met: Zone 3 storage requirement is within 85% of existing capacity, or when 47° North has added 1,334 new residential water service connections.

Solid Waste

- The Applicant would contribute a pro-rata share to construct improvements to the solid waste transfer station, consistent with the *Kittitas County Solid Waste Management Plan (SWMP) Amendment for the Trendwest (now New Suncadia) Master Plan Resort and UGA* (November 2000). The Applicant would handle all construction debris, separate re-cyclable materials, and otherwise handle all of its solid waste and household hazardous waste consistent with the requirement for such handling in the Kittitas SWMP. The same requirements would apply to the adjacent commercial development property, based on pro-rata share.

Significant Unavoidable Adverse Impacts

Consumption of water and generation of solid waste are unavoidable impacts of population growth and development. Potential significant adverse impacts to water and solid waste

service would be avoided through the mitigation measures identified above. No significant unavoidable adverse impacts to wastewater facilities are expected with development under the SEIS Alternatives.

Fiscal & Economic Conditions

Proposed Mitigation Measures – Economic Impacts

- The nature of the impacts identified for SEIS Alternative 6 would include: increases in employment opportunities, increases in potential personal income, lower unemployment rates, diversity in the workforce, and add new business commerce. Impacts would be positive, and mitigation is not warranted.

Proposed Mitigation Measures – Fiscal Impacts

This section presents fiscal mitigation measures by taxing authority/entity to address the findings for SEIS Alternative 6, including (47° North) and (the commercial property).

City of Cle Elum

The analysis focused on a calculation of net fiscal impacts for the City of Cle Elum. For SEIS Alternative 6, the analysis identified a fiscal surplus in 2037. Based on this analysis and considering the residential/RV and commercial elements of Alternative 6 together, mitigation for fiscal impact is not anticipated to be necessary to maintain the City's fiscal solvency. However, when looking at the components of SEIS Alternative 6 – 47° North and the commercial property – separately, the future commercial development would generate a fiscal shortfall in earlier years. However, the deficit would be addressed in later years when revenues increase.

Given the distinct findings for SEIS Alternative 6 for 47° North and the commercial property, should future mitigation become necessary — consistent with typical municipal budgeting practices — the City could impose new taxes or fees to balance its budget or seek to change levels of public services to meet available revenues, or a combination of both approaches.

Implementation of a periodic fiscal monitoring program (e.g., in two to five-year increments) could also be appropriate following buildout. Fiscal monitoring could reasonably occur during buildout as well, however, revenues may lag behind costs resulting in an incomplete picture of the impact. Fiscal monitoring could be particularly helpful as costs and revenues unassociated with the 47° North portion of SEIS Alternative 6 would impact the City's overall fiscal situation along with the proposed development. Additionally, the DSEIS assumes the City's Fire Department will move to full time employment and away from its current model of service. Furthermore, future negotiations could consider the measures proposed in the Approved Bullfrog Flats Development Agreement. That agreement identified several conditions to mitigate fiscal shortfalls and to ensure existing

citizens and ratepayers would not suffer negative financial impacts as a result of the development. Conditions cited that Trendwest (now New Suncadia) would: allow a Municipal Facilities and Services Expansion Plan to guide capital expansions; make fiscal shortfall mitigation payments; pay for the development's share of planning, water/wastewater treatment plant construction, and permit fees; and, coordinate security forces with police and fire services.

Kittitas Hospital District No. 2

Fiscal analysis for the Hospital District found that projected costs were greater than projected property tax revenues under SEIS Alternative 6 (in particular 47° North). However, the District would also receive patient service fees. It is, therefore, difficult to assess the underlying fiscal situation of the District over time. The analysis assumed that new Full Time Equivalent (FTE) employees would be added to meet service needs, and, therefore, as service needs grow, so too would patient service fees.

A future mitigation agreement could consider a fiscal monitoring program. The Hospital District could track property tax revenues and patient fees attributed to SEIS Alternative 6 (47° North) and, should revenues not cover costs of service (over a certain period of time), a monthly mitigation payment could be made to the Hospital District to avoid fiscal shortfalls.

KITTCOM

Projected revenues from the KITTCOM phone tax exceeded projected costs for new FTE in SEIS Alternative 6 as a whole and the 47° North component of this alternative. Accordingly, fiscal mitigation is not anticipated to be necessary.

Revenues did not, however, exceed costs for the commercial parcel under SEIS Alternative 6. The analysis did not factor in intergovernmental revenues or subscriber fees which could address the fiscal shortfall. It is reasonable to assume that intergovernmental revenues would scale up with growth in the city/county. Further, subscriber fees could reasonably be restructured to cover additional funding needs as underlying needs change.

Cle Elum-Roslyn School District

The net fiscal impact to the school district from SEIS Alternative 6 is unclear. The analysis shows that cumulative costs derived from projected new teacher FTE were estimated to exceed projected property tax revenues for operations under SEIS Alternative 6. However, the District would receive additional intergovernmental revenues which are expected to offset fiscal shortfalls, mainly through state support for schools funded by the state property tax.

As a potential mitigation measure, the School District could develop a survey to understand development-related student enrollment, which could be used to help determine an

appropriate mitigation proposal. Previous measures attributed to FEIS Alternative 5 suggested a payment-matching system for portable classrooms and buses (that would have been made by Trendwest, now New Suncadia) until the development reached a pre-agreed-to-assessed value ceiling.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse economic impacts are expected under the SEIS Alternatives. Economic impacts would generally be positive.

No significant unavoidable adverse fiscal impacts are expected. A fiscal impact can be defined as adverse in any situation where costs exceed revenues and the extent of any fiscal shortfall (deficit) will determine the significance of the impact. However, adverse impacts can be mitigated and are not unavoidable. If ongoing fiscal monitoring to determine appropriate mitigation measures are pursued, then no significant adverse fiscal impacts are anticipated to be unavoidable. Taxing jurisdictions should continue to conduct typical, budget-balancing exercises and use their taxing powers to ensure their fiscal solvency. Mitigation agreements with affected jurisdictions could be implemented as a condition of project approval to address any specific and/or general fiscal impact concerns that may occur. Therefore, no significant unavoidable adverse impacts are expected.

Chapter 2

DESCRIPTION OF PROPOSED ACTION(S) & ALTERNATIVES

CHAPTER 2
DESCRIPTION OF PROPOSED ACTION(S) AND ALTERNATIVES

This chapter of the *Proposed 47° North Master Site Plan Amendment Draft Supplemental Environmental Impact Statement* ("Draft SEIS" and "DSEIS") describes the 47° North proposal and alternatives. It also provides background information, including:

1) An overview of the 2002 *Trendwest Properties: Cle Elum Urban Growth Area (UGA) Environmental Impact Statement*[1] ("2002 Cle Elum UGA EIS"); and,
2) A general description of approvals that have occurred since the 2002 Cle Elum UGA EIS was issued; why a SEIS is being prepared; and, what will occur after the SEIS is issued.

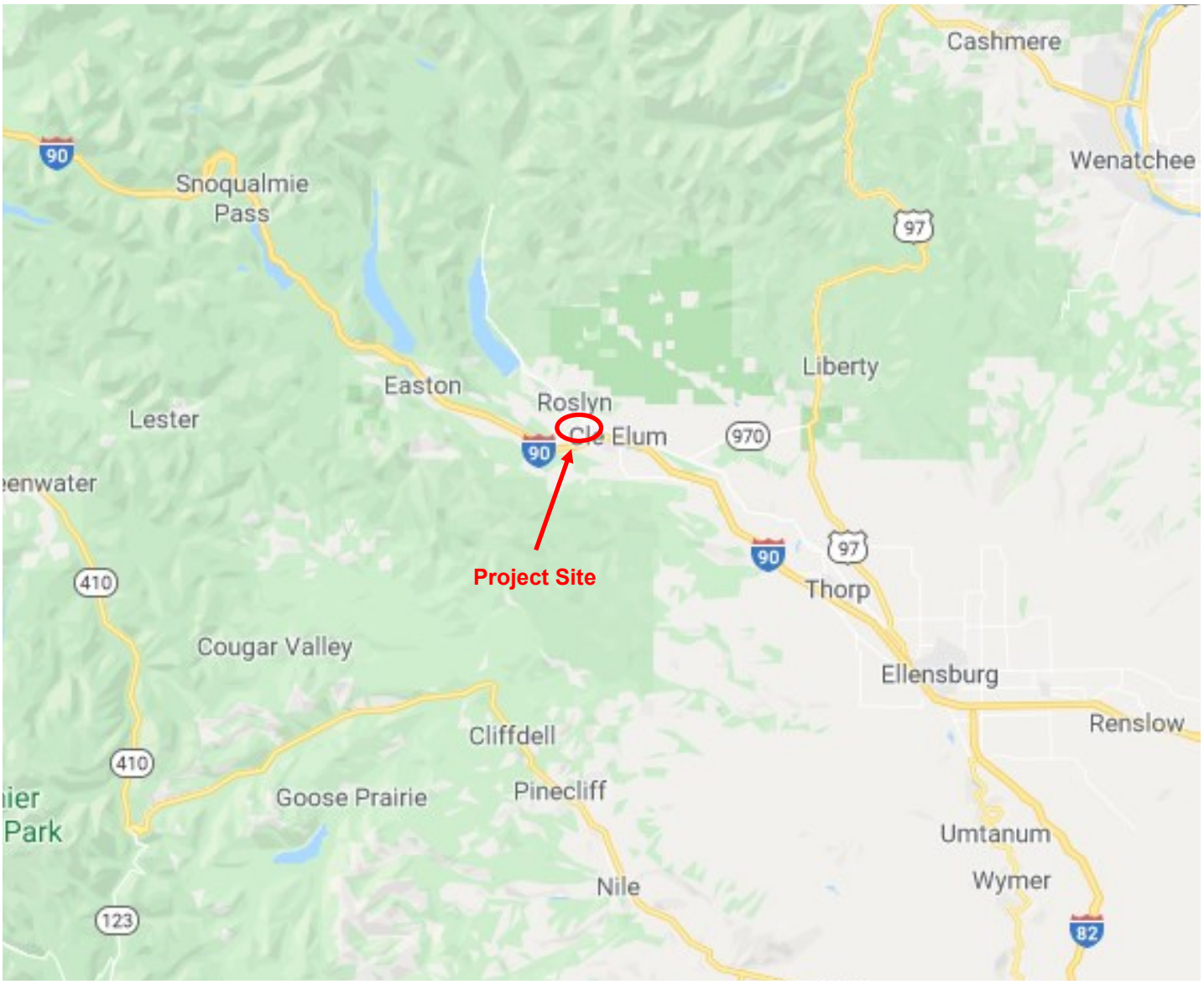
Key concepts related to this SEIS are presented in *Section 2.4* of this chapter in question and answer format. A more detailed description of the SEIS Alternatives is contained in *Section 2.5*. See **Chapter 1** of this Draft SEIS for a summary of the alternatives, impacts, and mitigation measures. **Chapter 3** updates existing conditions information; compares the probable significant impacts of the SEIS Alternatives to the impacts analyzed in the 2002 Cle Elum UGA EIS; analyzes any new significant impacts of the 47° North proposal; and, identifies mitigation measures under the SEIS Alternatives.

Note that the the site and proposed projects have been referred to using various names over the years, including "Cle Elum UGA" and "Bullfrog Flats." The current Applicant, Sun Communities, Inc. ("Sun Communities") has renamed the proposed project "47° North." In this SEIS, *Bullfrog Flats* is used to refer to historical documents and entitlements related to the original Trendwest (now New Suncadia, LLC) project or the property, and *47° North* refers to amendments to the approved Master Site Plan that are proposed by Sun Communities.

2.1 INTRODUCTION

Bullfrog Flats is an approximately 1,100-acre property located in the southwestern portion of the City of Cle Elum, generally bounded by I-90, Bullfrog Road, SR-903, and the City cemetery (see **Figure 2-1**, Regional Map, and **Figure 2-2**, Vicinity Map). The property is currently owned by New Suncadia, LLC ("New Suncadia"). In 2002, the City approved a

[1] An Environmental Impact Statement (EIS) or Supplemental EIS (SEIS) is a document required by the State Environmental Policy Act (SEPA) for actions that that are likely to have significant adverse impacts on the environment. An EIS/SEIS is a tool that provides information for decision-making. It is not a decision in itself and does not authorize any action.



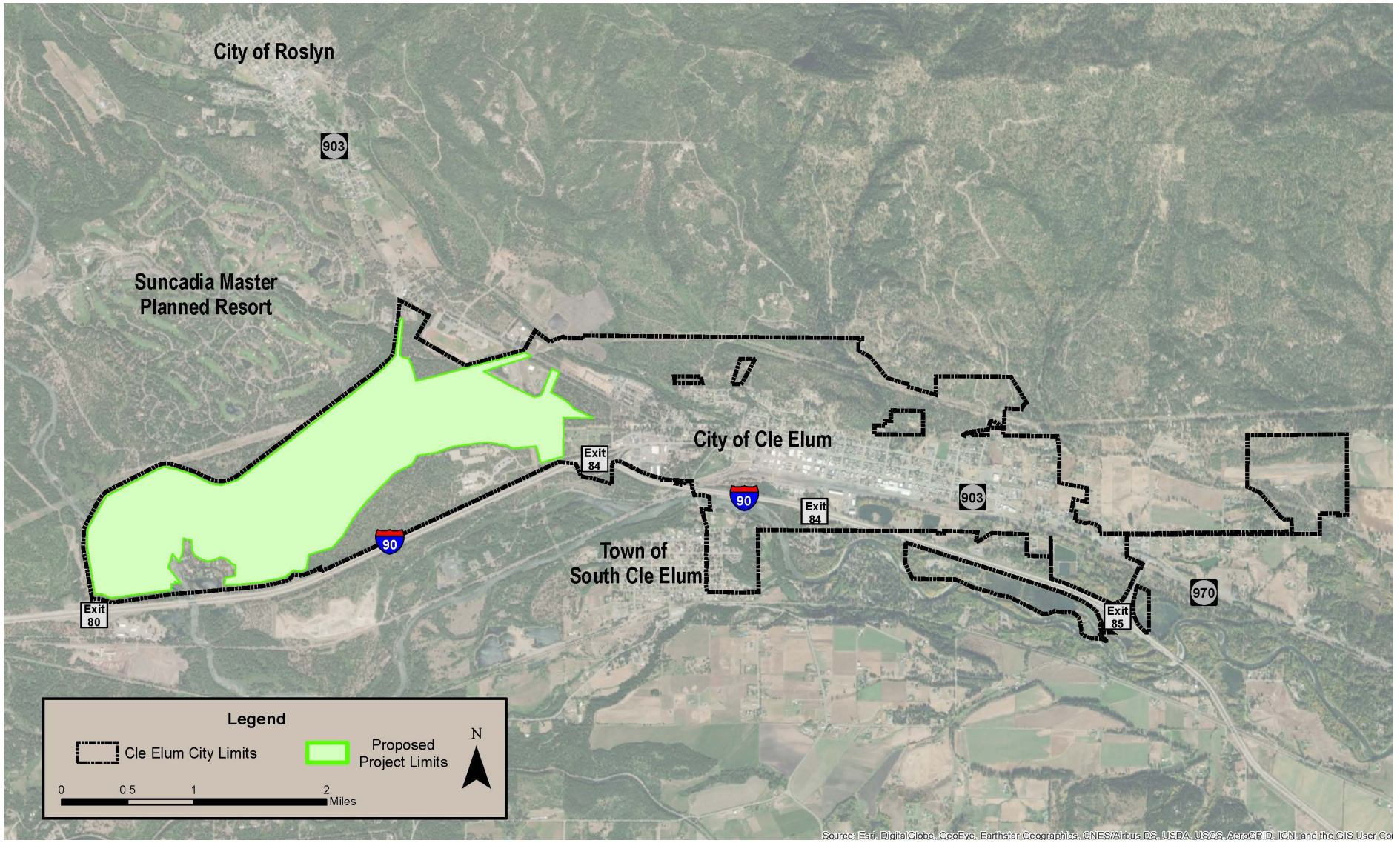
Note: This figure is not to scale

North

Source: Google Maps and EA Engineering, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-1
Regional Map



Source: City of Cle Elum, 2019.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-2

Vicinity Map

Subarea Plan, Master Site Plan, and Development Agreement for the property, and the site was annexed to the City that same year.

Sun Communities is in the process of acquiring approximately 824 acres of the Bullfrog Flats property from New Suncadia and is proposing changes to the approved Master Site Plan. New Suncadia is retaining a portion of the property and intends, in the future, to possibly develop approximately 25 acres for commercial use.

2.2 BACKGROUND

Approved Bullfrog Flats Master Site Plan & Development Agreement

The Master Site Plan approved for the Bullfrog Flats property in 2002 provided for the construction of 1,334 dwelling units (including 810 single family units and 524 multi-family units), as well as a 75-acre (950,000 sq. ft.) business park. It also provided for dedication of several properties to the City: 12 acres for a municipal (community) recreation center, 10 acres for expansion of the Cle Elum Cemetery, and 7.5 acres for the construction of 50 affordable housing units.

The Bullfrog Flats Master Site Plan Development Agreement between the City and New Suncadia is an agreement that details the obligations of both parties and specifies the standards and conditions that will govern development of the property. The Development Agreement was based on the 2002 EIS prepared for the Cle Elum UGA and the Bullfrog Flats Master Site Plan, before the property was annexed to the City. The Development Agreement includes over 120 conditions. In accordance with the provisions of the Development Agreement, 12 acres were dedicated to the City in 2002 for the water treatment plant, 35 acres were dedicated to the Cle Elum School District in 2003 for expansion of the school campus, and 175 acres were dedicated to the City in 2008 to establish the Washington State Horse Park. Dedication of the properties for the municipal (community) recreation center, cemetery expansion, and affordable housing has not occurred. A preliminary plat application was filed and approved within two years of annexation. However, no significant development activities have taken place onsite to date. In 2017, the Development Agreement was amended to extend the termination date by 10 years to 2027.

Recently, New Suncadia informed the City that they had entered into an agreement to potentially sell approximately 824 acres of the Bullfrog Flats site to Sun Communities. Sun Communities intends to submit an application to the City proposing amendments to the approved Master Site Plan that would reduce the number of single family residences to 527 units, reduce the number of multi-family dwelling units to 180, and add a Recreational Vehicle (RV) resort with 627 RV sites. Other proposed changes to the amounts and locations of development are described later in **Chapter 2**.

Other Related Agreements & Actions

RIDGE Settlement Agreement

In 2001, a Settlement Agreement was executed between Trendwest (the former owner of the Suncadia Master Plan Resort [MPR]) and RIDGE (a Roslyn-base conservation organization). The Settlement Agreement regulated numerous aspects of development in the MPR and the UGA, which together totaled approximately 7,000 acres. In 2013, the Kittitas County Superior court terminated the Settlement Agreement because specific provisions of the agreement had not been met. Therefore, the Settlement Agreement no longer pertains to the MPR or the Bullfrog Flats (and now 47° North) properties.

Water Rights

There was no water available when the Suncadia resort was originally planned or when approvals for the Bullfrog Flats property were granted by the City. Since then, Trendwest has acquired sufficient senior water rights for the MPR and Bullfrog Flats projects, and to provide water for a number of water banks. New water users can purchase water rights from the bank. New Suncadia is in the process of conveying its water rights to the City of Cle Elum (see Section 3.2, **Water Quantity and Quality**, for details).

2.3 APPLICANT'S OBJECTIVES

Who is the Applicant?

The Applicant, Sun Commnities, is a national developer and operator of manufactured home and RV resort communities. Sun Communities has developed, operates, or has an interest in 382 housing communities in 31 states and Canada, which include fee ownership and rental housing for families and active adults.

What are the Applicant's Vision & Objectives for 47° North?

Applicant's Vision

Sun Communities vision for 47° North, as expressed by the Applicant in its initial project information submitted to the City, is to form a partnership with the City of Cle Elum in a joint mission to provide housing that is financially accessible for both local and public service employees. Development will also include an RV resort that will incorporate high development and infrastructure standards.

The vision for 47° North will be guided by the revised Master Site Plan. The Master Site Plan will be implemented based on a revised or new Development Agreement, project-specific conditions of approval, and site-specific development permits approved by City of Cle Elum. The plan will reflect the mixed-use nature of the community, as permitted by the underlying zoning, including residential and recreational opportunities. As with master plans generally, the Master Site Plan will be directive in terms of the land uses that will be permitted in 47° North, but also general in some respects to allow for flexibility to respond to market demands.

Applicant's Objectives

For the purposes of SEPA review (WAC 197-11-440), the following are the Applicant's stated objectives for the 47° North project:

- Develop the existing site into a new, cohesive master planned community that will provide opportunities for a range of land uses and activities, including new residential, RV resort, parks/recreational/open space uses.

- Amend the approved Master Site Plan, reducing the number of single family and multi-family dwelling units, and adding a RV resort.

- Reserve and dedicate to the City of Cle Elum areas for a future municipal recreation center, affordable housing, and expansion of the cemetery.

- Respect the site's location within the surrounding community, including ensuring compatibility with area land uses and transportation systems, and creating necessary on-site road and utility networks.

- Protect naturally constrained areas on the site and in the surrounding areas, including the Cle Elum River, wetlands, and steep slopes.

- Continue to coordinate with federal, state, and local agencies, tribes, organizations, and the public and private sectors to facilitate development planning and implementation that will be successful and an asset to the City of Cle Elum and nearby communities.

- Propose new development that is economically feasible for the market and reasonably achievable within a practical time period.

2.4 KEY STATE ENVIRONMENTAL POLICY ACT (SEPA) & SEIS CONCEPTS

The following are key concepts related to SEPA and the 47° North SEIS, presented in question (*Q)* and answer (*A)* format.

Q1. What significant SEPA review has occurred previously on and related to the 47° North Project?

A1. The *Trendwest Properties: Cle Elum UGA Environmental Impact Statement* (Draft and Final) was issued in 2001 (Draft EIS) and 2002 (Final EIS). Its sufficiency was not challenged.

Q2. What were the environmental issues and EIS Alternatives analyzed in the 2002 Cle Elum UGA EIS?

A2. The 2002 Cle Elum UGA EIS provided environmental review of the elements listed below. Technical reports were prepared for several of these elements.

- Earth
- Air Quality
- Surface Water, Groundwater Water Supply
- Plants and Animals, Wetlands
- Noise
- Land Use, Plans and Policies
- Population and Housing
- Aesthetics, Light and Glare
- Cultural Resources
- Parks and Recreation
- Transportation
- Public Services
- Utilities
- Economic and Fiscal Conditions

The 2002 Cle Elum UGA EIS analyzed five alternatives:

- Alternative 1 – No Action
- Alternative 2 – Preliminary Master Site Plan
- Alternative 3 – Expanded Residential
- Alternative 4 – Reduced Residential
- Alternative 5 – Bullfrog Flats Subarea Plan, Mixed Use Zoning, and Master Site Plan Application

Q3. What significant approvals were granted for the Bullfrog Flats project?

A3. Alternative 5 from the UGA Final EIS was carried forward and the City of Cle Elum approved the following package of actions, plans, and documents in 2002:

- Annexaton of the Bullfrog Flats UGA to the City;
- Adoption of a Subarea Plan and Planned Mixed Use zoning;
- Master Site Plan approval; and,
- Execution of a Development Agreement.

Q4. Why is the 47° project being proposed?

A4. The 47° North proposal embodies the current Applicant's new vision for the site, and represents modifications to the approved Bullfrog Flats Master Site Plan in response to current market conditions, changes in conditions in the site area, and recent technical studies of the site and site vicinity. The Applicant determined that modifications are necessary and beneficial in order to accomplish their vision and objectives (see *Section 2.3*).

Q5. What is a SEIS and why is it being prepared?

A5. A Supplemental EIS (SEIS) is a document that supplements an EIS that was previously prepared for a proposal or alternative. According to the SEPA Rules (WAC 197-11-405(4)), an SEIS should be prepared if:

- There are substantial changes to a proposal such that the proposal is likely to have significant adverse environmental impacts; or,
- There is significant new information on a proposal's probable significant adverse impacts.

The City of Cle Elum concluded that the proposed revisions to the approved Master Site Plan constitute a "major amendment," as that term is defined in the Development Agreement. Because of the proposed changes, and the time that has passed since the original EIS was published, the City determined that an SEIS should be prepared to update all aspects of the 2002 Cle Elum UGA EIS, as necessary, to reflect the changes that have occurred. The SEIS will assess the potential environmental impacts and required mitigation measures associated with the proposed amendments to the approved Master Site Plan. The SEIS will also provide the basis for amending the approved Development Agreement (or preparing a new Development Agreement) and modifying conditions of approval, as appropriate.

Q6. What Is Scoping and when is it required?

A6. "Scoping" means determining the range of proposed actions, alternatives, and impacts to be discussed in an EIS (WAC 197-11-793). Scoping is optional for a SEIS (WAC 197-11-620(1)), but the City elected to conduct scoping for the project because of the amount of time that has passed since issuance of the 2002 Cle Elum UGA EIS, changes that are proposed to the approved Master Site Plan, and to inform and engage the public.

On October 8, 2019, the City issued a Determination of Significance (DS) and Request for Comments on the Scope of the SEIS. The SEIS scoping period ended on October 29, 2019.

An SEIS public open house was held during the scoping period to offer an opportunity for the public to learn more about the Proposed Actions and to provide input on the scope of the SEIS. A total of 141 people signed in at the meeting that was held on October 23, 2019. Presentations were made by the City and the Applicant, and an extended question/answer period was provided.

A total of 591 comments were received from 127 commenters during the SEIS scoping period. All the comments are available for review at City of Cle Elum. **Appendix A** of the SEIS includes a report containing a detailed summary of the SEIS scoping process, comments received during the scoping period, and any revisions to the SEIS scope based on public input received through the scopng process.

Q7. What are the elements of the environment evaluated in this SEIS?

A7. The City determined that the SEIS will review, update, and reevaluate the analysis for *all* SEPA elements of the environment that were considered in the 2002 Cle Elum UGA EIS (see *A2* above). The City also added the issue of greenhouse gas emissions

to the SEIS. Two other elements of the SEIS analyses will be modified or expanded: the transportation analysis will include some modified intersections compared to those studied in the 2002 Cle Elum UGA EIS; and, the water resources analysis will include additional investigation for streams onsite.

Q8. What are the SEIS Alternatives evaluated in this SEIS?

A8. The SEIS evaluates the following alternatives:

- **<u>SEIS Alternative</u> 5 – Approved Bullfrog Flats Master Site Plan (No Action)**. FEIS Alternative 5 was carried forward and the Master Site Plan and several other actions approved by the City of Cle Elum. SEIS Alternative 5 represents the approved Bullfrog Flats Master Site Plan that has been updated to reflect current conditions and regulations.

  SEPA requires that a "No Action" alternative be reviewed in an EIS/SEIS. No action, in the current context, means that the City would not take action on the 47º North proposal, but it does not mean that absolutely nothing would happen on the site. The currently approved Bullfrog Flats Master Site Plan could still be developed by New Suncadia, subject to the existing Development Agreement. It is noted that the existing Development Agreement terminates in 2027 and would need to be extended by mutual agreement of the parties to enable development past that date. Because SEIS Alternative 5 is intended to facilitate comparison with the revised Master Site Plan proposal, however, it is assumed for purposes of analysis that development of SEIS Alternative 5 would build out over the same 30-year period and with the same type and amount of land uses identified in the Bullfrog Flats FEIS and approvals.

  Continuation of existing site conditions – no development – was also considered as a possible "no action" alternative but was eliminated from study in this SEIS. This scenario would simply continue existing conditions (the affected environment), which are described in the SEIS. In addition, a "no development" scenario would not be realistic or reasonable given that the property is approved for development and is being marketed by the owner. Therefore, SEIS Alternative 5 – Approved Bullfrog Flats Master Site Plan is used to represent the No Action Alternative in this SEIS. Changes to the affected environment that have occurred since 2002 are also described in the SEIS.

- **<u>SEIS Alternative 6</u> – Proposed 47° North Master Site Plan Amendment**

SEIS Alternatives 5 and 6 will be compared to the Original Bullfrog Flats Master Site Plan (FEIS Alternative 5) and to each other in this SEIS.

Q9. When will an application been submitted to the City for the 47° North proposal?

A9. The City of Cle Elum is preparing the Draft SEIS at the earliest possible point in the planning and decision-making process, when the principal features of the proposal and its environmental impacts can be reasonably identified, as encouraged by SEPA (WAC 197-11-055(2)). The proposal described in the Draft SEIS is based on pre-application materials (included on the City's website) and additional information requested by the City and provided by the Applicant to meet the needs of environmental review. The formal 47° North application to revise the approved Master Site Plan will be submitted after the Draft SEIS is issued, so that it can incorporate changes, if necessary, to address identified impacts and mitigation measures. The application will follow the City's adopted procedures, which include determining completeness, determining consistency with policies and regulations, publishing notice of the application, and providing opportunities for public comment.

Q10. What will occur after this Draft SEIS is issued and what will the Final SEIS include?

A10. The 47° North Draft SEIS has been published by the City of Cle Elum for public review and comment. The City will review and consider all comments received from agencies, tribes, and the public and will identify any changes to the Master Site Plan that may require further environmental review. A Final SEIS will be prepared which will include responses to comments received on the Draft SEIS, and may contain modified alternative(s) and additional analysis of environmental impacts or mitigation measures. The Draft and Final SEISs together comprise the SEIS document that the City will use – along with other analyses and public input – to make decisions on the proposed revisions to the Master Site Plan and Development Agreement. The SEIS mitigation measures will provide the basis for proposed conditions of approval. The Draft and Final SEISs will accompany the project application through the land use review and approval process and will provide information that the decision makers will use to decide whether or not to approve proposed changes to the Master Site Plan, and to determine what conditions should be required if the proposal is approved. The SEIS itself does not require approval or certification and is not a decision.

Q11. What will occur after the Final SEIS is issued?

A11. The review process for the proposal is set forth in the City Code (CEMC 17.100.100). The application for the project will be reviewed by the City of Cle Elum Development Review Team. The City Planner will prepare a Staff Report evaluating the consistency of the proposal with applicable policy and regulatory requirements , which will be transmitted to the City of Cle Elum Planning Commission . The Planning Commission will hold an open record public hearing and will make a formal recommendation to the City Council. The recommendation will be to deny, approve, or approve with additional conditions or modifications, the application for modifications to the

Master Site Plan. The City Council will hold a closed record public hearing and will make a decision on the application. The City Council will also consider the Development Agreement.

2.5 SUMMARY OF EXISTING SITE CONDITIONS

Existing Natural Environment

Existing site conditions are shown in **Figure 2-3**. The site is comprised of three relatively level to gently rolling topographic areas that are separated from each other and from surrounding areas to the south by steep slopes that are from 50 to 150 feet high. The Cle Elum River flows through the westernmost portion of the site and joins the Yakima River about one mile to the south. Six wetlands have been identified onsite. The site is largely covered by second and third growth forests; shrub and grassland are present in the electrical transmisstion line easements that pass through the site (see Section 3.1, **Earth**, 3.2, **Water Quantity & Quality**, and 3.3, **Plants, Animals, & Wetlands**, for details).

Existing Built Environment

Land Use

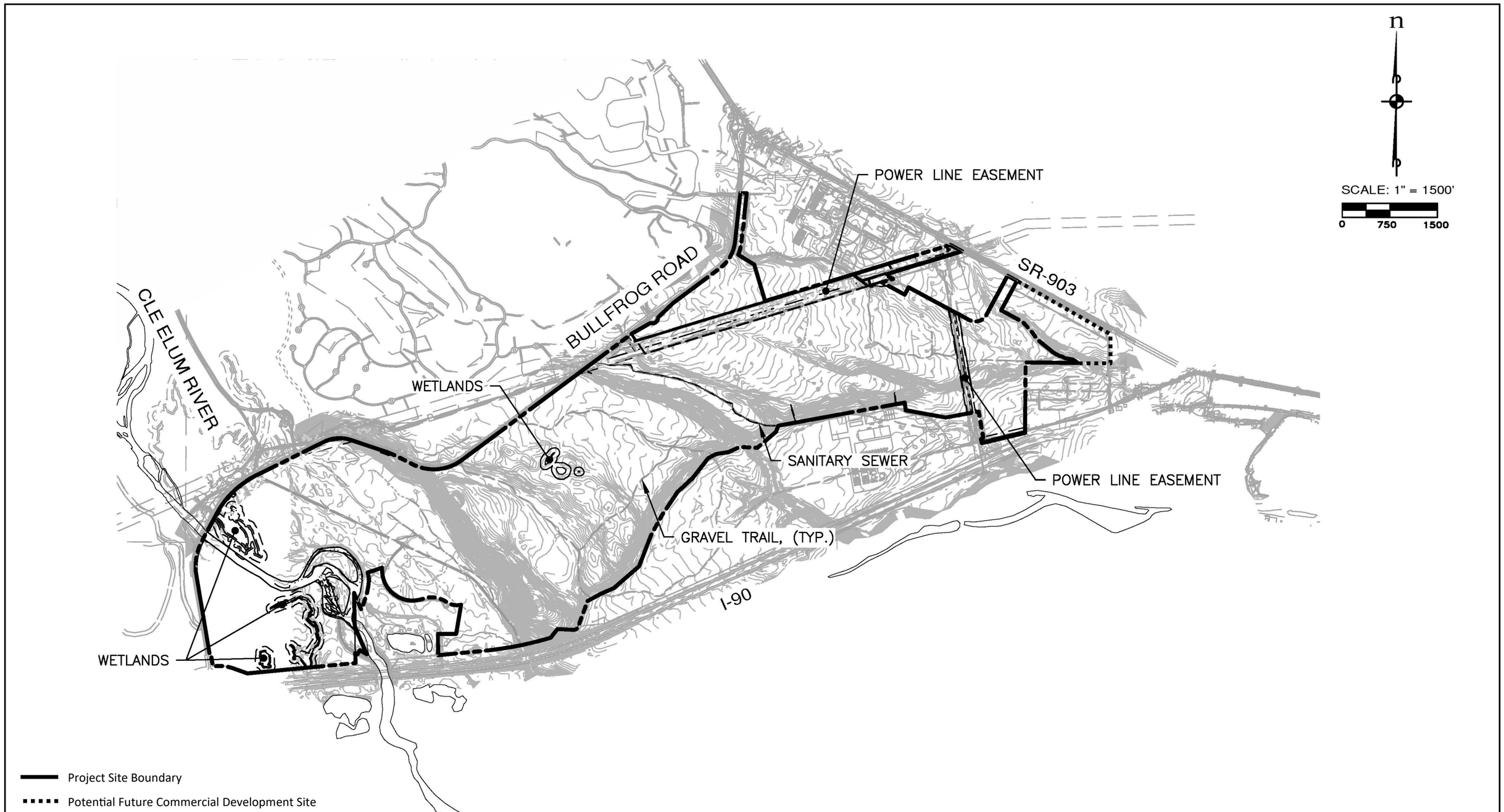
Currently, the site is largely undeveloped, vacant land. Horseback riding, hiking, and snowmobiling occur on dirt roads throughout the site (easements are in place for use of the site and certain trails by the Horse Park to the south). A few equestrian facilities, such as a small building, parking area, and load/unload areas, are located onsite. Puget Sound Energy (PSE) and Bonnevile Power Administration (BPA) electrical transmission lines/easements traverse the site: one runs north/south near the site's eastern boundary, the other extends east/west near the site's northern boundary; other utility easements are also present (see Section 3.6, **Land Use**, for details).

Existing Utilities

Water

The site is in the City of Cle Elum's water service area. In 2002, a 12-acre parcel for a water treatment plant was part of the Cle Elum UGA/Bullfrog Flats property and was dedicated to the City; in 2004, the water treatment plant was built. The capacity of this plant is currently 6 million gallons per day (gpd) with room for expansion to 8 million gpd. The Bullfrog Flats project was planned to be served by this treatment plant.

There are four available points of water service connection located near the site: two 12-inch diameter treated water lines that supply the water tank (one to the north and one to the south of the PSE easement), an 8-inch diameter City water supply line (that flows from the water treatment plant towards Cle Elum), and a 16-inch diameter water main stub-out (on Douglas Munro Boulevard).



Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-3

Existing Site Conditions

Sewer

The site is in the City of Cle Elum's sewer service area. In 2005, the City completed construction of a new 3.6 million gpd wastewater treatment plant. Treatment facilities were designed to handle a planned 30-year build out, including capacity to accommodate development of the Bullfrog Flats property.

An existing sewer trunk system network traverses the site. This existing system consists of a 21-in. diameter sewer main that follows Douglas Munro Boulevard (Ranger Station Road) and then splits into an 18-in. diameter sewer main to the west and a 15-in. diameter sewer main to the north.

Stormwater

Approximately 60% of the site is located within the Yakima River basin and approximately 40% within the Cle Elum River basin. Because of the nature of surface soils onsite, natural drainage occurs through infiltration and subsurface groundwater flow. There are little if any impervious surfaces and existing stormwater management facilities onsite.

Solid Waste

Solid waste collection in the site vicinity is presently provided by Waste Management of Ellensburg. Wastes are hauled to the Cle Elum Transfer Station prior to transport to the Ryegrass Land Fill for final disposal.

Energy

PSE provides electricity and natural gas to the site vicinity. As noted above, two electric transmission lines/easements pass through the site.

(See Section 3.14, **Utilities**, for details.)

Comprehensive Plan, Zoning, & Shoreline Designations

The site is located in the City of Cle Elum and is designated on both the Future Land Use Map and the Official Zoning Map as "Planned Mixed Use." The shoreline designation of the site adjacent to the Cle Elum River is "Natural" (see Section 3.6, **Land Use**, and **Relationship to Plans and Policies**, for details).

2.6 DESCRIPTION OF PROPOSED ACTIONS & ALTERNATIVES

2.6.1 Proposed Actions

The Proposed Actions for the 47° North Project include:

- Major Amendment to Bullfrog Flats Master Site Plan approval by the City;
- Planned Mixed Use approval by the City;
- Binding Site Plan and/or subdivision approval by the City;

- Revised or new Development Agreement between the City, the Applicant, and Suncadia; and,
- Local, state, and federal permit approvals required for construction and development of the project.

2.6.2 SEIS Alternatives

Two alternatives have been identified for study in this SEIS: SEIS Alternative 5, the Approved Bullfrog Flats Master Site Plan and SEIS Alternative 6, the Proposed 47° North Master Site Plan Amendment (the Applicant's proposal). Both of the SEIS Alternatives are compared to FEIS Alternative 5, the Original Bullfrog Flats Master Site Plan from the 2002 Cle Elum UGA EIS to help show relative changes in impacts. SEIS Alternative 5 is FEIS Alternative 5, carried forward and approved as the Bullfrog Flats Master Site Plan, updated to reflect current conditions and regulations. **Table 2-1** provides a land use summary of the alternatives. See **Figure 2-4**, Original Bullfrog Flats Master Site Plan – FEIS Alternative 5, **Figure 2-5**, Approved Bullfrog Flats Master Site Plan – SEIS Alternative 5, and **Figure 2-6** Proposed 47° North Master Site Plan Amendment – SEIS Alternative 6. Further descriptions of the SEIS Alternatives are provided below.

2.6.2.1 SEIS Alternative 6 – Proposed 47° North Master Site Plan Amendment

The Proposed 47° North Master Site Plan Amendment (SEIS Alternative 6) represents the Applicant's proposed revisions to the approved Bullfrog Master Site Plan. It features development of a mix of residential, RV resort, and open space/recreational facilities on the 824-acre site. The site would be developed in four major phases over an approximate 7-year period, beginning in 2021. A 25-acre property adjacent to the site owned by Suncadia could potentialy be developed in commercial uses in the future over an approximate 17-year period, possibly beginning in 2021. This commercial land use is not proposed and not part of the proposed Master Site Plan; it is included for purposes of analysis. Details on SEIS Alternative 6 follow.

Table 2-1
LAND USE SUMMARY – FEIS & SEIS ALTERNATIVES

	FEIS Alt. 5		SEIS Alt. 5		SEIS Alt. 6	
	Acres	**Units**	**Acres**	**Units**	**Acres**	**Units**
Residential Uses						
Single Family	213	810	165	810	124.7	527
Multi-Family	78	524	56	524	18.6	180
RV Resort	---	---	---	---	145.6	627
Affordable Housing Site	---	---	7.5	(50)[2]	6.8[1]	---[1]
Subtotal	**291**	**1,334**	**228.5**	**1,334[2]**	**295.7**	**1,334**
Non-Residential Uses						
Neighborhood Clubhouse & Lake (Amenity/Adventure Ctrs.)	22		18		16.9[3]	
Recreation Expansion	11		10.5		---[4]	
Business Park and/or Commercial (Retail & Professional Office)	80		75		(25.4)[6]	
Subtotal	**113**		**103.5**		**42.3**	
Other Uses						
Community (Municipal) Recreation Center	12		12[1]		12.2[1]	
School Expansion Site	35		35		---[5]	
Cemetery Expansion Site	10		10[1]		13.4[1]	
Water Treatment Plant Site	12		12		---[5]	
Reserve: Horse Park, Open Space, Buffer	175[7]		175[7]		---[7]	
Maintenance Area	2		---		---	
Connector Road	---[8]		--[8]		9.5	
Subtotal	**246**		**244**		**9.7**	
Open Space						
Undeveloped Open Space	287		246		436.1[9]	
Steep Slope Areas/Buffers	126		172		---[10]	
Wetlands/Buffers	---[11]		---[11]		3.4	
Powerline Right of Way	37		37		37.2	
Residential Buffers	---		69		---[12]	
Subtotal	**450**		**524**		**476.7**	
TOTAL	**1,100**	**1,334**	**1,100**	**1,334[2]**	**824.4**	**1,334[2]**

Source: 2002 Cle Elum UGA EIS; 2002 Approved Bullfrog Flats Master Site Plan; Sun Communities, 2020.

[1] No development of the affordable housing, community recreation, and cemetery sites are assumed at this time under SEIS Alt. 6. The SEIS studies the general developability of these sites. The sites would be dedicated to the City and developed by others; additional SEPA review will be required when specific development is proposed.

[2] The affordable housing units are not included in the total residential unit count under SEIS Alt. 5 or 6.

[3] No created lakes would be included under SEIS Alt. 6.

[4] The recreation expansion site under FEIS and SEIS Alt. 5 is in the same location as the 6.0-acre Adventure Center under SEIS Alt. 6, which is included under the Neighborhood Clubhouse and Lakes category in this table.

[5] The school expansion and water treatment sites have been dedicated to the Cle Elum Rosyln School District and City of Cle Elum, respectively. Therefore, these areas are not included under SEIS Alt. 6.

[6] The commercial development is not included in the SEIS Alt. 6 site area as the site is currently owned and will be retained by New Suncadia. However, future possible development of this property is evaluated in this SEIS to assess possible cumulative impacts.

[7] The reserve area consists of: the Horse Park (112 acres) to the south of the 47° N site, open space between the Horse Park and the 47° site (55 acres), and the buffer along I-90 (8 acres). These areas are included in SEIS Alt. 5, but not in SEIS Alt. 6 because they were either dedicated to the City (i.e., the Horse Park) or retained by New Suncadia (i.e., the open space and buffer).

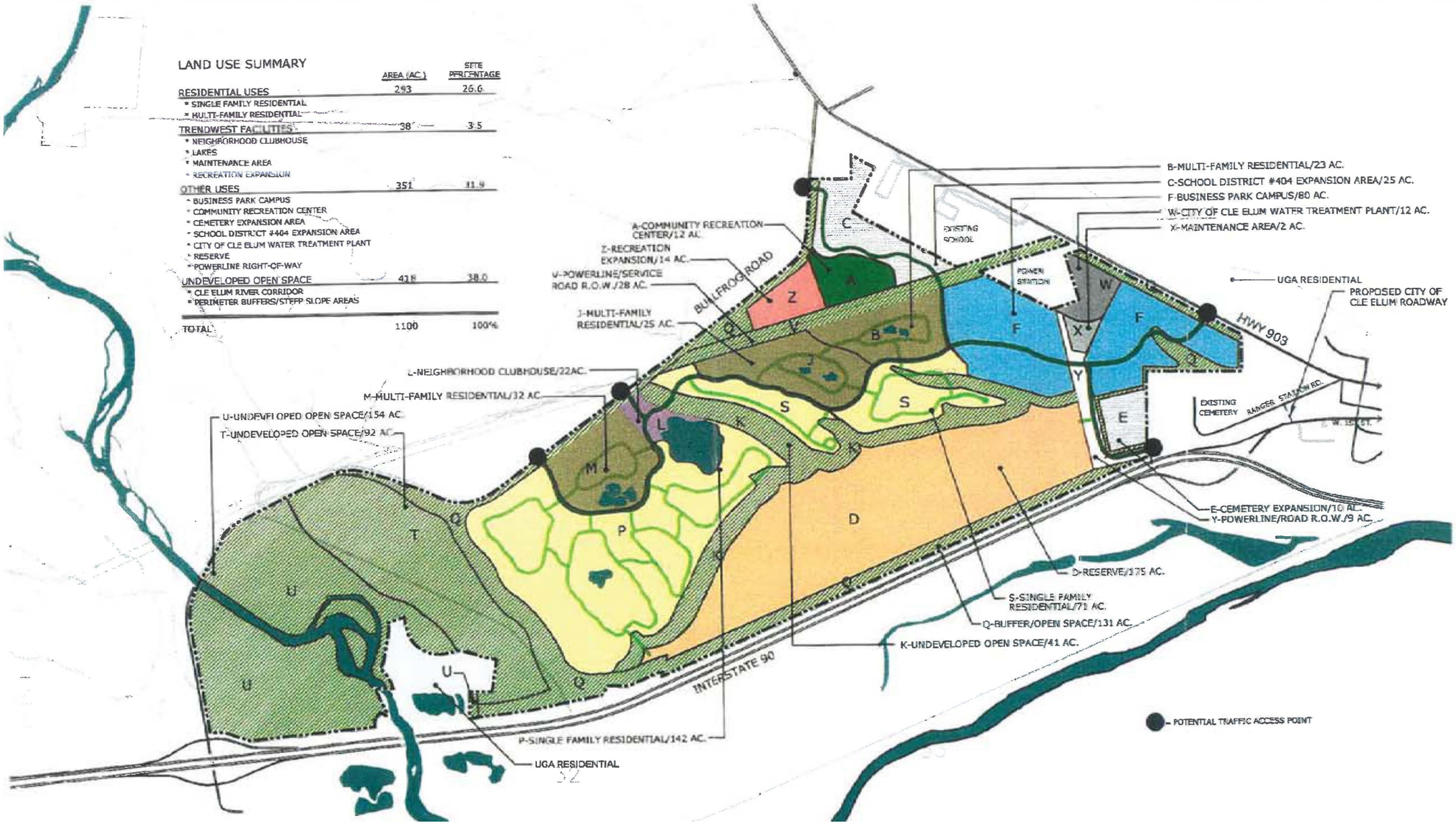
[8] The acreage of the connector road is incorporated into the other developed areas under SEIS Alt. 5.

[9] The undeveloped open space under Alt. 6 includes: River Corridor Open Space (160.0 acres), Managed Open Space (103.9 acres), and Natural Open Space (172.2 acres). The River Corridor Open Space and Managed Open Space are subject to easements granted to Kittitas Conservation Trust.

[10] The steep slope areas and the buffers in RV-1 are included in the calculation of undeveloped open space under SEIS Alt. 6; additional wertlands/buffers other wetlands/buffers are included in the River Corridor Open Space.

[11] The wetlands/buffers are included in the undeveloped open space under SEIS Alt. 5.

[12] While some unquantified amount of vegetation would be preserved/provided in the residential areas under SEIS Alt. 6, these areas are not included in the open space area calculations.



Note: This figure is not to scale

Source: City of Cle Elum, 2002.

Figure 2-4

Original Bullfrog Flats Master Site Plan—FEIS Alternative 5

LAND USE SUMMARY

RESIDENTIAL USES	AREA (Acres)	Quantity Proposed
Single Family Residential	165	810 Units
Multi-Family Residential	56	524 Units
Affordable Residential	7.5	*
Subtotal	228.5 (20.8%)	1334 Units
NON-RESIDENTIAL USES: Trendwest Facilities		
Neighborhood Clubhouse & Lake	18	
Recreation Expansion	10.5	
Subtotal	28.5 (2.6%)	
OTHER USES		
Community Recreation Center	12	
School Expansion	35	
Cemetery Expansion	10	
Business Park	75	950,000 SF
Water Treatment Plant	12	
Reserve	175	
Subtotal	319 (29.0%)	
OPEN SPACE		
Undeveloped Open Space	246	
Buffers / Steep Slope Areas	172	
Powerline R.O.W.	37	
Residential Buffers	69	
Subtotal	524 (47.6%)	
Total	1100 (100%)	1334 Units

* 50 Units of Affordable Housing not included in total units

RESIDENTIAL USES

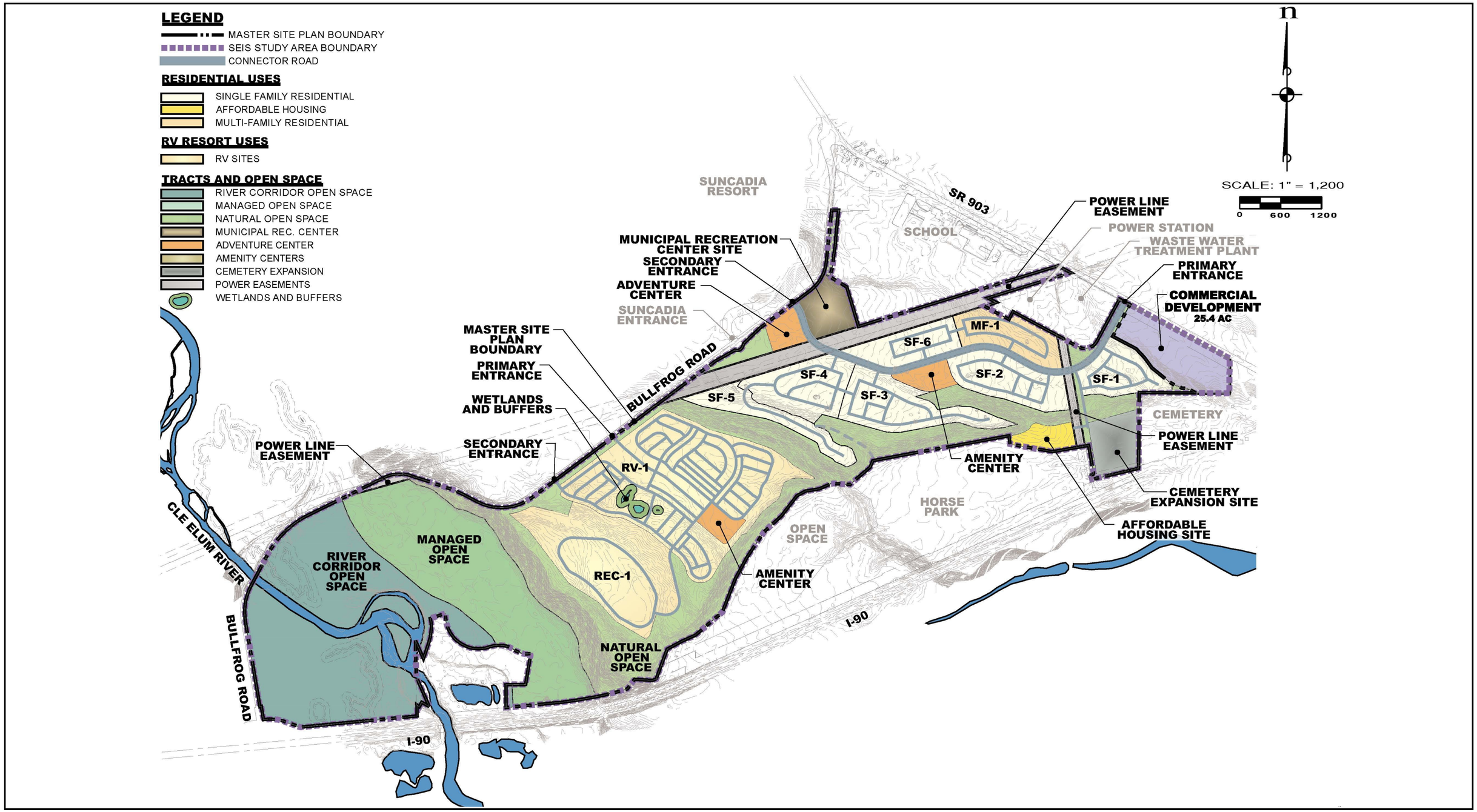
Housing Type	Gross Acreage (Acres)	Approximate Unit Yield	Density (Dwelling Units Per Acre)
Single Family			
Parcel P-1	30.1	120	2-5 DU/Acre
Parcel P-2	39.3	184	2-5 DU/Acre
Parcel P-3	19.4	118	3-7 DU/Acre
Parcel P-4	31.1	144	3-7 DU/Acre
Parcel S-1	17.7	96	3-7 DU/Acre
Parcel S-2	27.4	148	3-7 DU/Acre
Multi-Family			
Parcel B	17.3	150	8-15 DU/Acre
Parcel J	17.6	164	8-15 DU/Acre
Parcel M	21.1	210	8-15 DU/Acre
Affordable			
Parcel A	7.5	*	5-8 DU/Acre
Total	228.5	1334	2-15 DU/Acre

* 50 Units of Affordable Housing not included in total units

Source: City of Cle Elum, 2002.

Figure 2-5

Approved Bullfrog Flats Master Site Plan—SEIS Alternative 5



Source: ESM Consulting Engineers, 2020.

Figure 2-6

Proposed 47° North Master Site Plan Amendment—SEIS Alternative 6

Proposed Land Uses

Residential

SEIS Alternative 6 would provide 707 single family and multi-family residential units on 143.3 acres of the site. A 6.8-acre site for affordable housing would also be dedicated to the City. Further description of these proposed residential uses follows.

Single Family Housing

Construction of the proposed single family housing is scheduled to begin in 2021 and all the single family housing units would be ready for lease/sale in 2028. A total of 527 single family residential units would be developed in six neighborhoods on 124.7 acres[2] in the eastern portion of the site (SF-1 through SF-6; see **Table 2-2**). The single family residential units would be manufactured housing on approximately 5,500 to 7,000-sq. ft. unplatted lots. At buildout, the net density in the single family area would be 5.6 du/acre.[3] (See *Residential/Lease/Ownership Structure* and *Project Design & Construction* later in this section for further details on the single family housing.)

Table 2-2
SINGLE FAMILY HOUSING - SEIS ALTERNATIVE 6

	Acres	Units
Parcel SF-1	17.1	73
Parcel SF-2	23.2	103
Parcel SF-3	28.5	133
Parcel SF-4	23.7	108
Parcel SF-5	15.9	44
Parcel SF-6	16.3	66
Total	**124.7**	**527**

Source: ESM, 2020.

Multi-Family Housing

Construction of the proposed multi-family residential units is scheduled to begin in 2021 and all the multi-family housing units would be ready for lease in 2024. A total of 180 multi-family residential units would be developed in one 18.6-acre[4] area in the northeastern portion of the site (M-1). The multi-family housing is planned to consist of three units each on 8,000-sq. ft. unplatted lots. At buildout, the net density in the multi-family area would be

[2] The 124.7 acres represents gross acreage.
[3] Net density is calculated based on net acreage, calculated as gross acreage with a 25% allowance for roads and utility rights of way.
[4] The 18.6 acres represents gross acreage.

12.6 du/acre.[5] (See *Residential/Lease/Ownership Structure* and *Project Design & Construction* later in this sectionfor further details on the multi-family housing.)

Affordable Housing

An 6.8-acre property located in the southeastern portion of the site would be reserved for dedication to the City of Cle Elum for future development of affordable housing. It would be developed and managed by a non-profit entity in the future. No specific development is proposed/assumed on the property at this time. This SEIS analyzes the general developability of the affordable housing property (e.g., the presence of any constraints for development, such as critical areas); additional SEPA review will be required when specific development is proposed on the property. Potential residential units developed on the site are not included in the units calculations for 47º North.

Residential/Lease/Ownership Structure

Sun Communities retains ownership of the underlying land in all of its projects, and the company leases individual home sites to purchasers and renters. Individual residential lots would not be platted or otherwise divided and would not be separate tax parcels, and technically would not have surveyed property boundaries. However, the Master Site Plan identifies "virtual" lot lines for all proposed single family units, and these will be viewed by the City as if they were platted lots and will be used to determine consistency with zoning and other regulatory requirements, including lot size, setbacks, and yards. Sun Communities would also use the virtual lot lines to determine and enforce home owners and renters mainenance and other responsibilities.

In single family areas, residents would have the option to either buy or lease a manufactured home. If the home is owned by the resident, then Sun Communities would lease the lot to the homeowner. Initially, it is expected that approximately 50% of the single family units would be rentals, with an assumed 10% of the rented units being purchased each year. At full buildout, it is anticipated that an average of 10% of the single family homes would be rented (consistent with other communities in Sun Communities' portfolio) The land owned by Sun Communities could be maintained by the homeowner or by Sun Communities, which would be specified by contract. If the home is leased, Sun Communities would own the home as well as the land that it sits on, and the tenant would be responsible to pay Sun Communities according to the lease terms for use of the home and lot. These would typically be one-year leases. All the multi-family homes would be leased and Sun Communities would maintain all the leased lots.

Recreational Vehicle (RV) Resort

The RV resort would feature 627 sites located in two areas totaling 145.6 acres in the central portion of the site (RV-1 and REC-1). RV-1 would feature traditional pull-through and back-in RV sites, as well as various forms of "glamping," a term that blends glamorous and

[5] Ibid 3.

camping. Glamping is defined in the industry as a style of camping with resort-type amenities, and units may include yurts, safari tents, and airstream trailors, and is typically more luxurious than "traditional" style camping. Approximately 70% of the RV sites (439 sites) could be located in RV-1; the remaining 30% of the RV sites (188 sites) could be located in REC-1. REC-1 would be limited to glamping, including the potential for placement of park models[6] and/or airstreams. Over-the-road RVs would not be included in this area. The glamping units in REC-1 would be dispersed in clusters. For analysis purposes in this SEIS, it is assumed that there would be an equal distribution of the different types of glamping sites in REC-1. For example, ¼ (47) of the sites could accommodate yurts, ¼ (47) safari tents, ¼ (47) airstream trailers, and ¼ (47) park models. Other uses in REC-1 would be focused on recreational facilities and would include a mix of parks, playground, trails, sport courts, dog parks, mountain bike trail, outdoor exercise facilities, and outdoor gathering space. Construction of the proposed RV resort is scheduled to begin in 2021; it would be constructed in approximately equal increments and would be completed in 2025.

Seasonal passes to the RV resort would be for sale and would allow a stay of up to nine months (note that the resort would continue to operate year-round). The pass would allow guests to come and go from the resort as they please, allowing them to leave their RV on the premises for the duration of the pass. It is the Applicant's experience that these passes are typically used by guests commuting from neighboring cities on the weekends and they are not occupied continuously. The RV sites are intended to be for vacationing use only, not to be used for permanent housing. Under no circumstance would any guest be permitted to use the RV resort as a permanent residence, and no address or mailing address would be assigned to any guest in the resort. As a part of the seasonal agreement, guests would need to agree to RV resort guidelines to ensure compliance with various rules and regulations.

Traditional wood campfires using wood for fuel would be prohibited in the RV resort, but individual and common area propane campfires would be permitted. These provisions would help to reduce potential wildfire dangers from campfires.

RV Resort Lease/Ownership Structure

Sun Communities would own all the buildings and sites in the RV resort, and would lease the sites. The average stay for the typical guest of the RV resort is expected to be three to four days. As mentioned previously, seasonal passes to the RV resort would be sold with the stipulation that the site could be occupied a maximum of nine months of a calender year. For analysis purposes in this SEIS, a 50% average occupancy (which takes into account daily and yearly occupancy) and three people per site are assumed for the RV resort.

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[6] A park model RV (PMRV) is a unique trailer-type RV that is designed to provide temporary accommodations for recreation, camping, or seasonal use. These units are designed and built to be used for recreational/camping purposes only. They are not meant to be affixed to the property in any way, they do not improve property values in any way, and they are neither designed nor intended by their manufacturer to be used as a permanent residences. Most PMRV owners (67%) locate their unit within several hours of drive time from their primary residences and use them for weekend getaways. Some owners may use them as a seasonal/temporary get-away to escape more extreme weather. (Source: Recreation Vehicle Association.)

Commercial Development

A 25.4-acre property located off-site, adjacent to the site's eastern boundary, could be developed by New Suncadia for commercial uses at some point in the future. No development is proposed on the property at this time, and the commercial site and development is not part of the proposed Master Site Plan. Hypothetical development of the property is studied in this SEIS in order to understand the potential impacts of this development, including the cumulative impacts of the development together with development of 47° North and other vested projects in the City. While speculative, the development assumptions for the commercial site are listed in **Table 2-3**. As shown, a total of 150,000 sq. ft. of commercial uses could be developed in phases on approximately 18 acres of the property and could include a grocery store, other retail stores, restaurants, and medical offices. A conceptual site plan has been developed to indicate a potential site layout and the size and location of buildings. These uses could occur on lots of from 75,000 to 150,000 sq. ft. A total of 790 parking spaces could be provided. However, as stated, no commercial development is proposed at this time.

Table 2-3
FUTURE COMMERCIAL DEVELOPMENT ASSUMPTIONS – SEIS ALTERNATIVE 6

Potential Development	Development Assumptions
Grocery Store	45,000 sq. ft.
Retail	25,000 sq. ft.
Restaurant	20,000 sq. ft.
Medical Offices	60,000 sq. ft.
Total Potential Development	**150,000 sq. ft.**
Developable Area[1]	18 acres
Potential Parking	790 spaces

Source: New Suncadia, 2020.

[1] Area that is not constrained (e.g., by critical areas such as steep slopes).

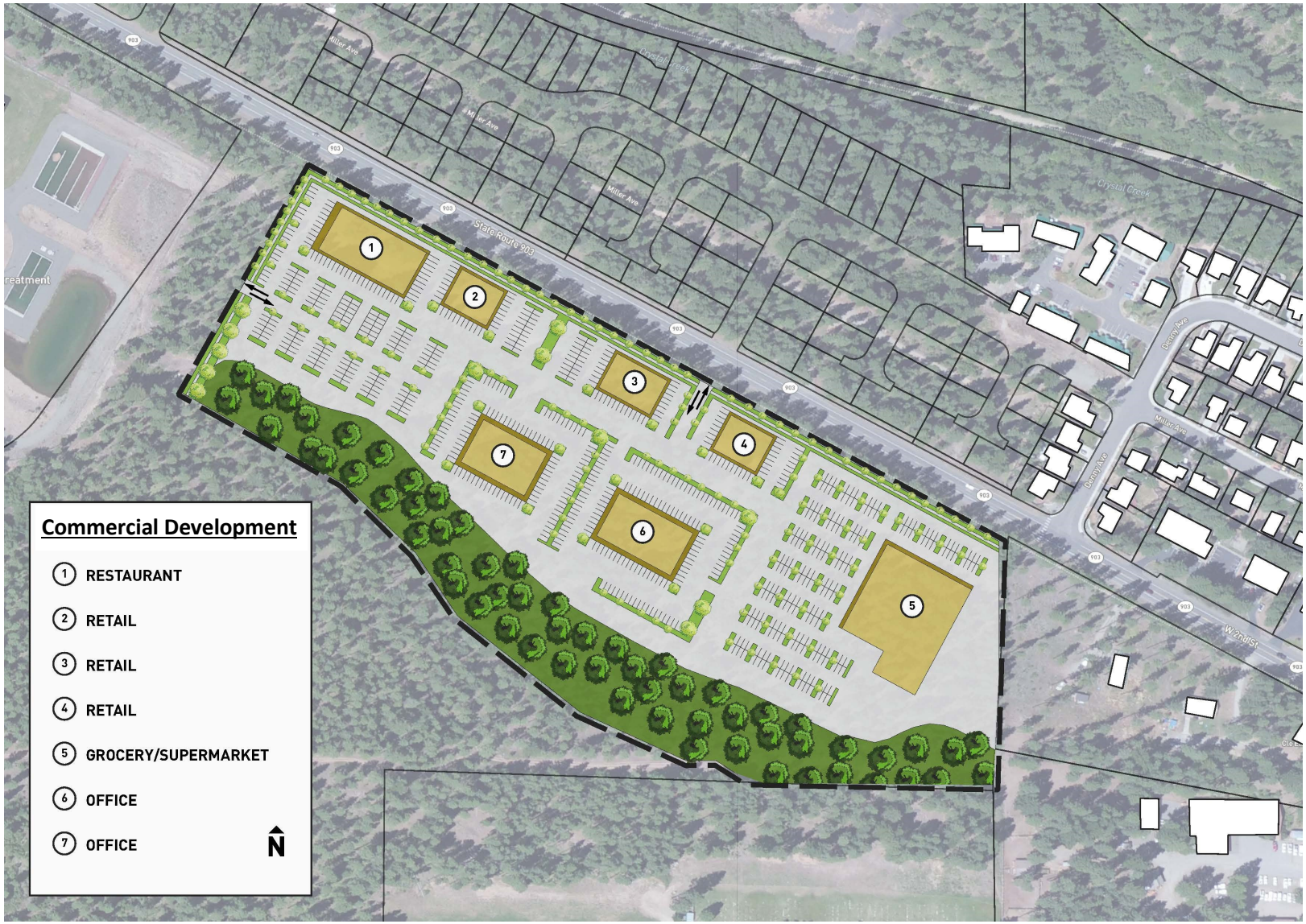
(See **Table 2-1**, **Figure 2-6,** and **Figure 2-7**, Commercial Development Conceptual Site Plan.)

Cemetery Expansion

A 13.4-acre property located in the southern portion of the site, to the west of the existing Laurel Hill Memorial Park cemetery would be reserved for future expansion of the cemetery; no development is proposed on the property at this time. The property would ultimately be dedicated to the City of Cle Elum. This SEIS will analyze the general developability of the cemetery property (e.g., the presence of constraint for development, such as critical areas); additional SEPA review will be required when specific development is proposed. (See **Table 2-1** and **Figure 2-3**.)

Project Design & Construction

The character of the overall development is intended by the Applicant to largely respond to the site's natural setting. By preserving large areas of open space around the Cle Elum River,



Note: No commercial development is proposed on the adjacent 25-acre property at this time. This conceptual site plan represents a possible layout of land uses that could be built on the property in the future.

Source: ECONorthwest, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-7

Future Commercial Development Conceptual Site Plan

wetlands, forested slopes, and other natural features, the development is meant to blend into the existing wooded landscape. Architectural design and materials guidelines would be established for the residential and recreational structures. These design guidelines would be based on those developed for other communities operated by the Applicant, but would be specifically tailored for 47° North.

Residential & Recreational Building Design & Construction

Table 2-4 presents the design characteristics and construction technique that would be used for the proposed residential and recreational buildings onsite. As shown, the buildings would vary from 1,000 sq. ft. (single family homes) to 11,000 sq. ft. (clubhouse) in size; would not exceed 50 feet in height; would be designed in contemporary to modern styles (housing) and Pacific NW contemporary mountain style (recreational buildings); and, would be a combination of manufactured units (all the single family and some of the multi-family housing), conventional stick-built construction (some of the multi-family housing and the recreational buildings), and stacked modular units (some of the multi-family housing). The precise mix of construction types for the multi-family housing has not been determined. Also see **Figure 2-8**, Single Family Residential Design Examples, **Figure 2-9**, Multi-Family Residential Design Examples, **Figure 2-10**, Park Model RVs Design Examples, and **Figure 2-11,** Recreational Building Design Examples.

Table 2-4
HOUSING & RECREATIONAL BUILDING DESIGN/CONSTRUCTION – SEIS ALTERNATIVE 6

Building Type	Size (sq. ft.)	Max. Ht. (ft.)[1]	Architectural Style	Construction Type
Single Family	1,000 - 2,000	20	Contemporary to Modern	Manufactured
Multi-Family	600 - 1,200	50	Contemporary to Modern	Manufactured (1-story bldgs.); & Conventional Stick-built or Modular Units Stacked (2- and 3-story bldgs.)
Adventure Center	3,500	50	Pacific NW Contemporary Mountain	Conventional Stick-built
Amenity Centers - Clubhouse - Spa/Fitness - Recreation/Game Ctr. - Registration/ Welcome Ctr.	 11,000 5,500 10,500 4,000	50	Pacific NW Contemporary Mountain	Conventional Stick-built

Source: Atwell, 2020.

[1] Measured to the top of the roof peak. Note that the three-story multi-family units would have pitched roofs to reach the 50-foot maximum height.

Note: These are examples of single family residential buildings from other Sun Communities developments with designs that are similar to what could be constructed in 47º North.

Source: Atwell, 2020.

Figure 2-8

Single Family Residential Design Examples

Note: These are examples of multifamily residential buildings from other Sun Communities developments with designs that are similar to what could be constructed in 47º North.

Source: Atwell, 2020.

Figure 2-9

Multifamily Residential Design Examples

Note: These are examples of park model RV designs from other Sun Communities developments with designs that are similar to what could be constructed in 47º North.

Source: Atwell, 2020.

Figure 2-10

Park Model RV Design Examples

Note: These are examples of recreational buildings from other Sun Communities developments with designs that are similar to what could be constructed in 47º North.

Source: Atwell, 2020.

Figure 2-11

Recreational Building Design Examples

The manufactured homes would be built in an off-site factory according to specifications/standards that would meet U.S. Department of Housing and Urban Development (HUD) requirements.[7] The homes would be constructed in one or two components of varying length, from 14 to 16 feet wide. The process of construction would begin with placement of an order by representatives of Sun Communities for materials to meet the requirements of the home. Once materials to assemble the homes are delivered to the factory, the units would be built and shipped from the factory generally in less than two weeks. Once they are shipped, they could be installed and completed onsite within 30 to 60 days (including placing the units on foundatations, and installing plumbing and electricity), depending on the complexity of the home and the on-site work necessary. Numerous interior layouts and exterior finishes would be offered. The proposed finishes would be in muted earth-tone colors (e.g., primarily browns, greys, and greens) to blend with the landscape. The materials used in the manufacturing of the home would match those of a typical stick-built home including roofing, plumbing, and electrical. (See **Figure 2-8.**)

Commercial Building Design & Construction

Table 2-5 presents the assumed design characteristics and construction techniques that could be used for the potential future commercial buildings. As shown, the building floor area ratios (FARs)[8] could vary from 0.12 (restaurants) to 0.35 (grocery store and medical offices); the individual buildings could vary in size from 8,500 sq. ft. (restaurants) to 45,000 sq. ft. (grocery store); the buildings are not expected to exceed 40 feet in height (medical offices). A total of from approximately 5 to 16 buildings could be built; seven representative buildings are shown on the conceptual site plan. The buildings are expected to be constructed using wood frame and tilt-up methods

Table 2-5
FUTURE COMMERCIAL BUILDING DESIGN/CONSTRUCTION – SEIS ALTERNATIVE 6

Building Type	FAR	Max. Individual Bldg. (sq. ft.)	Max. Ht. (ft.)	Number of Bldgs.	Construction Type
Grocery Store	0.35	45,000	35[1]	1	Wood Frame & Tilt-up
Retail	0.20	30,000	15[1]	1 - 5	Wood Frame & Tilt-up
Restaurant	0.12	8,500	25[1]	2 - 6	Wood Frame
Medical Office	0.35	20,000	40[1]	1 - 4	Wood Frame & Tilt-up
Total				**5 - 16**	

Source: ECONorthwest, 2020.

[1] Measured to the top of the roofline.

[7] Manufactured homes are subject to HUD standards and not to the International Building Code (IBC).

[8] FAR is the ratio of a building's total floor area (gross floor area) to the size of the piece of land upon which it is built.

Phasing Plan

Residential & RV Resort Phasing

Figure 2-12, Phasing Plan – SEIS Alternative 6, depicts the anticipated phasing plan for the proposed project, and **Table 2-6** presents the phasing schedule. The phasing plan is approximate and could be modified in response to economic and market conditions. As shown, construction of the housing and RV resort is expected to begin in 2021. It is assumed that the number of units of each type would be spread approximately evenly among the phases (e.g., 1/2 the multi-family units would be constructed in 2022 and 1/2 in 2024). All the multi-family housing units would be ready for lease in 2024, all the RV resort sites would be ready for occupancy in 2025, and all the single family manufactured housing units would be ready for lease/sale in 2028.

Table 2-6
47º NORTH RESIDENTIAL & RV RESORT PHASING – SEIS ALTERNATIVE 6

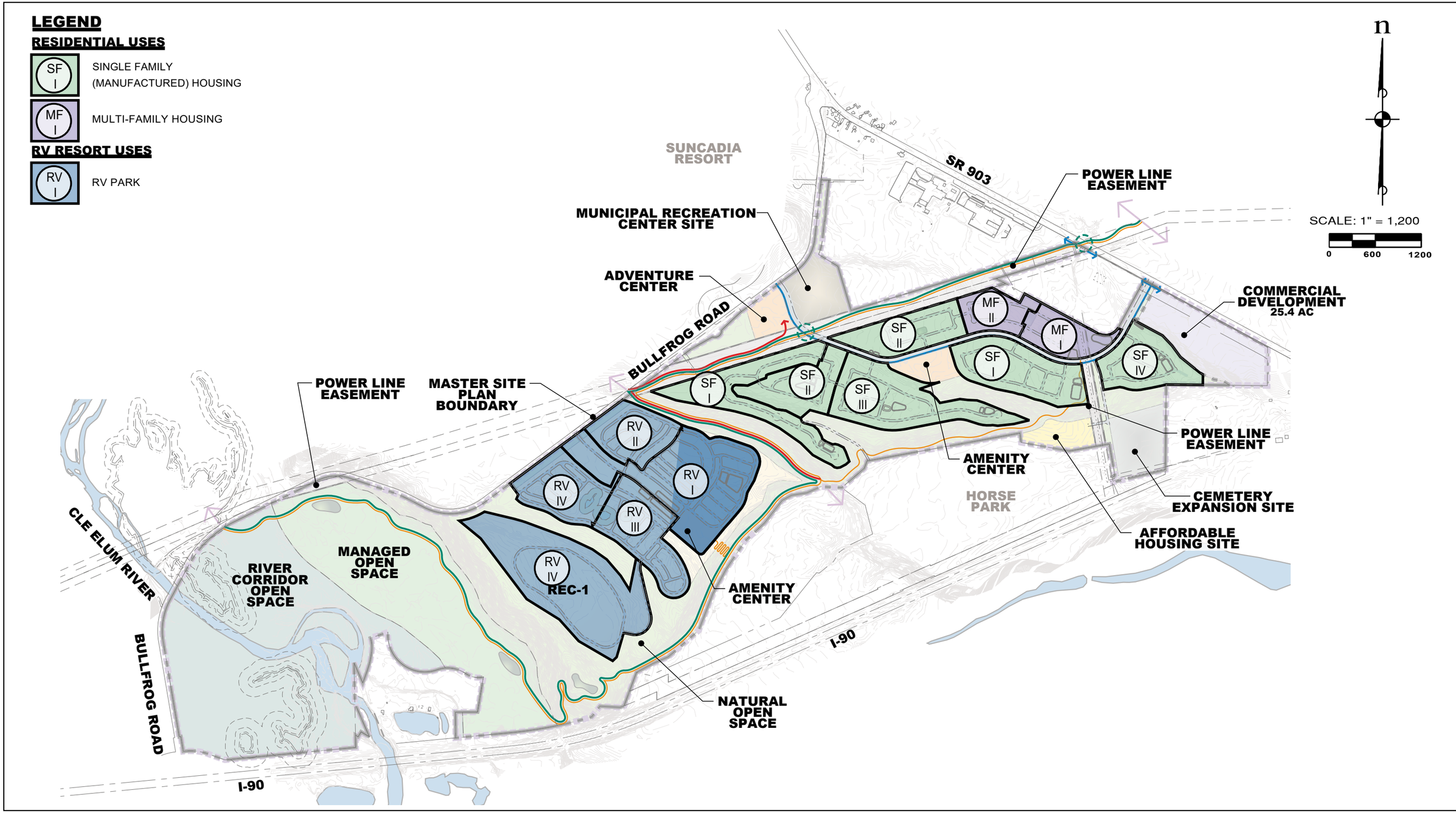
Phase	Manufactured Housing			Multi-Family Housing			RV Resort		
	Start	Finish	Units	Start	Finish	Units	Start	Finish	Units
I	2021	2022	132	2021	2022	90	2021	2022	157
II	2023	2024	132	2023	2024	90	2022	2023	157
III	2025	2026	132	NA	NA	---	2023	2024	157
IV	2027	2028	131	NA	NA	---	2024	2025	156

Source: Sun Communities, 2020.

Commercial Development Phasing

As mentioned previously, there are no current plans by New Suncadia to develop the off-site commercial property; therefore, any schedule for development is uncertain and speculative. Development timing would depend on future economic and market conditions, which are unknowable. In addition, the current Development Agreement for Bullfrog Flats substantially limits commercial development onsite, and this condition would need to be revised to permit a broader range and level of commercial development. However, assumptions about uses and development timing have been made for SEIS analysis purposes.

Table 2-7 presents a possible phasing plan for future commercial development. A major consideration in development timing is to allow a residential population to be established on the site to help support future commercial development, particularly the grocery store. Timing has also been aligned with the analysis years established for the transportation analysis in this SEIS. Development could, in theory, occur somewhere between those analysis years. As shown, it is estimated that approximately 1/3 of the retail and restaurant uses could be developed between 2021 and 2025 (15,000 sq. ft.); the grocery store, and another approximately 1/3 of the retail and restaurant uses could be developed between 2026 and 2031 (60,000 sq. ft.); and, the remaining 1/3 of the retail and restaurant uses and all the medical offices could be developed between 2032 and 2037 (75,000 sq. ft.).



Source: ESM Consulting Engineers, 2020.

Figure 2-12

Phasing Plan--SEIS Alternate 6

Table 2-7
FUTURE COMMERCIAL DEVELOPMENT PHASING – SEIS ALTERNATIVE 6

Commercial Land Use	2025 (sq. ft.)	2031 (sq. ft.)	2037 (sq. ft.)	Total (sq. ft.)
Grocery	--	45,000	--	45,000
Retail	8,500	8,500	8,000	25,000
Restaurant	6,500	6,500	7,000	20,000
Medical Office	--	--	60,000	60,000
Total	**15,000**	**60,000**	**75,000**	**150,000**

Source: New Suncadia, 2020.

Open Space, Parks, & Recreation Facilities

Open Space

A total of 476.7 acres (58% of the site) is proposed to be retained as open space under SEIS Alternative 6. Categories of open space are shown in **Table 2-8**, followed by descriptions of the various types of open space.

Table 2-8
OPEN SPACE AREAS – SEIS ALTERNATIVE 6

Open Space Types	Acres
Natural Open Space	172.2
Managed Open Space	103.9
River Corridor Open Space	160.0
Wetlands and Buffers[1]	3.4
Power Easements	37.2
Total	**476.7**

Source: ESM, 2020.

[1] Only includes the three wetlands/buffers in RV-1; additional wetlants are located in the River Corridor Open Space.

Natural Open Space.

The 172.2-acre Natural Open Space area largely coincides with the steeper slopes on-site and could include passive and active recreation features like trails, gazebos, viewpoints, benches, outdoor gathering places, etc. It also includes the 100-foot wide natural buffer proposed along Bullfrog Road.

Managed Open Space

The 103.9-acre Managed Open Space area is located in the western portion of the site and is bound by an existing conservation easement granted by Trendwest to the Kittitas Conservation Trust in December 2006. The Managed Open Space is recognized as possessing open space, habitat, and recreational values (collectively conservation values). The intended use is wildlife habitat and recreation. More intensive vegetation management

is allowed in the Managed Open Space to establish better habitat and make it more useable for recreation. Casual recreation structures like picnic benches, rest areas, outlooks and exhibits; roads and trails; and, infrastructure crossings approved by the City are permitted in the Managed Open Space.

River Corridor Open Space.

The 160.0-acre River Corridor Open Space area is situated in the western portion of the site along the Cle Elum River and is bound by an existing covenant and easement. In July 2004, a covenant was established that permanently designated the Cle Elum River Corridor onsite as open space. In October 2004, a conservation easement for the River Corridor Open Space was granted by Trendwest to the Kittitas Conservation Trust. This open space is recognized as possessing scenic, cultural, natural resource, and recreation values (collectively conservation values). The intended use of the River Corridor Open Space is wildlife habitat and recreation. Minimal development and vegetation management is allowed. Interpretive, equestrian, and other casual recreation structures, and picnic facilities; permeable trails; and, infrastructure crossings approved by the City are permitted in the River Corridor Open Space. Access to this open space by the general public must be provided.

Wetlands & Their Buffers

Three wetlands and their buffers totaling 3.4 acres are located in potential development areas in RV-1. These wetlands/buffers would be protected pursuant to City regulations. Other wetlands and their buffers occur in the River Corridor Open Space area where development is largely prohibited by the existing conservation easement. Wetlands and buffers would be protected as well through placement in separate tracts and/or establishment of further easements.

Powerline Easements

A total of 37.2 acres of open space associated with two powerline easements is present onsite. The vegetation in these easements would be maintained in accordance with PSE and BPA requirements. Trails are proposed in the powerline easements.

Parks

Public and private parks are proposed as part of the project, as described below.

Public Trails Parks

Three public trail parks, each approximately 0.5-acre in size, would be provided: two in the Managed Open Space and one in the Natural Open Space. These parks could include gathering areas with seating, fitness/exercise equipment, and informative signs.

Community Parks

Two private community parks, each approximately 0.5-acre in size, would be provided: one in the single family area (SF-6) and one in the multi-family area (MF-1). These parks could include playgrounds, open/natural field areas, and sport courts.

The specific design of the parks will be evaluated as part of Master Site Plan review. (See **Figure 2-13**, Parks and Trails Plan – SEIS Alternative 6.)

Recreation Centers

The proposed project would include public and private recreations centers, as described below.

Adventure Center

A 6.0-acre adventure center that would be open to residents and guests of 47° North, as well as to the general public for a fee, would be located in the northern portion of the site along Bullfrog Road. The adventure center would include: an 18-hole miniature golf course, outdoor laser tag, a ropes challenge course, a registration building, and parking.

Amenity Centers

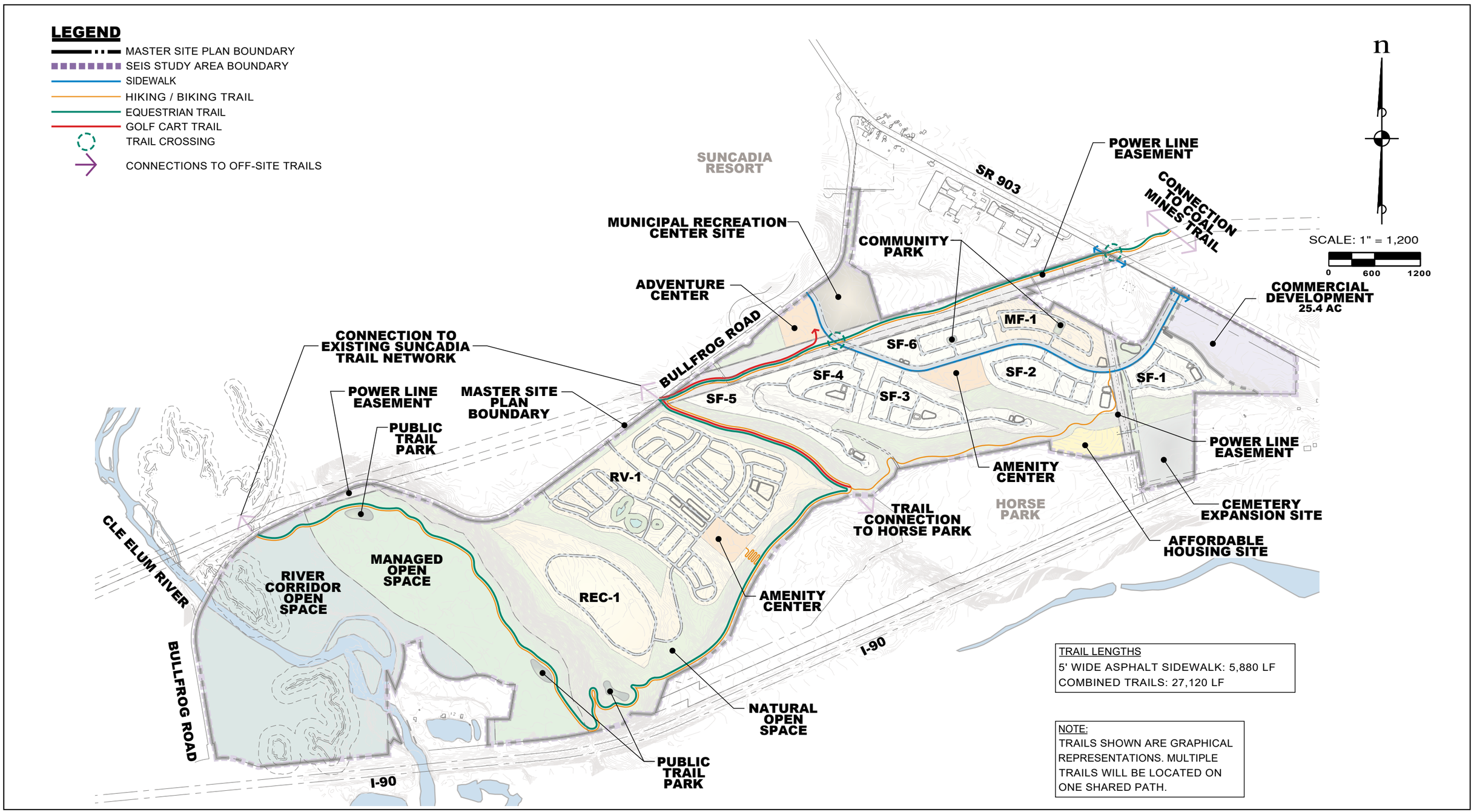
Two private recreational amenity centers are proposed, one for residents in the single/multi-family area and the other for guests in the RV resort. A 6.0-acre amenity center in the residential area would be centrally located and would include: combined clubhouse and fitness building, pool, playground, sport courts, recreation lawn, and maintenance facility. A 5.0-acre amenity center in the RV resort would be located in the southern portion of the RV-1 area, and would include: clubhouse and fitness center complex (recreational building, arcade and bowling, restaurant and bar), pool and spa, and lawn/outdoor gathering area. There would also be a welcome center with check-in kiosks at the RV resort entrance. Multiple comfort stations, a maintenance facility, and various sport courts would also be located throughout the resort.

Municipal/Community Recreation Center Site

A 12.2-acre site located in the northern portion of the site along Bullfrog Road would be dedicated to the City for a municipal/community recreation center. The site would ultimately be developed and managed by a non-profit entity; no development is proposed on the property at this time. This SEIS analyzes the general developability of the municipal/community recreation center property; additional SEPA review will be required when specific development is proposed. (See **Figure 2-13**.)

Trails

An approximately 6-mile long network of trails and sidewalks would be provided throughout the site, including hiking/biking, equestrian, and golf cart paths. These trails



Source: ESM Consulting Engineers, 2020.

Figure 2-13

Parks and Trails Plan--SEIS Alternative 6

would generally be located around the periphery of the proposed development, and would connect to on-site development, as well as to existing off-site trails in several locations (e.g., to the trails in Suncadia to the north, the Coal Mines Trail to the northeast, and the Horse Park to the south). Sidewalks located along one side of the on-site road connecting SR-903 and Bullfrog Road would also offer opportunities for non-motorized circulation. A total of approximately five miles of combined trails and one mile of sidewalks would be provided. Golf cart paths would be made of asphalt or a compacted semi-impermeable material such as gravel. The trails used for pedestrian, equestrian, and mountain biking would be composed of compacted aggregate, natural materials, or similar materials. The sidewalks would be constructed of asphalt. All trails constructed by Sun Communities in the development and open space areas onsite would be owned and maintained by Sun Communities. Trails or specific courses that are permitted in the open space areas, approved by Sun Communities, and constructed by the Horse Park, would be maintained by the Horse Park. Any trails or trail connections constructed on property not owned by Sun Communities would not be maintained by Sun Communities. The specific design of the trails and trail connections will be evaluated as part of Master Site Plan review. (See **Figure 2-13**.)

Clearing, Grading, & Impervious Surface Areas

Proposed development of the 47° North Project under SEIS Alternative 6 would require clearing of approximately 315 acres (38% of the site). The clearing limits would extend to the appropriate critical area buffers/setbacks, in particular the area of regulated slopes. Selective clearing would take place on the slopes between RV-1 and REC-1 for the glamping units and roads/trails that could be placed on the slope (note that these are not considered steep slopes, as defined by the City; see Section 3.1, **Earth**, for details). Approximately 18 acres could be cleared for the future commercial development on the adjacent approximately 25-acre property (72% of the property).

Proposed grading for the proposed project would match natural topography as much as possible. Grading for the project would include approximately 252,000 cubic yards (cy) of cut, and 308,000 cy of fill. Fill material, utility backfill, and road base would be imported from approved off-site sources. Approximately 99,000 cy of cut and 2,000 cy of fill could be required for future commercial development on the adjacent property.

With proposed development, approximately 149 acres (18% of the site) would be covered in impervious surfaces (e.g., rooftops, roadways, sidewalks, and parking areas). The future development of the commercial site would result in approximately 17 acres of impervious surface (68% of the commercial site)

(See Section 3.1, **Earth**, and Section 3.2, **Water Quantity & Quality**, for details.)

Residents/Employees

The proposed 707 single- and multi-family residential units would house a total of approximately 1,489 residents, assuming an average occupancy of 90% and a household

size of 2.34 person.[9] There would be an average of approximately 941 visitors per day at the RV resort; this assumes an average occupancy of 50%, and three people per vehicle, taking seasonal and weekly variations of visitors into account (a Saturday in July vs. a Wednesday in January).[10]

The manufactured homes would be built in factories off-site – likely located in the Pacific NW – with approximately 90 to 130 employees operating in 10 to 15 different teams or stations (e.g., flooring, electrical, roofing, etc.). An additional 607 local construction jobs would be generated to assemble the homes and construct the other recreational buildings onsite, as well as other indirect construction jobs in the local area.

At full buildout of SEIS Alternative 6, it is estimated that Sun Communities would employ from 30 to 35 full time employees, as well as an additional 70 to 90 seasonal employees during the peak RV resort season (anticipated to occur from June through August) at 47° North.[11]

Future development of the commercial property could generate approximately 374 employees.[12]

(See Section 3.8, **Housing , Population, & Employment**, and Section 3.15, **Economic & Fiscal Conditions**, for details about population and employment assumptions.)

Site Access & Circulation

Under SEIS Alternative 6, one access point would be provided from SR 903 (the primary entrance for the single/multi-family housing onsite and the future commercial development offsite, and three access points would be provided from Bullfrog Road (a secondary entrance for the single and multi-family housing, and primary and secondary entrances for the RV resort). Access to the adventure center and community recreation center site would be directly from Bullfrog Road. An access road would link SF-1 to the affordable housing site to provide for access to the future development. (See **Figure 2-6.**)

Connector Road

The proposed roadway network would consist of a main Connector road that would link Bullfrog Road and SR 903. This Connector road would be constructed by the Applicant but owned and maintained by the City. Currently assumed design features include the following:

- 40-foot wide road section (with two drive lanes and a center turn lane)
- 3-foot wide landscape strips on one side

[9] Average occupancy and household size are based on U.S. Census Bureau, 2014-2018, American Community Survey, 5-year Estimates

[10] RV resort occupancy rates and people per vehicle were provided by the Applicant.

[11] Resident and employment figures are based upon similar sized developments owned and managed by Sun Communities.

[12] Employees were estimated by ECONorthwest based on commonly-accepted assumptions.

- 21-foot wide landscape strip on one side
- 5-foot wide asphalt sidewalk on one side
- 70-foot total right-of-way width

Private Roads

The internal roads that would be provided within the single family, multi-family, and RV resort would be privately owned and maintained by the Applicant, and would feature:

- 24-foot wide road section (with two drive lanes)
- 3-foot wide landscaped strips on both sides

Emergency Access Roads

Emergency access roads (e.g., between the single family residential area and the Horse Park) would be a minimum of 20-foot wide and would not include landscape strips.

(See **Figure 2-14**, Road Cross Sections – SEIS Alternative 6.)

Utilities

Water

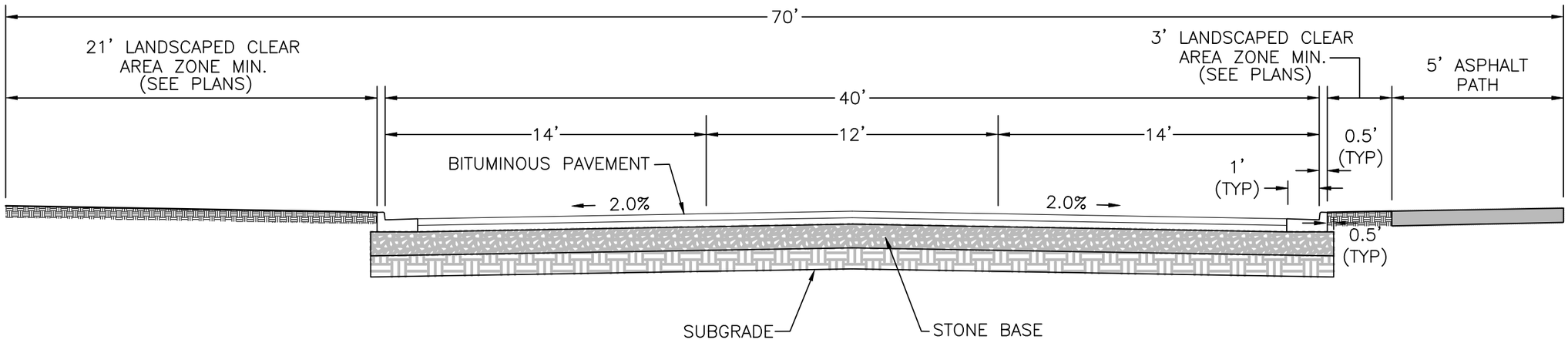
Water service for the project would be provided by the City of Cle Elum. Proposed single- and multi-family development, as well as the RV resort, would be part of a private Group A water distribution system owned by Sun Communities, and operated and maintained by a state-approved entity. It is anticipated that the single- and multi-family residential area, the RV resort, and likely the commercial site would be served by separate water meters. Water mains would connect to the nearest available points of connection as listed under *Existing Conditions - Utilities*. The future commercial area would be served by the existing 8-in. diameter City supply line.

All the non-residential buildings would include sprinkler systems, as required by the City municipal code, in case of fire. Fire hydrants would be provided throughout the residential areas.

It is anticipated that a portion of the following landscaped areas would be irrigated: around both the RV and residential amenity centers, portions of the adventure center, and selectively throughout the RV resort. The single- and multi-family residential areas could also be irrigated, depending on the landscaping selected.

Sewer

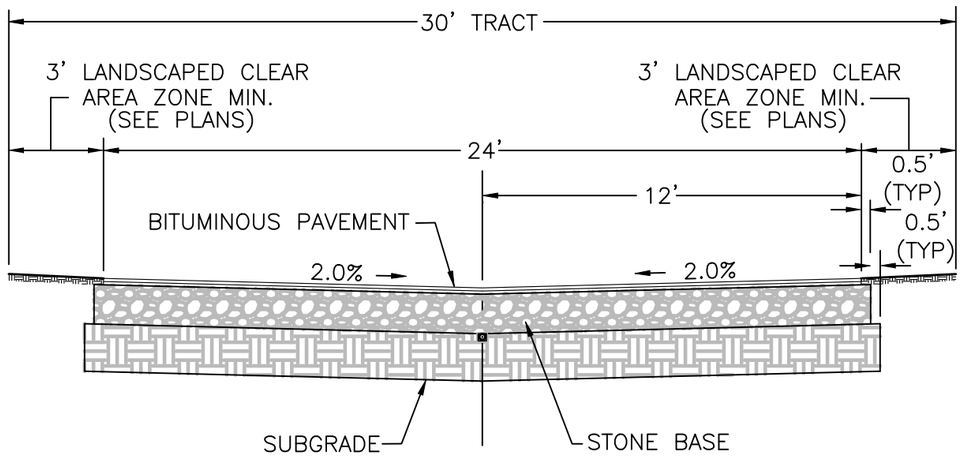
Sewer service for the project would be provided by the City of Cle Elum. Proposed single- and multi-family development, the associated amenity, and the adventure centers, would be served by private 8-in. diameter gravity sanitary sewer mains that would be owned, operated, and maintained by Sun Communities.



PUBLIC CONNECTOR ROAD
TYPICAL CROWN ROAD CROSS-SECTION

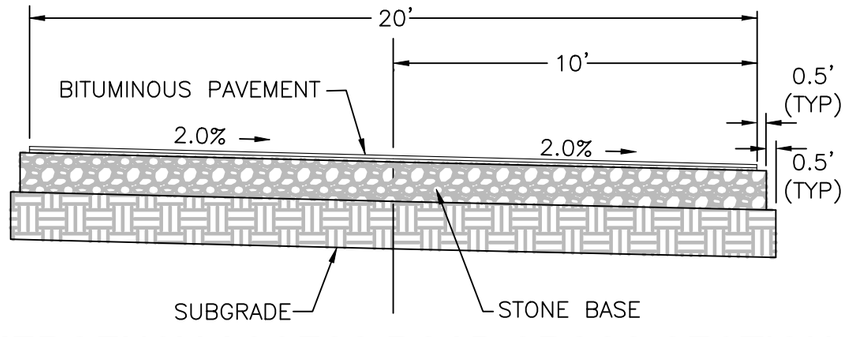
NOT TO SCALE

NOTES:
1. MAXIMUM ROADWAY SLOPE = 11%
2. EMERGENCY ACCESS ROADWAY CROSS-SLOPE TO BE ADJUSTED AS NEEDED, AT 2% MAXIMUM IN THE DIRECTION THAT BEST MATCHES EXISTING NATURAL TOPOGRAPHY



PRIVATE ROADS (RV & RESIDENTIAL)
TYPICAL INVERTED CROWN ROAD CROSS-SECTION

NOT TO SCALE



EMERGENCY ACCESS ROAD CROSS-SECTION

NOT TO SCALE

Source: ESM Consulting Engineers, 2020.

Figure 2-14

Road Cross Sections--SEIS Alternative 6

EA Engineering, Science, and Technology, Inc., PBC

The proposed RV resort would be served by private 8-in. diameter gravity sanitary sewer mains that would be owned, operated, and maintained by Sun Communities. The gravity sewer mains would connect to proposed sewer lift stations that would pump the flows via the force main to the existing 18-in. diameter sewer main. The off-site commercial area would be served by public 8-in. diameter gravity sewer mains that would be owned, operated, and maintained by the City of Cle Elum.

(See Section 3.13, **Utilities**, for details.)

Stormwater Management

During Construction

During construction, temporary stormwater management measures would be implemented to prevent erosion/sedimentation and the transport of pollutants from the site to downstream water resources. These measures would follow the Best Management Practices (BMPs) and requirements of the Construction Stormwater Pollution Prevention Plan and the currently active NPDES Permit (No. WA0052361). This permit may need to be amended to include a transfer of coverage to the Applicant.

During Operation

A permanent stormwater management system would be installed onsite, in accordance with the 2019 Department of Ecology (*DOE) Stormwater Management Manual for Eastern Washington*. A site-specific hydrologic model previously developed for both Suncadia and the 47° North site was used to design the 47° North system. Stormwater runoff from the developed site would generally be collected in catch basins or roadside water quality swales and directed to water quality and infiltration or detention facilities (depending on the soils) via pipes or conveyance swales. Sheet flow dispersion would also be used for stormwater runoff water quality and flow control for single family and RV resort areas that abut open space and slope away from the developed areas at a maximum slope of 15%. Overflow routes would be provided for all proposed stormwater facilities (see **Figure 3.2-1** in Section 3.2, **Water Quantity & Quality**, for a deptiction of the conceptual stormwater plan).

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Solid Waste

Solid waste collection for the proposed development would be provided by Waste Management of Ellensburg or its successors. The wastes would be hauled to the Cle Elum Transfer Station prior to transport to the Greater Wenatchee Land Fill in Douglas County for final disposal.

(See Section 3.13, **Utilities**, for details.)

Energy

Electricity and natural gas service for the proposed development would be provided by PSE via extensions of existing facilities.

Landscaping

SEIS Alternative 6 would include landscaping along both sides of the connector and internal roads, in pockets in the private community/recreation open space areas, and in the single- and multi-family areas. The landscaping would generally consist of natural, local, and drought tolerant plants, including hydro seed mixes that could include wildflowers. Landscaping plans will be submitted with the formal application for the project, prior to issuance of the Final SEIS.

The open space areas would generally remain in their natural form. A 100-foot natural buffer would be preserved adjacent to the RV resort along Bullfrog Road. In some cases, compatible species would be planted in open space areas to provide additional screening. A land stewardship plan (LSP) would be adopted and implemented, similar to that used by Suncadia, to ensure the long-term health of the designated open space areas. The LSP would include provisions for "firewising" (e.g., thinning small trees, cutting limbs, raking debris and other fuel-reduction techniques) and outline the different management zones with provisions for maintaining wildlife habitat, as generally described in the previous discussion under *Open Space*.

Lighting

Roads and structures within the developed areas are proposed to have minimal nighttime lighting. Use of natural construction materials, non-reflecting surfaces, and vegetative buffers would help reduce or control light/glare impacts further.

Residential lighting would be reduced or controlled through implementation of architectural design guidelines that would specify down-lighting and shaded fixtures for exterior lighting. In addition, a "dark sky" lighting plan would be adopted and implemented to reduce glare from common areas (i.e., streets and parking areas).

Street lighting design, including in the RV resort, would conform to the principles of preserving dark skies while providing lighting levels appropriate for roadway safety and security. Streetlights would be located at intersections, pedestrian trail crossings, and other locations where needed. Alternative luminary styles would be considered during project design. Lighting plans will be submitted with the formal application for the project, prior to issuance of the Final SEIS.

(See Section 3.9, **Aesthetics/Light & Glare**, for details.)

Sustainability

The proposed project would include low-flow plumbing fixtures consistent with State building code requirements. Limitations on landscaping and other water-conservation measures would be established in coordination with City of Cle Elum to reduce the need for irrigation.

LED/CFL energy-efficient lighting is expected to be installed selectively throughout the project. The use of solar energy is being contemplated and will be analyzed further.

Low Impact Development (LID) measures, such as sheet flow dispersion, would be used in the permanent stormwater management system.

2.5.2.2 No Action Alternative

SEIS Alternative 5 *– Approved Bullfrog Flats Master Site Plan*

According to the SEPA Rules, "no action" does not necessarily mean that nothing (no development) would occur on the site. This alternative is typically defined as what would most likely happen if the proposal did not occur. Given that there is an approved Master Site Plan and Development Agreement for the Bullfrog Flats project, the No Action Alternative studied in this SEIS represents development of that approved project. This assumes that the Applicant could move forward to develop the site according to the approved plan and agreement without triggering a major amendment. However, the approved Master Site Plan has been updated for purposes of analysis in the SEIS to reflect current conditions and regulations. SEIS Alternative 5 includes development of a mix of residential and employment uses, open space/recreational facilities, and future development areas on an approximately 1,100-acre site, as described below (see **Figure 2-5** and **Table 2-1**).

Proposed Land Uses

Residential

SEIS Alternative 5 would provide 1,334 residential units, including 810 single family and 524 multi-family units. There would be no permanent RV resort; however, the commercial property could be used as a temporary RV site for construction workers. A 7.5-acre property located in the southeastern portion of the site would be reserved for future affordable housing and would ultimately be dedicated to the City of Cle Elum. It is assumed that 50 affordable housing units would be developed on this site.

The single family lots would range from 5,000 sq. ft. to over 8,400 sq. ft. At buildout, net density would be 5.1 du/acre.[13] Housing sizes could range from 1,500 to 3,500 sq. ft. (or larger).

The multi-family units would be apartments and condominiums. The buildings would typically be 2 to 3 stories high, with two to 24 units each. At buildout, net density would be 8.7 du/acre.[14]

Open Space, Parks, & Recreation Facilities

A total of 524 acres (48% of the site) is proposed as open space, including natural areas along the Cle Elum River.

[13] Ibid, 3.
[14] Ibid, 3.

Recreational facilities would include property set aside for a proposed Community Recreation Center, a neighborhood clubhouse located on a lake, pocket parks, and a trail system. A number of lakes are proposed. The largest lake could be used for certain recreational activities.

Commercial Development

A total of 950,000 sq. ft. of commercial uses would be developed on a 75-acre property along the site's eastern boundary. Potential uses could include: light industrial, research and development, warehousing, offices, and retail.

Other Development Areas

Land would be set aside for the City of Cle Elum Water Treatment Plant (12 acres), expansion site for the School District (35 acres), expansion of the existing cemetery (10 acres), and a Reserve area (175 acres) on the lower bench of the property.[15]

Project Design & Construction

It is assumed that all the residential and recreational structures would be conventional stick-built.

Phasing Plan

The phasing plan for SEIS Alternative 5 is assumed to be similar to FEIS Alternative 5, as presented in **Table 2-9.** As shown, buildout is assumed to occur over 30 years. Approximately 59% of the residential units would be developed by year 5, 91% by year 20, and the remaining 9% by year 30. Demand for about 11% of the commercial acreage would be generated by year 5, 64% by year 20, and the remaining 36% by year 30.

It should be noted that the current Bullfrog Flats Development Agreement will expire in 2027 unless it is extended by mutual agreement of the parties. If it were not extended to reflect the assumed 30-year phasing schedule, then less development would be likely to occur by 2027. The SEIS does not speculate on what potential changes to the Master Site Plan might occur under this scenario, and instesd assumes, for purposes of analysis, that the currently approved plan would be developed according to the phasing schedule analyzed in the 2002 EIS.

[15] Land for the Water Treatment Plant, School District, and Washington State Horse Park has already been dedicated and developed, but is still included in SEIS Alternative 5 to be consistent with the Approved Master Site Plan.

Table 2-9
PHASING PLAN – FEIS ALTERNATIVE 5/SEIS ALTERNATIVE 5

Land Use	Year 5	Year 20	Year 30	Total
Residential				
Single Family	319 du/90 acre	366 du/92 acre	125 du/31 acre	810 du/213 acre
Multi-Family	489 du/72 acre	35 du/8 acre	--	524 du/80 acre
Total Residential	**788 du/161 acre**	**421du/101 acre**	**125 du/31 acre**	**1,334 du/293 acre**
Commercial				
Total Commercial [1]	**8.6 acres**	**42.8 acres**	**28.6 acres**	**80 acres[2]**

Source: UGA FEIS, 2002.

[1] Land use demand for the commercial development at project years 5, 20, and 30 assumes buildout in even increments over 27 years.

[2] The commercial property under SEIS Alternative 5 would be 75 acres.

Clearing, Grading, & Impervious Areas

Proposed development under SEIS Alternative 5 would require clearing of about 403 acres. Approximately 644,000 cy of cut and 420,000 cy of fill is estimated for grading. Following development, about 247 acres would be covered in impervious surfaces.[16]

Residents/Employees

At buildout, there would be a total of approximately 2,809 residents.[17] It is estimated that the commercial development would create 2,025 local construction jobs over the life of the development and 1,900 permanent jobs. (See Section 3.8, **Housing, Population, & Employment**, and Section 3.15, **Economic & Fiscal Conditions**, for details about population and employment assumptions.)

Site Access and Circulation

Five access points would be provided from the surrounding roadway system under SEIS Alternative 5.

Utilities

Utilities, including: water, sewer, stormwater management, electricity, natural gas, and solid waste management, would be provided for the project, similar to under SEIS Alternative 6.

[16] Note that the estimated clearing, grading, and impervious surface areas for certain components of the alternatives (e.g., public facilities, community recreation center, school expansion, and cemetery expansion) vary because different assumptions were made for FEIS Alternative 5 in the 2002 FEIS, SEIS Alternative 5 in the 2002 Development Agreement, and SEIS Alternative 6. See the Supplement to the Site Engineering Report in **Appendix B** for details.

[17] Similar to SEIS Alternative 6, an average occupancy of 90% and a household size of 2.34 persons is assumed based on the 2018 ACS 5-year Estimates.

Other Alternatives Considered but Eliminated from Detailed Study - Contination of Existing Conditions

Under this possible No Action Alternative scenario, it is assumed that the site would remain in its existing, largely vacant, naturally vegetated condition, and that no new physical development would occur in the forseeable future. Horseback riding, and unauthorized hiking and snowmobiling would continue to occur on roads and trails throughout the site. Firewising would also persist on portions of the site, in accordance with Suncadia's LSP.

The 2002 Development Agreement approved for the site includes a number of conditions, most of which apply to physical development of the site. However, several of the conditions would pertain with or without development, and could be considered "existing conditions," including the following (paraphrased):

(38) the developer shall dedicate 12 acres for a community park facility and/or contribute specified recreational facilities within five years of Master Site Plan approval.[18]

(47) the City may enforce use and access restriction in designated areas, especially the Cle Elum River opens space, to minimize disturbance to fish and wildlife during mating and breeding seasons.

(77) the developer shall set aside approximately 10 acres for the City to acquire for cemetery expansion.

(94) the developer shall participate with the City and School District in petitioning WSDOT to reduce the speed limit on SR 903 adjacent to the school property. The developer will also work with the City to collect and present information on the I-90 Bullfrog Road westbound on-ramp regarding revisions to the weigh station exit/on ramp configuration.

Given that this No Action scenario parallels the existing conditions described under "Affected Environment" in **Chapter 3**, this scenario would be redundant and not informative and was eliminated from further study in the SEIS.

2.7 COMPARISON OF ALTERNATIVES

The following list compares key development features under FEIS and SEIS Alternative 5, and SEIS Alternative 6:

- **Site Area:** a smaller site area would be included with SEIS Alternative 6 than with FEIS and SEIS Alternative 5, mostly because properties that were dedicated for school expansion, the wastewater treatment plant, and a reserve area (including the Horse Park that was subsequently constructed) are be part of FEIS and SEIS Alternative 5, and not SEIS Alternative 6.

[18] The dedication of land for the community park facility/contribution of recreational facilities has not taken place to date.

- **Residential Units:** there would be fewer permanent residential units provided under SEIS Alternative 6 than under FEIS and SEIS Alternative 5. However, an RV resort would be included in SEIS Alternative 6 (FEIS and SEIS Alternative 5 could temporarily provide RV sites on the commercial development property for construction workers).
- **Open Space:** less open space area would be provided under SEIS Alternative 6 than under FEIS and SEIS Alternative 5. However, a larger percentage of the overall site area would remain undeveloped and in open space under SEIS Alternative 6.
- **Recreational Amenities:** All the alternatives would include recreational amenities, including a dedicated site for construction of a public community recreation center property, as well as private clubhouse(s)/amenity centers. SEIS Alternative 6 would provide a public adventure center and private recreational facilities that are not included in FEIS and SEIS Alternative 5. FEIS and SEIS Alternative 5 would include lakes, one of which could be used for recreational purposes that are not included in SEIS Alternative 6. All three alternatives would feature a system of trails.
- **Commercial Development:** the commercial development would be in the same general location under the alternatives, but there would be a smaller property and significantly less possible commercial development with SEIS Alternative 6 (a 25-acre property with 150,000 sq. ft. of potential retail and professional office) than with FEIS and SEIS Alternative 5 (a 75 to 80-acre property with 950,000 sq. ft. of business park/light industrial).
- **Affordable Housing Site:** SEIS Alternative 6 would include a slightly smaller affordable housing site than SEIS Alternative 5; no affordable housing site was included in FEIS Alternative 5.
- **Cemetery Expansion Site:** The cemetery site would be the same site size/location under FEIS and SEIS Alternative 5. The cemetery expansion site would be larger under SEIS Alternative 6.
- **Access Points:** fewer access point would would be provided to the surrounding roadway system under SEIS Alternative 6 (four access point); five access points would be provided from the surrounding roadway system under FEIS and SEIS Alternative 5 (including primary and access points, and the access point to the future affordable housing).

Further comparisons of the Alternatives are provided in **Chapter 1** and **Chapter 3**.

2.8 BENEFITS AND DISADVANTAGES OF DEFERRING PROJECT IMPLEMENTATION

The benefits of deferring all actions on the 47° North Project (e.g., not approving the proposed revisions to the approved Master Site Plan in the foreseeable future are:

- The undeveloped site would not be converted to the proposed intensive residential and recreational use at this time; this could be perceived as either a benefit or disadvantage, depending on one's perspective. However, the site could be developed pursuant to the approved Master Site Plan and Development Agreement

and, in that case, would not remain in its current undeveloped condition. As noted previously, the amount and timing of development would be dependent on an extension of the Development Agreement by the parties.

- The environmental impacts typical of large-scale urban-type mixed-use development, including increased traffic, stormwater runoff, light and glare, noise, and demand for public facilities and services, would be deferred at this time. However, these impacts could occur in the future with development of the approved Master Site Plan.

The disadvantages of deferring all actions on the 47° North Project are:

- The opportunity to provide a range of relatively affordable housing choices would be deferred.
- The opportunity to provide public parks/recreational facilities and permanent open space would be deferred.
- The increased tax base and positive net revenues that would accrue to City of Cle Elum, and service providers from construction and occupancy of the proposed development would be deferred (but costs would be deferred as well).
- Some of the population and housing growth that would otherwise be accommodated by the project could locate elsewhere, including in unincorporated rural areas.

Chapter 3

AFFECTED ENVIRONMENT, IMPACTS, ALTERNATIVES, MITIGATION MEASURES, & SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

CHAPTER 3
AFFECTED ENVIRONMENT, IMPACTS, ALTERNATIVES, MITIGATION MEASURES & SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

INTRODUCTION – OVERVIEW OF CHAPTER 3 ORGANIZATION

Chapter 3 describes the affected environment (i.e., existing conditions), environmental impacts, mitigation measures, and significant unavoidable adverse impacts for the SEIS Alternatives. The following provides an overview of the general organization of each section within **Chapter 3**. It is intended to help orient the reader to the discussion of alternatives, impacts, and mitigation measures.

At first blush, the chapter may seem somewhat confusing to a reader, because it talks about old projects (Urban Growth Area (UGA)/Bullfrog Flats Master Site Plan) in different time periods (2002 and 2020), as well as the new revised Master Site Plan proposal (47° North), all on the same general property which has different names. The discussion of multiple projects and years is intended to help show how background conditions have changed since the original EIS was published, as a result of the passage of time, the occurrence of growth in the city and region, and the continuation of natural processes over the past two decades.

Because this is a Supplemental EIS (SEIS), which supplements the information and analysis in the 2002 Cle Elum UGA EIS, the SEIS summarizes but does not repeat information in the original EIS. Instead, the focus of the SEIS is on the following: (1) updating the description of existing conditions to reflect any changes that have occurred since 2002; (2) analyzing any new, additional environmental impacts that would result from the 47° North Master Site Plan; (3) identifying appropriate mitigation measures, to avoid, reduce or compensate for those impacts; and, (4) describing any significant adverse impacts that cannot be avoided, even with mitigation. The primary objective of the SEIS is to compare the impacts of the proposal documented in the original EIS to the impacts of the revised proposal. This overall approach to the SEIS follows the requirements of the state SEPA rules.

The reader will notice that there are numerous alternatives discussed in the SEIS (e.g., FEIS Alternative 5 and SEIS Alternative 5). These are intended to reflect both the original/2002 UGA/Bullfrog Flats proposal and changes to the original proposal that occurred during the

approval process, and changes that result from the passage of time (SEIS Alternative 5). The information in the 2002 Final SEIS, and the Master Site Plan proposed at that time, is described as the 2002 FEIS Alternative 5. The project that was ultimately approved by the City Council, however included some minor changes; these are generally derived from the conditions of approval incorporated into the 2002 Development Agreement. Because very little has happened on the site since the 2002 approval, the SEIS updates existing site condition to reflect a 2020 starting point for SEIS Alternative 5 so it can be compared more directly to the revised Master Site Plan for 47º North.

In summary, the SEIS discusses and compares several alternatives to the 47° North proposal. In addition to the 2002 Cle Elum UGA/Bullfrog Flats FEIS Master Site Plan, "SEIS Alternative 5" describes what could happen if the previously approved 2002 Bullfrog Flats Master Site Plan were to go forward today. Because of the passage of time, changes to background conditions, and changes to applicable laws, a number of changes are assumed to occur for purposes of analysis in the SEIS. SEIS Alternative 5 is also referred to as the "No Action" alternative to indicate that 47° North might not go forward but SEIS Alternative could still proceed; in this situation, "no action" means that the City would not take action on the proposed Master Site Plan amendment but it does not mean that nothing would happen on the site.

Below is further description of the content and organization of each SEIS section and some key assumptions for the alternatives.

Site Area

In the 2002 Cle Elum UGA EIS, development was proposed on a 1,100-acre site known as Bullfrog Flats. Development is currently proposed on an 824-acre portion of the site now called 47° North.(In addition, hypothetical development is evaluated on an adjacent 25-acre property to the east but is not part of the 47º North proposal.) The two names for the site — Bullfrog Flats and 47° North — are used in **Chapter 3** when describing the previous and current site, respectively.

Affected Environment

Chapter 3 summarizes the description of existing conditions on and in the vicinity of the Bullfrog Flats site from the 2002 Cle Elum UGA EIS. Updated conditions on the 47° North site and in the surrounding area are also characterized.

EIS Alternatives

The "preferred alternative" analyzed in the 2002 FEIS was Alternative 5, and each section of **Chapter 3** (e.g., Section 3.1, **Earth**) summarizes the analysis of FEIS Alternative 5. It also

evaluates the impacts of the SEIS Alternatives: SEIS Alternative 5, development of the Master Site Plan adopted for the Bullfrog Flat site in 2002 (the No Action Alternative), and SEIS Alternative 6, development of the revised Master Site Plan that is proposed for the 47° North site today; both of the SEIS Alternatives are analyzed in the context of current conditions and regulations.

Phasing/Study Years

In the 2002 Cle Elum UGA FEIS, Alternative 5 was assumed to buildout over a 30-year period. Similar to FEIS Alternative 5, in this Draft SEIS, buildout of SEIS Alternative 5 is assumed to occur over 30 years but starting in 2021 (by 2051). Development of the 47° North project and the adjacent possible commercial development under SEIS Alternative 6 will occur in phases, with an anticipated full buildout over 17 years (by 2037). Note that the residential and recreational uses under 47° North are assumed to buildout in 7 years (by 2028) and the possible commercial development in 17 years (by 2037).

For several of the analyses in this SEIS (e.g., Transportation, Public Services, Utilities, and Fiscal/Economics) three development years are evaluated: 2025, 2031, and 2037, as described below

- **Year 2025** represents near-term development of the initial project phase and is generally consistent with local agency six-year capital plans.
- **Year 2031** represents an interim year at the approximate mid-point of the buildout of SEIS Alternative 6. Note that under SEIS Alternative 6, the 47° residential and recreational development is anticipated to build out by year 2028, which would be between the 2025 and 2031 analysis years; commercial uses on the adjacent property included in this alternative would continue to develop until 2037. Therefore, 2031 includes buildout of the 47° North residential and recreational uses plus additional increments of commercial use and background growth.
- **Year 2037** represents a future year consistent with the current planning horizon of City of Cle Elum and Kittitas County Comprehensive Plans. Year 2037 includes the cumulative buildout of 47° North residential and recreational uses together with the possible commercial use scenario on the adjacent property.

For comparisons to SEIS Alternative 6 in 2037, only the portion of SEIS Alternative 5 development that would occur by 2037 is included in certain of the SEIS analyses.

Mitigation Measures

Mitigation measures have been identified in **Chapter 3** to address the adverse impacts of SEIS Alternatives 5 and 6. Where significant impacts from construction and operation of the SEIS Alternatives cannot be mitigated by known mitigation measures, significant unavoidable adverse impacts are noted.

The mitigation measures are separated into several categories, as described below.

- **Proposed Mitigation Measures (Included in the Project)** are measures which the Applicant has proposed that are above and beyond the "Required Mitigation Measures" described below. These measures include certain conditions of approval from the 2002 Bullfrog Flats Development Agreement. The conditions in the Development Agreement were developed to mitigate the environmental impacts of the Bullfrog Flats Master Site Plan and arose from the 2002 Cle Elum UGA Final EIS and various other approval processes for the project. Given the time that has passed since the Development Agreement was executed, and the lack of complete documentation, the reasons for certain of the conditions is not clear. Also, certain of the conditions no longer apply because changes have occurred since 2002 (e.g., certain properties have already been dedicated to the City). Therefore, only those conditions of approval that pertain to the current proposal, and which the Applicant has agreed to include in the project, are listed with appropriate modifications here.

- **Required Mitigation Measures** are measures required by code, laws, or local, state, and federal regulations.

- **Approved Bullfrog Flats Conditions of Approval (Not Included in the Project)** are measures that are based on the conditions of approval contained in the 2002 Development Agreement. These are the conditions that are not certain to apply to SEIS Alternative 6 and will depend on changes to the adopted Development Agreement that may be proposed. They are not included in the project at this point in time.

- **Other Possible Mitigation Measures** are other measures identified by the SEIS team and the City that could be implemented to further reduce the impacts of SEIS Alternative 6.

The mitigation measures listed in the Draft SEIS will serve as a basis for conditions that could be imposed through a new or updated Development Agreement for the Proposed 47° North Master Site Plan Amendment.

3.1 EARTH

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant earth impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Earth section is based on the *Supplemental Site Engineering Report* (September 2020) prepared by ESM Engineers (see **Appendix B**), and the *Geology, Soils & Groundwater Report* (September 2020) prepared by AESI (see **Appendix C**).

Methodology

The methodology for conducting the geology and soils analysis included the following key tasks:

- Reviewing, compiling, and analyzing existing geologic and soil data for the site.
- Completing a geologic and geomorphic reconnaissance of the site.
- Reviewing exploration logs for ten exploration pits and six exploration borings advanced on the site and the adjacent properties in 1997 and 1998.
- Reviewing exploration logs for 35 test pits and six hand-auger explorations advanced on the site and adjoining properties in 1999.
- Reviewing driller's logs obtained from the Washington State Department of Ecology (Ecology) records for two water supply wells and four test holes drilled at the Cle Elum fish hatchery, located on the southside of I-90.
- Advancing and sampling 47 additional exploration pits and four exploration borings to assess the distribution and physical characteristics of the sediments underlying the site.

(See **Appendix C** for details on the geology and soils analysis methodology.)

3.1.1 Affected Environment

2002 Cle Elum UGA EIS

Topography

As described in the 2002 Cle Elum UGA EIS, in general, the Bullfrog Flats site is divided into three distinct geomorphic areas. These include a relatively flat-lying area at the west end of the site known as Bullfrog Flats, an elevated area in the eastern portion of the site known as Bullfrog Heights, and a low-lying, relatively flat area south of Bullfrog Heights known as Cle Elum Terrace. These areas are separated by the West Ridge, the Central Ridge, and the East Ravine. (See Figure 3.1-2 in the Cle Elum UGA Draft EIS for a depiction of these

topographical features, and **Figure 2-3** in **Chapter 2** of this SEIS for a map of the general topography on the site.)

Soils & Geology

During previous explorations on the site, eight distinct geologic units were identified below the Bullfrog Flats site, including recent alluvium, loess deposits, glacial outwash, alpine till, glaciolacustrine sediments, undifferentiated glacial deposits, Roslyn formation, and Teanaway formation. Physical and chemical weathering of surficial glacial and non-glacial sediments at the site has resulted in the formation of various types of surface soils. Four general types of surface soils were mapped within the site area, including Roslyn ashy sandy loam, Xerofluvents, Dystroxerepts, and Racker ashy sandy loam (see **Figure 3.1-1** for an illustration of surface soils).

Geologic Hazards

The 2002 Cle Elum UGA EIS described the geologic hazards on and adjacent to the site, including landslide, erosion, seismic and volcanic hazards based on the critical areas regulations in effect at that time for Kittitas County (Title 17A) and the City of Cle Elum Municipal Code (Section 18.01).

Erosion & Landslide Hazards

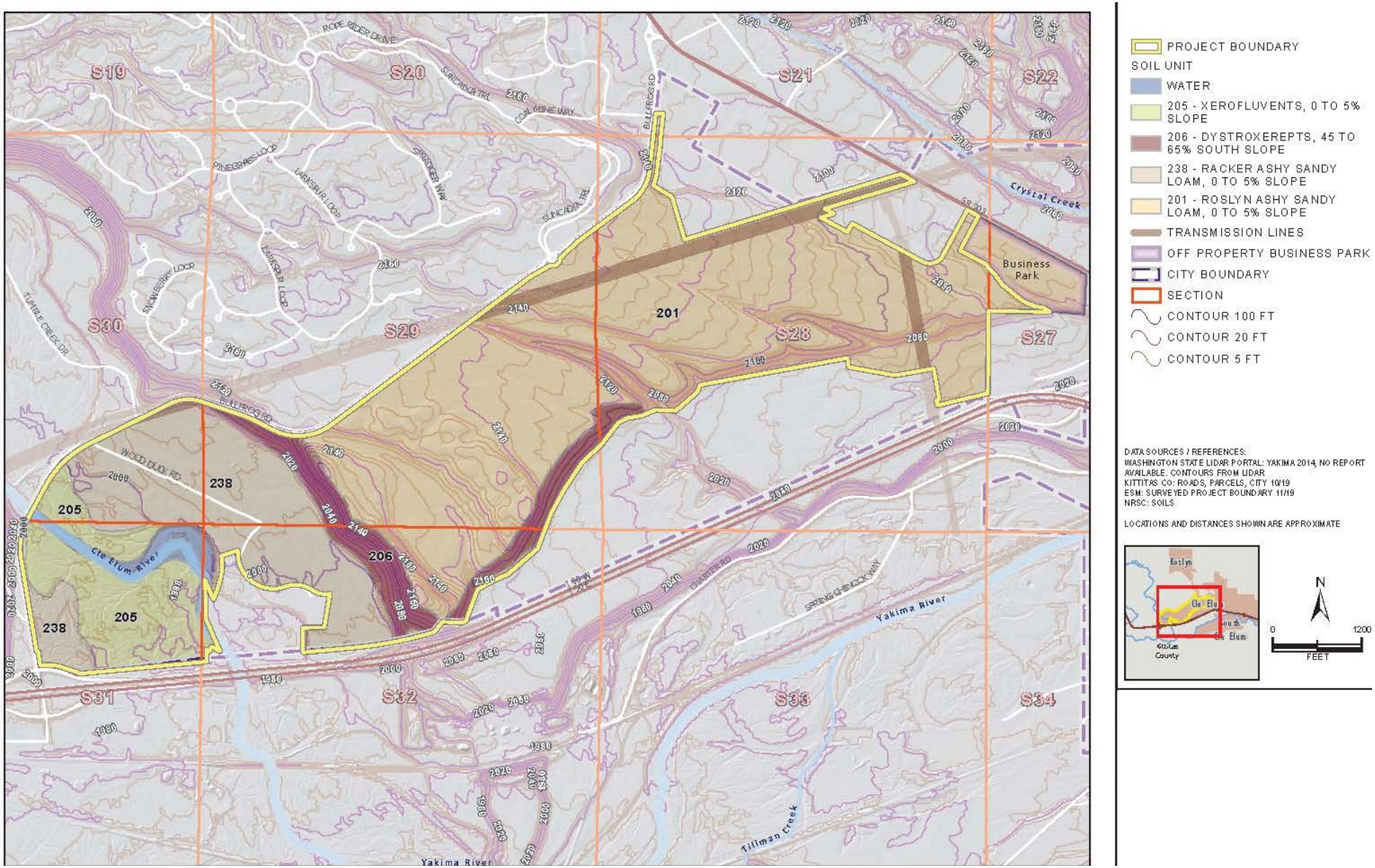
Erosion and landslide hazards were determined by the amount of slope and the type of soil. Areas presenting risks for erosion and landslides exist along the Cle Elum River, the West Ridge, the Central Ridge and the East Ravine onsite (see Figure 3.1-2 in the Cle Elum UGA Draft EIS for a depiction of these topographical features, and **Figure 2-3** in **Chapter 2** of this SEIS for a map of the general topography on the site.). The area along the Cle Elum River contained low slopes but was considered a moderate to high risk of erosion because of the soils that were present and their location within the river's floodplain. The West Ridge was characterized by slopes greater than 40% and was considered a high risk for erosion and landslides. The Central Ridge contained soils with a moderate erosion potential and slopes between 15% and 40%. The East Ravine was characterized by slopes between 15% and 40% and was considered a moderate to high risk for erosion.

Seismic Hazards

Seismic hazard areas are those areas that are subject to risk of damage from earthquakes. The Bullfrog Flats site was noted as being located in an area of relatively low historical seismicity.

Coal Mine Hazards

The 2002 Cle Elum UGA EIS described abandoned mine workings located more than 200 feet below the ground surface of the Bullfrog Flats site which are considered low hazard areas. In general, low hazard areas are susceptible to regional subsidence, which occurs when the ground surface subsides over a large area.



Source: AESI, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-1

Existing Soils Map

(See the 2001 Cle Elum UGA DEIS Section 3.1 and 2002 Cle Elum UGA FEIS Section 3.1 for details.)

2020 SEIS

In general, earth-related conditions on and near the 47º North site are much the same today as they were in 2002. Changes to or additional information about these conditions are described below.

Erosion Hazards

Erosion Hazard Areas are regulated by the current Cle Elum Municipal Code (CEMC). Portions of the site that are currently classified as erosion hazard areas include, the steep slope areas along the western and south edge of the Bullfrog Moraine and along a portion of the south edge of Bullfrog Heights; and the area within the channel migration zone of the Cle Elum River. Other steep slopes on the site, including those on the flanks of the abandoned stream channels, are not depicted as being underlain by soils with erosion hazard ratings meeting the criteria in the CEMC. However, the topographic and soil conditions in these areas are consistent with the characteristics of areas typically classified as Erosion Hazard Areas (see **Appendix C**).

Landslide Hazards

During site investigations for this DSEIS, no indications of historical landslide activity or springs were observed on the 47º North site. Given the lack of these features, Landslide Hazard Areas are limited to areas of steep slopes and areas that are potentially unstable due to rapid stream incursion or streambank erosion. Some areas of steep slopes exist on and adjacent to the site. These include the steep slope located along the western and southern margins of the Bullfrog Moraine, along the southern margin of Bullfrog Terrace, and along portions of the flanks of the paleo drainage ravines.

Seismic Hazards

During a seismic event, liquefaction is a process through which unconsolidated soil loses strength due to vibratory shaking and can result in deformation of the sediment and settlement of overlying structures. Areas most susceptible to liquefaction include those areas underlain by coarse silt and clean sand with low relative densities, accompanied by a shallow water table. Groundwater is present in the glacial outwash sediments underlaying the site, but due to the depth of groundwater levels (greater than 100 feet below the ground surface), it is anticipated that the site is a low risk for liquefaction.

Coal Mine Hazards

Coal seams in the Cle Elum-Roslyn area were mined in the late 1800s through the early 1960s. Coal mine hazards are divided into High and Low Coal Mine Hazard Areas; Low Coal Mine Hazards are areas where the underground mine workings are greater than 200 feet below the ground surface. The depths of the workings below the 47º North site range from

approximately 475 to 2,000 feet below the ground surface. Low Coal Mine Hazard Areas can be susceptible to regional subsidence; however, no evidence of regional subsidence has been observed on the site.

Volcanic Hazards

Although not addressed in the 2002 Cle Elum UGA EIS, Volcanic Hazards are currently defined and regulated by the CEMC. However, the 47º North site does not lie within an area identified by the Washington State Department of Natural Resources (DNR) as a Volcanic Hazard Area.

3.1.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

The 2002 Cle Elum UGA EIS evaluated potential earth-related impacts that could occur with development under FEIS Alternative 5 on the Bullfrog Flats site. These potential impacts included: erosion hazard risks, landslide hazard risks, seismic hazard risks, and coal mine hazard risks. The steep slopes on the west side of the Bullfrog Moraine was identified as a high landslide risk in the 2002 Cle Elum UGA EIS and clearing on or above moderate to steep slopes on the site could increase landslide risks. The site was identified as an area of low historic seismicity and the potential for seismic hazards such as liquefaction would be low. The presence of abandoned coal mine workings was also identified in the eastern portion of the site; however, the hazard risks associated with these workings would be low because the workings are more than 200 feet below the ground surface. Volcanic hazards were not addressed in the 2002 Cle Elum UGA EIS. With the implementation of mitigation measures identified in the 2002 Cle Elum UGA EIS, it was anticipated that development would not increase geologic hazard risks and that there would be no significant unavoidable adverse earth-related impacts.

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Geologic Hazards

Erosion Hazard Impacts

Similar to FEIS Alternative 5, under SEIS Alternative 5 all of the areas of the 47° North site that are classified as erosion hazard and steep slopes areas would be located outside of the area proposed for development. As a result, no significant erosion impacts would be anticipated. However, although proposed development would be outside of the erosion hazard/steep slope areas, these risks would not be completely eliminated. Provided that

Best Management Practices (BMPs) are provided and construction practices are followed, it is anticipated that development under SEIS Alternative 5 would not result in significant impacts associated with erosion hazards (see **Appendix C** for details).

Landslide Hazard Impacts

Development on the 47º North site under SEIS Alternative 5 would be limited to the more gently or moderately sloping portions of the site with inclinations of approximately 33% or less, similar to under FEIS Alternative 5. Given the subsurface conditions of the site, the risk of landslides under these topographic conditions is low. Under SEIS Alternative 5, the area to the west of the Bullfrog Moraine (in the western portion of the site) would be retained as open space, which includes the area in and around the channel migration zone associated with the Cle Elum River. Proposed development would also be outside of the channel migration zone of the river which would mitigate the risk of damage to development by landslides due to streambank erosion. With implementation of mitigation measures, no significant impacts associated with landslide hazards are anticipated.

Seismic Hazard Impacts

As mentioned previously, areas most susceptible to seismic impacts such as liquefaction are those areas that are underlain by coarse silt and clean sand with low relative densities, accompanied by a shallow water table. While groundwater is present at the site, the depth of groundwater below the proposed development area is in excess of 100 feet. Due to the lack of adverse groundwater conditions, it is anticipated that the risk of liquefaction within the proposed development area under SEIS Alternative 5 would be low and no mitigation measures for liquefaction hazards are warranted (see **Appendix C** for details).

Coal Mine Hazard Impacts

Historic coal mine workings are located beneath the site and occur at a range of approximately 475 to 2,000 feet below the ground surface. These areas on the 47º North site would qualify as low coal mine hazards which can be susceptible to regional subsidence of the ground surface. Subsidence typically occurs within a few days to years following mine abandonment and no evidence of regional subsidence has been observed on the site. As a result, it is anticipated that the risk from coal mine hazards and subsidence of underground mine workings would be low and mitigation of this risk could be achieved through the use of building methods and construction materials that would reduce the risk of structural damage (see **Appendix C** for details).

Geotechnical Impacts

Clearing and grading activities would be required for construction of roadways, parking and building pad elevations under SEIS Alternative 5. Proposed development would require clearing of about 403 acres (37% of the site). Approximately 644,000 cubic yards (CY) of cut and 420,000 CY of fill material would be required for development of SEIS Alternative 5 (the

same as for FEIS Alternative 5).[1] Potential construction impacts (e.g., erosion and sedimentation) could result from site preparation, structural fill placement and foundations. However, with implementation of mitigation measures such as geotechnical oversight and other conditions, significant impacts are not anticipated (see **Appendix C** for details).

SEIS Alternative 6 *– Proposed 47º North Master Site Plan Amendment*

Geologic Hazards

Erosion Hazard Impacts

Similar to FEIS Alternative 5, development under SEIS Alternative 6, would be located outside of all classified/regulated erosion hazard areas. The steep slopes on the slope flanks onsite would be outside of the proposed development area. As a result, no significant erosion impacts are anticipated. However, although proposed development would be outside of the erosion hazard areas, erosion risks would not be completely eliminated. The Natural Resources Conservation Service (NRCS) erosion hazard rating for the soil types within the development area is "slight." In order to address this hazard, a Temporary Erosion and Sedimentation Control (TESC) Plan and Stormwater Pollution Prevention Plan (SWPPP) would be developed for the project, and erosion and sedimentation control Best Management Practices (BMPs) would be implemented during construction. In addition to the use of BMPs, monitoring of erosion and sediment control by a Certified Erosion and Sediment Control Lead (CESCL) would be required to verify compliance with the TESC plan and SWPPP.

With the implementation of BMPs and construction practices, it is anticipated that development under SEIS Alternative 6 would not result in significant impacts associated with erosion hazards (see **Appendix C** for further details).

Landslide Hazard Impacts

As under FEIS Alternative 5, development of the 47º North site under SEIS Alternative 6 would be limited to the more gently or moderately sloping portions of the site with inclinations of approximately 33% or less. Given the subsurface conditions of the site, the risk of landslides under these topographic conditions is considered low. The area to the west of the Bullfrog Moraine would be retained as open space under SEIS Alternative 6, which includes the area in and around the channel migration zone associated with the Cle Elum River. Proposed development would also be outside of the channel migration zone of

[1] Note that the estimated clearing, grading, and impervious surface areas for certain components of the alternatives (e.g., public facilities, community recreation center, school expansion, and cemetery expansion) vary because different assumptions were made for FEIS Alternative 5 in the 2002 FEIS, SEIS Alternative 5 in the 2002 Development Agreement, and SEIS Alternative 6. See the Supplement to the Site Engineering Report in **Appendix B** for details.

the river which would mitigate the risk of damage to development by landslides due to streambank erosion.

Although no steep slopes are located within the proposed development areas of SEIS Alternative 6, steep slopes are located near the limits of proposed development in some areas. With implementation of mitigation measures, including setbacks of structures and stormwater infiltration facilities, no significant impacts associated with landslide hazards are anticipated (see **Appendix C** for details).

Seismic Hazard Impacts

As mentioned previously, areas most susceptible to seismic impacts such as liquefaction are those areas that are underlain by coarse silt and clean sand with low relative densities, accompanied by a shallow water table. While groundwater is present at the site, the depth of groundwater below the proposed development area is in excess of 100 feet. Due to the lack of adverse groundwater conditions, it is anticipated that the risk of liquefaction under SEIS Alternative 6 would be low and no mitigation measures for liquefaction hazards are warranted (see **Appendix C** for details).

Coal Mine Hazard Impacts

As described under FEIS and SEIS Alternative 5, it is anticipated that the risk from coal mine hazards and subsidence of underground mine workings would be low for SEIS Alternative 6 and mitigation of this risk could be achieved through the use of building methods and construction materials that would reduce the risk of structural damage (see **Appendix C** for details).

Geotechnical Impacts

Under SEIS Alternative 6, clearing and grading activities would be required for construction of roadways, parking, and building pad elevations. Proposed development would require clearing of approximately 315 acres (38% of the site). Proposed grading for the project would match natural topography as much as possible, and as such would not change topography significantly. A total of approximately 351,000 CY of cut and 310,000 CY of fill material would be required for development of SEIS Alternative 6 (compared with 644,000 CY of cut and 420,000 CY of fill under FEIS Alternative 5 and SEIS Alternative 5). Of the grading required for SEIS Alternative 6, approximately 99,000 CY of cut and 2,000 CY of fill could be required for future commercial development on the adjacent 25-acre property. Potential construction impacts (e.g., erosion and sedimentation) could result from site preparation, structural fill placement and foundations. However, with implementation of mitigation measures such as geotechnical oversight and other conditions, significant impacts are not anticipated (see **Appendix C** for details).

Developability of the Municipal (Community Recreation) Center, Cemetery Expansion & Affordable Housing Sites

There are no earth-related impediments to development of the municipal (community) recreation center, cemetery expansion, and affordable housing sites. These sites do not contain erosion hazards or steep slopes, and landslide, seismic, and coal mine hazard risks on these sites are considered low.

Cumulative Impacts

Cumulative earth-related impacts could result from development within the vicinity of the 47º North site that could occur concurrent with development under SEIS Alternative 6. This development would include further development within Suncadia, and development of the approved City Heights and Cle Elum Pines (West) mixed-use projects. The potential for earth-related impacts from the cumulative impact projects would depend upon their specific site conditions. It is assumed that similar to 47° North, these projects would adhere to the critical area and stormwater management regulations of the respective jurisdictions (Kittitas County in the case of Suncadia, and City of Cle Elum in the case of City Heights and Cle Elum Pines) and significant cumulative impacts are not expected.

Conclusion

Clearing and grading would be required for development under SEIS Alternatives 5 and 6 which could result in earth-related impacts, such as erosion and sedimentation. Under the SEIS Alternatives, all of the areas of the 47° North site that are classified as erosion, steep slope, and landslide hazard areas would be located outside of the areas proposed for development. The risk of liquefaction within the proposed development area during seismic events, as well as the risk of coal mine hazard and subsidence of underground mine workings is considered to be low. With implementation of the mitigation measures below, no significant earth-related impacts are anticipated.

3.1.3 Mitigation Measures

The following mitigation measures are identified to address the earth-related impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Required Mitigation Measures

Structural Standards

- The Cle Elum Municipal Code includes performance standards for development in geologically hazardous areas (CEMC 18.01.070 (F)) that would be followed for development on the 47º North site. These standards include the following:

- Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to the existing topography.
- Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation.
- The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties.
- Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer.

Erosion Hazards

- A TESC and SWPPP would be developed for the project and erosion and sedimentation control BMPS would be implemented during construction as described in the 2019 *Washington State Department of Ecology Manual for Eastern Washington* (2019 Ecology Manual). BMPs may include but are not limited to the following:
  - Use of stabilized construction entrances;
  - Stabilization of construction roads and parking areas;
  - Applying water to exposed soil surfaces to control dust;
  - Use of wheel washes for construction traffic leaving the site;
  - Use of sediment traps and inlet/outlet controls where applicable;
  - Use of perimeter silt fencing; and,
  - Use of temporary cover measures such as sheet plastic, mulch, and hydroseed.

- During construction, monitoring of erosion and sediment control by a Certified Erosion and Sediment Control Lead would be required for the project by Ecology.

Landslide Hazards

- Foundation setbacks for buildings and other structures would comply with criteria established in Section 1808.7 of the 2015 *International Building Code* (IBC), including:
  - For foundations located adjacent to the top of steep (> 33.3%) slopes, the face of the foundations would be set back from the steep slope a distance equal to or greater than the lesser of 40 feet of H/3 where "H" is equal to the height of the steep slope.
  - For structures located adjacent to the toe of a steep (> 33.3%) slopes, the face of the structures would be set back from the toe of the steep slope a distance equal to or greater than the lesser of 15 feet or H/2 where "H" is equal to the height of the steep slope.

- Placement of structural fill would be avoided on or adjacent to the top of steep (greater) than 40% slopes.

- Permanent cut or fill slopes would not exceed a maximum inclination of 50%.

- Infiltration facility setbacks from steep slopes would comply with requirements outlined in the 2019 Ecology Manual. Specifically, the 2019 Ecology Manual requires that infiltration ponds be set back from the top of a slope of 15% or steeper at a distance equal to or greater than the height of the slope. The 2019 Ecology Manual allows for lesser or greater setbacks where a comprehensive site assessment concludes that the alternate setback is justified based on the site conditions. Slopes in excess of 15% exist in the adjacent 25-acre commercial property and on the municipal recreation center site. Siting of infiltration facilities in these areas would consider the slope setback requirements of the 2019 Ecology Manual.

Other Possible Mitigation Measures

Coal Mine Hazards

- Although there is low risk for coal mine hazard impacts, mitigation of this risk could be achieved by using building methods and construction materials that would reduce the risk of structural damage, such as:
  - Reinforce concrete foundations supporting a flexible superstructure (e.g., wood framing or other flexible building materials);
  - Use of flexible (asphalt) pavement for road construction; and,
  - Use of flexible pipes, couplings, and fittings for underground utilities.

3.1.4 Significant Unavoidable Adverse Impacts

Significant amounts of earthwork would be required for development of the SEIS Alternatives, similar to other urban master plan projects, and are unavoidable. However, with implementation of the mitigation measures listed above, no significant unavoidable adverse earth-related impacts are anticipated.

3.2 WATER QUANTITY & QUALITY

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant water quantity and quality impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Water Quantity & Quality section is based on information in the following technical reports: The *Supplemental Site Engineering Technical Report* (September 2020) prepared by ESM Consulting Engineers (see **Appendix B**); the *Geology, Soils, & Groundwater Report* (September 2020) prepared by Associated Earth Sciences (see **Appendix C**), the *Water Supply Assessment* (September 2020) prepared by EA Engineering, Science and Technology (see **Appendix D**); and, the *Plants, Animals, & Wetlands Report* (September 2020) prepared by Raedeke Associates (see **Appendix E**).

Methodology

For the stormwater analysis, hydrologic modeling was conducted in accordance with the 2019 *Washington State Department of Ecology Stormwater Management Manual for Eastern Washington* (2019 Ecology Manual). The Hydrologic Simulation Program - Fortran (HSPF) Release 11, (United States Environmental Protection Agency, 1996) was used for the analysis.

For the groundwater analysis, the methodology included: reviewing existing soils, geologic, and groundwater data; geologic/geomorphic reconnaissance of the site; reviewing past explorations and driller's logs; and, advancing and sampling 47 additional exploration pits and four exploration borings (also see the Methodology discussion in Section 3.1, **Earth**).

For the water supply and consumptive use assessment, information on current water management conditions in the Upper Kittitas Basin was reviewed, including: water rights that are pertinent to the Bullfrog Flats/47° North site, current water resources regulations in the Yakima River Basin, water supply agreements between Trendwest (the former owner of the Suncadia and Bullfrog Flats properties) and the City of Cle Elum, and the Master Trust Water Agreement between the Washington State Department of Ecology and New Suncadia, LLC (New Suncadia), dated December 30, 2015. Consumptive use estimates were calculated based on information provided by ESM Engineers.

(See **Appendices B**, **C**, and **D** for details on the methodologies used for the water quantity and quality analyses.)

3.2.1 Affected Environment

2002 Cle Elum UGA EIS

Surface Water Resources

As described in the 2002 Cle Elum UGA EIS, the Bullfrog Flats site is located within the Upper Yakima River drainage basin, which is designated Water Resource Inventory Area (WRIA) 39. The Cle Elum River passes through the western portion of the site and joins the Yakima River to the south of I-90. Cle Elum River flows are controlled by Cle Elum Dam upstream of the site; the dam impounds the water that forms Cle Elum Lake. Approximately 750 acres of the Bullfrog Flats site is located within the Yakima River basin, and approximately 350 acres is located within the Cle Elum River basin.

The 2002 Cle Elum UGA EIS identified five wetlands on the Bullfrog Flats site. Three of the wetlands were associated with the Cle Elum River floodplain, and two of the wetlands were located on the plateau to the east of the river, and hydrologically isolated.

Because of the nature of surface soils onsite, natural drainage occurs through infiltration and subsurface groundwater flow.

Surface Water Quality

In 2002, the Cle Elum River from the mouth to Cle Elum Dam was designated as Class AA (extraordinary) for water quality (per Chapter 173-201A WAC).

The Yakima River was designated as Class A (excellent) water quality for the reach from its mouth to the confluence with the Cle Elum River, and Class AA (extraordinary) for the reach from the Cle Elum River confluence to its headwaters. A special condition was applied to the reach from the Cle Elum River to its headwaters indicating that temperature shall not exceed 21° C due to human activities.

Water quality data for the Yakima River were summarized in the 2002 EIS. From 1994 through 2000, Yakima River temperature exceeded the Class AA standard in two samples, dissolved oxygen (DO) did not meet the DO minimum criterion in twelve samples, and pH was below the minimum criterion in one sample. At the time, Washington State Department of Ecology (Ecology) was targeting the Yakima River for study and cleanup due to high levels of suspended sediment, turbidity, and pesticides.

Section 303(d) Threatened & Impaired Water Bodies

Section 303(d) of the 1972 Federal Clean Water Act (CWA) requires all states to identify and list threatened and impaired water bodies. The 1998 303(d) list identified the Cle Elum River from the mouth of the river to Cle Elum Lake as limited for temperature. The 1998 303(d) list identified the Yakima River from River Mile (RM) 147 upstream to the Cle Elum River

confluence as limited for the insecticide DDT, mercury, copper, cadmium, and the herbicide 4.4'-DDE. The Yakima River upstream of the site was listed as limited for DO and temperature. EPA approved a Total Maximum Daily Load (TMDL) for Total Suspended Solids (TSS) and DDT for the Yakima River from the river's mouth at Columbia River to 100 RM downstream from the Bullfrog Flats site.

Washington State Water Quality Assessment 305(b) Report

Section 305(b) of the 1972 CWA requires all states to prepare biennial reports assessing the water quality of defined water bodies within the state. The 1994 report prepared by Ecology addressed supported and impaired uses, sources, and causes of documented impairments of the Yakima River upstream and downstream of the Bullfrog Flats site (including salmonid and other fish use of the river downstream and recreation uses upstream). The Yakima River was listed as impaired for rearing, harvesting, salmonid and other fish spawning, and migration approximately 39 RM downstream of the site. The impairment was attributed to agricultural practices and habitat alterations.

Groundwater Resources

As described in the 2002 Cle Elum UGA EIS, the Bullfrog Flats site is underlain by glacial drift and some alluvium. Groundwater is present, at least occasionally, in each geologic unit beneath the site. The primary aquifers occur in the glacial outwash deposits. The Upper Aquifer extends beneath most of the site; an aquitard is beneath all but the eastern ¼ of the site; and, the Lower Aquifer is present in the eastern ½ of the site.

Groundwater flow in the Upper Aquifer beneath the site is to the south; flow in the Lower Aquifer is to the east/southeast (towards the Yakima and Cle Elum rivers). Groundwater recharge is primarily by groundwater flow from upgradient locations. Recharge is also from precipitation. Discharge from the Upper Aquifer occurs along the lower terraces next to the Cle Elum and Yakima rivers. Discharge from the Lower Aquifer occurs from well pumping at the Cle Elum Hatchery, to the south of the site. A number of water supply wells are located near or within the Bullfrog Flats site.

Groundwater Quality

Groundwater quality standards were listed in the 2002 Cle Elum UGA EIS. Groundwater quality was described based on results from four drilled wells within or upgradient of the site. The data showed that the groundwater was slightly basic and moderately hard. Iron concentrations were high, with at least one sample exceeding groundwater standards. Fecal coliform bacteria were detected in one round of sampling.

Water Supply

The 2002 Cle Elum UGA EIS described the water supply and water rights conditions at that time. Elements of a water right were listed as:

- The water source,
- The water right priority date,

- The purpose of the use,
- The point of diversion or withdrawal,
- The period of use,
- The place of use, and
- The maximum annual volume and instantaneous peak rate of water authorized for diversion.

City of Cle Elum Water Supply

In 2002, the City of Cle Elum was withdrawing water from two surface water sources in the Upper Yakima River basin, one on the Cle Elum River and the other on the Yakima River, with the Yakima River being the City's primary source. At the time, the City was in the process of developing a new treatment plant and water system improvements, including new diversion works associated with both the Cle Elum and Yakima Rivers that were designed to serve the City of Cle Elum and Town of South Cle Elum.

At the time, the City relied on two sources for its municipal supply: 1) a water right owned by the City with a priority date of June 30, 1896; and, 2) a series of water supply agreements with the U.S. Bureau of Reclamation, beginning in 1932, for a municipal supply derived from the Yakima River system.

Trendwest Water Rights

In 2002, Trendwest (the owner of the Suncadia resort and Bullfrog Flats properties at the time) owned three surface water rights on the Yakima River and eleven surface water rights on four tributaries between Easton and Ellensburg. A portion of Trendwest's Yakima River water rights were for year-round stockwater use. The remainder of the Yakima River water rights and all of the tributary water rights were used for seasonal irrigation. The total annual water quantity of Trendwest's surface water rights was 8,075 acre-feet, and the total instantaneous quantity was 40.7 cfs (cubic feet per second).

(See 2001 Cle Elum UGA DEIS and 2002 Cle Elum UGA FEIS Sections 3.3 and 3.4 for details.)

2020 SEIS

Surface Water Resources

Surface water resources are much the same as they were in 2002. One new hydrologically isolated wetland has been identified on the plateau to the east of the Cle Elum River (see Section 3.3, **Plants, Animals, & Wetlands**, for details). There are currently no impervious surfaces on the 47° North site, and there are few or no stormwater management facilities on the site.

Surface Water Quality

For both the Yakima and Cle Elum Rivers, the water quality standards have generally remained the same as in the 2002 Cle Elum UGA EIS and are listed in **Appendix B**. The only

notable update is that the Yakima River (from its mouth to the confluence with the Cle Elum River) has a reduced temperature requirement from 18°C (64.4°F) to 17.5°C (63.5°F).

Section 303(d) Threatened & Impaired Water Bodies

Water Quality Assessments are regularly completed by Ecology in accordance with the Federal CWA Section 303(d) requirements. In the most recent assessment, water bodies were divided into the following categories:

- Category 1: Meets standards for parameter(s) for which it has been tested.
- Category 2: Waters of concern.
- Category 3: Waters with no data or insufficient data available.
- Category 4: Polluted waters that do not require a TMDL because a) they have an approved TMDL being implemented, or b) they have a pollution control program in place that should solve the problem, or c) are impaired by a non-pollutant such as low water flow, dams, or culverts.
- Category 5: Polluted waters that require a TMDL – the 303(d) list.

In the site vicinity, Ecology identified the Yakima River as Category 1. The Cle Elum River was listed as Category 2, waters of concern, with the specific concern of temperature.

Groundwater Resources

Groundwater resources are much the same as described in the 2002 Cle Elum UGA EIS. The current City of Cle Elum Municipal Code (Section 18.01.070) indicates that the City is in an aquifer recharge area. The Code states that this is a preliminary designation and the designation of individual properties as Critical Aquifer Recharge Areas (CARAs) should be based on further study. Study for this SEIS indicates that the glacial outwash beneath the site is partially recharged by direct precipitation.

Water Supply

City of Cle Elum Water Supply

In 2002, Trendwest dedicated a 12-acre water treatment plant parcel that was part of the Cle Elum UGA to the City, and in 2004, the water treatment plant was built. The capacity of this plant is currently 6 million gallons per day (gpd) with room for expansion to 8 million gpd. The new diversion works associated with both the Cle Elum and Yakima Rivers designed to serve the City of Cle Elum and Town of South Cle Elum were completed as well.

Trendwest Water Rights

There have been significant changes to water rights for the site and vicinity since the 2002 Cle Elum UGA EIS. In 2002, Trendwest had acquired fourteen water rights, made agreements with the City of Cle Elum regarding water supply, and entered into a Cooperative Agreement with the Washington Department of Fish and Wildlife and the Yakama Nation to work cooperatively toward the goal of no net loss of fish and wildlife habitat and protection of the environment. They also entered into a Settlement

Agreement with RIDGE (a Roslyn-base conservation organization), which obligated them to secure adequate water rights to mitigate their impacts, as well as the impacts associated with induced off-site development. In 2003, Ecology approved the use of three water rights for the Bullfrog Flats property. In 2019, the RIDGE Settlement Agreement was terminated by court order.

Since the 2002 Cle Elum UGA EIS, there have been additional concerns raised about other water uses in Kittitas County, including a petition to Ecology requesting that all unappropriated groundwater in Kittitas County be withdrawn for new groundwater uses. In 2011, Ecology adopted a new regulation (Chapter 173-539A WAC) that put mitigation requirements in place for any new consumptive uses in the upper Yakima basin.

Trendwest acquired more than 30 senior water rights in the upper basin before Ecology's rule was adopted. These water rights, totaling 2,454.32 acre-feet of consumptive use, are now used to supply water to development of the Suncadia resort and the Bullfrog Flats property; mitigate consumptive use by induced off-site development caused by Suncadia's development; mitigate consumptive use resulting from development of formally irrigated fallowed land; and, place water in Ecology's Trust Water Rights Program for instream flow purposes and for purchase for new development by third parties within certain portions of the rule area.

Trendwest purchased more than enough water rights for the Suncadia resort and Bullfrog Flats property, and additional rights to supply water for several "water banks" that were established under Ecology rules. New water users can purchase water from these water banks to cover their consumptive use. Therefore, New Suncadia is currently one of the major water bank operators in the upper basin. The Development Agreement for the Bullfrog Flats Master Site Plan requires Trendwest/New Suncadia to convey a portion of their water rights to the City of Cle Elum to serve the Cle Elum UGA and Bullfrog Flats development. This transfer is in process but has not been finalized as of this writing.

3.2.2 Impacts of the Alternatives

This sub-section describes the potential impacts on water quantity and quality that were analyzed in the 2002 Cle Elum UGA EIS and compares/expands upon those impacts with the potential impacts that could occur with development of the SEIS Alternatives.

2002 Cle Elum UGA EIS

FEIS Alternative 5 (No Action Alternative) *– Original Bullfrog Flats Master Site Plan*

Construction Impacts

The 2002 Cle Elum UGA EIS did not identify any direct impacts to water resources (e.g., filling of wetlands, diversion of streams, etc.) from construction under FEIS Alternative 5.

Approximately 403 acres of the site would be cleared for site development under FEIS Alternative 5. Clearing and grading operations could result in erosion and sedimentation of surface water runoff, and could also deliver fine sediments, accidental spills of petroleum products, or construction waste such as concrete leachate to the Cle Elum River by way of the underlying alluvial aquifer.

Temporary stormwater management measures would be implemented in accordance with requirements at that time. These measures would reduce the potential for erosion/sedimentation and the transport of pollutants from the site to downstream water resources.

Operation Impacts

Surface Water Resources

At full buildout, approximately 247 acres of the site would be covered in impervious surfaces under FEIS Alternative 5. These impervious surfaces would generate stormwater runoff that would be infiltrated into site soils. The added recharge would represent a minor percentage of the Yakima River flows. Impacts to surface water quality could result from by-products from motor vehicles (e.g., heavy metals), overuse of landscape chemicals, and waste from domestic animals (and associated fecal coliforms). A permanent stormwater management system would be installed onsite, in accordance with regulations at that time, to control water quantity and quality impacts.

Groundwater Resources

Infiltration was proposed as the primary stormwater management technique under FEIS Alternative 5. Any changes in the groundwater table from this infiltration were determined to be undetectable. Chemicals used for landscape maintenance could impact groundwater quality if not properly managed. The proposed business park under FEIS Alternative 5 could include buildings that could produce, use, or store hazardous materials that could enter groundwater.

Water Supply

In 2002, Trendwest proposed to transfer its Yakima River water rights so that they could be exercised for beneficial uses within the Suncadia resort and the Bullfrog Flats site. Trendwest filed water rights change applications to transfer Trendwest's mainstem Yakima River irrigation and stock water rights from their current place near Ellensburg to diversions year-round at the City of Cle Elum's Yakima and Cle Elum River water supply diversions. Trendwest also filed applications to transfer their 11 tributary water rights to instream flows.

Under FEIS Alternative 5, the City of Cle Elum would supply water for the non-residential uses from its Yakima River system existing water rights or water supply bases. Water users within the Bullfrog Flats residential areas would become customers of the City's water utility and receive water service from the City of Cle Elum. Trendwest would convey water rights to the City for the Bullfrog Flats residential development.

A water supply model was used in the 2002 Cle Elum UGA EIS to assess the potential environmental impacts from the proposed transfer of all of Trendwest's water rights. Potential direct impacts to tributary stream flows, tributary third-party diverters, Yakima River streamflow, and mainstem third party diverters were analyzed in the context of cumulative impacts. The modeling showed that impacts attributable to development under FEIS Alternative 5 would be less than the cumulative impacts.

(See 2001 Cle Elum UGA DEIS and 2002 Cle Elum UGA FEIS Sections 3.3 and Section 3.4 for details.)

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SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Construction Impacts

SEIS Alternative 5 would clear approximately 403 acres of the site for proposed development, the same amount as FEIS Alternative 5. While the site plans are almost identical, there would be a new direct impact to surface water resources with construction under SEIS Alternative 5, because a new wetland was identified in an area proposed for development. Either the site plan would need to be adjusted to avoid this impact or mitigation for the wetland impact would be required (see Section 3.3, **Plants, Animals, & Wetlands**, for details).

The potential for impacts to surface water and groundwater quality from sediments and pollutants released during construction activities would be comparable to under FEIS Alternative 5. Temporary erosion/sedimentation measures would be implemented to control construction impacts, similar to under FEIS Alternative 5; however, these measures would be consistent with current regulations.

Operation Impacts

Surface Water Resources

At full buildout, SEIS Alternative 5, like FEIS Alternative 5, would cover approximately 247 acres of the site in impervious surfaces, the same amount as under FEIS Alternative 5. There would be a potential for surface and groundwater quantity and quality impacts during operation of the project from the stormwater runoff from these surfaces.

A permanent stormwater management system would be installed onsite, in accordance with current regulations in the 2019 Ecology Manual to control these potential impacts on water resources. The primary stormwater management technique would be infiltration, like under FEIS Alternative 5. With implementation of this system, significant impacts to surface water resources are not expected.

Groundwater Resources

Potential impacts of SEIS Alternative 5 to groundwater resources would include changes in recharge due to impervious surface coverage and changes in water demand. Clearing and impervious surfaces would be the same under SEIS Alternative 5 as under FEIS Alternative 5 and water demand would be comparable. Therefore, SEIS Alternative 5 groundwater quantity impacts would be similar to under FEIS Alternative 5, and no significant impacts are anticipated. Provided the stormwater management guidelines in the 2019 Ecology Manual are properly implemented, no significant impacts to groundwater quality are expected.

Water Supply

As noted previously, Trendwest (now New Suncadia) has acquired water right certificates totaling 2,454.32 acre-feet of consumptive water rights. A total of 1,270 acre-feet of consumptive water would be required for full buildout of the Suncadia resort and SEIS Alternative 5, consistent with the 2002 Development Agreement, which would be supplied by the City of Cle Elum using water rights acquired by New Suncadia. The water rights that serve the Suncadia resort are owned by the Suncadia Water Company LLC. There are three water rights authorized by Ecology and owned by New Suncadia for the Bullfrog Flats property. The water rights are authorized for use on the Bullfrog Flats property for municipal water supply purposes from the City of Cle Elum's Water System, consistent with the 2002 Cle Elum UGA EIS and the 2002 Development Agreement. Thus, New Suncadia has adequate water rights to provide water for the SEIS Alternative 5, consistent with the 2002 Development Agreement, a portion of which are being transferred to the City of Cle Elum. Additional rights have been placed in Ecology's Trust Water Rights Program for instream flow and mitigation purposes. A portion of these rights are available for purchase from water banks operating in the Yakima Basin.

SEIS Alternative 6 *– Proposed 47º North Master Site Plan Amendment*

Construction Impacts

The potential for impacts to surface water and groundwater quality (e.g., from sediments and pollutants) during construction activities under SEIS Alternative 6 would be less than under FEIS Alternative 5, because less total clearing (333 acres) of the site and adjacent 25-acre commercial property would be required.

During construction, temporary stormwater management measures would be implemented to prevent erosion/sedimentation and the transport of pollutants from the site to

downstream water resources, such as the Cle Elum River. These measures would follow the best management practices (BMPS) and requirements of the Construction Stormwater Pollution Prevention Plan (SWPPP) and the currently active NPDES Permit (No. WA0052361) for Suncadia and Bullfrog Flats. This permit may need to be amended to include a transfer of coverage to the Applicant.

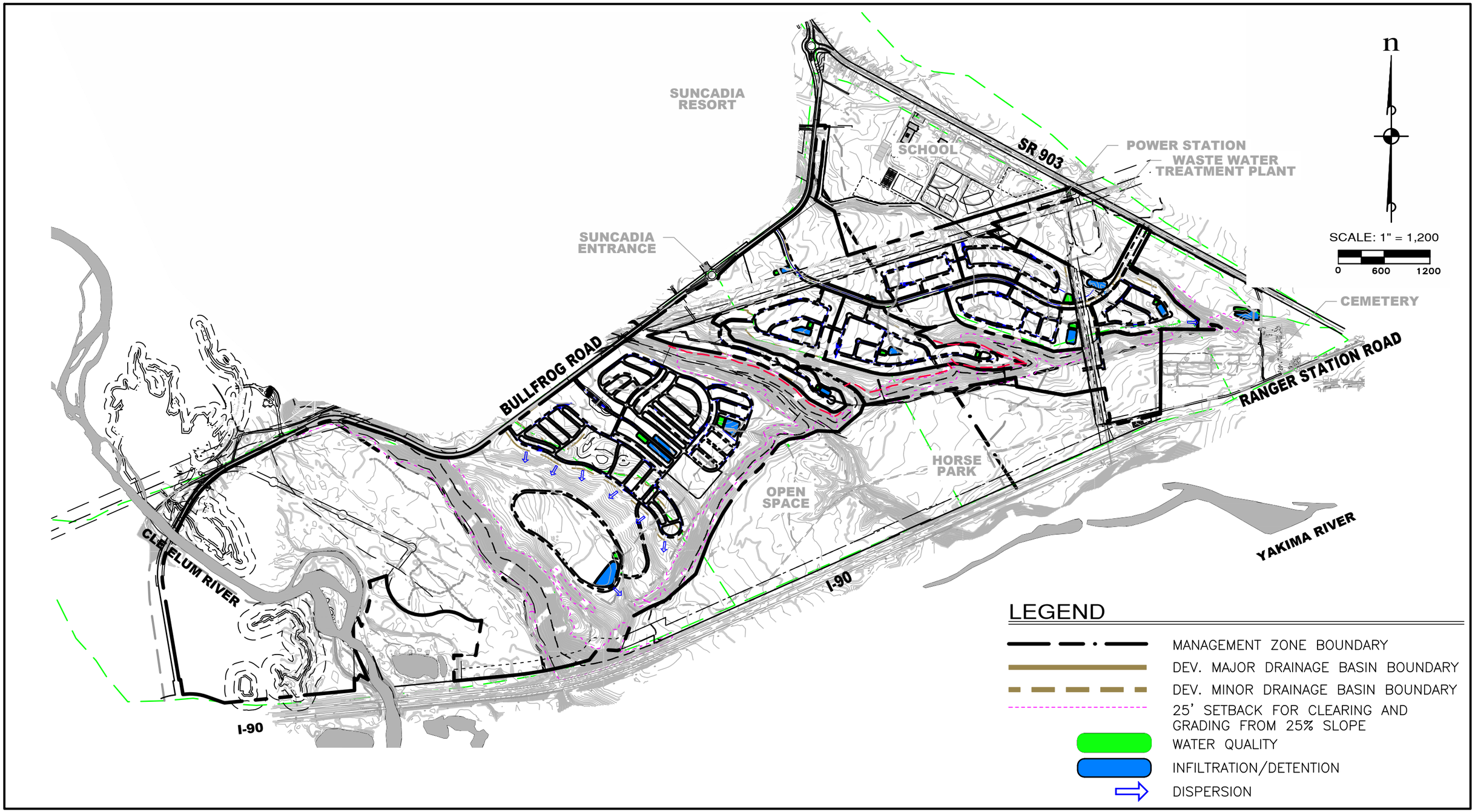
Operation Impacts

Surface Water Resources

Impervious surfaces would be introduced with proposed development under SEIS Alternative 6. A total of approximately 166 acres of the 47° North site and adjacent 25-acre property would be covered in impervious surfaces; total impervious surfaces would be less than under FEIS Alternative 5. There would be a potential for surface and groundwater quantity and quality impacts during operation of the project from the stormwater runoff from these surfaces.

Stormwater Management. A permanent stormwater management system would be installed onsite to address potential water quantity and quality impacts, in accordance with the 2019 Ecology Manual. As with FEIS Alternative 5, infiltration would be the primary stormwater management technique. A site-specific hydrologic model was used to design the system that was previously developed for both Suncadia and the Bullfrog Flats site. Stormwater runoff from the developed site would generally be collected in catch basins or roadside water quality swales and directed to water quality and infiltration or detention facilities (depending on the soils) via pipes or conveyance swales. Sheet flow dispersion would also be used for stormwater runoff water quality and flow control for single family and RV resort areas that abut open space and slope away from the developed areas at a maximum slope of 15%. Basic or enhanced water quality facilities would be installed, depending on soil conditions. Overflow routes would be provided for all proposed stormwater facilities. (See **Figure 3.2-1**, Conceptual Stormwater Management Plan).

As noted previously, the water quality standards for the Yakima and Cle Elum rivers have generally remained the same as described in the 2002 Cle Elum UGA EIS. The only notable update is that the Yakima River (from its mouth to the confluence with the Cle Elum River) has a reduced temperature requirement. The stormwater management system under SEIS Alternative 6 would infiltrate or disperse all stormwater runoff and no direct discharge of stormwater is proposed to the Yakima River. The proposed infiltration and dispersion facilities onsite are at a distance of approximately 3,000 feet from the Yakima River. Therefore, no impacts to Yakima River water quality are expected because any pollutants would attenuate over that distance. No development is proposed in the Cle Elum River drainage basin that could impact the water quality in that river.



Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.2-1

Conceptual Stormwater Plan--SEIS Alternative 6

Groundwater Resources

Stormwater Infiltration. As noted above, infiltration would be the primary stormwater management technique. The proposed stormwater management system accounts for the permeability of the surficial sediment underlying the site. The surficial sediments throughout most of the Bullfrog Moraine (in the western portion of the site) consist predominantly of glacial outwash with alpine till exposed at or near the ground surface. These sediments generally have low permeability and are not suitable for infiltration. However, some areas of clean outwash were encountered within the Bullfrog Moraine and it is likely that portions of the "dirty outwash" are suitable soils for stormwater infiltration. The glacial outwash to the east of the Bullfrog Moraine generally has high permeability and is considered suitable for stormwater infiltration. Design-level exploration and infiltration testing will be performed for the proposed infiltration ponds to assess suitable infiltration rates for infiltration facility design, as described in the 2019 Ecology Manual.

Water Balance Analysis. Potential impacts to groundwater resources were assessed, including: 1) the change in recharge due to impervious coverage, and 2) the water system demand for indoor use and irrigation volumes under proposed SEIS Alternative 6. Groundwater recharge would increase under SEIS Alternative 6 relative to the existing condition since all stormwater would infiltrate onsite. The amount of stormwater infiltration recharge under SEIS Alternative 6 would be somewhat less compared to FEIS and SEIS Alternative 5 since the amount of impervious surface coverage would be less. Water demand under SEIS Alternative 6 would also be less than the water demand identified from FEIS and SEIS Alternative 5 for the combined indoor and irrigation uses. Stormwater infiltration is currently proposed using infiltration ponds and dispersion systems designed to recharge groundwater.

Sufficient water rights have been acquired to serve the proposed project under the demand estimates in the 2002 Cle Elum UGA EIS. Water rights research for this SEIS concluded that the acquired water rights exceed the demand for the combined 47° North and Suncadia developments and is sufficient to provide water for a number of water banks (see the discussion under *Water Supply* below). Therefore, potential impacts to groundwater resources under SEIS Alternative 6 would be mitigated, similar to the situation for FEIS and SEIS Alternative 5, and no significant adverse impacts to groundwater resources are expected.

Groundwater Quality. The 2019 Ecology Manual provides guidelines for setbacks from water supply sources and septic systems. Review of water well records on file with Ecology indicates that there are several domestic water supply wells in the 47° North site vicinity along Wood Duck Road. These wells appear to be associated with residential properties outside of the site boundary. One additional domestic water supply well is located east of the site at the solid waste transfer station on the east side of SR 903. All these domestic wells lie beyond the recommended Ecology setback of 100 feet from the project area. Review of the Washington State Department of Health Office of Drinking Water Source

Water Assessment Program (SWAP) online mapping indicates that the site lies outside of the assigned time of travel for all Group A public water supply wells. The assigned times of travel for two Group B public supply wells extend slightly beyond the property boundaries in the eastern portion of the site. There are no existing septic systems, drinking water wells, or springs used for public drinking water supply either on the site or within the specified setback guidelines. Therefore, significant impacts to water wells in the area are not expected.

Potential water quality impacts to groundwater through infiltration of stormwater with pollutants would be mitigated by incorporating water quality treatment into the stormwater management system, as required by the 2019 Ecology Manual.

Water Supply

A consumptive use and water supply analysis was performed to determine whether there are adequate water rights available to supply the proposed development under SEIS Alternative 6. In terms of water consumption, the primary change under SEIS Alternative 6 compared to FEIS or SEIS Alternative 5 would relate to the reduction in the number of single and multi-family residential units and the equivalent increase in the number of RV sites proposed on the site. SEIS Alternative 6 is estimated to use 17,004 gpd or 19.05 acre-feet per year less domestic water than FEIS or SEIS Alternative 5. SEIS Alternative 6 would also likely use less water for landscape irrigation because of the fewer single and multi-family residential units. These changes are likely to reduce the amount of water used and consumed and would likely have a lower impact on instream flows compared to FEIS or SEIS Alternative 5. Since New Suncadia has adequate water rights to supply FEIS and SEIS Alternative 5, consistent with the 2002 Development Agreement, they also have adequate water rights to supply SEIS Alternative 6.

Developability of the Municipal (Community) Recreation Center, Cemetery Expansion & Affordable Housing Sites

There are no water resource-related impediments to development of the municipal (community) recreation center, cemetery expansion, and affordable housing sites. These sites do not contain any rivers, streams, or wetlands; soils on these sites are suitable for stormwater infiltration; and, adequate water rights are available to serve development on these sites.

Cumulative Impacts

Cumulative impacts to water resources could result from development within the vicinity of the 47^{o} North site that could occur concurrent with development under SEIS Alternative 6. This development would include further development within Suncadia, and development of the approved City Heights and West Cle Elum Pines mixed-use projects. This development could also include development induced by Suncadia. The potential for impacts on water resources from the cumulative impact projects would depend upon their specific site conditions. It is assumed that similar to 47° North, these projects would adhere to the

stormwater management regulations of the respective jurisdictions in which they are located (Kittitas County in the case of Suncadia, and City of Cle Elum in the case of City Heights and Cle Elum Pines). New Suncadia has adequate water rights to supply the 47° North project, together with the cumulative impact projects and potential induced growth from Suncadia. Therefore, significant cumulative impacts on water resources are not expected.

Conclusions

Clearing and grading activities would be required for SEIS Alternatives 5 and 6 that could result in erosion and sedimentation of water resources. During construction, temporary stormwater management measures would be implemented to prevent erosion/sedimentation and the transport of pollutants from the site to downstream resources. No direct impacts to water resources would occur with development of SEIS Alternative 6; one on-site wetland would be impacted with SEIS Alternative 5. New impervious surfaces would be introduced under the SEIS Alternatives. There would be a potential for surface and groundwater quantity and quality impacts during operation of the project from the stormwater runoff from these surfaces. A permanent stormwater management system would be installed onsite to address these potential impacts. New Suncadia has adequate water rights to supply SEIS Alternatives 5 and 6. Water used and consumed, and related impacts on instream flows, under SEIS Alternative 6 would be less than under SEIS Alternative 5. Overall, impacts on water resources are not expected to be significant with implementation of the mitigation measures listed below.

3.2.3 Mitigation Measures

The following mitigation measures are identified to address the water resources impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- Proposed development under the revised Master Site Plan would not directly impact any on or off-site water resources (e.g., wetlands and streams).

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- Sufficient water rights are available from New Suncadia to supply water for proposed development of the 47° North site and the adjacent 25-acre property. New Suncadia and Ecology signed an agreement in December 2015 regarding how they would use their water rights and their mitigation obligations, including putting water rights into Ecology's Trust Water Rights Program and transferring water rights to the City of Cle Elum. The transfer of water rights to the City is pending.

Required Mitigation Measures

- Temporary stormwater management measures would be implemented that would follow the BMPs and requirements of the Construction SWPPP and the currently-active NPDES Permit (No. WA0052361) for the project.

- A Master Drainage Plan would be prepared and implemented, consistent with the 2019 Ecology Manual.

- Stormwater Infiltration facilities would be sited to avoid increasing the potential for landslides in any steep slope or landslide hazard areas.

- Design-level exploration and infiltration testing would be performed for the proposed infiltration ponds to assess suitable infiltration rates for infiltration facility design, as described in the 2019 Ecology Manual.

3.2.4 Significant Unavoidable Adverse Impacts

Impacts on water quality or wetlands under the SEIS Alternatives, if any, would be short term, with no broad or cumulative effects. If isolated and localized releases of turbid water or petroleum products occur during construction, significant water quality impacts could result. However, with implementation of the proposed TESC plan and SPPP these impacts could be avoided.

Heavy metals, landscape chemicals, and fecal coliforms would increase in stormwater runoff with the proposed urban development, even after treatment by BMPs. With the proposed permanent water quality treatment facilities, no adverse impacts to water resources are anticipated.

No significant water supply impacts are expected because the water rights that are now owned by New Suncadia, and will be conveyed to the City, are adequate to provide water to development of both the Suncadia resort and the 47° North site; would mitigate consumptive use by induced off-site development caused by Suncadia development; would mitigate consumptive use resulting from development of the fallowed land formally irrigated; and would place water in Ecology's Trust Water Rights Program for instream flow purposes and for purchase for new development by third parties within certain portions of the rule area.

3.3 PLANTS, ANIMALS, & WETLANDS

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant plants, animals, and wetlands impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Plants, Animals, & Wetlands section is based on the *Plants, Animals, & Wetlands Report* (September 2020) prepared by Raedeke Associates (see **Appendix E**).

Methodology

The methodology for conducting the analysis of plants, animals, and wetlands included the following:

- Background information was investigated pertaining to plants, animals, and wetlands for the site.
- Federal, state, and local fish and wildlife/natural resources information systems were consulted to determine the presence, absence, or potential for occurrence of threatened and endangered wildlife and plant species and Priority Habitat and Species (PHS) in the Cle Elum area. PHS include species and habitats for which special conservation measures should be taken.
- Maps and documentation from previous studies; federal, state, local and tribal databases; and, historical sources were reviewed regarding: the mapped occurrence of wetlands and streams on the site, documented occurrences of endangered, threatened, and sensitive species, and occurrences of priority wildlife species.
- Site visits were conducted on October 15, 2019 to review and verify wetland boundaries and to gather information to update the wetland ratings using the Corps of Engineers wetland delineation guidelines (Environmental Laboratory 1987) and the current Washington Department of Ecology (WDOE) Wetland Rating System for Eastern Washington (Hruby 2014), as required under the current City of Cle Elum (2019) critical areas regulations.
- Extensive plants and animals studies were conducted for the previous Bullfrog Flats project. These studies were reviewed for the current analysis.
- Biologists conducted a reconnaissance of the site on October 22, 2019 to describe habitat conditions on the site, update and refine vegetation cover type mapping, and record observations and signs of wildlife use. During these field investigations, a search for the presence or habitat of wildlife species that have been listed as endangered, threatened, or sensitive by the U.S. Fish and Wildlife Service (USFWS) (2019) or Washington Department of Fish and Wildlife (WDFW) (2019a, b) was conducted. In addition, managers at Suncadia were contacted, as well as local WDFW staff to gather updated information on elk use and fisheries resources and management on the site and vicinity.
  (See **Appendix E** for details on the Plants, Animals, and Wetlands Methodology.)

3.3.1 Affected Environment

2002 Cle Elum UGA EIS

Wetlands

Five wetlands were identified and delineated on the Bullfrog Flats property as part of studies during the 1990s (see Figure 3.7-1 in the 2002 Cle Elum UGA Final EIS for the locations of these wetlands). These wetlands were confirmed in the 1990s by the U.S. Army Corps of Engineers prior to publication of the 2002 Cle Elum UGA EIS. The wetlands totaled approximately 4.4 acres onsite. Wetlands 1, 2, and 3 were riparian-associated wetlands located in the Cle Elum River corridor and were supported by river flows. Wetlands 4 and 5 were isolated depressions located in the west central plateau of the site. Under the City of Cle Elum critical area regulations in effect at the time, Wetland 1 was rated as Category IV (25-foot buffer), Wetlands 2 and 3 were rated as Category II (100-foot buffer), and Wetlands 4 and 5 were rated as Category III (50-foot buffers).

Aquatic & Fish Habitat

As described in the 2002 Cle Elum UGA EIS, the Bullfrog Flats site is located within the Upper Yakima River basin. The Cle Elum River flows through the western portion of the site before discharging into the Yakima River at a point downstream. Other than the river and the wetlands, no other surface waters (i.e., streams) were identified on the site during previous studies.

The site has a long history of logging, as is the case for the overall basin, and the floodplain has been extensively thinned. When the 2002 Cle Elum UGA EIS was prepared, the riparian corridor of the Cle Elum River within the project reach was relatively intact and provided fish spawning and rearing habitat. Winter rearing habitat for resident fish was found principally in the mainstem Cle Elum River and in short portions of the deeper side channels. Existing large cobble and pieces of large woody debris provided adequate velocity shelter from existing flows, which were regulated by the Bureau of Reclamation operations at Cle Elum Lake. Water quality within this area was considered excellent and did not limit fish habitat value.

Previous studies documented a variety of lampreys, minnows, suckers, sticklebacks, skulpins, perches, codfishes, and salmonid fish that were known to occur in or near the Bullfrog Flats site. Salmonid fish known to occur in the vicinity included: spring Chinook, coho, and sockeye salmon, as well as cutthroat trout and bull trout.

Within the Bullfrog Flats site, the river system supported only one run of anadromous fish, the spring Chinook salmon, and this run was classified as depressed. The Cle Elum River was an important spawning area for this species.

Resident trout were generally common to all fish-bearing reaches in the Yakima Basin. Bull trout were also native to the Yakima River. Sculpins, mountain whitefish, and dace were other common species in the area. Numerous side channels to the Cle Elum River seasonally supported a high abundance of salmonids and were critical to maintenance of both resident and anadromous fish populations.

The Cle Elum Dam, located upstream of the Bullfrog Flats site, was built without fish passage facilities. Since dam construction was finished in 1933, it has been a complete barrier to upstream fish migration. Before construction, sockeye salmon were known to migrate into the Upper Cle Elum drainage.

Endangered Species Act & Other Priority Fish Species

In 2002, fish species with federal status under the Endangered Species Act (ESA) included bull trout and Middle Columbia River steelhead. Columbia River chum salmon was also included, but this stock was limited to the lower about 185 miles of the Columbia River and was not in the Yakima River system, nor was the system considered critical habitat for chum. WDFW had not documented bull trout in the Cle Elum River below the Cle Elum Dam. At the time of the 2002 Cle Elum UGA EIS, small numbers of steelhead used the upper Yakima River.

Vegetation

The 2002 Cle Elum UGA EIS indicated that the Bullfrog Flats site lay within the Douglas fir zone and was characterized by dry Douglas fir (*Pseudotsuga menziesii*) vegetation associations. Upland cover types identified on the site included ponderosa pine forest, early successional ponderosa pine forest, mixed coniferous forest, mixed coniferous/deciduous forest, deciduous forest, and mixed shrub/grassland communities. Most of the site had been logged during the last century.

Endangered Species Act & Other Priority Plant Species

A variety of endangered, threatened, sensitive, or other plant species of concern by the USFWS or Washington Department of Natural Resources (DNR) at the time were listed as potentially occurring on the Bullfrog Flats site or in the surrounding area. Of those, the USFWS indicated the potential for Wenatchee Mountain checker-mallow (*Sidalcea oregana* var. *calva*) and Ute ladies' tresses (*Spiranthes diluvialis*) to occur in property. Wenatchee Mountain checker-mallow was proposed for federal listing as endangered and Ute ladies' tresses was listed as a federal threatened species. Neither species was found during extensive field investigations on site at the time. Wetland and riparian areas were present onsite.

Wildlife

The 2002 Cle Elum UGA EIS described priority habitats and critical areas in the Bullfrog Flats site that were identified as having significant value to wildlife species. It also identified existing wildlife species that were either observed or were likely to use the site, and discussed federal and state endangered, threatened, sensitive, and other priority species.

Endangered Species Act & Other Priority Animal Species

Elk. WDFW considered elk a priority species. The elk herd that used the Bullfrog Flats site wintered along the Cle Elum and Yakima rivers and east to the Teanaway River. This herd was a sub-herd of the Colockum elk herd, which historically ranged between the Columbia River and the Cascade crest. Population estimates of this sub-herd at the time of the previous studies ranged between l00 and 200 animals.

Bald Eagle. The bald eagle was a federally-listed species at the time. Bald eagles were known to winter along the Cle Elum, Yakima, and Teanaway rivers, and winter concentration areas were documented approximately one mile south of the Bullfrog Flats site along the Cle Elum and Yakima rivers. No nests were known to occur within the site, but a nest was known to occur along the shore of Cle Elum Lake.

Northern Spotted Owl. The northern spotted owl was a federal threatened species. The edge of a spotted owl management circle (1.8-mile radius) was located at the time of previous studies approximately two miles north of the Bullfrog Flats site. Spotted owl breeding sites and management circles were numerous within forestlands of the Ronald, Cle Elum Lake, Kachess Lake, Teanaway Butte, and Easton quadrangles. However, preferred spotted owl habitat was not found within or in the immediate vicinity of the Bullfrog Flats site.

(See the 2001 Cle Elum UGA DEIS Section 3.6 and 2002 Cle Elum UGA FEIS Section 3.5 for details.)

2020 SEIS

In general, plants, animals, and wetlands conditions on and near the 47° North site are much the same today as they were in 2002. Changes or additional information on these conditions are described below.

Wetlands

During the current study of the 47° North site, five wetlands were reviewed and identified that were previously included in the 2002 Cle Elum UGA EIS, and one additional wetland was identified and delineated (Wetland 6). The boundaries of Wetlands 1, 2, and 3 have been verified but not re-delineated as they are located in the Cle Elum River corridor within a proposed natural open space area. These wetlands have not changed substantially since the previous investigations in extent or characteristics. The wetlands meet the criteria for

Category II wetlands under the current WDOE rating system for eastern Washington (Hruby 2014). Because they are located in the 100-year floodplain associated with the Cle Elum River (a Shoreline of the State), the City of Cle Elum (2016) Shoreline Master Program (SMP) requires a 200-foot buffer on these wetlands (see **Figure 3.3-1**, Wetland Locations, and **Table 3.3-**1 for details).

Table 3.3-1
SUMMARY OF WETLANDS ONSITE

Wetland	Vegetation Class	Size (acres)	2001/2002 EIS[1]		2020 SEIS[2]	
			Rating	Buffer (ft)	Rating	Buffer (ft)
1	PEM/PSS	0.6	IV	25	II	200[3]
2	PSS/PFO	2	II	100	II	200[3]
3	PSS/PFO	1.4	II	100	II	200[3]
4	PSS/PFO	0.19	III	50	I	75
5	PSS	0.30	III	50	II	75
6	PSS	0.01	--	--	III	60

Source: Raedeke Associates, 2020.

[1] Ratings and buffers from the 2001/2002 Cle Elum UGA EIS are based on then-current City of Cle Elum code requirements.

[2] Ratings and buffers for this SEIS are based on the current WDOE rating system (Hruby 2014) and the current City of Cle Elum (2019) critical areas regulations.

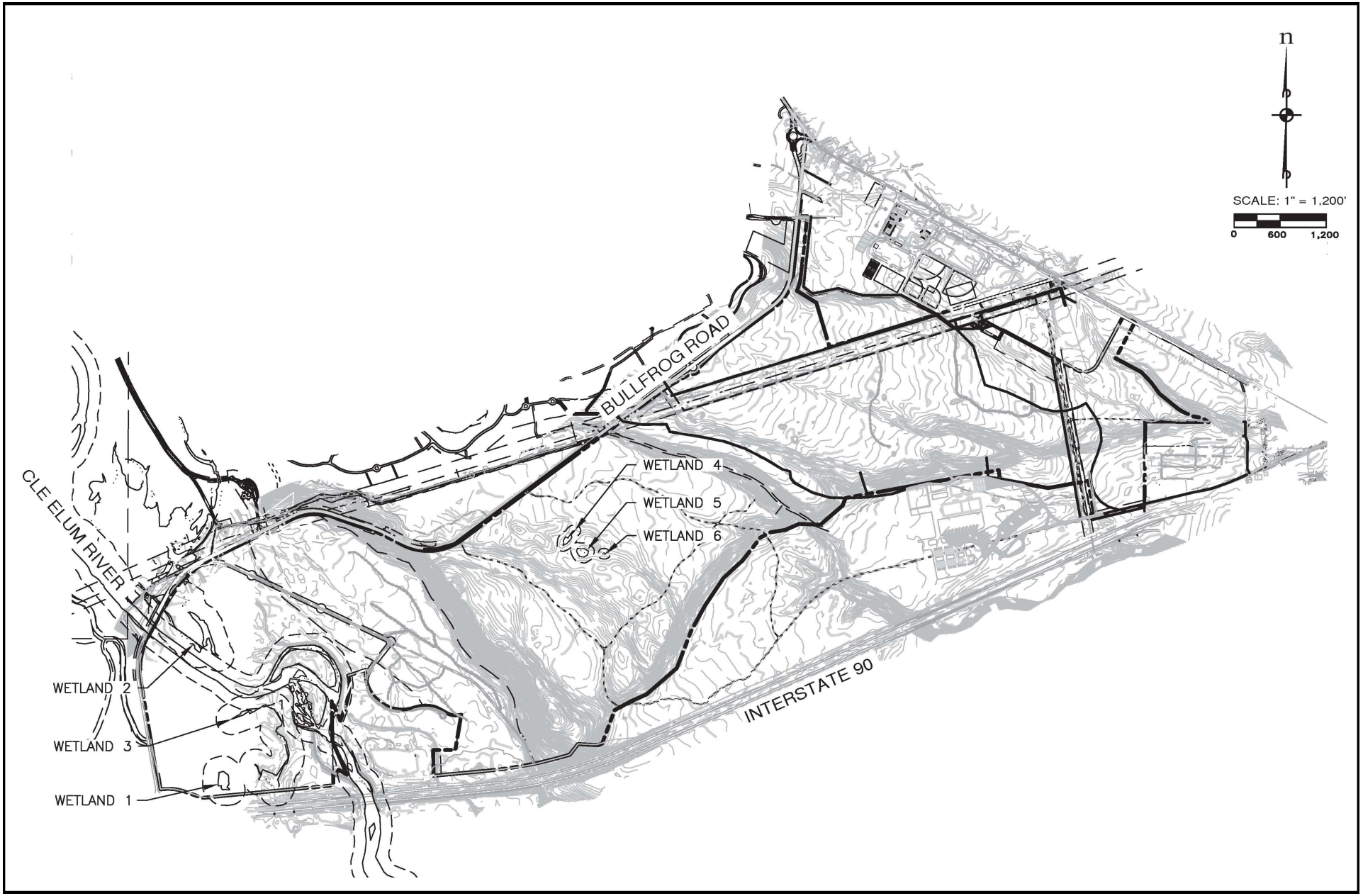
[3] Wetlands 1, 2, and 3 are located in the floodplain of the Cle Elum River, which requires 200-ft. buffers under the City of Cle Elum (2016) Shoreline Management Program.

Wetlands 4 and 5 were re-delineated and surveyed as part of field investigations for this SEIS. Wetlands 4 and 5 meet the criteria for Category I and II wetlands, respectively, under the current WDOE rating system, both of which require 75-foot buffers under the current City of Cle Elum (2019) critical areas regulations. A new small, isolated wetland (Wetland 6) was located east of Wetland 5, and the boundaries were delineated. Wetland 6 meets criteria as a Category III wetland, which requires a 60-foot buffer under the City code (see **Figure 3.3-1** and **Table 3.3-1**).

The new Wetland 6 is a small, 0.01-acre closed depression located east of Wetland 5 on the terrace above the Cle Elum River floodplain. The wetland supports a nearly monotypic stand of spirea and is hydrologically support by direct precipitation and surface water runoff from surrounding areas.

Aquatic & Fish Habitats

The Cle Elum River and associated riparian area onsite remain in a similar condition to that recorded in previous studies. As a Shoreline of the State, the Cle Elum River requires a 150-foot buffer under the City of Cle Elum (2016) Shoreline Master Program (SMP). The river is



Source: Raedeke Associates, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.3-1

Wetland Location Map

designated as a "Natural" Shoreline through the site. Under the SMP, the shoreline jurisdiction encompasses the river, the associated wetlands, the floodway, and extends into the contiguous 100-year floodplain 200 feet landward from the floodway. Other than the wetlands, no other surface drainages were found on the site during the most recent investigations.

Endangered Species Act & Other Priority Fish Species

Based on the WDFW (2019a) database, salmonid fish species, including Chinook salmon (*Oncorhynchus tshawytscha*), Coho salmon (*Oncorhynchus kisutch*), bull trout (*Salvelinus malma*), rainbow trout (*Oncorhynchus mykiss*), and steelhead trout (*Oncorhynchus mykiss*), all are known to occur in the Cle Elum River. These species are all also indicated on WDFW Salmonscape (2019b) maps. Of these species, only the bull trout and Middle Columbia River steelhead trout are listed as threatened species. Middle Columbia River (which includes the 47° North site) spring Chinook are not listed as threatened or endangered (although both Lower and Upper Columbia River runs of Chinook salmon are listed). Columbia River chum salmon remain listed as threatened, but they only occur in the lower Columbia River and are not in the Yakima River or its tributaries.

Bull Trout

Bull trout were listed as a threatened species by the USFWS on November 1, 1999, and critical habitat was designated by the USFWS on September 26, 2005. Under the ESA listing, the USFWS assumes that bull trout are present in suitable habitat in Kittitas County waters unless proven otherwise. However, their numbers in the upper Yakima and Cle Elum rivers are very small.

Steelhead Trout

Middle Columbia River steelhead trout (including the resident form rainbow trout) were listed as threatened in 1999, with listings affirmed again in 2006 and 2012, and critical habitat has been designated in the Cle Elum and Yakima rivers. Steelhead populations in the upper Yakima and Cle Elum rivers have seen significant increases in recent years due to improved fish passage in key steelhead tributaries, extensive habitat restoration and improved river flow management. Juvenile steelhead (and other salmonids) remain a limiting factor for improvement of populations due to loss of side channel habitat. Recent habitat restoration projects near the site have added new juvenile rearing side channel habitat.

Other Salmonid Fish Species

Middle Columbia River Spring Chinook salmon are not a federally-listed species; however, the Cle Elum River remains a primary spawning area. Their numbers have been declining in recent years.

Since publication of the 2002 Cle Elum UGA EIS, coho salmon have begun to be reintroduced with a new coho facility recently being started. Goals for the facility are to support returning runs of approximately 20,000 adults. These runs are also aimed to develop runs in Cle Elum Lake once the fish passage facilities there are complete.

Sockeye salmon formerly existed in the upper lakes and tributaries of the upper Yakima River. A reintroduction program has begun in Cle Elum Lake, with recent stocking of the lake and construction of a fish passage facility to allow both upstream and downstream migration. Self-sustaining sockeye runs are estimated to possibly develop in 20 years.

Vegetation

Currently, the 47° North site and contiguous 25-acre commercial property are still undeveloped, vacant land. The site and property are mostly covered by second and third growth forests; grassland with scattered shrubs are present in the two powerline easements that pass through the site.

Field investigations of the 47° North site in 2019 led to the slight refinement of the vegetation communities identified in the 2002 Cle Elum UGA EIS. There are currently nine upland vegetation communities, including:

- mixed conifer forest-open canopy,
- mixed conifer forest-open canopy (thinned),
- Douglas-fir dominant coniferous forest – closed canopy,
- Ponderosa pine dominant coniferous forest – closed canopy,
- Ponderosa pine dominant coniferous forest – closed canopy (thinned),
- mixed deciduous forest,
- mixed deciduous and coniferous forest,
- mixed conifer forest – early successional, and
- herbaceous & scattered shrubs/saplings.

Table 2 in **Appendix E** summarizes the relative percentages of vegetative cover types within the 47° North site, and Figure 3 in **Appendix E** depicts the boundaries of each habitat type within the site. The mixed conifer forest-open canopy (thinned) is the predominant cover type, at 39% of the site. Descriptions of each vegetation cover type, which consist of essentially the same composition as described in the 2002 Cle Elum UGA EIS studies, are contained in **Appendix E**.

City of Cle Elum Priority Habitats & Critical Areas

Critical areas identified in the City of Cle Elum (2019) Critical Areas Ordinance (CAO) include wetlands, riparian corridors, fish and wildlife conservation areas (including those outlined in the WDFW PHS list), frequently flooded areas, and geologically hazardous areas. The following is an update to the summary provided in the 2002 Cle Elum UGA EIS of WDFW priority habitats located on the 47° North site.

Edge habitats between different vegetation communities are a special habitat feature used by a variety of wildlife species. The most distinct edge habitat on the site is still located between the wetland, riparian, and forested vegetation communities.

Snags and downed woody material provide nesting, feeding, and roosting habitat for a variety of wildlife species, including raptors, woodpeckers, amphibians, reptiles, and small mammals. Most snags on the site are located within the riparian, wetland, and steeply sloped areas; however, during the 2019 field investigations dispersed occasional snags were noted throughout the site. The highest concentration of snags in the upland habitats remains in the steeply sloped areas.

Instream habitat is valuable for a variety of fish and wildlife, including invertebrate, amphibian, fish, bird, and mammal species that have evolved aspects of their respective life cycles in conjunction with instream resources. Instream habitat onsite includes the Cle Elum River, which still provides quality habitat features for many salmonid species.

Riparian habitat encompasses the area beginning at the ordinary high-water mark and extends to the portion of the terrestrial landscape that is influenced by, or that directly influences, the aquatic system. Riparian habitat includes the entire extent of the floodplain and riparian areas of wetlands, which are directly connected to stream courses. A new wetland has been identified onsite, as described under *Wetlands*, above.

Endangered Species Act & Other Priority Plant Species

As in previous studies for the 2002 Cle Elum UGA EIS, none of the plant species listed as endangered, threatened, sensitive, or other species of concern were found to occur on site during 2019 field studies.

Wildlife

Twenty wildlife species, including 17 bird species and three mammal species, were directly observed or their signs observed during recent surveys. Table 2 in **Appendix E** summarizes these observed wildlife species. All species observed during the 2019 field investigations, with the exception of two species, had been observed during prior investigations of the 47° North site vicinity. White-breasted nuthatches and varied thrushes were not previously observed in the site vicinity, but both are common year-round residents of Kittitas County. No other species were observed during our 2019 field investigations.

Endangered Species Act & Other Priority Animal Species

WDFW Priority Habitat Species

The WDFW PHS database lists 14 "species of concern" (i.e., state endangered, threatened, sensitive, or candidate) within the 47° North site boundaries (**Appendix E**). These species include Columbia spotted frog (*Rana luteiventris*), elk (*Cervus elaphus Canadensis*), gray wolf (*Canis lupus*), northern goshawk (*Accipiter gentilis*), Northern spotted owl (*Strix occidentalis*), pileated woodpecker (*Dryocopus pileatus)*, sharp-tailed snake (*Contia tenuis*), Townsend's big-eared bat (*Corynorhinus townsendii)*, and wood duck (*Aix sponsa*). In general, conditions associated with wildlife on and near the site are much the same today as they were in 2002.

The WDFW PHS map (**Appendix E**) depicts a large area of "regular concentration" of elk, a WDFW species of recreational, commercial, and/or tribal importance, within the site boundary. The City of Cle Elum critical areas regulations provide for protection of WDFW-designated priority habitats and species as one type of fish and wildlife conservation area. Based on a combination of radio-telemetry data and direct observations, it was determined that the winter range of elk within the site is primarily the riparian corridor of the Cle Elum River. Field reconnaissance of the site in October 2019 included widely scattered elk sign (droppings) in the uplands forests as well as some bedding sites and rubbing on young trees. These areas are used by elk both in the summer and winter.

Both the Columbia spotted frog and sharp-tailed snake are listed as Washington State Priority Species and State Candidate Species. The sharp-tailed snake is also listed as a federal species of concern. Both the WDFW PHS map and WDFW personnel confirmed occurrences of these species immediately adjacent to the site. It is possible that these species are using the site, especially in the open space areas near the Cle Elum River and within the wetland areas found onsite. Both species are associated with wetter soils as well as streams, rivers, and ponds, and were not encountered during 2019 field investigations.

No other terrestrial species of concern are mapped as occurring on the 47° North site. There are no other priority wildlife species or habitats mapped within approximately 2,000 feet of the site.

Federal Databases

The USFWS (2019) list of threatened and endangered species for the site vicinity includes the Canada Lynx (*Lynx canadensis*), gray wolf, North American wolverine (*Gulo gulo luscus*), marbled murrelet, northern spotted owl, yellow-billed cuckoo, and bull trout, as well as final designated critical habitat for bull trout. In general, conditions associated with wildlife on and near the 47º North site are much the same today as they were in 2002.

Since the publication of the 2002 Final EIS, there have been a number of changes to the listing status of threatened and endangered species. **Table 3.3-2** provides a complete list of endangered, threatened, proposed, candidate, species of concern, and sensitive animal species identified by federal and state agencies as potentially occurring in the 47° North site vicinity as of December 2019. Any changes in listing status of these species since the 2002 Cle Elum UGA EIS was issued are highlighted in the table. Species that have been up-listed (more stringent regulations) are highlighted in yellow, species that have been down-listed (less stringent regulations) are highlighted in grey.

Gray Wolf. At present, wolves are classified as an endangered species under state law (WAC 220-610-010) throughout Washington, regardless of federal classification. The 47°N site is within the western two-thirds of Washington where they are protected and therefore any wolves observed within the site would fall under regulations of the ESA. The gray wolf is now restricted to scattered populations in Alaska, Minnesota, Michigan, Wisconsin, Montana, Idaho, and Washington. The most recent occurrence of gray wolf listed in the WDFW PHS map in the vicinity of the 47°N site is a polygon approximately 2 miles to the southwest of the site where an occurrence of gray wolf was listed in 1996. More recent sightings have been recorded within several miles of the site (e.g., near Easton and Cle Elum Ridge).

The nearest documented wolf packs are the Teanaway and Naneum packs, which are approximately 2.5 miles northeast and 14 miles east/northeast of the 47° North site, respectively. It is possible that occasional dispersing or foraging individuals could use the site and its associated elk herds, but the core range of neither of these packs extends onto the site.

Northern Spotted Owl. USFWS lists the northern spotted owl as a threatened species, and the state of Washington lists it as endangered. Spotted owl breeding sites and management circles have been numerous in the past within forestlands of the Ronald, Cle Elum Lake, Kachess Lake, Teanaway Butte, and Easton quadrangles. However, spotted owls are now experiencing rapidly declining numbers, and as a result, many spotted owl site circles that were historically occupied consistently in the early 90s, including those around the 47° North site may now be unoccupied and could have been potentially unoccupied for many years. Preferred spotted owl habitat — where Douglas fir dominates the stands and canopy closure is dense enough to be conducive to owl use — is not found within or in the immediate vicinity of the site. Site visits in 2019 did not find any changes to the site that would indicate this habitat is now present.

Table 3.3-2
ENDANGERED, THREATENED, PROPOSED, CANDIDATE, SPECIES OF CONCERN, & SENSITIVE ANIMAL SPECIES POTENTIALLY IN SITE VICINITY

Scientific Name	Common Name	Federal Status	State Status
Haliaeetus leucocephalus	Bald eagle	none	sensitive
Strix occidentalis caurina	Northern spotted owl	threatened	endangered
Rana cascadae	Cascades frog	none	none
Rana luteiventris	Columbia spotted frog	None	candidate
Plethodon larselli	Larch Mountain salamander	species of concern	sensitive
Ascaphus truei	Tailed frog	species of concern	monitor
Chlidonias niger	Black tern	none	none
Buteo regalis	Ferruginous hark	species of concern	threatened
Hisrrionicus hisrrionicus	Harlequin duck	none	none
Empidonax traillii brewsteri	Little willow flycatcher	none	none
Accipiter gentilis	Northern goshawk	species of concern	candidate
Contopus cooperii	Olive-sided flycatcher	species of concern	none
Falco peregrinus	Peregrine falcon	species of concern	none
Myotis (five species)	Myotis bats	species of concern	monitor
Martes pennanti	Pacific fisher	candidate	endangered
Corynorhinus townsendii	Pacific/Pale Townsend's big-eared bat	species of concern	candidate
Sciurus griseus griseus	Western gray squirrel	species of concern	threatened
Contia tenuis	Sharp-tailed Snake	species of concern	candidate
Picoides arcticus	Black-backed Woodpecker	none	candidate
Dryocopus pileatus	Pileated Woodpecker	none	candidate
Chaetura vauxi	Vaux's swift	none	candidate
Pandion haliaetus	Osprey	none	none
Cathartes aura	Turkey vulture	none	none
Sialia mexicana	Western bluebird	none	none
Odocoileus hemionus	Rocky Mountain mule deer	none	priority game species
Cervus elaphus nelsoni	Rocky Mountain Elk	none	priority game species
Canis lupus	Gray wolf	endangered	endangered*
Lynx canadensis	Canada lynx	threatened	endangered
Ursus arctos	Grizzly bear	threatened	endangered
Gulo gulo luteus	North American wolverine	candidate	candidate
Brachyramphus marmoratus	Marbled murrelet	threatened	threatened
Coccyzus americanus	Western yellow-billed cuckoo	threatened	endangered

Source: WDFW 2008; USFWS 2012, 2019

* Gray wolf is listed as endangered in the western two-thirds of Washington and not listed in the eastern third of Washington

** Species that have been up-listed (more stringent regulations) since 2002 are highlighted in orange, species that have been down-listed (less stringent regulations) since 2002 are highlighted in grey.

North American Wolverine. In 2013, the USFWS proposed threatened status for the North American wolverine, but the proposed rule was withdrawn in 2014. Any area with a confirmed occurrence of wolverine is considered a priority area in Washington State. Although indicated as proposed threatened and as potentially occurring within the site vicinity in Kittitas County by the USFWS, the North American wolverine has not been regularly documented within Kittitas County, particularly within lower elevations or the developed areas. Recent sightings of wolverines in Washington include in the southern Washington Cascades. However, established populations in Washington have been documented only in the North Cascades and northeastern Washington, and the existence of a breeding population farther south in the Washington Cascades and foothills has not yet been determined. Wolverines are generally associated with alpine vegetation and climatic conditions. Habitat characteristics observed during October 2019 field visit do not indicate likely presence of wolverines or their associated denning habitat. Due to existing human disturbance in areas adjacent to the 47° North site, and the general lack of alpine-type habitat and climate, it would not be expected for wolverines to be present at the site.

Marbled Murrelet. Data from the PHS database maintained by WDFW provide no records of known breeding sites or occurrences of murrelets within at least several miles of the site. The stands of trees within the site or vicinity are generally too young with branches that are not large enough to provide suitable breeding sites for this species for nesting. Potential marbled murrelet habitat has been described as mature coniferous forest, coniferous forest with an old-growth component, old-growth forest, or younger coniferous forests that have deformations or structures suitable for nesting. Suitable habitat was not observed, nor any individuals during October 2019 field investigations. Based on all these factors, it is not expected that this species would be present within the site or vicinity.

Western Yellow-billed Cuckoo. In October 2014, the U.S. Fish and Wildlife Service listed the western Distinct Population Segment (DPS) of the yellow-billed cuckoo as a threatened species. Yellow-billed Cuckoos apparently have been destroyed as a breeding population in Washington, with only occasional sightings over the last 20 years. They are not currently listed as occurring in Kittitas County on the WDFW PHS distribution map, although they were detected in the vicinity of Cle Elum before 1950.

Grizzly Bear. According to the WDFW database, grizzly bears have not been documented within two miles of the 47° North site. Grizzly bears avoid areas with human activity. Because of the fragmented, forested habitat and high human activity, grizzly bears are not expected to use the immediate vicinity of the site.

Canada Lynx. According to the WDFW database, lynx have not been documented within two miles of the 47° North site. Because of the fragmented, forested habitat, elevation below 4,000 feet, and high human activity, Canada lynx are not expected to use the immediate vicinity of the site. Observations during the 2019 investigation found no indication there was suitable habitat at the site.

3.3.2 Environmental Impacts

This sub-section describes the potential impacts on plants, animals, and wetlands that were analyzed in the 2002 Cle Elum UGA EIS and compares/expands upon those impacts with the potential impacts that could occur with development of the SEIS Alternatives.

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

The 2002 Cle Elum UGA EIS indicated that development under FEIS Alternative 5 would result in a reduction in vegetation on the Bullfrog Flats site. This vegetation reduction would cause the fragmentation, alteration, and removal of wildlife habitat onsite, which would cause a decrease in wildlife diversity and abundance over existing conditions. As a result of clearing and grading activities, development within the site could also promote the establishment of invasive and exotic species in native areas. The 2002 Cle Elum UGA EIS noted that development of the site would not likely result in significant adverse impacts on federally-listed plant or animal species but would reduce the capacity of the site to support elk. Operational impacts would be principally related to increased disturbance from human activity, including traffic. Wildlife mortality could increase with higher traffic levels, and new road segments would create new barriers to wildlife movements.

Under FEIS Alternative 5, potential construction impacts to wetlands, wetland buffers, and associated functions and values would occur from clearing, filling, and grading activities. Operational impacts to wetlands would be minor.

With regards to fisheries, direct impacts from construction or operation were not expected to include physical loss or degradation of habitat features associated with structures built within or next to the active stream channel, riparian area, or active floodplain. Loss of riparian zone function was not expected.

(See the 2001 Cle Elum UGA DEIS Section 3.6 and 2002 Cle Elum UGA FEIS Section 3.5 for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

At full buildout, SEIS Alternative 5 is expected to result in a similar number of permanent residents as FEIS Alternative 5, but more permanent residents than under SEIS Alternative 6. This alternative would retain slightly more dedicated open space (524 acres), but it represents a smaller percentage of the site (48%) than under SEIS Alternative 6. SEIS Alternative 5 would result in essentially the same amount of vegetation clearing as FEIS Alternative 5, but slightly more than under SEIS Alternative 6

Wetlands

No direct impacts to Wetlands 1, 2, 3, 4, or 5 would occur under SEIS Alternative 5. Under SEIS Alternative 5, no development is proposed within any of these identified wetlands or wetland buffers onsite. Wetlands 1, 2, and 3 are within the Cle Elum River corridor, which would be designated as undeveloped open space. Wetlands 4 and 5 would be protected by buffers. Under SEIS Alternative 5, impacts to the new Wetland 6 and its buffer would occur; the plan would need to be adjusted to eliminate these impacts or mitigation provided to address the impacts.

Similar to under FEIS Alternative 5, impacts during construction of SEIS Alternative 5 are anticipated to be minor because construction best management practices (BMPs) would be implemented and erosion and sedimentation mitigation measures would be required to control stormwater runoff. If uncontrolled sediment release occurred to on-site wetlands, short-term water quality impairment could occur.

Operational impacts on wetlands would likely be minor under SEIS Alternative 5, as the project would comply with current City of Cle Elum CAO regulations. Significant encroachment on wetlands and wetland buffers from buildings, landscaped areas, and access roadways would not be allowed. Some increase in human access to the wetlands and associated disturbance would be anticipated because of increased human activity in the vicinity. This disturbance is not expected to be significant because these are very small wetlands and do not have a significant wildlife habitat value.

Permanent stormwater management facilities under SEIS Alternative 5 would meet or exceed all current applicable detention and water quality standards. Development regulations requiring adequate wetland buffers would also be implemented and the buffers would remain in their natural state to protect wetland hydrology maintained primarily through precipitation. Therefore, no significant wetland water quantity or quality impacts are anticipated.

Aquatic & Fish Habitat

SEIS Alternative 5 would have no direct impacts to the fish or fish habitats of the Cle Elum or Yakima Rivers. Stormwater runoff would be collected, undergo water quality treatment in accordance with current applicable stormwater management regulations, and infiltrated and dispersed such that no direct discharges would be routed to waters of the Yakima River, which are located approximately 3,000 feet away. Consequently, no significant impacts to the water quality of receiving waters and associated aquatic and fish habitat are expected under this alternative.

Permanent residents under this alterative would increase fishing pressure on local rivers by a small amount, similar to under FEIS Alternative 5.

Vegetation

SEIS Alternative 5, would convert an area of existing forest to urban uses. SEIS Alternative 5 would retain area in dedicated undeveloped open space tracts (524 acres, or 48% of the site), more than under FEIS Alternative 5 (450 acres). However, with slightly more area dedicated to commercial development (80 acres vs. 75 acres), SEIS Alternative 5 would result in more clearing and grading than SEIS Alternative 6.

SEIS Alternative 5 would impact the same general areas, and thus the same general forest types, of the site as FEIS Alternative 5 and would retain the same general areas as undeveloped open space. The dedicated open space areas would include the river corridor and the large area of adjoining forest in the geomorphic floodplain, as well as steep slope areas and perimeter buffers. Thus, SEIS Alternative 5 would retain the deciduous and mixed riparian forest along the river, the riparian and isolated wetlands, and a portion of the mixed conifer forests on site (both the very open, thinned forest on Bullfrog Flats, as well as portions of the previously thinned mixed conifer and pine stands that have matured somewhat since 2002), as well as the powerline corridors. Like FEIS Alternative 5, SEIS Alternative 5 would fragment remaining native forest habitat over the site, particularly in the eastern site area, with similar risk of encroachment by non-native, invasive species.

Neither SEIS Alternative 5 nor FEIS Alternative 5 are expected to impact any endangered, threatened, or sensitive plants, as none of these species are known or expected to occur on the site.

Wildlife

Under SEIS Alternative 5, most existing wildlife habitat would be eliminated from the developed portions of the site, to be replaced with buildings, paved roads, and associated graded and landscaped areas. This alterative would result in displacement of wildlife occupying those areas and would reduce local populations of most wildlife species currently in the area, similar to under FEIS Alternative 5.

Development of SEIS Alternative 5 is not expected to substantially affect endangered, threatened, or sensitive wildlife species. With respect to other priority species, SEIS Alternative 5 is expected to have generally comparable impacts to habitat for these species as FEIS Alternative 5.

Impacts to elk habitat under SEIS Alternative 5 would be similar in magnitude to under FEIS Alternative 5, as the Master Site Plans are comparable. Development under both alternatives would be located in the upland areas away from the riparian river corridor and wetlands. A similar number of permanent residents would be expected under SEIS Alternative 5 as under FEIS Alternative 5, with similar potential for elk harassment and habitat degradation.

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

SEIS Alternative 6 would result in essentially the same amount of vegetation clearing as under FEIS and SEIS Alternative 5. This alternative would retain slightly less dedicated open space (477 acres), but it would represent a larger percentage of the site area (58%) than under FEIS and SEIS Alternative 5. SEIS Alternative 6 is expected to result in fewer permanent residents than under FEIS and SEIS Alternative 5 at full buildout but would include RV resort visitors.

Wetlands

Under SEIS Alternative 6, the proposed project would result in no direct impacts to wetlands. As under FEIS Alternative 5, Wetlands 1, 2, and 3 are within the Cle Elum River Corridor Open Space area and would be preserved in their existing condition. Under SEIS Alternative 6, Wetlands 4, 5, and 6 would be located within the RV-1 area; however, the wetlands and their buffers would be preserved within an open space tract. Minimal clearing and grading is proposed within this tract to construct an access road between Wetlands 5 and 6.

The estimated catchment area that provides hydrologic support to Wetlands 4, 5, and 6 extends just beyond the proposed open space tract under SEIS Alternative 6. Clearing and grading of the area around the open space tract encompassing the buffers of Wetlands 4, 5, and 6 would impact approximately 20% of the overall estimated catchment area. This has the potential to reduce hydrologic inputs to the wetlands, particularly to Wetland 4. Some supplemental drainage from RV sites to the northwest would likely be necessary to minimize hydrologic impacts to Wetland 4. The proposed stormwater management system would match pre-development flows to Wetland 4 with pervious and pre-treated impervious runoff from adjoining lots. The catchment areas contributing to Wetlands 5 and 6 would be relatively unaffected by proposed development.

Clearing and grading outside of the wetland buffers could result in an increase in sediment reaching the wetlands as a result of stormwater runoff. Best management practices would be employed to control erosion and sediment in the vicinity of Wetlands 4, 5, and 6, and it is unlikely any significant impact to the wetlands would occur under SEIS Alternative 6.

Operational impacts on wetlands would likely be minor under SEIS Alternative 6. Wetlands would comply with City of Cle Elum CAO regulations. Encroachment into wetlands and wetland buffers from buildings, landscaped areas, and access roadways would not be allowed. Some increase in human access to the wetlands and associated disturbance is anticipated because of increased human activity in the vicinity, and this is expected to be generally comparable to under FEIS and SEIS Alternative 5. This disturbance is not expected to be significant because these wetlands do not have a significant wildlife habitat value.

In conclusion, proposed stormwater management facilities would meet or exceed all current applicable detention and water quality standards. Development regulations requiring adequate wetland buffers would be implemented and the buffers would remain in

their natural state to protect wetland hydrology maintained primarily through precipitation. Some supplemental drainage from lots adjoining Wetland 4 would be provided as needed to match pre-development flows to maintain hydrologic support of this wetland. As a result, no significant adverse wetland impacts are anticipated.

Aquatic & Fish Habitat

SEIS Alternative 6 would retain the entire Cle Elum River and associated riparian wetlands and habitat within dedicated open space. An adjoining area of managed open space would be retained as well, allowing only recreational activities, such that no residential or RV resort development would occur within at least 1,900 feet of the river. Thus, similar to under FEIS and SEIS Alternative 5, no direct impacts to aquatic and fish habitat would occur under this alternative.

Stormwater Management

Somewhat less clearing would occur under SEIS Alternative 6 than under FEIS or SEIS Alternative 5, resulting in less ground surface disturbance and associated potential for stormwater impacts during construction. As no other stream channels occur on site, infiltration of stormwater would result in no stormwater discharges to the Cle Elum or Yakima Rivers during construction.

At full buildout, stormwater collection and treatment would be provided in accordance with the 2019 *Washington State Department of Ecology Stormwater Manual for Eastern Washington* (2019 Ecology Manual). Infiltration of stormwater would be the primary means of stormwater management. No discharge of stormwater runoff from developed areas would occur within the Cle Elum drainage basin.

Because the soils in the areas of proposed infiltration provide considerable transmissivity, infiltrated stormwater would disperse broadly in the near surface groundwater about 3,000 feet from the Yakima River. The resulting transmission of stormwater through the near surface groundwater is expected to result in no discernable impact to Yakima River quality or associated fish and habitat.

Landscape Maintenance

Residential use of fertilizer and pesticides would be expected under SEIS Alternative 6. However, use of these compounds could be less than under FEIS and SEIS Alternative 5, because this alternative includes fewer permanent residents. The RV sites under SEIS Alternative 6 would likely require less landscape maintenance than single and multi-family residential units.

Infiltration of stormwater runoff would provide some treatment through adsorptive removal and degradation. As a result, fertilizers and pesticides are not expected to have a discernable impact on Yakima River water quality or associated fish and habitat.

Population Impacts

As under FEIS and SEIS Alternative 5, increased population under SEIS Alternative 6 could impact riparian and shoreline habitats, and fish populations through increased recreation and fishing in the local area, including nearby tributaries to the Yakima River. While the year-round residents would be less than under FEIS and SEIS Alternative 5, the RV visitors could present more recreational activity during the nine-month peak visitors' season.

Fishing in the Yakima River is quite active, with fishing rules in the upper Yakima River remaining essentially the same as in 2002. The regulations specify selective gear and catch and release with some exceptions, such as closures around bull trout protection. These regulations would help reduce the fishing impacts of SEIS Alternative 6.

Endangered Species Act & Other Priority Fish Species Impacts

Several species of salmonid fish, including steelhead, and bull trout, both listed as federal threatened species, are known to occur within the Cle Elum and Yakima rivers. Middle Columbia Chinook salmon, though not listed, also occur in these rivers. No direct impacts to riparian habitat in the Cle Elum or Yakima rivers would occur, and infiltrated stormwater would not have a measurable effect on the Yakima River water quality. Thus, impacts to fish and associated habitat are expected to be minimal under SEIS Alternative 6.

Vegetation

Development under SEIS Alternative 6 would convert much of the existing forest vegetation communities within the approximately 824-acre site into developed land uses, including single family and multi-family residential, commercial, and a RV resort area. Existing vegetation would be replaced by buildings, roads, and other impervious surfaces, as well as non-native plantings. Developed uses on the site under SEIS Alternative 6 would total approximately 348 acres (plus the adjacent possible 25-acre commercial development). The area to be cleared under this alternative would total approximately 315 acres, plus approximately 18 acres for the commercial development, for a total of 333 acres, slightly less than under FEIS or SEIS Alternative 5. Most of the forest vegetation impacted by the proposed development under this alternative consists of previously thinned mixed conifer and Ponderosa pine stands with a developing understory of young trees. Portions of the RV resort area would be located in early successional mixed conifer forest, with remnant larger trees that has developed since timber harvest in the early 1990s.

SEIS Alternative 6 would retain approximately 477 acres of open space (58% of the site), all of which, except the powerline corridors, would remain as undeveloped forest. Under SEIS Alternative 6, areas within the Cle Elum River corridor, including Wetlands 1, 2, and 3, as well as their required buffers, would be retained as undeveloped open. This open space area would include all of the deciduous and mixed riparian forest along the river, mixed coniferous forest west of the river, more open, thinned forest of Ponderosa pine and

Douglas fir east of the river, as well as denser conifer forest dominated by pine on the slopes above on the west ridge.

Other areas of undeveloped open space to be retained across the site include the isolated wetlands (4, 5, and 6) and their buffers in the proposed RV-1 area, steeper slope areas, a perimeter buffer along Bullfrog Road, and existing powerline corridor. The proposed development under this SEIS Alternative 6 would result in disjunct patches or "fingers" of native forest, increasing forest fragmentation on the site and leaving these retained open space areas within or between the various development areas to become mostly edge habitat. Most of these areas of retained forest would remain connected to off-site forest areas, including the river corridor.

The retained open space areas on site would include a network of trails and associated active and passive features such as gazebos, viewpoints, benches, and gathering places. The 104-acre "Managed Open Space" area in the western part of the 47° North site, would allow for continued forest management to provide open, "firewise" stands for healthy forest, wildlife habitat, and recreational opportunities. The area may include features such as benches, gazebos, exhibits, or overlooks. The 160-acre River Corridor is intended for wildlife habitat and recreational uses with no improvements allowed.

Wildlife

Impacts of proposed development under SEIS Alternative 6 across the site include both temporary impacts during construction and longer-term impacts of habitat alteration. Construction-related impacts include increases in noise, dust, human activity, temporary disturbance of vegetation for staging areas, potential erosion and sediment transport from exposed soils, and other potential water quality impacts. These activities could alter animal behavior, causing avoidance of adjoining habitats, alteration of movement and dispersal patterns, abandonment of nest sites, reduced breeding success, and increased mortality.

Direct alteration (removal) of the existing mixture of vegetation communities during construction of these developed areas under SEIS Alternative 6 would affect the distribution and composition of wildlife populations on the site and in the vicinity.

Elimination of native vegetation cover and replacement with impervious surfaces and landscaped areas would displace animals inhabiting those areas and would reduce the local populations of most native species in the area and could make the area less suitable for a number of native wildlife species. No invasive species would be included in the proposed landscaping of the development.

At full buildout, proposed development under SEIS Alternative 6 would reduce the habitat available for native wildlife across the site. This would reduce the local populations of most native species on the site and cause a number of changes in the species composition associated with an urban level of development.

Species that dwell primarily in forested habitats, but can persist in partly-urbanized environments, such as chickadees, squirrels, shrews, garter snakes, and some species of amphibians, could persist in the larger open space areas in southwestern parts of the site near the Cle Elum River as well as the perimeter of the site, but in lower numbers. Other native species adapted to a wide range of habitats, or urban environments, such as American robin, American crow, hummingbirds, swallows, bushtit, dark-eyed junco, house wren, song sparrow, raccoon, and coyote could increase in abundance on the site, especially in developed areas. Animals that are least tolerant of human disturbance, such as ground- and shrub-nesting birds, ground-dwelling mammals, and carnivores, would be most affected by the proposed development.

Populations of reptiles and amphibians, which rely on forest duff, downed logs, snags, and wetlands, would be substantially reduced within developed areas across the site. Existing wetlands and streams on the site would remain intact, but other special habitat features throughout the site and some local dispersal habitat would be eliminated due to increased fragmentation of retained habitats and the introduction of roadways throughout the developed areas.

The clearing, grading, and construction of SEIS Alternative 6 would separate habitat areas and increase fragmentation. This, together with increased disturbance (e.g., vehicular traffic, human presence throughout the trail system) could affect movement patterns of some wildlife species, creating a barrier to movements of small mammals, reptiles, and amphibians. Increased mortality would likely result from animals attempting to cross the roads, and some animals could alter movement patterns to avoid areas or time periods of high activity.

Larger, more wide-ranging carnivores would likely reduce their usage of the site as it develops; however, this site also likely represents a small portion of the home range of species such as black bear and coyotes.

Increased Human Activity Impacts

The introduction of large number of dwellings, RV sites, and recreational amenity centers under SEIS Alternative 6 would result in increased human activity throughout the site. This could lead to avoidance by local wildlife populations and even mortality due to interactions such as vehicular strikes. In addition, an increase in the presence of domestic pets would increase the likelihood of disturbance of retained habitats and potentially affect movements and activities of animals onsite.

Materials brought onsite by new occupants could have potentially detrimental impacts on local wildlife populations. The use of insecticides by homeowners has been shown to reduce the food resource of insectivorous animal species, and the introduction of features such as birdfeeders could also lead to an increase in generalist bird species that could compete with previously present populations. With fewer permanent residents, SEIS Alternative 6 would likely result in less of these types of impacts than FEIS Alternative 5 or SEIS Alternative 5.

Endangered Species Act & Other Priority Animal Species Impacts

No endangered, threatened, or sensitive animal species, such as the Gray Wolf, Northern Spotted Owl, Wolverines, marbled murrelets, Yellow-billed cuckoos, Grizzly bears, and the Canada lynx are known or likely to occur on the 47° North site. Consequently, development of the site under SEIS Alternative 6, would not adversely impact such species.

Other Priority Species

Elk. SEIS Alternative 6 would reduce the amount of elk habitat available and likely reduce the elk population using the site. The river corridor area and associated wetlands provide the majority of elk foraging areas on the site and would allow continued elk movement to off-site properties were elk feeding still occurs and to other seasonal range areas (e.g., summer range). As such, minimal impact to the overall elk sub-herd is anticipated.

SEIS Alternative 6 would likely result in elk and human conflicts. Hunting is prohibited within the Suncadia resort and the elk have habituated to humans and the activities within the development. Elk have been observed throughout the development and there have been issues of elk foraging on landscape plants and damage to golf course features. Similar conflicts could be expected within the 47° North development. Increased traffic on Bullfrog Road would increase the likelihood of conflicts between elk and vehicles, with potential for more roadkill or injury to the animals and damage to vehicles, particularly during winter when elk use of the site is expected to be the highest.

The RV resort under SEIS Alternative 6 is located adjacent to the retained river corridor open space where most elk habitat is expected to be located. Recreational activity associated with the RV resort could disrupt elk use of the open space unless the recreational activity is closely regulated. This risk could be slightly greater than under FEIS Alternative 5, which does not include RV uses.

Columbia Spotted Frog/Sharp-Tailed Snake. The wetland and moist soil habitat found on the site that are associated with these species would be retained in the open space areas in the southwestern portions of the site under SEIS Alternative 6, thus preserving the most suitable habitat. However, development of the RV resort under SEIS Alternative 6 around the smaller wetlands could impact dispersal and connectivity to and from this habitat, which could adversely impact individuals that could occur in these locations.

Bald Eagle. Bald eagles, now a delisted species, have been observed in the vicinity on occasion, and known winter concentration areas occur to the south along the Cle Elum and Yakima Rivers, but as noted previously, the nearest known nest was several miles away near Lake Cle Elum. Eagles would be expected to continue to forage for salmon along the Cle Elum River. Clearing of well-developed forest throughout the site could eliminate some potential perching habitat for wintering or breeding eagles, but most of the existing forest along the river, would remain. Consequently, the proposed project under SEIS Alternative 6 is not expected to have significant adverse impacts on bald eagles.

Pileated Woodpecker. The loss or alteration of native forest onsite under SEIS Alternative 6 could reduce the amount of potentially suitable habitat available in the area for pileated woodpeckers (a State Candidate species). The development would eliminate a substantial area of forest onsite, but large snags suitable for nesting in the upland forests are rare, given past forest management, and no nest or roost sites are known to occur on the site. Pileated woodpeckers would likely continue to forage within remaining forested portions of the local area as the project continues to develop but would do so over a larger range to compensate for the habitat loss.

Cumulative Impacts

Cumulative impacts to plants, animals, and wetlands would result from proposed development of the 47° North site, together with other developments in the vicinity. For purposes of this analysis, the other projects in the area include the existing Suncadia resort to the north of the site in Kittitas County, as well as City Heights and Cle Elum Pines (West) mixed-use developments to the east of the site in the City of Cle Elum.

Wetlands, Streams, & Fisheries

All of the cumulative impact projects include the provision of open space in their plans. These open space areas typically include critical areas, such as wetlands and streams. Thus, it is assumed that impacts to existing wetlands, streams, and their buffers would largely be avoided, and if any impacts are proposed, compensatory mitigation would be implemented in accordance with local, state, and federal regulations.

Development of the 47° North site, along with the other projects, has the potential to increase risks to wetlands, streams and fish from stormwater runoff and associated sediment and contaminants. However, stormwater management plans developed and implemented in accordance with current stormwater regulations, along with appropriate BMPs would minimize this risk.

The increase in human population and associated recreational activities from development of these projects could cause impacts on fish, streams, and riparian functions. The extent of these impacts would depend on the effectiveness of conservation measures in the dedicated open space areas as well as enforcement of these measures. The increase in local population from cumulative development is also expected to increase fishing pressure on local rivers and tributaries.

Vegetation & Wildlife

Clearing and removal of existing forest vegetation would be required for development on all the cumulative impact project sites. Together, this clearing would increase forest fragmentation in the area, which would increase the risk of spread of invasive plant species. Removal of existing forest habitat would reduce local populations of certain wildlife.

Cumulative development would contribute to increases in population in the area, with associated human activity. Increased human activity could cause animals to avoid areas of particularly high use.

Conversion of these sites to urban uses would eliminate additional native habitat that could be used by listed and priority species. However, the loss of habitat is an expected consequence of urban development, particularly in UGAs and areas planned for urban development, such as 47° North and the other cumulative impact projects.

Conclusions

Under SEIS Alternatives 5 and 6, large portions of the site, and the plant, animal, and wetland habitat they provide, would be preserved in natural open space. Clearing of vegetation would be required in proposed development areas. The reduction of vegetation would fragment, alter, and remove wildlife habitat, which would cause a decrease in wildlife diversity and abundance. There would be no direct impacts to wetland and riparian habitat under SEIS Alternative 6; impacts to the newly identified Wetland 6 would occur under SEIS Alternative 5. Construction activities could release sediment and pollutants to on-site wetland and riparian habitat. Temporary erosion and sedimentation management measures would be implemented to address these possible impacts. Development of the site is not likely to result in significant adverse impacts on federally-listed plant or animal species; minor impacts on priority species, such as for elk, could occur.

Operational impacts on wildlife would be principally related to increased disturbance from human activity. There would be fewer permanent residents and their associated activity under SEIS Alternative 6 than under SEIS Alternative 5; however, there would be RV resort visitors under SEIS Alternative 6. There would be a potential for water quantity and quality impacts from stormwater runoff on wetland and riparian habitat during operation of the project. A permanent stormwater management system would be installed onsite to address these potential impacts, and no significant impacts are expected.

3.3.3 Mitigation Measures

The following mitigation measures are identified to address the plant, animal, and wetland impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- No direct impacts to wetlands or the Cle Elum River would occur. The riparian wetlands along the Cle Elum River would be retained within dedicated open space that would encompass their required buffers and the entire river corridor, as well as additional forest habitat. Isolated Wetlands 4, 5, and 6 and their buffers would be retained in an open space tract.

- Conservation easements that were granted for the Managed Open Space and River Corridor Open Space onsite by Trendwest to the Kittitas Conservation Trust would remain in effect with the proposed project.

- The proposed landscaping onsite would generally consist of natural, local, and drought tolerant plants, including hydroseed mixes that could include wildflowers, but not any plants considered to be noxious weeds. Imported soil materials would also be weed-free – a Noxious Weed Plan would be prepared to ensure that such plants are not planted. The use of native plant material could benefit wildlife.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- With respect to overall fish and wildlife habitat, the project would include those provisions in the Cooperative Agreement between Trendwest (now New Suncadia), WDFW, and the Yakama Nation that apply to potential cumulative impacts from the Suncadia resort, and development of 47° North and the adjacent 25-acre property. This could include the City of Cle Elum enforcing use and access restrictions in designated areas, especially within the Cle Elum River open space, to minimize disturbance to fish and wildlife during mating and breeding seasons.

Required Mitigation Measures

- The 47° North project would adhere to the City of Cle Elum critical areas ordinance and Shoreline Master Program regulations regarding avoidance and minimization of impacts, as well as buffer requirements and protection of fish and wildlife habitat conservation areas.

- Construction limits, including staging areas, would be clearly marked in the field prior to beginning construction activities

- The limits of wetland buffer areas would be clearly marked on construction plans and in the field to prevent unauthorized damage to critical areas during construction.

- Construction staging areas would be located outside of wetland buffers within the RV resort area to minimize impacts to vegetation.

- Any wetland buffer areas temporarily disturbed for construction access and staging would be revegetated with a mixture of native plant species following completion of construction activities, pursuant to an approved mitigation plan.

- Vehicle re-fueling and maintenance activities would be avoided within wetland buffers, or within at least 100 feet of wetlands.

- Appropriate BMPs and TESC measures would be implemented in accordance with an approved SWPPP, consistent with standards of the 2019 *Washington State Department of Ecology Stormwater Management Manual for Eastern Washington* (2019 Ecology Manual), including specific measures to prevent and control spills of pollutants, and to handle, control, and store potential contaminants and their potential to damage surface waters and fisheries resources.

- A permanent stormwater management system would be designed and installed consistent with the 2019 Ecology Manual and applicable City of Cle Elum development regulations in place at the time of permitting for project. Operation of this system would avoid and minimize the potential for impacts on surface waters and fisheries resources.

- As necessary, clean stormwater runoff would be directed to the wetland's catchment area to retain the wetland hydrology.

Other Potential Mitigation Measures

- Where feasible, conservation easements could be conveyed to additional large forested open space areas across the site – beyond those associated with the Cle Elum River corridor – which would enable these areas to be managed for healthy forests and wildlife habitat in coordination with recreational uses.

- To address impacts of increased angler fishing pressure on fisheries resources and habitat, WDFW is expected to continue to manage the regional fishery. They would continue to monitor fishing in the Cle Elum and Yakima Rivers and evaluate local fish populations. If problems were identified, the WDFW would likely implement selective gear rules in affected areas. If fish populations continued to decline, WDFW could apply catch and release regulations in additional areas, narrow the fishing season, or as a last resort enact closures.

  To mitigate impacts of increased fishing pressure on fisheries resources with proposed development, the Applicant could: 1) exploring angler management options with the WDFW and Yakama Nation, such as increased angler education, dispersing angling pressure to underused areas, and providing alternatives to traditional fishing opportunities; 2) implement creel surveys (coordinated with WDFW) to address issues directly related to angler fishing presence; and/or 3) implement fish population surveys (coordinated with WDFW to assess quantitative changes in discrete stream reaches).

- Hiking trails could be located outside the Cle Elum River corridor so that elk viewing would be possible without traversing the elk habitat. Elk viewing areas could be established.

3.3.4 Significant Unavoidable Adverse Impacts

No significant impacts to wetlands, aquatic or fish habitat are expected under the SEIS Alternatives. Development of the site under the alternatives would result in the following unavoidable adverse impacts:

- Removal of a substantial area of the existing native vegetation and soils and replacement by non-native communities or impervious surfaces; retained native vegetation communities among the various development areas would become primarily edge habitat;
- A reduction in the local populations of most native wildlife species in the area, and continuation of a shift in species composition to favor species more adapted to urban environments; those animals displaced from the site would likely perish; and,
- An increase in disturbance of adjoining areas of native forest and riparian habitat and on adjacent lands as a result of increased human activity including vehicular traffic.

Such impacts are typical and unavoidable in the context of urban development.

No additional significant unavoidable adverse impacts to plants and animals, or wetlands would likely occur under SEIS Alternative 6 with implementation of the mitigation measures listed above.

3.4 AIR QUALITY/GREENHOUSE GAS EMISSIONS

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant air quality and greenhouse gas (GHG) emissions impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

This Air Quality/GHG Emissions section is based on the *Air Quality and Greenhouse Gas Emissions Report* (September 2020) prepared by Landau Associates (see **Appendix F**).

Methodology

Air Quality

Air quality impacts during construction of SEIS Alternatives 5 and 6 are qualitatively discussed in the Draft SEIS. Tailpipe emissions from vehicles traveling on public roads would be the major source of air pollutant emissions associated with the SEIS Alternatives during operation of the project. The Vehicle Miles Traveled (VMT) and their contribution to the increase in regional tailpipe emissions were calculated under the SEIS Alternatives. The site is located in an attainment area for all criteria pollutants (e.g., carbon monoxide (CO), particulate matter (PM), volatile organic compounds (VOCs), and nitrogen dioxide (NO_2)), and, therefore, it is unlikely that increased traffic would cause localized air pollutant concentrations that could form a hot spot. As result, a conformity analysis or "hot spot" air quality analysis is not required and was not conducted for this Draft SEIS.

Greenhouse Gases

For the GHG analysis, the SEPA GHG Calculation Tool – acquired through Ecology's "Guidance Document Including GHG Emission in SEPA Reviews" – was used to evaluate existing and projected future (2037, the assumed full buildout year for SEIS Alternative 6[1] and 2051, the assumed full buildout year for SEIS Alternative 5) GHG emissions for the SEIS Alternatives. Emissions are expressed as metric tons of carbon dioxide equivalent (CO_2e) per year.

The input data used for the GHG emissions calculations included housing units, recreational, and commercial uses. Because available GHG calculation tools do not provide a category for "recreational" land uses, the recreational vehicles under SEIS Alternative 6 were counted as "multi-family housing" for purposes of the GHG Calculation Tool.[2] The GHG impact of vehicles driving to and from the site was included in the estimated Vehicle Miles Traveled (VMT) calculation. Three types of life-cycle emissions were estimated using the GHG

[1] Note that the 47° North residential and recreational uses are assumed to buildout by 2028, and the future commercial uses on the adjacent 25-acre property are assumed to buildout by 2037.

[2] Multi-family housing units are associated with less square feet of living space and fewer occupants than single-family housing and, therefore, represent the most comparable land use category to RVs in terms of energy use and associated vehicle travel. The number of units was scaled to 50% to represent the seasonal nature of the RV resort, which is expected to be used primarily on weekends, reaching full capacity only during the peak travel season.

Calculation Tool: stationary combustion equipment, energy, and transportation. This method of analysis is considered a reasonable screening-level tool for the purpose of forecasting GHG emission rates.[3]

There is currently no state- or federal-level guidance or standard for determining what constitutes a significant GHG-related impact or when mitigation measures should be considered. Therefore, no SEPA significance threshold for increased GHG emissions is available, required, or provided in this analysis. Project-related increases in GHG emissions were compared to projected state-wide emissions. Baseline GHG emissions at the city/county level were not available for comparison; because the project area is currently undeveloped, baseline GHG emissions would be near zero if calculated.

(See **Appendix F** for details on the air quality and GHG analyses methodology).

3.4.1 Affected Environment

2002 Cle Elum UGA EIS

Air Quality

At the time of the 2002 Cle Elum UGA EIS, the Bullfrog Flats site and vicinity were designated by the U.S. EPA (Environmental Protection Agency) and State of Washington as being in attainment with National Ambient Air Quality Standards (NAAQS). Air pollutants of potential concern were fine particulate matter less than 10 micrometers in size (PM10), primarily from residential heating and outdoor burning, and carbon monoxide (CO) primarily from vehicle traffic and outdoor burning. No air quality monitoring station for CO was located in Kittitas County. PM10 was monitored in Ellensburg (the largest urban area in Kittitas County) and annual concentrations between 1995 and 2002 were between 38% and 50% of the NAAQS standard.

The 2002 Cle Elum UGA EIS analyzed existing CO levels and potential CO impacts. Traffic information was reviewed to determine which intersections to evaluate. LOS values, total traffic volumes, and potential for impacts were considered to determine which intersections to model, and three intersections were selected: Bullfrog Road/SR 903, East First Street/Oakes Avenue, and East First Street/South Cle Elum Way. Modeling results for existing conditions indicated that CO concentrations were well below the one-hour average NAAQS of 35 parts per million (ppm) at any location. The West First Street/Oakes Avenue intersection displayed the highest concentrations with a maximum one-hour CO concentration of 7.4 ppm.

Existing greenhouse gas emission conditions were not analyzed in the 2002 Cle Elum UGA EIS.

[3] Screening-level tools are used to develop a protectively conservative estimate of project impacts using representative data in order to determine whether more refined modeling or mitigation measures are necessary.

(See 2001 Cle Elum UGA DEIS Section 3.2 and 2002 Cle Elum FEIS Section 3.2 for details.)

2020 SEIS

Existing Air Pollution Sources

A major source of air pollution in the vicinity of the 47º North site continues to be vehicular traffic traveling along I-90, SR 903, and Bullfrog Road, as well as within residential areas surrounding the site (e.g., in the Suncadia resort to the north and in residential developments in Cle Elum to the east/northeast, across SR 903). This existing air pollution source causes emissions of criteria pollutants including CO, PM, VOCs, and NO_2 (see **Appendix F** for further descriptions of the sources and effects of criteria pollutants).

Each year, the Washington State Department of Ecology (Ecology) prepares an inventory of air containment emissions facilities with air operating permits. The nearest reported major point source is more than 30 miles from the site, east of Wenatchee. Additionally, every three years, Ecology inventories non-point sources, including motor vehicles, wood stoves, outdoor burning, and agriculture. In 2014 (the most recent year of data) the most significant source of air emissions in Kittitas County was wildfires.

Since the 2002 Cle Elum UGA EIS, a lumber mill and Ellensburg Cement Products surface mining operation have expanded, both of which are located south of I-90 in the site vicinity. Residential development at Suncadia has increased since 2002 and two golf courses were completed in 2005 and 2011. The Washington State Horse Park has also been constructed since 2002. The lumber mill and surface mining operations may contribute to increased emissions to the background air quality in the area. Increased traffic related to the residences, golf courses, and Horse Park, as well as residential wood-burning appliance emissions in surrounding neighborhoods impact background air quality in and around the site. As of December 31, 2006, residential burning (yard waste) and burning of land clearing debris is prohibited in the Cle Elum Urban Growth Area (UGA), which includes the site. However, outdoor burning is allowed in other areas of Kittitas County, including areas adjacent to the site.

National Ambient Air Quality Standards

Based on monitoring information collected over a period of years, the EPA and Ecology designate regions as being attainment or non-attainment areas for regulated air pollutants. Key criteria air pollutants include CO, ozone, and PM. Attainment areas indicate that air quality meets the NAAQS and non-attainment indicates that air quality does not meet those standards. Kittitas County is currently designated as an attainment area for all criteria air pollutants.

Greenhouse Gas Emissions

In February 2007, Washington State Executive Order 07-02 was issued and established the following GHG reduction goals:

- Reduce emissions to 1990 levels by 2020, 25% below 1990 levels by 2035, and 50% below 1990 levels by 2050.
- Increase green economy jobs to 25,000. The term green economy jobs means the design, manufacture, marketing, and installation of equipment to support sustainable development, both within and beyond Washington State.
- Reduce expenditures on fuel imported into Washington State by 20% by 2020.

The above-noted GHG reduction goals apply state-wide, but they do not specify any requirements for local government agencies to implement measures to reduce emissions within their local jurisdictions. In 2008, the Washington State Legislature enacted Chapter 70.235 of the Revised Code of Washington (RCW), limiting GHG emissions. This law codifies the GHG reduction goals of Executive Order 07-02 and specifies them as limits rather than goals. The law also added a fourth requirement to help achieve GHG reduction targets:

- Decrease the annual per capita vehicle miles traveled 18% by 2020, 30% by 2045, and 50% by 2050.

The state law only applies to actions taken by Washington State agencies and local governments.

In 2010 and 2011, Ecology issued guidance documents describing how GHG emissions analysis may be conducted when the SEPA lead agency is a state or local government and what may constitute a significant impact. However, these guidance documents have since been removed from Ecology's website, are no longer provided by the agency, and do not provide direction for SEPA analysis. Therefore, there is currently no state- or federal-level guidance for what constitutes a significant GHG-related impact or when mitigation measures should be considered. However, a tool to calculate GHG emissions that was included in the guidance document is still frequently used in SEPA documents, and was used for the analysis in this Draft SEIS.

3.4.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

Direct Construction Impacts

The 2002 Cle Elum UGA EIS indicated that construction activities under FEIS Alternative 5 would temporarily generate PM10 and small amounts of CO from equipment. PM10 would be associated with demolition, land clearing, ground excavation, cut-and-fill operations, and construction. Based on field measurements of suspended dust emissions from construction projects, an estimated emission factor for construction was 1.2 tons of emissions per acre per month of activity. Emissions would be reduced if mitigation were provided. Several residences and the Cle Elum-Roslyn School District campus were located in proximity to the

eastern edge of the site and PM10 could be noticeable at these locations if uncontrolled. Mitigation measures would be required to comply with Ecology's regulations to control dust during construction and prevent mud deposits on paved streets, and significant impacts were not expected.

Heavy trucks and construction equipment required for FEIS Alternative 5 would also generate CO from exhaust emissions. If construction traffic were to reduce the speed of other vehicles in the area, CO emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction activity.

Direct Operation Impacts

Operational impacts on air quality under FEIS Alternative 5 would primarily result from vehicle emissions. Ozone and PM10 concentrations would be expected to increase but these concentrations were not be expected to be significant. Future CO concentrations at potentially congested intersections were modeled for the 2001 Cle Elum UGA Draft EIS. The results showed that CO concentrations would be substantially below the NAAQS standard, with the highest one-hour CO concentration at 19% of the one-hour standard and the highest eight-hour CO concentration at 51% of the eight-hour standard. Because CO concentrations were predicted to be well below the NAAQS standards, it was anticipated that future CO concentrations would be within the one-hour and eight-hour NAAQS standards as well.

Indirect & Cumulative Impacts

Indirect population, housing, and employment growth that could be induced in the site vicinity with development of FEIS Alternative 5 would increase traffic and create additional sources of air pollution. Construction in the site vicinity that could occur concurrent with FEIS Alternative 5 would temporarily increase the total regional dust loads in the atmosphere. Cumulative impacts on air quality would be primarily related to cumulative increases in traffic volumes and congestion from combined traffic from FEIS Alternative 5 and growth in background traffic in the site vicinity. CO concentrations were anticipated to be well below the NAAQS standard and, therefore, CO concentrations at the studied intersections with cumulative traffic were not expected to exceed the one-hour or eight-hour NAAQS for CO. Any traffic mitigation measures to reduce traffic volumes or improve level-of-service would also reduce cumulative traffic air pollution.

(See 2001 Cle Elum UGA DEIS and 2002 Cle Elum UGA FEIS Section 3.2 for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Direct Construction Impacts

Similar to under FEIS Alternative 5, demolition and construction under SEIS Alternative 5 would generate dust from grading activities that could cause temporary, localized increases in ambient concentrations of fugitive dust and suspended particulate matter. Construction activities would comply with local regulations requiring a plan for dust control during grading activities. However, construction activities could still cause temporary localized fugitive dust impacts at nearby residences, schools, and businesses.

Construction activities would require the use of diesel-powered trucks and equipment, which would emit air pollutants that could slightly degrade local air quality in the immediate vicinity of the activity. However, these emissions would be temporary and localized, and the resulting construction tailpipe emissions would be far outweighed by emissions from other existing vehicular traffic in the region.

Some construction activities could cause odors that would be detectable to some people in the vicinity of the activity, especially paving operations using tar or asphalt. Such odors would be short-term and localized. Stationary equipment used for the construction activities must comply with Ecology regulations requiring the best available measures to control emissions of odor-bearing air contaminants.

Construction equipment and material hauling would also temporarily increase traffic flow on streets adjacent to the construction area (see Section 3.13, **Transportation**, for details). If construction delays traffic enough to significantly reduce travel speeds in the area, general traffic-related emissions would also increase.

Development under SEIS Alternative 5 would require removal of vegetation on the site. As described above, removal of vegetation leads to soil carbon GHG emissions. However, almost ½ of the site would be preserved in open space, including large forested areas in the western portion of the site.

Direct Operation Impacts

Operational air quality impacts associated with residential, commercial, light industrial and recreational uses under SEIS Alternative 5 are anticipated to occur from transportation-related sources, heating, and wood-burning. Tailpipe emissions from vehicles traveling on public roads would be the major source of air pollutant emissions associated with SEIS Alternative 5. Potential air quality impacts from increased tailpipe emissions are divided into two general categories: CO hot spots caused by localized emissions at heavily congested intersections, and regional photochemical smog caused by combined emissions throughout the state. Development under SEIS Alternative 5 would increase vehicle travel

on public roads. **Table 3.4-1** summarizes and compares the Vehicle Miles Traveled (VMT) and contribution to the increase in regional tailpipe emissions under the SEIS Alternatives.

Table 3.4-1
COMPARISON OF VEHICLE MILES TRAVELED AND TAILPIPE EMISSIONS

	SEIS Alternative 5 (2037)	SEIS Alternative 5 (2051)	SEIS Alternative 6 (2037)
Washington State 2037 Daily VMT	132,800,000	132,800,000	132,800,000
Project-Related VMT	139,611	199,826	240,830
Forecast Total Regional VMT	132,939,611	132,999,826	133,040,830
Contribution of Increase to Regional Tailpipe Emissions	0.1%	0.2%	0.2%

Source: Landau Associates, 2020.
Note: 2037 represents the full buildout year for SEIS Alternative 6; the 47° North residential and recreational uses are assumed to buildout by 2028, and the future commercial uses on the adjacent 25-acre property by 2037. 2051 represents the full buildout year for SEIS Alternative 5.

As shown in **Table 3.4-1**, SEIS Alternative 5 is anticipated to result in approximately 139,611 VMT by 2037 and 199,826 VMT by 2051. However, as noted previously, the site is located in an attainment area for all criteria pollutants and, therefore, it is unlikely that increased traffic would cause localized air pollutant concentrations that could form a hot spot. As result, a "conformity analysis", also referred to as "hot spot" analysis, is not required and was not conducted for the SEIS. Furthermore, EPA motor vehicle regulations have steadily decreased tailpipe emissions from individual vehicles (EPA; accessed July 2, 2020), and continuing decreases from individual vehicle emissions are expected to more than offset the increase in vehicle traffic. Therefore, it is unlikely that air quality impacts at local intersections would be significant.

Air emissions would be generated by natural gas and/or propane combustion used for space heating at new residences. However, per building space heating emissions are expected to decrease in response to energy conservation measures and as future residents purchase more fuel-efficient homes. Therefore, future space heating emissions are not anticipated to be significant. Residential wood-burning appliances also elevate concentrations of particulate matter and toxic air pollutants, especially when heavy wood burning is combined with stagnant weather conditions. However, wood-burning stoves would not be permitted within the 47^{o} North site.

Commercial and light industrial development in the business park under SEIS Alternative 5 would also contribute to air emissions from the site. Emissions from commercial and light industrial uses are generally associated with a greater amount of vehicle traffic (employees, customers, and deliveries), mechanical equipment, and trucks at loading docks. These uses

could cause air pollution impacts at adjacent residential properties. However, Ecology requires all commercial facilities to use equipment meeting minimum air emission standards, to obtain air permits before installing a new source of air pollution or modifying an existing source, and to use best available control technology on stationary equipment to minimize emissions.

Greenhouse Gas Emissions

Annual GHG emissions from proposed development of the SEIS Alternatives was calculated based on the SEPA GHG Calculation Tool and the assumed land uses for each of the SEIS Alternatives. **Table 3.4-2** lists the life cycle GHG emission increases that are anticipated to occur under each of the SEIS Alternatives.

Table 3.4-2
COMPARISON OF ANNUAL GHG EMISSIONS – SEIS ALTERNATIVES 5 & 6

	SEIS Alternative 5 (2037)	SEIS Alternative 5 (2051)	SEIS Alternative 6 (2037)
	Projected Average Annual GHG Emissions (metric tons CO_2e per year)		
Forecast Emissions			
Stationary Emissions (Combustion)	4,907	6,383	4,526
Electrical Emissions	6,320	8,966	6,439
Transportation Emissions	32,537	56,030	23,972
Soil Carbon Emissions	988	988	782
Total Emissions	**44,753**	**72,368**	**35,719**

Source: Landau Associates, 2020.
Note: 2037 represents the full buildout year for SEIS Alternative 6; the 47° North residential and recreational uses are assumed to buildout by 2028, and the future commercial uses on the adjacent 25-acre property by 2037. 2051 represents the full buildout year for SEIS Alternative 5.

As shown in **Table 3.4-2**, SEIS Alternative 5 is anticipated to generate approximately 44,753 metric tons of CO_2e per year by 2037 and 72,368 metric tons of CO_2e by 2051. Total gross GHG emissions for Washington State are estimated to exceed 114,100,000 metric tons CO_2e per year in 2035. The GHG emissions increase associated with SEIS Alternative 5 would be only a small fraction (0.04%) of total statewide annual GHG emissions and no single project emits enough GHG emissions to solely influence global climate change.

Indirect & Cumulative Impacts

Development under SEIS Alternative 5 could result in indirect and cumulative impacts on air quality. For example, additional development (residences, commercial uses, etc.), population and vehicle traffic in and around the site spurred by the development of SEIS

Alternative 5, as well as additional development and traffic from approved/vested projects in the area (e.g., in Suncadia resort, City Heights, and Cle Elum Pines) could lead to additional concentrations of pollutants that could adversely affect air quality. Indirect and cumulative development in the area would also increase local VMT. However, compared to other population and economic growth throughout the region, the increase attributed to SEIS Alternative 5, together with indirect/cumulative development would be negligible (see **Table 3.4-1** for summary of VMT in relation to forecasted regional VMT). All future development in Washington State would also contribute to worldwide emissions of GHG, which would contribute to potential future effects caused by global climate change.

SEIS Alternative 6 *– Proposed 47º North Master Site Plan Amendment*

Direct Construction Impacts

Development under SEIS Alternative 6 would result in similar types of construction impacts to FEIS and SEIS Alternative 5, including dust from construction activities, emissions from trucks and construction equipment, and odors from construction activities. However, SEIS Alternative 6 would include fewer residential units and a shorter buildout period than FEIS and SEIS Alternative 5, which would reduce the level and duration of construction-related air quality impacts.

With SEIS Alternative 6, construction of all the manufactured homes in the single family area and some of the homes in the multi-family area would occur in a factory offsite; the units would then be transported to and installed on the site. This method of construction is shorter and less impactful than the construction associated with stick-built housing and can result in lower amounts of GHG emissions during construction when compared with typical stick-built homes. The inclusion and use of manufactured homes under SEIS Alternative 6 would result in a further reduction of construction-related air quality impacts when compared with SEIS Alternative 5 (see **Appendix F** for further details on the differences in GHG impacts between manufactured and stick-built homes).

Overall, construction-related air quality impacts would be temporary in nature and with implementation of the identified mitigation measures (e.g., adherence to City construction regulations), significant adverse impacts are not anticipated.

Direct Operation Impacts

Similar to SEIS Alternative 5, air quality emissions from development under SEIS Alternative 6 are anticipated to occur from transportation-related sources, heating, and wood-burning. Tailpipe emissions from vehicles traveling on public roads would be the major source of air pollutant emissions associated with SEIS Alternative 6. As shown in **Table 3.4-1**, SEIS Alternative 6 is anticipated to result in approximately 199,826 VMT by 2037, which would be greater than SEIS Alternative 5 (139,611 VMT in 2037). This is due in part to the retail and restaurant uses in the future commercial development assumed under SEIS Alternative 6, which are expected to generate more vehicle traffic than the assumed light industrial

development in the business park under SEIS Alternative 5. However, although the total VMT associated with SEIS Alternative 6 would be higher than with SEIS Alternative 5, the transportation emissions associated with SEIS Alternative 5 would be higher because more vehicles with lower fuel efficiencies (e.g. heavy trucks) would be associated with the commercial and light industrial development under SEIS Alternative 5 (see **Table 3.4-2**).

Emissions sources for residential and commercial uses are also anticipated to be similar to those described for SEIS Alternative 5. However, emissions levels would likely be lower due to fewer residential units and less non-residential development under SEIS Alternative 6. SEIS Alternative 6 would also include space for approximately 627 RV sites for temporary vacation use. While wood-fueled outdoor recreational fires would be prohibited in the RV resort; propane campfires would be allowed and would contribute some particular matter emissions in the area. Additional potential emissions associated with RVs include diesel generator use; however, each site would be supplied with electrical power hookups which would likely result in minimal generator use within the RV resort.

Greenhouse Gas Emissions

Annual GHG emissions from proposed development of the SEIS Alternatives was calculated using the SEPA GHG Calculation Tool and the assumed land uses under SEIS Alternative 6. As shown in **Table 3.4-2**, SEIS Alternative 6 is anticipated to generate approximately 35,719 metric tons of CO_2e per year by 2037, which would be less than SEIS Alternative 5 (44,753 metric tons of CO_2e per year by 2037). The GHG emissions increase associated with any of the SEIS Alternatives would be only a small fraction (0.04%) of total statewide annual GHG emissions and no single project emits enough GHG emissions to solely influence global climate change.

Indirect & Cumulative Impacts

As described for SEIS Alternative 5, development under SEIS Alternative 6 would result in indirect and cumulative impacts on air quality. Indirect and cumulative development in the area would increase local VMT and associated emissions. However, compared to other population and economic growth throughout the region, the increase attributed to SEIS Alternative 6, together with indirect/cumulative development would be negligible (see **Table 3.4-1** for a summary of VMT in relation to forecasted regional VMT). All future development in Washington State would also contribute to worldwide emissions of GHG, which would contribute to potential future effects caused by global climate change.

Conclusion

SEIS Alternatives 5 and 6 would generate air emissions during construction and operation of proposed development on the site, including GHG emissions. Air emissions during construction (e.g., dust and pollutants) would largely be controlled through compliance with City construction regulations. Tailpipe emissions from vehicles traveling on public roads would be the major source of air pollutant emissions associated with operation of the SEIS

Alternatives. However, the site area is located in an attainment area for all criteria pollutants and, therefore, it is unlikely that increased traffic would cause localized air pollutant concentrations ("hot spots"). The SEIS Alternatives would contribute to GHG emissions; however, the emission increase would be only a small fraction of total statewide annual GHG emissions and no single project emits enough GHG emissions to solely influence global climate change. Therefore, no significant air quality impacts are anticipated.

3.4.3 Mitigation Measures

The following mitigation measures are identified to address the air quality impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- **Construction Emission Control:** All contractors would be required to implement air quality control plans for construction activities. Air quality control plans would include BMPs to control fugitive dust and odors such as:
    - Use water sprays or other non-toxic dust control methods on unpaved roadways.
    - Minimize vehicle speed while traveling on unpaved surfaces.
    - Prevent track-out of mud onto public streets.
    - Cover soil piles when practicable.
    - Minimize work during periods of high winds when practicable.

  The following mitigation measures would be used to minimize air quality and odors issues caused by construction equipment tailpipe emissions:
    - Maintain the engines of construction equipment according to manufacturers' specifications.
    - Minimize idling of equipment while the equipment is not in use.
    - If there is heaving traffic during some periods of the day, schedule haul traffic during off-peak times (e.g. between 9:00 AM and 4:00 PM) when it would have the least effect on traffic and would minimize indirect increases in traffic-related emissions.

- Single family and some of the multi-family residences under SEIS Alternative 6 would consist of manufactured housing, which research has shown, can result in reduced construction-related GHG emissions compared with stick-built houses.

- Wood-burning stoves would not be permitted in the proposed residences.

- Wood-fueled campfires would not be permitted in the RV resort area.

Required Mitigation Measures

- Construction and development would comply with applicable air quality regulations:
  - National Ambient Air Quality Standards (NAAQS);
  - State Ambient Air Quality Standards;
  - including Ecology's Indoor Burning Smoke Reduction Zone regulatory framework;
  - State and City of Cle Elum outdoor burning regulations; and,
  - State of Washington GHG laws.

Other Possible Mitigation Measures

- The Applicant should consider using energy efficient lighting in the project.

- The use of solar energy could be considered and analyzed further.

3.4.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on regional or local air quality are anticipated due to construction activities under the SEIS Alternatives. Temporary, localized dust and odor impacts could occur during construction. The regulations and measures identified above are anticipated to mitigate any potential adverse construction air quality impacts.

No significant unavoidable adverse operational impacts on regional or local air quality are anticipated under the SEIS Alternative. The 47^{o} North site is located within an air quality attainment area for all criteria air pollutants and the project is not expected to pose issues related to air toxics.

Although no threshold of "significance" has been established by state law to determine GHG impacts, modeled GHG emissions related to the project in 2037 would be negligible relative to the forecasted total statewide annual GHG emissions.

3.5 NOISE

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant noise impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Noise section is based on the *Noise Report* (September 2020) prepared by Landau Associates (see **Appendix G**).

Methodology

The Cle Elum Municipal Code (CEMC) includes regulations related to noise; however, the Code does not address or provide numerical thresholds for construction or transportation noise. As such, Washington State noise regulations apply where the CEMC has not established noise thresholds.

Noise impacts of the SEIS Alternatives were addressed qualitatively for the following elements: short-term construction noise, and long-term operational noise from the residential, parks/recreation, and commercial or light industrial uses. Noise associated with vehicular traffic on existing roadways (I-90, Bullfrog Road, SR 903 / West 2nd Street, West 1st Street, Ranger Station Road, and Douglas Munro Boulevard) and planned project roadways (e.g., the Connector Road and RV Access Road) were also addressed quantitatively.

Noise associated with vehicular traffic from operation of the project on existing roadways in the site vicinity and on planned roadways on the site would be the primary source of operational noise from the project. Screening-level[1] traffic noise modeling was conducted using approved methods from the *Washington State Department of Transportation (WSDOT) 2020 Noise Policy and Procedure*, based on Federal Highway Administration (FHWA) criteria, to assess the traffic noise impacts of the SEIS Alternatives, and to determine whether substantial noise level increases are expected. Existing and future noise levels were documented during peak traffic hours (i.e., summer Sunday PM peak hour under existing conditions and in 2037;[2] see Section 3.13, **Transportation**, for details on

[1] If federal or state funds are approved for transportation improvements in the vicinity of a project, WSDOT requires that traffic noise impacts be modeled and noise abatement be evaluated at impacted receivers. No federal or stated funds are approved or planned for transportation improvements in the 47° North site vicinity. Therefore, a screening-level noise analysis was conducted. As defined by WSDOT, a screening (or straight line) model describes a worst-case scenario with conservatively higher sound levels than would be expected in detailed modeling and can be used when a full abatement analysis is not required. No field measurements are performed for a screening-level noise study.

[2] 2037 represents the full buildout year for SEIS Alternative 6 (47° North residential and recreational uses would buildout by 2028 and the adjacent 25-acre commercial property would buildout by 2037). SEIS Alternative 5 is assumed to buildout by 2051; therefore, only the portion of SEIS Alternative 5 development that would occur by 2037 is included in the analysis.

traffic under the SEIS Alternatives). These noise levels were compared to WSDOT's definition of a traffic noise impact as either:

- Peak hour traffic noise level of 66 dBA (Leq) or greater at the exterior outdoor use area of any existing or future dwelling, or
- An increase in peak hour traffic noise of 10 dBA Leq or greater (future project level minus existing level) at the exterior outdoor use area of any existing dwelling (considered a "substantial increase").

(See below under *Affected Environment* for definitions of dBA and Leq.)

Ten (10) noise sensitive receiver locations on and near the site were selected and analyzed to determine potential noise increases under the SEIS Alternatives from the increase in traffic noise under the SEIS Alternatives (see **Figure 3.5-1** later in this section for a map of these receivers).

(See **Appendix G** for details on the noise analysis methodology.)

3.5.1 Affected Environment

2002 Cle Elum UGA EIS

Existing noise conditions on and in the vicinity of the 1,100-acre Bullfrog Flats site in 2002 are described below.

Background & Characteristics of Noise

The 2002 Cle Elum UGA EIS indicated that the range of magnitude of sound that humans can hear is so large that sound pressure is expressed on a logarithmic scale in units called decibels (dB). The commonly used frequency weighting for environmental noise is A-weighting or dBA, which estimates how an average person hears sound. Because of the logarithmic decibel scale, a doubling of noise sources increases noise levels by 3 dBA. The equivalent sound level (Leq) is a descriptor for environmental noise. The Leq can be considered a measure of the average noise level during a specific period of time. It is a measure of total noise during a time period, and as such places more emphasis on occasional high noise levels than accompanying general background noise levels.

At the time of the 2002 Cle Elum UGA EIS, the Washington State Department of Ecology (Ecology) regulated noise levels at the boundary lines of neighboring properties. **Table 3.5-1** summarizes the maximum permissible noise levels and land uses/Environmental Designations for Noise Abatement (EDNA)[3].

[3] Class A EDNAs are lands where people reside and sleep such as single family and multifamily residences, recreation/entertainment facilities (camps and resorts), and community service locations (hospitals, nursing homes, etc.). Class B EDNAs are land uses that require protection against noise interference with speech such as commercial living

Table 3.5-1
ECOLOGY MAXIMUM PERMISSIBLE NOISE LEVELS

EDNA Noise Source	EDNA of Receiving Property		
	Class A	Class B	Class C
Class A (Residential, Recreational, Medical)	55 dBA	57 dBA	60 dBA
Class B (Commercial)	57	60	65
Class C (Industrial)	60	65	70

Source: WAC 173-60-040, 2002.
EDNA = Environmental Designation for Noise Abatement
dBA = A-weighted decibel

WSDOT guidelines, which are based on FHWA criteria, would determine if increases in traffic noise volumes from development would require mitigation. According to FHWA criteria, noise impacts occur when predicted traffic noise levels approach (within 1 dBA of noise abatement criteria) or exceed noise abatement criteria or when predicted traffic noise levels substantially exceed existing noise levels (10 dBA over existing levels). **Table 3.5-2** summarizes the FHWA noise abatement criteria.

Table 3.5-2
FHWA NOISE ABATEMENT CRITERIA

Activity Category	Leq(h) in dBA	Description of Activity Category
Category A	57 (exterior)	Land where serenity and quiet are of extraordinary significance and serve an important public need.
Category B	67 (exterior)	Residences, hotels, schools, churches, libraries, hospitals, parks, recreation areas.
Category C	72 (exterior)	Developed lands not included in Categories A or B.
Category D	--	Undeveloped lands.
Category E	52 (interior)	Residences, hotels, public meeting rooms, schools, churches, libraries, hospitals.

Source: 23 CFR Part 772, 2002.

Existing Noise Conditions

Ambient noise levels were measured as part of the 2002 Cle Elum UGA EIS to document the existing noise environment and identify major sources of noise. Ambient noise levels were measured along I-90, SR 903, and Bullfrog Road. **Table 3.5-3** summarizes the results of the noise measurements.

accommodations, restaurants, retail uses, offices, and banks. Class C EDNAs are land uses where higher noise levels should be anticipated such as industrial uses, storage/warehouses/distribution facilities, and agriculture.

Table 3.5-3
AMBIENT NOISE MEASUREMENTS FOR THE CLE ELUM UGA

Location	Average Leq	FHWA Criterion
I-90	76 dBA	72 dBA
SR-903	66 dBA	67 dBA
Bullfrog Road	58 dBA	72 dBA

Source: Cle Elum UGA EIS, 2002.

At the time of the 2002 Cle Elum UGA EIS, sensitive noise receivers adjacent to the site included the Laurel Hill Memorial Park Cemetery, the Cle Elum-Roslyn School District campus, and single family residences. Noise levels at the cemetery were dominated by vehicular traffic noise from I-90. The school district campus and single family residences were located adjacent to SR 903 where the predominant source of noise was also vehicular traffic.

(See 2001 Cle Elum UGA DEIS Section 3.9, and 2002 Cle Elum UGA FEIS Section 3.8 for details.)

2020 SEIS

The following key changes to the existing noise environment surrounding the site have occurred since issuance of the 2002 Cle Elum UGA EIS:

- The Washington State Horse Park was constructed to the south of the site. The Horse Park produces noise associated with horseback riding activities, spectators, and visitor traffic.
- Suncadia's Prospector and Rope Rider Golf Courses, located to north of the project site, opened in 2005 and 2011, respectively. Residential development in Suncadia around the golf courses has also increased. Increased noise is associated with golfing activities, as well as increased traffic to the courses and associated residences.
- Annual average daily traffic volume on I-90 at Cle Elum has increased from 27,000 vehicles per day in 2002 to 32,600 in 2019, approximately 20% (WSDOT; June 2020).

Current Noise Regulations

Since the issuance of the 2002 Cle Elum UGA EIS, the City of Cle Elum has annexed the UGA site and some noise regulations have changed. Washington State noise regulations are identified in WAC 173-60 and remain essentially the same as those shown in **Table 3.5-1**. FHWA Noise Abatement Criteria (NAC) have been updated since the 2002 Cle Elum UGA EIS (see **Table 3.5-2**) and WSDOT has adopted the NAC, which establish the absolute noise levels for varying land use categories to determine whether traffic noise impacts would occur. The NAC for residential development, schools and cemeteries is 67 dBA at exterior use locations and is reflected in WDOT's peak hour traffic noise level threshold of 66 dBA. As described in *Methodology*, consistent with the NAC, WSDOT defines a traffic noise impact as either of the following:

- Peak hour traffic noise level of 66 dBA (Leq) or greater at the exterior outdoor use area of any existing or future dwelling.
- Increase in peak hour traffic noise of 10 dBA Leq or greater (future project level minus existing level) at the exterior outdoor use area of any existing dwelling (considered a "substantial increase").

The current City of Cle Elum Municipal Code identifies nuisance noise sources but does not address or provide numerical thresholds for traffic or construction-related noise. In addition, portions of the study area to the north, south, and west of the site are within the jurisdiction of Kittitas County. Kittitas County's Noise Control Ordinance (Chapter 9.45) has been updated since the 2002 Cle Elum UGA EIS, but still does not provide numerical thresholds for noise.

Existing Noise Levels

Similar to the 2002 Cle Elum UGA EIS, the predominant source of noise in the site vicinity is vehicular traffic. Existing traffic-related noise levels at 10 receiver locations on and surrounding the 47° North site were modeled to determine the current, baseline noise levels (see **Figure 3.5-1**, Locations of Noise Sensitive Receivers). **Table 3.5-4** summarizes the existing traffic-related noise levels at the 10 receiver locations during the Sunday summer PM peak hour. This time period is not the "typical" time period for traffic, and is more likely to represent a worst case. In addition, it is not the time period used to identify mitigation for traffic in this SDEIS; traffic mitigation is based on the weekday summer PM peak hour (see Section 3.13, **Transportation**, for details).

As shown in **Table 3.5-4**, existing traffic-related noise levels at receiver locations on and surrounding the site range from approximately 41 dBA (at B2-School location between W 2nd Street/SR-903 and the connector) to 67 dBA (at D-Cemetery location near Douglas Munro Boulevard and I-90). Noise at the cemetery currently exceeds the peak hour maximum traffic noise level of 66 dBA (Leq).

3.5.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

Direct Construction Impacts

As described in the 2002 Cle Elum UGA EIS, site preparation and construction activities under FEIS Alternative 5 would temporarily generate noise during the construction buildout period. Construction noise sources would include earth-moving equipment, generators, trucks, and impact equipment. On-site construction noise would be audible at times at off-site locations, depending on the type, number, and location of equipment and the distance

Source: Landau Associates, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.5-1

Representative Noise Receiver Locations

Table 3.5-4
TRAFFIC-RELATED NOISE LEVELS (SUNDAY, SUMMER PM PEAK HOUR)

Receiver	Road Segment	Modeled Noise Level (dBA)			
		Existing (2019)	SEIS Alt. 5 (2037)	SEIS Alt. 6 (2037)	Difference b/w Existing & SEIS Alt. 6
A1-Residence	Bullfrog Rd at RV access primary entry	50	54	54	4
A2-Residence	Bullfrog Rd at RV access primary entry	43	46	46	4
B1-Residence	SR-903 at connector primary entry	65	68	68	3
B2-School	Between W 2nd St. (SR 903) and connector	41	45	45	4
B3-Future 47° North Residence[1]	Between W 2nd St. (SR 903) and connector	N/A	N/A	66	N/A
B3-Future 47° North Residence[2]	Between W 2nd St. (SR 903) and connector	N/A	N/A	64	N/A
C-Residence	W 2nd Street at Ranger Station and W 1st St.	63	66	66	2
D-Cemetery	Douglas Munro Blvd., I-90 and W 1st St.	67	69	69	2
E-Residence	1st Street near N Columbia Ave.	63	63	64	1
F-Residence	I-90 east and west	56	58	58	2

Source: Landau Associates, 2020.

[1] At eight feet from the connector road.

[2] At 21 feet from the connector road.

of the receivers. Maximum noise levels from construction equipment could range from 69 to 95 dBA at 50 feet and as high as 80 dBA at 200 feet. Average Leq noise levels during the day would likely be less than the predicted maximum noise levels because various equipment would be turned off at any one time and equipped with noise abatement devices. At the adjacent cemetery and school district campus, noise from construction would exceed existing noise levels at times and could temporarily disrupt activities.

Construction trucks hauling materials are not anticipated to increase noise levels along roadways that access the site. The primary truck haul route would avoid sensitive noise receivers and a Construction Transportation Management Plan would also address truck haul routes to minimize impacts.

Direct Operation Impacts

Under FEIS Alternative 5 the primary source of noise would be vehicle traffic travelling to and from the site. Traffic noise during the evening rush hour at receivers along the primary access roadway was predicted using a FHWA-approved computer model and would be well within the FHWA noise impact guidelines for highway noise. Traffic volumes on SR 903 and Bullfrog Road were anticipated to be approximately 18 to 24% higher under FEIS Alternative

5. Under a logarithmic scale used to describe noise levels, this would equate to an increase in traffic noise levels of less than 1 dBA at receptors along these roadways which would not be distinguishable to the human ear. Noise levels at the cemetery, which are dominated by traffic noise from I-90, would not increase above FHWA guidelines.

In the wintertime, development could result in increased snowmobile use and associated noise. Snowmobiles were allowed on city streets at the time of the 2002 Cle Elum UGA EIS and the City's snowmobile ordinance requires functioning mufflers and restricts speeds to 20 miles per hour (mph) during the day and 10 mph in the evening.

Indirect & Cumulative Impacts

Indirect population, housing, and employment growth that could be induced in the site vicinity with FEIS Alternative 5 would increase construction and traffic noise. Predicted traffic noise levels in the 2002 Cle Elum UGA EIS reflect traffic volumes that included indirect growth.

Construction of FEIS Alternative 5, concurrently with other development in the site vicinity, would temporarily increase noise levels at sensitive receivers near construction activities. However, development would include limitations on nighttime noise required by the CEMC, and could use quieter construction equipment and truck haul routes to avoid sensitive receivers which would minimize cumulative construction noise impacts. Cumulative operational noise impacts would be primarily related to cumulative increases in traffic volumes. Noise modelling for the 2002 Cle Elum UGA EIS included predicted impacts for increases in cumulative traffic and were predicted to be within FHWA guidelines for traffic noise. Cumulative development would also increase general snowmobile use and associated noise in the area during the wintertime. Snowmobile noise would be mitigated by restricting snowmobile use to designated trails and limiting speeds.

(See 2001 Cle Elum UGA DEIS Section 3.9, and 2002 Cle Elum UGA FEIS Section 3.8 for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Direct Construction Impacts

Similar to FEIS Alternative 5, clearing and grading activities and construction of new infrastructure and development under SEIS Alternative 5 would generally be accompanied by temporary increases in noise due to the use of heavy equipment and hauling of construction materials. Temporary noise impacts would depend on background sound levels, the type of construction equipment being used, and the amount of time the equipment is used. The Cle Elum Municipal Code does not provide numerical thresholds for construction-related noise. Temporary construction activity is exempt from state noise regulations, except between the hours of 10 PM and 7 AM (WAC 173-60-50). Construction

noise could still have temporary, localized impacts on nearby residences, businesses, schools, and parks.

Direct Operation Impacts

Similar to FEIS Alternative 5, increases in vehicular traffic and associated noise would continue be the primary source of noise onsite and in the site vicinity under SEIS Alternative 5. The Cle Elum Municipal Code does not provide numerical thresholds for traffic noise. Traffic noise impacts from increased vehicular traffic were evaluated at existing noise sensitive receivers and representative receiver locations within the 47° North site using WSDOT's approved screening method (see **Figure 3.5-1** for a map of the noise sensitive receiver locations).

The modeled noise level increases under SEIS Alternative 5 are summarized in **Table 3.5-4**. As shown in the table, the increases in traffic noise are anticipated to range from one to four dBA. People generally cannot detect differences between one and two dBA but may be able to detect differences of two or three dBA Leq, depending on conditions. No modeled noise level increases were above the significance threshold of 10 dBA. Noise impacts exceeding the NAC and WSDOT's threshold of 66 dBA (Leq) were modeled to occur at two existing residential receiver locations (B1 and C) and the cemetery (D) during the worst-case Sunday PM peak hour in 2037 (note that the WSDOT threshold would be exceeded at the cemetery under existing conditions). Noise impacts exceeding the 66 dBA (Leq) threshold could also occur at one future on-site residential receiver (B3) (see **Figure 3.5-1** for the locations of these receivers). Use of federal or state funds for roadway or intersection improvements in the site vicinity would trigger the WSDOT requirement to model traffic noise impacts and evaluate noise abatement at impacted receivers.

Operational noise under SEIS Alternative 5 would also include noise from single family and multi-family residences, parks, indoor and outdoor recreation spaces, and commercial and light industrial uses. Outdoor spaces, including formal sports/recreation areas and trails, would produce noise associated with maintenance, and amplified and unamplified human voices. All noise produced by the residences and outdoor recreation would be regulated by the Cle Elum Municipal Code and Kittitas County Code.

Noise associated with light industrial uses would vary by the type of use, but would be associated with more operational noise than commercial uses (e.g., delivery loading/unloading or high-powered cooling equipment) while other light industrial uses that operate primarily indoors could be associated with less noise than some commercial uses with high delivery and customer traffic.

Indirect & Cumulative Impacts

Similar to FEIS Alternative 5, indirect population, housing, and employment growth that could be induced in the site vicinity under SEIS Alternative 5 would incrementally increase noise during construction and operation of the project.

Development of SEIS Alternative 5, concurrently with other development in the site vicinity, would temporarily increase noise levels near construction activities. However, development would include limitations on nighttime noise, quieter construction equipment, and truck haul routes to avoid sensitive receivers which would minimize cumulative construction noise impacts. Cumulative operational noise impacts would primarily relate to cumulative increases in traffic volumes. Cumulative traffic (e.g., from approved/vested projects in the City of Cle Elum and Kittitas County and background growth, together with traffic from SEIS Alternative 5) was accounted for in the traffic-related noise levels in **Table 3.5-4**. Cumulative development would also increase general recreation use and associated noise in the area.

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

Direct Construction Impacts

Similar to FEIS and SEIS Alternative 5, temporary construction noise impacts would occur with development of SEIS Alternative 6, including noise from site clearing and grading, and construction of residences, commercial and recreational structures, and park facilities throughout the 47º North site and the adjacent 25-acre property. SEIS Alternative 6 would include fewer residences and less commercial space than FEIS and SEIS Alternative 5, which would result in less construction noise. In addition, all the proposed single family residences and some of the multi-family residences would be manufactured in factories offsite and assembled onsite, which would result in shorter construction periods and less construction-related noise impacts onsite and in the site vicinity than under FEIS and SEIS Alternative 5. The overall duration of construction would also be shorter under SEIS Alternative 6 (i.e., a 17-year buildout period is assumed under SEIS Alternative 6 – 7-year buildout for 47° North residential and recreational uses and 17-year buildout of the adjacent commercial development – compared to a 30-year buildout period under SEIS Alternative 5) which would result in more condensed construction-related noise.

Direct Operation Impacts

Similar to under FEIS and SEIS Alternative 5, increases in vehicular traffic and associated noise would continue be the primary source of noise in the site vicinity under SEIS Alternative 6. Modeled traffic-related noise level increases under SEIS Alternative 6 are summarized in **Table 3.5-4** and show increases in traffic noise are expected to range from one to four dBA. However, as noted previously, people generally cannot detect differences between one and two dBA but may be able to detect differences of two or three dBA, depending on conditions. No modeled noise level increases were above the WSDOT significance threshold of 10 dBA (Leq). Noise impacts exceeding the NAC and WSDOT's threshold of 66 dBA (Leq) were modeled to occur at two existing residential receiver locations (B1 and C) and the cemetery (D) during the worst-case Sunday PM peak hour in 2037 (again, note that the WSDOT threshold is exceeded at the cemetery under existing conditions). Noise impacts exceeding the 66 dBA (Leq) threshold could also occur at one future on-site residential receiver (B3) (see **Figure 3.5-1** for the locations of these receivers). The difference in modeled traffic noise levels and impacts between SEIS Alternative 5 and 6 would be negligible. Use of federal or state funds for roadway or intersection improvements

would trigger the WSDOT requirement to model traffic noise impacts and evaluate noise abatement at impacted receivers.

Other operational noise under SEIS Alternative 6 would include noise from single family and multi-family residences, parks, indoor and outdoor recreation spaces, commercial uses, and the RV resort. Noise associated with residential development under SEIS Alternative 6 would be less than under SEIS Alternative 5 since fewer residences are proposed. Use of outdoor spaces, including formal sports/recreation areas and trails, would generate noise associated with maintenance, amplified and unamplified human voices. The RV resort would produce noise associated with camping and outdoor recreation, including unamplified human voices. While generator use would not be prohibited within the RV resort, power would be provided at each site, making generator use unnecessary. All noise produced by the residences, outdoor recreation areas, and RV resort would be regulated by state and local regulations, as described previously, including the establishment of quiet hours for the RV resort.

SEIS Alternative 6 is anticipated to generate less noise associated with commercial uses than SEIS Alternative 5 due to the smaller square footage of commercial use assumed under SEIS Alternative 6 (150,000 sq. ft. vs. 950,000 sq. ft.).

Indirect & Cumulative Impacts

Similar to FEIS and SEIS Alternative 5, Indirect population, housing and employment growth that could be induced in the site vicinity by SEIS Alternative 6 would incrementally increase construction and traffic-related noise.

Development of SEIS Alternative 6, concurrently with other development in the site vicinity, would temporarily increase noise levels near construction activities. This cumulative noise would be less than under SEIS Alternative 5 because there would be less on-site construction and associated noise under SEIS Alternative 6. The cumulative development would also include limitations on nighttime noise required by the CEMC and could use quieter construction equipment and truck haul routes to avoid sensitive receivers which would minimize cumulative construction noise impacts. Cumulative operational noise impacts would primarily be related to cumulative increases in traffic volumes. Cumulative traffic (e.g., from approved/vested projects in the City of Cle Elum and Kittitas County and background growth, together with traffic from SEIS Alternative 6) was accounted for in the traffic-related noise levels in **Table 3.5-4**. Cumulative development would also increase general recreation use and associated noise in the site vicinity. The general off-site recreation use and associated noise could be less under SEIS Alternative 5, because a number of on-site recreational facilities would be provided, including the RV resort.

Conclusion

Development under SEIS Alternatives 5 and 6 would result in additional noise onsite and in the site vicinity. Temporary construction noise would occur over the course of development of the 47º North site and adjacent commercial property. It is anticipated that construction-related noise would be greater under SEIS Alternative 5 than under Alternative 6 due to: the longer construction period, the greater number of residential units and commercial development, and the type of construction (i.e., all stick-built buildings). The primary source of noise during operation of the project would be from vehicular traffic. Noise level increases modelled for each of the SEIS Alternatives were below the significance threshold of a 10 dBA increase. Noise impacts exceeding the significance threshold of 66 dBA (Leq) were modeled to occur at two existing off-site residential receiver locations and the cemetery, and one future on-site residential receiver during the worst-case Sunday PM peak hour in 2037 under both SEIS Alternatives. With implementation of the mitigation measures listed below, no significant noise impacts are expected.

3.5.3 Mitigation Measures

The following mitigation measures are identified to address the noise impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- A large portion of the site would be preserved in undeveloped, forested/vegetated open space. Forested/vegetated areas and buffers that would be retained and possibly enhanced along the site boundary would assist in reducing noise impacts on surrounding uses.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- Construction would be limited to 7:00 AM to 7:00 PM, Monday through Saturday. Sunday construction would be on an emergency basis only and would need to be approved by the City.

- All construction equipment would have adequate mufflers, intake silencers, and engine enclosures to minimize construction equipment noise.

- Any stationary equipment that generates noise would be located away from sensitive receivers, including residential uses, the school property, the cemetery, and open space areas.

Required Mitigation Measures

- Construction and operation of the project would be generally consistent with numerous Cle Elum Municipal Code (CEMC) requirements related to noise, including

Chapter 2.48.130, Chapter 8.12.020, Chapter 10.20, Chapter 10,24.020, and Chapter 17.51.010. The CEMC, however, is focused primarily on nusiances and does not address or provide numerical thresholds for construction, transportation, or operational noise. As such, Washington State noise regulations would apply where the CEMC has not established noise thresholds.

- Consistent with the Cle Elum Municipal Code, the proposed RV resort would be required to submit a management plan, including rules governing park quiet hours, as part of the conditional use permit process or development agreement.

- Roof equipment in the commercial development could require noise baffling, if necessary, to meet state noise standards. This condition will be reviewed and any baffling requirements imposed as part of the building permit review for the commercial buildings.

Other Possible Mitigation Measures

- Construction noise could be reduced by using enclosures or walls to surround noisy stationary equipment, substituting quieter equipment or construction methods, and minimizing time of operation. To reduce construction noise at nearby receiver locations, the following mitigation measures could be incorporated into construction plans and contractor specifications:
  - Erect portable noise barriers around loud stationary equipment located near sensitive receivers;
  - Turn off idling construction equipment;
  - Require contractors to rigorously maintain all equipment; and,
  - Train construction crews to avoid unnecessarily loud actions (e.g., dropping bundles of rebar onto the ground or dragging steel plates across pavement) near noise-sensitive areas.

3.5.4 Significant Unavoidable Adverse Impacts

Under the SEIS Alternatives, noise levels would unavoidably increase in the study area due to short-term clearing/grading, demolition and construction noise, and long-term traffic and human noise. The noise from the proposed residential, commercial, and parks/recreational uses is expected to be minor; with implementation of the mitigation measures listed above no significant impacts are expected.

3.6 LAND USE

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant land use impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

Methodology

The land use analysis was prepared based on a land use reconnaissance of the site and vicinity conducted on November 5, 2019, as well as review of pertinent land use plans, policies, and regulations, including: the 2019 *City of Cle Elum Comprehensive Plan*, City of Cle Elum Municipal Code, and Comprehensive Plans of nearby municipalities, including Roslyn and South Cle Elum, and Kittitas County.

3.6.1 Affected Environment

2002 Cle Elum UGA EIS

Existing land use conditions on and in the vicinity of the 1,100-acre Bullfrog Flats site in 2002 are described below.

Bullfrog Flats Site Vicinity

Land uses adjacent to the eastern portion of the site were primarily public uses, including a municipal cemetery, school district campus, Puget Sound Energy (PSE) sub-station, solid waste transfer station, and sewer treatment facility. A small group of single family residences were located to the northeast. Areas to the north and west were comprised of low-density single family residences and undeveloped, forested areas. Land uses to the south of the site, beyond I-90, included the Burlington Northern-Santa Fe rail line and the Cle Elum Salmon Hatchery. Roadways adjoining the site included: Bullfrog Road to the north and west; SR 903 to the east, and I-90 to the south. The 1.5-mile Mountains-to-Sound Greenway (Greenway) extended along I-90 from Seattle to the town of Thorp in the Kittitas Valley, and included the Bullfrog Flats site.

Bullfrog Flats Site

In 2002, the Bullfrog Flats site was located in unincorporated Kittitas County and generally consisted of vacant, undeveloped land covered with trees and other types of vegetation. Two electrical transmission lines/easements traversed the site. One line ran in a north/south direction near the eastern edge of the site, while the other ran in an east/west direction along the northern edge of the site. The site also contained some existing informal trails that were used for recreation (hiking, snowmobiling, etc.).

(See 2001 Cle Elum UGA Draft EIS Section 3.10 and 2002 Cle Elum UGA FEIS Section 3.9 for details.)

2020 SEIS

Updated existing conditions on and in the vicinity of the 824-acre 47° North site and the adjacent 25-acre commercial property are described below.

47° North Site Vicinity

Development has occurred in the site vicinity since 2002. Land uses to the north of the site have substantially changed and intensified with development of the 6,000-acre Suncadia resort. Land uses in Suncadia to date include: lodge/hotel, inn, and associated facilities (spa, restaurants, conference facilities, etc.), about 1,130 single family residences and condominiums, two golf courses, recreational trails for hiking and biking, parks, and vegetated/forested open space. The Suncadia development is separated from the site by Bullfrog Road and a vegetated/forested buffer located along the southern edge of the resort.

The types of land uses adjacent to the eastern portion of the site are generally like those described in the 2002 Cle Elum UGA EIS, and include: the Cle Elum-Roslyn school campus, a PSE sub-station, and a municipal cemetery. Since 2002, a new water treatment plant has been constructed and facilities added to the school campus. These uses are separated from the site by a vegetated/forested buffer on those off-site properties and by a powerline easement on the 47° North site. Single family residences have also been constructed immediately southwest of the site (to the east of the Cle Elum River) and single family residences have been or are being constructed to the east/northeast of the site, beyond SR 903.

The area to the immediate south of the site is now occupied by the approximately 112-acre Washington State Horse Park and vegetated/forested open space. The Horse Park provides equestrian facilities for large and small shows/competitions, horseback riding trails, facilities for RVs, and camp sites. The Horse Park is currently in the process of constructing a new covered arena for shows/competitions. I-90 is located further south. These uses are separated from the site by vegetated/forested steep slope areas on the site. Vegetated/forested areas are also present in the open space to the south of the site (to the west of the Horse Park) and in the 150-foot buffer on the north side of I-90.

To the west of the site is Bullfrog Road, a portion of the Cle Elum River (which also runs through the western portion of the site), single family residences, and undeveloped vegetated/forested areas.

The 25-acre commercial property, which is contiguous to the site on the east, is surrounded by: SR 903 to the north and east, and single family residences further east; governmental

offices (City of Cle Elum police and State Parks) to the southeast; the cemetery to the south; and, the 47° North site to the southwest and west.

(See **Figure 3.6-1**, Existing Surrounding Land Uses.)

47° North Site

Subsequent to issuance of the 2002 Cle Elum UGA EIS, the Bullfrog Flats site was annexed to the City of Cle Elum; a subarea plan and mixed-use zoning were adopted; and, a Development Agreement and Master Site Plan were approved. Several properties in the eastern and southern portions of the site were dedicated to other entities, in accordance with the 2002 Development Agreement, including: 12 acres to the City of Cle Elum for a water treatment plant in 2002, 35 acres to the Cle Elum-Roslyn School District to expand their facilities in 2003, and 175 acres to the City of Cle Elum to establish the Washington State Horse Park in 2009. The transfer of these areas to other entities results in a reduction of the overall Master Site Plan area for SEIS Alternative 6 compared to FEIS and SEIS Alternative 5.

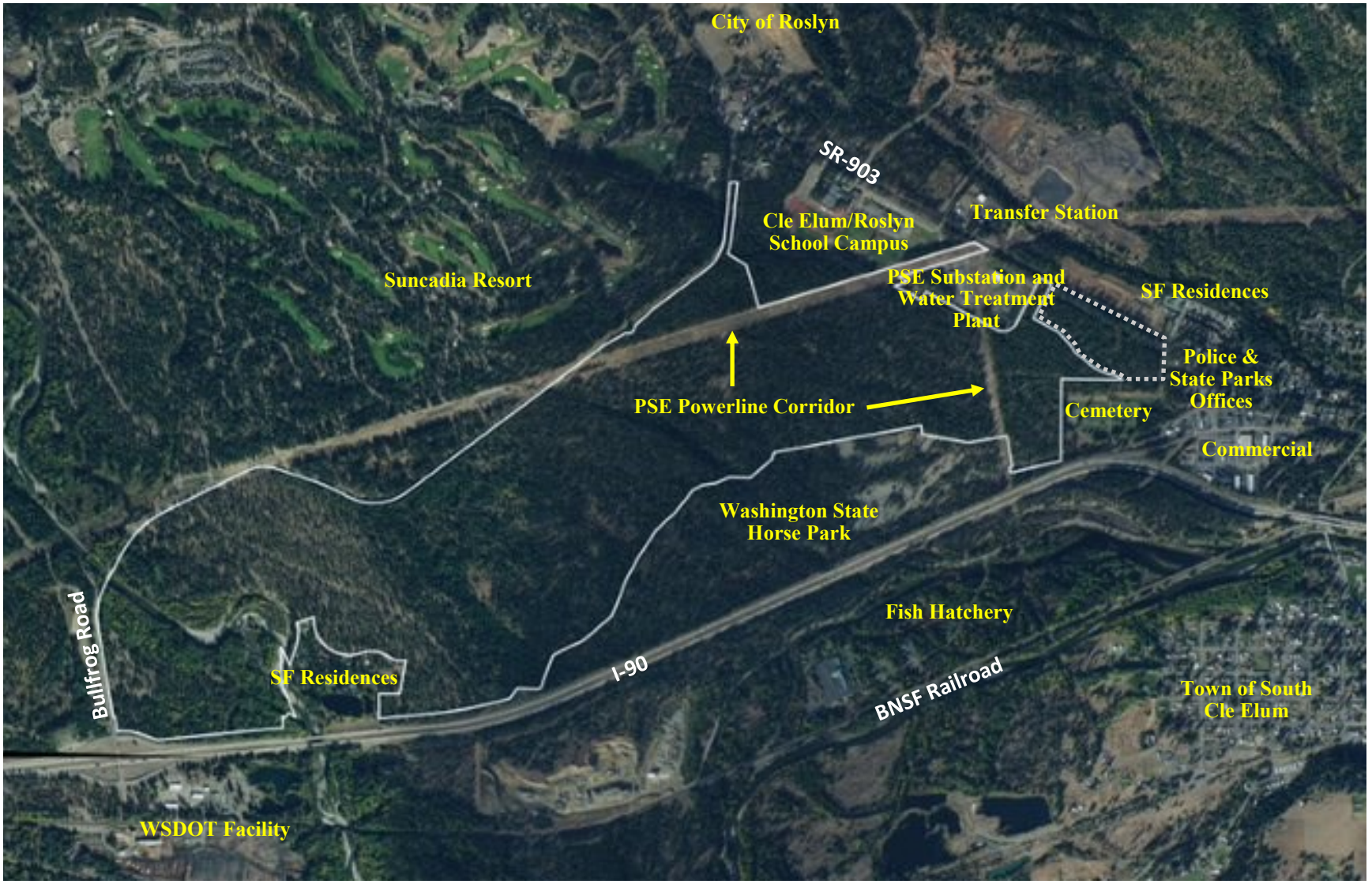
Since publication of the 2002 Cle Elum UGA EIS and approval of the Bullfrog Flats Master Site Plan, the 47° North site has remained largely vacant and undeveloped, and comprised of vegetated/forested land. Horseback riding, hiking, and snowmobiling continue to occur on dirt roads throughout the site; easements are now in place for authorized use of the site and certain trails by the adjacent Horse Park. A few equestrian facilities, such as a small building, parking area, and load/unload areas, are now located onsite. PSE and Bonneville Power Administration (BPA) electrical transmission lines/easements continue to traverse the site; other utility easements are also present (see **Figure 2-3**, Existing Site Conditions in **Chapter 2**).

3.6.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

The 2002 Cle Elum UGA EIS identified several types of impacts that could result from development of FEIS Alternative 5, including: direct impacts, such as conversion and intensification of land use, as the site was transformed from an undeveloped state to an urban community; the relationship to adjacent land uses, including the potential for conflicts between different types and intensities of land use, and increased activity levels; indirect impacts, including increased population and associated increased demand for goods and services; and, cumulative impacts. Each type of impact is summarized more fully in the discussion below and in the discussion of SEIS Alternative 5.



Note: This figure is not to scale

Source: Google Earth/EA Engineering, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.6-1

Existing Surrounding Land Uses

Direct Construction Impacts

Conversion of Land Use

Under FEIS Alternative 5, the 1,100-acre vacant, undeveloped Bullfrog Flats site would be converted to a mix of urban land uses, including: residential, business park, recreational, and public facility uses. Full buildout of the site was assumed to occur over approximately 30 years. Higher density uses would occur in the initial construction phase. In the first five years of development, ½ of the total acreage in residential uses (161 acres) and about 1/10 of the commercial development acreage (nine acres) would buildout.

Direct Operation Impacts

Intensification of Land Use

The proposed development under FEIS Alternative 5 would represent an intensification of on-site land uses. Operational impacts studied in the FEIS were based on the density of development. Under FEIS Alternative 5, net residential density at buildout was calculated as 6.1 du/acre.[1]

Relationship to Adjacent Land Uses

The relationship of development to adjacent uses is primarily a function of the type and intensity of the proposed uses and associated levels of activity, the intensity of surrounding uses, the proximity of proposed uses to surrounding uses, and the provision of separation and buffers between proposed uses and surrounding uses. Overall, potential land use conflicts were not anticipated to be significant under FEIS Alternative 5 due to the proposed layout of land uses, proposed open space (approximately 450 acres) and buffers incorporated into the site plan, and existing physical barriers within and adjacent to the site that separate the site from surrounding uses.

Increased Activity Levels

New development on the site under FEIS Alternative 5 would result in associated increases in pedestrian and vehicular activity. This increase in activity would relate to the increased population generated by the project (2,945 residents/1,334 housing units).

Indirect & Cumulative Impacts

Indirect impacts were primarily associated with the increase in population generated by development, which would create additional demand for goods and services. This could result in additional development pressure on undeveloped lands near the site. The FEIS concluded that development of the proposed business park in the eastern portion of the site would likely result in demand for supportive commercial uses.

[1] Net density assumes a 25% allowance for roads and rights of way.

The 2002 Cle Elum UGA EIS indicated that cumulative development of the approximately 1,100 acre Bullfrog Flats site under FEIS Alternative 5, together with the nearby 6,000-acre Master Plan Resort (now known as Suncadia), would significantly increase the total developed area in Cle Elum and upper Kittitas County over the 30-year buildout, and would represent a significant change in land use.

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *- Approved Bullfrog Flats Master Site Plan*

SEIS Alternative 5 represents the approved Bullfrog Flats Master Site Plan for the 1,100-acre site with some updates; see the description in **Chapter 2**. Development and buildout assumptions under SEIS Alternative 5 are largely the same as those under FEIS Alternative 5, however. As a result, it is anticipated that potential land use impacts would generally be similar to those described for FEIS Alternative 5. Any noteworthy differences in land use impacts are described below.

The types and amounts of assumed land uses are largely the same as those analyzed under FEIS Alternative 5. The business park property is five acres smaller under SEIS Alternative 5, however. The reason that this area decreased in the Approved Master Site Plan is not known. See **Table 2-1** in **Chapter 2** for a more complete summary of land uses under SEIS Alternative 5; **Figure 2-5**, in **Chapter 2** for an illustration of the Adopted Master Site Plan; and **Table 3.6-1** for land uses by phase under SEIS Alternative 5.

Direct Construction Impacts

Conversion of Land Use

The conversion of land use and the buildout period under SEIS Alternative 5 would be similar to that under FEIS Alternative 5. Construction of all the single and multi-family homes would be via traditional stick-built methods.

Direct Operation Impacts

Transition to More Intense Land Uses

Similar to FEIS Alternative 5, development under SEIS Alternative 5 would result in a transition to a mix of higher intensity urban land uses, consistent with its current designation as an Urban Growth Area (UGA). At buildout, approximately 247 acres of the site would be covered in impervious surfaces. The higher intensity land uses onsite would represent a continuation of development in the area, including development that has occurred since 2002, such as to the north (Suncadia), east (residential and public facility development), and south (the Horse Park).

Relationship to Adjacent Land Uses

As described in *Affected Environment*, additional development has occurred in the site vicinity since 2002. Land use to the north of the site, in unincorporated Kittitas County, has substantially changed and intensified with development of the Suncadia resort. To the east of the site a new water treatment plant has been constructed and facilities have been added to the school campus. Single family residences have also been constructed immediately southwest of the site and have been or are being constructed to the east/northeast of the site, across SR 903. The area to the immediate south of the site is now occupied by the approximately 112-acre Washington State Horse Park. The Bullfrog Flats site continues to be located within the Mountain-to-Sound Greenway. In March 2019, the Greenway was designated a Natural Heritage Area (see Section 3.8, **Aesthetics**, for details on the Greenway).

Like FEIS Alternative 5, the site layout, including open space and buffers, under SEIS Alternative 5, as well as existing physical barriers within and adjacent to the site, would limit potential conflicts with adjacent off-site uses. Approximately 524 acres of open space (48% of the site) would be provided under SEIS Alternative 5, a similar amount to under FEIS Alternative 5 (accounting for the residential buffers under FEIS Alternative 5). Net residential density would be 6.0 du/acre (see **Table 3.6-2**).

Increased Activity Levels

New development onsite under SEIS Alternative 5 would result in associated increases in activity, similar to what would occur under FEIS Alternative 5. The permanent population that would be generated by proposed development (2,809 residents) would be slightly less than under FEIS Alternative 5 due to differences in assumed household size.[2]

Indirect & Cumulative Impacts

Indirect impacts under SEIS Alternative 5 would be like those described for FEIS Alternative 5, because there would be a similar on-site population that would generate demand for goods and services which could spur spin-off development in nearby undeveloped urban areas. The same amount of business park (950,000 sq. ft.) would also be developed with the potential to create demand for supportive commercial development offsite. Spin-off residential development is not anticipated, since the Bullfrog Flats Master Site Plan contains substantial housing.

Cumulative land use impacts under SEIS Alternative 5 would differ from those under FEIS Alternative 5. Existing development (e.g., the Suncadia resort to the north, in unincorporated Kittitas County) and growth will continue, as described in the 2002 Cle Elum

[2] Fewer residents are estimated under SEIS Alternative 5 than under FEIS Alternative 5 because household size has decreased from 2.4 people/household in 2002 to 2.34 people/household in 2018, the most current U.S. Census year.

Table 3.6-1
LAND USES BY PHASE – SEIS ALTERNATIVES 5 & 6

Development Year	SEIS Alternative 5 Land Use (Cumulative)	SEIS Alternative 6 Land Use (Cumulative)
Year 2025	310 single family 469 multi-family 70,000 SF commercial development	264 single family 180 multi-family 627 RV sites 8,500 SF retail 6,500 SF restaurant
Year 2031	433 single family 524 multifamily 245,000 SF commercial development	527 single family 180 multi-family 627 RV sites 45,000 SF grocery store 17,000 SF restaurant 13,000 SF restaurant
Year 2037	587 single family 524 multi-family 490,000 SF commercial development	527 single family 180 multi-family 627 RV sites 45,000 SF grocery store 25,000 SF restaurant 20,000 SF restaurant 60,000 SF medical office
Buildout (2051 for Alt. 5 and 2037 for Alt. 6)	810 single family 524 multi-family 950,000 SF commercial development	Same as 2037 (Note that 47° North would buildout in 2028)

Source: TENW, 2020.

Notes:

1. The possible future business park development under Alt. 5 would include: light industrial, research and development, warehousing, offices, and limited retail uses. At buildout, Alt. 5 would also include one community center, one neighborhood recreation center, a lake with recreational opportunities, and trails available to the public.
2. At buildout, Alt. 6 would also include two recreational amenity centers, one adventure center, and trails available to the public.

Table 3.6-2
SUMMARY OF NET RESIDENTIAL DENSITY – SEIS ALTERNATIVES 5 & 6

	SEIS Alternative 5			SEIS Alternative 6		
	Units	Acres	Du/Acre	Units	Acres	DU/Acre
Single Family	810	165	5.1	527	125	5.6
Multi-Family	524	56	8.7	180	19	12.6
RV Resort	---	---	---	627	146	5.4
Affordable Housing Site	(50)[1]	8	---	---	7	---
Total	1,334	229	6.0[2]	1,334	297	4.9[3]

Source: Sun Communities, 2020.

[1] The affordable housing units are not included in the total residential unit count under Alt. 5. Acres shown are rounded.

[2] Net density assumes a 25% allowance for roads and rights of way.

[3] The total net density shown for SEIS Alt. 6 does not include the RV resort, which does not include permanent housing units.

UGA EIS. However, additional development (e.g., the City Heights and Cle Elum Pines mixed-use developments to the east, in the City of Cle Elum) has also been approved since 2002. These developments, together with background growth, and development under SEIS Alternative 5, would significantly increase the total developed area and associated housing and population in upper Kittitas County and Cle Elum over the 30-year buildout, and would represent continuing conversion and intensification of land use in the area. Typically, land use would change from vacant forested land to urban level development, consistent with County/City zoning in the area.

Approximately 1,071 additional housing units could be built in Suncadia with an associated 2,130 residents by 2037. With SEIS Alternative 5, there would be a total of 2,182 housing units and 4,470 residents by 2037.[3] Within Cle Elum, a total of approximately 924 housing units could be built in City Heights and Cle Elum Pines, with an associated population of 1,946 by 2037. Together with SEIS Alternative 5, there would be 2,035 housing units and an associated population of 4,286 in the City by 2037 (see **Table 3.6-3**). The additional cumulative population would increase activity levels and create demand for goods and services that could encourage spin-off development in nearby urban areas. Although there could be some pressure for spin-off development in rural areas, it is assumed that the County would implement its Comprehensive Plan designations and zoning regulations to focus growth in designated UGAs.

[3] Note that the cumulative population with SEIS Alternative 5 is proportioned for 2037, to enable comparison to the cumulative population at full buildout with SEIS Alternative 6. Actual buildout of SEIS Alternative 5 is estimated to occur by 2051.

Table 3.6-3
RESIDENCES & POPULATION – CUMULATIVE IMPACT PROJECTS

Project	Approved Units	Units Built/Under Construction	Units Yet to be Built	Units Yet to be Built over 47 N Buildout[1]	Residents / Unit	Occupancy Rate	New Residents
Suncadia	4,400	1,129	3,271	1,071[2]	2.34[4]	85%[5]	2,130
City Heights	955	0	955	812[3]	2.34[4]	90%[4]	1,710
Cle Elum Pines	154	42	112	112	2.34[4]	90%[4]	236
Total	5,509	1,171	4,338	1,995	N/A	N/A	4,076

Source: Suncadia, City of Cle Elum, 2020.

[1] Assumes a 17-year buildout for SEIS Alt. 6.

[2] Based on Suncadia's historic average construction of 63 units/year (using 18 years since project approval).

[3] Based on City Height's projected average construction of 48 units/year (using that project's projected 20-year buildout).

[4] Based on household size and occupancy rates from U.S. Census Bureau, 2014-2018, American Community Survey, 5-year estimates.

[5] Based on occupancy rate provided by New Suncadia.

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

SEIS Alternative 6 represents the Applicant's proposed amendment to the approved Bullfrog Flats Master Site Plan. The 824-acre 47° North site and adjacent property would be developed in the following land uses:

- Residential Uses – 707 residential units (527 single family units, 180 multi-family units;
- RV Resort – 627 RV sites;
- Parks – Two private community parks and three public trail parks, and a 6-mile trail/sidewalk system;
- Recreation Centers – A 6-acre adventure center open to residents and the public; two private recreational amenity centers totaling 11 acres; and, a 12-acre site reserved and dedicated to the City for a future municipal/community recreation center;
- Open Space – 477 acres of open space (58% of the site).
- Cemetery Expansion Site – A 13-acre site reserved for future expansion of the Laurel Hill Memorial Park cemetery, to be dedicated to the City;
- Affordable Housing Site – A 6.8-acre site reserved and dedicated to the City for future construction of affordable housing; and,
- Commercial Uses – A 25-acre contiguous property that is not part of the Master Site Plan that could be developed with 150,000 sq. ft. of commercial uses including: grocery store, retail, restaurant, and medical office uses.

The types and amounts of land uses would differ from those under FEIS Alternative 5. (See **Table 2-1** for a more complete summary of land uses under SEIS Alternative 6; **Figure 2-6**, for an illustration of the Master Site Plan Amendment; and, **Table 3.6-1** for land uses by phase under SEIS Alternative 6.)

Direct Construction Impacts

Conversion of Land Use

Similar to FEIS and SEIS Alternative 5, proposed development under SEIS Alternative 6 would result in the conversion of a vacant, undeveloped, vegetated/forested site into a mix of urban land uses (residential, commercial, and recreational). However, only an 824-acre portion of the former Bullfrog Flats site is proposed for mixed-use development and a 25-acre portion is contemplated for possible future commercial development. Less single family and multi-family development would be included under SEIS Alternative 6, and an RV resort that was not part of FEIS or SEIS Alternative 5 is proposed. No public facilities (e.g., water treatment plant, school facilities, and Horse Park) would be included, as dedication of land and development of these uses has already occurred. The type and amount of commercial uses would also differ. SEIS Alternative 6 could include grocery store, retail, restaurant, and medical office uses on a smaller property than under FEIS and SEIS Alternative 5, and with no business park component.

Other Construction Impacts

Development of the residential and recreational uses in 47° North under SEIS Alternative 6 would occur in multiple phases, beginning in 2021 and ending in 2028. Construction of the future commercial development on the off-site property could be constructed in three phases between 2021 and 2037. Much of the residential/RV resort development would occur in the first five years of buildout, similar to under FEIS and SEIS Alternative 5 (see **Table 3.6-1** for details on the phasing of development on the site and on the off-site property under SEIS Alternative 6). The buildout period would be shorter (by about ½) than under FEIS and SEIS Alternative 5. Substantially less development of business uses would occur overall, during a much shorter buildout period compared to FEIS and SEIS Alternative 5.

Site preparation and construction of infrastructure and buildings under SEIS Alternative 6 could result in periodic, temporary impacts to adjacent land uses over the assumed buildout of the site, similar in kind but lower in degree than with FEIS and SEIS Alternative 5. Construction-related impacts would include additional amounts of air pollution due to dust and emissions from construction equipment and vehicles; increased noise levels and odors from construction activities; vibration associated with construction activities and vehicle movement; and, increased traffic associated with construction vehicles and construction workers. Although construction activities would occur incrementally over the approximately seven-year build-out of the site, and 17-year build-out of the adjacent commercial property, such activities would move around the site/off-site property and could result in temporary impacts to adjacent land uses when construction occurs near the boundary of the site/property or in close proximity to those adjacent uses (see Section 3.4, **Air Quality/Greenhouse Gas Emissions**, Section 3.5, **Noise**, and Section 3.13, **Transportation**

for details). In general, construction impacts would extend over a significantly shorter period of time – 15 years vs. 30 years – compared to FEIS/SEIS Alternative 5.

There is some existing development immediately adjacent to the site that could be impacted by site construction. The land uses surrounding the site with the greatest potential to be impacted would include the existing elementary, middle, and high schools to the east, the cemetery to the southeast, the Horse Park to the south, and single family residences to the southwest; existing uses in Suncadia, particularly uses in the southern portion of that development, and residential uses to the east (across SR 903) could also experience some proximity impacts. Construction impacts on surrounding uses would generally be minor due to preservation of existing vegetation/forest, topographic changes, and separation by existing roadways (e.g., Bullfrog Road and SR 903). The shorter buildout periods of SEIS Alternative 6 – both 47° North (2017) and the commercial property (2037) – would also reduce the duration of any impacts. However, the longer buildout period of the commercial site relative to 47° North would result in some potential for proximity impacts (i.e., air and noise emissions, traffic) to adjacent uses.

Overall, construction-related impacts to off-site and on-site land uses would be temporary in nature and with implementation of the identified mitigation measures (e.g., provision of buffers and adherence to City construction regulations), significant adverse impacts are not anticipated.

Under SEIS Alternative 6, construction of all the manufactured homes in the single family area and some of the homes in the multi-family area would occur in a factory offsite; the units would then be transported to and installed on the site. This method of construction is shorter and less impactful than the construction associated with stick-built housing and would reduce some potential land use impacts on and in the vicinity of the site compared to FEIS and SEIS Alternative 5.

Direct Operation Impacts

Transition to More Intense Land Uses

Proposed development under SEIS Alternative 6 would represent a transition of the 47° North site and the adjacent commercial property to more intense urban land uses, similar to those under FEIS and SEIS Alternative 5, and consistent with the site's current designation as a UGA. The transition in uses would occur in an incremental, phased manner. Large portions of the site – approximately 477 acres, almost 58% of the total site area – would be left in open space, generally in the western portion of the site, along the northern site boundary, around critical areas, and along the powerline easements. The amount of open space that would be provided would be greater on a percentage basis than under FEIS Alternative 5 (41%) or SEIS Alternative 5 (48%). The preservation of a substantial part of the site in natural open space would be consistent with the Mountain-to-Sound Greenway

recommendation that new development be designed for maximum preservation of the natural forested character of the lands, scenic qualities, and wildlife habitat.

At buildout, the net residential density in the single family area would be 5.6 du/acre, in the multi-family area would be 12.6 du/acre, and in the RV resort would be 5.4 du/acre.[4] The overall residential density (excluding the RV resort) would be 4.9 du/acre, less than under FEIS and SEIS Alternative 5 (see **Table 3.6-2**). In addition to lower density, fewer residential units would be built on less land under SEIS Alternative 6. The building Floor Area Ratios (FARs) in the future commercial area could vary from 0.12 (restaurants) to 0.3 (grocery store and medical offices). At buildout, a total of approximately 166 acres of the 47° North site and adjacent 25-acre property would be covered in impervious surfaces; total impervious surfaces would be less area than under FEIS and SEIS Alternative 5.

The range of proposed land uses and their densities could result in potential land use impacts and would include increases in activity levels and land use incompatibilities, which often follow from more intensive land uses. Proposed development would represent a continuation of the existing trend of intensifying development in the area (e.g., in the Suncadia, City Heights, and Cle Elum Pines developments). It would also be consistent with adopted City policy and consistent with the level of development intensity that was previously approved for the site. It is assumed that adopted development regulations, and SEIS mitigation measures adopted as conditions of approval, would minimize potential land use incompatibility impacts onsite and between the site and adjacent areas. As a result, no significant land use transition impacts are anticipated.

An adopted development condition for the Bullfrog Flats Master Site Plan indicates that only small-scale retail uses (e.g., delis, convenience grocery, drycleaners) that would serve the convenience needs of the residents and employees would be permitted in the commercial development. The retail uses would be limited to 10% of the floor area of the business park development, and no individual retail use would contain over 5,000 sq. ft. of areas open to the public. Primary entrance to the retail uses would not be allowed from SR 903 or Bullfrog Road. While this condition may not ultimately apply to a new or updated Development Agreement, as currently written it would not allow the amount of retail development being evaluated in the SEIS for the potential 25-acre commercial site. Either the types and sizes of the retail uses would need to be adjusted, or the condition would need to be changed or deleted.

Relationship to Adjacent Land Uses

Land use conflicts are not anticipated to be significant under SEIS Alternative 6 due to the proposed layout of land uses, proposed open space and buffers incorporated into the site plan, and existing physical barriers within and adjacent to the site.

[4] The RV resort would not contain permanent residential units. However, density at the resort is calculated assuming 100% occupancy to provide an equivalent density to that calculated for the residential areas. The actual assumed occupancy, accounting for daily and yearly occupancy fluctuations, is assumed to be 50%.

The proposed site layout under SEIS Alternative 6 would generally limit potential conflicts with adjacent off-site uses, and between internal uses. Residential uses would generally be located closer to existing urban development adjacent to SR 903; and would be buffered from Bullfrog Road by preserved vegetation, and the existing power line easement. RV uses would be focused in the central portion of the site buffered from Bullfrog Road and the Suncadia Resort entrance. The western 1/3 of site would remain as undeveloped/protected open space.

Proposed open space and buffers would help to limit land use impacts. The western 1/3 of the site would be comprised of open space areas along the Cle Elum River (e.g., River Corridor Open Space and Managed Open Space). A 100-foot vegetated/forested buffer would be retained along Bullfrog Road adjacent to the RV resort. Existing vegetated/forested open space areas ranging from about 200 to over 1,000-foot wide would be preserved along the steep slopes along the southern site boundary and in other areas within the site. The open space associated with the PSE and BPA easements in the northern and eastern portions of the site would be retained. These on-site open space areas, together with existing off-site vegetated/forested open space to the north, south, and east of the site, as well as surrounding roadways (e.g., Bullfrog Road and SR 903), would help to limit potential conflicts between land uses on and offsite, including with Suncadia, the Horse Park, and single family development (see Section 3.8, **Aesthetics/Light & Glare**, for details on buffers).

Under SEIS Alternative 6, no screening/buffering is currently proposed on the Master Site Plan between the single family and multi-family development in the eastern portion of the site along the powerline easement, where a recreational trail available to the public is proposed. The lack of separation between these areas could result in reduced privacy and higher activity levels adjacent to the proposed residential uses, and a different, less natural experience for trail users.

The conceptual layout of future commercial uses on the adjacent property would generally limit conflicts with adjacent uses (see **Figure 2-11**). Based on the preliminary/illustrative site plan, the commercial development could include vegetated/forested open space along the south/west property boundary that could buffer the adjacent single family residences in 47° North and the City cemetery. The development would be separated from single family residences to the northeast/east by SR 903. It is assumed that landscaping would be provided in the parking areas and adjacent to buildings; however, the proposed landscaping is conceptual at this point and the type and density of plant material is not known at this time; therefore, its ability to provide effective buffering cannot be determined.

Increased Activity Levels

The increase in activity levels under SEIS Alternative 6 would primarily relate to the increased residential population. The permanent population (approximately 1,489

residents) would be less than under FEIS or SEIS Alternative 5. However, there would be a seasonal increase in activity levels from the proposed 627 RV sites, particularly during the peak season, that would not occur under FEIS or SEIS Alternative 5. Activity levels would also increase from the employees and visitors to the future commercial development. However, there would be fewer employees and visitors as there could be considerably less commercial development under SEIS Alternative 6.

Overall, significant direct land use impacts within and adjacent to the site are not anticipated under SEIS Alternative 6.

Indirect & Cumulative Impacts

Indirect land use impacts under SEIS Alternative 6 would differ from those under FEIS Alternative 5 or SEIS Alternative 5. Overall, there would be the less permanent site population and fewer residents under SEIS Alternative 6; the smaller population would generate less demand for goods and services with a potential to spur spin off commercial development (e.g., in the Cities of Cle Elum, Roslyn, and South Cle Elum). However, the seasonal population associated with the proposed RV resort would generate additional demand for certain goods and services (largely retail services), particularly during the peak RV season. The possible commercial development under SEIS Alternative 6 would include considerably less building space than under FEIS Alternative 5 and would include a different mix of uses which could result in less demand for additional supportive commercial uses. The possible grocery, retail, commercial, and medical office uses that could occur on the adjacent property could capture a portion of the demand for these types uses from the 47° North development, reducing the demand and indirect pressure for development elsewhere in the City of Cle Elum and other adjacent municipalities.

Cumulative land use impacts under SEIS Alternative 6 would differ from those under FEIS and SEIS Alternative 5. Existing development (e.g., the Suncadia Resort in unincorporated Kittitas County) will continue, as described in the 2002 Cle Elum UGA EIS. However, additional development (e.g., in the City Heights and Cle Elum Pines mixed-use developments in City of Cle Elum) has also been approved. These developments, together with background growth, and development under SEIS Alternative 6, would significantly increase the total developed area and associated housing and population in Cle Elum over the 17-year buildout of 47° North, and would represent a conversion and intensification of land use in the area. Typically, the land use would change from vacant, forested land to urban development, consistent with City/County zoning.

Approximately 1,071 additional housing units could be built in Suncadia with an associated permanent population of 2,130 by 2037. Together with SEIS Alternative 6, there would be 1,778 housing units and 3,619 residents by 2037. A total of approximately 924 units could be built in City Heights and Cle Elum Pines with an associated population of 1,946 residents by 2037. Together with SEIS Alternative 6, there would be 1,631 housing units and 3,435 residents by 2037 (see **Table 3.6-3**). The additional cumulative population would increase activity levels and create demand for goods and services that could encourage spin-off

development in nearby urban areas. These cumulative impacts would generally be less than under FEIS and SEIS Alternative 5 because there would be less housing and permanent population under SEIS Alternative 6.

Conclusions

SEIS Alternatives 5 and 6 would convert the vacant, undeveloped, vegetated/forested site into an urban mixed-use community, consistent with the site's location in a UGA. Construction activities could temporarily impact adjacent uses under both SEIS Alternatives. However, construction under SEIS Alternative 6 would be shorter and less impactful and would reduce some potential land use impacts on and in the vicinity of the site.

The mix of land uses would differ under the SEIS Alternatives. There would be fewer residential units and less/different commercial development on the adjacent 25-acre property under SEIS Alternative 6. An RV resort is proposed under SEIS Alternative 6 that would not be included in SEIS Alternative 5. The range of proposed land uses and their densities under the SEIS Alternatives could result in potential land use impacts that would be typical of more intensive land uses, including increases in activity levels and potential land use incompatibilities. Land use conflicts are not anticipated to be significant under the SEIS Alternatives, however, due to the proposed layout of land uses, proposed open space and buffers incorporated into the site plans, and existing physical barriers within and adjacent to the site.

3.6.3 Mitigation Measures

The following mitigation measures are identified to address the land use impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- Approximately 477 acres (58% of the site) would be retained in open space, including critical areas such as the Cle Elum River, wetlands, and steep slopes. Existing easements are in place to protect the River Corridor Open Space and Managed Open Space in the western portion of the site. These easements could be retained by New Suncadia or transferred to the Applicant (Sun Communities).

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- A minimum of 10 acres would be set aside and dedicated to the City for future expansion of the Laurel Hill Memorial Cemetery.

- Approximately 12 acres would be reserved and dedicated to the City for the development of a future municipal (community) recreation center.

- Natural open space buffers at least 100 feet wide would be maintained along Bullfrog Road. In addition, undeveloped, forested open space would be preserved onsite within the northeastern quadrant of the Bullfrog/I-90 Interchange.

Required Mitigation Measures

- Mitigation measures identified throughout the SEIS would minimize impacts to land use from construction activities, consistent with City regulations (see Section 3.1, **Earth**, Section 3.4, **Air Quality/GHG Emissions**, Section 3.5, **Noise**, and Section 3.13, **Transportation**).

- The proposed uses and development standards would be consistent with the City of Cle Elum Comprehensive Plan and zoning for the site (see Section 3.7, **Relationship to Plans & Policies**, for details). This conclusion would be verified based on submittal of the 47° North Master Site Plan application and on the consistency analysis contained in a staff report for the proposal.

- The 50-foot wide platted buffer adjacent to the SR 903 right of way would be maintained with possible commercial development on the adjacent 25-acre property.

Approved Bullfrog Flats Conditions of Approval (Not Included in the Project)

- A useable area of 7.5 acres is required to be conveyed to the City of Cle Elum, or another public or non-profit entity approved by the City to develop a minimum of 50 affordable housing units. The 50 housing units would not be counted towards the 1,334-unit cap for the project. The parcel or parcels must be identified and conveyed prior to approval of the 250th residential housing unit. Under the current proposal, a 6.8-acre affordable housing site has been identified; this site would need to be increased to meet the 7.5-acre requirement.

- The current development condition applicable to the Bullfrog Flats site would only permit small-scale retail uses that would serve the convenience needs of residents and employees to be included on the commercial site. Retail uses would be limited to 10% of the floor area of the commercial development, and no individual retail use would contain over 5,000 sq. ft. of areas open to the public. Primary entrance to the retail uses would not be allowed from SR 903 or Bullfrog Road. The conceptual plan for the future possible commercial development would not comply with the existing development condition. Either the types and sizes of retail uses would need to be adjusted, or the condition changed or eliminated in the new or updated Development Agreement.

Other Possible Mitigation Measures

- Internal buffers/screening could be provided onsite between single and multi-family residential development (MF-1, SF-4, SF-5, and SF-6) and the powerline easement where a recreational trail is proposed.

3.6.4 Significant Unavoidable Adverse Impacts

The conversion of the 824-acre 47° North site from undeveloped forest/vegetation to a master plan community under any of the alternatives would represent a significant change in the existing land use of the site, and such change would be unavoidable if the Master Site Plan is implemented. The change would be consistent with the City of Cle Elum land use and zoning classifications for the site and is not per se an adverse impact to land use or land use patterns. The site is located within a City/UGA and is considered appropriate for urban development. The proposal would represent a continuation of the existing trend of intensifying development in the City and adjacent area. With implementation of the mitigation measures listed above, no significant adverse land use impacts are expected. It is acknowledged, however, that some residents may consider the proposed development to be significant and adverse because of its size, location, or other factors.

3.7 RELATIONSHIP TO PLANS, POLICIES, & REGULATIONS

This section of the Draft SEIS describes the relationship of the SEIS Alternatives to relevant Washington State, Kittitas County, City of Cle Elum, and neighboring city/town (i.e., Town of Roslyn, Community of Ronald, and City of South Cle Elum,) land use plans, policies, and regulations. Where applicable, the differences between the SEIS Alternatives are highlighted in the discussions.

Washington State Growth Management Act

Summary: The Growth Management Act (GMA) (RCW 36.70A), adopted in 1990 and subsequently amended, provides a comprehensive framework for managing growth and coordinating land use planning with the provision of infrastructure. The general goals of the GMA include, in part: directing growth to urban areas; reducing sprawl; encouraging economic development consistent with adopted comprehensive plans; protecting private property rights; providing efficient multi-modal transportation systems; encouraging a variety of housing types and densities affordable to all economic segments of the population; protecting the environment; and, ensuring that public facilities and services necessary to support development meet locally established minimum standards at the time development is in place (RCW 36.70A.020).

Jurisdictions subject to the GMA must prepare and adopt: countywide planning policies; comprehensive plans containing policies with specific elements for land use, transportation, housing, capital facilities, utilities, rural lands, parks and recreation, and economic development (both contingent on state funding); shoreline goals and policies (from the applicable Shoreline Master Program); and, development regulations implementing those plans. Several optional elements are also identified, including subarea plans. The GMA requires that each city and county in Washington comprehensively review and revise its comprehensive plan and development regulations, as necessary, every seven years to ensure that they comply with the GMA.

The GMA directs cities and counties to adopt Urban Growth Areas (UGAs). These UGAs must be sized to accommodate the anticipated population growth during the 20-year period following adoption of the UGA. The Office of Financial Management (OFM) prepares population growth forecasts for counties subject to GMA requirements to use to prepare their comprehensive plans. Counties, with input from cities, allocate population "targets" to jurisdictions for their planning activities.

Discussion: The City of Cle Elum has adopted a Comprehensive Plan and development regulations to fulfill its responsibilities under the GMA. The proposed 47^{o} North project, as described in **Chapter 2** of this Draft SEIS, is intended to satisfy many relevant GMA goals,

including: directing growth to urban areas; encouraging economic development; providing a variety of housing types and densities (including provisions for affordable housing); protecting the environment; and, ensuring that adequate public facilities and services are available to serve the project.

At the time of the 2002 Cle Elum UGA EIS, the Bullfrog Flats site was located within the Cle Elum UGA of unincorporated Kittitas County. The site was subsequently annexed to the City of Cle Elum. As such, the proposed project would direct growth to an existing UGA with substantial undeveloped land, which would help to reduce sprawl, protect rural areas, and preserve natural resource lands. The City updated its Comprehensive Plan in 2019, to plan for growth anticipated to occur by 2037. Proposed development under the SEIS Alternatives would accommodate a portion of the anticipated housing, population, and employment growth as contemplated by GMA. Note that adopted growth targets are indicated in the Comprehensive Plan. These targets are for GMA planning purposes and are not interpreted to place a limit or cap on population or housing growth in the City. In addition, the current target may understate likely population growth and housing need when the growth from vested projects in the City is taken into account (see Section 3.8, **Housing, Population, & Employment**, for details on the City's adopted 20-year growth targets and the relationship of the SEIS Alternatives to these targets).

Kittitas County Comprehensive Plan

Summary: The Kittitas County Comprehensive Plan was updated in June 2019 and provides the vision and planning for a region with a distinct sense of place based on the quality and diversity of the natural and built environment, valued recreational opportunities, respected rural working lands, unique regional character, and commitment to a high quality of life. The Kittitas County Comprehensive Plan includes the following elements:

- Land Use
- Housing
- Transportation
- Capital Facilities
- Utilities
- Snoqualmie Pass Subarea Comprehensive Plan-Master Plan
- Rural Resource Lands
- Suncadia Planned Resort Subarea Plan
- Economic Development
- Recreation, Parks, Open Space, and Natural Environment.

The 47° North site is surrounded by areas of unincorporated Kittitas County to the north, west, and south. Land use designations in the County to the north of the site include Rural Recreation and Rural Residential. Rural Recreation areas to the north are associated with the Suncadia resort, which is guided and regulated by the Suncadia Planned Resort Subarea Plan and the Suncadia Development Agreement adopted in April 2009, as well by criteria for

master planned resorts in the GMA. The Rural Residential land use designation is intended to provide residential opportunities with rural character outside of UGAs.

Areas to the south of the site in the County are designated Rural Residential, Mineral Lands, and Rural Working in the County. The Mineral Lands land use designation is intended for mineral lands of long-term commercial significance. The Rural Working land use designation is intended to support agriculture, timber and mineral use lands that are not located in resource land areas.

Land use designations to the west of the site in the County include Rural Recreation (Suncadia), Rural Residential, and Mineral Lands.

Discussion: The SEIS Alternatives would develop a mix of land uses within the City of Cle Elum, including single family residential, multi-family residential, recreational (including an RV resort under SEIS Alternative 6), commercial uses, and open space. Development would be consistent with Kittitas County Comprehensive Plan goals and policies to concentrate future development and growth in areas where urban services are available, to prevent sprawl and to preserve rural lands.

City of Cle Elum Comprehensive Plan

Summary: The City of Cle Elum's Comprehensive Plan was updated in 2019, in compliance with the GMA. The City's Comprehensive Plan establishes goals and policies which guide future land use and coordinate planned growth within the City over a 20-year planning horizon (through 2037). The Plan serves as a guideline for designating land uses, coordinating needed infrastructure with planned growth, and providing community services. The Plan's policies also serve as a guide and foundation for the City's Development Regulations. Under the GMA, State agencies are required to comply with adopted Comprehensive Plans (RCW 36.70A.103). The City of Cle Elum Comprehensive plan includes the following elements:

- Land Use
- Capital Facilities
- Transportation
- Utilities
- Housing
- Parks and Recreation

The 47° North site and the adjacent 25-acre property to the east are designated Planned Mixed Use (PMU) in the Comprehensive Plan. The PMU designation is intended to provide a broad and balanced mix of land uses, including recreation, employment, housing, and education.

Discussion: Proposed development under SEIS Alternatives 5 and 6 would provide a mix of uses consistent with the site's PMU designation. The proposed mix of uses would include: housing (single family and multi-family housing) and recreational uses (including amenity centers, parks, and trails under both alternatives, and an RV resort and adventure center under SEIS Alternative 6), and employment uses (a business park under SEIS Alternative 5 and commercial uses on the adjacent 25-acre property under SEIS Alternative 6). Sites would also be reserved for affordable housing, a municipal (community) recreation center, and cemetery expansion. No education uses would be provided under either of the SEIS Alternatives. However, 35 acres of the Bullfrog Flats site were dedicated to the Cle Elum School District by New Suncadia in 2003.

The relationship of the SEIS Alternatives to relevant goals and policies from the Comprehensive Plan are discussed below. Relevant policies are summarized, followed by a brief discussion. Note that this summary is necessarily selective and does not discuss all Plan policies; for example, policies that are directed primarily to actions that should be taken by the City are generally not included. Where appropriate, goals/policies with similar themes are aggregated and a common discussion provided.

Land Use Element

Relevant Goals & Policies:

Policy LU-1.2 Land use changes should be guided by topography, soils conditions, adjacent land uses, and the ability of the City to provide facilities and services.

Policy LU-1.3 Ensure that new development does not outpace the City's ability to provide and maintain adequate public facilities and services by allowing new development to occur only when and where facilities exist or can be provided.

Discussion: Both SEIS Alternative 5 and 6 would change the land use onsite from its existing vacant, undeveloped, vegetated/forested condition to an urban mixed-use development. The proposed Master Site Plan under either alternative would be guided by topography. Development would generally be located on flatter terraces, set back from steep slopes. Proposed grading for the project under SEIS Alternative 6 would match natural topography as much as possible. More grading is assumed under SEIS Alternative 5 than under SEIS Alternative 6. Soil conditions would also be taken into account. Erosion and landslide hazard areas would be avoided. The proposed development areas and stormwater management system account for the infiltration capabilities of the site soils (see Section 3.1, **Earth**, for details). (LU-1.2)

Proposed development under either SEIS Alternative is designed to respect the site's location within the surrounding community, and would ensure compatibility with area land uses through the proposed layout of land uses, proposed open space/buffers, and existing physical barriers within and adjacent to the site. (LU-1.2) City utilities (including water and

sewer) and services (including police and fire/emergency medical services) are available to serve the site. SEIS Alternatives 5 and 6 would generate additional demand for City utilities and services during construction and operation. With implementation of the identified mitigation measures, significant impacts on City utilities and services are not anticipated (see Section 3.6, **Land Use**, Section 3.12, **Public Services**, and Section 3.14, **Utilities**, for details.) (LU-1.3)

Policy LU-1.4 Upon adoption of and/or changes to the Comprehensive Plan, the City Development Regulations shall be reviewed for consistency with the Comprehensive Plan and Countywide Planning Policies.

Discussion: Following issuance of the 2002 Cle Elum UGA EIS, the City approved a Subarea Plan, Master Site Plan, and Development Agreement for Bullfrog Flats, and the property was annexed to the City that same year. The City subsequently designated the site on both the Future Land Use Map and the Official Zoning Map as PMU. The most recent City of Cle Elum Comprehensive Plan (2019) and corresponding Development Regulations are intended to comply with the Countywide Planning Policies. The proposed 47° North Master Site Plan amendment would not require any changes to the Comprehensive Plan, applicable zoning designations, or development regulations. The proposal would, however, involve some revision, or potentially redrafting, of the current Bullfrog Flats Development Agreement. The relationship of any new or amended Development Agreement provisions to adopted regulations would be evaluated subsequently, as appropriate.

GOAL LU-2 Maintain residential quality and livability suitable for a rural town.

Discussion: Proposed development under SEIS Alternatives 5 and 6 would convert the site into a master planned residential and recreational community with single family and multi-family housing arranged in neighborhoods. For Alternative 6, residential quality in the proposed development would be maintained by using exterior finishes in muted earth-tone colors that are intended to blend into the landscape. Architectural design and materials guidelines would be established by the Applicant to ensure the suitability and quality of the structures. (See **Figures 2-7** and **2-8** for examples of the residential building design, and **Chapter 2** for additional descriptions of the proposed residential structures.) Proposed design guidelines would be submitted to the City in conjunction with a revised Master Site Plan application.

Residential uses onsite would generally be located close to existing development in the city adjacent to SR 903, and in the county adjacent to Bullfrog Road. To protect adjacent development and the nearby rural towns of South Cle Elum, Roslyn, and Ronald from spill-over impacts, residential development would be oriented toward the interior of the site and would be screened and buffered from surrounding uses by topography, power line easements, and preserved vegetation/forested areas (see Section 3.6, **Land Use**, and 3.8, **Aesthetics/Light & Glare**, for details).

Policy LU-2.2 Encourage the retention of existing open spaces, trails, mobility corridors, and encourage the creation of a City-wide, linked open space and trail network in order to retain the existing rural character amongst residential areas of the City.

Policy LU-2.9 Promote the development and construction of pedestrian and bicycle facilities within and linking, proposed and existing residential developments, commercial service areas and recreational opportunities.

Discussion: Large portions of the site would be retained in open space under SEIS Alternatives 5 and 6 – 524 acres/48% of the site under SEIS Alternative 5 and 477 acres/58% of the site under SEIS Alternative 6. (LU-2.2) A system of trails and sidewalks would be provided throughout the site; SEIS Alternative 6 would include approximately six miles of trails/sidewalks. The trails would generally be located around the periphery of the proposed development, and would connect to on-site development, as well as to existing off-site trails in several locations (e.g., to the trails in Suncadia to the north, the Coal Mines Trail to the northeast, and the Horse Park to the south). Under SEIS Alternative 6, sidewalks located along one side of the on-site road connecting SR-903 and Bullfrog Road would provide additional opportunities for non-motorized circulation (see **Figure 2-13**, Parks and Trails Plan – SEIS Alternative 6, and **Figure 2-14**, Road Cross Sections in **Chapter 2**). (LU-2.2, LU 2.9)

Policy LU-2.12 Encourage the development of affordable housing that is "fee simple", either through development agreement or by code change.

Discussion: Under SEIS Alternative 5, all the single family housing (810 of the 1,334 total residential units) would be in "fee simple" ownership (i.e., ownership of all rights associated with real estate). This housing would largely be market rate housing and may not provide housing that is "affordable" to residents earning the city or county Median Household Income (MHI). However, as a condition of approval, a 7.5-ac. property is required to be set aside for dedication to the City for development of affordable housing by the city or others in the future. It is assumed that 50 affordable housing units would be developed on this site under SEIS Alternative 5; development and operation of this housing would be a separate project, however, and is not part of the SEIS Alternatives.

Under SEIS Alternative 6, residents in the 527 single family housing units would have the option to buy or rent a home. Under either option, Sun Communities would retain ownership of the underlying land and would lease the lot to the homeowner. At full buildout, it is anticipated that an average of 90% of the single family homes (or 474 homes) would be owned. The single family housing under SEIS Alternative 6 could be considered affordable for those earning at least 60% of the MHI (see the discussion in Section 3.9, **Housing, Population & Employment**)**.** Under SEIS Alternative 6, a 6.8-acre property is proposed to be set aside for dedication to the City for development of affordable housing by the city or others in the future. No development is proposed on the affordable housing property at this time.

GOAL LU-3 Preserve Cle Elum's natural environment while allowing for growth and development.

Policy LU-3.2 Encourage the retention of natural habitat in residential developments by providing zoning incentives that create density and setback bonuses in exchange for preservation of open space and significant tree retention.

Policy LU-3.5 All new development must be in compliance with the provisions of the 2019 Stormwater Management Manual for Eastern Washington and the Washington State Department of Ecology Best Management Practices.

Policy LU-3.7 Protect wetlands to enable them to fulfill their natural functions as recipients for floodwaters and as habitat for wildlife through the Cle Elum Critical Areas Ordinance No. 1039 and SEPA.

Discussion: The Planned Mixed Use (PMU) zoning designation that applies to the Bullfrog Flats/47° North site generally provides incentives in exchange for protection and preservation of environmental resources for mixed-use projects; refer to the separate discussion later in this section of the SEIS. Proposed mixed-use development under SEIS Alternatives 5 and 6 would preserve the natural environment while providing for growth. Approximately 48% of the site would be preserved in open space under SEIS Alternative 5 and 58% of the site under SEIS Alternative 6. This open space would include the Cle Elum River, wetlands, flood-prone areas, steep slopes, and forested/vegetated areas. (LU-3.2) Temporary and permanent stormwater management systems would be installed under the SEIS Alternatives that would comply with the *2019 Stormwater Management Manual for Eastern Washington* and Washington State Department of Ecology Best Management Practices. (LU-3.5) Six wetlands have been identified onsite. Under SEIS Alternative 6, all the wetlands would be protected; under SEIS Alternative 5, one of the wetlands would be impacted, and either the site plan would need to be adjusted to avoid the wetland or wetland mitigation would be required. (LU-3.7) (See Section 3.2, **Water Quantity & Quality**, and Section 3.3, **Plants, Animals, & Wetlands**, for details.)

Policy LU-4.6 Seek to create and to preserve links to a city-wide trail system that connects neighborhoods with civic, commerce, cultural/historic, and recreation areas to encourage alternate transportation modes.

Discussion: Under SEIS Alternatives 5 and 6, a trail/sidewalk network would be provided that would connect to on-site development (including residential neighborhoods, recreational areas, and commercial areas), as well as to existing off-site trails in several locations (e.g., to the trails in Suncadia to the north, the Coal Mines Trail to the northeast, and the Horse Park to the south). The proposed trails would help complete a city-wide trail system and encourage alternate transportation modes (see **Figure 2-13**, Parks and Trails Plan – SEIS Alternative 6 in **Chapter 2**).

Policy LU-5.1 Assure that a broad and diverse range of products and services are available to the residents of the City of Cle Elum.

Discussion: SEIS Alternative 5 would include an approximate 950,000-sq. ft. business park on approximately 75 acres in the northeastern portion of the site. The business park would consist of light industrial, research and development, warehouse, office, and limited retail uses.

SEIS Alternative 6 includes approximately 150,000 sq. ft. of possible future commercial development on a 25-acre property adjacent to SR 903 and the eastern portion of the 47° North site. The commercial development could include a grocery store, medical offices, retail, and restaurant uses.

The commercial uses under both of the SEIS Alternatives would provide a diverse range of products and services that would be available to residents of the City of Cle Elum. There would be different types and amounts of commercial uses under the alternatives, as described above (see **Chapter 2** for further descriptions of these commercial uses). The population associated with the alternatives would help support local businesses.

Policy LU-6.2 Open space areas should be encouraged to be used as buffers for different types of land uses.

Policy LU-6.3 Lands designated for open space should provide for multiple open space benefits whenever possible including active or passive recreation opportunities, scenic amenities, fish and wildlife habitat, etc.

Discussion: Large portions of the site would be preserved in open space under SEIS Alternatives 5 and 6. The western approximately 1/3 of the site would be comprised of open space areas along the Cle Elum River. Open space would also be retained on the periphery of the site, including a 100-foot vegetated/forested buffer along Bullfrog Road. Existing vegetated/forested open space areas would be preserved along the steep slopes along the southern site boundary and in other areas within the site and adjacent commercial property as well. The open space that would be preserved around the site boundaries would serve as buffers that would limit land use impacts on surrounding properties and views (see Section 3.6, **Land Use**, and 3.8, **Aesthetics/Light & Glare**, for details). (LU-6.2)

The open space areas that would be provided onsite would provide multiple benefits, including active recreation (e.g., trails and equestrian courses), passive recreation and scenic amenities (e.g., picnic benches, rest areas, outlooks, and exhibits), and fish and wildlife habitat (e.g., the open space areas associated with the Cle Elum River and wetlands onsite) (see **Chapter 2** for details). (LU-6.3)

Policy LU-12.2 Prevent cumulative adverse environmental impacts to water quality, wetlands, and fish and wildlife habitat, and the overall net loss of wetlands, frequently flooded areas, and habitat conservation areas.

Policy LU-12.3 The City shall consider the impacts of new development on water quality as part of its review process and will require any appropriate mitigating measures.

Policy LU-13.1 Keep impervious surfaces to a minimum to achieve open space, greenery, and reduce impact on drainage systems.

Discussion: Development under the SEIS Alternatives would require clearing of vegetation which would impact wildlife habitat onsite. However, large portions of the site – particularly along the Cle Elum River, areas that contain wetlands, fish and wildlife habitat, flood-prone areas, and priority habitats – would be preserved. All the on-site wetlands would be preserved under SEIS Alternative 6. One wetland would be impacted under SEIS Alternative 5, and either the site plan would need to be adjusted to avoid the wetland or wetland mitigation would be required. Details regarding impacts, including cumulative impacts, are discussed in SEIS Section 3.3, **Plants, Animals, & Wetlands.** (LU-12.2)

There would be a potential for impacts to surface water and groundwater quality from sediments and pollutants released during construction and operation of the SEIS Alternatives. These impacts would be minimized by the implementation of temporary and permanent stormwater management systems designed in accordance with current regulations; these systems would be reviewed and approved by the City prior to installation (see Section 3.2, **Water Quantity & Quality**, for details). (LU-12.3)

Impervious surfaces would be minimized under the SEIS Alternatives. A total of approximately 166 acres (20%) of the 47° North site and adjacent 25-acre property would be covered in impervious surfaces under SEIS Alternative 6; approximately 247 acres (22%) of the Bullfrog Flats site would be covered in impervious surfaces under SEIS Alternative 5. (LU-13.1)

Policy LU-17.6 Promote compact growth and infill development in areas that are already developed in order to preserve open space and ecological functions and encourage residential access to services.

Discussion: Proposed development under SEIS Alternatives 5 and 6 would represent compact, infill growth at urban densities. The SEIS Alternatives would convert the large, vacant, undeveloped site into a mixed-use urban neighborhood, and would represent infill development in the southeastern portion of the city. A large portion of the site would be retained in open space thereby reducing the project's development footprint and preserving ecological functions. Public services and utilities are available to serve the proposed development (see **Section 3.6**, Land Use, and Section 3.12, **Public Services**, for details).

Policy LU-18.7 Commercial and multi-family development should provide improved, useable open space areas such as plazas, common areas, and colonnades as a component of the design.

Discussion: Commercial and multi-family development would be included under the SEIS Alternatives (future commercial development would occur on a separate, adjacent property under SEIS Alternative 6). The location of open space within multi-family residential areas has not been identified on the preliminary Master Site Plan at this time. A more detailed plan will be submitted with the application, prior to the Final SEIS. The conceptual site plan for the commercial area includes a vegetated open space buffer along the southern portion of the site but the plan does not include any detail regarding amenities or useable open space at this point in time.

Housing Element

Relevant Goals & Policies:

GOAL H-1 The City of Cle Elum includes a diverse mix of housing types that meets the needs and are affordable to all segments of its population, especially low and moderate-income households. The range of housing types also reflect market conditions, the City's rural setting, and small-town character.

Policy H-1.5 Accommodate and encourage, where appropriate, moderate density residential developments, such as townhouses, multifamily complexes, duplexes, and mixed-use residential buildings.

Policy H-1.6 Promote the production of housing affordable for all incomes, through a mix of housing types, models, and densities throughout the City, including: small lot single family detached, zero lot line, attached housing, accessory units, cluster housing, cottages, duplexes, townhouses, and apartments, as well as manufactured housing units, that are compatible with the neighborhoods in which they are located.

Policy H-1.9 Require new multi-family or mixed-use projects involving 20 dwelling units or more to provide affordable dwelling units as part of the project.

Policy H-1.10 Encourage public/private partnerships to pursue housing development opportunities within the City that supply more affordable housing while providing a high quality residential living environment and preserve the character of historic housing.

Discussion: SEIS Alternatives 5 and 6 would include a variety of housing types. SEIS Alternative 5 would provide a total of 1,334 housing units (810 single family and 524 multi-family units); SEIS Alternative 6 would provide a total of 707 permanent housing units (527 single family/manufactured and 180 multi-family units). At buildout under SEIS Alternative

6, the net density in the single family area would be 5.6 du/acre; and the net density in the multi-family area would be would be 12.6 du/acre. (H-1.5, H-1.6))

All the housing under EIS Alternative 5 would be traditional stick-built; all the single family and some of the multi-family housing under SEIS Alternative 6 would be manufactured housing. Proposed development under the alternatives would limit impacts on surrounding uses through the proposed layout of land uses (set back from the site perimeter), incorporating substantial proposed open space and buffers into the site plans, and preserving existing physical barriers (such as topographic change) between the site and adjacent uses. Under SEIS Alternative 6, architectural design and materials guidelines would be established by the Applicant for the residential structures to ensure their suitability and quality and compatibility with the neighborhoods in which they are located (see **Chapter 2** for details). (H-1.6)

This residential development under SEIS Alternative 5 would largely be market rate housing. However, a 7.5-ac. property would be set aside for dedication to the City for development of affordable housing by the city or others in the future, as required by a condition of approval of the Bullfrog Flats Master Site Plan. It is assumed that 50 affordable housing units would be developed on this site under SEIS Alternative 5. The conditions of approval also require that at least 150 of rental units be maintained, and that the developer use "reasonable best efforts" to provide housing affordable to employees of the master planned resort. (H-1.9, H-10)

The single family housing under SEIS Alternative 6 could be considered affordable for those earning at least 60% of the MHI, based on estimated housing cost and monthly mortgage payments. Expected rental rates are not known at this time. Under SEIS Alternative 6, a 6.8-acre property is proposed to be set aside and dedicated to the City for development of affordable housing by the City or others in the future (see Section 3.9, **Housing, Population, & Employment**, for details). (H-1.9, H-10)

Goal H-3 Residential neighborhoods contain necessary public amenities and support facilities that contribute to a high quality of life in Cle Elum.

Policy H-3.2 Support housing with appropriate amenities for individuals, families and children.

Policy H-3.5 Develop neighborhood amenities such as parks, trails, connections and open space that encourage and foster community and promote recognition of the historic sense of place which is Cle Elum.

Discussion: Proposed single family and multi-family housing under the SEIS Alternatives would be supported by a range of appropriate recreational amenities onsite for individuals, families and children. SEIS Alternative 6 would include:

- An adventure center would be provided on 6.0 acres that would be open to residents and guests of 47° North, as well as to the general public for a fee. The adventure center would include: an 18-hole miniature golf course, outdoor laser tag, and a ropes challenge course.
- Two private recreational amenity centers totaling approximately 11 acres are proposed, one for residents in the single/multi-family area and the other for guests in the RV resort. The amenity centers would include: clubhouses, pools, playground, sport courts, and recreation lawns. The recreational centers in the residential areas would foster community.
- A trail system approximately five miles long would be provided that would connect to on and off-site uses.
- Two private community parks, each approximately 0.5-acre in size: one in the single family area and one in the multi-family area. These parks could include: playgrounds, open/natural field areas, and sport courts. These parks in the residential areas would foster community.
- Three public trail parks, each approximately 0.5-acre in size, would be located along the trails. These parks could include gathering areas with seating, fitness/exercise equipment, and informative signs.
- A site for a municipal (community) recreation center on 12.2 acres would be dedicated to the City for a municipal (community) recreation center; no development is proposed on the site at this time.
  (H-3.2, H-3.5)

The adventure center and the amenity centers would be designed in Pacific Northwest Contemporary Mountain architectural style, in keeping with Cle Elum's historic sense of place (see **Chapter 2** and Section 3.11, **Parks & Recreation**, for details). (H-3.5)

Policy H-3.11 Restrict the duration of stay at RV parks to prevent the establishment of permanent housing in areas without neighborhood amenities or appropriate infrastructure.

Discussion: SEIS Alternative 6 would feature an "RV resort" with 627 sites located in two areas in the central portion of the site. The RV resort would include traditional pull-through and back-in RV sites, as well as various forms of "glamping," (a blend of "glamorous" and "camping"). Seasonal passes to the RV resort would be available for sale to all RV guests. These passes would allow a stay of up to nine months at the RV resort; however, the RV sites would not be continuously occupied during this period. Guests would come and go but leave their RVs onsite (note that the resort would continue to operate year-round). It is the Applicant's experience that these passes are typically used by guests commuting from neighboring cities on the weekends. The RV sites are intended to be for vacationing use only, not to be used for permanent housing. Under no circumstance would any guest be permitted to use the RV resort as a permanent residence, and no address or mailing address would be assigned to any guest in the resort. As a part of the seasonal agreement, guests would need to agree to RV resort guidelines to ensure compliance with various rules and

regulations. SEIS Alternative 5 assumed that the business park property would temporarily provide RV sites for construction workers (see **Chapter 2** for details).

Parks & Recreation Element

Relevant Goals & Policies:

GOAL PRO-1 Develop an outstanding parks, recreation, and open space system in Cle Elum to meet the needs of a diverse community.

Policy PRO-1.1 Preserve a wide variety of lands for park, recreation and open space purposes, including but not limited to: Natural areas and natural features with scenic or recreational value; Land that may provide public access to water bodies, trails, natural areas and parks; Lands that visually or physically connect natural areas or provide important linkages for recreation and wildlife habitat; and, environmentally sensitive areas, including steep slopes, floodways, wetlands, stream corridors and habitat.

Policy PRO-3.2 Require all new developments to contribute their fair share to parks, recreation, and open space. Contributions could either include land dedication or fees in lieu of land.

Policy PRO-3.3 Require all new development projects along trail routes to provide easements for trails and/or for connections to the City's existing trail system.

Goal PRO-4 Preserve and provide access to significant environmental features and lands where such access does not harm the functions associated with the feature.

Discussion: Under SEIS Alternatives 5 and 6, a large portion of the site (574 ac. and 477 ac., respectively) would be retained in open space. A wide variety of open space would be provided. The western portion of the 47° North site, including areas adjacent to the Cle Elum River that have scenic and cultural value, contain floodways and wetlands, and provide wildlife habitat and movement corridors (e.g., for elk) would be retained as open space. Existing covenants and easements would protect the Managed Open Space and River Corridor Open Space onsite along the river. Other Natural Open Space onsite that largely coincide with the steeper slopes would also be preserved as vegetated/forested open space. Trails would be provided through the open space and public parks would be located along the trails (PRO-1.1)

Multiple park and recreation opportunities would be provided onsite under the SEIS Alternatives to provide amenities for residents, visitors, and the community. For example, under SEIS Alternative 6 proposed parks, trails, amenity centers, an adventure center, and a site for a municipal (community) recreation center would be included as part of development plans for the site. SEIS Alternative 6 would also include an RV resort. The parks and recreational facilities proposed under SEIS Alternative 6 would generally be consistent

with goals and policies in the City Parks and Recreation Plan and would meet or exceed the targets identified in the Plan (see Section 3.11, **Parks & Recreation**, for details). (PRO-3.2)

The proposed trail system under the SEIS Alternatives would provide connections to the City's existing trail system. The trail system would also provide access to the natural areas along the Cle Elum River (PRO-3.3, PRO-4)

Transportation Element

Relevant Goals & Policies:

Policy T-4 Land use plans and regulations should be used to guide development of the Transportation Element for the City.

Policy T-6 Land use capacity/forecast assumptions used in capacity/forecast modeling should be used in estimating.

Discussion: The Transportation Element is contained in the 2019 *City of Cle Elum Capital Facilities Plan*. The City's Transportation Element is consistent with the *Quad County Regional Transportation Plan 2017 – 2019* for Adams, Grant, Kittitas, and Lincoln Counties. It also implements, and is consistent with the City's Land Use Element, as well as the Kittitas Countywide Planning Policies and the State growth management goals. (T-4)

Future traffic volumes were calculated for roadways within the City limits and the UGA for the years 2030 and 2040, based on 2009 through 2018 traffic counts with a growth rate of 2.5% and additional trips caused by anticipated, planned development. This is consistent with the method used in the 2017 – 2037 Quadco Regional Transportation Plan. These volumes were used to analyze Level of Service (LOS) and identify needed improvements to the City's roadways. (T-6)

Transportation Objective 2: Create a comprehensive street system that provides vehicular circulation throughout the City while enhancing the safety and function of the overall local transportation.

Policy T-10 Streets and pedestrian paths in residential neighborhoods should be arranged as an interconnecting network that serves local traffic and facilitates pedestrian circulation.

Discussion: SEIS Alternatives 5 and 6 would provide vehicular circulation throughout the proposed development areas onsite. This vehicular circulation would connect to the comprehensive City street system at Bullfrog Road and SR-903; a proposed connector road would become part of the City's overall street system. The on-site streets are designed to be safe and functional (see **Figure 2-5**, Approved Bullfrog Flats Master Site Plan – SEIS Alternative 5, **Figure 2-6**, Proposed 47° North Master Site Plan Amendment, and **Figure 2-14**, Road Cross Sections in **Chapter 2**).

An approximately 6-mile long network of trails and sidewalks would be provided throughout the site. The trails would generally be located around the periphery of the proposed development, including the residential areas, and would connect to on-site development and existing off-site trails. Sidewalks would be located along one side of the on-site road connecting SR-903 and Bullfrog Road and would also offer opportunities for pedestrian circulation (see **Figure 2-13**, Parks and Trails Plan – SEIS Alternative 6 in **Chapter 2**).

Transportation Objective 3: Evaluate existing and future land use for its impacts to the circulation system; ensure that a consistent level of service is provided to the public; and any improvements that may be required are concurrent to the development. (RCW 36.70(A).040; CWPP 4.8; KC Comp Plan GPO 4.16, 4.18).

Policy T-23 New development shall be allowed only when and where all transportation facilities are adequate at the time of development, or unless a financial commitment is in place to complete the necessary improvements or strategies which will accommodate the impacts within six years; and only when and where such development can be adequately served by essential transportation facilities without reducing level of service elsewhere.

Discussion: A transportation study was conducted for this DSEIS. Based on input during SEIS Scoping, a total of 27 study intersections were identified to study, plus the proposed site access points on Bullfrog Road and SR 903 under the SEIS Alternatives. The analysis indicated that several of the study intersections would exceed LOS during the summer PM peak hours in the future analysis years (i.e., 2025, 2031, 2037) with the additional traffic generated by the SEIS Alternatives; some of these intersections would also exceed the LOS standards without the project due to continued growth in background traffic, without the projects. The analysis identified mitigation measures to offset or reduce the significant adverse impacts under SEIS Alternative 6. These measures will be refined in the Final SEIS to more accurately represent the project's proportional share of required improvements (including the 47° North residential and recreational component and the future commercial component shares); the measures will ultimately be adopted as project conditions of approval and included in a new or updated Development Agreement between the Applicant and the City (see Section 3.13, **Transportation**, for details).

Policy T-24 At a minimum, the developer or landowner's proposal shall include provisions for sidewalks, lighting, landscaping, access, off-street parking, stormwater control, and road and signage improvements.

Discussion: Under SEIS Alternative 6, sidewalks would be located along one side of the on-site road connecting SR-903 and Bullfrog Road. Lighting would be provided on roadways, in parking areas, and on structures. Landscaping would be included along both sides of the Connector and internal roads, in pockets in the private community/recreation open space

areas, and in the single- and multi-family areas. The commercial area and recreational centers would include off-street parking. A permanent stormwater management system would be installed, consistent with current requirements. The Applicant would contribute a pro-rata share toward the improvement of off-site roadway intersections that would operate at unacceptable LOS.

Transportation Objective 4: Promote the development and enhancement of non-motorized transportation Citywide.

Policy T-44 Site design and layout for all types of development should incorporate TDM measures such as convenient and direct pedestrian access to and from residential and commercial developments and non-motorized transportation facilities including sidewalks, paths and trails.

Discussion: Non-motorized transportation facilities would be provided within the site under the SEIS Alternatives and would connect to residential areas, recreational, and commercial areas. SEIS Alternative 5 would include a five-mile network of trails that would allow for pedestrian, equestrian, and bicycle circulation through the site, as well as connections to off-site trails such as the adjacent Suncadia trail network to the north, the Coal Mines Trail to the east, and the Horse Park to the south. About one mile of sidewalks would also be provided along the primary roadway through the site that would connect Bullfrog Road and SR 903 (see **Figure 2-13**, Parks and Trails Plan – SEIS Alternative 6 in **Chapter 2**).

City of Cle Elum Shoreline Master Program

Summary: The City of Cle Elum Shoreline Master Program (SMP), which was updated in October 2019, implements the State Shoreline Management Act (RCW 90.58). The overall purpose of the SMP is to promote the public health, safety, and general welfare of the community by providing long range, comprehensive policies and effective, reasonable regulations for development and use of the shoreline within Cle Elum. The SMP jurisdiction includes all "shorelines of the state", upland areas within 200 feet of the ordinary high-water mark of those waters, associated wetlands and river deltas, and floodways and contiguous floodplain areas landward 200 feet from such floodways. A permit must be obtained for most development within the shoreline.

The SMP designates various "shoreline environments" for each water body subject to its jurisdiction; these designations reflect the character of different shoreline resources and manage uses and alterations that are permitted to occur. The Cle Elum River is a designated shoreline; the shoreline designation for the portion of the 47^{o} North site that is within the shoreline jurisdiction of the Cle Elum River is Natural Environment. The purpose of the Natural Environment designation is to protect or restore shoreline areas that are relatively free of human influence or include intact or minimally degraded shoreline functions intolerant of human use. The Natural Environment designation maintains the ecological

functions and ecosystem-wide processes of such areas by limiting future uses to low intensity uses that are compatible with the natural characteristics that make these areas unique and valuable. Allowed uses include low-intensity agriculture uses; scientific, historical, cultural, and educational uses; and, low-intensity water-oriented recreational access.

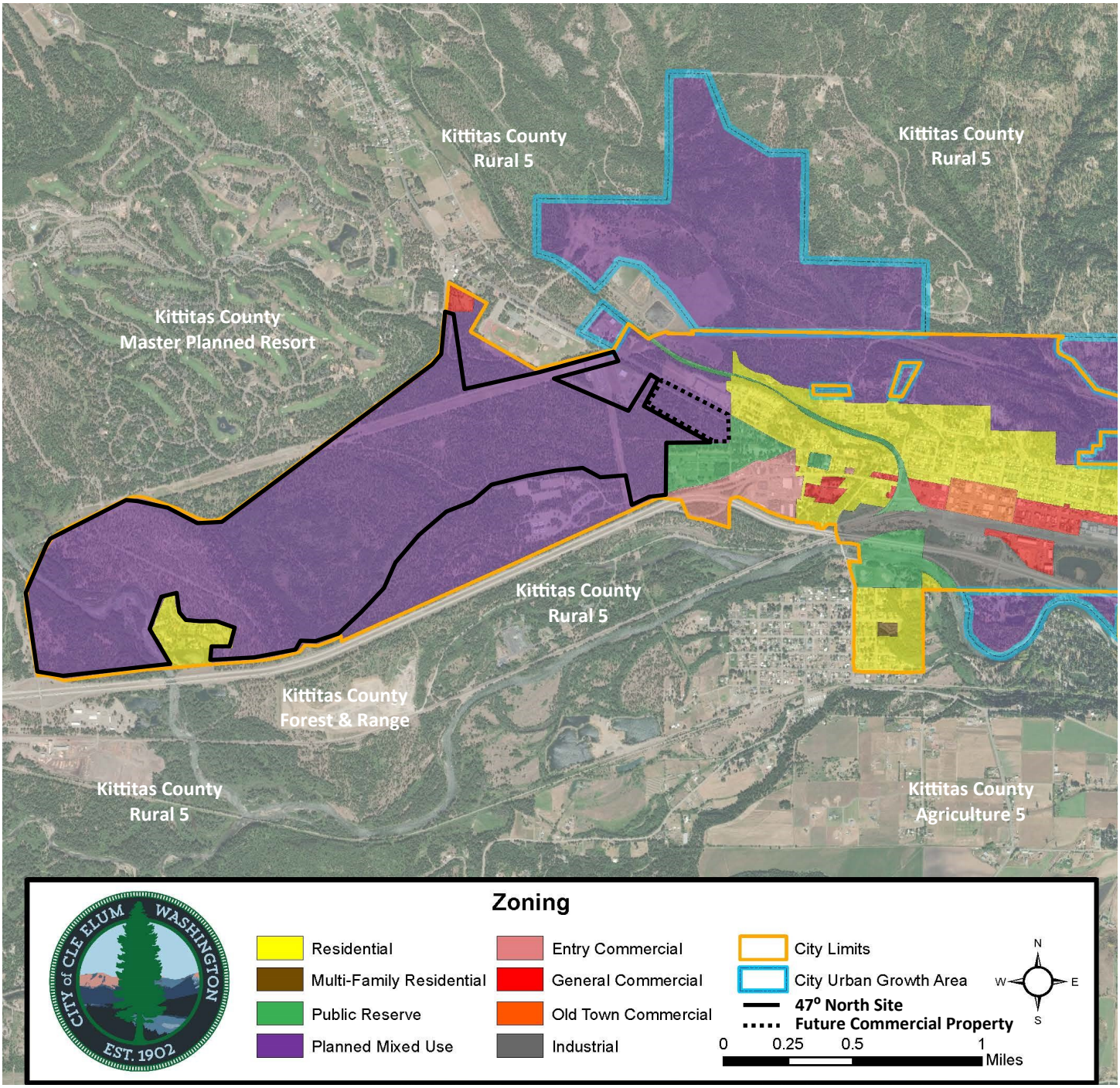
Discussion: Under SEIS Alternatives 5 and 6, the western portion of the site, including areas that are adjacent to the Cle Elum River in the Natural shoreline environment, would be maintained as open space; no new development would occur within the shoreline-designated area, except recreational trails (as allowed by the existing easements in this area). The open space areas that would be provided onsite under SEIS Alternative 6 would provide multiple benefits and low-intensity uses, including active recreation (e.g., trails), passive recreation and scenic amenities (e.g., picnic benches, rest areas, outlooks, and exhibits), and fish and wildlife habitat (e.g., the open space areas associated with the Cle Elum River and wetlands); these uses would be consistent with the uses allowed by the River Corridor Open Space conservation easements in this portion of the site (see **Chapter 2** for details).

City of Cle Elum Zoning Regulations

Summary: The 47^{o} North site and adjacent 25-acre property are zoned as Planned Mixed Use (PMU) (see **Figure 3.7-1**, Existing Zoning). Section 17.45 of the City of Cle Elum Municipal Code includes the zoning regulations that are applicable for the PMU zoning district. The PMU zoning is established to apply to larger parcels of land with significant development potential and to achieve the following purposes:

1. To assure that large new development creates a complete and interdependent Cle Elum community that contains a mix of land uses that provides for most of the daily needs of its residences and visitors including recreation, employment, housing affordable to all residents, and education.

Discussion: SEIS Alternatives 5 and 6 would provide a mix of land uses on large parcels of land (1,100 acres and 824 acres, respectively). Alternative 6 would include single and multi-family residential, recreational, and commercial uses on a contiguous property. Although no educational uses would be provided under either of the SEIS Alternatives, 35 acres of the Bullfrog Flats site were dedicated to the Cle Elum School District in 2003. The broad mix of proposed uses would be consistent with the purpose of the PMU zoning for the site; the commercial parcel would provide retail and professional office uses to support many of the daily needs of residents.



Source: City of Cle Elum & EA Engineering, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.7-1
Existing Zoning

The housing under SEIS Alternative 5 would largely be market rate and may not be affordable housing for the city; sales prices have not been identified. The estimated mortgage rates for the single family housing under SEIS Alternative 6 could be considered affordable housing to household's earning at least 60% of the city's 2018 MHI. Expected rental rates are not currently known. A site for future affordable housing would be provided under both alternatives (7.5 acres under SEIS Alternative 5 and 6.8 acres under SEIS Alternative 6). (See Section 3.9, **Housing, Population, & Employment**, for details.)

2. To obtain development within the City with imaginative site planning in a compatible mixture of land uses that will encourage pedestrian rather that automotive access to employment opportunities and goods and services.

Discussion: A compatible mix of land uses arranged to take advantage of the site's natural setting would be provided under the SEIS Alternatives. A large portion of the site would be retained in natural open space/buffers, including along the Cle Elum River and between proposed on-site land uses and existing off-site land uses. A network of trails and sidewalks throughout the site would afford opportunities for non-motorized circulation that would connect to proposed on-site development areas and existing off-site trails, schools and proposed commercial uses.

3. To encourage building design that is in keeping with the climate and the traditional rural, small town, mountain character of the Cle Elum area.
4. To ensure sensitivity in land use and design to adjacent land uses within the PMU district, and to avoid creating incompatible land uses.

Discussion: The proposed site plans and building designs under SEIS Alternatives 5 and 6 are intended to reflect the site's location within the region and the Cle Elum area. Compatibility with area land uses would be achieved through the proposed layout of land uses, proposed open space/buffers, and existing physical barriers within and adjacent to the site. The housing and recreational buildings under SEIS Alternative 6 are meant to blend into the landscape, with exterior finishes in muted earth-tone colors. Architectural design and materials guidelines would be established by the Applicant to ensure the suitability and quality of the structures (see **Figure 2-7, 2-8, 2-9,** and **2-10** in **Chapter 2** for examples of the possible building design). Proposed design guidelines would be submitted with the Master Site Plan.

5. To ensure that all development gives adequate consideration to and provides mitigation for the impacts it creates with respect to transportation, public utilities, open space, recreation, and public facilities, and that circulation, solid waste disposal and recycling, water, sewer, and stormwater systems are designed to the extent feasible to be adequate to serve future adjacent development that can be reasonably expected.

Discussion: Analyses of the impacts of the SEIS Alternatives on open space/recreation, public services, transportation, and utilities were conducted for this Draft SEIS.

Cumulative impact analyses were included for all these elements to evaluate the impacts of proposed development, together with other vested/approved development and background growth in the site vicinity. Appropriate mitigation measures are identified to address the significant impacts of the alternatives on the elements of the environment mentioned in the PMU zone's purpose statement (see Section 3.2, **Water Quantity & Quality**, Section 3.11, **Parks & Recreation**, Section 3.12, **Public Services**, Section 3.13, **Transportation**, and Section 3.14, **Utilities**, for details).

6. To ensure that development protects and preserves the natural environment to the maximum extent possible, including but not limited to protecting water quality of the Cle Elum and Yakima Rivers, contributing to the long term solution of flooding problems, protecting wetlands and sensitive areas, protecting views, and providing a wooded background and ridge adjacent to the community.

Discussion: Proposed development under SEIS Alternatives 5 and 6 is intended to protect and preserve the natural environment. Large portions of the site would be preserved in open space, and would include the Cle Elum River, wetlands, flood-prone areas, steep slopes, and forested/vegetated areas. The temporary and permanent stormwater management systems that would be installed under the SEIS Alternatives would be consistent with current regulations and would protect water quality in the Cle Elum and Yakima Rivers. SEIS Alternative 6 would not impact any wetlands identified onsite. With SEIS Alternative 5, one on-site wetland would be impacted; either the site plan would need to be adjusted or wetland mitigation would be required (see Section 3.2, **Water Quantity & Quality**, and Section 3.3, **Plants, Animals, & Wetlands**, for details).

An analysis of the view impacts of proposed development under the SEIS Alternatives was conducted for this Draft SEIS. Photo-simulations and cross-sections of proposed development under SEIS Alternative 6 were prepared to represent views of the site from publicly-owned and publicly accessible locations surrounding the site. The analysis concluded that proposed development would not be visible, or would be only partially visible, from most off-site locations. The site would be visible to the greatest extent from higher elevation vantage points, such as hiking trails on ridges surrounding the site (see Section 3.8, **Aesthetics/Light & Glare**, for details).

Local Communities -- Ronald, Roslyn, and South Cle Elum Plans

City of Roslyn

Summary: The City of Roslyn is located to the north of the 47^{o} North site, separated from the site by other properties. The City of Roslyn Comprehensive Plan was most recently updated in June 2019. The Roslyn Comprehensive Plan provides a vision for the future, identifies goal and policies to achieve that vision, creates a basis for the City's regulations, and guides future decision-making. The Roslyn Comprehensive Plan, along with the regulations and programs that implement it, will effectively help preserve the

characteristics of Roslyn that are valued by the community, including: preserving and enhancing its historic character, maintaining its small town uniqueness, remaining economically viable, and creating a better community for all its residents. The Plan will be used by elected officials, staff, and citizens in making day-to-day decisions regarding the future of the city. The Roslyn Comprehensive Plan includes the following elements:

- Historic Preservation
- Land Use
- Housing
- Economic Development
- Transportation
- Utilities
- Capital Facilities

Land use designations located in the southern portion of the City of Roslyn closest to the 47° North site, and adjacent to roads that will experience vehicle trips generated by the project, include Commercial and Single Family Residential. The Commercial designation is intended to maintain and enhance the historic character and development pattern of the central business district area through the preservation and renovation of historic buildings, infill of vacant sites consistent with historic character, and maintenance of the pedestrian orientation with a diversity of retail shops and restaurants. The Single Family Residential designation is intended to preserve residential neighborhoods in the historic style of the period in which most homes were built.

Ronald

Summary: The community of Ronald is also located to the north of the site, within unincorporated Kittitas County. The community is separated from the site by the City of Roslyn and other properties. Ronald is designated as a Limited Area of More Intensive Rural Development (LAMIRD) in the County Comprehensive Plan which is reflective of the small, rural community where rural residents and others can gather, work, shop, entertain, and reside.

Town of South Cle Elum

Summary: The Town of South Cle Elum is located to the southeast of the 47º North site, separated from the site by I-90. The South Cle Elum Comprehensive Plan was updated in June 2019 and generally calls for achieving the following goals: preserving the town's historic and cultural resources while providing effective stewardship of it scenic and natural features; maintaining its historic identity while encouraging a balanced cohesive community; utilizing its location where various recreational, educational, economic and social activities can be pursued; and, striving to improve the tax base and increase employment opportunities. The plan's land use map generally includes small commercial areas (central business district, historical depot district commercial and gateway commercial), surrounded by a mix of residential uses.

Discussion: Development under the SEIS Alternatives would not directly impact the surrounding cities and towns because of physical separation and distance. The 47° North site is located approximately one mile south of Roslyn and is separated by the Cle Elum Roslyn school campus, and SR-903 and Bullfrog Road. The site is located approximately three miles south of Ronald and separated by the City of Roslyn, undeveloped areas, and SR-903 and Bullfrog Road. The Town of South Cle Elum is separated from the site by I-90 and railroad right of way.

The SEIS Alternatives would generate new residents and visitors that could indirectly impact Roslyn, Ronald, and South Cle Elum. The additional temporary and permanent population and increased tourism that would be generated by the alternatives could also result in increased retail and commercial sales within these communities, which could generate sales tax revenues and enhance their economic vitality. Proposed development could also increase demand for public services, including those that serve multiple municipalities which could reduce the services levels provided to these communities. More traffic would be added to area roadways, including RV traffic, which would result in increased congestion during some time periods at some locations. Increased traffic could impact the small-town character and pedestrian-focus of these communities. However, the increased traffic could also help support local business activity. Mitigation measures are identified in this Draft SEIS to reduce the public services and transportation impacts of the SEIS Alternatives and their effects on Roslyn, Ronald, and South Cle Elum (see Section 3.12, **Public Services**, and Section 3.13, **Transportation**, for details).

New residents and visitors under the SEIS Alternatives would generate some increased demand for goods and services in surrounding communities, which could spur some spin off commercial development in Roslyn, Ronald, and South Cle Elum. It is assumed that this development would be controlled through the respective plans and development regulations for the affected communities. The possible commercial uses that could occur on the adjacent 25-acre property (e.g., grocery store, medical offices, retail, and restaurant) under SEIS Alternative 6 could capture a portion of the demand for these uses from the 47° North development, reducing the demand in adjacent communities.

3.8 AESTHETICS/LIGHT & GLARE

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant aesthetics, and light and glare impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

Methodology

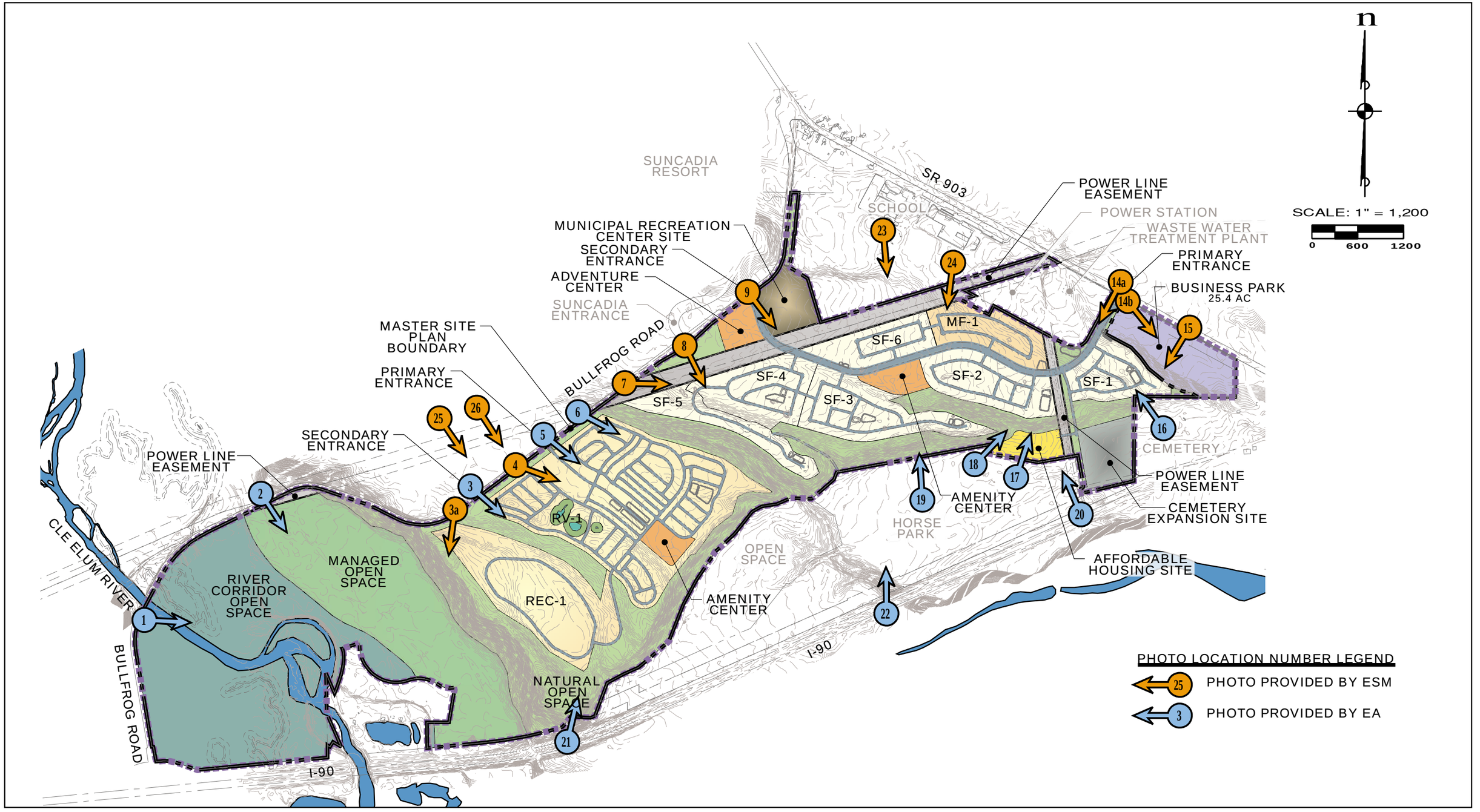
Visual Character

For the aesthetics analysis in this Draft SEIS, the visual character of an area is defined as the unique and important aesthetic features that comprise the visual landscape. Both natural and built features combine to define a location's visual character, including natural resources (topography/landforms, vegetation, geologic formations, wetlands, rivers and other water resources), view corridors, vistas, parks and landmark structures/districts. The impact discussion was focused on the nature and extent of change in visual character and the degree of relative visibility of the proposed project site and its major natural features and constructed elements from off-site locations.

Views

Twenty-five (25) viewpoints from publicly-owned and publicly-accessible places (e.g., roads, trails, and schools) surrounding the proposed 47° North site and adjacent 25-acre property were initially selected for analysis in the Draft SEIS (see **Figure 3.8-1** for a viewpoint location map. Note that one of the viewpoints, Peoh Point, is located approximately four miles to the south of the site on a ridge across I-90. The location of this viewpoint is shown on the photo-simulation in **Figure 3.8-2** later in this section but is not shown on the map). The viewpoint locations were intended to provide representative views of the site from the perspective of a driver or pedestrian.

Photos were taken from the locations indicated on **Figure 3.8-1** and **Figure 3.8-2** on November 5, 2019, March 23, 2020, and June 12, 2020. A Canon EOS Rebel SL2 digital camera was used to take the photos that were used for the photo-simulations. These photos were geo-referenced to establish details of locations, camera height, etc. The photos from the locations immediately surrounding the site were taken with 10 millimeter (mm) and 11 mm digital focal length lenses; the photo from Peoh Point was taken with a 15 mm focal length lens. These focal lengths are approximately equivalent to 24-28 mm lens on a single lens reflex film camera and capture a wider perspective than what the average human eye typically sees from a fixed position. Wide angle lenses depict what we can see clearly in our central as well as our peripheral vision (our peripheral vision is typically blurred). A wide angle lens also represents what could potentially be seen when a viewer pans across a view and, therefore, represents a wide angle of view and a broader, more expansive context for the photo-simulations. In the photos, the camera was focused on infinity, so foreground and background are in focus.



Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-1 - Viewshed Photo Locations

Photo-simulations of proposed development under SEIS Alternative 6 – Proposed 47° North Master Site Plan Amendment were prepared from ten viewpoint locations: 4, 5, 7, 8, 9, 14, 14a, 15, 22, and 24 (see **Figure 3.8-1** for the locations of these viewpoints), as well as from Peoh Point (see **Figure 3.8-2**). These particular viewpoint locations were selected because portions of the interior of the site and proposed development could potentially be visible to the greatest extent from these publicly-owned and publicly-accessible places. The photo inventory indicates that views into the 47° North site are obstructed in many locations due to existing vegetation, which will be retained in conjunction with proposed development, and due to differences in topography between the viewer and proposed development.

3D photo-simulations of the views of site development under SEIS Alternative 6 from the selected viewpoints were prepared using a laser scanner and Civil 3D software, accounting for scaled elements (e.g., trees and signs). The photo-simulations include the following:

- Existing visual condition as viewed from the respective viewpoints; and
- Simulations of building/RV massing envelopes overlaid on the photos to represent the extent to which the building/RVs would likely be visible from the respective viewpoint. The simulated massing envelopes are consistent with the assumed total square footage, maximum heights, and setbacks assumed for the buildings, and conservative dimensions assumed for the RVs. The massing envelopes are intended to represent the general bulk and scale of the proposed development and RVs under SEIS Alternative 6.

View cross-sections of proposed development with SEIS Alternative 6 were also prepared from three selected viewpoint locations: 16, 19, and 22 (representing the Laurel Hill Cemetery, the Washington State Horse Park, and I-90, respectively) (see **Figure 3.8-1** for the locations of these cross-sections). The cross-sections were cut at viewpoint locations where views of the proposed project might be possible, and to more clearly demonstrate why views of project features were not expected (e.g., due to the distance of the viewpoint from the site, and intervening landforms and dense vegetation). This methodology, rather than photo-simulation, was determined to represent visual impacts more clearly from these locations. The view cross-sections were prepared using Lidar and ground-truthed topographic survey, as well as GIS information. For reference, landmarks/key features are shown on the cross-sections, including landforms, property lines, adjacent highways and access/connector roads, open space areas, off-site trees that would remain, and power line easements. Elements of proposed development that could be visible from the viewpoint location, such as buildings/structures and vegetated buffers, are also shown on the view cross-sections.

The remainder of the viewpoint photos that were not selected for photo-simulation or view cross-section are contained in **Appendix G.** These generally duplicate other viewpoints described above or provide additional illustrations of the fact that elements of the proposed development would not be visible from the viewpoints.

3.8.1 Affected Environment

2002 Cle Elum UGA EIS

Existing conditions for Aesthetics/Light and Glare on and in the vicinity of the 1,100-acre Bullfrog Flats site in 2002 are described below.

Bullfrog Flats Site Vicinity

The City of Cle Elum and the Bullfrog Flats site are located in the Middle Cascade Mountain region along the north side of I-90. In 2002, the City of Cle Elum consisted of an urbanized area that was approximately three miles in length and included highway-oriented commercial uses at the east and west ends, a central downtown core, and surrounding residential areas. This area generally consisted of mountainous ridges and relatively flat river valleys containing a variety of coniferous lodgepole pine trees on the upland areas, and deciduous cottonwood trees along the rivers. The Cle Elum River flowed southeast from Cle Elum Lake and passed through the southwest corner of the Bullfrog Flats site.

In 2002, the City of South Cle Elum, located immediately south of Cle Elum across the Yakima River, was mostly a residential community, and the City of Roslyn, located approximately two miles northwest of Cle Elum along SR 903, was primarily residential with a small commercial core.

In 1990, the Mountains-to-Sound Greenway (Greenway) was first envisioned; in 1991, the Mountains to Sound Greenway Trust was founded to work toward keeping some of these natural lands within a connected, multi-purpose Greenway between Seattle and Central Washington. The 1.5-million-acre Greenway is characterized by historic towns and transportation corridors, scenic beauty, and recreational opportunities that link the public to the landscape. The Bullfrog Flats site lies within the delineated corridor of the Greenway. The concept plan for the Greenway addressed Bullfrog Flats and recommended that new development be designed for maximum preservation of the natural forested character of the lands, scenic qualities, and wildlife habitat.

In 1998, the U.S. Department of Transportation (USDOT) designated I-90 as a National Scenic Byway, a designation that is based on scenic, historic, recreational, cultural, archaeological, or natural features that are considered representative, unique, irreplaceable, or distinctly characteristic of an area. For the stretch of I-90 through Kittitas County, regional characteristics included mountains, forests, and rivers, as well as ranches, farms, and small towns.

Bullfrog Flats Site

In 2002, the primarily undeveloped Bullfrog Flats site consisted of three visually distinct zones: the riparian zone along the Cle Elum River (western portion of the property); an adjacent broad and flat river valley carved by the Cle Elum River and flanked on the east by

a bluff; and, terraced uplands (eastern portion of the property). A ravine bisected the uplands in a generally north-south direction. A second bluff traversed the uplands in a generally east-west direction.

The majority of the Bullfrog Flats site was forested, with mostly ponderosa pine on the upland portions, and deciduous cottonwood trees along the Cle Elum River. Areas that were dominated by ponderosa pine were characterized by an open understory, with grasses and herbaceous species beneath the canopy.

Built features within the Bullfrog Flats site were limited to two power transmission line corridors that bisected the western and northeastern portions of the property.

Views of the Bullfrog Flats Site

Cle Elum Ridge and South Cle Elum Ridge constituted the visual boundaries of the Bullfrog Flats site from the north and south, respectively, while Easton Ridge defined the western visual boundary. From a distance, the site was visible from all of these ridges, as well as several distant peaks north of the site. Closer views of the property were principally from the surrounding roadways: Bullfrog Road to the north and west; SR 903 to the northeast; and I-90 to the south.

Motorists on Bullfrog Road had the most comprehensive views of the Bullfrog Flats site because the road borders the entire northern boundary of the property and has a low travel speed, allowing more detailed observation. The School District campus and an electrical power substation dominated views of the property from SR 903. The property was visible from the School District campus and Laurel Hill Memorial park, the cemetery located at the southeastern corner of the property. Travelers along I-90 had limited views of the property because of high travel speeds and moderately dense vegetation present along this stretch of the highway.

Views from the Bullfrog Flats Site

Views of Cle Elum Ridge, South Cle Elum Ridge, and Easton Ridge, as well as more distant peaks, were possible from most areas of the Bullfrog Flats site, depending on the tree canopy conditions and topography. Views of the Cle Elum River were limited to those areas immediately bordering the river and from the bridge crossings on Bullfrog Road and I-90.

Light & Glare

In 2002, there was no light or glare originating from the Bullfrog Flats site. Off-site sources of light and glare in the immediate vicinity of the site primarily included vehicle lights on boundary roadways. Overhead light fixtures were located at a truck weigh station along I-90 just west of the Bullfrog Road interchange.

(See 2001 Cle Elum UGA Draft EIS Section 3.12 and 2002 Cle Elum UGA FEIS Section 3.11 for details.)

2020 SEIS

Updated existing conditions on and in the vicinity of the 824-acre 47° North site and the adjacent 25-acre property are described below.

47° North Site Vicinity

While the visual character of the site vicinity as described in the 2002 Cle Elum UGA EIS has generally continued, substantial development has occurred in the site vicinity since 2002, resulting in a changed visual landscape in certain areas. Areas to the northwest of the site have developed with the 6,000-acre Suncadia resort, which includes lodge hotels and associated facilities, single-family residences and condominiums, golf courses, recreational trails for hiking and biking, parks, and vegetated/forested open space. The Suncadia development is visually separated from the site and off-site views by Bullfrog Road and a vegetated/forested buffer located along the southern edge of the resort.

The visual character immediately to the east of the site remains generally as described in the 2002 Cle Elum UGA EIS, although a new water treatment plant has been constructed since then and facilities have been added to the school campus. However, these uses are visually separated from the site by a vegetated/forested buffer on those properties and by the PSE easement on the Bullfrog Flats /47° North site.

The visual character of the areas to the southwest and east/northeast has changed slightly with construction of single-family residences to the east of the Cle Elum River, as well as areas beyond SR 903.

The visual character of the area to the immediate south of the site has changed substantially and is now occupied by the approximately 112-acre Washington State Horse Park, which includes equestrian facilities for shows/competitions, horseback riding trails, facilities for RVs, camp sites, and vegetated/forested open space. These uses are separated visually from the site by vegetated/forested steep slope areas surrounding the Horse Park, by the open space areas to the west of the Horse Park, and the 150-foot buffer on the north side of I-90.

In March 2019, the Mountains-to-Sound Greenway became one of the nation's National Heritage Areas (NHAs). NHAs are places designated by Congress where historic, cultural, and natural resources combine to form cohesive, nationally important landscapes.

47º North Site

Since publication of the 2002 Cle Elum UGA EIS, the visual character of the 47° North site has generally remained as described in that EIS. The site continues to be largely vacant and undeveloped, and comprised of vegetated/forested land. Some dirt roads and a few equestrian trails and facilities, such as a small building, parking area, and load/unload areas, are now located onsite. The two PSE electrical transmission lines/easements continue to traverse the site.

Although development has occurred in the site vicinity over the ensuing years, views of and from the 47° North site are generally the same as described in the 2002 Cle Elum UGA EIS.

3.8.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

Direct Construction Impacts

The 2002 Cle Elum UGA EIS indicated that under FEIS Alternative 5, construction activities would likely be noticeable from locations along Bullfrog Road, SR 903, and/or I-90 at different times throughout the 30-year construction phase,[1] as well as from the adjacent Cemetery and the School District Campus. Clearing and grading work would occur behind the site perimeter buffer of trees; therefore, most construction activities would not be visible from any one location.

Under FEIS Alternative 5, RV sites would be constructed within the reserve tract to temporarily house construction workers but would not be permitted within the required open space or buffers, thereby reducing potential views of this area from I-90.

Direct Operation Impacts

Bullfrog Flats Site Vicinity

The primary visual impact associated with the proposed development under FEIS Alternative 5 would be the clearing and conversion of forested area to residential neighborhoods and a business park area, which would be most noticeable from higher elevation vantage points. Vegetated buffers proposed as part of the project along major roads on the perimeter of the Bullfrog Flats site would minimize visual impacts.

Bullfrog Flats Site

Viewers most affected by changes in the visual landscape would be the frequent users of Bullfrog Road and SR 903 including drivers, pedestrians and bicyclists. Visual contrast and harmony between the built and natural environments after development would largely be a product of tree preservation, revegetation, the siting of structures, and design standards.

[1] Project year five development impacts, i.e., from occupancy of constructed residential units, were analyzed as part of the discussion of *Construction Impacts* under FEIS Alternative 5 in the 2002 Cle Elum UGA EIS. Note that the SEIS discussion characterizes such impacts as operational rather than construction-related, which is considered more appropriate.

Light & Glare

The primary sources of light and glare would include building and landscape lighting and possibly evening events at ballfields. Vegetated buffers within and around the perimeter of the Bullfrog Flats site would minimize lighting impacts to surrounding properties.

Development under FEIS Alternative 5 would create 'skyglow', which is artificial light that reflects off the nighttime sky and reduces the clarity of astronomical observation. Skyglow would be minimized by implementing Dark Sky standards.

Indirect Impacts

Indirect impacts could include changes in the character of surrounding land use and views as a result of the growth and development spurred by the proposed project. These could include an increase in commercial activity along the SR 903 corridor and within the City of Cle Elum. Land uses would ultimately depend upon applicable zoning regulations.

Cumulative Impacts

Development of the Bullfrog Flats site in conjunction with other planned growth, including Suncadia, would contribute to continuing changes in the visual/aesthetic character of the Upper Yakima Basin. What was undeveloped property in Bullfrog Flats and Suncadia would be converted to more intensive resort, residential, and urban uses over the 30-year build-out period. Cumulative changes in landscape would be most evident from higher elevation vantage points and from within the site.

(See 2001 Cle Elum UGA DEIS Section 3.12 and 2002 Cle Elum UGA FEIS Section 3.11 for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Development assumptions under SEIS Alternative 5 are largely the same as those under FEIS Alternative 5. As a result, it is anticipated that potential impacts to the visual character of the site and surrounding vicinity, and light and glare impacts, would generally be similar to those described for FEIS Alternative 5. It is assumed that development under SEIS Alternative 5 would also occur over a 30-year time period, similar to FEIS Alternative 5.

SEIS Alternative 6 – *Proposed 47º North Master Site Plan Amendment*

Direct Construction Impacts

Similar to FEIS and SEIS Alternative 5, construction activities associated with SEIS Alternative 6 would likely be noticeable from some points along Bullfrog Road and SR 903 at different times throughout the construction phase. Clearing and grading work would be phased over a shorter buildout (approximately 7 years for the 47° North site, and an estimated 17 years for the possible commercial development) compared to the 30 years under FEIS and SEIS

Alternative 5, and would occur mostly behind the site perimeter buffer of trees. Therefore, most construction activities would not be highly visible from any one location.

Direct Operation Impacts

As with FEIS and SEIS Alternative 5, proposed development would change the existing visual character of the site, potentially impact view opportunities to and from the site, and add new sources of light and glare. Changes in aesthetic conditions are anticipated to occur incrementally over the approximately 7 and 17-year build-out of the 47° North site and adjacent commercial property, respectively. SEIS Alternative 6 would change the visual character of the site from a mostly second growth forest to a more urban environment consisting of a residential and recreational community with open space, recreational areas and amenity centers; vegetated buffer areas would surround the perimeter of the site. Some of the more intensive uses (multi-family and potential commercial development) would be located in the northeastern portion of the site, near SR 903. Other more intensive development (RV resort uses) would be situated in the central portion of the site, buffered from surrounding uses. Site development would be guided by architectural and design guidelines established by the Applicant for residential and other structures; these guidelines would be specifically tailored for the 47° North project site to achieve a consistent visual quality.

SEIS Alternative 6 would include up to 477 acres of open space areas, which equates to 58% of the site (see **Table 2-8** in **Chapter 2** for details). This open space would provide visual separation within the site and between the site and surrounding uses. While open space areas would provide visual separation between certain uses on site, no separation is currently proposed between the single and multi-family residential development in MF-1, SF-4, SF-5, and SF-6 and the power line easement where a recreational trail is proposed (see **Figure 2-4** in **Chapter 2**). Perimeter buffer areas (at least 100 feet in width) would be provided adjacent to perimeter roadways (e.g., along Bullfrog Road) and adjacent to contiguous properties to the south that are not owned or controlled by the Applicant (e.g., the Horse Park). These buffers would consist of existing trees and other vegetation. In some cases, these buffer areas would be enhanced with compatible plant species to provide additional screening where more visual separation is necessary or desirable; the exact locations where this enhancement would occur have not been identified at this point. These open space/buffer areas would provide visual separation between the site and adjacent uses and would screen and minimize potential visual impacts.

Landscaping would be provided throughout the site and would create transitions and buffers between various land uses on and adjacent to the site. Specific landscape plans have not been developed to date but would be included in the Master Site Plan amendment application. Conceptually, SEIS Alternative 6 would include landscaping along both sides of the connector and internal roads, in pockets in the private community/recreation open space areas, and in the single- and multi-family area. Proposed development would also preserve and maximize the topography and character of the site by maintaining portions of

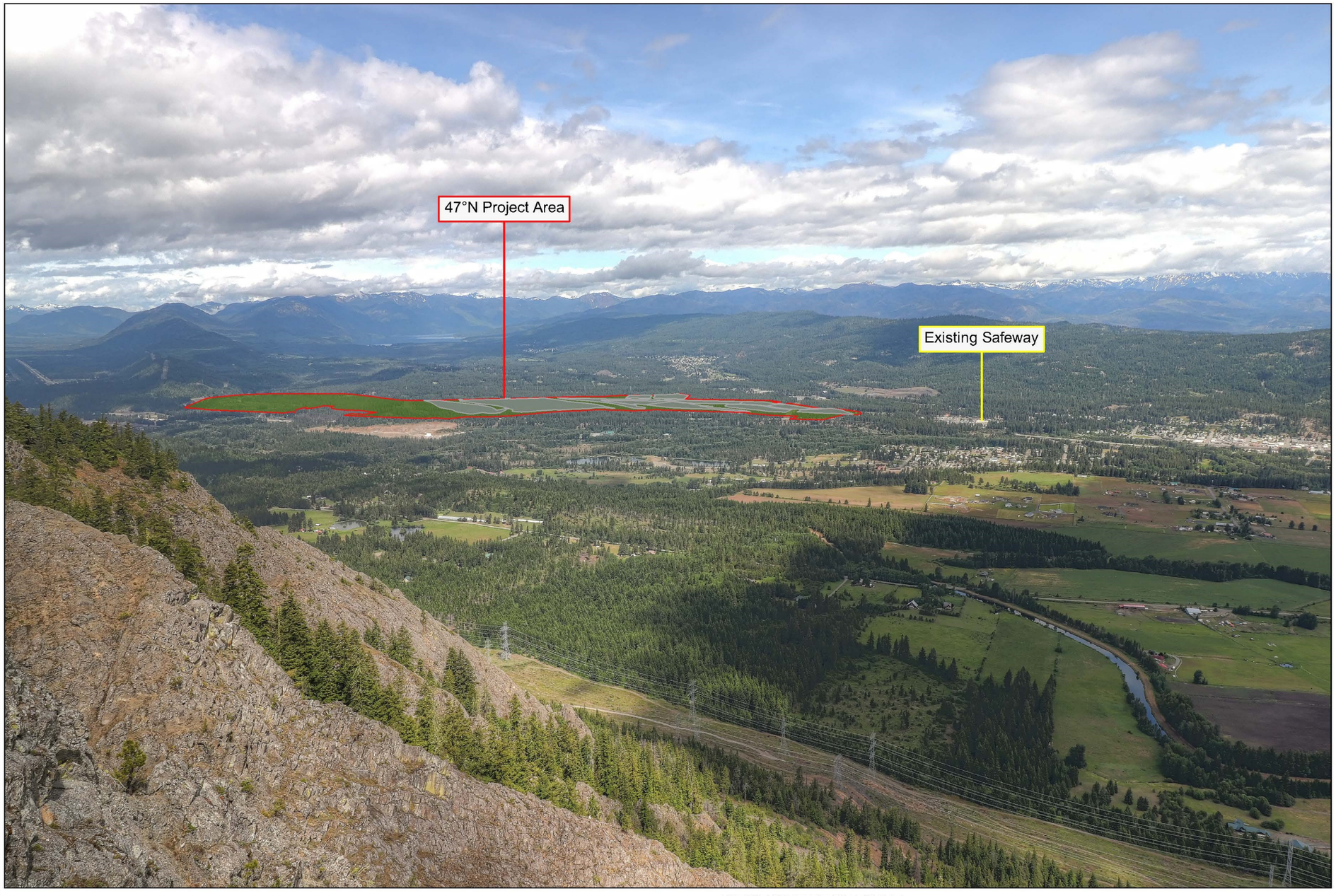
the existing mature forest areas along the perimeter of the site, the river corridors, and in steep slope areas, by retaining open space areas across the site, and by balancing cut and fill on site to reduce the need for extensive grading.

47° North Site Vicinity

The primary visual change associated with proposed development under SEIS Alternative 6 would be the conversion of a large forested area to urban density residential and recreational buildings and neighborhoods, and to possible commercial development on the adjacent property. This change would be most noticeable from higher elevation vantage points, such as from Peoh Point and from within the site. Peoh Point is located approximately four miles to the south of the site, across I-90. This vantage point offers 180° views of the Cle Elum Valley and the Stuart range from its location atop a 2,000-foot cliff on South Cle Elum Ridge. A description of the view from this viewpoint with development of the site under SEIS Alternative 6 follows (see **Figure 3.8-2**):

- **Peoh Point -** the Yakima River and rural and agricultural areas can be seen in the foreground; I-90 and existing development in the Cle Elum, South Cle Elum, the Suncadia resort in the mid-ground; and, the Stuart mountain range in the background from this viewpoint. The existing Safeway and other commercial buildings along SR 903 in Cle Elum are visible in the eastern portion of the perspective. The 47° North project would be visible at a distance in the mid-ground. Proposed development would appear as a continuation of the existing nearby grey/tan-colored development in the area and would likely be seen as a grey/tan shaded mass as well. Individual residential, recreational, and smaller future commercial buildings in 47° North would be barely visible from Peoh Point. Similar to the existing Safeway shopping area, larger scale buildings on the commercial site (e.g., the possible grocery store) could be discernible.

Under SEIS Alternative 6, views from immediately surrounding areas toward the site would continue to be entirely or substantially blocked or obscured by existing off-site forested areas, retained on-site forested buffer/open space areas along the perimeter of the site, as well as existing topography and topography created by the proposed grading. Vegetated



VIEWPOINT PEOH POINT

CAMERA DATA AND LOCATION

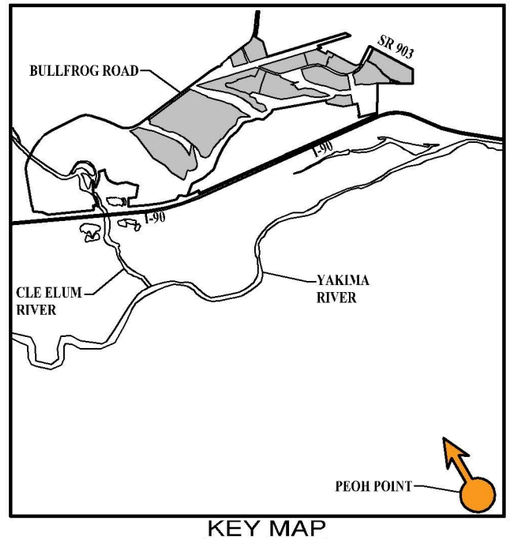
DATE OF PHOTO: JUNE 12, 2020
LOCATION: PEOH POINT
ELEVATION:(4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 15MM
(35MM Equivalent=25MM)

LEGEND

GENERAL 47° NORTH SITE BOUNDARY

APPROXIMATE AREA OF DEVELOPMENT

OPEN SPACE



KEY MAP

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-2
Peoh Point

buffers proposed as part of the project along major roads, such as Bullfrog Road (at least 100 feet), and SR 903 (50 feet) along the perimeter of the 47° North site and adjacent 25-acre adjacent property, as well as off-site open space areas (e.g., to the south and east of the site), would minimize views into the site and property. Viewers most affected by changes in the visual landscape would be users of Bullfrog Road and SR 903.

As described in the *Methodology* sub-section above, twenty-five (25) viewpoints from public properties and publicly-accessible places (e.g., roads, trails, and schools) surrounding the proposed 47° North site and adjacent 25-acre property were initially selected for analysis in the Draft SEIS (photos were taken from the locations indicated on **Figure 3.8-1** and **Figure 3.8-2**). Photo-simulations of proposed development under SEIS Alternative 6 were prepared from ten viewpoint locations: 4, 5, 7, 8, 9, 14, 14a, 15, 22, 24, as well as from Peoh Point. View cross-sections of proposed development under SEIS Alternative 6 were also prepared from three selected viewpoint locations: 16, 19, and 22 (representing the Laurel Hill Cemetery, the Washington State Horse Park, and I-90, respectively). These locations are considered to be representative of those from which the site would be viewed by significant numbers of vehicle drivers, pedestrians, and recreators, and would be most likely to yield views of on-site development. The remainder of the viewpoint photos that were not selected for photo-simulation or view cross-section are contained in **Appendix G**. Specific descriptions of the views from the various viewpoints immediately surrounding the site are provided below. Note that these view descriptions are based on the vegetation on and adjacent to the site as it exists today. This vegetation could change in some locations and to some degree over time as a result of natural forces (e.g., blowdown, disease), selective thinning to maintain tree health, and fire-wising activities.

- **Viewpoint 1 – View of the Cle Elum River from Bullfrog Road, Looking East (Appendix G - Figure 1) –** a mix of deciduous and fir trees and the Cle Elum River on the site are visible in the foreground, mid-ground, and background from this viewpoint. Views of proposed RV resort and single-family development would be completely blocked from Viewpoint 1 by the density of the existing on-site forested vegetation that would be retained in open space areas on this portion of the site.

- **Viewpoint 2 – View of Managed Open Space from Bullfrog Road, Looking Southeast (Appendix G - Figure 2) –** A mix of deciduous and fir trees on the site, Bullfrog Road, and the power lines/easement are visible in the foreground, mid-ground, and background from this viewpoint. Views of proposed development on the site (e.g., RV resort and single-family uses) would be completely blocked from Viewpoint 2 by the density of the existing on-site forested vegetation that would be retained in open space areas on this portion of the site. To the west, views of proposed development on the site would be fully blocked by a steep upslope area that traverses the area from north to south in this portion of the site.

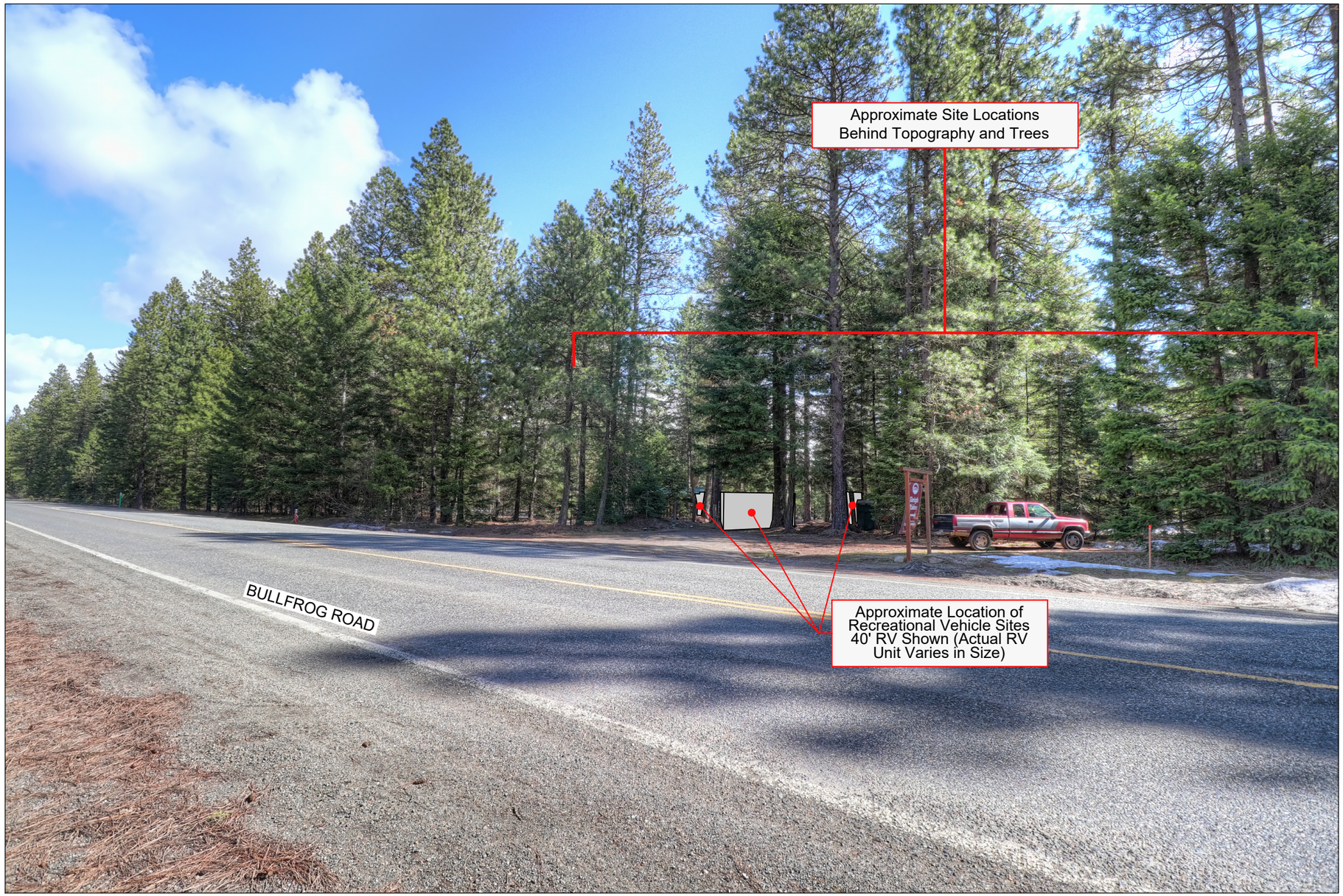
- **<u>Viewpoint 3</u> – View of RV-1 from Bullfrog Road, Looking Southeast (Appendix G - Figure 3) –** Predominantly fir trees on the site and Bullfrog Road are visible from this viewpoint. Views of proposed development on the site (e.g., RV resort uses) would be completely blocked from Viewpoint 3 by the density of the existing on-site forested vegetation that would be retained along the perimeter of the site in this area. Additionally, the existing topography adjacent to Bullfrog Road on this portion of the site would mostly blocks views into the site in this area.

- **<u>Viewpoint 3a</u> – View of REC-1 from Bullfrog Road, Looking Southwest (Appendix G - Figure 4) –** Predominantly fir trees on the site and Bullfrog Road are visible in the foreground, mid-ground, and background from this viewpoint. Views of proposed development on the site (e.g., RV resort uses) would be completely blocked from Viewpoint 3a by the density of the existing trees associated with the 100^{+}-foot on-site forested buffer that would be retained along the perimeter of the site in this area.

- **<u>Viewpoint 4</u> – View of RV-1 from Bullfrog Road, Looking Southeast (Figure 3.8-3) –** Predominantly fir trees on the site and Bullfrog Road are visible in the foreground, mid-ground, and background from this viewpoint, as well as the access road to a trail riding business that is located within the site. Views of proposed development on the site (e.g., RV resort uses) would be partially visible from Viewpoint 4 but would be substantially blocked by the 100-foot on-site forested buffer that would be retained along the perimeter of the site in this area. Existing vegetation in the background within the RV resort would be all or partly removed and replaced with landscaping. The type and density of plant material associated with proposed landscaping is not known at this time, and its effectiveness to provide buffering, cannot be determined.

- **<u>Viewpoint 5</u> – View of RV-1 from Bullfrog Road, Looking Southeast (Figure 3.8-4)** - Predominantly fir trees on the site and Bullfrog Road are visible in the foreground, mid-ground, and background from this viewpoint, as well as the RV-1 entry access road that would lead to the interior of the site. Views of proposed development on the site (e.g., RV resort uses) would be completely blocked from Viewpoint 5 by the density of the existing trees associated with the approximately 100-foot on-site forested buffer that would be retained along the perimeter of the site in this area.

- **<u>Viewpoint 6</u> – View of RV-1 from Bullfrog Road, Looking Southeast (Appendix G - Figure 5) –** Predominantly fir trees on the site, Bullfrog Road, and the power line easement are visible in the foreground, mid-ground, and background from this viewpoint, as well a forested ridge in the distant background. Views of proposed development on the site (e.g., RV resort uses) would be completely blocked from Viewpoint 6 by the density of the existing trees associated with the 100-foot on-site forested buffer that would be retained along the perimeter of the site in this area.

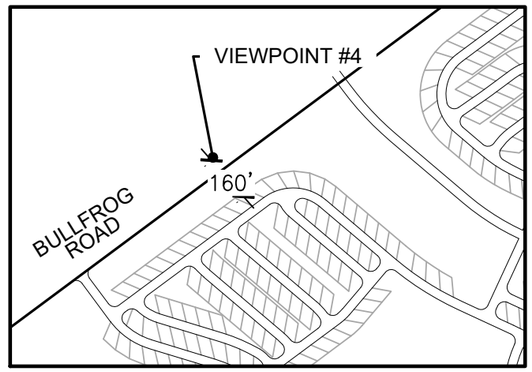


PHOTOSIMULATION VIEWPOINT #4
VIEW OF RV-1 FROM BULLFROG ROAD,
LOOKING SOUTHEAST

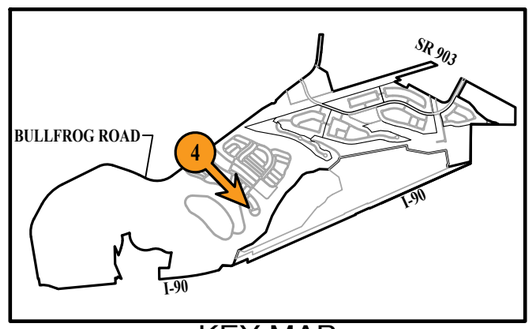
CAMERA DATA AND LOCATION

DATE OF PHOTO: MARCH 28, 2020
LOCATION: BULLFROG ROAD
N: 679540.960
E: 1517259.044
ELEVATION: 2155.75 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTES:
1. RV LOCATIONS ARE APPROXIMATE BASED ON THE CONCEPTUAL SITE PLAN.



LOCATION MAP



KEY MAP

LEGEND
RECREATIONAL VEHICLE SITES. TYPICAL RV DIMENSIONS WERE ASSUMED TO BE 40' LONG, 10' WIDE AND 12' IN HEIGHT. (ACTUAL RV UNIT VARIES IN SIZE)

Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

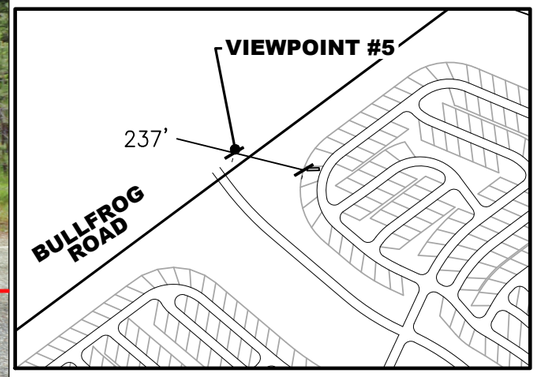
Figure 3.8-3 - Viewpoint #4

PHOTOSIMULATION VIEWPOINT #5
VIEW OF RV-1 FROM BULLFROG ROAD,
LOOKING SOUTHEAST

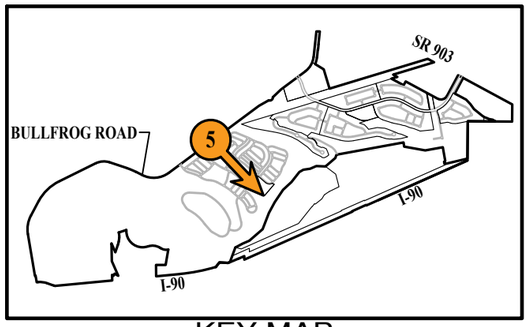
CAMERA DATA AND LOCATION

DATE OF PHOTO: JUNE 12, 2020
LOCATION: BULLFROG ROAD
N: 679885.428
E: 15177728.091
ELEVATION: 2151.26 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 11MM
(35MM Equivalent=18MM)

NOTES:
1. RV LOCATIONS ARE APPROXIMATE BASED ON THE CONCEPTUAL SITE PLAN.



LOCATION MAP



KEY MAP

Source: ESM Consulting Engineers, 2020.

Figure 3.8-4 - Viewpoint #5

EA Engineering, Science, and Technology, Inc., PBC

<u>Viewpoint 7</u> – View of SF-4 and SF-5 from Bullfrog Road, Looking East (Figure 3.8-5) – Predominantly fir trees on the site, Bullfrog Road, and the power line easement are visible in the foreground, mid-ground, and background from this viewpoint. Views of proposed development on the site (e.g., single-family residential uses) would be completely blocked from view by the intervening approximately 850-1,000-foot open space/buffer that would be retained along the perimeter of the site in this area. Views of proposed development onsite would also be completely blocked by a change in topography on site – the site slopes down to the east in this area south of Bullfrog Road.

- **<u>Viewpoint 8</u> – View of SF-4 from Bullfrog Road, Looking Southeast (Figure 3.8-6) –** Predominantly fir trees on the site and Bullfrog Road are visible in the foreground, mid-ground, and background from this viewpoint. Views of proposed development on the site (e.g., single-family residential uses) would be completely blocked from Viewpoint 8 by the density of the existing trees associated with the roughly 500-foot on-site forested buffer that would be retained along the perimeter of the site in this area.

- **<u>Viewpoint 9</u> – View of Secondary Entrance from Bullfrog Road, Looking Southeast (Figure 3.8-7) –** Predominantly fir trees on the site and Bullfrog Road are visible in the foreground, mid-ground, and background from this viewpoint as well as the secondary entrance access road that would lead to the interior of the site. Views of proposed development on the site (e.g., single family residential uses) would be completely blocked from view by the density of the existing trees associated with the approximately 900-foot on-site forested area that is present along the perimeter of the site in this area. Note that the proposed municipal/community center site is located in the foreground from this viewpoint. Future development plans for this site, and their associated potential for view impacts, are not known at this point.

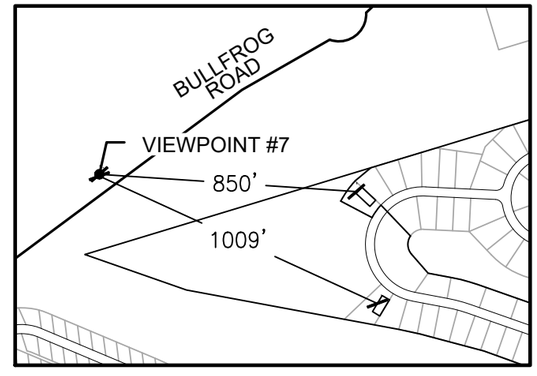
- **<u>Viewpoint 14a</u> – View of the Primary Entrance and Commercial Development from SR 903, Looking Southwest (Figure 3.8-8) –** Predominantly fir trees on the site and SR 903 are visible in the foreground, mid-ground, and background from this viewpoint. Views of possible development on the adjacent 25-acre property (e.g., commercial uses), as well as the proposed north entry to the public connector road to the 47° North site, would be clearly visible from Viewpoint 14a. Possible commercial buildings that could be seen could be approximately 20 feet in height. Based on the conceptual site plan, existing vegetation in the foreground within the commercial property would be all or partly removed and replaced with a landscaped strip along SR 903. The proposed landscaping is conceptual at this point and the type and density of plant material is not known at this time; therefore, its ability to provide effective buffering cannot be determined.

PHOTOSIMULATION VIEWPOINT #7
VIEW SF-4 AND SF-5 FROM BULLFROG ROAD, LOOKING EAST

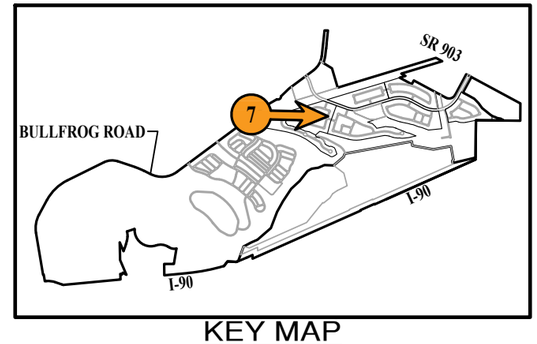
CAMERA DATA AND LOCATION

DATE OF PHOTO: MARCH 28, 2020
LOCATION: BULLFROG ROAD
N: 680606.523
E: 1518690.968
ELEVATION: 2155.15 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTE:
BUILDING LOCATION, HEIGHT AND PERSPECTIVE WERE GENERATED IN CAD BASED ON FIELD TOPOGRAPHY AND PROPOSED SITE GRADING. COMMON ELEMENTS WERE USED TO POSITION THE BUILDING ENVELOPE IN THE PHOTOGRAPH.



LOCATION MAP



KEY MAP

Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

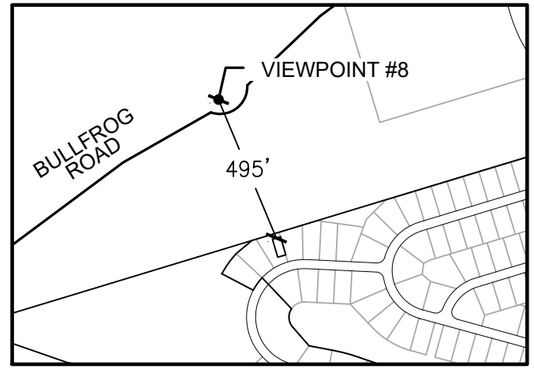
Figure 3.8-5 - Viewpoint #7

PHOTOSIMULATION VIEWPOINT #8
VIEW SF-4 FROM BULLFROG ROAD,
LOOKING SOUTHEAST

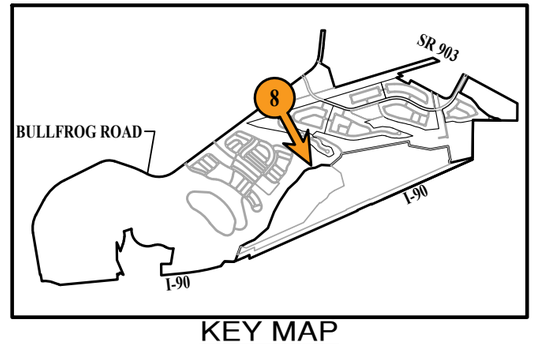
CAMERA DATA AND LOCATION

DATE OF PHOTO: MARCH 28, 2020
LOCATION: BULLFROG ROAD
N: 681098.705
E: 1519476.847
ELEVATION: 2173.05 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTE:
BUILDING LOCATION, HEIGHT AND PERSPECTIVE WERE GENERATED IN CAD BASED ON FIELD TOPOGRAPHY AND PROPOSED SITE GRADING. COMMON ELEMENTS WERE USED TO POSITION THE BUILDING ENVELOPE IN THE PHOTOGRAPH.



LOCATION MAP

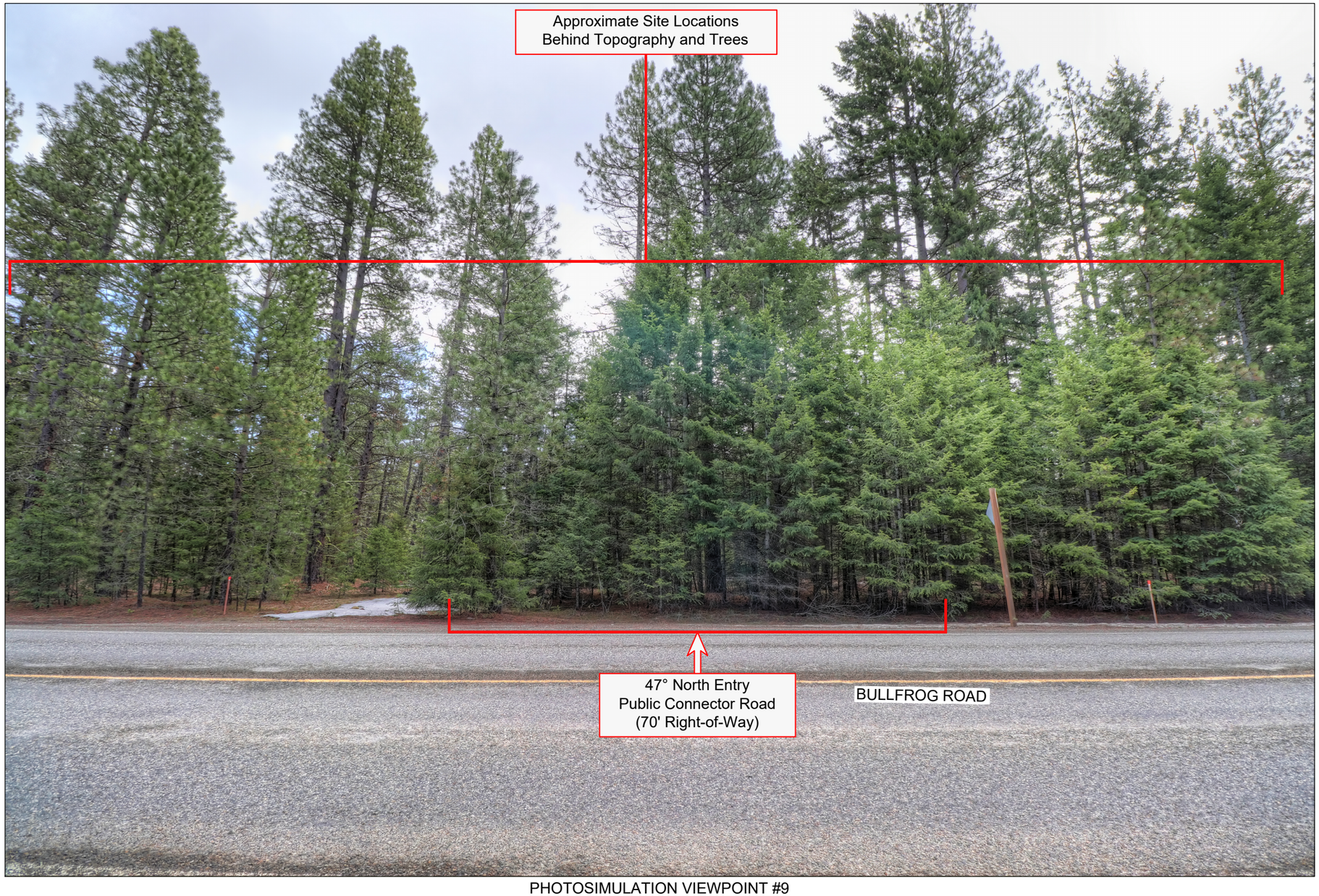


KEY MAP

Source: ESM Consulting Engineers, 2020.

Figure 3.6-8 - Viewpoint #8

EA Engineering, Science, and Technology, Inc., PBC

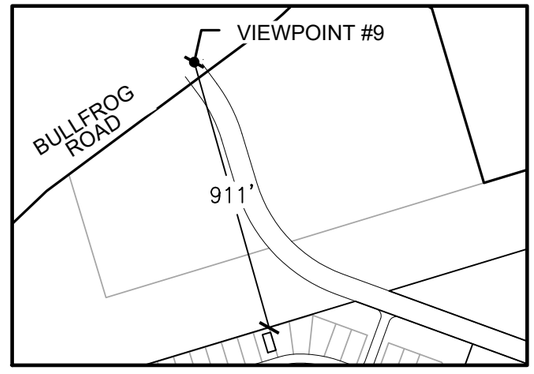


PHOTOSIMULATION VIEWPOINT #9
VIEW OF SECONDARY ENTRANCE FROM
BULLFROG ROAD, LOOKING SOUTHEAST

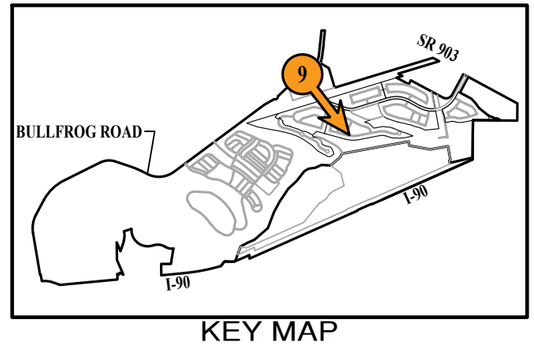
CAMERA DATA AND LOCATION

DATE OF PHOTO: MARCH 28, 2020
LOCATION: BULLFROG ROAD
N: 681799.917
E: 1520299.605
ELEVATION: 2165.65
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTE:
BUILDING LOCATION, HEIGHT AND PERSPECTIVE WERE GENERATED IN CAD BASED ON FIELD TOPOGRAPHY AND PROPOSED SITE GRADING. COMMON ELEMENTS WERE USED TO POSITION THE BUILDING ENVELOPE IN THE PHOTOGRAPH.



LOCATION MAP



KEY MAP

Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-7 - Viewpoint #9

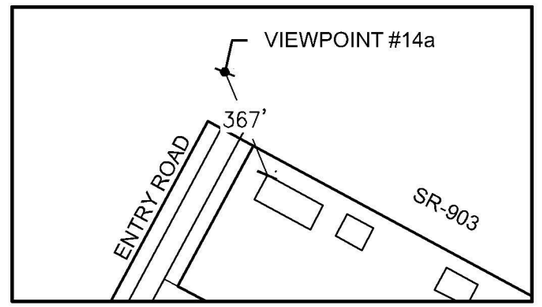
PHOTOSIMULATION VIEWPOINT #14a
VIEW OF THE PRIMARY ENTRANCE AND COMMERCIAL DEVELOPMENT FROM SR-903, LOOKING SOUTHWEST

CAMERA DATA AND LOCATION

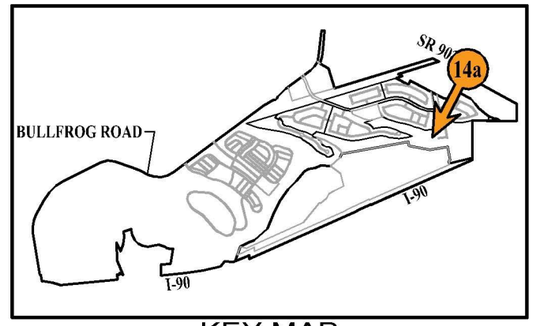
DATE OF PHOTO: MARCH 28, 2020
LOCATION: SR-903
N: 681799.917
E: 1525250.601
ELEVATION: 2088.557 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 11MM
(35MM Equivalent=18MM)

NOTES:

1. BUILDING LOCATIONS AREA ESTIMATED AND FOR GRAPHICAL PURPOSES ONLY.
2. EXISTING VEGETATION IN THE DEVELOPED AREA OF THE PROPERTY SURROUNDING THE FUTURE BUILDINGS WOULD BE REMOVED WITH THE COMMERCIAL DEVELOPMENT. EXISTING VEGETATION ON THE FORESTED SLOPES IN THE S/SW PORTION OF THE SITE WOULD REMAIN. NEW LANDSCAPING WOULD BE PROVIDED THROUGHOUT THE DEVELOPED AREA.



LOCATION MAP



KEY MAP

LEGEND

COMMERCIAL DEVELOPMENT BUILDING

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-8—Viewpoint 14A

- **<u>Viewpoint 14b</u> – View of the Commercial Development from SR 903, Looking Southeast (Figure 3.8-9) –** Predominantly fir trees on the site, an asphalt trail, and SR 903 are visible in the foreground, mid-ground, and background from this viewpoint. Views of possible development on the adjacent 25-acre property (e.g., commercial uses) would be clearly visible from Viewpoint 14b. Possible commercial buildings that could be seen could be approximately 20 feet in height. Based on the conceptual site plan, existing vegetation in the foreground within the commercial property would be all or partly removed and replaced with a landscaped strip along SR 903. The proposed landscaping is conceptual at this point in time and the type and density of plant material is not known at this time; therefore, its ability to provide effective buffering cannot be determined.

- **<u>Viewpoint 15</u> – View of the Commercial Development from SR 903, Looking Southwest (Figure 3.8-10) –** Predominantly fir trees on the site and SR 903 are visible in the foreground, mid-ground, and background from this viewpoint. Views of possible development on the adjacent 25-acre property (e.g., commercial uses) would be clearly visible from Viewpoint 15. Future commercial buildings that could be visible could be approximately 20-40 feet in height. Based on the conceptual site plan, existing vegetation in the foreground within the commercial property would be all or partly removed and replaced with a landscaped strip along SR 903. The proposed landscaping is conceptual at this point and the type and density of plant material is not known; therefore, its effectiveness to provide screening cannot be determined.

- **<u>Viewpoint 16</u> (Cross-Section) – View of SF-1 from the Cemetery, Looking North (Figure 3.8.11) –** Predominantly fir trees on the site and the cemetery are visible in the foreground, mid-ground, and background from this viewpoint. As is evident from the cross-section, views of proposed single-family residential development on the site would be completely blocked from Viewpoint 16 by the density of the existing trees associated with the off-site forested areas along the perimeter of the site, and the ridgeline that sits between Viewpoint 16 and the proposed single-family development onsite.

- **<u>Viewpoint 17</u> – View of Affordable Housing Site from Horse Park, Looking Northeast (Appendix G - Figure 6) –** From this viewpoint, fir trees predominate on the site in the background, and parking areas on the Horse Park facility are visible in the foreground and mid-ground. Views of proposed single-family residential development would be completely blocked by the density of existing trees associated with the on-site forested buffer that would be retained along the perimeter of the site in this area. The existing topography slopes upward to the north in this area, which would also completely block views of the proposed residential development onsite from this viewpoint. Note that the proposed affordable housing site is located in the foreground from this viewpoint. Future

PHOTOSIMULATION VIEWPOINT #14b
VIEW OF THE COMMERCIAL DEVELOPMENT FROM SR-903, LOOKING SOUTHEAST

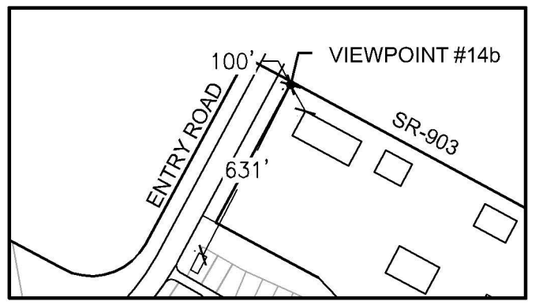
LEGEND
COMMERCIAL DEVELOPMENT BUILDING

CAMERA DATA AND LOCATION

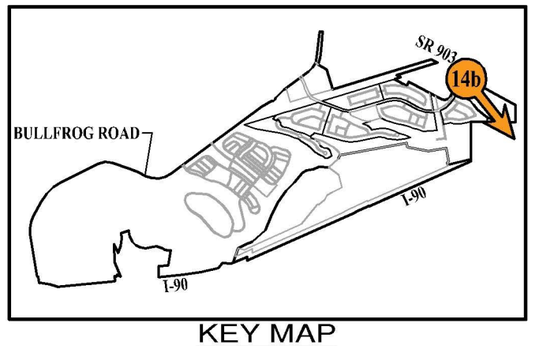
DATE OF PHOTO: MARCH 28, 2020
LOCATION: SR-903
N: 681710.029
E: 1525218.376
ELEVATION: 2086.65 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTES:

1. BUILDING LOCATIONS AREA ESTIMATED AND FOR GRAPHICAL PURPOSES ONLY.
2. EXISTING VEGETATION IN THE DEVELOPED AREA OF THE PROPERTY SURROUNDING THE FUTURE BUILDINGS WOULD BE REMOVED WITH THE COMMERCIAL DEVELOPMENT. EXISTING VEGETATION ON THE FORESTED SLOPES IN THE S/SW PORTION OF THE SITE WOULD REMAIN. NEW LANDSCAPING WOULD BE PROVIDED THROUGHOUT THE DEVELOPED AREA.



LOCATION MAP



KEY MAP

Figure 3.8-9—Viewpoint 14B

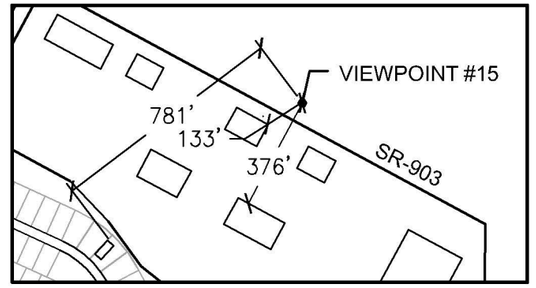
PHOTOSIMULATION VIEWPOINT #15
VIEW OF THE COMMERCIAL DEVELOPMENT FROM SR-903, LOOKING SOUTHWEST

CAMERA DATA AND LOCATION

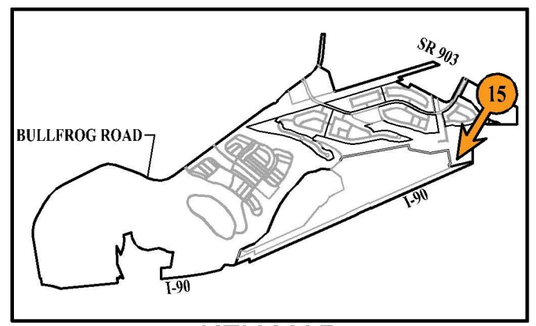
DATE OF PHOTO: MARCH 28, 2020
LOCATION: SR-903
N: 681332.047
E: 1526074.376
ELEVATION: 2076.25 (4.95' ABOVE GROUND
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTES:

1. BUILDING LOCATIONS ARE ESTIMATED AND FOR GRAPHICAL PURPOSES ONLY.
2. EXISTING VEGETATION IN THE DEVELOPED AREA OF THE PROPERTY SURROUNDING THE FUTURE BUILDINGS WOULD BE REMOVED WITH THE COMMERCIAL DEVELOPMENT. EXISTING VEGETATION ON THE FORESTED SLOPES IN THE S/SW PORTION OF THE SITE WOULD REMAIN. NEW LANDSCAPING WOULD BE PROVIDED THROUGHOUT THE DEVELOPED AREA.



LOCATION MAP



KEY MAP

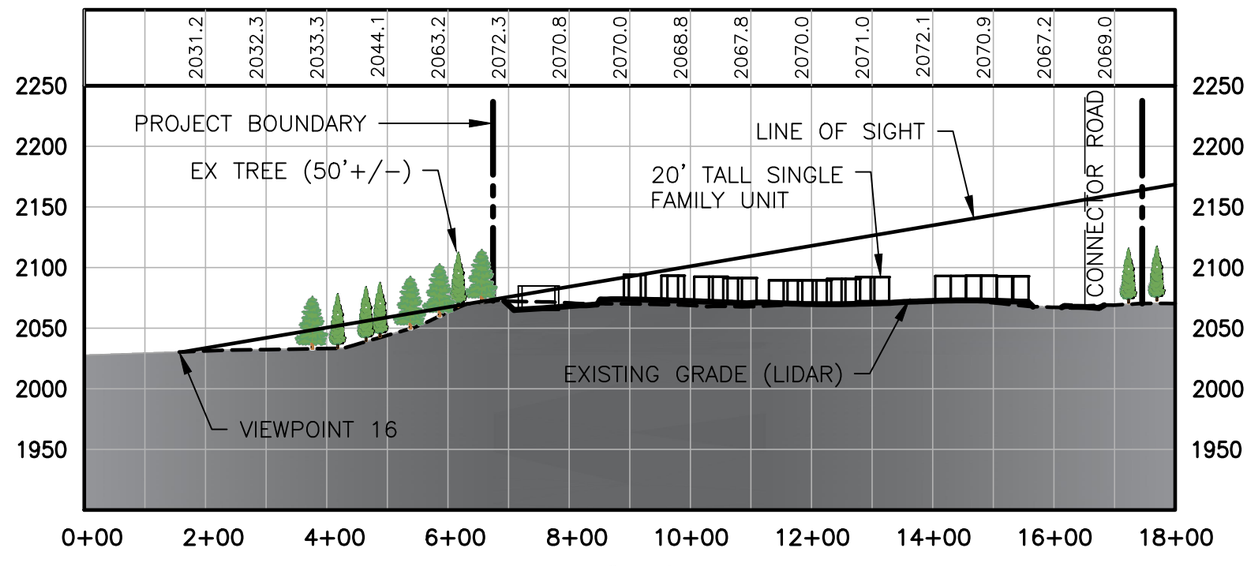
LEGEND

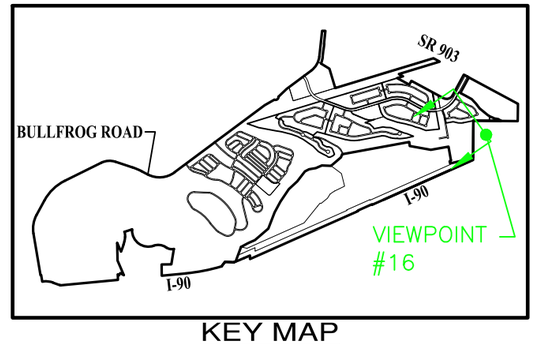
COMMERCIAL DEVELOPMENT BUILDING

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-10—Viewpoint 15

VIEWPOINT 16





KEY MAP

Source: ESM Consulting Engineers, 2020.
Photo Source: EA

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-11
Post Development Cross-Section View 16

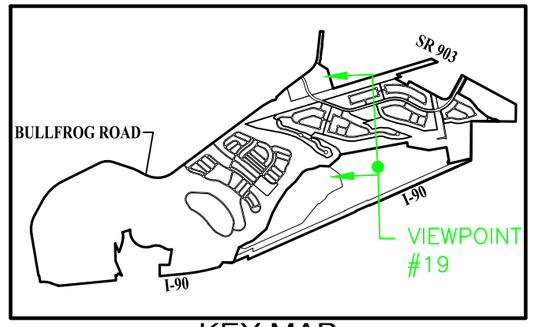
development plans for this site, and the associated potential to impact views, are not known at this time and would be evaluated during future environmental review.

- **<u>Viewpoint 18</u> – View of Affordable Housing Site from Horse Park, Looking Northeast (Appendix G - Figure 7) –** Fir trees predominate on the site in the background and parking areas on the Horse Park facility are visible in the foreground and mid-ground from this viewpoint. Views of proposed single-family residential development would be completely blocked from Viewpoint 18 by the density of trees associated with the on-site forested buffer that would be retained along the perimeter of the site in this area. The existing topography slopes upward to the north in this area, which would also completely block views of the proposed residential development onsite from this viewpoint. Note that the proposed affordable housing site is located in the foreground from this viewpoint. Future development plans for this site, and the associated potential to impact views, are not known at this time.

- **<u>Viewpoint 19 (Cross-Section)</u> – View of SF-3 from Horse Park, Looking Northeast (Figure 3.8-12) –** Fir trees predominate on the site in the far background and parking and event areas on the Horse Park facility are visible in the foreground and mid-ground from this viewpoint. A new covered equestrian arena, currently under construction, is clearly visible in this view as well. As is evident from the cross-section of this viewpoint, views of proposed development on the site (e.g., single-family residential uses) would be completely blocked from Viewpoint 19 by the density of trees associated with the on-site forested buffer that would be retained along the perimeter of the site in this area. The existing topography slopes upward to the north in this area, which would also completely block views of the proposed residential development onsite from this viewpoint.

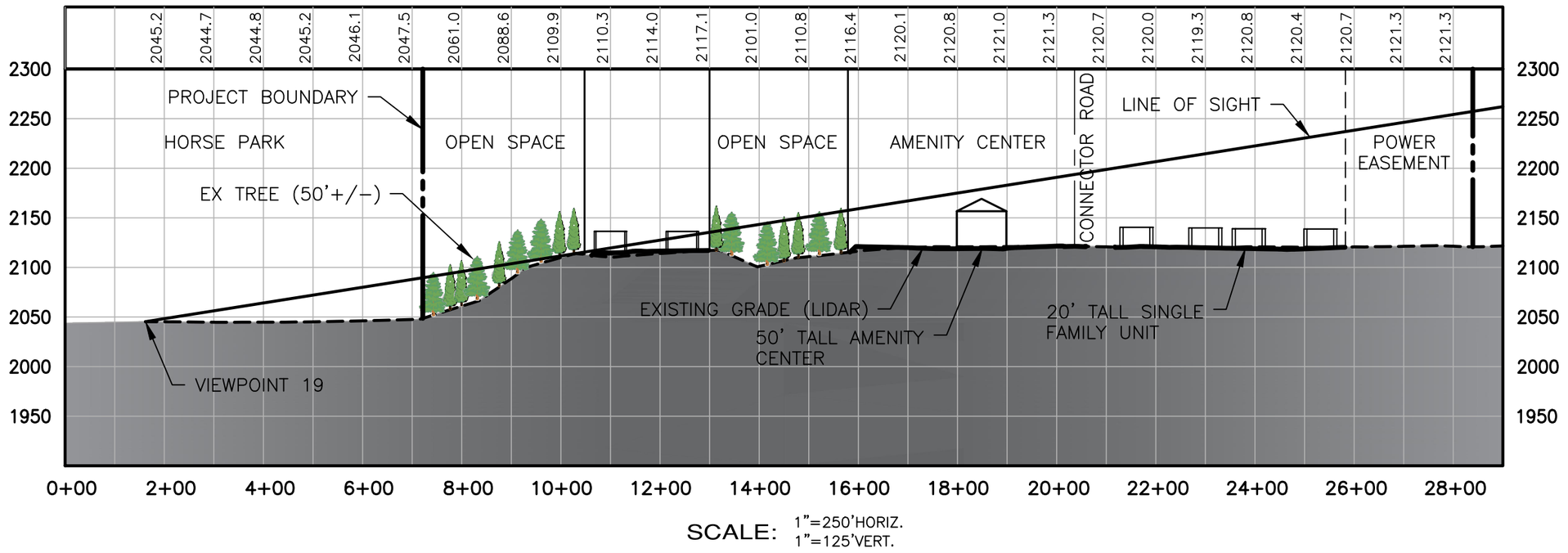
- **<u>Viewpoint 20</u> – View of Affordable Housing Site from Ranger Station Road, Looking North (Appendix G - Figure 8) –** Fir trees on the site (on the left side of the photo) and an existing power line easement are visible in the foreground and mid-ground from this viewpoint, as well a forested ridge in the distant background. Views of proposed single family residential development would be completely blocked from Viewpoint 20 by the density of trees associated with the on-site forested buffer that would be retained along the perimeter of the site in this area. The existing topography slopes upward to the north in this area, which would also completely block views of the proposed residential development onsite from this viewpoint. Note that the proposed affordable housing site is located in the midground from this viewpoint. Future development plans for this site, and the associated potential to impact views, are not known at this point.

- **<u>Viewpoint 21</u> – View of REC-1 from Interstate 90 (I-90), Looking North (Appendix G - Figure 9) –** Fir trees on the site and I-90 are visible in the foreground, mid-ground,



KEY MAP

VIEWPOINT 19



Source: ESM Consulting Engineers, 2020.
Photo Source: EA

EA Engineering, Science, and Technology, Inc., PBC

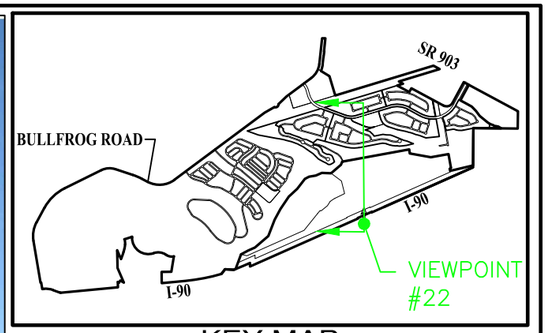
Figure 3.8-12
Post Development Cross-Section View 19

and background from this viewpoint. Views of the proposed RV resort uses would be completely blocked from Viewpoint 21 by the density of existing trees associated with the on-site forested open space areas that would be retained in this portion of the site. The existing topography slopes steeply upward to the north in this area, which would also completely block views of the proposed RV resort onsite from this viewpoint. Since views would not change along I-90, viewshed impacts to recreational features or the recreational experience associated with the designated National Scenic Byway and the Mountains-to-Sound Greenway along this stretch of I-90 are not anticipated.

- **Viewpoint 22 (Cross-Section) – View of SF-3 from Interstate 90 (I-90), Looking North (Figure 3.8-13) –** Fir trees on the site and I-90 are visible in the foreground, mid-ground, and background from this viewpoint. As is evident from the cross-section of this viewpoint, views of proposed single-family residential development would be completely blocked from Viewpoint 22 by the density of existing trees associated with the on-site forested open space that would be retained along the perimeter of the site. The existing topography slopes steeply upward to the north in this area, which would also completely block views of the proposed single-family residential areas onsite from this viewpoint. Since views would not change along I-90, viewshed impacts to recreational features or the recreational experience associated with the designated National Scenic Byway and the Mountains-to-Sound Greenway along this stretch of I-90 are not anticipated.

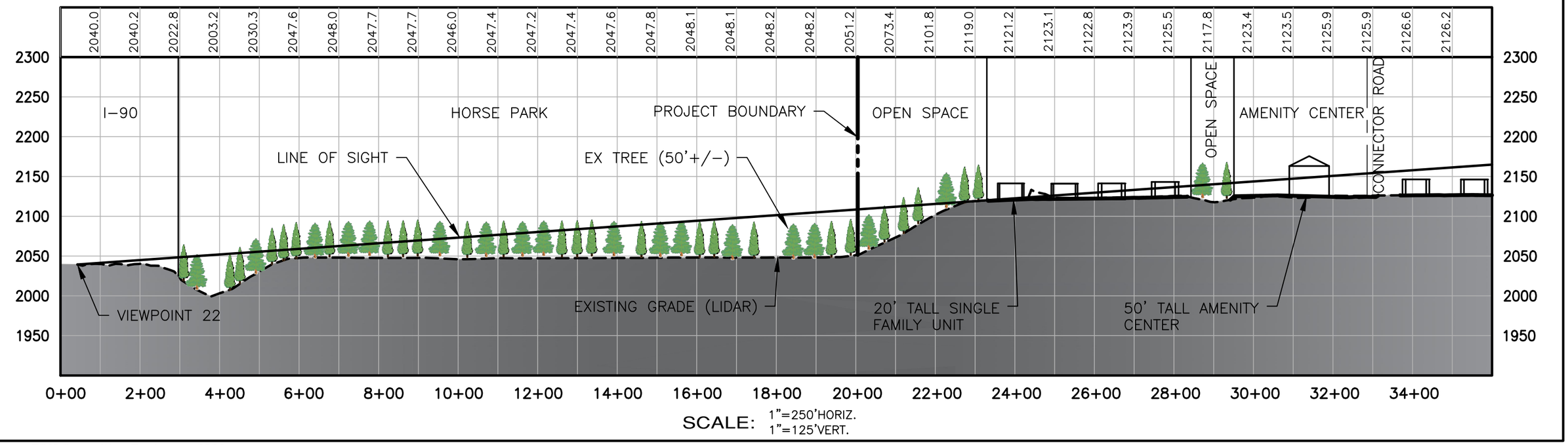
- **Viewpoint 23 – View of MF-1 from School Campus Sports Field, Looking South (Appendix G - Figure 10) –** An open field in the foreground and fir trees in the background are visible from this viewpoint. Views of proposed development on the site (e.g., multi-family residential uses) would be completely blocked from Viewpoint 23 by the density of existing trees associated with the forested buffer areas along the power line easement adjacent to the site in this area. The existing topography slopes upward to the south in this area, which would also completely block views of the proposed multi-family residential development onsite from this viewpoint.

- **Viewpoint 24 – View of MF-1 from School Campus Sports Field, Looking South (Figure 3.8-14) –** An open field in the foreground, power lines in the mid-ground, and fir trees in the background are visible from this viewpoint. Views of proposed multi-family residential development would be completely blocked from Viewpoint 24 by the density of existing trees associated with the forested buffer areas along the power line easement adjacent to the site in this area. The existing topography slopes upward to the south in this area, which would also completely block views of the proposed multi-family residential areas onsite from this viewpoint.



KEY MAP

VIEWPOINT 22



Source: ESM Consulting Engineers, 2020.
Photo Source: EA

EA Engineering, Science, and Technology, Inc., PBC

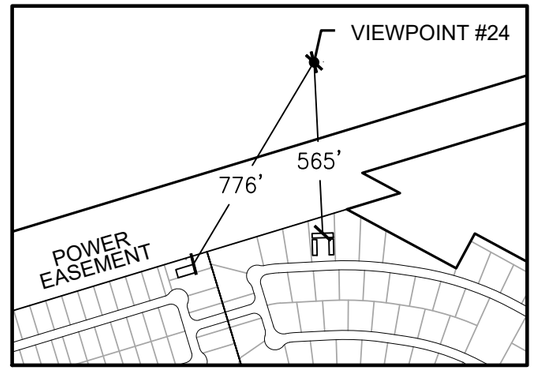
Figure 3.8-13
Post Development Cross-Section View 22

PHOTOSIMULATION VIEWPOINT #24
VIEW OF MF-1 FROM SCHOOL SPORTS FIELD, LOOKING SOUTH

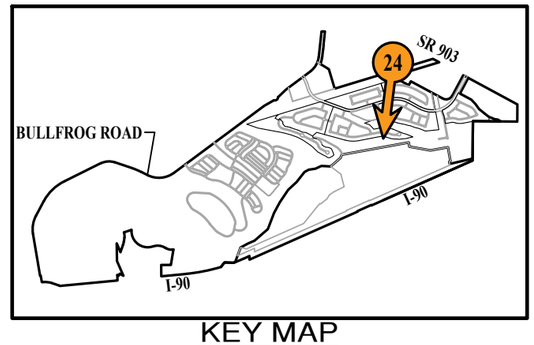
CAMERA DATA AND LOCATION

DATE OF PHOTO: MARCH 28, 2020
LOCATION: SCHOOL SPORTS FIELD
N: 682182.206
E: 1522984.685
ELEVATION: 2106.35 (4.95' ABOVE GROUND)
CAMERA: Canon EOS Rebel SL2
FOCAL LENGTH: 10MM
(35MM Equivalent=16MM)

NOTE:
BUILDING LOCATION, HEIGHT AND PERSPECTIVE WERE GENERATED IN CAD BASED ON FIELD TOPOGRAPHY AND PROPOSED SITE GRADING. COMMON ELEMENTS WERE USED TO POSITION THE BUILDING ENVELOPE IN THE PHOTOGRAPH.



LOCATION MAP



KEY MAP

Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.8-14 - Viewpoint #24

- **<u>Viewpoint 25</u> – View of RV-1 from Larkspur Loop, Looking South (Appendix G – Figure 11) –** Predominantly fir trees in the foreground and background, and the power line easement in the mid-ground are visible from this viewpoint. Views of proposed RV resort uses would be completely blocked from Viewpoint 25 by the density of existing trees associated with the forested buffer areas preserved on the perimeter of the Suncadia resort as well as the 100-foot forested buffer that would be retained along the perimeter of the 47° North site in this area.

- **<u>Viewpoint 26</u> – View of RV-1 from Larkspur Loop, Looking South (Appendix G – Figure 12) –** Predominantly fir trees and an access roadway in the foreground, fir trees in the background, and the power line easement in the mid-ground are visible from this viewpoint. Views of proposed RV resort uses would be completely blocked from Viewpoint 26 by the density of trees associated with the forested buffer areas preserved on the perimeter of the Suncadia resort as well as the 100-foot. forested buffer that would be retained along the perimeter of the 47° North site in this area.

Light & Glare

Impacts would be generally similar to FEIS and SEIS Alternative 5. The primary sources of light and glare from development associated with SEIS Alternative 6 would include street, building, and landscape lighting. The Applicant has committed to adopting standards/recommendations for roadway lighting intensity consistent with the Illuminating Engineering Society of North America; these standards would minimize impacts from developments on adjacent land uses and include lighting standards for roadways. Light and glare would also be generated by RVs in the RV resort, particularly during the peak season. Potential commercial development on the 25-acre parcel could also contribute to increased light and glare along SR 903. However, the smaller amount of commercial development under SEIS Alternative 6 would likely result in a less impacts compared to FEIS and SEIS Alternative 5.

Development would result in an increase in general on-site lighting during the evening hours at proposed parks and amenity/recreational centers onsite, which could be visible to surrounding areas as "sky glow", which is artificial light that reflects off the nighttime sky and reduces the clarity of astronomical observation. This would be minimized on the 47°North site by the implementation of Dark Sky standards across the site, which are proposed by the Applicant; proposed measures would be incorporated into the Master Site Plan amendment application. Vegetated buffers within and around the perimeter of the 47° North site would also minimize lighting impacts to surrounding properties. Additionally, seasonal occupancy of the RV portion of site would result in less lighting on this portion of the site. As a result, significant light and glare impacts associated with development are not anticipated.

Light levels along existing and future off-site roadway corridors would increase due to the associated increase in project-related traffic to and from the site over full buildout of the 47° North project.

Indirect Impacts

Similar to FEIS Alternative 5, indirect visual impacts associated with SEIS Alternative 6 could include changes in the extent and character of surrounding land uses (residential and commercial) as a result of the induced growth and development associated with the proposed 47° North project. These could include an increase in commercial activity along the SR 903 corridor and within the City of Cle Elum, consistent with land use and zoning designations. However, these impacts would likely be less than under FEIS Alternative 5, because commercial uses could be developed on the adjacent 25-acre property, which would internalize some or all of the potential for induced growth.

Cumulative Impacts

Development of the 47° North site in conjunction with other approved development that will occur in adjacent unincorporated areas in the County (e.g., Suncadia), as well as additional approved development nearby in the City (e.g., City Heights and Cle Elum Pines), would contribute to urbanization and continuing changes in the visual/aesthetic character of the site vicinity. Cumulative changes in the visual landscape would be most evident from higher elevation vantage points. More traffic from these cumulative developments would be added to area roadways, which would result in increased congestion during some time periods and could impact the small-town character in surrounding communities, such as Roslyn, South Cle Elum, and Ronald. Cumulative development would also contribute to existing skyglow effects created by Cle Elum, South Cle Elum, Roslyn, Suncadia, and I-90. However, the increase in skyglow could be mitigated through implementation of International Dark Sky Association lighting designs.

Conclusion

Proposed development under SEIS Alternatives 5 and 6 would change the visual character of the site from an undeveloped, predominately forested area to a mixed-use urban development. Large portions of the site would be preserved in open space, and forested buffers would be retained along the perimeter of the site, including along Bullfrog Road, which would largely block views of proposed development on the 47° North site from immediately surrounding areas. The greatest potential to see the development would be from higher elevation vantage points. The SEIS Alternatives would include new sources of light and glare such as street, building and landscape lighting. Light and glare would also be generated by RVs in the RV resort under SEIS Alternative 6, and traffic under both SEIS Alternatives on area roadways. Development standards (e.g., Dark Sky) would be implemented to reduce light and glare impacts.

3.8.3 Mitigation Measures

The following mitigation measures are identified to address the aesthetics/light and glare impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- Approximately 477 acres of the site would be preserved as open space, including natural open space, Managed Open Space, River Corridor Opens Space, wetlands and their buffers, and power line easements.

- Development areas onsite would be arranged based, in part, on existing topographic features, as reflected in the proposed Master Site Plan. This would block views of most elements of the project from most off-site locations, and/or reduce the perceived scale of the overall project for viewers at ground level from locations where vegetation or topography does not.

- Proposed development would be consistent with architectural design and materials guidelines that would be developed by the Applicant for residential and other structures and specifically tailored for the 47° North project site to ensure an overall consistent visual quality. Building materials would include muted colors and textures that are intended to blend into the existing natural setting and be comprised primarily of wood and stone.

- Low-pressure sodium lights and full-cutoff shielding would be used on outdoor light fixtures.

- Residential area light fixtures would not be mounted higher than 30 feet.

- Unnecessary lighting of building facades would be avoided.

- Landscaping would be provided throughout the site and would create transitions and buffers between various land uses on and adjacent to the site, where necessary.

- Landscaping with native plants is proposed to help visually and aesthetically connect the site to the surrounding area.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- Natural open space buffers at least 100 feet wide along Bullfrog Road would be maintained to screen or diffuse views to the interior of the site from this roadway. In addition, undeveloped, forested open space would be preserved onsite within the northeast quadrant of the Bullfrog/I-90 Interchange.

- Standards/recommendations for roadway lighting intensity consistent with the Illuminating Engineering Society of North America would be adopted.

- Lighting designs would be implemented in accordance with the International Dark Sky Association's Zone E1 Standards. These standards are recommended for use in "areas with intrinsically dark landscapes." Examples are national parks, areas of outstanding natural beauty, areas surrounding major astronomical observatories, or residential areas where inhabitants have expressed a strong desire that all light trespass be strictly limited."

Required Mitigation Measures

- The 50-foot wide platted buffer adjacent to the SR 903 right of way would be maintained with possible commercial development on the adjacent 25-acre property. The existing forested vegetation in this area could be retained to partially screen the development and help maintain a natural, forested entry to the City of Cle Elum.

Other Possible Mitigation Measures

- The vegetation in the perimeter buffer should be maintained and replaced if, when, and where necessary in response to natural forces, selective thinning, and fire-wising activities.

3.8.4 Significant Unavoidable Adverse Impacts

Proposed development on the 47° North site under the SEIS Alternatives would significantly and unavoidably change the visual character of a portion of the site, from undeveloped to developed and urban in character. Some might consider this change to be an adverse impact. However, based on the analysis, the nature and extent of change would not be visible, or would be only partially visible, from most off-site locations. The site would be visible to the greatest extent from higher elevation vantage points.

Development of the 47° North site under the SEIS Alternatives would result in additional ambient light from accumulated buildings and landscape lighting. This would contribute to existing skyglow effects created by Cle Elum, South Cle Elum, Roslyn, Suncadia, and I-90. However, the increase in skyglow would be mitigated through implementation of International Dark Sky Association lighting designs. With implementation of the mitigation measures listed above, no significant adverse aesthetic/light and glare/skyglow impacts are expected.

3.9 HOUSING, POPULATION, & EMPLOYMENT

This section of the DSEIS summarizes the housing, population, and employment information and analysis from the 2002 Cle Elum UGA EIS. It updates the existing conditions information; evaluates the impacts of the SEIS Alternatives relative to 2002 FEIS Alternative 5; and, identifies appropriate mitigation measures.

This section is based in part on the *Fiscal and Economic Impacts Report* (August 2020) prepared by ECONorthwest (see **Appendix K**).

Methodology

Data Sources

The following sources of data were used in this section. These are considered the most current, accurate, and applicable data sources for the analysis.

- **2019 data from the Washington State Office of Financial Management (OFM) –** Kittitas County and City of Cle Elum housing and population information;
- **2018 data from the *U.S. Census American Community Survey (ACS), 2014-2018, 5-year Estimates* –** Washington State, Kittitas County, and City of Cle Elum Median Household Income (MHI) and poverty level data (note that there are other sources of MHI data, including the U.S. Department of Housing and Urban Development (HUD), which are used for purposes such as making eligibility determinations for various housing assistance programs);
- **2018 data from ACS 5-year Estimates –** City of Cle Elum employment information;
- **March 2020 data from Zillow Home Value –** median value of all owner-occupied housing in City of Cle Elum; and,
- **2019 City of Cle Elum Comprehensive Plan –** City's adopted housing and population growth targets for 2037.

The expected cost range to purchase the single family housing units under SEIS Alternative 6 was provided by the Applicant (Sun Communities). No information on anticipated lease/rental rates for the single family and multi-family housing was available.

Analysis Methods

Forecasts of permanent population under SEIS Alternatives 5 and 6 were estimated based on the proposed number of residential units, and accounts for average occupancy and persons per household using data from the 2018 ACS 5-year Estimates.

The RV sites proposed under SEIS Alternative 6 would not generate permanent population; however, a proxy/equivalent population was estimated for the SEIS analysis based on average occupancy rate and visitors per RV provided by the Applicant. The proxy population estimate takes seasonal and weekly variations of visitors into account (e.g., a Saturday in July vs. a Wednesday in January).

Data on approved/vested projects used for the cumulative impact analysis (i.e., Suncadia resort, City Heights, and Cle Elum Pines) was based on information provided by the Applicant, New Suncadia, and the City of Cle Elum. Occupancy rates and persons per household were applied to arrive at the future cumulative population, consistent with the 2018 ACS, 5-year Estimates. Historic and projected development patterns were also incorporated into the housing and population estimates to determine cumulative impacts (see **Table 3.6-5**, in Section 3.6, **Land Use**, for details on the estimated housing and population for the projects included in the cumulative impact analysis).

The temporary off-site factory jobs required to construct the manufactured homes and the permanent jobs that would be generated by the 47° North Project under SEIS Alternative 6 were estimated by the Applicant. Other local construction jobs, as well as the potential permanent jobs that would be generated by the future commercial development on the 25-acre property adjacent to the 47° North site, were forecast by ECONorthwest based on commonly-accepted assumptions of numbers of employees per square foot for different land uses (see **Appendix K** for details).

The analysis year used for SEIS Alternatives 5 and 6 is typically 2037, which corresponds with the horizon year of the 2019 City of Cle Elum Comprehensive Plan. This is also the overall buildout year assumed for SEIS Alternative 6 (including 47° North and the future commercial development); buildout of the 47° North housing and recreational uses is expected to occur by 2028. SEIS Alternative 5 is assumed to have a 30-year buildout, similar to what was assumed for Bullfrog Flats in FEIS Alternative 5. Therefore, the 2037 analysis year represents partial buildout of this alternative.

3.9.1 Affected Environment

2002 Cle Elum UGA EIS

Bullfrog Flats Site Vicinity

Kittitas County

When the 2002 Cle Elum UGA EIS was prepared, the Bullfrog Flats site was located in unincorporated Kittitas County. Existing conditions, trends, and targets for housing, population, and employment in unincorporated and incorporated Kittitas County were described, the latter including City of Cle Elum.

According to the 2002 Cle Elum UGA EIS, in 2000, there were approximately 16,475 housing units, and 33,352 residents in Kittitas County (including incorporated and unincorporated areas); average household size was just over two persons per household. The County experienced significant housing growth between 1990 and 2000 (25%). Housing in the County was mostly single family detached dwelling units. The County median household income was $28,686, well below the state median household income of $50,152.

The 2002 Cle Elum UGA EIS indicated that Kittitas County's population was projected to increase by 14,470 and an additional 5,918 housing units would be needed by 2020.

In 1999, there was a total average of approximately 11,507 employees in the County. The dominant County employment sectors were government, services, and trade.

City of Cle Elum

In 2000, there were 956 housing units and 1,755 residents in City of Cle Elum. The housing characteristics in the City were similar to those in the County.

The City of Cle Elum's population was projected to increase by 2,750, and an additional 1,201 housing units would be needed by 2020.

Employment information for the City was not reported in the 2002 Cle Elum UGA EIS.

Bullfrog Flats Site

In 2002, the Bullfrog Flats site did not contain any housing, population, or employment.

(See 2001 Cle Elum UGA DEIS Section 3.11, and 2002 Cle Elum UGA FEIS Sections 3.10 and 3.17 for details)

2020 SEIS

Following issuance of the 2002 Cle Elum UGA Final EIS, the Bullfrog Flats site was annexed to the City of Cle Elum. As a result, Kittitas County data is less relevant, and housing, population, and employment conditions are mostly reported for the City of Cle Elum.

City of Cle Elum

Housing

In 2019, there were 1,121 housing units located in City of Cle Elum; a 17% increase or 165 more units than in 2000 (2019 Washington OFM). From 2011 to 2019, housing development slowed but remained positive. The City's adopted housing target through 2037, identified in the 2019 Comprehensive Plan, is an additional 1,460 housing units. Note that Comprehensive Plan targets are used for planning purposes only and are not interpreted to place a limit or cap on population or housing growth in the City when determining compliance with the Growth Management Act (GMA). In addition, the current target may understate likely population growth and housing need when the growth from vested projects in the City is taken into account; see the following sub-section on *Population* for details.

Similar to the situation in 2000, the majority of housing in the City continues to be single family units. As of 2019, 77% of the City's housing stock were single-family homes, 17% were duplexes and other multi-family units, and 6% were manufactured/mobile homes.

Between 2000 and 2019, the City saw a 33% (34 homes) reduction in manufactured and mobile homes (2019 Washington OFM).

Household Income & Housing Affordability

As noted in the 2019 City of Cle Elum Comprehensive Plan, a household's income dictates its housing decisions and opportunities. **Table 3.9-1** shows household income groups, as defined by the U.S. Department of Housing and Urban Development (HUD).

Table 3.9-1
HOUSEHOLD INCOME GROUPS

Housing Income Range	% of HUD Family Median Income ($68,993 in 2018)
Extremely Low	0 – 30%
Very Low	30 – 50%
Low	50 – 80%
Middle	80 – 120%
Upper	120% and Higher

Source: HUD, 2018.

In 2018, Cle Elum's Median Household Income (MHI) was $48,693, compared to Kittitas County's MHI of $55,193, and Washington State's MHI income of $70,116 (2018 ACS 5-year Estimates). In 2018, 18% of Cle Elum's population was living below the poverty level, compared to 19% in the County, and 12% of all persons in the state. For comparison, the 2018 federal poverty threshold for a family of four was $25,465. (2018 ACS 5-year Estimates.)

In March 2020, the median value of all owner-occupied housing in Cle Elum was about $415,000 compared to about $103,000 in 2000 (March 2020 data from Zillow Home Value). Therefore, the housing value in the city increased by about 300% between 2000 and 2020. However, the MHI only increased by roughly 73% between 2000 and 2018.

The 2019 Comprehensive Plan indicates that housing affordability is typically defined as:

> *Adequate, appropriate shelter, costing no more than 30% (including utilities) of the household's gross monthly income.*

Housing costing 30% or less (including utilities) of a household's gross monthly income is a commonly used measure of affordability; it is used by HUD and most other local agencies. By this definition of affordability, a household is considered "cost-burdened "when more than 30% of its monthly gross income is dedicated to housing. Many state and local housing agencies use 60% of MHI, which is within the low-income category shown in **Table 3.9-1,** as a target for affordable housing programs. Using 60% of the City's 2018 MHI of $48,693, a monthly payment of $730 or less (including utilities) would be considered affordable. Using 60% of the County's 2018 MHI of $55,193, a monthly payment of $828 or less (including utilities) would be considered affordable.

Housing costs are influenced by land costs, construction costs, financing costs, housing demand, regulations, permits, and fees. The 2019 City Comprehensive Plan indicates that there has been a dramatic rise in land costs in Upper Kittitas County, which has been driving the market toward larger, upper-end housing. This has led to higher prices to buyers. As a result, a number of the City Comprehensive Plan's housing goals and policies relate to fostering opportunities to provide affordable housing (e.g., Goal H-1, and Policies H-1.6, H-1.9, and H-1.10). These goals/policies indicate ways that affordable housing could be provided, including by offering a mix of housing types, models, and densities; and, by requiring projects of certain types and sizes to provide affordable housing (see Section 3-7, **Relationship to Plans & Policies**, for details).

Population

The City of Cle Elum's population in 2019 was 1,915 (2019 Washington OFM). Similar to housing trends, population in the City has remained more or less flat and has grown by only 160 people, or a 9% increase, since 2000. The fastest periods of population growth for Cle Elum were from the early 2000s through 2008, and 2018 to 2019 (2019 Washington OFM). The City's population is projected to grow more rapidly in the coming years, however. The City's adopted population target through 2037 is an additional 1,808 people. As noted previously, the adopted target is used for planning purposes only and is not interpreted to establish a limit or cap to growth in the City. The County-wide 20-year OFM population allocation was used by the County, with input from the cities, to establish the City's 2037 population target, according to a process established by the GMA. However, the target may underestimate the City's growth when considering the ACS 5-year Estimates, and the considerable increase in population growth that is anticipated over the 20-year planning horizon due to approved, vested developments in the City, including Bullfrog Flats/47° North, City Heights, and Cle Elum Pines; see the *Cumulative Impacts* sub-section for additional information on the population from these projects.

Employment

In 2018, there were 1,482 employees working in the City of Cle Elum (2018 ACS 5-year Estimates). The four largest business categories in descending order were: management, business, science, and arts; services; and sales and office occupations.

47°North Site

No development has occurred on the 47° North site over the last 18 years, and the site does not contain any housing, population, or employment.

3.9.2 Impacts of the Alternatives

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

Construction Impacts

The 2002 Cle Elum UGA EIS described construction-related impacts resulting from workers moving to the area, also called "in-migration." Construction of FEIS Alternative 5 would be accomplished using a combination of local and non-local construction. The largest demand for construction employees would occur during the first five years of construction; however, construction of the business park would continue throughout the assumed 30-year buildout period. In-migrant construction would peak in Project Year 3, with a total of about 340 construction workers. Peak demand for in-migrant worker housing would also peak in Project Year 3. Impacts on the housing market in the cities of Cle Elum and Roslyn, and town of South Cle Elum during construction would likely occur in the initial stages of construction until the market responded to the increased demand. It should be noted that the 2002 analysis assumed that the Mountain Star (Suncadia) resort and the UGA/Bullfrog Flats projects would be developed concurrently, resulting in a large bulge in demand for construction workers and housing.

Direct Operation Impacts

Housing

As described in the 2002 Cle Elum UGA EIS, development of the site would include new residential units, at a range of housing densities and housing types. Up to approximately 1,334 new dwelling units would be provided on the site at buildout under FEIS Alternative 5: 810 single family units and 534 multi-family units.

Population

At the project's 30-year buildout under SEIS Alternative 5, there would be approximately 2,945 new residents on the Bullfrog Flats site, based on the assumed average household size and occupancy rate at the time. Almost 60 percent of the new population (1,740 new residents) would move to the site during and immediately following the initial five-year construction phase.

Employment

FEIS Alternative 5 would generate local and non-local construction labor demand. The largest demand for construction employees would occur during the first five years; a total of from 7 to 318 construction employees could be required annually during this five-year period. Approximately 50% of these employees would be local, from within Kittitas County. FEIS Alternative 5 included a 950,000-sq. ft. business park on an 80-acre area in the eastern

portion of the site. Employment in the business park would consist of light industrial, research and development, warehouse, office, and limited retail uses. At buildout, the business park development would generate approximately 1,647 permanent employees.

Indirect & Cumulative Impacts

The 2002 Cle Elum UGA EIS indicated that development of the Bullfrog Flats site under SEIS Alternative 5 would result in indirect population growth and related demand for housing, primarily related to the business park development but also from in-migrant construction workers. The increase in residents would also likely draw new economic activity. The Bullfrog Flats project, together with Suncadia and other regional growth, would result in significant increases in population, housing, and employment over the project's 30-year buildout.

The average daily seasonal population in Kittitas County at project buildout, including the Bullfrog Flats project together with the Suncadia resort, indirect/induced growth, and day visitors, was estimated to vary between 10,038 in winter to 12,369 in summer.

The 2002 Cle Elum UGA EIS indicated that the Suncadia resort would include 3,785 residential units, with approximately 80% (3,074 units) proposed as short-term visitor accommodations and approximately 20% (711 units) proposed to house permanent residents. The 1,334 housing units in Bullfrog Flats were all assumed to be permanent housing. The 2002 Cle Elum UGA EIS noted that a significant potential cumulative impact on housing could be a continuing demand for rental housing (including multi-family), and home-ownership opportunities suitable for all household sizes and affordable to the mid-to lower-income economic sector.

(See 2001 Cle Elum UGA DEIS Section 3.11, and 2002 Cle Elum UGA FEIS Sections 3.10 and 3.17 for details.)

2020 SEIS

Development under the SEIS Alternatives would result in new housing and employment uses on the site, which would generate associated increases in population and employees. **Table 3.9-2** summarizes the permanent housing, population, and employment that would be anticipated onsite under each of the alternatives at buildout.

SEIS Alternative 5 (No Action Alternative) *- Approved Bullfrog Flats Master Site Plan*

Construction Impacts

Similar to FEIS Alternative 5, construction-related impacts under SEIS Alternative 5 would result from workers moving to the area. The largest demand for construction employees would occur during the first five years of construction, with its associated demand for in-migrant housing. As estimated for FEIS Alternative 5, in-migrant construction would peak in Project Year 3, with a total of about 340 construction workers.

Table 3.9-2
PERMANENT HOUSING, POPULATION & EMPLOYMENT – FEIS & SEIS ALTERNATIVES (BUILDOUT)[1]

	Housing (acres)	Housing (units)	Permanent Population	Commercial Dev. (sq. ft.)	Commercial Dev. Employees	RV Resort Year-Round Employees	Total Employees
FEIS Alt. 5	291	1,334	2,945	950,000	1,647	--	1,647
SEIS Alt. 5	221	1,334	2,809[2]	950,000	1,900[3]	--	1.900
SEIS Alt. 6	144	707	1,489	150,000	374[4]	30 - 35	404 - 409

Source: 2002 UGA EIS, Sun Communities 2020, ECONW, 2020.

[1] Buildout of FEIS Alt. 5 and SEIS Alt. 5 would occur over 30 years. Buildout of SEIS Alt. 6 would occur over 17 years (with buildout of the 47° North housing and recreational development over 7 years).

[2] The permanent population under SEIS. Alt. 5 would differ from FEIS Alt. 5 due to the use of updated average household size and occupancy rate assumptions.

[3] There would be more employees in the business park development under SEIS Alt. 5 than under SEIS Alt. 6 because there would be substantially larger site and developed space and different types of uses that generate different numbers of employees.

[4] The commercial development under SEIS Alt. 6 on the adjacent 25-acre property is a separate possible future project by New Suncadia. About 70 to 90 seasonal employees would also work in the RV resort under SEIS Alt. 6.

Direct Operation Impacts

Housing

Housing under SEIS Alternative 5 would be almost identical to that with FEIS Alternative 5. SEIS Alternative 5 would provide a total of 1,334 permanent housing units, including 810 single family and 524 multi-family units, on 221 acres of the site. There would be no permanent RV resort; however, the commercial property could be used as a temporary RV site for construction workers. A 7.5-acre property located in the southeastern portion of the site would be reserved for future affordable housing and would ultimately be dedicated to the City of Cle Elum. It is assumed that 50 affordable housing units would be developed on this site.

Of the 1,334 housing units under SEIS Alternative 5, 1,111 units would be built by 2037; these units would represent 76% of the City of Cle Elum's planning target of an additional 1,460 housing units through 2037.

Similar to FEIS Alternative 5, it is assumed that the 1,334 housing units under SEIS Alternative 5 would largely be market rate housing and would not likely provide affordable housing for the Cle Elum area; "affordable housing", as defined previously, would equate to a monthly housing payment of $730 or less (including utilities) for those earning 60% of the City's 2018 MHI, or a housing payment of $828 or less (including utilities) for those earning 60% of the County's 2018 MHI. However, development of the 7.5-acre property set aside for dedication to the City and development for affordable housing by others in the future, as required by the Bullfrog Flats Master Site Plan conditions of approval, would help to satisfy the need for affordable housing.

Population

The 1,334 residential units in SEIS Alternative 5 would accommodate a population of approximately 2,809 new residents (see **Table 3.9-3**). This number of residents is slightly less than under FEIS Alternative 5 due to small differences in current average household size and a change in the assumed occupancy rate in the area.

Table 3.9-3
RESIDENTIAL POPULATION – FEIS & SEIS ALTERNATIVES (Buildout)

Alternative	Permanent Residential Units	Residents / Household	Occupancy Rate	New Residents
FEIS Alternative 5	1,334	2.4	92%	2,945
SEIS Alternative 5	1,334	2.34	90%	2,809
SEIS Alternative 6	707	2.34	90%	1,489

Source: 2002 UGA EIS, 2002 Approved Master Site Plan, Sun Communities, 2020.
Note: household sizes and occupancy rates are based on the OFM 2001 data for FEIS Alt. 5, and *U.S. Census Bureau, 2014-2018, American Community Survey, 5-Year Estimates* for SEIS Alt. 5 and SEIS Alt. 6.

Of the 2,809 additional residents under SEIS Alternative 5, 2,340 would be generated by 2037; these new residents would exceed the City of Cle Elum's current target of an additional 1,808 people through 2037. As noted previously, the Comprehensive Plan's population target is used for GMA planning purposes and is not interpreted to establish a limit or cap on growth. Based on the City' growth using the ACS 5-year estimates, and the considerable increase in the City's population that is anticipated due to approved, vested development in the City (including Bullfrog Flats/47° North, City Heights, and Cle Elum Pines), the City's current population target for planning may underestimate the City's potential growth.

Employment

Under SEIS Alternative 5, the same type and amount of business park development (950,000 sq. ft.) would be included as with FEIS Alternative 5. This development would generate approximately 1,900 employees; this is slightly more employees than are estimated under FEIS Alternative 5 due to the use of updated, commonly-accepted assumptions; see **Appendix K** for details.

Indirect & Cumulative Impacts

Similar to FEIS Alternative 5, development of the Bullfrog Flats site under SEIS Alternative 5 would result in indirect population growth and related demand for housing, primarily due to the business park development. The increase in residents would also likely draw new economic activity.

Cumulative housing and population impacts under SEIS Alternative 5 would differ from those under FEIS Alternative 5. Existing development (e.g., the Suncadia Resort to the north, in unincorporated Kittitas County) will continue, as described in the 2002 Cle Elum UGA EIS. However, additional development (e.g., the City Heights and Cle Elum Pines mixed-use

developments to the east) has also been approved in the city. Additional background growth will occur as well.

Approximately 1,071 housing units could be built in Suncadia with an associated 2,130 residents by 2037. Together with SEIS Alternative 5, there would be 2,182 housing units and 4,470 residents by 2037.[1]

Approximately 924 housing units could be built in City Heights and Cle Elum Pines, with an associated population of 1,946 by 2037. Together with SEIS Alternative 5, there would be 2,035 housing units and an associated population of 4,286 by 2037. Development of City Heights and Cle Elum Pines, together with SEIS Alternative 5, would exceed the City of Cle Elum's housing and population targets for 2037 (1,460 housing units and 1,808 population), which as noted previously are not caps or limits.

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

Construction Impacts

As described in the 2002 Cle Elum UGA EIS, construction-related impacts would result from workers moving to the area. Construction of SEIS Alternative 6 would likely involve a combination of local and non-local construction workers. However, there would be considerably less demand for local construction, as there would be fewer permanent housing units, and the manufactured housing units would be built in factories offsite and then assembled onsite. Between 90 to 130 workers would be involved in the manufacturing of residential units offsite, potentially in the Pacific Northwest. Proposed recreational buildings would be constructed onsite. The demand for construction employees would occur during the first seven years of construction when all the single- and multi-family housing would be constructed.

Operation Impacts

Housing

SEIS Alternative 6 would provide a total of 707 residential units, including 527 single family and 180 multi-family units, on about 143 acres of the site. There would be fewer residential units, both single family and multi-family, than under FEIS Alternative 5; this equates to 53% of the units or 627 fewer units. A total of 627 RV sites are also proposed under SEIS Alternative 6; however, these are not considered permanent residential units. A 6.8-acre property would be reserved for dedication to the City and future development of affordable housing by others. No development is proposed on the affordable housing property at this time; SEPA review will be required when development is proposed. A site for affordable housing was not reserved or required in the FEIS for Alternative 5; however, a 7.5-acre site

[1] See **Table 3.6-3** in Section 3.6, **Land Use**, for details on the estimated housing units and population of the cumulative impact projects. Note that the cumulative population with SEIS Alternative 5 is calculated for 2037. This is for comparison to the cumulative population at build out with SEIS Alternative 6. Actual build out of SEIS Alternative 5 is estimated to occur by 2051.

is required in the Bullfrog Flats Master Site Plan conditions of approval and is included in SEIS Alternative 5.

The 707 permanent residential units under SEIS Alternative 6 would represent 48% of the City of Cle Elum's planning target of an additional 1,460 housing units through 2037.

Under SEIS Alternative 6, the residents in the single family residential areas would have the option to either buy or lease a manufactured home. If the home is owned by the resident, then the Applicant, Sun Communities, would lease the lot to the homeowner. Initially, it is expected that approximately 50% of the single family units would be rentals, with a 10% conversion rate each year. At full buildout, it is anticipated that an average of 90% of the single family homes (or 474 homes) would be owned and 10% (or 53 homes) would be leased (consistent with the experience of other communities in Sun Communities' portfolio). All the multi-family homes would be leased. (See **Chapter 2** for details on the residential lease/ownership structure.)

The Applicant has indicated that the housing provided under SEIS Alternative 6 is intended to be "financially accessible" for both local and public service employees. For purposes of this Draft SEIS analysis, financially accessible is considered to be equivalent to affordable. According to the Applicant, the expected price range for the single family, manufactured housing is between $150,000 and $250,000. Based on a number of assumptions, this could equate to a monthly mortgage payment of $518 to $863.[2] As indicated previously, a household is considered cost-burdened when more than 30% of its monthly gross income is dedicated to housing. Using 60% of the City of Cle Elum's 2018 MHI of $48,693, a monthly housing payment of $730 or less (including utilities) would be considered affordable, and using 60% of Kittitas County's 2018 MHI of $55,193, a monthly housing payment of $828 or less (including utilities) would be considered affordable. Therefore, the estimated monthly mortgage payment of $518 to $863 could be affordable to city/county residents earning 60% of MHI, depending upon where housing costs fall within the range and on monthly utility costs.

Estimated monthly rental rates have not been provided by the Applicant and are not known at this time; therefore, it cannot be determined if the monthly rental rates would be considered affordable. However, to the extent that monthly rents are similar to the estimated mortgage payments indicated above, rents could also be considered to fall within an affordable range.

Development of the 6.8-acre property set aside in the southeastern portion of the site for affordable housing would also help to satisfy the need for affordable housing sometime in the future.

[2] The estimated mortgage payment range is based on the following assumptions: a $120,000 to $200,000 loan, 30-year mortgage, 12 payments per year, 20% down payment, and 3.18% interest rate.

Population

The 707 residential units under SEIS Alternative 6 would accommodate a population of approximately 1,489 new residents (see **Table 3.9-2**), fewer residents than under FEIS Alternative 5; this equates to 51% or 1,456 fewer residents than SEIS Alternative 5.

The 627 RV units under SEIS Alternative 6 would generate temporary visitors to the site and vicinity; no permanent residents would be allowed (see **Chapter 2** for details). For analysis purposes in this SEIS (primarily related to public services and fiscal impacts), a proxy population of 941 was calculated based on an assumed average RV resort occupancy of 50% and three people per site, based on data provided by the Applicant. It should be noted that there would times of higher population within the RV resort (e.g., during the peak nine-month travel season) and times of lower population (e.g., during the off-season).

The 1,489 new permanent residents under SEIS Alternative 6 would represent 82% of the City of Cle Elum's target of an additional 1,808 people through 2037. Based on the City' growth using the ACS 5-year estimates and the considerable increase in the City's population that is anticipated due to approved, vested development in the City (including Bullfrog Flats/47° North, City Heights, and Cle Elum Pines), the City's current population target may underestimate the City's anticipated growth.

Employment

At full buildout of SEIS Alternative 6, it is estimated that Sun Communities would employ from 30 to 35 full time employees in the residential and recreational areas onsite, as well as an additional 70 to 90 seasonal employees during the peak RV resort season (anticipated to occur from June through August) at 47° North.[3]

Under SEIS Alternative 6, future development of the commercial property retained by New Suncadia could result in 150,000 sq. ft. of building area, including grocery (45,000 sq. ft.), retail (25,000 sq. ft.), restaurant (20,000 sq. ft), and medical office (60,000 sq. ft.) uses. This future development would differ from the business park uses under FEIS Alternative 5 and could generate approximately 374 employees (see **Table 3.9-2**). Considerably fewer employees would be generated by the significantly smaller (84% less) future commercial development compared to the business park under FEIS Alternative 5

Indirect & Cumulative Impacts

Like FEIS Alternative 5, development of the 47° North site under SEIS Alternative 6 could result in indirect population growth and related demand for housing. Any indirect housing impacts would be much less under SEIS Alternative 6, however, because there would be considerably less development overall, particularly future commercial development. Accommodating more housing in Cle Elum could reduce pressure for housing and

[3] Resident and employment figures are based upon similar sized developments owned and managed by Sun Communities.

population growth in unincorporated residential areas and nearby cities. The increase in residents would likely draw new economic activity.

Cumulative housing and population impacts under SEIS Alternative 6 would differ from those under FEIS Alternative 5. Existing development in the area (e.g., the Suncadia Resort in unincorporated Kittitas County) will continue, as described in the 2002 Cle Elum UGA EIS. However, additional development has also been approved in the City (e.g., in City Heights and Cle Elum Pines). Additional background growth will occur as well.

Approximately 1,071 additional housing units could be built in Suncadia with an associated population (year-round and seasonal) of 2,130 by 2037. Together with SEIS Alternative 6, there would be 1,778 housing units and 3,619 residents by 2037.

A total of approximately 924 housing units could be built in City Heights and Cle Elum Pines, with an associated population of 1,946 residents by 2037. Together with SEIS Alternative 6, there would be 1,631 housing units and 3,435 residents by 2037. Development of City Heights and Cle Elum Pines, together with SEIS Alternative 6, would exceed the City of Cle Elum's current housing and population targets (1,460 housing units and 1,808 residents, respectively. As noted previously, the City's Comprehensive Plan population target is used for planning purposes and to determine compliance with GMA requirements, but is not interpreted to establish a limit or cap on growth.

Conclusion

Population and housing growth in and of themselves are not adverse impacts to the extent that they are planned for, and supporting infrastructure and services are planned and provided to support that growth. SEIS Alternatives 5 and 6 would generate a significant amount of housing, population, and employment growth in the City of Cle Elum. Comparatively, SEIS Alternative 6 would include fewer single and multi-family housing units and population than SEIS Alternative 5. An RV resort, with associated visitors but no permanent population, would be included in SEIS Alternative 6 that is not part of SEIS Alternative 5. The SEIS Alternatives would generate temporary employees during construction and permanent employees during operation of the project. More employees would be required during construction of SEIS Alternative 5 than of SEIS Alternative 6 because of the greater number of units and the method of construction (stick-built vs. manufactured housing). More permanent employees are also expected under SEIS Alternative 5 because of the significantly larger amount of commercial development.

3.9.3 Mitigation Measures

The following mitigation measures are identified to address the housing, population, and employment impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- The estimated monthly mortgage payment for the proposed single family housing could be affordable to city residents, based on 60% of the city's and county's 2018 Median Household Income (MHI) and dedication of 30% or less of a household's monthly gross income to housing and utilities. This affordable housing would be located onsite throughout the proposed residential development.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- Access, water, and sewer would be constructed, consistent with development standards, up to the affordable housing parcel boundaries, as with every other parcel in the Master Site Plan.

- Sun Communities, as successor to New Suncadia, could be given the option in a new or revised Development Agreement to assist in the selection process for potential owners/developers of the affordable housing parcel.

- A minimum of 150 residential dwelling units, not including the 50 possible affordable housing units, would remain rental units and a covenant would be recorded on the property to ensure this condition continues for 20 years. Note that all of the 180 proposed multi-family housing units in 47° North would be leased/rented, and manufactured housing would be available for rent as well.

Required Mitigation Measures

- A housing policy in the 2019 City Comprehensive Plan (H-1.9) requires that affordable housing be provided in projects with more than 20 units. The proposal could far exceed this requirement.

Approved Bullfrog Flats Conditions of Approval Not Included in the Proposal

- A useable area of 7.5 acres is required to be conveyed to the City of Cle Elum, or another public or non-profit entity approved by the City. Under the current proposal, a 6.8-acre affordable housing site has been identified; either this site would need to be increased or development density could be increased to meet the Bullfrog Flats requirement.

- The existing supply of affordable housing in Upper Kittitas County would periodically be monitored and inventoried, and as necessary advocated for, to help ensure that a continuous supply of housing is affordable for those earning the wages paid at the Suncadia resort. This requirement does not appear to be relevant to the 47° North proposal.

- The existing labor pool would be actively recruited, hired, and contracted with to minimize in-migration employment and associated housing impacts. This condition may not be relevant to 47° North since construction labor demand would be considerably less than for Bullfrog Flats due to the inclusion of manufactured housing.

3.9.4 Significant Unavoidable Adverse Impacts

Development of the 47° North site under the SEIS Alternatives would increase housing demand, permanent population, and employment in the City. The amount of planned growth could be considered significant, and it is an unavoidable consequence of developing the Master Site Plan. In and of itself, however, growth is not necessarily an adverse impact if it has been properly planned for, including providing for adequate housing, infrastructure, and services (see Section 3.12, **Public Services**, Section 3.13, **Transportation**, and 3.14, **Utilities**, for information on the capacity of infrastructure and services to accommodate the SEIS Alternatives, and mitigation measures to address any significant impacts). It is recognized, however, that some people may consider any additional growth, and/or particular types of development, to be an adverse impact.

3.10 HISTORIC & CULTURAL RESOURCES

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant historic and cultural resource impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Historic and Cultural Resources section is based on the *Cultural Resources Report* (September 2020) prepared by Cultural Resource Consultants (see **Appendix I**).

Methodology

The historic and cultural resources assessment consisted of a review of available project information and correspondence provided by the Applicant (Sun Communities), local environmental and cultural information, historical maps, and field investigations. Field investigations consisted of archaeological monitoring of geotechnical exploration pits, pedestrian survey, and subsurface testing via hand excavated shovel test probes.

In October 2019, archaeological monitoring was completed. An archaeologist monitored geotechnical investigations consisting of the excavation of 47 exploration pits. In November 2019, an archaeological survey of the site was completed and consisted of a pedestrian surface survey and subsurface testing via 23 hand excavated shovel test probes.

As part of the assessment, cultural resources staff at the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) were contacted to inquire about project-related cultural information or concerns. This communication was not intended to be or to replace formal government-to-government consultation with affected Tribes. At the time the assessment was completed, no responses regarding the project had been received. The assessment used a research design that considered previous studies, the magnitude and nature of the undertaking, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the site, as well as other applicable laws, standards, and guidelines.

(See **Appendix I** for details on the methodology used for the historic and cultural resources assessment.)

3.10.1 Affected Environment

2002 Cle Elum UGA EIS

In the 2002 Cle Elum UGA EIS, information on the cultural resources that could be impacted by FEIS Alternative 5 was summarized from *A Land Use History of the Proposed Mountain Star Resort: The Results of a Cultural Resource Survey along the Lower Cle Elum River* (1999).

This document identified twenty-three previously recorded archaeological resources that were located within the Bullfrog Flats area.

Of the 23 previously recorded archaeological resources, six were precontact (four sites and two isolates). All six precontact archaeological resources were found to be potentially eligible for listing on the National Register of Historic Places (NRHP) under Criterion D based on their ability to yield potential information about settlement and subsistence patterns that are significant to the understanding of regional prehistory. Of the remaining 17 historic-era archaeological sites, 14 were designated as refuse scatters dating from the mid-nineteenth to the twentieth centuries. These were considered to potentially contain subsurface components that may be eligible for inclusion in the NRHP. The remaining three historic-era archaeological resources include the Cle Elum Chlorination Building, sections of the old Cle Elum waterline, and an isolated find. The 2002 Cle Elum UGA EIS did not state whether or not these cultural resources were eligible for listing on the NRHP.

Also noted in the 2002 Cle Elum UGA EIS was the possibility that a segment of the Yakama Trail could be located within the Bullfrog Flats property. This area was considered to potentially have significance as a Traditional Cultural Property.

(See 2001 Cle Elum UGA DEIS Section 3.13, and 2002 Cle Elum UGA FEIS Section 3.12 for details.)

2020 SEIS

47º North Site Vicinity

Ethnographic & Historic Context

The 47° North site is situated within the traditional territory of the Sahaptin-speaking Kittitas and Yakama people. The Kittitas and Yakama used the upper Yakima River Region as a residential area as well as part of their seasonal rounds following their subsistence practices. Other groups, such as the Southern Lushootseed-speaking Snoqualmie bands also ventured into the Cascade Range and may have overlapped with the Kittitas and Yakama. The resource-rich area provided groups the ability to sustain themselves following a generally cyclical pattern.

The first non-native settlers, Catholic missionaries, arrived in the Kittitas Valley in the 1840s. In an 1855 Treaty, the Yakamas ceded most of their ancestral land, including the future site of Cle Elum, and were placed on a reservation in the lower Yakima Valley. Most of the Kittitas had been forced onto the Yakama Reservation by 1859 and soon after, cattle ranchers began to inhabit the lower Kittitas Valley in search of fertile range land. Miners discovered gold and coal in the area beginning in the 1870s and the influx of travelers began. By the 1920s, the mining industry in Cle Elum had begun to fade and it was completely gone by the 1960s. The secondary industry, logging, had already peaked by then

as well. With the absence of coal mining and the decline of logging, the population of Cle Elum steadily declined through most of the twentieth century. The construction of the Sunset Highway in 1915, and later I-90 in 1964, provided jobs in the short term and provided Cle Elum with the opportunity to become a spot for travelers and tourists (see **Appendix I** for details).

Cultural Resources

A review of Washington State Department of Archaeology and Historic Preservation (DAHP's) Washington Information System for Architectural and Archaeological Records Data (WISAARD) database identified previous cultural resource studies, recorded precontact and historic archaeological sites, and recorded historic built environment (e.g., sites, structures, buildings, objects, landscapes) in proximity to the 47° North site, which helps gauge the potential and likely nature of cultural resources present within the site. Cultural resources are typically defined as significant or potentially significant if they are identified as of special importance to an ethnic group or Indian tribe or if the resource is considered to meet certain eligibility criteria for the NRHP or other local, state, or national historic registers. Based on NRHP assessment criteria developed by the National Park Service (2002), historical significance is conveyed by properties that:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or
B. Are associated with the lives of persons significant in our past; or
C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. Have yielded, or may be likely to yield, information important in prehistory or history.

According to NRHP guidelines, the "essential physical features" of a property must be intact for it to convey its significance, and the resource must retain its integrity, or "the ability of a property to convey its significance" (NPS 2002). The seven aspects of integrity are:

1) Location (the place where the historic property was constructed or the place where the historic event occurred);
2) Design (the combination of elements that create the form, plan, space, structure, and style of a property);
3) Setting (the physical environment of a historic property);
4) Materials (the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property);
5) Workmanship (the physical evidence of the crafts of a particular culture or people during any given period of history or prehistory);
6) Feeling (a property's expression of the aesthetic or historic sense of a particular period of time); and

7) Association (the direct link between an important historic event or person and a historic property).

Criteria used for assessment of potential eligibility for the Washington Heritage Register (WHR) are similar to NRHP criteria. Criteria to qualify include:

- The resource should have documented historical significance at the local or state level;
- The resource should have a high to medium level of integrity; and,
- The resource must be at least 50 years old. If newer, the resource should have documented exceptional significance.

Table 3.10-1 summarizes archaeological sites that have been recorded within a one-mile radius of the site. Many of these sites have been evaluated for eligibility to be listed in the NRHP and have received a determination from DAHP. Eleven (11) sites were determined to be eligible.

Table 3.10-1
ARCHAEOLOGICAL SITES RECORDED WITHIN ONE MILE OF THE SITE

Site Number	Site Type	Distance from Project	Historic Register Status
45KT1018	Depression	.61 mile	Determined eligible
45KT1361	Precontact isolate	.1 mile	Determined eligible
45KT1364	Precontact lithic material	.77 mile	Determine eligible
45KT1365	Precontact lithic material	.66 mile	Determined eligible
45KT1367	Depression	.1 mile	Determined eligible
45KT1373	Precontact isolate	.67 mile	Determine eligible
45KT1374	Precontact isolate	.47 mile	Determined eligible
45KT1375	Precontact isolate	.5 mile	Determined eligible
45KT1378	Historic cabin/homestead	.96 mile	Determined eligible
45KT1380	Historic mine complex	.62 mile	Determined eligible
45KT1642	Precontact isolate	.47 mile	Determined not eligible
45KT1643	Precontact camp	.22 mile	Not determined
45KT1644	Precontact camp	.1 mile	Not determined
45KT1738	Precontact isolate	.35 mile	Not determined
45KT2079	Historic refuse scatter	.1 mile	Determined not eligible
45KT2080	Historic refuse scatter	.1 mile	Determined not eligible
45KT2081	Historic refuse scatter	.21 mile	Determined not eligible
45KT2082	Historic debris scatter	.71 mile	Determined not eligible
45KT2083	Historic debris scatter	.04 mile	Determined not eligible
45KT2084	Historic debris scatter	.06 mile	Determined not eligible
45KT2085	Historic debris scatter	.10 mile	Determined not eligible
45KT2086	Historic debris scatter	.84 mile	Determined not eligible
45KT2087	Historic debris scatter	.57 mile	Determined not eligible
45KT2088	Historic debris scatter	.64 mile	Determined not eligible
45KT2090	Historic debris scatter	.5 mile	Determined not eligible
45KT2091	Historic foundation	.5 mile	Determined not eligible

Table 3.10-1 Continued

Site Number	Site Type	Distance from Project	Historic Register Status
45KT2093	Historic refuse scatter	.27 mile	Determined not eligible
45KT2094	Historic homestead	.42 mile	Determined not eligible
45KT2095	Historic debris scatter	.1 mile	Determined not eligible
45KT2097	Historic refuse scatter	.28 mile	Determined not eligible
45KT2100	Historic mining	.4 mile	Not determined
45KT2101	Historic homestead	.48 mile	Determined not eligible
45KT2135	Historic bridge	.06 mile	Determined not eligible
45KT2136	Historic refuse scatter	.35 mile	Determined not eligible
45KT2137	Historic refuse scatter	.41 mile	Determined not eligible
45KT2138	Historic refuse scatter	.44 mile	Determined not eligible
45KT2611	Historic debris scatter	.34 mile	Not determined
45KT2618	Historic isolate	.42 mile	Not determined
45KT2710	Historic railroad	.27 mile	Not determined
45KT2825	Historic debris scatter	.86 mile	Determined not eligible
45KT2901	Historic debris scatter	.83 mile	Determined not eligible
45KT3054	Historic mining	.1 mile	Determined not eligible
45KT3333	Historic debris scatter	.73 mile	Determined not eligible
45KT3343	Historic isolate	.15 mile	Determined not eligible
45KT3347	Historic refuse scatter	.27 mile	Not determined
45KT3348	Historic debris scatter	.5 mile	Not determined
45KT3349	Historic structure	.16 mile	Not determined
45KT3354	Historic mining	.62 mile	Determined not eligible
45KT3461	Precontact isolate	.55 mile	Not determined
45KT3462	Precontact isolate	.61 mile	Not determined
45KT3463	Precontact lithic material	.54 mile	Not determined
45KT3464	Precontact lithic material	.77 mile	Not determined
45KT3483	Historic refuse scatter	.05 mile	Not determined
45KT3486	Historic refuse scatter	.15 mile	Determined not eligible
45KT3487	Historic refuse scatter	.2 mile	Determined not eligible
45KT3488	Historic refuse scatter	.2 mile	Determined not eligible
45KT3489	Historic refuse scatter	.2 mile	Determined not eligible
45KT3490	Historic debris scatter	.1 mile	Determined not eligible
45KT3492	Historic refuse scatter	.06 mile	Determined not eligible
45KT3493	Historic isolate	.15 mile	Not determined
34KT3494	Historic isolate	.15 mile	Not determined
45KT3495	Historic isolate	.2 mile	Not determined
45KT3735	Historic refuse scatter	.27 mile	Not determined
45KT3736	Historic refuse scatter	.37 mile	Not determined
45KT4021	Historic trail	.18 mile	Determined eligible

Source: DAHP, 2019; Cultural Resource Consultants, 2020.

There are five properties listed on either the NRHP or WHR or both within one mile of the 47° North site: the Cle Elum-Roslyn Beneficial Association Hospital; the Chicago, Milwaukee, St. Paul, & Pacific Railroad; the Roslyn Riders Club House, Track & Arena; and, the Roslyn Historic District (see **Table 3.10-2**).

Table 3.10-2
HISTORIC REGISTER PROPERTIES WITHIN ONE MILE OF THE SITE

DAHP Property #	Address	Resource Name/Common Name	Build Date	Historic Use	Historic Register Status
DT179	South Cle Elum	Chicago, Milwaukee, St. Paul, & Pacific Railroad: South Cle Elum Yard	1909	Transportation	NRHP; WHR
700160	505 Power St Cle Elum, WA	Cle Elum-Roslyn Beneficial Association Hospital	1905	Hospital	NRHP; WHR
700380	SR903 and Martin Rd Cle Elum, WA	Roslyn Rider Club House, Track, and Arena	1956	Cultural landscape	WHR
700244	119 W 1st Cle Elum, WA	Douglas A Munro Memorial	1948	Memorial	WHR
DT00002	WA 2E Roslyn, WA	Roslyn Historic District	1886	Historic District	NRHP; WHR

Source: DAHP, 2019; Cultural Resource Consultants, 2020.

Additionally, four structures have been recorded for DAHP's historic property inventory within approximately 1/2 mile of the site (see **Table 3.10-3**).

Table 3.10-3
HISTORIC INVENTORY PROPERTIES WITHIN ONE HALF MILE OF THE SITE

DAHP Property #	Address	Resource Name/Common Name	Build Date	Historic Use	Historic Register Status
4113	BNSF railroad between Easton and Cle Elum	BNSF Bridge No. 28.1	1942	Bridge	Not determined
48143	803 W 2nd St Cle Elum, WA	Ranger Residence	1934	Single Dwelling	Determined eligible
633685	704 W 2nd St Cle Elum, WA	Ranger House	1910	Multiple Dwelling	Not determined
633207	713 Roslyn Pl Cle Elum, WA	None	1910	Single Dwelling	Determined not eligible

Source: DAHP, 2019; Cultural Resource Consultants, 2020.

Two cemeteries have been recorded within one mile of the site (see **Table 3.10-4**).

Table 3.10-4
CEMETERIES WITHIN ONE MILE OF THE SITE

Name	Record ID	Address	Established Date	Historic Register Status
Laurel Hill Memorial Park	45KT3086	119 W 1st St Cle Elum, WA	Unknown	Not determined
-- lithic scatter	45KT1368	Cle Elum River	Precontact	Not determined

Source: DAHP, 2019; Cultural Resource Consultants, 2020.

47º North Site

A review of DAHP's WISAARD database identified previous cultural resource studies, recorded precontact and historic archaeological sites, and recorded historic built environment (e.g., sites, structures, buildings, objects, landscapes) within the site. Fifteen (15) previously recorded cultural resources were identified within the site boundary. Six previous cultural resource assessments have also been reported at the site. **Table 3.10-5** summarizes cultural resources that were previously identified within the site. Each of these sites has been evaluated for eligibility to be listed in the NRHP and received a determination from DAHP. Two sites were re-evaluated in the course of subsequent investigations but DAHP did not issue a new eligibility determination.

The DAHP statewide predictive model uses environmental data about the locations of known archaeological sites to identify where previously unknown sites are more likely to be found. According to the model, the majority of the 47° North site is ranked as "Survey Highly Advised: Very High Risk". Small sections within the site are ranked as "Survey Highly Advised: High Risk", and "Survey Recommended: Moderate Risk". These latter areas are located on steep slopes between the upper and lower terraces onsite (see **Appendix I** for details). The 2019 field investigations for this DSEIS (i.e., geotechnical exploration pits, pedestrian survey, and shovel probes) were conducted throughout the 47° North proposed development area, which is generally considered "Survey Highly Advised: Very High Risk" by the DAHP model. The investigations did not include the areas adjacent to the Cle Elum River or the steep slope areas.

Archaeological Expectations

The cultural resource assessment considered the implications of the predictive model coupled with an understanding of geomorphological context, local settlement patterns, and post-depositional processes to characterize the potential for archaeological deposits to be encountered onsite. Precontact, ethnographic, and historic data generally support the ranking generated by DAHP's predictive model.

Table 3.10-5
ARCHAEOLOGICAL SITES RECORDED WITHIN THE SITE

Site Number	Site Type	Location on Site/Project	Historic Register Status
45KT1019	Precontact lithic scatter	Within site but outside proposed development	Determined eligible
45KT1227	Precontact lithic material	Within site and proposed development	Determined eligible; later recommended not eligible (Ives and Gough 2010)
45KT1368	Precontact camp and human remains	Within site but outside proposed development	Determined eligible
45KT1376	Precontact camp	Within site but outside proposed development	Determined eligible; later recommended not eligible (Ives and Gough 2010)
45KT1484	Precontact isolate	Within site but outside proposed development	Determined not eligible
45KT2092	Historic refuse scatter	Within site and proposed development	Determined not eligible
45KT2096	Historic debris scatter	Within site and proposed development	Determined not eligible
45KT2098	Historic refuse scatter	Within site and proposed development	Determined not eligible
45KT2099	Historic refuse scatter	Within site and proposed development	Determined not eligible
45KT2139	Historic refuse scatter	Within site and proposed development	Determined not eligible
45KT2140	Historic refuse scatter	Within site but outside proposed development	Determined not eligible
45KT2141	Historic refuse scatter	Within site and proposed development	Determined not eligible
45KT2146	Historic waterline	Within site and proposed development	Determined not eligible
45KT3331	Historic structure/waterline chlorinating building	Within site but outside proposed development	Determined not eligible
45KT3332	Historic debris scatter	Within site but outside proposed development	Determined not eligible

Source: DAHP, 2019; Cultural Resource Consultants, 2020.

Most of the site has not been surveyed and likely has been minimally disturbed by past use of the site (e.g., for timber harvest and recreation such as hiking, biking, horseback riding). In these areas, if present, intact precontact archaeology would be observed on or near the ground surface and atop the Pleistocene glacier deposits, which are anticipated to be shallowly buried. Precontact archaeology may range in age from Clovis-era (approximately 12,000 years ago) to the ethnohistoric period (beginning approximately 200 years ago). Precontact activities on the site were likely more transient in nature and could have included overland travel, temporary camps, and/or resource gathering/hunting activities, as well as possible ceremonial activities. Precontact materials that may be observed could include middens (refuse heap), caches, hearth features, fire-modified rock, lithic (consisting

of stone) scatters, bone or stone tools or implements, faunal (animal) remains, and/or other materials that may represent more transient activities. Precontact sites that have been previously recorded within the site primarily consist of lithic scatters or isolates (isolated artifacts). Two camps, one with a burial, have been recorded near the Cle Elum River.

Historic-era archaeological materials, if present, would likely be on or near the ground surface and consist of historic debris scatters or concentrations related to camping, mining, or logging. These resources are not expected to be significant (i.e., intact) and would not likely be eligible for listing on historic registers. Numerous refuse scatters have been recorded near and within the site. It is anticipated that if historic-era archaeological materials are observed, they would likely be of similar nature (see **Appendix I** for details).

Field Investigations

Archaeological monitoring was completed in October 2019 in conjunction with geotechnical investigations. The goal of the monitoring was to observe subsurface conditions and identify any buried precontact or historic-era archaeological materials or human remains that could be encountered. Archaeological monitoring of geotechnical investigations did not identify artifacts or cultural deposits nor did it demonstrate that the tested locations had a high probability to contain as yet unrecorded archaeological deposits. Monitoring demonstrated that sediments in the horizontal and vertical limits of the project's anticipated ground disturbance had the potential to contain cultural deposits within the loess deposits (see **Appendix I** for details).

An archaeological surface and subsurface survey of the site was completed in November 2019 (see **Figure 3.10-1** for a map of subsurface investigation locations). Previously-recorded cultural resource sites that were located within or near areas of proposed disturbances were revisited, with the goal of documenting any changes in site conditions since they were last inventoried. No previously unrecorded historic-era or precontact cultural materials were observed during the surface survey. Data from archaeological monitoring was used to target locations with a higher likelihood of containing Holocene loess that could potentially have intact archaeological material. However, no precontact or historic-era materials or deposits were identified. There was no evidence of the Yakama Trail that was considered to potentially be significant as a Traditional Cultural Property (TCP) (see **Appendix I** for details).

Source: Cultural Resource Consultants, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.10-1

Archaeological Subsurface Investigation Map

3.10.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

In the 2002 Cle Elum UGA EIS, the analysis of impacts to historic and cultural resources was generalized and did not identify specific sites that could potentially be impacted. Twenty-three (23) cultural resources were identified within the proposed project area. It was stated that the majority of the development was proposed for the upper two-thirds of the Bullfrog Flats property with the lower third reserved for undeveloped open space. Most of the previously recorded sites were located within the lower third of the property. Impacts to individual sites were not determined, as the specific location of ground-disturbing activities and the sites were not specified. It was noted that construction could potentially impact undiscovered archaeological sites as well as previously recorded sites. Impacts could include disturbance from excavation, increased pedestrian and vehicular traffic, compaction of sediments associated with project staging areas, erosion, illegal collecting, and spiritual diminution of possible TCPs. In addition, potential construction impacts to the Cle Elum Chlorination Building were considered to include destruction of the structure and/or an alteration to the property's setting.

Although impacts to specific sites were not discussed in the 2002 Cle Elum UGA EIS, a number of mitigation measures were identified to reduce or eliminate potential impacts to cultural resources.

(See 2001 Cle Elum UGA DEIS Section 3.13, and 2002 Cle Elum UGA FEIS Section 3.12 for details.)

2020 SEIS

An analysis of the potential historic and cultural resource impacts of the SEIS Alternatives is provided below. As described under *Affected Environment*, cultural resources are typically defined as significant or potentially significant if they are identified as of special importance to an ethnic group or Indian tribe, or if the resource is considered to meet certain eligibility criteria for the NRHP or other local, state, or national historic registers. The magnitude of impacts in the following analysis was considered less-than-significant or significant, based on the following generally accepted categorization of impacts:

- **Less-than-significant** - Impacts were considered less-than-significant if they pose little to no risk, whether direct or indirect, to documented archaeological or historic resources or potentially eligible for listing on the NRHP and/or the WHR.

- **Significant -** Impacts were considered significant if they pose a risk, whether direct or indirect, to documented archaeological or historic resources eligible or potentially eligible for listing on the NRHP and/or the WHR.

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Cultural resources could potentially be impacted or destroyed with development under SEIS Alternative 5. However, this potential for impacts on known cultural resources is not expected to be significant because the precontact and historic era archaeological sites that are located onsite have been determined not eligible for listing on the NRHP and/or WHR. Based on the results of the cultural resource investigation, potential impacts to as-yet unknown cultural resources would be similar to under FEIS Alternative 5 due to the comparable acreage and location proposed for development. The majority of the development would occur in the upper two-thirds of the Bullfrog Flats site with the lower third reserved for undeveloped open space; most of the previously recorded sites were located within the lower third of the site, near the Cle Elum River.

Some archaeological sites that had been identified but had not been evaluated for listing on the NRHP when the 2002 Cle Elum UGA EIS was prepared (e.g., 45KT2146, 45KT3332, 45KT2141, 54KT2139, 45KT3331, 45KT2140, 45KT2092, 45KT1484, 45KT2099, 45KT2098, 45KT2096) have since been determined not eligible for listing on the NRHP. Any impacts to these sites with site development under SEIS Alternative 5 would not be considered significant. A number of recorded archaeological resources (e.g., 45KT2093, 45KT2080, 45KT2081, 45KT2097, 45KT3343, 45KT2079) are located within the 175-acre reserve in the SEIS Alternative 5 plan. Since publication of the 2002 Cle Elum UGA EIS, development of the Horse Park has occurred in this area, and all of these sites have been determined not eligible for listing on the NRHP. Sites 45KT1019, 45KT1368, 45KT1376 remain eligible for listing on the NRHP but are not within areas of proposed ground disturbance under SEIS Alternative 5. There would be no impacts to the Yakama Trail, because there was no evidence of the trail that was considered to potentially be significant as a TCP. As a result, no significant impacts on cultural resources have been identified with development of SEIS Alternative 5.

As described above, there are no historic register properties or cemeteries located on the 47° North site. However, nine historic register properties and two cemeteries are located within one mile of the 47° North site. Due to the location of these structures/cemeteries, it is anticipated that there would be no significant impacts to these properties as a result of development under SEIS Alternative 5 (see **Appendix I** for details).

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

Similar to under FEIS and SEIS Alternative 5, cultural resources could potentially be impacted or destroyed by proposed site development under SEIS Alternative 6. Based on the results of the cultural resource investigation, potential impacts to as-yet unknown cultural resources would be similar to under FEIS and SEIS Alternative 5 and are not expected to be significant due to the comparable acreage and location proposed for development, accounting for development that has occurred on the Bullfrog Flats site since 2002 (e.g., the water treatment plant, Horse Park, and school expansion). The majority of the development would occur in the upper two-thirds of the Bullfrog Flats site with the lower third reserved for undeveloped open space; most of the previously recorded sites

were located within the lower third of the site. The potential for impacts on known cultural resources would not be considered significant because the archaeological sites that are located onsite have been determined not eligible for listing on the NRHP and/or WHR. The 25-acre potential future commercial area was not explored in the 2019 field investigation and could contain as-yet unknown cultural resources.

The cultural resources assessment identified 15 previously recorded precontact or historic-era archaeological sites within the site. Seven of these sites are located in or near proposed ground disturbances. Only one of these sites was previously determined eligible for the National Register; however, no evidence of the site remains. Field investigations did not identify any as yet unrecorded historic-era or precontact cultural resources within the site, nor was any evidence found to suggest a high potential for as-yet unrecorded archaeological deposits to be contained within the proposed development areas. As a result, no significant impacts to cultural resources are expected with development of SEIS Alternative 6.

As described above, there are no historic register properties or cemeteries located on the 47° North site. However, nine historic register properties and two cemeteries are located within one mile of the 47° North site. Due to the location of these structures/cemeteries, it is anticipated that there would be no significant impacts to these properties as a result of development under SEIS Alternative 6 (see **Appendix I** for details).

Cumulative impacts to cultural resources could result from development within the vicinity of the 47º North site that could occur concurrent with development under SEIS Alternative 6. This development would include further development within Suncadia, and development of the approved City Heights and West Cle Elum Pines mixed-use projects. This development could also include development induced by Suncadia. The potential for impacts on cultural resources from the cumulative impact projects would depend upon their specific site conditions. It is assumed that, similar to 47° North, these projects would identify appropriate mitigation to address potential impacts on cultural resources. Therefore, significant cumulative impacts on cultural resources are not expected.

Conclusion

Cultural resources could potentially be impacted or destroyed by proposed site development under SEIS Alternatives 5 and 6. Significant impacts to known cultural resources are not expected because archaeological sites that are located onsite have been determined to be not eligible for listing on the NRHP or WHR. Large areas of open space would be preserved, including along the Cle Elum River where most of the previously recorded sites were located.

3.10.3 Mitigation Measures

The following mitigation measures are identified to address the historic and cultural resource impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- When the 25-acre property contemplated for future commercial use is proposed to be developed, a field investigation of the property should be conducted.

- Consultation with DAHP and Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) would continue.

- Compliance with all state regulations (e.g., RCW 27.44, RCW 27.53, SEPA) related to cultural resources would continue.

- An inadvertent discovery plan would be adopted for the project and made available onsite during construction.

- Onsite monitoring by a professional archaeologist or cultural resources specialist would take place during all ground disturbing activities with potential to intersect Holocene deposits, which were observed up to 8.5 feet below ground surface, including clearing, grubbing, grading, and construction excavations.

- Construction personnel would be trained on the identification of archaeological resources.

- In the event that ground disturbing or other activities result in the inadvertent discovery of archaeological deposits, work would be halted in the immediate area and contact made with DAHP. Work would be halted until such time as further investigation and appropriate consultation is concluded. See **Appendix I** for details on protocols for inadvertent discoveries.

- In the unlikely event of the inadvertent discovery of human remains, work would be immediately halted in the area, the discovery covered and secured against further disturbance, and contact made with law enforcement personnel, consistent with the provisions set forth in RCW 27.44.055 and RCW 68.60.055. See **Appendix I** for details on protocols for inadvertent discoveries.

3.10.4 Significant Unavoidable Adverse Impacts

With implementation of the mitigation measures listed above, no significant adverse impacts on historic and cultural resources are expected with construction and operation of the SEIS Alternatives.

3.11 PARKS & RECREATION

This section of the DSEIS summarizes the parks and recreational facilities information and analysis from the 2002 Cle Elum UGA EIS. It also updates the existing conditions information; evaluates the impacts of the SEIS Alternatives relative to 2002 Cle Elum UGA FEIS Alternative 5; and identifies appropriate mitigation measures.

Methodology

The analysis of parks and recreation was conducted based on a review of relevant plans and information on parks and recreational facilities on the site and in the site vicinity (within approximately one mile of the site), including the 2018 *City of Cle Elum Parks and Recreation Plan*, and the 2019 *City of Cle Elum Capital Facilities Plan*. The City of Cle Elum has identified targets and associated evaluation criteria for local parks and recreational activities and facilities in their Parks and Recreation Plan, which are also expressed in their Capital Facilities Plan. These targets were compared to what would be required and provided under the SEIS Alternatives, typically based on the estimated population under the alternatives, but also based on specific park facilities and citywide needs.

3.11.1 Affected Environment

2002 Cle Elum UGA EIS

Bullfrog Flats Site Vicinity

In 2002, there were many natural areas available for both formal and informal recreational activities in Kittitas County. The Upper Yakima River Basin was described as having a rugged terrain of mountains and canyons, extensive forested areas, and abundant rivers and lakes. This landscape, coupled with a varied climate, allowed for year-round recreational opportunities. The cities in the region also provided a variety of parks and recreational facilities.

Federal Agencies

U.S. Forest Service

In 2002, the Wenatchee National Forest, which is managed by the U.S. Forest Service (USFS), occupied most of the western portion of Kittitas County, and was one of the most heavily visited national forests in the nation because of the number and variety of recreational opportunities it provided and because of its proximity to a large population base. The Bullfrog Flats site was not located within the boundaries of the Wenatchee National Forest, however.

In 2002, the USFS maintained 40 developed recreational sites within Kittitas County, including campgrounds, picnic areas, boat launches, interpretive sites, beaches, trailheads, commercial winter sports sites and "Sno-Park" areas. The Wenatchee National Forest also contained an extensive system of trails and trunk and spur roads that were used for a variety of activities such as hiking, horseback riding, mountain biking, off-road vehicle riding, snowmobiling, snowshoeing, and cross-country skiing.

The Alpine Lake Wilderness is located in the Central Cascades and is jointly administered by the Mt. Baker-Snoqualmie and Wenatchee National Forests. In 2002, the wilderness encompassed roughly 394,000 acres that were accessible by 47 trailheads and 615 miles of trails.

Bureau of Reclamation

The U.S. Department of the Interior, Bureau of Reclamation (BOR) operates the Yakima Reclamation Project, which includes the Keechelus, Kachess, and Cle Elum Reservoirs. In 2002, recreational facilities had been developed at all three of these reservoirs.

Washington State Agencies

Washington State Parks & Recreation Commission

The Washington State Parks and Recreation Commission (WSPRC) manages the state park system in Washington. In 2002, there were two parks located in the Upper Kittitas County – Lake Easton State Park and Iron Horse State Park. WSPRC also operates Sno-Parks, which consist of plowed parking areas, toilets, and trailhead information signs; in 2002, there were 10 Sno-Park locations along the I-90 corridor.

Washington Department of Fish & Wildlife

In 2002, Washington Department of Fish and Wildlife (WDFW) managed seven water access sites within Kittitas County, which provided parking access to lakes or streams for fishing. WDFW also managed the L.T. Murray Wildlife Recreation Area, which is a large tract of state-owned land extending from the Yakima Canyon northwest to the Taneum Ridge area south of Cle Elum.

Washington Department of Natural Resources

In 2002, Washington Department of Natural Resources (WDNR) administered several scattered parcels (generally, square-mile sections) of state-owned lands in the area that were open for public recreational use.

Local Municipalities

In 2002, the municipalities of Cle Elum, South Cle Elum, Roslyn, and Ronald provided parks and recreation opportunities for residents; these opportunities generally consisted of neighborhood parks and smaller park facilities that contained sports fields, play equipment, and/or picnic tables. Additionally, Kittitas County, Roslyn, and Cle Elum jointly purchased and continued to manage and maintain the Coal Mines Trail, which is a former railroad right of way that extends from Ronald to Cle Elum.

Other Recreational Resources

In 2002, there were 13 privately-developed recreational sites in the Bullfrog Flats site vicinity, including campgrounds, golf courses, and a winter sports site. There were also seven privately-owned RV parks and one public RV park/campground located in the Upper Kittitas County.

The Mountains-to-Sound-Greenway also traversed the Bullfrog Flats site vicinity, extending along I-90 from Puget Sound to Elk Heights in Central Kittitas County. The Greenway is characterized by historic towns and transportation corridors, scenic beauty, and recreational opportunities that link the public to the landscape (see Section 3.8, **Aesthetics/Light & Glare**, for details on the Greenway).

The proposed MountainStar Master Plan Resort (MPR) site (now known as Suncadia) was an approximately 6,000-acre forested property located adjacent to and northwest of the Bullfrog Flats site that would provide recreational opportunities such as fishing, hunting, hiking, horseback riding, and camping primarily for resort homeowners and guests.

Bullfrog Flats Site

In 2002, the Bullfrog Flats site may have experienced informal recreational use, including camping, snowmobiling, and hiking. However, because the site was located adjacent to I-90 and Bullfrog Road, it likely experienced less recreational activity than other more isolated areas in the vicinity.

(See 2001 Cle Elum UGA DEIS Section 3.14 and 2002 Cle Elum UGA FEIS Section 3.13 for details.)

2020 SEIS

Updated existing conditions on and in the vicinity of the 824-acre 47° North site and the adjacent 25-acre commercial property are described below.

47° North Site Vicinity

Updated recreational uses described in this section are those located within about a one-mile radius of the site. Land uses to the north of the site have substantially changed and intensified since 2002 with development of the 6,000-acre Suncadia resort. Recreational uses to date in Suncadia include: two golf courses, recreational trails for hiking and biking,

parks, swimming pools, and vegetated/forested open space. Some of these facilities are open to the public.

The area to the immediate south of the Bullfrog Flats site is now occupied by the approximately 112-acre Washington State Horse Park. The Horse Park provides equestrian facilities for large and small shows/competitions, horseback riding trails, facilities for RVs, and camp sites. The Horse Park is currently in the process of constructing a new covered arena for shows/competitions.

47° North Site

Since publication of the 2002 Cle Elum UGA EIS, the 47° North site has remained largely vacant and undeveloped, and comprised of vegetated/forested land. Horseback riding, hiking, and snowmobiling occur on dirt roads throughout the site. Easements are now in place for authorized use of the site and certain trails by the adjacent Horse Park. A few authorized equestrian facilities, such as a small building, parking area, and load/unload areas, are located onsite. Other recreational uses onsite are informal and occur without the permission of the property owner.

3.11.2 Environmental Impacts

This sub-section describes the potential impacts on park and recreational facilities that were analyzed in the 2002 Cle Elum UGA EIS and compares/expands upon those impacts with the potential impacts that could occur with development of the SEIS Alternatives.

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

The 2002 Cle Elum UGA EIS analyzed the direct impacts, indirect impacts, and cumulative impacts under FEIS Alternative 5, the preferred alternative at that time, as summarized below.

Direct Construction Impacts

Under FEIS Alternative 5, construction employees moving to the area could choose to live in local RV campgrounds, which would affect the number of sites available for recreational users, especially during the summer months. Construction of a temporary RV park with up to 100 units was considered in a portion of the Bullfrog Flats site for the primary purpose of housing construction workers, which would reduce the demand on local RV parks.

Direct Operation Impacts

Under FEIS Alternative 5, the increased permanent population, and to a lesser extent the business park development, within the Bullfrog Flats site would increase the demand on existing park and recreational resources in Kittitas County, on regional resources such as camping, fishing, and hiking areas within the National Forests and Wilderness areas, and on

local playfields within the Cle Elum vicinity, even though recreational facilities would be provided by the project. The greater use of recreational resources would also place additional demands on responsible agencies to manage and maintain them.

The 2002 Draft Bullfrog Subarea Plan identified level-of-service (LOS) standard goals for various classifications of parks, open space, and recreational facilities in the subarea. The Plan was adopted as an element of the City's Comprehensive Plan at the time the Urban Growth Area (UGA) was annexed and the Bullfrog Flats Master Site Plan was approved. FEIS Alternative 5 would provide the community with a range of recreational facilities to meet increased demand, based on goals and population-based standards identified in the Draft Subarea Plan. Proposed facilities would include parks, pedestrian/bicycle trails, a Community Recreation Center (including a sports court, fitness facilities, a swimming pool, and ball fields), a neighborhood clubhouse and lake, and two soccer fields. Additionally, undeveloped open space, including that located within the western portion of the site near the Cle Elum River, in site perimeter buffer areas, and steep slope areas, would equal roughly 450 acres onsite. The subarea plan was subsequently repealed and its standards were consolidated with city-wide standards in the current Comprehensive Plan.

Indirect Operation Impacts

Additional residential and commercial growth associated with development of the site under FEIS Alternative 5 would increase the use of off-site recreation areas. Recreation facilities proposed under FEIS Alternative 5 could also attract visitors to the region. The FEIS did not quantify this anticipated increased demand.

Cumulative Impacts

Population increases associated with the Bullfrog Flats project and Suncadia resort, in combination with other growth in the area, would cumulatively increase demand for and use of area recreational resources. The wide variety of recreational facilities proposed under FEIS Alternative 5 and Suncadia resort were anticipated to meet most of the recreational needs of the residents and visitors that these projects would attract to the area.

(See 2001 Cle Elum UGA DEIS Section 3.14 and 2002 Cle Elum UGA FEIS Section 3.13 for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Development assumptions for SEIS Alternative 5 are largely the same as those under FEIS Alternative 5. As a result, it is anticipated that potential direct and indirect impacts to recreational resources on the 47° North site and the surrounding vicinity would generally be similar to those described for FEIS Alternative 5. It is assumed that development under SEIS Alternative 5 would occur over a 30-year time period, similar to buildout of FEIS Alternative 5.

The City of Cle Elum has identified targets and associated evaluation criteria for local parks and recreational activities and facilities. **Table 3.11-1** provides the current Parks and Recreation targets/goals contained in the City of Cle Elum Parks and Recreation Plan (February 2018), which is also expressed in the 2019 Capital Facilities Plan, and compares these to what would be required and provided under SEIS Alternative 5 (and SEIS Alternative 6). The types and quantities of proposed park and recreation facilities with SEIS Alternative 5 are based on the Approved Bullfrog Flats Master Site Plan. In certain cases, the parks and recreation facilities were not specifically described in the Master Site Plan. Therefore, it is unclear if SEIS Alternative 5 would be consistent with all the goals and policies in the Parks and Recreation Plan and meet all the city-wide targets/goals identified in the Plan.

Additionally, cumulative impacts to off-site parks and recreational facilities would result from planned/approved development and other background growth and their associated population that could occur within the same planning horizon as SEIS Alternative 5. Such planned/approved development would include the Suncadia resort (in unincorporated Kittitas County), and City Heights and Cle Elum Pines West mixed use projects (in City of Cle Elum). SEIS Alternative 5, together with the continued development in the Suncadia resort would generate a population of about 4,939 residents and their associated demand for parks and recreational facilities in the County by 2037;[1] and, SEIS Alternative 5, together with development in City Heights and continued development of Cle Elum Pines would generate a population of about 4,775 residents and their associated demand for parks and recreational facilities in the City by 2037. The wide variety of recreational facilities proposed by SEIS Alternative 5, as well as by other vested projects in the County and City, are anticipated to meet or exceed most of the recreational needs of the residents and visitors that these projects would attract to the area. Therefore, significant cumulative impacts on parks and recreational facilities are not expected.

[1] See **Table 3.6-3** in Section 3.6, **Land Use,** for the estimated population of the cumulative impact projects. Note that the cumulative population with SEIS Alternative 5 is calculated for 2037, to facilitate comparison to the cumulative population at build out with SEIS Alternative 6. Actual build out of SEIS Alternative 5 is estimated to occur in 2051. Note that buildout of 47° North, excluding the potential commercial development, would occur in 2028.

Table 3.11-1
REQUIRED & PROPOSED PARK & RECREATION FACILITIES – SEIS ALTERNATIVES 5 & 6

Parks/Recreation Facility	City Park Plan Target/Goal (2037)	SEIS Alt. 5 Required (2037)[1]	SEIS Alt. 5 Proposed[2]	SEIS Alt. 6 Required (2037)[3]	SEIS Alt. 6 Proposed
Active parks	6 acres/1,000 people	14.0 acres	19.6 acres[4]	8.9 acres	19.5 acres[5]
Open space	9 acres/1,000 people	21.1 acres	524 acres	13.4 acres	476.7 acres
Tracks, trails, & connections	4 miles/1,000 people	9.4 miles	Unknown	6.0 miles	Approx. 6 miles
Park restrooms	1 per park	Unknown	Unknown	8 restrooms	Provided
Park & trail head water fountains	1 per park/trailhead	Unknown	Unknown	8 water fountains	Provided
Aquatic facility	1 citywide[6]	N/A	Unknown	N/A	Provided[7]
Basketball courts	8 citywide[6]	N/A	Unknown	N/A	None
Soccer fields	4 citywide[6]	N/A	Unknown	N/A	None
Tennis courts	4 citywide[6]	N/A	Unknown	N/A	Possibly Provided[8]

Source: City of Cle Elum Parks and Recreation Plan, February 2018.

Note: The City Park Plan targets/goals are based on a City population increase of 2,370 by 2037.

[1] A permanent population of 2,340 is assumed for SEIS Alt. 5 by year 2037; full buildout of this alternative is assumed to occur in 2051. 2037 is used for comparison and to be consistent with the SEIS Alt. 6 full buildout date. See Section 3.9, **Housing, Population, and Employment**, for details on the calculation of this population.

[2] The types and quantities of proposed park and recreation facilities under SEIS Alt. 5 are based on the Approved Bullfrog Flats Master Site Plan. In certain cases, the parks and recreation facilities were not specifically described in the Master Site Plan.

[3] A permanent population of 1,489 is assumed for SEIS Alt. 6 in year 2037. See Section 3.9, Housing, Population, and Employment, for details on the calculation of this population. RV resort visitors would contribute to the need for parks and recreational facilities; however, since these would not be permanent residents, and the entire RV resort would be considered a recreational amenity, the RV visitors were not included in the analysis.

[4] SEIS Alt. 5 would include the following Active Parks:

- Neighborhood Clubhouse and Lake: 18 acres
- Mini Parks: 1.6 acres

19.6 acres

[5] SEIS Alt. 6 would include the following Active Parks:

- Adventure Center (one): 6.0 acres
- Amenity Centers (one 6-acre/one 5-acre) 11.0 acres (total)
- Public Trail Parks (three 0.5-acre) 1.5 acres (total)
- Community Trail Parks (two 0.5-acre) 1.0 acres (total)

19.5 acres

[6] These are city-wide targets/goals and do not necessarily apply to specific development projects.

[7] SEIS Alt. 6 would include two private Amenity Centers, each of which would include a pool, one for residents and the other for RV visitors. The future Community/Municipal Recreation Center could also include a public pool.

[8] The Amenity Centers and Community Parks under SEIS Alt. 6 could include sport courts.

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

SEIS Alternative 6 represents the Applicant's proposed revisions to the approved Master Site Plan. The 824-acre 47° North site and adjacent property would include the following parks and recreational opportunities/uses/facilities:

- RV Sites – 627 sites;
- Parks – Two private community parks and three public trail parks;
- Recreation Centers – A 6-acre adventure center open to residents and the public; two private recreational amenity centers totaling 11 acres; and, a 12-acre site reserved and dedicated to the City for the future public municipal (community) recreation center;
- Open Space – 477 acres of open space (58% of the site); and,
- Trails – A total of approximately five miles of combined trails and one mile of sidewalks all of which could be accessed by the public.

The types and amounts of parks and recreational uses would differ from those under FEIS Alternative 5, primarily those related to the RV resort. (See **Chapter 2** for details, including: **Table 2-1** for a more complete summary of land uses under SEIS Alternative 6; **Figure 2-4**, for an illustration of the proposed Master Site Plan; and, **Figure 2-13**, for the Parks and Trails Plan under SEIS Alternative 6.)

Similar to under FEIS Alternative 5, proposed development under SEIS Alternative 6 would include residential, recreational, and commercial uses, but would contain several new recreational amenities. An RV resort with recreational amenities is now proposed as an element of the proposal. SEIS Alternative 6 would also provide a public adventure center and certain private recreational facilities that were not included in FEIS Alternative 5. A lake that could be used for recreation was part of FEIS Alternative 5 but is not included in the current proposal.

Development under SEIS Alternative 6 would occur in phases. Construction of the proposed development (including the RV resort) is expected to begin in 2021 and be completed in 2028 (See **Chapter 2** for details on the proposed development phasing under SEIS Alternative 6). Other recreational uses, such as trails and facilities in the open space (e.g., seating, fitness/exercise equipment, and informative signs) would be built concurrent with the development in the associated development area.

Direct Construction Impacts

Similar to FEIS Alternative 5, under SEIS Alternative 6 there is potential for some construction workers to move to the Cle Elum area during the construction period and to live in local RV campgrounds. This could affect the number of sites available for recreational users to some degree, especially during the summer months and particularly on the weekends. However, this demand for RV sites during construction of SEIS Alternative 6 would likely be small and less than what was estimated for FEIS and SEIS Alternative 5, because the proposed project is smaller, construction techniques are different, and there would be fewer local construction employees. Under SEIS Alternative 6, all the single family residences and some of the multi-family residences would be manufactured in factories off-

site – likely in the Pacific Northwest – and then assembled onsite. (See Section 3.9, **Population, Housing, & Employment**, for details on construction employees.)

Direct Operation Impacts

Under SEIS Alternative 6, new residents and visitors to the 47º North site would generate additional demand for parks and recreational facilities as the site and adjacent 25-acre commercial property are developed over the approximately 7-year (47° North) to 17-year (future, separate commercial uses) buildout period This combined 17-year buildout period is shorter than the 30-year buildout under FEIS and SEIS Alternative 5. It is estimated that there would be approximately 1,489 new permanent residents (excluding RV visitors) onsite by project buildout (fewer residents than under FEIS Alternative 5). Similar to FEIS and SEIS Alternative 5, the increased population associated with SEIS Alternative 6 would increase the demand on regional resources such as camping, fishing, and hiking areas within nearby National Forests and Wilderness areas, on park and recreational resources in Kittitas County, and on local playfields within the Cle Elum vicinity. The greater use of recreational resources would correspondingly place additional demands on federal and state agencies, as well as local cities to manage and maintain them. Compared to FEIS and SEIS Alternative 5, the demand on these facilities under SEIS Alternative 6 would be less because the projected permanent population would be less than under FEIS and SEIS Alternative 5. RV resort visitors under SEIS Alternative 6 would also contribute to the need for regional, county, and local parks and recreational facilities, particularly because they are often coming specifically to use the area's recreational resources. However, since these visitors would not be permanent, year-round residents, and the entire proposed RV resort would be considered a recreational amenity, the RV resort visitors are not expected to place as great a demand on off-site recreational resources as the permanent population in the proposed housing.

As indicated previously, the City of Cle Elum has identified city-wide targets and associated evaluation criteria for parks and recreational activities and facilities. Parks and recreational facilities proposed under SEIS Alternative 6 would be generally consistent with goals and policies in the Parks and Recreation Plan and would meet or exceed the targets/goals identified in the Plan (see **Table 3.11-1**).

Public and private parks/park-type facilities proposed as part of SEIS Alternative 6, shown on **Figure 2-13** in **Chapter 2**, would include three public trail parks that could include gathering areas with seating, fitness/exercise equipment, and informative signs; two private community parks that could include: playgrounds, open/natural field areas, and sport courts; two private amenity centers that would include clubhouses, fitness centers, pools, sports courts, and lawn areas; and, a public adventure center that would include miniature golf, outdoor laser tag, and a ropes challenge course (see **Chapter 2** for details). These parks/park-type facilities would total approximately 19.5 acres under SEIS Alternative 6, which is similar to the amount of acreage that is proposed under SEIS Alternative 5 and would exceed the identified city-wide target/goal for these facilities (see **Table 3.11-1**). Facilities would be developed as adjacent residential/recreational areas are developed.

Open space proposed as part of SEIS Alternative 6 would total roughly 477 acres (58% of the site), and would be comprised of Natural Open Space areas, Managed Open Space, and open space associated with the Cle Elum River corridor (River Corridor Open Space). The proposed open space under SEIS Alternative 6 would be less than under SEIS Alternative 5, largely because since 2002, portions of the site have been dedicated to the City. However, the amount of open space provided would represent a greater percentage of the site.

The Natural Open Space area would consist of a 172-acre area that largely coincides with the steeper slopes onsite that could include passive and active recreation features, as well as the 100-foot natural buffer along Bullfrog Road. The Managed Open Space would consist of a 104-acre area that is located in the western portion of the site and is bound by a conservation easement where the intended use would be wildlife habitat and recreational opportunities, with vegetation management allowed. The proposed 160-acre River Corridor Open Space area is situated in the western portion of the site along the Cle Elum River and is bound by a conservation easement where the intended use would be wildlife habitat and recreational uses with minimal improvements and management of the vegetation allowed. Additionally, on-site wetlands and their buffers would be protected under SEIS Alternative 6. Lastly, a total of 38 acres of open space associated with two powerline easements is present onsite. The open space under SEIS Alternative 6 would exceed the city-wide target/goal for this area (see **Table 3.11-1**).

Under SEIS Alternative 6, an approximately 5-mile network of trails would be provided throughout the site, including: hike/bike, equestrian, and golf cart paths. These trails would generally be located around the periphery of the proposed development, and would connect to on-site development, as well as to existing off-site trails in several locations (e.g., to the trails in Suncadia to the north, the Coal Mines Trail to the northeast, and the Horse Park to the south). Approximately one mile of sidewalks located along one side of the on-site road connecting SR-903 and Bullfrog Road would also offer opportunities for non-motorized circulation. A total of approximately six miles of combined trails and sidewalks would be provided under SEIS Alternative 6 (similar to the amount under SEIS Alternative 5, which would meet the city-wide target/goal for trails (see **Table 3.11-1**) .

Indirect Operation Impacts

Similar to FEIS Alternative 5, additional residential and commercial growth under SEIS Alternative 6 would increase the use of off-site recreation areas. However, the demand for off-site recreation areas by the adjacent commercial property would be less than under FEIS Alternative 5 because considerably less commercial development is expected (150,000 sq. ft. vs. 950,000 sq. ft. of business park). The recreation facilities that are proposed under SEIS Alternative 6 could also attract visitors to this area.

Cumulative Impacts

Cumulative impacts to off-site parks and recreational facilities would result from planned/approved development and other background growth and their associated population that could occur within the same planning horizon as SEIS Alternative 6. Such

planned/approved development would include the Suncadia resort (in unincorporated Kittitas County), and City Heights and Cle Elum Pines mixed-use projects (in City of Cle Elum). SEIS Alternative 6, together with the continued development in the Suncadia resort would generate a permanent population of about 3,619 residents and their associated demand for parks and recreational facilities in the County by buildout in 2037; and, SEIS Alternative 6, together with development in City Heights and continued development of Cle Elum Pines would generate a population of about permanent 3,435 residents and their associated demand for parks and recreational facilities in the City by 2037.[2] This cumulative demand for recreational facilities would be less than under SEIS Alternative 5 because there would be fewer permanent residents associated with SEIS Alternative 6. Visitors to the RV resort would also add to the cumulative demand for recreational facilities in the County and City because they are often coming specifically to use the area's recreational resources. The wide variety of recreational facilities proposed by the 47° North proposal (including the RV resort itself), as well as by other vested projects in the County and City, are anticipated to meet or exceed most of the recreational needs of the residents and visitors that these projects would attract to the area. Therefore, significant cumulative impacts on parks and recreational facilities are not expected.

Conclusions

SEIS Alternatives 5 and 6 would generate additional demand for parks and recreational facilities during the construction and operation phases. Overall, there would be fewer permanent residents, less commercial development, and a shorter buildout period under SEIS Alternative 6 than under SEIS Alternative 5, which together would result in reduced demand for parks and recreational facilities. The RV visitor population under SEIS Alternative 6 would generate some demand for parks and recreational facilities; however, since these would not be permanent residents, and the entire RV resort would be considered a recreational amenity, the RV visitors are not expected to generate as great a demand. The parks and recreational facilities proposed under SEIS Alternative 6 would generally be consistent with goals and policies in the City Parks and Recreation Plan and would meet or exceed the targets identified in the Plan. As a result, significant impacts to parks and recreational facilities are not anticipated.

3.11.3 Mitigation Measures

The following mitigation measures are identified to address the parks and recreation impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

[2] See **Table 3.6-3** in Section 3.6, **Land Use,** for the estimated population of the cumulative impact projects.

Proposed Mitigation Measures (Included in the Project)

- A total of approximately 477 acres of open space, including the Natural, Managed, and River Corridor Open Space areas, perimeter buffers, wetlands and their buffers, and on-site power easements, would be included in the project.

- Three public trail parks totaling 1.5 acres and two Community Trail Parks totaling 1.0 acres would be provided.

- A 6-acre adventure center open to residents and the public would be provided.

- Two private recreational amenity centers totaling 11 acres would be provided, one in the RV resort and the other in the residential area.

- A 627-site RV resort, including recreational facilities, would be provided.

- An approximately five-mile trail system and one mile of sidewalks would be provided that would connect on-site development and link to off-site trails in several locations.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- A 12-acre parcel would be dedicated to the City for future construction of a municipal (community) recreation center.

- The Applicant would support the City's efforts to obtain the necessary right of way or easement to construct an off-site connection from the 47° North site to the existing Coal Mines Trail and would contribute to the cost of the materials to construct the off-site trail connection.

Required Mitigation Measures

- The proposed recreational uses would be generally consistent with the City of Cle Elum Parks and Recreation Plan, including meeting or exceeding the Plan's LOS goals/targets for active parks, open space, trails/tracks/connections, and associated facilities.

- The specific locations and sizes of parks would be identified in the application and on the Master Site Plan in accordance with Parks and Recreation Targets/Goals in the City's Comprehensive Plan.

3.11.4 Significant Unavoidable Adverse Impacts

An increase in demand for park and recreational services and facilities would be an unavoidable impact of population growth under the SEIS Alternatives. With implementation of the mitigation measures listed above, no significant unavoidable adverse impacts to parks and recreational resources are expected.

3.12 PUBLIC SERVICES

This section of the DSEIS summarizes the public services information and analysis from the 2002 Cle Elum UGA EIS. It also updates the existing conditions information; evaluates the impacts of the SEIS Alternatives relative to 2002 Cle Elum UGA FEIS Alternative 5; and identifies appropriate mitigation measures.

Methodology

Information for the public services section was obtained through research and personal communications with the following affected agencies: Cle Elum-Roslyn-South Cle Elum Police Department (letter response received on April 6, 2020, and follow-up communication), Ellensburg Police Department (letter response received on May 7, 2020), Cle Elum Fire Department (letter response received on April 7, 2020), Cle Elum-Roslyn School District (phone conversation on May 14, 2020), Kittitas Valley Healthcare (letter response received on April 6, 2020), and Kittitas County 9-1-1 (KITTCOM) (letter response received on May 4, 2020).

Currently, none of the public service purveyors that serve the site have formally adopted quantitative Level of Service (LOS) standards. In addition, long-range planning documents (e.g., capital facilities plans) were not available or were not provided to the SEIS consultants by most of the purveyors; the exception was a 10-year strategic plan (2020-2030) provided by the Cle Elum Fire Department.

In the absence of this information, it is generally assumed for purposes of analysis in the DSEIS, that staffing needs for police, fire/Emergency Medical Service (EMS), hospital, and KITTCOM would increase in direct proportion to population increases under the SEIS Alternatives. Population-based standards for these services are often adopted by local jurisdictions to guide levels of service, and the use of such standards for estimating and analyzing incremental public service impacts in environmental documents is a common, generally accepted, and reasonable tool. This population-based approach was also used in the 2002 Cle Elum UGA EIS. It is noted, however, that this assumption is likely conservative (i.e., overestimates need to some extent) because it does not account for some efficiencies or economies of scale that may be experienced as agencies grow in size. At the same time, it does not address non-residential uses directly; this is discussed further in the analysis.

For SEIS Alternative 5, the permanent population from residential development, based on average persons per household, was used to analyze impacts on public services. For SEIS Alternative 6, population was defined to encompass the permanent population from the residential development, based on average occupancy and household size, plus an estimated proxy/equivalent population attributable to the RV resort, based on estimated seasonal occupancy and persons per unit. The methodology and assumptions used to calculate permanent and proxy population are described in detail in Section 3.9, **Housing,**

Population, & Employment, of the DSEIS.

For comparison purposes, an alternative methodology to analyze the impacts of the SEIS Alternatives on police service is also presented. This analysis was prepared by the Cle Elum-Roslyn-South Cle Elum Police Department based on the International City/County Association (ICMA) Center for Public Safety Management (CPSM) "Rule of 60" model. The model considers a range of factors, including actual workload, to arrive at staffing needs, rather than strictly using officer-to-population ratios. The calculations were performed by the Police Department and provided to the SEIS consultant.

The analysis of the impacts of the SEIS Alternatives on school service was based on school capacities, existing and projected enrollment, and student generation rates provided by the Cle Elum-Roslyn School District. The RV resort was not included in the school analysis because no permanent residents would reside on the RV sites that would generate students in the District.

The impacts from other components of the development under the SEIS Alternatives (e.g., commercial and recreational uses) are discussed qualitatively in this section. Although retail and office developments do generate some demand for police, fire, and hospital services, such demand is typically minor in comparison to residential demand. In addition, data on demand generated by commercial development is generally lacking and is not compiled by local providers.

The need for facilities and equipment is also generally noted in this section.

Note that the analysis in this section has been used as input to the Fiscal and Economic analysis in **Section 3.15.**

3.12.1 Affected Environment

2002 Cle Elum UGA EIS

Public service conditions for the Bullfrog Flats site and site vicinity in 2002 are described below. Because the Cle Elum UGA was located in unincorporated Kittitas County and was proposed to be annexed to the City, service agencies from Kittitas County as well as the City of Cle Elum were discussed in the 2002 Cle Elum UGA EIS.

Police Service

In 2002, police service for the unincorporated Bullfrog Flats site and vicinity was provided by the Kittitas County Sheriff's Office. Police service for areas within Cle Elum was provided by the City Police Department.

Kittitas County Sheriff's Office

In 2002, the Kittitas County Sheriff's Office headquarters was located in the City of Ellensburg; an unstaffed substation was also located near the Cle Elum airport. The Kittitas County Sheriff's Office was staffed by a sheriff, an undersheriff, a chief civil deputy, 18 deputies, and two detectives; approximately 15 volunteer reserve officers were also available for supplemental/special services. At the time, the Kittitas County Sheriff's Office did not maintain specific LOS standards for officers per population or response times. The ratio of officers to population was one per 1,370 people, which equates to a de facto standard of 0.73 officers per 1,000 people. Average response times ranged from 20 to 30 minutes with crimes reported as "in progress" resulting in a faster response time. These response times typically exceeded those in other jurisdictions due to the large geographic area that was served by the Sheriff's Office.

Based on data from 1998 that was available at the time of publication of the 2002 Cle Elum UGA EIS, a total of 9,983 calls were dispatched to the Kittitas County Sheriff's Office with most of the calls being for theft, burglary, or assault.

Cle Elum Police Department

In 2002, the City of Cle Elum Police Department served Cle Elum and South Cle Elum from its headquarters building at E Second Street and Pennsylvania Avenue. Department personnel included the chief, a sergeant, and six patrol officers. The City maintained three patrol cars and three 4-wheel drive vehicles and typically no more than two officers were on patrol at a time. Based on data from the City's Comprehensive Plan, the ratio of officers to population was approximately one officer per 330 population, and for incident response time LOS was three to five minutes. Additional department needs identified at the time included a new crime prevention officer and detective, as well as replacement of and/or addition to the existing vehicle fleet.

Based on data from 1998, the City of Cle Elum Police Department received a total of 3,932 calls for service. Most of the calls were to respond to theft, burglary, or assault incidents.

Fire Protection Service

In 2002, fire and emergency service for the unincorporated Bullfrog Flats site and site vicinity were provided by Kittitas County Fire District No. 7. Within the City of Cle Elum, fire and emergency service response was provided by the City of Cle Elum Fire Department.

Kittitas County Fire District No. 7

Kittitas County Fire District No. 7 provided services to most of Kittitas County located west of the City of Cle Elum and maintained two stations in the vicinity of the Bullfrog Flats site: Station No. 1 located approximately two miles southeast of the site and Station No. 3 located approximately one mile west of the site. Fire District No. 7 included approximately 50 volunteer personnel who reported for duty from their homes when an alarm sounded. Equipment for Fire District No. 7 included six pumper engines, four tanker engines, and six brush trucks.

In 1998, Fire District No. 7 received approximately 108 calls for service, most of which were related to fire incidents. At the time, medical incidents were primarily responded to by Hospital District No. 2 and the Cle Elum Fire Department. In 2002, Fire District No. 7 did not maintain any LOS standards for response times or firefighters per population.

Cle Elum Fire Department

The City of Cle Elum Fire Department served both the City of Cle Elum and South Cle Elum and maintained two fire stations within the city limits. Station No. 1 shared a location with the Cle Elum Police Department and Station No. 2 was located approximately eight blocks east within the city limits; South Cle Elum also contained one station within its city limits. Fire Department personnel included approximately 58 volunteer firefighters. Equipment for the Fire Department included three pumper engines, two brush trucks, and one ambulance.

In 1998, the Fire Department received approximately 254 calls for services. Most of these calls (approximately 65%) were to respond to medical-related incidents which reflected the Department's role as a responder for medical calls within the city limits and the backup responder to Hospital District No. 2. Data for the Fire Department indicated that the number of calls had gradually increased since 1995. The Fire Department maintained a LOS response time standard of four minutes to respond to fire incidents. At the time of the 2002 Cle Elum UGA EIS, the incident response time was approximately four to five minutes.

Emergency Medical & Hospital Service

In 2002, Kittitas County Hospital District No. 2 maintained a clinic in the City of Cle Elum that provided 24-hour emergency response/aid services to the upper Kittitas County area, including primary advanced life support, ambulance service, emergency room service, and related medical services. Comprehensive hospital and emergency room service was provided by the Kittitas Valley Hospital District No. 1 which was located in Ellensburg. Incident history for Hospital District No. 2 indicated that District No. 2 averaged approximately 620 ambulance responses per year from 1995 to 1997. Approximately 30% of those responses were for advanced life support (i.e., support for more severe medical issues including the administration of IVs, use of medications, etc.) and 40% were for basic life support service (i.e., support for less severe medical issues including CPR). In 1998, ambulance responses by District No. 2 increased to approximately 740 ambulance responses.

Public Schools

In 2002, the Cle Elum-Roslyn School District served the majority of central Kittitas County. A 49-acre school campus was located south of Highway 903 and included three facilities: an elementary/middle school (with both schools in the same building), a high school, and an administration building. A transportation facility for school buses was also located in downtown Cle Elum. Enrollment within the District for the five-year school year period from 1995-96 to 1998-99 ranged from approximately 998 students to approximately 1,077 students; enrollment for the 1999-2000 school year was projected to be approximately

1,032 students. At the time of publication of the 2002 Cle Elum UGA EIS, the District was in the process of developing a five-year capital facilities plan which included a capacity analysis that assumed that the District had the capacity available for approximately 200 additional students. According to the 2002 Cle Elum UGA EIS, by year seven, FEIS Alternative 5 was estimated to generate a total of 631 students, and by year 30, a total of 984 students.

(See 2001 Cle Elum UGA DEIS Section 3.16, and 2002 Cle Elum UGA FEIS Section 3.15, for details.)

2020 SEIS

Since issuance of the 2002 Cle Elum UGA EIS, the UGA/Bullfrog Flats site was annexed to the City of Cle Elum. As a result, public services conditions in the City of Cle Elum are the focus of this sub-section.

Police Service

Police service for the 47° North site and incorporated vicinity are now provided by the Cle Elum-Roslyn-South Cle Elum Police Department which serves the municipalities of Cle Elum, Roslyn, and South Cle Elum. This service area contains a total population of approximately 3,350 people based on 2019 data. The Police Department headquarters are currently located at 807 W Second Street and is staffed by a Police Chief, a Sergeant, a Corporal, five patrol officers, a per-diem reserve officer, a part-time animal control officer, and a full-time and a part-time administrative and records personnel. The Department maintains 11 vehicles, nine of which are equipped for patrol duties. Typically, the minimum staffing level for the Department is two officers on duty per shift and typical shift hours are 7:00 AM to 7:00 PM and 7:00 PM to 7:00 AM (Cle Elum-Roslyn-South Cle Elum Police Department, 2020).

Calls for service to the Department are generally received by KITTCOM and dispatched to patrol officers in the field. In addition, the Department occasionally receives calls directly to officers, headquarters, or city hall, as well as walk-in requests to headquarters or officer-initiated calls. Over the past five years (since 2015), calls for service to the Department have increased in annual increments by approximately 27%; see **Table 3.12-1** (Cle Elum-Roslyn-South Cle Elum Police Department, 2020).

Table 3.12-1
CLE ELUM-ROSLYN POLICE DEPARTMENT
CALLS FOR SERVICE: 2015-2019

Year	Calls for Service
2015	3,372
2016	3,515
2017	3,664
2018	3,721
2019	4,289

Source: Cle Elum-Roslyn-South Cle Elum Police Department, 2020.

Despite the increase in calls for service over the last five years, criminal bookings by the Department have generally declined by approximately 44% since 2015. **Table 3.12-2** summarizes criminal bookings by type by the Department over the last five years.

The Department does not track specific response times and does not maintain a response time goal but states that it provides the, "highest and most responsive community policing possible with the resources that are available" (Cle Elum-Roslyn-South Cle Elum Police Department, 2020).

Table 3.12-2
CLE ELUM-ROSLYN-SOUTH CLE ELUM POLICE DEPARTMENT
CRIMINAL BOOKINGS: 2015-2019

	2015	2016	2017	2018	2019
DUI	1	2	0	6	3
Assault Domestic Violence	18	7	12	8	7
Assault	2	0	0	1	1
Felony Arrest	15	12	15	8	9
Other Arrest	6	6	5	7	4
Juvenile Arrest	1	0	2	4	2
Warrant Arrest	7	11	10	9	2
Total	**50**	**38**	**44**	**43**	**28**

Source: Cle Elum-Roslyn-South Cle Elum Police Department, 2020.

As part of their future planning, the Department has adopted a five-year plan (2020-2025) for staffing, equipment, and other department goals; this plan was developed independent of the 47° North Project and was not provided for this SEIS. The Department uses the ICMA CPSM "Rule of 60" model for planning purposes. As mentioned previously, this model bases staffing decisions on actual workloads rather than on a ratio of officers needed to service a projected population. Over the next five years, the Department has identified the goal of increasing personnel by two people (minimum) during the week and three people on busier

days. They intend to hire three additional officers during this timeframe. The Department has also identified the need to replace equipment, including computer workstations, car camera systems, body camera systems, and other equipment to meet current requirements (Cle Elum-Roslyn-South Cle Elum Police Department, 2020).

Fire Protection Service

The Cle Elum Fire Department currently provides fire protection service for the site and site vicinity within the City of Cle Elum. They also maintain mutual aid agreements with the South Cle Elum Fire Department, Kittitas County Hospital District No. 2, Kittitas County Fire District No. 7, the Washington State Department of Natural Resources (WDNR), and the Washington State Forest Service. The Fire Department is a volunteer department and primarily operates out of a station located at 301 Pennsylvania Avenue (constructed in 2005); an additional station is located at 206 Columbia Avenue. The Fire Department is staffed by approximately 42 volunteers, including a part-time Fire Chief, two Assistant Chiefs, four Captains, four Lieutenants, and approximately 28 firefighters with six firefighters/Emergency Medical Technician (EMTs). As a volunteer department, none of the personnel are on duty at a specific time but respond to calls as needed. Apparatus and vehicles for the Fire Department include two engines, a rescue vehicle, a brush vehicle, a tender vehicle for water transport, three ambulances, and a command vehicle (City of Cle Elum Fire Department, 2020).

Calls for service are generally received by KITTCOM and dispatched to the Fire Department. Over the past five years (since 2015), calls for service to the Department have increased by approximately 92%; see **Table 3.12-3** (Cle Elum Fire Department, 2020). Most of the calls responded to by the Department (greater than 50%) are for first aid/injuries, basic life support (BLS), or emergency medical services (EMS).

Table 3.12-3
CLE ELUM FIRE DEPARTMENT CALLS FOR SERVICE: 2015-2019

Year	Calls for Service
2015	319
2016	289
2017	487
2018	524
2019	614

Source: Cle Elum Fire Department, 2020.

The Cle Elum Fire Department does not maintain a response time goal or standard but encourages safe, timely response to incidents. Over the past five years, the average response time for EMS calls has been approximately seven minutes and the average response time for fire protection calls has been approximately 13 minutes (City of Cle Elum Fire Department, 2020).

In 2019, the Department completed a 10-year strategic plan (2020-2030) to identify needs and short-term and long-term goals for the Department, with or without the 47° North Project. The strategic plan identifies several goals and recommendations to improve fire suppression and rescue operations; improve the emergency medical services program; address personnel issues; expand fire prevention and community education; and address administrative and facilities shortcomings. One of the highest priority items identified in the strategic plan is the replacement of the primary fire engine and primary ambulance, and the creation of a replacement plan for all other fire apparatus. In addition, the strategic plan identifies the difficulty in recruiting and retaining volunteer staff, and the need to hire full-time personnel for the Department, including a full-time fire chief, full- or part-time assistants, and full-time firefighters/EMTs in order to staff fire stations at all hours of the day (City of Cle Elum Fire Department, 2020). While population growth is referenced as one of the drivers of the goals in the strategic plan, specific assumptions for future population in the Department's service area were not identified in the plan.

Emergency Medical & Hospital Service

Kittitas County currently is served by two hospital districts. Hospital District No. 1 (Kittitas Valley Healthcare) serves Kittitas County and operates a full-service critical access hospital in Ellensburg that serves the Kittitas County region.[1] Hospital District No. 2 serves the northern and western portions of Kittitas County, including the City of Cle Elum. District No. 2 operates Medic One ambulance service which is housed in Cle Elum and operates two ambulances 24 hours a day; each ambulance is staffed by one EMT and one paramedic. Total staffing levels for Medic One include nine EMTs and 11 paramedics. Calls for service for Medic One have been relatively steady over the past five years with an increase of approximately 5% since 2015. **Table 3.12-4** summarizes calls for service by Medic One.

Table 3.12-4
MEDIC ONE AMBULANCE CALLS FOR SERVICE: 2015-2019

Year	Calls for Service
2015	1,042
2016	1,106
2017	1,131
2018	1,119
2019	1,098

Source: Kittitas Valley Healthcare, 2020.

District No. 2 also maintains the Family Medicine Clinic building in Cle Elum, which is leased to Hospital District No. 1. The Hospital District employs the staff and providers at the clinic, which currently includes one physician, five advanced practice clinicians (APCs), and four

[1] According to data from the Washington State Office of Financial Management (OFM), the 2019 population for Kittitas County was approximately 46,570.

registered nurses (RNs). Hospital District No. 1 also owns and operates an Urgent Care Clinic in Cle Elum which is staffed with three APCs and two RNs.

Hospital District No. 1's primary facilities are located in Ellensburg and include the critical access hospital that features 25 beds, a medical surgical unit with 13 beds, a critical care unit with six beds, and a family birthing unit with three labor, delivery, and recovery patient (LDRP) rooms, three post-partum beds and a surgical suite. Hospital staffing currently includes 17 physicians, four APCs, and 101 RNs. In addition to the hospital facilities, Hospital District No. 1 operates several clinics in Ellensburg to provide services such as allergy, pediatrics, internal medicine, dermatology, family medicine, women's health, orthopedics, physical therapy, occupational therapy, and speech therapy. Staffing at Kittitas Valley Healthcare clinics include approximately 20 physicians, 20 APCs, and 25 RNs.

Hospital District No. 1 and Hospital District No. 2 regularly conduct strategic planning to determine future facility, staffing, and equipment needs. Hospital District No. 1 was in the process of updating their strategic plan for 2021-2023 but that process was put on hold due to the recent COVID-19 pandemic. Hospital District No. 2 recently completed a Master Site Plan for their property that contains the Medic One station and the Family Medicine Clinic in Cle Elum. The plan includes a new 7,500-sq. ft. ambulance garage; it also features space for an expansion of the medical clinic building, a commercial building, and a 12-unit assisted living facility.

Emergency Dispatch Service

KITTCOM provides emergency dispatch services within Kittitas County[2] including 17 public agencies, such as the Cle Elum-Roslyn-South Cle Elum Police Department, Cle Elum Fire Department, and Hospital District No. 2. KITTCOM's dispatch offices are located at 700 Elmview Road in Ellensburg. Staffing for KITTCOM includes a director, two supervisors (who also work as dispatchers), 12 full-time emergency service dispatchers, one part-time emergency service dispatcher, one communications engineer, and one information systems analyst. A minimum of two dispatchers are on duty at any given time during the week. On Fridays, Saturdays, and Sundays there are a minimum of three dispatchers on duty (KITTCOM, 2020).

Over the past five years, incoming calls to KITTCOM have slightly increased, by approximately 5% since the 2014 to 2015 reporting period.[3] From 2018 to 2019, KITTCOM received approximately 47,750 calls that were dispatched to various agencies throughout Kittitas County. **Table 3.12-5** summarizes incoming calls to KITTCOM over the past five years.

[2] Ibid.

[3] Calls to KITTCOM are tracked on a yearly basis from July 1st through June 30th.

Table 3.12-5
CALLS RECEIVED BY KITTCOM: 2014-2019

	2014/15	2015/16	2016/17	2017/18	2018/19
Incoming Calls	45,561	38,676	41,143	45,836	47,753

Source: KITTCOM, 2020.

Most of the calls received during the 2018-2019 time period (approximately 63%) were dispatched to the Ellensburg Police Department and the Kittitas County Sheriff. During that time, calls that were dispatched to the Cle Elum-Roslyn-South Cle Elum Police Department, Cle Elum Fire Department, and Hospital District No.2 accounted for approximately 13% of all calls to KITTCOM (KITTCOM, 2020).

Public Schools

The Cle Elum-Roslyn School District continues to serve most of central Kittitas County, including the 47° North site and vicinity. District facilities now include three schools located within the same campus adjacent to SR-903 (at 2692, 2694, and 2696 SR 903). These schools are: Cle Elum-Roslyn Elementary (K-5th, as well as a pre-school/early childhood program), Walter Strom Middle School (6th-8th), and Cle-Elum-Roslyn High School (9th-12th). The District also includes an alternative high school – Swiftwater Learning Center – located at 4244 Bullfrog Road. No portables are currently used at any of the District's schools.

Cle Elum Elementary has a capacity for approximately 440 students; 26 teachers currently teach at the elementary school. Walter Strom Middle School has a capacity for approximately 230 students; 16 teachers currently teach at the middle school. Cle Elum-Roslyn High School has a capacity for approximately 300 students; 19 teachers currently teach at the high school. Swiftwater Learning Center has a capacity for approximately 30 high school students; one teacher currently teaches at the alternative high school. In addition, the Cle Elum-Roslyn School District provides after-school care (primarily at the elementary school level), and after-school sports/activities (generally at the middle school and high school levels).

Overall student enrollment within the District has remained relative stable since 2014**.** **Table 3.12-6** summarizes the student enrollment within the District by grade level. As noted in the table, enrollment at the elementary and middle school levels has slightly increased over the last five years, while enrollment at the high school level has slightly decreased. Overall, student enrollment within the District has decreased by approximately 1% since 2014. Based on the 2019 student enrollment levels indicated in **Table 3.12-6**, each of the schools within the District are currently below the student capacity for their respective schools.

Table 3.12-6
CLE ELUM-ROSLYN SCHOOL DISTRICT
CAPACITY & ENROLLMENT: 2014-2019

School Level	Existing Capacity	2014 Enrollment	2015 Enrollment	2016 Enrollment	2017 Enrollment	2018 Enrollment	2019 Enrollment
Elementary	440	396	385	391	430	396	426
Middle School	230	205	202	184	183	201	220
High School	300	310	292	299	284	264	258
TOTAL STUDENTS	**970**	**911**	**879**	**874**	**897**	**861**	**904**

Source: Cle Elum-Roslyn School District, 2020.

Student enrollment projections from the District indicate that student enrollment is anticipated to increase by approximately 8% by 2025 (Cle Elum-Roslyn School District, 2020). The population assumptions on which this enrollment was based were not provided for this DSEIS. However, school districts employ a unique state-mandated methodology to project the growth of student enrollment (the cohort survival method); growth projections are not based purely on local population estimates. **Table 3.12-7** summarizes the District's enrollment projections through 2025, which indicate that most of the student enrollment growth within the District is anticipated to occur at the high school level.

Table 3.12-7
CLE ELUM-ROSLYN SCHOOL DISTRICT CAPACITY
& PROJECTED ENROLLMENT: 2020-2025

	Existing Capacity[1]	2020 Enrollment	2021 Enrollment	2022 Enrollment	2023 Enrollment	2024 Enrollment	2025 Enrollment
Elementary	440	413	406	415	411	425	416
Middle School	230	251	256	243	231	213	232
High School	300	258	270	287	319	339	327
TOTAL STUDENTS	**970**	**922**	**932**	**945**	**961**	**977**	**975**

Source: Cle Elum-Roslyn School District, 2020.

[1] Existing capacity is based on permanent buildings only, as the District currently does not use portables.

Projected enrollment through 2025 is expected to be within the capacity of the Cle Elum Elementary School (440 students); however, enrollment could exceed the capacity of the Walter Strom Middle School (230 students), and the Cle-Elum Roslyn High School in certain years (300 students). Projections beyond year 2025 are not available.

The Cle Elum-Roslyn School District is in the process of constructing a new bus barn to house the District's school bus fleet. A potential project to improve the playscape at the elementary school and provide a potential covered play area is in the planning stages. The

District will begin updating their capital facilities planning document in the near future (Cle Elum-Roslyn School District, 2020).

3.12.2 Impacts of the Alternatives

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

Construction Impacts – FEIS Alternative 5

The 2002 Cle Elum UGA EIS indicated that construction-related impacts to police services, fire protection services, and EMS would include a possible increase in calls related to construction site theft, vandalism, injury, and fire. Project year five development impacts, i.e., from occupancy of constructed residential units, were analyzed as part of the discussion of *Construction Impacts* under FEIS Alternative 5. Note that the SEIS discussion, however, characterizes such impacts as operational rather than construction-related, which is considered to be a more accurate characterization.

Police Service

By project year five under FEIS Alternative 5 (the development year analyzed for construction impacts in the 2002 Cle Elum UGA EIS), the projected demand for new police department personnel would be approximately three new officers, based on a ratio of two officers per 1,000 residents; this ratio was consistent with a 1997 survey of Washington police department staffing levels for cities with populations ranging from 2,500 to 10,000 people. As noted previously, this population-based estimate does not specifically address business park activity.

Fire Protection Service

As indicated in the 2002 Cle Elum UGA EIS, the City of Cle Elum would require greater assurance of the availability of weekday firefighter response during the construction process. This could be accomplished through guarantees of additional trained volunteers, or from the Applicant funding one trained full-time equivalent (FTE) firefighter. This staffing need was anticipated to increase to three FTE firefighters by the time construction commenced on 60% of the residential units (approximately project year 5).

Emergency Medical & Hospital Service

Based on the service ratios for paramedics and EMTs at the time, the construction process under FEIS Alternative 5 would require two additional paramedics and one additional EMT by project year five.

Public Schools

To the extent that construction under FEIS Alternative 5 could bring new households with school-age children to the area, the 2002 Cle Elum UGA EIS indicated that the Cle Elum-Roslyn School District would experience some level of additional enrollment. Construction-related enrollment was considered to represent a portion of the projected enrollment identified in the District's Capital Facilities Plan that would be accommodated in portable classrooms, if necessary.

Operation Impacts – FEIS Alternative 5

Development under FEIS Alternative 5 would result in increases in permanent population on the Bullfrog Flats site, which was anticipated to generate additional demand for public services.

Police Service

New development under FEIS Alternative 5 would generate new calls for service from the Cle Elum Police Department based on the increased population on the site. It was anticipated that a total of five new officers and supporting patrol cars and firearms would be required at full buildout of the site (project year 30).

Fire Protection Service

At full buildout under FEIS Alternative 5, it was anticipated that new development would generate additional calls for fire service. The three FTE firefighters identified above by project year five would also be able to serve the site through full buildout of the site but would need to be supported by an additional 15 volunteer firefighters. Travel time estimates were also provided for FEIS Alternative 5 and indicated that responses from Cle Elum Fire Department Station No. 1 would range from 1.3 minutes to three minutes.

Capital facility and equipment requirements under FEIS Alternative 5 would include a brush/rescue vehicle when construction commences, a pumper engine when construction has occurred on 67% of the residential units, and a fire station in year two to accommodate the vehicles. Subsequent to the initial construction phase, the potential for igniting wildfires was anticipated to be minor. Roadways would serve as a firebreak, as would designated tracts for open space around the perimeter of the residential areas. A water tender would be needed until water mains and hydrants were installed on the site; this need could be served by a water tender that was proposed for Kittitas County Fire District No. 7.

Emergency Medical & Hospital Services

For Hospital District No. 2, the two paramedics and one EMT identified above as needed by project year five would need to be supplemented by a third paramedic in project year ten. By project year 30, a total of three paramedics and two EMTs would be required to provide

service. Hospital District No. 2 also identified a need for an additional ambulance to serve new development.

Public Schools

Development under FEIS Alternative 5 would add new school-age children within the Cle Elum-Roslyn School District. Projected students generated under FEIS Alternative 5 would include approximately 527 students by project year five, 826 total students by project year 20, and 914 total students by project year 30. With the addition of new students, it was anticipated that portable classrooms would initially be used, as necessary, until the District's property tax base was able to support new school construction costs. Under FEIS Alternative 5, 25 to 35 acres would be dedicated to the School District to accommodate future growth in the area.

(See 2001 Cle Elum UGA DEIS Section 3.16, and 2002 Cle Elum UGA FEIS Section 3.15, for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) – *Approved Bullfrog Flats Master Site Plan*

Construction Impacts – SEIS Alternative 5

As noted previously, the 2002 FEIS characterized project year five impacts from proposed development as *Construction Impacts*. For SEIS Alternative 5, these impacts are discussed under *Operation Impacts* below, which is considered to be a more accurate characterization of the cause and timing impacts.

Construction activities to build the residential and commercial development under SEIS Alternative 5 would generate demand for public services during construction. The level of impacts actually and specifically related to construction is not quantified in the SEIS but are expected to be minimal and substantially the same as the actual construction-related impacts under FEIS Alternative 5.

Police Service

Construction activities associated with development under SEIS Alternative 5 would generate new calls for service from the Cle Elum-Roslyn-South Cle Elum Police Department, primarily related to construction site theft, vandalism, and injury.

Fire Protection Service

Construction under SEIS Alternative 5 would generate new calls for services to the Cle Elum Fire Department. Calls for service are anticipated to relate to workplace injuries or fire incidences during the construction process.

Emergency Medical & Hospital Service

Construction under SEIS Alternative 5 would result in calls for service due to construction-related injuries. Such injuries may require emergency medical services and ambulance transportation from Hospital District No. 2 Medic One.

Emergency Dispatch Service

During construction, SEIS Alternative 5 is anticipated to generate calls to KITTCOM that would be dispatched to the Cle Elum-Roslyn-South Cle Elum Police Department, Cle Elum Fire Department, and Hospital District No. 2. Incoming calls to KITTCOM would likely be related to construction site theft/vandalism and construction-related injuries.

Public Schools

Construction workers that would in-migrate to the Cle Elum-Roslyn School District under SEIS Alternative 5, either temporarily or permanently, could result in some number of new households with school-age children, which could increase student enrollment in the District. The number of students associated with this in-migration has not been estimated.

Operation Impacts – SEIS Alternative 5

Operational impacts on public services under SEIS Alternative 5 would primarily relate to the new on-site population that would be generated by the residential development. The public service purveyors that serve the site do not have adopted quantitative LOS standards and largely long-range planning documents were not provided for this SEIS. For purposes of analysis, it is generally assumed that staffing needs would increase in direct proportion to population increases. New residents on the site would create additional demand for public services as the site is developed over the approximately 30-year buildout period. The commercial development would generate some additional minor demand for services. **Table 3.12-8** summarizes the residential population assumptions for the SEIS Alternatives at buildout, as compared to FEIS Alternative 5.

Table 3.12-8
PERMANENT RESIDENTIAL POPULATION AT BUILDOUT –
SUMMARY OF FEIS & SEIS ALTERNATIVES

Alternative	Residential Units	New Permanent Residents	New Proxy Residents (RV Park)
FEIS Alternative 5	1,334	2,945	--
SEIS Alternative 5	1,334	2,809	--
SEIS Alternative 6	707	1,489	941

Source: 2002 Cle Elum UGA EIS, 2002 Approved Master Site Plan, Sun Communities, 2020.
Note: see Section 3.9, **Housing, Population, and Employment,** for persons/household and % occupancy assumptions that were used to generate the estimates of new permanent and proxy residents. Proxy residents are "equivalent" residents generated by the RV resort.

SEIS Alternative 5 would have the same number of residential units as FEIS Alternative 5 but is projected to have fewer new residents due to a lower assumed occupancy rate and lower average household size, based on updated U.S. Census information. **Table 3.12-9** provides a breakdown of residential units and new residents on the site by phase under SEIS Alternative 5.

Table 3.12-9
RESIDENTIAL POPULATION BY PHASE – SEIS ALTERNATIVE 5

Buildout Year	Residential Units (cumulative)	New Residents (cumulative)
Year 2025	779	1,640
Year 2031	957	2,015
Year 2037	1,111	2,340
Year 2051	1,334	2,809

Source: 2002 Approved Master Site Plan.
Notes:
1. See Section 3.9, **Housing, Population, and Employment,** for persons/household and % occupancy assumptions that were used to generate the new permanent residents.
2. Like FEIS Alt.5, buildout under SEIS Alt. 5 is assumed to occur over 30 years.

Police Service

Development and associated new residents under SEIS Alternative 5 would generate increased demand for police services, including new calls for services from the site. Increased demand for police services would create an increased need for additional officers to serve the new residents over the course of the full buildout of the site. Since the Police Department does not have an adopted LOS standard, for purposes of analysis it is assumed that staffing needs would increase in direct proportion with population increases. Based on current Police Department staffing levels (eight officers per 3,350 population), SEIS Alternative 5 would generate the following approximate cumulative need for additional staff by analysis year:

- **2025:** 3.9 officers.
- **2031:** 4.8 officers.
- **2037:** 5.6 officers.
- **2051:** a cumulative total of approximately 6.7 officers at full buildout.

Note that the above estimates are based only on a ratio of staff-to-population; this is a common and accepted approach to estimating future demand, and was the method used in the 2002 Cle Elum UGA EIS. However, there are other formulas for determining police staffing needs. The Cle Elum Police Department has formulated alternative projections for potential staffing needs based on a more complex formula using the ICMA CPSM "Rule of 60"model, described previously, which considered a range of additional factors, including workload. The Police Department modeling identified how many additional officers and the

years by which they would be needed: approximately four officers by 2021, four additional officers (eight total) by 2032, and four more (12 total) officers by 2044 (Personal Communication with Chief Kirk Bland, 2020). Using the SEIS Alternative 5 phasing, this would equate to the following approximate cumulative need for additional staff by analysis year:

- **2025:** 1 officer.
- **2031:** 1 officer.
- **2037:** 8 officers
- **2051:** a cumulative total of approximately 12 officers at full buildout

Fire Protection Service

Development and associated new residents under SEIS Alternative 5 would generate additional demand for fire protection services. It is assumed that service demand generated by the new population would include a mix of calls related to fire protection, first aid/injuries, basic life support (BLS), and emergency medical services (EMS). Cle Elum has not adopted a numerical level of service standard that can be used to project fire protection service needs based on population or other project-specific factors. Therefore, for purposes of analysis in the SEIS, a similar methodology to that used in the 2002 Cle Elum UGA EIS was employed. This involved conducting an informal survey of fire departments in cities of between 3,000 and 10,000 residents[4] located in Central and Eastern Washington to project potential staffing needs. **Table 3.12-10** provides a summary of full-time and volunteer staffing levels at seven fire departments.

Table 3.12-10
EXISTING STAFFING LEVELS AT REPRESENTATIVE FIRE DEPARTMENTS

Department	Population (2019)	Paid	Volunteer
Chelan Fire District 7	4,265	11	41
Ephrata Fire Dept	8,180	2	27
Wapato Fire Dept	5,055	1	21
Omak Fire Dept	4,940	1	34
Toppenish Fire Dept	9,105	5	25
Goldendale Fire Dept	3,545	0	30
Grant County District 3 (Quincy)	7,720	8	79
Average	**6,115**	**4**	**37**

Source: Chelan Fire District 7, Ephrata Fire Department, Wapato Fire Department, Omak Fire Department, Toppenish Fire Department, Goldendale Fire Department, and Grant County Fire District 3, 2020.

[4] The current population in the City of Cle Elum is approximately 1,915 people based on the 2019 data from the Washington State OFM. SEIS Alternative 5 is anticipated to add approximately 2,809 new residents in the City.

The average staffing levels for fire departments in the selected range of cities is approximately four paid full-time firefighters and 37 volunteer firefighters. As noted previously, the Cle Elum Fire Department currently includes approximately 42 volunteers but has identified the need to hire paid full-time firefighters in the future, with or without the 47° North Project (City of Cle Elum Fire Department, 2020). Based on that identified future need and the survey results in **Table 3.12-10**, it is estimated that SEIS Alternative 5 would generate an approximate cumulative need for the following additional staff by analysis year:

- **2025:** 2.3 paid full-time firefighters.
- **2031:** 2.6 paid full-time firefighters.
- **2037:** 2.8 paid full-time firefighters.
- **2051:** a cumulative total of approx. 3.1 paid full-time firefighters at full buildout.

The Fire Department has also identified several high priority equipment needs as part of their strategic plan, including the replacement of the primary fire engine and primary ambulance. This equipment is currently needed and would be needed to serve future development under SEIS Alternative 5 (City of Cle Elum Fire Department, 2020).

Emergency Medical & Hospital Services

Development and the associated new residents under SEIS Alternative 5 would generate increased demand for emergency medical services (ambulance transports, etc.) and hospital services. As noted previously, Hospital District No. 2 currently serves the Upper Kittitas County area, including the City of Cle Elum. It provides Medic One ambulance service and is the owner of the clinic facilities in Cle Elum. Hospital District No. 2 and Kittitas Valley Healthcare do not have adopted LOS standards. For purposes of analysis in the SEIS, it is assumed that staffing needs would increase in direct proportion with population increases. Based on current staffing levels for Medic One,[5] it is anticipated that SEIS Alternative 5 would generate an approximate cumulative need for the following additional staff by analysis year:

- **2025:** 3.5 EMTs and 4.3 paramedics.
- **2031:** 4.3 EMTs and 5.3 paramedics.
- **2037:** 5.0 EMTs and 6.1 paramedics.
- **2051:** a cumulative total of approx. 6.0 EMTs and 7.4 paramedics at full buildout.

The existing clinics in Cle Elum would also see increased demand from new development. Based on current staffing levels at the facilities in Cle Elum,[6] it is anticipated that SEIS Alternative 5 would generate an approximate cumulative need for the following additional staff by analysis year:

[5] Current staffing for Medic One includes 9 EMTs and 11 paramedics for the upper county area (approximately 4,200 people served).

[6] Current staffing includes one physician, eight APCs, and six RNs for the upper county area (approximately 4,200 people served).

- **2025:** 0.4 physicians, 3.1 APCs, and 2.3 RNs.
- **2031:** 0.5 physicians, 3.8 APCs and 2.9 RNs.
- **2037:** 0.6 physicians, 4.5 APCs and 3.3 RNs.
- **2051:** a cumulative total of approx. 0.7 physicians, 5.4 APCs, and 4.0 RNs at full buildout.

Hospital District No. 1 (aka Kittitas Valley Healthcare) provides hospital services for Kittitas County, including the City of Cle Elum, and is anticipated to experience increased demand for services as a result of development and new residents under SEIS Alternative 5. Based on current staffing levels at the hospital in Ellensburg,[7] it is anticipated that SEIS Alternative 5 would generate an approximate cumulative need for the following additional staff by analysis year:

- **2025:** 0.6 physicians, 0.1 APCs, and 3.6 RNs.
- **2031:** 0.7 physicians, 0.2 APCs, and 4.4 RNs.
- **2037:** 0.9 physicians, 0.2 APCs, and 5.1 RNs.
- **2051:** a cumulative total of approx. 1.0 physicians, 0.2 APCs, and 6.1 RNs at full buildout.

In addition to increased staffing needs, both Hospital District No. 1 and Hospital District No. 2 anticipate that increased demand and staffing due to the project (as well as other growth in the County) would result in a need to provide additional facility space to serve new residents and demand. New facility space needs could include additional space for the Family Medicine Clinic and Urgent Care Center in Cle Elum, additional ambulance and crew quarters for Hospital District No. 2, and additional skilled nursing facility space for Hospital District No. 1 (Kittitas Valley Healthcare, 2020).

Emergency Dispatch Service

As noted above, development and associated new residents under SEIS Alternative 5 are anticipated to generate increased demands and calls for service for the Cle Elum-Roslyn-South Cle Elum Police Department, Cle Elum Fire Department, and Hospital District No. 2. Similar to current conditions, these incoming calls would be handled by KITTCOM and dispatched to the appropriate agency to respond to the call. Since KITTCOM does not have an adopted LOS standard, it is assumed for purposes of analysis in the SEIS that staffing needs would increase in direct proportion with population increases. Based on the current staffing levels for KITTCOM,[8] it is anticipated that development under SEIS Alternative 5 would generate an approximate cumulative need for the following additional staff by analysis year:

- **2025:** 0.5 dispatchers.

[7] Current staffing at the hospital includes 17 physicians, four APCs, and 101 RNs for Kittitas County (approximately 46,570 people based on 2019 data from the Washington State OFM).

[8] Staffing levels at KITTCOM include 14.5 dispatchers, including 12 full-time dispatchers, one part-time dispatcher, and two supervisors that also work as dispatchers.

- **2031:** 0.6 dispatchers.
- **2037:** 0.7 dispatchers.
- **2051:** a cumulative total of approximately 0.9 dispatchers at full buildout.

Public Schools

Students. Development and associated new residents under SEIS Alternative 5 are anticipated to generate new students and increased demand for public school services from the Cle Elum-Roslyn School District. Based on an average student generation rate of approximately 0.25 students per household,[9] it is anticipated that development under SEIS Alternative 5 would generate the following approximate cumulative additional students within the District by analysis year:

- **2025:** 195 students.
- **2031:** 239 students.
- **2037:** 278 students.
- **2051:** a cumulative total of approximately 334 students at full buildout.

While the specific grade levels of potential new students cannot be determined, it is anticipated that students generated by new development would be dispersed across a range of grade levels over the course of development on the site. As noted in the *Affected Environment* discussion, each of the schools are currently below capacity. However, with the introduction of new students under SEIS Alternative 5, it is anticipated that some or all of the schools could reach the capacity limits of their existing facilities. In the event that this occurs over the course of the project, portable classroom buildings at the school sites or additions to existing building facilities could be required.

Teachers. New students under SEIS Alternative 5 would generate a need for additional teachers within the School District. For the purposes of analysis, the need for new teachers that would be associated with development is based on the existing student to teacher ratio within the District.[10] The Cle Elum-Roslyn School District currently has a student to teacher ratio of approximately 14.6 students for every teacher.[11] Based on this student to teacher ratio, it is anticipated that SEIS Alternative 5 would generate the cumulative need for the following approximate additional staff to serve cumulative new students at the current student/teacher ratio by analysis year:

- **2025:** 13.4 teachers.
- **2031:** 16.4 teachers.
- **2037:** 19.0 teachers.

[9] Student generation rates provided in personal communications with the Cle Elum-Roslyn School District Superintendent – Michelle Kuss-Cybula in May 2020.

[10] It should be noted that actual future needs for new teachers would be based on student enrollment, as well as other factors such as state and local funding that is available to the school district, and future state policies and programs.

[11] Based on a current enrollment (2019) of approximately 904 students and staffing levels of approximately 62 teachers across the District.

- **2051:** a cumulative total of approximately 22.9 teachers at full buildout.

School Buses. New students generated by development under SEIS Alternative 5 would also create additional demand for school buses to transport students to and from school. In general, a typical school bus can hold between 45 and 60 students.[12] It is anticipated that development under SEIS Alternative 5 would result in the approximate cumulative need for additional school buses to transport additional students as follows by analysis year:

- **2025:** 3.3 to 4.3 buses.
- **2031:** 4.0 to 5.3 buses.
- **2037:** 4.6 to 6.2 buses.
- **2051:** a cumulative total of approximately 5.6 to 7.4 new buses at full buildout.

Other Facilities. In addition to the new students and the need for new teachers and buses that are anticipated to occur with development of SEIS Alternative 5, the Cle Elum-Roslyn School District has identified a current need for more indoor recreation space across their school campuses, as well as after-school childcare and facility space for elementary school students. Such needs would increase with the addition of new students under SEIS Alternative 5.

For all the public service providers, due to the phased nature of the development, demand for services would be generated on an incremental basis and as such, the need for new staff, equipment and facilities could be provided incrementally as development occurs.

Indirect & Cumulative Impacts – SEIS Alternative 5

Similar to FEIS Alternative 5, proposed development with SEIS Alternative 5 could result in some indirect impacts to public service agencies – such as police and fire departments – that could potentially provide assistance through mutual aid agreements. Additional indirect student generation in the Cle Elum-Roslyn School District could also occur from growth in population associated with new employment at business park uses under SEIS Alternative 5.

Cumulative impacts to public services would result from planned and approved development and associated population that could occur offsite within the same planning horizon as SEIS Alternative 5. Such development would include continued development of the Suncadia resort (in unincorporated Kittitas County), and development of the City Heights and Cle Elum Pines mixed-use projects (in City of Cle Elum). Together with SEIS Alternative 5, these projects would generate a population of about 6,110 residents and their associated demand for public services in the County and City by 2037.[13]

[12] Based on personal communications with the Cle Elum-Roslyn School District Superintendent – Michelle Kuss-Cybula in May 2020.

[13] See **Table 3.6-3** in Section 3.6, **Land Use,** for the estimated population of the cumulative impact projects. Note that the cumulative population with SEIS Alternative 5 is calculated for 2037. This is for comparison to the cumulative population at buildout with SEIS Alternative 6. Actual buildout of SEIS Alternative 5 is estimated to occur in 2051.

SEIS Alternative 6 *– Proposed 47° North Master Site Plan Amendment*

Construction Impacts – SEIS Alternative 6

As noted previously, project year five impacts from proposed development were also part of the discussion of *Construction Impacts* under FEIS Alternative 5 in the 2002 Cle Elum UGA EIS but are considered and discussed as *Operation Impacts* for SEIS Alternative 6 in this SEIS.

Construction activities to build the residential, RV units, and future commercial development under SEIS Alternative 6 would generate demand for public services during construction. Although the general demand for services would be similar to SEIS Alternative 5, demand would be reduced in degree and duration. Development under SEIS Alternative 6 would include fewer permanent residential units, and most of these units would be manufactured offsite, resulting in reduced on-site construction activity overall. In addition, substantially less potential commercial development is being considered compared to FEIS Alternative 5. SEIS Alternative 6 would also include an RV resort, which would involve less on-site construction activity compared to FEIS Alternative 5. The construction period and its associated impacts on public services would also be shorter under SEIS Alternative 6: seven years for residential and recreational development, and 17 years for the commercial development, compared to 30 years for FEIS Alternative 5 (full buildout would occur by 2037, compared to 2051). As such, construction impacts on public services would be less and would occur in a more compressed period of time. While the level of construction-related impacts is not specifically quantified, it is anticipated that potential construction-related impacts on public services would be minor.

Police Service

Construction activities associated with proposed development under SEIS Alternative 6 would generate new calls for service from the Cle Elum Police Department, primarily related to construction site theft, vandalism, and injury.

Fire Protection Service

Calls for services for the Cle Elum Fire Department would occur during the construction period of the site and adjacent 25-acre commercial property under SEIS Alternative 6. These calls are anticipated to be related to workplace injuries or fire incidences during the construction process.

Emergency Medical & Hospital Service

Construction under SEIS Alternative 6 would result in emergency medical service calls due to construction-related injuries. Such injuries could require emergency medical services and ambulance transportation from Hospital District No. 2 Medic One.

Emergency Dispatch Service

During construction, SEIS Alternative 6 is anticipated to generate calls to KITTCOM that would be dispatched to the Cle Elum-Roslyn-South Cle Elum Police Department, Cle Elum Fire Department, and Hospital District No. 2. Incoming calls to KITTCOM would likely be related to construction site theft/vandalism and construction-related injuries.

Public Schools

Some number of construction workers could in-migrate to the Cle Elum-Roslyn School District and establish households with school-age children. Some level of additional enrollment to District schools could occur as a result.

Operation Impacts – SEIS Alternative 6

New residents and visitors under SEIS Alternative 6 are anticipated to generate additional demand for police, fire protection, emergency medical services, emergency dispatch (KITTCOM), and hospital services as the site and adjacent 25-acre commercial property buildout over time. Overall, however, there would be fewer permanent residents, less commercial development, and a shorter buildout period (17 years vs. 30 years) than under SEIS Alternative 5, which together would result in reduced demand for public services. The RV visitor population under SEIS Alternative 6 would also generate some demand for public services.

Buildout of all components of SEIS Alternative 6 (including the future commercial development on the adjacent 25-acre property) is assumed to occur by 2037. However, 2031 is used in the following analysis of operation impacts on public services to represent buildout of the residential and RV resort components of the project, which is estimated to occur by 2028 (see **Chapter 2** for details on development phasing). This is because most of the operation impacts on public services are expected to be related to the permanent population from the residential development and the proxy population from the RV resort.

Because the calculation of operation impacts is based on population, it does not attribute staff needs to commercial development. Population is commonly assumed to be the primary generator of service demand. It is acknowledged, however, that commercial development does generate some demand associated with calls for service in response to theft, traffic accidents, and other crimes or events. Any incremental addition of impacts in 2037 would be attributable to commercial development; as noted previously, this impac t has not be quantified but is not anticipated to be substantial.

As noted in the discussion for SEIS Alternative 5, the public service purveyors considered in the SEIS have not adopted quantitative LOS standards, and their capital facilities plans and long-range planning documents were largely not provided or not available for this SEIS. For purposes of analysis, therefore, it is generally assumed that staffing needs would increase in

direct proportion with population increases. Use of de facto population-based LOS standards are commonly applied in environmental documents to estimate service demands.

Table 3.12-11 provides a breakdown by phase of the proposed residential units and associated permanent population under SEIS Alternative 6. An equivalent or proxy population is calculated for the RV sites and used to estimate total demand created by SEIS Alternative 6. The formula used to estimate proxy demand is explained in the footnote below and discussed in greater detail in Section 3.9, **Housing, Population and Employment**.[14]

Table 3.12-11
RESIDENTIAL POPULATION BY PHASE (CUMULATIVE) – SEIS ALTERNATIVE 6

Phase/Year	Residential Units	Permanent Population	RV Sites	RV Proxy Population	Total Resident/RV Population[1]
Year 2025	404	935	627	941	1,876
Year 2031 [2]	707	1,489	627	941	2,430
Year 2037 [2]	707	1,489	627	941	2,430

Source: Sun Communities, 2020.

Notes:

1. See Section 3.9, **Housing, Population, and Employment,** for persons/household and % occupancy assumptions that were used to generate the total residents.

2. Buildout of SEIS Alt. 6 housing and RV sites would occur over seven years and buildout of the commercial site is assumed to occur over 17 years. Buildout under FEIS Alt.5 and SEIS Alt. 5, in comparison, would occur over 30 years, ending in 2051.

Police Service

New residents and RV site visitor population would generate increased demand for police services, including new calls for service from the site. New calls and increased demand for police services would create an increased need for additional officers to serve new residents. Based on the existing Police Department staffing levels (eight officers), it is anticipated that development under SEIS Alternative 6 would generate the following approximate cumulative need for additional staff by analysis year:

- **2025:** 4.5 officers.
- **2031:** a cumulative total of approximately 5.5 officers.

The Police Department provided an alternative projection for potential staffing needs using the ICMA CPSM "Rule of 60" model. This methodology concluded that approximately four officers would be needed by 2021 and four more officers would be needed by 2030 (a total of 8 officers) to serve development under SEIS Alternative 6 (Cle Elum-Roslyn-South Cle

[14] RV park proxy population is calculated based on an assumed average park occupancy of 50% and three people per site, based on information provided by Sun Communities. It should be noted that there would times of higher population within the RV Park (e.g. during the peak nine-month travel season) and times of lower population (e.g. during the off- season).

Elum Police Department, 2020).[15] Using the SEIS Alternative 6 residential/recreational phasing, this would equate to the following approximate cumulative need for additional staff by analysis year:

- **2025:** 4 officers.
- **2031:** a cumulative total of 8 officers.

New officers would also generate the need for additional vehicles and other equipment.

In order to characterize and estimate the level and types of police calls that could be generated by the RV resort component of the project, research was conducted on police calls to local RV resorts. Although quite different in concept and scale, the KOA Campground/RV Resort in the Ellensburg area was determined to be the most similar (based on size and types of facilities present) to the proposed RV resort under SEIS Alternative 6 and was used to estimate demand. The Ellensburg KOA, although smaller than the proposed 47° North RV resort, is one of the largest RV resorts in the area; it includes 85 RV sites, 35 tent sites, three teepees, four cabins, and a number of recreational amenities. Based on data from the Kittitas County Sheriff's Department, from 2014 through 2017, there was an average of 10.75 annual calls, in 2018 there was an average of 12 annual calls, and in 2019 there was an average of 17 annual calls for police service by the Kittitas County Sheriff's Department to the Ellensburg KOA. The largest number of calls each year (e.g., 40% in 2019) were related to traffic/vehicles incidents (Kittitas County Sheriff's Department, 2020). Based on the highest number of calls per year at the Ellensburg KOA (17), and scaling those calls in proportion to the SEIS Alternative 6 RV resort (i.e., based on the number of RV sites under SEIS Alternative 6), the RV component could potentially generate 84 annual calls for police service; these calls could also primarily relate to traffic/vehicle incidents. Because of differences in methodology used in the SEIS (i.e., population-based standard), this call frequency cannot be converted to an equivalent demand for police officers

Fire Protection Service

Development and associated new residents and RV site visitor population under SEIS Alternative 6 would generate additional demand for fire protection services. Based on the future needs identified by the Fire Department and the survey results in **Table 3.12-10**, it is anticipated that development under Alternative 6 would generate the following approximate cumulative need for additional staff by analysis year:

- **2025:** 2.5 paid full-time firefighters.
- **2031:** a cumulative total of approximately 2.8 paid full-time firefighters.

As mentioned previously, the Fire Department has also identified several high priority equipment needs as part of their strategic plan, including the replacement of the primary fire engine and primary ambulance (City of Cle Elum Fire Department, 2020).

[15] Note that it is unclear if the Cle Elum-Roslyn-South Cle Elum Police Department calculation of staff needs accounts for the RV component of SEIS Alternative 6.

In the proposed RV resort under SEIS Alternative 6, traditional wood campfires using wood for fuel would be prohibited, but individual and common area propane campfires would be permitted. These provisions would help to reduce potential wildfire dangers from campfires. Development under SEIS Alternative 6 would also follow the Land Stewardship Plan (LSP) that is used for Suncadia which includes firewising (e.g., thinning small trees, cutting limbs, raking debris and other fuel-reduction techniques). Following the LSP would further reduce potential wildfire dangers at the site.

Emergency Medical & Hospital Service

New residents and RV site population under SEIS Alternative 6 are anticipated to generate increased demand for emergency medical services (ambulance transports, etc.) and hospital services. Based on current staffing levels for Hospital District No. 2 Medic One, it is anticipated that SEIS Alternative 6 would generate the following approximate cumulative need for additional staff by analysis year:

- **2025:** 4.0 new EMTs and 4.9 paramedics.
- **2031:** a cumulative total of approximately 5.2 EMTs and 6.4 paramedics.

The existing clinics in Cle Elum would also see increased demand. Based on current staffing levels at the facilities in Cle Elum, it is anticipated that SEIS Alternative 6 would generate the approximate cumulative need for the following additional staff by analysis year:

- **2025:** 0.4 physicians, 3.6 APCs, and 2.7 RNs.
- **2031:** a cumulative total of approximately 0.6 physicians, 4.6 APCs, and 3.5 RNs.

Hospital District No. 1 is anticipated to experience increased demand for hospital services from new residents under SEIS Alternative 6. Based on current staffing levels at the hospital in Ellensburg, it is anticipated that SEIS Alternative 6 would generate the following approximate cumulative need for additional staff by analysis year:

- **2025:** 0.7 physicians, 0.2 APCs, and 4.1 RNs.
- **2031:** a cumulative total of approximately 0.9 physicians, 0.2 APCs, and 5.3 RNs.

Both Hospital District No. 1 and 2 anticipate that increased demand from the project (as well as other growth in the County) would result in the need to provide additional facility space. This could include additional space for the Family Medicine Clinic and Urgent Care Center in Cle Elum, additional ambulance and crew quarters for Hospital District No. 2, and additional skilled nursing facility space for Hospital District No. 1 (Kittitas Valley Healthcare, 2020). The providers did not estimate future space needs.

Emergency Dispatch Service

As noted above, new resident and RV population under SEIS Alternative 6 are anticipated to generate increased demands and calls for service for the Cle Elum-Roslyn-South Cle Elum Police Department, Cle Elum Fire Department, and Hospital District No. 2. Similar to current

conditions, these incoming calls would be handled by KITTCOM and dispatched to the appropriate agency to respond to the call. Based on the current staffing levels for KITTCOM, it is anticipated that development under SEIS Alternative 6 would generate the following approximate cumulative need for additional staff by analysis year:

- **2025:** 0.6 dispatchers.
- **2031:** a cumulative total of approximately 0.8 dispatchers.

Public Schools

Students. Development and associated residents under SEIS Alternative 6 are anticipated to generate new students and increased demand for public school services from the Cle Elum-Roslyn School District.[16] Based on a student generation rate of approximately 0.25 students per household,[17] it is anticipated that development under SEIS Alternative 6 would generate the following approximate cumulative additional students within the District by analysis year:

- **2025:** 111 students.
- **2031:** a cumulative total of approximately 177 students.

While the specific grade levels of potential students cannot be determined, it is anticipated that students generated by new development would be dispersed across a range of grade levels over the course of development on the site. As noted in the *Affected Environment* discussion, each of the schools are currently below capacity. However, with the introduction of new students under SEIS Alternative 6, it is anticipated that some or all of the schools could reach the capacity limits of their existing facilities. In the event that this occurs over the course of the project, portable classroom buildings or additions to existing buildings could be required.

Teachers. New students under SEIS Alternative 6 would generate a need for additional teachers within the school district. Based on the current student to teacher ratio (approximately 14.8 students for every teacher), it is anticipated that new students associated with SEIS Alternative 6 would generate the following approximate cumulative need for additional staff by analysis year:[18]

- **2025:** 7.6 teachers.
- **2031:** a cumulative total of approximately 12.1 teachers.

[16] RV site population under SEIS Alternative 6 is not considered a permanent population on the site and as such, population associated with the RV resort is not factored into the student generation analysis for this alternative.
[17] Student generation rates derived from information provided in a personal communication with the Cle Elum-Roslyn School District Superintendent – Michelle Kuss-Cybula, May 2020.
[18] It should be noted that actual future needs for new teachers would be based on student enrollment, as well as other factors such as state and local funding that is available to the school district, and future state policies and programs.

School Buses. New students generated by development under SEIS Alternative 6 would also create additional demand for school buses to transport students to and from school. It is anticipated that development under SEIS Alternative 6 would result in the following approximate cumulative need for additional school buses to transport student by analysis year:

- **2025:** 3.3 to 4.3 new buses.
- **2031:** a cumulative total of approximately 4.0 to 5.3 new buses.

Other Facilities. In addition, as noted under SEIS Alternative 5, the Cle Elum-Roslyn School District has identified a current need for more indoor recreation space across their school campuses, as well as after-school childcare and facility space for elementary school students. Such needs would increase with the addition of new students under SEIS Alternative 6 but to a lesser degree than under FEIS Alternative 5. The School District did not provide an estimate of indoor space needs.

For all the public service providers, due to the phased nature of the development, demand for services would be generated on an incremental basis and as such, the need for new staff, equipment, and facilities could be provided incrementally as development occurs.

Indirect & Cumulative Impacts – SEIS Alternative 6

Indirect impacts under SEIS Alternative 6 would be similar in type to those identified for FEIS Alternative 5, but lower in degree due to fewer residential units and a smaller population. Indirect impacts could occur to public service agencies that have mutual aid agreements with Cle Elum, such as police and fire departments. Additional indirect student generation in the Cle Elum-Roslyn School District could also occur from growth in population associated with new employment at commercial uses under SEIS Alternative 6. However, commercial development and associated employment in Alternative 6 would be substantially less than in SEIS Alternative 5 (150,000 sq. ft. vs. 950,000 sq. ft.) and resulting impacts to public services would also be substantially reduced.

Cumulative impacts to public services would result from development and its associated population within the vicinity of the site within the same time horizon. Such development would include ongoing development of the Suncadia resort (in unincorporated Kittitas County), and development of the City Heights and Cle Elum Pines mixed-use projects (in City of Cle Elum). Together with SEIS Alternative 6, these projects would generate a population of about 6,506 residents which would increase demand for public services in the County and City by 2037.[19] This demand would be smaller than would occur with SEIS Alternative 5, but would occur within a shorter period of time.

[19] See **Table 3.6-3** in Section 3.6, **Land Use,** for the estimated population of the cumulative impact projects. Note that proxy population for the RV resort component of SEIS Alternative 6 is included in the cumulative population under this alternative.

Conclusions

SEIS Alternatives 5 and 6 would generate additional demand for public services during the construction and operation phases. Overall, there would be fewer permanent residents, less commercial development, and a shorter buildout period under SEIS Alternative 6 than under SEIS Alternative 5, which together would result in reduced demand for public services. The RV visitor population under SEIS Alternative 6 would also generate some demand for public services; however, the visitors would not impact schools. With implementation of mitigation measures listed below, significant impacts to public services are not anticipated.

3.12.3 Mitigation Measures

The following mitigation measures are identified to address the public services impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures (Included in the Project)

- All the non-residential buildings would include sprinkler systems in case of fire. Fire hydrants would be provided throughout the residential areas.

- Traditional wood campfires would not be allowed within the RV resort.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

- Mitigation measures for each public service provider would include execution of a separate mitigation agreement and a program to monitor actual revenues and expenses for that provider. The program would, to the maximum extent possible, strive to time expenditures to when revenues are available and strive to time capital expenditures to when the jurisdiction has sufficient capacity to issue bonds for the improvements and sufficient tax revenue to service the debt. The program would also rely on shortfall mitigation payments to address any identified fiscal impacts.

- Site development would follow the Land Stewardship Plan (LSP) that is used for Suncadia which includes provisions for control of noxious weeds during construction, and fire-wising (e.g., thinning small trees, cutting limbs, raking debris and other fuel-reduction techniques) during operation of the project. The LSP would be reviewed and updated, as necessary.

- Any emergency vehicle access, other than the public right of way should be coordinated with the City of Cle Elum Fire Marshall.

Required Mitigation Measures

- Worker safety measures would be implemented consistent with Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA).

- A comprehensive construction plan would be developed. This plan would include, in part, a Fire and Life Safety plan, which would be consistent with the City of Cle Elum's adopted building code requirements for construction, a snow management plan, designated emergency haul routes and access areas, and provisions for fencing and signing the construction site.

- Roadway design would conform with applicable requirements for vehicular access, including roadway width, adequate turning radius, fire hydrant access, provisions for vehicle back up, and weight bearing capacity.

- A secondary access would be provided when more than 30 single- or multi-family units are built, in accordance with the International Fire Code.

Approved Bullfrog Flats Conditions of Approval (Not Included in the Project)

- Washington State Department of Natural Resources (WDNR) Industrial Precautions would apply to all equipment and clearing and grading until hydrants are operational to provide fire prevention.

Other Possible Mitigation Measures

- An on-site security presence could be provided during the initial construction phase of the project.

- As an interim measure, the Applicant could emphasize and encourage membership in the volunteer fire department among its residents and employees while the department is transitioning to full-time staff.

- Community education regarding domestic and recreation fire protection measures could be provided to help reduce the potential for wildfires.

3.12.4 Significant Unavoidable Adverse Impacts

Development under the SEIS Alternatives would generate additional demand for public services primarily as a result of new population and visitors to the site; this demand is unavoidable. Increased demand in itself, however, is not necessarily an adverse impact, if it is planned for and addressed. To the extent that resulting requirements for additional staff, equipment and facilities are addressed through increased revenues to affected agencies, and through implementation of committed and recommended mitigation measures listed

above, no significant impacts are expected. Also see Section 3.15, **Fiscal & Economic Conditions**.

3.13 TRANSPORTATION

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant transportation impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Transportation section is based on the *Transportation Report* (August 2020) prepared by Transportation Engineering Northwest (TENW) (see **Appendix J**).

Methodology

Study Intersections

A total of 27 study intersections, plus the proposed site access points on Bullfrog Road and SR 903, were identified for study in the DSEIS (see **Figure 3.13-1** later in this section for a depiction of these intersections). The identified study intersections are generally consistent with the study intersections that were evaluated in the 2002 Cle Elum UGA FEIS and include intersections on Bullfrog Road and SR 903, the I-90 interchange intersections, intersections in downtown Cle Elum, as well as intersections in Roslyn and Ronald. The study intersections were modified slightly based on SEIS Scoping comments (e.g., from the City, County, Washington State Department of Transportation (WSDOT), and community members) to reflect current intersections in Ronald and Roslyn, additional intersections in the City of Cle Elum, and modified site access locations under the SEIS Alternatives (see *3.13.1 Affected Environment* for details on the study intersections).

Traffic Modeling

Future traffic volumes in the study area were forecasted by Fehr & Peers, the City of Cle Elum's transportation consultant . The traffic forecasting process incorporated and updated a travel demand model that had been developed and refined for other recent Kittitas County projects (see Appendix A to **Appendix J** for the methodology and assumptions used for the traffic volume forecasting).

Future 'Baseline'/background traffic volumes were developed for years 2025, 2031, and 2037 for the weekday, Friday, and Sunday summer PM peak hours at the 27 study intersections. The 'Baseline' traffic forecasts were based on assumed overall growth in Cle Elum and Kittitas County, continued buildout of the Suncadia resort in the county, and future traffic growth from the approved City Heights and Cle Elum Pines residential developments in the City.

The Fehr & Peers traffic model was also used to distribute and assign traffic generated by SEIS Alternatives 5 and 6 to the transportation system for future years 2025, 2031, and 2037 during the weekday, Friday, and Sunday summer PM peak hours, based on project buildout projections and trip generation estimates for the proposed land uses. For the specific trip

assignments, site access points under the SEIS Alternatives were added to the traffic model (see Appendix A to **Appendix J** for details on trip distribution and assignment).

Both SEIS Alternatives 5 and 6 include a proposed Connector Road between Bullfrog Road and SR 903 through the site. Several aspects of the modeling assumptions for the Connector Road should be noted. The traffic forecast modeling provided by Fehr & Peers for SEIS Alternative 6 (see **Appendix J**) did not assign any background, non-project traffic to use the new Connector Road to travel between Bullfrog Road and SE 903; only internal project trips for 47º North and the commercial parcel are assumed to use the Connector Road in the SEIS Alternative 6 transportation analysis. The traffic model assumes that, other things being equal, drivers would choose the fastest route available. Drivers would continue to use Bullfrog Road and SR 903 because legal speed limits on Bullfrog Road and SR 903 are higher than the speed limit for the Connector Road (based on its road classification), and six internal access road would connect 47º North neighborhoods to the Connector Road, which would also tend to slow traffic.

Given these current model parameters, the Connector Road appears to be underutilized and may not be performing one of the functions it was intended to accomplish, i.e., relieving some traffic congestion on Bullfrog Road and SR 903. The 3-lane design of the road also reflects this intended function and assumes greater use by off-site traffic. Because the Connector Road was considered to be a design feature of the 47º North Master Site Plan, it is included in, and cannot be extracted from or modified within, the existing traffic forecasting model. The model assumptions could be revised, however, to forecast how traffic would respond to a different internal road alignment and/or design, and to increased reliance on other site access points. These questions and potential options will be reconsidered during subsequent discussions and the public review process for the DSEIS.

Traffic Analysis Time Periods

Traffic patterns and travel characteristics in the study area vary daily, monthly, and throughout the year due to seasonal variation in recreational travel, day of week traffic fluctuations, and peak hour variations.

Peak Summer

To be consistent with the 2002 Cle Elum UGA EIS traffic analysis, peak summer season traffic was evaluated for this SEIS. The City of Cle Elum, Kittitas County, and WSDOT use "monthly normalization factors" when estimating future traffic conditions for comprehensive planning purposes. These factors are based on the recognition that traffic volumes in the study area vary monthly based on recreational travel and seasonal factors, which result in the understanding that peak summer travel (July and August) differs from non-summer travel.

Peak Days & Times

During the peak summer season, the daily variation in traffic on roadways in the vicinity of the 47° North site is generally higher on Fridays and Sundays. This is a result of the use of

second homes located within the Suncadia resort, other recreational amenities in the area, and the higher level of traffic on I-90 through Cle Elum on Fridays and weekends during the peak summer months. Therefore, this SEIS evaluates traffic conditions for three separate time periods during peak summer conditions:

- Weekday PM peak hour (highest one-hour volumes between 3:00 and 6:00 PM)
- Friday PM peak hour (highest one-hour volumes between 2:00 and 4:00 PM)[1]
- Sunday PM peak hour (highest one-hour volumes between 3:00 and 5:00)

Forecast Years

Development of the 47° North site and the adjacent 25-acre property under SEIS Alternative 6 would occur in phases. Based on the scoping process for the SEIS, three development years were selected to be evaluated in the transportation analysis:

- **Year 2025.** represents near-term development of the initial project phase and is generally consistent with local agency's six-year capital plans.
- **Year 2031.** represents the interim year at the approximate mid-point of buildout of SEIS Alternative 6. Note that under SEIS Alternative 6, the 47° North residential and recreational uses are anticipated to build out by year 2028, which would be between the 2025 and 2031 analysis years; possible commercial uses on the adjacent property would continue to develop until 2037. Therefore, year 2031 includes buildout of the 47° North residential and recreational uses plus additional increments of commercial use and background growth.
- **Year 2037.** represents a future year consistent with the current planning horizon of City of Cle Elum and Kittitas County Comprehensive Plans. Year 2037 includes the cumulative buildout of 47° North residential and recreational uses together with the commercial uses on the adjacent property, as well as additional increments of background growth.

Similar to FEIS Alternative 5, buildout of SEIS Alternative 5 is assumed to occur over a 30-year period, which is beyond the 2037 horizon year used in the traffic analysis. For comparison to SEIS Alternative 6, SEIS Alternative 5 development was apportioned to align with the SEIS Alternative 6 analysis years.

Existing Traffic Volumes

Existing traffic volumes at the 27 study intersections were based on counts collected in August 2019 (intersections #1-20 and #25-27) and December 2019 (intersections #21-24); the latter intersections were added to the study area after the initial counts were made. The counts taken in August represent the summer peak period; the counts taken in December were increased by 64%, based on WSDOT's conversion factor to estimate summer peak conditions.

[1] Note that the Friday PM peak hour occurs earlier than the weekday PM peak hour as a result of Suncadia and other recreational visitors in the study area travelling to their destination early Friday afternoons during the peak summer months in order to take full advantage of the weekend.

Trip Generation

The gross weekday PM peak hour, Friday PM peak hour, and Sunday PM peak hour trips generated by SEIS Alternatives 5 and 6 were calculated based on methodologies documented in the Institute of Transportation Engineers (ITE) *Trip Generation* Manual (10th edition). Adjustments to the gross trip generation of the proposed uses were made to account for internal trips. No adjustments to the gross trip generation based on ITE were made to account for the summer peak period.

Internal trips are made by people making multiple stops within a development without generating new trips onto the adjacent street system. The internal trip reductions for the proposed residential and commercial uses were estimated based on the established methodology in the current ITE *Trip Generation Handbook* (3rd Edition).

The net new trips associated with SEIS Alternatives 5 and 6 were determined by subtracting the internal trips from the gross trip generation.

Baseline Conditions

Comparing the traffic impacts of SEIS Alternatives 5 and 6 to the previous 2002 Cle Elum UGA FEIS Alternative 5 would not be informative due to the time that has passed and the changes in background conditions that have occurred since 2002. Traffic conditions are much different than 20 years ago due to ongoing development in Kittitas County and Cle Elum, growth in background traffic, continued growth in recreation travel during peak summer months, and diversion of traffic from I-90 through the study area during peak travel times. Therefore, the transportation analysis considers future 'Baseline' traffic conditions without either of the SEIS Alternatives to reflect background traffic growth since 2002.

Future 'Baseline' scenarios for years 2025, 2031, and 2037 were developed to establish conditions that account for traffic growth that has occurred in the study area since the 2002 Cle Elum UGA EIS, and to include a reasonable estimate of future traffic without any development on the 47° North site or adjacent commercial property. In the SEIS traffic analysis, 'Baseline' traffic volumes and intersection LOS are presented, and then compared to traffic volumes and intersection LOS results with SEIS Alternatives 5 and 6.

Additionally, short-term (Transportation Improvement Program (TIP)) and long-term (Comprehensive Plan) planning documents from WSDOT, Kittitas County, and the City of Cle Elum were reviewed to determine any planned improvements that should be incorporated into future 'Baseline' transportation conditions.

Intersection LOS

Level of service (LOS) generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F is generally used to describe intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little

or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay greater than 80 seconds per vehicle.

The LOS reported for signalized intersections represents the average control delay (seconds/vehicle) and can be reported for the overall intersection, for each approach, and for each lane group (additional volume-to-capacity (V/C) ratio criteria apply to lane group LOS only). The LOS reported at stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, controlled major-street movement, and for the overall intersection at all-way stop-controlled intersections (additional V/C ratio criteria apply to lane group or movement LOS only).

Table 3.13-1 presents the current *Highway Capacity Manual (HCM)* 6th Edition LOS criteria for signalized and stop-controlled intersections based on these methodologies.

Table 3.13-1
LOS CRITERIA FOR SIGNALIZED & STOP-CONTROLLED INTERSECTIONS[1]

SIGNALIZED INTERSECTIONS			STOP-CONTROLLED INTERSECTIONS		
	LOS by Volume-to Capacity (V/C) Ratio[2]			LOS by Volume-to Capacity (V/C) Ratio[3]	
Control Delay (sec/veh)	**≤ 1.0**	**> 1.0**	**Control Delay (sec/veh)**	**≤ 1.0**	**> 1.0**
≤ 10	A	F	≤ 10	A	F
> 10 to ≤ 20	B	F	> 10 to ≤ 15	B	F
> 20 to ≤ 35	C	F	> 15 to ≤ 25	C	F
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F
> 80	F	F	> 50	F	F

Source: TENW, 2020.

1. *Highway Capacity Manual, Transportation Research Board, 6th Edition*, 2016.
2. For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.
3. For two-way stop-controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop-controlled intersections. For approach-based and intersection-wide assessments at all-way stop-controlled intersections, LOS is solely defined by control delay.

LOS calculations for intersections were based on methodology and procedures outlined in the current (6th Edition) of the *Highway Capacity Manual* using Synchro 10 traffic analysis software for signalized and stop-controlled intersections, and Sidra 8 analysis software for roundabouts. Existing signal timing used in the analysis was provided by the City of Cle Elum.

The City of Cle Elum's *Transportation Element of the Comprehensive Plan* (May 2019) identifies a standard of LOS C for City streets. There are two state routes in the vicinity, I-90, and SR 903, for which the LOS standard established by WSDOT is LOS D since both roadways

are considered urban. The *Kittitas County Comprehensive Plan* (2019) identifies LOS D as the minimum acceptable LOS for intersections in urban growth areas and LOS C as the minimum acceptable LOS for intersections in rural areas. Bullfrog Road is considered to have a LOS D standard by the County.

Mitigation Measures

Sub-section 3.13.3 Mitigation Measures identifies improvements that would be necessary to mitigate off-site study intersections forecast to operate at non-compliant LOS in future years 2025, 2031, and 2037 without or with SEIS Alternative 6 during the weekday summer PM peak hour. Improvements to mitigate intersections anticipated to operate at non-compliant LOS during the Friday and Sunday summer PM peak hours during the peak summer conditions were not identified because it is not standard traffic engineering practice to mitigate for traffic conditions that only occur for a few hours a week during the summer months. For all off-site transportation mitigation measures identified in this SEIS, pro-rata share responsibility of 47° North and the commercial development is estimated.

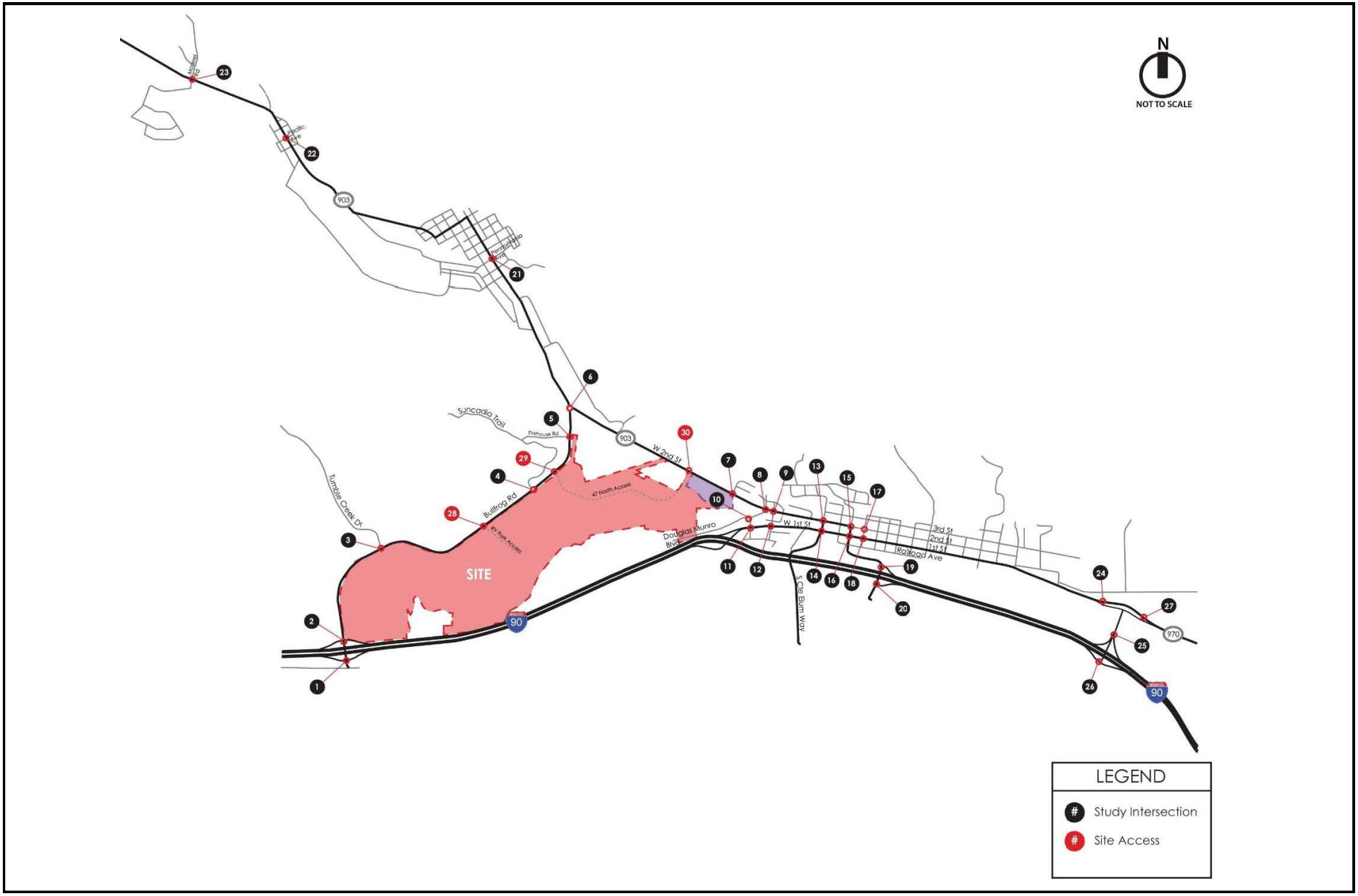
(See **Appendix J** for details on the transportation analysis methodology.)

3.13.1 Affected Environment

Study Area

The 47° North site is served by I-90 to the south, Bullfrog Road to the northwest and west, and SR 903 (2nd Street) to the northeast. The existing transportation study area and roadway network providing access to the site is shown on **Figure 3.13-1**. The 27 study intersections and their corresponding jurisdictions are as follows:

1. Bullfrog Rd / I-90 Eastbound (EB) Ramps – WSDOT
2. Bullfrog Rd / I-90 Westbound (WB) Ramps – WSDOT
3. Bullfrog Rd / Tumble Creek Dr – Kittitas County
4. Bullfrog Rd / Suncadia Trail – Kittitas County
5. Bullfrog Rd / Firehouse Rd – Kittitas County
6. Bullfrog Rd / W 2nd St (SR 903) – WSDOT
7. Denny Ave / W 2nd St (SR 903) – WSDOT
8. Ranger Station Rd / Miller Ave / W 2nd St (SR 903) – WSDOT
9. N Pine St / W 2nd St (SR 903) – WSDOT
10. Douglas Munro Blvd/ Ranger Station Rd – Cle Elum
11. Douglas Munro Blvd / W 1st St – Cle Elum
12. Pine St / W 1st St – Cle Elum
13. N Stafford Ave / W 2nd St (SR 903) – WSDOT
14. S Cle Elum Way / Stafford Ave / W 1st St – Cle Elum
15. N Oakes Ave / W 2nd St (SR 903) – WSDOT
16. N Oakes Ave / W 1st St (SR 903) – WSDOT
17. Pennsylvania Ave / 2nd St – Cle Elum



Source: TENW, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.13-1

Transportation Study Area Intersections

18. Pennsylvania Ave / 1st St (SR 903) – WSDOT
19. Oakes Ave / I-90 WB Off-Ramp – WSDOT
20. Oakes Ave / I-90 EB On-Ramp – WSDOT
21. SR 903 / Pennsylvania Ave – WSDOT
22. SR 903 / Pacific Ave – WSDOT
23. Rock Rose Dr / Morrel Rd / SR 903 – WSDOT
24. SR 903 / SR 903 Ramp (SUNDAY ONLY) – WSDOT
25. White Road Interchange / I-90 WB Ramps (SUNDAY ONLY) – WSDOT
26. White Road Interchange / I-90 EB Ramps (SUNDAY ONLY) – WSDOT
27. SR 970 / SR 970 Ramp (SUNDAY ONLY) – WSDOT

Existing & Future Baseline Roadway Network

The key roadways that serve the transportation study area and the site are summarized in **Table 3.13-2**. Roadway characteristics are described in terms of orientation, arterial classification, number of lanes, posted speed limits, parking, and non-motorized facilities. The relationship of these roadways to the site is shown in **Figure 3.13-1**.

A review of City of Cle Elum, Kittitas County, and WSDOT transportation planning documents indicated that there are no planned transportation capacity improvements anticipated to be constructed prior to year 2025, and there are no long-range transportation capacity improvements anticipated to be constructed by 2031 or 2037 within the study area. Therefore, the future year roadway network for the 2025, 2031, and 2037 'Baseline' analysis is assumed to be consistent with the existing roadway network (see **Appendix J** for details).

Table 3.13-2
EXISTING STUDY AREA ROADWAY NETWORK SUMMARY

Roadway (Jurisdiction)	Orientation	Arterial Classification	# of Travel Lanes	Posted Speed (mph)	Parking	Sidewalks / Bicycle Facilities
I-90 (WSDOT)	E-W	Interstate	4	60-70	No	No/No
Bullfrog Rd (Kittitas Co)	NE-SW	Major Collector	2	35-50	No	No/No
SR 903/W 2nd St (WSDOT)	E-W	Major Collector	2	25-45	Intermittent	Intermittent/No
W 1st St (Cle Elum)	E-W	Major Collector	2	25	No	No/No
Pine St (Cle Elum)	N-S	Local	2	25	No	No/No
Douglas Munro Blvd (Cle Elum)	NE-SW	Local	2	25	No	Intermittent/No
Pennsylvania Ave (Cle Elum)	N-S	Local	2	25	Both Sides	Yes/No
Cle Elum Way (Cle Elum)	N-S	Major Collector	2-3	25	No	Intermittent/No
Oakes Ave (WSDOT/Cle Elum)	N-S	Major Collector	2-3	25	No	Intermittent/No
Pennsylvania Ave (Roslyn)	NE-SW	Local	2	25	Both Sides	Yes/No

Source: TENW, 2020.

Existing & Future Baseline Non-Motorized Facilities

Most east-west streets in the Cle Elum commercial core area have sidewalks on both sides. Roads on the east and west ends outside of the core area have no or intermittent sidewalks. The Transportation Element of the City of Cle Elum Comprehensive Plan (2019) has identified several projects to improve sidewalks, Americans with Disabilities (ADA) ramps, and multi-purpose pathways. Bullfrog Road has gravel shoulders and SR 903 outside of the City of Cle Elum commercial core area has limited paved shoulders. There are no designated bicycle lanes or paths along public roads in the study area.

The Coal Mine Trail is a multi-use trail connecting the Cle Elum commercial core area to the Roslyn/Ronald area. Progress Path Trail extends from Ranger Station Road to the Cle Elum-Roslyn Schools site. The John Wayne Pioneer Trail, which is part of the Iron Horse State Park, parallels I-90, and has an access point at the I-90 Exit 84 on Bullfrog Road; the trail is 110 miles long from North Bend to west of the Columbia River. There are also trails that can be used by residents, visitors, and the public in the Suncadia resort. Horseback riding, hiking, and snowmobiling presently occur on dirt roads throughout the 47° North site. Easements are in place for use of the site and certain trails by the adjacent Horse Park.

Future 'Baseline' non-motorized facilities are anticipated to remain similar to existing with the exception that City of Cle Elum has some sidewalk improvements in the City business core, as well as some pedestrian/trail improvements planned.

Existing & Future Baseline Transit Service

The City of Cle Elum and Kittitas County do not operate local bus service in the study area. According to the Transportation Element of City's 2019 Comprehensive Plan, regional bus service is provided by Greyhound Bus Lines with the closest terminal in Ellensburg. The Central Washington Airporter Shuttle provides service to Sea-Tac Airport with a stop in Cle Elum. The Kittitas County Connector is a free bus service between Ellensburg and Upper Kittitas County operated by HopeSource and Central Transit.

HopeSource demand response transportation services are also available in the City of Cle Elum area to provide prioritized services for senior medical and nutrition, and social services. HopeSource services provide mobility between Cle Elum and Ellensburg. People for People is a private non-profit organization that provides demand response services to eligible elderly and handicapped citizens in the greater Cle Elum area.

Future 'Baseline' transit services are anticipated to remain similar to existing conditions.

Existing & Future Baseline Traffic Volumes

Existing (2019) traffic volumes at the 27 study intersections were collected for the following three time periods:

- Weekday PM peak period (3:00 to 6:00 PM)
- Friday PM peak period (2:00 to 4:00 PM)
- Sunday PM peak period (3:00 to 5:00 PM)

As described in the *Methodology* sub-section, the counts at intersections #1-20 and #25-27 were taken in August and therefore represent the summer peak period; the counts taken at intersections #21-24 were increased by 64% to estimate summer peak conditions.

Existing weekday PM peak hour traffic volumes are included in Appendix B to **Appendix J**.

Table 3.13-3 summarizes the calculated average annual growth rate at the study intersections between each of the analysis periods (2019 to 2025, 2025 to 2031, and 2031 to 2037) and time periods studied (weekday, Friday, and Sunday summer PM peak hours) based on the 'Baseline' traffic volumes.

Table 3.13-3 shows that for the forecast 'Baseline' traffic volumes, the average annual background growth in traffic volumes at the study intersections is anticipated to be between 2 and 6% per year depending on the time period evaluated. The average annual growth rates from 2019 to 2025 are higher than the growth rates between 2025 and 2037 for all periods studied (Weekday, Friday, and Sunday summer PM peak hours).

Table 3.13-3
BACKGROUND GROWTH SUMMARY – 'BASELINE' CONDITIONS

	Average Annual Growth Rate at Study Intersections (Peak Summer Conditions)		
Years	Weekday PM Peak Hour	Friday PM Peak Hour	Sunday PM Peak Hour
2019 to 2025	5.8%	5.6%	3.7%
2025 to 2031	3.0%	3.0%	2.6%
2031 to 2037	2.6%	2.5%	2.6%

Source: TENW, 2020.

In general, the traffic growth projections used in this SEIS traffic analysis for future 'Baseline' conditions (2 to 6%) are higher than the traffic growth projections identified in the Kittitas County Travel Demand Model used for their Comprehensive Plan update. This is because the County Travel Demand Model was updated for this SEIS to reflect updated land use information (in coordination with the City of Cle Elum), including housing and employment forecasts and additional development of Suncadia and City Heights, and to reflect a roadway network that included all the study intersections (see Appendix A to **Appendix J** for details on traffic volume forecasting).

The future year 2025, 2031, and 2037 'Baseline' traffic volumes for the weekday, Friday, and Sunday summer PM peak hours are included in Appendix B to **Appendix J**.

Existing Intersection LOS

Intersection LOS analyses were conducted at the study intersections for existing (2019) conditions during the weekday, Friday, and Sunday summer PM peak hours. **Table 3.13-4** summarizes the existing LOS during these three time periods. Study intersections currently operating at non-compliant LOS (LOS D, E, or F for City intersections, and LOS E or F for Kittitas County and WSDOT intersections) are shown in orange, **BOLD** text in **Table 3.13-4.** Detailed LOS reports are included in Appendix C to **Appendix J**.

Weekday Summer PM Peak Hour. As shown in **Table 3.13-4**, all study intersections currently operate at an acceptable LOS during the weekday summer PM peak hour, except the following two-way stop-controlled intersections:

- #11 - Douglas Munro Blvd / W 1st St – LOS D
- #12 - Pine St / W 1st St – LOS D

Friday Summer PM Peak Hour. As shown in **Table 3.13-4**, all study intersections currently operate at an acceptable LOS during the Friday summer PM peak hour, except the following two-way stop-controlled intersections:

- #11 - Douglas Munro Blvd / W 1st St – LOS F
- #12 - Pine St / W 1st St – LOS D

Sunday Summer PM Peak Hour. As shown in **Table 3.13-4**, all study intersections currently operate at an acceptable LOS during the Sunday PM peak hour, except the following two-way stop-controlled intersections:

- #8 - Ranger Station Rd / Miller Ave / W 2nd St – LOS E
- #11 - Douglas Munro Blvd / W 1st St – LOS D
- #12 - Pine St / W 1st St – LOS E
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F
- #24 - SR 903 / SR 903 Ramp – LOS F
- #27 - SR 970 / SR 970 Ramp – LOS F

Future 'Baseline' Intersection LOS

Intersection LOS analyses were conducted at the 27 study intersections for 'Baseline' conditions (without SEIS Alternatives 5 or 6) in 2025, 2031, and 2037 during the weekday, Friday, and Sunday summer PM peak hours. Future 'Baseline' analysis results at the study intersections are summarized in **Table 3.13-5** for the weekday PM peak hour, **Table 3.13-6** for the Friday PM peak hour, and **Table 3.13-7** for the Sunday PM peak hour during the peak summer period. Study intersections forecast to operate at non-compliant LOS (LOS D, E, or F for City intersections and LOS E or F for Kittitas County and WSDOT intersections) are shown in orange, **BOLD** text in the tables. The detailed LOS reports are included in Appendix C to **Appendix J**.

Table 3.13-4
INTERSECTION LOS SUMMARY: EXISTING (2019)

		Existing Conditions (Summer Peak)					
		Weekday PM Peak Hour		Friday PM Peak Hour		Sunday PM Peak Hour	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized							
14. S Cle Elum Way / Stafford / W 1st St	C	B	10.2	B	12.8	B	11.2
16. N Oakes Ave / W 1st St (SR 903)	D	A	7.9	A	9.6	A	13.1
18. Pennsylvania Ave / 1st St (SR 903)	D	A	6.0	A	5.4	A	7.8
Roundabout							
4. Bullfrog Rd / Suncadia Trail	D	A	4.4	A	5.4	B	12.2
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	5.3	A	7.0	B	13.6
All-Way Stop-Controlled							
17. Pennsylvania Ave / 2nd St	C	A	8.4	A	8.4	A	8.2
Two-Way Stop-Controlled [2]							
1. Bullfrog Rd / I-90 EB Ramps	D	B	12.0	C	16.0	B	10.6
2. Bullfrog Rd / I-90 WB Ramps	D	A	9.6	B	11.9	B	10.1
3. Bullfrog Rd / Tumble Creek Dr	D	B	11.2	B	11.7	C	20.1
5. Bullfrog Rd / Firehouse Rd	D	B	11.9	B	13.1	C	20.0
7. Denny Ave / W 2nd St (SR 903)	D	B	13.6	C	15.4	C	21.6
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	C	16.4	C	22.4	**E**	**35.8**
9. N Pine St / W 2nd St (SR 903)	D	B	13.4	C	19.9	D	29.5
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.7	A	8.2	A	7.3
11. Douglas Munro Blvd / W 1st St	C	**D**	**33.1**	**F**	**90.4**	**D**	**29.2**
12. Pine St / W 1st St	C	**D**	**27.8**	**D**	**30.7**	**E**	**35.0**
13. N Stafford Ave / W 2nd St (SR 903)	D	C	16.6	C	19.1	**F**	**51.6**
15. N Oakes Ave / W 2nd St (SR 903)	D	B	13.0	B	13.9	D	33.9
19. Oakes Ave / I-90 EB Off-Ramp	D	A	8.9	A	9.0	B	11.3
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	B	12.5	B	10.2	B	11.0
22. SR 903 / Pacific Ave	D	A	9.8	A	9.2	A	9.5
23. Rock Rose Rd / Morrel Rd / SR 903	D	A	9.5	A	9.0	A	9.5
24. SR 903 / SR 903 Ramp	D	*Only analyzed for Sunday PM peak hr.*				**F**	**> 100**
25. White Rd I/C / I-90 WB Ramps	D	*Only analyzed for Sunday PM peak hr.*				B	13.7
26. White Rd I/C / I-90 EB Ramps	D	*Only analyzed for Sunday PM peak hr.*				A	9.0
27. SR 970 / SR 970 Ramp	D	*Only analyzed for Sunday PM peak hr.*				**F**	**59.4**

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

In general, the LOS results indicate that for 'Baseline' conditions, there would be traffic congestion throughout the City, primarily at two-way stop-controlled intersections and I-90 ramps; conditions would continue to deteriorate over time if no improvements are made, and would be most congested on summer weekends. Additional details are provided below.

Weekday Summer PM Peak Hour. As shown in **Table 3.13-5**, all the study intersections are anticipated to operate at an acceptable LOS during the weekday PM peak hour in 2025, 2031, and 2037 except:

- #8 - Ranger Station Rd / Miller Ave / W 2nd St (SR 903) – LOS E by 2031
- #11 - Douglas Munro Blvd / W 1st St – LOS E by 2025
- #12 - Pine St / W 1st St – LOS D by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS E by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS E by 2031

Friday Summer PM Peak Hour. As shown in **Table 3.13-6**, the following intersections are expected to operate at non-compliant LOS for future 'Baseline' conditions:

- #1 - Bullfrog Rd / I-90 EB Ramps – LOS F by 2031
- #2 - Bullfrog Rd / I-90 WB Ramps – LOS E by 2031
- #7 - Denny Ave / W 2nd St (SR 903) – LOS E by 2037
- #8 - Ranger Station Rd / Miller Ave / W 2nd St (SR 903) – LOS F by 2025
- #9 - N Pine St / W 2nd St (SR 903) – LOS F by 2031
- #11 - Douglas Munro Blvd / W 1st St – LOS F by 2025
- #12 - Pine St / W 1st St – LOS E by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS F by 2031

Sunday Summer PM Peak Hour. As shown in **Table 3.13-7**, the following intersections are expected to operate at non-compliant LOS for future 'Baseline' conditions:

- #3 - Bullfrog Rd / Tumble Creek – LOS F by 2037
- #4 - Bullfrog Rd / Suncadia Trail – LOS F by 2037
- #6 - Bullfrog Rd / W 2nd St (SR 903) – LOS E by 2037
- #7 - Denny Ave / W 2nd St (SR 903) – LOS E by 2037
- #8 - Ranger Station Rd / Miller Ave / W 2nd St (SR 903) – LOS F by 2025
- #9 - N Pine St / W 2nd St (SR 903) – LOS F by 2025
- #11 - Douglas Munro Blvd / W 1st St – LOS E by 2025
- #12 - Pine Street / W 1st St – LOS E by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS F by 2025
- #19 - Oakes Ave / I-90 EB off-ramp – LOS E by 2037
- #24 - SR 903 / SR 903 Ramp – LOS F by 2025
- #25 - White Rd I/C & I-90 WB Ramps – LOS F by 2037
- #27 - SR 970 / SR 970 Ramp – LOS F by 2025

Table 3.13-5
INTERSECTION LOS SUMMARY - FUTURE 'BASELINE': WEEKDAY PM PEAK HOUR (SUMMER)

		Weekday PM Peak Hour Conditions (Summer Peak)					
		Year 2025 'Baseline'		Year 2031 'Baseline'		Year 2037 'Baseline'	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized							
14. S Cle Elum Way / Stafford / W 1st St	C	B	11.5	B	12.8	B	13.8
16. N Oakes Ave / W 1st St (SR 903)	D	B	10.4	B	11.7	B	15.9
18. Pennsylvania Ave / 1st St (SR 903)	D	A	7.6	A	8.0	A	9.1
Roundabout							
4. Bullfrog Rd / Suncadia Trail	D	A	5.1	A	5.9	A	7.3
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	6.2	A	6.9	A	7.7
All-Way Stop-Controlled							
17. Pennsylvania Ave / 2nd St	C	A	9.6	B	11.9	C	16.8
Two-Way Stop-Controlled [3]							
1. Bullfrog Rd / I-90 EB Ramps	D	B	13.0	C	17.0	D	27.3
2. Bullfrog Rd / I-90 WB Ramps	D	B	10.6	B	12.7	C	19.4
3. Bullfrog Rd / Tumble Creek Dr	D	B	12.4	C	16.3	C	24.8
5. Bullfrog Rd / Firehouse Rd	D	B	11.5	B	11.8	B	11.9
7. Denny Ave / W 2nd St (SR 903)	D	C	16.6	C	20.1	D	25.8
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	D	26.1	**E**	**47.8**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	C	18.1	C	23.5	D	27.4
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.7	A	7.9	A	8.4
11. Douglas Munro Blvd / W 1st St	C	**E**	**46.2**	**F**	**74.7**	**F**	**> 100**
12. Pine St / W 1st St	C	**D**	**27.9**	**D**	**27.9**	**E**	**35.2**
13. N Stafford Ave / W 2nd St (SR 903)	D	**E**	**46.7**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	D	33.9	**E**	**45.0**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	C	20.3	B	10.2	B	10.8
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	19.3	C	22.1	D	25.4
22. SR 903 / Pacific Ave	D	B	12.0	B	14.5	C	17.2
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.7	B	11.2	B	12.2

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Table 3.13-6
INTERSECTION LOS SUMMARY - FUTURE 'BASELINE': FRIDAY PM PEAK HOUR (SUMMER)

		Friday PM Peak Hour Conditions (Summer Peak)					
		Year 2025 'Baseline'		Year 2031 'Baseline'		Year 2037 'Baseline'	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized							
14. S Cle Elum Way / Stafford / W 1st St	C	B	15.5	B	17.5	B	19.1
16. N Oakes Ave / W 1st St (SR 903)	D	B	13.3	B	15.1	C	20.9
18. Pennsylvania Ave / 1st St (SR 903)	D	A	7.7	A	8.9	B	10.5
Roundabout							
4. Bullfrog Rd / Suncadia Trail	D	A	7.2	B	10.1	B	14.9
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	8.2	A	9.6	B	11.0
All-Way Stop-Controlled							
17. Pennsylvania Ave / 2nd St	C	A	9.5	B	12.3	C	20.2
Two-Way Stop-Controlled [3]							
1. Bullfrog Rd/I-90 EB Ramps	D	C	23.5	**F**	**> 100**	**F**	**> 100**
2. Bullfrog Rd / I-90 WB Ramps	D	C	15.9	**E**	**41.5**	**F**	**> 100**
3. Bullfrog Rd / Tumble Creek Dr	D	B	12.5	C	17.3	C	24.6
5. Bullfrog Rd / Firehouse Rd	D	B	12.2	B	12.5	B	12.5
7. Denny Ave / W 2nd St (SR 903)	D	C	19.6	D	25.0	**E**	**36.3**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	**F**	**62.6**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	D	30.5	**F**	**77.5**	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	8.2	A	8.6	A	9.5
11. Douglas Munro Blvd / W 1st St	C	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**E**	**38.1**	**E**	**42.5**	**F**	**54.0**
13. N Stafford Ave / W 2nd St (SR 903)	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	C	24.7	**F**	**95.1**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	A	9.8	B	10.2	B	11.1
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	20.0	C	23.4	D	34.4
22. SR 903 / Pacific Ave	D	B	11.6	B	13.9	C	16.0
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.7	B	10.9	B	12.5

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Table 3.13-7
INTERSECTION LOS SUMMARY - FUTURE 'BASELINE': SUNDAY PM PEAK HOUR (SUMMER)

		Sunday PM Peak Hour Conditions (Summer Peak)					
		Year 2025 'Baseline'		Year 2031 'Baseline'		Year 2037 'Baseline'	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized							
14. S Cle Elum Way / Stafford / W 1st St	C	B	13.9	B	15.7	B	16.9
16. N Oakes Ave / W 1st St (SR 903)	D	B	17.1	C	21.2	D	45.0
18. Pennsylvania Ave / 1st St (SR 903)	D	A	9.2	A	9.8	B	10.6
Roundabout							
4. Bullfrog Rd / Suncadia Trail	D	B	13.7	C	20.9	**F**	**57.4**
6. Bullfrog Rd / W 2nd St (SR 903)	D	C	18.6	C	24.9	**E**	**35.1**
All-Way Stop-Controlled							
17. Pennsylvania Ave / 2nd St	C	A	8.5	B	10.1	B	12.9
Two-Way Stop-Controlled [3]							
1. Bullfrog Rd/I-90 EB Ramps	D	B	11.9	C	15.3	C	19.7
2. Bullfrog Rd / I-90 WB Ramps	D	B	10.6	B	12.4	C	18.5
3. Bullfrog Rd / Tumble Creek Dr	D	C	22.2	D	32.7	**F**	**63.3**
5. Bullfrog Rd / Firehouse Rd	D	C	22.5	C	22.1	D	25.7
7. Denny Ave / W 2nd St (SR 903)	D	C	23.4	D	29.6	**E**	**43.9**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	**F**	**56.6**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	**F**	**60.1**	**F**	**> 100**	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.4	A	7.6	A	7.9
11. Douglas Munro Blvd / W 1st St	C	**E**	**46.7**	**F**	**83.2**	**F**	**> 100**
12. Pine St / W 1st St	C	**E**	**49.6**	**E**	**48.5**	**F**	**54.3**
13. N Stafford Ave / W 2nd St (SR 903)	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	**F**	**91.6**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	B	14.4	C	18.1	**E**	**35.3**
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	17.2	C	22.5	D	28.3
22. SR 903 / Pacific Ave	D	B	12.0	B	13.3	C	16.6
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.6	B	11.1	B	12.1
24. SR 903 / SR 903 Ramp	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
25. White Rd I/C / I-90 WB Ramps	D	C	15.7	C	23.9	**F**	**52.5**
26. White Rd I/C / I-90 EB Ramps	D	A	9.4	B	10.1	B	11.1
27. SR 970 / SR 970 Ramp	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Therefore, even without the SEIS Alternatives, some changes to the City of Cle Elum and Kittitas County roadway network would be necessary in the future to achieve intersection operations better than LOS E during the weekday summer PM peak hour. However, no planned improvements are currently identified in the short-term (TIP) or long-term (Comprehensive Plan) transportation planning documents for the City of Cle Elum, Kittitas County, or WSDOT. As noted previously, the traffic forecasting model used for the SEIS analysis assumes a larger increment of growth by 2037 compared to the existing TIP and planning documents.

Collision History & Traffic Safety

Collisions at the study intersections were reviewed and summarized for the most recent five-year period data was available – from January 1, 2015 to December 31, 2019. Collision data was provided by WSDOT. Summaries of the total and annual average collisions are presented in **Table 3.13-8**. As shown, all study intersections experienced an average of 1.0 or fewer collisions per year over the 5-year period from 2015 to 2019, except the following:

- Bullfrog Rd / I-90 WB Ramps (#2) experienced an average of 1.20 collisions per year;
- Douglas Munro Blvd / W 1st St (#11) experienced an average of 1.8 collisions per year; and,
- Pennsylvania Ave / 1st St (#18) experienced an average of 1.8 collisions per year.

3.13.2 Impacts of the Alternatives

2002 Cle Elum UGA EIS

Transportation impacts associated with development of the Bullfrog Flats property were evaluated in the 2002 Cle Elum UGA EIS. The Bullfrog Flats Master Plan and approved Development Agreement were based on Alternative 5 of the 2002 Cle Elum UGA FEIS, which is referred to in this document as FEIS Alternative 5 - the Original Bullfrog Flats Master Site Plan.

2020 SEIS

SEIS ALTERNATIVE 5 *– Approved Bullfrog Flats Master Site Plan*

The transportation analysis addresses conditions with development of SEIS Alternative 5 in years 2025, 2031, and 2037 during the weekday, Friday, and Sunday summer PM peak hours. Roadway network, traffic volumes, intersection LOS, and site access/circulation are evaluated. The results of the intersection LOS analysis are compared to future 'Baseline' conditions (also in 2025, 2031, and 2037), discussed previously.

Buildout of SEIS Alternative 5 is anticipated to occur over 30 years with full buildout by 2051. For the purpose of the traffic analysis and comparison to SEIS Alternative 6, only the portion of SEIS Alternative 5 that would build out by 2037, which is the approximate mid-point of the project's development, is included.

Table 3.13-8
COLLISION DATA SUMMARY: 2015 - 2019

	Collisions by Year						
Study Intersection	2015	2016	2017	2018	2019	5-Year Total Collisions	Average Annual Collisions
Signalized							
14. S Cle Elum Way / Stafford / W 1st St	0	1	2	0	0	3	0.60
16. N Oakes Ave / W 1st St (SR 903)	3	1	1	0	0	5	1.00
18. Pennsylvania Ave / 1st St (SR 903)	1	3	1	3	1	9	1.80
Roundabout							
4. Bullfrog Rd / Suncadia Trail	0	0	1	0	0	1	0.20
6. Bullfrog Rd / W 2nd St (SR 903)	1	0	1	0	1	3	0.60
All-Way Stop-Controlled							
17. Pennsylvania Ave / 2nd St	0	0	0	0	1	1	0.20
Two-Way Stop-Controlled							
1. Bullfrog Rd / I-90 EB Ramps	0	0	1	0	0	1	0.20
2. Bullfrog Rd / I-90 WB Ramps	0	2	0	2	2	6	1.20
3. Bullfrog Rd / Tumble Creek Dr	0	0	0	0	0	0	0.00
5. Bullfrog Rd / Firehouse Rd	0	0	0	0	0	0	0.00
7. Denny Ave / W 2nd St (SR 903)	1	0	0	1	0	2	0.40
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	0	1	0	0	2	3	0.60
9. N Pine St / W 2nd St (SR 903)	0	0	0	0	0	0	0.00
10. Douglas Munro Blvd / Ranger Sta Rd	0	0	0	0	1	1	0.20
11. Douglas Munro Blvd / W 1st St	2	1	4	1	1	9	1.80
12. Pine St / W 1st St	2	0	0	1	2	5	1.00
13. N Stafford Ave / W 2nd St (SR 903)	0	0	0	0	0	0	0.00
15. N Oakes Ave / W 2nd St (SR 903)	1	1	0	0	0	2	0.40
19. Oakes Ave / I-90 EB Off-Ramp	0	0	0	0	1	1	0.20
20. Oakes Ave / I-90 EB On-Ramp	1	0	1	0	0	2	0.40
21. SR 903 / E Pennsylvania Ave	0	0	0	0	0	0	0.00
22. SR 903 / Pacific Ave	0	0	0	0	0	0	0.00
23. Rock Rose Rd / Morrel Rd / SR 903	0	0	0	0	0	0	0.00
24. SR 903 / SR 903 Ramp	0	0	1	0	2	3	0.60
25. White Rd I/C / I-90 WB Ramps	0	2	0	0	0	2	0.40
26. White Rd I/C / I-90 EB Ramps	0	0	0	0	0	0	0.00
27. SR 970 / SR 970 Ramp	2	0	1	0	0	3	0.60

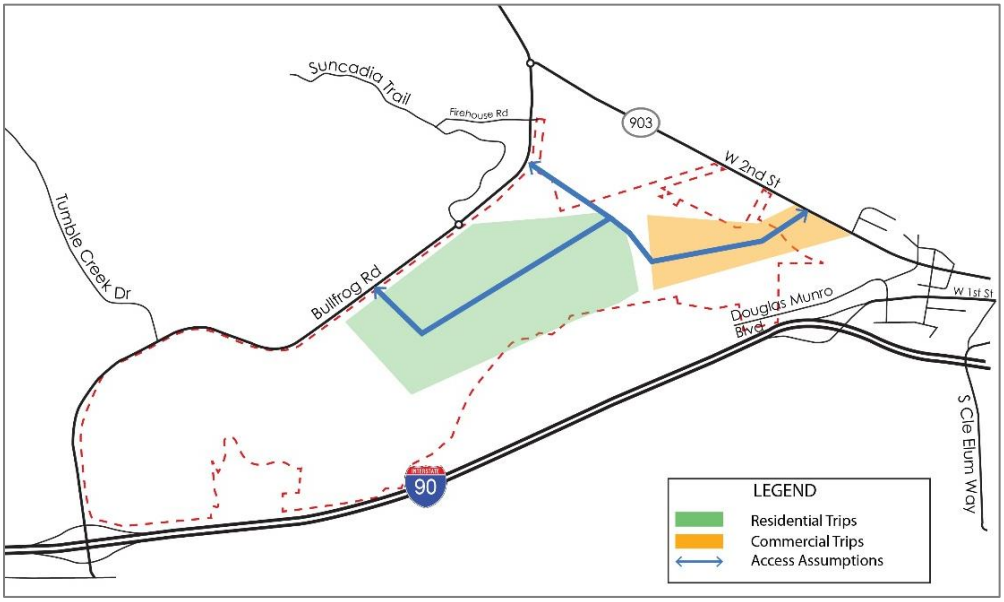
Source: TENW, 2020.

The roadway network for SEIS Alternative 5 is assumed to be the same as existing and 'Baseline' conditions (as described in *3.13.1 Affected Environment* sub-section) since City, County, and WSDOT transportation plans do not identify any funded roadway improvements that will be completed by 2037 within the study area.

Site Access & Circulation – SEIS Alternative 5

For SEIS Alternative 5, access to the Bullfrog Flats site is assumed to occur via two new access roads onto Bullfrog Road, and one new access roadway onto SR 903. The new access roads were assumed to be interconnected within the Bullfrog Flats site (see **Figure 3.13-2)**.

Figure 3.13-2
SITE ACCESS LOCATIONS – SEIS ALTERNATIVE 5



Source: TENW, 2020.
Note: the blue arrows on this figure show the access points to/from the development, and the green and orange color blocks indicate the major sources of on-site trips to the access points.

Trip Generation – SEIS Alternative 5

A summary of SEIS Alternative 5 and 6 trip generation by use (residential and commercial) by development year (2025, 2031, and 2037) during the weekday/Friday and Sunday summer PM peak hours is provided in **Table 3.13-9** (see **Appendix J** for detailed trip generation estimates for the SEIS Alternatives). Note that the trip generation estimates for the SEIS Alternatives are the same for the weekday and the Friday PM peak hours because Friday is considered to be a weekday per ITE methodology.

Table 3.13-9
TOTAL TRIP GENERATION SUMMARY BY USE – SEIS ALTERNATIVE 5 & 6

	TOTAL Net New Trip Generation											
	Weekday & Friday PM Peak Hour						Sunday PM Peak Hour					
	SEIS Alt 5 [1]			SEIS Alt 6 [2]			SEIS Alt 5 [1]			SEIS Alt 6 [2]		
Year	Bullfrog Flats	Business Park	**Total**	47° North	Commercial	**Total**	Bullfrog Flats	Business Park	**Total**	47° North	Commercial	**Total**
2025	536	67	**603**	501	79	**580**	577	3	**580**	485	21	**506**
2031	653	184	**837**	646	366	**1,012**	703	10	**713**	603	401	**1,004**
2037	798	326	**1,124**	614	611	**1,225**	841	20	**861**	574	438	**1,012**

Source: TENW, 2020.

1. SEIS Alternative 5 includes trips from the business park development that is part of the Approved Master Site Plan.
2. SEIS Alternative 6 includes trips from the separate commercial property adjacent to 47° North.

Details on the trip generation under the SEIS Alternative follows.

Year 2025. The total net new trip generation estimated for SEIS Alternative 5 and SEIS Alternative 6 are relatively similar. This is because in year 2025 the SEIS Alternative 5 residential use (788 units) is estimated to generate a similar number of trips as the SEIS Alternative 6 residential use (444 units) and RV resort use (627 sites) combined. Similarly, in 2025 the SEIS Alternative 5 business park use (70,000 sq. ft.) is estimated to generate a similar number of trips as the SEIS Alternative 6 commercial use (15,000 sq. ft. of restaurant/retail).

Year 2031. The total net new trip generation estimated for SEIS Alternative 6 is approximately 20% higher than SEIS Alternative 5 for the weekday and Friday PM peak hours, and approximately 40% higher for Sunday PM peak hour. This is because in year 2031, although the residential use in SEIS Alternative 5 (957 units) is anticipated to generate a similar number of trips as the SEIS Alternative 6 residential use (707 units) and RV resort use (627 sites), the SEIS Alternative 6 commercial use (75,000 sq. ft. of grocery/retail/restaurant) is anticipated to generate more trips than the SEIS Alternative 5 commercial use (245,000 sq. ft. of business park), particularly during the Sunday PM peak hour.

Year 2037. The total net new trip generation estimated for SEIS Alternative 5 and SEIS Alternative 6 are relatively similar for the weekday and Friday PM peak hours, but the SEIS

Alternative 6 trip generation estimate is approximately 18% higher for the Sunday PM peak hour. This is because in year 2037, although the residential use in SEIS Alternative 5 (1,161 units) is anticipated to generate more trips than the SEIS Alternative 6 residential use (707 units) and RV resort use (627 sites) during the weekday, Friday, and Sunday PM peak hours, the SEIS Alternative 6 commercial use (150,000 sq. ft. of grocery/retail/restaurant/medical office) is anticipated to generate significantly more trips than the SEIS Alternative 5 commercial use (490,000 sq. ft. of business park), particularly during the Sunday PM peak hour.

Table 3.13-10 compares the total net new trip generation under FEIS Alternative 5 and the SEIS Alternatives for the weekday and Sunday PM peak hours by development year. The land uses assumed for each alternative and development year are described in **Chapter 2** of this DSEIS. As shown, for the weekday PM peak hour, the SEIS Alternative 5 trip generation would be lower than the FEIS Alternative 5 trip generation as a result of development year land use assumptions (specifically less business park development) and updated trip generation methodology that was used for SEIS Alternative 5. The Sunday PM peak hour trip generation estimates would be similar between FEIS Alternative 5 and SEIS Alternative 5 because the business park is estimated to generate a minimal number of trips on Sundays.

Table 3.13-10
TRIP GENERATION COMPARISON – FEIS ALTERNATIVE 5 & SEIS ALTERNATIVES 5 & 6

	TOTAL Net New Trip Generation					
	Weekday PM Peak Hour [1]			Sunday PM Peak Hour		
Year	FEIS Alt 5 [2]	SEIS Alt 5 [2]	SEIS Alt 6 [3]	FEIS Alt 5 [2]	SEIS Alt 5 [2]	SEIS Alt 6 [3]
2025	701	603	580	530	580	506
2031	966	837	1,012	652	713	1,004
2037	1,485	1,124	1,225	869	861	1,012

Source: TENW, 2020

1. The FEIS did not evaluate a Friday PM peak hour.
2. FEIS Alternative 5 and SEIS Alternative 5 include trips from the business park development that is part of the Approved Master Site Plan.
3. SEIS Alternative 6 includes trips from the separate commercial property adjacent to 47° North.

Trip Distribution & Assignment – SEIS Alternative 5

SEIS Alternative 5 project trip assignment volumes for future years 2025, 2031, and 2037 for the weekday, Friday, and Sunday PM peak hours were provided at the 27 study intersections and the following three site access intersections:

- #28. Bullfrog Rd / West Site Access
- #29. Bullfrog Rd / East Site Access

- SR 903 (W 2nd St) / Site Access

Appendix A includes the methodology and assumptions used for the trip distribution and assignment forecasting and provides separate trip distribution figures for inbound and outbound SEIS Alternative 5 project trips. Note that the SEIS Alternative 5 trip distribution and project trip assignment is the same for weekday and Friday PM peak hour conditions.

The year 2025, 2031, and 2037 SEIS Alternative 5 project trip assignment for the weekday, Friday, and Sunday PM peak hours is included in Appendix B to **Appendix J** .

Future Year Traffic Volumes – SEIS Alternative 5

Future year 2025, 2031, and 2037 traffic volumes with SEIS Alternative 5 were developed by adding the 'Baseline' traffic volumes to the SEIS Alternative 5 trip assignment (see Appendix B to **Appendix J**). Year 2025, 2031, and 2037 with SEIS Alternative 5 traffic volumes for the weekday, Friday, and Sunday PM summer peak hours are included in Appendix B to **Appendix J**.

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Future Intersection LOS – SEIS Alternative 5

Intersection LOS analyses were conducted at the 27 study intersections for future years 2025, 2031, and 2037 with SEIS Alternative 5 during the weekday, Friday, and Sunday summer PM peak hours. Note that LOS analyses at intersections #24-27 were only completed for the Sunday PM peak hour time period; this decision was based on scoping discussions with the City, County, and WSDOT, and because higher volumes are experienced at those intersections on Sundays during the summer peak period.

Future years 2025, 2031, and 2037 LOS analyses with SEIS Alternative 5 results at the study intersections are summarized in **Table 3.13-11** for the weekday PM peak hour, **Table 3.13-12** for the Friday PM peak hour, and **Table 3.13-13** for the Sunday peak hour, all during the summer peak period. Year 2025, 2031, and 2037 'Baseline' LOS results are also presented in each table for comparison purposes. Study intersections forecast to operate at non-compliant LOS (LOS D, E, or F for City intersections and LOS E or F for Kittitas County and WSDOT intersections) are shown in orange, **BOLD** text in the tables. The detailed LOS reports are included in Appendix C to **Appendix J**.

In general, the LOS results shown in **Tables 3.13-11 through 3.13-13** indicate that similar to future 'Baseline' conditions, with SEIS Alternative 5 there would be traffic congestion throughout the City, primarily at two-way stop-controlled intersections and the I-90 ramps; congestion is anticipated to be highest on summer weekends and would be expected to continue to deteriorate over time if no improvements are made.

Table 3.13-11
INTERSECTION LOS SUMMARY – SEIS ALTERNATIVE 5: WEEKDAY PM PEAK HOUR (SUMMER)

		Weekday PM Peak Hour Conditions (Summer Peak)											
		Year 2025				Year 2031				Year 2037			
		'Baseline'		With SEIS Alt 5		'Baseline'		With SEIS Alt 5		'Baseline'		With SEIS Alt 5	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized													
14. S Cle Elum Way / Stafford / W 1st St	C	B	11.5	B	12.1	B	12.8	B	13.6	B	13.8	B	14.7
16. N Oakes Ave / W 1st St (SR 903)	D	B	10.4	B	10.9	B	11.7	B	12.8	B	15.9	C	21.4
18. Pennsylvania Ave / 1st St (SR 903)	D	A	7.6	A	7.8	A	8.0	A	8.8	A	9.1	B	11.2
Roundabout													
4. Bullfrog Rd / Suncadia Trail	D	A	5.1	A	5.4	A	5.9	A	6.5	A	7.3	A	8.5
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	6.2	A	6.6	A	6.9	A	7.6	A	7.7	A	8.8
All-Way Stop-Controlled													
17. Pennsylvania Ave / 2nd St	C	A	9.6	B	10.3	B	11.9	B	14.4	C	16.8	**D**	**25.8**
Two-Way Stop-Controlled [3]													
1. Bullfrog Rd / I-90 EB Ramps	D	B	13.0	B	14.8	C	17.0	C	23.3	D	27.3	**F**	**63.5**
2. Bullfrog Rd / I-90 WB Ramps	D	B	10.6	B	11.5	B	12.7	C	15.2	C	19.4	D	33.7
3. Bullfrog Rd / Tumble Creek Dr	D	B	12.4	B	13.9	C	16.3	C	20.7	C	24.8	**E**	**46.4**
5. Bullfrog Rd / Firehouse Rd	D	B	11.5	B	11.9	B	11.8	B	12.8	B	11.9	B	14.0
7. Denny Ave / W 2nd St (SR 903)	D	C	16.6	C	23.6	C	20.1	**E**	**36.4**	D	25.8	**F**	**78.1**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	D	26.1	**F**	**> 100**	**E**	**47.8**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	C	18.1	D	34.2	C	23.5	**F**	**78.5**	D	27.4	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.7	A	7.9	A	7.9	A	8.2	A	8.4	A	8.9
11. Douglas Munro Blvd / W 1st St	C	**E**	**46.2**	**F**	**56.1**	**F**	**74.7**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**D**	**27.9**	**D**	**30.6**	**D**	**27.9**	**D**	**31.5**	**E**	**35.2**	**E**	**45.9**
13. N Stafford Ave / W 2nd St (SR 903)	D	**E**	**46.7**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	D	33.9	D	32.9	**E**	**45.0**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	C	20.3	A	9.9	B	10.2	B	10.4	B	10.8	B	11.4
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	19.3	C	21.2	C	22.1	D	25.3	D	35.6	**F**	**67.1**
22. SR 903 / Pacific Ave	D	B	12.0	B	12.7	B	14.5	C	15.7	C	17.2	C	19.5
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.7	B	10.8	B	11.2	B	11.5	B	12.2	B	12.6

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Table 3.13-12
INTERSECTION LOS SUMMARY: SEIS ALTERNATIVE 5 – FRIDAY PM PEAK HOUR (SUMMER)

		Friday PM Peak Hour Conditions (Summer Peak)											
		Year 2025				Year 2031				Year 2037			
		'Baseline'		With SEIS Alt 5		'Baseline'		With SEIS Alt 5		'Baseline'		With SEIS Alt 5	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized													
14. S Cle Elum Way / Stafford / W 1st St	C	B	15.5	B	16.2	B	17.5	B	18.5	B	19.1	C	20.3
16. N Oakes Ave / W 1st St (SR 903)	D	B	13.3	B	14.2	B	15.1	B	16.5	C	20.9	D	41.8
18. Pennsylvania Ave / 1st St (SR 903)	D	A	7.7	A	8.6	A	8.9	B	10.7	B	10.5	B	13.5
Roundabout													
4. Bullfrog Rd / Suncadia Trail	D	A	7.2	A	7.8	B	10.1	B	11.7	B	14.9	C	19.8
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	8.2	A	8.9	A	9.6	B	11.0	B	11.0	B	13.1
All-Way Stop-Controlled													
17. Pennsylvania Ave / 2nd St	C	A	9.5	B	10.2	B	12.3	B	15.0	C	20.2	**D**	**32.8**
Two-Way Stop-Controlled [3]													
1. Bullfrog Rd / I-90 EB Ramps	D	C	23.5	D	33.8	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
2. Bullfrog Rd / I-90 WB Ramps	D	C	15.9	C	19.2	**E**	**41.5**	**F**	**85.8**	**F**	**> 100**	**F**	**> 100**
3. Bullfrog Rd / Tumble Creek Dr	D	B	12.5	B	14.2	C	17.3	C	22.8	C	24.6	**E**	**49.6**
5. Bullfrog Rd / Firehouse Rd	D	B	12.2	B	12.9	B	12.5	B	13.6	B	12.5	B	13.8
7. Denny Ave / W 2nd St (SR 903)	D	C	19.6	D	28.9	D	25.0	**E**	**48.4**	**E**	**36.3**	**F**	**> 100**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	**F**	**62.6**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	D	30.5	**F**	**83.0**	**F**	**77.5**	**F**	**> 100**	D	32.5	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	8.2	A	8.5	A	8.6	A	9.0	A	9.5	B	10.3
11. Douglas Munro Blvd / W 1st St	C	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**E**	**38.1**	**E**	**43.8**	**E**	**42.5**	**F**	**54.4**	**F**	**54.0**	**F**	**92.4**
13. N Stafford Ave / W 2nd St (SR 903)	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	C	24.7	**E**	**47.7**	**F**	**95.1**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	A	9.8	B	10.0	B	10.2	B	10.6	B	11.1	B	11.8
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	20.0	C	22	C	23.4	D	26.7	D	34.4	**E**	**45.1**
22. SR 903 / Pacific Ave	D	B	11.6	B	12.1	B	13.9	B	14.9	C	16	C	17.9
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.7	B	10.7	B	10.9	B	11.2	B	12.5	B	12.9

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Table 3.13-13
INTERSECTION LOS SUMMARY: SEIS ALTERNATIVE 5 – SUNDAY PM PEAK HOUR (SUMMER)

		Sunday PM Peak Hour Conditions (Summer Peak)											
		Year 2025				Year 2031				Year 2037			
		'Baseline'		With SEIS Alt 5		'Baseline'		With SEIS Alt 5		'Baseline'		With SEIS Alt 5	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized													
14. S Cle Elum Way / Stafford / W 1st St	C	B	13.9	B	14.8	B	15.7	B	16.8	B	16.9	B	18.4
16. N Oakes Ave / W 1st St (SR 903)	D	B	17.1	B	18.5	C	21.2	C	24.9	D	45.0	**E**	**55.1**
18. Pennsylvania Ave / 1st St (SR 903)	D	A	9.2	B	11.0	A	9.8	B	12.6	B	10.6	B	12.9
Roundabout													
4. Bullfrog Rd / Suncadia Trail	D	B	13.7	C	15.3	C	20.9	D	26.3	**F**	**57.4**	**F**	**73.5**
6. Bullfrog Rd / W 2nd St (SR 903)	D	C	18.6	C	21.7	C	24.9	D	31.7	**E**	**35.1**	**E**	**49.0**
All-Way Stop-Controlled													
17. Pennsylvania Ave / 2nd St	C	A	8.5	A	8.9	B	10.1	B	11.1	B	12.9	C	15.1
Two-Way Stop-Controlled [3]													
1. Bullfrog Rd / I-90 EB Ramps	D	B	11.9	B	13.4	C	15.3	C	19.0	C	19.7	D	29.3
2. Bullfrog Rd / I-90 WB Ramps	D	B	10.6	B	11.0	B	12.4	B	13.6	C	18.5	C	24.7
3. Bullfrog Rd / Tumble Creek Dr	D	C	22.2	D	25.8	D	32.7	**E**	**43.4**	**F**	**63.3**	**F**	**> 100**
5. Bullfrog Rd / Firehouse Rd	D	C	22.5	C	24.4	C	22.1	C	24.1	D	25.7	D	29.0
7. Denny Ave / W 2nd St (SR 903)	D	C	23.4	D	33.1	D	29.6	**E**	**48.1**	**E**	**43.9**	**F**	**> 100**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	**F**	**56.6**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	**F**	**60.1**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.4	A	7.6	A	7.6	A	7.8	A	7.9	A	8.3
11. Douglas Munro Blvd / W 1st St	C	**E**	**46.7**	**F**	**60.7**	**F**	**83.2**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**E**	**49.6**	**F**	**57.6**	**E**	**48.5**	**F**	**58.9**	**F**	**54.3**	**F**	**72.3**
13. N Stafford Ave / W 2nd St (SR 903)	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	**F**	**91.6**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	B	14.4	C	15.2	C	18.1	C	19.8	**E**	**35.3**	**E**	**43.6**
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	17.2	C	19.1	C	22.5	D	26.1	D	28.3	**E**	**35.3**
22. SR 903 / Pacific Ave	D	B	12	B	12.4	B	13.3	B	13.9	C	16.6	C	17.5
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.6	B	10.8	B	11.1	B	11.4	B	12.1	B	12.5
24. SR 903 / SR 903 Ramp	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
25. White Road I/C / I-90 WB Ramps	D	C	15.7	C	16.1	C	23.9	D	25.3	**F**	**52.5**	**F**	**58.9**
26. White Road I/C / I-90 EB Ramps	D	A	9.4	A	9.4	B	10.1	B	10.2	B	11.1	B	11.3
27. SR 970 / SR 970 Ramp	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Details about the intersection LOS analysis are provided below.

Weekday Summer PM Peak Hour. As shown in **Table 3.13-11**, the following study intersections are anticipated to operate at non-compliant LOS[2] during the weekday summer PM peak hour as a result of the additional traffic generated by SEIS Alternative 5:

- #1 - Bullfrog Rd / I 90 EB Ramps – LOS F by 2037
- #3 - Bullfrog Rd / Tumble Creek – LOS E by 2037
- #7 - Denny Ave / W 2nd St (SR 903) – LOS E by 2031
- #8 - Ranger Station Rd / Miller Ave / W 2nd St (SR 903) – LOS F by 2025
- #9 - N Pine St / W 2nd St (SR 903) – LOS F by 2031
- #17 - Pennsylvania Ave / 2nd St – LOS D by 2037
- #21 - Pennsylvania Ave / N 1st St (SR 903) in Roslyn – LOS F by 2037

The following study intersections are anticipated to operate at non-compliant LOS[2] during the weekday summer PM peak hour in 2025, 2031, and 2037 with future 'Baseline' conditions, and continue to operate at non-compliant LOS with SEIS Alternative 5:

- #11 - Douglas Munro Blvd / W 1st St – LOS E by 2025
- #12 - N Pine St / W 1st St – LOS D by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS E by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS E by 2031

Friday Summer PM Peak Hour. As shown in **Table 3.13-12**, the following study intersections are anticipated to operate at non-compliant LOS[2] during the Friday summer PM peak hour as a result of the additional traffic generated by SEIS Alternative 5:

- #3 - Bullfrog Rd / Tumble Creek Dr – LOS E by 2037
- #7 - Denny Ave / W 2nd St (SR 903) – LOS E by 2031
- #8 - Ranger Station Rd / Miller / W 2nd St (SR 903) – LOS F by 2025
- #9 - N Pine St / W 2nd St (SR 903) – LOS F by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS E by 2025
- #17 – Pennsylvania Ave / W 2nd St – LOS D by 2037
- #21 - Pennsylvania Ave / N 1st St (SR 903) in Roslyn – LOS E by 2037

The following study intersections are anticipated to operate at non-compliant LOS during the Friday summer PM peak hour in 2025, 2031, and 2037 with future 'Baseline' conditions, and continue to operate at non-compliant LOS with SEIS Alternative 5:

- #1 - Bullfrog Rd / I 90 EB Ramps – LOS F by 2031
- #2 - Bullfrog Rd / I-90 WB Ramps – LOS E by 2031
- #11 - Douglas Munro Blvd / W 1st St – LOS F by 2025
- #12 - N Pine St / W 1st St by 2025 – LOS E by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F by 2025

[2] Kittitas County and WSDOT standard is LOS D and City of Cle Elum standard is LOS C. Thus, non-compliant LOS is defined as LOS E/F at Kittitas County and WSDOT intersections and LOS D/E/F at City of Cle Elum intersections.

Sunday Summer PM Peak Hour. As shown in **Table 3.13-13**, the following study intersections are anticipated to operate at non-compliant LOS[2] during the Sunday summer PM peak hour as a result of the additional traffic generated by SEIS Alternative 5:

- #3 – Bullfrog Rd / Tumble Creek Dr – LOS E by 2031
- #7 - Denny Ave / W 2nd St (SR 903) – LOS E by 2031
- #16 - N Oakes Ave / W 1e St (SR 903) – LOS E by 2037
- #21 - Pennsylvania Ave / N 1st St (SR 903) in Roslyn – LOS E by 2037

The following study intersections are anticipated to operate at non-compliant LOS during the Sunday summer PM peak hour in 2025, 2031, and 2037 with future 'Baseline' conditions, and continue to operate at non-compliant LOS with SEIS Alternative 5:

- #4 - Bullfrog Rd / Suncadia Trail – LOS F by 2037
- #6 - Bullfrog Rd / W 2nd St (SR 903) – LOS E by 2037
- #8 - Ranger Station Rd / Miller / W 2nd St (SR 903) – LOS F by 2025
- #9 - N Pine St / W 2nd St (SR 903) – LOS F by 2025
- #11 - Douglas Munro Blvd / W 1st St – LOS E by 2025
- #12 - N Pine St / W 1st St by 2025 – LOS E by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS F by 2025
- #19 - Oakes Ave / I-90 EB off-ramp – LOS E by 2037
- #24 - SR 903 / SR 903 Ramp – LOS F by 2025
- #25 - White Rd I/C & I-90 WB Ramps – LOS F by 2037
- #27 - SR 907 / SR 907 Ramp – LOS F by 2025

Potential improvements would be required for study intersections forecast to operate at non-compliant LOS during the weekday summer PM peak hour with SEIS Alternative 5 to meet the adopted LOS standards (see the *3.13.3 Mitigation Measures* sub-section for details).

Future Site Access LOS – SEIS Alternative 5

LOS analyses were conducted at the three site access intersections for future years 2025, 2031, and 2037 with SEIS Alternative 5 during the weekday, Friday, and Sunday summer PM peak hours. Future years 2025, 2031, and 2037 with SEIS Alternative 5 LOS analysis results at the site access intersections are summarized in **Table 3.13-14**. The LOS analysis for the site access locations assumes that all site access locations would be two-way stop-controlled with the major street (Bullfrog Road and SR 903) free flow. Site access intersections forecast to operate at non-compliant LOS (LOS E or F) are shown in orange, BOLD text in the table.

Table 3.13-14
SITE ACCESS LOS SUMMARY[1] – SEIS ALTERNATIVE 5

		Future Conditions w/ SEIS Alternative 5 (Summer Peak)					
		Year 2025		Year 2031		Year 2037	
Site Access Intersection [1]	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
WEEKDAY PM PEAK HOUR CONDITIONS							
28. Bullfrog Rd / RV Resort Access	D	B	14.0	C	18.6	D	32.3
29. Bullfrog Rd / New Connector Rd	D	B	11.3	B	12.5	B	13.7
30. SR 903 / New Connector Rd	D	C	16.1	D	27.5	**F**	**> 100**
FRIDAY PM PEAK HOUR CONDITIONS							
28. Bullfrog Rd / RV Resort Access	D	C	19.0	D	33.1	**F**	**83.5**
29. Bullfrog Rd / New Connector Rd	D	B	13.7	C	15.3	C	16.9
30. SR 903 / New Connector Rd	D	C	17.8	**E**	**38.9**	**F**	**> 100**
SUNDAY PM PEAK HOUR CONDITIONS							
28. Bullfrog Rd / RV Resort Access	D	D	32.2	**F**	**70.0**	**F**	**> 100**
29. Bullfrog Rd / New Connector Rd	D	C	23.1	D	28.3	E	42.4
30. SR 903 / New Connector Rd	D	C	18.4	**F**	**58.2**	**F**	**> 100**

Source: TENW, 2020.

1. LOS analysis at site access intersections assumes two-way stop control with major roadway (Bullfrog Rd and SR 903) being freeflow.
2. Orange, **BOLD** indicates does not meet LOS standard.

Details about the access LOS analysis are provided below.

Weekday Summer PM Peak Hour. As shown in **Table 3.13-14**, during the weekday summer PM peak hour with SEIS Alternative 5, the site access intersection of SR 903/New Connector Road (#30) is anticipated to operate at non-compliant LOS[3] (LOS F) by 2037.

Friday Summer PM Peak Hour. As shown in **Table 3.13-14**, during the Friday summer PM peak hour with SEIS Alternative 5, the site access intersection of Bullfrog Road/RV Resort Access (#28) is anticipated to operate at non-compliant LOS (LOS F) by 2037 and SR 903/New Connector Road is anticipated to operate at LOS E by 2031.

Sunday Summer PM Peak Hour. As shown in **Table 3.13-14**, during the Sunday summer PM peak hour with SEIS Alternative 5, the site access intersection of Bullfrog Road/RV Resort Access (#28) is anticipated to operate at non-compliant LOS (LOS F) by 3031 and the 903/New Connector Road (#30) site access intersection is anticipated to operate at non-compliant LOS (LOS F) by 2031.

[3] Kittitas County and WSDOT LOS standard is LOS D and City of Cle Elum LOS standard is LOS C. Therefore, non-compliant LOS is defined as LOS E/F at Kittitas County and WSDOT intersections and LOS D/E/F at City of Cle Elum intersections.

Site access intersections forecast to operate at non-compliant LOS during the weekday summer PM peak hour with SEIS Alternative 5 would require potential improvements to meet the adopted LOS standards (see the *3.13.3 Mitigation Measures* sub-section for details).

Construction Impacts – SEIS Alternative 5

SEIS Alternative 5 would result in temporary construction-related traffic impacts over the 30-year buildout period of the project (through 2051). Approximately 644,000 cubic yards (CY) of cut and 420,000 CY of fill material would be required for development of SEIS Alternative 5 (the same as FEIS Alternative 5). It is estimated that between 200 and 400 trucks per month would be generated during the initial grading period of the project which is expected to last several months.

Off-site transport of materials would typically be hauled during the day. Truck traffic would use new or temporary site access roads to Bullfrog Road and SR 903, and would be routed to either SR 903 or to/from I-90 via Bullfrog Road. The destination of hauled material would depend on the amount of cut or fill material needed for the site, as well as regional soil needs at the time of construction. All excavation and disposal would be in accordance with local agency codes and permit requirements. The number of trucks and intensity of activity would be established through a Construction Management Plan.

Construction impacts would generally include: traffic associated with construction workers, delivery and removal of materials by truck-trailer units, and parking associated with construction workers. In general, vehicle traffic generated by the construction activity is anticipated to be less than the vehicle traffic generated by the SEIS Alternative 5 development. However, depending on the construction activity, there is a potential that during some years of development, the combined total construction activity for later phases coupled with development traffic from earlier phases could be temporarily higher than with the buildout condition.

The Applicant would be required to prepare a Construction Management Plan prior to beginning construction to minimize construction traffic impacts. A traffic monitoring plan could also be required and developed to manage traffic levels at the site access locations and to determine if traffic levels with construction are higher than for proposed development at buildout. If so, additional mitigation measures could be implemented to reduce construction or general traffic levels. Haul route agreements and truck routes would be established in coordination with the City of Cle Elum, WSDOT, and Kittitas County, as necessary, depending on the off-site location(s) where haul material would be transported.

Safety Impacts – SEIS Alternative 5

With increased traffic generated by SEIS Alternative 5, increased traffic volumes on area roadways could result in moderate increases in collisions. Improvements would be required at several study intersections – including widening for merge/refuge lanes, all-way stop

control, and signalization – to improve traffic safety (see the *3.13.3 Mitigation Measures* sub-section for details).

Transit Impacts – SEIS Alternative 5

SEIS Alternative 5 would bring new employees and residents to the vicinity that could increase the need for transit services. There are no known planned improvements to public transportation service in the area. Cle Elum and Kittitas County could evaluate the potential for providing additional transit service and/or expanded transportation choices. With additional funding, it is possible that the free Kittitas County Connector that currently runs between Ellensburg and Upper Kittitas County could add stops within the 47° North development.

Non-Motorized Circulation Impacts – SEIS Alternative 5

New trails and sidewalks would be provided throughout the site and would connect with SR 903 and Bullfrog Road, and other existing, off-site trails.

School Impacts – SEIS Alternative 5

A qualitative analysis of traffic impacts of SEIS Alternative 5 on the Cle Elum – Rosyln schools was performed. Modeling was not specifically conducted for the analysis. The transportation analysis focused on the summer PM peak hour; school trips are generally outside this window. Development under SEIS Alternative 5 would generate vehicle traffic on SR 903 and Bullfrog Road. Additional bus trips are also expected on SR 903 to transport school children to/from the proposed development. The increased traffic due to SEIS Alternative 5 could cause additional delays for vehicles and buses using the school driveway(s) on SR 903. However, traffic volumes on SR 903 would be lower when school is in session (September to June) than during peak summer months (July and August) when traffic levels are highest on SR 903 and other local roads.

The DSEIS traffic analysis evaluated traffic impacts during the summer period when school traffic is minimal. School-related traffic impacts are typically greatest during the weekday AM peak hours between 7:00 and 9:00 AM which was not included in this analysis.

SEIS ALTERNATIVE 6 *– Proposed 47° North Master Site Plan Amendment*

Like SEIS Alternative 5, the analysis for SEIS Alternative 6 addresses conditions in 2025, 2031, and 2037 for the weekday, Friday, and Sunday summer PM peak hours. The roadway network, traffic volumes, intersection LOS, and site access/circulation are documented for this alternative. The results of the intersection LOS analysis are compared to the 'Baseline' and SEIS Alternative 5 results.

Roadway Network – SEIS Alternative 6

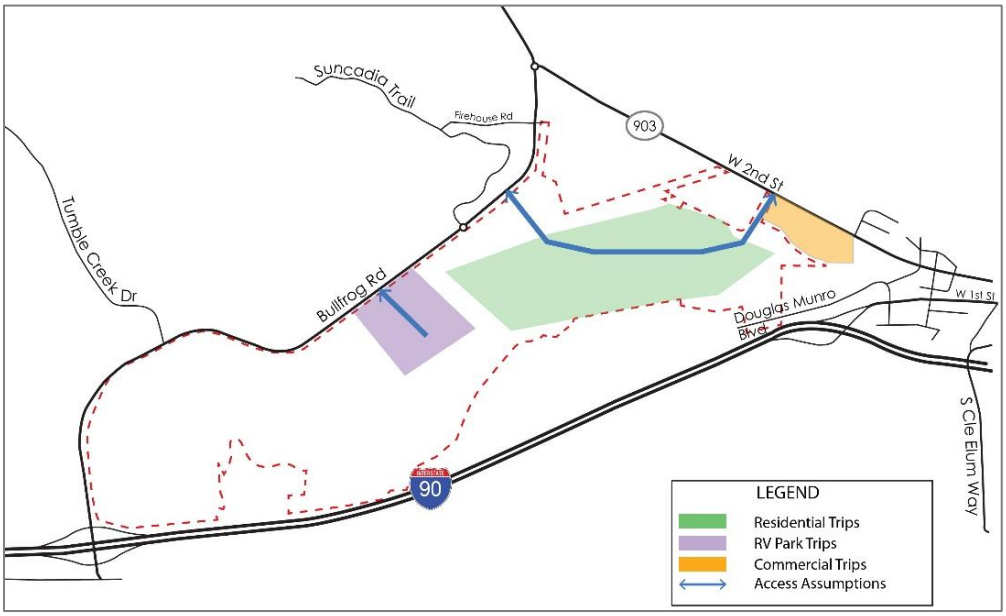
The roadway network for SEIS Alternative 6 was assumed to be the same as existing and 'Baseline' conditions (as identified in the *3.13.1 Affected Environment* sub-section) since no funded roadway improvements by the City, County, or WSDOT are identified to be completed by 2037 within the study area.

Site Access and Circulation – SEIS Alternative 6

The site plan for SEIS Alternative 6 includes a new public Connector Road through the site that provides access between Bullfrog Road and SR 903. This Connector Road would provide access to the residential areas as well as the future commercial development. The Connector Road has been identified as a public collector road (see **Chapter 2** for details).

A separate access is identified further south on Bullfrog Road that would provide exclusive access to the RV resort and RV units. The access assumptions and site access locations for SEIS Alternative 6 are shown in **Figure 3.13-3**.

Figure 3.13-3
SITE ACCESS – SEIS ALTERNATIVE 6



Source: TENW, 2020.
Note: the blue arrows on this figure show the access points to/from the development, and the green and orange color blocks indicate the major sources of on-site trips to the access points.

Project Trip Generation – SEIS Alternative 6

The gross weekday, Friday, and Sunday summer PM peak hour trip generation estimates for SEIS Alternative 6 were generated based on the same methodology used for SEIS Alternative 5 (see the *Methodology* sub-section and **Appendix J** for details). Adjustments to the gross trip generation of the proposed uses were made to account for internal and pass-by trips.

Table 3.13-9 and **Table 3.13-10** summarize the total net new trip generation estimates for SEIS Alternative 6 for the weekday, Friday, and Sunday summer PM peak hours in future years 2025, 2031, and 2037. The detailed trip generation calculations are provided in Appendix E to **Appendix J**.

Project Trip Distribution & Assignment – SEIS Alternative 6

SEIS Alternative 6 project trip assignment volumes for future years 2025, 2031, and 2037 for the weekday, Friday, and Sunday PM peak hours were provided at the 27 study intersections and the following three site access intersections:

- #28. Bullfrog Rd / RV Resort Access
- #29. Bullfrog Rd / RV Resort Access
- #30. SR 903 (W 2nd St) / New Connector Rd

Appendix A to **Appendix J** documents the methodology and assumptions used for the trip distribution and assignment forecasting and provides separate trip distribution figures for inbound and outbound SEIS Alternative 6 project trips.

Year 2025, 2031, and 2037 SEIS Alternative 6 project trip assignment for the weekday, Friday, and Sunday summer PM peak hours is included in Appendix B to **Appendix J**.

Future Year Traffic Volumes – SEIS Alternative 6

Future year 2025, 2031, and 2037 traffic volumes with SEIS Alternative 6 were developed by adding the 'Baseline' traffic volumes to the SEIS Alternative 6 trip assignment (see Appendix B to **Appendix J**). Year 2025, 2031, and 2037 with SEIS Alternative 6 traffic volumes for the weekday, Friday, and Sunday summer PM peak hours are included in Appendix B to **Appendix J**.

Future Year Intersection LOS – SEIS Alternative 6

Intersection LOS analyses were conducted at the 27 study intersections for future years 2025, 2031, and 2037 with SEIS Alternative 6 during the weekday, Friday, and Sunday summer PM peak hours. Note that LOS analyses at intersections #25-27 were only completed for the Sunday PM peak hour time period, the same as under SEIS Alternative 5.

Future years 2025, 2031, and 2037 with SEIS Alternative 6 LOS analysis results at the study intersections are summarized in **Table 3.13-15** for the weekday PM peak hour, **Table 3.13-16** for the Friday PM peak hour, and **Table 3.13-17** for the Sunday PM peak hour, all for the summer peak period. Year 2025, 2031, and 2037 'Baseline' and with SEIS Alternative 5 LOS results are also presented in **Table 3.13-15 through Table 3.13-17** for comparison purposes. Study intersections forecast to operate at non-compliant LOS (LOS D, E, or F for City intersections and LOS E or F for Kittitas County and WSDOT intersections) are shown in orange, BOLD text in the tables. The detailed LOS reports are included in Appendix C to **Appendix J**.

Table 3.13-15
INTERSECTION LOS SUMMARY – SEIS ALTERNATIVE 6: WEEKDAY PM PEAK HOUR (SUMMER)

		Weekday PM Peak Hour Conditions (Summer Peak)																	
		Year 2025						Year 2031						Year 2037					
		'Baseline'		With SEIS Alt 5		With SEIS Alt 6		'Baseline'		With SEIS Alt 5		With SEIS Alt 6		'Baseline'		With SEIS Alt 5		With SEIS Alt 6	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized																			
14. S Cle Elum Way / Stafford / W 1st St	C	B	11.5	B	12.1	B	12	B	12.8	B	13.6	B	13.7	B	13.8	B	14.7	B	14.6
16. N Oakes Ave / W 1st St (SR 903)	D	B	10.4	B	10.9	B	10.8	B	11.7	B	12.8	B	13.0	B	15.9	C	21.4	C	21.1
18. Pennsylvania Ave / 1st St (SR 903)	D	A	7.6	A	7.8	A	7.5	A	8.0	A	8.8	A	8.6	A	9.1	B	11.2	B	10.7
Roundabout																			
4. Bullfrog Rd / Suncadia Trail	D	A	5.1	A	5.4	A	5.6	A	5.9	A	6.5	A	7.5	A	7.3	A	8.5	B	10.3
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	6.2	A	6.6	A	6.8	A	6.9	A	7.6	A	8.0	A	7.7	A	8.8	A	9.7
All-Way Stop-Controlled																			
17. Pennsylvania Ave / 2nd St	C	A	9.6	B	10.3	B	10.1	B	11.9	B	14.4	B	14.3	C	16.8	**D**	**25.8**	C	20.6
Two-Way Stop-Controlled [3]																			
1. Bullfrog Rd / I-90 EB Ramps	D	B	13.0	B	14.8	C	15.3	C	17.0	C	23.3	D	30.4	D	27.3	**F**	**63.5**	**F**	**> 100**
2. Bullfrog Rd / I-90 WB Ramps	D	B	10.6	B	11.5	B	11.7	B	12.7	C	15.2	C	16.9	C	19.4	D	33.7	**E**	**42.1**
3. Bullfrog Rd / Tumble Creek Dr	D	B	12.4	B	13.9	B	13.9	C	16.3	C	20.7	C	23.9	C	24.8	**E**	**46.4**	**F**	**61.1**
5. Bullfrog Rd / Firehouse Rd	D	B	11.5	B	11.9	B	12.5	B	11.8	B	12.8	B	13.4	B	11.9	B	14.0	B	14.0
7. Denny Ave / W 2nd St (SR 903)	D	C	16.6	C	23.6	C	23.3	C	20.1	**E**	**36.4**	**E**	**38.1**	D	25.8	**F**	**78.1**	**F**	**65.5**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	D	26.1	**F**	**> 100**	**F**	**95.7**	**E**	**47.8**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	C	18.1	D	34.2	D	33.3	C	23.5	**F**	**78.5**	**F**	**> 100**	D	27.4	**F**	**> 100**	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.7	A	7.9	A	7.9	A	7.9	A	8.2	A	8.3	A	8.4	A	8.9	A	9.0
11. Douglas Munro Blvd / W 1st St	C	**E**	**46.2**	**F**	**56.1**	**F**	**56.1**	**F**	**74.7**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**D**	**27.9**	**D**	**30.6**	**D**	**30.4**	**D**	**27.9**	**D**	**31.5**	**D**	**32.9**	**E**	**35.2**	**E**	**45.9**	**F**	**51.7**
13. N Stafford Ave / W 2nd St (SR 903)	D	**E**	**46.7**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	D	33.9	D	32.9	D	33.3	**E**	**45.0**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	C	20.3	A	9.9	A	9.8	B	10.2	B	10.4	B	10.6	B	10.8	B	11.4	B	11.3
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	19.3	C	21.2	C	21.7	C	22.1	D	25.3	D	29.3	D	25.4	**E**	**35.6**	**E**	**42.6**
22. SR 903 / Pacific Ave	D	B	12.0	B	12.7	B	12.8	B	14.5	C	15.7	C	16.8	C	17.2	C	19.5	C	22.2
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.7	B	10.8	B	11.0	B	11.2	B	11.5	B	11.9	B	12.2	B	12.6	B	13.2

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Table 3.13-16
INTERSECTION LOS SUMMARY – SEIS ALTERNATIVE 6: FRIDAY PM PEAK HOUR (SUMMER)

		Friday PM Peak Hour Conditions (Summer Peak)																	
		Year 2025						Year 2031						Year 2037					
		'Baseline'		With SEIS Alt 5		With SEIS Alt 6		'Baseline'		With SEIS Alt 5		With SEIS Alt 6		'Baseline'		With SEIS Alt 5		With SEIS Alt 6	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized																			
14. S Cle Elum Way / Stafford / W 1st St	C	B	15.5	B	16.2	B	16.1	B	17.5	B	18.5	B	18.6	B	19.1	C	20.3	C	20.2
16. N Oakes Ave / W 1st St (SR 903)	D	B	13.3	B	14.2	B	14.0	B	15.1	B	16.5	B	16.7	C	20.9	D	41.8	C	27.9
18. Pennsylvania Ave / 1st St (SR 903)	D	A	7.7	A	8.6	A	8.3	A	8.9	B	10.7	A	9.9	B	10.5	B	13.5	B	12.8
Roundabout																			
4. Bullfrog Rd / Suncadia Trail	D	A	7.2	A	7.8	A	8.1	B	10.1	B	11.7	C	15.0	B	14.9	C	19.8	D	31.4
6. Bullfrog Rd / W 2nd St (SR 903)	D	A	8.2	A	8.9	A	8.0	A	9.6	B	11.0	B	11.5	B	11.0	B	13.1	B	14.8
All-Way Stop-Controlled																			
17. Pennsylvania Ave / 2nd St	C	A	9.5	B	10.2	B	10.1	B	12.3	B	15.0	B	14.7	C	20.2	**D**	**32.8**	**D**	**26.5**
Two-Way Stop-Controlled [3]																			
1. Bullfrog Rd / I-90 EB Ramps	D	C	23.5	D	33.8	**E**	**36.7**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
2. Bullfrog Rd / I-90 WB Ramps	D	C	15.9	C	19.2	C	19.4	**E**	**41.5**	**F**	**85.8**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
3. Bullfrog Rd / Tumble Creek Dr	D	B	12.5	B	14.2	B	14.2	C	17.3	C	22.8	D	28.0	C	24.6	**E**	**49.6**	**F**	**71.7**
5. Bullfrog Rd / Firehouse Rd	D	B	12.2	B	12.9	B	13.4	B	12.5	B	13.6	B	14.3	B	12.5	B	13.8	B	14.7
7. Denny Ave / W 2nd St (SR 903)	D	C	19.6	D	28.9	D	28.3	D	25.0	**E**	**48.4**	**F**	**52.3**	**E**	**36.3**	**F**	**> 100**	**F**	**> 100**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	**F**	**62.6**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	D	30.5	**F**	**83.0**	**F**	**81.5**	**F**	**77.5**	**F**	**> 100**	**F**	**> 100**	D	32.5	**F**	**> 100**	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	8.2	A	8.5	A	8.5	A	8.6	A	9.0	A	9.1	A	9.5	B	10.3	B	10.4
11. Douglas Munro Blvd / W 1st St	C	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**E**	**38.1**	**E**	**43.8**	**E**	**43.4**	**E**	**42.5**	**F**	**54.4**	**F**	**57.3**	**F**	**54.0**	**F**	**92.4**	**F**	**> 100**
13. N Stafford Ave / W 2nd St (SR 903)	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	C	24.7	**E**	**47.7**	**E**	**48.0**	**F**	**95.1**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	A	9.8	B	10.0	A	9.9	B	10.2	B	10.6	B	10.6	B	11.1	B	11.8	B	11.7
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	20.0	C	22	C	22.8	C	23.4	D	26.7	D	31.2	D	34.4	**E**	**45.1**	**F**	**64.3**
22. SR 903 / Pacific Ave	D	B	11.6	B	12.1	B	12.2	B	13.9	B	14.9	C	16.0	C	16	C	17.9	C	20.1
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.7	B	10.7	B	10.8	B	10.9	B	11.2	B	11.7	B	12.5	B	12.9	B	13.6

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

Table 3.13-17
INTERSECTION LOS SUMMARY – SEIS ALTERNATIVE 6: SUNDAY PM PEAK HOUR (SUMMER)

		Sunday PM Peak Hour Conditions (Summer Peak)																	
		Year 2025						Year 2031						Year 2037					
		'Baseline'		With SEIS Alt 5		With SEIS Alt 6		'Baseline'		With SEIS Alt 5		With SEIS Alt 6		'Baseline'		With SEIS Alt 5		With SEIS Alt 6	
Study Intersection	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
Signalized																			
14. S Cle Elum Way / Stafford / W 1st St	C	B	13.9	B	14.8	B	14.7	B	15.7	B	16.8	B	17.3	B	16.9	B	18.4	B	18.4
16. N Oakes Ave / W 1st St (SR 903)	D	B	17.1	B	18.5	B	18.0	C	21.2	C	24.9	C	25.5	D	45.0	**E**	**55.1**	**E**	**56.5**
18. Pennsylvania Ave / 1st St (SR 903)	D	A	9.2	B	11.0	B	10.5	A	9.8	B	12.6	B	11.2	B	10.6	B	12.9	B	13.3
Roundabout																			
4. Bullfrog Rd / Suncadia Trail	D	B	13.7	C	15.3	C	15.7	C	20.9	D	26.3	**E**	**37.0**	**F**	**57.4**	**F**	**73.5**	**F**	**90.2**
6. Bullfrog Rd / W 2nd St (SR 903)	D	C	18.6	C	21.7	C	22.4	C	24.9	D	31.7	**E**	**40.4**	**E**	**35.1**	**E**	**49.0**	**F**	**60.7**
All-Way Stop-Controlled																			
17. Pennsylvania Ave / 2nd St	C	A	8.5	A	8.9	A	8.9	B	10.1	B	11.1	B	10.9	B	12.9	C	15.1	B	14.7
Two-Way Stop-Controlled [3]																			
1. Bullfrog Rd / I-90 EB Ramps	D	B	11.9	B	13.4	B	13	C	15.3	C	19.0	C	20.9	C	19.7	D	29.3	D	32.3
2. Bullfrog Rd / I-90 WB Ramps	D	B	10.6	B	11.0	B	11	B	12.4	B	13.6	B	14.5	C	18.5	C	24.7	D	26.9
3. Bullfrog Rd / Tumble Creek Dr	D	C	22.2	D	25.8	D	26.1	D	32.7	**E**	**43.4**	**F**	**57.7**	**F**	**63.3**	**F**	**> 100**	**F**	**> 100**
5. Bullfrog Rd / Firehouse Rd	D	C	22.5	C	24.4	D	25.1	C	22.1	C	24.1	D	25.7	D	25.7	D	29.0	D	29.7
7. Denny Ave / W 2nd St (SR 903)	D	C	23.4	D	33.1	D	31.4	D	29.6	**E**	**48.1**	**F**	**56.6**	**E**	**43.9**	**F**	**> 100**	**F**	**> 100**
8. Ranger Sta Rd / Miller / W 2nd (SR 903)	D	**F**	**56.6**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
9. N Pine St / W 2nd St (SR 903)	D	**F**	**60.1**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
10. Douglas Munro Blvd / Ranger Sta Rd	C	A	7.4	A	7.6	A	7.6	A	7.6	A	7.8	A	7.9	A	7.9	A	8.3	A	8.4
11. Douglas Munro Blvd / W 1st St	C	**E**	**46.7**	**F**	**60.7**	**F**	**58.0**	**F**	**83.2**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
12. Pine St / W 1st St	C	**E**	**49.6**	**F**	**57.6**	**F**	**72.3**	**E**	**48.5**	**F**	**58.9**	**F**	**56.3**	**F**	**54.3**	**F**	**72.3**	**F**	**65.8**
13. N Stafford Ave / W 2nd St (SR 903)	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
15. N Oakes Ave / W 2nd St (SR 903)	D	**F**	**91.6**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
19. Oakes Ave / I-90 EB Off-Ramp	D	B	14.4	C	15.2	C	15.0	C	18.1	C	19.8	C	20.2	**E**	**35.3**	**E**	**43.6**	**E**	**44.0**
20. Oakes Ave / I-90 EB On-Ramp	D	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
21. SR 903 / E Pennsylvania Ave	D	C	17.2	C	19.1	C	19.2	C	22.5	D	26.1	D	30.7	D	28.3	**E**	**35.3**	**E**	**45.1**
22. SR 903 / Pacific Ave	D	B	12.0	B	12.4	B	12.3	B	13.3	B	13.9	B	14.5	C	16.6	C	17.5	C	18.6
23. Rock Rose Rd / Morrel Rd / SR 903	D	B	10.6	B	10.8	B	10.7	B	11.1	B	11.4	B	11.5	B	12.1	B	12.5	B	12.8
24. SR 903 / SR 903 Ramp	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**
25. White Road I/C / I-90 WB Ramps	D	C	15.7	C	16.1	C	16.0	C	23.9	D	25.3	D	25.9	**F**	**52.5**	**F**	**58.9**	**F**	**60.0**
26. White Road I/C / I-90 EB Ramps	D	A	9.4	A	9.4	A	9.4	B	10.1	B	10.2	B	10.3	B	11.1	B	11.3	B	11.3
27. SR 970 / SR 970 Ramp	D	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**	**F**	**> 100**

Source: TENW, 2020.

1. LOS = Level of Service. Delay = average control delay expressed in seconds per vehicle.
2. LOS at two-way stop-controlled intersections is reported for the stop-controlled movement with the highest delay.
3. Orange, **BOLD** indicates does not meet LOS standard.

In general, the LOS results shown in **Tables 3.13-15 through 3.13-17** indicate that similar to future 'Baseline' conditions and with SEIS Alternative 5, with SEIS Alternative 6 there would be traffic congestion throughout the City, primarily at two-way stop-controlled intersections and the I-90 ramps; congestion is anticipated to be highest on summer weekends and would be expected to continue to deteriorate over time if no improvements are made. Details about the intersection LOS analysis are provided below.

Weekday Summer PM Peak Hour. As shown in **Table 3.13-15**, the following study intersections are anticipated to operate at non-compliant LOS[4] during the weekday summer PM peak hour as a result of the additional traffic generated by SEIS Alternative 6:

- #1 - Bullfrog Rd / I-90 EB Ramps – LOS F by 2037
- #2 - Bullfrog Rd / I-90 WB Ramps – LOS E by 2037
- #3 - Bullfrog Rd / Tumble Creek – LOS F by 2037
- #7 - Denny Ave / W 2nd St (SR 903) – LOS E by 2031
- #8 - Ranger Station Rd / Miller Ave / W 2nd Stt (SR 903) – LOS F by 2025
- #9 - N Pine St / W 2nd St (SR 903) – LOS F by 2031
- #21 - Pennsylvania Ave / N 1st St (SR 903) in Roslyn – LOS E by 2037

The following study intersections are anticipated to operate at non-compliant LOS[4] during the weekday summer PM peak hour in 2025, 2031, or 2037 with future 'Baseline' conditions, and continue to operate at non-compliant LOS with SEIS Alternative 6:

- #11 - Douglas Munro Blvd / W 1st St – LOS E by 2025
- #12 - N Pine Street / W 1st St – LOS D by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS E by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS E by 2031

Comparing SEIS Alternatives 5 and 6, there are two intersections that have different LOS results that would trigger non-compliant LOS during the weekday summer PM peak hour.

- #2 – Bullfrog Rd / I-90 WB Ramps – LOS E with SEIS Alternative 6 only in 2031
- #17 – Pennsylvania Ave / W 2nd St– LOS D with SEIS Alternative 5 only in 2031

Friday Summer PM Peak Hour. As shown in **Table 3.13-16**, the following study intersections are expected to operate at non-compliant LOS[4] during the Friday summer PM peak hour as a result of the additional traffic generated by SEIS Alternative 6:

- #1 - Bullfrog Rd / I-90 EB Ramps – LOS E by 2025
- #3 - Bullfrog Rd / Tumble Creek Dr – LOS F by 2037
- #7 - Denny Ave / W 2nd St (SR 903) – LOS F by 2031
- #9 - N Pine Street / W 2nd St (SR 903) – LOS F by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS E by 2025

[4] Kittitas County and WSDOT LOS standard is LOS D and City of Cle Elum LOS standard is LOS C. Therefore, non-compliant LOS is defined as LOS E/F at Kittitas County and WSDOT intersections and LOS D/E/F at City of Cle Elum intersections.

- #17 - Pennsylvania Ave / 2nd St – LOS D by 2037
- #21 - Pennsylvania Ave / N 1st St (SR 903) in Roslyn – LOS F by 2037

The following study intersections are anticipated to operate at non-compliant LOS during the Friday summer PM peak hour in 2025, 2031, and 2037 with future 'Baseline' conditions, and continue to operate at non-compliant LOS with SEIS Alternative 6:

- #2 - Bullfrog Rd / I-90 WB Ramps – LOS E by 2031
- #8 - Ranger Station Rd / Miller / W 2nd St (SR 903) – LOS F by 2025
- #11 - Douglas Munro Blvd / W 1st St – LOS F by 2025
- #12 - N Pine St / W 1st St by 2025 – LOS E by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F by 2025

Comparing SEIS Alternatives 5 and 6, there are two intersections that have different LOS results that would trigger non-compliant LOS during the weekday Friday PM peak hour.

- #1 – Bullfrog Rd / I-90 EB Ramps – LOS E with SEIS Alternative 6 only in 2025

Sunday Summer PM Peak Hour. As shown in **Table 3.13-17**, the following study intersections are expected to operate at non-compliant LOS[4] during the Sunday summer PM peak hour as a result of the additional traffic generated by SEIS Alternative 6:

- #3 - Bullfrog Rd / Tumble Creek Dr – LOS F by 2031
- #4 - Bullfrog Rd / Suncadia Trail – LOS E by 2031
- #6 - Bullfrog Rd / W 2nd St (SR 903) – LOS E by 2031
- #7 - Denny Ave / W 2nd St (SR 903) – LOS F by 2031
- #16 - N Oakes Ave / W 1st St (SR 903) – LOS E by 2037
- #21 - Pennsylvania Ave / N 1st St (SR 903) in Roslyn – LOS E by 2037

The following study intersections are anticipated to operate at non-compliant LOS during the Sunday summer PM peak hour in 2025, 2031, or 2037 with future 'Baseline' conditions, and continue to operate at non-compliant LOS with SEIS Alternative 6:

- #8 - Ranger Station Rd / Miller / W 2nd St (SR 903) – LOS F by 2025
- #9 - N Pine Str / W 2nd St (SR 903) – LOS F by 2025
- #11 - Douglas Munro Blvd / W 1st St – LOS E by 2025
- #12 - N Pine St / 1st St by 2025 – LOS E by 2025
- #13 - N Stafford Ave / W 2nd St (SR 903) – LOS F by 2025
- #15 - N Oakes Ave / W 2nd St (SR 903) – LOS F by 2025
- #19 - Oakes Ave / I-90 EB Off-Ramp – LOS E by 2037
- #24 - SR 903 / SR 903 Ramp – LOS F by 2025
- #25 - White Rd I/C / I-90 WB Ramps – LOS F by 2037
- #27 - SR 907 / SR 907 Ramp – LOS F by 2025

Comparing SEIS Alternatives 5 and 6, there are two intersections that have different LOS results that would trigger non-compliant LOS during the Sunday summer PM peak hour.

- #4 – Bullfrog Rd / Suncadia Trail – LOS E with SEIS Alternative 6 only in 2037
- #6 – Bullfrog Rd / W 2nd St (SR 903) – LOS E with SEIS Alternative 6 only in 2037

Potential improvements would be required for study intersections forecast to operate at non-compliant LOS during the weekday summer PM peak hour with SEIS Alternative 6 to meet the adopted LOS standards (see the *3.13.3 Mitigation Measures* sub-section for details).

Future Year Site Access LOS – SEIS Alternative 6

LOS analyses were conducted at the three site access intersections for future years 2025, 2031, and 2037 with SEIS Alternative 6 during the weekday, Friday, and Sunday summer PM peak hours. Future years 2025, 2031, and 2037 with SEIS Alternative 6 LOS analysis results at the site access intersections are summarized in **Table 3.13-18**. The LOS analysis for the site access locations assumes that all site access locations would be two-way stop-controlled with the major street (Bullfrog Road and SR 903) free flow. Site access intersections forecast to operate at non-compliant LOS (LOS E or F) are shown in orange, BOLD text in the table.

Table 3.13-18
SITE ACCESS LOS SUMMARY - SEIS ALTERNATIVE 6 [1]

		Future Conditions with SEIS Alternative 6 (Summer Peak)					
		Year 2025		Year 2031		Year 2037	
Site Access Intersection [1]	LOS Standard	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]
WEEKDAY PM PEAK HOUR CONDITIONS							
28. Bullfrog Rd / RV Resort Access	D	C	16.6	C	24.0	D	28.6
29. Bullfrog Rd / New Connector Rd	D	B	13.5	C	16.2	C	23.2
30. SR 903 / New Connector Rd	D	**F**	**55.9**	**F**	**> 100**	**F**	**> 100**
FRIDAY PM PEAK HOUR CONDITIONS							
28. Bullfrog Rd / RV Resort Access	D	D	25.2	**F**	**53.7**	**F**	**65.1**
29. Bullfrog Rd / New Connector Rd	D	C	16.2	C	24.8	D	34.7
30. SR 903 / New Connector Rd	D	**F**	**82.6**	**F**	**> 100**	**F**	**> 100**
SUNDAY PM PEAK HOUR CONDITIONS							
28. Bullfrog Rd / RV Resort Access	D	**E**	**48.9**	**F**	**> 100**	**F**	**> 100**
29. Bullfrog Rd / New Connector Rd	D	D	29.4	**F**	**> 100**	**F**	**> 100**
30. SR 903 / New Connector Rd	D	**F**	**89.7**	**F**	**> 100**	**F**	**> 100**

Source: TENW, 2020.

1. LOS analysis at site access intersections assumes two-way stop control with major roadway (Bullfrog Road and SR 903) being free flow.
2. Orange, **BOLD** indicates does not meet LOS standard.

Details about the access LOS analysis are provided below.

Weekday Summer PM Peak Hour. As shown in **Table 3.13-18**, during the weekday summer PM peak hour with SEIS Alternative 6, the site access intersection of SR 903/New Connector Road (#30) is anticipated to operate at non-compliant LOS[5] (LOS F) by 2025.

Friday Summer PM Peak Hour. As shown in **Table 3.13-18**, during the Friday summer PM peak hour with SEIS Alternative 6, the site access intersection of Bullfrog Road/RV Resort Access (#28) is anticipated to operate at non-compliant LOS (LOS F) by 2031 and SR 903/New Connector Road is anticipated to operate at LOS F by 2025.

Sunday Summer PM Peak Hour. As shown in **Table 3.13-18**, during the Sunday summer PM peak hour with SEIS Alternative 6, the site access intersections of Bullfrog Road/RV Resort Access (#28) and SR 903/New Connector Road (#30) are anticipated to operate at non-compliant LOS (LOS E and LOS F respectively) by 2025. Additionally, the site access intersection of Bullfrog Road/New Connector Road (#29) is anticipated to operate at non-compliant LOS (LOS F) by 2031.

Site access intersections forecast to operate at non-compliant LOS during the weekday summer PM peak hour with SEIS Alternative 5 would require potential improvements to meet the adopted LOS standards (see the *3.13.3 Mitigation Measures* sub-section for details).

Construction Impacts – SEIS Alternative 6

SEIS Alternative 6 would result in temporary construction-related traffic impacts over the buildout of the project, which is expected to last 17 years (through 2037), with buildout of the residential and recreational components expected to last 7 years (through 2028). The buildout period would be shorter and more condensed than under SEIS Alternative 5 which is assumed to build out in 30 years (through 2050).

On-site grading for SEIS Alternative 6 would include an estimated 252,000 CY of cut, and 308,000 CY of fill. Fill material, utility backfill, and road base would be imported from approved off-site sources. Approximately 99,000 CY of cut and 2,000 CY of fill could be required for future commercial development on the adjacent property. The project would strive to balance the cut and fill quantities as much as possible, which would minimize trucks traffic, but some truck traffic is expected for the additional fill. Assuming about 12 CY capacity for a truck, the material importing activities would generate about 200 truck trips per month; this is comparable to the lower end of the truck trips estimated during construction of SEIS Alternative 5.

[5] Kittitas County and WSDOT LOS standard is LOS D and City of Cle Elum LOS standard is LOS C. Therefore, non-compliant LOS is defined as LOS E/F at Kittitas County and WSDOT intersections and LOS D/E/F at City of Cle Elum intersections.

The time of day, truck traffic routes, and destination of hauled material would be similar to under SEIS Alternative 5. The number of trucks and intensity of activity would be established and monitored through a Construction Management Plan.

Construction impacts would generally include: traffic associated with construction workers, deliveries and removal of materials by truck-trailer units, and parking associated with construction workers. In general, vehicle traffic generated by the construction activity is anticipated to be less than vehicle traffic generated by the SEIS Alternative 6 development. However, depending on construction activity there is a potential that during some years of development, the combined total construction activity for later phases coupled with development traffic from earlier phases could be temporarily higher than with the buildout condition.

As described under SEIS Alternative 5, the Applicant would prepare a Construction Management Plan prior to beginning construction to minimize construction traffic impacts. A traffic monitoring plan could also be required and developed to manage traffic levels at the site access locations and determine if additional mitigation measures are needed.

Safety Impacts – SEIS Alternative 6

Similar to SEIS Alternative 5, with increased traffic generated by SEIS Alternative 6, increased traffic volumes on area roadways could result in moderate increases in collisions. Improvements would be required at several study intersections to improve traffic safety (see the *3.13.3 Mitigation Measures* sub-section for details).

Transit Impacts – SEIS Alternative 6

Similar to SEIS Alternative 5, SEIS Alternative 6 would bring new employees and residents to the vicinity that could increase the need for transit services; however, there would be fewer jobs and permanent residents under SEIS Alternative 6. Cle Elum and Kittitas County could evaluate the potential for additional transit service and/or expanded transportation choices.

Non-Motorized Circulation Impacts – SEIS Alternative 6

An approximately 6-mile network of trails and sidewalks would be provided throughout the site, including: hike/bike, equestrian, and golf cart paths. Approximately five miles of trails would generally be located around the periphery of the proposed development, and would connect to on-site development, as well as to existing off-site trails in several locations (e.g., to the trails in Suncadia to the north, the Coal Mines Trail to the northeast, and the Horse Park to the south) (see **Figure 2-13**, Parks and Trails Plan). Approximately one mile of sidewalks located along one side of the on-site road connecting SR 903 and Bullfrog Road would also offer opportunities for non-motorized circulation.

School Impacts – SEIS Alternative 6

A qualitative analysis of traffic impacts of SEIS Alternative 6 on the Cle Elum – Rosyln schools was performed. Modeling was not specifically conducted for the analysis. The

transportation analysis focused on the summer PM peak hour; school trips are generally outside this window. Development under SEIS Alternative 6 would generate vehicle traffic on SR 903 and Bullfrog Road. Additional bus trips are also expected on SR 903 transporting school children to/from the proposed development. However, there would be fewer vehicle and bus trips than under SEIS Alternative 5 because there would be fewer permanent residents (the RVs would not generate students). The increased traffic due to SEIS Alternative 6 could cause additional delays for vehicles and buses using the school driveway(s) on SR 903. However, traffic volumes on SR 903 are lower when school is in session than during peak summer months when traffic levels are highest on SR 903 and other local roads.

Developability of the Municipal (Community Recreation) Center, Cemetery Expansion & Affordable Housing Sites

Access is available to the municipal (community) recreation center, cemetery expansion, and affordable housing sites from the surrounding roadway system. These future developments would contribute to traffic congestion and the need for transportation improvements.

Conclusion

SEIS Alternatives 5 and 6 would generate temporary construction-related traffic impacts over buildout of the project. Construction traffic impacts would be shorter and more condensed under SEIS Alternative 6. Proposed development under the SEIS Alternatives would increase traffic volumes and congestion on area roadways (e.g., in the City, County, and on state facilities such as SR 903, SR 907, and I-90); this is an unavoidable effect of urban development. The LOS analysis indicates that several of the studied intersections would exceed LOS standards during the PM summer peak hours in the future analysis years (2025, 2031, and 2037) with the additional traffic generated by the SEIS Alternatives; some of these intersections would also exceed the LOS standards without the projects (Baseline scenario) due to continued growth in background traffic, without the projects.

3.13.3 Mitigation Measures

This sub-section identifies potential off-site improvements necessary to mitigate the transportation impacts of the SEIS Alternatives. Where significant impacts from construction and operation of the SEIS Alternatives cannot be mitigated by known mitigation measures, significant unavoidable adverse impacts are noted in the next sub-section. The potential mitigation measures identified in this SEIS address the impacts of SEIS Alternatives 5 and 6 using the 2002 Cle Elum UGA FEIS mitigation measures and Development Agreement conditions of approval for reference. Mitigation measures include: 1) pro-rata share contributions towards intersection improvements necessary to address future LOS deficiencies as a result of either 'Background' traffic growth or SEIS Alternative 6 project traffic; and 2) a monitoring program to identify timing and pro-rata share of future

intersection improvements. The potential mitigation measures identified in this Draft SEIS will be further refined in the Final SEIS, and the proportionate share and timing of the mitigation measures will be used to develop new conditions of approval that will be incorporated into a new or updated Development Agreement for the 47° North project. Note that mitigation related to intersection improvements necessary to comply with adopted LOS standards are identified based on anticipated future year LOS results during the weekday summer PM peak hour only. Improvements to mitigate intersections anticipated to operate at non-compliant LOS during the Friday and Sunday summer PM peak hours were not identified because it is not standard traffic engineering practice to mitigate for traffic conditions that only occur for a few hours a week during the summer months.

FEIS Alternative 5 Mitigation Measures

Attachment B to the 2002 Development Agreement identifies several measures and conditions of approval required to mitigate the transportation impacts of FEIS Alternative 5. These conditions were developed to mitigate the environmental impacts of the Bullfrog Flats Master Site Plan and arose from the 2002 Cle Elum UGA EIS and various other approval processes for the project.

A summary of the transportation mitigation measures identified in 2002 Development Agreement and their current status is provided in **Table 3.13-18**. **Table 3.13-18** also identifies the FEIS Alternative 5 mitigation measures that would apply to SEIS Alternatives 5 and 6 (also see **Table 3.13-19** later in this sub-section).

Methodology for Determining Proportionate Shares

Table 3.13-19 later in this sub-section identifies improvements that would be necessary to mitigate off-site study intersections forecast to operate at non-compliant LOS in future years 2025, 2031, and 2037 without or with SEIS Alternative 6 during the weekday summer PM peak hour. For all off-site transportation mitigation measures identified in this SEIS, pro-rata share is also estimated in **Table 3.13-19** for the 47° North project trips relative to the other components of the total future forecast traffic volumes including future commercial use trips and/or background traffic growth.

For intersections where improvements would be needed to meet adopted LOS standards based on forecast 'Baseline' conditions (without SEIS Alternatives 5 or 6), the pro-rata share for SEIS Alternative 6 is calculated by dividing the total weekday PM peak hour project traffic associated with SEIS Alternative 6 by the total forecast future weekday PM peak hour traffic volumes with SEIS Alternative 6.

For intersections where improvements would be needed to meet adopted LOS standards based on forecast conditions with SEIS Alternative 6, the pro-rata share calculations are

separated for improvements required by 2031 versus improvements required by 2037. For intersections where improvements would be needed by 2031 with SEIS Alternative 6, the pro-rata share for the 47° North development only is calculated by applying the estimated percentage of 47° North trip generation versus the commercial use trip generation for the appropriate development year (2025 or 2031) to the total SEIS Alternative 6 pro-rata share.

Table 3.13-19
SUMMARY OF MITIGATION MEASURES - FEIS ALTERNATIVE 5[1]

Location	Transportation Conditions of Approval from Bullfrog Flats DA			Applies to SEIS Alt. 5	Applies to SEIS Alt. 6
	DA Condition of Approval #	Improvement	Status		
--	83	Construct all on-site transportation facilities		✓	✓
--	84	Site access limited to 3 locations on SR 903 and Bullfrog Rd		✓	✓
S Cle Elum Way / W 1st St	85a	Pay pro-rata share for signal	Signal completed	-	-
N Oakes Ave / W 1st St	85b	Pay pro-rata share for signal	Signal completed[2]	-	-
Bullfrog Rd / W 2nd St (SR 903)	85c	Pay pro-rata share for signal	Roundabout completed	-	-
W 2nd St / N Stafford Ave	85d	Add turn lanes and/or signal		✓	✓
Pine St / W 1st St	85e	Add EB and WB left-turn lanes	Completed[2]	-	-
Bullfrog Rd / W 2nd St (SR 903)	85f	Pay pro-rata share for road realignment	Completed	-	-
Bullfrog Rd / I-90 EB off-ramp	85g	Pay pro-rata share to change stop sign to Bullfrog Road		✓	✓
--	86	Contribute pro-rata share at all off-site locations based on *Monitoring Program*		✓	✓
--	92	Monitoring program		✓	✓

Source: TENW, 2020.

1. Per *Bullfrog Flats UGA Development Agreement Conditions of Approval* (2002).
2. Improvements were completed by the City of Cle Elum.

For intersections where improvements would be needed by 2037, there would be no pro-rata share for 47° North since the project is anticipated to be built out before 2031; therefore 100% of the pro-rata share for Alternative 6 would apply to the commercial development.

Mitigation Measures for 'Baseline' Conditions

As shown in **Table 3.13-19** later in this sub-section, based on the analysis presented in this Draft SEIS, several study intersections are anticipated to operate at a non-compliant LOS under future weekday summer PM peak hour 'Baseline' conditions (without SEIS Alternatives 5 or 6), but no improvements are currently identified at these intersections in the City of Cle Elum Transportation Element of the Comprehensive Plan (2019).

For the intersections where improvements would be needed based on forecast 'Baseline' conditions, the 47° North project would contribute a pro-rata share towards intersection improvements since additional traffic would be added by the project but it is not the direct cause of intersection non-compliance. Intersection improvements necessary to mitigate forecast non-compliant 'Baseline' LOS such as widening for turn lanes and/or traffic signalization, and timing of these improvements, will be addressed in a new or updated Development Agreement between the project Applicant and the City of Cle Elum.

Mitigation Measures for SEIS Alternatives 5 & 6

Based on the analysis presented for SEIS Alternatives 5 and 6, potential measures would be necessary to mitigate impacts and would include some of the same measures identified in the previous 2002 Cle Elum UGA FEIS and 2002 Development Agreement, as well as new or additional measures required as a result of anticipated background traffic growth in the 'Baseline' condition, and additional traffic from the SEIS Alternative 5 and 6 residential, recreational, and commercial uses.

Intersection improvements to mitigate future non-compliant LOS with SEIS Alternative 5 and 6 are shown in **Table 3.13-19**. As shown in **Table 3.13-19**, the mitigation measures for SEIS Alternative 5 are anticipated to be similar to the mitigation measures identified for SEIS Alternative 6. This is due to the fact that the development amounts and weekday PM peak hour trip generation estimates for SEIS Alternatives 5 and 6 would be similar in the time periods analyzed; the RV sites proposed in SEIS Alternative 6 would generate approximately the same number of trips as the multi-family residential units in SEIS Alternative 5. The only intersection not shown in **Table 3.13-19** that would require intersection improvements with SEIS Alternative 5 (but not with SEIS Alternative 6) to comply with LOS standards is #17 – Pennsylvania Ave / 2nd Street which is anticipated to operate at LOS D in 2037 during the weekday PM peak hour with SEIS Alternative 5.

Table 3.13-19 also includes a preliminary estimate of the pro-rata share from the 47° North (residential and RV uses) and the future commercial development based on forecast future traffic volumes with SEIS Alternative 6 during the year in which mitigation is necessary to maintain acceptable LOS (i.e., 2025, 2031, and 2037). For intersections where improvements would be needed by 2037, there would be no pro-rata share for 47° North since the project is anticipated to be built out before 2031; therefore 100% of the pro-rata share would be the responsibility of the commercial development.

The pro-rata shares summarized in **Table 3.13-19** are preliminary estimates based on forecasts of future traffic; the final pro-rata share percentages for the 47° North development and possible commercial development are anticipated to be confirmed using a recommended Monitoring Program that should be established in a new or updated Development Agreement. The detailed pro-rata share calculations are included in Appendix F to **Appendix J**.

Additionally, although improvements to mitigate future non-compliant LOS at study intersections with SEIS Alternative 6 during the weekday PM peak hour for peak summer conditions have been preliminarily identified in **Table 3.13-19**, the specific mitigation to be constructed and the timing of the mitigation is anticipated to be further refined based on input and evaluation from the Applicant and the City of Cle Elum, and with potential input from other stakeholders (e.g., Kittitas County and WSDOT), as appropriate. Other factors that may be considered by the stakeholders in determining the specific improvement and timing as part of a new or updated Development Agreement may include right-of-way acquisition, engineering criteria and feasibility, and cost.

Note that the mitigation measures identified in **Table 3.13-19** are intended to mitigate the anticipated weekday PM peak hour conditions during the peak summer months. However, improvements identified to mitigate weekday PM peak hour non-compliant LOS during peak summer conditions would also improve conditions during Friday and Sunday PM peak hour conditions during both the peak summer and non-summer periods.

Mitigation Measures for 'Baseline' Conditions

The following off-site study intersections are anticipated to operate at a non-compliant LOS[6] under future weekday summer PM peak hour 'Baseline' conditions in 2025 or 2031:

- **#11 – Douglas Munro Blvd / W 1st St** is anticipated to operate at LOS E in 2025 under 'Baseline' conditions without SEIS Alternatives 5 or 6. The identified improvement is a traffic signal.

[6] Kittitas County and WSDOT LOS standard is LOS D and City of Cle Elum LOS standard is LOS C. Therefore, non-compliant LOS is defined as LOS E/F at Kittitas County and WSDOT intersections and LOS D/E/F at City of Cle Elum intersections.

Table 3.13-20
SUMMARY OF MITIGATION MEASURES - SEIS ALTERNATIVE 6

Off-Site Study Intersection	First Estimated Year Improvement Required (Forecast LOS)	Identified Improvement to Mitigate LOS Deficiency [1]	Mitigation Required with SEIS Alt 5?	Estimated Pro-Rata Share [2]		
				Back-ground Share [3]	SEIS Alt 6 Share	
					47° North	Commercial Parcel
IMPROVEMENTS NEEDED FOR 'BASELINE'/BACKGROUND CONDITIONS						
#11 – Douglas Munro Blvd / W 1st Street	2025 (LOS E)	Traffic Signal	--	96.7%	2.9%	0.4%
#12 – N Pine St / W 1st Street	2025 (LOS D)	Traffic Signal	--	97.4%	2.3%	0.3%
#13 – N Stafford Ave / W 2nd Street (SR 903)	2025 (LOS E)	Traffic Signal	--	80.7%	16.8%	2.5%
#15 – N Oakes Ave / W 2nd St (SR 903)	2031 (LOS E)	Traffic Signal	--	81.8%	11.6%	6.6%
IMPROVEMENTS NEEDED FOR CONDITIONS WITH SEIS ALTERNATIVE 6 [4]						
By Year 2031:						
#8 – Ranger Sta Rd / Miller Ave / W 2nd St (SR 903)	2025 (LOS F)	Traffic Signal	Yes	n/a	87%	13%
#7 – Denny Ave / W 2nd St (SR 903)	2031 (LOS E)	Refuge/merge lane on SR 903	Yes	n/a	64%	36%
#9 – N Pine Street / W 2nd St (SR 903)	2031 (LOS F)	Traffic Signal	Yes	n/a	64%	36%
By Year 2037: [5]						
#1 – Bullfrog Road / I-90 EB Ramps	2037 (LOS F) [4]	Traffic Signal	Yes	n/a	0%	100%
#2 – Bullfrog Road / I-90 WB Ramps	2037 (LOS E)	Traffic Signal	No	n/a	0%	100%
#3 – Bullfrog Road / Tumble Creek Dr	2037 (LOS F)	Refuge/merge lane on Bullfrog Rd	Yes	n/a	0%	100%
#21 – Pennsylvania Ave / 1st St (SR 903)	2037 (LOS E)	All-Way Stop	Yes	n/a	0%	100%

Source: TENW, 2020.

1. Improvement needed to mitigate non-compliant LOS during weekday PM peak hour; with improvement the intersection LOS would meet standard.
2. Estimated pro-rata share for 47° North and commercial parcel are preliminary estimates and will be adjusted based on a future Monitoring Program.
3. Share of future traffic volume growth associated with background traffic growth not specifically from SEIS Alternatives 5 or 6.
4. Mitigation not triggered by 'Baseline' conditions but triggered by traffic generated by SEIS Alternative 6 (47° North and/or commercial parcel).
5. 47° North is anticipated to be built out by 2031. Therefore pro-rata share of mitigation triggered by SEIS Alt 6 in 2037 is 100% to the commercial parcel.
6. City of Cle Elum *Transportation Element of Comprehensive Plan* identifies this intersection will require improvements by 2040 to meet LOS D or better standard.

- **#12 – N Pine St / W 1st St** is anticipated to operate at LOS D in 2025 under 'Baseline' conditions without SEIS Alternatives 5 or 6. The identified improvement is a traffic signal.
- **#13 – N Stafford St / W 2nd St (SR 903)** is anticipated to operate at LOS E in 2025 under 'Baseline' conditions without SEIS Alternatives 5 or 6. The identified improvement is a traffic signal.
- **#15 – N Oakes Ave / W 2nd St (SR 903)** is anticipated to operate at LOS E in 2031 under 'Baseline' conditions without SEIS Alternatives 5 or 6. The identified improvement is a traffic signal.

Mitigation Measures for Year 2025 with SEIS Alternative 6

The following off-site study intersection is anticipated to operate at a non-compliant LOS[6] under future weekday summer PM peak hour conditions in 2025 with SEIS Alternative 6:

- **#8 - Ranger Station Rd / Miller Ave / W 2nd St (SR 903)** is anticipated to operate at LOS F in 2025 with SEIS Alternative 6. The identified improvement is a traffic signal.

Mitigation Measures for Year 2031 with SEIS Alternative 6

The following off-site study intersections are anticipated to operate at a non-compliant LOS[6] under future weekday summer PM peak hour conditions in 2031 with SEIS Alternative 6:

- **#7 - Denny Ave / W 2nd Street (SR 903)** is anticipated to operate at LOS E in 2031 with SEIS Alternative 6. The identified improvement is widening of SR 903 to provide a refuge/merge lane for left-turns from Denny Avenue onto SR 903.
- **#9 - N Pine Street / W 2nd Street (SR 903)** is anticipated to operate at LOS F in 2031 with SEIS Alternative 6. The identified improvement is a traffic signal.

Mitigation Measures for Year 2037 with SEIS Alternative 6

The following off-site study intersections are anticipated to operate at a non-compliant LOS[6] under future weekday summer PM peak hour conditions in 2037 with SEIS Alternative 6:

- **#1 - Bullfrog Rd / I-90 EB Ramps** is anticipated to operate at LOS F in 2037 with SEIS Alternative 6. The identified improvement is a traffic signal.
- **#2 - Bullfrog Rd / I-90 WB Ramps** is anticipated to operate at LOS E in 2037 with SEIS Alternative 6. The identified improvement is a traffic signal.
- **#3 - Bullfrog Rd / Tumble Creek Dr** is anticipated to operate at LOS F in 2037 with SEIS Alternative 6. The identified improvement is a refuge/merge lane on Bullfrog Road for left-turns from Tumble Creek Drive.
- **#21 - Pennsylvania Ave / 1st St (SR 903) in Roslyn** is anticipated to operate at LOS E in 2037 with SEIS Alternative 6. The identified improvement is an all-way stop.

Site Access Mitigation Measures

The 47° North development would construct new on-site roadways and intersections at access points to Bullfrog Flats and SR 903 (public roads) to City of Cle Elum standards, or standards included in the new or updated Development Agreement with the City. The 47° North development would also ensure that design of the new on-site roadways meets minimum requirements for emergency vehicle access and school bus access.

Based on the results of the weekday PM peak hour LOS analysis shown in **Table 3.13-19**, the traffic control at the new 47° North site access points on Bullfrog Road and SR 903 is proposed as follows:

- **#28 – Bullfrog Rd / RV Resort Access** is anticipated to operate at an acceptable LOS during the weekday PM peak hour in 2025, 2031, and 2037 with SEIS Alternative 6 as a side street stop-controlled intersection with the RV Resort Access being stop-controlled.
- **#29 – Bullfrog Road / New Connector Rd** is anticipated to operate at an acceptable LOS during the weekday PM peak hour in 2025, 2031, and 2037 with SEIS Alternative 6 as a side street stop-controlled intersection with the New Connector Road being stop-controlled.
- **#30 - SR 903 / New Connector Rd** is anticipated to operate at LOS F during the weekday PM peak hour in 2025, 2031, and 2037 with SEIS Alternative 6 as a side street stop-controlled intersection. The identified mitigation is a traffic signal with widening on SR 903 to accommodate a westbound left-turn lane.

Other Mitigation Measures

Traffic Monitoring Program

The 47° North development should prepare and implement a traffic monitoring program as part of a new or updated Development Agreement. It is expected that the traffic monitoring program would be similar in format and function to the previously established program documented in the 2002 Development Agreement (Condition 92). The monitoring program would be coordinated with the City, in cooperation with Kittitas County and WSDOT, and would have the following objectives:

A. Document traffic volumes at key locations (roadways and/or intersections) in the local transportation network that would be impacted by traffic generated by the 47° North development.
B. Separate traffic volumes at key locations by background traffic, 47° North development traffic, and traffic associated with development of the commercial property.
C. Establish the methodology by which to determine the timing and pro-rata share financial contributions for implementing transportation improvements required for mitigation.

The specific details of the traffic monitoring program, including the number of phases of monitoring, appropriate timing of phases of monitoring (i.e., at defined development years or relative to percent or number of units constructed), time periods to be counted, key locations to be counted, and reporting requirements will be coordinated with the City as part of the new or updated 47° North Development Agreement.

Construction Management Plan

The 47° North development should prepare a Construction Management Plan prior to beginning construction to minimize construction traffic impacts. Truck routes and haul

route agreements for construction-related traffic would be established in coordination with the City of Cle Elum, Kittitas County, and WSDOT, as necessary. Additionally, provisions should be made in the new or updated Development Agreement between the Applicant and the City for restoration of road surfaces damaged by construction traffic, if any.

Trail System & Sidewalks

The 47° North development would provide an approximately 6-mile network of trails and sidewalks throughout the site, including: hike/bike, equestrian, and golf cart paths. The trails would connect to on-site development, as well as to existing off-site trails. Sidewalks would also be provided along one side of the on-site road connecting SR-903 and Bullfrog Road for non-motorized circulation.

3.13.4 Significant Unavoidable Adverse Impacts

Proposed development under SEIS Alternatives 5 and 6 would increase traffic volumes and congestion on area roadways (e.g., in the City, County, and on state facilities such as SR 903, SR 907, and I-90); this is an unavoidable effect of urban development. The LOS analysis indicates that several of the studied intersections would exceed LOS standards during the PM summer peak hours in the future analysis years with the additional traffic generated by the SEIS Alternatives; some of these intersections would also exceed the LOS standards without the projects due to continued growth in background traffic, without the projects. The mitigation measures listed above would offset or reduce the significant adverse impacts under SEIS Alternative 6. These measures will be refined in the Final SEIS to represent the project's proportional share of required improvement measures more accurately. The measures will ultimately be included in a new or updated Development Agreement between the Applicant and the City.

3.14 UTILITIES

This section of the Draft SEIS summarizes the affected environment and analysis of probable significant utilities impacts from the 2002 Cle Elum UGA EIS. As appropriate, new/updated information is provided, analysis of the SEIS Alternatives is conducted, and mitigation measures are identified.

The Utilities section is based on the *Supplemental Site Engineering Technical Report (SETR)* (September 2020) prepared by ESM Engineers (see **Appendix B**).

Methodology

Water, sewer, and solid waste demand and capacity for the SEIS Alternatives were calculated based on standard accepted engineering assumptions and methodologies, using data available from the City of Cle Elum and Kittitas County Solid Waste.

For water, the City of Cle Elum 2015 Water System Plan (WSP) was used as a guide to determine the requirements of the SEIS Alternatives. This plan is in the process of being updated with completion anticipated in February 2022. The City engineer, HLA Engineering and Land Surveying, conducted a preliminary storage and pump analysis for the Cle Elum water system as a whole, as well as for Pressure Zone 3 (the primary location of the proposed development). This analysis included each of the SEIS Alternatives, together with City Heights (the other major approved project in the City) in 2037.[1] Equivalent residential units were calculated for the analysis.[2]

For sewer, wastewater flow projections were generally estimated in the same way as in the 2002 Cle Elum UGA EIS SETR, with updated uses. The wastewater production from the SEIS Alternatives was calculated as a percentage of inside water demand.

For solid waste, the 2011 *Kittitas County Solid Waste Management Plan* was used as a reference for construction debris and solid waste generation; the updated 2020 *Kittitas County Solid Waste and Moderate Risk Waste Management Plan* was used as a reference for recycling in the service area.

(See **Appendix B** for details on the methodology for the utilities analyses.)

[1] SEIS Alternative 6 is assumed to buildout in 2037 (the 47° North residential and recreation uses would buildout in 2028 and the possible future commercial uses in 2037). SEIS Alternative 5 is assumed to buildout in 2051; therefore, only the portion of this alternative that would build out by 2037 was included in the analysis.
[2] Washington State Department of Health (DOH) uses the concept of Equivalent Residential Units (ERUs) to compare non-residential or multi-family water usage to a specific number of single family residences.

3.14.1 Affected Environment

2002 Cle Elum UGA EIS

Water

In 2002, the City was developing a regional water supply system to provide water treatment in accordance with the federal Safe Drinking Water Act. The water supply system would serve the needs of the City and its Urban Growth Area (UGA), the Town of South Cle Elum, and Trendwest's (now New Suncadia) development activities at the Suncadia resort. A new water treatment plant would be built on a 12-acre site in the eastern portion of the Bullfrog Flats property to replace the existing treatment plant located on the Yakima River. The initial production capacity of the plant would be 4 million gallons per day (mgd) and was planned for a 20-year planning horizon.

The City of Cle Elum was also proposing to develop surface water supply intakes at one location each on the Cle Elum River and the Yakima River. The Yakima intake would be the primary source of supply. The City would own and operate the intakes and the new treatment facility. Water users on the Bullfrog Flats property would be customers of the City's water utility and receive water service from the City of Cle Elum.

Sewer

In 2002, the City of Cle Elum was planning to construct a regional wastewater treatment plant at the location of the existing plant at the east end of the City. Treated effluent would be discharged to the Yakima River through an upgraded outfall. The service area of the Upper Kittitas County Regional Wastewater Treatment Facility (WWTF) would include the City of Cle Elum and its UGA, the Town of South Cle Elum, the City of Roslyn, Community of Ronald, existing units in Pine Loc III (a residential development adjacent to Ronald), and the Suncadia resort. The proposed capacity of the wastewater treatment plant would be 3.6 mgd and was intended for a 30-year planning horizon.

Solid Waste

The 2002 Cle Elum UGA EIS described the 1997 *Kittitas County Solid Waste Management Plan* (SWMP) in effect at the time. The SWMP established a coordinated approach to solid waste handling in Kittitas County, and provided a guide to short- and long-term solid waste management for a 20-year planning period. The SWMP was adopted by all local municipalities, including City of Cle Elum. All collected municipal wastes were routed through a transfer station before disposal. At the time, project-specific amendments to the SWMP were being proposed for the Trendwest development.

(See the 2001 Cle Elum UGA DEIS Section 3.17, and 2002 Cle Elem UGA FEIS Section 3.16 for details.)

2020 SEIS

Water

The 47° North site and the adjacent 25-acre property are in the City of Cle Elum's water service area. Based on the City's 2015 Water System Plan, the domestic water system in Cle Elum consists of a municipal water supply system on three distribution pressure zones; the 47° North site and the adjacent 25-acre property are primarily located in Zone 3. Four sources supply water to the system. Two major water supply sources owned by the City of Cle Elum are surface water sources on the Yakima and Cle Elum Rivers. These two river sources pump water to the Cle Elum water treatment plant for filtration and chlorination before entering the distribution system. The Town of South Cle Elum owns two groundwater sources (Well #1 and Well #7) that are included in the regional water system, which have a combined pumping capacity of 300 gpm.

In 2002, a 12-acre water treatment plant parcel that was part of the Cle Elum UGA/Bullfrog Flats property was dedicated to the City, and the water treatment plant was built in 2004. Its purpose was to generate potable water by filtering and processing raw Yakima and Cle Elum river water. The current treatment capacity of this plant is 6 million gpd with room for expansion to 8 million gpd. This water treatment plant serves the City of Cle Elum, the Town of South Cle Elum, and the Suncadia resort. The Bullfrog Flats Master Site Plan project was planned to be served by this water treatment plant.

There are four available points of water service connection located near the site: two Zone 3 16-in. diameter treated water lines that supply the water tanks (one to the north and one to the south of the Puget Sound Energy (PSE) easement); a Zone 2 16-in. diameter City water supply line (that flows from the water treatment plant towards Cle Elum); and a Zone 2 16-in. diameter water main stub-out (on Douglas Munro Boulevard).

Sewer

The City of Cle Elum does not currently have an adopted General Sewer Plan. However, preparation of a General Sewer Plan is in process with completion anticipated in April 2022. The 47° North site and the adjacent 25-acre property are in the City of Cle Elum's sewer service area. In 2005, the City completed construction of a new 3.6 million gpd wastewater treatment plant. Treatment facilities were designed to handle a planned 30-year buildout, including development of the Bullfrog Flats property.

An existing sewer trunk system network traverses the 47° North site. This existing system consists of a 21-in. diameter sewer main that follows Douglas Munro Boulevard (Ranger Station Road) and then splits into an 18-in. diameter sewer main to the west and a 15-in. diameter sewer main to the north.

Solid Waste

Solid waste collection in the site vicinity is presently provided by Waste Management of Ellensburg. Wastes are hauled to the Cle Elum Transfer Station prior to transport to the Ryegrass Land Fill for final disposal. The Cle Elum Transfer Station is reported to be near capacity based on the number of cars queued at the station on Saturdays. Kittitas County Solid Waste is currently working on another entrance to improve queuing. They are also working on expanding the land fill.

Chapter 70.95 RCW establishes statewide recycling and waste reduction goals. A goal of 50% was established by 2007. No new additional goals have been established since. According to the 2020 *Kittitas County Solid Waste and Moderate Risk Waste Management Plan*, the 2017 recycling rate for Kittitas County was 11.4%, a significant decrease from the 27.8% in 2008.The City of Cle Elum does not have curbside recycling at this time. Residences in the area self-haul recycling to transfer stations.

3.14.2 Impacts of the Alternatives

This sub-section describes the potential utility impacts that were analyzed in the 2002 Cle Elum UGA EIS and compares/expands upon those impacts with the potential impacts that could occur with development of the SEIS Alternatives.

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flats Master Site Plan*

Utility System Design

The 2002 Cle Elum UGA EIS did not specifically address construction-related utility impacts, except those associated with solid waste generation. Rather, the document described utility system design under Construction Impacts, as summarized below.

Water

Two water systems were proposed for construction under FEIS Alternative 5: a treated water system and an untreated water system. The City of Cle Elum would supply domestic (treated) water to residential units and commercial uses within the Bullfrog Flats property via their new water treatment plant. The untreated water system would provide irrigation water to the public landscaped areas and water for the proposed artificial lakes and ponds.

Water facilities constructed for FEIS Alternative 5 would include: a storage tank, pumps, transmission lines, distribution lines, and pressure reducing stations. A regional storage reservoir would serve a portion of the Bullfrog Flats property. FEIS Alternative 5 would require about 1.3 million gallons of treated water storage and 1,500 gpm of fire suppression storage for four hours. Operational storage would be determined during project design.

Transmission lines would convey water from the Yakima River intake to the water treatment plant and to irrigation storage ponds.

Sewer

Wastewater generated under FEIS Alternative 5 would be routed to the City's new WWTF. The preliminary sewer plan for FEIS Alternative 5 included a collection system sized in accordance with Ecology's 1978 *Criteria for Sewage Works Design.* Development under FEIS Alternative 5 would require one lift station. Collection and conveyance systems would primarily be constructed under proposed roads using open trench construction.

Solid Waste

Solid waste would be collected by Waste Management of Ellensburg and hauled to the Cle Elum Transfer Station prior to transport to the Ryegrass Land Fill for final disposal. Construction and demolition debris (C&D) would be generated during construction of FEIS Alternative 5. Inert C&D (waste which is neither chemically nor biologically reactive and will not decompose or only very slowly) would be collected onsite and hauled to the Ryegrass landfill. Non-inert C&D wastes would be collected onsite and hauled to the Cle Elum transfer station for disposal.

Operation Impacts

Water

The City of Cle Elum's new regional water treatment plant would provide operational water supply to the Bullfrog Flats property under FEIS Alternative 5. Water distribution pipes would be constructed primarily under Bonneville Power Administration (BPA) transmission lines and in road rights-of-way onsite.

Sewer

Wastewater generated by operation of FEIS Alternative 5 would be routed to the new regional WWTF. The regional facility was sized and designed to treat wastewater from the Trendwest (now New Suncadia)-owned properties, including the Bullfrog Flats property.

Solid Waste

Solid waste generated under FEIS Alternative 5 was not reflected in Kittitas County's solid waste projections in the 1997 SWMP. Expansion of the Cle Elum transfer station would be required to accommodate the waste stream from FEIS Alternative 5.

(See the 2001 Cle Elum UGA DEIS Section 3.17, and 2002 Cle Elum UGA FEIS Section 3.16 for details.)

2020 SEIS

SEIS Alternative 5 (No Action Alternative) *– Approved Bullfrog Flats Master Site Plan*

Construction Impacts & Utility System Design

SEIS Alternative 5 would generate demand for utilities during construction. There would be limited use of water for certain construction activities. Sewer demand would also be minimal and would largely be related to disposal of waste from "honey buckets" used by construction workers. The greatest demand would be for disposal of C&D.

The utility system designs under SEIS Alternative 5 are described below.

Water

Like FEIS Alternative 5, two water systems are proposed to provide water during construction of SEIS Alternative 5: a treated water system and an untreated water system. The City of Cle Elum would supply domestic (treated) water via their water treatment plant. The water system plan for these systems would be similar to under FEIS Alternative 5 because the development plans are nearly identical.

Sewer

The City of Cle Elum would provide sewer service during construction of SEIS Alternative 5. Wastewater generated during construction would be routed to the City of Cle Elum's regional WWTF. The sewer system plan constructed for SEIS Alternative 5 would be similar to under FEIS Alternative 5 but would include a collection system sized in accordance with Ecology's current (2019) *Criteria for Sewage Works Design.*

Solid Waste

Like FEIS Alternative 5, Waste Management of Ellensburg would collect solid waste during construction and haul it to the Cle Elum Transfer Station prior to transport to the Ryegrass Land Fill for final disposal. The same amounts of C&D would be generated during construction of SEIS Alternative 5 as during construction of FEIS Alternative 5. See **Table 3.14-1** for the anticipated C&D generation at full buildout of SEIS Alternative 5.

Table 3.14-1
PROJECTED C&D GENERATION RATES &
TOTAL QUANTITY – ENTIRE DEVELOPMENT: 2037 & 2051(TONS)

	SEIS Alternative 6		FEIS & SEIS Alternative 5[a]	
	Residential	Non- residential	Residential	Non- residential
Full Buildout Total (tons)[b]	2,413	455	5,955	1,939

Source: ESM Engineers, 2020.

[a] Excludes the Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

[b] Buildout total represents the cumulative total quantity for SEIS Alternative 6 by year 2037 and for SEIS Alternative 5 by year 2051.

Operation Impacts

During operation, the residential, recreational, and business park uses under SEIS Alternative 5 would generate demand for water, sewer, and solid waste service, as described below.

Water

Treated Water Demand. Water demands were based on DOH standards. Water demands with development under SEIS Alternative 5 were calculated, including: the average daily treated water demands for the entire development in 2037 (see **Table 3.14-2**); the average daily treated water demands for the business park development in 2037 (see **Table 3.14-3**); the maximum month treated water demands for the entire development (see **Table 3.14-4**); and, the maximum month treated water demands for the business park (see **Table 3.14-5**). Note that in **Table 3.14-2** and **Table 3.14-3**, only the portion of SEIS Alternative 5 development that would occur by 2037 was included in the analysis for comparison with buildout of SEIS Alternative 6; actual buildout of this alternative is assumed to be 2051. As shown, the treated water demand under SEIS Alternative 5 would be comparable to or slightly less than under FEIS Alternative 5. This is because development under these alternatives would largely be the same.

Table 3.14-2
AVERAGE DAILY TREATED WATER DEMANDS – ENTIRE DEVELOPMENT: 2037 (MGD)

Alt. No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave.	Total (ac-ft)
SEIS Alt. 6	0.20	0.20	0.20	0.20	0.20	0.30	0.40	0.35	0.31	0.20	0.20	0.20	0.25	277
FEIS Alt. 5[a]	0.33	0.33	0.33	0.33	0.33	0.47	0.60	0.53	0.48	0.33	0.33	0.33	0.39	442
SEIS Alt. 5[a]	0.31	0.31	0.31	0.31	0.31	0.41	0.50	0.45	0.41	0.31	0.31	0.31	0.35	389

Source: ESM Engineers, 2020.

[a] Excludes the Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

Note: SEIS Alternative 6 is assumed to buildout in 2037 (the 47° North residential and recreation uses would buildout in 2028 and the possible future commercial uses in 2037). SEIS Alternative 5 is assumed to buildout in 2051; therefore, only the portion of this alternative that would buildout by 2037 was included in the analysis.

Table 3.14-3
AVERAGE DAILY TREATED WATER DEMANDS - COMMERCIAL DEVELOPMENT: 2037 (MGD)

Alt. No.	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Total (ac-ft)
SEIS Alt. 6	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	17
FEIS Alt. 5[a]	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	100
SEIS Alt. 5[a]	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	100

Source: ESM Engineers, 2020.

[a] Excludes the Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

Note: SEIS Alternative 6 is assumed to buildout in 2037 (the 47° North residential and recreation uses would buildout in 2028 and the possible future commercial uses in 2037). SEIS Alternative 5 is assumed to buildout in 2051; therefore, only the portion of this alternative that would build out by 2037 was included in the analysis.

Table 3.14-4
MAXIMUM MONTH TREATED WATER DEMANDS – ENTIRE DEVELOPMENT

	Average Daily Demand (ADD)[a, b]	Maximum Day Demand (MDD)[a, c]	Peak Hour Demand (PHD)[a, d]
SEIS Alt. 6	0.27 mgd (189 gpm)	0.61 mgd (420gpm)	1.21 mgd (840 gpm)
FEIS Alt. 5[e, f]	0.60 mgd (417 gpm)	0.88 mgd (611 gpm)	1.27 mgd (882 gpm)
SEIS Alt. 5[e]	0.38 mgd (265gpm)	1.50 mgd (1,042 gpm)	3.00 mgd (2,085gpm)

Source: ESM Engineers, 2020.

[a] For treated water, the daily system loss is calculated as total annual demand x 10% / 365 = 1,500 (SEIS Alt. 6), 8,100 gpd (FEIS Alt. 5), and 9,000 gpd (SEIS Alt. 5).

[b] ADD is calculated as average month estimated demand + system loss.

[c] MDD is calculated as maximum month estimated demand x 2.00 + irrigation + system loss.

[d] PHD is calculated as maximum month estimated demand x 5.00 + irrigation + system loss.

[e] Excludes the Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

[f] Uses original 2002 Cle Elum UGA EIS SETR calculations and 1.5 MDD and 2.2 PHD peaking factors.

Table 3.14-5
MAXIMUM MONTH TREATED WATER DEMANDS - COMMERCIAL DEVELOPMENT

	Average Daily Demand (ADD)[a,b]	Maximum Day Demand (MDD)[a,c]	Peak Hour Demand (PHD)[a,d]
SEIS Alt. 6	0.02 mgd (11 gpm)	0.09 mgd (60 gpm)	0.08 mgd (52 gpm)
FEIS Alt. 5[e, f]	0.09 mgd (60 gpm)	0.13 mgd (90 gpm)	0.19 mgd (130 gpm)
SEIS Alt. 5[e]	0.10 mgd (69 gpm)	0.32 mgd (221 gpm)	0.46 mgd (326 gpm)

Source: ESM Engineers, 2020.

[a] For treated water the daily system loss is calculated as total annual demand x 10% / 365 = 1,500 (SEIS Alt. 6), 8,100 gpd (FEIS Alt. 5), and 9,000 gpd (SEIS Alt. 5).

[b] ADD is calculated as average month estimated demand + system loss.

[c] MDD is calculated as maximum month estimated demand x 3.33 + irrigation + system loss.

[d] PHD is calculated as maximum month estimated demand x 5.00 + irrigation + system loss.

[e] Excludes Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

[f] Uses original 2002 Cle Elum UGA EIS SETR calculations and 1.5 MDD and 2.2 PHD peaking factors.

The City engineer completed a preliminary storage and pump analysis for the City's water system. The SEIS Alternatives together with City Heights (the other major approved development project in the City) were analyzed in 2037. The analysis determined that the existing City water system is not sufficient to meet projected water demand nor storage requirements with SEIS Alternative 5 and City Heights. The following improvements would need to be provided to address these deficiencies: a filter train in the water treatment plant, a finished water pump in Zone 3, and a reservoir in Zone 3. SEIS Alternative 5 would be responsible for approximately 72% of these improvements based on the water demand under this alternative (see **Appendix B** for details).

Untreated Water Demand. The untreated water system under SEIS Alternative 5 would provide irrigation water to the public landscaped areas, as well as water for the artificial lakes and ponds, similar to FEIS Alternative 5.

Fire Flow. Chapter 248-293-640 Washington Administrative Code (WAC) specifies minimum fire flow demands of 500 gpm for 30 minutes for residential areas, and 750 gpm for 60 minutes for commercial and multi-family areas. The *City of Cle Elum Water System Plan* (2015) supersedes this requirement where fire suppression storage equals 480,000 gallons (4,000 gpm for a 2-hour duration). The minimum fire flow at locations not otherwise identified in the Water System Plan is 1,000 gpm.

All proposed construction under SEIS Alternative 5 would be designed in accordance the City of Cle Elum requirements, the 2015 International Fire Code, and in coordination with the City of Cle Elum Fire Chief for compliance with applicable fire protection safety standards.

Sewer

Wastewater flow projections for SEIS Alternative 5 were generally estimated in the same way as in the 2002 Cle Elum UGA EIS. Wastewater production was calculated as a percentage of inside water demand. See **Table 3.14-6** for monthly wastewater flow under SEIS Alternative 5 in 2037. As shown, monthly wastewater flow would be slightly less than under FEIS Alternative 5. The City has confirmed that the wastewater treatment demand under SEIS Alternative 5 is within the capacity of the City wastewater treatment plant, which was designed to accommodate the project.

Table 3.14-6
MONTHLY WASTEWATER FLOW – ENTIRE DEVELOPMENT: 2037 (MGD)[a]

Alt.	Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Average Annual
SEIS Alt. 6	30 w/o I/I [b]	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
SEIS Alt. 6	30 w/ I/I	0.23	0.24	0.24	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.22	0.22
FEIS Alt. 5[c]	30 w/o I/I	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
FEIS Alt. 5[c]	30 w/ I/I	0.30	0.32	0.31	0.29	0.28	0.27	0.27	0.27	0.27	0.27	0.27	0.28	0.28
SEIS Alt. 5[c]	30 w/o I/I	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
SEIS Alt. 5 [c]	30 w/ I/I	0.29	0.30	0.29	0.28	0.27	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.27

Source: ESM Engineers, 2020.

[a] Includes wastewater flows from the commercial area.

[b] I/I represents infiltration and inflow, which varies by month from 10% to 25% of maximum month inside wastewater production.

[c] Excludes the Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

Note: SEIS Alternative 6 is assumed to buildout in 2037 (the 47° North residential and recreation uses would buildout in 2028 and the possible future commercial uses in 2037). SEIS Alternative 5 is assumed to buildout in 2051; therefore, only the portion of this alternative that would build out by 2037 was included in the analysis.

Estimated wastewater loadings, in terms of biochemical oxygen demand (BOD) and total suspended solids (TSS) under SEIS Alternative 5 are presented in **Table 3.14-7**. As shown, these loadings would be slightly less than FEIS Alternative 5.

Table 3.14-7
PROJECTED WASTEWATER LOADINGS – ENTIRE DEVELOPMENT (LB PER DAY)[a]

Alternative	BOD&TSS	Buildout
SEIS Alt. 6	Annual Average	694
	Max. Month Average (Aug.)	733
FEIS Alt. 5[b]	Annual Average	720
	Max. Month Average (Aug.)	760
SEIS Alt. 5	Annual Average	699
	Max. Month Average (Aug.)	738

Source: ESM Engineers, 2020.

[a] Includes wastewater flows for commercial area demand.
[b] Excludes Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

Solid Waste

Table 3.14-8 presents the solid waste production, by phase, during operation of SEIS Alternative 5. As shown, the quantities of solid waste at each phase of buildout would be comparable to or somewhat less than FEIS Alternative 5. The Cle Elum Transfer Station is nearing capacity and would require improvements with the addition of solid wastes generated by SEIS Alternative 5.

SEIS Alternative 6 – *Proposed 47° North Master Site Plan Amendment*

Construction Impacts & Utility System Design

Like FEIS and SEIS Alternative 5, SEIS Alternative 6 would generate demand for utilities during construction. There would be limited use of water for certain construction activities. Sewer demand would also be minimal and would largely be related to disposal of waste from "honey buckets" used by construction workers. The greatest demand would be for disposal of C&D.

The utility system designs under SEIS Alternative 6 are described on the following page.

Table 3.14-8
SOLID WASTE PRODUCTION – ENTIRE DEVELOPMENT (TONS/YEAR)

Buildout Year	SEIS Alt. 6	FEIS Alt.5[a]	SEIS Alt. 5
Municipal	1,520	1,635	1,595
Yard	97	102	100
Hazardous/Moderate Risk[b]	10	10	10
Total Year 2025 (tons/year)	**1,627**	**1,747**	**1,705**
Municipal	2,042	1,997	1,948
Yard	131	126	123
Hazardous/Moderate Risk[b]	13	13	12
Total Year 2030 (tons/year)	**2,186**	**2,136**	**2,083**
Municipal	2,042	2,311	2,254
Yard	131	146	142
Hazardous/Moderate Risk[b]	13	15	14
Total Year 2037 (tons/year)	**2,186**	**2,472**	**2,410**
Municipal	2,042	2,765	2,697
Yard	131	175	171
Hazardous/Moderate Risk[b]	13	18	17
Total Buildout (tons/year)[c]	**2,186**	**2,958**	**2,885**

Source: ESM Engineers, 2020.

[a] Excludes the Reserve Area in the southern portion of the Bullfrog Flats site, a portion of which has been dedicated for the Washington State Horse Park.

[b] Hazardous/moderate risk wastes include paint and paint thinners; adhesives, glues, and sealants; brake fluid and antifreeze; used motor oil; car batteries; pesticides/herbicides; and, unwanted fuels. Hazardous/moderate risk wastes would be disposed of by residents and commercial operators/tenants at local community-sponsored turn-in events.

[c] Buildout total represents the cumulative total quantity for SEIS Alternative 6 by year 2037 and for SEIS Alternative 5 by year 2051.

Water

The City of Cle Elum would provide water service for SEIS Alternative 6. Similar to FEIS and SEIS Alternative 5, two water systems could provide water for development under SEIS Alternative 6: a treated water system and possibly an untreated water system.

The proposed development under SEIS Alternative 6 would use the treated water system as a standard potable water system for all residential units and recreational uses (including the RV resort) onsite and possible commercial uses on the adjacent 25-acre property. The treated system would provide some minor irrigation for common areas associated with entries, amenities, and public road rights-of-way.

While not proposed at this time, the untreated water system would be available for irrigation water to larger areas such as the amenity and adventure centers, recreation areas, and other open spaces. There would be no artificial lakes or ponds requiring untreated water under SEIS Alternative 6.

Water System Plan. Under SEIS Alternative 6, proposed single- and multi-family development, as well as the RV resort, would be part of a private Group A water system owned by Sun Communities, and operated and maintained by a state-approved entity. It is anticipated that the single- and multi-family residential area, the RV resort, and likely the adjacent commercial property, would be served by separate water meters. Water mains would connect to the nearest available points of connection as listed under *3.14.1 Affected Environment, 2020 SEIS*. The future commercial area would be served by the existing 16-in. diameter City supply line. (See **Figure 3.14-1**, Preliminary Water Plan – SEIS Alternative 6.)

All the non-residential buildings would include sprinkler systems in case of fire. Fire hydrants would be provided throughout the residential areas.

It is anticipated that a portion of the following landscaped areas would be irrigated: around both the RV and residential amenity centers, portions of the adventure center, and selectively throughout the RV resort. The single- and multi-family residential lots could also be irrigated, depending on the landscaping selected.

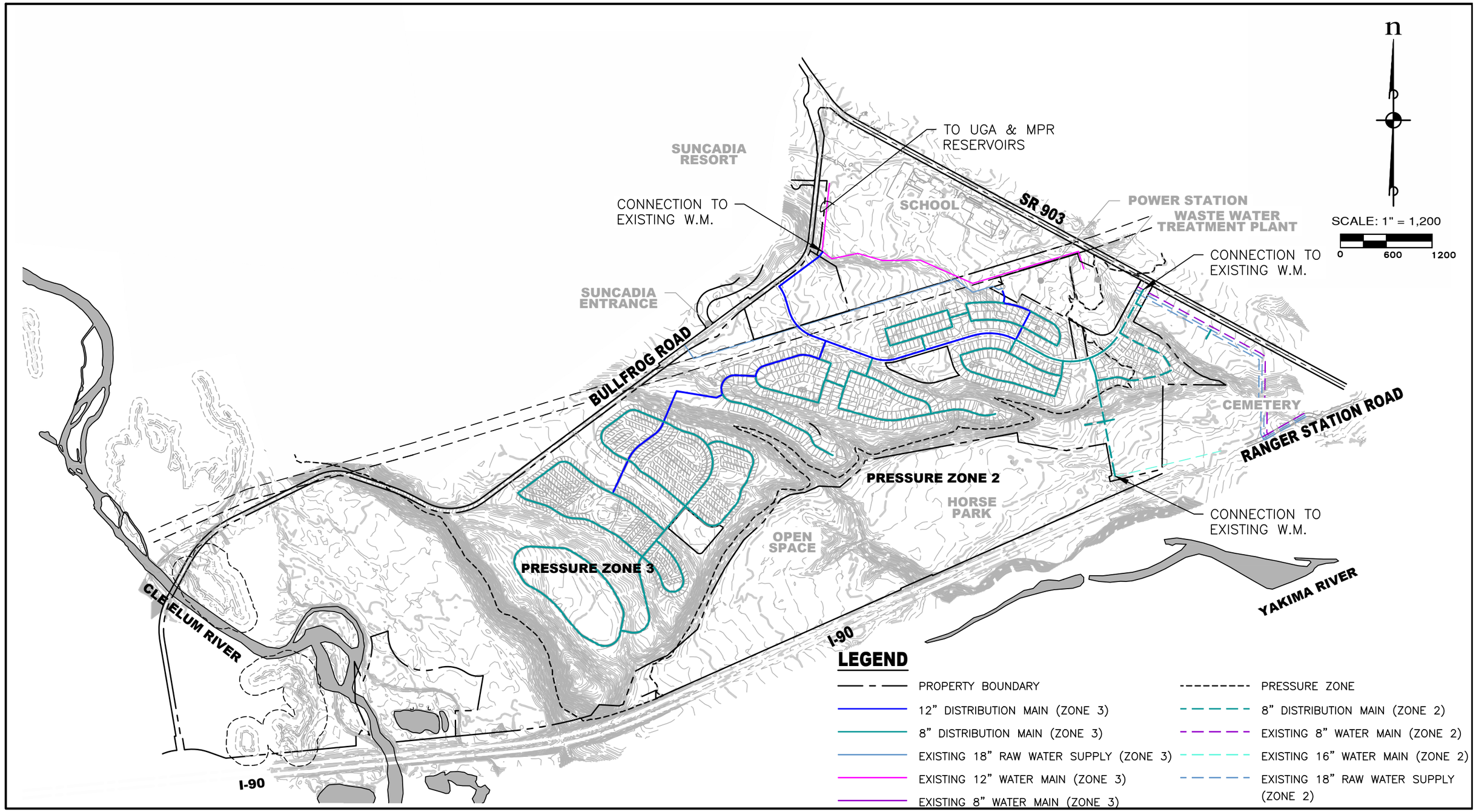
The proposed project would include low-flow fixtures consistent with State building code requirements, as well as limitations on landscaping and other water-conservation measures, as coordinated with the City of Cle Elum.

Sewer

The City of Cle Elum would provide sewer service for SEIS Alternative 6. Like FEIS Alternative 5, wastewater generated during construction of SEIS Alternative 6 would be routed to the City of Cle Elum's new regional WWTF. The sewer plan for SEIS Alternative 6 would include a collection system sized in accordance with Ecology's current (2019) *Criteria for Sewage Works Design.*

Sewer System Plan. Under SEIS Alternative 6, proposed single- and multi-family development, and the associated amenity and adventure centers, would be served by private 8-in. diameter gravity sanitary sewer mains that would be owned, operated, and maintained by Sun Communities.

The proposed RV resort would be served by private 8-in. diameter gravity sanitary sewer mains that would be owned, operated, and maintained by Sun Communities. The gravity sewer mains would connect to proposed sewer lift stations that would pump the flows via the force main, owned, operated, and maintained by Sun Communities, to the existing City-owned 18-in. diameter sewer trunk main.



Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.14-1

Preliminary Water Plan--SEIS Alternative 6

The adjacent commercial property would be served by public 8-in. diameter gravity sewer mains that would be owned, operated, and maintained by the City of Cle Elum.

(See **Figure 3.14-2**, Preliminary Sewer Plan – SEIS Alternative 6.)

Solid Waste

C&D would be generated during construction of SEIS Alternative 6. At full buildout of SEIS Alternative 6 in 2037, less C&D would be generated by residential and non-residential construction than under FEIS Alternative 5, because less residential and commercial development is proposed. Also, all the single family and some of the multi-family units would be manufactured elsewhere and assembled onsite, thereby reducing the amount of C&D generated onsite. Inert C&D would be collected onsite and hauled to the Ryegrass landfill. Non-inert C&D wastes would be collected onsite and hauled to the Cle Elum transfer station for disposal. See **Table 3.14-1** earlier in this sub-section for the anticipated C&D generation at full buildout of SEIS Alternative 6.

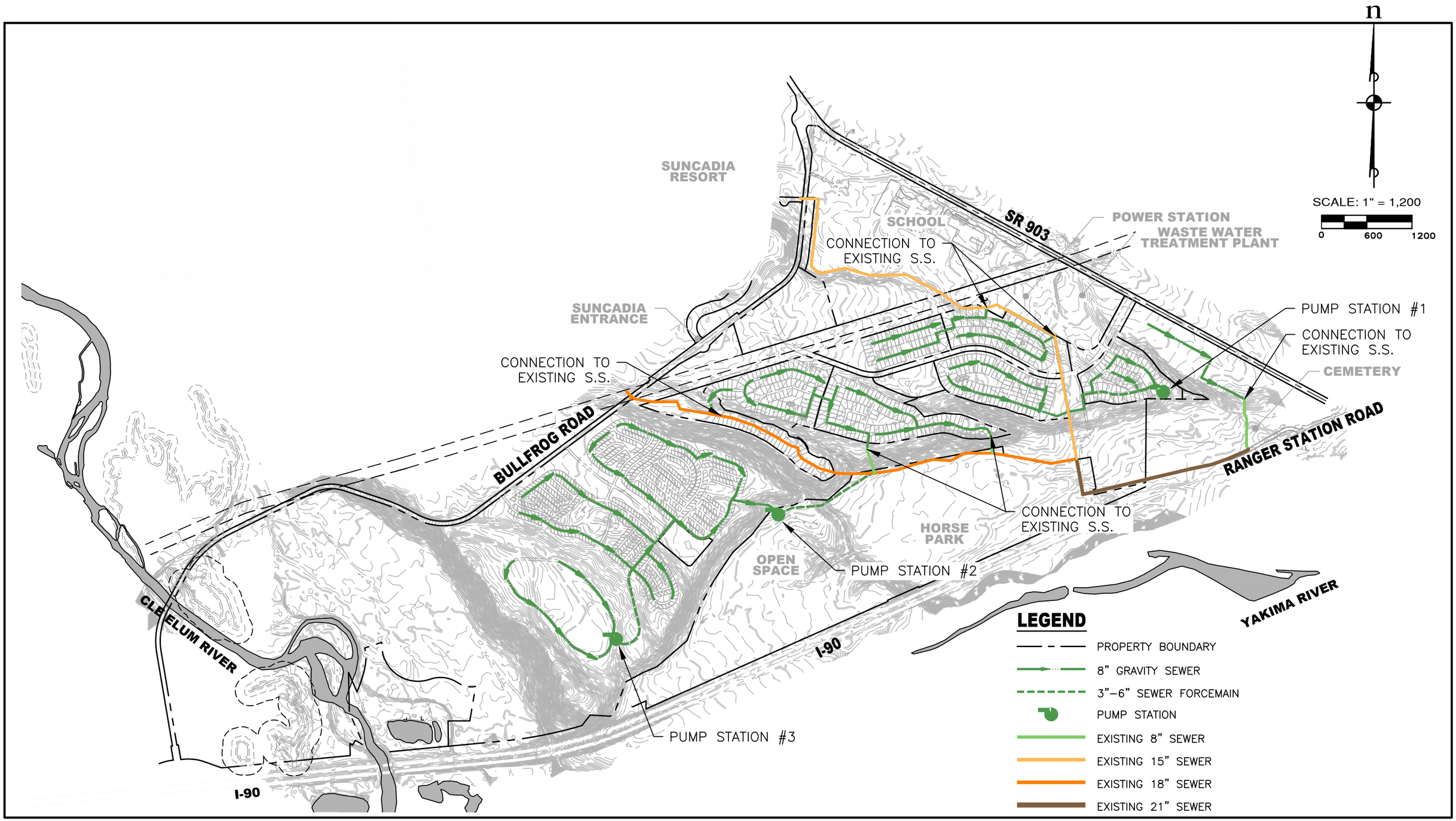
Operation Impacts

During operation, the residential, recreational, and commercial uses under SEIS Alternative 6 would generate demand for water, sewer, and solid waste service, as described below.

Water

Treated Water Demand. Under SEIS Alternative 6, the average daily treated water demands at full buildout in 2037 are shown in **Table 3.14-2;** the average daily treated water demands of the possible commercial development in 2037 are shown in **Table 3.14-3**, the maximum month treated water demands are shown in **Table 3.14-4**, and the maximum month treated water demands of the possible commercial development are shown in **Table 3.14-5**. As shown, the treated water demand under SEIS Alternative 6 would be less than under FEIS and SEIS Alternative 5, due to less development.

The City engineer also completed a preliminary storage and pump analysis for the City's water system for SEIS Alternative 6 together with City Heights at full buildout in 2037. The analysis determined that the existing City water system is not sufficient to meet either projected water demand or storage requirements of SEIS Alternative 6 and City Heights combined. The same improvements noted under SEIS Alternative 5 would need to be provided to address these deficiencies: a filter train in the water treatment plant, a finished water pump in Zone 3, and a reservoir in Zone 3. SEIS Alternative 6 would be responsible for approximately 59% of these improvements based on the water demand under this alternative (see **Appendix B** for details).



Source: ESM Consulting Engineers, 2020.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.14-2

Preliminary Sewer Plan--SEIS Alternative 6

In accordance with the City of Cle Elum's adopted water policy for the UGA, the City will initially issue certificates of water availability for the proposal based on the water use rate set forth in the City's 2015 Comprehensive Water Plan. The Washington State DOH design criteria requires that a minimum of three years of historical consumption data be used in establishing ERU average demand.

Untreated Water Demand. Untreated water could be used for recreational irrigation and public landscape irrigation. Untreated water is not proposed to be used at this time but could be used for the proposed 47° North development under SEIS Alternative 6.

Fire Flow. Like FEIS and SEIS Alternative 5, all proposed construction under SEIS Alternative 6 would be designed in accordance the City of Cle Elum requirements, the 2015 International Fire Code, and in coordination with the City of Cle Elum Fire Chief for compliance with applicable fire protection safety standards. The City Water System Plan (2015) requires that fire suppression storage equal 480,000 gallons (4,000 gpm for a 2-hour duration). The minimum fire flow at locations not otherwise identified in the Water System Plan is 1,000 gpm.

Sewer

Wastewater flow projections were estimated for SEIS Alternative 6 (see **Table 3.14-6** for monthly wastewater flow at full buildout in 2037). As shown, monthly wastewater flow under SEIS Alternative 6 would be less than under FEIS and SEIS Alternative 5, due to less development. The City confirmed that the wastewater treatment demand is within the capacity of the City wastewater treatment plant, which was designed to accommodate the project.

Estimated wastewater loadings, in terms of BOD and TSS are presented in **Table 3.14-7** under SEIS Alternative 6. As shown, these loadings would be less than under FEIS and SEIS Alternative 5.

Solid Waste

Solid waste collection for the proposed development under SEIS Alternative 6 would be provided by Waste Management of Ellensburg. The wastes would be hauled to the Cle Elum Transfer Station prior to transport to the Greater Wenatchee Land Fill for final disposal.

Table 3.14-9 presents the solid waste production, by phase, during operation of SEIS Alternative 6. As shown, the quantities of solid waste at each phase of buildout would be less than under FEIS and SEIS Alternative 5. The Cle Elum Transfer Station is nearing capacity and would require improvements with the addition of solid wastes generated by SEIS Alternative 6.

Cumulative Impacts

Development associated with the 47° North project, in combination with other growth in the area (including the continued development in the Suncadia resort, and the approved development in the City Heights and Cle Elum Pines mixed-use projects), would cumulatively increase impacts on utilities and hasten the need for utility improvements (e.g., improvements to the City's water system, including: a filter train in the water treatment plant, a finished water pump in Zone 3, and a reservoir in Zone 3; and to the Cle Elum Transfer station to increase its capacity). The City of Cle Elum plans for operations and upgrades to their utility systems based on forecasts of future growth in the City's utility service areas and will implement improvements to the systems as they are needed.

Conclusion

SEIS Alternatives 5 and 6 would generate demand for water, sewer, and solid waste service during construction and operation of the project. Water and sewer service would be provided by City of Cle Elum. The capacity of the City's water treatment plant is 6 million gpd with room for expansion to 8 million gpd. The City's water system would require improvements to serve the SEIS Alternatives. The capacity of the regional WWTP is 3.6 million gpd.; the WWTP has adequate capacity to serve the SEIS Alternatives. Solid waste service for the project would be provided by Waste Management of Ellensburg; waste would be hauled to the Cle Elum Transfer Station prior to transport to the Greater Wenatchee Land Fill for final disposal. The Transfer Station is reported to be near capacity and improvements would be required to accommodate the SEIS Alternatives.

3.14.3 Mitigation Measures

The following mitigation measures are identified to address the utility impacts of SEIS Alternative 6. See the Introduction to **Chapter 3** for a description of the different mitigation categories.

Proposed Mitigation Measures Included in the Project

- Recycling within the 47° North development would be encouraged.

Approved Bullfrog Flats Conditions of Approval (Included in the Project)

Water & Sewer

- Draft Water Use Standards would be updated as part of the Development Standards for the proposed development. The standards would be required under the project Covenants, Conditions, & Restrictions (CC&Rs).

- Water use and conservation policies would be contained in the CC&Rs for the project, including low-flow fixtures, limitations on landscaping, and other water-conservation measures, as coordinated with the City of Cle Elum.

- Limitations would be set on the area allowed for irrigation for each type of residential unit.

- Irrigation efficiency would be promoted through educating and recommending the use of drought-tolerant landscaping to the residential and commercial property owners.

- The Applicant would be responsible for the costs to design and construct all water, sewer, and stormwater facilities onsite.

- In accordance with the City of Cle Elum's adopted water policy for the UGA, the City will initially issue certificates of water availability for the project based on the water use rate set forth in the City's 2015 Comprehensive Water Plan. The Washington State DOH design criteria requires a minimum of three years of historical consumption data be used in establishing ERU average demand.

Solid Waste

- A Construction C&D recycling program would be developed by the Applicant that would require contractor participation and would be approved by Kittitas County Solid Waste Department prior to the start of construction.

Required Mitigation Measures

Water & Sewer

- The Applicant would contribute a pro-rata share to construct the improvements to the City's water system required to serve the project, including: a filter train in the water treatment plant, a finished water pump in Pressure Zone 3, and a reservoir in Pressure Zone 3. Projected water demands will be translated into actual consumption as the development phases are constructed.

  Projected water demand would be translated into actual consumption as phases of development are constructed. Consistent with the 2001 Water Supply System Project Development Agreement between the City of Cle Elum and Trendwest, the filter train mitigation "trigger" should be based on when either of the following conditions have been met: potable water production equals 4.0 million gpd for three or more days within a 12-month period, or when 47° North has added 1,334 new residential water service connections. The Zone 3 finished water pump mitigation "trigger" should be based on when either of the following Zone 3 conditions have been met: Zone 3 potable

water production equals 2.0 million gpd for three or more days within a 12-month period, or when 47° North has added 1,334 new residential water service connections. The Zone 3 reservoir storage mitigation "trigger" should be based on when either of the following Zone 3 conditions have been met: Zone 3 storage requirement is within 85% of existing capacity, or when 47° North has added 1,334 new residential water service connections.

Solid Waste

- The Applicant would contribute a pro-rata share to construct improvements to the solid waste transfer station, consistent with the *Kittitas County Solid Waste Management Plan (SWMP) Amendment for the Trendwest (now New Suncadia) Master Plan Resort and UGA* (November 2000). The Applicant would handle all construction debris, separate re-cyclable materials, and otherwise handle all of its solid waste and household hazardous waste consistent with the requirement for such handling in the Kittitas SWMP. The same requirements would apply to the adjacent commercial development property, based on pro-rata share.

3.14.4 Significant Unavoidable Adverse Impacts

Consumption of water and generation of solid waste are unavoidable impacts of population growth and development. Potential significant adverse impacts to water and solid waste service would be avoided through the mitigation measures identified above. No significant unavoidable adverse impacts to wastewater facilities are expected with development under the SEIS Alternatives.

3.15 FISCAL & ECONOMIC CONDITIONS

This section of the DSEIS summarizes the fiscal and economic information and analysis from the 2002 Cle Elum UGA EIS. It updates the existing conditions information; evaluates the impacts of the SEIS Alternatives relative to 2002 Cle Elum UGA FEIS Alternative 5; and identifies appropriate mitigation measures.

The Fiscal and Economic Conditions section is based on the *Fiscal and Economic Impacts Report* (September 2020) prepared by ECONorthwest (see **Appendix K)**.

Methodology

For the economic analysis, local employment associated with construction of the SEIS Alternative was estimated using the Washington State Office of Financial Management (OFM) impact model by translating construction spending to job demand. Estimates of employees required to construct the manufactured housing were provided by the Applicant, Sun Communities. Assumptions for new permanent employees from the 47° North portion of SEIS Alternative 6 were provided by the Applicant, and new permanent employees from the commercial portions of SEIS Alternative 5 and 6 were estimated by ECONorthwest based on commonly-accepted assumptions.

Information on current fiscal conditions in City of Cle Elum, Kittitas County Hospital District No. 2, Kittitas County 9-1-1 (KITTCOM), and the Cle Elum-Roslyn School District were largely derived from Washington state's Local Government Financial Reporting System for the City of Cle Elum for 2009 to 2017.

Tax revenues for the City of Cle Elum were calculated based on changes in the components of the City's tax base resulting from development under the SEIS Alternatives. Elements of growth that influence revenues include: the timing, scale, and characteristics of the project's development as well as the population and employment impacts of the development once complete.

The public service purveyors' staff (i.e., police, fire/emergency medical services, the hospital district, KITTCOM, and the school district) that would be required with development under the SEIS Alternatives was based on calculations performed for the Public Services analysis for this DSEIS (see Section 3.12, **Public Services,** for details). This staffing was used to arrive at fiscal costs for the service purveyors.

The fiscal analysis was based on the assumptions about revenues and costs which were assessed by a cash flow revenue model.

(See Appendices A and B to **Appendix K** for details on the assumptions and methodology used for the Fiscal and Economic analyses.)

3.15.1 Affected Environment

2002 Cle Elum UGA EIS

Existing fiscal and economic conditions in the Bullfrog Flats site vicinity were broadly assessed in the 2002 Cle Elum UGA EIS as summarized below.

Economic Conditions

Using data from 1999, the average annual wage cited in the 2002 Cle Elum UGA EIS was $21,643 in Kittitas County. In the City of Cle Elum, taxable retail sales were described as increasing by 7.3% from $30,100,000 in 1995 to $42,900,000 in 2000. The City of Cle Elum's aggregated assessed property value increased by 15% between 1990 and 1998.

Fiscal Conditions

The 2002 Cle Elum UGA FEIS did not cite any new fiscal conditions other than those described in the 2001 Cle Elum UGA DEIS, except that in 2001, Initiative 747 passed altering property tax collections in the state of Washington. The 2002 Cle Elum UGA FEIS reported the following fiscal conditions:

City of Cle Elum. 1999 revenues were assumed at approximately $4,000,000, with the largest sources of non-utility service revenues being retail sales (projected at $300,000) and property taxes (projected at $300,000). City of Cle Elum expenditures were projected to match projected revenues at $4,000,000.

Kittitas County Hospital District No. 2. Total 1999 revenues were projected at $850,000 (matching projected expenditures). Of the hospital district's total budget, service-driven patient fees accounted for 48% of total revenue, and property taxes accounted for 40%.

Kittitas County 9-1-1 (KITTCOM). The 1999 projected budget for KITTCOM was approximately $4,000,000, of which $2,800,000 came from intergovernmental grants. Expenditures were projected to match revenues. Expenditures related to operations were $800,000.

Cle Elum-Roslyn School District. In 1999, the Cle Elum-Roslyn School District's anticipated revenue was approximately $4,800,000. A majority of the District's revenue were derived from the State of Washington. Seven (7)% of the District's revenue were derived from local tax and non-tax contributions.

(See 2001 Cle Elum UGA DEIS Sections 3.18 and 3.19, and 2002 Cle Elum UGA FEIS Sections 3.17 and 3.18 for details.)

2020 SEIS

The 2002 Cle Elum UGA FEIS described and analyzed economic and fiscal impacts broadly, at the state, county, district, and city level. Since issuance of the 2002 Cle Elum UGA EIS, the 47° North site and the adjacent 25-acre commercial property were annexed to the City of Cle Elum. Accordingly, the focus of the description and analysis of economic and fiscal conditions in the DSEIS is the City of Cle Elum, as well as Kittitas County Hospital District No. 2, KITTCOM, and Cle Elum-Roslyn School District.

Economic & Fiscal Conditions

This sub-section describes the existing economic (i.e., population, housing, and employment) and fiscal conditions (changes to City's revenues, spending, and tax base) for City of Cle Elum. Updated information on Kittitas County, Kittitas Hospital District 1, KITTCOM, and the Cle Elum-Roslyn School District is also provided. Where applicable, and to provide additional context, key differences between the 2002 Cle Elum UGA FEIS and current conditions are highlighted. A more detailed discussion of current conditions (2020) follows this summary.

Cle Elum is planning for higher rates of growth relative to its historical past. In terms of population and housing, historical trends indicate stability and slow growth in Cle Elum. However, over the next decade and a half, both population and housing are forecast to increase at faster rates than in the past. While Cle Elum did not meet its housing or population forecast as documented in the 2002 Cle Elum UGA FEIS, as a small city, planned future development in the city can provide an infusion of population, housing, and commercial growth. Future population growth is discussed later in this section; also see Section 3.9, **Housing, Population, & Employment**, for details.

The City of Cle Elum's finances have seen rising costs and revenues. From 2009 to 2017, total revenues (inclusive of all sources) have grown at a faster rate than expenditures. Charges for goods and services account for the largest share of total revenue, while utilities account for the largest share of total expenditures.

The City of Cle Elum's, Kittitas Hospital District No. 2's, KITTCOM's, and the Cle Elum-Roslyn School District's fiscal base reflect trends in housing development and population growth. In terms of the City's major tax bases, the following are key points:

- New construction continues to be at lower levels than in the past, despite a small uptick in new construction assessed value in 2017 and 2018.
- Total, local assessed valuation declined sharply in 2013. Performance has not recovered but has remained stable.
- Taxable retail sales have grown by nearly 40% from 2010 to 2018. Consistent with employment trends, the largest shares of taxable retail sales were from retail trade (38%), construction (20%), and accommodations and food service (18%).

Kittitas County's employment in personal consumptive sectors and the construction sector has grown between 2014 and 2019. With the exception of government jobs, employment in the accommodations and food services sector accounted for the largest share of employment in Kittitas County in 2019.

Current Economic Conditions

Discussion of current population, housing, and employment trends/forecasts for the City of Cle Elum is provided in Section 3.9, **Housing, Population, & Employment**. Employment trends for Kittitas Hospital District No. 2 and KITTCOM is provided in Section 3.12, **Public Services**.

Current Fiscal Conditions

The following provides information on current conditions for revenues, expenditures, and tax bases for the City of Cle Elum, Kittitas County Hospital District No. 2, KITTCOM, and the Cle Elum-Roslyn School District. Unless cited otherwise, information in this section is derived from Washington state's Local Government Financial Reporting System for the City of Cle Elum for 2009 to 2017.

City Revenues

As with many cities in Washington State, the three largest revenues sources for the City of Cle Elum are: 1) charges for goods and services, 2) sales and use taxes, and 3) property taxes, making up about 77% of the City's total revenues in 2017.

Charges for Goods and Services. The City of Cle Elum charges fees for services, including general government, public safety, utilities, transportation, natural and economic environment, and culture and recreation. Of the revenue received from these charges, charges for utilities[1] comprise the largest share of revenue in this category. As of 2017, charges for utilities accounted for 91% of all revenue received in this category, down from 100% in 2012.

Local Option Retail Sales and Use Taxes. One of the key revenue sources that cities rely upon is the retail sales tax. The combined (state and local) sales tax rate for purchases in the City of Cle Elum is 8%. The local rate is 1.5%, which generated $1,200,000 in local revenues[2] for the City in 2017.[3]

Regarding sales taxes, if the transaction location is within a city, the City receives 85% of the 0.1% local sales tax, and Kittitas County receives 15% (net of a 0.01% fee for Department of Revenue). This tax is levied not only on businesses in the area, but also on construction

[1] The City of Cle Elum provides water, sewer, and garbage services to residents and businesses within the Cle Elum city limits. https://cityofcleelum.com/city-services/utilities/

[2] Local revenues include: local retail sales and use tax revenues, hotel/motel sales and use tax revenues, local public safety sales and use tax revenues, and criminal justice sales and use tax revenue.

[3] More information on local sales and use tax rates can be found at: https://dor.wa.gov/sites/default/files/legacy/Docs/forms/ExcsTx/LocSalUseTx/LocalSlsUseFlyer_19_Q3.pdf

activity and on some transactions that are related to housing, such as certain online purchases.

Current Expense Property Taxes. Initiative 747 limited local property tax increases to 1.0% each year, resulting in an erosion of the tax's purchasing power over time. Because of the method for calculating Cle Elum's property tax levy (equal to the previous year's levy plus new construction add-on value), new construction is important to the City's ability to limit the erosion of the purchasing power of the property tax and to grow the levy beyond the limitations imposed by Initiative 747. In 2017, property tax revenue generated about $703,750 for the City of Cle Elum, up from $491,059 in 2015 (43% change).

Other Revenue Sources. The City of Cle Elum collects revenues from a range of other local sources, including:

- *Hotel/Motel Tax.* The City receives a sales tax credit against the state's portion of the sales tax of 2% on accommodations purchases. The proceeds of the tax are dedicated to economic development purposes supporting the tourism sector.

- *Business & Occupation Taxes.* This category of revenue includes monies received from business and occupation taxes on utilities and gambling taxes. The City does not currently impose these taxes on other general business activities.

- *Real Estate Excise Tax (REET).* Real estate transactions[4] are subject to a 0.25% local tax on the value of the transaction. REET revenues are restricted to finance capital projects. REET revenues are uncertain, given the volatility in the real estate market. Since REET is based on the total value of real estate transactions in a given year, the amount of REET revenues the City receives can vary substantially from year to year based on the normal fluctuations in the real estate market. During years when the real estate market is active, revenues are higher, and during softer real estate markets, revenues are lower.

- *Licenses & Permits.* This category of revenue includes monies received through the City's business and non-business license permitting programs.

- *Intergovernmental Revenues.* This category of revenue includes federal direct, federal indirect, and state grants. In addition, it includes other intergovernmental revenues such as state shared revenues, entitlements, and impact payments; local grants, entitlements, and other payments; and, sales and service charges for law enforcement, library, and culture and recreation facilities services.

[4] REET is a tax applied to the *sale* of real estate. REET is typically paid by the seller of the property, although the buyer is liable for the tax if it is not paid—or, sometimes the buyer pays some or all of the tax as part of the negotiated sale agreement. The tax also applies to transfers of controlling interests (50% or more) in entities that own property in the state.

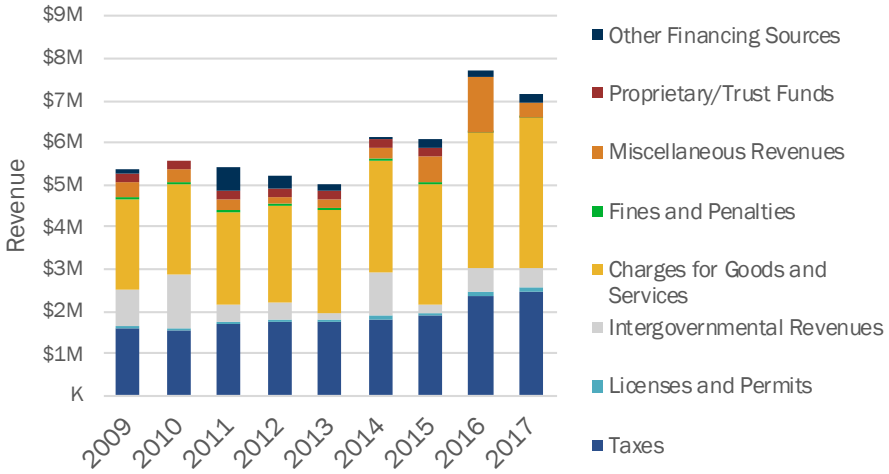
- *Fines & Penalties.* This category of revenue includes monies received from civil penalties, infraction penalties, and parking penalties; criminal traffic misdemeanor fines and non-traffic fines; criminal costs; and, non-court fines and penalties.

- *Miscellaneous Revenues.* The City receives some small revenues that have been categorized as "Other Miscellaneous" for this analysis. This category of revenue includes interest and other earnings, rents and leases, inter-fund/interdepartmental revenues, contributions and donations from non-governmental sources, special assessments, and other miscellaneous revenues.

- *Other Financing Sources.* This category of revenue includes issued debt and disposition of capital assets.

The major trends in revenue sources for the City of Cle Elum from 2009 to 2017 are described below and indicate that City revenues have grown to match expenditures needs (see **Figure 3.15-1**).

Figure 3.15-1
SUMMARY TRENDS OF MAJOR REVENUE SOURCES, CITY OF CLE ELUM



Source: Washington State Auditor, Local Government Financial Reporting System.

With the exception of a small lag in growth between 2011 and 2013, over the last decade, revenues have generally increased over time (see **Figure 3.15-1**). In 2017, City revenues totaled $7,200,000, up from $5,400,000 in 2009 (a $1,800,000 increase or 33% change).

Charges for goods and services (primarily for utilities) have historically made up the largest share of City revenues (see Exhibit 6 of **Appendix K**).

From 2009 to 2017, total revenues (inclusive of all sources) grew at a rate of 3.6%, while expenditures grew at a rate of 2.2% in the same time. Revenues are also growing at a faster

rate than in the past: from 2014 to 2017, revenues grew at a rate of 5.5%; and, from 2011 to 2014, revenues grew at a rate of 3.9%.

As indicated in **Figure 3.15-1**, revenue from taxation increased from approximately $1,600,000 in 2009 to approximately $2,500,000 in 2017. Sales and use taxes comprise the largest share of revenues from taxation, followed by property tax revenues. (See **Appendix K** for details on City of Cle Elum revenue trends from 2009 to 2017.)

Primary Expenditures

The City of Cle Elum's major expenditures for the timeframe from 2009 to 2017 are described below. City revenues have grown to match expenditures needs.

Utilities. This category of expenditures includes costs for water, sewer/reclaimed water, cemetery, solid waste, and other utility costs. As of 2017, expenditures for utilities accounted for 43% of total city-wide expenditures, up from 40% in 2012.

Public Safety. This category of expenditures includes costs for law enforcement, fire and emergency medical, detention/corrections, protective inspection services, and dispatch services. As of 2017, expenditures for public safety accounted for 20% of total city-wide expenditures, down from 21% in 2012. In 2017, the largest sub-expenditure was for law enforcement activities (77% of total spending in this category), which went toward police operations, training, facilities, traffic policing, and other services/supplies.

Debt & Capital Outlays. This category of expenditures includes capital expenses, costs for infrastructure improvements, and new construction, as well as costs for debt redemption (i.e., loan repayment) and interest/debt service costs. As of 2017, expenditures for debt and capital outlays accounted for 16% of total city-wide expenditures, up from 15% in 2012.

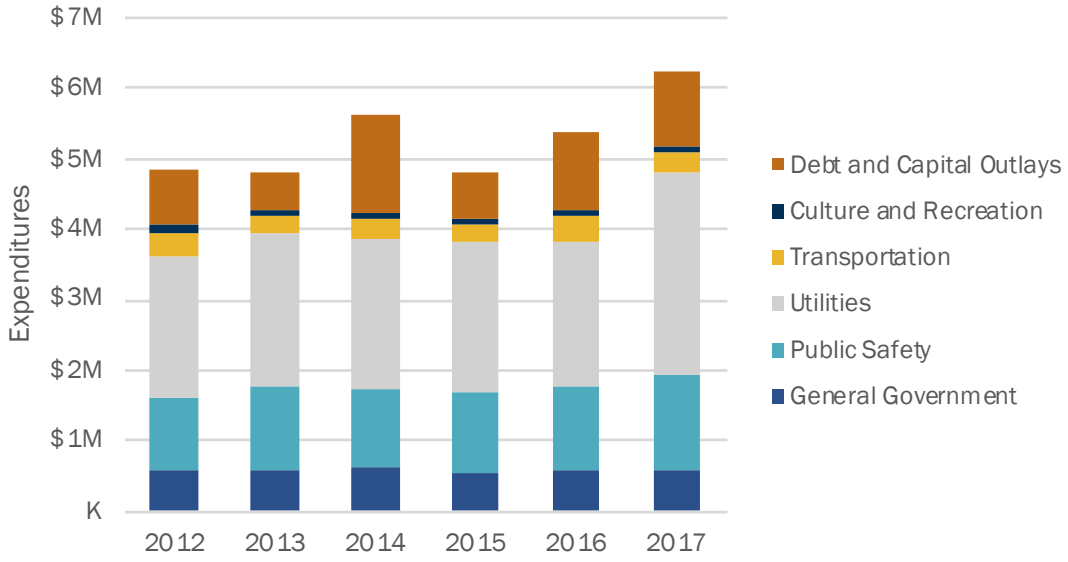
General Government. This category of expenditures includes costs for personnel and centralized services; legislative, judicial, and executive activities; financial, recording, and election activities; and legal. As of 2017, expenditures for the general government accounted for 9% of total city-wide expenditures, down from 11% in 2012.

Transportation. This category of expenditures includes roads/streets maintenance, roads/streets administration and overhead, and airports/ports costs. As of 2017, expenditures for transportation accounted for 4% of total city-wide expenditures, down from 6% in 2012.

Culture & Recreation. This category of expenditures includes library and park facilities costs. As of 2017, expenditures for culture and recreation accounted for 2% of total city-wide expenditures, down from 3% in 2012.

The major trends in expenditures for the City of Cle Elum from 2009 to 2017 are illustrated in **Figure 3.15-2**. As indicated previously, revenues grew at a faster rate than expenditures between 2009 and 2017 (see **Figure 3.15-1** for revenues).

Figure 3.15-2
SUMMARY TRENDS OF EXPENDITURES, CITY OF CLE ELUM



Source: Washington State Auditor, Local Government Financial Reporting System.

See **Appendix K** for details on City of Cle Elum expenditure trends from 2009 to 2017.

City Tax Base

The discussion below provides background on the tax base trends for assessed value and new construction, and taxable retail sales for the City of Cle Elum.

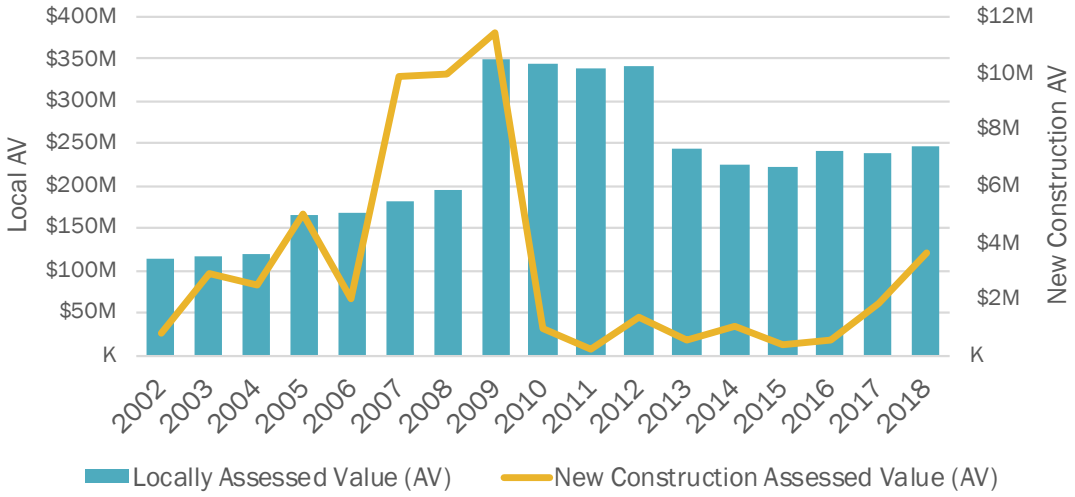
Assessed Value & New Construction

The Kittitas County Assessor assesses the land and improvement value of all properties in the county for the purpose of levying property taxes. The Assessor also values the amount of new construction for calculating the amount of "add-on" value to property tax collections. The trends for the City assessed value (AV) and new construction are provided below.

- In 2018, Cle Elum's local AV was $246,300,000, which is about $131,700.000 more than local AV estimates in 2002.

- AV from new construction added substantially to Cle Elum's base from 2006 through 2009. The Great Recession did, however, cut this trend short. In 2010, AV from new construction sharply declined, and by 2011, AV from new construction added only $197,500 to the City's base; see **Figure 3.15-3**.

Figure 3.15-3
ASSESSED VALUE AND NEW CONSTRUCTION, CITY OF CLE ELUM



Source: Washington State Department of Revenue.

- New construction levels have picked up in the last several years but continue to be at levels lower than they have in the past.

See **Appendix K** for details on City of Cle Elum assessed value and new construction.

Taxable Retail Sales Trends

Retail sales reflect spending that occurs within the city and is a significant source of tax revenue for the City.

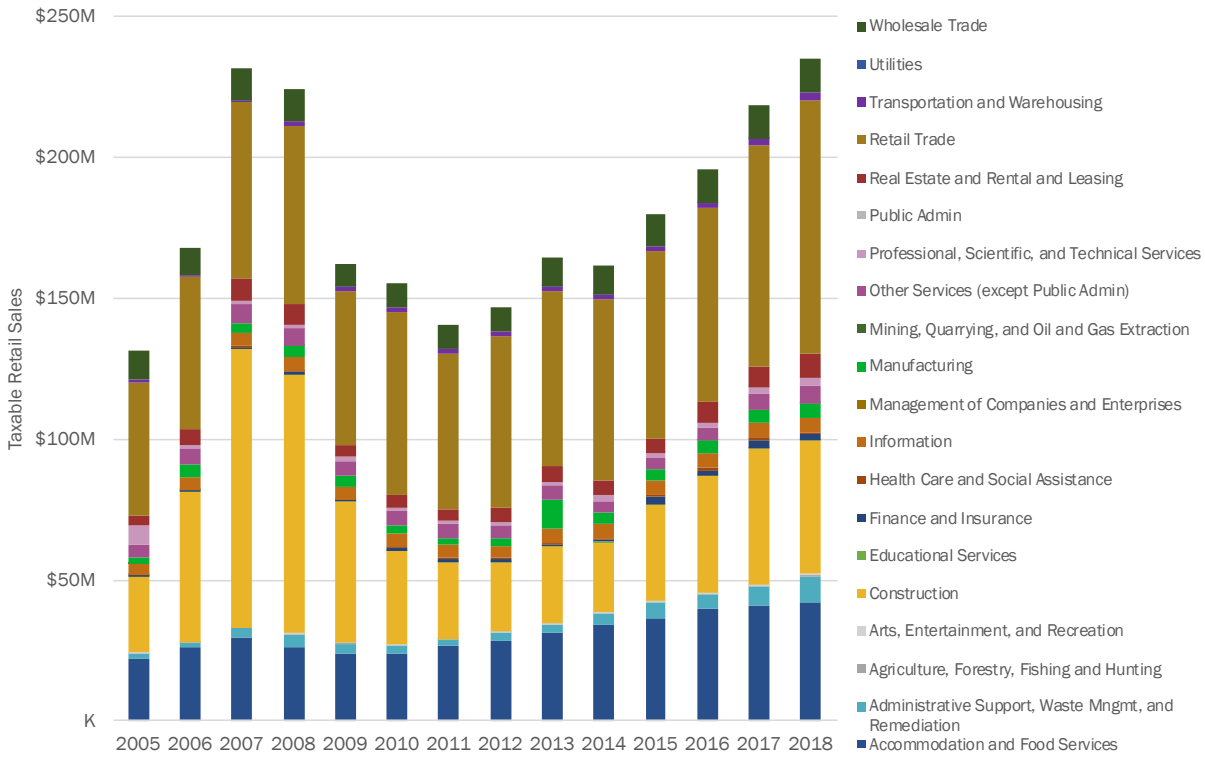
Taxable retail sales (TRS) have grown steadily over the last several years. Total sales (particularly for the construction sector) dipped following the onset of the Great Recession (around 2009), but sales have since increased; see **Figure 3.15-4**. The retail trade sector accounts for most of the growth. From 2010 to 2018, taxable sales in the retail trade sector grew at an average annual rate of 4.18% (approximately $25,100,000).

Kittitas Hospital District No. 2

Hospital District No. 2 is funded through a property tax levy as well as patient charges for services. Community fund raising provides some monies for capital purposes. In 2017, the District's revenue was $2,300,000, an 82% change or $1,000,000 increase from 2010 (nominal dollars[5]). The property tax levy accounts for $1,300,000 of the total amount.

[5] Nominal dollars are dollars that are unadjusted for inflation.

Figure 3.15-4
SUMMARY TRENDS OF EXPENDITURES, CITY OF CLE ELUM



Source: Washington State Department of Revenue.

KITTCOM

KITTCOM's budget for 2019 was $2,075,335. In 2017, their budget was $2,400,000, a 35% change or $1,800,000 increase from 2010 (nominal dollars). They are funded primarily by intergovernmental revenue as well as fees paid by emergency service subscribers (which varies by subscriber based on the dispatch service costs) and through monthly excise taxes levied on telephone lines ($0.70 per line: land, mobile, VOIP[6]).

Cle Elum-Roslyn School District

In fiscal year 2018-2019, the Cle Elum-Roslyn School District's total revenues amounted to $12,000,000. Of the total revenue, 73% was derived from state revenue, 19% from local tax revenue, 5% from federal revenue, and 2% from local *non*-tax revenue. Total revenues increased by about $2,000,000 from fiscal year 2015-2016 to fiscal year 2018-2019 (a 19% change). The District imposes an operating levy of $0.624 per $1,000 of assessed value (AV) and a capital project levy of $0.425 per $1,000 of AV.

[6] VOICP stands for Voice Over Internet Protocol.

3.15.2 Environmental Impacts

2002 Cle Elum UGA EIS

FEIS Alternative 5 *– Original Bullfrog Flat Master Site Plan*

Economic Impacts – FEIS Alternative 5

Employment in construction under FEIS Alternative 5 was estimated to increase by approximately 100 employees per year in years 1 through 3, and then gradually decline over the 30-year buildout. Due to increased resident/visitor spending (prompted by new development), FEIS Alternative 5 was also expected to generate 270 new spending-induced jobs—the food service industry was assumed to account for the largest share of new, spending-induced jobs (roughly 50-60% at full buildout).

No significant, unavoidable adverse economic impacts were identified in the 2002 Cle Elum UGA EIS for FEIS Alternative 5. The identified potential economic impacts of FEIS Alternative 5 were associated with increased employment opportunities, higher potential personal income, lower unemployment rates, a diversified workforce, and new business commerce.

(See **Section 3.9**, Housing, Population, and Employment, for details.)

Fiscal Impacts – FEIS Alternative 5

The 2002 Cle Elum UGA EIS studied impacts associated with FEIS Alternative 5 on one-time and reoccurring revenues and costs (i.e., expenditures).

City of Cle Elum

The 2002 Cle Elum UGA EIS indicated that upon annexation of the Bullfrog Flats site, one-time revenues to the City of Cle Elum would include dollars from fees, real estate excise tax, and retail sales tax for construction contracts. The 2002 Cle Elum UGA EIS analysis estimated that one-time costs would be equal to one-time revenues, but net fiscal shortfalls could be triggered in *initial* buildout years due to a need to lease capital equity for road maintenance and to pay for fire service. Reoccurring revenues would include property tax and sales tax — expected to increase over the buildout period. Reoccurring long-term costs would include increased law enforcement (annual estimate: $250,000 to $300,000), fire department (annual estimate: $150,000 to $200,000), and public works (annual estimate $150,000 to $200,000) service needs.

Ultimately, net fiscal impacts (average annual, constant 2000 dollars) for the City of Cle Elem were -$50,000 to $60,000 in years 1 through 11 and $400,000 to $500,000 in years 12 through 30. Despite a need to mitigate temporary fiscal shortfalls in earlier years, no significant unavoidable adverse fiscal impacts were anticipated for FEIS Alternative 5.

Kittitas County Hospital District No. 2

Regarding the fiscal impacts for Hospital District No. 2, the 2002 Cle Elum UGA EIS reported that District would receive increased revenue through property taxes and additional patient fees. The District would also have increased costs due to the need to pay for increased capital and operations/maintenance costs (personnel, facility expansions, ambulances, etc.). The net fiscal impact under FEIS Alternative 5 was negative year one through 10 of buildout, before revenues began to meet and exceed service costs.

KITTCOM

The analysis for KITTCOM indicated that any costs associated with FEIS Alternative 5 would be mitigated by the revenue acquisition structure (fees paid by emergency service subscribers and a monthly tax applied to telephone lines) where the fee/tax rates are set up to cover costs.

Cle Elum-Roslyn School District

The analysis for the Cle Elum-Roslyn School District showed that FEIS Alternative 5 would produce increased operating levy revenues in addition to increased state-shared revenues. Operating costs were expected to exceed revenues in earlier stages of development; however, by project year 7, the School District was expected to have fiscal surpluses. The analysis highlighted that any failed school levy would have an adverse effect on net revenues.

(See 2001 Cle Elum UGA DEIS Sections 3.18 and 3.19, and 2002 Cle Elum UGA FEIS Sections 3.17 and 3.18 for details.)

2020 SEIS

SEIS Alternative 5 & SEIS Alternative 6

Because the economic and fiscal conditions in the City of Cle Elum and surrounding jurisdictions have changed since publication of the 2002 Cle Elum UGA, and because the 47° North site and the adjacent 25-acre property are now located in the City of Cle Elum, SEIS Alternative 6 – Proposed 47° North Master Site Plan Amendment is compared to SEIS Alternative 5 – Approved Bullfrog Flat Master Site Plan in this sub-section.

Economic Impacts – SEIS Alternatives 5 & 6

This sub-section evaluates and compares local economic development impacts (e.g., jobs and investments and long-term community and economic development impacts) under SEIS Alternatives 5 and 6. Potential for changes in revenues or costs (positively or negatively) for businesses within the city, and changing income and employment levels (positively or negatively) for industries within the city are analyzed. The effects of housing availability, the

economic value of land use, and the value of other resources as they contribute to the quality of life of the region's current and future residents and visitors are described. See **Chapter 2** and **Appendix K** for development and phasing assumptions under the SEIS Alternatives.

The analysis presented in this sub-section considers the economic impacts of SEIS Alternative 5 from 2021 to 2051; 2051 is the assumed buildout for this alternative, consistent with the 30-year buildout period assumed for FEIS Alternative 5. For SEIS Alternative 6, the analysis considers economic impacts from 2021 to 2037, as 2037 is the assumed overall buildout for all development components, including both 47° North and the commercial property.[7] Note that the residential and recreational development in 47° North is assumed to buildout by 2028 and the commercial development by 2037.

Employment

Under both SEIS Alternative 5 and SEIS Alternative 6, demand for construction services would increase employment in the construction sector. Employment (as estimated by a job-year, roughly equivalent to full-time employment for a year) is estimated using the Washington State OFM impact model by translating construction spending to job demand. SEIS Alternative 5 would create demand for 2,025 local construction jobs over the life of the development (residential and other uses). SEIS Alternative 6 would create demand for 607 local construction jobs. Fewer local construction jobs are expected under SEIS Alternative 6 than under SEIS Alternative 5 because there would be fewer residential units, and most of the units would be manufactured homes.[8] The increase in the construction labor force would be short-term. It is anticipated that construction firms would increase employment to satisfy demand before stabilizing as development subsides.

Under SEIS Alternative 5, development of commercial (business park) uses would increase non-construction related, permanent employment. At full buildout in 2051 (the full buildout year assumed for this alternative, consistent with the 30-year buildout assumed in the 2002 Cle Elum UGA EIS), the commercial development is assumed to include up to 950,000 sq. ft. in building space. Assuming one employee per 500 sq. ft., at full buildout, the commercial development is anticipated to generate 1,900 new permanent employees.

At full buildout under SEIS Alternative 6 in 2037 (47° North buildout is assumed for 2028 with the 25-acre commercial property buildout assumed for 2037), the future commercial development on the adjacent 25-acre property is could accommodate a grocery store at

[7] The analysis periods for SEIS Alternative 5 and SEIS Alternative 6 differ based on each alternative's buildout period. This analysis does not calculate economic impacts further than 2037 for SEIS Alternative 6 as this is the overall buildout year for this alternative and analysis beyond 2037 is considered speculative given possible and unknowable changes in fiscal conditions).

[8] The single family residences and some of the multi-family residences included in SEIS Alternative 6 would be manufactured elsewhere in the Pacific Northwest and assembled onsite.

45,000 sq. ft., retail totaling 25,000 sq. ft., restaurants totaling 20,000 sq. ft., and medical offices totaling 60,000 sq. ft. A 3,500-sq. ft. adventure center and 31,000-sq. ft. recreational amenity centers would also be developed on the 47° North site. Assuming one employee per 500 sq. ft. for each development type (not including the adventure and recreational amenity centers) approximately 400 new, permanent employees would be generated at full buildout (assuming 100% occupancy). Of the 400 new employees under SEIS Alternative 6, 100 new employees would be generated by 47° North and 33 would be generated by the future commercial development[9] (see **Appendix K** for details on employment assumptions).

Housing & Households

Construction of new housing under SEIS Alternative 5 and 6 would add construction labor in the near-term. New housing would also accommodate new households, contributing to population growth in the City and region. **Table 3.15-1** presents the anticipated new permanent households over time for both SEIS Alternatives. It is based on new residential units (and excludes RV sites)[10] expected over the development period and it assumes an average occupancy rate of 90%. Under these assumptions, at full buildout, Cle Elum could add approximately 1,201 households under SEIS Alternative 5 and 636 households under SEIS Alternative 6 by 2031 (actual buildout of the housing and recreation uses under SEIS Alternative 6 is estimated to be 2028). Household and population growth would contribute to consumer spending and greater participation in the labor market.

At buildout, RV sites would also house visitors. On a per site basis at stabilized occupancy, the RV sites are estimated to generate 941 visitors per year. This is based on 627 sites, and a 50% occupancy and 3.0 persons per site size assumptions over the course of a year (365 days) provided by the Applicant. It is assumed that visitors would also contribute to consumer spending in the City through their accommodations and retail spending. The latter is likely to be a mix of spending that would be captured on site at the RV resort as well as spending at local retail establishments (e.g., retail that would cover spending that generates a taxable retail sale).

[9] Assumptions for the new employees from the 47° North portion of SEIS Alternative 6 were provided by the Applicant.

[10] Groups using RV spaces are not considered "households." They do not contribute to the permanent population for purposes of this fiscal analysis. They are, however, considered to contribute to an "equivalent" population base for purposes of identifying impacts to public services, utilities, and other elements of the environment studied in this DSEIS.

Table 3.15-1
CUMULATIVE HOUSEHOLD GROWTH - SEIS ALTERNATIVES 5 & 6

	2025	2031	2037	2051
SEIS Alternative 5				
Housing Units	779	983	1,111	1,334
Households	701	885	1,000	1,201
SEIS Alternative 6				
Housing Units	444	707	707	--
Households	400	636	636	--

Source: ECONorthwest, 2020.

Notes:

1. Housing unit: a house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters; that is, when the occupants do not live with any other persons in the structure and there is direct access from the outside or through a common hall (U.S. Census).
2. Household: all the people who occupy a housing unit (U.S. Census).

Retail Expenditures

Retail expenditures would expand under both SEIS Alternative 5 and 6 due to growth in the employee, resident, and visitor base. However, SEIS Alternative 6 is expected to produce a greater, cumulative positive impact on expenditures if the adjacent commercial uses are considered, because they would generate more consumer spending. Certain assumed business types (e.g., retail, grocery store, and restaurant) in the future commercial development would produce greater amounts of taxable retail expenditures than other business types (such as those likely to locate in the business park in SEIS Alternative 5).

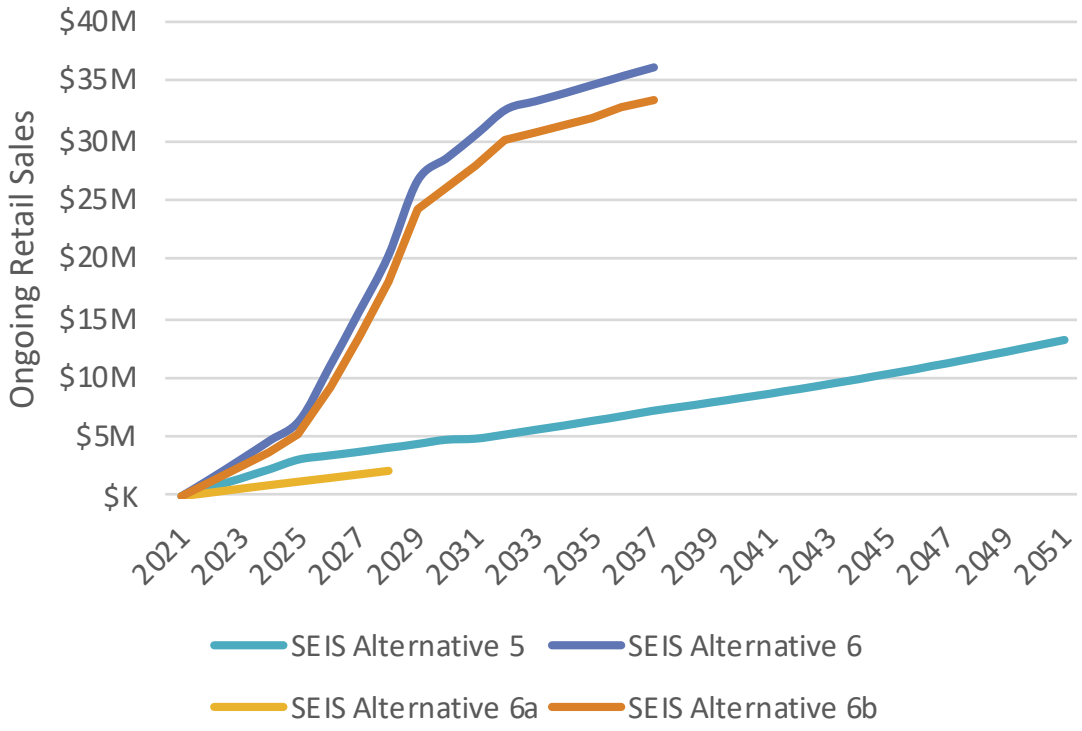
Businesses within the city would benefit from the additional household demand produced by residents and their associated needs. It is not clear to what degree, if any, existing businesses could be affected by the growth under the SEIS Alternatives, either positively or negatively. Under SEIS Alternative 5, the greater number of households and associated amount of household spending (and fewer retail opportunities) could provide more support for existing local businesses or opportunities for new businesses than under SEIS Alternative 6, but that demand would be spread across the city and proximate areas in the county.

Under SEIS Alternative 6, the adjacent future commercial development would provide newer offerings that could compete with some existing businesses in the city. For example, the opening of a new grocery store could compete with existing grocery businesses for customers. However, competition between stores could result in improvements to services

and offerings that ultimately benefit local consumers. The additional population and visitor base under SEIS Alternative 6 could attract other business enterprises that are attracted to growth in consumers.

Figure 3.15-5 shows the increase in local retail spending from new retail establishments, spending from other businesses, and sales from household deliveries. As indicated in **Figure 3.15-5**, the future commercial development under SEIS Alternative 6 would produce more taxable retail sales than under SEIS Alternative 5 over the course of buildout (and post-buildout). The analysis is based on a taxable retail sales per square foot for non-residential units and per unit for residential units. Given this, the primary driver of expected retail sales revenue under SEIS Alternative 6 is due to the retail, restaurant, and grocery store component of the future commercial development. The development types in future commercial development under SEIS Alternative 6 would generate more taxable retail sales per square foot than the entire development of SEIS Alternative 5 (including its commercial/business park component).

Figure 3.15-5
NEW ONGOING RETAIL SALES TAX – SEIS ALTERNATIVES 5 & 6



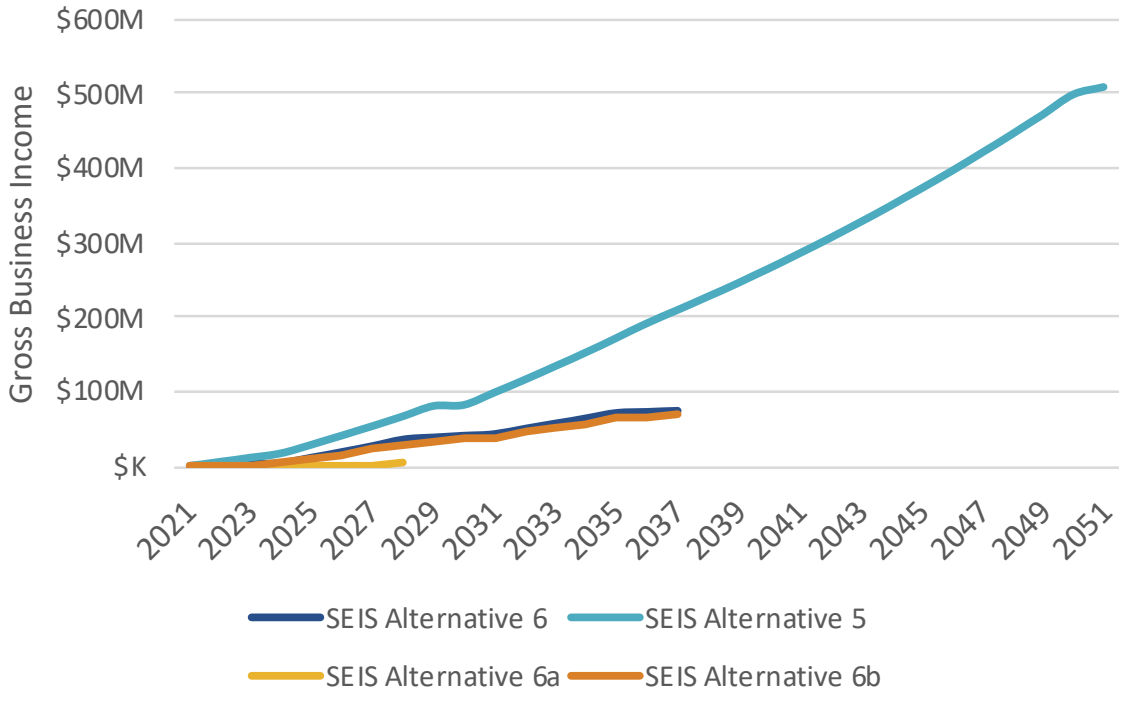
Source: ECONorthwest, 2020.
Note: SEIS Alternative 6a = the 47° North component and SEIS Alternative 6b = the future commercial component of SEIS Alternative 6.

Business Income

Gross business income (GBI - or gross profit) is the revenue from all sources minus a firm's cost of goods sold, before subtracting taxes. While City of Cle Elum does not impose business and occupation taxes (except on utility companies), greater amounts of GBI can benefit a city because of the larger base to which taxes can be applied.

Figure 3.15-6 shows that SEIS Alternative 5 is expected to produce substantially more GBI over the course of buildout, compared to SEIS Alternative 6 (including both 47° North and the future commercial development). This is because the business park in SEIS Alternative 5 is expected to produce 800,000 more sq. ft. of commercial/light industrial space at buildout compared to the future commercial development under SEIS Alternative 6. The future commercial development would be the primary contributor to GBI generated by SEIS Alternative 6.

Figure 3.15-6
GROSS BUSINESS INCOME - SEIS ALTERNATIVES 5 & 6



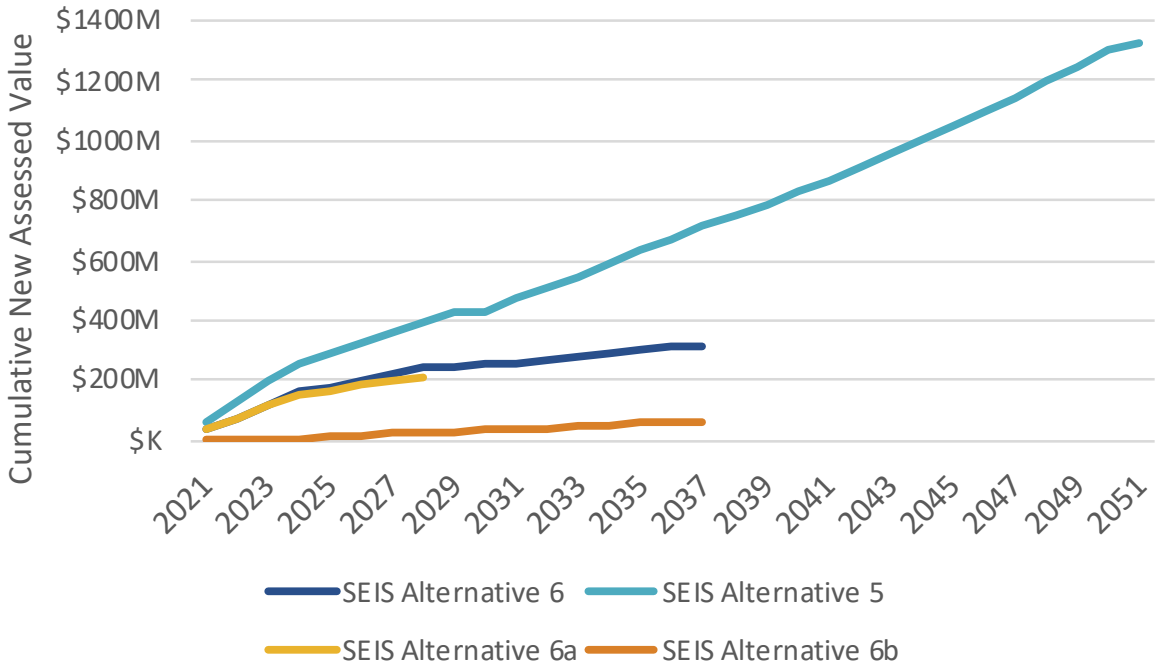
Source: ECONorthwest, 2020.
Note: SEIS Alt. 6a = the 47° North component and SEIS Alt. 6b = the future commercial component of SEIS Alt. 6.

Economic Value of Improvements on Land

Figure 3.15-7 shows increases in cumulative assessed valuation (AV) over time. State law states that property is to be assessed at market value (true and fair value), which County assessors determine using various statistical methods. A property with greater AV (i.e., properties with more market value) would be less affordable than a property with lower amounts of AV (i.e., lower market value).

Figure 3.15-7 shows that SEIS Alternative 5 is expected to produce more cumulative AV than SEIS Alternative 6. 47° North would be the primary contributor of cumulative AV in SEIS Alternative 6, given the size of the residential uses and the recreation centers and adventure center that is part of the RV resort.

Figure 3.15-7
CUMULATIVE NEW CONSTRUCTION ASSESSED VALUE – SEIS ALTERNATIVES 5 & 6



Source: ECONorthwest, 2020.
Note: SEIS Alt. 6a = the 47° North component and SEIS Alt. 6b = the future commercial component of the SEIS Alt. 6.

Further, the residential component of SEIS Alternative 5 would generate more AV than the residential component in SEIS Alternative 6. This is due to the type of residential units in each alternative. For instance, the single family housing in SEIS Alternative 5 would be stick-built construction while single family housing and some of the multifamily housing in SEIS Alternative 6 would be manufactured housing which result in different AV. (See Exhibit 20 of **Appendix K** for details.)

Economic Impacts to City of Cle Elum

Increased spending attributed to either SEIS Alternative 5 or SEIS Alternative 6 is expected to create demand for new employment at existing businesses in the City of Cle Elum. Development under both alternatives is also expected to increase local household incomes, disposable incomes, and spending. As described in more detail in **Appendix K**, as new businesses, residents, and visitors spend money locally in Cle Elum, the city may experience what is known as the multiplier effect. This effect occurs when one change (e.g., development of SEIS Alternative 5 or 6) causes a larger change to occur (e.g., growth in the local economy).

The magnitude of growth in the local economy is not certain and is dependent on broader economic trends and cycles.

Fiscal Impacts – SEIS Alternatives 5 & 6

The fiscal impact analysis considered the marginal fiscal effects of development under SEIS Alternatives 5 and 6 by comparing the additional revenue generated by development with the additional operational costs needed to serve development. Comparing revenues and costs from development can be complicated. For example, City revenues derived from development (e.g., property tax, sales tax, real estate excise tax, and other taxes or fees) all flow to different funds, some of which are available for use city-wide in an annual budgeting process, and some of which are restricted in use in different ways.

Revenues also accrue over a period of time and may not be available at the time that an infrastructure investment (a cost) is incurred. The approach used for this fiscal analysis was to estimate the present value of the total costs of providing service increases, and the present value of total revenue sources that are available to the City.

This analysis relies on a set of assumptions about revenues and costs which are assessed by a cash flow revenue model. The model is also based on development assumptions, including phasing and timing of development, to estimate changes in affected taxes. Assumptions about the type and expected delivery of development is shown in **Table 2-1** and **Table 2-6** in **Chapter 2** and Exhibit 22 of **Appendix K**.

In general, the analysis prepared for this SEIS considered the fiscal impacts of SEIS Alternative 5 from 2021 to 2051—as 2051 is the assumed buildout for this alternative (consistent with the 30-year buildout period assumed for FEIS Alternative 5). For SEIS Alternative 6, this analysis considers fiscal impacts from 2021 to 2037, as 2037 is the assumed buildout for this alternative.[11]

[11] The analysis periods for SEIS Alternative 5 and SEIS Alternative 6 differ based on each alternative's buildout period. This analysis does not calculate fiscal impacts further than 2037 for SEIS Alternative 6, the overall buildout year for this alternative (also, analysis beyond 2037 would be speculative given possible changes in fiscal conditions that could occur).

City of Cle Elum

The fiscal analysis estimated reoccurring revenues and costs for the City of Cle Elum under SEIS Alternative 5 and 6. **Table 3.15-2** summarizes City of Cle Elum's revenues and costs, to inform the net fiscal impacts of the SEIS Alternatives.

The analysis used the following local revenue category assumptions: property tax, sales tax on construction, ongoing sales tax, and utility taxes (see **Appendix K** for a description of tax assumptions). The analysis also used the public services impacts identified in this DSEIS to arrive at employee cost estimates on a per Full Time Equivalent (FTE) basis (see Section 3.12, **Public Services**, for details). Differences in project sizes would generate different revenue and cost estimates. The analysis was also differentiated by timing of costs and revenues, and the level and type of economic activity that would be taxable per city policy and state legal limits.

Table 3.15-2 shows that both SEIS Alternative 5 and 6 (including 47° North) would generate fiscal surpluses at buildout.[12] When looking at the residential/RV resort component separately from the commercial component of SEIS Alternative 6, the analysis determined that future commercial development could generate fiscal shortfalls in earlier years. The findings are a result of project sizes, the timing of costs and revenues, and the level and type of economic activity that would be taxable based on city policy and state legal limits.

Table 3.15-2
CITY OF CLE ELUM CUMULATIVE REVENUE AND COST SUMMARY – SEIS ALTERNATIVES 5 & 6 (in $1000s)

	2025	2031	2037	2051
SEIS Alternative 5				
Total Revenues	**$3,950**	**$8,890**	**$14,700**	**$28,200**
Property Taxes	$1,580	$4,930	$8,980	$18,920
Sales Tax on Construction	$1,870	$2,570	$3,290	$4,330
Ongoing Sales Tax	$80	$260	$480	$1,040
Utility Taxes	$420	$1,130	$1,950	$3,910
Total Costs	**$1,936**	**$5,055**	**$8,507**	**$17,531**
Police	$1,301	$3,540	$6,067	$12,852
Fire	$277	$715	$1,204	$2,454

[12] Build out is 2051 for SEIS Alternative 5 and 2037 for SEIS Alternative 6. Buildout for SEIS Alternative 6 (47° North) is 2028 and SEIS Alternative 6 (the commercial property) is 2037.

	2025	2031	2037	2051
Parks	$26	$79	$138	$289
Public Works	$332	$721	$1,098	$1,936
Net Fiscal Impact	**$2,014**	**$3,835**	**$6,193**	**$10,669**
SEIS Alternative 6 (Total)				
Total Revenues	**$2,986**	**$7,336**	**$11,626**	**--**
Property Taxes	$960	$2,930	$4,900	--
Sales Tax on Construction	$1,176	$1,416	$1,486	--
Ongoing Sales Tax	$200	$1,210	$2,370	--
Utility Taxes	$640	$1,750	$2,820	--
Total Costs	**$1,980**	**$5,273**	**$8,718**	**--**
Police	$1,464	$4,036	$6,760	--
Fire	$199	$530	$870	--
Parks	$15	$52	$91	--
Public Works	$302	$655	$997	--
Net Fiscal Impact	**$1,006**	**$2,063**	**$2,908**	**--**
SEIS Alternative 6 (47°North Only)				
Total Revenues	**$2,696**	**$5,786**	**$8,556**	**--**
Property Taxes	$920	$2,690	$4,310	--
Sales Tax on Construction	$1,096	$1,226	$1,226	--
Ongoing Sales Tax	$40	$130	$220	--
Utility Taxes	$630	$1,710	$2,750	--
Total Costs	**$1,748**	**$4,606**	**$7,588**	**--**
Police	$1,268	$3,470	$5,798	--
Fire	$179	$464	$754	--
Parks	$15	$52	$91	--
Public Works	$286	$620	$945	--
Net Fiscal Impact	**$948**	**$1,180**	**$968**	**--**

	2025	2031	2037	2051
SEIS Alternative 6 (Commercial Property Only)				
Total Revenues	**$290**	**$1,540**	**$3,080**	**--**
Property Taxes	$40	$240	$580	--
Sales Tax on Construction	$80	$190	$270	--
Ongoing Sales Tax	$160	$1,080	$2,150	--
Utility Taxes	$10	$30	$70	--
Total Costs	**$409**	**$877**	**$1,340**	**--**
Police	$310	$705	$1,101	--
Fire	$83	$138	$187	--
Parks	$0	$0	$0	--
Public Works	$16	$34	$52	--
Net Fiscal Impact	**($119)**	**$663**	**$1,740**	**--**

Source: ECONorthwest, 2020.

Table 3.15-3 summarizes cumulative REET revenue projected for the SEIS Alternatives. It shows that SEIS Alternative 5 would generate more REET revenues than SEIS Alternative 6; this is because Alternative 5 would include substantially more commercial and residential square footage than SEIS Alternative 6. Under SEIS Alternative 6, most of the projected REET revenue would be generated by the residential/RV resort uses in 47° North.[13]

In addition to the fiscal impacts identified in **Tables 3.15-2** and **3.15-3**, the RV resort under SEIS Alternative 6 would also increase taxes received through the City's 2% Special Hotel/Motel tax. **Table 3.15-4** shows that anticipated annual revenue from this source would increase by roughly $96,000 a year once the RV resort is fully built and stabilized.

[13] Note that these revenues are not included in **Table 3.15-3** because they are restricted to capital project costs.

Table 3.15-3
CITY OF CLE ELUM CUMULATIVE REET REVENUE - SEIS ALTERNATIVES 5 & 6 (in $1,000s)

	2025	2031	2037	2051
SEIS Alternative 5				
REET Revenues	$140	$580	$1,140	$2,680
SEIS Alternative 6 (Total)				
REET Revenues	$10	$30	$50	--
SEIS Alternative 6 (47° North Only)				
REET Revenues	$10	$30	$50	--
SEIS Alternative 6 (Commercial Property Only)				
REET Revenues	$0	$0	$10	--

Source: ECONorthwest,2002.

Table 3.15-4
CITY OF CLE ELUM CUMULATIVE HOTEL/MOTEL REVENUE – SEIS ALTERNATIVE 6

	Revenue Estimate
RV Stalls	627
Days per Year	365
Average Daily Occupancy	50%
Group Size	3.0
Visitors	343,283
Average Daily Rate	$42.00
Est. Lodging Revenue	$4,805,955
Hotel-Motel Tax	2%
Est. Hotel-Motel Tax Revenue (annual)	**$96,119**

Source: ECONorthwest, 2020.

The city's existing retail offerings (e.g., not within the development areas under the SEIS Alternatives) are likely to absorb retail spending from households and visitors under SEIS Alternative 5 and 6. For example, a new household is likely to go out to dinner or buy a household good from these existing retail offerings once homes are built within the development. To further understand the retail tax implications to the city, the analysis

examined potential taxable retail sales per household using consumer expenditure data,[14] Cle Elum's sales tax rate, and assumed local capture rates (i.e., the percentage of spending by Cle Elum households and visitors (e.g., 10%, 25%, 50%, and 75% of likely spending that is spent within the City).

Spending by households and visitors under the SEIS Alternatives would likely help support existing city retail establishments. This impact is not counted above in the city fiscal analysis (**Table 3.15-2**) since its uncertain how much spending would be "captured" by these businesses within the city. The analysis in **Table 3.15-5** shows sales tax captured in Cle Elum, normalized using projected new households and visitors under SEIS Alternatives 5 and 6.[15] The results show that Cle Elum would capture relatively larger sales tax amounts per household under SEIS Alternative 6 than under SEIS Alternative 5. This is because SEIS Alternative 6 would generate more new households earlier in the analysis period than SEIS Alternative 5.

Table 3.15-5
AVERAGE CUMULATIVE SALES TAX PER HOUSHOLD –
SEIS ALTERNATIVES 5 & 6 (in $1,000s)

Local Expenditure Capture Rate Scenarios	2025	2031	2037	2051
SEIS Alternative 5 (in thousands)				
10%	$41	$81	$108	$158
25%	$109	$209	$276	$391
50%	$218	$418	$562	$783
75%	$314	$639	$838	$1,183
SEIS Alternative 6 (47° North Only) (in thousands)				
10%	$39	$84	$126	--
25%	$104	$211	$305	--
50%	$207	$411	$621	--
75%	$311	$621	$927	--

Source: ECONorthwest, 2020.

Kittitas Hospital District No. 2

Reoccurring revenues received by Kittitas Hospital District No. 2 predominately include patient service fees and property taxes. **Table 3.15-6** summarizes the District's cumulative revenues and costs received through operating property tax levy. It shows that at full buildout, SEIS Alternative 5 would generate more property tax revenue than SEIS

[14] The analysis used average, consumer expenditure data by expenditure characteristic (e.g., housing, apparel, healthcare, entertainment, etc.) from the Bureau of Labor Statistics. Data is for the "west" U.S region (2017-2018).
[15] For SEIS Alternative 6, the analysis included visitor groups, that are assumed to be generated from the RV sites. Determination of visitors relied on the same assumptions for occupancy and group size as the rest of the analysis.

Alternative 6. The analysis also shows that the primary contributor to property tax revenue would be the residential/RV resort component of 47° North.

Table 3.15-6
HOSPITAL DISTRICT CUMULATIVE REVENUE SUMMARY – SEIS ALTERNATIVES 5 & 6 (in $1,000s)

	2025	2031	2037	2051
SEIS Alternative 5 (in thousands)				
Total Revenues	$340	$1,150	$2,260	$5,550
SEIS Alternative 6 (Total) (in thousands)				
Total Revenues	$200	$690	$1,220	--
SEIS Alternative 6 (47° North Only) (in thousands)				
Total Revenues	$200	$620	$1,070	--
SEIS Alternative 6 (Commercial Property Only) (in thousands)				
Total Revenues	$10	$60	$150	--
SEIS Alternative 5 (in thousands)				
Total Costs	$4,194	$13,789	$24,666	$54,054
SEIS Alternative 6 (Total) (in thousands)				
Total Costs	$4,891	$16,198	$28,654	--
SEIS Alternative 6 (47° North Only) (in thousands)				
Total Costs	$4,181	$13,844	$24,490	--
SEIS Alternative 6 (Commercial Property Only) (in thousands)				
Total Costs	$711	$2,354	$4,163	--

Source: ECONorthwest, 2020.

Table 3.15-6 also summarizes the Hospital District's cumulative costs. New costs would be generated by increased FTE of the following positions: Emergency Medical Technicians (EMTs), Paramedics, Physicians, and Advanced Practice Clinicians (APCs). The analysis shows that SEIS Alternative 5 would generate slightly less cumulative staffing costs than SEIS Alternative 6 due to timing variations (i.e., when new FTE would be needed). For example, based on the analysis in 3.12, **Public Services**, in this DSEIS, SEIS Alternative 5 would require 3.5 EMTs and 4.3 paramedics by 2025 whereas Alternative 6 would requires 4.0 EMT and 4.9 paramedics by 2025. These slight variations would affect lifecycle costs.

Although costs would be are higher than property tax revenues under the SEIS Alternatives, the District would also receive patient service fees. In 2017, patient service fees accounted for about 44% of the District's total revenues. The analysis assumes that service fees would scale to meet additional costs beyond revenues provided by property tax revenues. For example, if new hires are required to accommodate increased service needs, then revenues from services fees would theoretically increase too.

KITTCOM

Reoccurring revenues received by KITTCOM predominately include intergovernmental revenues, fees paid by emergency service subscribers, and a monthly tax applied on telephone lines. **Table 3.15-7** presents KITTCOM's summary of revenues received through its monthly phone tax. It shows that SEIS Alternative 5 would generate slightly higher tax revenues than SEIS Alternative 6 because SEIS Alternative 5 would include more households and employees (the majority of revenues received under Alternative 6 would be from the residential component in 47º North). The analysis uses the following phone tax assumptions: telephone tax rate remains unchanged at $0.70 per line; 2.0 lines per household, and 0.2 lines per employee; household estimates are based on timing of residential units (assuming a 90% occupancy rate); and, employee estimates are based on timing of new development (assuming 500 employees per sq. ft. of employment / commercial space in the future commercial development).

Table 3.15-7
KITTCOM CUMULATIVE REVENUE SUMMARY –
SEIS ALTERNATIVES 5 & 6 (in $1,000s)

	2025	2031	2037	2051
SEIS Alternative 5 (in thousands)				
Total Revenues	$140	$773	$1,919	$6,438
SEIS Alternative 6 Total (in thousands)				
Total Revenues	$80	$522	$1,227	--
SEIS Alternative 6 (47° North Only) (in thousands)				
Total Revenues	$80	$520	$1,223	--
SEIS Alternative 6 (Commercial Property Only) (in thousands)				
Total Revenues	$0	$12	$41	--

Source: ECONorthwest, 2020.

Note: Values shown in 2020 dollars. SEIS Alternative 6 (47° North) and 6 (the commercial parcel) may not sum to SEIS Alternative 6 due to rounding.

Table 3.15-8 summarizes cumulative costs from increased dispatcher FTE. It shows that SEIS Alternative 5 would generate slightly less costs than SEIS Alternative 6 due to variations in planned development phasing and when new FTE would be needed. For example, by 2030, 0.6 FTE would be needed under SEIS Alternative 5 and 0.8 FTE would be needed under SEIS Alternative 6. Projected new staffing costs would exceed phone tax revenues for the future commercial development and in earlier years for 47° North under SEIS Alternative 6. The analysis does not factor in intergovernmental revenues (which would likely scale up) or subscriber fees (which could be restructured to cover additional funding needs).

Table 3.15-8
KITTCOM CUMULATIVE COST SUMMARY –
SEIS ALTERNATIVES 5 & 6 (in $1,000s)

	2025	2031	2037	2051
SEIS Alternative 5 (in thousands)				
Total Costs	$116	$493	$914	$2,095
SEIS Alternative 6 (Total) (in thousands)				
Total Costs	$140	$619	$1,151	--
SEIS Alternative 6 (47° North Only) (in thousands)				
Total Costs	$119	$529	$984	--
SEIS Alternative 6 (Commercial Property Only) (in thousands)				
Total Costs	$20	$90	$167	--

Source: ECONorthwest, 2020.
Note: Values shown in 2020 dollars. SEIS Alternative 6 (47° North) and 6 (the commercial parcel) may not sum to SEIS Alternative 6 due to rounding.

Cle Elum-Roslyn School District

Table 3.15-9 presents reoccurring revenues received by the Cle Elum-Roslyn School District under the SEIS Alternatives. It shows that SEIS Alternative 5 would generate higher revenues than SEIS Alternative 6, due to greater amounts of built square footage under SEIS Alternative 5.

Table 3.15-10 summarizes cumulative costs derived from increased FTE teachers in Cle Elum-Roslyn School District.[16] Because SEIS Alternative 5 would require 6.9 more FTE than

[16] Assumptions for increased teacher FTE are from Section 3.12, **Public Services**, of this DSEIS. That analysis is based on population (assumed teacher to student ratio).

Table 3.15-9
CLE ELUM-ROSLYN SCHOOL DISTRICT CUMULATIVE REVENUE SUMMARY – SEIS ALTERNATIVES 5 & 6 (in $1,000s)

	2025	2031	2037	2051
SEIS Alternative 5 (in thousands)				
Total Revenues	$510	$1,580	$2,890	$6,090
SEIS Alternative 6 (Total) (in thousands)				
Total Revenues	$310	$940	$1,580	--
SEIS Alternative 6 (47° North Only) (in thousands)				
Total Revenues	$300	$870	$1,390	--
SEIS Alternative 6 (Commercial Property Only)				
Total Revenues	$10	$80	$190	--

Source: ECONorthwest, 2020.

Table 3.15-10
CLE ELUM-ROSLYN SCHOOL DISTRICT CUMULATIVE COST SUMMARY – SEIS ALTERNATIVES 5 & 6 (47º North) (in $1,000s)

	2025	2031	2037	2051
SEIS Alternative 5 (in thousands)				
Total Costs	$4,291	$12,539	$21,522	$43,506
SEIS Alternative 6 (47º North Only) (in thousands)				
Total Costs	$2,580	$8,659	$14,957	--

Source: ECONorthwest, 2020.

SEIS Alternative 6, SEIS Alternative 5 would also generate higher relative costs.[17] While costs would exceed revenues, the School District also receives intergovernmental revenues, most through state school funding support (this source accounted for 79% of total District revenues in the 2018-2019 fiscal year). These revenues would be used to fund future expansions in service.

[17] The SEIS Alternative 6 commercial parcel is not included in the cost analysis because the commercial component would not directly increase
student enrollment.

Indirect and Cumulative Impacts – SEIS Alternatives 5 & 6

Economic Conditions

Development under SEIS Alternatives 5 and 6 would create residential, recreational, and commercial uses and that would increase demand for construction labor, followed by demand for housing, permanent jobs, and services. Economic stimulation resulting from this growth could contribute positive, localized effects in the form of increased incomes and spending which could impact quality of life and standards of living for residents in Cle Elum. These changes could lead to additional development in Cle Elum and other areas throughout Kittitas County.

Fiscal Conditions

Development under SEIS Alternatives 5 and 6 would increase the tax base and increase the demand for services in each of the taxing jurisdictions evaluated in the DSEIS. There are other vested land development projects within the city (e.g., City Heights and Cle Elum Pines) that will impact the city (and corresponding service districts). Additionally, there is vested development within Kittitas County (including in unincorporated areas and other cities within the county) that will impact the fiscal conditions of the other service districts discussed in this analysis. The cumulative fiscal impacts of these projects together with SEIS Alternative 5 or 6 is not known. To the extent that there are economies of scale (i.e., the cost to service an incremental person would be less than the revenue that person generates), then there would be an opportunity for growth to help the long-term fiscal outlook of the jurisdictions. However, if large, new fixed costs of growth would be needed to serve these new persons, the outlook would become more complex and difficult to assess.

Conclusions

Development of SEIS Alternatives 5 and 6 would create demand for temporary jobs during construction, followed by permanent jobs and services during operation. SEIS Alternative 5 would generate more temporary and permanent jobs than SEIS Alternative 6 due to the greater amount of development and use of local construction. The temporary and permanent jobs under the SEIS Alternatives are expected to result in positive impacts to the local economy. Both SEIS Alternatives would increase the tax base and increase the demand for services in each of the taxing jurisdictions evaluated. At buildout, both SEIS Alternatives would generate fiscal surpluses in the City of Cle Elum. The future commercial component of SEIS Alternative 6 could generate fiscal shortfalls in the City in earlier years but would ultimately generate surpluses; the 47° North residential and recreational component would generate fiscal surpluses in the City throughout buildout. While the public service purveyor costs could exceed revenues to serve the SEIS Alternatives, mitigation may or may not be required, as the purveyors have a number of funding sources.

3.15.3 Mitigation Measures

This section identifies mitigation measures for the potential fiscal and economic impacts of SEIS Alternative 6. Any future mitigation agreements will need to differentiate the measures to mitigate the fiscal/economic impacts of 47° North from those to mitigate the impacts of the adjacent commercial property, since these are distinct and separate properties and proposals.

Proposed Mitigation Measures – Economic Impacts

- The nature of the impacts identified for SEIS Alternative 6 would include: increases in employment opportunities, increases in potential personal income, lower unemployment rates, diversity in the workforce, and add new business commerce. Impacts would be positive, and mitigation is not warranted.

Proposed Mitigation Measures – Fiscal Impacts

This section presents fiscal mitigation measures by taxing authority/entity to address the findings for SEIS Alternative 6, including 47° North and the commercial property.

City of Cle Elum

The analysis focused on a calculation of net fiscal impacts for the City of Cle Elum. For SEIS Alternative 6, the analysis identified a fiscal surplus in 2037. Based on this analysis and considering the residential/RV and commercial elements of Alternative 6 together, mitigation for fiscal impact is not anticipated to be necessary to maintain the City's fiscal solvency. However, when looking at the components of SEIS Alternative 6 – 47° North and the commercial property – separately, the future commercial development would generate a fiscal shortfall in earlier years. However, the deficit would be addressed in later years when revenues increase.

Given the distinct findings for SEIS Alternative 6 for 47° North and the commercial property, should future mitigation become necessary — consistent with typical municipal budgeting practices — the City could impose new taxes or fees to balance its budget or seek to change levels of public services to meet available revenues, or a combination of both approaches.

Implementation of a periodic fiscal monitoring program (e.g., in two to five-year increments) could also be appropriate following buildout. Fiscal monitoring could reasonably occur during buildout as well, however, revenues may lag behind costs resulting in an incomplete picture of the impact. Fiscal monitoring could be particularly helpful as costs and revenues unassociated with the 47° North portion of SEIS Alternative 6 would impact the City's overall fiscal situation along with the proposed development. Additionally, the DSEIS assumes the City's Fire Department will move to full time employment and away from its current model of service. Furthermore, future negotiations could consider the measures proposed in the Approved Bullfrog Flats Development Agreement. That agreement identified several conditions to mitigate fiscal shortfalls and to ensure existing citizens and ratepayers would not suffer negative financial impacts as a result of the

development. Conditions cited that Trendwest (now New Suncadia) would: allow a Municipal Facilities and Services Expansion Plan to guide capital expansions; make fiscal shortfall mitigation payments; pay for the development's share of planning, water/wastewater treatment plant construction, and permit fees; and, coordinate security forces with police and fire services.

Kittitas Hospital District No. 2

Fiscal analysis for the Hospital District found that projected costs were greater than projected property tax revenues under SEIS Alternative 6 (in particular 47° North). However, the District would also receive patient service fees. It is, therefore, difficult to assess the underlying fiscal situation of the District over time. The analysis assumed that new FTE employees would be added to meet service needs, and, therefore, as service needs grow, so too would patient service fees.

A future mitigation agreement could consider a fiscal monitoring program. The Hospital District could track property tax revenues and patient fees attributed to SEIS Alternative 6 (47° North) and, should revenues not cover costs of service (over a certain period of time), a monthly mitigation payment could be made to the Hospital District to avoid fiscal shortfalls.

KITTCOM

Projected revenues from the KITTCOM phone tax exceeded projected costs for new FTE for SEIS Alternative 6 as a whole and for the 47° North component of this alternative. Accordingly, fiscal mitigation is not anticipated to be necessary.

Revenues did not, however, exceed costs for the commercial property under SEIS Alternative 6. The analysis did not factor in intergovernmental revenues or subscriber fees which could address the fiscal shortfall. It is reasonable to assume that intergovernmental revenues would scale up with growth in the city/county. Further, subscriber fees could reasonably be restructured to cover additional funding needs as underlying needs change.

Cle Elum-Roslyn School District

The net fiscal impact to the School District from SEIS Alternative 6 is unclear. The analysis shows that cumulative costs derived from projected new teacher FTE were estimated to exceed projected property tax revenues for operations under SEIS Alternative 6. However, the District would receive additional intergovernmental revenues which are expected to offset fiscal shortfalls, mainly through state support for schools funded by the state property tax.

As a potential mitigation measure, the School District could develop a survey to understand development-related student enrollment, which could be used to help determine an appropriate mitigation proposal. Previous measures attributed to FEIS Alternative 5 suggested a payment-matching system for portable classrooms and buses (that would have been made by Trendwest, now New Suncadia) until the development reached a pre-agreed-to-assessed value ceiling.

3.15.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse economic impacts are expected under the SEIS Alternatives. Economic impacts would generally be positive.

No significant unavoidable adverse fiscal impacts are expected. A fiscal impact can be defined as adverse in any situation where costs exceed revenues and the extent of any fiscal shortfall (deficit) will determine the significance of the impact. However, adverse impacts can be mitigated and are not unavoidable. If ongoing fiscal monitoring to determine appropriate mitigation measures are pursued, then no significant adverse fiscal impacts are anticipated to be unavoidable. Taxing jurisdictions should continue to conduct typical, budget-balancing exercises and use their taxing powers to ensure their fiscal solvency. Mitigation agreements with affected jurisdictions could be implemented as a condition of project approval to address any specific and/or general fiscal impact concerns that may occur. Therefore, no significant unavoidable adverse impacts are expected.

Chapter 4

ACRONYMS & ABBREVIATIONS

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ACRONYMS & ABBREVIATIONS

Acronym/Abbreviation	Full Name
A	
ACS	(U.S. Census) American Community Survey
ADA	Americans with Disabilities Act
ADD	Average Daily Demand
AM	Ante Meridiem (Before Mid-day)
APC	Advanced Practice Clinician
AV	Assessed Value
B	
BLS	Basic Life Support
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
BOR	(U.S. Department of Interior) Bureau of Reclamation
BPA	Bonneville Power Administration
C	
CAO	Critical Areas Ordinance
CARA	Critical Aquifer Recharge Area
CC&R	Covenants, Conditions, and Restrictions
C&D	Construction and Demolition
CEMC	Cle Elum Municipal Code
CESCL	Certified Erosion and Sedimentation Control Lead
CFL	Compact Fluorescent Lamp
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
COVID-19	Corona Virus
CPSM	Center for Public Safety Management
CWA	Clean Water Act
CY	Cubic Yards
D	
DEIS	Draft Environmental Impact Statement
DNR	(Washington State) Department of Natural Resources
DO	Dissolved Oxygen
DOE	(Washington State) Department of Ecology
DOH	(Washington State) Department of Health
DPS	Distinct Population Segment
DS	Determination of Significance
DSEIS	Draft Supplemental Environmental Impact Statement
DU	Dwelling Unit
E	
E.G.	Exempli Gratia (For Example)
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
ERU	Equivalent Residential Unit

Acronym/Abbreviation	Full Name
ESA	Endangered Species Act
F	
FEIS	Final Environmental Impact Statement
FSEIS	Final Supplemental Environmental Impact Statement
FAR	Floor Are Ratio
Ft.	Foot
FTE	Full Time Equivalent
G	
GBI	Gross Business Income
GPD	Gallons Per Day
GHG	Greenhouse Gas
H	
HCM	Highway Capacity Manual
HSPF	Hydrologic Simulation Program - Fortran
HUD	(U.S. Department of) Housing and Urban Development
I	
I-90	Interstate 90
IBC	International Building Code
ICMA	International City/County Association
I.E.	Id Est (That Is)
In.	Inch
ITE	Institute of Transportation Engineers
J	
K	
KITTCOM	Kittitas County 911
KSWP	Kittitas County Solid Waste Management Plan
L	
LDRP	Labor Delivery and Recovery Patient
LED	Light-emitting Diode
LID	Low Impact Development
LOS	Level of Service
LSP	Landscape Stewardship Plan
M	
MDD	Maximum Daily Demand
MHI	Median Household Income
MPR	Master Plan Resort
N	
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NW	Northwest
O	
OFM	(Washington State) Office of Financial Management
P	
PHS	Priority Habitat and Species
PM	Post Meridiem (After Mid-day)
PM10	Fine Particulate Matter Under 10 Micrometer in Size
PSE	Puget Sound Energy

Acronym/Abbreviation	Full Name
PMRV	Park Model Recreational Vehicle
Q	
R	
REET	Real Estate Excise Tax
RIDGE	Roslyn-based Conservation Group
RN	Registered Nurse
RM	River Mile
RV	Recreational Vehicle

Chapter 5
REFERENCES

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REFERENCES

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Chapter 6

DISTRIBUTION LIST

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DISTRIBUTION LIST

Tribes

Colville Tribe (2)
Snoqualmie Tribe (2)
Yakama Nation (6)

Federal Agencies

Bonneville Power Administration
Federal Highway Administration
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. Postal Service

State Agencies

Washington State Department of Archeology & Historic Preservation
Washington State Department of Commerce (2)
Washington State Department of Ecology (4)
Washington Department of Fish and Wildlife 92)
Washington State Department of Natural Resources (3)
Washington State Department of Transportation (3)

County

Kittitas County Commissioners (3)
Kittitas County Fire District #6
Kittitas County Fire District #7
Kittitas County Hospital District #2
Kittitas County Housing Authority
Kittitas County Parks and Recreation District #1
Kittitas County Planning Department
Kittitas County Public Health (2)
Kittitas County Public Works Department
Kittitas County Sheriff
Kittitas County Solid Waste
Kittitas County Waste Management

City

City of Cle Elum Administrator/Building Official
City of Cle Elum Assistant Librarian
City of Cle Elum Attorney
City of Cle Elum Clerk (2)
City of Cle Elum City Council (7)

City of Cle Elum City Planner
City of Cle Elum Fire Chief
City of Cle Elum Librarian
City of Cle Elum Mayor
City of Cle Elum Office Assistant
City of Cle Elum Commission (6)
City of Cle Elum Public Works Director
Cle Elum Treasurer
City of Cle Elum Utility Clerk

Other Local Governmental Agencies

City of Ellensburg (2)
City of Roslyn (5)
Town of South Cle Elum (3)

Other Local Non-Governmental Agencies

AARF Animal Shelter
Cle Elum-Roslyn School District #404 (3)
Chamber of Commerce
Futurewise
Hopesource (2)
Inland Networks
Kittitas Valley Healthcare
Mountains to Sound Greenway
Puget Sound Energy (3)
The Nature Conservancy
Washington State Horse Park Association

Newspapers & Libraries

Ellensburg Daily Record
Northern Kittitas County Tribune (3)
Inland Networks

Companies

Atwell (3)
Sun Communities (2)
Suncadia (2)

Individuals

Jeff Adams
Nancy Adelson
John Aguiler
Connie Anderson
Ira Astrachan
Laurie Bailey
Jane Baldick
Melissa Bates
Mike & Darcy Bator
Melissa Becker
Lisa Beldon
Ellie Belew
Gary Berndt
Tim Berndt
Danielle Bertshi
Irene Bjorkland
Penny Blackburn
Stacy Bradshaw
Greg & Deena Bramme
Bonnie Brandt
Keith Brandt
Richard Breckenridge
Bob Brencic
Lynn Brewer
Danielle Bricker
Barbara Brim
Susan Bronkhurst
Lisa Browitt
Bryce Brown
Nick Burson
Mike Canady
Amy Casto
Aimee Castor
Tyson Chester
Tiffany Christman
Bret Clark
Gwen Clear
Bill Clos
Chris Collins
Tony Corosino
Art Colts
Catherine Cook
Peggy Cook
Diane Cowger
Diedre Cullers
Nancy Daniel
Carrie Desanto
Gretchen Ditsworth
Leslie Ditsworth
Deborah & Stephen Dowd
Steve Dowd
Sandra & Bill Dumont
Freida Ellison
Rick Fersch
Patti Fersch
Marcie Fox
Bobbie Frankenfield
Christine Frankenfield
Henry Fraser
Brian Fredrick
Elizabeth Fredrick
Patricia Garris
Mike & Charlotte Gavin
Trevor Gilbert
Linda Gimit
Jim Golubiec
Glenna Green
Elizabeth Greenhawe
Trish Griswold
Laurie Haberman
Mark Hammon
Kathy Hardtke
Amber Harrington
Geraldine Haugen
Marie Hawk
Jeff Head
Nick Henderson
Jon Herman
Alex Hernandez
Phil Hess
Phil Hihze
Renee Hill
Zack Hill
Josh Hoffman
Michele Hogerwerf
Michael Holley
Douglas Hutchinson
Caroline Jaffe
Victoria Jarvis
June Jones
Rick Jennings
Terry & Patricia Jerke
John Kach
Craig Kelly
Allison Kidder
Doug Kilgore
Elizabeth Kurtz
Michelle Kuss-Cybula
Bette Larkin
Kim Lohnes
Mitchell Long
Sandy Malcom
Mary Maletzke
Joann Mankus
Jackie Marchefka
Ed Marshall
Chris Martin
Kathi Masterson
Fred Mattison
Donna & Robert McCaslin
Jon & Marjean McGinnis
Barbara McGrew
George McKeefry
Denise Mikkelson
Bev Miller
Susan Miller
Tom Miller
Wayne Mohler
Sue Morgan
Belinda Morua
Lennie Mosiman
Twila Moss
Cori Mothersbaugh
Emily Myer
Chris Nelson
Beau Nicholls
Clair Nicholls
Suzie Norris
Kevin O'Brien
Laura Osiadach
Terry Ostrander
Rosa Overton
Tracey Pascoe
Kristi Payne
Lisa Pearson
Joe Peck
Brian Peterson
Rosa Peterson
Kate Phillips
Jeff Pike
Lisa Pisheyar
Andrea Presler
Brett Pudists
Shawn Reagan
Mickey Rosato
Matt Rossmeissl
Kate Roth
Allen & Dot Rothfus
Glenna Rudolph
Denise Ryan
Lee Ann Ryan
Gary Sanford
Scott & Nikcole Sanner
Cindy Schmitt
Lauren Shanghnessy
Kirsten Shanafelt
Janice Sharar
Sandy Shovlain
Lauren Shuck
Garrett Silver
Thelma Simon
Jack Snedeker
Mike & Phyllis Simplot
Jim Simpson
Kimberly Simpson
Jeff Smallwood
Rick Spence
Sarah Stahl
Larry Stauffer
Camie Stevenson
Eliza Stevenson
Ginger Stogdell
Ken Sturgill
Vernon Swesey
Andrea and Dale Sweet
Bob & Susan Teem
Eric Terrell
Leslie Thurston
Elizabeth Torrey
Bob Trout
John Ufkes
Tom Uren
Richard Valore
Nancy Van Wert
Kate Vangaver
Susan Vaughn
Marc Warner
JR Webster
Perry Weinberg
Shelley Winfrey
Marc Winwood
Aja Woodrow
Kit Woods
Martha Wyckoff
Kathy & Jeff Zieg