

SNOQUALMIE MILL PCI PLAN

Draft Environmental Impact Statement

City of Snoqualmie | April 2020

COMMUNITY DEVELOPMENT DEPARTMENT

38624 SE River Street
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April 27, 2020

RE: Snoqualmie Mill Planned Commercial/Industrial Plan Draft EIS

Dear Agencies, Tribes, Organizations and Interested Parties:

Enclosed is the Draft Environmental Impact Statement (DEIS) for the proposed Snoqualmie Mill Planned Commercial/Industrial (PCI) Plan. The 261-acre PCI Plan site, located in the City of Snoqualmie and now owned by Snoqualmie Mill Ventures LLC (SMV), was operated as a lumber mill by the Weyerhaeuser Company for almost 100 years. (The adjacent Mill Pond/Borst Lake is not owned by the applicant and is not part of the PCI Plan site, is not included in the PCI Plan, and is not addressed in the DEIS.)

Following a Pre-Annexation Agreement between the City and SMV, the property was annexed to the City in 2012 and designated for commercial and industrial uses. An Annexation Implementation Plan, required by the Comprehensive Plan, was approved by the City in 2016. SMV submitted an application for PCI Plan review in April 2017. The DEIS has been in preparation and review since that time, and will accompany the PCI Plan application through the land use review process. PCI Plan approval, if granted, would not by itself authorize any physical construction on the PCI Plan site; it is a type of plan/land use approval required by the Pre-Annexation Agreement and the Snoqualmie Municipal Code, and would enable the applicant to submit an application to physically develop the property.

The DEIS analyzes three alternatives: (1) the Snoqualmie Mill proposal or PCI Plan Alternative; (2) the "Redevelopment Alternative"; and (3) the "No Action" Alternative.

The Snoqualmie Mill proposal / PCI Plan Alternative would redevelop the site in three phases (Planning Areas), over an approximate 10- to 15-year period. Development at buildout would include 1.83 million square feet of commercial, light industrial, warehouse and office uses; an estimated 3,400 jobs could locate on the site. Planning Area 1, which is in the western portion of the site, would be developed in the near term; it is the focus of detailed discussion in the Draft EIS. Planning Area 1 would develop with a mix of light industrial, commercial/retail, warehouse and residential uses, developed along a pedestrian-oriented main street, and generally focused on the production and storage of wine with supporting retail services such as tasting rooms and restaurants. In addition, 160 units of multi-family housing would be developed in upper floors of a mixed-use building in Planning Area 1. Plans for Planning Areas 2 and 3 are still conceptual at this time, but based on current planning, Planning Area 2 would be developed for warehouse and manufacturing uses, and Planning Area 3 for office use. Almost three-quarters of the PCI Plan site would be maintained as open space devoted to natural areas, habitat, trails and flood storage. The DEIS indicates the Snoqualmie Mill proposal would have net positive economic benefits, with an estimated $7.4 million net benefit for Planning Area 1 and a $32.3 million benefit in total for the Preferred Alternative.

Another alternative analyzed in the DEIS, the Redevelopment Alternative, focuses on a different mix of proposed uses. It emphasizes manufacturing and light industrial uses throughout the site, reduces residential units, and eliminates office uses in Planning Area 3 but adds an outdoor performance venue. The DEIS "No Action" Alternative addresses potential impacts if the PCI Plan site is not further developed and current uses continue unchanged.

The overall PCI Plan site is considered to be a "brownfield" site, with some legacy contamination remaining after a century of industrial use and a more than a decade of clean-up activities. The applicant plans to complete remediation of the PCI Plan site in conjunction with development. Planning Area 1 was historically used for log storage, not for industrial processes, and no contamination has been identified on that portion of the PCI plan site.

The DEIS evaluates the direct, indirect and cumulative impacts associated with the three alternatives. The DEIS also identifies mitigation measures and significant impacts that are unavoidable. Broad areas of analysis contained in the DEIS include the following:

Earth	Noise	Aesthetics/Light & Glare
Air Quality/Greenhouse Gases	Land & Shoreline Use	Parks & Recreation
Water Resources	Plans, Policies & Regulations	Transportation
Plants & Animals	Population, Housing, Employment	Public Services
Environmental Health	Historic & Cultural Resources	Utilities
		Fiscal/Economic Impacts

Pursuant to SMC 19.04.150 and WAC 197-11-455(6-7), any person or agency has up to thirty (30) days in which to review and comment on a DEIS, unless the City extends the comment period by fifteen (15) days upon the request of any person. The proponent, SMV, has already requested, and the City has granted, a 15-day extension of the comment period. Comments may be submitted through 11:59 PM on June 11, 2020. Comments should be in writing and addressed to:

Mark Hofman, SEPA Responsible Official
City of Snoqualmie
38624 SE River Street
P O Box 987, Snoqualmie, WA 98065

Comments may also be emailed to MillSiteEIS@snoqualmiewa.gov or mhofman@snoqualmiewa.gov.

Due to the ongoing COVID-19 emergency, Governor Inslee's "Stay Home, Stay Healthy" Proclamation (No. 20-25) and Mayor Larson's direction in response, City Hall and other public facilities such as the Snoqualmie Library are closed. Although City Hall is closed, City staff are maintaining Snoqualmie's ongoing functions, as are most other agencies including the State of Washington and many businesses. In the interest of continuing normal business to the degree possible, including required review of this project, the City is inviting written and oral comment on the Draft EIS. Due to COVID-19, however, an in-person public meeting on the DEIS will not be scheduled. An online meeting to accept oral comment is scheduled for May 20, 2020, at 4:00pm. Additional details including call-in information will be provided at a later date and posted on the City's website at https://www.ci.snoqualmie.wa.us/393/Mill-Site-Property. Pursuant to Governor's Proclamation No. 20-28, paper copies of the Draft EIS are not available for public inspection at this time. Electronic copies can be downloaded from the project page on the City website, along with associated documents and materials. A paper copy may be ordered directly from the printer for the cost of reproduction (approximately $150 for the DEIS itself, not including appendices). Please contact the City for additional information about printed copies.

For further information or additional assistance, please contact me at the City of Snoqualmie via either email address above, or Jason Rogers, Senior Planner for this project, by email at JRogers@snoqualmiewa.gov or by phone at 425-888-5337. Thank you for your interest.

Sincerely,

Mark Hofman

Mark Hofman
Community Development Director/SEPA Responsible Official
P.O. Box 987
Snoqualmie, WA 98065

Fact Sheet

Project Title

Snoqualmie Mill Planned Commercial/Industrial (PCI) Plan

Proponent

Snoqualmie Mill Ventures, LLC

Location/Background Information

The project site is located in the City of Snoqualmie, WA. It is bounded by the City limits on the north, Borst Lake (Mill Pond) on the south, Mill Pond Road on the west, and the "hillside" area (no part of the project site), which is owned by King County, along 396th Avenue SE on the east.

The site is located within Sections 29 and 30 of Township 24, Range 8 East, W.M. Refer to Exhibit 2.1-1. Other nearby features and uses include the Snoqualmie River on the west, and the City's sewer treatment plant and an existing gravel mining operation to the north. The Mill Pond/Borst Lake is not owned by the applicant and is not part of the proposed action.

The project site was operated as a lumber mill by the Weyerhaeuser Company between 1917 and 2003. It contains numerous industrial buildings and remnants from those operations. The remaining buildings, generally located in the north-central and eastern portions of the site, are in various states of disrepair; space in several buildings determined to be structurally sound is leased to commercial tenants. The Mill power house, located on the south-eastern portion of the site, is a designated King County historic landmark. Portions of the site are also used as a driving track by DirtFish Rally School.

The Mill site was annexed to the City in 2012, with the exception of a 15-acre parcel in the northwestern portion of the site which remains in unincorporated King County. (Note that the unincorporated parcel is included for purposes of EIS analysis but could not be proposed for development until it is annexed by the City.) The City Council approved an Annexation Implementation Plan (AIP) for the Mill Planning Area site in 2016. The applicant submitted a complete PCI Plan application to the City in March 2017 and agreed to prepare an environmental impact statement (EIS) pursuant to the State Environmental Policy Act (SEPA). A combined notice of application, determination of significance, and scoping notice was published in May 2017; a scoping meeting to receive comments on the scope of the EIS was also held at City Hall that same month.

Proposed Action

The applicant is seeking City approval of a Planned Commercial Industrial (PCI) plan and a development agreement for the Snoqualmie Mill site. The proposed development agreement will help guide subsequent planning and development of the overall site. Applications for building permits and other required development approvals will be submitted following approval of the PCI Plan.

The Draft EIS addresses development of the 261-acre Snoqualmie Mill site in three major phases/planning areas over an approximate 10- to 15 -year period. Build-out would include a total of approximately 1.83 million gross square feet of light industrial/manufacturing, warehouse, office, retail/restaurant and residential uses. When fully developed, the site could generate approximately 3,410 jobs. Much of the overall site (166 acres, 64%) would remain undeveloped and be maintained for open space, landscaping, wetlands and streams, wildlife habitat, and flood storage; 37% of the site would be developed with buildings and other impervious surfaces.

Planning Area 1, the first phase of development, would contain 604,000 sf of development, including 160 residential units in mixed-use buildings, developed along a pedestrian-oriented village street. The development focus would be on the production and storage of wine, including compatible related uses such as tasting rooms, restaurants, and specialty retail shops. Construction of Planning Area 1 could commence in 2021 or 2022 and would be complete by 2023. The timing of development of subsequent phases would depend on market interest, economic conditions, and identified infrastructure requirements.

Alternatives

Two alternatives to the Proposed PCI Plan were developed based on SEPA requirements and the applicant's stated project objectives: No Action, and an alternative redevelopment scenario.

No Action. SEPA requires that an EIS include a No Action alternative. For Snoqualmie Mill, "no action" means that the proposed PCI Plan would not go forward and the City would not act on the proposal. Since City policies and regulations require approval of a PCI plan as a pre-requisite for redevelopment, no redevelopment would occur. Existing on-site uses would continue indefinitely, as permitted by the Pre-Annexation Agreement. While redevelopment is likely at some point in the future, it is not assumed in the near term or in the context of the current proposal. The No Action Alternative in the EIS primarily serves as a baseline against which the proposal and other alternatives can be measured.

Redevelopment Alternative. The redevelopment alternative includes 1.85 million square feet, almost the same as the proposal, but with a different land use mix and emphasis. Open space and building/impervious site coverage would be comparable to the proposed PCI Plan – 64% and 37% respectively. Building layout in Planning Area 1 would be comparable to the proposed PCI Plan. Holding the development amount, site coverage, sequence, and timing of development constant is intended to help focus on the environmental effects of changes to land uses.

Land use would be predominantly warehouse; combined with manufacturing and light industrial use, these land use categories would comprise 80% of total development, compared to 44% for the PCI Plan. Compared to the proposed action, retail and office uses would be reduced, and a larger indoor event space would be developed. Residential uses would be less than the PCI Plan. Compared to the proposed PCI Plan, total development in Planning Area 1 would be less and development in Planning Area 3 would be somewhat greater.

The Redevelopment Alternative includes an outdoor performance space in the southeastern portion of Planning Area 3. It assumes approximately 3.7 acres of landscaped open space with a constructed stage (2,000 square feet), with capacity for approximately 5,000. An average of 2 performances per week, from June through September, are assumed for purposes of analysis. The stage would be the only permanent structure.

The Redevelopment Alternative would generate approximately 42% fewer jobs compared to the PCI Plan – 1,570 compared to approximately 3,410 jobs for the proposal.

Required Permits and Approvals

The following list of governmental permits and approvals is preliminary and identifies the range of known and potential permits that will ultimately be required to approve and to construct the proposal. The application submitted to the City of Snoqualmie covers only the initial land use approvals that are required by the City; these are indicated below by an asterisk. The PCI plan is a prerequisite for any subsequent development permits.

City of Snoqualmie

Land Use Approvals

- Planned Commercial/Industrial (PCI) district plan (Master Plan & Phase I)
- Development Agreement (Master Plan & Phase I)
- Conditional use permits (Phase I residential uses, and restaurants/tasting rooms)
- Deviations from specific dimensional standards (Phase I building height and individual wetland buffer widths)
- Wetland buffer restoration and enhancement plan (Phase 1 buffers)
- Comprehensive Plan amendment/sewer and water plan updates (possible)

Subsequent Development Approvals

- Flood hazard permit (Phase I)
- Building permits (for Phase I)
- Shoreline substantial development permit (Phase I)
- Boundary Line Adjustment (future separate application)

State of Washington

- Hydraulic project approval (HPA)
- Construction Stormwater General permit
- Section 401 Water Quality Certification
- Winery General Permit (potential)

Federal (Potential)

- Clean Water Act §404 permit (possible)
- Letter of Map Revision (possible)

Lead Agency/Responsible Official

City of Snoqualmie Community Development Department
Mark Hofman, AICP, Director of Community Development

Location of Background Information

City of Snoqualmie Community Development Department
38624 SE River Street
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Cascadia Archaeology – Cultural Resources

DN Traffic Consultants – Transportation

EcoNW – Fiscal & Economic impacts

Farallon Consulting – Site Remediation, Environmental Health

Fehr & Peers – Transportation modeling

Goldsmith Engineering – Stormwater, Flooding, Utilities

Raedeke Associates – Plants, Animals, Fisheries

Ramboll/Environ – Air Quality, GHG Emissions, Noise

Transportation Engineering NW – Transportation

Watershed Sciences & Engineering – Flood modeling

Draft EIS Issuance Date

April 27, 2020

Date Comments Due

June 11, 2020. Note that the comment period has been extended to the 45-day maximum authorized by State law, at the request of the applicant. Written comments should be sent to the Responsible Official at MHofman@snoqualmiewa.gov, or at the above physical address.

Public Comment Opportunities

The City is requesting written comments on the Draft EIS. An in-person public meeting to receive oral comments cannot be scheduled at this time due to the ongoing COVID-19 emergency. To permit oral testimony, the City is scheduling an online meeting on May 20, 2020 at 4 pm. Additional details about the meeting, including call-in information, will be posted on the City's website at https://www.ci.snoqualmie.wa.us/393/Mill-Site-Property.

Pursuant to Governor's Proclamation No. 20-28, paper copies of the Draft EIS are not available for public inspection at this time.

Document Availability and Cost

Electronic copies can be downloaded from the project page on the City website, along with associated documents and materials. A paper copy may be ordered directly from the printer for the cost of reproduction (approximately $150 for the DEIS itself, not including appendices). Please contact the City for additional information about printed copies.

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1.0 Summary

1.1. PURPOSE OF PROPOSED ACTION

The proposed action is approval of a Planned Commercial/Industrial (PCI) plan and a development agreement for the Snoqualmie Mill site. The proposal is sponsored by Snoqualmie Mill Ventures LLC, located at 240 Main Ave. S., Suite 107, North Bend, WA 98045. The project site is located in the City of Snoqualmie, WA. It is bounded by the City limits on the north, Borst Lake (Mill Pond) on the south, Mill Pond Road on the west, and the "hillside" area owned by King County along 396th Avenue SE on the east. Other nearby features and uses include the Snoqualmie River on the west, and the City's sewer treatment plant and an existing gravel mining operation to the north. The Mill Pond/Borst Lake is not owned by the applicant and is not part of the proposed action.

The proposed development agreement will help guide subsequent planning and development of the overall site. The proposed action also includes approval of conditional uses (for residential and some commercial uses) and two zoning code deviations (for building height and for some individual wetland buffers).

1.2. STATE ENVIRONMENTAL POLICY ACT (SEPA) PROCESS

A PCI application was submitted to the City on March 22, 2017 and was determined to be complete on April 19, 2017. The applicant's voluntary commitment to prepare an environmental impact statement for the Snoqualmie Mill project was included in the Annexation Implementation Plan approved by the City and in the PCI Plan application.

The City, as SEPA lead agency for SEPA compliance, issued a combined Notice of Application and Determination of Significance/Scoping Notice on May 3, 2017. An open house and scoping meeting were held on May 23, 2017. Following consideration of scoping comments submitted by interested agencies, tribes and the public, the City established the scope of the analysis and alternatives reflected in this Draft EIS.

The City is following the procedures for phased environmental review, as authorized by the SEPA Rules (WAC 197-11-060(5), SMC 19.04.020), for the Snoqualmie Mill PCI plan. Phased review allows environmental review to occur in stages, and to be coordinated with the phases of master planning for a proposal. SEPA analysis of a project, or portions of a project, that is still in the conceptual stage of planning may be evaluated broadly and more generally in an initial environmental document, followed by more detailed and focused analysis in subsequent environmental documents as more detailed plans are developed.

The planning process for the Snoqualmie Mill site is congruent with a phased approach to SEPA review. The PCI plan establishes three planning areas on the site corresponding to future phases of development. Greater detail is provided for Planning Area 1 and lesser, more conceptual detail for Planning Areas 2 and 3. The varying detail reflects the long-term time

horizon for site development, the scale and level of master planning conducted to date, the anticipated timing of development of different types of uses and buildings, and the substantial infrastructure needs that will be generated by later stages of development. Greater project detail will be provided for Planning Areas 2 and 3 over time as site planning continues. Supplemental environmental analysis and documentation will occur as master planning leads to more detailed information about later phases of development.

Some individual elements of the original 2017 PCI Plan application have changed as a result of ongoing planning, but the proposal is still fundamentally the same. For example, the mix of land uses has changed but the same basic types of land uses are proposed; the locations of some roads have changed; and an outdoor performance venue is no longer part of the proposal. The PCI Plan application will be amended to reflect the current proposal following review and comment on the Draft EIS and any subsequent changes to the PCI Plan.

1.3. PUBLIC INVOLVEMENT

As described in Section 1.2, the City held an open house in May 2017 as part of the SEPA scoping process. As required by SEPA, the City will accept public comment on this Draft EIS. Refer to the Fact Sheet for additional information about the subsequent process.

1.4. PROPOSAL, ALTERNATIVES, AND OBJECTIVES

1.4.1. Objectives of the Proposal

The applicant has identified the following objectives for the proposal. These objectives have guided planning of the site, are reflected in the application, and have been used to develop alternatives considered in the EIS.

- Develop the site consistent with the Pre-Annexation Agreement, the Annexation Implementation Plan, and the policies of the Snoqualmie Comprehensive Plan.
- Plan the site to accommodate approximately 1.85 million gross square feet of commercial and industrial uses to provide a substantial number of jobs, consistent with the historic use of the site as an employment center, with its Comprehensive Plan designation and to enhance the City and regional economies.
- Provide residential uses proximate to jobs, to enable residents to work close to home and improve the balance between work and quality of life.
- Redevelop the site in phases over approximately 10-15 years with a mix of primarily commercial and industrial uses.
- Protect and enhance the site's environmental resources.
- Preserve and integrate open space into development plans for the site to provide area for flood storage, habitat, environmental mitigation, and passive recreation.
- Respect the site's history by preserving and/or integrating valuable elements of this history

in development plans where feasible.

- Cleanup, reuse, and revitalize a "brownfield site" to create a community asset.
- Endeavor in Planning Area 1/Phase I to create a node of complimentary and/or related businesses that can span production, warehousing, and retailing related to a single type of industry, such as wine production or outdoor sports and recreation equipment. Integrate these uses with residential uses along a pedestrian-oriented "main street" area within a compact village center.
- Support the City's efforts to encourage tourism in the Snoqualmie Valley through the planned mix of land uses.
- Implement City policies for sustainable development through site planning that addresses natural resources, historic resources, energy efficiency, and floodplain management.

1.4.2. Proposal and Alternatives

PCI Master Plan Proposal

A detailed description of the proposal and associated phased environmental review can be found in Chapter 2 – Proposal and Alternatives. The mill site is divided into three planning areas based on existing site conditions, including the locations of environmental constraints and opportunities, and identified development potential for different land uses over time. The sequence of planned development is based on each area's proximity to existing urban development and facilities, the location of critical areas, developable area needed for different development types and forms, and identified market opportunities. Development of the site would occur in three general phases, over an approximate 10-to-15 -year period. Development timing will depend on market and economic conditions and infrastructure requirements and is less certain for Planning Areas 2 and 3. The PCI Plan application contains varying degrees of detail for different areas of the site, which reflects a phased approach to planning and developing the site. Development planning for Planning Area 1 development is the most advanced, and the discussion in the Draft EIS contains commensurate detail.

Close to two-thirds of the 261-acre Snoqualmie Mill site as a whole would be retained as open space and devoted to natural areas, trails, habitat and compensatory flood storage; approximately one-third of the site would be developed with proposed buildings, roads and other impervious surfaces. Note that an approximate 15-acre portion of Planning Area 2 is currently located in unincorporated King County and would be annexed before development could occur. This area is included in the EIS for purposes of analysis but is not included in the PCI Plan application.

The proposed land use mix for the PCI Master Plan is shown in Exhibit 2.3-2. The Proposal's land use mix emphasizes various categories of commercial, office, warehouse, and light industrial/ manufacturing activities. Based on leasable area, corporate campus office/ institutional use could be the largest potential land use on the site but would not occur until the last phase of development. Warehouse and manufacturing would dominate in Planning Areas 1 and 2.

Planning Area 1 would contain a mix of land uses, while other planning areas would be focused on a discrete category of land use. At full buildout, using typical ratios of employees per square foot, the site could support approximately 3,410 jobs.

Planning Area 1 would be developed for a mix of employment, retail, and residential activities, organized in a pedestrian-oriented village center adjacent to a "main street." Approximately 160 housing units are proposed on the second and higher floors of mixed-use buildings; residential uses may require a conditional use permit or could be authorized per the code's PCI and PUD review processes. Apartments would be for rent, at market rates, and would be a mix of one- and two-bedroom units, averaging approximately 835 square feet in area. Some units would be workforce housing, with residential units above and connected to commercial space.

Current planning and marketing for Planning Area 1 is focused on tenants who would produce and store wine, along with wine-related retail uses. The range of anticipated retail and commercial uses includes restaurants, and specialty retail uses related to on-site industrial production (e.g., tasting room/wine store, or outdoor equipment sales). A conditional use permit could be required to allow wine tasting rooms. An indoor event space for weddings, parties, and corporate retreats would be integrated into the mixed-use portion of Planning Area 1. An average of one event per week is assumed, generally on weekends.

Exhibit 1.4-1. Snoqualmie Mill Development Plan – Total Site (Gross Leasable Area/Gross Acres[1])

Land Use	Planning Areas 1	2	3	Site Totals [1]
Warehouse/Manufacturing	280,000 sf	400,000 sf		680,000 sf
Light Industrial	120,000 sf			120,000 sf
Retail/Restaurant[2]	70,000 sf		25,000 sf	95,000 sf
Residential (Mixed-Use)[3]	134,000 sf			134,000 sf
Office/Campus	–	–	800,000 sf	800,000 sf
Total	604,000 sf	400,000 sf	825,000 sf	1,829,000 sf
Building Footprint Area (Gross)	11 acres	9 acres	19 acres	39 acres
Open Space[4]	69 acres	34 acres	63acres	166 acres
Roads/Other Impervious[5]	22 acres	13 acres	21 acres	56 acres
Total Area [6]	102 acres	56 acres [6]	103 acres	261 acres

Notes:
[1] Numbers are rounded.
[2] Includes restaurant uses (approximately 15,000 sf), specialty retail (49,000 sf), and indoor event center spaces (31,000 sf).
[3] Assumes 160 residential units@835 sf located on the 2nd floor through 4th or 5th floors of mixed-use buildings in Planning Area 1. Units would be rental, market rate, in a mix of 1- and 2-bedroom apartments.
[4] Total open space is comprised of several types and categories: natural open space, which includes wetlands, streams and their associated buffers; constructed wetlands; undeveloped land used for compensatory flood storage, habitat, trails and passive open space); active open spaces including landscaped areas, landscaping within public plazas and lawn areas, small outdoor spaces adjacent to individual buildings, ornamental plantings and parking area landscaping. Planning Area 1 contains approximately 69 acres of passive and natural open space (including 53 acres subject to a conservation easement) and 5 acres of landscaped open space area.
[5] Includes roads, sidewalks, parking areas, plazas, etc.
[6] The development plan total area and Planning Area 2 total area include 15.7 acres located in unincorporated King County, which will be annexed to the city prior to a development proposal for Planning Area 2. Of the 15.7 acres, 12 acres are identified as open space and 4 acres would be developed for warehouse uses. Refer to Exhibit 2.3-3 for master plan calculations without the unincorporated parcel.

Source: Goldsmith 2018, 2020.

EIS Alternatives

Two alternatives, in addition to the Proposed PCI Plan, have been developed based on SEPA requirements and the applicant's stated project objectives: No Action and an alternative redevelopment scenario. The purpose of an alternative in an EIS is to provide a comparison to the proposal and to explore opportunities for impact mitigation. While the alternative articulates a theoretically possible development scenario, it is not a plan that is proposed or desired by the applicant.

Redevelopment Alternative

The Redevelopment Alternative would include a gross leasable square footage comparable to the proposal (1.85 million square feet), but with a different land use mix and emphasis. Open space and building/impervious site coverage would be comparable to the proposed PCI Plan, as would building layout in Planning Area 1, and the timing and phasing of development.

Land use in the Redevelopment Alternative would be predominantly warehouses; combined with manufacturing and light industrial use, these land use categories would comprise 80% of total development, compared to 45% for the PCI Plan. Compared to the proposed action, retail and office uses would be reduced, and a smaller indoor event space would be developed. Residential units would be 25% fewer than the PCI Plan. Compared to the proposed PCI Plan, total development in Planning Area 1 would be less and development in Planning Area 3 would be somewhat greater. Like the PCI Plan, Planning Area 1 would focus on wineries and compatible, related uses.

The Redevelopment Alternative includes an outdoor performance space in the southeast portion of Planning Area 3. It assumes approximately 3.7 acres of landscaped open space with a constructed stage, with capacity for approximately 5,000. An average of two performances per week are assumed, from June through September, typically on weekend evenings.

The Redevelopment Alternative could generate approximately 54% fewer jobs than the PCI Plan – 1,570 jobs for the alternative compared to an estimated 3,410 jobs for the Proposal - which is a result of the lower employment density (i.e., average jobs per square feet of space) associated with warehouse and industrial uses compared to office uses. In terms of environmental consequences, fewer jobs would also result in reduced impacts to many elements of the environment, including traffic, water consumption, public services and facilities, and utilities. A change in types of land uses and fewer jobs could also result in reduced tax revenues to the City; the EIS alternative will enable and permit decisionmakers and the public to consider these types of comparisons and trade-offs.

Exhibit 1.4-2. Redevelopment Alternative (Gross Leasable Area)

Land Use	Planning Areas 1	2	3	Total [1]
Warehouse/Mfg	291,000 sf	390,000 sf	715,000 sf	1,396,000 sf
Lt. Industrial	96,000 sf			96,000 sf
Retail/Restaurant	82,000 sf	0	0	82,000 sf
Office	0	0	156,000 sf	156,700 sf
Residential [2]	104,000 sf	0	0	104,000 sf
Outdoor Performance Space [3]	0	0	2,000 sf (stage)	2,000 sf
Event Center	15,000 sf	0	0	15,000 sf
Totals	588,000 sf	390,000 sf	873,000 sf	1,851,700 sf

[1] Numbers rounded.
[2] Assumes 120 market rate rental units in a mix of 1- and 2-bedroom units, averaging 835 sf.
[3] Assumes a 3.7-acre landscaped/grass open space area with a permanent stage (2,000 sf), and a capacity for approximately 5,000. An average of 2 concerts per week are assumed to occur primarily on weekend evenings from June through September. (Assumed frequency is based on the 2017 concert schedule for the St. Michelle winery in Woodinville, WA, which is comparable in area and capacity.)

No Action Alternative

The No Action Alternative is required by SEPA. For Snoqualmie Mill, "no action" means that the proposed PCI Master Plan would not go forward, and the City would not act on the proposal. No redevelopment of the Mill site would occur, and existing on-site uses, including DirtFish Rally, would continue indefinitely. Redevelopment of the site is likely to occur at some point, but it is not assumed to occur in the near future or in the context of the current proposal. The No Action Alternative primarily serves as baseline against which the EIS can compare the other alternatives.

1.5. MAJOR ISSUES, SIGNIFICANT AREAS OF CONTROVERSY AND UNCERTAINTY, AND ISSUES TO BE RESOLVED

Redevelopment of the Mill site under the Proposal or the Redevelopment Alternative would convert the property from its current use to a mixed-use commercial-industrial center with multifamily residential development, creating additional housing and employment in the area. Some may view any redevelopment, and associated growth, as controversial and would prefer to see nothing happen on the site. Major issues associated with the proposal, as identified in the EIS, and which will be resolved through the SEPA process and land use permitting, include:

- large-scale grading necessary to make the site buildable;
- increased impervious surface coverage;
- potential impacts of redevelopment on flooding;

- increased vehicular traffic to and from the site;
- increased development intensity and building heights;
- protection of environmental resources, including wetlands, streams, and habitat;
- remediation of legacy pollution in conjunction with phased redevelopment;
- demolition of some historic buildings and structures;
- increased noise levels from construction, business operations, and special events on the site; and
- sufficient water supply to serve later phases of development and city-wide growth.

1.6. BENEFITS AND DISADVANTAGES OF POSTPONING IMPLEMENTATION

Postponing implementation of the Proposed PCI Plan would also postpone achievement of several environmental and economic benefits. Postponed benefits would include:

- cleaning up a brownfield site in conjunction with phased redevelopment and returning it to productive industrial use;
- maintaining and enhancing natural features, such as wetlands, streams, and open space;
- providing treatment of stormwater;
- removing historic fill and providing compensatory flood storage;
- generating a substantial number of industrial, commercial and office jobs;
- supporting local tourism and economic development; and
- generating substantial net revenue to the City of Snoqualmie.

Postponing these advantages may be viewed as a disadvantage. The advantages of postponing implementation would include the avoidance, for some period of time, of the occurrence of the significant adverse environmental impacts identified in the EIS. However, many of the identified impacts – such as to public services – are incremental and minor in degree and would be mitigated.

1.7. SUMMARY OF IMPACTS AND MITIGATION MEASURES

This section contains an abbreviated version of Chapter 3, which contains the full text of the Affected Environment, Significant Impacts, and Mitigation Measures sections. Accordingly, readers are encouraged to review the more comprehensive discussion of issues in Chapter 3 to formulate the most accurate impression of impacts associated with the alternatives.

1.7.1. Earth Resources

How did the EIS analyze Earth Resources?

Section 3.1 – Earth Resources documents existing geologic conditions on the project site and in the surrounding area and evaluates potential environmental impacts of the Proposed Action. The discussions of affected environment and impacts are based on the following:

- Review of available geologic literature;
- Analysis of previously completed exploration pits, exploration borings, and groundwater wells;
- Visual geologic reconnaissance of the site;
- Review of Light Detection and Ranging (LIDAR) imagery of the region; and
- Evaluation of nearby water well logs.

Additional subsurface exploration completed specifically for the current project included advancing one exploration boring and two cone penetrometer tests (CPTs), which observe the type, thickness, distribution, and physical properties of subsurface sediments and groundwater conditions.

What impacts does the EIS identify?

Geotechnical Impacts

Potential geotechnical impacts could result from various construction-related activities, such as site preparation, structural fill placement, and foundation construction. Examples of potential adverse impacts could include sloughing of temporary or permanent cut slopes if oversteepened, failure of fill soils due to improper placement and compaction, or excessive foundation settlement. However, geotechnical oversight is proposed as an integral element of ongoing project design and construction, and no significant adverse impacts are considered likely to occur.

Erosion Hazards, Landslide Areas, and Steep Slopes

Clearing could increase the existing landslide hazard potential by removing vegetation that would normally intercept some of the rainfall, resulting in higher runoff volumes. This could, in turn, result in increased erosion and sediment transport, further destabilizing steep slopes and potential landslide areas. Grading (earthwork) activities could also increase the existing

landslide hazard potential. Fill material placed on or adjacent to a steep slope will increase the driving forces acting in the subsurface, which would increase the risk of slope failures. Surface drainage patterns are typically altered by grading. If the new drainage pattern results in an increase in either surface or subsurface water flow on or near a slope, landslides could occur. Cut slopes could also fail if they are oversteepened, toe support is removed, or drainage is improperly directed.

Seismic Hazards

- **Liquefaction:** The subject site is underlain by alluvial sediments that are potentially susceptible to liquefaction during an earthquake. Based on liquefaction analysis described in Appendix B, the subsurface conditions encountered at the site are predicted to experience liquefaction during a design-level seismic event.
- **Lateral Spreading:** Lateral spreading is a hazard at sites where liquefiable materials are present in the vicinity of exposed slopes, especially liquefaction-prone sites adjacent to waterways. The liquefied soil layers and non-liquefiable overburden may spread horizontally toward the water due to the reduction of soil strength and lack of confinement on the water side.
- **Earthquake-Induced Landslide Hazards:** The site includes slopes near the east edge of the property, but the risk of slope failures at this location are interpreted to be low due to the very dense nature of the underlying glacially consolidated sediments. Future development along the bank of the Snoqualmie River and shoreline of the Mill Pond could be at-risk from landslide activity along the riverbank or shoreline during a strong seismic event. Access to Planning Area 1 using SE Mill Pond Road, which could be impacted by earthquake-induced landslide activity.
- **Surface Ground Rupture:** Ground rupture occurs as offsets of the ground surface and is limited to the immediate area of the fault. Based on existing geologic data, the risk of surface rupture impacting the project site is considered to be low.
- **Ground Motion:** Some existing historic structures on the project site are planned to be adapted for reuse and would require additional evaluation to determine suitable seismic retrofit requirements.

Channel Migration Impacts

A portion of the site along the southwestern edges of Planning Area 1 and within Planning Area 3 lies within a designated Moderate Channel Migration Hazard Area. No substantial development is planned in the hazard area in Planning Area 1, but the proposed relocation of a portion of Mill Pond Road, and drainage discharge improvements in Planning Area 3, would fall within the Moderate Channel Migration Hazard Area. Depending on the precise design of facilities in Planning Area 3, structures, roadways, or other facilities built within the moderate CMZs may be susceptible to damage due to the gradual channel erosion and migration of the Snoqualmie River.

What is different among the alternatives?

Potential impacts associated with geologic, seismic, erosion, and channel migration hazards under the Redevelopment Alternative would be substantially the same as under the Proposal. Most of the same risks would generally be present with No Action.

What are some solutions or mitigation for the impacts?

- Most development on the project site would be located to avoid construction in the Moderate Risk CMZ area along the southwestern edge of Planning Area 1.
- Removal of a large storage pile of clean soil on the site as part of future development of Planning Area 3 would remove a potential steep slope hazard.
- Development on the project site would be subject to building codes and regulations, including the 2015 International Building Code (adopted by the City of Snoqualmie) and the City of Snoqualmie Critical Areas regulations.

Development under all alternatives should also adhere to best practices for the stabilization of soil, prevention of erosion, and prevention of geotechnical failure. A complete discussion of recommended mitigation measures is included in Chapter 3.1.

With mitigation, what is the ultimate outcome?

Under all alternatives, development at the project site would be subject to seismic risk, including potential structural damage and lateral spreading, and the banks of the Snoqualmie River would be subject to ongoing risk of erosion and channel migration. The risk of these potential impacts can be mitigated but not eliminated entirely.

1.7.2. Air Quality and GHG

How did the EIS analyze Air Quality?

Section 3.2 – Air Quality and GHG, addresses current and future air quality conditions and impacts, including greenhouse gas (GHG) emissions, in the context of both construction activities and ongoing operation of the proposed development. The relationship of the chapter's conclusions to adopted laws and regulations is also identified.

What impacts does the EIS identify?

Construction Impacts

Site preparation activities and demolition of existing buildings could result in fugitive dust and temporary increases in particulate emissions from diesel construction equipment, but these are likely to be outweighed by existing transportation sources in the vicinity of the project site. Construction contractors would also be required to comply with air quality and dust control regulations; with such controls in place, these activities are not anticipated to significantly affect air quality in the project vicinity.

Construction equipment and material hauling could affect traffic flow within the vicinity of the project site, especially if construction vehicles travel during peak periods or other heavy-traffic hours of the day and pass through congested areas. Although there could be short-term periods with increased congestion and increased vehicle emissions, such events would likely be the exception rather than the rule and significant adverse effects to air quality would be unlikely.

Traffic Air Quality Impacts

Traffic air quality modeling results indicate CO concentrations near the most congested intersection in the project study area would be far less than the 35 ppm 1-hour and 9 ppm 8-hour health based ambient air quality standards. Future traffic volumes and delays would increase over existing conditions, but future CO concentrations are assumed to decline due to adoption of newer, more efficient vehicles and cleaner fuel regulations. In 2023 and 2032, modeled CO concentrations for the proposed PCI Plan are the same or a maximum of 0.1 ppm higher than the No Action alternative, indicating that the Proposal would not cause or contribute to any significant traffic-related air quality impacts.

Facility Operational Emissions

The Proposal's land use emphasis is on various categories of commercial, warehouse and light industrial/manufacturing activities. Other than emissions from traffic, discussed previously, air emissions associated with the production, storage, transport, and sales of wine or similar products are expected to be minimal.

One or more emergency generators may be required to ensure safe and consistent operation of the project. Emissions associated with emergency generators result from the combustion of fossil fuels and would occur during emergency use or routine testing of the generators.

In addition to the "criteria" air pollutants like CO, there are a variety of other potentially hazardous air pollutants for which health-based ambient air quality standards have not been established, including mobile source air toxics (MSATs). MSATs are emitted by on-road and off-road vehicles with internal combustion engines burning biofuels, diesel, or gasoline. The traffic impact analysis indicates a total of 13,504 daily passenger and truck trips would result due to the Proposal, which is far below the 140,000-150,000 annual average daily traffic (AADT) threshold that FHWA states may result in a higher potential for MSAT effects.

GHG Emissions

The Proposal is expected to produce about 2,071,972 metric tons (tonnes) of CO_2 equivalent (MTCO2e) over an 80.5- and 62.5-year lifespan for residential and all other types of structures, respectively. Annually this corresponds to about 32,490 tonnes. The project's annual GHG emissions represent approximately 0.03% of estimated annual 2013 GHG emissions within Washington and much smaller percentages of worldwide emissions.

What is different among the alternatives?

Construction Impacts

Early site work and construction is generally the same for the Redevelopment Alternative as discussed above for the Proposal. With implementation of controls for various aspects of construction activities and best management practices as discussed above, construction of these alternatives would not be expected to significantly affect air quality.

Under the No Action Alternative, the Proposal would not be built, no construction activities would occur, and no construction-related air quality impacts would be expected.

Traffic Air Quality Impacts

Similar to the Proposal, traffic air quality modeling results for the Redevelopment Alternative indicate CO concentrations near the most congested intersection in the project study area would be far less than the 35 ppm 1-hour and 9 ppm 8-hour health based ambient air quality standards. Future traffic volumes and delays would increase over existing conditions, but future CO concentrations are assumed to decline due to adoption of newer, more efficient vehicles and cleaner fuel regulations. In 2023 and 2032, modeled CO concentrations for the Redevelopment Alternative are the same or a maximum of 0.1 ppm higher than the No Action alternative, indicating no significant traffic-related air quality impacts.

Facility Operational Emissions

Facility operational emissions under the Redevelopment Alternative would be similar to the Proposal.

GHG Emissions

This Redevelopment Alternative is expected to produce about 1,532,814 metric tons (tonnes) of CO2 equivalent (MTCO2e) over an 80.5- and 62.5-year lifespan for residential and all other types of structures, respectively. Annually this corresponds to about 24,029 tonnes, approximately 74% of the annual emissions associated with the Proposal.

What are some solutions or mitigation for the impacts?

Construction

Although significant air quality impacts are not anticipated due to construction of the project, construction contractors would be required to comply with all relevant federal, state, and local air quality regulations. In addition, implementation of best management practices would reduce emissions related to the construction phase of the project. The Washington Associated General Contractors and the Puget Sound Clean Air Agency (PSCAA) suggest several methods for controlling dust and reducing the potential exposure of people to emissions from diesel equipment. A list of some of the control measures that could be implemented to reduce potential air quality impacts from construction activities is included in Section 3.2.3.

Snoqualmie Mill Operations

No specific additional mitigation is necessary or proposed for project operations.

GHG and Sustainability

Sustainable features would be incorporated into the project to reduce the identified impacts to air quality and emissions. These sustainable features would be considered in the approach to the design of buildings, and in ongoing site programming and management. Sustainable features would be incorporated into the project through compliance with requirements of Building and Energy Codes and the likely use of the green building technologies, which are described in proposed design guidelines (refer to Chapter 2).

With mitigation, what is the ultimate outcome?

No significant unavoidable adverse air quality or greenhouse gas emission-related impacts have been identified and none are anticipated.

1.7.3. Water Resources

How did the EIS analyze Water Resources?

Section 3.3 – Water Resources addresses multiple topics relating to water resources: surface water, groundwater, stormwater, water quality and flooding. Analysis was based on hydraulic and hydrologic modeling of the Snoqualmie River and on-site wetlands. Wetland discussion in Section 3.3 is limited to drainage patterns and hydrology; wildlife impacts associated with wetlands are described in Section 3.4 – Plants and Animals.

What impacts does the EIS identify?

Surface Water

Development of the PCI Plan in Planning Area 1 would increase the effective impervious area on the site (+5.13 acres) and reduce coverage of pervious surfaces (-22.84 acres), including wooded areas. As a result, post-construction site conditions would generate a greater amount of surface water runoff than existing conditions. The on-site wetland system serves as a natural drainage conveyance system to the Snoqualmie River and Borst Lake, so these wetlands would experience increased daily and monthly flows after development.

Groundwater

Development has the potential to change the amount of surface water and groundwater recharge. Clearing vegetation and replacing it with suburban landscaping (such as lawns) reduces evapotranspiration, increasing the amount of water available for groundwater recharge and runoff. Depending upon how stormwater is managed, the increase in groundwater recharge may be counteracted by an increase in impervious surfaces (building and pavement areas), and other factors.

Aquifer recharge zones that underlie the mill site are concentrated in the western and northern portions of the site, with some moderate-susceptibility areas in the southwestern corner of the site near Borst Lake. As a result, the groundwater impacts described above would have a lower potential to occur in Planning Areas 2 and 3 than in Planning Area 1.

Water Quality

Basic stormwater treatment is required for any runoff that discharges directly to the Snoqualmie River. Development runoff from impervious surfaces that drain to any on-site or off-site wetlands or streams before discharging to the Snoqualmie River would be provided with Enhanced Treatment.

Potential water quality impacts from treated stormwater discharged into the Snoqualmie River would be predominately related to warmer temperatures of stormwater runoff from developed surfaces compared with river temperatures. Given the relatively small volume of runoff compared with flow volumes in the river, changes in water temperatures within the river are not expected to adversely affect aquatic life. With respect to other water quality impacts, proposed on-site treatment will reduce stormwater pollutants to levels that are not expected to impact local conditions in the Snoqualmie River or fish habitat conditions therein.

Flooding

Development of the PCI Plan would entail filling portions of the site within the floodplain; compensating flood storage would be excavated elsewhere on-site to ensure no net rise in base flood elevation. Development of the PCI Plan would result in a net increase in available flood storage capacity on the site of 14.7 acre-feet. This would be accomplished by:

- Lowering grades of existing berms for the construction of the relocated Mill Pond Road;
- Significantly lowering grades of existing berms along the north margin of Planning Area 1; and
- Constructing stormwater wetlands for stormwater treatment.

What is different among the alternatives?

The Redevelopment Alternative would have a similar impervious surface footprint, follow a similar grading plan, utilize the same on-site drainage system, and employ the same stormwater treatment protocols. Therefore, impacts to water resources would similar to those described for the PCI Plan. With No Action, existing drainage patterns – including the absence of water quality treatment – would continue. Grading would not occur and any benefits from grading and additional flood storage would similarly not occur.

What are some solutions or mitigation for the impacts?

Implementation of the PCI Plan would comply with all applicable stormwater regulations and design guidance published by the State of Washington, King County, and the City of Snoqualmie. Other mitigation measures include the following:

Incorporated Features of Proposal

Incorporated features of the proposal that would limit impacts to water resources associated with development include the following:

- Maintain relatively low density of impervious surface coverage for the site (approximately 59% open space, if landscaped open space is excluded) and create the ability to promote groundwater recharge.
- Utilize stormwater wetlands for water quality treatment and dispersion, where feasible, to promote wildlife habitat and groundwater recharge.
- Maintain hydrology to surface water dependent wetlands consistent with the 2016 KCSWDM Guide Sheet 3B.
- Control flooding impacts by providing compensating flood storage in excess of existing flood storage across the site to insure a zero-rise impact on 100-year flood elevations.
- Create a stormwater and flood flow outfall to the Snoqualmie River to promote a flow path of receding floodwaters back to the river to reduce potential property or roadway damage in future flood conditions.

Other Potential Mitigation Measures

- Maintain consistency of existing drainage patterns following development.
- Maintain flows to surface water dependent wetlands and streams to provide recharge to the shallow aquifer.
- Promote additional recharge opportunities from constructed stormwater wetlands as part of the runoff treatment system for the site.

With mitigation, what is the ultimate outcome?

Development of the site would result in extensive grading, fill, clearing of vegetation, and construction of additional impervious surfaces, which would affect the amount and quality of stormwater runoff and groundwater infiltration that occurs on the site. However, implementation of the proposed surface water treatment features would reduce potential impacts to less than significant levels. With application of these mitigation measures, no significant unavoidable adverse impacts to water resources are anticipated.

1.7.4. Plants and Animals

How did the EIS analyze Plants and Animals?

Section 3.4 – Plants and Animals addresses wetlands, streams, and fish and wildlife/wildlife habitat. It documents current conditions on the site and potential adverse and beneficial effects of the Proposal and Alternatives on the functions and values of each of these critical areas.

What impacts does the EIS identify?

Potential impacts that could occur to wetlands, streams, and fish and wildlife habitat from development during construction and operation of the proposed PCI plan include the following:

- Physical alteration of wetlands or streams**,** which can reduce habitat, and water storage, alter stream flow, or change other functions and values.
- Impacts to buffers, which can reduce their functions and values for providing habitat; removing excess sediment, toxics, and nutrients; (2) influencing microclimate; (and maintaining habitat connectivity. Wetland buffers on the site are currently degraded; degraded narrow buffers, reduce buffer functions and may not protect the critical area from the indirect effects of development.
- Hydrologic impacts, which can potentially cause changes in the hydrologic conditions within the project area wetlands.
- Water quality impacts**;** including erosion/sedimentation, and runoff containing substances that can harm wetlands, streams and the fish and wildlife that rely on them.
- Loss and degradation of plant and animal communities and fragmentation of habitat, which can directly or indirectly result from development.

As identified below, the Proposed PCI Plan incorporates numerous planning and design features and a that would avoid, minimize or otherwise mitigate most potential impacts. The PCI Plan also proposes a plan to enhance and augment currently degraded buffers.

What is different among the alternatives?

The Redevelopment Alternative would have a similar level of development as the Proposal and a similar level of building/impervious site coverage, and it would follow the same Master Drainage Plan and buffer restoration plan as the Proposal, resulting is mostly the same level and type of impacts. However, the proposed mix of land uses would differ slightly, including the addition of an outdoor performance space in Planning Area 3. This use could introduce additional noise and light disturbance to wildlife habitat in the area not experienced under the Proposal. With No Action, the proposed buffer enhancement plan would not be implemented, and currently degraded buffers would remain.

What are some solutions or mitigation for the impacts?

Incorporated Features of Proposal

- **Buffer Restoration and Enhancement Plan:** Under the Proposal, all the wetlands and streams within Planning Area 1 would be retained and provided with buffers which provide substantially greater protection than under current conditions. A mitigation plan for impacts to critical area buffers is an element of the proposed PCI Plan Impacted wetland and stream buffers would be enhanced pursuant to a plan and would result in an overall increase in wetland buffer area for the site as a whole.

- **Fish and Wildlife Mitigation:** The Proposal includes measures to avoid and minimize impacts to vegetation, fish, and wildlife, including wetlands and streams. Compensatory mitigation of proposed wetland buffer impacts would be provided in accordance with City of Snoqualmie requirements. Buffer areas within Planning Area 1 to be cleared graded to provide compensatory flood storage would be revegetated with native forest plantings. In addition to the wetland and stream buffer mitigation, compensation for anticipated loss of forest vegetation within the regulatory floodplain would be provided by installation of plantings of native trees within appropriate areas of the floodway upon completion of grading. In addition, the provision of a bottomless culvert under the realigned portion of SE Mill Pond Road to allow for passage of flood waters may also provide an avenue of movement for small mammals, carnivores, and amphibians between the project site and habitats associated with the Snoqualmie River.

Avoidance of Impacts

The Proposed PCI Plan would avoid direct impacts to all wetlands and jurisdictional watercourses within Planning Area 1. To avoid direct wetland impacts to Wetland 12, truck access to Planning Area 1 would occur via the haul road along the western edge of the site and to avoid the haul road to the north.

Minimization of Impacts

The proposed PCI Plan incorporates several design features and measures that would minimize or limit impacts to wetlands, jurisdictional watercourses, and fish and wildlife habitat both during and after construction. These include:

- The limits of wetland and stream buffer areas would be clearly marked on construction plans and, in the field;
- Construction limits, including staging areas, would be clearly marked in the field prior to beginning construction activities;
- To the extent feasible, construction staging areas would be located outside of wetland and stream buffer;
- A permanent stormwater management system would be designed and installed according to the MDP for the site;
- During construction, stormwater run-off would be treated according to a City of Snoqualmie-approved Stormwater Pollution Prevention Plan SWPPP for the project;
- Use of appropriate BMPs and TESC measures to prevent sediment from entering wetlands and streams during and after construction in accordance with the approved SWPPP, including specific measures to prevent and control spills of pollutants, and to handle, control, and store potential contaminants;
- Wetland and stream buffer areas temporarily disturbed for construction access and staging would be revegetated with a mixture of native plant species;

- Use of containment tarps or netting when working over water to retain fallen materials; and,
- Establishment of covenants, guidelines, and educational materials to prohibit the introduction of noxious weeds or invasive species into landscape areas.

Other Responsibilities and Requirements

- **FEMA Floodplain Habitat Assessment:** A FEMA Floodplain Habitat Assessment will be submitted as part of implementing permit approvals through the City for all phases, particularly Phases 2 and 3, which do not have the specific plans for stormwater and buffer enhancements that have been prepared for Phase 1.
- **Federal Consultation and Evaluations:** Where proposals require federal permits or receive federal funding, consultations may be required with NMFS or USFWS under Section 7 of the federal ESA. Permitting for the stormwater outfall for Planning Area 1, based on more detailed design and engineering, will also involve consultation with NMFS and additional evaluation.

Other Potential Mitigation Measures

Additional compensatory mitigation measures for impacts to wildlife habitat may include enhancement of existing wetland buffer vegetation within Planning Areas 2 and 3 by removing invasive species such as Himalayan blackberry and replanting these areas with native trees, shrubs, and groundcovers.

In addition, landscaping of developed open space areas could focus on a variety of native plant species of value to wildlife. Landscape strips within developed areas or along roadways may also include native plants that have some value for wildlife cover and food.

With mitigation, what is the ultimate outcome?

Implementation of the PCI Master Plan and associated mitigation would result in a net increase in wetland buffer area and enhancement of buffer functions. Some local wildlife may be displaced from the site. Given the historically intensive use and development of the site, particularly within Planning Areas 2 and 3, redevelopment of the site is not considered a significant impact to plants and animals.

1.7.5. Environmental Health

How did the EIS analyze Environmental Health?

Section 3.5 – Environmental Health summarizes the environmental history of the Snoqualmie Mill property and additional research and technical evaluations performed by Farallon Consulting, L.L.C. to identify the nature and extent of existing contamination. The chapter describes the proposed approach and strategy for further investigation and cleanup of the Snoqualmie Mill Property in conjunction with future redevelopment. Analysis is based on a variety of historical sources, including, but not limited to, previous environmental reports for

the property; documents obtained from Federal, State, and local environmental agencies and fire departments; King County property records; Snoqualmie Valley Historical Society records; documents obtained from the Weyerhaeuser Company; and historic aerial photography.

What impacts does the EIS identify?

Potential impacts to Environmental Health would be primarily associated with accidental release of hazardous substances, fire or explosion, or disturbance of legacy contamination present on portions of the site previously used as part of the former Weyerhaeuser mill (Planning Areas 2 and 3). Planning Area 1 contains no known areas of confirmed or suspected contamination on or adjacent to the site; construction activities in this location would not disturb contaminated areas in Planning Areas 2 or 3. As with any development activity, there is some potential for accidental spills or releases of fuels or other substances. Similarly, there is risk of vehicle collisions and spillage of fuels during construction and operation. Although specific uses in Planning Area 1 are not known with certainty at this time, direct, indirect and cumulative risks of spills, fire or explosion are considered possible but low or unlikely.

Cleanup and remediation of legacy contamination in Planning Areas 2 and 3 would occur in conjunction with development of these areas under the Proposal; development would ultimately, result in a net improvement of environmental conditions. This clean-up strategy is common for "brownfield" sites like Snoqualmie Mill. Commercial and industrial development in Planning Areas 2 and 3 would carry the same risk of direct, indirect or cumulative accidental release or fire described for Planning Area 1.

What is different among the alternatives?

The impacts of the Redevelopment Alternative, both adverse and positive, would be generally the same as those described for the proposed PCI Plan and Planning Area 1. The same approach to cleanup of the property would be implemented, resulting in cleanup of contaminated areas in conjunction with redevelopment of each area. Under No Action, development would not go forward, and it is uncertain whether remediation would occur.

What are some solutions or mitigation for the impacts?

- Legacy contamination in Planning Areas 2 and 3 would be remediated in conjunction with redevelopment, consistent with MTCA, and in coordination with Ecology.
- All wine-making processes in Planning Area 1 would occur within an enclosed building, which would likely contain any spills.
- The city's flood hazard regulations (SMC 15.12) generally prohibit the storage and use of hazardous substances within the floodplain in quantities greater than that exempted pursuant to the Uniform Building Code and/or International Building Code, and proposed grading of the project site would elevate portions of the Snoqualmie Mill Property above the base flood elevation.
- All future tenants whose operations involve the use or storage of hazardous chemicals

would be required to prepare a Spill Prevention and Response Plan for their respective facilities, and to implement best management practices (BMPs) to ensure the proper use, handling, storage, and disposal of chemicals. Clearly labeled spill response kits would be placed in the facility and used to address any spills. Hazardous chemicals would be stored in a contained area to prevent potential releases to the environment.

- To protect the safety of workers, and other persons occupying or visiting the Snoqualmie Mill property during construction of buildings and infrastructure in Planning Areas 2 and 3, and during cleanup activities that precede construction, all work would be conducted in accordance with OSHA and WISHA health and safety requirements for hazardous waste operations (29 CFR 1910.120; WAC 296-843).

With mitigation, what is the ultimate outcome?

Potential adverse impacts associated with redevelopment and operation of the Snoqualmie Mill property are primarily related to accidental releases of hazardous substances from vehicle accidents, mishaps during construction, or inadvertent spills from tenants' operations. While such impacts can be mitigated, some amount of risk of accident and inadvertent releases would remain regardless of precautions and procedures implemented. The legacy contamination that exists in Planning Areas 2 and 3 is not considered to be an impact of the proposed action; redevelopment of the project site and concurrent remediation would have a significant positive impact on the environment.

1.7.6. Land and Shoreline Use

How did the EIS analyze Land and Shoreline Use?

Section 3.6 – Land and Shoreline Use evaluates land use patterns, levels of activity, land use compatibility, and consistency of the PCI Master Plan with adopted land use and shoreline plans and regulations. The chapter reviews potential land use impacts of the alternatives considering the following land use topics:

- The change in intensity, character, and activity onsite and along shorelines; and
- The compatibility of the alternatives with current land uses on adjacent properties.

Historic and Cultural Resources are summarized in Section 1.7.10.

What impacts does the EIS identify?

Intensity, Character, and Activity

Most of the Mill site is currently undeveloped. The proposal would redevelop a dormant brownfield site and create a mixed-use master planned development containing residential, retail, industrial, office, and open space uses. Planning Area 1 would integrate planned uses along a pedestrian oriented main street; 160 housing units would be constructed in mixed-use buildings. On-site activity would increase substantially with the addition of daily employment (3,410 jobs) and residential use, as well as customer/tourism visits to planned retail and

restaurant uses. These changes are not considered to be significant or adverse impacts.

Compatibility with Adjacent Uses

No significant adverse impacts are anticipated. However, future development would be proximate to and could be partially visible from the future Snoqualmie Valley Trail to the east. From this perspective, the master plan would appear as a relatively intensive development in a rural environment; this contrast in intensity of use is similar to what has existed historically, but some trail users could consider the change as a conflict. Visual impacts are summarized more fully in Section 1.7.9.

Shoreline Uses

Open space would be retained along the southern portion of the site, closest to the river. Along the west, in Planning Area 1, shoreline uses would be more intense, changing from cleared areas formerly used for log storage to more formal roads, parking, and buildings containing light industrial, retail, and live-work units. Proposed uses are consistent with applicable shoreline designations in the City's updated SMP. The area adjacent to the stormwater outfall would be enhanced with landscaping, and pedestrian improvements would be constructed along the realigned portion of Mill Pond Road.

What is different among the alternatives?

Intensity, Character, and Activity

The Redevelopment Alternative would result in slightly more gross leasable area than the Proposal, but it would provide a different mix of land uses. While there would be slightly more building space and comparable building coverage (16%), the number of jobs (1,570) would be far lower than the Proposal. There would also be fewer mixed-use residential dwellings (120 instead of 160 units) than under the Proposal. Overall, there would be less daily employment and residential activity in a similar footprint of development.

Compatibility with Adjacent Uses

Depending on the precise design of proposed warehouse facilities in the southeastern portion of the site and on the precise alignment of the planned Snoqualmie Valley Trail segment, some proximity impacts could occur. Any impacts would likely be minor and could be reduced with landscaping and screening. The planned outdoor performance space could also cause temporary, seasonal proximity impacts (e.g., noise) when in use.

Shoreline Uses

Impacts related to Shoreline Uses under the Redevelopment Alternative are anticipated to be similar to the Proposal.

No changes to land use or shoreline use would occur with the No Action alternative.

What are some solutions or mitigation for the impacts?

The Proposal would preserve approximately 68% of the site as open space. The PCI Plan property owner would also to develop Covenants, Conditions, and Restrictions (CC&Rs) and adopt design guidelines and a design review process that would address land use, site planning, and design, prior to submittal and City review of building permit applications.

Application of the City's Comprehensive Plan policies and designations, zoning code requirements, and SMP standards, together with the Post-Annexation Implementation Plan and proposed Development Agreement, are anticipated to provide sufficient guidance to mitigate potential land use conflicts and ensure compatibility among planned uses.

With mitigation, what is the ultimate outcome?

The change in land use are not considered to be adverse and no significant unavoidable adverse impacts are anticipated. The site would develop as intended in City's plans and codes, and in the approved AIP. Planned redevelopment would create a mixed-use commercial and industrial neighborhood with a focus on jobs. Open space and public access would be provided along the shoreline.

1.7.7. Plans and Policies

How did the EIS analyze consistency with Plans and Policies?

Section 3.7 – Consistency with Plans and Policies evaluates the consistency of the proposed PCI Plan (also referenced as the Proposal) with selected regional and local policies and development regulations. The discussion is focused on consistency with the City's Comprehensive Plan, including annexation implementation plan requirements, zoning regulations, shoreline requirements and flood hazard regulations. King County land use designations applicable to unincorporated lands adjacent to the Snoqualmie Mill site are also described.

What impacts does the EIS identify?

In general, the proposal and Redevelopment Alternative are consistent with the City's comprehensive plan, zoning regulations, shoreline master program, and applicable flood hazard regulations. Some of the uses or design elements proposed as part of the PCI Plan would require conditional use or permits or deviations.

What is different among the alternatives?

At a policy level, the consistency of the Redevelopment Alternative is nearly the same as the Proposal. Major differences include providing relatively fewer and different types of jobs, less housing /population, reduced service demands and less revenue, which in turn would fulfill City economic development policies to a lesser degree than the Proposal. With No Action, policies applicable to the site, particularly those related to economic development, sustainability and site remediation, would not occur.

What are some solutions or mitigation for the impacts?

The proposal would comply with established plans, policies, and regulations. No significant adverse impacts were identified, and no mitigation is warranted.

With mitigation, what is the ultimate outcome?

The proposal would comply with established plans, policies, and regulations. No significant adverse impacts were identified.

1.7.8. Population, Housing, and Employment

How did the EIS analyze Population, Housing, and Employment?

Section 3.8 – Population, Housing, and Employment evaluates the effects of the proposal on residential population, housing stock and affordability, and employment in the vicinity of the Mill site and the City of Snoqualmie as a whole. Projected population and employment levels for the alternatives are compared to the City's adopted Growth Management Planning Council growth targets; GMA population targets are considered a minimum that must be planned for and are not considered to be a cap.

What impacts does the EIS identify?

Both the Proposal and the Redevelopment Alternative would increase the resident population and the number of employees in the study area. Population and employment growth are not adverse environmental impacts in themselves. However, such growth can entail other impacts related to vehicle traffic and increased demand for public services and utilities.

The rental residential units planned as part of the PCI Master Plan are anticipated to rent at rates comparable to other market-rate apartments in the area, and the plan would create a substantial increase in employment, potentially increasing local demand for affordable housing incrementally.

What is different among the alternatives?

The Proposal is anticipated to result in population growth of 304 persons and job growth of 3,410 employees by 2032. The Redevelopment Alternative would include less housing, resulting in a lower population of 228 persons, and substantially less employment (1,570 jobs). As a result, indirect effects associated with population and employment growth would be reduced under the Redevelopment Alternative. With No Action, population and employment growth associated with the PCI Plan would not occur.

What are some solutions or mitigation for the impacts?

The increases in population, housing, and employment associated with the PCI Plan are not considered significant impacts, and population and employment growth are not in themselves adverse impacts. No mitigation measures are required.

With mitigation, what is the ultimate outcome?

The increases in population and housing associated with the PCI Plan are not considered significant impacts. Population growth is not in itself an adverse impact; and the increase in employment is considered a positive impact which is avoidable. No significant unavoidable adverse impacts would occur.

1.7.9. Aesthetics, Light, and Glare

How did the EIS analyze Aesthetics, Light, and Glare?

Section 3.9 – Aesthetics, Light, and Glare evaluates aesthetic and visual impacts, including changes to visual character, effects on views, light and glare, and shading conditions. The analysis reviews on-site conditions, major visual landmarks in the vicinity, local topography and vegetation conditions. Twelve viewpoints were selected for detailed analysis, and the EIS simulates views of the site from the following locations: Snoqualmie Valley Regional Trail, Sandy Cove Park, Snoqualmie Falls/Snoqualmie River, Borst Lake, the Snoqualmie Casino, and Mount Si. In addition to views of the mill site from exterior locations, this EIS also addresses views of major scenic resources from the mill site itself, specifically Mount Si and the Cascade foothills.

What impacts does the EIS identify?

Visual Character/Height, Bulk and Scale

Under the PCI Master Plan, the proposed development would represent substantial change to the existing visual character of the site. However, two-thirds of the overall site will remain in open space. This open space, along with the site's perimeter vegetation, would create a visual buffer around on-site development and would reduce the potential for the public or adjacent properties and developments to see into the site or to experience adverse height and bulk impacts from the proposal. Building height would be similar to many industrial buildings associated with the site's history.

The site is clearly visible from Borst Lake and will expose more members of the public to public views of the site.

The proposal for Planning Area 1 will result in substantial change in view character – from undeveloped to urban. The proposed development style employs industrial design elements across proposed land use categories, evoking the site's history, and integrates vegetation and open space into the urban design of the village; elements and echoes of the site's rural and industrial visual character would be retained. Planned building layout would also preserve an on-site view corridor focused on the Planer building and Mt. Si. The proposal for Planning Area 1 includes building heights of up to 4-5 stories, but also encourages the use of materials such as glass to minimize the height, bulk, and scale impacts of development. The development regulations are intended to be flexible for projects that advance the zone's urban design goals.

Views and Scenic Resources

Under the PCI Master Plan, new development in Planning Areas 2 and 3 would primarily be visible from locations at elevations higher than the mill site and far enough away to see over the surrounding screen of vegetation. One example would be the Snoqualmie Casino.

New development in Planning Area 1 has the potential to cause adverse impacts to views if it obstructs views of significant scenic resources. From Planning Area 1, the primary scenic landmark is Mount Si, southeast of the mill site.

New development in Planning Area 1 could also potentially result in adverse impacts if it interferes with views from off-site or substantially alters the visual landscape as seen from nearby important scenic or cultural landmarks (e.g., Sandy Cove Park, Snoqualmie Falls/Snoqualmie River, Borst Lake, and the Snoqualmie Casino). The analysis did not identify significant view blockage.

What is different among the alternatives?

Both the PCI Master Plan and Planning Area 1 will result in substantial and similar changes to visual character. On site activities will increase public access to views from the site. With No Action, new development would not occur, and existing visual quality would not change.

What are some solutions or mitigation for the impacts?

The proposal includes adoption of a master plan that would establish design concepts, design standards, and an architectural review process for all future on-site development.

- Draft site design standards encourage integration of open space and natural features with development, including landscaping with native species, to reduce the visual effect of increased development intensity on the site.
- Draft site design standards for pedestrian environments require the provision of street plantings and pedestrian amenities.
- Draft design standards identify on-site view corridors, particularly those encompassing Mount Si and historic structures on the site, such as the Planer building and the powerhouse smokestack and require that placement of future buildings and trees minimize disruption of these views.

Aesthetic and visual impacts could be further mitigated by application of the following or similar measures:

- Maintain open space and native vegetation areas on the site perimeter to buffer surrounding areas from development on site.
- Design standards should require the use of exterior illumination designed to reduce off-site light pollution, including the use of shielded lighting, ground-level fixtures, and other screening techniques.
- Design standards should include measures to limit nighttime light pollution or incorporate

by reference such standards as promulgated by the International Dark-Sky Association (IDA).

With mitigation, what is the ultimate outcome?

Development under both the Proposal and the Redevelopment Alternative would result in changes to the visual character and lighting conditions on the property. While the change would be significant, particularly in Planning Area 1, it would occur in the context of an historical industrial site and is not considered adverse. In addition, given the topographic conditions and the location of existing vegetated areas at the perimeter, the mill site is relatively visually isolated, and development will not be visible from most off-site locations. With application of proposed design standards and recommended mitigation measures, no significant unavoidable adverse impacts are anticipated.

1.7.10. Historic and Cultural Resources

How did the EIS analyze Historic and Cultural Resources?

Section 3.10 – Historic and Cultural Resources, addresses cultural resources listed in or eligible for listing in a heritage register, located within the project site, and an area one mile downstream, Snoqualmie Falls. The chapter evaluates consistency with Federal, State, and local regulations regarding protection of historic and cultural resources and the potential of the proposal and alternatives to adversely affect these resources.

Archival research, consultations, and field survey formed the basis for the identification of cultural resources, and whether a cultural resource met federal, state, or local criteria for listing in a heritage register. Archival research included but was not limited to review of cultural resource investigations and inventory forms, histories, ethnographies, newspaper articles, correspondence with local historians and Weyerhaeuser archives, and historic maps and photographs. Field survey of the built environment included a reconnaissance level survey, supplemented limited excavation trenches to test for buried soils that could contain pre-contact archaeological material or other historic resources.

What impacts does the EIS identify?

No adverse impacts to historic or cultural resources or archaeological resources are anticipated to result from development in Planning Area 1. Planning Areas 2 and 3 contain four buildings and one archaeological site (SF-CR#2) that are considered eligible for listing on state or federal registers of historic properties. Six buildings or structures are considered to contribute to the historic integrity of a potential historic district, encompassing a portion of the eastern portion of the property (Planning Area 3). The PCI Plan proposes to retain and reuse two existing historic buildings (the Powerhouse and the Planer Building), provided this is economically feasible. Other buildings and structures, many of which are decayed, would be removed. Removal of these structures could also affect the integrity of the potential historic district. Development of the proposal would not directly affect Snoqualmie Falls, a Traditional Cultural

Property, but increased residents and employment in the area could influence an incremental increase in tourism to the area, including Snoqualmie Falls; this, in turn, which could indirectly cause increased vehicular traffic and noise at those locations.

What is different among the alternatives?

Effects to historic properties and archaeological resources would be the same under the proposal and the Redevelopment Alternative. With No Action, existing buildings and structures would remain and would continue to deteriorate over time. Documentation of historical buildings would not occur.

What are some solutions or mitigation for the impacts?

Development under all alternatives would be subject to Federal, State, and local programs, criteria and/or regulations for the protection of historic, cultural and archaeological resources.

For Planning Area 1, a professional archaeologist should review the final grading plan for Planning Area 1 to confirm that the depth of excavation in the vicinity of SF-CR#2 is consistent with the preliminary plan evaluated in the EIS.

Prior to any action that would cause an adverse effect to Crane Shed No. 3, Planing Mill-Crane Shed, and the Package Lumber Shed, the developer should complete Historic American Buildings Survey (HABS) documentation Level III.

Mitigation for future adverse effect to the potential SFLCo historic district from demolition of eligible or contributing buildings or structures in Planning Area 2 or 3 be mitigated in the future by Level II documentation, which should consist of Appendix E of this EIS [i.e., the Cultural Resources Assessment Report], and HABS Level III documentation of the Planer Mill-Crane Shed, Crane Shed No. 3, and Package Lumber Shed.

Future archaeological investigations (trench excavations and shovel probes) when Planning Areas 2 and 3 are proposed for development. Also, during removal of subsurface portions of the Planer Building, Dry Kilns, Finished Lumber Shed, and Package Lumber Shed, a qualified architect or architectural historian should be present to evaluate the significance of any structure exposed.

With mitigation, what is the ultimate outcome?

The recommended mitigation measures, if implemented, would assure no loss of historic information, but some loss of physical historic buildings and structures would occur as Planning Areas 2 and 3 redevelop. If eligible resources for the potential historic district are removed, federal and state laws and rules would be implemented to document the significance of the buildings and structures; thus, the loss of structures could be adverse but not significant as laws and requirements would be followed and the historic significance of the building would be recorded.

The EIS has not identified significant direct or indirect impacts to cultural resources in relation to *SquEd* (Snoqualmie Falls TCP) from development of the Snoqualmie Mill site.

1.7.11. Transportation

How did the EIS analyze Transportation?

Section 3.11 – Transportation describes existing transportation conditions in the vicinity of the Mill site, including the existing roadway network, existing traffic volumes, existing Level of Service (LOS) at 23 roadway intersections, and existing site access and circulation. The transportation analysis estimates future vehicle trip distribution for each of the EIS alternatives based on anticipated land uses and evaluates the resulting impacts to the local transportation network, including trip volumes and resulting intersection LOS. The analysis also addresses potential effects on transit service and traffic safety in the vicinity of the Mill site.

What impacts does the EIS identify?

Development of the proposal would result in increased truck and passenger vehicle trips, resulting in increased vehicle traffic and congestion on nearby roads. In 2023, with development of Planning Area 1, impacts on intersection LOS would be relatively small; all but 1 of the 23 studied intersections, described below, are anticipated to meet City LOS standards with or without implementation of the proposal. Planning Areas 2 and 3 would have greater impacts on traffic patterns, and a number of intersections would fail to meet City LOS standards by 2032. Specific traffic volume and intersection LOS impacts are described for each alternative in the next subsection. Note that, based on available information from WSDOT, the I-90 ramp improvement project is anticipated to be completed in 2023 and to operate at a satisfactory LOS.

Development of the proposal is also anticipated to increase demand for public transit service as a result of new employment in the study area. The anticipated wine-oriented retail uses, coupled with other recreation and tourism opportunities in the area, are also expected to increase demand for shuttles and charter bus services.

What is different among the alternatives?

PCI Plan

Traffic Volumes

- Planning Area 1 would produce 5,768 new weekday daily trips, including 357 new AM peak hour trips and 459 new PM peak hour trips. Planning Area 1 would also produce 5,780 new Saturday daily trips.
- Full buildout of the PCI Plan (2032) would result in 13,504 new weekday daily trips, including 1,213 new AM peak hour trips and 1,462 new PM peak hour trips. Saturday daily trips would increase by 9,861 trips.

Intersection Level of Service

- Development of Planning Area 1 would not result in the failure of any studied intersection to meet City LOS standards. However, the EIS notes that the side-street approaches to the

intersection of Fisher Avenue SE and Snoqualmie Parkway are anticipated to operate at LOS F during AM and PM peak hours, with or without implementation of the proposal.

- Under full buildout of the PCI Plan in 2032, the following intersections would fail to meet City LOS standards (LOS D) without improvements:
  - The side-street approaches at the intersection of Fisher Avenue SE / Snoqualmie Parkway are anticipated to operate at LOS F during the AM and PM peak hours, with or without development of the PCI Plan.
  - The northbound approach at the unsignalized Orchard Avenue SE / Snoqualmie Parkway intersection is anticipated to operate at LOS F during the AM peak hour.
  - The southbound approach at the unsignalized Allman Avenue SE / Snoqualmie Parkway intersection is anticipated to operate at LOS E during the PM peak hour.
  - The single-lane roundabout intersection at Tokul Road SE / SR 202 / SE Mill Pond Road is anticipated to operate at LOS F during the AM and PM peak hour with the PCI Plan at full buildout. The existing roundabout is sufficient to support development of Planning Area 1, but development of Planning Area 3 (anticipated in 2032) would require widening to allow two circulating lanes. The two-lane roundabout would need to be coordinated with the City's planned future four-lane bridge to the south, which is included in the City's 6-year TIP.
  - The intersection of Meadowbrook Way SE / Park Street is expected to operate at LOS E during the AM peak hour.
  - The side-street left-turn at the Meadowbrook Way SE / SE North Bend Way intersection is expected to operate at LOS E during the PM peak hour.
  - The westbound movement at the intersection of SE Mill Pond Road / NW Haul Road, which would operate at LOS F during the PM peak hour. This intersection will need to be upgraded to a roundabout to mitigate project impacts.

Redevelopment Alternative

Traffic Volumes

- Under the Redevelopment Alternative, development of Planning Area 1 would result in a greater amount of new vehicle trips than development of Planning Area 1 under the proposal. The redevelopment alternative would produce 5,932 new weekday daily trips, including 342 new AM peak hour trips and 484 new PM peak hour trips. Planning Area 1 would also produce 6,265 Saturday daily trips.
- Full buildout of the Redevelopment Alternative would result in fewer new trips than full buildout of the proposal. Redevelopment Alternative 1 would result in 8,910 new weekday daily trips, including 940 new AM peak hour trips and 1,062 new PM peak hour trips. The Redevelopment Alternative would result in 9,960 new Saturday daily trips, not including any trips associated with special events at the outdoor performance space.

Intersection Level of Service

- Similar to the proposal, development of Planning Area 1 under the Redevelopment Alternative would not result in the failure of any studied intersection to meet City LOS standards. However, the EIS does note that the side-street approaches to the intersection of Fisher Avenue SE and Snoqualmie Parkway are anticipated to operate at LOS F during AM and PM peak hours, regardless of whether the Redevelopment Alternative is implemented.
- Under full buildout of the Redevelopment Alternative, the following intersections would fail to meet City LOS standards (LOS D) without improvements:
  - The side-street approaches at the intersection of Fisher Avenue SE / Snoqualmie Parkway are anticipated to operate at LOS F during the AM and PM peak hours, with or without development of the Redevelopment Alternative.
  - The side-street stop-controlled approaches at the Snoqualmie Parkway / SE 99th Street intersection are expected to operate at LOS E during the PM peak hour.
  - The side-street left-turn at the Meadowbrook Way SE / SE North Bend Way intersection is expected to operate at LOS E during the PM peak hour.
  - As with the PCI Plan, the single-lane roundabout intersection at Tokul Road SE / SR 202 / SE Mill Pond Road is anticipated to operate at LOS F during the AM and PM peak hour.
  - As with the PCI Plan, the westbound movement at the intersection of SE Mill Pond Road / NW Haul Road, which would operate at LOS F during the PM peak hour. This intersection will need to be upgraded to a roundabout to mitigate project impacts.

Construction Impacts

Construction impacts would generally include the following: traffic associated with construction workers, deliveries and removal of materials, and parking associated with construction workers. In general, vehicle traffic generated by the construction activity is anticipated to be less than traffic generated by buildout of the PCI Plan. However, depending on construction activity, there is a potential that during the later years of development, the combined total construction activity for Planning Area 3 coupled with development traffic from Planning Areas 1 and 2 could be temporarily higher than with the buildout condition.

Haul route agreements and truck routes would be established in coordination with the City of Snoqualmie, WSDOT, and King County, as necessary, depending on the off-site location where haul material would be transported.

What are some solutions or mitigation for the impacts?

Improvements to the local transportation network would be necessary to mitigate impacts associated with development of the proposal.

Incorporated Features of the Proposal

Planning Area 1

- A portion of Mill Pond Road would be realigned to the north and a roundabout added at the entrance to Planning Area 1. A portion of Mill Pond Road would also be abandoned as the new entry road segment is completed; some portions would be converted to a pedestrian trail and restored habitat.
- It is assumed that WSDOT's adopted I-90 ramp improvements will result in acceptable LOS at the interchange ramp intersections, based on the information available from WSDOT at this time.

PCI Plan Buildout

- Add internal roadway connections between the three planning areas to allow on-site circulation for vehicles, trucks, and non-motorized uses.
- Provide access to a new east-west private road traversing the site and connecting to Planning Area 3 via a new intersection with SE Mill Pond Road.
- The existing private Haul Road north of the site would be used to provide access for heavy trucks to service industrial and warehouse uses in Planning Area 2. The Haul Road may warrant widening in a few locations where it is less than 25 feet wide, to ensure adequate lane width for trucks. However, the road is bounded by wetlands and a stream and their buffers; widening would likely intrude into the buffers and possibly the wetlands. Given these environmental constraints, alternatives to widening should be examined. In addition, pedestrian and other frontage improvements should not be required given that the road is private and will primarily be used by truck traffic.

Other Potential Mitigation Measures

Planning Area 1

No additional mitigation measures are required for Planning Area 1. However, the Fisher Ave. intersection would operate at LOS F with or without Planning Area 1; the applicant could contribute a fair share, with other proposed projects, towards signalization of this intersection.

PCI Plan Buildout

Full buildout of the PCI Plan would require the following improvements. The applicant should work with the City to determine its appropriate proportional fair share of the cost for each. The transportation analysis should be updated in conjunction with planning for Planning Areas 2 and 3 to reflect any changes in background growth and planned improvements, and any refinements of the PCI Plan.

- Replacement and expansion of the existing SR 202 bridge crossing the Snoqualmie River is included in the City of Snoqualmie TIP (for 2020-2025), but it is not included in WSDOT's current Capital Improvement Plan and is not funded at this time. The existing bridge has

sufficient capacity to support proposed development of Planning Area 1, but a new bridge would be necessary to support traffic associated with continued growth in background traffic and buildout of the Snoqualmie Mill PCI Plan. A new four-lane bridge would also require that the single-lane Tokul roundabout be widened to a two-lane roundabout. Snoqualmie Mill would work with the City, WSDOT and Tribes to help support planning, design, evaluation, and funding for a new bridge.

- Widening of the single-lane roundabout intersection at Tokul Road SE / SR 202 / SE Mill Pond Road to allow two circulating lanes. The existing roundabout is sufficient to support development of Planning Area 1, but development of Planning Area 3, anticipated in 2032, would require expansion.
- Widening of the intersection of the Haul Road with Mill Pond Road and construction of a new roundabout.
- Widening of SR 202 to provide one additional through lane in each direction at the Snoqualmie Parkway intersection; widening is planned as part of the City's 6-year TIP, but the project is not fully funded at this time.
- Installation of a roundabout at the SE 99th Street/Snoqualmie Parkway intersection. Improvements at this intersection are included in the City's current 6-year TIP, but the project is not fully funded at this time.
- Reconfiguration of the unsignalized intersection of Orchard Avenue SE / Snoqualmie Parkway. To improve intersection operations, side-street (northbound) left-turns should be restricted by providing an eastbound to westbound U-turn on Snoqualmie Parkway or at the Allman Avenue SE / Snoqualmie Parkway intersection to the east.
- Reconfiguration of the unsignalized intersection of Allman Avenue SE / Snoqualmie Parkway. To improve intersection operations, side-street (southbound) left-turns should be restricted by providing a westbound to eastbound U-turn on Snoqualmie Parkway or at the Orchard Avenue SE / Snoqualmie Parkway intersection to the west.
- Addition of turn lanes or a mini-roundabout at the intersection of Meadowbrook Way SE / Park St.
- The City should consider adding a full signal at the Fisher Avenue SE / Snoqualmie Parkway intersection for vehicle turn movements, with or without the PCI Plan. A full signal would improve operations to LOS B. If the City concurs that this improvement is appropriate, project mitigation could include contributing a proportional share toward the full signal.
- Contribute a proportional share to the cost of the City's planned roundabout at the Meadowbrook Way SE / SE North Bend Way intersection.
- To minimize construction traffic impacts, the applicant should prepare a Construction Management Plan prior to beginning construction. Haul route agreements and truck routes would be established in coordination with the City of Snoqualmie, WSDOT, and King County, as necessary. A traffic monitoring plan can also be developed to manage traffic levels at the site access locations and determine if traffic levels with construction are

higher than evaluated for the project buildout. If so, additional mitigation measures could be implemented to reduce construction or general traffic levels.

Redevelopment Alternative Improvements

Mitigation measures for the Redevelopment Alternative would be the same as for the Proposed Action, with one addition: development of an Event Management Plan, including Transportation Management Plan (TMP) strategies to accommodate traffic generated by large events at the outdoor performance space.

With mitigation, what is the ultimate outcome?

Traffic and congestion on area roadways will unavoidably increase as a result of the proposed PCI Plan and background growth. With implementation of currently programmed road improvements and additional improvements recommended for the proposal, however, all study intersections would operate at satisfactory levels of service, consistent with adopted City standards.

1.7.12. Noise

How did the EIS analyze Noise?

Section 3.12 – Noise evaluates the potential of the proposal and EIS alternatives to generate additional sound perceptible to people in and around the proposed development area. The chapter describes existing noise sources and levels and forecasts future conditions based on anticipated increases in vehicle traffic generated by future development. Noise generated by construction activities and project operations (warehouses, light industrial and mixed-use buildings, plus on-site traffic) was also considered.

What impacts does the EIS identify?

Construction Impacts

During construction, there would be temporary increases in sound levels at locations near active construction areas and along routes to these areas from heavy equipment and the hauling of construction materials. The increase in noise levels would depend on the type(s) of equipment being used and the amount of time it is in use. Excavation, grading, and construction would generate sound audible on surrounding properties and completed portions of the phased development.

Noise from construction activity, as received at nearby off-site receivers, as well as received at on-site noise-sensitive receivers present during later construction phases, may at times exceed the existing ambient levels, and may be perceived as an annoyance. However, City code allows noise from construction activities between 7 a.m. and 8 p.m., Monday through Friday; between 8 a.m. and 8 p.m. on Saturday; and between 9 a.m. and 8 p.m. on Sunday. Therefore, although some daytime construction activities may be audible and perceived as an annoyance, noise from such activities is permitted during daytime hours.

Further, due to the temporary nature of the proposed project-related construction activities, the potential for perceived noise impacts from construction would be limited in duration.

Operational Impacts

After construction, noise-generating features of the proposal, including stationary equipment (rooftop ventilation units, HVAC systems, etc.) and on-site truck and passenger vehicle traffic could create ongoing noise. Noise related to wine-making and other light industrial activities would occur within enclosed buildings and would not affect nearby residential uses.

Noise emissions from operation of the proposal, both after construction of Planning Area 1 and full buildout, would be lower than established City and King County sound level limits. Compared to existing conditions, development of the proposal would result in an increase of up to 2 dbA over AM peak hour sound levels at the nearest residential receiver. Humans generally cannot detect increase in noise less than 3 dBA in active outdoor environments, especially when these increases occur over a number of years. Therefore, the proposed project-related noise increase is unlikely to be perceptible at this location and would not be considered an impact. Increases in noise at all other noise model receiver locations would be even less than 2 dBA. Therefore, impacts due to proposed project-related increases in the ambient noise environment are not anticipated at any receiving location.

Off-Site and Cumulative Traffic Noise Impacts

The proposed PCI Plan would generate traffic through operation of new residential, office, retail, entertainment, and recreational facilities. While traffic noise from public roadways is exempt from applicable sound level limits, project-related traffic may cause perceptible increases over existing noise levels or result in noise that interferes with speech or enjoyment of outdoor activities.

Measurements and traffic projections indicate existing AM-peak period sound levels near the most project-affected roadways are between 63 and 68 dBA. With the proposed project, traffic noise would increase over No Action levels in both 2023 and 2032 by 1-2 dBA at nearby sensitive receptors. Most people cannot detect changes in noise of less than 3 dBA in active outdoor environments, 5-dBA changes would likely be perceived by most people under normal listening conditions, and a 10-dB change would be perceived as a doubling of the loudness. Therefore, it is likely that most people would not perceive the differences in traffic noise between existing conditions, No Action, and the proposed PCI Plan.

What is different among the alternatives?

Construction Impacts

Noise from construction of the Redevelopment Alternative, including the potential for perceived impacts during permitting daytime construction activities, is anticipated to be similar to the proposed project alternatives.

Operational Impacts

The Redevelopment Alternative would include less retail and office space, and fewer residential units, and would include a smaller indoor event space compared to the proposed PCI Plan. Therefore, operational noise from building equipment and traffic (i.e., excluding the amphitheater) are anticipated to be slightly lower than the proposed project, resulting in compliance with the King County Code sound level limits, and small to no increase over existing ambient conditions.

Unlike the proposal, the Redevelopment Alternative would include an outdoor performance space. While the type and nature of the performances is currently unknown, the analysis assumed the operation of an outdoor music concert to provide a conservative estimate of impacts. Operation of the amphitheater is expected to be within the applicable City of Snoqualmie/King County sound level limits at all nearby receivers, though it would approach the established limits at residential receivers south of the site. Compliance with City of Snoqualmie/King County limits would be required at all times, unless a noise variance is granted by the City.

Off-Site and Cumulative Traffic Noise Impacts

Based on the traffic analysis, AM-peak period traffic volumes associated with the Redevelopment Alternative would be similar or less than the volumes associated with the proposed PCI Plan. Therefore, off-site traffic noise associated with the Redevelopment Alternative would be similar to or less than the proposed project.

What are some solutions or mitigation for the impacts?

Noise may be audible at residential locations during some elements of construction and operation of the proposed project and alternatives. However, neither construction nor operation of the facility is expected to result in significant noise impacts, and no mitigation measures are warranted.

With mitigation, what is the ultimate outcome?

No significant unavoidable adverse noise impacts are anticipated related to construction and operation of the proposed PCI Plan and alternatives. Noise from operation of the amphitheater, which is only included in the Redevelopment Alternative, may be perceived at some residential locations depending on when the facility operates, but is nevertheless expected to comply with applicable sound level limits.

1.7.13. Parks

How did the EIS analyze Parks?

Chapter 3.13 – Parks describes existing and planned parks, trails and recreational facilities within and provided by the City, and existing and planned regional trails in unincorporated King County. The analysis is based on adopted level of service standards and needs identified in the

City's 2018 Open Space, Parks and Recreation Plan.

What impacts does the EIS identify?

Under all the alternatives, including the No Action Alternative, increased population growth in Snoqualmie would drive increased demand for parks and recreational facilities and programs. As documented in the 2018 Open Space, Parks, and Recreation Plan, the City currently has existing deficiencies in most recreation facility categories. Existing demand and demand under future baseline growth would need to be addressed through the City's capital facility planning process and updates to the PROS Plan.

Under all alternatives, including the No Action Alternative, all a range of park and recreation facilities would fail to meet applicable LOS standards.

Population growth under either the PCI Plan or Redevelopment Alternative would result in minor and insignificant impacts and effects on projected LOS that are only incrementally greater than those under future background growth without the PCI Plan.

What is different among the alternatives?

The Proposal would result in a greater increase in population (304 residents) than the Redevelopment Alternative (228 residents). For most recreation facility categories, the increased demand is effectively the same under the two alternatives. For the following park categories, the Proposal would increase park acreage needs over the Redevelopment Alternative by minor amounts:

- Neighborhood Parks: 0.15 acre
- Community Parks: 0.61 acre
- Water Access Areas: 0.08 acre

With No Action, the incremental increases in demand for parks and recreation would not occur, nor would the proposed trail system. However, deficiencies in LOS would result from projected background growth.

What are some solutions or mitigation for the impacts?

The PCI Plan will provide land for connections to local and regional trails, specifically the Riverwalk Route and the missing Snoqualmie Valley Trail link. The Proposal will also include an integrated trail system on-site that will include passive and active recreation opportunities, including a paved pathway along the realigned portion of Mill Pond Road. Under the PCI Plan, approximately 64% of the overall site would remain as open space (166 of 261 acres). In Planning Area 1, development is proposed on approximately one-third of the planning area (33 acres), with two-thirds retained as open space (69 acres). Large natural open spaces and wetland conservation areas would be located north and south of the developed area, with additional landscaped open spaces integrated into the planning area.

The Redevelopment Alternative would include an additional 3.7-acre landscaped/grass open

space area associated with the proposed stage/performance area.

With mitigation, what is the ultimate outcome?

There are no significant unavoidable adverse impacts related to parks, recreation, and open space caused by the proposed PCI Plan. Although demand for these services would increase incrementally as a result of the proposed PCI Plan, the increase is not considered significant.

1.7.14. Public Services

How did the EIS analyze Public Services?

Section 3.14 – Public Services evaluates potential impacts of the proposal on police, fire, and school services in Snoqualmie, which are provided by the Snoqualmie Police Department, Snoqualmie Fire Department, and the Snoqualmie Valley School District. The Study Area for public services consists of the Snoqualmie Mill site and city limits; the Police Department and School District also serve areas outside the city limits. The analysis is primarily based on interviews with Snoqualmie City police and fire officials responsible for providing public services and a review of relevant City and School District plans and studies.

What impacts does the EIS identify?

Police

The Proposal will result in more residents and employees and the potential for more calls for police service. About 0.35 FTE staff would be necessary to maintain the police department's current effective level of service (i.e., the city-wide ratio of officers to population), but police department staff indicates at least 1 additional full-time officer would be necessary.

In addition to demand for police service from population growth, the commercial, winery, and entertainment uses would attract visitor to the site and could also increase calls for service. At present, the Snoqualmie Police Department is understaffed for large special events, and this need could be exacerbated by periodic public events at the site.

Fire

While development of the PCI Plan is anticipated to create demand for fire services, the Snoqualmie Fire Department currently has excess staff expects to be able to handle the additional demand for fire response personnel. Development of the PCI Plan would also increase demand for fire code permit review and fire code inspections.

Schools

Development under the PCI Plan would be primarily commercial and industrial in nature; residential uses make up a relatively small portion of the development. Based on student generation rates established by Snoqualmie Valley School District, the additional housing units at the Mill site would generate approximately 28 additional students. For comparison, baseline growth for the City of Snoqualmie through 2032 would generate approximately 730 students.

What is different among the alternatives?

Compared to the Proposal, the Redevelopment Alternative would have reduced levels of housing and employment. As a result, demand for public services would similar to or lower than the Proposal. With No Action, the site would remain vacant and the incremental increases in demand for public services from the Proposal would not occur.

What are some solutions or mitigation for the impacts?

According to the EIS fiscal analysis, summarized in Section 1.7.16, development of the PCI Plan will increase tax revenue, which would offset increases in demand for municipal services. City regulations require development to comply with international building and fire codes and impose school impact fees to offset costs to the school district associated with additional students.

With mitigation, what is the ultimate outcome?

The proposal will create an incremental increase in demand for public services. Increased tax revenue that will be generated from the development that would enable the city to maintain appropriate levels of service for police and fire services. Future residential development would be subject to school impact fees to ensure adequate capacity for students at schools. No significant unavoidable adverse impacts are anticipated.

1.7.15. Utilities

How did the EIS analyze Utilities?

Section 3.15 – Utilities is based on information contained in the Master Drainage Plan (MDP), which is included in Appendix A, and in the City's adopted Water and Wastewater System Plans. The analysis identifies the current and planned capacity of City utility infrastructure systems and estimates additional demand that would be created by development of the proposed PCI Plan.

What impacts does the EIS identify?

Water

Total demand of the Proposal, based on the uses proposed for the PCI Plan area, would be approximately 799 Equivalent Residential Units (ERU). Development of Planning Area 1 would account for 239 ERU of this projected demand, from residential units, light industrial/ wine production and retail operations. The City's water system currently has capacity to support the demands anticipated for Planning Area 1.

Water demand in Planning Areas 2 and 3 would be primarily driven by office and industrial warehouse uses. The City is pursuing additional water supply improvements to support the demand estimated for city-wide projected growth and full buildout of the PCI Plan.

Sewer

The wastewater treatment facility has residual capacity of 0.20 MGD and 766 ERU. This estimate, which is based on the adopted wastewater system plan, includes all growth projected to 2032, and is sufficient to accommodate the additional growth represented by buildout of Snoqualmie Mill.

The development concept for Planning Area 1 includes wine production, which carries specific water demand and wastewater discharge needs. Winery production generates wastewater with high concentrations of Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS); depending on the volume of wastewater, winery flows can adversely affect wastewater treatment facility operations unless mitigated. City of Snoqualmie regulations require notice to the City if discharges to the public sewer are likely to exceed established BOD and TSS limits. In such cases, pretreatment may be required before discharge is allowed to the public sewer.

The City's wastewater treatment facility may not have sufficient 5-day Biological Oxygen Demand (BOD_5) treatment capacity to serve the full buildout of Snoqualmie Mill Planning Area 1 or Planning Areas 2 and 3 under the Proposed Action; this conclusion is preliminary and is based on the 2020 GSP update currently underway. Additional improvements to increase the wastewater treatment facility's rated BOD_5 loading capacity, therefore may be necessary to support full development of Snoqualmie Mill Planning Area 1 wine production. Options identified to date include BOD handling improvements to the wastewater treatment facility, or possible construction of a pre-treatment facility which is currently proposed as part of the Snoqualmie Mill sewer system design. Pre-treatment is intended to implement the requirements and/or recommended best management practices (BMPs) of Ecology's Winery General Permit (issued May 2018, effective July 1, 2019). Implementation of Ecology's BMPs by all Snoqualmie Mill wineries would ensure that wastes reaching the City's wastewater treatment plant are consistent with the City's discharge standards in SMC 13.04.430 and SMC 13.04.460.

The plan to serve Snoqualmie Mill Planning Areas 2 and 3 will be reevaluated when the proposed development for both areas are more certain, but prior to design of the utilities for these areas. At that time, analysis would also determine if one lift station could be used to serve both Snoqualmie Mill Planning Areas 2 and 3, or if both lift stations could pump to the lift station that will serve Snoqualmie Mill Planning Area 1. The City's objective is to minimize additional maintenance from new developments where feasible, which includes limiting the number of lift stations owned and operated by the City.

Stormwater

In general, the quality of stormwater discharged to the Snoqualmie River is expected to improve relative to current condition. Wetland buffer restoration and enhancement proposed as part of the PCI Plan, further discussed in Section 3.4 – Plants and Animals, would improve the effectiveness of currently degraded wetland buffers to filter impurities from stormwater. In addition, as described in the Master Drainage Plan (Appendix A), runoff from developed areas would be treated prior to discharge to the river. Impacts to Snoqualmie River water quality are

not expected to be significant.

What is different among the alternatives?

Compared to the Proposal, the Redevelopment Alternative would include a greater share of warehouse uses and reduced retail, office, and residential uses, and would include an outdoor performance space, which is not part of the Proposal. Overall development footprint would remain approximately the same. Increasing the amount of warehouse uses on the site and reducing retail and office uses would lower the amount of employment overall and eliminate office use; these changes would reduce water consumption and wastewater discharge compared to the Proposed PCI Plan. Winery water and wastewater demand would be the same, however.

Similar to the Proposal, preliminary information from the ongoing water and wastewater system plan updates indicates there may not be sufficient water supply or wastewater BOD_5 treatment capacity to serve the Redevelopment Alternative.

Because the overall development footprint would be approximately the same, the Redevelopment Alternative would have the same stormwater drainage impacts as the Proposal.

What are some solutions or mitigation for the impacts?

Incorporated Features of Proposal

- Site grading and sanitary sewer systems would be designed in such a manner that the rims (or tops) of manholes would lie above the 100-year base flood elevation of the Snoqualmie River.
- Critical facilities (Lift Stations) would be located in areas recommended by the geotechnical engineer that can provide stable foundations and would lie above the 100-year base flood elevation of the Snoqualmie River, as required by the City's Flood Hazard regulations (SMC 15.12).
- Critical gravity utilities, primarily sanitary sewer, would be placed on an engineered subgrade per the recommendation of the geotechnical engineer. This will likely consist of over-excavating utility trenches and preparing an engineered pipe bed foundation of geotextile fabric and/or rock or compacted imported bed material. Additionally, minimum pipe grades would be increased to a more conservative slope (at least 1.0% for gravity sewer main) to account for potential settlement to ensure positive gravity drainage.
- Use of earthquake resistant ductile iron pipe will be considered to reduce the risk of failure of the water distribution system for the Proposal from a seismic event.
- Use of high-density polyethylene (HDPE) pipe will be considered for possible mitigation of potential settlement for gravity sewer mains. Utilizing backfill that has the same density as the native soil will also be considered for possible mitigation of potential settlement of gravity sewer mains.
- Critical infrastructure needed for ingress and egress to the site, and to ensure long term

stability, would be realigned along Mill Pond Road.

- Work within existing functional wetland or stream buffer boundaries would be limited to the dry season (avoiding November through February) where feasible.

Other Responsibilities and Requirements

- Snoqualmie Mill's water, wastewater and stormwater improvement requirements and fair share mitigation responsibilities will be determined more specifically as updates to the city's water and wastewater plan updates progress and review of the project continues.
- The Snoqualmie Mill site will be included as part of the City's retail water service area for the 2020 WSP update. As such, it includes the jobs and population associated with the Snoqualmie Mill proposal, except for any winery production at the Snoqualmie Mill site. At a minimum, Department of Health (DOH) construction document approval will likely be required, but the development also may require a Project Report.
- The Snoqualmie Mill site will be included as part of the City's sewer service area for the 2020 GSP update. As such, it includes the jobs and population associated with the Snoqualmie Mill proposal, except for any winery production at the Snoqualmie Mill site. The Department of Ecology (Ecology) may require an Engineering Report outlining any proposed winery production at the Snoqualmie Mill site.
- An NPDES Permit for Stormwater Discharges associated with construction activities would be obtained from Ecology.
- Design water main facilities to minimize potential leaking or inflow from groundwater inundation. Materials and pipe connection systems would be reviewed by the City at the time detailed development plans are submitted.
- Design sanitary sewer systems to minimize potential infiltration and inflow from groundwater. Materials and pipe connection methods would be reviewed by the City at the time detailed development plans are submitted.
- A Stormwater Pollution Prevention Plan (SWPPP) would be prepared as required by the NPDES permit and would be used and updated on-site as warranted, including monitoring requirements determined by Ecology for the permit.
- Major Temporary Erosion and Sedimentation Control (TESC) measures (per King County CSWPP Plan, 2016) likely to occur in the NPDES permit would include, but are not limited to, the following:
    - Marking the clearing limits (i.e., marking limits, critical areas and buffers on plans and in the field using plastic, metal, or stake wire fence);
    - Installation of temporary construction access (stabilized entrances) and staging areas (i.e., limiting construction vehicles to points stabilized with quarry spall or rock with wheel wash);
    - Road cleaning (i.e., street sweeping);

- Perimeter protection such as silt fencing when necessary (i.e., all perimeter areas not upslope of construction clearing) to intercept fine sediments and fencing or flagging of clearing limits;
- Soil stabilization: temporary or permanent cover over disturbed areas or stockpiles, such as seeding, mulching, sodding, plastic covering, or erosion control fabrics and matting to the soil or gravel base, to prevent erosion;
- Use of an on-site TESC inspector;
- Treatment of runoff to remove sediment (e.g. sediment traps or ponds);
- Stabilization of channels and outlets (i.e. armoring as necessary to prevent erosion or scour);
- Control of all pollutants on-site, including removal and legal disposal of construction waste or soils contaminated by construction activity or accidental spills;
- Accidental spill response plans, on-site clean-up materials storage, and worker training;
- Use of BMPs to prevent adverse pH affect from concrete work on the site or cause violation of water quality standards for pH in the receiving water (See Section 3.2.2 below);
- Control of dewatering (flow rate and sediment control) into a controlled conveyance system to receiving waters (if clean and non-turbid), or retention for other purposes (i.e., dust control);
- Dust control: preventative measures to minimize wind transport of soil; and
- Maintenance and inspection of BMPs and TESC measures.

Other Potential Mitigation Measures

- Include provisions in the project development standards/design guidelines to require the usage of water-conservation features to reduce water demand and ensure development does not exceed system capacity. Examples could include water-efficient fixtures, greywater reuse systems, rainwater harvesting, or draught-resistant landscaping.
- Implement the best management practices identified in Ecology's Winery General Permit, which include removal of solids, control of organic loads, maintenance of the waste management system, and improving water efficiency. Additional BMPs to address the use and storage of chemicals are addressed in Chapter 3.5 – Environmental Health.
- To ensure coordinated planning and operation of stormwater facilities, an Operation and Maintenance Manual should be provided to the City at the completion of each Phase of development and at the completion of the overall site that summarizes the stormwater system operation and maintenance requirements.

With mitigation, what is the ultimate outcome?

Development of the site would create increased demand for water, sewer and drainage utility

services. Although this increase is a significant and unavoidable result of the Proposal, the increase in itself is not necessarily adverse, provided that water supply is sufficient to support it, that required facilities to convey and treat water and wastewater are adequate, and that drainage facilities protect water quality.

The 2020 GSP update is currently evaluating alternatives for increasing the wastewater treatment facility's rated BOD_5 loading capacity. Stormwater discharge would increase, but design features incorporated into the Proposal (e.g., water quality treatment) and proposed measures would mitigate significant impacts to water quality.

1.7.16. Fiscal and Economic Impacts

How did the EIS analyze Fiscal and Economic Impacts?

Section 3.16 – Fiscal and Economic Impacts analyzes potential impacts of the Proposal on the local economy. The fiscal impact analysis estimates potential future costs and revenues associated with developing the PCI Plan between now and 2037 by comparing the additional revenue generated by development to the additional service and infrastructure costs needed to serve that development.

What impacts does the EIS identify?

Development of the Snoqualmie Mill site as envisioned in the proposed PCI Plan or Redevelopment Alternative would generate positive fiscal and economic impacts for the City of Snoqualmie compared to the No Action alternative where the site stays in its current condition.

Fiscal Impacts: Over the 20-year study period, development could generate an estimated $34.6 million in new general fund revenue for the PCI Plan and $31.4 million for the Redevelopment Alternative, compared to just $2.9 million in additional service costs. Infrastructure improvements attributable to the proposal will be mitigated or paid for by the developer. The Proposal would produce a small amount of new on-going maintenance costs to the City. Development will also generate $640,000 under the PCI Plan and almost $500,000 in the Redevelopment Alternative for capital purposes, most of which can be spent on capital needs elsewhere in the City.

Community and Economic Impacts: The development will accommodate between 1,570 and 3,410 new jobs, for the Redevelopment Alternative and Proposed PCI Plan, respectively. It will also create a destination that attracts both new visitors and visitors already in the area; additional spending on goods and services would also occur. This additional economic activity would benefit businesses throughout the City, generate additional revenues, and further the City's economic development objectives.

What is different among the alternatives?

- The Redevelopment Alternative would generate 1,840 fewer jobs than the Proposal and would generate roughly $3.2 million less in general fund revenue for the City.

- City revenue for capital purposes would be approximately $140,000 lower under the Redevelopment Alternative than under the Proposal.
- Infrastructure improvement costs associated with development of the site would be similar under the Proposal and Redevelopment Alternative.

What are some solutions or mitigation for the impacts?

The proposed PCI Plan would generate positive fiscal and economic impacts to the City and would more than off-set any financial burdens on city services from development; no mitigation is required.

With mitigation, what is the ultimate outcome?

Development of the PCI Plan would result in net increases in general fund and capital revenues for the City. No significant unavoidable adverse impacts would occur.

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2.0 Proposal and Alternatives

2.1. OVERVIEW OF PROPOSAL

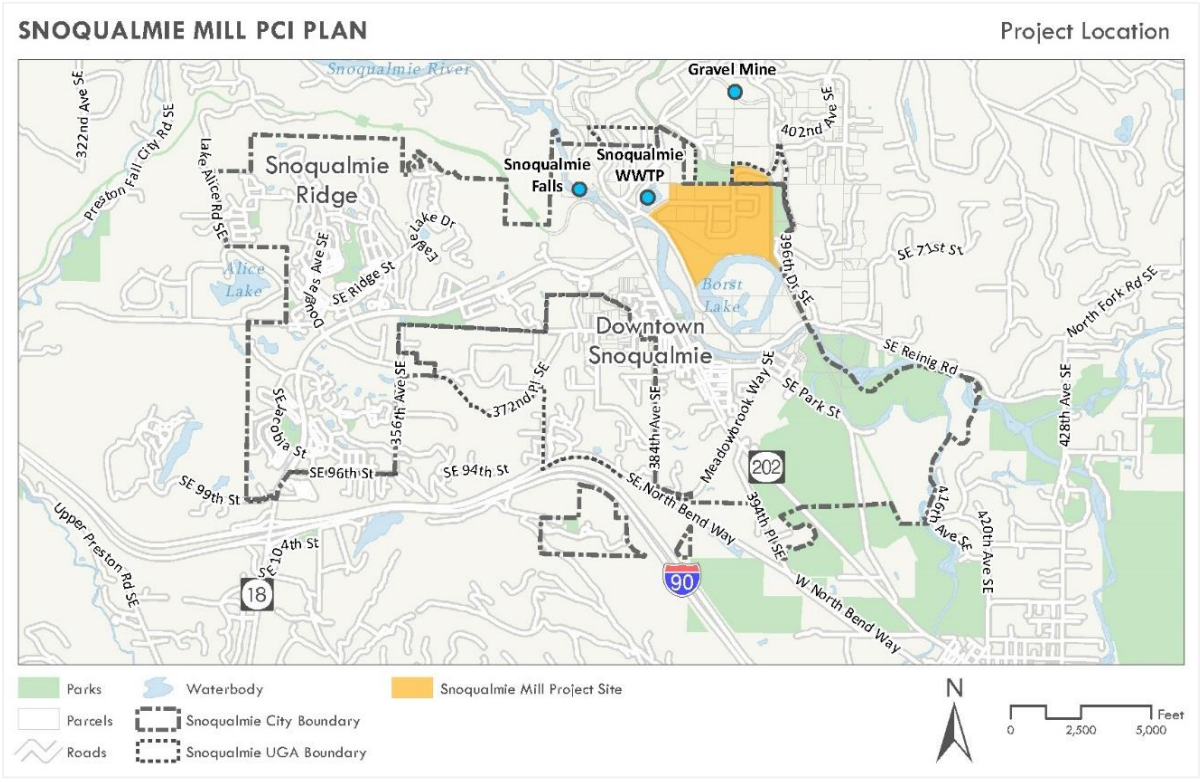
Proposal/Proponent

The proposed action is approval of a Planned Commercial/Industrial (PCI) plan and a development agreement for the Snoqualmie Mill site. The proposal is sponsored by Snoqualmie Mill Ventures LLC, located at 240 Main Ave. S., Suite 107, North Bend, WA 98045.

Location

The project site is located in the City of Snoqualmie, WA. It is bounded by the City limits on the north, Borst Lake (Mill Pond) on the south, Mill Pond Road on the west, and the "hillside" area owned by King County along 396th Avenue SE on the east. The site is located within Sections 29 and 30 of Township 24, Range 8 East, W.M. Refer to Exhibit 2.1-1. Other nearby features and uses include the Snoqualmie River on the west, and the City's sewer treatment plant and an existing gravel mining operation to the north. The Mill Pond/Borst Lake is not owned by the applicant and is not part of the proposed action.

Exhibit 2.1-1. Project Location



Source: King County Assessor, BERK 2018

The 261-acre Snoqualmie Mill property was annexed to the City in 2012; however, a 15.7-acre area in the northeastern portion of the site (Planning Area 2) remains within unincorporated King County and is not included in the PCI Plan application submitted to the City. Annexation of this area, which is within the City's designated Urban Growth Area (UGA), would occur before any specific development is proposed on this portion of the Mill site; most of the unincorporated area – 8 acres – would be maintained as undeveloped open space, and 7.7 acres would be developed. This area is included in the overall PCI Plan, however, and is evaluated in the EIS to provide a complete, long term picture of the proposed plan. The development capacity of the unincorporated parcel is discussed further below.

Proposed Action

The applicant is seeking approval of a Planned Commercial Industrial (PCI) plan and a development agreement for the Snoqualmie Mill site. The proposed development agreement will help guide subsequent planning and development of the overall site. The proposed action also includes approval of conditional uses (for residential and some commercial uses) and two zoning code deviations (for building height and for some individual wetland buffers). Deviations could also be proposed, if necessary, to allow wetland buffer enhancement, stormwater conveyance and water quality facilities, and a road and trail in the Open Space 2 zone.

PCI Plan

The Draft EIS addresses development of the Snoqualmie Mill site in several phases over an approximate 10- to 15-year period. Build-out would include a total of approximately 1.83 million gross square feet of light industrial/manufacturing, warehouse, office, retail, and residential uses. When fully developed, the site could generate an estimated 3,410 jobs. A majority of the overall site (166 acres, 64%) would remain undeveloped and be maintained for open space, landscaping, wetlands and streams, wildlife habitat, and flood storage.

The site has been divided into three distinct areas for purposes of planning and permitting; each planning area generally corresponds to a phase of development. The PCI Plan application provides detailed information for Planning Area 1, an approximate 102-acre area in the northwestern portion of the site proposed as the first phase of development. More conceptual information is provided for Planning Areas 2 and 3, which would be developed subsequently. A lot line adjustment application will also be submitted to modify the boundaries, but not the number, of existing lots. Applications for building permits and other required development approvals will be submitted during or following the approval process for the PCI Plan. The Draft EIS Fact Sheet identifies known and potential land use and subsequent development approvals.

Development Agreement

The applicant proposes to enter into a development agreement with the City, as authorized by state law (RCW 36.70B.170). In general, the agreement would establish development standards and review procedures applicable to the site. The development agreement will address among other things, vesting provisions and exemptions from vesting; documentation of mitigation requirements and development conditions that are applicable to the project; any deviations

from code provisions that are permitted; procedures for future review and revision of the PCI Plan; requirements for additional SEPA analyses for subsequent phases of development; the term of the agreement; and provisions for specific aspects of the site or development, such as retention of open space, protection of wetlands and buffers, road facilities, stormwater and utilities. A proposed development agreement will be submitted in conjunction with the Final EIS and a revised PCI application.

2.2. BACKGROUND INFORMATION

Site History

The Snoqualmie Valley has a rich and interesting history, which encompasses elements of its geology, habitation by Native Americans, and more recent use and development for its valuable natural resources. The historic industrial use of the Snoqualmie Mill site is summarized below, based on information from a variety of sources (David Wilma, The History and Future of the Snoqualmie Mill Site, 2015; King County Landmark Registration Form, 2005; Cascadia Archaeology, 2017; and the Mill Planning Area Annexation Implementation Plan, 2016). Detailed information about the geology, archaeology and industrial history of the site is contained in Sections 3.1 (Earth Resources), 3.6 (Land and Shoreline Use) and 3.10 (Historic and Cultural Resources) of the Draft EIS, respectively.

Weyerhaeuser Mill Construction and Operation

The Snoqualmie Mill site was an important source of employment in the Snoqualmie Valley for almost 100 years. The Weyerhaeuser Timber Company purchased the property in 1914 and began clearing and grading to construct a lumber mill. The eastern "hillside" portion of the original Weyerhaeuser property, which is not part of the Snoqualmie Mill site, was developed as a company town. Named Snoqualmie Falls, it included 250 employee housing units, a community center and company store, a boarding house and hotel, a 50-bed hospital and a school. At its peak the community had a population of almost 2,000 people. Construction of mill facilities and infrastructure began in 1916. The Mill Pond (Borst Lake), which is not part of the Snoqualmie Mill proposal, was excavated and used to sort logs. Most of the site was cleared, graded, and filled to accommodate log storage – primarily on the western portion of the site and adjacent to the Mill Pond – and mill operations were located on the eastern portion. A Chicago, Milwaukee & St. Paul railroad line was constructed on a berm along the eastern portion of the site to transport lumber from the mill, and a railroad depot was constructed in the town. Numerous on-site roads and approximately 12,000 linear feet of drainage ditches were also constructed to support mill operations. The main haul road through the site connects 396th Drive SE to Mill Pond Road; Weyerhaeuser maintains the road, which serves the gravel quarry to the north. The lumber mill, which began operating in 1917, was the second all-electric mill in the country. An aerial photo of the site, showing the locations of former and existing structures and activities, is contained in Exhibit 2.2-1. At its peak, after World War II, the Mill employed an estimated 1,500 workers.

Exhibit 2.2-1. Site Aerial



Source: King County Assessor, BERK 2019

Existing Site Conditions

The Snoqualmie Mill site is flat, which reflects the extensive grading and fill that was placed on the site in conjunction with construction and operation of the Weyerhaeuser sawmill. As discussed in detail in Section 3.1 of the Draft EIS, depths of fill across the site vary from approximately 5 feet to more than 20 feet. The deepest fill soils are generally located in Planning Area 1 and the northern central portion of the site (Planning Area 2); both areas were used historically for log storage. The remnants of several earth berms are located along the north and west perimeters of the site; the berms, which are discussed further below, contribute to flooding and will be graded.

The entire site, except the elevated berms, is within the floodplain of the Snoqualmie River. The site also contains areas of wetlands, streams, a system of man-made drainage ditches, geologic hazards, and other critical areas that are regulated by the City; the US Army Corps of Engineers also has jurisdiction of some of the site's wetlands. The site is primarily bare of undisturbed natural vegetation except along perimeter areas; existing vegetation, including the buffer areas of regulated wetlands and streams, is generally degraded and of poor quality. The locations, characteristics, and effects of planned development on these features are discussed in Chapters 3.1, 3.3, and 3.4 of the EIS.

Between 1980 and 2006, numerous assessments of known and potential site contamination from past industrial activities, and numerous remedial actions, occurred on the Mill site. A summary prepared by the City in 2011, and a study prepared for and included in the AIP in 2015, summarized existing information about potential areas of concern and cleanup actions (AESI, 2015); the summary characterized the site as a "brownfield", which is generally a site that requires some level of cleanup but can be redeveloped and reused.[1] Six areas of potential environmental concern, located in Planning Areas 2 and 3, were identified in initial studies at the time of the AIP; the EIS consultants have reviewed and supplemented this information.

Section 3.5 – Environmental Health contains detailed information on potential contamination and recommended remedial actions. The property is not a designated "Superfund" site per federal statutes; it will be cleaned up consistent with the standards and procedures of the Washington Model Toxics Control Act (MTCA, WAC 173-340).

Current Site Uses and Facilities

In 2003, the Mill was closed, and demolition of existing buildings and site clean-up activities began. Several original industrial buildings remain, with some currently used for storage. The old brick Powerhouse, which housed a steam-powered generator, and an associated 211-foot tall brick stack survive and are designated as a King County Landmark. Remnants and foundations from numerous buildings are still present, generally on the eastern portion of the site. The hillside (42 acres) contiguous to the site on the east was acquired by King County Parks in 2015 and is planned to become part of the Snoqualmie Valley Trail. This area is not part of the Snoqualmie Mill site and is not included in the PCI application.

[1] See: https://www.epa.gov/brownfields/ overview-brownfields-program.

There are several current uses of the site that will continue in the near term but will be displaced by planned development over time. Ultimate Rally LLC (aka DirtFish Rally School) has been leasing land for operating a driving instruction school on a portion of the site since 2006. DirtFish uses the site's network of paved and unpaved roads, located primarily in the central portion of the site. Associated facilities provide space for storage of equipment and parts, maintenance of vehicles, and an office/classroom building located on the eastern hillside. The site's existing road system will be modified or displaced in increments over time, and DirtFish activities will be curtailed, as phased development occurs. Ongoing DirtFish operations have been factored into the EIS analysis where relevant.

Other current activities include storage of wood recycling materials, production and storage of topsoil for local construction projects, a beehive operation, temporary construction staging, and truck storage.

Several of the former mill's buildings remaining on the site are habitable and are rented to commercial tenants. Many, however, are deteriorated, vacant, not structurally sound and/or not safe for occupancy. Portions of some roofs or siding have blown off in storms; a portion of one building has been fenced off to prevent access. The applicant intends to rehabilitate and reuse two key historic buildings on site – the powerhouse plant and the planer building – if upgrading is financially feasible. The condition of individual buildings is discussed in greater detail in Section 3.10 – Historic and Cultural Resources and Appendix E.

Borst Lake (aka the Mill Pond) is a separate property located south of the Mill site. The pond was excavated and used by Weyerhaeuser for log sorting. The Lake is not owned or controlled by the applicant and is not part of the Snoqualmie Mill PCI proposal.

Existing Zoning

The site is within the City's Mill Planning Area and is primarily zoned Planned/Commercial Industrial (PCI) District. An approximate 39-acre portion of Planning Area 3, located south of Mill Pond Road and within the FEMA floodway, is zoned Open Space (OS-2). Other portions of the Mill Planning Area located south of Mill Pond Road, including Borst Lake, are also zoned OS-2; this area is not included in the proposed PCI plan. As noted previously, an approximate 15-acre area in the northern portion of Planning Area 2 is within the City's Urban Growth Area (UGA) but has not yet been annexed or zoned by the City.

The PCI district permits a wide variety of commercial, light industrial and manufacturing, warehousing, institutional, and office activities. A mix of uses is allowed, including residential uses on the second floor of mixed-use buildings. Thirty-five percent of the acreage of PCI designated sites must be dedicated to open space and natural uses. The zoning code encourages imaginative master planned designs, and PCI zoned properties may request deviations from most development standards.

The OS-2 zone permits a variety of parks and active recreation uses – including regional recreational uses such as golf courses – community centers, agricultural uses, public utilities, and parking.

Annexation Policies and Planning

Snoqualmie Mill Ventures, LLC purchased the site from Weyerhaeuser in 2010 and commenced the procedures required to annex the site to the City of Snoqualmie. Based on prior planning and interlocal agreements between King County and the City, the site was recognized as appropriate for annexation. The City also began developing and adapting planning, policy and regulatory documents to provide a framework for annexation and eventual development. This planning framework is summarized below and described in greater detail in the Section 3.7 – Consistency with Plans and Policies, of the Draft EIS.

Pre-Annexation Agreement

In 2011, the applicant, Weyerhaeuser and Ultimate Rally, entered into a Pre-Annexation Agreement with the City of Snoqualmie. The Annexation Area included the Snoqualmie Mill site and additional area owned by Weyerhaeuser. The Agreement identified zoning districts that would become effective upon annexation. The Mill site, which is located within the floodplain, was zoned Planned Commercial/Industrial (PCI), while areas within the floodway were zoned for open space. The hillside on the eastern boundary of the annexation area was zoned Planned Residential. Existing uses were permitted to continue, but no new uses would be permitted until several actions occurred, including: an update of the annexation policies in the City's Comprehensive Plan; preparation of an Annexation Implementation Plan (AIP) by the property owner and approval by the City; and completion of review and approval of a PCI plan for the Snoqualmie Mill site, including review according to the State Environmental Policy Act (SEPA).

Other major requirements of the Pre-Annexation Agreement applicable to the various parties included the following:

- Dedication of property to the City for a Riverwalk trail corridor and the Snoqualmie Valley Trail;
- Prohibition on use of the annexation area for a motor racetrack or speedway;
- Submittal of a Sensitive Area Study within 30 days of annexation; and
- Protection and potential adaptive re-use of the Powerhouse structures remaining on the site.

The site was annexed to the City in 2012. The required sensitive areas study was submitted within the required time frame and was recently updated. The status of the agreement's requirements is discussed in this and other sections of the EIS.

Removal of the Weyerhaeuser Log Sort Yard Berm

Starting in the mid-1980s, when the Mill site was still within unincorporated King County, Weyerhaeuser began constructing an earthen berm on the western portion of the Mill site adjacent to Mill Pond Road. The berm, which is located within the floodway and floodplain of the Snoqualmie River, was intended to prevent flood waters from entering the site and from floating away stored logs. Additional fill was subsequently added behind the berm, when earth

and bark/log debris that had accumulated in the aisles between log stacks was scraped up, hauled off and pushed to the back of the log deck aisles where it merged with the existing berm. These activities reportedly continued into the 1990s, after closure of the Mill.

The City of Snoqualmie has pursued a variety of actions to address the rise in flood waters that the berm has caused. The City's actions have included multiple complaints to King County's Department of Development and Environmental Services (DDES), alleging that the additional fill behind the berm was placed in violation of King County code requirements; performance and submittal to DDES of independent studies to demonstrate that the fill placed behind the berm within the floodplain has increased the base flood elevation; and successive appeals and requests for reconsideration to the King County Hearing Examiner. All of these actions were unsuccessful; King County had concluded that pursuit of a code enforcement action against Weyerhaeuser for removal of the berm and fill from the Mill site was not warranted, and that there was insufficient cause to reopen the County's earlier determinations to not undertake code enforcement action. In 2006, the berm was breached and some of the fill was removed.

Beginning in 1994, when the Mill site was included in Snoqualmie's Urban Growth Area (UGA), the City began developing planning policies that contemplated future redevelopment of the site would address the site's environmental constraints, including flooding. When the site was annexed to the City in 2012, the City's Comprehensive Plan required preparation of an annexation implementation plan, which would, among other issues, address flooding and the berm. Applicable policies are discussed in the following sub-section and in Section 3.7 – Consistency with Plans and Policies, of the Draft EIS.

An AIP for the Snoqualmie Mill site, discussed above, was approved by the City in 2016. The Snoqualmie Mill PCI plan application, submitted to the City in 2017, includes a grading plan for the site that would completely remove the log sort berm. The proposed development plan for the site included in the PCI Plan application provides large areas of open space that would provide compensatory storage of flood waters and achieve no net rise in the base flood elevation. Flooding issues are addressed in the Section 3.3 – Water Resources, of the Draft EIS.

Comprehensive Plan Annexation Policies

In 2014, the City revised the Comprehensive Plan to establish an updated policy framework for planning and permitting development of annexed lands (Vision & Policy Plan, Section 8, Objective 7.8, and policies 7.8.1 through 7.8.9). A key change was to require approval of annexation implementation plans (AIP) as tools to help pre-plan development within annexed areas, including the Snoqualmie Mill site. As conceived, the AIP would portray proposed land uses and the location of road network and important utility systems, including a review and update, if necessary, of adopted utility sewer, water, and storm drainage plans. AIPs were defined as living documents that could be revised over time based on ongoing site planning and environmental review, evolving policy, and in response to changing land use, housing, and employment needs. All future development proposals would be required to substantially conform to the approved AIP.

The Comprehensive Plan includes several requirements specific to the Mill Planning Area, which

encompasses the Snoqualmie Mill property, that must be addressed in the AIP. These include preservation of floodway functions; protection of unique natural features and viewsheds; assessment of contamination and clean up requirements; buffering of residential or open space uses from visual and noise impacts from the adjacent gravel quarry and sewage treatment plant; a comprehensive transportation analysis; a plan and commitment to provide trail right-of-way to connect local and regional trails; removal of the berms; and protection of the City's north well field from potential contamination.

Although the AIP requirement was conceived as a technique to pre-plan areas prior to annexation, the Comprehensive Plan also recognized that this might not always be feasible. Therefore, when site planning was still ongoing and a proposed annexation was not accompanied by a development proposal, the City could defer the AIP requirement until after annexation. As previously noted, the Pre-Annexation Agreement stated specifically that no development could occur on the Snoqualmie Mill site until an AIP was approved by the City, a PCI plan was submitted and approved, and SEPA review was conducted.

Annexation Implementation Plan (2016)

The applicant submitted an AIP to the City in March 2016. It was titled "Post Annexation Implementation Plan" to emphasize the City's acknowledgment that master planning for the site and preparation of a PCI plan had not occurred prior to annexation and would not occur until after the plan was approved. The AIP, therefore, reflects only a preliminary analysis of current site conditions, land use plans, and utility systems.

The AIP identifies the status of the conditions contained in the Pre-Annexation Agreement, and documents whether they have been completed, are in progress, or require additional analysis to address. It addresses each of the Comprehensive Plan's annexation policies, identifies a generalized spatial organization and program of land uses on the site, and evaluates the capacity of water, sewer, and storm drainage systems serving the site. The AIP also includes the applicant's commitment to prepare an environmental impact statement (EIS) to evaluate proposed development.

The AIP was reviewed by the Planning Commission, which recommended approval, and was subsequently approved by the City Council on November 28, 2016 (Resolution 1370, AB 16-153). Master planning of the site and preparation of a PCI Plan application began following this action. This EIS provides updates to elements of the AIP where appropriate.

PCI Application and State Environmental Policy Act (SEPA) Review

A PCI application was submitted to the City on March 22, 2017 and was determined to be complete on April 19, 2017. The applicant's voluntary commitment to prepare an environmental impact statement for the Snoqualmie Mill project was included in the Annexation Implementation Plan and the PCI Plan application.

The City, as SEPA lead agency for SEPA compliance, issued a combined Notice of Application and Determination of Significance/Scoping Notice on May 3, 2017. An open house and scoping meeting were held on May 23, 2017. Following consideration of scoping comments submitted

by interested agencies, tribes and the public, the City established the scope of the analysis and alternatives reflected in this Draft EIS.

The City is following the procedures for phased environmental review, as authorized by the SEPA Rules (WAC 197-11-060(5), SMC 19.04.020), for the Snoqualmie Mill PCI plan. Phased review allows environmental review to occur in stages, and to be coordinated with the phases of master planning for a proposal. SEPA analysis of a project, or portions of a project, that is still in the conceptual stage of planning may be evaluated broadly and more generally in an initial environmental document, followed by more detailed and focused analysis in subsequent environmental documents as more detailed plans are developed.

The planning process for the Snoqualmie Mill site is congruent with a phased approach to SEPA review. The PCI plan includes varying levels of detail for the site's three planning areas; greater detail is provided for Planning Area 1 and lesser, more conceptual detail for Planning Areas 2 and 3. The varying detail reflects the long-term time horizon for site development, the scale and level of master planning conducted to date, the anticipated timing of development of different types of uses and buildings, and the substantial infrastructure needs that will be generated by later stages of development. Greater project detail will be provided for Planning Areas 2 and 3 over time as site planning continues. Supplemental environmental analysis and documentation will occur as master planning leads to more detailed information about later phases of development.

Some individual elements of the original 2017 PCI Plan application have changed as a result of ongoing planning, but the proposal is still fundamentally the same. For example, the mix of land uses has changed but the same basic types of land uses are proposed; the locations of some roads have changed; and an outdoor performance venue is no longer part of the proposal. The PCI Plan application will be amended to reflect the current proposal following review and comment on the Draft EIS and any subsequent changes to the PCI Plan.

2.3. PROPOSAL AND ALTERNATIVES

Objectives of the Proposal

The applicant has identified the following objectives for the proposal. These objectives have guided planning of the site, are reflected in the application, and have been used to develop alternatives considered in the EIS.

- Develop the site consistent with the Pre-Annexation Agreement, the Annexation Implementation Plan, and the policies of the Snoqualmie Comprehensive Plan.
- Plan the site to accommodate approximately 1.85 million gross square feet of commercial and industrial uses to provide a substantial number of jobs, consistent with the historic use of the site as an employment center and with its Comprehensive Plan designation, and to enhance the City and regional economies.
- Provide residential uses proximate to jobs to enable residents to work close to home and improve the balance between work and quality of life.
- Redevelop the site in phases over approximately 10-15 years with a mix of primarily commercial and industrial uses.
- Protect and enhance the site's environmental resources.
- Preserve and integrate open space into development plans for the site to provide area for flood storage, habitat, environmental mitigation, and passive recreation.
- Respect the site's history by preserving and/or integrating valuable elements of this history in development plans where feasible.
- Cleanup, reuse, and revitalize a "brownfield site" to create a community asset.
- Endeavor in Planning Area 1/Phase 1 to create a node of complimentary and/or related businesses that can span production, warehousing, and retailing related to a single type of industry, such as wine production or outdoor sports and recreation equipment. Integrate these uses with residential uses along a pedestrian-oriented "main street" area within a compact village center.
- Support the City's efforts to encourage tourism in the Snoqualmie Valley through the planned mix of land uses.
- Implement City policies for sustainable development through site planning that addresses natural resources, historic resources, energy efficiency, and floodplain management.

PCI Master Plan

The PCI Plan application contains varying degrees of detail for different areas of the site, which reflects a phased approach to planning and developing the site. Greater detail is provided for Planning Area 1, the first phase of development, while more general information is available for Planning Areas 2 and 3. Additional site planning, analysis and environmental review will occur

for Planning Areas 2 and 3 when more specific development proposals are created. Refer to the discussion of phased environmental review in Section 2.2.

The description of the PCI Master Plan in this and the subsequent sub-section addresses the overall site at a general level and Planning Area 1 with greater detail. The EIS similarly discusses environmental impacts for the overall site at a more general level and Planning Area 1 in greater detail.

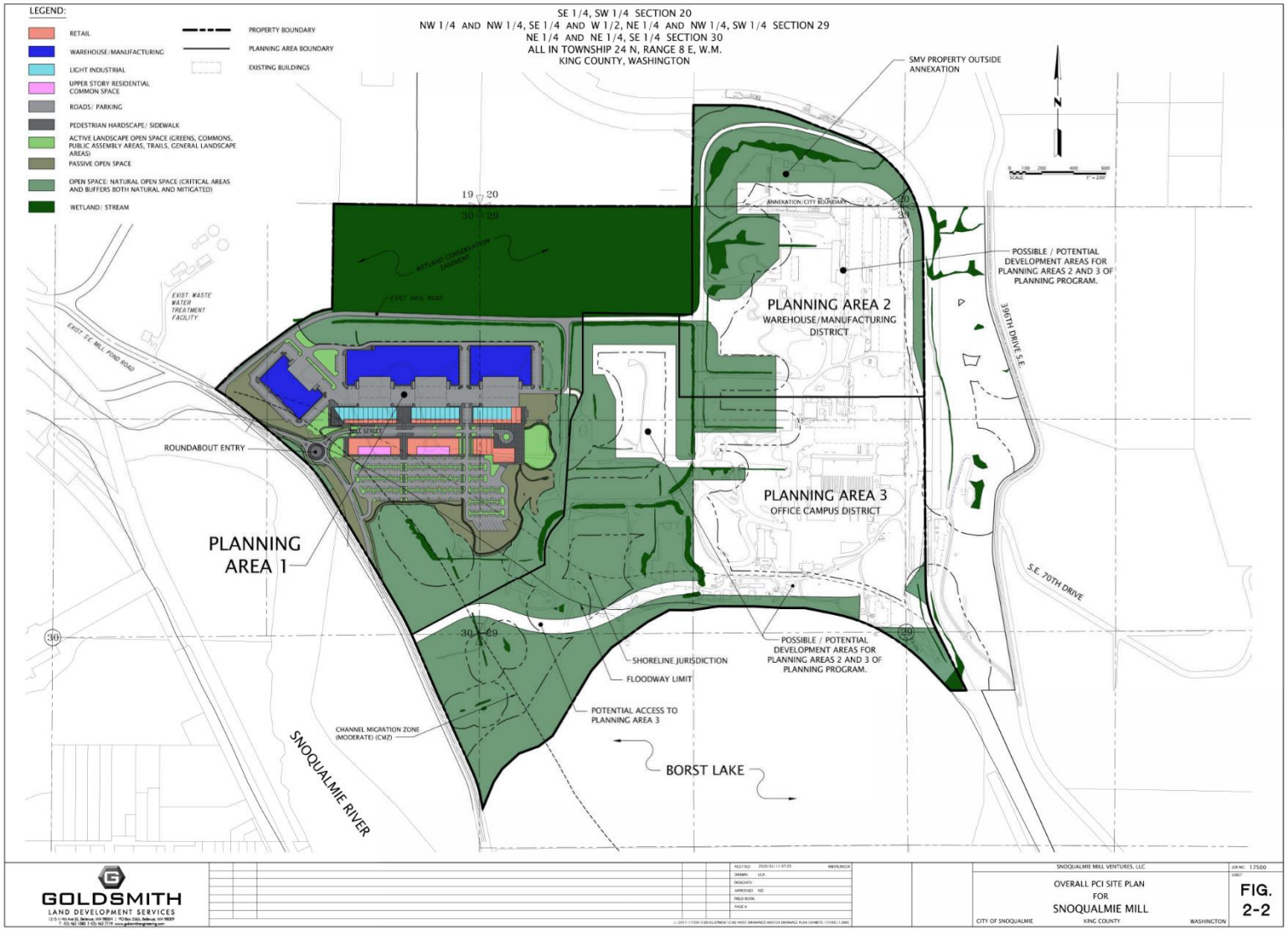
Approximately 15 acres in the northern portion of Planning Area 2 is currently located within unincorporated King County. This area would be annexed to the City prior to submittal of a development application that includes the area; most of the 15 acres would be retained as open space. It is included in the PCI plan at this time to provide a more complete overview of planned development.

Land Use

The PCI Plan for the overall Snoqualmie Mill site is shown graphically in Exhibit 2.3-1 and described in the following narrative. The site is divided into three planning areas based on existing site conditions, including the locations of environmental constraints and opportunities, and identified development potential for different land uses over time. The sequence of planned development is based on each area's proximity to existing urban development and facilities, the location of critical areas, developable area needed for different development types and forms, and identified market opportunities.

Development of the site would occur in three general phases, over an approximate 10-to-15 -year period. Each planning area is equivalent to a phase of development; each phase/planning area could be developed in two or more sub-phases. For the EIS analysis, Planning Area 1/Phase 1 is assumed to be completed by 2023; Planning Area 2/Phase 2 completed by 2026; and buildout of Planning Area 3/Phase 3 by 2032. Construction of each phase is estimated to take approximately 2 years. Development timing will depend on market and economic conditions and infrastructure requirements and is less certain for Planning Areas 2 and 3.

Exhibit 2.3-1. PCI Master Plan



Source: Goldsmith 2018

The intensity of proposed development of the overall site, as measured by planned amounts of developed area/impermeable surfaces, is quite low compared to many planned industrial sites and the development standards of the PCI district. (Note that numbers are rounded in the following description.) Approximately 37% (95 acres) of the 261-acre site would be developed with buildings, roads, and other impervious surfaces, while 64% of the site (166 acres) would be undeveloped and dedicated to passive open space, landscaped area, trails, habitat, constructed wetlands, wetlands/streams and buffers, and compensatory flood storage.

Planning Area 1, which comprises approximately 102 acres, is most proximate to currently developed areas of the City and to existing infrastructure. It is also substantially free of wetlands and other sensitive areas. Planning Areas 2 and 3 are located further from currently developed areas and contain greater amounts of identified sensitive areas, including regulated wetlands, streams, and areas that require further assessment and remediation of contaminated soils prior to development. Infrastructure will also need to be extended relatively longer distances and/or expanded to serve these Planning Areas. A large, undeveloped portion of Planning Area 3 (approximately 63 acres), located in the central area of the site, is planned to function as a conservation corridor devoted to passive open space, wildlife habitat, wetland mitigation, and compensatory flood storage. Almost two-thirds of the overall site (166 acres) would be devoted to various types of open space and compensatory flood storage.

Exhibit 2.3-2 identifies the mix and amounts of land uses by planning area. Proposed uses are consistent with the objective of developing an employment center and with the PCI zoning of the site. Quantities by category are considered approximate; development amounts could shift between categories, based on market conditions and the findings of the environmental analysis, and subject to an overall maximum of 1.83 million square feet of gross leasable area. As described further below, building footprint area would be approximately 50,000 square feet greater than leasable area, reflecting common areas, utility space, etc.

The Proposal's land use mix emphasizes various categories of commercial, warehouse, and light industrial/manufacturing activities. Current planning and marketing for Planning Area 1 is focused on tenants who would produce and store wine, along with wine-related retail uses. Manufacturing and warehouse activities would comprise approximately 37% of total development (leasable area) and 46% of Planning Area 1 development. Based on leasable area, corporate campus office/ institutional use could be the largest potential land use on the site and could locate in Planning Area 3 later in the sequence of site development. At full buildout, using typical ratios of employees per square foot, the site could support approximately 3,410 jobs.

Retail and commercial uses are proposed in Planning Areas 1 and 3 and would comprise approximately 5% of total site development. The range of anticipated uses includes restaurants and specialty retail uses related to on-site industrial production (e.g., tasting room/wine store, or outdoor equipment sales). A conditional use permit could be required to allow wine tasting rooms. An indoor event space for weddings, parties, and corporate retreats would be integrated into the mixed-use portion of Planning Area 1. An average of one event per week is assumed, generally on weekends.

For the most part, developed portions of Planning Areas 2 and 3 are each devoted to a discrete category of land use – warehouse/manufacturing and campus/office, respectively. Some restaurant uses would be included to support on-site workers; a restaurant could also be developed near the historic power plant building.

Exhibit 2.3-2. Snoqualmie Mill Development Plan – Total Site (Gross Leasable Area/Gross Acres[1])

Land Use	Planning Areas			Site Totals[1]
	1	2	3	
Warehouse/Manufacturing	280,000 sf	400,000 sf		680,000 sf [37%]
Light Industrial	120,000 sf			120,000 sf [7%]
Retail/Restaurant[2]	70,000 sf		25,000 sf	95,000 sf [5%]
Residential (Mixed-Use)[3]	134,000 sf			134,000 sf [7%]
Office/Campus	–	–	800,000 sf	800,000 sf [44%]
Total	604,000 sf	400,000 sf	825,000 sf	1,829,000 sf
Building Footprint Area (Gross)	11 acres [11%]	9 acres	19 acres	39 acres [15%]
Open Space[4]	69 acres [68%]	34 acres	63acres	166 acres [64%]
Roads/Other Impervious[5]	22 acres [22%]	13 acres	21 acres	56 acres [22%]
Total Area [6]	102 acres	56 acres[6]	103 acres	261 acres

Notes:

[1] Numbers are rounded.

[2] Includes restaurant uses (approximately 15,000 sf), specialty retail (49,000 sf), and indoor event center spaces (31,000 sf).

[3] Assumes 160 residential units@835 sf located on the 2nd floor through 4th or 5th floors of mixed-use buildings in Planning Area 1. Units would be rental, market rate, in a mix of 1- and 2-bedroom apartments.

[4] Total open space is comprised of several types and categories: natural open space, which includes wetlands, streams and their associated buffers; constructed wetlands; undeveloped land used for compensatory flood storage, habitat, trails and passive open space); active open spaces including landscaped areas, landscaping within public plazas and lawn areas, small outdoor spaces adjacent to individual buildings, ornamental plantings and parking area landscaping. Planning Area 1 contains approximately 69 acres of passive and natural open space (including 53 acres subject to a conservation easement) and 5 acres of landscaped open space area.

[5] Includes roads, sidewalks, parking areas, plazas, etc.

[6] The total area of the development plan and Planning Area 2 include 15.7 acres that are located in unincorporated King County, which will be annexed to the city prior to a development proposal for Planning Area 2. Of the 15.7 acres, 12 acres are identified as open space and 4 acres would be developed for warehouse uses. Refer to Exhibit 2.3-3 for master plan calculations without the unincorporated parcel.

Source: Goldsmith 2018, 2020

Planning Area 1, however, would be developed for a mix of employment, retail, and residential activities, organized in a pedestrian-oriented village center adjacent to a "main street." Approximately 160 housing units are proposed on the second and higher floors of mixed-use buildings; residential uses may require a conditional use permit or could be authorized per the code's PCI and PUD review processes. Apartments would be for rent, at market rates, and would be a mix of one- and two-bedroom units, averaging approximately 835 square feet in

area. Some units would be workforce housing with residential units above and connected to commercial space. The mixed-use concept for Planning Area 1 is described further in Section 2.3.

A distinction in the calculations in Exhibit 2.3-2 should be noted. For purposes of analysis, the EIS uses gross leasable area and/or gross building footprint area to estimate impacts for different elements of the environment. Building area shown for individual land uses in the top half of Exhibit 2.3-2 is *gross leasable area (gla)*; this calculation is used in the EIS to identify impacts that will be driven by the number of employees or residents occupying the space devoted to the various land use categories. For these elements of the environment, it is ultimately the number of users or workers renting or occupying the space that will generate impacts, and users are typically estimated based on leasable area. Examples include transportation, air quality, noise, parks, and public services. Acreage figures shown in the bottom half of Exhibit 2.3-2 are based on *building footprint area*, i.e., the amount of area that would be physically covered by buildings. The EIS uses footprint area to calculate impacts related to site coverage, stormwater runoff, earthwork and flooding impacts, wildlife habitat and open space, land use, building bulk and scale, visual impacts, fiscal impacts, etc.

Building footprint area is approximately 50,000 sf greater than gross leasable area for Planning Area 1; this difference equates to 8% of planned building space in Planning Area 1 and less than 3% of the PCI plan overall. The difference is a reflection of common areas, corridors, and space for utilities that has been identified in preliminary design for the mixed-use residential and retail buildings in Planning Area 1; the difference is specific to the residential and retail building types in Planning Area 1 and would not characterize planned development in Planning Areas 2 and 3. As noted previously, the calculations of area/acres in Exhibit 2.3-2 is based on building footprints.

As noted previously, the development data in Exhibit 2.3-2 is based on the development plan for the Snoqualmie Mill site as a whole, including future development of the 15.7 parcel in Planning Area 2 that is located unincorporated King County but within the City's Urban Growth Area (UGA). The unincorporated parcel is excluded from the PCI Plan development application submitted to the City; this parcel would need to be annexed before the City could take any action on a development application. Exhibit 2.3-3 shows land use and site information for the PCI Plan excluding the 15.7-acre parcel located in King County. Exhibit 2.3-3 is a companion to Exhibit 2.3-2; differences in the data are minor. The analysis in the EIS, it should be noted, is based on the overall PCI Plan and development of the entire site over time, as reflected in Exhibit 2.3-2.

Exhibit 2.3-3. Snoqualmie Mill Development Plan – Total Site Excluding Planning Area 2 Unincorporated Parcel (Gross Leasable Area/Gross Acres[1])

Land Use	Planning Areas			Site Totals[1]
	1	2	3	
Warehouse/Manufacturing	280,000 sf	372,900 sf		652,900 sf [36%]
Light Industrial	120,000 sf			120,000 sf [7%]
Retail/Restaurant[2]	70,000 sf		25,000 sf	95,000 sf [5%]
Residential (Mixed-Use)[3]	134,000 sf			134,000 sf [7%]
Office/Campus	–	–	800,000 sf	800,000 sf [44%]
Total	604,000 sf	372,900 sf	825,000 sf	1,800,000 sf
Building Footprint Area (Gross)	11 acres [11%]	5 acres	19 acres	35 acres [14%]
Open Space[4]	69 acres [68%]	22 acres	63acres	154 acres [63%]
Roads/Other Impervious[5]	22 acres [22%]	13 acres	21 acres	56 acres [22%]
Total Area [6]	102 acres	40 acres	103 acres	245 acres

Notes:

[1] Numbers are rounded.

[2] Includes restaurant uses (approximately 15,000 sf), specialty retail (49,000 sf), and indoor event center spaces (31,000 sf).

[3] Assumes 160 residential units@835 sf located on the 2nd floor through 4th or 5th floors of mixed-use buildings in Planning Area 1. Units would be rental, market rate, in a mix of 1- and 2-bedroom apartments.

[4] Total open space is comprised of several types and categories: natural open space, which includes wetlands, streams and their associated buffers; constructed wetlands; undeveloped land used for compensatory flood storage, habitat, trails and passive open space); active open spaces including landscaped areas, landscaping within public plazas and lawn areas, small outdoor spaces adjacent to individual buildings, ornamental plantings and parking area landscaping. Planning Area 1 contains approximately 69 acres of passive and natural open space (including 53 acres subject to a conservation easement) and 5 acres of landscaped open space area.

[5] Includes roads, sidewalks, parking areas, plazas, etc.

Source: Goldsmith 2018, 2020

The DirtFish driving school is an existing use that is permitted to continue operating consistent with the terms of the adopted Pre-Annexation Agreement. The driving track extends over portions of the Snoqualmie Mill site. The PCI plan and the Redevelopment Alternative will both displace portions of the DirtFish track in increments, as each planning area develops; DirtFish operations will be displaced entirely when Planning Area 3 develops. In the interim, the track will be reconfigured, and portions relocated in increments, to permit operations to continue. The timing and location(s) of any reconfigured segments of the driving track have not been identified by DirtFish and are not known at this time. Any proposal by DirtFish to reconfigure its driving track would be independent of the Snoqualmie Mill PCI plan and subject to separate permitting and review.

Building Types and Design – Design Guidelines

Specific buildings have not yet been designed. Individual parcels within the property will be sold to developers who will design individual buildings. Building design would not occur until a development plan for the site is approved and building permit applications are prepared. As is common in planned commercial and industrial developments, the Snoqualmie Mill property owner will draft conditions, covenants, and restrictions (CC&Rs) that will apply to all parcels of land on the property and will govern internal management and development of the site. A property owners association will be created to manage and maintain the property, and to enforce the CC&Rs. Conditions of approval and mitigation measures adopted by the City will also apply to individual parcels of property.

The applicant will create a set of site-specific design guidelines that will apply to all buildings and other improvements constructed on the property. The guidelines will contain narrative and illustrative graphics, and will define the owner's objectives for site planning, architectural design, building materials, energy efficiency, landscaping, signage, lighting, street level uses, street furnishings, public art, and other design features and amenities. The guidelines will also incorporate applicable city standards and adopted conditions of approval. An architectural review committee will be established by the owner to review the design of development proposals for individual parcels before they are submitted to the City for review and approval. The proposed design guidelines will be submitted as part of a revised application package, prior to the Final EIS.

Although individual buildings have not been designed, examples of the types and general forms of buildings are identified for purposes of analysis in the EIS. The design concept is intended to echo the industrial history of the site. There are numerous examples in the U.S. and Canada of old industrial districts and brownfield sites that have been planned and redeveloped with a mix of uses similar to that proposed for Snoqualmie Mill. Yaletown and Granville Island, in Vancouver, B.C., and River North in Denver, CO are popular examples.

Industrial and warehouse buildings would generally be constructed of fabricated metal and glass with wood or brick trim and detailing, and pitched roofs. Individual single-use buildings in these categories could be up to approximately 55 feet high (measured from average grade) to accommodate planned types of uses. Building to this height would require a deviation from the existing 40-foot height limit in the PCI district. The district regulations encourage creative design and anticipate that the general standards may be modified in the context of individual plans. Building height, scale and bulk are discussed in Section 3.9 of the EIS

The applicant will continue to investigate the economic and engineering feasibility of adapting and reusing the historic Powerhouse building and the Planer building. Potential use of those buildings is not currently included in the land use program, however.

Office buildings in Planning Areas 2 and 3 would be constructed by a corporate or institutional user, who would determine building materials and design consistent with the Snoqualmie Mill property design guidelines. Office buildings could also be up to 55 feet (4-5 stories) in height.

Several mixed-use buildings are proposed along the main street in the Planning Area 1 village, along the main street. These would be up to 5 stories in height (60 feet, measured to the mid-point of the roof, 70 feet to the peak), of wood frame construction over a concrete podium. Residential units would be located on the second floor or higher, above flex space, which would be a mix of retail, office and light industrial. Residential units would be for rent at market rates and would be a mix of 1- and 2-bedroom units.

Open Space Retention and Landscape Plan

Preserving open space is a key element of the PCI plan, and development would be focused on a relatively small portion of the site. As noted previously, almost two-thirds of the site would remain undeveloped and dedicated to open space, trails, landscaped areas, wetlands (including restored and enhanced buffers), habitat and compensatory flood storage. Landscaping is intended to help knit these multiple open space uses together with planned development.

Exhibit 2.3-4 shows an overall landscape plan, which is focused on Planning Area 1 at this time. Plant species in major open space areas would consist primarily of native trees, shrubs, groundcovers, and grasses that reflect the existing vegetation of the site and its natural surroundings. A planting list will be included in the design guidelines. Selected landscape areas throughout the site and parking lot are planned to be used as natural filtration areas, providing pollutant removal, stormwater infiltration, and wildlife habitat. The placement of buildings and landscape features will also be planned and designed to preserve and highlight important on-site view corridors of historic and natural features.

Landscaping would also serve to coordinate the types and locations of plantings with site uses and functions. For example, plant species such as hops and grapes could be planted along Hops Ave. and Vine Ave. pedestrian ways to reinforce the wine-related building uses they lead to.

A landscaped open space is also proposed west of the realigned portion of Mill Pond Road, adjacent to the Snoqualmie River and the stormwater outfall. A conceptual plan for this area is shown in Exhibit 2.3-5. The pavement of the abandoned portion of the road would be removed and revegetated to provide additional wildlife habitat.

The trail system within Planning Area 1 is described further in the next subsection.

Exhibit 2.3-4. Overall Landscape Plan



FIGURE 2-4

SNOQUALMIE MILL | OVERALL LANDSCAPE PLAN | WEISMANDESIGNGROUP

Source: Weisman Design Group 2018

Exhibit 2.3-5. River Outfall Landscaping



Source: Weisman Design Group 2018

Roads and Trails

Roads

Primary access to the site would be from SR 202 and Mill Pond Road. As shown on Exhibit 2.3-1 and Exhibit 2.3-6, a portion of existing Mill Pond Road would be realigned and moved further to the north and east. A roundabout would be constructed at the entrance to Planning Area 1 and would provide access to Mill Street, the main street through the Planning Area 1 mixed-use area. Internal streets and drive aisles would connect to individual buildings and parking areas.

The pavement from the abandoned/reconstructed portion of existing Mill Pond Road would be removed and converted to open space, landscaping, wildlife habitat and a recreational trail. A viewing lookout would also be constructed adjacent to the river, overlooking the stormwater outfall.

A second access road, connecting Mill Pond Road to Planning Areas 2 and 3 and generally indicated on Exhibit 2.3-4, would be constructed to support these subsequent phases of the proposal.

Exhibit 2.3-5 shows a landscaping concept for this portion of the site. The new road would be a public road built to city standards.

Exhibit 2.3-6. Mill Pond Road Section

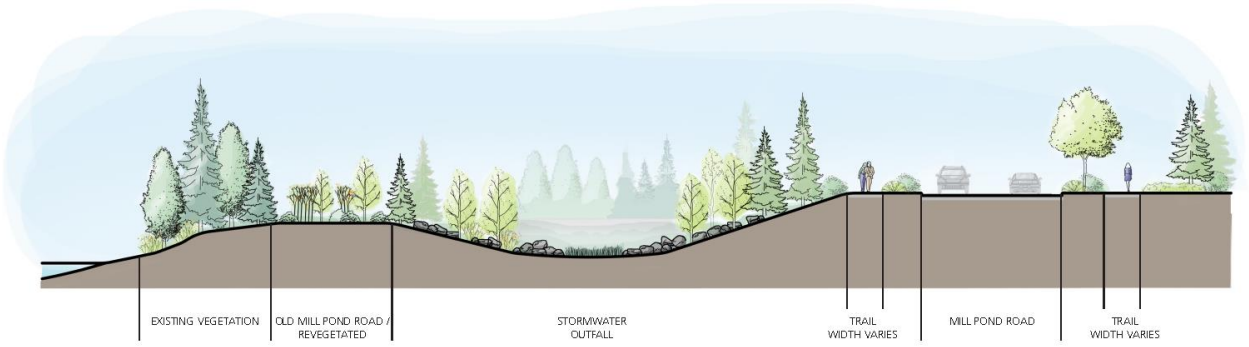


FIGURE 2-11

SNOQUALMIE MILL | MILL POND ROAD SECTION | WEISMANDESIGNGROUP

Source: Weisman Design Group 2018

Exhibit 2.3-7 shows the proposed design of Mill Street, which travels through the mixed-use area. The street would contain two travel lanes, with angle parking on both sides. Sidewalks

would be 20-feet wide (measured from building façade to curb) on the north side and 12 feet on the south side. Pedestrian amenities would include benches, outdoor seating areas associated with retail uses, street trees and planters. All on-site roads would be private and maintained by the applicant.

Exhibit 2.3-7. Mill Street Section

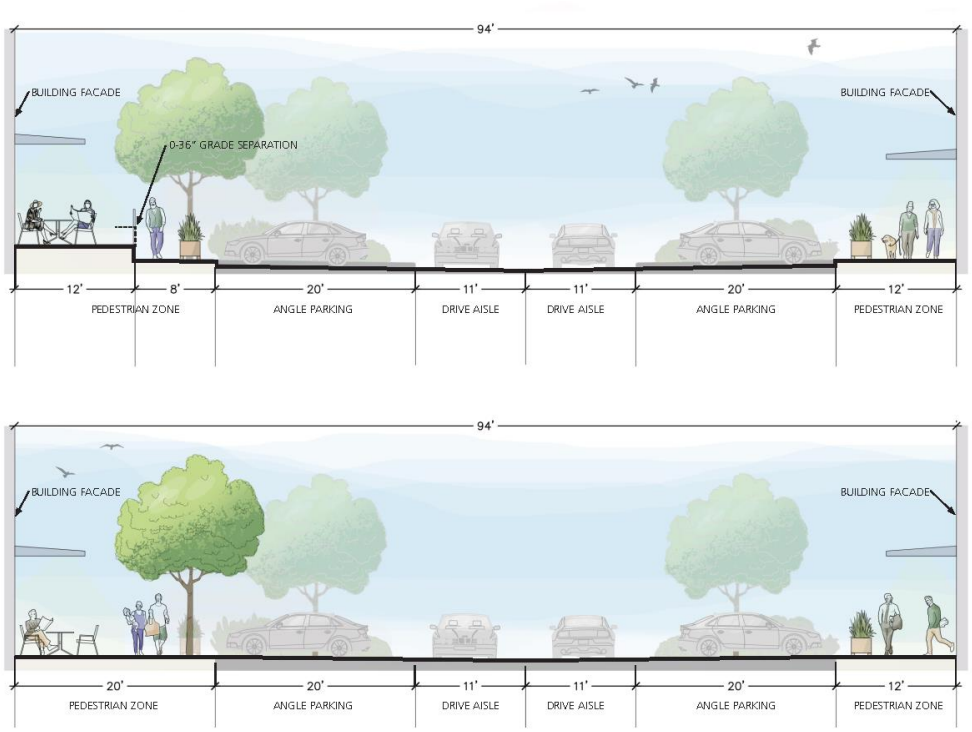


FIGURE 2-5

SNOQUALMIE MILL — MILL STREET SECTION, FACING EAST — WEISMANDESIGNGROUP

Source: Weisman Design Group 2018

Heavy truck traffic associated with Planning Area 1 will use the internal drive aisle adjacent to the warehouse area for access to and from the site. The drive aisle connects to a portion of the private haul road west of the site. Use of this access route will avoid placing Planning Area 1 truck traffic on Mill Street and the haul road to the north.

Planning Area 2 truck traffic, however, would use the haul road to the north. The haul road is bounded by wetlands and streams and would be difficult to widen or improve without affecting critical areas. Pedestrian facilities and curbs would not be proposed in conjunction with any widening due to the primary use of the haul road by heavy trucks and identified environmental limitations. The need to widen the haul road in spots and resulting effects on critical areas would be evaluated in greater detail in conjunction with development planning for Planning Area 2.

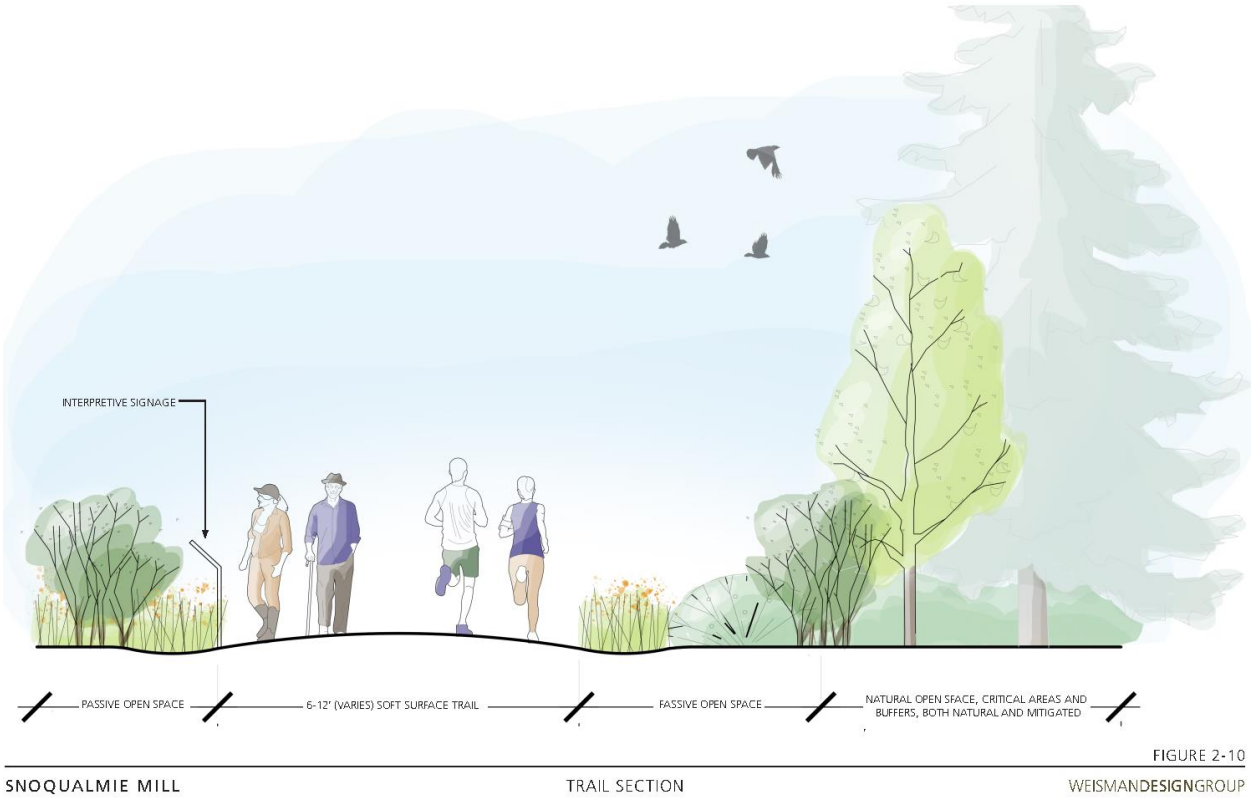
Replacement and expansion of the existing SR-202 bridge crossing the Snoqualmie River is included in the City of Snoqualmie Transportation Improvement Plan (for 2019-2024). The project is not included in WSDOT's current Capital Improvement Plan, however, and is not

funded at this time. The existing bridge has sufficient capacity to support proposed development of Planning Area 1 (see Section 3.11 of the Draft EIS); however, a new bridge would be necessary to support traffic associated with full buildout of the Snoqualmie Mill PCI Plan. Planning, design and funding for a new bridge would require a cooperative effort among the City, WSDOT and the applicant; additional environmental review would also need to occur. The timing of this improvement is uncertain at this point. The Transportation section (3.11) of the Draft EIS contains additional information about the new bridge and related improvements.

Pedestrian Trails

A planned system of trails would provide on-site pedestrian connections and recreational opportunities. Future pedestrian connections and extensions of the trail system are generally indicated on the landscape plan, including a connection to the City's planned Riverwalk Trail; specific trail locations cannot be identified with certainty at this time. The landscape plan will be expanded in increments to provide detail for subsequent phases of development as detailed site planning extends across the balance of the property. Exhibit 2.3-8 shows a section of the trail.

Exhibit 2.3-8. Trail Cross Section



Source: Weisman Design Group 2018

On the Snoqualmie Mill site as a whole, the trail system would be focused in the large central open space area in Planning Area 3; more detailed planning and design for these future trails

would occur in conjunction with ongoing planning for Planning Area 3. The Snoqualmie Mill trail system would also provide connections to the City's planned Riverwalk Trail to the south, and to King County's regional Snoqualmie Valley Trail to the east.

Exhibit 2.3-4 identifies approximately 5,000 linear feet of trails and walkways that are planned in Planning Area 1 and adjacent to the Snoqualmie River west of Mill Pond Road. (Note that this trail calculation does not include pedestrian paths within Planning Area 1's parking area or sidewalks along Mill Street.) Approximately 2,600 linear feet of soft-surfaced trails would be located in Planning Area 1 within open space areas, on the south and east sides of the parking area and around the lawn area. As shown on Exhibit 2.3-8, trails would vary from 6 to 12 feet in width.

Exhibit 2.3-5 reflects the conceptual landscaping plan for the area along Mill Pond Road adjacent to the Snoqualmie River. Approximately 2,400 linear feet of hard surface trail/sidewalk would be constructed along both sides of the realigned Mill Pond Road in this general location.

Parking

Off-street parking would be provided in surface lots located adjacent to planned buildings. The site plan proposes 2,974 parking spaces, which is slightly more than required by City code for the categories of land use proposed. Parking supply for Planning Area 1 includes 854 spaces; some on-street parking would be located along the main street, but primarily in a surface lot located south of the residential buildings. Parking lot landscaping and lighting would be provided according to requirements of the city code.

Wetland Buffer Restoration and Enhancement

Virtually all of the wetland buffers in Planning Area 1 are highly degraded, and are affected by existing roads, other impervious surfaces, compacted fill and sparse vegetation. The wetland mitigation concept incorporated in the PCI plan proposes to enhance currently degraded wetland buffers as mitigation for focused buffer intrusions or reductions, while avoiding significant impacts to the wetlands. The objective is to produce a net benefit to wetland water quality and habitat functions for the site as a whole. Overall, the plan would provide more wetland buffer than is required by the City's critical Area regulations. Almost 18 acres of wetland buffer would be enhanced and/or restored. Enhancement would consist of plantings of native trees, shrubs, and herbaceous species. This same concept would be applied to buffers adjacent to the Snoqualmie River, west of Mill Pond Road, and to wetlands in future planning areas. The buffer plan would retain a large forested area around the wetlands in the southern portion of Planning Area 1 and provide a habitat corridor connecting onsite wetlands to Mill Pond and the Snoqualmie River. Planning Area 1 would also construct an underpass under the realigned Mill Pond Road to facilitate wildlife movement and the movement of flood water.

The proposed enhancement strategy is based on provisions in the PCI zoning district regulations, which allows the City Council to approve deviations from some development standards in the City code when deviations would advance the purposes of the district and when consistent with protection of health, safety and the environment (SMC 17.20.050.I). The

critical area regulations also authorize enhancement and mitigation plans (SMC 19.12.170. F & H2). The proposed approach is discussed in greater detail in Section 3.4 – Plants and Animals, and in Appendix C. A detailed mitigation plan meeting the requirements of the code would be submitted in conjunction with a building permit application.

Development in the Floodplain

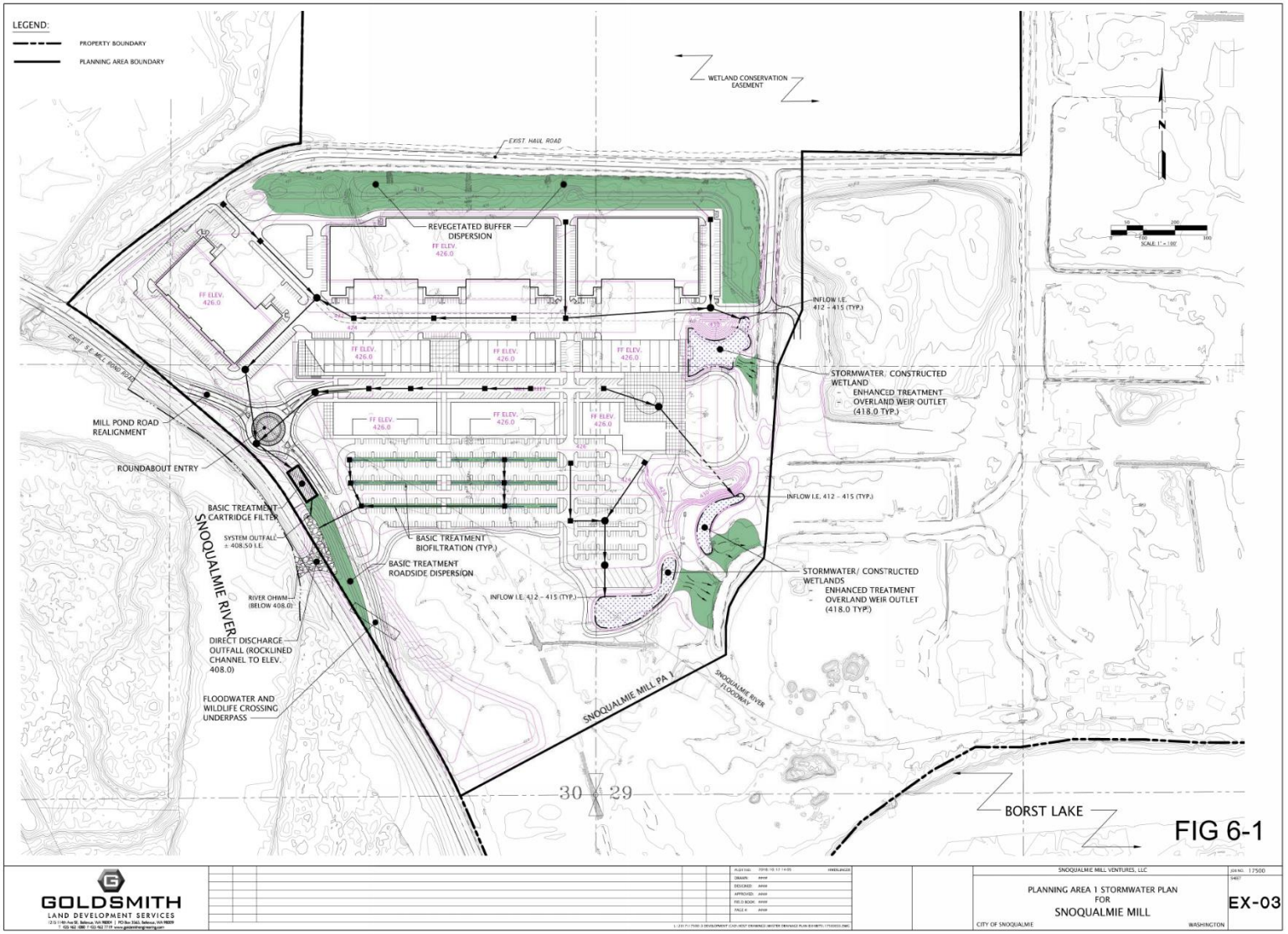
The Snoqualmie Mill site is within the 100-year floodplain of the Snoqualmie River; a portion of the floodway extends into the western and southern portions of Planning Area 1. A portion of Planning Area 3, located south of Mill Pond Road, is also within the floodway and zoned Open Space (OS); it would not be developed. Construction of buildings and other facilities in the floodplain would displace flood storage and would require actions to ensure no net rise in flood elevations; mitigation is required by City and FEMA regulations. Preliminary engineering estimates indicate that approximately 400,000 cubic yards (cy) of displacement (fill) could occur, and an equal volume of compensatory storage will be created to ensure no increase in flooding. The project's stormwater management plan, relatively low intensity of development, maintenance of extensive open space, grading of some open spaces, and removal/over-grading of the railroad berms, are complimentary elements of a plan to avoid any rise in flood elevations. A detailed analysis of flood impacts is included in Section 3.3 – Water Resources, of the EIS.

Section 3.1 – Earth Resources describes the characteristics of on-site soils and identifies the construction and engineering approaches that would be used to address soil limitations, including the site's floodplain location, the presence of extensive fill, and identified geologic hazards, including soils susceptible to liquefaction or movement during earthquake events.

Stormwater Management

The Snoqualmie Mill site stormwater management plan is shown graphically in Exhibit 2.3-9**.** The Master Drainage Plan (MDP) document is included in Appendix A. Section 3.15 – Utilities, of the Draft EIS discusses stormwater management in detail. The proposed stormwater system will be constructed by the applicant, then dedicated to, and operated and maintained by, the City.

Exhibit 2.3-9. Stormwater Management Plan: Planning Area 1



Source: Goldsmith Engineering, 2020.

The MDP was guided by the 2016 *King County Stormwater Management Manual* (KCSWDM), and the 2012/2014 *Department of Ecology Stormwater Manual for Western Washington* (Ecology Manual). The plan for managing stormwater includes conveyance, treatment, and discharge. Stormwater runoff would be collected from buildings, roads, parking areas, and other impervious areas; conveyed and treated, as described further below; and discharged to the Snoqualmie River either through a constructed outfall and/or through on-site and off-site wetlands and streams to maintain wetland hydrology, and via constructed wetlands. The Ecology Manual and KCSWDM designate the Snoqualmie River as appropriate for direct discharge. Conveyance would occur through a combination of channels, swales, and pipes. Stormwater treatment methods would include dispersion through wetland and stream buffers, bio-filtration swales, media filter, and constructed stormwater wetlands. Treated stormwater would drain to conveyance channels located in the large central open space area for discharge to on-site streams, Borst Lake, and primarily to the Snoqualmie River. Perimeter areas along the north and east portions of Planning Area 1, including the berms, would be graded and revegetated to allow sheet flow dispersion of runoff from perimeter roads and parking areas.

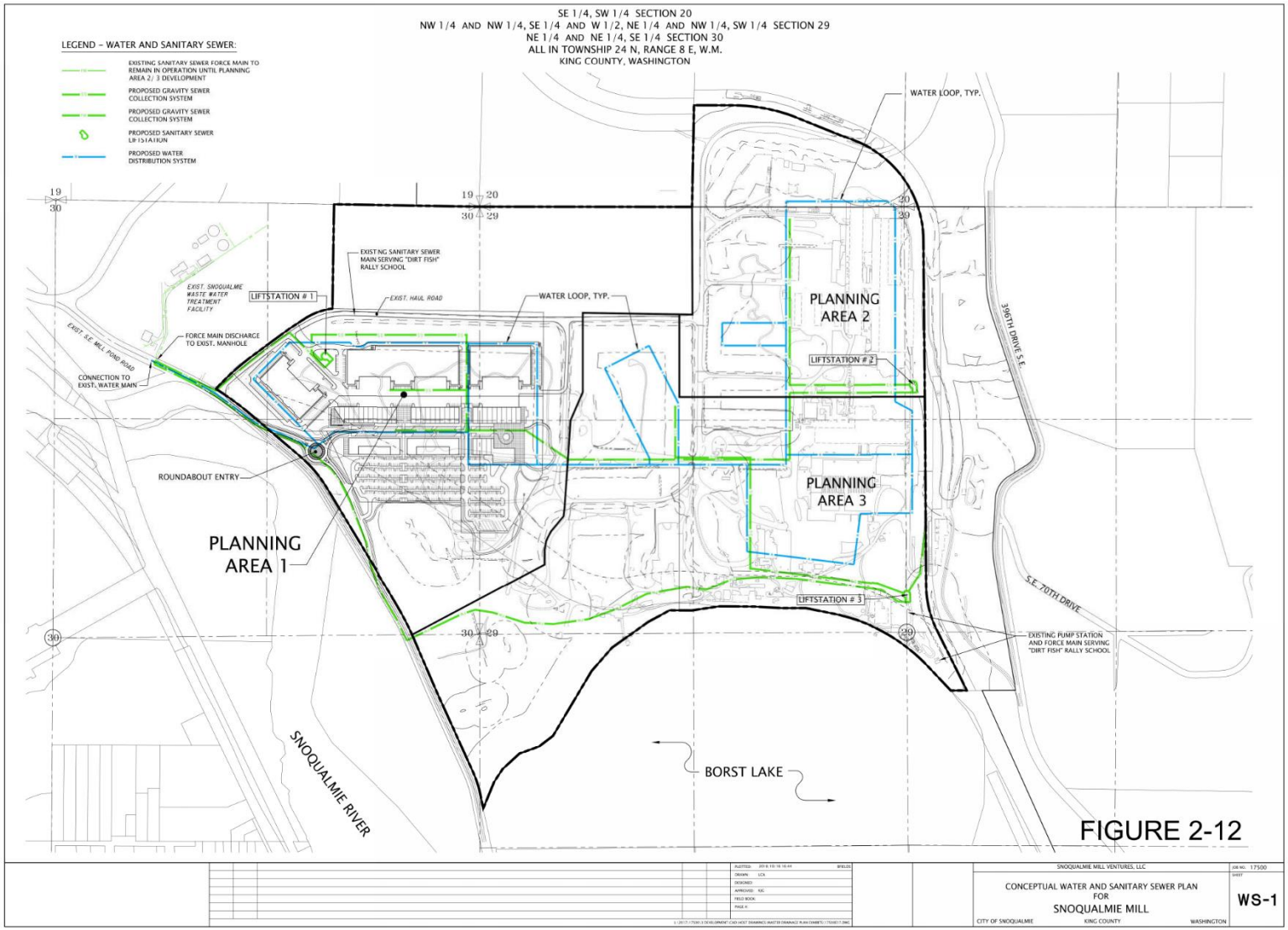
Utilities – Sewer and Water Service

Conceptual utility plans are described in Section 3.15 – Utilities and shown in Exhibit 2.3-10. The proposal would connect to the City's sewer and water systems, which currently provide service to the Mill site. The Snoqualmie Mill sewer system would use a combination of gravity flow to collect wastewater and lift stations to convey wastewater to the City's wastewater treatment plant, which is located just northwest of the Mill site. Three lift stations are proposed, one located in each Planning Area. The Planning Area 1 lift station would be constructed in conjunction with, and to serve development of, Planning Area 1, but it would be designed to be upgraded when Planning Areas 2 and 3 come online. Section 3.15 of the Draft EIS evaluates wastewater system capacity and evaluates projected demand associated with the Snoqualmie Mill proposal.

The Snoqualmie Mill site is also within the City's water service area. The adopted Water System Plan (2013) extends to 2032 and is currently being updated; it is expected to be completed in Spring/Summer of 2020. The adopted Water System Plan does not currently include the specific growth associated with the Snoqualmie Mill site and PCI Plan in its projections of future water demand. The revised Plan will extend to 2040 and will include the population and employment associated with the Snoqualmie Mill PCI Plan. The water service information in the Draft EIS is based on preliminary information provided by the City; it is the best information available at this time. The Final EIS will update the water analysis using the revised Water System Plan or whatever additional information is available at that time.

According to information available at the time of this writing, additional water sources and/or some upgrading of parts of the existing water system may be needed to serve some portion of projected growth. Section 3.15 of the Draft EIS contains a detailed discussion of supply and estimated demand for water associated with the proposal. Sewer and water utility infrastructure, and the on-site stormwater management system, will be constructed by the applicant, then dedicated to, operated and maintained by the City.

Exhibit 2.3-10. Mill Site Conceptual Water and Sewer Plan



Source: Goldsmith Engineering, 2020.

Sustainability

"Sustainable development" is one of the central themes of the City's vision articulated in the Snoqualmie 2032 Comprehensive Plan. Sustainability is reflected in a "pattern of resource use that meets human needs, while preserving the environment for present and future generations." (City of Snoqualmie, 2014). Components of sustainability, as identified in the adopted Snoqualmie Sustainability Strategy (2010), include the following elements relevant to the PCI plan: flooding and climate change hazards, energy efficiency, ecosystem protection, land use, green infrastructure and water, green buildings, and economy.

Sustainability principles are reflected in numerous elements of the PCI Plan. Examples include the following. The proposed plan would:

- Preserve almost two-thirds of the site as open space;
- Avoid direct impacts to wetlands and streams and restore and enhance wetland buffers;
- Balance cuts and fills on-site and avoid any increase in flooding;
- Establish a goal of LEED gold or platinum certification to achieve energy efficiency (to be included in the design guidelines, discussed previously);
- Provide a substantial number of jobs and a mix of commercial and residential uses in mixed use buildings along a pedestrian-oriented main street;
- Be proximate to housing; and
- Generate significant new revenues to the city.

Consistency of the PCI Plan with a range of Snoqualmie policies, including policies related to sustainability, is addressed further in Section 3.7 – Consistency with Plans and Policies, of the Draft EIS, and in individual sections of the EIS that address geology, water resources and flooding, wetlands, air quality/greenhouse gas emissions, land use, wetlands/plants and animals, sewer and water utilities, population/housing/employment, and fiscal impacts.

PCI Plan - Planning Area 1

Planning Area 1 is planned to be the first phase of development of the Snoqualmie Mill PCI Plan. It is defined with greater detail in the PCI application, and is evaluated in greater detail in the EIS. Please refer to the discussion of phased environmental review in Section 2.2 above.

Exhibit 2.3-11 provides an excerpt of the site plan focused on Planning Area 1. Exhibit 2.3-2 provides quantitative data about planned land uses, which are also described below.

Land Use Concept

Planning Area 1 is a 102-acre area located in the northwestern portion of the Snoqualmie Mill site. The proposed PCI Plan would develop 604,000 square feet of warehouse/manufacturing, light industrial, retail/restaurant and outdoor performance space. Development (buildings, roads and other impervious area) would occupy approximately 33% of the planning area (33 acres), and 68% would be retained as open space (69 acres). Large natural open spaces would

be located north and south of the developed area, with additional landscaped open spaces integrated into the planning area.

The PCI Plan's land use objective for Planning Area 1 is to develop a complimentary mix of commercial, industrial, retail, and residential uses along a pedestrian-oriented main street, within a larger planned development. The main street would be oriented towards Mt. Si and encompass views of the historic Planer Building and surrounding open space. As shown on Exhibit 2.3-11, industrial and warehouse uses would be located in the northern portion of Planning Area 1; a mix of manufacturing, office, retail, and residential would develop in the middle; and an event facility and open space would be located on the south. The congregation of related uses in a compact area would encourage the efficient production, storage and movement of goods on site, and facilitate interaction with tourists/visitors.

Warehouse uses would comprise close to 50% of land uses in Planning Area 1, and light industrial uses would comprise approximately 20%. The applicant anticipates that a compatible type of light industrial producer, of reasonable intensity and scale, will anchor the industrial element of the planning area and provide support for other uses. Current marketing efforts are focused on a producer of wine or a manufacturer of outdoor clothing or gear. For the environmental analysis, the EIS assumes that the primary industrial user will be a wine manufacturing company, who will also occupy proximate office and warehouse space. This primary user would anchor a wine district and attract other wine producers and related businesses. Compatible and related retail and tourism uses would develop proximate to the production facilities.

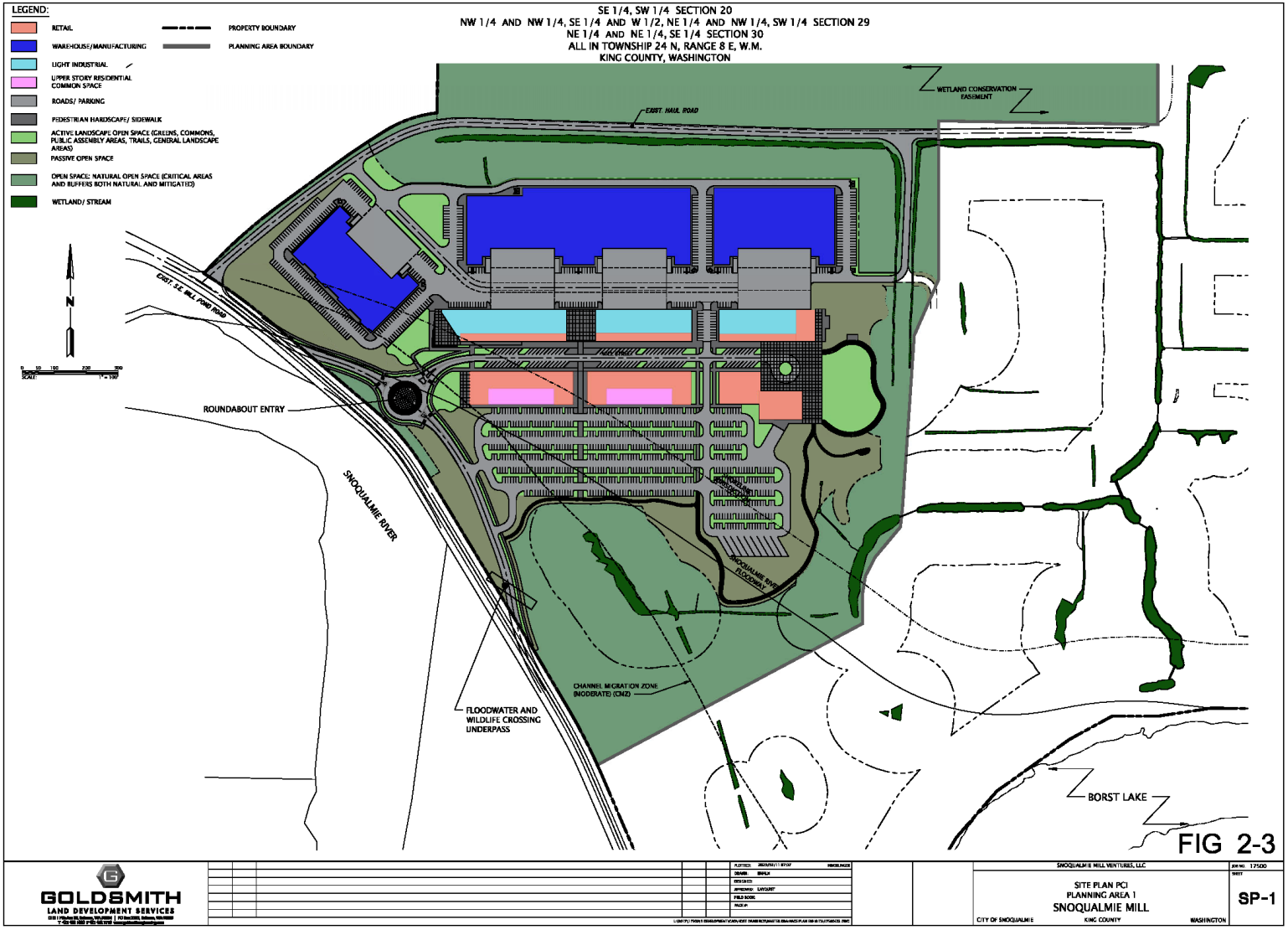
Light industrial "flex space" would accommodate a mix of office, manufacturing, and retail activities within the same building. Assumed uses are within the range of activities permitted in the PCI district.

Commercial uses would include retail establishments, such as wine bars, restaurants, and specialty retail stores, which are compatible with an industrial setting. Some commercial uses would be symbiotic with wine production. The event center would accommodate weddings, corporate meetings and events, and similar activities. For purposes of analysis, an average of one event per week is assumed to occur on weekends, with an average attendance of 100 people.

Residential units would be located on the second (and/or third) floor(s) of mixed-use buildings containing retail, office, and light industrial uses. Residential units would be for rent at market rates and would be a mix of 1- and 2-bedroom units. Average unit size is assumed to be 835 square feet.

Specific uses within individual buildings will depend on market interest and cannot be predicted with precision at this stage of planning. The EIS has used reasonable assumptions about the types and quantities of various uses, and the operational characteristics and impacts associated with potential uses, including the focus on winemaking in Planning Area 1.

Exhibit 2.3-11. Planning Area 1 Site Plan



Source Goldsmith 2020.

Winemaking Operations

For purposes of analysis, the EIS assumes there will be a total of 12 commercial wineries located in Planning Area 1. Operations are expected to be small and medium size, producing between 2,000 and 6,000 cases of wine annually; only one winery is assumed to be larger, producing approximately 10,000 cases per year. Total production of all Snoqualmie Mill wineries is estimated to be approximately 47,500 cases per year. These quantities are estimates, since tenants are not known at this time. To provide a sense of scale, Columbia Crest, the state's largest winery, sold 7.75 million cases in 2017; and L'Ecole No. 41, the 12th largest in sales, sold approximately 44,000 cases in 2017. The smallest of the top 50 wineries in 2017 produced more than 10,000 cases (Puget Sound Business Journal, 2018).

The process of making wine occurs in 5 primary steps. These are described briefly below.

1. Harvesting. The harvesting of grapes would occur offsite, typically in Eastern Washington. Grapes would be transported to the site by truck for subsequent processing.
2. Crushing and Pressing. Crushing follows the grape harvest, usually in October. Grapes are sorted, de-stemmed, and crushed, either by foot stomping or, more frequently by mechanical press. Crushing sometimes occurs outdoors. The crushed grapes produce "must", which is pressed grape juice with skins, seeds, and solids. Crushed red wine is left in contact with skins to acquire flavor, color, and tannins; the must is loaded into a hopper and taken by conveyor to fermentation vessels. For white wines, the juice is separated from the skins, seeds, and solids. This step typically occurs over one weekend in October.
3. Fermentation. The process of fermentation converts sugar into alcohol. Grapes are fermented in stainless steel tanks or oak barrels; the process takes from one to two weeks, up to one month or longer. Cultured yeasts may be added to aid fermentation. The grape skins are pressed down using a robotic plunger or by hand, using poles. Alternatively, wine from the bottom of the tank may be pumped back over the skins. Sometimes the wine is pumped out of the tank and then back in to introduce oxygen. Tanks may be open or closed (with a vent to allow CO_2 to escape). The remaining skins are pressed to extract any remaining wine.
4. Clarification. Clarification removes solids, yeast cells, and tannins. When fermentation is complete, red wine is drained off the skins and transferred ("racked") into oak barrels or stainless-steel tanks. The wine is clarified through filtration or "fining" (adding substances to clarify and using a filter to capture larger particles). The clarified wine is racked into another vessel and prepared for aging or bottling.
5. Aging and Bottling. Aging can occur in bottles, stainless steel tanks, or oak barrels, and can take from six months to three years. Some wines use preservatives (sulfur dioxide or potassium sorbate), while others do not.

All Snoqualmie Mill winemaking operations, including crushing, would take place indoors. All chemicals used in production, primarily for cleaning winemaking equipment, would be stored in areas that would contain any accidental spills. Producers would also adopt Spill Prevention and Emergency Response Plans to prevent and address incidental spills. Process wastewater would

be pre-treated before conveyance to the City's wastewater treatment plant. The finished grade of the buildings housing winery production would be above the base flood elevation.

Building Scale and Character

Buildings will reflect a mix of designs, varying with the functions of the buildings. Industrial production activities will be visible from the street and within mixed use buildings. Representative design concepts are illustrated in Section 3.9 – Aesthetics, Light, and Glare, of the Draft EIS. Design and materials would echo the site's history. Building materials are anticipated to include fabricated metal, with glass and wood accents. Mixed-use buildings along the main street would be 3-4 stories and wood frame construction. Several large manufacturing/ warehouse buildings would be located in the northern portion of the planning area.

Please refer to the previous discussion of the overall PCI plan for additional information.

Roads and Trails

A roundabout would be constructed at the project entrance on Mill Pond Road and would provide access to Mill Street, the main street through the mixed-use village center. The village will be pedestrian-oriented, with sidewalks and pedestrian amenities, including benches, street trees, planters, and ornamental lighting.

A drive aisle adjacent to the warehouse uses connecting to the existing haul road to the west is included in the site plan. Truck traffic associated with industrial and warehouse uses in the northern portion of the planning area would use this route; this would avoid placing heavy trucks on Mill Street or the haul road to the north. Additional private streets and drive aisles would connect individual building sites and parking areas to Mill Pond Road.

In 2016, prior to submittal of the PCI application, the City and the applicant executed a development agreement that addressed some future transportation impacts. The agreement requires a voluntary payment to the city to mitigate anticipated impacts from the initial phase of development of Snoqualmie Mill (600,000 square feet) to the Tokul Road roundabout.

Several initial segments of Snoqualmie Mill's planned trail system would be constructed in Planning Area 1 and would provide pedestrian connections to the extensive trail system planned in the central open space area, and to development in Planning Areas 2 and 3. Most pedestrian activity in Planning Area 1 would be focused along Mill Street in the mixed-use village center.

Please refer to the prior discussion of Roads and Trails for the overall PCI plan and associated exhibits (Exhibit 2.3-6, Exhibit 2.3-7 and Exhibit 2.3-8) for additional information.

Parking

Parking areas shown on Exhibit 2.3-1 are sufficient to accommodate employees and visitors anticipated to use planned buildings and would meet City off-street parking standards. The size of parking areas could be modified somewhat to reflect subsequent building plans.

Wetland Buffer Restoration and Enhancement Plan

The proposed approach to restoring and enhancing degraded wetland buffers in Planning Area 1 and adjacent to the Snoqualmie River is described in Section 2.3 above.

Development in the Floodplain

Based on initial earthwork estimates, Phase 1 development would involve filling approximately 50-60 % of Planning Area 1 and would displace an estimated 100,000 cubic yards of flood storage. Proposed open space and grading would create an estimated 150,000 cubic yards of compensatory storage and would ensure no net rise in flood elevations.

Detailed geotechnical analysis, described in Section 3.1 – Earth Resources, identifies appropriate techniques for construction on the site's soils within the floodplain. All residential units would be on the 2nd floor or higher, as required by the City's flood hazard regulations.

Stormwater Management

The first phase of development would include construction of a piped outfall to the Snoqualmie River, which is proposed to be located near an existing culvert beneath Mill Pond Road; this culvert currently conveys drainage from a wetland in the conservation easement area on the north side of Planning Area 1. A conveyance channel would also be constructed along the west side of the re-aligned Mill Pond Road to collect runoff from the open space area and treatment facilities. The stormwater system would be privately owned and maintained and separate from the City system.

Utilities

Sewer and water service for Planning Area 1 are described in Section 2.3 above.

EIS Alternatives

Two alternatives, in addition to the Proposed PCI Plan, have been developed based on SEPA requirements and the applicant's stated project objectives: No Action and an alternative redevelopment scenario. The purpose of an alternative in an EIS is to provide a comparison to the proposal and to explore opportunities for impact mitigation. While the alternative articulates a theoretically possible development scenario, it is not a plan that is proposed or desired by the applicant.

It should be noted that EISs may sometimes refer to a specific development proposal, such as the PCI Plan, as the "proposal" or the "proposed action", or as an "alternative" or the "preferred alternative." In the context of SEPA definitions and requirements, there is no functional or substantive difference among these various terms. They all refer to a course of action that is being considered or that has been formally proposed by an applicant. If the PCI Plan was referred to as an "alternative", this EIS would include 3 alternatives, rather than a proposed plan plus 2 alternatives; irrespective of terminology, the scope and approach to the analysis would be the same. And regardless of what it is called, any proposal or alternative is subject to modification based on the analysis of impacts and mitigation measures in the EIS.

Because the Snoqualmie Mill development plan is the subject of a formal application that has been submitted/proposed to the City, this EIS uses the terms proposal, proposed action or proposed PCI Plan.

No Action Alternative

SEPA requires that an EIS contain a No Action alternative. For Snoqualmie Mill, "no action" means that the proposed action, the PCI Plan, would not go forward, and the City would not act on the proposal. Since City policies and regulations require approval of a PCI Plan as a pre-requisite for redevelopment, no redevelopment of the Mill site would occur under this scenario. Existing on-site uses, including DirtFish Rally and other uses identified in Section 2.2, would continue indefinitely, as permitted by the Pre-Annexation Agreement. While redevelopment is likely at some point in the future, it is not assumed in the near term or in the context of the current proposal. The No Action Alternative in the EIS primarily serves as a baseline against which the proposal and other alternatives can be measured.

Redevelopment Alternative

An alternative site plan and redevelopment program is shown in Exhibit 2.3-12 and Exhibit 2.3-13. The alternative includes 1.85 million square feet of gross leasable area, which is generally comparable to the proposal, but with a different land use mix and emphasis. Open space and building/impervious site coverage would be comparable to the proposed PCI Plan – 64% and 37% respectively. Building layout in Planning Area 1 would also be comparable to the proposed PCI Plan, as would the timing and phasing of development. Holding the development amount, site coverage, sequence and timing of development constant is intended to help focus on the environmental consequences of changing the focus and mix of land uses.

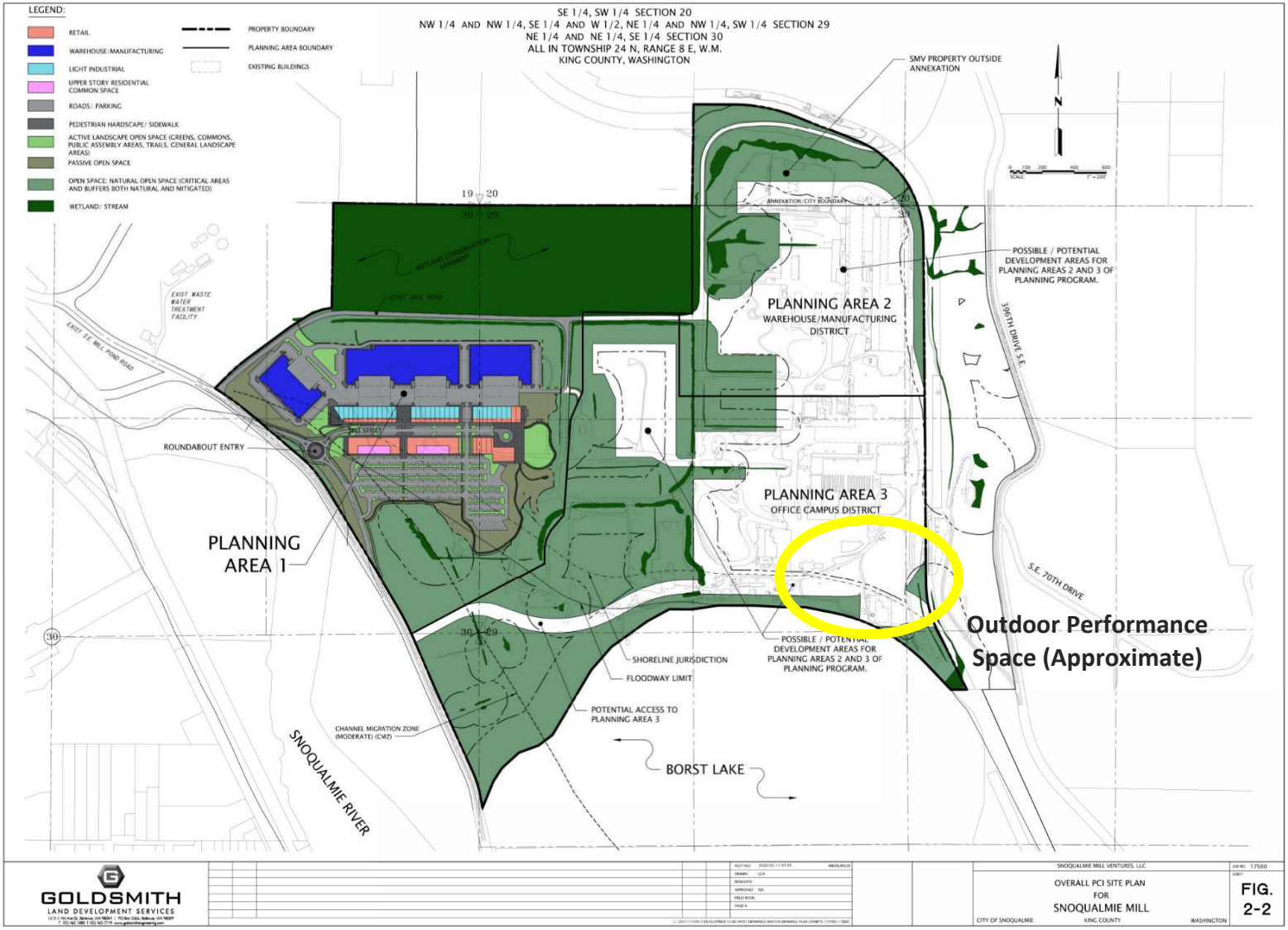
Land use in the Redevelopment Alternative would be predominantly warehouses; combined with manufacturing and light industrial use, these land use categories would comprise 80% of total development, compared to 45% for the PCI Plan. Compared to the proposed action, retail and office uses would be reduced, and a smaller indoor event space would be developed. Residential units would be 25% fewer than the PCI Plan. Compared to the proposed PCI Plan, total development in Planning Area 1 would be less and development in Planning Area 3 would be somewhat greater. Like the PCI Plan, Planning Area 1 would focus on wineries and compatible, related uses.

The Redevelopment Alternative includes an outdoor performance space in the southeast portion of Planning Area 3. It assumes approximately 3.7 acres of landscaped open space with a constructed stage, with capacity for approximately 5,000. An average of two performances per week are assumed, from June through September, typically on weekend evenings. (These assumptions are based on the 2017 concert program at the Chateau Ste. Michelle winery in Woodinville, which is comparable in area and capacity.) All parking would occur on site. Planning Area 3 is not expected to develop until the latter stages of site development (approximately 2030-2032).

The Redevelopment Alternative could generate approximately 54% fewer jobs than the PCI Plan – 1,570 jobs for the alternative compared to an estimated 3,410 jobs for the Proposal - which is

a result of the lower employment density (i.e., average jobs per square feet of space) associated with warehouse and industrial uses compared to office uses. In terms of environmental consequences, fewer jobs would also result in reduced impacts to many elements of the environment, including traffic, water consumption, public services and facilities, and utilities. A change in types of land uses and fewer jobs could also result in reduced tax revenues to the City; the EIS alternative will enable and permit decisionmakers and the public to consider these types of comparisons and trade-offs.

Exhibit 2.3-12 Redevelopment Alternative Site Plan



Source: Goldsmith, 2020, BERK 2020.

Similar to the PCI Plan, building footprint area for the Redevelopment Alternative would be approximately 25% larger than the gross leasable area shown in Exhibit 2.3-13. Increases would total approximately 46,500 square feet and would be specific to the mixed-use residential and retail buildings and uses in Planning Area 1. Planning Area 1 building footprint area would total 634,500 square feet, and total site development would total 1,898,200 square feet.

Exhibit 2.3-13. Redevelopment Alternative (Gross Leasable Area)

Land Use	Planning Areas			Total [1]
	1	2	3	
Warehouse/Mfg	291,000 sf	390,000 sf	715,000 sf	1,396,000 sf
Lt. Industrial	96,000 sf			96,000 sf
Retail/Restaurant	82,000 sf	-	-	82,000 sf
Office	-	-	156,000 sf	156,700 sf
Residential [2]	104,000 sf	-	-	104,000 sf
Outdoor Performance Space [3]	-	-	2,000 sf (stage)	2,000 sf
Event Center	15,000 sf	-	-	15,000 sf
Totals	588,000 sf	390,000 sf	873,000 sf	1,851,700 sf

[1]Numbers rounded.

[2]Assumes 120 market rate rental units in a mix of 1- and 2-bedroom units, averaging 835 sf.

[3]Assumes a 3.7-acre landscaped/grass open space area with a permanent stage (2,000 sf), and a capacity for approximately 5,000. An average of 2 concerts per week are assumed to occur primarily on weekend evenings from June through September. (Assumed frequency is based on the 2017 concert schedule for the St. Michelle winery in Woodinville, WA, which is comparable in area and capacity.)

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3.0 Environmental Analysis

This chapter describes the affected environment, potential impacts, and mitigation measures for the following topics:

- Section 3.1: Earth Resources
- Section 3.2: Air Quality and GHG
- Section 3.3: Water Resources
- Section 3.4: Plants and Animals
- Section 3.5: Environmental Health
- Section 3.6: Land and Shoreline Use
- Section 3.7: Consistency with Plans and Policies
- Section 3.8: Population, Housing, and Employment
- Section 3.9: Aesthetics, Light, and Glare
- Section 3.10: Historic and Cultural Resources
- Section 3.11: Transportation
- Section 3.12: Noise
- Section 3.13: Parks
- Section 3.14: Public Services
- Section 3.15: Utilities
- Section 3.16: Fiscal and Economic Impacts

Following a description of current conditions (affected environment) the analysis compares and contrasts the alternatives and provides mitigation measures for identified impacts. It also summarizes whether there are significant unavoidable adverse impacts.

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3.1. EARTH RESOURCES

This section documents existing geologic conditions on the project site and in the surrounding area and evaluates potential environmental impacts of the Proposed Action. The discussions of affected environment and impacts are based on the following:

- Review of available geologic literature;
- Analysis of previously completed exploration pits, exploration borings, and groundwater wells;
- Visual geologic reconnaissance of the site;
- Review of Light Detection and Ranging (LIDAR) imagery of the region; and
- Evaluation of nearby water well logs.

Additional subsurface exploration completed specifically for the current project included advancing one exploration boring and two cone penetrometer tests (CPTs), which observe the type, thickness, distribution, and physical properties of subsurface sediments and groundwater conditions.

The Earth Resources chapter of the EIS is based on and summarizes a geotechnical report prepared by Associated Earth Science, Incorporated (AESI). The original report is attached as Appendix B. Documentation of previous geologic evaluations performed by AESI, including exploration pits, exploration borings, and groundwater wells, were appended to the Mill Planning Area Annexation Implementation Plan (AIP); the AIP was approved by the City in November, 2016. Note that groundwater is addressed in Section 3.3 – Water Resources.

3.1.1. Affected Environment

Geology

Soils

Soils on the site formed primarily over post-glacially deposited alluvial sediments, and, therefore, have not had sufficient time to develop the deep weathering profiles present in soils of many unglaciated terrains. Instead, they exhibit a direct relationship to the underlying parent material, local climate, and vegetation. The following soil types were identified on the site based on United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil mapping and geologic information obtained from exploration pits.

- **Arents:** Arents soils are mapped over most of the central, eastern, and southeastern areas of the site. These soils are described by the SCS as moderately deep to very deep, moderately well drained to somewhat excessively drained soils formed in a mixture of volcanic ash and a variety of other deposits. They occur over various types of environments at slopes ranging from 0 to 8 %. No single profile is representative of these soils, and they are typically disturbed, having been used for mill yards, sorting yards, mills, dams, or old towns. Permeability in the Arents soils is considered to be moderate or moderately rapid.

Runoff is slow, and the hazard of water erosion is slight.

- **Barneston Series:** Barneston gravelly coarse sandy loam is composed of excessively drained soils that typically form over glacial outwash. These soils are characterized by dark grayish brown gravelly coarse sandy loam 9 inches thick. The subsoil is dark yellowish brown very gravelly sandy loam 5 inches thick. The upper 7 inches of the substratum is dark brown extremely gravelly sand. The lower part to a depth of 60 inches is dark yellowish brown extremely gravelly sand.

  The Barneston Series soils were mapped by the NRCS at the northeastern corner of the site along the southern edge of the Tokul Delta, adjacent to the Snoqualmie Sand and Gravel Mine. Due to its high permeability, surface runoff within the Barneston Series soils is considered slow, and erosion hazards are considered low to moderate on gentle slopes as surface water has more of a tendency to percolate downward.
- **Nooksack Series:** The Edgewick silt loam is mapped by the SCS in a very small area at the far southeastern corner of the site. This unit is composed of well drained soils on river terraces. These soils are characterized by an 8-inch-thick surface layer of dark brown silt loam. The subsoil is olive brown silt loam 12 inches thick. The upper 13 inches of the substratum is olive brown fine sandy loam. The next 13 inches is olive brown loamy sand. The lower part to a depth of 60 inches is dark grayish brown very gravelly sand. Permeability in the Edgewick silt loam is considered to be moderate. This soil is subject to occasional, brief periods of seasonal flooding. Channeling and deposition are common along streambanks.
- **Edgewick Silt Loam:** The Nooksack silt loam is mapped on the western and northwestern areas of the site. This soil series consists of moderately well drained soils formed in alluvium on floodplains and river terraces. Typically, these soils are characterized by a very dark grayish brown silt loam 11 inches thick. The subsoil is dark grayish brown silt loam 18 inches thick. The substratum to a depth of 60 inches is dark grayish brown and grayish brown silt loam. Surface runoff is generally very slow, and erosion hazard is generally low due to the very low slope gradient (typically 0 to 2 %).
- **Tokul Series:** The Tokul gravelly loam is a moderately deep, moderately well drained, nearly level to very steep soil in areas underlain by glacially derived deposits. These soils are mapped on the slopes just east of the project site. These soils are characterized by brown and grayish brown, gravelly loam up to about 60 inches in depth developed over a substratum of dense glacial till.

  Permeability in the Tokul Series is considered to be moderate in the surface layer and subsoil, becoming very slow to nil in the underlying till. Runoff is slow. Sheet and concentrated flow erosion hazards are considered to be low for slopes under about 20% and moderate to high for slopes over about 20%.
- **Seattle Muck:** Seattle Muck is mapped by the SCS in a very small area just west of Wetland 10 at the north end of the project site. Seattle Muck is a very deep, very poorly drained soil is in depressions in river valleys. Typically, the surface layer is dark brown muck 8 inches thick. The underlying material to a depth of 60 inches is dark brown and black, stratified highly organic soil. Permeability is moderate in this soil. Runoff is very slow, and there is little to no hazard of erosion.

The locations of these soils are graphically illustrated on Exhibit 3.1-1.

Regional Geologic Setting

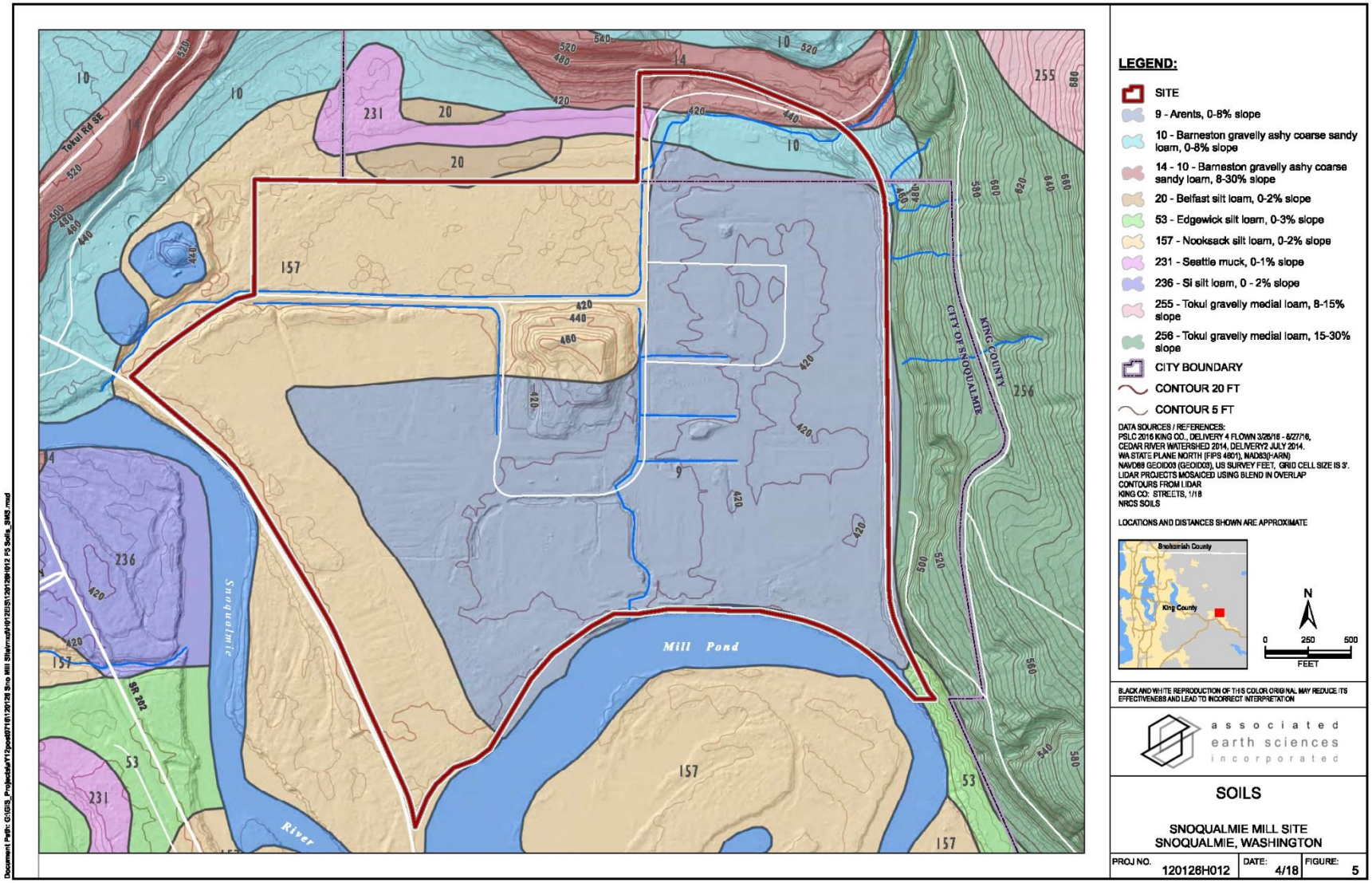
The project site lies within the Puget Sound Lowland, which is a broad topographic and structural basin extending generally north-south between the Cascade Range on the east to the Olympic Mountains on the west. The project site was part of several previous geologic studies including AESI (2010, 2012, 2015), Turney et al. (1995), Booth (1990), Frizzell et al. (1984), Tabor et al. (1993), and Dragovich et al. (2009b).

Based on geologic mapping and previous surveys in the vicinity, two erosional valleys incised into Tertiary-age bedrock have been identified in the area. The ancient Snoqualmie River established a course through a bedrock valley in the immediate vicinity of the site. One of these paleovalleys is located under the present-day Lake Alice Plateau, south and west of the current Snoqualmie River and west of the project site.

The bedrock valleys have been filled by a series of younger, Quaternary-age sediments. These sediments accumulated as a result of alternating glacial and non-glacial deposition. Ice advanced southward from British Columbia into the Puget Lowland multiple times within the last 2 million years. The ice was part of the widespread Cordilleran continental ice sheet that covered much of northwestern North America and periodically extended down into the Puget Sound as a broad, tongue of ice commonly referred to as the Puget Lobe. In addition to the erosion and scouring of the Lowland, the Puget Lobe deposited a variety of glacial sediments, including outwash sand and gravel from meltwater streams, proglacial lacustrine silts and clays, deltaic sediments deposited in ice-dammed lakes, and glacial till deposited at the base and along the margins of the active glacial ice. Mountain glaciers also extended down the major river valleys such as the Snoqualmie, scouring the landscape and depositing sediments. During interglacial periods, erosion and deposition occurred primarily through the action of river systems flowing to the northwest, most notably the Snoqualmie River near the project site. Non-glacial sediments were deposited in a wide variety of environments and include fluvial sands and gravels, lacustrine silt/clay, and peat.

During the retreat of the Vashon-age ice, a proglacial lake formed in the ancient Snoqualmie River valley. Meltwater from the receding ice sheet created a prograding delta system at Tokul Creek. This resulted in vast quantities of Vashon-age recessional sand and gravel deposited in what has been referred to in geologic literature as the Tokul Creek Delta. This delta is located just north of the project site and is the source material for the Snoqualmie Sand and Gravel Pit. The delta forms a relatively level bench near elevation 550 feet and covers approximately 1.5 square miles. This thick deltaic sequence prevented the Snoqualmie River from re-establishing its pre-ice course, resulting in the development of post-glacial Lake Snoqualmie near the project site, resulting in the deposition of lacustrine silts and clays. The outlet for Lake Snoqualmie was diverted by the delta to the location of the present-day Snoqualmie Falls.

Exhibit 3.1-1. Project Area Soils



Source: AESI, 2018.

Site Geology

The primary geologic units present at the Snoqualmie Mill site and in the surrounding area include the following:

- **Tertiary Bedrock:** Surface exposures of bedrock near the site can be observed at Snoqualmie Falls to the northwest, along Tokul Creek to the north and northeast and are characterized as primarily volcanic in origin. Volcanic rocks exposed north and northeast of the project site in the Tokul Creek valley are late-Eocene in age (47 to 36 million years) and overlie older Cretaceous to Jurassic-age rocks, which are exposed northeast and east of the site. Younger Miocene-age (dated to about 18 to 23 million years) volcanic rocks are exposed at the surface north and northwest of the site, particularly at Snoqualmie Falls and along the lower section of Tokul Creek.
- **Olympia and pre-Olympia Deposits:** Pre-Olympia undifferentiated deposits, consisting of laminated to massive silt, clay, sand, gravel, and clayey diamicton, have been documented in limited areas surrounding the site and include both glacial and non-glacial sediments. The exact ages of these sediments are unknown, but their position beneath Olympia-age sediments indicates they are older than 60,000 years.
  Surface exposures of Olympia to pre-Olympia-age sediments have been mapped extensively to the west of Snoqualmie (Dragovich et al., 2009). Olympia-age sediments accumulated in non-glacial alluvial/fluvial environments prior to the Fraser Glaciation. Measured ages for Olympia-age deposits range from about 15,000 to 60,000 years ago (Troost, 2016). They were deposited in a wide variety of non-glacial environments and range from lacustrine silts and clays, fluvial sand and gravel, and occasional organics. These sediments are generally dense since they have been glacially consolidated.
- **Vashon Stade Deposits:** Vashon sediments were deposited during the Vashon Stade of the Fraser Glaciation. The Fraser Glaciation began about 25,000 years ago with the expansion of alpine glaciers, which coalesced to form the Puget Lobe that gradually advanced southward, eventually reaching its maximum extent south of Olympia approximately 16,000 years ago (Troost, 2016). Much of the existing geomorphology around the project area was created by processes related to the Vashon-age glacier, and these units dominate the near-surface geology in the upland areas surrounding the site.
- **Holocene Deposits:** Holocene-age (<10,000 years old) lacustrine silts and clays were deposited in the valley, creating a fluvial environment that established the modern-day Snoqualmie River. The recent Snoqualmie River deposits are limited to the modern Snoqualmie River valley and underlie the project site at shallow depths, directly underlying recent fill material.

  Recent alluvium is present beneath the entire site, except for the limited sloping areas near the project boundary on the northeastern and eastern margins of the site. The river channel deposits are limited to a relatively small area on the eastern portion of the site and are interpreted to be the result of deposition by a smaller stream that had crossed the project site prior to development of the original project site. The existing stream enters the

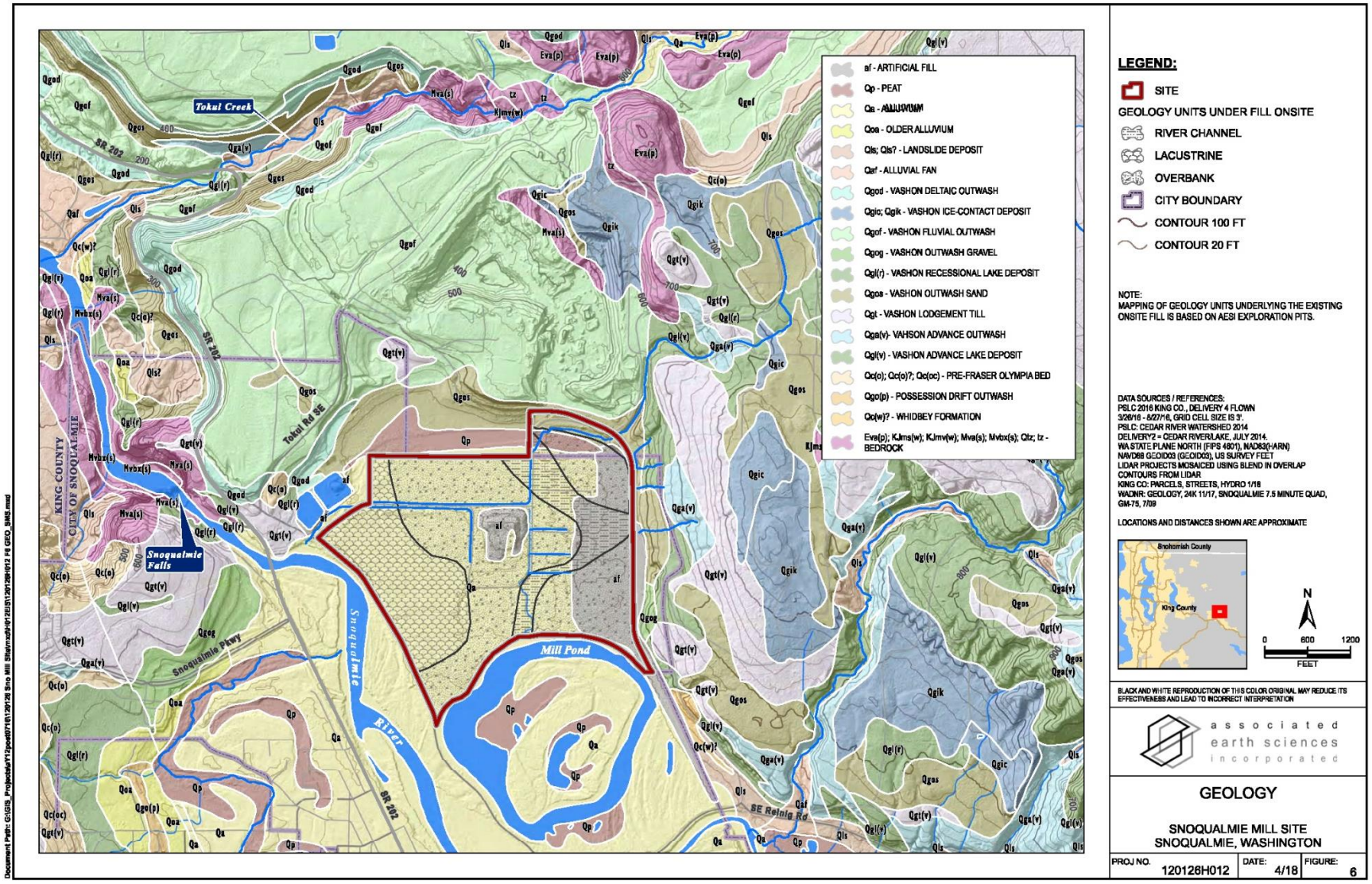
north end of the site and is diverted into a system of conveyance swales just after entering the site. The stream is routed to the northwest corner of the site and ultimately discharges to the Snoqualmie River.

Site explorations encountered recent sediments to depths ranging from about 55 to 60 feet near the northwest corner of the site, though on the eastern side of Planning Area 1 alluvium was encountered to the full depth explored of 80 feet. These lacustrine deposits form a significant hydraulic barrier to vertical ground water flow beneath the project site.

- **Existing Fill:** Fill material was placed across the property at various times in the past to accommodate mill operations. Existing fill was encountered in all explorations completed at the project site, though the depth varies across the site. In general, the fill is thinner (3 to 4 feet) in the east beneath the primary project site area and thickens to the west (9 to 16 feet) toward the Snoqualmie River.
  The existing fill is generally characterized by loose to medium dense sand with gravel, silt, cobbles, and boulders. Woody debris, including logs, dimensional lumber, and sawdust, was also frequently observed over wide areas and in substantial thicknesses. Other materials encountered in the existing fill included buried intact asphalt-cement-paved surfaces, crushed rock, metal and wood stave pipes, ash, geotextile fabric, steel, asphalt rubble, and other similar materials.

A map showing surficial geology in the project vicinity is presented on Exhibit 3.1-2.

Exhibit 3.1-2. Project Vicinity Surficial Geology



Source: AESI, 2018.

Geologic Hazards

The Snoqualmie Municipal Code (SMC) Chapter 19.12 regulates "critical areas", including erosion, landslide, steep slope, seismic, channel migration, and flood hazard areas. Based on published critical areas maps produced by the City of Snoqualmie and King County, and observations of regional and local topographic and geologic conditions, each of these types of geologic hazards is present to a varying degree on areas of the project site.

Erosion Hazards

On-site Erosion Hazards are limited to areas with slopes of 15% or greater, located on the eastern margin of the site. These areas are mapped as "Tokul gravelly medial loam, 15 to 30% slopes" on the above-referenced Soil Survey. This area is shown on Exhibit 3.1-3. Based on sediment characteristics and slope gradients, two zones with differing degrees of potential erosion hazards are shown in the exhibit and are discussed further below. The presence of potential Channel Migration Zones are also shown in Exhibit 3.1-3.

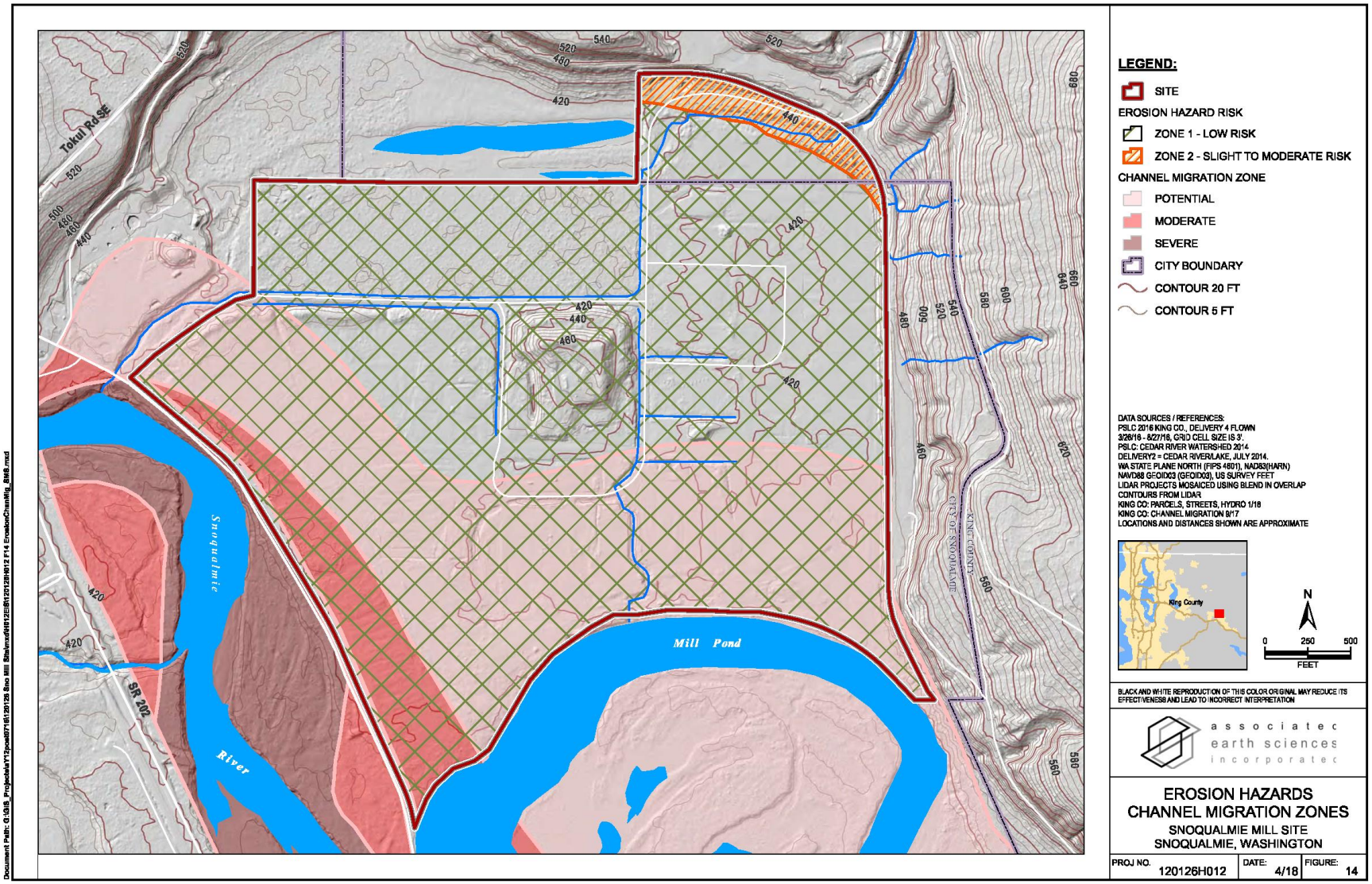
Erosion Hazard Zone 1

Erosion Hazard Zone 1 includes most of the project site, which is relatively flat. Because of the low slope gradient, this area is considered to possess a low erosion hazard risk. These areas are underlain by Arents and Nooksack Series soils at slopes of 0 to 2%.

Erosion Hazard Zone 2

Erosion Hazard Zone 2 is considered to possess a slight to moderate risk of erosion. This area is located on the northeastern margin of the project site. These areas are underlain by Barneston Series soils at slopes of 15% or greater.

Exhibit 3.1-3. Erosion Hazards and Channel Migration Zones



Source: AESI, 2018.

Landslide Areas and Steep Slopes

Landslide Hazard Areas are areas subject to landslide risk due to the presence of steep slopes, groundwater seepage, previously documented movement, areas rendered unstable through erosion, or some combination thereof. The Snoqualmie Municipal Code (SMC 19.12.110) establishes five criteria for landslide hazard classification:

1. *Any area with slopes greater than 15% and impermeable soils (typically silt and clay) frequently interbedded with granular soils (predominantly sand and gravel) and springs or groundwater seepage;*
2. *Any area that includes areas with significant visible evidence of groundwater seepage, and which also includes existing landslide deposits regardless of slope;*
3. *Any area which has shown movement during the Holocene epoch (from 10,000 years ago to present) or which is underlain by mass wastage debris of that epoch as determined by a geologist;*
4. *Any area potentially unstable as a result of rapid stream incision or stream bank erosion;*
5. *Any area located on an alluvial fan, presently or potentially subject to inundation by debris flow or deposition of stream-transported sediments.*

Separately, the Code defines Steep Slopes as areas where "the ground rises at an inclination of 40% or more within a vertical elevation change of at least 10 feet." (SMC 19.12.120) Landslide and steep slope hazard areas on the project site are subdivided into two hazard zones and shown in Exhibit 3.1-4.

Landslide/Steep Slope Hazard Zone 1

Landslide/Steep Slope Hazard Zone 1 encompasses most of the site and is considered to possess a low landslide hazard risk due to low slope gradients.

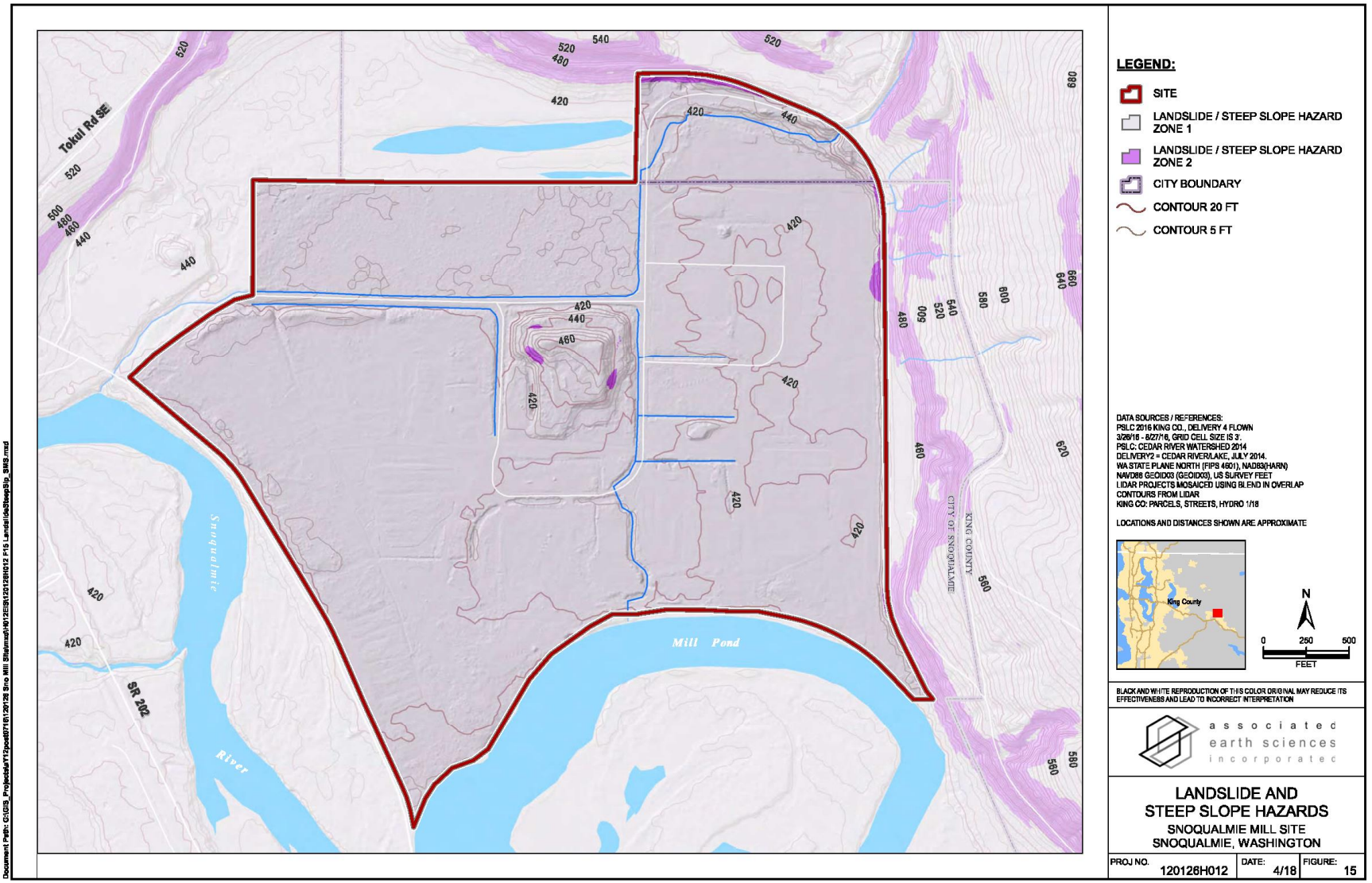
Landslide/Steep Slope Hazard Zone 2

Landslide/Steep Slope Hazard Zone 2 is generally localized to the eastern margin of the site. Portions of the slopes in this area appear to meet the definition of steep slope hazards – slopes with inclinations greater than 40% over a vertical height of at least 10 feet. Portions of these slopes also appear to meet the first criterion for landslide hazards.

The large soil storage pile located in Planning Area 3, just east of the eastern edge of Planning Area 1, contains slopes that are 40% or greater. These slopes meet the steep slope hazard definition in the City code even though they are not naturally occurring.

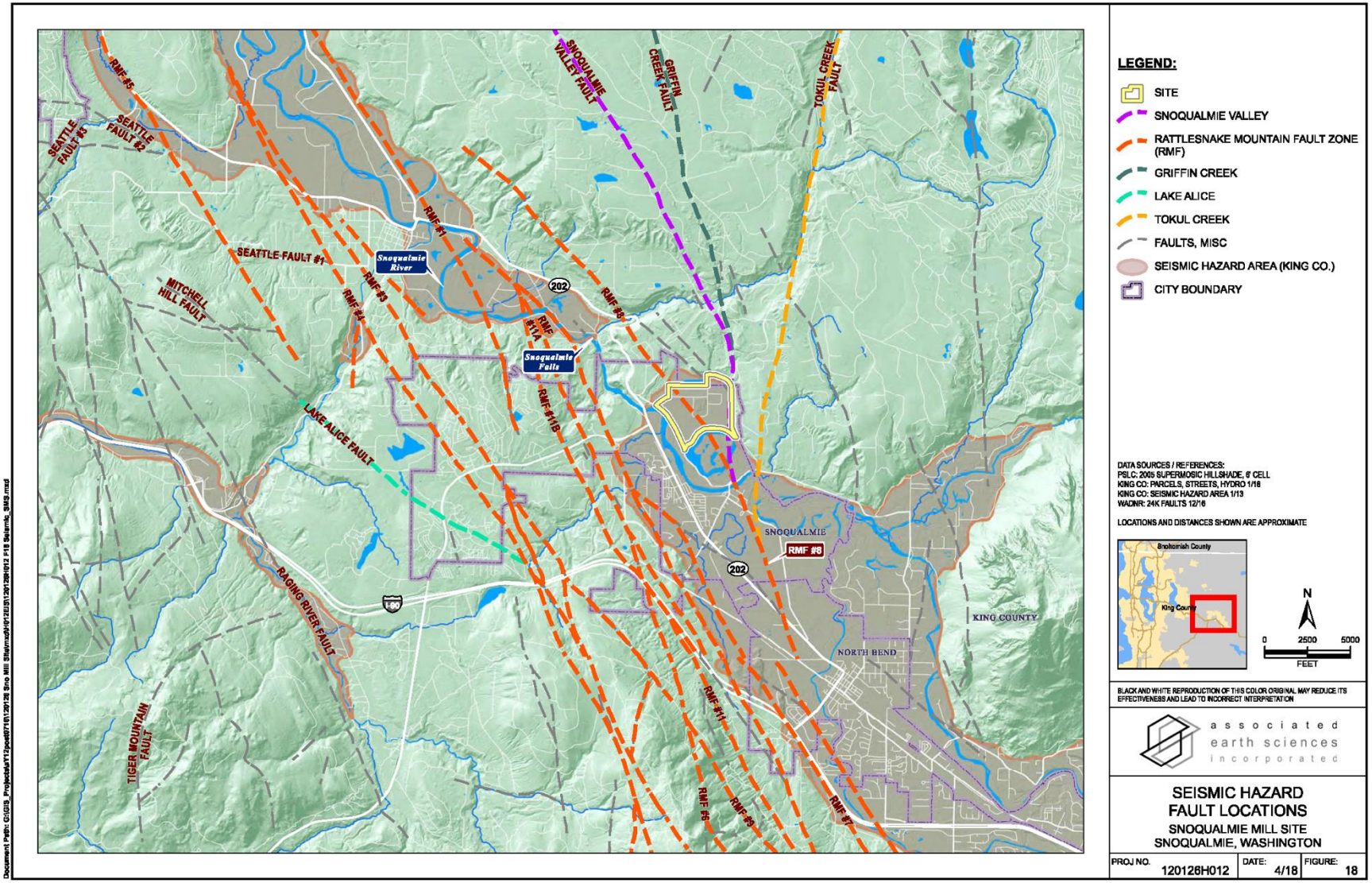
Zone 2 is considered to possess a low to moderate risk of landslides if disturbed by improper grading/clearing or uncontrolled drainage. In their existing conditions these areas do not show evidence of slide activity.

Exhibit 3.1-4. Landslide and Steep Slope Hazards



Source: AESI, 2018

Exhibit 3.1-5. Seismic Hazard Fault Locations



Source: AESI, 2018.

Seismic Hazard Areas

The Snoqualmie Municipal Code defines Seismic Hazard Areas as "those areas of the city subject to severe risk of earthquake damage as a result of seismically induced landslides, earth adjustments, settlement or soil liquefaction." These factors are described in more detail below.

- **Seismically Induced Landslides:** Earthquake vibration may cause unstable material to fail by influencing existing planes of weakness within bedrock (such as bedding planes or fault planes) or within unconsolidated material (such as existing landslides). The risk associated with seismically induced landslides would be higher in those areas where slopes exceed 40%. These include areas mapped as Landslide Hazard Zone 2 on Exhibit 3.1-4. The site includes slopes along the east edge of the parcel that appear to be underlain at shallow depths by glacially consolidated sediments that tend to be resistant to slope failures during a seismic event. Based on site reconnaissance conducted by AESI as part of their 2012 geological study, there is no evidence of landslide activity either on-site or on the off-site slopes along the eastern property boundary.
- **Liquefaction Hazard Areas:** The term *liquefaction* refers to a dramatic loss of shear strength occurring in a subsurface soil deposit when subjected to shaking, as during an earthquake, and can result in failure of the ground surface. Seismically-induced liquefaction typically occurs in loose, saturated, non-cohesive sandy and silty soils commonly associated with recent river, lake, and beach sedimentation. In addition, seismically induced liquefaction can be associated with areas of loose, saturated fill. The low-lying areas of the project site contain existing fill, overbank deposits, river channel deposits, and lacustrine sediments, some of which are saturated. These materials are potentially at risk of liquefaction during a design-level seismic event, shown as Seismic Hazard Zone 2 on Exhibit 3.1-5. The eastern and northeastern slopes along the eastern margin of the project site are underlain by glacially consolidated material that, due to its densely compacted condition, is not expected to be susceptible to seismically-induced liquefaction. Additional detail is provided in Appendix B.
- **Lateral Spreading:** Due to the low strength of the existing fill and lacustrine sediments, the lower-lying parts of the site could be susceptible to failure by lateral spreading during a seismic event, even on relatively gently inclined slopes. This area includes Seismic Hazard Zone 2 on Exhibit 3.1-5.
- **Fault Rupture Hazard Areas:** Ground rupture occurs as offsets of the ground surface in the immediate area of a fault. Based on recent geologic maps, a strand of the Rattlesnake Mountain Fault and the Snoqualmie Valley Fault may cross through the project site. However, neither of these faults displace Holocene sediments, indicating they have not been active within the last 10,000 years. No evidence of surface faults or associated ground ruptures has been observed on the project site. The nearest known potentially active fault to the project site is the main strand of the Rattlesnake Mountain Fault, approximately 0.75 miles west of the project site.

Seismic Hazard Areas near the project site are shown in Exhibit 3.1-5. In general, the project site is underlain by relatively soft, saturated sediments that may amplify ground motion during a

seismic event. Based on standard penetration test (SPT) data, site soils are consistent with Site Class "E" or possibly Site Class "F", as defined by the 2015 International Building Code (IBC) and American Society of Civil Engineers Publication ASCE 7-16, *Minimum Design Load and Associated Criteria for Buildings and Other Structures*. Site Class "E" applies to sites underlain by soft silts and clays. Site Class "F" applies to sites underlain by soft or loose soils that are also liquefiable and requires completion of a site-specific seismic response analysis.

Channel Migration Zones

Channel Migration Zones (CMZs) consist of areas along a river, within which the river channel can be predicted to migrate over time. This process occurs naturally over time as a result of local hydrological and geological forces. A 1996 report by the King County Department of Natural Resources Surface Water division delineates CMZs along the Snoqualmie River near the project site, and categorizes CMZ areas into Potential, Moderate or Severe Hazard Areas. These areas are shown in Exhibit 3.1-3. A section along the southwestern edges of Planning Area 1 and Planning Area 3 are within the Moderate Hazard Area, but most of Planning Area 1 and the western portion of Planning Area 3 are within mapped Potential Hazard Area.

Development is not limited in Potential Hazard Areas, but only certain development or activities are allowed in severe and moderate CMZs, per SMC 19.12.140(C), including the following:

- Trails and boardwalks;
- Forest practices;
- Ongoing agriculture;
- Bridges, utilities, and transportation structures when no other feasible alternative exists;
- Development with a primary purpose of protecting or restoring ecological functions.

Improvement of existing structures may also be permitted, and new structures may be permitted in a moderate CMZ if no on-site alternative outside a CMZ is available (SMC 19.12.140 (D)-(E).

3.1.2. Impacts

Impacts of Proposal

PCI Plan

Geotechnical Impacts

The project site will require mass grading in some areas to achieve desired roadway, parking, and building pad elevations. Grading operations entail leveling areas above the desired building pad elevation, known as cut, and building up low-lying areas to match the desired building pad elevation, known as fill. Preliminary engineering estimates indicate that approximately 400,000 cubic yards (cy) of displacement (fill) could occur, and an equal volume of compensating storage will be created to ensure no increase in flooding.

Potential geotechnical impacts could result from various construction-related activities, such as: 1) site preparation, 2) structural fill placement, and 3) foundations. Examples of potential adverse impacts could include sloughing of temporary or permanent cut slopes if oversteepened, failure of fill soils due to improper placement and compaction, or excessive foundation settlement if the loose, soft native sediments underlying the site are not mitigated. However, geotechnical oversight is proposed as an integral element of ongoing project design and construction, and no significant adverse impacts are considered likely to occur.

Erosion Hazards, Landslide Areas, and Steep Slopes – Impacts of Construction and Operation

The existing landslide and steep slope hazards onsite could potentially be adversely impacted from three primary activities during development, including the construction phase. These include clearing, grading (earthwork), and stormwater management.

Clearing could increase the existing landslide hazard potential by removing vegetation that would normally intercept some of the rainfall, resulting in higher runoff volumes. This could, in turn, result in increased erosion and sediment transport, further destabilizing steep slopes and potential landslide areas. Grading (earthwork) activities could also increase the existing landslide hazard potential. Fill material placed on or adjacent to a steep slope will increase the driving forces acting in the subsurface, which would increase the risk of slope failures. Surface drainage patterns are typically altered by grading. If the new drainage pattern results in an increase in either surface or subsurface water flow on or near a slope, landslides could occur.

Non-structural fills could fail due to inadequate compactive effort, use of organic soils, improper site preparation, oversteepened slopes, or other factors. Cut slopes could also fail if they are oversteepened, toe support is removed, or drainage is improperly directed.

Seismic Hazards

- **Liquefaction:** The subject site is underlain by alluvial sediments that are potentially susceptible to liquefaction during an earthquake. Based on liquefaction analysis described in Appendix B that used soil data from CPT-01, CPT-02a, and groundwater data from boring EB-1, the subsurface conditions encountered at the site are predicted to experience liquefaction during a design-level seismic event. Liquefiable sediments were identified at depths continuing from 25 to 70 feet below ground surface, and the liquefaction-induced settlement calculated for the site ranges from about 2 to 8 inches over this depth range.
- **Lateral Spreading:** Lateral spreading is a hazard at sites where liquefiable materials are present in the vicinity of exposed slopes, especially liquefaction-prone sites adjacent to waterways. The liquefied soil layers and non-liquefiable overburden may spread horizontally toward the water due to the reduction of soil strength and lack of confinement on the water side.
- **Earthquake-Induced Landslide Hazards:** The site includes slopes near the east edge of the parcel underlain at shallow depths by glacially consolidated sediments, based on geologic mapping (Dragovich et al., 2009), that tend to be resistant to slope failures during a seismic event. These slopes are offsite; however, landslide activity on the slopes could impact site

development near the toe of the slope. The risks of such slope failures are interpreted to be low due to the very dense nature of the glacially consolidated sediments. These slopes are located along the eastern boundary of Planning Areas 2 and 3, and planned development in this area is very preliminary at this time. Later in the design process, once a site-specific development concept has been formulated for these planning areas, the geotechnical engineer for the project should review the site plans to determine whether a quantitative assessment of slope stability on the eastern part of the site is warranted.

The existing soil storage pile at the north end of Planning Area 3 is large and has tall and relatively steep side slopes. At this time, development in Planning Area 1 is not planned in close proximity to the soil storage pile. The soil storage pile is anticipated to be removed during the development in Planning Area 3; therefore, no adverse impacts are anticipated in relation to the soil storage pile.

Future development along the bank of the Snoqualmie River and shoreline of the Mill Pond could be at-risk from landslide activity along the river bank or shoreline during a strong seismic event. Very limited subsurface information is available in these two areas and bathymetry of both water bodies is limited. Development in Planning Area 1 would be accessed using SE Mill Pond Road which parallels the northern riverbank and could be impacted by earthquake-induced landslide activity.

- **Surface Ground Rupture:** Ground rupture occurs as offsets of the ground surface and is limited to the immediate area of the fault. As described previously, a strand of the Rattlesnake Mountain Fault Zone (RMF) (RMF-8) and the Snoqualmie Valley Fault may cross through the project site, based on recent geologic mapping (Dragovich et al., 2009). Movement along these hypothesized faults do not appear to disturb Holocene-age sediments, suggesting that, if they exist, they have not been active for the last 10,000 years. No evidence of surface faults or associated ground ruptures were observed on the project site. The nearest fault to the project site that may be active is the main strand of the RMF (RMF-1), which is located approximately 1 mile west of the project site based on regional mapping (Dragovich et al., 2009). Studies of the RMF Zone indicate that RMF-1 may be an active fault capable of generating surface ruptures, although the recurrence interval of movements along the fault is unknown. Based on existing geologic data, the risk of surface rupture impacting the project site is considered to be low.
- **Ground Motion:** Structural design for the project under all studied alternatives is assumed to follow *International Building Code* (IBC) standards. As of this writing, the currently adopted version of the IBC by the City of Snoqualmie is the 2015 edition. The 2015 IBC defines Site Classification by reference to Table 20.3.-1 of the *American Society of Civil Engineers* Publication ASCE 7, the current version of which is ASCE 7-16. In AESI's opinion, the subsurface conditions at the site are consistent with a Site Classification of "E" or "F" as defined in the referenced documents, depending upon local site conditions. Some existing historic structures on the project site are planned to be adapted for reuse and would require additional evaluation to determine suitable seismic retrofit requirements.

Channel Migration Impacts

As described in the Affected Environment subsection above and shown on Exhibit 3.1-3, a section of the site along the southwestern edges of Planning Area 1 and Planning Area 3 are within the Moderate Channel Migration Hazard Area. No substantial development is proposed within the portion of Planning Area 1 within the Moderate Channel Migration Hazard Area. The proposed relocated portion of Mill Pond Road and drainage discharge improvements are located on public property and are within the Moderate Channel Migration Zone. Specific plans for development of Planning Area 3 are not known at this time. Most of Planning Area 1 and the western portion of Planning Area 3 are within a mapped Potential Hazard Area, which represents a lower level of channel migration hazard than the moderate or severe CMZs. Structures, roadways, or other facilities built within the severe or moderate CMZs may be susceptible to damage due to the gradual channel erosion and migration of the Snoqualmie River.

Planning Area 1

Impacts of the proposals specific to Planning Area 1 would be generally similar to those described for the overall PCI Plan as described above. The following subsections describe impacts unique to Planning Area 1.

Geotechnical Impacts

Similar to the overall PCI Plan, development in Planning Area 1 would require substantial site grading, and geotechnical impacts would be similar to the overall plan, including potential sloughing of cut slopes, failure of fill soils, and excessive foundation settlement.

Erosion Hazards

Erosion hazard impacts in Planning Area 1 would be similar to the overall PCI Plan; construction activities would similarly result in vegetation removal and soil disturbance, leading to potential sedimentation of on-site wetlands, Borst Lake, and the Snoqualmie River.

Landslide Areas and Steep Slopes

As described for the overall PCI Plan, the most significant increase in landslide hazard potential onsite would result from construction activities, including clearing, grading (earthwork), and stormwater management. Construction activities in Planning Area 1 would increase erosion potential in the same manner as described for the overall PCI Plan and would result in similar impacts.

Seismic Hazards

- **Liquefaction:** Liquefaction risk in Planning Area 1 would be substantially the same as described for the overall PCI Plan due to similar sitewide and regional geologic and soil conditions.
- **Lateral Spreading:** A preliminary lateral spread analysis, based on methods presented by Youd et al. (2002), calculates the potential lateral displacement in Planning Area 1 at a distance of 100 to 150 feet from the Snoqualmie River. Analysis indicates that the

magnitude of lateral spread could be on the order of 1 to 2 feet towards the shoreline for a design seismic event. Additional analyses will be necessary when detailed development plans are prepared and more subsurface information is available.

- **Earthquake-Induced Landslide Hazards:** Future development in Planning Area 1 along the bank of the Snoqualmie River and shoreline of the Mill Pond could be at-risk from landslide activity along the riverbank or shoreline during a strong seismic event. Very limited subsurface information is available in these two areas and bathymetry of both water bodies is limited. Development in Planning Area 1 would be accessed using SE Mill Pond Road which parallels the northern riverbank and could be impacted by earthquake-induced landslide activity.
- **SE Mill Pond Road:** During development of Planning Area 1, the portion of the road immediately adjacent to the site entry will be moved slightly to the northeast to accommodate the construction of a new roundabout. Southeast of the proposed western site entry, SE Mill Pond Road will remain in its existing location along the banks of the river. As described above, in its existing condition, the existing alignment of SE Mill Pond Road is susceptible to damage due to earthquake-induced landslide activity where it lies adjacent to the banks of the Snoqualmie River or the Mill Pond.
- **Surface Ground Rupture:** Surface Ground Rupture risk in Planning Area 1 is similar to the overall PCI Plan due to similar sitewide and regional geologic and soil conditions.
- **Ground Motion:** Ground Motion risk in Planning Area 1 is similar to the overall PCI Plan due to similar seismic conditions and would be subject to the same IBC standards and City of Snoqualmie building codes as the overall PCI Plan.

Channel Migration Impacts

As described in Affected Environment, the southwest portion of Planning Area 1 lies within a moderate Channel Migration Hazard Area, and most of the planning area lies within the Potential Hazard Area. No development is proposed in the portion of Planning Area 1 that lies within the Moderate Hazard Area.

Indirect and Cumulative Impacts

The mill site is isolated from nearby development, and it is unlikely that geologic impacts associated with construction of the proposal would adversely impact development on surrounding properties. While construction of the proposal would require substantial clearing and grading, as well as cut and fill, as described in the preceding analysis, these activities would be confined to the project site and would be subject to mitigation and further analysis upon completion of design for Planning Areas 2 and 3.

Potential cumulative impacts could consist of increased long-term potential for erosion and destabilization of landslide hazard and slope areas, as described in the preceding analysis. In addition, future construction on the site would increase the amount of development subject to risk from seismic activities. However, all such future development would be subject to mitigation measures to minimize landslide, erosion, and geotechnical impacts, and seismic risk at the site is comparable to surrounding areas.

Alternatives

Redevelopment Alternative

Geotechnical Impacts

Potential geotechnical impacts for Alternative 1 would be substantially similar to the Proposed Action, and projected cut and fill quantities are assumed to be similar. If geotechnical oversight occurs during project design and construction, no adverse impacts are considered likely.

Erosion Hazards

Potential erosion hazards for Alternative 1 would be substantially the same as the Proposed Action.

Landslide Areas and Steep Slopes

Potential landslide and steep slope hazards for Alternative 1 would be substantially the same as for the Proposed Action. Under the Proposed Action, the soil storage pile would eventually be removed to allow development in Planning Area 3.

Seismic Hazards

Potential seismic hazards for Alternative 1 would be substantially the same as for the Proposed Action.

Channel Migration Impacts

Potential channel migration hazards for Alternative 1 would be substantially the same as for the Proposed Action.

No Action Alternative

Geotechnical Impacts

Under the No Action Alternative, existing site uses would continue, requiring no additional site grading or fill, resulting in no significant geotechnical impacts.

Erosion Hazards

Under the No Action Alternative, there would be no potential erosion hazards related to the surface swale since there would no direct discharge to the river.

Landslide Areas and Steep Slopes

Since most of the steep slope areas are located just off-site, potential landslide and steep slope hazards under the No Action Alternative would remain substantially unchanged.

Seismic Hazards

Under the No Action Alternative, the existing historic structures, which are susceptible to liquefaction, lateral spreading, and ground motion hazards, would remain. The soil storage pile

would also likely remain, which is potentially susceptible to earthquake-induced landslide activity under current conditions.

Channel Migration Impacts

Under the No Action Alternative there would be no structures built near the Snoqualmie River, so the risk from channel migration would be lower.

3.1.3. Mitigation Measures

Incorporated Features of Proposal

Incorporated features of the proposal that would limit geological impacts associated with development include the following:

- Most development on the project site, as currently proposed, would be located to avoid construction in the Moderate Risk CMZ area along the southwestern edge of Planning Area 1 (shown in Exhibit 3.1-3), thereby reducing risk to structures.
- Removal of the soil storage pile as part of future development of Planning Area 3 would remove a potential steep slope hazard.

Other Responsibilities and Requirements

Development on the project site would be subject to the following codes and regulations:

- The 2015 International Building Code (IBC), as adopted by the City of Snoqualmie in Chapter 15.04A.010 of the Snoqualmie Municipal Code.
- The City of Snoqualmie Critical Areas regulations as established in Chapter 19.12.100 (erosion hazards), Chapter 19.12.110 (landslide hazards), 19.12.120 (steep slope hazards), Chapter 19.12.130 (seismic hazards), and Chapter 19.12.140 (channel migration zones) of the Snoqualmie Municipal Code.

Other Potential Mitigation Measures

Geotechnical Impacts

The following are geotechnical design elements that should be considered in the future development planning process to mitigate settlement and risks from liquefaction and lateral spreading:

- Site development should be planned in a way that does not increase loads on weak subsurface materials. Increased loads on weak subsurface materials can induce settlement and should be analyzed by the geotechnical engineer as more detailed and specific design proposals are considered and evaluated.
- Final site ground surface elevations should be kept at or below existing site grades, if possible. If final grades must be raised substantially, the weight of the new fill is likely to induce settlement in weak subsurface soils and to result in the risk of long-term settlement

of the new fill along with any new structures, buried utilities, and paving in the areas that are founded directly on new fill. Mitigations that could be used to reduce the potential for settlement beneath newly filled areas could include removal and replacement of the old fill, preloading of the old fill, or support of structures upon deep foundations or other ground improvement methods.

- New structures, including buildings, substantial retaining walls, and similar structures with significant foundation loads, will require deep foundations or possibly deep ground improvement approaches. The site conditions will pose challenges to these foundation support approaches.
- New floor slabs will also need to be supported on deep foundations or areas of deep ground improvement.
- New paving will require remedial preparation of the existing fill. Remedial preparation is likely to include placement of a geogrid or geotextile material in conjunction with a layer of sand and gravel or crushed rock fill. The purpose of this layer is to make the expected settlement of the paving more uniform. Settlement of paved surfaces will occur and will require periodic maintenance that is more frequent and more extensive than is typical for sites that are not underlain by weak subsurface materials.
- New buried utilities, particularly those that are sensitive to grade changes such as gravity sewers, should be supported on a layer of new structural fill similar to that which will be used below paving. The incorporation of a layer of new fill below planned utilities will reduce but not eliminate the risk of future settlement and associated repairs.

The geotechnical mitigation recommendations provided herein are consistent with the "Soils, Geology, Groundwater, and Geologic Hazards Report for the Draft Environmental Impact Statement" by AESI (2020).

Erosion Hazards

The following recommended mitigation measures are consistent with current City of Snoqualmie and Washington State Department of Ecology (Ecology) standards and are considered industry standard practices. The following mitigation measures apply under all Alternatives.

- A TESC plan should be established for the project during the design phase and submitted to the City for approval. The geotechnical engineer should review the grading, erosion, and drainage plans prior to final plan design. An erosion control inspector should be onsite during construction to monitor the performance of proposed mitigation measures and propose changes as needed.
- Construction activity should be scheduled or phased as much as possible to reduce the amount of earthwork activity that is performed during the winter months. Prior to the wet season, any exposed subgrades should be hydroseeded, covered with plastic sheeting, or otherwise protected. Seeding should take place prior to September so that the grass will be established prior to the wet season.

- TESC measures should be installed prior to any site activity or disturbance.
- Filter fences are temporary structures utilized to trap sediment transported from sheet erosion while allowing some conveyance of water through the filter fabric. Filter fences are not designed for concentrated flows but are most effective in retaining sediment transported from sheet flow in relatively small catchment areas. Filter fences should be used as a perimeter sediment interception measure, as warranted, adjacent to wetlands, stream and river corridors, open space areas, and other sensitive areas located in or adjacent to construction zones to reduce the risk of sediment transport into these features.
- Source control measures are practices that are used to reduce erosion risks before they occur. These measures typically involve cover practices and drainage control. During the wetter months of the year, or when large storm events are predicted during the summer months, work areas should be stabilized, so the site can receive the rainfall without excessive erosion or sediment transport. The required measures will depend on the time of year and the duration that the area will be left un-worked. During the winter months, areas that are to be left un-worked should be covered with straw or plastic. During the summer months, stabilization may consist of seal-rolling the subgrade. The stabilization should include establishing temporary stormwater conveyance to route runoff to the approved discharge location.
- Surface runoff and discharge should be controlled during and following development. Uncontrolled discharge may promote erosion and sediment transport. Under no circumstances should concentrated discharges be allowed to flow over the top of steep slopes.
- Soils that are to be reused around the site should be stored in such a manner as to reduce erosion from the stockpile. Protective measures may include, but are not limited to, covering with plastic sheeting, the use of low stockpiles in flat areas, and the use of silt fences around pile perimeters.
- All temporary or permanent devices used to collect surface runoff should be directed into tightlined systems or constructed ditch systems that discharge into approved stormwater control facilities, such as detention ponds or dispersion facilities. Permanent water quality ponds or detention ponds may be used as temporary sediment ponds. The permanent detention facilities must be cleaned of all accumulated sediment after the completion of construction activities.
- After construction is complete, disturbed areas should be revegetated as soon as possible. If it is outside of the growing season, the disturbed areas should be covered with mulch or plastic sheeting, as recommended in the erosion control plan.

Landslide Areas and Steep Slopes

To reduce potential landslide risks from development, the following mitigation measures should be implemented under all action Alternatives.

- Except for the northeastern corner of the site and the wood/debris pile in Planning Area 3, the project site is relatively flat, and landslide/steep slope mitigation is not necessary.

- No fill, topsoil, or other debris should be placed on steep slopes. Uncontrolled material placed on steep sloping ground is susceptible to movement. Any fill planned for slopes steeper than 5H:1V (Horizontal:Vertical) elsewhere on the property should be benched into the slope and placed as structural fill. Compaction values and drainage recommendations for structural fill can be provided by the geotechnical engineer once specific grading plans have been determined as part of development applications.
- The soil storage pile at the north end of Planning Area 3 should be removed prior to development in this area.
- To reduce the risk of increasing slope stability hazards as a result of construction, it is recommended that all permanent cut slopes in the natural sediments be graded to a maximum of 3H:1V. Cut slopes in fill soils should be no steeper than 3H:1V unless approved by the geotechnical engineer. Where steeper gradients are required, an approved erosion protection structure or retaining structure should be utilized. It should be noted that rockeries are not considered retaining structures but erosion protection devices. Rockeries should not be used in association with unstable soil or non-reinforced, fill soils.
- No surface water should be directed toward or over steep slopes. Stormwater may be tightlined down steep slopes provided the alignment, discharge location, and design are approved by the geotechnical engineer. Currently, such activities are not contemplated.
- Site-specific studies should be completed to analyze potential impacts related to the slopes just east of the site, prior to development in Planning Areas 2 and 3. These slopes are generally underlain by very dense glacially consolidated sediments that are typically resistant to landslide activity; therefore, adverse impacts are not anticipated.

Seismic Hazards

- **Earthquake Induced Landslide Hazards:** The offsite slopes near the east edge of the site (in Planning Area 3) appear to be underlain at shallow depths by glacially consolidated sediments that tend to be resistant to slope failures during a seismic event. In general, mitigation is not anticipated to be necessary; however, depending upon the nature of the planned development near the toe of the steep slopes, a quantitative assessment of slope stability may be warranted. Once a development concept has been formulated in greater detail, the geotechnical engineer for the project should review the site plans to determine if slope stability modeling is recommended.
- **SE Mill Pond Road:** Future development along the bank of the Snoqualmie River (including the existing SE Mill Pond Road) and the shoreline of the Mill Pond could be at-risk from landslides during a strong seismic event. Limited subsurface information is available in the immediate vicinity of these two surface water features adjacent to the site. Additional subsurface exploration and stability analyses should be completed in this area during the design process. Similarly, subsurface explorations and stability analyses should be completed for future development along the shoreline of the Mill Pond. At both locations, bathymetric surveys should be completed to determine the geometry of the underwater portion of the riverbank and lake shoreline. Future tests related to the Snoqualmie Mill

project would be the responsibility of the project applicant; future tests at locations along SE Mill Pond Road not related to the project would be the responsibility of the City. During development of Planning Area 1, the portion of the road immediately adjacent to the site entry will be moved slightly to the northeast to accommodate the construction of a new roundabout Another portion of SE Mill Pond Road southeast of the site entry will be realigned farther to the north in a general east-west direction, as shown on Exhibit 2.3-1. These, and any other portions of the road that are planned to be realigned can be mitigated for seismic risks during their construction.

- **Slope Stability:** Possible mitigation options for consideration to address seismic stability could include the following:
  1. Relocation of the new road alignment and roundabout with a setback sufficient so that a slope failure will not impact the road. AESI's stability analysis indicates that a setback of about 70 feet would be necessary from the top of the existing riverbank. Review of current plans appears to show the roadway alignment from 80 to 100 feet from the riverbank.
  2. Installation of structural elements along the roadway edge such as a continuous, large diameter drilled shaft wall (secant pile wall) to constrain the roadway prism from being undermined by a slope failure. With this option the riverbank would be allowed to experience failure during a strong earthquake, but the ground behind the continuous wall would remain in place so that the roadway could remain in service.
  3. Use of ground improvement methods such as stone columns or deep soil mixing to strengthen weak native soils presumed to exist beneath the riverbank and area adjacent area near the top of the bank. Our analysis indicates that stone columns or deep soil mixing would be needed to depths of about 70 feet below existing roadway elevation and need to extend about 30 feet back from the top of the riverbank.
- **Liquefaction:** The site contains existing fill, overbank deposits, river channel deposits, and lacustrine sediments, some of which are saturated. Our analysis indicates that these materials are at risk of liquefaction during a design-level seismic event and settlement of liquefaction is estimated to range from 2 to 8 inches. Because it is likely future structures onsite will be supported on deep foundation systems or use ground improvement techniques to mitigate settlement risks, it is anticipated that risks of liquefaction-related damage to the new structures will also be mitigated.
- **Lateral Spreading:** Due to the low strength of the existing fill and lacustrine sediments, the lower-lying parts of the site could be susceptible to failure by lateral spreading during a seismic event, even on relatively gently inclined slopes. AESI's preliminary analysis suggests that structures in Planning Area 1 located near the northern bank of the Snoqualmie River could experience horizontal displacement due to lateral spreading on the order of 1 to 2 feet. Because it is likely future structures onsite will be supported on deep foundation systems or use ground improvement techniques to mitigate settlement risks, risks of damage to the new structures resulting from lateral spreading will also be mitigated.
- **Ground Motion:** Structural design for the project under all the Alternatives should follow 2015 *International Building Code* (IBC) standards. The 2015 IBC defines Site Classification by

reference to Table 20.3.-1 of the *American Society of Civil Engineers* Publication ASCE 7, the current version of which is ASCE 7-16. In AESI's opinion, the subsurface conditions at the site are consistent with a Site Classification of "E" or "F" as defined in the referenced documents depending upon local site conditions. Sites that are classified as Site Class "F" require a site-specific evaluation of ground motion.

Channel Migration Impacts

Potential adverse impacts due to channel migration will be mitigated by following the development standards described in *Snoqualmie Municipal Code* (SMC) 19.12.140, which regulates channel migration and associated erosion hazard zones. Except for SE Mill Pond Road, no substantial structures will be built within the mapped moderate or severe channel migration zones (CMZs) as required by the SMC. The proposed relocation of the SE Mill Pond Road at the entrance onto the site is located within a moderate CMZ. Per SMC 19.12.140(C), transportation structures (such as roads) are allowed in moderate and severe CMZs when no other feasible alternative exists. Project planning should incorporate appropriate channel migration protection standards where possible to limit potential impacts to the roadway. Streambank protection standards were published in 1993 by King County (Johnson, A.W. and Stypula J.M.).

3.1.4. Significant Unavoidable Adverse Impacts

Under all alternatives, development at the project site would be subject to seismic risk, including potential structural damage and lateral spreading, and the banks of the Snoqualmie River would be subject to ongoing risk of erosion and channel migration.

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3.2. AIR QUALITY AND GHG

This section addresses air quality conditions and impacts, including greenhouse gas emissions. Impacts are described in the context of both construction activities and ongoing operation of the proposed development, including relationships to adopted laws and regulations.

3.2.1. Affected Environment

Air quality is generally assessed in terms of whether concentrations of air pollutants are higher or lower than ambient air quality standards set to protect human health and welfare. Ambient air quality standards are established for "criteria" pollutants (e.g., carbon monoxide – CO, particulate matter, nitrogen dioxide – NO_2, and sulfur dioxide – SO_2). Three agencies have jurisdiction over the ambient air quality in the project area: the US Environmental Protection Agency (EPA), the Washington State Department of Ecology (Ecology), and the Puget Sound Clean Air Agency (PSCAA). These agencies establish regulations that govern both the concentrations of pollutants in the outdoor air and rates of contaminant emissions from air pollution sources. Although their regulations are similar in stringency, each agency has established its own standards. Unless the state or local jurisdiction has adopted more stringent standards, EPA standards apply. These standards have been set at levels that EPA and Ecology have determined will protect human health with a margin of safety, including the health of sensitive individuals like the elderly, the chronically ill, and the very young.

Ecology and PSCAA maintain a network of air quality monitoring stations throughout the Puget Sound area. In general, these stations are located where there may be air quality problems and are usually in or near urban areas or close to specific large air pollution sources. Other stations located in more remote areas provide indications of regional or background air pollution levels. Based on monitoring information for criteria air pollutants collected over a period of years, Ecology and EPA designate regions as being "attainment" or "nonattainment" areas for certain pollutants. Attainment status is a measure of whether air quality in an area complies with the federal health-based ambient air quality standards for criteria pollutants. Once a nonattainment area achieves compliance with the National Ambient Air Quality Standards (NAAQS), the area is considered an air quality "maintenance" area. The project study area is in the former Puget Sound Ozone maintenance area but is now considered attainment for all monitored air pollutants.

Existing Air Quality

Existing sources of air pollution in the project study area include a gravel mine to the north, the City's water reclamation facility, commercial sources south of Snoqualmie River, local traffic sources, and an auto driving track facility (DirtFish). The driving track roads extend across the project site. Portions of the track will be displaced and relocated in increments as the site develops, starting with Planning Area 1. Reconfiguration of the track will be a separate project sponsored by DirtFish; a plan for the reconfigured track is not available at this time. With typical vehicular traffic, the air pollutant of concern is CO. Other pollutants include ozone precursors

(hydrocarbons and nitrogen oxides – NOx), coarse and fine particulate matter (PM10 and PM2.5), and SO_2. The amounts of particulate matter generated by well-maintained individual vehicles are minimal compared with other sources (e.g., a wood-burning stove), and concentrations of SO_2 and NOx are usually not high except near large industrial facilities. Existing air quality in the project area is generally considered good.

Greenhouse Gases Related to Climate Change

Background

The phenomena of natural and human-caused effects on the atmosphere that cause changes in long-term meteorological patterns due to global warming and other factors is generally referred to as "climate change." Due to the importance of the "greenhouse effect" and related atmospheric warming to climate change, the gases that affect such warming are called greenhouse gases or GHGs. The GHGs of primary importance are carbon dioxide (CO_2), methane, ozone, and nitrous oxide. Because CO_2 is the most abundant of these gases, GHGs are usually quantified in terms of CO_2 equivalents, or CO_2e. CO_2 is not considered an air "pollutant" that causes direct health-related impacts and is not subject to ambient standards used to gauge pollutant concentrations in the air.

The global climate changes continuously, as evidenced by repeated episodes of warming and cooling documented in the geologic record. But the rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed an unprecedented increase in the rate of warming over the past 150 years. This recent warming coincided with the Industrial Revolution, which resulted in widespread deforestation to accommodate development and agriculture along with increasing use of fossil fuels. These sources have released substantial amounts of GHGs into the atmosphere and resulted in GHG levels unprecedented in the modern geologic record.

GHGs are emitted by both natural processes and human activities, and GHGs trap heat in the atmosphere. The accumulation of GHGs in the atmosphere affects the earth's temperature. While research has shown that the earth's climate has natural warming and cooling cycles, the overwhelming preponderance of evidence indicates that emissions related to human activities have elevated the concentration of GHGs in the atmosphere far beyond the level of naturally-occurring concentrations and that this is resulting in more heat being held within the atmosphere. The Intergovernmental Panel on Climate Change (IPCC), an international group of scientists from 130 countries, has concluded that it is "very likely" – representing a probability of greater than 90% – that human activities and fossil fuels explain most of the warming over the past 50 years.[2]

[2] Intergovernmental Panel on Climate Change (IPCC). *Fourth Assessment Report*. (February 2, 2007).

The IPCC predicts that under current human GHG emission trends, the following results could be realized within the next 100 years:[3]

- Global temperature increases between 1.1 – 6.4 degrees Celsius;
- Potential sea level rise between 18 to 59 centimeters or 7 to 22 inches;
- Reduction in snow cover and sea ice;
- Potential for more intense and frequent heat waves, tropical cycles, and heavy precipitation; and
- Impacts to biodiversity, drinking water, and food supplies.

The Climate Impacts Group (CIG) is a Washington-state based interdisciplinary research group that collaborates with federal, state, local, tribal, and private agencies, organizations, and businesses, and studies impacts of natural climate variability and global climate change on the Pacific Northwest. CIG research and modeling indicates the following possible impacts of human-based climate change in the Pacific Northwest:[4]

- Changes in water resources, such as decreased snowpack, earlier snowmelt, decreased water for irrigation, fish and summertime hydropower production, increased conflicts over water, and increased urban demand for water;
- Changes in salmon migration and reproduction;
- Changes in forest growth, species diversity, and increases in forest fires; and
- Changes along coasts, such as increased coastal erosion and beach loss due to rising sea levels, increased landslides due to increased winter rainfall, permanent inundation in some areas, and increased coastal flooding due to sea level rise and increased winter stream flow.

Regulatory/Guidance Framework

There are no specific emission reduction requirements or targets applicable to the project site, nor are there any generally accepted emission level "impact" thresholds with which to assess potential localized or global impacts related to GHG emissions. Instead, there are State and local policies and programs intended to consider and reduce GHG emissions over time as described below.

State of Washington Regulatory Framework

In February of 2007, Executive Order No. 07-02 established goals for Washington regarding reductions in climate pollution, increases in jobs, and reductions in expenditures on imported

[3] Intergovernmental Panel on Climate Change (IPCC). *Summary for Policymakers.* (April 30, 2007) (EPA).
[4] Climate Impacts Group. Accessed 01/22/2019. *Climate Impacts in Brief.* https://cig.uw.edu/learn/climate-impacts-in-brief/.

fuel.[5] The Executive Order established Washington's goals for reducing greenhouse gas emissions as follows:

- To reach 1990 levels of GHG emissions by 2020;
- To reach 25% below 1990 emission levels by 2035; and
- To reach 50% below 1990 emission levels by 2050.

This order was intended to address climate change, grow the clean energy economy, and move Washington toward energy independence. In 2007, the Washington Legislature passed SB 6001, which among other things, adopted the Executive Order No. 07-02 goals into statute.

In 2008, the Washington Legislature built on SB 6001 by passing the Greenhouse Gas Emissions Bill (E2SHB 2815). While SB 6001 set targets to reduce emissions, the E2SHB 2815 made those state-wide requirements (RCW 70.235.020) and directed the state to submit a comprehensive greenhouse gas reduction plan to the Legislature by December 1, 2008. As part of the plan, the Department of Ecology was mandated to develop a system for reporting and monitoring greenhouse gas emissions within the state and a design for a regional multi-sector, market-based system to reduce statewide greenhouse gas emissions, consistent with the requirements in RCW 70.235.020.

In 2008, Ecology issued a memorandum stating that climate change and greenhouse gas emissions should be included in all State Environmental Policy Act (SEPA) analyses and committed to providing further clarification and analysis tools.[6]

Based on current State SEPA policy, the project is required to report an estimate of lifecycle GHG emissions associated with the project. However, it is not subject to specific emission limitations or mitigation requirements.

In 2009, Executive Order 09-05 ordered Washington State agencies to reduce climate-changing GHG emissions, to increase transportation and fuel-conservation options for Washington residents, and protect the State's water supplies and coastal areas. This Executive Order directs state agencies to develop a regional emissions reduction program; develop emission reduction strategies and industry emissions benchmarks to make sure 2020 reduction targets are met; work on low-carbon fuel standards or alternative requirements to reduce carbon emissions from the transportation sector; address rising sea levels and the risks to water supplies; and increase transit options (e.g., buses, light rail, and ride-share programs) and give Washington residents more choices for reducing the effect of transportation emissions.

On December 1, 2010, Ecology adopted Chapter 173-441 WAC – Reporting of Emission of Greenhouse Gases. This rule aligns the State's greenhouse gas reporting requirements with EPA regulations, and requires facilities and transportation fuel suppliers that directly emit 10,000 metric tons carbon dioxide equivalents ($MTCO_2e$) or more per year, to report their GHG

[5] Washington, State of; Office of the Governor. 2007. Executive Order No. 07-02. https://www.governor.wa.gov/sites/default/files/exe_order/eo_07-02.pdf

[6] Manning, Jay. 2008. *Climate Change – SEPA Environmental Review of Proposals.* (April 30, 2008).

emissions to Ecology. Requirements for reporting began on January 1, 2012. Note that the project would directly emit GHGs only from sources requiring on-site fuel use, so direct GHG emissions would be much less than this reporting threshold.

In 2014, Executive Order 14-04 established steps to address the effects of climate change and how to reduce carbon pollution in Washington State. This Executive Order supersedes EO 07-02 and EO 09-05. Some of the key areas stated in the Order include carbon pollution, clean transportation, and clean technology.

3.2.2. Impacts

Construction Impacts

Impacts of Proposal

Early Site Work and Construction

The Proposal (PCI Planning Area 1 in 2023 and PCI Full Build in 2032) would involve construction activities that include excavation and site work, demolition of existing structures on-site, and new on-site construction including surfacing and paving of new parking lots.

For Planning Area 1 and Full Build, construction activity would occur over multiple years: Planning Area 1 between 2022 – 2023, Planning Area 2 between 2025 – 2026, and Planning Area 3 between 2030 – 2032. Development activity could result in temporary, localized increases in particulate concentrations due to emissions from construction-related sources. For example, dust from construction activities such as excavation and site work could contribute to ambient concentrations of suspended particulate matter. Construction contractors would be required, however, to comply with PSCAA regulations requiring that reasonable precautions be taken to minimize dust emissions.

Demolition of existing structures would require the removal and disposal of building materials, some of which could contain asbestos. If asbestos is found, demolition contractors would be required to comply with EPA and PSCAA regulations related to the safe removal and disposal of any asbestos-containing materials.

Construction would require the use of heavy trucks and other large diesel construction equipment and a range of smaller equipment such as generators, pumps, and compressors. Emissions from existing transportation sources around the project area would likely outweigh any emissions resulting from on-site construction equipment. Pollution control agencies are nonetheless now urging that emissions from diesel equipment be minimized to the extent practicable to reduce potential health risks. Construction contractors could minimize emissions from diesel-powered construction equipment, to the extent practicable, by taking steps such as implementation of best management practices that would reduce emissions related to the construction phase of the project. Management practices for reducing the potential for air quality impacts during construction include measures for reducing both exhaust emissions and fugitive dust. The Washington Associated General Contractors brochure, *Guide to Handling*

Fugitive Dust from Construction Projects and the PSCAA suggest several methods for controlling dust and reducing the potential exposure of people to emissions from diesel equipment.

With appropriate controls, construction-related diesel emissions would not be expected to significantly affect air quality in the project vicinity.

Although some construction phases would cause odors, particularly during paving operations that involve using tar and asphalt, any odors related to construction would be short-term and would likely go unnoticed. Construction contractor(s) would be required to comply with PSCAA regulations that prohibit the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, property, or which unreasonably interferes with enjoyment of life and property. City regulations also establish performance standards for emissions from industrial all uses and activities (SMC 17.55.080).

Construction Effects on Traffic

Construction equipment and material hauling could affect traffic flow within the vicinity of the project site, especially if construction vehicles travel during peak periods or other heavy-traffic hours of the day and pass through congested areas. Although there could be short-term periods with increased congestion and increased vehicle emissions, such events would likely be the exception rather than the rule and significant adverse effects to air quality would be unlikely.

Overall Construction-Related Air Quality

With implementation of the controls required for the various aspects of construction activities and consistent use of best management practices to minimize on-site emissions, construction of the Proposal would not be expected to significantly affect air quality.

Impacts of Alternatives

Redevelopment Alternative

Similar to the Proposal, the Redevelopment Alternative is evaluated for Planning Area 1 (2023) and Full Build (2032). The Redevelopment Alternative is comparable to the Proposal except it would include the construction of an outdoor performance space in the southeast portion of Planning Area 3, and it would include fewer retail, office, and residential units, as well as development of a smaller indoor event space. Total development of Planning Area 1 would be less, and development in Planning Area 3 would be somewhat greater. Early site work and construction is generally the same as discussed above for the Proposal. With implementation of controls for various aspects of construction activities and best management practices as discussed above, construction of these alternatives would not be expected to significantly affect air quality.

No Action

With this alternative, the Proposal would not be built, no construction activities would occur, and no construction-related air quality impacts would be expected.

Operational Impacts

Analytical Methods

The Proposal and the Redevelopment Alternative would result in an increase in vehicular traffic to and from the Snoqualmie Mill site that would increase emissions near the site and along roads in the area. To assess the potential for localized air quality impacts due to an increase in traffic, projected future traffic conditions with and without the project were examined and a screening level review was conducted. This analysis focused on potential for carbon monoxide (CO) emissions to cause localized "hot spots" based on EPA guidance.[7] EPA guidance recommends screening for intersections with "level of service" (LOS) "D" or worse because longer traffic delays have a greater potential to result in CO air quality impacts. This hot spot review evaluated signalized intersections in the vicinity of the project that would be most affected by project-related traffic during peak-hour periods.

Exhibit 3.2-1 and Exhibit 3.2-2 provide intersection LOS and per-vehicle delay for the AM and PM peak period, respectively. Projected intersection conditions indicate the SR-202 and Snoqualmie Parkway intersection would perform worse during the AM peak period. Therefore, the AM peak-period traffic conditions were used to screen for CO air quality impacts where concentrations might exceed the health-protective ambient air quality standards.

Based on the SR-202 and Snoqualmie Parkway intersection configuration and traffic conditions including volumes, delays, and projected operational phasing, air quality screening modeling was conducted using the latest version of the WSDOT WASIST tool.[8] This screening modeling tool applies worst-case assumptions to estimate CO concentrations at nearby locations. This model uses vehicle emission factors estimated using the latest available tool from the EPA, the MOVES2014 model.[9] For this modeling, near-road receptors were placed along both sides of each roadway "leg" of the analyzed intersection at 3, 25, 50, and 100 meters from cross streets, 3 meters from the nearest traffic lane, and 1.8 meters above the ground (i.e., typical sidewalk locations at breathing height).

[7] US Environmental Protection Agency (EPA). 1992. Guideline for Modeling Carbon Monoxide from Roadway Intersections. Office of Air Quality Planning and Standards. Technical Support Division. Research Triangle Park, North Carolina. EPA-454/R-92-005.

[8] Washington State Intersection Screening Tool (WASIST) Version 3.0, Washington State Department of Transportation, June 2015

[9] Jim Laughlin, WSDOT Air, Noise, and Energy Program Technical Manager, email of 5/18/2015 announcing the release of WASIST 3.0

Exhibit 3.2-1. AM Peak-Period Signalized Intersection Conditions

Signalized Intersection	2018 Existing		2023 No Action		PCI Plan 2023 w/ Planning Area 1		2032 No Action		PCI Plan 2032 Full Build		Redev. Alt 2032 Full Build	
	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
SR-18 & I-90 EB Ramps	C	24.8	C	25.1	C	26.4	C	25.5	C	32.4	C	32.5
SR-18/ Snoqualmie Pkwy & I-90 WB Ramps[1]	F	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Snoqualmie Pkwy & SE Jacobia St	B	12.5	B	12.7	B	12.9	B	13.1	B	13.9	B	13.9
Snoqualmie Pkwy & SE Swenson Dr	C	20.8	C	20.9	C	21.4	C	21.2	C	21.8	C	21.8
SE Douglas St & Snoqualmie Pkwy	C	20.0	C	20.5	C	21.3	C	21.4	C	25.4	C	25.1
SE Center St & Snoqualmie Pkwy	A	9.7	A	9.8	B	10.1	A	10.0	B	10.9	B	10.7
Snoqualmie Pkwy & Fairway Ave SE	A	10.0	B	10.0	A	9.9	B	10.3	A	9.8	A	9.8
Better Way SE & Snoqualmie Pkwy	A	6.4	A	6.5	A	6.6	A	6.6	A	6.8	A	6.7
SR-202 & Snoqualmie Pkwy	B	13.7	B	14.0	B	17.4	B	14.7	E	59.2	D	48.3
Meadowbrook Bridge	B	17.8	B	18.4	B	16.1	C	20.6	C	20.1	B	16.6
Meadowbrook Way SE & SR-202	A	7.8	A	7.9	A	8.8	A	8.5	B	12.7	B	10.6

[1] LOS at 1-90 interchange ramps is not reported for the alternatives because final design for the planned WSDOT improvements has not been determined; therefore, future LOS cannot be calculated at this time. LOS is assumed to improve compared to current conditions and to operate at an acceptable level.
Source: LOS and delay provided by Transportation Engineering NorthWest, 2018/2019. For additional information, refer to EIS Section 3.11; computations by Ramboll.

Exhibit 3.2-2. PM Peak-Period Signalized Intersection Conditions

Signalized Intersection	2018 Existing		2023 No Action		PCI Plan 2023 w/ Planning Area 1		2032 No Action		PCI Plan 2032 Full Build		Redev. Alt 2032 Full Build	
	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
SR-18 & I-90 EB Ramps	C	28.7	C	28.9	C	28.9	C	29.2	C	29.1	C	29.1
SR-18/Snoqualmie Pkwy & I-90 WB Ramps[1]	C	31.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Snoqualmie Pkwy & SE Jacobia St	A	9.9	B	10.0	B	10.2	B	10.2	B	10.8	B	10.7
Snoqualmie Pkwy & SE Swenson Dr	C	20.4	C	20.5	C	20.8	C	20.8	C	21.3	C	21.3
SE Douglas St & Snoqualmie Pkwy	C	20.9	C	21.4	C	22.9	C	22.5	C	27.9	C	26.8
SE Center St & Snoqualmie Pkwy	B	13.1	B	13.3	B	13.8	B	13.7	B	15.7	B	15.2
Snoqualmie Pkwy & Fairway Ave SE	A	7.3	A	7.3	A	7.5	A	7.5	A	8.1	A	7.9
Better Way SE & Snoqualmie Pkwy	A	6.1	A	6.1	A	6.2	A	6.3	A	6.5	A	6.4
SR-202 & Snoqualmie Pkwy	B	11.6	B	11.8	B	14.1	B	12.2	C	23.1	B	19.4
Meadowbrook Bridge	B	15.6	B	15.6	B	15.6	B	15.8	B	18.8	B	17.7
Meadowbrook Way SE & SR-202	A	9.6	A	9.9	B	10.7	B	10.4	B	15.8	B	13.4

[1] LOS at 1-90 interchange ramps is not reported for the alternatives because final design for the planned WSDOT improvements has not been determined; therefore, future LOS cannot be calculated at this time. LOS is assumed to improved compared to current conditions and to operate at an acceptable level.
Source: LOS and delay provided by Transportation Engineering NorthWest, 2018/2019. For additional information, refer to EIS Section 3.11; computations by Ramboll.

Traffic Air Quality Analysis Findings

The WASIST modeling results are listed in Exhibit 3.2-3. Model results indicate CO concentrations near the most congested intersection in the project study area would be far less than the 35 ppm 1-hour and 9 ppm 8-hour health based ambient air quality standards. While future (2023 and 2032) traffic volumes and delays would increase over existing (2018) conditions, future CO concentrations would reduce due to adoption of newer, more efficient vehicles and cleaner fuel regulations.[10] In 2023 and 2032, modeled CO concentrations for the proposed PCI Plan and Redevelopment Alternative are the same or up to 0.1 ppm higher than the No Action alternative.[11] These findings indicate that the Proposal and the alternatives would not likely cause or contribute to any significant traffic-related air quality impacts.

Exhibit 3.2-3. WASIST Calculated CO Concentrations (PPM)[1,2]

Signalized Intersection	Averaging Period	2018 Existing	2023 No Action	PCI Plan 2023 Planning Area 1	2032 No Action	PCI Plan 2032 Full Build	Redev. Alt 2032 Full Build
SR-202 & Snoqualmie Pkwy	1-Hour	5.3	5.2	5.2	5.1	5.2	5.2
	8-Hour[3]	5.2	5.1	5.1	5.1	5.1	5.1

Source: Ramboll, based on modeling using the WSDOT WASIST tool.
[1] CO concentrations are typically quantified in terms of parts per million, or ppm, and both the WASIST- calculated concentrations.
[2] Concentrations include a 5-ppm background concentration to reflect the potential contribution from other traffic or other sources in the vicinity. This is a very conservative assumption.
[3] 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

Air Quality Impacts Related to Facility Operational Emissions

Light Industrial and Warehouse Uses

The Proposal's land use emphasis is on various categories of commercial, warehouse and light industrial/manufacturing activities. Current planning for Planning Area 1 is focused on tenants who would produce and store wine, along with wine-related retail uses. Other than emissions from traffic, discussed previously, air emissions associated with the production, storage, transport, and sales of wine or similar products are expected to be minimal.

Emergency Equipment

One or more emergency generators may be required to ensure safe and consistent operation of

[10] EPA Air Pollution Emissions Trend Data (https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data)
[11] The Transportation section of the EIS (Section 3.11) indicates the Redevelopment Alternative would generate approximately 4% less traffic than the proposed project. Therefore, CO concentrations associated with the Redevelopment Alternative in 2023 would likely be the same or slightly less than the proposed project.

the project. Emissions associated with emergency generators result from the combustion of fossil fuels and would occur during emergency use or routine testing of the generators.

PSCAA Regulation I, Section 6.0(c) exempts some sources of air pollution from Notice of Construction applications and Order of Approvals. Sources defined in 6.03(c) are not expected to cause or contribute to local air quality impacts. Stationary internal combustion engines, including emergency generators, with less than 50 horsepower output or those that are operated less than 500 hours per year are included in these exemptions. If the project identifies a need for larger emergency engines or engines that operate more than 500 hours per year, a permit would be required to ensure the emissions would not cause or contribute to air quality impact.

Mobile Source Air Toxics (MSATs)

In addition to the "criteria" air pollutants like CO discussed above, there are a variety of other potentially hazardous air pollutants for which health-based ambient air quality standards have not been established. Of the identified hazardous air pollutants, some have been designated as mobile source air toxics (MSATs). MSATs are emitted by on-road and off-road vehicles with internal combustion engines burning biofuels, diesel, or gasoline. Of these vehicles, heavy duty diesel trucks are the largest contributor of MSATs. Actual data related to potential effects of MSATs as well as the mechanisms related to analyzing dispersion of MSATs are incomplete or unavailable, so specific analyses of these substances are not typically performed. However, the FHWA has released interim guidance for considering MSATs during the process of NEPA evaluations for transportation projects subject to FHWA review. While the project is not subject to FHWA review, FHWA guidance for screening level review of MSATs was applied in the event there is interest or concern regarding such emissions related to this project.

The traffic impact analysis indicates a total of 13,504 and 8,910 daily passenger and truck trips would result due to the Proposal and Redevelopment Alternative, respectively. The daily project-related traffic volumes are far fewer than the 140,000 to 150,000 annual average daily traffic (AADT) threshold that FHWA states may result in a higher potential for MSAT effects. In addition, MSAT emissions in future years are expected to decline compared with existing levels of emissions because of national emission control programs. For example, FHWA projects MSAT reductions from on-highway vehicles of 90% between 2010 and 2050.[12]

Greenhouse Gas Emissions

Impacts of Proposal

The GHG emissions associated with the Proposal were calculated using King County's SEPA GHG Emissions Worksheet. King County's GHG worksheet estimates all GHG emissions that are created over the life span of a project from construction materials, fuel used during

[12] Federal Highway Administration (FHWA). 2016. Updated Interim Guidance on Air Toxic Analysis in NEPA Documents. Web Page Accessed October 2018: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/.

construction, energy consumed during building operation, and transportation by building occupants.

Note that this analysis does not quantify or consider any potential efforts to reduce either GHG emissions or resource consumption by incorporating sustainable features into the development. However, it is assumed that sustainable features would be incorporated into the project to reduce such impacts; see the discussion of design guidelines and sustainability in Chapter 2 of the Draft EIS. These sustainable features would be considered in the approach to the design of buildings and in ongoing site programming and management. The results for the Proposal are presented in Exhibit 3.2-4.

Exhibit 3.2-4. Estimated Proposal Greenhouse Gas Emissions ($MTCO_2E$)

Components	# Units	Area (sq. ft.)	Lifespan Emissions[1]	Annual Emissions[2]
Multi-Family Unit in Large Building[3]	160	–	184,911	2,297
Food Service[4]	–	15,000	38,907	623
Retail (Other Than Mall)[5]	–	80,000	69,020	1,104
Office[6]	–	800,000	1,079,476	17,272
Warehouse and Storage[7]	–	680,000	388,788	6,221
Other[8]	–	120,000	188,901	3,022
Pavement[9]	–	2,439,360	121,968	1,951

Source: Ramboll, based on using the King County's GHG worksheet.
[1] Estimated of lifecycle emissions are based on an assumed average useful life of about 80.5 years for residential and 62.5 years for all other types of structures. These emissions are reported in $MTCO_2e$ representing to metric tons (tonnes) of carbon dioxide equivalent, or 2,204.62 pounds of CO_2. This metric is a standard measure of CO_2 equivalent emissions that include CO_2 and other GHGs.
[2] Annual emissions estimates are based on dividing total emissions by assumed facility useful lifespan as indicated in note (1) above.
[3] Defined as apartments in buildings with more than 5 units.
[4] Defined as buildings used for preparation and sale of food and beverages for consumption.
[5] Defined as buildings used for the sale and display of goods other than food.
[6] Defined as buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
[7] Defined as buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
[8] Defined as buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50% or more of the floorspace, but whose largest single activity is agricultural, industrial/manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
[9] Defined as the total amount of paving of the project.

The Proposal is expected to produce about 2,071,972 metric tons (tonnes) of CO_2 equivalent (MTCO2e) over an 80.5- and 62.5-year lifespan for residential and all other types of structures, respectively. Annually this corresponds to about 32,490 tonnes. To put these values into context, in the Washington State GHG emission inventory for 2010-2013, Ecology estimated state-wide annual GHG emissions in 2013 were about 94 million $MTCO_2e$. Estimated annual

worldwide GHG emissions for 2010 were about 46 billion $MTCO_2e$. Thus, the project's annual GHG emissions represent approximately 0.03% of estimated annual 2013 GHG emissions within Washington and much smaller percentages of worldwide emissions.

It is important to note that the scale of global climate change is so large that the impacts from one project, no matter the size, would almost certainly have no discernible effect on increasing or decreasing global climate change. Any such effects can only be considered on a "cumulative" basis. It is, appropriate to conclude that the Proposal's GHG emissions would combine with emissions across the City, County, State, nation, and planet to cumulatively contribute to increases or decreases in the rate and effects of global climate change.

To reiterate, the estimates of project GHG emissions do not consider any potential efforts to reduce GHG emissions and/or resource consumption by incorporating sustainable features into the development, although such sustainable features would be incorporated into the project by virtue of the City and State Building and Energy Code requirements and the likely use of green building technologies.

The GHG emissions associated with the Proposal would contribute to the cumulative carbon footprint of King County. No significant climate change impacts would be expected due to project-related GHG emissions.

Impacts of Alternatives

Redevelopment Alternative

As discussed in Section 3.2.2, this alternative is similar to the Proposal except it would include the construction of an outdoor performance space in the southeast portion of Planning Area 3, and it would include fewer retail, office, residential units, and development of a smaller indoor event space. Total development of Planning Area 1 would be less, and development in Planning Area 3 would be somewhat greater. The GHG emissions associated with this alternative were also calculated using the King County's GHG worksheet. The results for the Redevelopment Alternative are presented in Exhibit 3.2-5.

Exhibit 3.2-5. Estimated Redevelopment Alternative Greenhouse Gas Emissions ($MTCO_2E$)

Components	# Units	Area (sq. ft.)	Lifespan Emissions[1]	Annual Emissions[2]
Multi-Family Unit in Large Building[3]	120	–	138,683	1,723
Food Service[4]	–	15,000	38,907	623
Retail (Other Than Mall)[5]	–	67,000	57,805	925
Office[6]	–	156,000	210,498	3,368
Public Assembly[7]	–	17,000	15,674	251
Warehouse and Storage[8]	–	1,396,000	798,159	12,771
Other[9]	–	96,000	151,121	2,418
Pavement[10]	–	2,439,360	121,968	1,951

Source: Ramboll, based on using King County's GHG worksheet.
[1] Estimated of lifecycle emissions are based on an assumed average useful life of about 80.5 years for residential and 62.5 years for all other types of structures. These emissions are reported in MTCO2e representing to metric tons (tonnes) of carbon dioxide equivalent, or 2,204.62 pounds of CO2. This metric is a standard measure of CO2 equivalent emissions that include CO2 and other GHGs.
[2] Annual emissions estimates are based on dividing total emissions by assumed facility useful lifespan as indicated in note (1) above.
[3] Defined as apartments in buildings with more than 5 units.
[4] Defined as buildings used for preparation and sale of food and beverages for consumption.
[5] Defined as buildings used for the sale and display of goods other than food.
[6] Defined as buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
[7] Defined as buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.
[8] Defined as buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
[9] Defined as buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50% or more of the floorspace, but whose largest single activity is agricultural, industrial/manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
[10] Defined as the total amount of paving of the project.

This alternative is expected to produce about 1,532,814 metric tons (tonnes) of CO2 equivalent (MTCO2e) over an 80.5- and 62.5-year lifespan for residential and all other types of structures, respectively. Annually this corresponds to about 24,029 tonnes. When compared to the state-wide annual GHG emissions in 2013 (about 94 million MTCO2e), the annual GHG emissions from this alternative represents approximately 0.03%, and much smaller percentages of worldwide emissions.

The estimates of GHG emissions from this alternative do not consider any potential efforts to reduce GHG emissions and/or resource consumption by incorporating sustainable features into the development. And the GHG emissions associated with this alternative would contribute to the cumulative carbon footprint of King County. No significant climate change impacts would be expected due to project-related GHG emissions.

No Action

With No Action, the Proposal would not be built, no construction activities would occur, and no project-related construction or operational GHG emissions would be expected. Existing uses and associated emissions would continue.

3.2.3. Mitigation Measures

Construction

Although significant air quality impacts are not anticipated due to construction of the project, construction contractors would be required to comply with all relevant federal, state, and local air quality regulations. In addition, implementation of best management practices would reduce emissions related to the construction phase of the project. As discussed in Section 3.2.2, the Washington Associate General Contractors brochure and the PSCAA suggest several methods for controlling dust and reducing the potential exposure of people to emissions from diesel equipment. A list of some of the control measures that could be implemented to reduce potential air quality impacts from construction activities follows:

- Use only equipment and trucks that are maintained in optimal operational condition.
- Require all off-road equipment to have emission reduction equipment (e.g., require participation in Puget Sound Region Diesel Solutions, a program designed to reduce air pollution from diesel, by project sponsors and contractors).
- Use car-pooling or other trip-reduction strategies for construction workers.
- Implement restrictions on construction truck and other vehicle idling (e.g., limit idling to a maximum of five minutes).
- Spray exposed soil with water or other suppressant to reduce emissions of PM and deposition of particulate matter.
- Pave or use gravel on staging areas and roads that would be exposed for long periods.
- Cover all trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce PM emissions and deposition during transport.
- Provide wheel washers to remove particulate matter that would otherwise be carried off-site by vehicles in order to decrease deposition of particulate matter on area roadways.
- Cover dirt, gravel, and debris piles as needed to reduce dust and wind-blown debris.
- Stage construction to minimize overall transportation system congestion and delays to reduce regional emissions of pollutants during construction.

Other than direct construction equipment and activity emissions that would be addressed as described above, the largest potential emissions source related to facility construction would be traffic-related emissions associated with disrupted and/or rerouted traffic in the site vicinity.

Snoqualmie Mill Operations

The screening analysis described above indicates that operation of the project alternatives would not result in any significant adverse air quality impacts. Consequently, no specific additional mitigation is necessary or proposed.

GHG and Sustainability

The environmental analysis described above does not quantify or take into consideration any potential efforts to reduce climate change-related impacts by incorporating sustainable features into the development. However, it is assumed that sustainable features would be incorporated into the project to reduce the impacts quantified in this section. These sustainable features would be considered in the approach to the design of buildings, and in ongoing site programming and management. Sustainable features would be incorporated into the project through compliance with requirements of Building and Energy Codes and the likely use of the green building technologies, which are described in proposed design guidelines (refer to Chapter 2).

3.2.4. Significant Unavoidable Adverse Impacts

No significant unavoidable adverse air quality or greenhouse gas emission-related impacts have been identified and none are anticipated.

3.3. WATER RESOURCES

This section of the EIS addresses multiple topics relating to water resources: surface water, groundwater, stormwater, water quality and flooding. The flooding discussion is based primarily on analyses performed by Goldsmith Engineering for the Master Drainage Plan (MDP, 2020, Appendix A), which includes hydrologic and hydraulic modeling of the Snoqualmie River base flood, for both pre-development and post-development project conditions, that was performed by Watershed Sciences and Engineering (WSE). Some related information and analysis about or related to water resources is also contained in other sections of the EIS, including Section 3.1 – Earth Resources, and Section 3.4 – Plants and Animals, and the technical appendices that support these sections. Note that the wetland discussion in this section is limited to wetland hydrology; wetland biology and wetland buffer size, quality, and function are discussed in Section 3.4.

3.3.1. Affected Environment

The Mill site is extremely flat due to past placement of fill and lumber mill operations and lies almost entirely within the floodplain of the Snoqualmie River.

The site also contains areas of wetlands and streams, and a system of man-made drainage ditches that are regulated as critical areas by the City. The US Army Corps of Engineers also has jurisdiction of some of the site's wetlands. The site is primarily bare of undisturbed natural vegetation except along some perimeter areas. Existing vegetation, including the regulated buffer areas of wetlands and streams is generally degraded and of poor quality.

Regulatory Environment

The primary regulatory framework for stormwater management for the Snoqualmie Mill site includes the following regulatory documents, in order of priority:

1. Appendix I of the Western Washington Phase II Municipal Stormwater Permit;
2. The 2012/2014 Stormwater Manual for Western Washington (Dept. of Ecology), specifically Appendix I-E (criteria for direct discharge exemption from flow control), referred to herein as the *Ecology Manual*;
3. The City of Snoqualmie Addendum to the 2016 King County Surface Water Design Manual; and
4. The 2016 King County Surface Water Design Manual, referred to herein as *KCSWDM*.

The site lies entirely within the Snoqualmie River Basin and currently drains to the Snoqualmie River from one "threshold discharge area." Drainage leaves the site at three locations:

- Directly to the river via overland flow,
- Through Borst Lake (or the old Snoqualmie Mill Pond) via on-site ditches (Borst Lake drains over a manmade outlet weir and culvert under Mill Pond Road to the Snoqualmie River), and
- Through the Northeast portion of the site that drains to the river via a large off-site

wetland complex lying north of the property. The entire site (except some areas of the site above the Base Flood Elevation) as well as immediate downstream areas lie within the 100-year floodplain of the river.

The stormwater management strategy for development of Snoqualmie Mill is primarily flood control and compliance with the City's Flood Hazard Regulations (SMC 15.12). But during normal rainfall, it is a combination of collection, treatment and direct discharge to the Snoqualmie River, and collection, treatment and discharge to on-site and off-site wetlands to maintain wetland hydrology. The Snoqualmie River is designated as a direct discharge receiving water body by the KCSWDM and the Ecology Manual, thus the site is exempt from flow control requirements. Post-development drainage to on-site and off-site wetlands is evaluated in this section and in the Plants & Animals section of the EIS.

Surface Water Features

There are nearly 12,000 linear feet of man-made channels across the Snoqualmie Mill site that have been constructed over time for drainage purposes. Approximately twenty-one watercourses were initially identified on-site as either meeting the City's definition of a "stream" or a "drainage ditch", however, this was prior to the purchase of the eastern hillside by King County Parks.

Many of these channels and ditches were excavated through the site's fill material into underlying hydric soils. As such, these have been determined to meet the regulatory definitions of "wetlands" and "streams" and thus are treated as critical areas on the site. These critical areas underwent extensive, multi-year evaluation by the City and the US Army Corps of Engineers for Jurisdictional Determination. The final determination of wetlands, streams and their associated buffers is reflected in the Sensitive Areas Study (June 2016 Technical Memorandum, Raedeke Associates), which was approved by the City in November 2016 as part of the Mill Planning Area Annexation Implementation Plan (AIP). These critical areas and their characteristics are described and evaluated in detail in Section 3.4 of the EIS. The summaries below are provided for context.

The following subsections describe the major hydrologic features on and near the site.

On-site Wetland 12 System

The major on-site hydrologic feature is the wetland/ditch system, which conveys runoff to Borst Lake during periods of rainfall. Wetland 12 is a long, linear system of flat ditches. Surface water flowing through the ditch system is predominantly controlled by a culvert elevation in the southern portion of the site. These systems are depicted in Exhibit 3.4-4 and described in detail in Section 3.4 and Appendix A. Monitoring has determined that the major hydrology source of the Wetland 12 system is the variation in groundwater levels in the shallow groundwater aquifer, until river flood stages cause saturation and flooding of the floodplain.

Over the years of operations of the lumber mill, the on-site ditches were created and relocated, but all served the same function, which was to drain the surface water runoff from the site. The ditches are excavated into the Snoqualmie River Shallow Aquifer which rises and falls as a

groundwater reaction to recharge and not primarily by surface water runoff. Surface water runoff moves very quickly off the existing impervious surfaces through the Wetland 12 drainage system to the River via Borst Lake. Therefore, these wetlands are not dependent on surface water hydrology within their respective basins, and not susceptible to significant impacts from changes in surface water hydrology.

Borst Lake

Borst Lake has also been the subject of extensive monitoring in the past. Borst Lake is a man-made lake created and maintained for milling operation. The lake level was created, and artificial water levels maintained by constructing berms and an overland outfall (weir) with hydrology fed by a diversion of surface water from Tokul Creek. The weir-controlled outfall from the lake experienced past failures that substantially changed the managed water levels. This weir was reconstructed in 2009, again raising the level of the lake. The diversion and source of hydrology ceased in approximately 2011.

The newly constructed weir control has experienced additional breach failures, which have lowered lake levels and have likely changed the characteristics of the outfall stream to the river. Past and current monitoring of groundwater and water levels in Borst Lake indicate that it is likely that without an artificially raised outlet and an augmented source of hydrology, the lake levels will rise and fall with rainfall and river flood stages but would likely not sustain a consistent water level as has been the case historically. This renders the lake particularly susceptible to changes in drainage basin area or changes in levels of impervious surfaces from existing conditions. These levels are currently unknown, but the lake is currently unable to rise higher than approximately 409.0 due to a breach in the control weir constructed in 2009.

Wetland 11

Wetland 11 is a very large floodplain-saturated area that receives most of its hydrology from either groundwater from the shallow aquifer or tributary drainage from its upstream basin. The tributary area from the Snoqualmie Mill site to Wetland 11 (not including the site area of Wetland 11), represents approximately 3.0% of the surface water basin and may not have always been tributary to this drainage in the past. Old photographs of lumber mill operations indicate that drainage and drainage ditches were located and re-located as necessary as operations expanded and the site was filled over time.

What was or was not tributary to this area of the River floodplain prior to the lumber mill's operation is not known. However, this area of drainage to the river and this large wetland area appear to have very limited dependence on surface water runoff from the Snoqualmie Mill site and are not likely to be susceptible to significant impacts due to moderate to changes in runoff from the Snoqualmie Mill site.

Snoqualmie River

The downstream receiving water for the Snoqualmie Mill site is the Snoqualmie River. Approximately 1,000 feet downstream of the site the Snoqualmie River drops 268 feet over Snoqualmie Falls before flowing through the Snoqualmie River Valley downstream of the falls.

The reach of the river between the falls and the SR-202 Bridge has recently been subject to two flood improvement projects: (1) the Snoqualmie Flood Damage Reduction Project (known as the 205 project) by the US Army Corps of Engineers, King County and the City of Snoqualmie; and (2) the Puget Sound Energy (PSE) Weir Extension Project just upstream of the falls. The 205 project widened the right bank of the river just downstream of the SR-202 bridge and removed an old railroad trestle that partly spanned the channel about 0.5 mile upstream from the SR-202 bridge. The PSE project extended (lengthened) the PSE weir spanning the river just upstream of the falls and lowered the crest of the weir by approximately 2.0 feet.

The 205 project was the subject and the basis of a Federal Emergency Management Administration (FEMA) Letter of Map Revision (LOMR) issued to the City of Snoqualmie in 2010 to establish a new Base Flood Elevation (BFE) for the River between the falls and the City of Snoqualmie. The PSE project was not included in the river model for the 2010 LOMR as this work was completed between 2010 and 2012. The 2010 LOMR as issued by FEMA is the basis for all evaluations of floodplain and BFE impact contained herein. If, in the future, there is a LOMR issued by FEMA based on current projects and current data, future permitting of Snoqualmie Mill would include updated evaluations of impact and levels of mitigation consistent with SMC 15.12 and SMC 19.12.

Following the completion of the two river projects, King County evaluated flooding impacts on downstream properties in the Snoqualmie River Valley. The following summary is from the King County website (King County, 2018):

> *"Many residents of the lower Snoqualmie Valley say they've seen greater flooding in the basin in recent years. In response, the King County Flood Control District initiated the Snoqualmie River Hydraulic and Hydrologic (H&H) Study to investigate reported changes and concerns. By doing so, the district hopes to create a shared understanding of flooding changes that can inform future dialogue and action in the Snoqualmie Basin.*
>
> *The Snoqualmie H&H Study was conducted in two phases. The first phase, the Snoqualmie River Hydraulic Study ("Phase 1 Study"), was completed in April 2016. It evaluated the downstream impacts of two large flood reduction projects that were constructed at Snoqualmie Falls between 2004 and 2012 (Army Corps 205 project and PSE Snoqualmie Falls project). According to the study, the projects increased the peak 100-year water level downstream of the falls by 0.1 feet and decreased the upstream 100-year water level in the City of Snoqualmie by 1.4 feet.*
>
> *The second phase, the Snoqualmie River Hydrologic Study ("Phase 2 Study"), is a broader investigation into a variety of issues related to river gages, historical trends, basin hydrology, and recent flood events. The study looked for annual and seasonal trends in basin flood hydrology and evaluated possible causes of change, such as land use, forestry practices, increased sedimentation, and climate change. It also included a review of the USGS gaging program in the Snoqualmie basin and recommendations to improve the system for flood warning. The Phase 2 Study did not find that flooding has gotten significantly worse in the Snoqualmie basin but*

found some evidence of increasing frequency of flood events and upward trends in fall and spring precipitation and high flows. The analysis concludes that much of the change in flooding reported by residents is likely due to variations in how precipitation falls across the basin during a storm and how this shapes the floodwave as it moves through the river system.

Both phases were conducted by Watershed Science & Engineering on behalf of King County. Dr. Ed McCarthy conducted an independent technical review on behalf of Snoqualmie Valley residents and stakeholders to verify the integrity of the methods and to ensure the study addressed community concerns."

Groundwater Features

On-Site Groundwater Conditions

Seasonal groundwater lies below the Snoqualmie Mill site and within existing fill material. This seasonal groundwater is a reflection of the Snoqualmie River Shallow Aquifer. In general, a groundwater divide is present in the central portion of the site. In the south and western portions of the site, groundwater flows towards the Snoqualmie River and the Mill Pond. In the northern portion of the site, groundwater flows to the north toward the Tokul Creek Delta. This shallow aquifer is hydraulically connected to the Snoqualmie River and to a lesser degree to the Mill Pond/Borst Lake.

The groundwater system in the vicinity of the project site has been subdivided into five "aquifers." These include:

- Bedrock Aquifer,
- Deep Aquifer,
- Pre-Fraser Aquifer,
- Tokul Creek Delta Aquifer, and
- Snoqualmie River Shallow Aquifer.

Bedrock Aquifer

Bedrock was not encountered in any of the exploration wells completed on the project site. Review of Ecology well logs indicated a relatively discontinuous occurrence of groundwater in bedrock in the project vicinity that appears to be perched at relatively high elevations. These domestic wells are primarily located on upland areas northeast of the Mill site. Although the volcanic rock in the vicinity of the site can supply limited quantities of water to wells, the bulk hydraulic conductivity of the rock mass is low, and the units typically behave as a barrier to groundwater flow.

Deep Aquifer

The Deep Aquifer, located in Olympia or pre-Olympia-age fluvial sands and gravels and represents an ancient Snoqualmie River system confined within a narrow bedrock valley. The

Deep Aquifer extends up-valley (southeast) from the site to the Grouse Ridge/Middle Fork Embankment area east of Tanner (AESI, 1996). The down-valley extent of the aquifer is uncertain; however, discharge from this aquifer occurs downstream of Snoqualmie Falls. Recharge to the Deep Aquifer occurs from limited vertical leakage through the overlying aquitard and primarily from throughflow of groundwater coming down-valley from the southeast.

Pre-Fraser Aquifer

The Pre-Fraser Aquifer is located in Olympia-age non-glacial or other undifferentiated pre-Fraser deposits underlying the project site. The thickness of the Pre-Fraser Aquifer near the project site ranges from about 60 feet to over 120 feet and is separated from the underlying Deep Aquifer by 50 to 100 feet of low-permeability sediments, though this aquitard is discontinuous and may not be present on the project site, resulting in more direct hydraulic connections with the underlying Deep Aquifer in some locations (AESI, 1994, 1995, 2001). The Pre-Fraser Aquifer is interpreted to extend both up-valley (south) and down-valley (north) from the project site, but like the Deep Aquifer, its width would be limited by the narrow bedrock valley of the ancient Snoqualmie River.

Tokul Creek Delta Aquifer

The Tokul Creek Delta Aquifer is interpreted to be developed in the Vashon recessional delta deposits north of the Mill site and beneath the northern portion of the Mill site underlying the recent lacustrine deposits. North of the Mill site, the aquifer has been documented to be about 140 feet thick. The extent of the Tokul Creek Delta Aquifer is limited by the distribution of the recessional deltaic deposits. This unconfined aquifer is bounded by bedrock to the north and west and is interpreted to pinch out beneath the northern portion of the Mill site (Exhibit 3.3-1).

Recharge to the Tokul Creek Delta Aquifer is primarily from direct precipitation, with some additional recharge from the adjacent Snoqualmie River Shallow Aquifer. Based on data presented by the USGS (Turney et al., 1995), the Tokul Creek Delta Aquifer in the site vicinity is recharged at a rate of about 40 inches per year from direct precipitation. Recharge amounts from the Snoqualmie River Aquifer have not been quantified at this time. The Tokul Creek Delta Aquifer discharges at Tokul Creek in the vicinity of SR 202. Based on summertime stream gauging data (AESI, 1994), the aquifer discharges at a rate of about 3.5 to 8 cubic feet per second. This measured flow includes discharge into the creek from both the north and south. According to data presented by Turney et al. (1995), groundwater on the northwest side of Tokul Creek also flows toward Tokul Creek. This suggests that Tokul Creek serves as a hydraulic barrier between the site and areas located northwest of Tokul Creek.

Snoqualmie River Shallow Aquifer

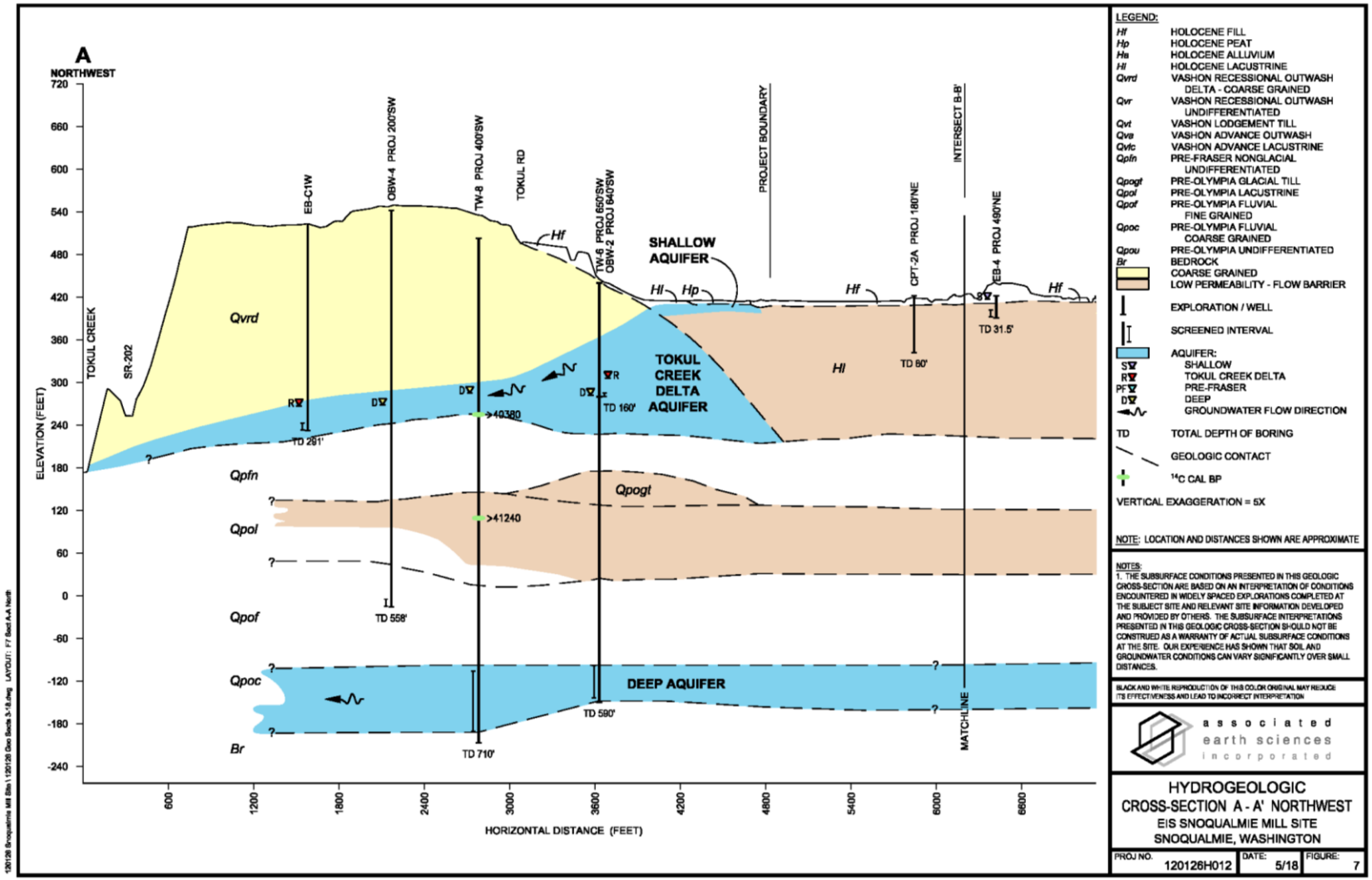
The Snoqualmie River Shallow Aquifer is located within the present-day Snoqualmie River valley, including the project site. The Snoqualmie River Shallow Aquifer generally consists of fine to medium sand with gravel, deposited in channel and near-channel environments of a

meandering river system. The aquifer is shallow, typically less than 50 feet, and is discontinuous in map pattern (AESI, 1993), primarily contained within the coarse-grained river channel deposits.

Most of the groundwater in this aquifer discharges towards the Snoqualmie River. However, a groundwater divide is present in the central portion of the Mill site where a portion of this aquifer discharges by subsurface flow into the Tokul Creek Delta Aquifer to the north. At the south end of the Mill site, the aquifer is also interpreted to discharge to some extent into the Mill Pond, though the hydraulic connection appears to be limited. Recharge to the Snoqualmie River Shallow Aquifer occurs from up-valley aquifer sources and direct precipitation within the valley.

In general, Snoqualmie River Shallow Aquifer groundwater levels rise during periods of recharge (rainfall). Groundwater levels also rise when discharge is slowed or reversed by a rise in the level of the Snoqualmie River. When the Snoqualmie River rises, a temporary backflow occurs from the river into its banks, a phenomenon known as bank storage. Groundwater elevations are controlled by the relationship between recharge and discharge, including bank storage, and by the material properties of the soils through which the groundwater moves.

Exhibit 3.3-1. Snoqualmie Mill Site Northwest Hydrogeologic Cross-Section



Source: Associated Earth Sciences, 2020.

Critical Aquifer Recharge Areas

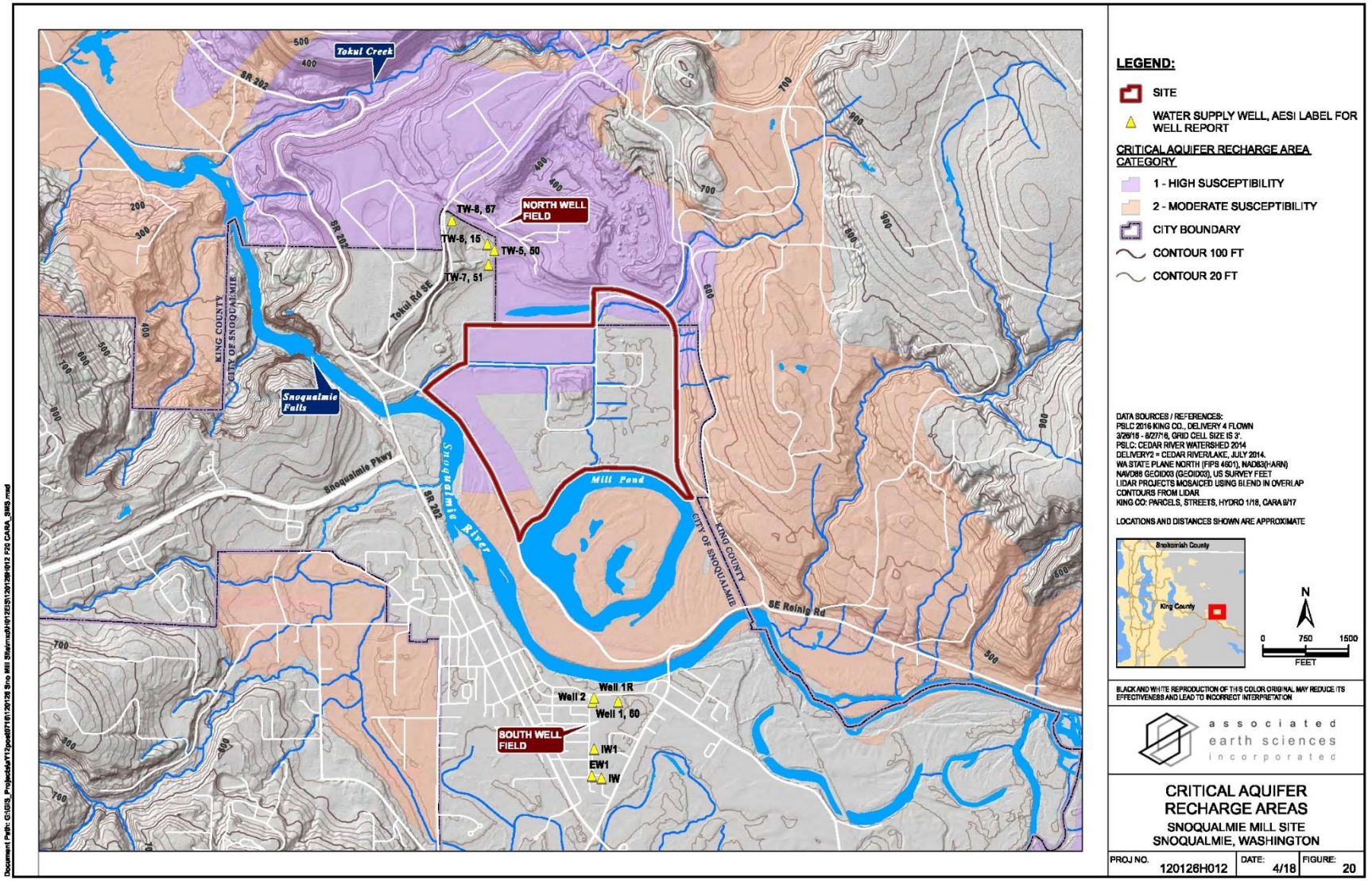
Snoqualmie's critical area regulations (SMC 19.12.200) define Critical Aquifer Recharge Areas (CARAs) as follows:

1. Category I critical aquifer recharge areas include those areas mapped by King County and are determined to be highly susceptible to groundwater contamination and that are located within a sole source aquifer or a wellhead protection area.
2. Category II critical aquifer recharge areas include those areas mapped by King County and determined to:
    a. Have a medium susceptibility to ground water contamination and located in a sole source aquifer or a wellhead protection area; or
    b. Are highly susceptible to ground water contamination and are not located in a sole source aquifer or wellhead protection area.
3. Category III critical aquifer recharge areas include those areas mapped by King County and determined to have a low susceptibility to groundwater contamination.

CARAs in the vicinity of the Mill site are shown on Exhibit 3.3-2, based on 2012 King County Critical Aquifer Recharge Area mapping. The area immediately surrounding the Snoqualmie Mill site to the north, and portions of the site on the west and northwest parts of the property are classified as a Category 1 CARA. The areas mapped as Category 1 CARA appear to generally correspond to the mapped 10-year TOT wellhead protection areas (WPAs) for groundwater production wells. The area immediately south of the Mill site, including the Mill Pond, and portions of the site on the southeast and southwest parts of the property are classified as a Category 2 CARA. Most of the Mill site, however, is not classified.

The City's regulations prohibit certain uses or activities in a Category 1 CARA (SMC 19.12.200(C)) and require that a hydrogeologic assessment to be completed prior to approval of certain allowed activities or uses (SMC 19.12.200(F)). Storage tanks constructed in a CARA need to comply with containment and corrosion protection requirements and other uses such as agriculture, sewage disposal, golf courses, and vehicle repair need to implement best management practices with respect to their operations.

Exhibit 3.3-2. Critical Aquifer Recharge Areas



Source: AESI, 2020.

Water Quality

Snoqualmie River Water Quality Conditions

The project site lies approximately three river miles downstream of the joint confluence of the North, Middle and South Forks of the Snoqualmie River. These rivers have been monitored by the King County Water and Land Resources Division for a wide range of conventional, nutrient, and bacteria parameters. These data show water quality conditions in each of the forks to be of high quality given they originate from relatively undeveloped watersheds upstream of this point. The Water Quality Index for Streams and Rivers provides an index that combines multiple parameters for an overall rating. Each of these forks are rated as "Low Concern" for water quality degradation over time. (King County, 2019)

As these three forks form the Main Stem Snoqualmie River a relatively short distance upstream of the site, it can be expected that water quality conditions are also good in the river adjacent to the project site.

Surface Water

Water quality samples of surface water were taken at three locations onsite on December 18, 2017 from streams S-1 and S-2 (refer to Exhibit 3.4-4). The samples were measured in the field by AESI for temperature, pH, turbidity, dissolved oxygen, and conductivity. Samples were submitted to Analytical Resources, Inc. (ARI) in Tukwila, Washington and tested for biochemical oxygen demand (BOD), total alkalinity, fecal coliforms, total suspended solids, total ammonia-nitrogen, nitrate plus nitrite-nitrogen, total phosphorus, ortho phosphate, total petroleum hydrocarbons, oil and grease, dissolved copper, dissolved lead, dissolved zinc, calcium, magnesium, and hardness.

Exhibit 3.3-3. Water Quality Sampling Results

	S-1 Inlet	S-1 Discharge	S-2 Discharge
Temperature (°C)[1]	6.74	5.81	7.25
Specific Conductance (µS/cm³)[2]	74	84	117
Conductivity (µS/cm)[3]	49	44	77
DO[4] Saturation (%)[5]	92.5	26.6	60.6
DO[4] (mg/L)[6]	11.31	3.32	7.32
pH	6.62	5.94	6.01
Turbidity (NTU)[7]	14.2	14.2	1362*
BOD[8] (mg/L)[6]	2.0	1.6	2.8
Fecal Coliforms (CFU/100 ml)[9]	135	5	160
TSS[10] (mg/L)[6]	10.1	4.7	502
Total Ammonia-Nitrogen (mg/L)[6]	ND[15]	0.045	0.161
Nitrate + Nitrate-Nitrogen (mg/L)[6]	0.258	0.044	0.054

	S-1 Inlet	S-1 Discharge	S-2 Discharge
Total Phosphorus (mg/L)[6]	0.0580	0.460	0.374
Ortho Phosphate (mg/L)[6]	0.0140	0.0130	0.0100
HEM[11] Oil & Grease (mg/L)[6]	ND[15]	ND[15]	ND[15]
SGT-HEM[12] NP[13] Oil & Grease (mg/L)[6]	ND[15]	ND[15]	ND[15]
HEM[11] Polar Oil & Grease (mg/L)[6]	ND[15]	ND[15]	ND[15]
Diesel Range Organics (C12-C24) (mg/L)[6]	ND[15]	0.567	ND[15]
Motor Oil Range Organics (C24-C38) (mg/L)[6]	ND[15]	3.29	ND[15]
Dissolved Lead (µg/L)[14]	0.161	0.108	0.227
Dissolved Copper (µg/L)[14]	1.54	1.42	3.05
Dissolved Zinc (µg/L)[14]	2.15	5.90	9.30
Hardness (mg/L)[6]	27.8	33.5	125
Calcium (mg/L)[6]	6.21	7.86	23.5
Magnesium (mg/L)[6]	2.98	3.38	16.2
Total Alkalinity (mg/L)[6]	24.8	34.9	60.8

(1) °C = degrees Celsius
(2) µS/cm3 = microsiemens per cubic centimeter
(3) µS/cm = microsiemens per centimeter
(4) DO = Dissolved Oxygen
(5) % = percent
(6) mg/L = milligrams per liter
(7) NTU = Nephelometric Turbidity Units
(8) BOD = Biochemical Oxygen Demand
(9) CFU/100 ml = Colony Forming Unit per 100 milliliters
(10) TSS = Total Suspended Solids
(11) HEM = Hexane Extractable Material
(12) SGT-HEM = Silica Gel Treated-Hexane Extractable Material
(13) NP = Non Polar
(14) µg/L = micrograms per liter
(15) ND = Non Detect

While these samples represent only a single point in time, the relative location of each of the sampling sites would indicate some degradation of water quality as these streams currently pass through the site. The intervening stream reaches on-site are occupied by gravel roads with relatively heavy truck traffic. The road surfaces and resulting run-on stormwater and in-channel conditions will tend to show increases in sediment and turbidity with associated increases in nutrients, which they do. Lower dissolved oxygen in the Stream 1 and 2 Discharge may be reflective of the wetland conditions adjacent to Stream 1, or possibly groundwater inflows affecting both streams, as both wetlands and groundwater may tend to contain lower dissolved oxygen. Stream 1 Inlet bacteria and nitrate plus nitrite concentrations were the only parameter

somewhat elevated from the discharge samples. Why these may be elevated is unclear. Bacteria may represent the presence of wildlife or hobby farms in the Stream 1 drainage east of the site.

Flooding

The regional hydrology setting of the site is shown on Exhibit 3.3-5, including the regional drainage basins in the site vicinity, the site's proximity to the Snoqualmie River and the FEMA 100-year floodplain (blue shaded area). As shown on the map, the 100-year floodplain contains almost all of the Snoqualmie Mill Site. (Ref. February 2010 Letter of Map Revision (LOMR), FIRM Panel 0737F.)

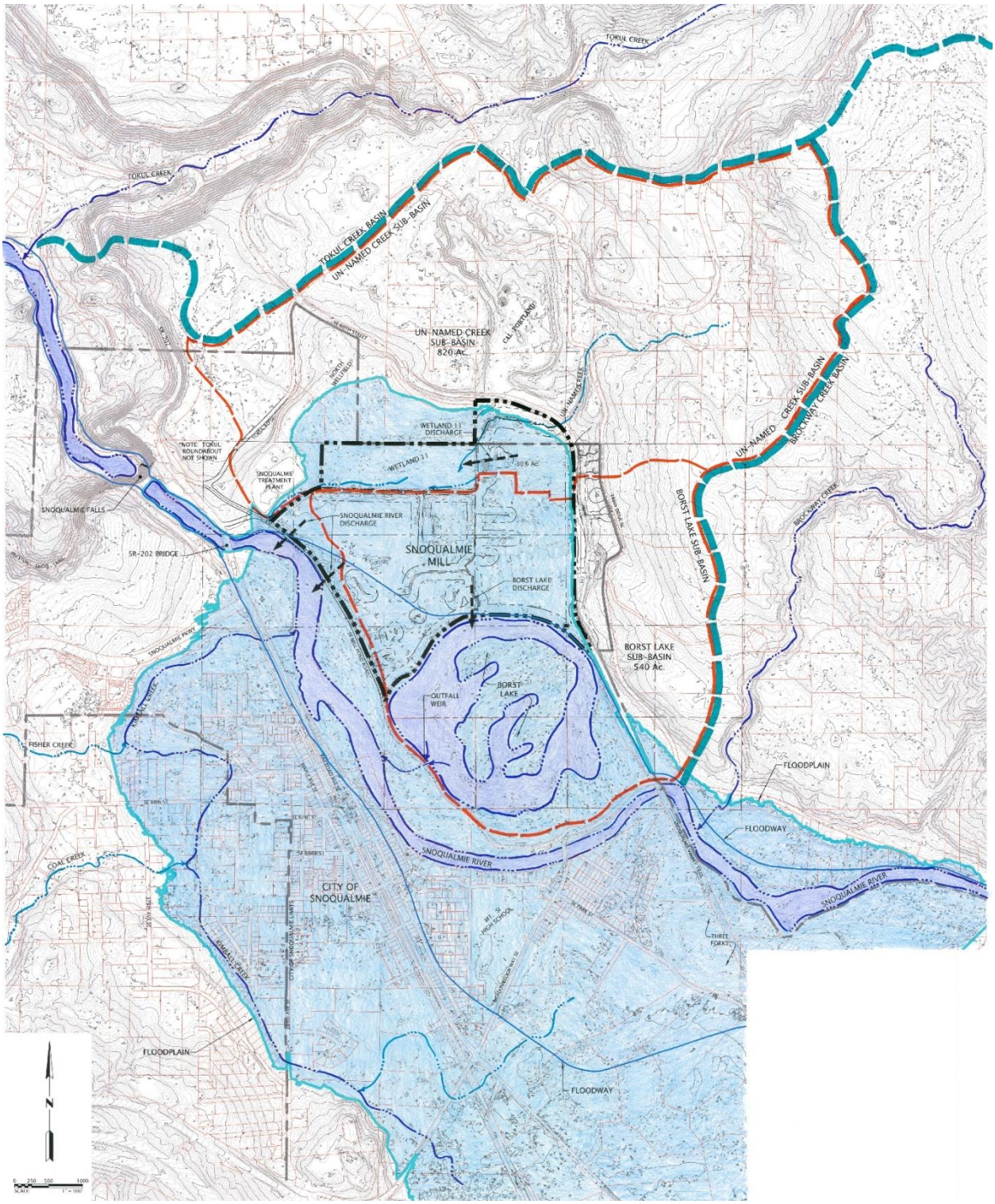
Because the site and downstream areas lie within the 100-year floodplain, runoff from the site to these on-site and off-site water resources occurs during lower flows or more frequent rainfall events before flowing to the river. The elevation of the major on-site and off-site resources, Wetlands 11 and 12 and Borst Lake, all lie below the elevation of the 10-year flood stage of the Snoqualmie River. The river stages as published by FEMA (2010 LOMR) are shown in Exhibit 3.3-4 in comparison to the elevations of the two major off-site downstream hydrologic features. The FEMA cross sections shown are those that affect any portion of the site.

Exhibit 3.3-4. FEMA Cross Section Flood Stages

FEMA Cross Section	Wetland 11 Elevation	Borst Lake Elevation	10-Year	50-year	100-Year
V	410-412	—	417.6	421.9	423.6
W	412-414	—	418.5	422.8	424.5
Z	—	409.0	420.6	424.1	425.7
AA	—	409.0	421.5	424.6	426.2

Source: FEMA, 2010; Wetland 11 and Borst Lake Elevations – Goldsmith Engineering 2020

Exhibit 3.3-5. Regional Hydrologic Context



Source: Goldsmith Engineering, 2020.

Flood Hazard Regulations

City of Snoqualmie

Proposed development within the Floodplain or Floodway within the City of Snoqualmie are governed by the City's Flood Hazard Regulations (SMC 15.12), as well as FEMA regulations (CFR title 44). Any site disturbing activities within a Floodplain or Floodway will require approval of a Flood Improvement Permit. Following approval of the PCI Plan, Snoqualmie Mill will prepare a Biological Evaluation (BE), which will be reviewed as part of the floodplain development permit application. The BE will address water quality, fisheries and wildlife, habitat and related issues. More detailed engineering and design information are required for the BE, and it is being deferred until the subsequent stage of permitting, following approval of the PCI Plan. Additional environmental review would also occur, if appropriate, in conjunction with future permitting.

Compliance with Flood Hazard Regulations at that time will address those provisions related to construction of buildings and future submission for appropriate Letters of Map Amendments or Revisions (LOMA or LOMR). The Master Drainage Plan is intended to demonstrate, based on plans and information available at this time, the feasibility of future compliance and proposed compliance for development of Planning Area 1 relating to applicable code requirements:

- 15.12.150(A) Finished Grade After Construction and Floodplain Compensating Storage,
- 15.12.150(D) Utilities – new and replacement water and sanitary sewer systems
- 15-12.160(E) Critical Facilities – feasibility of critical utilities (specifically sanitary sewer) for future development,
- 15.12.160(F) Fill – Demonstration of no increase in the base flood discharge,
- 15.12.160(G) Clearing and Grading – Feasibility grading and proposed Planning Area 1 grading for the analysis of compliance with 15.12.150(A) and 15.12.170.
- 15.12.170 Floodways – Hydrologic and hydraulic analyses demonstrating no increase in flood levels during the occurrence of the base flood discharge.

FEMA Flood Regulations

Any proposed development of the Snoqualmie Mill site will be required to comply with and be consistent with the Floodplain Management Regulations of the National Flood Insurance Program (NFIP,44 CFR). A primary element of compliance is a "zero-rise" floodway analysis

To demonstrate consistency with this as well as SMC 15.12 and 19.12, analysis for Snoqualmie Mill will ensure that there is no increase in the floodplain, or flood levels during the base flood. Therefore, there would be no impact to the City or surrounding properties, by any rise in the 100-year flood elevation of the Snoqualmie River.

US Army Corps of Engineers Clean Water Act Sec. 404

The US Army Corps of Engineers (COE) issued a Jurisdictional Determination (JD) for wetlands and streams/ditches located on the Snoqualmie Mill site on May 3, 2017; it is valid for a period

of 5 years. The agency's jurisdictional determination was based on site inspection(s) and review of site analysis prepared by the Raedeke Associates, Inc. Additional information is contained in Section 3.4 of the Draft EIS.

The Snoqualmie Mill PCI plan is being developed to reflect the boundaries of the jurisdictional wetlands, ditches, streams, and associated regulatory buffers required by the city's critical area regulations. The PCI plan does not propose any fill or alteration of a water of the US (i.e., jurisdictional wetland or stream) that would require a permit under Section 404. If such a permit is sought in the future for ultimate build-out and/or mass grading, appropriate applications, consultation and environmental review would be required.

3.3.2. Impacts

Impacts of Proposal

Surface Water

Development of the PCI Plan Proposal is intended to maintain surface runoff discharges from the site to on-site and off-site hydrologic features consistent with current existing conditions. The primary source of water to a wetland is a primary question for analyzing impacts to wetland critical areas from surface water hydrology. If the key source of hydrology to the wetland is from surface water, then maintenance of site hydrology and discharge volume to wetland critical areas is key to avoiding impacts. The site has been separated into three site discharge sub-basins to evaluate this question:

- On-site Wetland 12 system and Borst Lake,
- The northeastern discharge to Wetland 11 and the Snoqualmie River, and
- The western discharge to the Snoqualmie River, as shown on Exhibit 3.3-5.

Hydrology was modeled for wetlands in Planning Area 1, which consists only of portions of the on-site Wetland 12 system. The evaluation of impacts for future Planning Areas 2 and 3 is limited to a programmatic analysis of probable changes to impervious surfaces within the sub-basin. This approach is consistent with the level of site planning and project-specific data available at this time and is being followed throughout the EIS; see the discussion in Section 2.2. The site discharge sub-basins have been divided into smaller sub-basins for purposes of analysis and are depicted in Exhibit 3.3-6 and Exhibit 3.3-7.

Previous sensitive areas studies of the site conducted by Raedeke Associates indicate that most of the site runoff is collected by the Wetland 12 system, which is a long linear wetland from the south end of the site where it discharges into Borst Lake, extending through the site to the north and west. (Refer to Chapter 4 of the Master Drainage Plan (Appendix A) for a detailed discussion of background information reviewed for preparation of this analysis.) Other drainage areas of small wetlands that collect runoff, such as Wetland 28, ultimately drain to Wetland 12. For purposes of evaluating impacts, the Wetland 12 System and Borst Lake Drainage site discharge sub-basin are divided into smaller sub-basins and modeled by the Ecology Manual

Western Washington Hydrology Model (WWHM). Wetlands that could be impacted with increased or decreased hydrology by development of Planning Area 1 were modeled to demonstrate consistency with Ecology Appendix I-E and the KCSWDM. These sub-basins are shown on Exhibit 3.3-6.

The Existing Site Discharge Sub-Basin table in Exhibit 3.3-8 identifies the area and the land use characteristics of each site discharge sub-basin. The areas shown in the table as "not measured" are those areas that either:

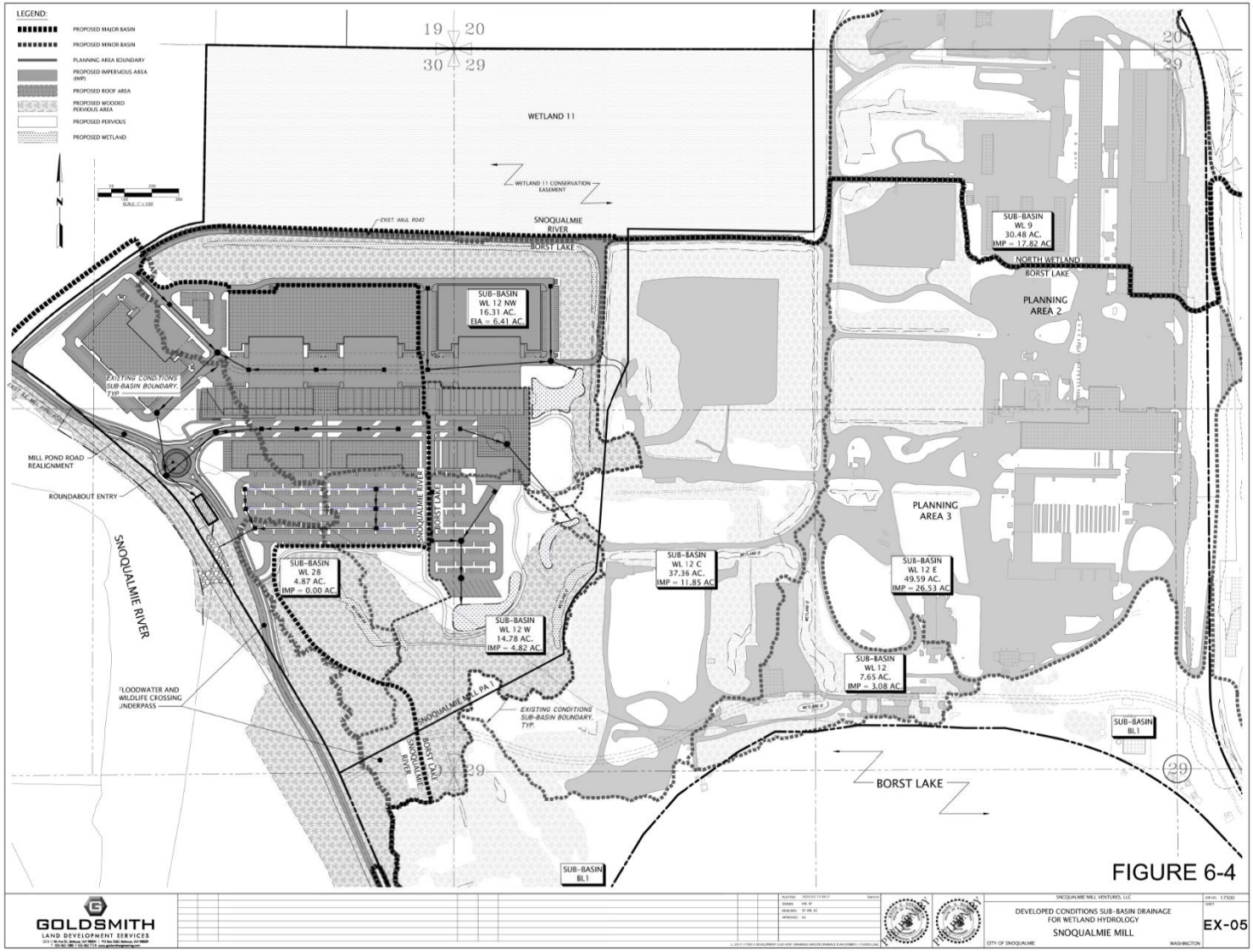
- Drain directly to the Snoqualmie River, or
- Are not relevant to the analysis for Planning Area 1 for maintenance of wetland hydrology or stormwater wetland preliminary design, or
- Are not relevant to the programmatic evaluation of impervious surface impacts for Planning Areas 2 and 3.

Exhibit 3.3-6. Existing Conditions On-Site Sub-Basin Drainage



Source: Goldsmith Engineering, 2020

Exhibit 3.3-7. Developed Conditions Sub-Basin Drainage for Wetland Hydrology



Source: Goldsmith Engineering, 2020.

Exhibit 3.3-8. Existing Site Discharge Sub-Basins

Sub-Basin Description	Total Area (Ac)	Impervious Area (Ac)	Pervious Wooded (Ac)	Pervious Other (Ac)
Wetland 12 (WL) and Borst Lake (BL)	**147.22**	**47.55**	**45.12**	**50.88**
WL 28: Runoff to Wetland 28 - tributary to Sub-Basin 12 W.	4.38	0.00	3.70	0.43
WL 12 W: Runoff to the westernmost lobe of Wetland 12 - tributary to Sub-Basin 12 C.	17.30	2.60	8.62	5.70
WL 12 NW: Runoff to the northwest extension of Wetland 12 - tributary Sub-Basin 12 C.	30.68	2.89	7.97	19.07
WL 12 E: Runoff to the eastern extensions of Wetland 12 - tributary to Sub-Basin 12 C.	49.59	26.53	6.96	15.76
WL 12 C: Runoff tributary to the central portion of Wetland 12 - Headwater to Stream 2.	37.62	12.46	14.86	8.77
WL 12: Runoff directly to Stream 2 - Stream 2 is tributary to Borst Lake.	7.65	3.08	3.01	1.14
BL 1: Runoff directly to Borst Lake not tributary to the Wetland 12 system.	Not measured			
Northeastern to Wetland 11	**30.48**	**17.82**	**5.80**	**6.26**
WL 9: Runoff tributary to Wetland 9 in the northeastern portion of the site and discharge to Wetland 11.	30.48	17.82	5.80	6.26
Western to Snoqualmie River	**Not measured**			
Totals	**177.70**	**65.37**	**50.91**	**57.14**

Source: Goldsmith Engineering, 2020.

Hydrologic modeling, using Ecology's Western Washington Hydrologic Model (WWHM) or other applicable model, will be conducted at the time of permitting of each Snoqualmie Mill planning area, and will evaluate whether on-site and off-site wetlands will be provided with equivalent hydrology after development. Modeling results for Planning Area 1 are provided in the Planning Area 1 subsection below. Modeling would not be practical or meaningful for Planning Areas 2 and 3 at this time because there are no specific site plans at this time. For purposes of analysis,

an empirical evaluation based on anticipated pre- and post-development total impervious area of the basins is described in the following subsection.

Overall PCI Plan Proposal

Planning Area 3 and southern portions of Planning Area 2 drain primarily to the on-site Wetland 12 system, then to the Snoqualmie River via Borst Lake in Sub-basin WL 12. The northern portion of Planning Area 2 drains to on-site Wetland 9, then toward the river through the large Wetland 11 complex in Sub-basin WL 11.

The PCI Plan does not include a detailed site plan or building footprints for Planning Areas 2 and 3, and it is not possible to determine which areas would drain to which wetlands. However, the PCI application and EIS do define and evaluate a maximum level of buildout for these later phases of development. Exhibit 3.3-8 shows that the land use characteristics for sub-basins WL 12 and WL 11 include a total impervious area (TIA) of 70.0 acres. The future TIA for Planning Areas 2 and 3 may be slightly higher or slightly lower than existing based on future planning for roads, trails, stormwater wetlands, and landscaping. The analysis of Planning Area 1, below, indicates that it is possible to avoid significant impacts to on-site wetlands from site runoff. More detailed project information and future analysis is needed, however, to conclude more definitively that no hydrologic impacts to Planning Areas 2 and 3 wetlands will occur.

Planning Area 1

Development of Planning Area 1 will convert areas that are currently pervious to impervious surfaces and converting areas of little vegetation and compacted earth to vegetated pervious surfaces and restored critical area buffers. Substantial portions of stormwater runoff from Planning Area 1 would be routed directly to the proposed direct discharge outfall to the Snoqualmie River. Remaining parts of the planning area are intended to provide a balance of impervious and pervious areas, in order to minimize changes in volume of runoff to wetlands and streams that are sensitive to surface hydrology. Evaluations of groundwater by Associated Earth Sciences (AESI; 2020, Appendix B) and evaluations of the on-site wetlands by Raedeke Associates (2012 – 2020, Appendix A) have determined that the main Wetland 12 system across the site is supported primarily by groundwater and is not sensitive or susceptible to modest changes to surface water hydrology. However, the proposal intends to maintain surface runoff discharges from the site to these features consistent with current existing conditions. The acceptable level of hydrology maintenance sufficient to prevent wetland impacts is defined in the KCSWDM.

Exhibit 3.3-6 shows the wetlands potentially impacted by changes in hydrology from the development of Planning Area 1: Wetland 28, the western lobe of Wetland 12 within Sub-Basin WL 12 W, the central and northwestern lobes of Wetland 12 within Sub-Basins WL 12 C and WL 12 NW, and Stream 2 within Sub-Basin 12 receiving tributary flow from Sub-Basin 12 C.

Exhibit 3.3-9 presents the proposed land use parameters for these sub-basins for purposes of analysis.

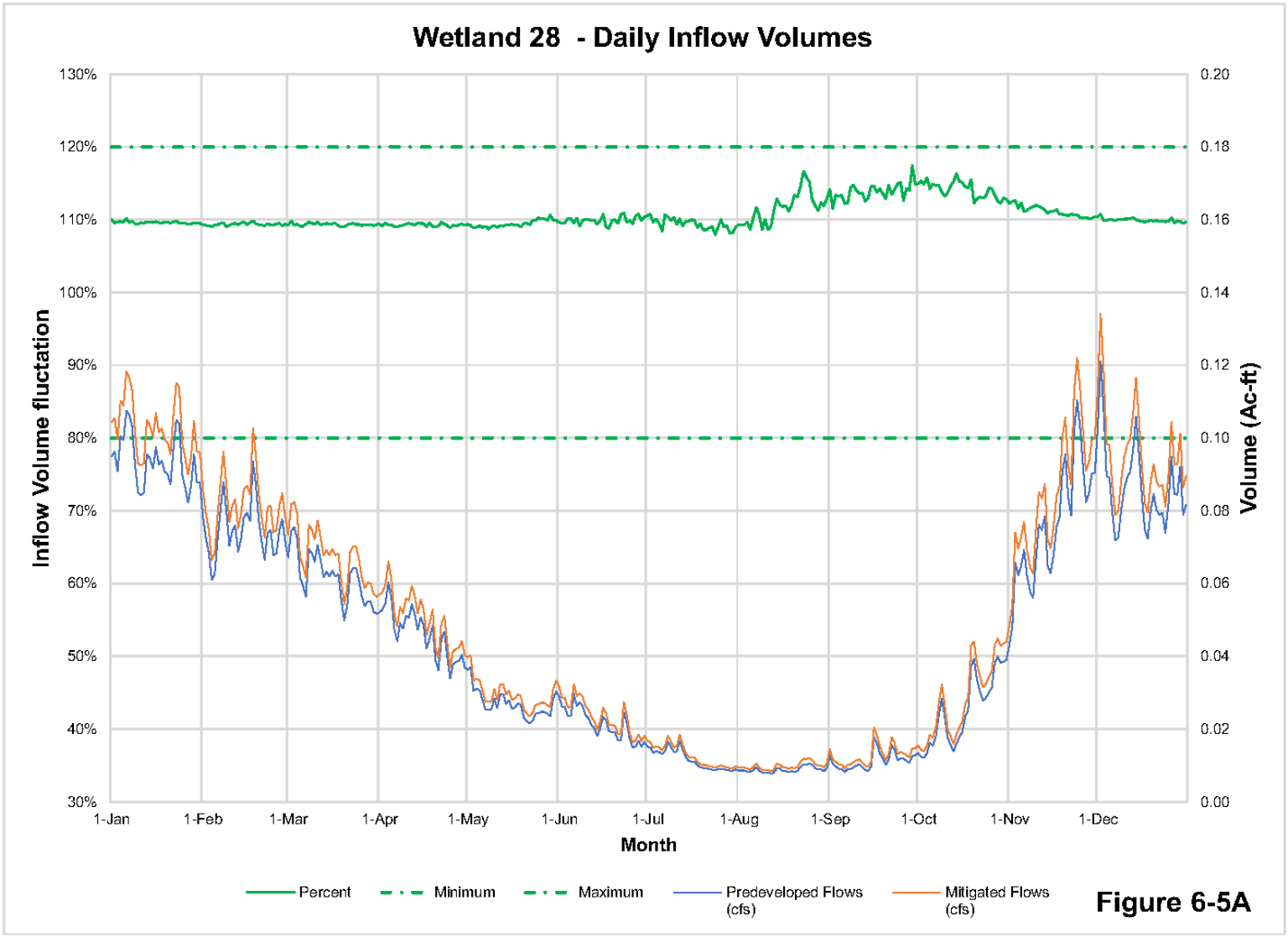
Exhibit 3.3-9. Proposed Planning Area 1 Developed Conditions

Sub-Basin Description	Total Area (Ac)	Impervious Area (Ac)	Pervious Wooded (Ac)	Pervious Other (Ac)
Wetland 12 (WL) and Borst Lake (BL)	**130.55**	**52.68**	**41.95**	**31.21**
WL 28: Runoff to Wetland 28 - tributary to Sub-Basin 12 W.	4.87	0.00	3.80	0.82
WL 12 W: Runoff to the westernmost lobe of Wetland 12 - tributary to Sub-Basin 12 C.	14.78	4.82	6.58	2.37
WL 12 NW: Runoff to the northwest extension of Wetland 12 - tributary Sub-Basin 12 C.	16.31	6.41	6.74	2.01
WL 12 E: Runoff to the eastern extensions of Wetland 12 - tributary to Sub-Basin 12 C.	49.59	26.53	6.96	15.75
WL 12 C: Runoff tributary to the central portion of Wetland 12 - Headwater to Stream 2.	37.36	11.85	14.86	9.12
WL 12: Runoff directly to Stream 2 - Stream 2 is tributary to Borst Lake.	7.65	3.08	3.01	1.13
BL 1: Runoff directly to Borst Lake not tributary to the Wetland 12 system.	Not measured			
Northeastern to Wetland 11	**30.48**	**17.82**	**5.80**	**6.25**
WL 9: Runoff tributary to Wetland 9 in the northeastern portion of the site and discharge to Wetland 11.	30.48	17.82	5.80	6.25
Western to Snoqualmie River	**Not measured**			
Totals	**161.03**	**70.50**	**47.74**	**37.46**

Source: Goldsmith Engineering, 2020.

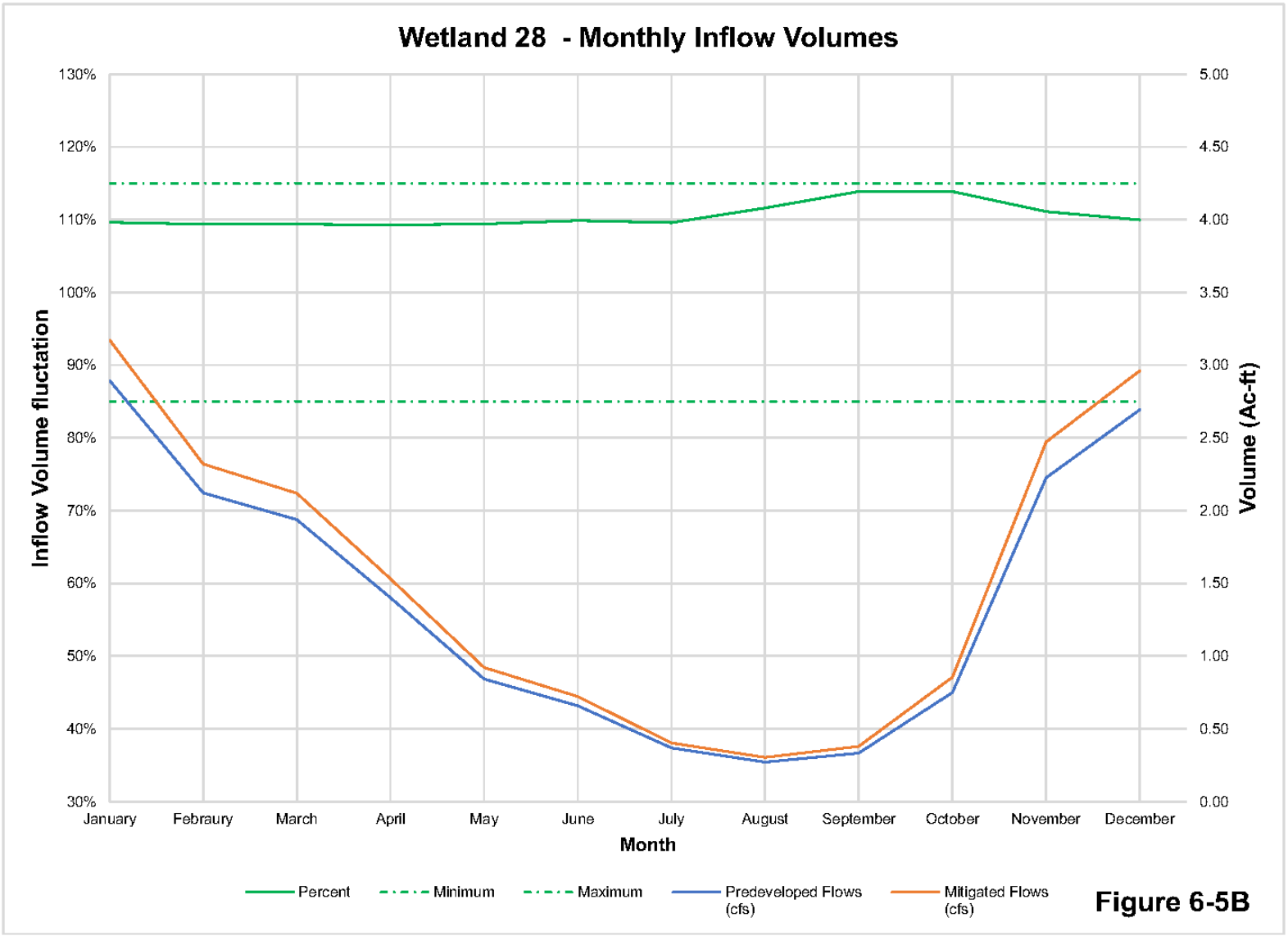
Model results for daily and monthly inflow volumes in Planning Area 1, consistent with Ecology Appendix I-E and the KCSWDM, are shown in the following figures.

Exhibit 3.3-10. Wetland 28 Daily Inflow Volumes



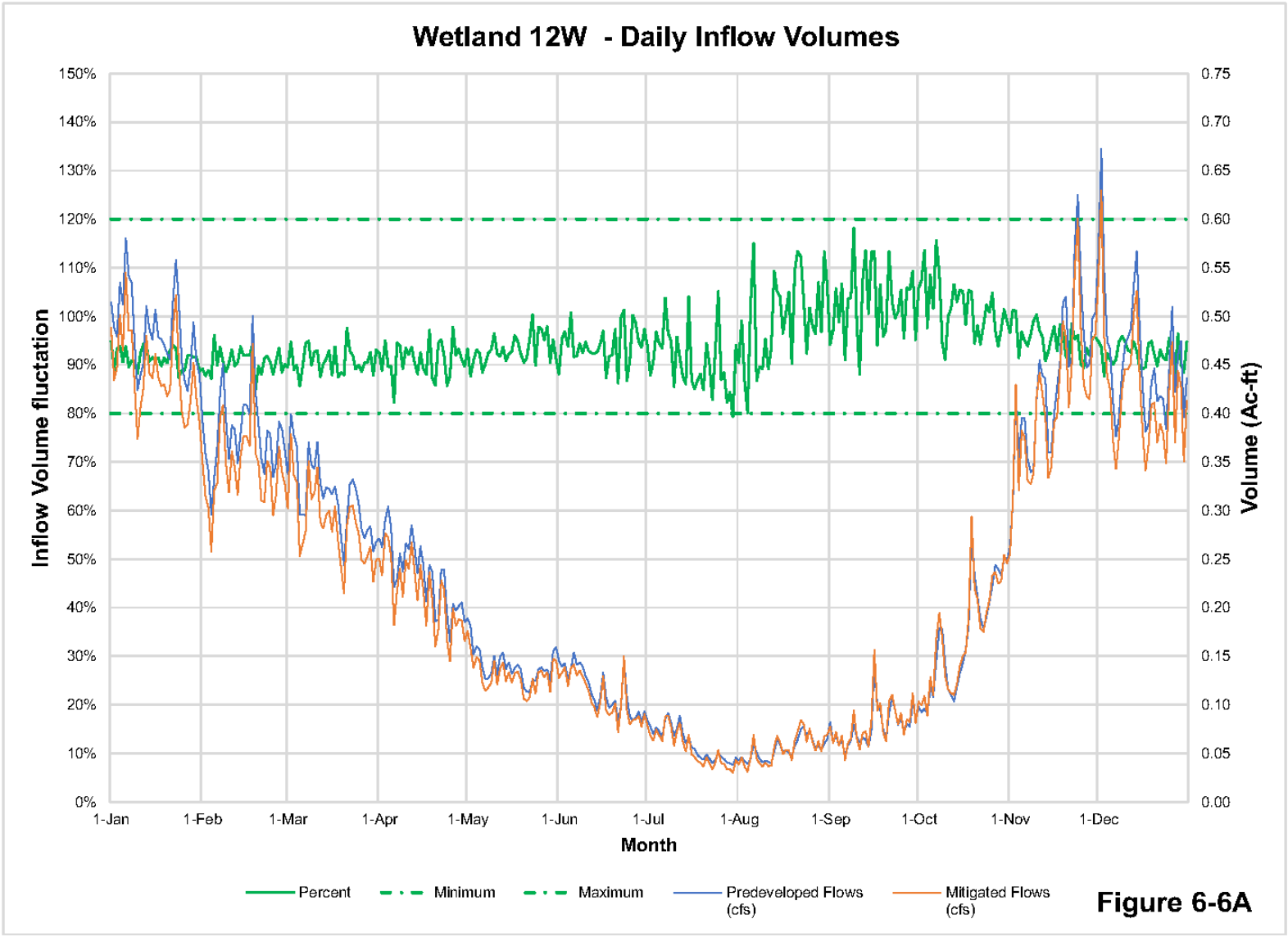
Source: Goldsmith Engineering, 2020.

Exhibit 3.3-11. Wetland 28 Monthly Inflow Volumes



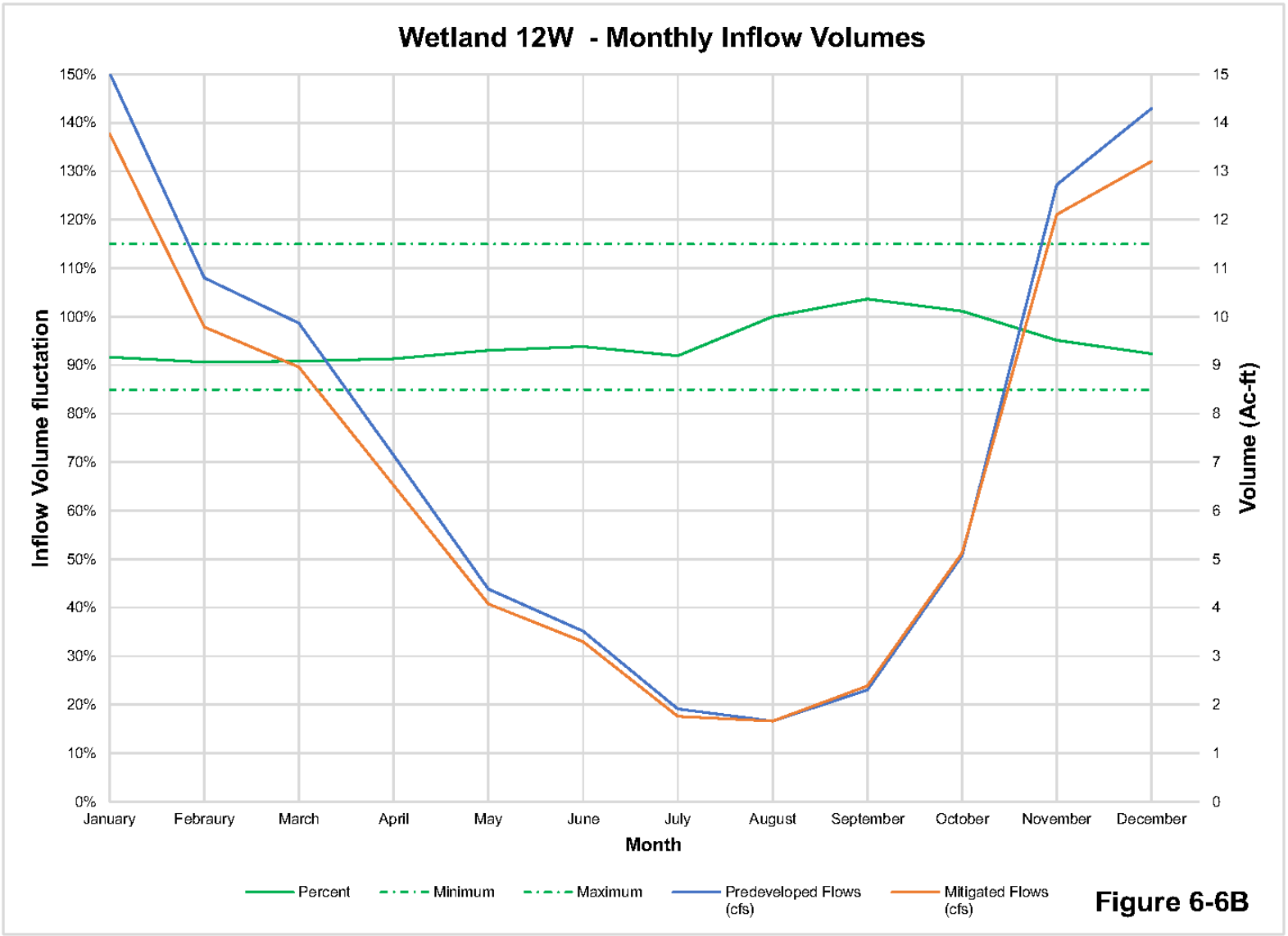
Source: Goldsmith Engineering, 2020.

Exhibit 3.3-12. Wetland 12W Daily Inflow Volumes



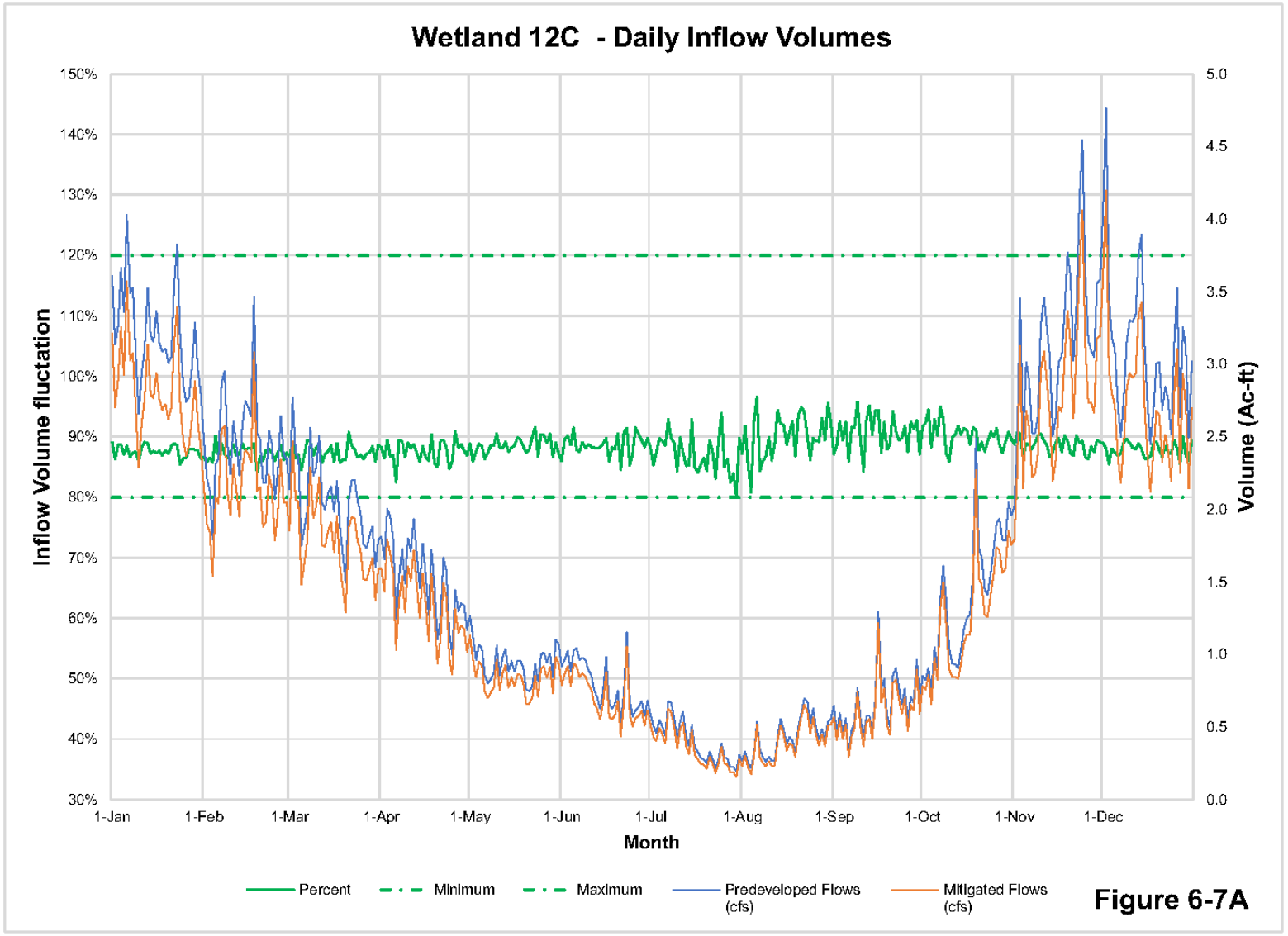
Source: Goldsmith Engineering, 2020.

Exhibit 3.3-13. Wetland 12W Monthly Inflow Volumes



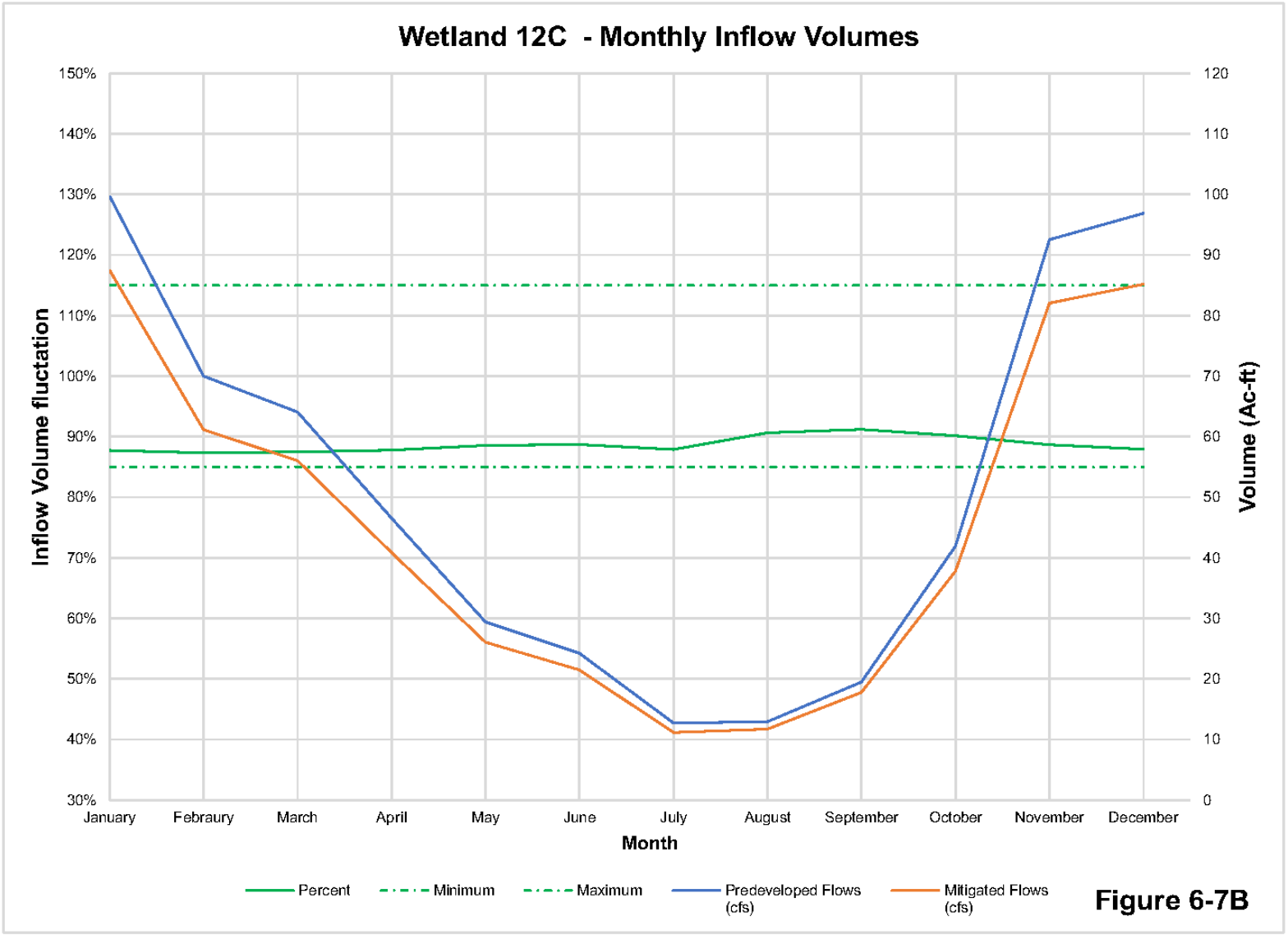
Source: Goldsmith Engineering, 2020.

Exhibit 3.3-14. Wetland 12C Daily Inflow Volumes



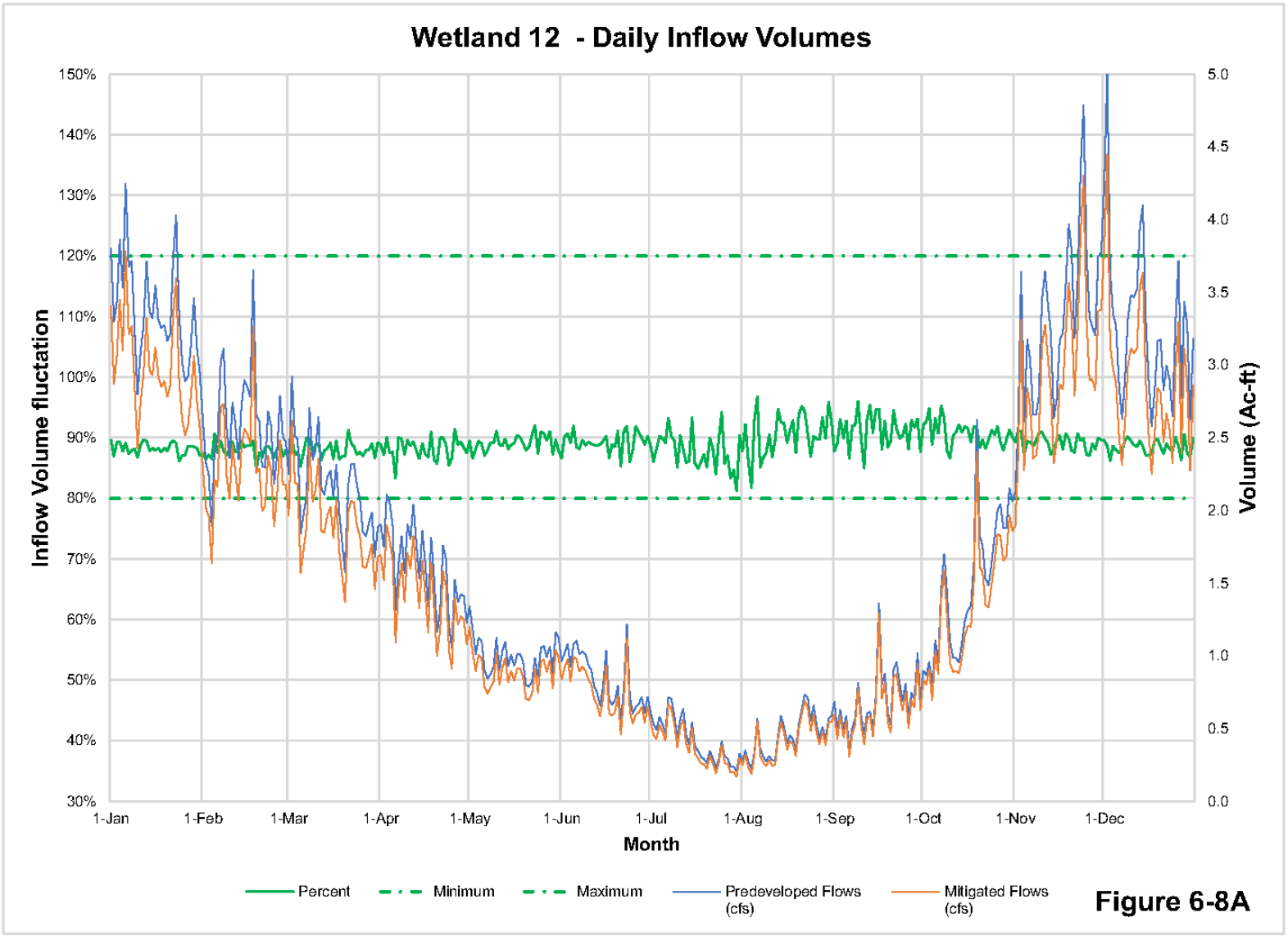
Source: Goldsmith Engineering, 2020.

Exhibit 3.3-15. Wetland 12C Monthly Inflow Volumes



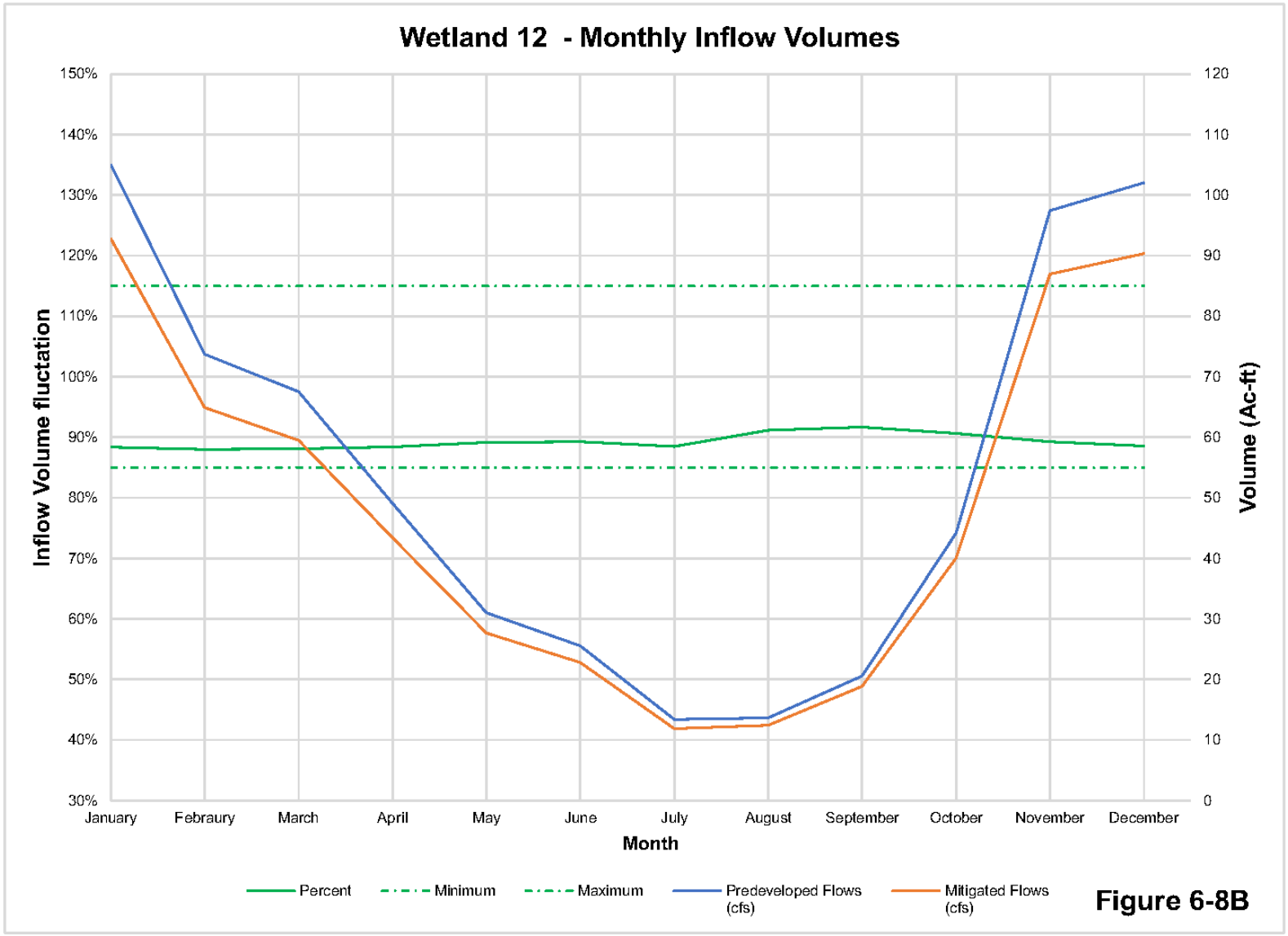
Source: Goldsmith Engineering, 2020

Exhibit 3.3-16. Wetland 12 Daily Inflow Volumes



Source: Goldsmith Engineering, 2020

Exhibit 3.3-17. Wetland 12 Monthly Inflow Volumes



Source: Goldsmith Engineering, 2020

Groundwater

Under the proposed stormwater management plan for the site stormwater runoff will be either discharged directly to the Snoqualmie River or discharged to existing on-site wetlands, which indirectly convey water to the Snoqualmie River. Proposed stormwater control for the Snoqualmie Mill site under the Proposed Action is described in detail in the Master Drainage Plan (Appendix A).

In general, potential impacts to groundwater recharge due to site development could include –

- Gain or loss of groundwater recharge resulting from conversion of undeveloped land (or redevelopment of existing developed areas) into the various proposed industrial, commercial, and residential uses;
- Impacts to underlying aquifers and downgradient usage as a result of a change in recharge; and
- Impacts to surface water features as a result of a change in recharge.

Development has the potential to change the amount of surface water and groundwater recharge. Clearing vegetation and replacing it with suburban landscaping (such as lawns) reduces evapotranspiration, increasing the amount of water available for groundwater recharge and runoff. Depending upon how stormwater is managed, the increase in groundwater recharge may be counteracted by an increase in impervious surfaces (building and pavement areas), and other factors. The primary factors that would increase the amount of groundwater recharge are:

- Infiltration of stormwater runoff,
- Infiltration of imported water such as that used for irrigation, and
- Conversion of existing forestland to cleared, pervious surfaces (lawns, shrubbery, etc.).

The primary factors that would decrease the amount of groundwater recharge are:

- Addition of impervious surfaces, and
- Diverting stormwater runoff to off-site locations.

Increased recharge could increase groundwater levels beneath the site while a decrease in recharge could reduce groundwater levels beneath the site.

In general, on-site stormwater management will include collection, treatment and direct discharge to the Snoqualmie River, and collection, treatment and discharge to on-site and off-site wetlands to maintain wetland hydrology. The intent of the proposed stormwater plan is to maintain discharge to on-site and off-site wetlands and streams consistent with existing conditions; therefore, groundwater recharge post-development is also expected to be similar to existing conditions.

Ongoing groundwater level monitoring has occurred at the Snoqualmie Ridge development, located about 1.5 miles west of the Mill site, since 1996. Similar to the Snoqualmie Mill site, the stormwater management approach for the initial phase of buildout at Snoqualmie Ridge

included collection, treatment, and direct discharge to the Snoqualmie River. The groundwater level data from Snoqualmie Ridge provides a long-term record of the trend of aquifer levels prior to and subsequent to extensive development in the area. No evidence of development-related reductions in aquifer levels have been noted in the 22-year period of record since monitoring began in 1996. The monitoring data provides an analog for comparison to assess potential impacts to groundwater levels due to development at the Mill site; it indicates that no adverse groundwater quantity impacts are expected due to development at the Snoqualmie Mill site.

Overall PCI Plan Proposal

As shown in Exhibit 3.3-2, CARAs that underlie the mill site are concentrated in the western and northern portions of the site, with some moderate-susceptibility areas in the southwestern corner of the site near Borst Lake. As a result, the groundwater impacts described above would have a lower potential to occur in Planning Areas 2 and 3 than in Planning Area 1.

Planning Area 1

As shown in Exhibit 3.3-2, CARAs that underlie the mill site are concentrated in the western and northern portions of the site, and a substantial portion of Planning Area 1 falls within a high-susceptibility recharge area. As a result, the groundwater impacts described above would have a greater potential to occur in the Planning Area 1 than in Planning Areas 2 and 3.

Water Quality

Treatment requirements for pollution generating impervious surfaces (PGIS) vary depending on the receiving waters. As described under Affected Environment, and in greater detail in the MDP (Appendix A), the Department of Ecology and the KCSWDM designate the Snoqualmie River as a *Basic Treatment Receiving Water*, so only "basic" stormwater treatment, described below, is required for any runoff that discharges directly to the river. Development runoff from impervious surfaces that drain to any on-site or off-site wetlands or streams before discharging to the Snoqualmie River would be provided with Enhanced Treatment.

Overall PCI Plan Proposal

It is assumed that all development within Planning Areas 2 and 3 would require enhanced treatment and that the same stormwater concept used for Planning Area 1 would be employed: stormwater wetlands would be constructed in or near wetland buffers and discharge to the main wetland system in targeted locations to provide sufficient hydrology to the system broadly, and where limitations on 8.0 foot depths of storm drains may occur.

Planning Areas 2 and 3 have not been planned at sufficient detail at this time to show the proposed locations of stormwater wetlands. This design feature would be planned and analyzed, similar to that for Planning Area 1, to maintain a balance of surface water hydrology for those wetlands not primarily supported by the shallow aquifer, as discussed above. Such analysis and design would occur at the time of future permitting and supplemental environmental review for Planning Areas 2 and 3.

Planning Area 1

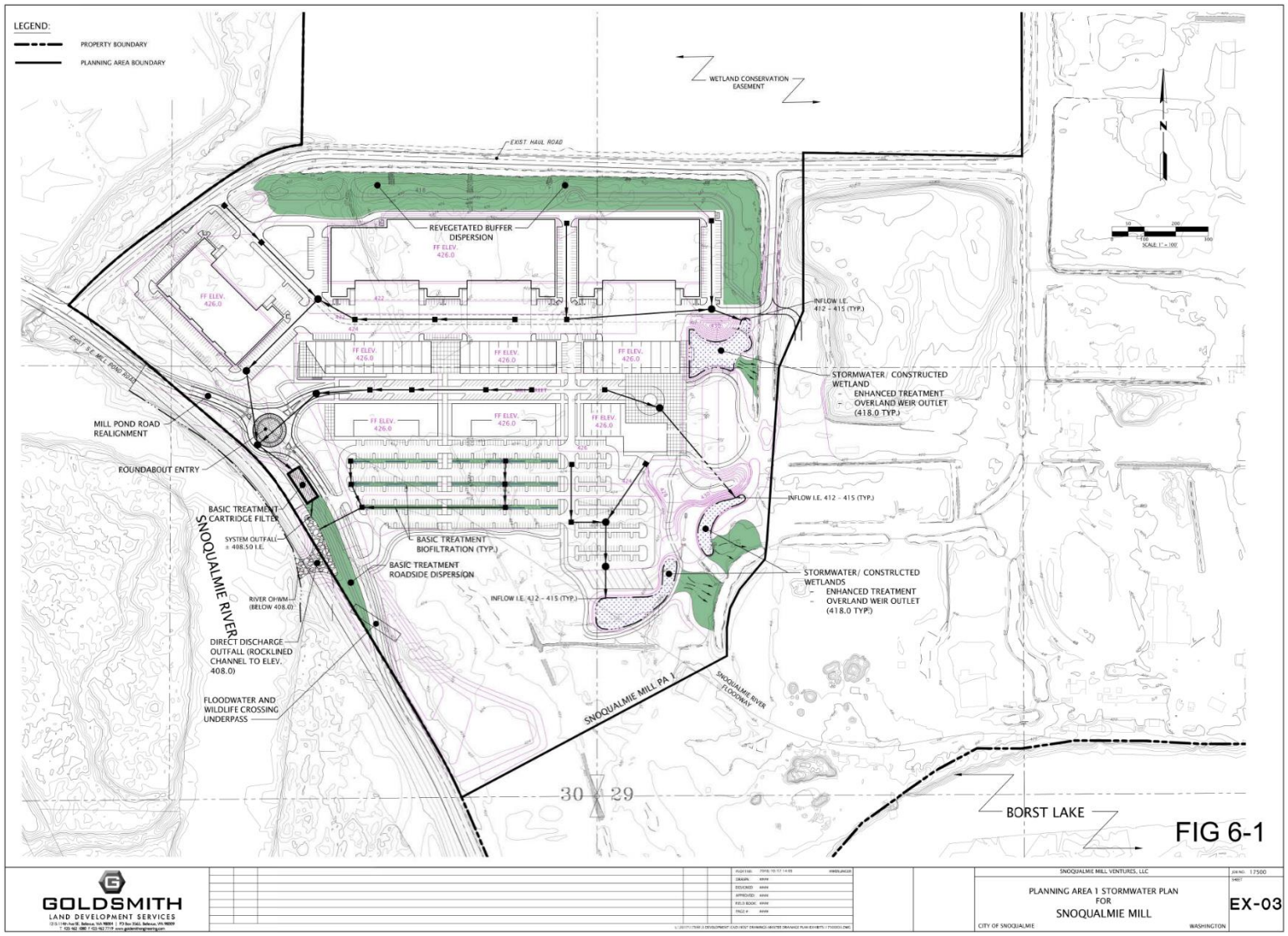
Planning Area 1 proposes both basic and enhanced treatment of stormwater. The Planning Area 1 Stormwater Plan (Exhibit 3.3-18) shows a concept plan for storm drainage collection, treatment facility areas and discharge locations.

Large areas draining to the Snoqualmie River direct discharge outfall would primarily use a proprietary media filter for basic treatment. Other treatment concepts may include biofiltration swales in parking lot landscaping and filter strips for road runoff from the reconfigured portion of Mill Pond Road.

Stormwater wetlands are proposed to be used for enhanced treatment. More detailed information about stormwater system design and water quality treatment is contained in Appendix A. During design and permitting of the first mass grade plan for Planning Area 1, the design parameters of these stormwater wetlands will be provided in the form of a tracking matrix that will relate pollutant-generating surfaces to stormwater facilities by tributary area. This will ensure that appropriate levels of runoff to individual treatment facilities are maintained in the event that Planning Area 1 is developed in phases.

Examples of the use of stormwater wetlands at Snoqualmie Mill are shown on Exhibit 3.3-19 and Exhibit 3.3-20.

Exhibit 3.3-18. Planning Area 1 Stormwater Plan



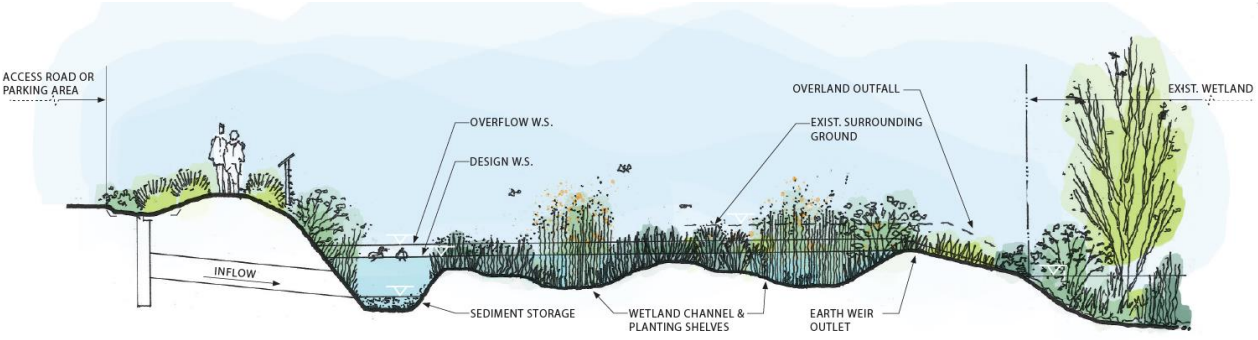
Source: Goldsmith Engineering, 2020.

Exhibit 3.3-19. Stormwater Wetland Plan



Source: Weisman Design Group, 2018

Exhibit 3.3-20. Stormwater Wetland Section



Source: Weisman Design Group, 2018

Potential water quality impacts from the treated stormwater within Planning Area 1 that will be discharged into the Snoqualmie River at this location would be predominately related to warmer temperatures of stormwater runoff from developed surfaces compared with river temperatures. However, given the relatively small volume of runoff compared with flow volumes in the river, changes in water temperatures within the river are not expected to adversely affect aquatic life. With respect to other water quality impacts, proposed on-site treatment will reduce stormwater pollutants to levels that are not expected to impact local conditions in the Snoqualmie River or fish habitat conditions therein.

Stormwater runoff from the Wetland 12 sub-basin on site (within Planning Area 1) would be routed through constructed wetland facilities and constructed treatment facilities prior to discharge to the Wetland 12 ditch, which flows into Borst Lake, which in turn overflows into the Snoqualmie River. With the water quality bioretention treatment provided in the constructed wetland areas and commercial treatment facilities prior to discharge, adverse impacts to water quality within Wetland 12 ditch, Borst Lake, or the Snoqualmie River are not anticipated.

Flooding

The proposed grading plan includes filling portions of the site within the floodplain; the plan would raise some locations and building pads above the base flood elevation and excavate compensating storage. To analyze compensating storage for the overall site, and to recognize the different levels of planning that have occurred for the site's planning areas, different assumptions were required for Planning Areas 2 and 3 compared to Planning Area 1.

From monitoring and evaluating groundwater on the site, it is assumed that for most of the site, the lowest elevation that can be considered as compensating storage during a flood is elevation 418.0. The exception to this is near the river, south and west of Planning Area 1. Proximate to the river, the seasonal high groundwater has been shown to be no higher than 412.0.

Flood storage is assumed as available storage volume, therefore, between the Base Flood Elevation and elevation 418.0 for most of the site, and 412.0 near the river. Compensating storage would be considered met if analysis of storage lost (due to fill) or storage gained (due to excavation) between elevation 418.0 (or 412.0 near the river) and the Base Flood Elevation shows equal or greater flood storage than existing storage between current site grade and the base flood elevation.

A hydrologic and hydraulic analysis is necessary to demonstrate no increase in base flood levels, or "no net rise" for the Snoqualmie River base flood, for both pre-development and post-development project conditions. This analysis was performed by Watershed Sciences and Engineering (WSE) and is provided in Appendix A. Based on the detailed modeling results, development of the proposal with provision of compensating storage would not result in any rise in the FEMA Base Flood Elevation. Overall, the grading proposed for Planning Area 1 will meet or exceed the requirements for compensating storage required by SMC 15.12 and SMC 19.12. Minor adjustments in the "Finished Grade" should not change this conclusion. A similar analysis will be required to demonstrate no increase in flood levels from Planning Areas 2 and 3

when more detailed site plans are available.

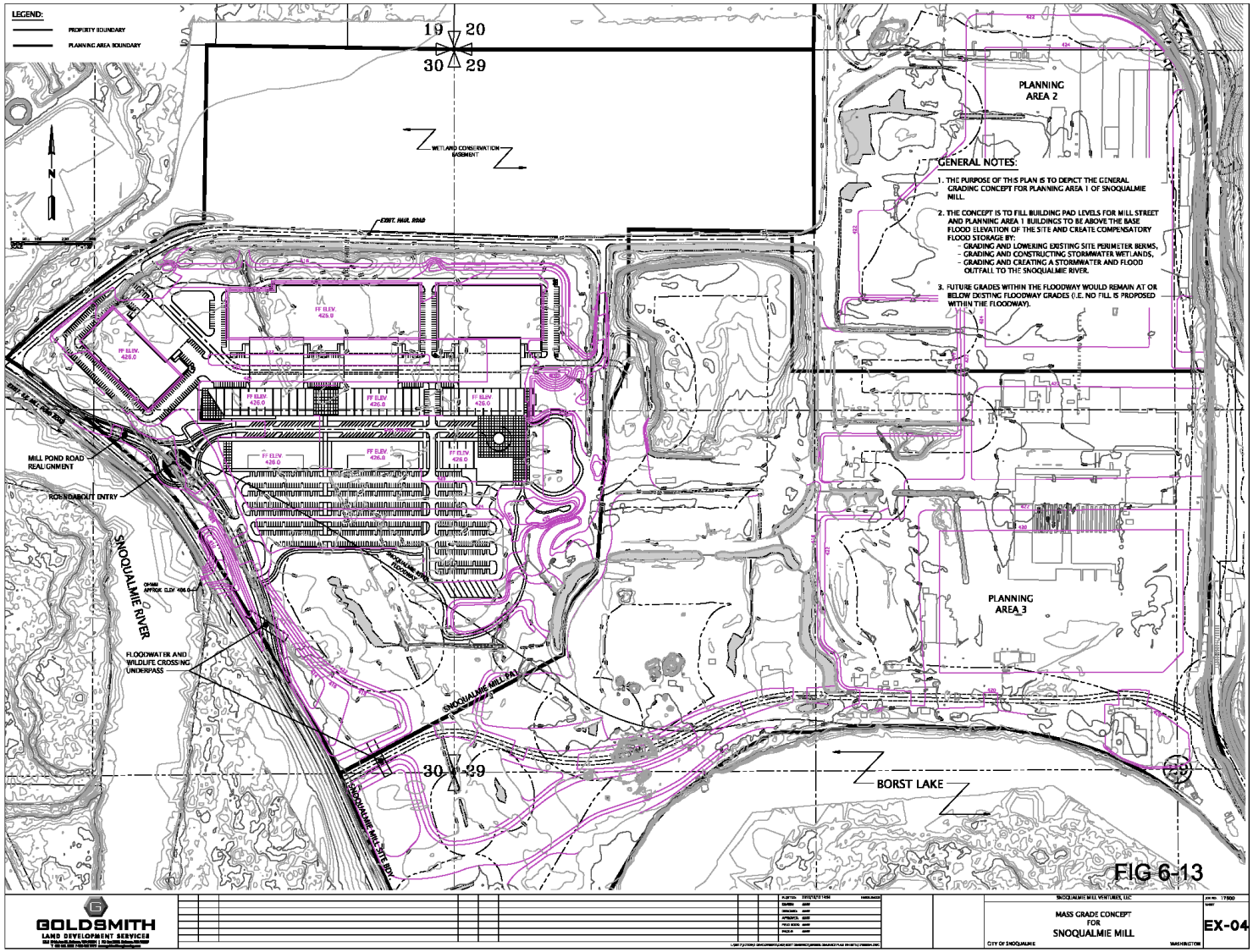
Overall PCI Plan Proposal

A preliminary and generalized evaluation of the overall PCI Plan can be performed based on proposed uses and grading concepts. A reevaluation will be performed when more detailed information about Planning Areas 2 and 3 is available. Planning Area 2 is proposed to contain light industrial warehouse uses. For purposes of analysis, it is assumed that the finished floor (FF) of the warehouses would be at or above the Base Flood Elevation. Finished floor has been assumed to be elevation 426.0. Docking and parking areas have been assumed to be 4 feet lower at elevation 422.0. Planning Area 2 does not have a preliminary site plan at this time, but an approximate development area – assuming homogeneous buildings equally spaced apart, with docking areas between – is shown on the Mass Grade Concept (Exhibit 3.3-21) to be filled to elevation 424.0. All other potential development of Planning Area 2 for access and parking, is assumed to be filled to elevation 422.0. This approximates the amount of flood storage displacement that would occur with a future buildout of Planning Area 2 regardless of building layout or specific plan.

The southern portion of Planning Area 3 is assumed to be developed as a corporate or institutional campus, but a preliminary site plan has not been developed at this time. It is assumed that buildings would be raised above the Base Flood Elevation and provided with one level of ground level/below building parking. It is unknown at this time whether any restrictions will be placed on excavation in Planning Area 3 for environmental reasons; therefore, it has not been assumed that a parking level can be lowered to elevation 418.0 to maximize compensating storage, and most of this development area has been assumed to remain at its existing ground elevation of approximately 420.0. The northern portion of Planning Area 3 is assumed to remain above the Base Flood Elevation. This provides a conservative estimate of potential flood storage displacement for Planning Area 3 to be compensated.

Compensating storage for Planning Areas 2 and 3 could be accomplished by excavating for future stormwater wetlands for runoff treatment, similar to Planning Area 1. To provide a quantitative estimate of floodwater storage needed, the floodplain water surface was overlaid with each of the three topographic surfaces to analyze the intervening volume to derive a volume of flood storage over the site for each topographic condition. The results of this analysis of floodplain storage is provided in Exhibit 3.3-22.

Exhibit 3.3-21. Mass Grade Concept



Source: Goldsmith Engineering, 2020

Exhibit 3.3-22. Floodplain Compensating Storage Analysis

Site Condition	Flood Storage Below Base Flood (BFE)	Increase or (Decrease)
Existing Site Conditions	931.3 Ac-ft	-
Planning Area 1 Mass Grade	1,016.8 Ac-ft	85.5 Ac-ft
Total Site Mass Grade[1]	946.0 Ac-ft	14.7 Ac-ft

[1] Assumes that Planning Area 3 will be provided with below-building parking in lieu of fill above the Base Flood Elevation.
Source: Goldsmith Engineering, 2020

Grading in the central open space is also proposed to provide compensating flood storage for proposed fill in Planning Areas 2 and 3. The ultimate plan for mass grading includes more than simply demonstrating that equivalent compensating storage has been provided in the floodplain. The open space grading is proposed in a manner to improve the path of floodwaters back to the river as the flood recedes.

Proposed grades for future road access to Planning Area 3 are such that low points are provided to allow flood waters to flow over the road whether a flood is rising or receding. Floodwater would enter the site from Borst Lake utilizing flood storage volumes on the site, then recede back over the road. A drainage/floodwater path would also be provided through the open space to the river discharge outfall to be constructed with Planning Area 1.

Normal flows from site runoff provide hydrology to the site's wetlands and drain through Borst Lake. When 10-year river stages, or above, are reached, the flood level would exceed elevation 418.0 and would inundate and utilize the open space flood storage and flow path for receding waters.

Planning Area 1

A grading plan for Planning Area 1 is shown on Exhibit 3.3-21. It reflects a rough grade plan representing maximum displacement from fill and is not a detailed plan of pavement grades, curbs and storm drainage low points. The proposed grading would raise the main central portion of Mill Street above the Base Flood Elevation. It also proposes to raise grades for all finished floors of buildings to be at least 1 foot above the Base Flood Elevation. Currently, building finished floors are proposed to be elevation 426.0. Access areas to loading docks of buildings are proposed to be 4 feet lower than the finished floor at elevation 422.0. Grades of parking areas and drive aisles would range from 420.0 to 424.0.

Compensating storage for areas filled would be accomplished by excavating below current grade, primarily by:

- Lowering grades of existing berms for the construction of the relocated Mill Pond Road;
- Significantly lowering grades of existing berms along the north margin of Planning Area 1 to restore the Wetland 12 buffer with uniform drainage and vegetation; and

- Constructing stormwater wetlands for stormwater treatment.

Indirect and Cumulative Impacts

Indirect and cumulative impacts associated with development of the proposal increase potential increases in soil erosion from clearing and grading activities during construction. Such activities will increase erosion potential on-site through the removal of vegetation and by exposing soil directly to precipitation and runoff. Exposed soil will be subject to erosion and sediment transport. Nearby surface water features that could be adversely impacted by increased sedimentation include onsite wetlands and streams, the Mill Pond, and the Snoqualmie River.

The stormwater management plan for the project site proposes to discharge to the Snoqualmie River, conveyed from the site through storm pipes to a broad surface swale that will be constructed along a portion of the new Mill Pond Road. As the site continues to develop, potential cumulative impacts include erosion along the swale or along the system of wetlands and streams if significant flows are routed to these features, or if the base or side slopes are not properly protected with vegetation or constructed of stable material.

Alternatives

Redevelopment Alternative

Surface Water

Similar to the Proposal, the Redevelopment Alternative would maintain existing surface water drainage flows and would have the same finished impervious surface footprint as the Proposal. The Redevelopment Alternative would collect and discharge surface water flows in the same manner as the Proposal; impacts to surface water features, including wetlands and the Snoqualmie River, would therefore be the same as those described for the Proposal.

Groundwater

The Redevelopment Alternative would utilize the same stormwater collection, conveyance, and discharge design as the Proposal and would have the same impervious surface footprint and level of vegetation clearing. As a result, potential impacts to groundwater resources under Redevelopment Alternative 1 would be substantially the same as under the Proposed Action, both for Planning Area 1 and for the PCI Planning Area as a whole.

Water Quality

The Redevelopment Alternative would result in similar levels of stormwater runoff and incorporate the same stormwater drainage treatment design as the Proposal, including use of stormwater wetlands, media filter and direct discharge to the Snoqualmie River. The Redevelopment Alternative would have approximately the same impervious surface and site clearing footprints as the Proposal and would be subject to the same water treatment requirements. Therefore, potential water quality impacts associated with the Redevelopment Alternative would be similar to those associated with the Proposal.

Flooding

The Redevelopment Alternative would have approximately the same impervious surface footprint as the Proposal and would require a similar amount and extent of site grading and filling within the floodplain. The Redevelopment Alternative would therefore have a similar level of need for compensatory storage as the Proposal. Potential flooding-related impacts for the Redevelopment Alternative would therefore be similar to the Proposal.

No Action Alternative

Under the No Action Alternative, the proposed development would not occur, and the site would continue to operate under existing development conditions. No additional impacts to water resources, and no provision of additional flood storage, are anticipated under the No Action Alternative.

3.3.3. Mitigation Measures

Incorporated Features of Proposal

Incorporated features of the proposal that would limit impacts to water resources associated with development include the following:

- Maintain relatively low density of impervious surface coverage for the site (approximately 59% open space, if landscaped open space is excluded) and create the ability to promote groundwater recharge.
- Utilize stormwater wetlands for water quality treatment and dispersion, where feasible, to promote wildlife habitat and groundwater recharge.
- Maintain hydrology to surface water dependent wetlands consistent with the 2016 KCSWDM Guide Sheet 3B.
- Control flooding impacts by providing compensating flood storage in excess of existing flood storage across the site to insure a zero-rise impact on 100-year flood elevations.
- Create a stormwater and flood flow outfall to the Snoqualmie River to promote a flow path of receding floodwaters back to the river to reduce potential property or roadway damage in future flood conditions.

Other Responsibilities and Requirements

- Implementation of the PCI Plan would be designed to be consistent with the following regulatory frameworks: Appendix I of the Western Washington Phase II Municipal Stormwater Permit,
- Appendix I-E of the 2012/2014 Stormwater Manual for Western Washington,
- The City of Snoqualmie Addendum to the 2016 King County Surface Water Design Manual,
- The 2016 King County Surface Water Design Manual,

- City of Snoqualmie Flood Hazard Regulations (SMC 15.12), and
- Snoqualmie Municipal Code Chapter 19.12.200, which regulates uses within CARAs that have the potential to result in groundwater contamination. CARAs are discussed in Chapter 3.1 of the EIS

Other Potential Mitigation Measures

- Maintain consistency of existing drainage patterns following development.
- Maintain flows to surface water dependent wetlands and streams to provide recharge to the shallow aquifer.
- Promote additional recharge opportunities from constructed stormwater wetlands as part of the runoff treatment system for the site.
- To ensure coordinated planning and operation of stormwater facilities, an O&M Manual should be provided to the City at the completion of each Phase of development and at the completion of overall site development, that summarizes the stormwater system operation and maintenance requirements.

3.3.4. Significant Unavoidable Adverse Impacts

As described in the Impacts discussion, development of the site would result in extensive grading, fill, clearing of vegetation, and construction of additional impervious surfaces, which would affect the amount and quality of stormwater runoff and groundwater infiltration that occurs on the site. However, implementation of the proposed surface water treatment features and application of techniques described in Section 3.3.3 – Mitigation Measures would reduce potential impacts to less than significant levels. With application of these mitigation measures, no significant unavoidable adverse impacts to water resources are anticipated.

3.4. PLANTS AND ANIMALS

This section addresses wetlands, streams, and fish and wildlife/wildlife habitat. It documents current conditions on the site and potential adverse and beneficial effects of the Proposal and Alternatives on the functions and values of each of these critical areas. The section summarizes a technical report "Wetlands, Wildlife, and Fisheries Assessment" prepared by Raedeke Associates, Inc. in 2020. (See Appendix C.) Note that wetland hydrology is discussed in detail in Section 3.3 – Water Resources.

3.4.1. Affected Environment

General Site Vegetation and Drainage Conditions

Deciduous forest encompasses a perennial stream that flows along the northern perimeter of the central portion of the site and along the northern perimeter of the eastern portion of the project site. A narrow band of deciduous forest is also found along the southern perimeter of the eastern portion of the project site between the lumber processing facilities and the off-site mill pond (Borst Lake). Vegetation within the central and western portions of the project site is a mosaic of forest and sparsely vegetated areas dominated by scattered shrubs and grasses that have developed on highly compacted fill.

Vegetation along the right bank of the Snoqualmie River adjacent to the project site consists of a mix of 30- to 50-year-old deciduous forest and areas dominated predominantly by Himalayan blackberry (*Rubus armeniacus*, FAC). A relatively small area at the north end of the project site near the outlet of Stream 1, just north of the intersection of SE Mill Pond Road and the main haul road for the Snoqualmie Sand and Gravel Company, includes several older big-leaf maple (*Acer macrophyllum*, FACU) and a very large Sitka spruce (*Picea sitchensis*, FAC). (See description of Stream 1 under Streams section below.)

Most of the area containing the historic mill's lumber processing facilities, in the eastern portion of the site, is paved, and very little is vegetated; exceptions are the numerous ditches that extend through this portion of the site to collect and manage stormwater. An extensive drainage ditch system is present throughout the site. Most of the ditches are less than 18 inches deep and are on top of a minimum of several feet of old fill. Several of the ditches are more than 5 feet deep and a few are more than 8 feet deep (Goldsmith 2012b). The deeper ditches are inundated to depths of more than 2 feet and are in locations where it is likely that they extend down through the old fill to the native soils below (AESI 2020; Raedeke Associates, Inc. 2012, 2016). Most of the ditches are regularly maintained to prevent establishment of tall shrubs and trees. Stormwater management for the old mill facilities was provided by an elaborate system of surface ditches and underground pipes and catch basins. Much of the underground drainage system remains throughout the site.

Drainage leaves the site at three locations: directly to the river via overland flow, through Borst Lake via on-site ditches (Borst Lake drains through a culvert under Mill Pond Road to the Snoqualmie River), and via the northeast portion of the site that drains to the river via a large

off-site wetland complex lying north of the property. The entire site (except for some small areas of the site above the base flood elevation [BFE]), as well as all downstream areas, lie within the 100-year floodplain of the river.

Wetlands

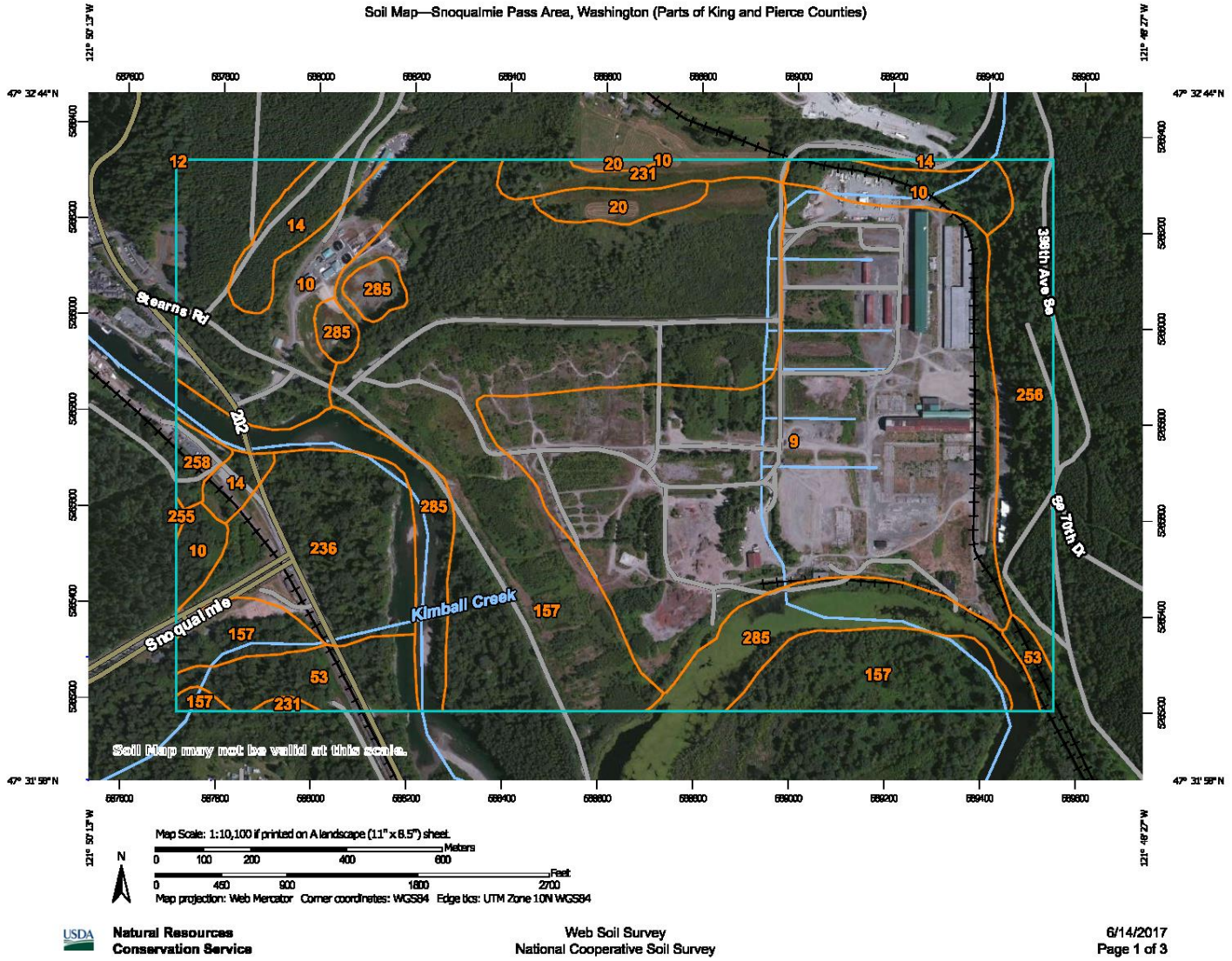
A wetland is defined as an area "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Federal Register 1986:41251; SMC 19.12.020.FF).

Generally, wetlands are determined based on presence of hydrophytic vegetation, hydric soils, and wetland hydrology:

- Hydrophytic vegetation is defined as "macrophytic plant life growing in water, soil or substrate that is at least periodically deficient in oxygen as a result of excessive water content" (Environmental Laboratory 1987).
- A hydric soil is defined as "a soil that is formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (Federal Register 1995: 35681).
- Wetland hydrology could be present if the soils are saturated (sufficient to produce anaerobic conditions) within the majority of the rooting zone (usually the upper 12 inches) for at least 5% of the growing season, which in this area is usually at least 2 weeks (COE 1991a). Positive indicators of wetland hydrology include direct observation of inundation or soil saturation, as well as indirect evidence such as driftlines, watermarks, surface encrustations, and drainage patterns (Environmental Laboratory 1987). See Appendix C for additional discussion of determining wetland hydrology.

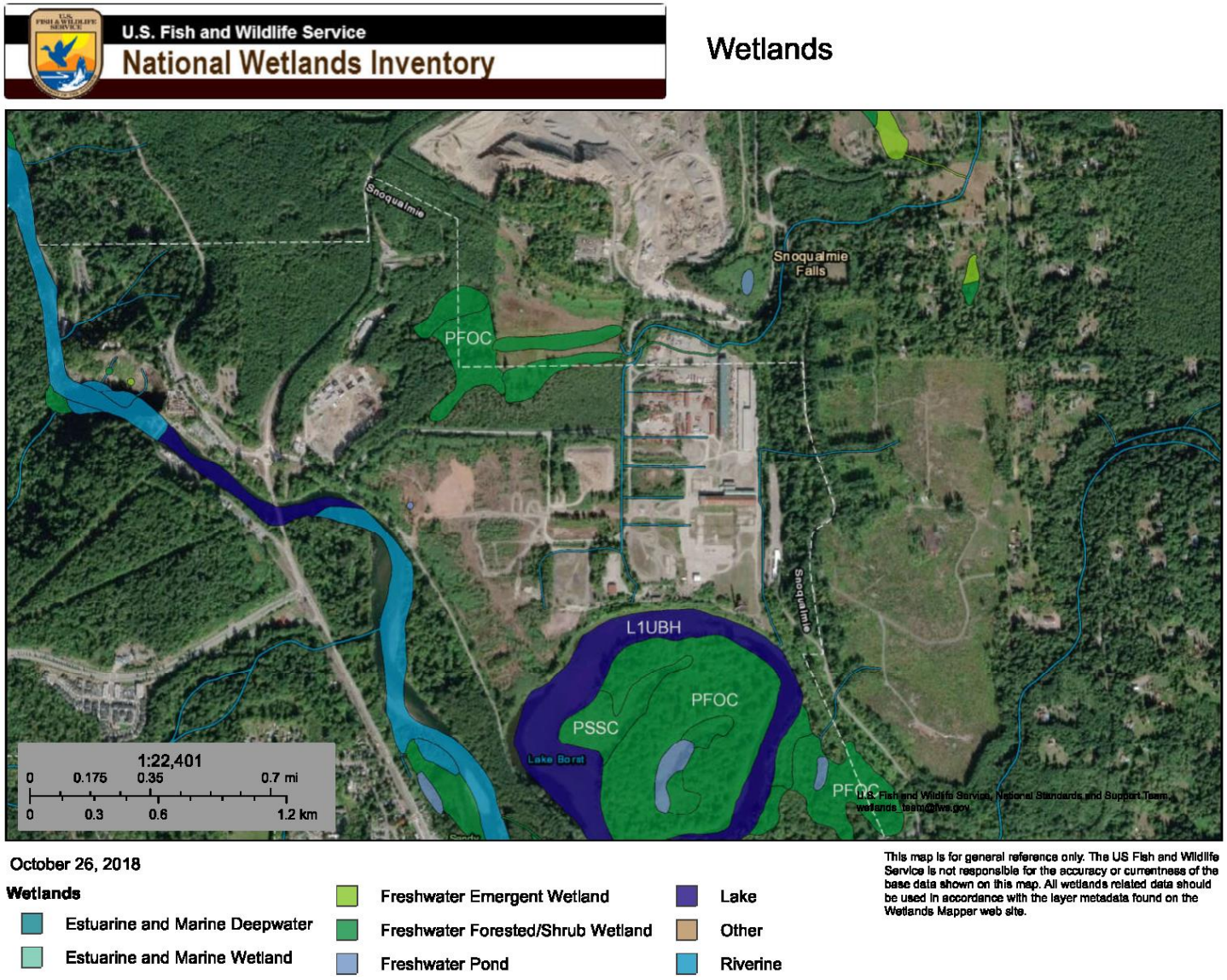
To determine the presence of these indicators and whether wetlands exist on the property, Raedeke Associates, Inc. (the consultant) conducted background research (collecting relevant maps and information from city, state, and federal resources) and conducted a field investigation. Data reviewed included U.S. Natural Resource Soil Conservation Service maps (NRCS 2012) shown in Exhibit 3.4-1); The U.S. Fish and Wildlife Service (USFWS 2012) National Wetland Inventory (NWI), shown in Exhibit 3.4-2; and the City of Snoqualmie Wetlands and Streams Inventory Map (2015a), which does not depict wetlands within the project site. These map investigations and findings are discussed in greater detail in Appendix C.

Exhibit 3.4-1. Web Soil Survey Snoqualmie Mill Project Site



Source: Raedeke 2020, NRCS, 2020.

Exhibit 3.4-2. National Wetland Inventory (USFWS 2012) and Project Site



Source: Raedeke, 2020, USFWS, 2020.

Results of Field Investigations

The wetlands investigation is based on the guidelines of the U.S. Army Corps of Engineers (COE) Wetlands Delineation Manual (Environmental Laboratory 1987) and subsequent amendments and clarifications provided by the COE (1991a, 1991b, 1992, 1994), as updated for this area by the regional supplement to the COE wetland delineation manual for the Western Mountains, Valleys, and Coast Region (COE 2010). Rules for implementing the Growth Management Act (WAC 173-22-035, as revised) require that all local jurisdictions use the COE manual to identify wetlands.

During field investigations, the consultant inventoried, classified, and described representative areas of plant communities, soil profiles, and hydrologic conditions in both uplands and wetlands. The consultant excavated pits to at least 20 inches below the soil surface, where possible, to describe the soil and hydrologic conditions throughout the study area. The consultant also sampled soil at locations that corresponded with vegetation sampling areas and potential wetland areas. Hydrology on the project site was further investigated by noting drainage patterns and surface water connections between wetlands and streams within and adjacent to the project area.

A total of 17 wetlands occur on the project site totaling approximately 41 acres. Additional wetlands are found off-site and some of their regulatory buffers extend onto the project site. City of Snoqualmie (SMC 19.12) regulatory ratings and standard buffer widths for wetlands identified within the Snoqualmie Mill Project site, as well as for those located off-site on slopes east of the site are provided in Exhibit 3.4-3. The consultant also identified off-site wetlands within 300 feet of the site and project planning areas. These include wetlands within the eastern slopes containing the old mill town, as well as Borst Lake to the south of the Snoqualmie Mill Proposal and several wetlands within the Snoqualmie River channel as identified by the NWI (USFWS 2012).

Exhibit 3.4-3. Snoqualmie Mill: Summary of Wetland and Stream Ratings and Buffers.

Wetland[1]	State Rating[2]	Total Scores	Habitat Score[3]	City of Snoqualmie Buffer (ft)[4]	Project Planning Area (location from project site)	Size (square feet unless otherwise stated)
Borst Lake	I/II[5]	22	9	225	off-site (south)	**>20 acres**[6,7]
1	III	18	7	165	off-site (east)	24,745[6]
2	III	17	6	165	off-site (east)	4,995
3	III	17	6	165	off-site (east)	1,334
4	II	20	6	165	off-site (east)	359
5	III	18	7	165	off-site (east)	4,423
6	III	18	7	165	off-site (east)	8,665
7	II	21	7	165	3	18,240[6]
8	II	20	6	165	2	4,089
9	II	21	7	165	2	26,730
10[8]	II	22	8	225	2	46,409
11	I	24	8	225	1	1,547,298[6]
12	II	21	6	165	1, 2	120,853[7]
13	II	20	5	105	3	3,577[7]
14	II	20	5	105	3	2,183[7]
15	II	20	5	105	2	3,805[7]
18	II	21	7	165	off-site (east)	2,852
19	II	22	7	165	3	1,742
20/21/22 mosaic	III	17	5	105	3	2,178
24	II	20	5	105	3	5,227
25	III	19	6	165	3	1,307
26	III	17	5	105	3	871
27	III	19	5	105	3	2,178
28	II	20	6	165	1	10,890
29	III	18	5	105	1	435

Notes:

[1] The numbering is not continuous because after the numbering occurred, some wetlands were determined to not be regulated.

[2] Wetland rating is based on the Washington State Wetland Rating System for Western Washington: 2014 Update (WDOE Pub. #14-06-029).

[3] Wetland buffer widths can be modified by the habitat function score: High Function = 8-9 points; Moderate-High Function = 6-7 points; Moderate Function = 5 points; Low Function = 3-4 points.

[4] Wetland buffers correspond to width in feet based on habitat score unless otherwise noted and the 2018 Snoqualmie Municipal Code (current through Ordinance 1198 (2017))

[5] Borst Lake is classified as a Shoreline of the State under the current and proposed City of Snoqualmie Shoreline Master Program. Borst Lake qualifies for a dual rating: Category I based presence of mature forested wetland along the southeast shore and Category II based on a total score of 22 points for all functions. The Category I buffer would apply only to the portion of the wetland that consists of mature forest.

[6] Does not include area of the off-site portion of the wetland or wetland is located off-site.

[7] Based on extent of water as interpreted from DeGross aerial photos flown April 21, 2012.

[8] Wetland 10 is located within unincorporated King County.

Source: Raedeke, 2020.

The consultant did not identify wetlands or streams other than the Snoqualmie River within the right of way (ROW) of SE Mill Pond Road. They delineated the portion of the OHWM for the right bank of the Snoqualmie River during a 2017 investigation of that area. Data forms for the

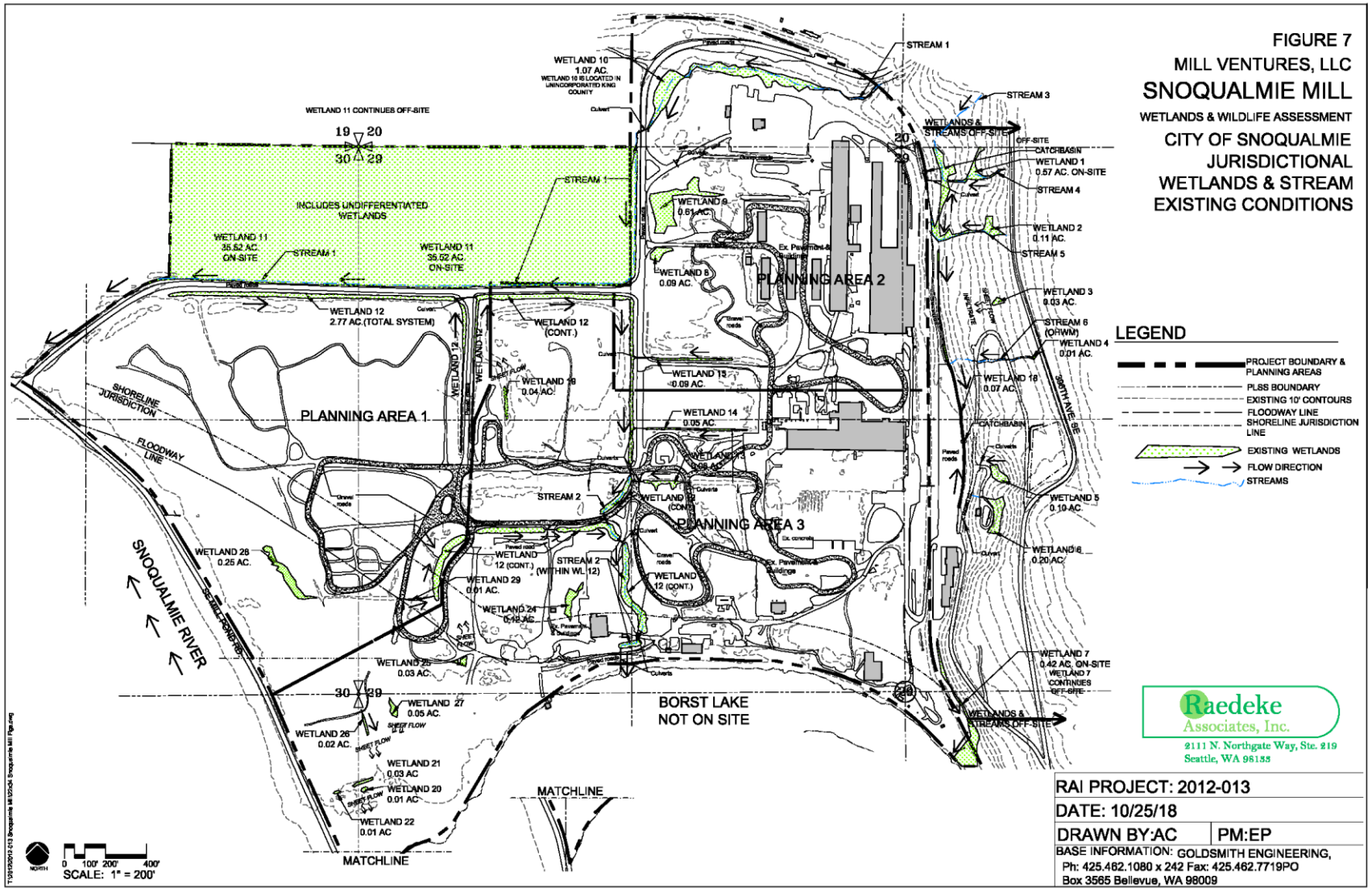
investigation of the SE Mill Pond Road ROW are provided in Appendix C. All data forms for identified wetlands and uplands investigated during previous investigations of those areas that have been verified by the COE, Ecology and City of Snoqualmie are found in previous reports for the project site (Raedeke Associates, Inc. 2012, 2015, 2016).

The quality of current wetland buffers was also reviewed. The consultant analyzed buffer quality based on standard buffer widths required by current City of Snoqualmie critical area regulations (SMC 19.12), intensity of adjacent activities, and types and amount of buffer vegetation. Overall, buffers currently provide a low level of protection to wetland functions due to the historic industrial use and current permitted uses, including the DirtFish Rally school. Existing gravel roads, and concrete or asphalt equipment storage and staging areas within the site, and the paved haul road providing access for the off-site quarry, encompass and extend to within 5 to 20 feet of the edges of the majority of Wetlands 9, 12, 13, and 24, and up to one-half of the perimeters of Wetlands 8, 14, 15, and 25. Vegetated portions of wetland buffers that have established on the old compacted fill found throughout the site consist predominantly of an interspersion of grassland and non-native, invasive shrubs species such as Himalayan blackberry and Scotch broom. Areas that have been left undisturbed for more than 10 years consist of young trees such as red alder, Douglas fir, and balsam poplar with an understory of Himalayan blackberry. These vegetated buffers are located predominantly in the western and southern portion of the property.

Standard buffers “presume the existence of a native forest vegetation community in the buffer zone adequate to protect the critical area functions and values at the time of the proposed activity.” (SMC 19.12.090(B)) When such conditions are not found, the City may increase the buffer width or require additional native plantings in the standard buffer width. The City also allows provisions to reduce or to average buffer widths to obtain optimal habitat value per performance standards for wetlands. Additionally, the City can provide flexibility of permitted uses or alterations (SMC 19.12.170(H)).

The extent of wetlands is illustrated on Exhibit 3.4-4. The largest wetland area lies outside and to the north of Planning Area 1, but its buffers extend into Planning Area 1. Other wetlands on the site are relatively small, although buffers are more extensive.

Exhibit 3.4-4. Wetlands and Streams Existing Conditions



Source: Raedeke 2020.

Streams

In 2017, Raedeke Associates, Inc. staff reviewed all streams within the project site that had been previously delineated by Cedarock Consulting, Inc (2012). Raedeke Associates, Inc. also delineated the ordinary high-water mark (OHWM) of the right bank of the Snoqualmie River. Guidelines provided by the Department of Ecology (Ecology 1994) Shoreline Administrators Manual were used to determine the OHWM. A summary of prior and current investigations is provided below.

Cedarock Consultants, Inc. (2012) visually evaluated all three Planning Areas of the project site for the presence of stream courses and their habitat conditions, and Raedeke Associates, Inc. staff reviewed these features during subsequent investigations. The Snoqualmie River was mapped during these subsequent investigations. In addition to the Snoqualmie River, six water courses were found to meet the City's definition of a "stream"; Stream 1 was the only stream occurring in Planning Area 1. Stream 2 lies within Planning Area 2, and the remaining four streams are entirely off-site on property now owned by King County. See Exhibit 3.4-5. All streams within the project study area are above Snoqualmie Falls and are not accessible to anadromous fish including anadromous salmonids.

Exhibit 3.4-5. Streams and Classifications on or Near Project Site

Stream	Classification[1]	City of Snoqualmie Buffer (ft)	Project Planning Area
Borst Lake	Class 1	100	**Off-site (south)**
Stream 1	Class 2 w/out anadromous salmonids	75	**1, 2, 3**
Stream 2	Class 2 w/out anadromous salmonids	75	**3**
Stream 3	Class 3	50	**off-site (east)**
Stream 4	Class 3	50	**off-site (east)**
Stream 5	Class 3	50	**N/A (east)**
Stream 6	Class 3	50	**off-site (east)**
Snoqualmie River	Class 1	100 feet, Shoreline jurisdiction	**off-site (west)**

Notes:

[1] Stream classifications are based on information provided by Cedarock Consultants (2012) and field notes collected by Raedeke Associates, Inc. during aquatic resources investigations.

Source: Raedeke 2020, Snoqualmie Municipal Code (SMC 19.12).

Streams

The following is a short summary of conditions identified by Cedarock Consultants (2012) for each of the streams.

Stream 1 is a perennial stream that flows east to west across the northern portion of Planning Area 1, flowing largely in a straight path along the northern edge of the existing haul road and

discharging at its confluence with the Snoqualmie River (see Exhibit 3.4-4). The on-site portion of Stream 1 flows through Wetland 11. The habitat conditions in Stream 1 are fair to good quality based on low water temperature, moderate flow, and moderate habitat diversity. Juvenile fish, potentially resident trout, have been observed in this stream. Stream 1 is classified as a Class 2 Stream without anadromous salmonids.

Stream 2 is within the southern portion of Wetland 12. The stream flows from approximately the mid-point in the overall site southward, discharging to Borst Lake (see Exhibit 3.4-4). While Borst Lake supports fish, water quality in the stream is poor and the stream may not support fish.[13] This stream is classified as a Class 2 Stream without anadromous salmonids.

Streams 3 through 6 occur east of the Project site on property now owned by King County, originating on slopes east of 396th Drive SE and do not extend onto the project site. These streams flow into a piped stormwater collection system underlying the mill property before flowing to the Snoqualmie wastewater treatment plant (Cedarock Consultants 2012). Streams 3 through 6 are all classified as Class 3 Streams without salmonids.

Riparian conditions in Streams 1 and 2 are poor with degraded habitat functions, and water quality is also poor due to transmission of fine sediments from the existing road surfaces through areal suspension or localized stormwater runoff. The poor riparian buffer conditions provide little interception of either sources of fine sediments. Riparian and water quality conditions in Streams 3 – 6 are better than on the project site due to ground water sources and better riparian conditions off-site.

Snoqualmie River

Off-site riparian and instream habitat associated with the Snoqualmie River is located in the vicinity of the SR 202 bridge across the Snoqualmie River. Replacement of the SR 202 bridge is identified as a future project on the City's adopted Transportation Improvement Plan (TIP) but is not funded at this time. The timing of planning, design, funding and permitting required to site and construct a replacement bridge is uncertain at this time. Under any scenario, thorough environmental review will be required and will address habitat and other issues.

Fish and Wildlife

The consultants collected relevant maps and information regarding fish and wildlife from city, state, and federal resources, and conducted wildlife field investigations of the project site and vicinity in 2012 and 2017. During these field investigations, they researched 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 2018) or Washington Department of Fish and Wildlife (WDFW 2008). Results of research and field investigation are presented below.

WDFW Priority Habitats and Species (PHS) Database

The WDFW Priority Habitats and Species (PHS) database (2012, 2018a) does not map the

[13] Section 1.2 of the Cedarock report states that salmonid (non-anadromous) use of Stream 2 is presumed.

presence of federal or state listed wildlife species on or within 2,000 feet of the Snoqualmie Mill site boundaries. Listed salmonid fish species, including chinook salmon, bull trout, and steelhead trout, all are known to occur in the Snoqualmie River and its tributaries downstream of Snoqualmie Falls.

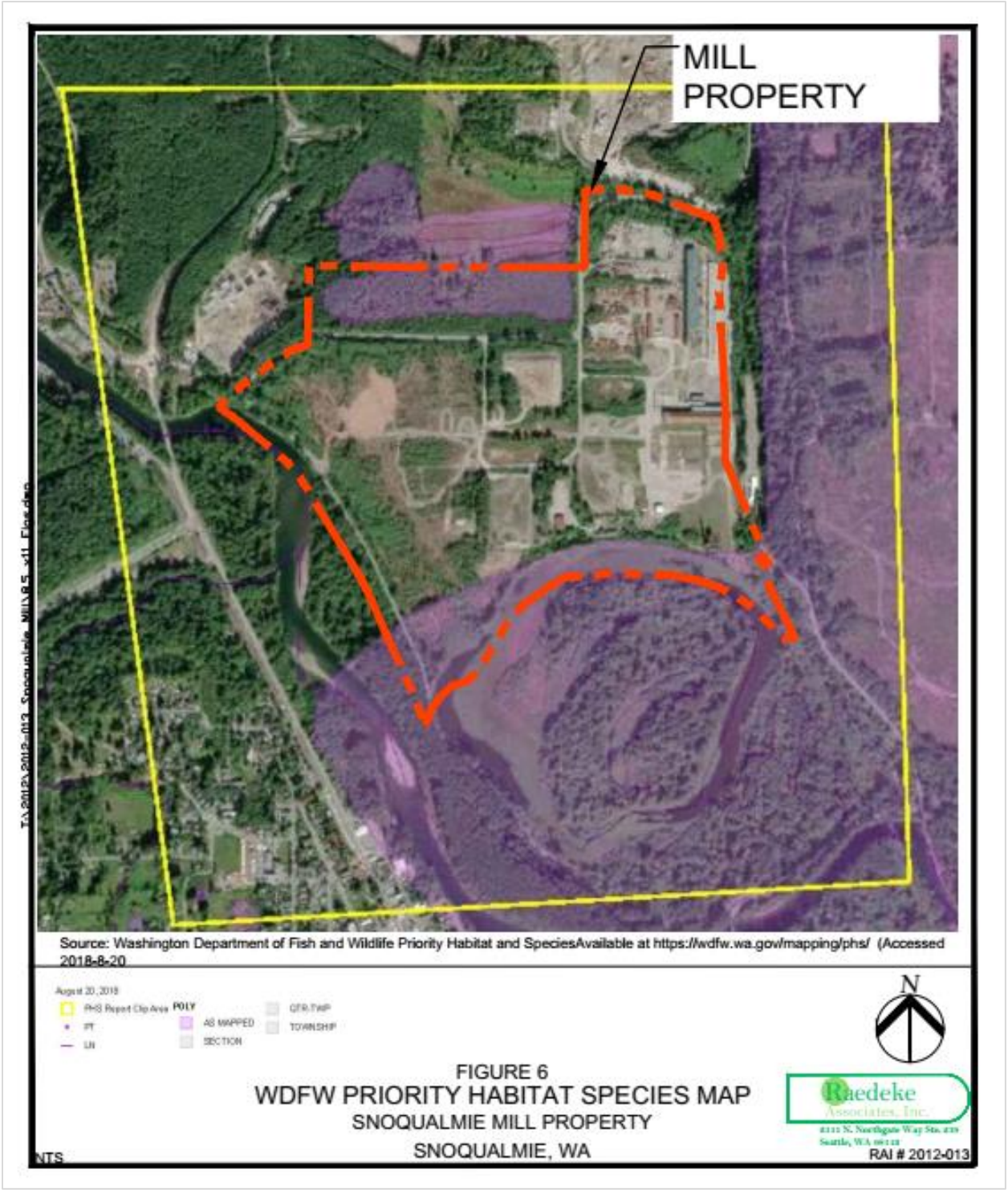
The WDFW PHS map depicts a large area of "regular concentration" of elk (*Cervus elaphus Canadensis)*, a WDFW [2016] species of recreational, commercial, and/or tribal importance) to the south, east, and north of the Snoqualmie Mill property, and extends into the eastern and southern portions of the site. See Exhibit 3.4-6.

Information provided by the WDFW PHS database (2018a) indicates that the area is part of the "Green/Cedar River elk range." King County elk habitat includes resident and winter migratory elk. The elk that occur on the project site and vicinity are designated as a satellite herd of the North Mount Rainier population. The North Rainier Elk Herd Plan (Spencer 2002) had a goal of increasing this herd from 175 to 500 elk. With no hunting on the private lands within the area, such as the Snoqualmie Mill property and the Meadowbrook Farm property, the herd now has grown to least 400 to 450 elk. The City of Snoqualmie prohibits hunting within city limits by ordinance (SMC 6.08), and King County has designated non-shooting areas on some of the nearby unincorporated lands, primarily to the south and east of the Snoqualmie Mill property. Hunting may be allowed on some private lands in unincorporated King County surrounding the site outside the designated non-shooting areas. Where hunting is allowed, elk in the area are managed by WDFW as part of GMU 4601 (a special management unit within GMU 460) with very liberal seasons (e.g., either longer periods or allowances for a greater number of animals taken) with the objective of stabilizing or decreasing the herd to reduce property damage complaints (Smith, WDFW, personal communication, Sept. 1, 2017, and Feb. 5, 2018). Hunting seasons include special antlerless elk hunts for youth hunters, disabled hunters, general hunters, and Master Hunters, in addition to antlered bull permit seasons. Current hunter harvests are thought to have now stabilized the elk herd.

There are no other priority wildlife species or habitats mapped within approximately 2,000 feet of the Snoqualmie Mill property (WDFW 2018a).[14]

[14] No other species of concern are mapped (WDFW 2018a) as occurring on the property. A peregrine falcon nest site was previously mapped (WDFW 2012) approximately 2,000 feet northwest of the site in the vicinity of Snoqualmie Falls. The peregrine falcon is not a federally or state listed species but is a federal species of concern. At the time of the consultant's initial site investigations, the peregrine falcon was listed as a state sensitive species but has since been de-listed by WDFW (Vekasy and Hayes 2016) due to steady population recovery, so it no longer shows on the WDFW (2018a) PHS database.

Exhibit 3.4-6. WDFW Priority Habitat Species Map



Legend: Pt = Point feature LN = Line feature | Red line = Project boundary | Yellow Line = Area of Interest submitted to WDFW website | Purple Shading = mapped occurrence of Priority Habitats and Species

Source: Raedeke 2020.

Federal Databases

Information regarding endangered and threatened species was also compiled from USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries agency web sites (USFWS 2018; NOAA Fisheries 2012, 2018).

USFWS List of Threatened and Endangered Species

The USFWS (2018) list of threatened and endangered species occurring within the project area includes:

- Gray wolf,
- North American wolverine,
- Marbled murrelet,
- Northern spotted owl,
- Yellow-billed cuckoo, and
- Bull trout, as well as final designated critical habitat for bull trout.

Gray Wolf

In 1973, under provisions of the federal Endangered Species Act (ESA), gray wolves (*Canis lupus*) were classified as an endangered species in Washington. In 2011, wolves in the eastern third of Washington were removed from federal protections under the ESA. Wolves in the western two-thirds of Washington continue to be protected under the ESA and are classified as an endangered species under federal law. At present, wolves are classified as an endangered species under state law (WAC 220-610-010) throughout Washington regardless of federal classification. The state has been divided into three recovery areas: Eastern Washington, the Northern Cascades, and the Southern Cascades and Northwest Coast. All the known packs in Washington occur within the Eastern Washington and North Cascades recovery areas. Although individual wolves have occasionally been sighted in King County (WDFW 2018a), no packs are known to occur anywhere near the project site. The nearest known pack to the project site is the Teanaway, located east of the Cascade crest in central Washington WDFW et al. 2018). Consequently, wolves are not expected to occur on the site or in the vicinity on a regular basis.

North American Wolverine

In 2013, the USFWS proposed threatened status for the North American wolverine, but the proposed rule was withdrawn in 2014 (Federal Register 2013, 2014d). Although still indicated as proposed threatened and as potentially occurring within the project area vicinity in King County by the USFWS (2018), sightings of the North American wolverine near the project area are limited to a single occurrence in the Tokul area in May 2018. Other recent sightings of wolverines in Washington include the southern Washington Cascades (WDFW 2019; Conservation Northwest 2019). However, established populations in Washington have been documented only in the North Cascades and northeastern Washington (Aubry et al. 2016), and the existence of a breeding population farther south in the Washington Cascades and foothills has not yet been determined (WDFW 2019). Consequently, the consultant does not expect this species to occur in this area.

Marbled Murrelet and Northern Spotted Owl

Marbled murrelets and northern spotted owls are known to occur in King County throughout the year (Smith et al. 1997, WDFW 2018a). However, the lack of old, multi-layered forest on the site or in the vicinity and the urbanizing, lowland setting makes it highly unlikely that these species would occur in the project area. Data from the PHS database maintained by WDFW (2018a) provide no records of known breeding sites or occurrences of either species within at least several miles of the project site or Action Area. The remaining stands of trees within the site or vicinity are generally too young and too fragmented by urban development to provide suitable breeding sites for this species, or to provide suitable or accessible foraging habitat for spotted owls. The consultant observed neither species on the site during their field investigations. Based on all these factors, the consultant does not expect either species to be present within the project site.

Critical habitat was designated by the USFWS for northern spotted owls on January 15, 1992, and for marbled murrelets on May 24, 1996. However, no critical habitat was located for either species within several miles of the project site. The nearest known nest site on Rattlesnake Mountain, approximately 2 miles southwest of the project site, has not been active since the 1990s. Further, no large stands of older, multi-layered, conifer-dominated forest, and/or forest containing trees with large platforms, exist within the project vicinity, so suitable habitat is not present for northern spotted owls or marbled murrelets. Therefore, the consultant concludes that critical habitat for northern spotted owls and marbled murrelets does not exist within the project vicinity.

Yellow-Billed Cuckoo

In October 2014, the USFWS listed the western distinct population segment (DPS) of the yellow-billed cuckoo as a threatened species (Federal Register 2014c). In western North America, the yellow-billed cuckoo typically occupies forested streamside habitat, particularly where dominated by willows and cottonwoods that form open woodlands with dense, low vegetation; they are generally absent from large, urban areas and dense forests (Seattle Audubon Society 2018). Yellow-billed Cuckoos apparently have been extirpated as a breeding population in Washington, with only occasional sightings over the last 20 years (Seattle Audubon Society 2018; Smith et al. 1997). Because yellow-billed cuckoos are not currently known to occur regularly in Washington, none of the proposed critical habitat is in Washington (Federal Register 2014a, 2014b, 2014c), and based on the relative lack of suitable riparian habitat on the project site or vicinity, this species is not expected to occur anywhere within the project vicinity.

Bull Trout

Bull trout were listed as a threatened species by the USFWS on November 1, 1999. Bull trout are native char, typically found in high, glacially fed watersheds or near cold perennial springs, although individual fish can occur downstream throughout larger river systems (Fraley and Shepard 1989; Rieman and McIntyre 1993, 1995; Buchanan and Gregory 1997). Preferred spawning habitat consists of low-gradient streams with loose, clean gravel (Fraley and Shepard 1989) and water temperatures of 5°C to 9°C in late summer to early fall (Goetz 1989). Bull trout

generally live in freshwater their entire lives, although a small component of the Puget Sound population is anadromous.

Bull trout 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 King County waters unless proven otherwise. However, extensive instream surveys for bull trout have failed to detect its presence anywhere in the three forks of the Snoqualmie River above the falls (Berge and Mavros 2001). Therefore, the consultant concludes that critical habitat for bull trout is not found within the project vicinity.

NOAA Fisheries List of Threatened and Endangered Species

The NOAA Fisheries list of threatened and endangered species (2012, 2018) applicable to the project vicinity includes:

- Puget Sound distinct population segment (DPS) of steelhead trout (hereafter "steelhead"), and
- Puget Sound evolutionarily significant unit (ESU) of chinook salmon (hereafter "chinook").

The anadromous salmonid fish species are documented within the Snohomish River watershed. However, Snoqualmie Falls, located over 2,000 feet downstream of the project site, forms a natural barrier to upstream movements of fish. As such, listed anadromous fish do not occur within the portion of the Snoqualmie River that runs south of Borst Lake south of the project site. Rainbow trout above Snoqualmie Falls are not considered a protected population of the anadromous steelhead population below the falls (Hard et al. 2007).

Results of Field Investigations

Fish

Fish present in the vicinity of the project site are limited to salmonid trout and mountain whitefish (*Prosopium williamsoni*) populations isolated upstream of the Snoqualmie Falls, along with various native non-salmonids. Trout salmonids in the Snoqualmie River Basin upstream of Snoqualmie Falls include resident cutthroat trout (*Oncorhynchus clarki*), rainbow trout (*Oncorhynchus mykiss*), and eastern brook trout (*Salvelinus fontinalis*). Rainbow trout above Snoqualmie Falls are not considered a protected population of the anadromous steelhead population below the falls (Hard et al. 2007). After considerable sampling effort, bull trout (*Salvalinus confluentus*) have not been located in the Snoqualmie River above the falls (Berge and Mavros 2001).

Native non-salmonids common in the Snoqualmie River above the falls include largescale sucker (*Catostomus macrocheilus*), longnose dace (*Rhinichthys cataractae*), shorthead sculpin (*Cottus confuses*) mottled sculpin (*Cottus bairdi)*, and western brook lamprey (*Lampetra richardsoni*) (Overman 2008). Overman (2008) also notes that in the Snoqualmie River above the falls:

> *Cutthroat trout have always been known to be abundant and, along with mountain whitefish, are likely native to these reaches. Rainbow trout may be native above Snoqualmie Falls, but, as with eastern brook trout, have also been established through planting of hatchery fish (Pfeifer 1985).*

In addition, "Hatchery propagated Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon juveniles (*Oncorhynchus kisutch*) were planted occasionally (above the falls) in the past to make use of rearing potential in the South Fork (Williams et al. 1975), but this no longer occurs (USFS 1995)." (Overman 2008).

Terrestrial Habitat Conditions

Vegetation within the western portion of the site (Planning Area 1) is a mosaic of young forest, shrub-lands, and sparsely vegetated areas dominated by grasses. Most of the central and eastern portions of the site in the area of the mill's lumber processing facilities (encompassing most of Planning Areas 2 and 3) is paved, and very little is vegetated, except for the numerous ditches that extend through this portion of the site to collect and manage stormwater. Most of the ditches are regularly maintained to prevent establishment of tall shrubs and trees. Deciduous forest encompasses a perennial stream that flows along the northern perimeter of the central portion of the site. A narrow band of deciduous forest is also found along the southern perimeter of the central area between the lumber processing facilities and the off-site mill pond (Borst Lake).

Vegetation within the western portion of the site is dominated by Himalayan blackberry and Scotch broom and scattered clusters of Douglas fir, balsam poplar, and red alder saplings. The clearings were dominated by various grasses and sedges. Several clearings were dominated by broadleaf cattail, slough sedge, and red-tinge bulrush.

Ditches within the central portion of the site in the vicinity of the old mill buildings and lumber processing yards are dominated by Himalayan blackberry (***Rubus laciniatus***), reed canarygrass (*Phalaris arundinacea*), common rush (*Juncus effusus*), red-tinge bulrush (***Scirpus microcarpus***), narrowleaf bur-reed (***Sparganium angustifolium***), and broadleaf cattail (***Typha latifolia***). Where shrubs or sapling trees were present within the ditches, these generally consisted of Sitka willow (***Salix sitchensis***) and red alder. Areas of old fill that have not been paved or surfaced with gravel in the northern portions of the mill site are dominated by shrubs, sapling trees, or grasses and other herbaceous species such as balsam poplar, red alder, Sitka willow, Himalayan blackberry, common rush, common velvetgrass (***Holcus lanatus***), reed canarygrass, and various sedges (***Carex spp.***).

Special Habitat Features

Special habitat features include biologic elements such as edges between plant communities or successional stages, snags, and coarse woody debris, which are often important to wildlife (Brown 1985, Johnson and O'Neil 2001, Thomas and Verner 1986). The most distinct edges on the project site were those between the bands of young forest and shrub cover along the ditches and early successional grass and herb-dominated areas, as well as areas of pavement and gravel. Although these edges have developed over time following abandonment of mill processing activities, they are probably used by forest species, as well as species that are more adapted to shrub thickets and un-mowed, early successional areas.

Snags (dead or partly dead trees at least 4 inches diameter at breast height (dbh) and 6 feet tall) are important to many wildlife species (Cross 1986, Neitro et al. 1985, Scott et al. 1977 in

Ohmart and Anderson 1986), for nesting, feeding, and roosting. Given the land use history and management on site and the relatively young forest development since areas were abandoned, snags were generally absent from the site.

Coarse woody debris includes downed logs and major limbs of trees lying on the ground. Downed logs provide many habitat features, including perch sites, food, nest cavities, and cover for many species, such as some amphibians (Jones 1986). A few small downed logs were observed in the young forested stands and consisted mainly of small to medium-sized red alder, with some slash piles of young trees (including Douglas fir) from areas that had been recently cleared as part of ongoing site uses.

Invasive Species

Given the history of land use on the site, and the subsequent development of vegetation communities on and adjacent to old fill, these communities include a variety of plant species adapted to disturbed areas, which include several non-native species that are considered to be invasive. The most widespread and abundant of these species is Himalayan blackberry, which is found in dense thickets adjacent to the ditches, along the south boundary of the project that borders Borst Lake, in the shrub-dominated areas, and within the understory of the young developing forest stands. Scotch broom was also common in the shrub- and herb-dominated areas, particularly in the western and central portions of the site. Reed canarygrass was also observed in the herb-dominated fields on old fill that had not been paved. Patches of Japanese knotweed (*Polygonum cuspidatum*) and orange-eye butterfly bush (*Buddleja davidii*) were also found along the south boundary of the site near Borst Lake.

Wildlife

The project site and the surrounding lands provide habitat for a wide variety of native animal species common to young forests, successional shrublands, grassy meadows, and palustrine wetlands of the Puget Sound lowlands. Ongoing human activities on and around the site, both past and present, including past mill operations and extensive areas of fill, the current rally car driving activities, on-site warehouses and equipment storage, soil management, and sand and gravel mining hauling and associated traffic to the north, have determined the configuration and condition of vegetation cover types currently found on the site and in the vicinity. Among the habitat types found on-site, the fewest species are expected to occur on areas of pavement, bare ground, existing storage facilities, and areas used by the rally car training school.

Not all of the species regularly found in lowland habitats of the Puget Sound area would necessarily inhabit the project site and vicinity, but a variety of species is expected to occur in the habitats found on-site. Some species expected to occur on-site possibly do so in low numbers or only during certain times of the year. Species likely to be present would also be expected in similar habitats in the Puget Sound lowlands. The habitats on the site were relatively common in the region.

During field investigations from 2012 to 2017, the consultant recorded the presence of 37 species of wildlife on the site and immediate vicinity, mostly birds (see Exhibit 3.4-7). These included Canada geese, mallards, and several species of swallows associated with Borst Lake just south of

the project site. The species the consultant recorded on site are relatively common and typical of field, shrubland, and young forest habitats found in the urbanizing areas of the Puget Sound Lowlands. Many are year-round residents, whereas others are Neotropical migrants that occur in the area during the spring and summer months. Bald eagles were observed flying over the site on various occasions. No nests were observed on the site or in the vicinity.

Several species of mammals or their sign were observed on site (see Exhibit 3.4-7). These included black-tailed deer, elk, European cottontails, black bear, raccoon, bobcat, mountain lion, and coyote. Elk were observed in several locations on site, typically in the western and southwestern portions of the site in the wetlands and forest and field habitats that have developed over old fill material. These areas provide both security cover and elk forage. However, elk sign (pellet groups) were observed throughout the site, including signs of bedding in a grassy field north of the old mill powerhouse in the southeastern part of the site. It appears that the elk may use any portion of the site during the overnight hours when human activity subsides (i.e., when the rally cars are not active on site), and during periods of high activity they move to the western portions of the site (beyond the rally car routes) dominated by young forest and shrub cover.

Several species of amphibians were observed on site, primarily in the sedge meadows and areas of seasonal ponding on the filled areas in the western part of the site. These included Pacific chorus frogs, rough-skinned newts, and Northwestern salamanders.

Exhibit 3.4-7. Wildlife Species Observed at the Project Site During Field Investigations

Common Name	Scientific Name
Birds	
Canada Goose	*Branta canadensis*
Mallard	*Anas platyrhynchos*
Killdeer	*Charadrius vociferus*
Bald Eagle	*Haliaeetus leucocephalus*
Downy Woodpecker	*Picoides pubescens*
Pileated Woodpecker	*Dryocopus pileatus*
Willow Flycatcher	*Empidonax traillii*
Steller's Jay	*Cyanocitta stelleri*
American Crow	*Corvus brachyrhynchos*
Tree Swallow	*Tachycineta bicolor*
Violet-green Swallow	*Tachycineta thalassina*
Barn Swallow	*Hirundo rustica*
Black-capped Chickadee	*Poecile atricapillus*
Bewick's Wren	*Thryomanes bewickii*
Swainson's thrush	*Catharus ustulatus*

Common Name	Scientific Name
American Robin	*Turdus migratorius*
Cedar Waxwing	*Bombycilla cedrorum*
European Starling	*Sturnus vulgaris*
Black-headed Grosbeak	*Pheucticus melanocephalus*
House Finch	*Haemorhous mexicanus*
American Goldfinch	*Spinus tristis*
Spotted Towhee	*Pipilo maculatus*
White-crowned Sparrow	*Zonotrichia leucophrys*
Dark-eyed Junco	*Junco hyemalis*
Western Tanager	*Piranga ludoviciana*
Black-headed Grosbeak	*Pheucticus melanocephalus*
Mammals	
Black-tailed deer	*Odocoileus hemionus*
Elk	*Cervus elaphus*
European cottontail	*Sylvilagus floridanus*
Black bear	*Ursus americanus*
Raccoon	*Procyon lotor*
Bobcat	*Lynx rufus*
Mountain lion	*Felis concolor*
Coyote	*Canis latrans*
Amphibians	
Pacific chorus frog	*Pseudacris regilla*
Rough-skinned newt	*Taricha granulosa*
Northwest salamander	*Ambystoma gracile*

Source: Raedeke 2020.

Endangered, Threatened, Sensitive, and Other Priority Wildlife Species

As noted above, several species of salmonid fish, including Chinook salmon, steelhead, and bull trout, all listed as federal threatened species, are known to occur within the Snoqualmie River downstream of the falls.

No terrestrial species listed as endangered or threatened by state or federal agencies are known to occur in the project area or immediate vicinity, and none were observed during consultant field investigations. The WDFW PHS map (2018a) (Exhibit 3.4-6) shows a regular concentration of elk in the project vicinity as a priority species occurrence, and elk and their sign were observed throughout the property. As discussed above, WDFW manages the local elk herd on the Snoqualmie Mill Property as part of a special management unit within GMU 460 with the goal of stabilizing herd size in the area to reduce property damage complaints.

The consultant heard calls of pileated woodpeckers, a state Candidate species, in the vicinity of the project during their field investigations. However, no birds were seen on site, and no sign of foraging or nesting were found on site. No snags capable of housing nest or roost cavities were observed during site investigations. Given the history of land use and relatively young vegetation communities on site, pileated woodpeckers are not expected to use the site to a significant degree. Bald eagles have been observed flying over the site, but no nests or roost sites are known to occur on the property or in the vicinity. Recently, bald eagles, formerly listed as a threatened species, have been de-listed at the federal and state levels. However, eagles in Washington are still protected by the Bald Eagle Protection Act (RCW 77.12.655), as well as federal law (16 USC 668-668c).

Regulatory Environment

Wetlands and streams are protected by Section 404 of the Federal Clean Water Act and other state and local policies and ordinances including Snoqualmie critical area regulations (SMC 19.12).

Federal law provides protection for fish and wildlife species listed as threatened or endangered under the Endangered Species Act (ESA; 16 U.S.C. 35, § 1531 et seq.). The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the USFWS and the Commerce Department's National Marine Fisheries Service (NMFS). The Service has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon.

Bald eagles were removed from the federal threatened and endangered species list in 2007 and are now protected by the Bald and Golden Eagle Act (16 USC 668-668c) and the Migratory Bird Treaty Act. The eagle act applies to any work that may take or disturb eagles or their nests regardless if the project has a federal nexus.

State law provides protections for wildlife species listed as endangered (WAC 220-610-010), as well as threatened, sensitive, or “other protected” species (WAC 220-610-110, 220-200-100). Recently, bald eagles have been de-listed at the State level, as well as at the federal level. However, as noted above, eagles in Washington are still protected by the Bald and Golden Eagle Protection Act (see also RCW 77.12.655). WDFW has also established guidelines for protection of other Priority Species and Habitats and maintains a database (WDFW 2018a) of documented occurrences of these species and habitats. Many local jurisdictions defer to WDFW management guidelines for protection of priority habitats and species within their critical area regulations.

The City of Snoqualmie regulates wildlife species listed as endangered, threatened, and sensitive, and habitat that supports these species through its critical areas regulations (SMC 19.12). The City’s code limits alterations to wetlands, streams, and their buffers, subject to specific exceptions.

See Appendix C for more detail about applicable regulations.

3.4.2. Impacts

Potential impacts that could occur to wetlands, streams, and fish and wildlife habitat from development during construction and operation of the proposed PCI plan include the following:

- **Physical Alteration of Wetlands or Streams:** Wetlands provide habitat and store and filter water. Streams provide habitat for fish and wildlife species and carry water and nutrients. If not designed to avoid or minimize impacts, development could reduce areal extents of wetlands, alter stream flow, or change other functions and values.
- **Impacts to Buffers:** Wetland buffers help to protect wetlands from indirect effects from developed areas and other types of human-caused disturbance. A variety of wetland functions are protected by vegetated buffers in the following ways: (1) removing excess sediment, toxics, and nutrients; (2) influencing microclimate; (3) maintaining adjacent habitat critical for life needs of many species dependent on wetlands; (4) screening adjacent disturbances; and (5) maintaining habitat connectivity. Retaining degraded buffers, or narrowing the width of buffers, reduces buffer functions and may not protect the critical area from the indirect effects of development.
- **Hydrologic Impacts:** The clearing of vegetation, grading, and construction of impervious surfaces, underground utilities, and stormwater collection and detention facilities would modify the surface hydrologic conditions of the site. Unless mitigated through appropriate planning and design of stormwater facilities, these changes could potentially cause changes in the hydrologic conditions within the project area wetlands, including greater annual variation in water levels of the wetlands, as well as greater and more frequent water level fluctuations in response to individual storm events (Azous and Horner 1997, 2000). Changes in the hydrologic conditions resulting from development can adversely affect plant species (Cooke and Azous 1993, Taylor 1993) and animal species richness, and diversity within wetlands (Richter and Azous 1995).
- **Water Quality Impacts:** Development can alter water quality during construction such as through erosion/sedimentation impacts. Development can add impervious surfaces, particularly roads and parking areas, that can result in runoff with oil, fuel, and other substances that can adversely harm wetlands and streams and the fish and wildlife that rely on them.
- **Loss and Degradation of Plant and Animal Communities:** This could result in: (1) direct changes in and loss of the habitats available; (2) increase in human use and disturbance associated with roads; and (3) potential for changes in the hydrologic characteristics of the site, with potential for impacts to wetland and riparian communities (both plants and animals).

The Proposal incorporates several features or plans that are designed to avoid or minimize impacts described above including:

- Avoidance of direct impacts to wetlands and streams and retention of open space;
- Wetland buffer averaging, enhancement, and restoration and a net increase in total buffer area; and

- Master Drainage Plan meeting wetland protection and stormwater treatment standards including hydrology protection and water quality treatment.

The Redevelopment Alternative would also have similar features and plans. The impacts of the Proposal and Alternatives including mitigating features are described in greater detail below.

Impacts of Proposal

PCI Plan

Physical Alteration of Wetlands and Streams

Development of Planning Area 1 under the Proposal would avoid direct physical alteration to all identified wetlands and streams.

Specific development plans and building footprints for Planning Areas 2 and 3 are uncertain at this time, therefore additional site analysis, and additional environmental review, will be required to determine whether direct alteration to wetlands or streams would occur in the future, and what, if any, mitigation measures will be required to address development in Planning Areas 2 and 3.

Wetland areas could be impacted in conjunction with future planned replacement of the SR 202 bridge over the river. As described previously, the new bridge has not been planned, designed or funded at this time and is independent of the Snoqualmie Mill proposal. The nature and extent of environmental impacts associated with siting, construction and operation of a new bridge therefore cannot be evaluated at this time. Environmental review would occur in the future.

Impacts to Buffers

Planning Area 1: Impacts to the City's adopted regulatory buffers for Wetlands 12 and 28 will occur within Planning Area 1 under the Proposal and will be mitigated pursuant to a plan.

A review of the Proposal in relation to standard buffers, buffer averaging criteria, and buffer enhancement proposals is provided below:

- **Standard Buffers:** The standard buffer for Wetland 12 and for Wetland 28 is 165 feet. Buffers would be reduced, and compensatory mitigation provided as follows:
    - Wetland 12: The majority of the wetland buffer provided to Wetland 12 would be reduced in width on average by approximately 36%. In the location of maximum reduction, the provided buffer width would be 16.4 feet and would separate the wetland from a stormwater wetland facility located east of Lot 4 in the northeast portion of Planning Area 1. Compensatory buffer for proposed buffer loss would be provided as a large block of habitat contiguous to the southern portion of Wetland 12 to provide a habitat linkage with Wetland 28 and to link large habitat areas associated to Borst Lake and the Snoqualmie River. The proposed habitat linkage would not be provided if the standard 165-foot wetland buffer width was utilized.

- Wetland 28: The buffer width provided to the north portion of Wetland 28 would represent a reduction of approximately 48% of the standard 165-foot buffer. As with Wetland 12, compensatory buffer for proposed buffer loss would be provided as a large block of habitat contiguous to the southern portion of the wetland to provide a habitat linkage with all other wetlands within Planning Area 1 and with large habitat areas associated to Borst Lake and the Snoqualmie River. The proposed habitat linkage would not be provided if the standard 165-foot wetland buffer width was utilized.

- **Buffer Averaging:** The buffer averaging provisions of SMC 19.12.090(B)(3) cannot be strictly met on a wetland-by-wetland basis. For example, the proposed buffer would reduce the buffer width by more than 25% for a majority of Wetland 12 and would reduce the buffer to a width of less than 25 feet for construction of stormwater wetland facilities in the northeast portion of the Planning Area 1. However, as discussed in the technical report "Wetlands, Wildlife, and Fisheries Assessment" prepared by Raedeke Associates, Inc. in 2020, the overall wetland buffer area would be larger than the area of standard buffer; habitat linkages would also be created between all wetlands within Phase 1 and with off-site habitat areas associated with Borst Lake and the Snoqualmie River. In addition, wetland buffer functioning would be improved through proposed enhancements and restoration, compared with current conditions.
- **Wetland Enhancement Approach and Mitigation Ratios:** Per SMC 19.12.170(J), the minimum ratio for buffer mitigation is 1:1. As demonstrated in Exhibit 3.4-8 the overall area of buffers provided in the PCI Plan for Phase 1 would be greater than the area of standard buffers (collectively), and buffer habitat conditions would be improved with enhancement and restoration plantings. With implementation of the proposed buffer restoration and enhancement plan, on-site wetland buffer functions will be provided at a higher level than if the standard wetlands buffers were applied. See the additional discussion for Planning Area 1 below.

Planning Areas 2 and 3: The existing wetland buffers within Planning Areas 2 and 3, particularly within the eastern portion of the project site, are degraded and either non-functional or poorly functioning (Goldsmith 2012a). Future development of Planning Area 3 will set aside 63 acres in the central area of the site to function as a conservation corridor devoted to passive open space, wildlife habitat, wetland mitigation and compensatory flood storage; the conservation corridor could also accommodate wide buffers for wetlands 12, 19, 20/21/22, 24, 25, 26, and 27 within that portion of the site. Additional planning and site analysis will occur in the future to determine whether alteration to wetland or stream buffers is proposed in Planning Areas 2 and 3. A site-specific analysis of development impacts and mitigation measures would occur as part of future environmental review and permitting.

Hydrologic Impacts

Based on hydrologic analysis discussed further in Section 3.3 – Water Resources, proposed development of Planning Area 1 is expected to reduce hydrologic support from surface runoff to Wetland 12NW and 12W. However, groundwater is the primary support for these wetlands' base hydrology. Thus, the expected reduction is not likely to dry out the wetlands. Therefore,

significant adverse impacts would not occur to the hydrologic functioning of Wetland 12NW and 12W from development of Planning Area 1.

Based on the hydrologic analysis by Goldsmith (2020), daily and monthly inflow volumes for Wetland 28 are expected to be reduced for most of the year. The greatest reduction would occur in the late summer. During September, the wetland is typically dry, and the greater reduction is not expected to adversely affect the wetland. Thus, for the vast majority of the year applicable criteria (King County Surface Water Design Manual Guidesheet 3B criteria) are met. Therefore, the consultant does not expect a significant change in the hydrologic regime of Wetland 28 to result from development of Planning Area 1, and no significant adverse impacts are anticipated to the hydrologic regime of Wetland 29 from development of Planning Area 1.

Wetland 29 is directly downstream from Wetland 28, which is the primary source of hydrologic support for Wetland 29. Adverse hydrologic impacts would not occur to that wetland so long as the developed conditions hydrologic regime for Wetland 28 is not significantly impacted. As noted above, the conditions within Wetland 28 are not expected to change substantially.

Planning Areas 2 and 3 are not yet planned at a level of detail sufficient to determine what areas would drain to which wetland. They would be planned and analyzed, similar to Planning Area 1, at the time of development application and further environmental review for Planning Areas 2 and 3. However, the analysis of Planning Area 1 has shown that hydrologic impacts to on-site wetlands can be minimized to acceptable levels.

Water Quality Impacts

In general, potential impacts to wetlands and streams could result from construction and operation of the PCI Plan. The Master Drainage Plan (MDP), which is designed to meet the 2016 King County Surface Water Design Manual (KCSWDM), is anticipated to mitigate potential impacts to water quality from proposed development.

In general, potential water quality impacts from the treated stormwater within Planning Area 1 that will be discharged into the Snoqualmie River at this location would be predominately related to warmer temperatures of stormwater runoff from developed surfaces compared with river temperatures. However, given the relatively small volume of runoff compared with flow volumes in the river, changes in water temperatures within the river are not expected to be of any consequence to aquatic life. With respect to other water quality impacts, proposed on-site treatment will reduce stormwater pollutants to levels that are not expected to impact local or fish habitat conditions in the Snoqualmie River.

Stormwater runoff from the Wetland 12 sub-basin on site (within Planning Area 1) would be routed through constructed wetland facilities prior to discharge to the Wetland 12 ditch, which flows into Borst Lake, which in turn overflows into the Snoqualmie River. With the water quality treatment provided in the constructed wetland areas prior to discharge, no adverse impacts to water quality are expected within the Wetland 12 ditch, Borst Lake, or the Snoqualmie River related to treated stormwater from the Snoqualmie Mill site.

Indirect impacts to Streams 1 or 2 also could result from construction activities that suspend

dust or cause loose soil surfaces that may runoff during storm events. Proper implementation of site BMPs and TESC measures during construction would be expected to minimize the potential for adverse impacts to receiving waters.

It is assumed that all development within Planning Areas 2 and 3 would require enhanced stormwater water quality treatment. Using the same concept as for Planning Area 1, stormwater wetlands constructed in or near wetland buffers and discharging to the main wetland system in targeted locations would provide sufficient hydrology to the system broadly (Goldsmith 2020). PCI Plan information for Planning Areas 2 and 3 is conceptual at this time and does not define a detailed site plan configuration or building footprints. Therefore, the locations of stormwater wetlands cannot be identified with specificity but would be planned and analyzed at the time of application and further environmental review. However, the analysis of Planning Area 1 indicates that protection of the wetlands from water quality and erosion/sedimentation impacts is achievable. Chapter 2 and several other sections of the DEIS (see Water Resources, Utilities and the Master Drainage Plan technical appendix), describe elements of the proposed PCI plan that integrate future development with approaches to manage stormwater, protect wetlands, streams, habitat and water quality, and reduce flooding. Elements of the proposal that implement this approach – generally referred to as Low Impact Development (LID) or Green Infrastructure – include:

- Retention of almost two-thirds of the overall site as open space;
- Avoidance of impacts to wetland and stream resources, and enhancement of currently degraded wetland and stream buffers;
- Use of constructed wetlands, biofiltration and basic treatment, and dispersion of stormwater prior to discharge;
- Retention of a large natural open space corridor in the center of the site that will function as a wildlife corridor;
- Grading to create stormwater wetlands and compensatory flood storage in the central open space corridor.

This integrated approach is anticipated to minimize potential water quality impacts and water temperature increases to the Snoqualmie River. Additional analyses of water quality and temperature will occur when the stormwater outfall has been designed and required state and federal permits are applied for.

See additional discussion of stormwater quality under Impacts to Wildlife.

Loss and Degradation of Habitat

Redevelopment of the site and accompanying urbanization will affect the existing plant and animal communities in three ways: (1) direct changes in and loss of the habitats available; (2) increase in human use and disturbance associated with roads; and (3) potential for changes in the hydrologic characteristics of the site, with potential for impacts to wetland and riparian communities (both plants and animals).

Urbanization is a process of habitat alteration that changes the characteristics of the plant communities and the habitat available for wildlife. The major features of urbanization include loss of vegetation, isolation or fragmentation of remaining vegetation patches, replacement of native vegetation with ornamental species, removal of snags and downed logs, potential for increase in the use of pesticides, insecticides, and herbicides, the presence of "super" predators (domestic dogs and cats), and increased noise and other disturbance factors (Thomas et al. 1974, Penland 1984, Adams et al. 1985).

Impacts to Vegetation

PCI Plan development would remove existing vegetation on approximately 35% of Planning Area 1 and convert it to buildings and other impervious surfaces. All of the area to be developed would be located on young forest, shrub, and herbaceous upland vegetation that has developed on old fill material that was deposited when the lumber mill was active. However, some of these areas occur as sedge and grass meadows that incur seasonal ponding, but which otherwise were determined not to meet criteria as regulated wetlands. No wetlands would be directly impacted within Planning Area 1.

Approximately 68% of Planning Area 1 would be retained as open space, most of which would remain as "natural" open space. Over half of the native open space retained within Planning Area 1 occurs as Wetland 11, located north of the existing haul road. The remainder encompasses wetland and retained buffer areas around the perimeter of Planning Area 1. The proposed plan would involve temporary impacts to wetland buffers to re-grade and revegetate portions of disturbed areas with native forest plantings; some permanent buffer impacts would also occur and are discussed further in the Wetlands subsection below.

Development of Planning Area 1 would increase the degree of fragmentation of existing developing habitats in this portion of the site by removing existing native and non-native vegetation; the retained wetlands and associated buffers would become "edge habitat", located adjacent to areas of formal landscaping and other constructed features. Small portions (5.8%) of Planning Area 1 would be vegetated with more formal landscaping (lawns and planting strips). The increased habitat fragmentation and formal landscaping within Planning Area 1 could increase the risk of spread of invasive plant species within the "natural" open space areas. However, the existing habitats within Planning Area 1, including wetlands and buffer areas, already harbor significant amounts of invasive species, including Himalayan blackberry, Scotch broom, reed canarygrass, and others. The proposed grading and revegetation of buffer areas is intended, in part, to remove existing areas of invasive species and replace them with a mixture of native tree and shrub species.

It should be noted that existing uses in Planning Areas 2 and 3 would continue until these areas are developed. This includes the equipment and landscape materials storage, and particularly operation of the DirtFish Rally School. In addition, the Rally School roads would be incrementally displaced and reconfigured. As noted in Chapter 2, any reconfigurations of the track would be independent actions proposed by DirtFish and would be subject to separate permitting and review by the City, so future track locations are speculative at this time.

Development of Planning Areas 2 and 3 over time would result in conversion of nearly 40% of Planning Area 2 and 39% of Planning Area 3 to a mixture of commercial and industrial uses. Within both Planning Areas, most of the area that would be developed to a mixture of uses currently consists of buildings, pavement, gravel, and other features that either remain from past uses or are currently used as noted above.

Just over 60% of Planning Area 2 and approximately 61% of Planning Area 3 would be retained as open space, most of which would be natural open space. Within Planning Area 2, the open space would center on the existing wetlands and their buffers. Within Planning Area 3, the planned open space includes wetlands/ditches and their buffers, as well as the area within the regulatory floodway in the southwestern part of the site. The latter is contiguous with retained open space within Planning Area 1 and would form a large corridor of native open space.

Upon development of Planning Area 2 or 3, portions of the open space area within the floodway of the Snoqualmie River would be cleared of vegetation (resulting in temporary loss of both native vegetation and invasive species), graded down to provide flood storage compensation, and revegetated with native plantings to provide enhanced native wetland and upland habitat over time. This would establish a substantial area of contiguous open space among wetlands in this part of the site adjacent to off-site habitats that, with proposed enhancements, would provide a variety of habitat and avenues of movement for wildlife.

Impacts to Aquatic and Fish Habitat

In general, direct impacts to streams and aquatic environments can result where construction activities occur within the stream channels below ordinary high water. No direct impacts to streams and aquatic environments are expected for the proposed PCI Plan, either within Planning Area 1 or within Planning Areas 2 and 3. Direct impacts within the OHWM of the Snoqualmie River would be avoided. See the additional discussion of impacts to buffers in the Planning Area 1 subsection below.

Impacts to Wildlife

Direct Alteration

Direct alteration of (reduction to) the distribution, composition, and amount of native vegetation resulting from the Proposal would also affect the distribution and composition of wildlife populations on the property. In addition, indirect impacts to unaltered habitat retained on-site would make it less suitable for some species of wildlife currently inhabiting the site.

Within Planning Area 1, the development would generally impact relatively young vegetation communities that are developing on old fill material, including forest, shrub, and field habitats. This would eliminate habitats for a variety of birds, mammals, reptiles, and amphibians adapted to these communities. In particular, this would remove some habitats in the western part of the site used by elk for foraging and resting cover. It would also remove some of the non-wetland sedge meadows that are used by amphibians such as chorus frogs in the early spring. Elimination of these habitat areas would likely reduce the local populations of a variety of wildlife species that inhabit these areas under current conditions. However, all of the wetland

areas within Planning Area 1, including the large Wetland 11 north of the existing haul road, would be retained as open space.

Wildlife movements among available habitats would be incrementally affected by the construction of each phase of the development, compared with the pre-development conditions. Under current conditions within undeveloped areas, animals can move among habitat patches relatively freely, even across open fields, except as influenced by disturbance from existing human activities (e.g., rally car activities, truck traffic on haul roads, and pickup and delivery of materials on site) or limitations on species that may be averse to moving or dispersing across non-forest patches. In contrast, after development movements of many wildlife species would be funneled through remaining natural open spaces of variable width and function.

Until development of Planning Areas 2 and 3, ongoing uses within those areas would continue. As noted above, the DirtFish Rally School tracks would be re-routed in increments and could potentially be expanded further into the southwestern part of Planning Area 3; while theoretically possible, the future locations of reconfigured portions of the track are speculative and are not within the applicant's control. Development of Planning Area 1, together with ongoing activity and uses in other Planning Areas would partially restrict on-site avenues of movement for wildlife between Borst Lake to the south and wetland and upland habitats to the north of the existing haul road. In addition, the increased human activity on site from new development in Planning Area 1 may further reduce the suitability of the retained habitats for some species, especially during construction. In particular, during periods of heavy activity elk use of the site during daytime hours would be restricted to relatively small areas of retained open space within Planning Area 1 and adjacent to Borst Lake, and they may no longer find adequate refuge habitat on site during daytime hours of heavy activity. Elk would continue to use the forested habitat adjacent to the site, between the Snoqualmie River and Mill Pond Road. Elk could also continue to use portions of the site occupied by existing uses during periods of lower human activity (e.g., overnight).

Development of Planning Areas 2 and 3 over time would gradually eliminate the current human uses on the site, including DirtFish activities. Development of these areas would largely impact relatively unvegetated areas (mostly buildings and hard surfaces), retaining the wetlands and buffers with more developed vegetation. Thus, development of Planning Areas 2 and 3 would have relatively little adverse impact on wildlife habitat within these portions of the property. Upon development of Planning Area 3, the DirtFish Rally School activities would cease, as grading in the southern portions of the site would be required to provide flood storage compensation; thereafter the open space retained in this area would form a wide habitat corridor to provide improved avenues of movement between off-site habitats to the south (e.g., Borst Lake) and to the north.

Noise Impacts

In general, the primary reasons for potential concern regarding noise impacts to wildlife include the potential for: (1) hearing damage; (2) distraction or a flush response leading to increased susceptibility to depredation or abandonment of young; and (3) the potential for increased stress levels, leading to increased likelihood of starvation or disease.

Much of the available literature regarding the effect of noise to wildlife specifically studies the impact of loud noise, and particularly that of aircraft and other military operations (see reviews in Larkin et al. 1996, Pepper et al. 2003, and Krausman et al. 2004). Wildlife responses to noise appear to vary by the type and source of noise, and vary not only among species, but also by individuals within species (e.g., Shannon et al. 2016, Stankovich 2008). In terms of behavioral responses, some species such as caribou (*Rangifer tarandus*) appear to be somewhat sensitive to aircraft overflights, whereas other species such as mule deer (*Odocoileus hemionus*) and Sonoran pronghorn (*Antilocapra americana sonoriensis*) appear to habituate or are otherwise found to be unaffected by loud noise (Weisenberger et al. 1996; Pepper et al. 2003; Krausman et al. 2004). However, animals may also exhibit changes in behavioral patterns or habitat use in relation to anthropogenic noise sources (Kuck et al. 1985). In addition, it has been documented that heart rates in wildlife may increase in response to loud noise, but that these rates returned to normal in 60 to 180 seconds (Weisenberger et al. 1996).

Given the existing on-going human activities on the site and immediate vicinity, most notably activities and noise associated with the DirtFish Rally School and heavy sand and gravel truck traffic on the existing haul road off site, development of the site under the Proposal is not expected to increase ambient noise levels significantly; refer to Section 3.12 – Noise, of the Draft EIS. In the short term, for development of Planning Area 1, construction activity would increase noise and disturbance to retained habitats, and current activities would continue in Planning Areas 2 and 3. In addition to habitat removal, the increased noise and activity, particularly during construction, would displace some wildlife, and may render some areas less suitable for breeding, feeding or movement among habitats. Thus, overall noise and activity on the site with the potential to disturb wildlife would increase, particularly during construction, compared with existing conditions. Large mammals such as elk would likely continue to avoid the rally car tracks and haul roads during periods of heavy activity as they do under current conditions. During development of Planning Area 1, prior to development of Planning Areas 2 and 3, on-site areas to which the animals can retreat during daylight hours would be reduced substantially, compared with current conditions.

This pattern would continue until development of Planning Areas 2 (approximately 2026) or 3 (by 2032). Development of Planning Area 3 and the provision of additional compensatory flood storage would displace the DirtFish Rally School activities; levels of on-site noise and disturbance would be reduced compared with current conditions. Completion of development of the site would establish the large habitat corridor in the west-central part of the site.

Impacts to Endangered, Threatened, Sensitive, or other Priority Species

No endangered, threatened, or sensitive plant species are known or likely to occur in the project area. Consequently, development of the Proposal would not adversely impact such species. Similarly, development of the site is not expected to affect endangered, threatened, or sensitive animal species, as none are expected to occur there.

Development of Planning Area 1 would eliminate existing vegetation and elk habitat in an area highly used by elk in the far western corner of the property south of the existing haul road. It would, however, retain much of the vegetated areas that are most used by elk in the

southwestern part of the site. This would include the wetlands and their buffers, and the area along the western and southern edges of the property. Development of Planning Area 1 would result in similar levels of disturbance to the elk, including rally car activities, to which the elk are now habituated, but with less refuge habitat on site. Upon development of Planning Area 3, the large habitat corridor established in the west-central portion of the site would extend through the site between Borst Lake and the existing haul road.

Floodplain Habitat Impacts

Under the National Marine Fisheries Service (NMFS 2008) biological opinion on implementation of the National Flood Insurance Program (NFIP), development within the regulatory floodplain must protect fish habitat function and flood storage within the 100-year floodplain and mitigate for indirect effects of development in the floodplain. A FEMA Habitat Assessment providing detailed analysis of direct and indirect impacts to floodplain habitat will be prepared as part of subsequent development permitting when specific engineering designs are available.

The project site lies entirely within the 100-year floodplain. Preliminary engineering estimates indicate that approximately 400,000 cubic yards (cy) of displacement (fill) could occur, and an equal volume of compensating storage will be created to ensure no increase in flooding. Development would be conducted consistent with development guidelines for construction within the floodplain. The site will be graded to result in no net rise in the base flood elevation, with new distributions of sub-basins draining stormwater to the Snoqualmie River and to Borst Lake, and new distributions of impervious areas.

No listed salmonid species exist in the Snoqualmie River adjacent to the site (above the Snoqualmie Falls), so any potential impacts to the floodplain from the project on listed salmonids would occur as a result of transmission of any effects downstream to below the falls; however, as discussed further below, these will be minimized or otherwise mitigated by design measures and compensatory habitat enhancement.

Stormwater

The projected net increase in impervious area and related stormwater runoff over the entire site is approximately 18 acres (Goldsmith 2020). Compared to existing conditions, impervious area would increase in Planning Area 1 but would decrease in Planning Areas 2 and 3.

Changes in stormwater runoff within Planning Area 1 compared to existing conditions are related to creation of new treated stormwater runoff from new impervious areas and related to creation of new sub-basin boundaries different from existing conditions. These differing sub-basin conditions will result in a new stormwater outfall into the shoreline of the Snoqualmie River, rather than most of the existing stormwater runoff flowing south to Borst Lake under existing conditions.

Stormwater from the proposed new development in Planning Area 1 will be collected and treated prior to discharge to the Snoqualmie River or to the Stream 2 drainage system discharging to Borst Lake. The Snoqualmie River is exempt from water quantity control. Treatment of stormwater will follow Basic and Enhanced Treatment per the KCSWDM (2016).

This treatment proposes to include biofiltration facilities, proprietary water quality treatment devices, and treatment stormwater wetlands followed by overland flow though vegetated buffers to natural wetlands. The result of these new treatment systems is expected to improve water quality discharged from the site to the Snoqualmie River and Borst Lake respectively compared to existing conditions.

Riparian Vegetation

As discussed above, development of the site under the Proposal would remove existing vegetation on approximately 33% of Planning Area 1 and convert it to buildings and other impervious surfaces. All of the area to be developed would be located on young forest, shrub, and herbaceous upland vegetation that has developed on old fill material. The remainder would be retained as native open space, primarily as wetland (the largest of which is Wetland 11) or as wetland buffer. The proposed plan also includes temporary impacts to wetland buffers to re-grade portions and revegetate those areas with native forest plantings, as well as some permanent buffer impacts.

More than 60% of Planning Areas 2 and 3 would be retained as open space, most of which would be natural open space. Within Planning Area 2, the open space centers on the existing wetlands and their buffers. Within Planning Area 3, the retained open space includes wetlands/ditches and their buffers, as well as the area within the regulatory floodway in the southwestern part of the site. The latter is contiguous with retained open space within Planning Area 1 and would form a large corridor of native open space. After re-grading to provide flood storage compensation, this habitat corridor in the central part of the site would be re-vegetated with native forest plantings that would improve habitat conditions within the floodplain over the long term, with improved potential large woody debris (LWD) recruitment.

Bank Stability

As the site will be graded to result in no net rise of the 100-year floodplain, no new flood or flow conditions along the Snoqualmie River are expected to occur that could affect bank stability. The entire river frontage along the project is a heavily riprapped revetment (an engineered sloping structure placed on the banks of rivers to absorb energy).

In addition, the existing SE Mill Pond Road lies adjacent to the Snoqualmie River shoreline. The portion of the road adjacent to Planning Area 1 is proposed to be reconstructed farther from the shoreline, with the existing roadbed decommissioned and restored to riparian vegetation.

The only project element that could potentially affect localized bank stability is the proposed new stormwater outfall located on the river right bank draining the new stormwater sub-basin from Planning Area 1. The outfall has not been designed at this time and therefore cannot be evaluated in detail. Future review of this outfall during subsequent development permitting, when a specific engineering design is proposed, will need to include analysis of bank stability to ensure that any potential effect on local bed or bank erosion has been addressed.

Channel Migration

The channel migration zone identified by King County (2018) iMap indicates the migration zone

lies partially within Planning Area 1. However, the heavily reinforced shoreline here prevents migration. The proposed project will not affect the stability of the river channel to migrate. (See Section 3.3 – Water Resources and Appendix B.)

Hyporheic Zones

Hyporheic zones are regions of sediment and porous space beneath and alongside a stream bed where there is a mixing of groundwater and surface water. Shallow and near-surface groundwater in the vicinity is primarily influenced by upstream sources of groundwater passing through permeable soils from the plateaus to the east (AESI 2020). Construction of the project will not impede existing groundwater flow conditions. Some changes in localized infiltration may occur but these are not expected to contribute significant levels of new groundwater (AESI 2020). Any hyporheic contributions to the Snoqualmie River and the ecological benefits they provide are not expected to be changed from construction of the project.

Wetlands

The Proposal would avoid direct impacts to wetlands within the project site, including within Planning Area 1. As discussed above, the proposal includes enhancements to degraded wetland buffers to improve buffer functioning with respect to water quality and habitat conditions.

Large Woody Debris (LWD)

Only limited areas of vegetation dominated by tree cover occur within the project site. These forested areas contain only limited amounts of woody debris, and most is rather small, as most of the areas include only very young, developing forest. Moreover, the areas of greatest potential for recruitment of LWD to the river are located closest to the river channel southwest of SE Mill Pond Road (i.e., off site); these areas include the largest trees and more well-developed forest patches. To the extent that wetland buffers include developing forest that will be retained, potential recruitment of LWD from existing standing trees will be maintained. In addition, the proposed wetland buffer enhancements with native forest plantings will provide additional potential future recruitment over the long term.

Planning Area 1

Summary of Impacts

The above analyses of the PCI Plan identify impacts in Planning Area 1 cumulatively with impacts associated with Planning Areas 2 and 3. That evaluation also compares differences in impacts in the three areas. The following discussion summarizes the impacts of developing Planning Area 1 by itself and provides additional detail about the proposed wetland buffer restoration and enhancement plan. In summary, development within Planning Area 1 would cause or achieve the following:

- Avoid physical alteration of wetlands and streams;
- Reduce wetland buffers in some locations but offset impacts to existing degraded buffers through buffer restoration or enhancement. This plan is described further below.;

- Alter wetland hydrology to a limited and insignificant degree as described previously for the PCI Proposal. Wetland hydrology and water quality would not be significantly affected;[15]
- Discharge a relatively small volume of slightly warmer runoff water into the Snoqualmie River, which is not expected to adversely affect aquatic life in view of the volume of water in the river;
- Avoid other water quality impacts; proposed on-site treatment would reduce stormwater pollutants to levels that are not expected to impact local conditions in the Snoqualmie River or fish habitat conditions therein;
- Impact relatively young vegetation communities that are developing on old fill material, including forest, shrub, and field habitats, eliminating habitats for a variety of birds, mammals, reptiles, and amphibians adapted to these communities;
- Avoid impacts to endangered, threatened, or sensitive plant or animal species, as none are identified or expected to occur; and
- Eliminate existing vegetation and elk habitat in an area highly used by elk in the far western corner of the property south of the existing haul road. However, development of Planning Area 1 would retain much of the vegetated areas that are most used by elk in the southwestern part of the site.

See the discussion of the PCI Plan above for greater detail on these subjects. Additional evaluation of Planning Area 1 buffer impacts and mitigation is provided below.

Impacts to Buffers

Modification of wetland buffer widths for Planning Area 1 pursuant to a buffer restoration and enhancement plan is an element of the Proposal and is discussed further below; this flexibility is permitted by the PCI zoning district regulations. Buffer impacts are not regulated by the US Army Corps of Engineers or Department of Ecology. Development of Planning Area 1 will result in direct impacts to the standard buffers required by adopted regulations (SMC 19.12) for Wetlands 12 and 28 and are proposed to be mitigated pursuant this plan.

Existing buffers for all wetlands within Planning Area 1 are degraded at varying levels and it is unlikely that the onsite wetland buffers within Planning Area 1 or the off-site buffer for the right bank of the Snoqualmie River in the vicinity of the proposed road re-alignment provide more than a range of de minimis to low levels of protection of water quality or habitat functions to onsite wetlands or the Snoqualmie River.

[15] The MDP does not meet requirements of Guide Sheet 3b of the KCSWDM for Wetland 12. Raedeke determined that the Guide Sheet 3b criteria are not appropriate for assessment of Wetland 12 hydrologic impacts due to the substantial year-round contribution of groundwater to that wetland, and that a significant adverse impact is not anticipated to occur to the hydrologic functioning of that wetland.

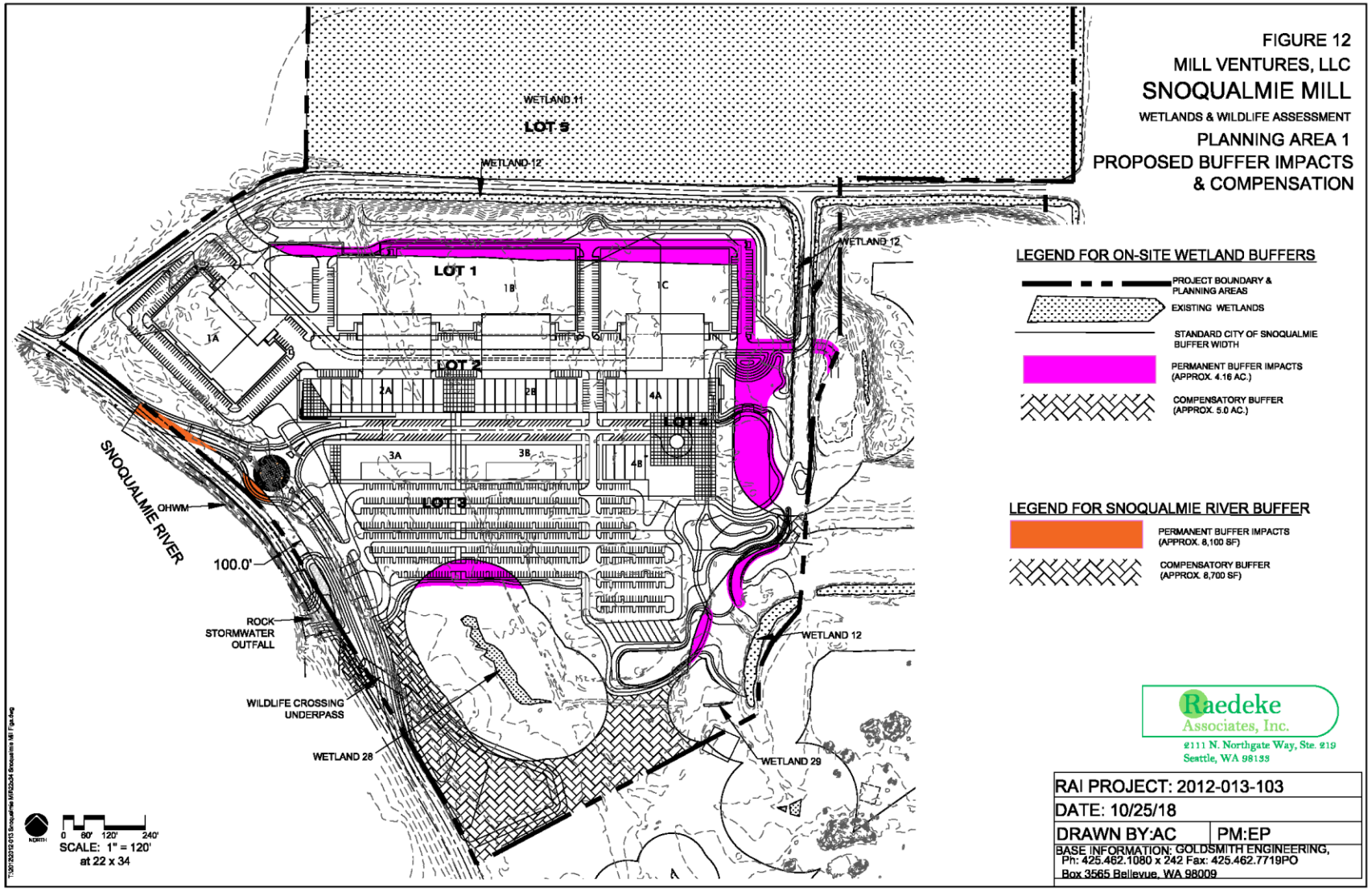
Exhibit 3.4-8. Wetland and River Buffer Impacts and Mitigation

Location/Condition	Approximate Area
Project Site Wetlands	Acres
Permanent Buffer Impacts	-4.16
Additional Buffer	+5.0
Buffer Enhancement	+2.7
Buffer Restoration	+15.1
Snoqualmie River Buffer	Square Feet
Permanent Buffer Impacts	-8,100
Additional Buffer	+8,700
Buffer Restoration	+75,130

Source: Raedeke, 2020.

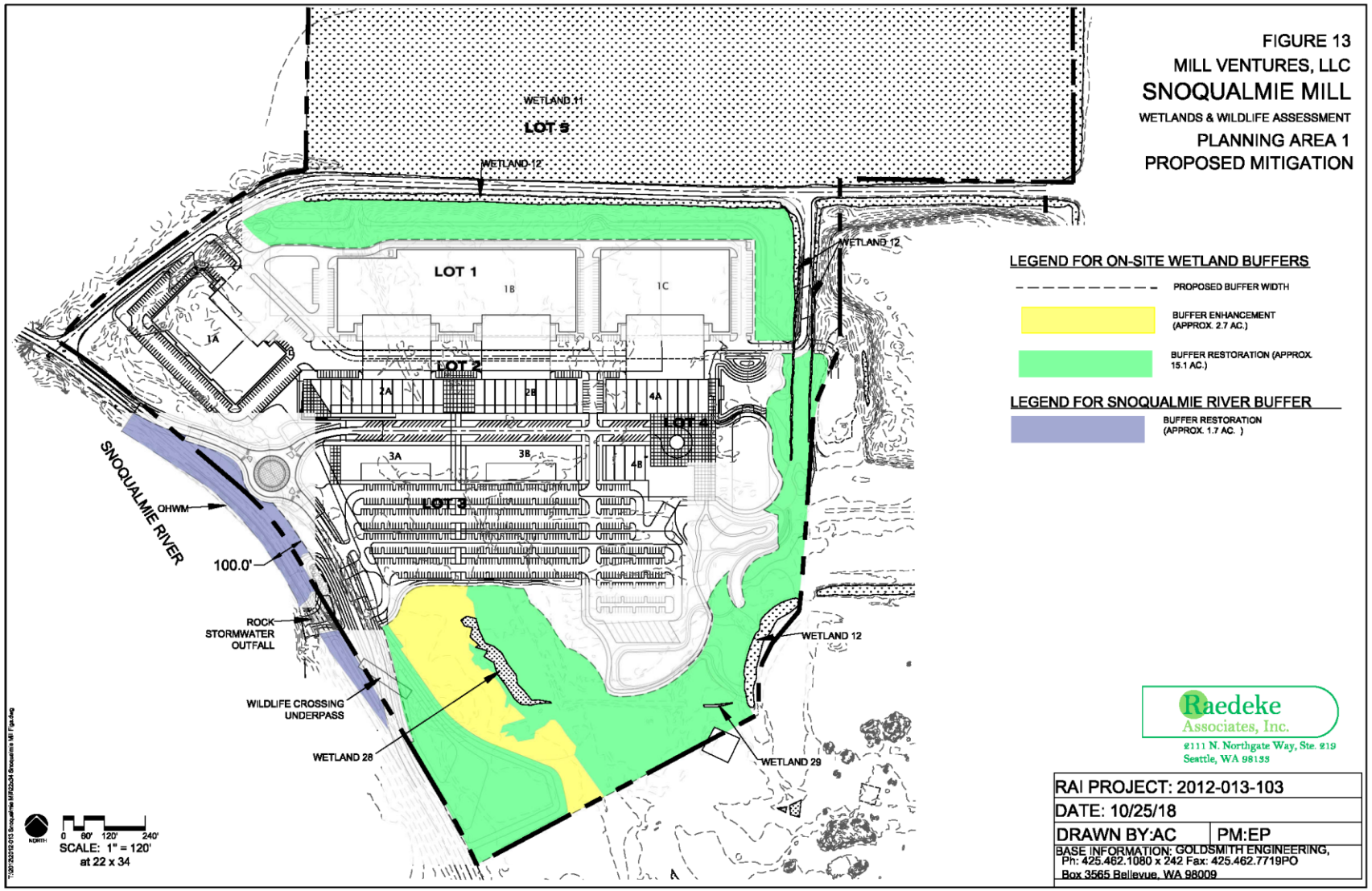
A total of approximately 17.8 acres of upland buffer is provided to the on-site wetlands in Planning Area 1 pursuant to the proposed restoration and enhancement plan. This represents approximately 0.83 acres of additional buffer area compared to what would be provided if the standard wetland buffers specified under SMC Table 19.12.170-1 were applied. The plan would provide wetland buffers that average approximately 175 feet in width within Planning Area 1 overall. Buffers would be wider for some wetlands and smaller for others. See Exhibit 3.4-9 and Exhibit 3.4-10.

Exhibit 3.4-9. Planning Area 1 Buffer Impacts and Compensation



Source: Raedeke 2020.

Exhibit 3.4-10. Planning Area 1 Buffer Enhancement and Restoration



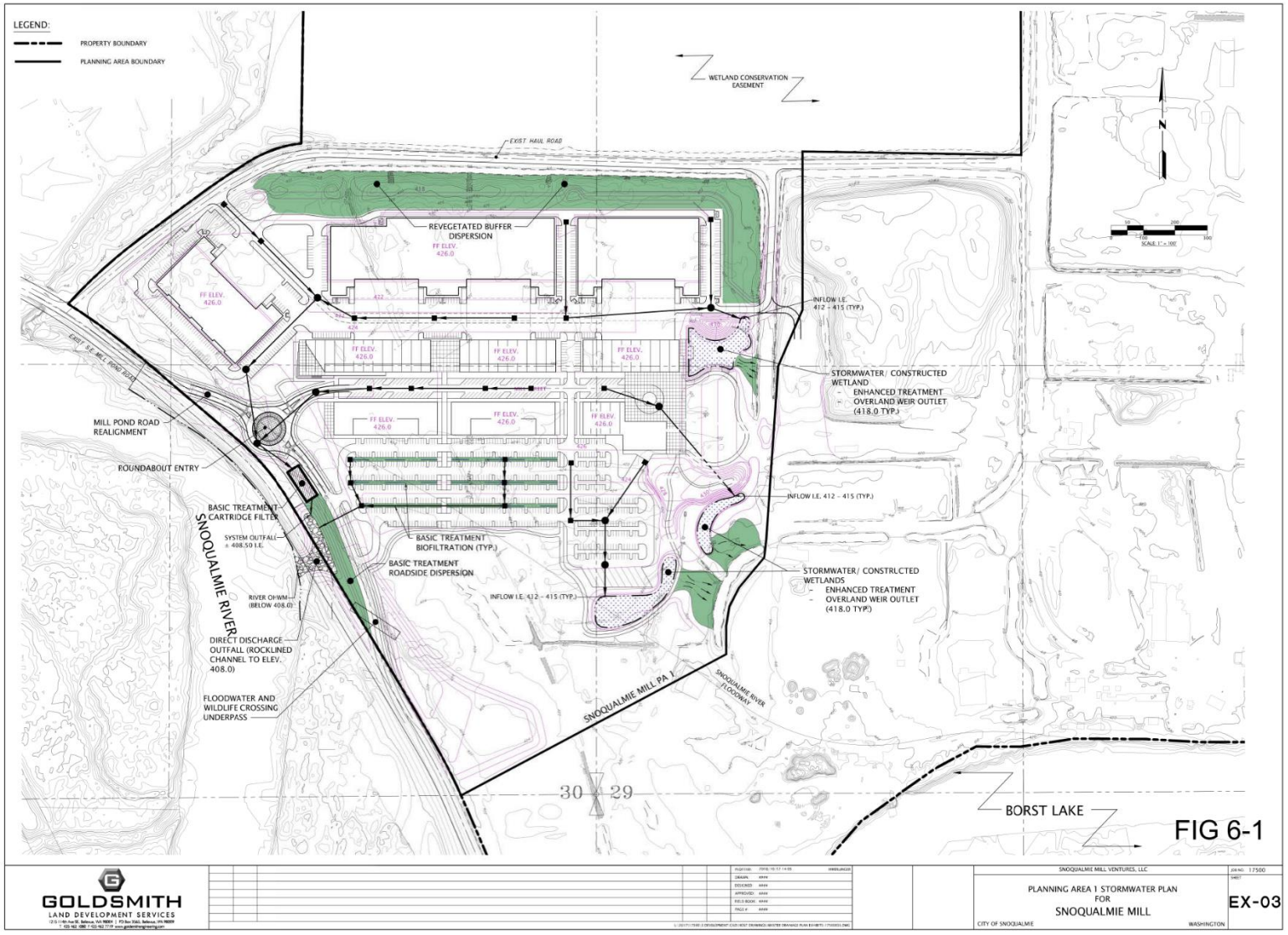
Source: Raedeke 2020.

In addition to greater area, implementation of the proposed buffer restoration and enhancement plan, will provide a higher level of on-site wetland buffer functions than if the standard wetlands buffers were applied, providing better protection to the wetlands. Therefore, development of Planning Area 1 would not result in significant adverse impacts to the on-site wetlands or the Snoqualmie River if the buffer restoration and enhancement plan is implemented.

Direct impacts will occur to the stream buffer of the Snoqualmie River where a new stormwater outfall is planned to carry stormwater from the new stormwater collection system in the north and west portions of Planning Area 1. These impacts will occur where the outfall of the stormwater system passes through a constructed rock and soft shoreline channel in the riparian and stream environments immediately above the ordinary high-water line of the Snoqualmie River (see Exhibit 3.4-9 and Exhibit 3.4-11). Some loss of existing vegetation along SE Mill Pond Road in the vicinity of the outfall will occur; however, most of the portion of the buffer that will be impacted is within existing paved area and shoulder for SE Mill Pond Road.

All on-site wetland buffers and the buffer for the right bank of the Snoqualmie River in the vicinity of the re-alignment of SE Mill Pond Road would be either restored or enhanced.

Exhibit 3.4-11. Planning Area 1 Stormwater Plan



Source: Raedeke 2012.

Indirect and Cumulative Impacts

Indirect or secondary impacts of development onsite from greater human use are addressed in this section above, such as noise effects on wildlife and downstream water quality.

Development of the site could contribute to cumulative loss of native vegetation and construction of impervious surfaces in the city of Snoqualmie, as the site and other sites are developed to accommodate planned growth per the City's Comprehensive Plan. The Proposal's cumulative contribution to water quality impacts can be minimized through the implementation of the Master Drainage Plan and erosion/sediment control measures. With wetland buffer enhancement above minimum replacement ratios, there could be a net improvement in buffer conditions; thus contributions to cumulative wetland buffer degradation are not anticipated.

Within the city and its UGA, it is expected that land would become more urbanized. The Proposal site has historically been used intensively as a mill. The transition to a mixed-use employment center with greater buildings and impervious area could cumulatively contribute to a reduction of wildlife habitat and a transition to species more adapted to urban development in the city and its UGA. The Proposal's contribution to cumulative impacts is partially offset by an onsite wildlife corridor.

Alternatives

Redevelopment Alternative

PCI Plan

The Redevelopment Alternative would involve development of the site in three phases as with the Proposed PCI Plan. Building layout, open space and building/impervious site coverage would be comparable to the Proposal, as well. The PCI Plan MDP and buffer restoration plan would also apply to the Redevelopment Alternative comparable to the PCI Plan. Differences in land use include more warehouse, less residential and retail, no office uses, and the addition of an outdoor performance space (in Planning Area 3). These changes are described in Chapter 2 of the Draft EIS.

Wetlands and Streams

As under the Proposal, the Redevelopment Alternative would avoid direct physical alteration to all identified City-jurisdictional wetlands and streams by retaining them within native open space tracts that include their buffers. Likewise, should future development plans for Planning Areas 2 and 3 include altering existing jurisdictional wetlands or their buffers, additional environmental review would be required to evaluate impacts and develop appropriate mitigation measures.

The Redevelopment Alternative would be developed under essentially the same MDP system and requirements as under the Proposal. Thus, no significant hydrologic impacts to on-site wetlands are anticipated.

With a similar level of development and footprint as under the Proposal, the consultant expects comparable implementation of best management practices and TESC measures to limit potential for sedimentation and water quality impacts to wetlands and streams. With a similar level of development as under the Proposal, this alternative has the same potential for water quality impacts to on-site and downstream wetlands and the Snoqualmie River. Therefore, as under the Proposal, no significant adverse wetlands or streams area anticipated under the Redevelopment Alternative.

Vegetation, Fish, and Wildlife

Impacts on Vegetation

Overall, the Redevelopment Alternative would have generally comparable impacts on vegetation communities as the Proposed PCI Plan. Essentially the same areas of the site and the same vegetation communities would be impacted under this alternative. The Redevelopment Alternative would comparable areas of open space within individual Planning Areas compared to the Proposal. With a comparable area of development, there would be no direct wetland impacts and comparable impacts to wetland buffers within Planning Area 1. The Redevelopment Alternative is expected to result in similar levels of habitat fragmentation as the Proposal, along with potential for spread of invasive species, with similar removal of existing areas of invasive species and revegetation with plantings of native trees, shrubs, and ground covers to enhance buffer areas.

With generally comparable areas of development within Planning Areas 2 and 3, essentially the same impacts to vegetation communities are expected under the Redevelopment Alternative, compared to the Proposal. As with the Proposal, retained open space within these planning areas would center on wetlands and their buffers. There would be similar clearing and grading within the floodway portion of Planning Area 3 to provide flood storage compensation and habitat enhancement as under the Proposal.

Impacts on Aquatic and Fish Habitat

Assuming a comparable overall building footprint and similar stormwater management plan, Alternative 1 would result in similar impacts to aquatic and fish habitats as with the Proposal.

Impacts on Wildlife

With comparable removal and retention of existing habitats as under the Proposal, the Redevelopment Alternative would result in essentially the same impacts to wildlife habitat. This would result in similar reduction of local populations of wildlife species currently using the site, particularly within Planning Area 1. The Redevelopment Alternative would reduce a comparable area of refuge habitat for elk and other animals within Planning Area 1 as under the Proposal and similarly restrict movements during periods of heavy activity to retained habitats, such as wetland buffers. Prior to development of Planning Areas 2 and 3, existing uses on the site would continue, as under the Proposal, with comparable impacts on wildlife habitat and use patterns.

As with the Proposal, development of Planning Areas 2 and/or 3 would similarly primarily impact previously developed areas (mostly existing buildings and hard surfaces) retaining existing wetlands and buffers. Existing uses such as the DirtFish Rally School would cease, and a large open space corridor through the central part of the site would be established after grading to provide compensatory flood storage and enhancement via revegetation with native plantings.

Development of Planning Areas 1 and 2 under this alternative, prior to development of Planning Area 3, would have similar impacts to wildlife habitats and wildlife use of the site with respect to noise disturbance and human activity as under the Proposal. With fewer employees on site, disturbance impacts from these uses could be slightly less than under the Proposal. However, under this alternative, Planning Area 3 includes an outdoor performance space encompassing approximately 3.7 acres with capacity for 5,000 people. On nights when this space is being used (assumed to occur at least two times per week during summer months), this would substantially increase noise and lighting impacts on adjoining wildlife habitats during evening hours, compared with the Proposal. Animals may be forced to avoid portions of the site during and around these activities. This would likely diminish the suitability of retained refuge habitat and avenues of movement on site more than under the Proposal, particularly near the facilities and along access roads, during and before and after these activities.

As with the Proposal, development of the site under the Redevelopment Alternative is not expected to adversely affect endangered, threatened, or sensitive plant or animal species, as none are known or expected to occur there. With respect to elk habitat use, the Redevelopment Alternative is expected to have comparable impacts through development of Planning Areas 1 and 2, with loss of some existing refuge habitat and continued disturbance from the rally car activities until development of Planning Area 2. Upon development of Planning Area 3, this alternative would result in additional noise and light disturbance during use of the outdoor performance space, compared with the Proposal.

Planning Area 1

The Redevelopment Alternative assumes a footprint and type of development in Planning Area 1 similar to the Proposal, and impacts are also expected to be similar. Given fewer residential units and fewer jobs compared to the Proposal, there may be an incrementally smaller level of human activity; however, the effect of increased human use on plants and animals is anticipated to be comparable among the two alternatives.

No Action Alternative

Under the No Action alternative, no redevelopment would occur, and existing uses would continue on the site. These would likely include equipment storage, soil management, special event parking, and the DirtFish Rally School activities. Improvements to stormwater management would not be implemented, nor would buffer restoration and enhancement of existing degraded buffers that are present throughout the site.

Wetlands and Streams

No direct impacts to regulated wetlands and watercourses or their functional buffers would occur under the No Action Alternative, and existing wetland hydrologic regimes would be maintained. Current levels of sedimentation and other water quality impacts to onsite wetlands and streams from existing equipment and landscape materials storage and operation of the DirtFish Rally School of the site would continue.

Vegetation, Fish, and Wildlife

No designated open space tracts, such as that envisioned in the Proposal or Redevelopment Alternative, would be established. Vegetation communities in unused portions of the site, such as those forest, shrub, and herbaceous areas within the shoreline management zone, would continue to develop over time, likely resulting in additional forest cover. However, no vegetation enhancements, such as those proposed under the PCI Plan, would occur, and some areas of existing hardscapes or heavily used areas on site would remain and would not likely develop significant vegetative cover over time.

Under the No Action Alternative, no substantial changes to aquatic and fish habitats are expected, as existing uses would continue. Wildlife would continue to use the site as they do under current conditions, in the context of ongoing uses on site and in the vicinity, including DirtFish rally car activities, other activities in the northeastern part of the site, as well as the truck traffic on the existing haul road. Species such as elk would continue to utilize portions of the site in ways that avoid areas and periods of heavy activity, as they do currently. Under the No Action Alternative, the elk population would remain stable or even increase over the immediate future with existing uses, depending on hunter elk harvests off-site.

3.4.3. Mitigation Measures

Incorporated Features of Proposal

Avoidance of Impacts

The Proposed PCI Plan would avoid direct impacts to all wetlands and jurisdictional watercourses within Planning Area 1. To avoid direct wetland impacts to Wetland 12, access to Planning Area 1 via the haul road has been designed to expand an existing northern entrance into the Planning Area 1 rather than construct a new north entrance.

Minimization of Impacts

The proposed PCI Plan incorporates several design features and measures that would minimize or limit impacts to wetlands and jurisdictional watercourses and fish and wildlife habitat both during and after construction. These include:

- The limits of wetland and stream buffer areas would be clearly marked on construction plans and in the field to prevent unauthorized damage to critical areas during construction;
- Construction limits, including staging areas, would be clearly marked in the field prior to

beginning construction activities;

- To the extent feasible, construction staging areas would be located outside of wetland and stream buffers to minimize impacts to vegetation;
- A permanent stormwater management system would be designed and installed according to the MDP for the site prepared by Goldsmith Land Development Services (2020), which is based on the standards of the 2016 KCSWDM, which is equivalent to the 2012/2014 *Department of Ecology Stormwater Manual for Western Washington* (WDOE Manual);
- During construction, stormwater run-off would be treated according to a City of Snoqualmie-approved Stormwater Pollution Prevention Plan SWPPP for the project, which meets standards of the 2016 KCSWDM, prior to discharge into on-site streams or wetlands;
- Appropriate BMPs and TESC measures described above and including placement of straw bales and silt fencing between work activities and adjacent wetlands or stream channels in order to prevent sediment from entering these surface waters during and after construction would be implemented in accordance with the approved SWPPP, including specific measures to prevent and control spills of pollutants, and to handle, control, and store potential contaminants;
- Wetland and stream buffer areas temporarily disturbed for construction access and staging would be revegetated with a mixture of native plant species following completion of construction activities;
- Use of containment tarps or netting when working over water to retain fallen materials; and,
- Establishment of covenants, guidelines, and educational materials to prohibit the introduction of noxious weeds or invasive species into landscape areas, both common areas and individual lots.

Other Responsibilities and Requirements

Buffer Restoration and Enhancement Plan

The City Council will determine the application of discretionary flexibility provisions in the PCI district. The Snoqualmie Mill Proposal proposes to apply provisions of the City's zoning code (PCI District and PUD provisions) which encourage "imaginative well-designed master planned commercial-industrial development" proposals (SMC 17.20.050 A), and provide flexibility from fixed, quantitative standards and allows deviations to regulations provided that that the deviation will not threaten health, safety or the environment. (SMC 17.20.050 I)

Under the Proposal, all the wetlands and streams within Planning Area 1 would be retained and provided with buffers that provide substantially greater protection than under current conditions. Therefore, wetland mitigation through creation, re-establishment, rehabilitation, or enhancement is not proposed. Non-functional and degraded buffers would be replaced with native forest buffers through buffer restoration and enhancement in exchange for focused buffer intrusions, consistent with requirements of SMC 19.12.170 H.2 and SMC 19.12.170 H.6.

City of Snoqualmie critical area regulations (SMC 19.12) require compensatory mitigation for any proposed wetland loss or alteration of buffers. Direct wetland impacts would be avoided under the Proposal, but buffers for on-site wetlands and the Snoqualmie River would be impacted. A mitigation plan for impacts to critical areas is an element of the proposed PCI Plan, as required by City regulations (SMC 19.12.090.F).

The general approach to buffer mitigation is described further below and is focused on Planning Area 1 at this time; a specific plan would be submitted at the time of building permit application. The plan would be updated to address Planning Areas 2 and 3 in the future, as those areas are planned in greater detail.

The existing buffers for wetlands and for the Snoqualmie River within Planning Area 1 provide a low level of protection of wetland and stream functions due to poorly-developed or absent vegetative cover, the presence of non-native invasive species, and gravel and paved roads or other impervious surfaces consisting of compact, gravel fill. Areas where young forest occurs have an understory that is sparsely vegetated or dominated by non-native, invasive Himalayan blackberry.

All existing impervious surface areas, including paved and gravel roadways and areas of compact gravel fill within the wetland buffers will be removed and replaced with a minimum of 12 inches of topsoil amended with compost prior to re-planting. These areas include portions of the buffer for Wetlands 12, 28, and 29 and in the location where a portion of Mill Pond Road will be retired along the Snoqualmie River (see Exhibit 3.4-9 and Exhibit 3.4-11).

Site grading to provide compensatory flood storage will necessitate removal of a steeply sided berm on which forested buffer for Wetland 12 is present along the north perimeter of Planning Area 1. Grading of this area will result in shallower slopes more uniform and more conducive to dispersion of runoff within the proposed 105-foot average buffer width provided to Wetland 12. Grading to remove old fill within other portions of the buffers for Wetlands 12, 28, and 29 may be necessary to provide additional compensatory flood storage or for site development. Any of these areas considered as mitigation for buffer impacts also will receive a minimum of 12 inches of topsoil amended with compost following removal of the old fill.

Following site grading and installation of topsoil/compost mix, the entirety of the wetland buffers within Planning Area 1 would will be restored or enhanced with a mix of native trees, shrubs, and herbaceous vegetation common to the Snoqualmie Valley. In total, approximately 19.5 acres of wetland and Snoqualmie River buffers will be restored or enhanced. Areas that have been graded and are bare of vegetation will be planted at densities that are typical for buffer restoration (9 feet on-center for trees and 6 feet on-center for shrubs and herbaceous species). Areas that retain some cover by young trees will be planted with supplemental coniferous trees, as needed, to create a closed forest canopy. Non-native, invasive species within the existing, treed portions of the wetland buffers will be removed and supplemental shrub and herbaceous understory species will be planted.

The overall goal of the buffer restoration and enhancement plan is to increase the existing level of protection provided by the buffer for wetland functions. Through conversion of the existing

degraded buffers to forested condition with high density and diversity of species and structure, substantial improvement over the current level of water quality and habitat protection is anticipated. The enhanced and restored wetland buffers will be designed to be a low maintenance, self-sustaining community resembling native forest habitat typical of the Puget Sound lowlands.

Fish and Wildlife Mitigation

The Proposal includes measures to avoid and minimize impacts to vegetation, fish, and wildlife, including wetlands and streams. As noted above, the Proposal would avoid direct impacts to wetlands and jurisdictional watercourses on site within Planning Area 1, and road access points have been located to avoid direct impacts to regulatory wetlands. Areas targeted for development within Planning Areas 2 and 3 focus on portions of the site that have been previously developed or disturbed and currently consist of buildings, fill material, pavement, or gravel surface, and wetlands and buffers are expected to be retained as open space areas.

Impact minimization measures implemented to protect wetland and stream resources will also serve to protect fish and wildlife resources. Compensatory mitigation of proposed wetland buffer impacts would be provided in accordance with City of Snoqualmie requirements. Buffer areas within Planning Area 1 to be cleared and graded to provide compensatory flood storage would be revegetated with native forest plantings.

In addition to the wetland and stream buffer mitigation outlined above, compensation for anticipated loss of forest vegetation within the regulatory floodplain would be provided by installation of plantings of native trees within appropriate areas of the floodway upon completion of grading to provide compensatory flood storage along with development of each Planning Area. In the future, together with the retained wetlands and buffers, the enhanced and restored areas would form a large open space corridor within the central part of the project site. Compensatory plantings would be provided on at least a 1:1 basis. Detailed mitigation plans, as required by the City of Snoqualmie (SMC 19.12), would be developed for review and approval prior to issuance of building permits for each Planning Area.

In addition, the provision of a bottomless culvert under the realigned portion of SE Mill Pond Road to allow for passage of flood waters may also provide an avenue of movement for small mammals, carnivores, and amphibians between the project site and habitats associated with the Snoqualmie River.

FEMA Floodplain Habitat Assessment

The Puget Sound Biological Opinion requires special assessment and protection of floodplain "Protected Areas," including a 250-foot buffer from the Snoqualmie River and Channel Migration Zones, and areas within 50 feet. For any development activity that would occur within these "Protected Areas," implementing development applications would need to demonstrate: 1) how avoidance of development in these Protected Areas is not be feasible, and 2) how project elements (including surface / stormwater management, maintenance of floodplain and riparian vegetation, enhancement activities) are anticipated to result in a "No

Effect" or "Not Likely to Adversely Affect" determination for ESA-listed species.

This section and the supporting technical report review floodplain habitat impacts, including key habitat elements, based on the proposed Phase 1 plan, stormwater management and water quality treatment, grading (including compensatory storage), and proposed buffer enhancements and discuss anticipated effects to listed species, which are limited.

- Development would be conducted consistent with development guidelines for construction within the floodplain. The site will be graded to result in no net rise in the base flood elevation, with new distributions of sub-basins draining stormwater to the Snoqualmie River and to Borst Lake, and new distributions of impervious areas.
- No listed salmonid species exist in the Snoqualmie River adjacent to the site (above the Snoqualmie Falls), so any potential impacts to the floodplain from the project on listed salmonids would occur as a result of transmission of any effects downstream to below the falls; however, these will be minimized or otherwise mitigated by design measures and compensatory habitat enhancement.
- A FEMA Floodplain Habitat Assessment will be submitted as part of implementing permit approvals through the City for all phases, particularly Phases 2 and 3 which do not have the specific plans for stormwater and buffer enhancements that have been prepared for Phase 1.

Federal Consultation and Evaluations

Where proposals require federal permits or receive federal funding, consultations may be required with NMFS or USFWS under Section 7 of the federal ESA. Permitting for the stormwater outfall for Planning Area 1, based on more detailed design and engineering, will also involve consultation with NMFS and additional evaluation.

Other Potential Mitigation Measures

Additional compensatory mitigation measures for impacts to wildlife habitat may include enhancement of existing wetland buffer vegetation within Planning Areas 2 and 3 by removing invasive species, such as Himalayan blackberry, and replanting these areas with native trees, shrubs, and groundcovers.

In addition, landscaping of developed open space areas could focus on a variety of native plant species of value to wildlife, where feasible, given considerations of maintaining adequate sight distance for public safety and other applicable landscape standards. Landscape strips within developed areas or along roadways may also include native plants that have some value for wildlife cover and food.

3.4.4. Significant Unavoidable Adverse Impacts

The PCI Plan would not directly alter wetlands. The proposal would reduce some wetland buffers and would increase others; the proposed buffer enhancement and restoration plan would result in a net increase in buffers and substantially increase the ability of the buffers to protect wetland and stream water quality and habitat functions over the level currently

provided by existing degraded buffers. Development of the site, including clearing of native vegetation and construction of impervious surfaces, will unavoidably create greater surface runoff; with mitigation measures employed through the Master Drainage Plan, however, hydrologic impacts to the wetlands can generally be limited to insignificant levels. Some additional sediment deposition and associated water quality impacts from the proposed development areas are unavoidable but would not be significant if proposed stormwater wetland facilities and other erosion/sediment control measures are implemented.

Unavoidable impacts to plants and wildlife include removal of a substantial portion of the existing native vegetation within Planning Area 1 and fragmentation of retained native vegetation. Local populations of most native wildlife species on the site would be reduced upon development of Planning Area 1, at least until the central on-site habitat corridor can be established. An additional shift in species composition to favor species more adapted to urban development, particularly within Planning Area 1, would occur. Some wildlife species may be eliminated from the site; those animals displaced from the site may perish. Patches of native forest habitat retained on-site and on immediately adjacent lands would experience disturbance from increased human activity. Given the historically intensive use and development of the site, particularly within Planning Areas 2 and 3, redevelopment of the site is not considered a significant impact to plants and animals.

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3.5. ENVIRONMENTAL HEALTH

This section of the EIS summarizes the environmental history of the Snoqualmie Mill property, research and technical evaluations performed by Farallon Consulting, L.L.C. (Farallon) to identify the nature and extent of existing contamination, and a strategy for further investigation and cleanup of the Snoqualmie Mill Property in conjunction with future redevelopment. Farallon prepared two reports summarizing the results of its work, one specific to Planning Area 1 (*Environmental Evaluation Report, Snoqualmie Mill Planning Area 1, 38800 Southeast Mill Pond Road, Snoqualmie, Washington,* dated 2019, referred to herein as Planning Area 1 Report) and the other specific to Planning Areas 2 and 3 (*Summary of Environmental Investigation and Cleanup Activities, Snoqualmie Mill Property, Snoqualmie, Washington*, dated 2019, referred to herein as Planning Areas 2 and 3 Report). The reports are attached to the EIS as Appendices D-1 and D-2, respectively.

For each report, Farallon reviewed historical information obtained from the following sources as part of its evaluation of environmental conditions at the Snoqualmie Mill Property:

- Previous environmental reports for the Snoqualmie Mill Property and other documents provided by the applicant. These included documents identified in a summary of environmental studies prepared for the City of Snoqualmie in 2011 (Dearborn and Moss summary);
- Documents obtained from the Washington State Department of Ecology (Ecology), the U.S. Environmental Protection Agency (EPA), the Puget Sound Regional Archives, local fire departments,[16] and other local government agencies[17];
- King County Department of Assessments parcel assessor records;
- Snoqualmie Valley Historical Society records; and
- Documents obtained from Weyerhaeuser Company.

For Planning Area 1 specifically, Farallon also reviewed the following information:

- Aerial photographs dated 1952, 1957, 1968, 1979, 1980, 1983, 1998, 2005, 2006, 2009, and 2011 obtained from EDR (2017b);
- Aerial photographs dated 1998, 2005, 2006, 2009, 2011, 2013 through 2015, and 2017 obtained from Google Earth (No Date); and
- U.S. Geological Survey topographic maps of Sultan, Washington dated 1921 and 1923; and of Snoqualmie, Washington dated 1953, 1968, 1973, 1993, and 2014 obtained from EDR (2017a).

The documents reviewed are identified in the reference section of the Planning Area 1 Report (Appendix D-1) and the bibliography for the Planning Areas 2 and 3 Report (Appendix D-2).

[16] Records were requested from the City of Snoqualmie, Fall City Fire Department, and Eastside Fire and Rescue.
[17] Records were requested from multiple King County and City of Snoqualmie departments.

The applicant and its representatives met with Ecology in October 2018 to discuss the proposed action, including preliminary plans for environmental assessment and cleanup and potential regulatory options for Ecology oversight for Planning Areas 2 and 3. Ecology also participated in a site visit with the applicant and its representatives in November 2018. Additional consultation would occur in the near term, during review of the EIS, and subsequently during the course of investigations and cleanup activities at the Snoqualmie Mill property.

This section of the EIS is organized as follows. The Affected Environment subsection provides an overview of historic mill operations and summarizes information about known and suspected releases of hazardous substances and prior clean-up actions on the Snoqualmie Mill Property. It also summarizes the environmental evaluations conducted for Planning Areas 1, 2, and 3. The *Impacts* subsection evaluates potential impacts, both adverse and positive, that could occur from redevelopment of the Snoqualmie Mill Property according to the proposed PCI Plan. It also describes a strategy and plan for further investigation and cleanup for Planning Areas 2 and 3 to mitigate the residual impacts of prior releases of hazardous substances. The *Mitigation* subsection identifies actions to address potential impacts associated with redevelopment.

Please note the following regarding the terminology used in this section of the EIS. In the following discussion, the term "property" is used in this section to help distinguish the project site from the regulatory definition of "site" as that term is used in the Washington State Model Toxics Control Act cleanup regulation and statute (MTCA). The term "Snoqualmie Mill property" refers to the area that is included in the proposed PCI Plan application, which includes Planning Areas 1, 2, and 3. It excludes property that is not owned by the applicant, although it may have been used in historic mill operations.

The section also addresses potential risks of releases, fire and explosion associated with proposed operations, including potential cumulative impacts.

3.5.1. Affected Environment

Overview

The former Weyerhaeuser mill was built in 1916 in a joint venture with Snoqualmie Falls Lumber Company. The mill initially manufactured dimensional lumber from large logs. During the operational period of the mill, additional structures and improvements were added to provide various lumber manufacturing processes and to support mill operations. The mill was closed in early 1989 and partially demolished in the summer of 1989. A few of the historical mill structures remain on the Snoqualmie Mill Property, including the powerhouse, the cooling shed, and lumber storage sheds.

A detailed history of the Snoqualmie Mill property is included in Section 3.10 – Historic and Cultural Resources and in the Planning Area 1 Report (Appendix D-1). The locations of various mill features are identified on Exhibit 3.5-1, including a plywood plant, a planer mill, Silvacel wood fiber plant, a lumber strapping facility, drying kilns, a cooling shed, a Nulock lumber joining facility, a log sort yard, lumber storage sheds, a powerhouse, maintenance shops, a rectangular railroad "round" house, a field office building, and a main office building. Planning

Area 1 was used almost exclusively for log storage; all industrial buildings and processes were located in Planning Areas 2 and 3.

Planning Area 1

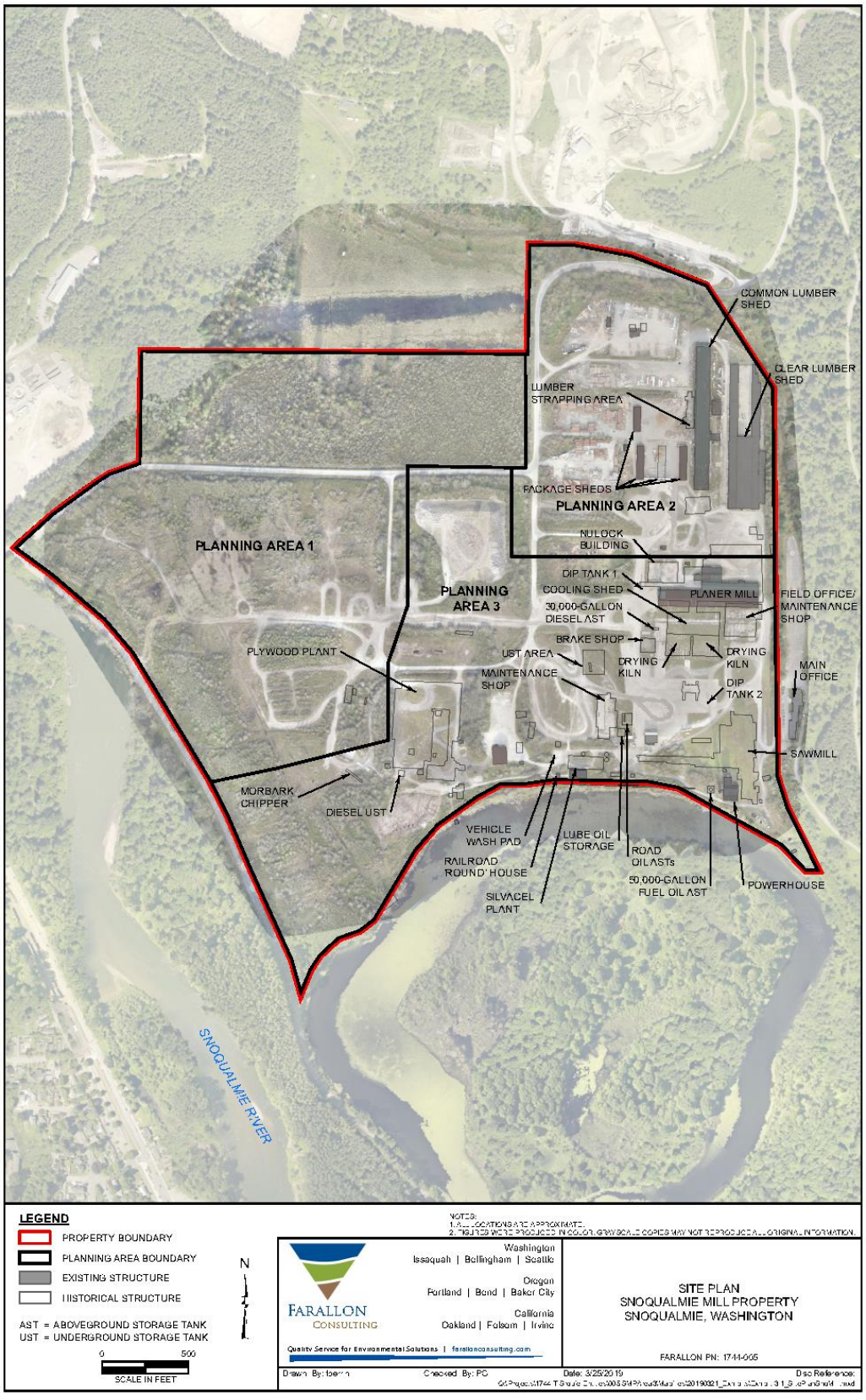
History

Section 3.10 – Historic and Cultural Resources and the Planning Area 1 Report (Appendix D-1), contain a comprehensive history of the Snoqualmie Mill Property, which is not repeated here. Some elements of that history, however, are relevant to the environmental evaluation and are included to provide context for the consultant's conclusions.

Topographic maps and aerial photographs indicate a railroad track accessed the western portion of Planning Area 1 from at least 1917 through the late 1950s. According to a representative of the Snoqualmie Valley Historical Society, an area on the southwestern portion of Planning Area 1 was developed with eight multifamily bunkhouses for Japanese workers who helped install the railroad track. The laborers reportedly occupied the southwestern portion of Planning Area 1 until the early 1940s. (See additional discussion in Section 3.10 – Historic and Cultural Resources.) After the bunkhouses were torn down, the land reportedly was used to grow potatoes in the mid-1940s and as a conifer seedling nursery at least until the early 1950s. Remaining areas of Planning Area 1 appeared undeveloped and densely wooded in aerial photographs reviewed.

Planning Area 1 and the east- and south-adjacent areas of the Snoqualmie Mill property to the east and south reportedly were filled between the mid-1960s and the late 1970s. By at least 1968, the southern portion of Planning Area 1 appeared to be used for staging logs associated with the south- and east-adjacent sawmill and plywood mill, and unimproved access roads appeared to be constructed throughout the southern portions of Planning Area 1. According to aerial photographs reviewed, the central and southern portions of Planning Area 1 appeared to be used for log staging until between 1983 and 1998. A sort yard office structure was constructed on the southeastern portion of Planning Area 1 by 1975, according to historical assessor information, but it was not apparent on aerial photographs reviewed and, according to historical assessor information, was no longer in use by the late 1990s. By 2011, Planning Area 1 was cleared of logs and appeared vegetated, and additional unimproved access roads were apparent. Planning Area 1 remained unchanged from 2011 to the present. No operations currently are conducted at Planning Area 1, with the exception of its periodic use for event parking.

Exhibit 3.5-1. Location of Historical Mill Operations



The former Weyerhaeuser mill began operating to the east and south of Planning Area 1 (i.e., in Planning Areas 2 and 3) in 1916. Sawmill buildings ed in Planning Areas 2 and 3 were constructed from the late 1910s until 1959, when the plywood plant opened in Planning Area 3. By at least the late 1960s, the City of Snoqualmie wastewater treatment facility appeared constructed off-site, to the northwest of Planning Area 1. The plywood plant reportedly burned down in February 1989. The former Weyerhaeuser mill ceased all operations in 2003. By 2005, the structures on properties adjacent to Planning Area 1 appear similar to those currently remaining.

Environmental Assessment

This subsection summarizes the Planning Area 1 Report, which is included as Appendix D-1. In preparing the Planning Area 1 Report, Farallon completed an environmental assessment of Planning Area 1, consisting of a site reconnaissance, review of historical records, review of government records, review of aerial photographs, review of documents summarizing remedial actions completed by Weyerhaeuser in Planning Areas 2 and 3, and interviews with individuals knowledgeable about the historical uses of Planning Area 1. Farallon reviewed information about the contamination in Planning Areas 2 and 3 to assess its potential impact on Planning Area 1. Criteria used to evaluate its potential impact included the nature and extent of the contamination, the distance of the contamination from Planning Area 1, soil stratigraphy and permeability, and the documented or inferred groundwater flow direction.

The Planning Area 1 Report characterizes the geology and hydrogeology of the Snoqualmie Mill Property, which are based on studies and exploratory test pits conducted by Associated Earth Sciences Incorporated. The presence of up to 16 feet of fill material is noted. It also identifies nearby visually apparent sensitive receptors, including surface water (the Snoqualmie River and Borst Lake) and designated wetlands. The Snoqualmie Mill Property location within the floodplain is noted. No public water supply wells were identified proximate to Planning Area 1.

Environmental Data Resources, Inc. conducted a review of regulatory agency databases to identify reported releases of hazardous substances to surface or subsurface resources within or adjacent to Planning Area 1. None of the databases searched identified any releases specific to Planning Area 1. Reported releases outside of Planning Area 1 include the former Weyerhaeuser mill, the City's wastewater treatment plant, the Glacier NW mining facility, and Puget Power's pole storage yard. These reported releases are discussed in more detail in the Planning Area 1 Report (Appendix D-1); none are considered to have the potential to environmentally impact Planning Area 1.

Interviews were conducted with agencies and individuals familiar with Planning Area 1 to obtain additional information about the history of the Snoqualmie Mill Property and potential releases of hazardous substances. Interviewees included representatives of the Fall City Fire Department, Eastside Fire & Rescue, City of Snoqualmie, Seattle & King County Health Department, and the applicant. None of the individuals interviewed in preparing the Planning Area 1 Report identified any spills, releases, or incidents affecting Planning Area 1.

Areas of Known or Suspected Contamination

There are no areas of known or suspected contamination located in Planning Area 1. Areas of *known contamination* are areas where concentrations of hazardous substances in soil or groundwater exceed applicable MTCA cleanup levels. Areas of *suspected contamination* are areas where the available information is insufficient to determine if concentrations of hazardous substances exceed applicable MTCA cleanup levels.

As documented in the following subsection of the EIS, there are known and suspected areas of contamination in Planning Areas 2 and 3. Weyerhaeuser conducted multiple environmental investigations and cleanup actions in Planning Areas 2 and 3 from the mid-1980s through approximately 2005 in response to the known and suspected areas of contamination. The environmental reports reviewed by Farallon provide no evidence that the contamination in Planning Areas 2 or 3 has migrated to or adversely affected Planning Area 1.

Planning Areas 2 and 3

History

Section 3.10 – Historic and Cultural Resources and the Planning Areas 2 and 3 Report (Appendix D-2), contain a comprehensive history of the Snoqualmie Mill Property, which is not repeated here. Some elements of that history, however, are relevant to the environmental evaluation and are included to provide context for the consultant's conclusions.

The former Weyerhaeuser Mill operated between 1916 and 1989 in Planning Areas 2 and 3. The mill operations consisted of a sawmill, a plywood plant, a planer mill, a Silvacel wood fiber plant, a Nulock lumber joining facility, drying kilns, a lumber strapping facility, and maintenance and fueling facilities. The locations of these historic mill operations, and related building, are identified on Exhibit 3.5-1.

The former Weyerhaeuser mill used petroleum products and other chemicals in support of its operations. Chemicals handled at the mill were primarily petroleum hydrocarbons for fueling and lubricating equipment and vehicles.[18] Other chemicals used at the former Weyerhaeuser Mill included polychlorinated biphenyls (PCBs) in electrical transformers and chlorophenolic compounds for small-scale lumber treatment using dip tanks.

The primary area of fuel storage in the post-1960 period of operation of the mill was in the south-central area of Planning Area 3, which included an underground storage tank (UST) area with 10 tanks used to store gasoline, diesel, and lubricating oil. The USTs were installed in approximately 1960 and removed in 1989. Two aboveground storage tanks (ASTs) were located southeast of the USTs and were used to store road oil used for dust suppression. The ASTs were installed in approximately 1960 and removed in 1989. A lube oil storage facility was located immediately south of the ASTs. Other areas of fuel storage included a 50,000-gallon fuel oil AST

[18] Lead was detected in some of the unfiltered groundwater samples collected in the fueling and soil storage areas at concentrations exceeding MTCA cleanup levels but was attributed to likely background concentrations or turbidity in the samples due to the sampling methods used.

located adjacent to the powerhouse in the southeast portion of Planning Area 3, and a 30,000-gallon diesel AST located near the drying kilns in the central portion of Planning Area 3.

PCBs were used as insulating oil in some of the electrical transformers on the Snoqualmie Mill property, which were reportedly removed. Pentachlorophenol was reportedly used as a wood preservative in small-scale wood treatment operations (dip tanks) at two locations in Planning Area 3, shown on Exhibit 3.5-1, for limited periods of time.

Boiler ash was used as fill material in the southeast portion of Planning Area 3. Boiler ash typically contains metals and polycyclic aromatic hydrocarbons (PAHs).

Environmental Assessment

This subsection summarizes the Planning Areas 2 and 3 Report, which is included as Appendix D-2. In preparing the Planning Areas 2 and 3 Report, Farallon completed an environmental assessment of Planning Areas 2 and 3, consisting of a site reconnaissance, review of historical records, review of government records, review of aerial photographs, review of documents summarizing remedial actions completed by Weyerhaeuser in Planning Areas 2 and 3, and interviews with individuals knowledgeable about the historical uses of Planning Areas 2 and 3.

Multiple releases of hazardous substances are known to have occurred in Planning Areas 2 and 3. Most of these releases were of petroleum hydrocarbons at fuel and oil storage facilities, and at locations where mill equipment was maintained and lubricated. Releases of hazardous substances not related to petroleum hydrocarbons include a release of PCBs from two transformers damaged in a fire at the former plywood mill, a release of pentachlorophenol near a former dip tank, and an area of fill including boiler ash containing metals near the former powerhouse.

Between approximately 1989 and 2006, Weyerhaeuser conducted numerous remedial actions in portions of Planning Areas 2 and 3, including subsurface investigations and cleanup actions. The cleanup actions largely consisted of excavation and bioremediation of contaminated soil in several areas of Planning Areas 2 and 3. The investigations conducted by Weyerhaeuser largely characterized the nature and extent of contamination in Planning Areas 2 and 3. According to the documents reviewed by Farallon, the cleanup actions did not achieve MTCA cleanup standards[19] for all areas of known contamination, and contamination remains or is suspected to remain at concentrations exceeding current MTCA cleanup levels in some of the areas where the cleanup actions were performed. Some areas where historical mill operations occurred that likely involved the handling of hazardous substances were not investigated. Contamination may be present in those areas. A summary of the remedial actions conducted by Weyerhaeuser is provided in the Planning Areas 2 and 3 Report (Appendix D-2).

[19] Under MTCA, cleanup standards consist of cleanup levels, points of compliance, and additional regulatory requirements specified in applicable state and federal laws. Cleanup levels are concentrations of hazardous substances that are protective of human health and the environment. Points of compliance are the locations where cleanup levels must be attained.

Areas of Known or Suspected Contamination

Areas of known or suspected contamination in Planning Areas 2 and 3 are described in the Planning Areas 2 and 3 Report and are summarized on Exhibit 3.5-2 and Exhibit 3.5-3. There is one area of known contamination and one area of suspected contamination in Planning Area 2. The majority of the areas of known or suspected contamination are in Planning Area 3 because the majority of the former mill operations occurred there. As a precautionary measure, temporary fencing has been installed in a location in Planning Area 3 containing boiler ash (see Exhibit 3.5-3). The fencing would prevent incidental contact with, or disturbance of, surface or near surface soil potentially containing ash material.

As discussed below, prior to redevelopment in Planning Areas 2 and 3, additional remedial actions would need to be conducted in each area of known or suspected contamination to characterize the nature and extent of contamination, identify and evaluate cleanup alternatives, and select a cleanup action. The selected cleanup action for each area of contamination would be conducted in conjunction with redevelopment in each area.

Portions of Planning Areas 2 and 3 are currently used by DirtFish Rally for a driving instruction school. The classroom and office for the driving instruction school are located in a building situated to the east of Planning Area 3, off the project property. A maintenance shop is located in Planning Area 3. DirtFish uses roads throughout Planning Area 3 and in the southern portion of Planning Area 2 as part of the driving course. The roads do not bisect known or suspected areas of contamination.

As discussed above, none of the areas of known or suspected contamination in Planning Areas 2 or 3 present a risk of contamination to Planning Area 1.

Exhibit 3.5-2. Areas of Known and Suspected Areas of Contamination

Area	Environmental Assessment and Cleanup Status				
	Primary Contaminants of Potential Concern[1]	Media of Potential Concern		Soil Cleanup or Partial Cleanup Conducted	Residual Contamination Exceeding MTCA Cleanup Levels[3]
		Soil	Groundwater[2]		
Planning Area 1					
No Known or Suspected Areas of Contamination					
Planning Area 2					
Lumber Strapping Area	DRO, ORO	C	S	X	C
Transformer T-18	DRO, ORO	C		X	S
Planning Area 3					
Sawmill/Powerhouse Area	DRO, ORO	C	C	X	S
UST Area	DRO, GRO, ORO, BTEX, Lead	C	C	X	S
Oil Storage Area	DRO, ORO, Lead	C	C	X	S
Boiler Ash Fill Area	PAHs, Metals	C			C
Morbark Area	DRO, ORO	C	S	X	S
Vehicle Wash Pad	DRO, ORO	C	S		C
Plywood Mill Area - Transformer T-12	PCBs	C	C	X	C
Plywood Mill Area - Transformer T-17	PCBs	C		X	
Plywood Mill Area - Press Pit and Diesel UST	DRO, PCBs, PAHs	C	S	X	C
PCP Dip Tank Area 1	PCP	C	S		C
NOTES:					
C denotes Confirmed **S denotes Suspected** **[1] Based on available historical investigation sampling results** **[2] Based on historical analytical results for groundwater or reconnaissance groundwater samples** **[3] Based on available documentation of historical soil analytical results following interim cleanup actions, where conducted**	BTEX = benzene, toluene, ethylbenzene, and/or xylenes DRO = total petroleum hydrocarbons (TPH) as diesel-range organics, or diesel-range TPH GRO = TPH as gasoline-range organics or gasoline-range TPH ORO = TPH as oil-range organics, or oil-range TPH PAHs = polycyclic aromatic hydrocarbons PCBs = polychlorinated biphenyls PCP = pentachlorophenol UST = underground storage tank				

Source: Farallon Consulting, 2019

Exhibit 3.5-3. Areas of Known and Suspected Contamination



3.5.2. Impacts

Impacts of Proposal

As described in Chapter 2 – Proposal and Alternatives, a phased approach to redevelopment and to environmental review are aspects of the proposed PCI Plan. At this time, only Planning Area 1 is considered to be ready for redevelopment in terms of the level of site planning that has occurred; this is stated throughout the EIS and the PCI Plan application. PCI Plan approval would not authorize any physical redevelopment. Although types and amounts of planned land uses are identified for Planning Areas 2 and 3, and evaluated in the EIS at a general level, additional planning, engineering and permitting are required before redevelopment could be approved for these portions of the Snoqualmie Mill Property. Supplemental environmental review would also occur as part of future project review, and remediation of the known and suspected contamination in Planning Areas 2 and 3 would be evaluated during this process.

Planning Areas 2 and 3 can be considered a "brownfield" because of the legacy contamination attributable to the former Weyerhaeuser mill. A brownfield is "a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant… Cleaning up and reinvesting in these properties increases local tax bases, facilitates job growth, utilizes existing infrastructure, takes development pressures off of undeveloped, open land, and both improves and protects the environment."[20]

Future redevelopment would serve as the vehicle for remediation of the areas of known and suspected contamination in Planning Areas 2 and 3. Before redevelopment took place in an area of known or suspected contamination, an environmental investigation would need to be conducted to characterize the nature and extent of the contamination, cleanup alternatives would need to be identified and evaluated, and a cleanup action that was consistent with MTCA and protective of human health and the environment would need to be selected. The selected cleanup action for each area of contamination would be conducted in conjunction with redevelopment in each area.

The redevelopment contemplated by the proposed action would facilitate cleanup of Planning Areas 2 and 3, which would improve the environment and would generally be considered a positive impact. The known and suspected contamination in Planning Areas 2 and 3 is the result of historical industrial practices; this legacy contamination is the existing condition of the Snoqualmie Mill Property that would be ameliorated by the proposed action.

Planning Area 1

As noted previously, Planning Area 1 was used almost exclusively for log storage during operation of the former Weyerhaeuser mill; environmental evaluation did not identify any areas of known or suspected contamination. Construction activities occurring within Planning

[20] Definition of "brownfield" provided on website of United States Environmental Protection Agency, http://www.epa.gov/brownfields/overview-epas-brownfields-program

Area 1 are not likely to disturb contamination located outside Planning Area 1. Redevelopment of Planning Area 1, therefore, is not anticipated to have any adverse effect on the environment as a result of legacy contamination that is present in Planning Areas 2 or 3.

Risk of Accidental Releases, Fire or Explosion from Future Industrial Uses

There are some potential risks associated with construction and operation of Planning Area 1, which are not related to legacy contamination. As with any development activity, there is some potential for accidental spills or releases of fuels or other substances used in construction equipment. Similarly, there is risk of vehicle collisions and spillage of fuels during construction and operation. Such accidental releases could result in spilled substances entering surface water or groundwater.

Specific users of all industrial buildings in Planning Area 1 are not known with certainty at this time, so it is not possible to predict what types of operations would occur and whether any future operations could involve the use of hazardous substances or generate hazardous byproducts. Similarly, it is not known with certainty whether any operations or materials might present a risk of fire or explosion, but such risk is considered unlikely.

For purposes of analysis in the Draft EIS, however, the primary industrial land uses in Planning Area 1 are assumed to consist of the production and storage of wine. There is potential for accidental releases of chemicals associated with wine production.

Some chemicals are associated with each step in the wine-making process, which is described in Section 2.3 of the EIS, primarily for cleaning and sanitizing wine-making equipment. Most of the chemicals used are common and are not categorized as hazardous substances. However, some cleaning products are caustic and are categorized as hazardous and, if not contained, pose a risk to the environment. Accidental spills of hazardous materials that occurred or flowed outside of buildings producing wine could enter groundwater or nearby surface waters. Typical chemicals used in each step are identified below:

- Harvest: Pick bins often are washed with a product similar to Proxy-Clean (i.e., sodium carbonate peroxyhydrate), a strong non-chlorinated disinfectant.
- Crush: The equipment used in the crushing process is washed and sanitized before and after use with water and a caustic such as peracetic acid (5% peracetic solution), and/or a disinfectant such as Proxy-Clean. The crushing of the grapes typically occurs in the fall and would occur indoors.
- Fermentation: Products are added to the grapes to promote fermentation and may include yeasts, tartaric acid, diammonium phosphate, nutrients, and sulfur dioxide.
- Blending and Racking: Wood barrels are hydrated with non-chlorinated water, which is disposed of before wine is added. The pumps, filters, hoses, and fermentation bins used to transfer fermented wine into barrels for aging are washed prior to and after the blending-and-racking process using caustics such as a 5% peracetic solution. During the blending-and-racking process, other products may be used such as sulfur dioxide, tartaric acid, diatomaceous earth, ion exchange resins, pearlite, and/or caustic cleaning agents,

depending on the chosen method of filtration, clarification, aging, and equipment sanitation.

- Bottling: Wine bottles are cleaned and sanitized prior to the wine-bottling process. The winery may use high-temperature water or water and a caustic cleaning agent to prepare the bottles. In general, as described in Section 2.3 of the EIS, wineries in Planning Area 1 are anticipated to be small, and quantities of chemicals used and stored would, therefore, likely be small as well. All wine-making operations would occur in enclosed buildings with appropriate containment.

It is noted that the PCI zoning district, which applies to the Snoqualmie Mill Property, prohibits heavy industrial uses; the zoning code also contains performance standards relating to emissions and storage of hazardous substances (SMC 17.55.080). These prohibitions and performance standards could reduce the potential for an accidental release and significant impact to the environment but cannot eliminate such risk entirely. The potential for a significant release to the environment is considered minor.

The proposed action accordingly would not result in any significant, adverse impacts to environmental health in Planning Area 1.

Planning Areas 2 and 3

As noted above, as a precautionary measure, fencing has been placed around the ash fill area to restrict access and to prevent incidental contact or disturbance.

Remediation Strategy

This subsection identifies the strategy, general plan, and procedural requirements for conducting future investigations and cleanup actions in Planning Areas 2 and 3, and for coordinating the cleanup actions with Ecology. Investigation and cleanup of the areas of known or suspected contamination would generally occur in conjunction with the planned phases of redevelopment in Planning Area 2 followed by Planning Area 3. Cleanup activities would be coordinated with Ecology and be conducted in accordance with applicable laws and regulations, including MTCA. The objective of the cleanup actions would be to obtain regulatory closure (a no further action determination or an equivalent written determination issued by Ecology) for each area of contamination.

The process for regulatory closure of sites in Washington State is specified in MTCA and includes three options:

1. Cleanup actions can be undertaken as independent remedial actions, in which investigation and cleanup activities are conducted without direct oversight by Ecology.
2. Cleanup actions can be conducted under Ecology's Voluntary Cleanup Program (VCP), pursuant to which Ecology can provide opinions regarding the sufficiency of cleanup actions and provide a No Further Action determination once it determines the cleanup meets MTCA cleanup standards.
3. Cleanup actions can be conducted under formal agreements with Ecology, either as an agreed order or consent decree.

Cleanup actions conducted under MTCA follow the regulatory process outlined in Chapter 173-340 of the Washington Administrative Code (WAC 173-340). Following the initial identification and reporting of a release, the first step in the process is completion of a remedial investigation and feasibility study (RI/FS) as described in WAC 173-340-350. The purpose of an RI/FS is to "collect, develop, and evaluate sufficient information regarding a site to select a cleanup action." Interim actions may be implemented at any time during the development of an RI/FS, if appropriate. If the results of the remedial investigation indicate that concentrations of hazardous substances in site media (soil, groundwater, surface water, or air, where appropriate) do not exceed applicable cleanup levels at points of compliance, no further action is necessary.

If the remedial investigation indicates that concentrations of hazardous substances in site media exceed applicable cleanup levels at points of compliance, then cleanup alternatives must be identified and evaluated, and a cleanup action must be selected from among the considered cleanup alternatives. The threshold requirements for a cleanup action under WAC 173-340-360 are that it must protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring. The selected cleanup action also must use permanent solutions to the maximum extent practicable, provide for a reasonable restoration timeframe, and consider public concerns.

Each cleanup action to be conducted in Planning Areas 2 and 3 in conjunction with redevelopment would take into account existing conditions and future land use and zoning to ensure that the cleanup action is appropriate for each area.

Risk of Accidental Releases, Fire, or Explosion

Specific users of industrial buildings are not known with certainty at this time, so it is not possible to predict what types of operations would occur and whether any future operations could involve the use of hazardous substances or generate hazardous byproducts. Similarly, it is not known with certainty whether any operations or materials might present a risk of fire or explosion, but such risk is considered unlikely.

It is noted that the PCI zoning district, which applies to the Snoqualmie Mill property, prohibits heavy industrial uses; the zoning code also contains performance standards relating to emissions and storage of hazardous substances (SMC 17.55.080). These prohibitions and performance standards would reduce the potential for an accidental release and significant impact to the environment to some degree but cannot eliminate such risk entirely. In general, risks for the PCI Plan as a whole would be of the same general type and magnitude as those identified for Planning Area 1.

Construction Impacts

Construction activities could potentially disturb contaminated areas and cause release or exposure to contaminants in soil. Construction activities in areas of known or suspected contamination would need to be conducted in accordance with state and federal health and safety requirements for handling of potential hazardous materials and for worker safety

training until it can be demonstrated that potentially impacted site media do not exceed applicable cleanup levels. In addition, as noted in the prior discussion, the remediation strategy for the Snoqualmie Mill site involves further evaluation and remediation, consistent with MTCA standards where appropriate. These clean-up activities would occur in conjunction with construction in affected portions of Planning Areas 2 and 3, which would reduce the potential for releases or exposure during construction. As noted previously, Planning Area 1 is not affected by legacy contamination, and construction would not pose a risk of release or exposure.

Indirect and Cumulative Impacts

Potential cumulative risks of releases, fire, or explosion are primarily related to ongoing DirtFish operations. While future winery production also presents some risk of releases, existing flood hazard, zoning, and other adopted city regulations require containment and other construction and engineering approaches that are anticipated to prevent any release from reaching ground or surface waters. DirtFish is an existing permitted use and is independent of the Snoqualmie Mill proposal. However, DirtFish operations, by their nature, do present some potential risk of collision, fire or explosion, and/or a release of fuels or other hazardous substances. This is considered to be a possible indirect or cumulative risk, which exists in combination with a potential for fire or accidental releases from activities on-site or in the surrounding area. Information obtained from DirtFish indicates that, in its almost 9 years of operation, there have been three minor spills that occurred during vehicle maintenance in the shop; these were cleaned up using on-site spill kits. No vehicle collisions, rollovers or fires have occurred on the driving course (Personal communication, Malli Shaeffer, February 5, 2019). Based on this historical data, any cumulative risk is considered to be relatively low.

Alternatives

Redevelopment Alternative

The impacts of the Redevelopment Alternative, both adverse and positive, would be generally the same as those described for the proposed PCI Plan and Planning Area 1. The same approach to cleanup of the property would be implemented, resulting in cleanup of contaminated areas in conjunction with redevelopment of each area.

No Action Alternative

The proposed action would result in the evaluation and remediation of known and suspected areas of contamination in Planning Areas 2 and 3 in conjunction with further planning and phased redevelopment. The legacy contamination in Planning Areas 2 and 3 is a baseline condition that would remain unchanged if the PCI Plan is not approved and redevelopment does not occur. Existing uses are assumed to continue unchanged for the foreseeable future. The No Action Alternative, therefore, would not result in remediation of legacy contamination at the Snoqualmie Mill property and improvement of existing environmental conditions.

3.5.3. Mitigation Measures

The proposed action would not cause significant adverse impacts to environmental health. The legacy contamination in Planning Areas 2 and 3 would be remediated in conjunction with redevelopment, consistent with MTCA, and in coordination with Ecology. Remediation in conjunction with planned redevelopment would result in a positive impact to the environment.

There is some degree of risk of a potential release associated with storage and use of hazardous materials that are used for the cleaning and sanitation of wine-making equipment. All wine-making processes would occur within an enclosed building, which would likely contain any spills.

The risk of spills, fire, and explosion related to vehicle accidents would be mitigated by road improvements and traffic controls discussed in Section 3.11 – Transportation.

The city's flood hazard regulations (SMC 15.12) generally prohibit the storage and use of hazardous substances within the floodplain in quantities greater than that exempted pursuant to the Uniform Building Code and/or International Building Code. Variances may be issued by the city council, however, pursuant to criteria specified in the regulations (SMC 15.12.130/15/12.140). Proposed grading of the project site would elevate portions of the Snoqualmie Mill Property above the base flood elevation; a Letter of Map Amendment would be pursued with FEMA to remove the relevant portions of the Snoqualmie Mill property from floodplain maps.

All future tenants whose operations involve the use or storage of hazardous chemicals would be required to prepare a Spill Prevention and Response Plan for their respective facilities, and to implement best management practices (BMPs) to ensure the proper use, handling, storage, and disposal of chemicals. A BMP manual for current site conditions was prepared as part of Annexation Implementation Plan approval. A Spill Prevention and Response Plan is intended to provide an organized and effective response to an inadvertent release of chemicals to the environment. The Spill Prevention and Response Plan would describe how to contain a release, clean up a release, and correct the condition that allowed the release to occur. Clearly labeled spill response kits would be placed in the facility and used to address any spills. Hazardous chemicals would be stored in a contained area to prevent potential releases to the environment.

To protect the safety of workers, and other persons occupying or visiting the Snoqualmie Mill property during construction of buildings and infrastructure in Planning Areas 2 and 3, and during cleanup activities that precede construction, all work would be conducted in accordance with OSHA and WISHA health and safety requirements for hazardous waste operations (29 CFR 1910.120; WAC 296-843).

3.5.4. Significant Unavoidable Adverse Impacts

Potential adverse impacts associated with redevelopment and operation of the Snoqualmie Mill property are primarily related to accidental releases of hazardous substances from vehicle accidents, mishaps during construction, or inadvertent spills from tenants' operations. While

such impacts can be mitigated, some amount of risk of accident and inadvertent releases would remain regardless of precautions and procedures implemented. The legacy contamination that exists in Planning Areas 2 and 3 is not considered to be an impact of the proposed action; redevelopment of the project site and concurrent remediation would have a significant positive impact on the environment.

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3.6. LAND AND SHORELINE USE

This section addresses land use patterns, including land use mix, distribution, levels of activity, phasing, and compatibility. This section also addresses shoreline uses and compatibility. Consistency with land use and shoreline plans and regulations is addressed in Section 3.7.

For the purposes of this section, the land use "study area" includes properties adjacent to the site to the north, east, south, and west that could potentially be affected by the redevelopment of the site. This includes abutting parcels inside and outside the city limits.

3.6.1. Affected Environment

Land Use Patterns

Current Land Use

PCI Plan: Onsite Land Uses

The master plan site totals about 261 acres and was operated as a mill until about 2003. Former mill buildings and foundations of removed buildings remain. The current building space equals nearly 253,000 square feet with a building coverage of 2%. Most remaining buildings are concentrated in Planning Area 2; see Exhibit 3.6-1.

Exhibit 3.6-1. Parcel Use and Development

Parcel Number	Application Acres	Building Square Feet
3024089004	38.7	
2924089009	136.47	252,703
3024089001	20.44	
3024089069	13.54	
3024089070	2.17	
2924089022	5.39	
2924089023	3.66	
2924089006	40.69	
	261.06	**252,703**

Source: King County Assessor, 2017; Goldsmith Land Development Services, 2017.

As depicted in the aerial view of Exhibit 3.6-2, the site is more developed in the central and eastern portion of the site in Planning Areas 2 and 3. Most of the site has been altered for past industrial uses; see Exhibit 3.6-3. Historically, the great majority of the site, including almost all of Planning Area 1, was used for log storage.

The site is currently used in part as a driving instruction school by DirtFish Rally School. DirtFish uses paved and unpaved roads, primarily in the central portion of the site. Associated facilities

provide space for storage of equipment and parts, maintenance of vehicles, and an office/classroom building located on the eastern hillside adjacent to the site. Other business activities include storage of wood recycling materials, production, and storage of topsoil for local construction projects, a beehive operation, temporary construction staging, and truck storage.

Most of the site is in the Snoqualmie city limits. An approximate 15-acre area in the northeastern portion of the site (Planning Area 2) remains within unincorporated King County; it contains a former boiler plant and undeveloped area.

The hillside (42 acres) contiguous to the site on the east was acquired by King County Parks in 2015 and is planned to become part of the Snoqualmie Valley Trail. An office building housing DirtFish Rally School is located in this area.

Exhibit 3.6-2. PCI Plan Area – Aerial View



Source: ESRI, 2017; BERK, 2020.

Exhibit 3.6-3. Current Land Use Map



Source: King County Assessor, 2017; BERK, 2020.

PCI Plan: Surrounding Land Uses

Northwest of Planning Area 1 is the City's Sewer Treatment Plant and City Shops; see Exhibit 3.6-3. North of Planning Area 1, King County Parks has acquired land for the Snoqualmie Valley Trail; it is largely undeveloped as seen in Exhibit 3.6-2. Downtown Snoqualmie is located across the river to the west.

Land uses north of Planning Area 2 include a CalPortland mining operation; see Exhibit 3.6-3. Land uses off-site to the east of Planning Areas 2 and 3 are vacant and planned for future parks. South of Planning Areas 1 and 3 lands are mostly undeveloped; Portions of this area are planned for a trail. See Exhibit 3.6-3.

Planning Area 1: Onsite and Surrounding Land Uses

Planning Area 1 is about 102 acres in area and is predominantly undeveloped; it was used historically for log storage, and most development was located on the eastern portion of the site. Planning Area 1 has a loop road system and no structures; see Exhibit 3.6-2 and Exhibit 3.6-3.

As described above, King County Parks owns largely undeveloped land north of Planning Area 1, and the City owns the Sewer Treatment Plant northwest of Planning Area 1; see Exhibit 3.6-3. North of Planning Area 1 and the city limits, a property with "no information" in Exhibit 3.6-3 is owned by a land developer and has no structures. Planning Area 1 contains an area subject to a wetland conservation easement, which abuts land planned by King County for park use to the north of the site.

Shoreline Use Patterns

PCI Plan

The Snoqualmie River and Borst Lake are regulated as shorelines of the state by the Shoreline Management Act (SMA) and the City's Shoreline Master Program (SMP); lands within 200 feet of the ordinary high-water mark are considered shoreline management areas and are subject to the city/state permit process for substantial development. Shoreline jurisdiction, as defined by the state and City of Snoqualmie, also include the entire floodway and areas 200 feet landward of the floodway. As shown in Exhibit 3.7-7 and Exhibit 3.7-8, the shoreline jurisdiction traverses Planning Area 1 and Planning Area 3.

Per Exhibit 3.6-3, the site landscape within proximity to shorelines reflects mostly open land with little development. There are remnant small mill site improvements such as unpaved roads, scatted small buildings and tanks, power and sewer plant buildings, and open former storage areas where wood and waste-wood were once stored.

Planning Area 1

Within Planning Area 1 the shoreline management area was used historically for log storage and sorting, and now is undeveloped with unpaved road and no structures.

3.6.2. Impacts

This section reviews potential land use impacts of the alternatives considering the following land use topics:

- The change in intensity, character, and activity onsite and along shorelines;
- The compatibility of the alternatives with current land uses on adjacent properties;

The analysis focuses on changes in land use and shoreline use; applicable plans, policies, land use designations, zoning, and shoreline designations are addressed in Section 3.7 Consistency with Plans and Policies.

Impacts of Proposal

PCI Plan

Change in Intensity, Character, and Activity

Though the site was previously used for resource-based industrial activities, most of the site area was used for storage; only approximately 2% of the total site was developed with buildings. The proposal would redevelop the site from an obsolete and dormant heavy industrial brownfield property into a mixed-use employment center. The proposal would create a mixed-use master planned development containing residential, retail, industrial, office, and open space uses. Approximately 1.83 million square feet of space and building coverage of 16% would be developed; an additional 26% of the site would be developed with impervious areas such as parking and circulation. Approximately 64% of the site would be retained in open space.

Planning Area 3 is planned to contain the greatest amount of building space, focused primarily on office, with supporting retail and restaurant uses. Planning Area 1 would be second most intensive in terms of building space, with the greatest mix of uses, including warehouse/manufacturing, light industrial, retail, restaurant and residential. Planning Area 2 would be the least intensively developed, containing warehouse/manufacturing uses along with substantial open space.

On-site, uses would be compatibly laid out with light industrial and warehousing in the northeast where most of the existing industrial structures are located; these uses would help buffer uses internal to the site from the mining operation to the north. An office campus is proposed in the southeast between more active mixed-use areas on the west and future open space and trails on the east. The west side of the site, which is more proximate to downtown and city facilities, is planned with a mix of light industrial, retail, and residential uses. This land use pattern is described further below.

On-site activity would increase substantially with the addition of daily employment and residential use, as well as customer visits to planned retail and restaurant activities. The number of jobs would increase to 3,410, and 160 dwelling units would be constructed in mixed-use buildings.

Compatibility with Adjacent Uses

Proposed development will convert the former mill site and present low-intensity interim commercial and industrial uses to a more intensive mixed-use employment center. On-site development would be intensive in some portions of the site, interspersed with open space, and surrounded by active and passive open space that will buffer development from vacant and park lands to the north and vacant lands to the south. Thus, land use conflicts and incompatibilities to the north and south are not anticipated to occur.

Future development will be adjacent to the City wastewater treatment plant property to the west; significant conflicts or incompatibilities are not anticipated given that both areas would be urban in character and the closest onsite uses would be industrial. See the discussion of residential uses under Planning Area 1 below regarding the adjacent sewer treatment plant.

Future development would be proximate to and visible from the future Snoqualmie Valley Trail to the east. From this perspective, the master plan would appear as a relatively intensive development in a rural environment; this contrast in intensity of use is similar to what has existed historically, but some trail users could view an intensive industrial development in a rural valley as a conflict. Until trail planning is more advanced, however, it is not clear how much of the interior of the site will be visible from the trail. Landscape treatments could help ensure compatibility between the development and the trail. Views and aesthetic impacts are discussed in Section 3.9 of the EIS.

Shoreline Uses

Open space would be retained along the southern portion of the site, closest to the river; the planned pattern of open space conservation adjacent to the shoreline would improve current conditions that show small tanks and shop buildings and informal access roads. Some of the area already used for informal access would be formalized and used for vehicular and pedestrian access. Along the west, shoreline uses would be more intense, changing from areas once cleared and used for log storage to more formal roads, parking, and buildings containing light industrial, retail, and live-work units.

Planning Area 1

Change in Intensity, Character, and Activity

Planning Area 1 would contain 604,000 square feet of mixed-use development including warehouse/manufacturing, light industrial, retail, restaurant and residential uses; it would represent about one-third of planned building space across all Planning Areas. Of the 102-acre area, about 11 acres would be covered with building space, other impervious areas would represent about 22 acres, and 69 acres would be retained in open space. About 5 acres of the open space would be active landscaping, and the balance would be natural open space including compensatory stormwater storage; about 53 acres of the 69 acres would be subject to a conservation easement.

Planning Area 1 is largely vacant though previously cleared, filled and used for log sorting and outdoor storage. The development in Planning Area 1 would result in an intensively developed

urban environment, which is very different from what exists today. While mixed uses would result in a new type of land use pattern onsite, it would not be dissimilar from the mix of urban uses in downtown Snoqualmie. As discussed in Section 3.7, development would be consistent with the mixed-use employment center envisioned in the City's Comprehensive Plan and allowed by the PCI zoning district.

In Planning Area 1, retail and residential uses would be mixed with and abut light industrial areas located on the north, separated by Mill Street and parking lots. Live-work units would abut retail uses, and, in some cases, be proximate to light industrial uses. Light industrial activity will be indoors, and live-work business may involve light manufacturing; this proximity of uses may be desirable for some business owners. Building codes would ensure appropriate construction standards to prevent impacts to live-work uses.

Compatibility with Adjacent Uses

While Planning Area 1 would be more urban in character than some adjacent uses, proposed open space lands to the north and south would separate development from vacant property and planned parkland to the north, and from the river and lake to the south. Residential uses lie to the north and northeast of the future parkland. The vacant property outside the study area to the north is intended for urban residential uses. Given the open space separating development in Planning Area 1 from adjacent uses, and heavy vegetation retained on the perimeter of the Mill site, no direct land use conflicts or compatibility impacts with off-site uses are anticipated.

Planning Area 1 would allow more intense uses adjacent to the sewer treatment plant than presently exist. However, the light industrial uses permitted in the zoning code and anticipated in Planning Area 1 would be compatible with the sewer plant use.

Residential uses in Planning Area 1 would be separated by other on-site uses, and they would be about one-eighth of a mile from the developed portion of the sewer treatment plant; thus, incompatibility between future on-site residential uses with adjacent wastewater plant uses is not anticipated.

Planning Areas 2 and 3 would be master planned and developed according to design and landscape standards intended to ensure compatibility with Planning Area 1. Planning Area 1 would be separated from Planning Areas 2 and 3 by the planned central open space, flood storage and wetland conservation areas.

Shoreline Uses

Along the west, shoreline uses would be more intense, changing from areas once cleared and used for log storage to more formal roads, parking, and buildings containing light industrial, retail, and live-work units.

Indirect and Cumulative Impacts

The proposed Snoqualmie Mill PCI plan is intended to implement and be consistent with the underlying land use and zoning designations for the property. Potential indirect impacts of

proposed development include the potential for the proposal to act as a catalyst for additional land use change and development adjacent to the site or elsewhere within or adjacent to the city. While some degree of pressure for change may exist, it is not certain to materialize and is not necessarily an adverse impact. It is reasonable to assume, for example, that the City of Snoqualmie, and King County in adjacent unincorporated areas, will in the future act consistent with their respective adopted land use plans and zoning designations; this would minimize the likelihood of land use conflicts or development that is out of scale, out of character, or inconsistent with City or County policy. Indirectly, remediation of a brownfield site affected by legacy pollution in conjunction with development would be a positive impact, which would benefit the environment and the local economy.

Section 3.6 Land and Shoreline Use evaluates the Proposed PCI Plan in the context of planned land uses as expressed in the Comprehensive Plan, in the city as a whole, on the Snoqualmie Mill site, and in the Mill Subarea. The section also evaluates relationships of development of the proposed PCI Plan to planned and existing land uses adjacent to the site, including land uses in unincorporated King County. This foregoing analysis encompasses existing, known, and reasonably foreseeable planned and proposed land uses and is, therefore, cumulative in scope and content.

Alternatives

Redevelopment Alternative

PCI Plan

Change in Intensity, Character, and Activity

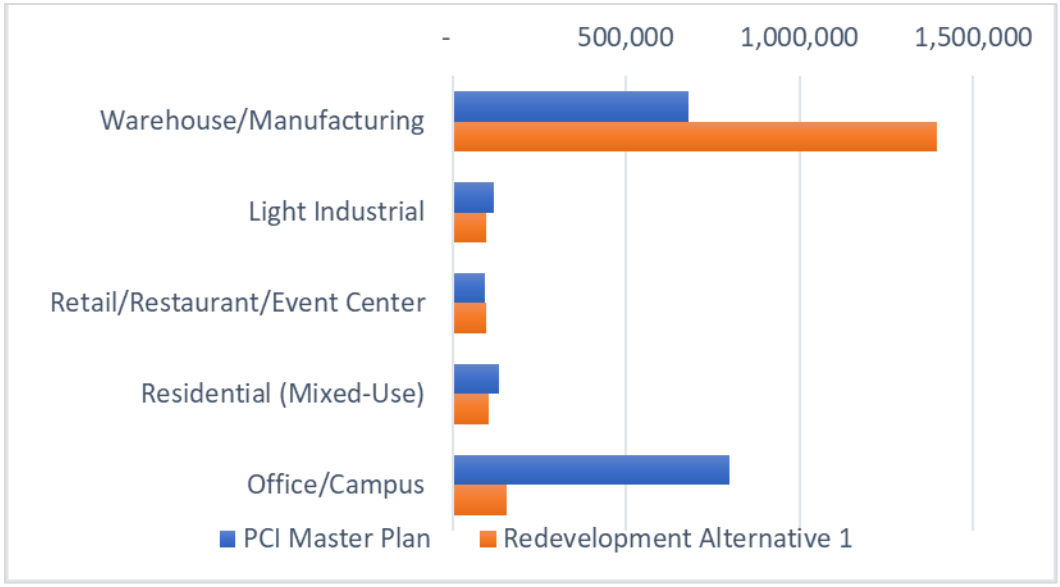
The Redevelopment Alternative would have 22,700 square feet (roughly 1%) more gross leasable area than the Proposal, but it would provide a different mix of uses. See Exhibit 3.6-4.

There would be three main differences in the land use mix under the Redevelopment Alternative compared with the Proposal:

- More Warehouse/Manufacturing and less Office/Campus,
- Less Residential space, and
- Addition of an Outdoor Performance Space in Planning Area 3 and a somewhat larger Event Center in Planning Area 1.

While there would be slightly more building space and comparable building coverage (16%), the number of jobs would be far lower at 1,570 under the Redevelopment Alternative. There would also be fewer mixed-use residential dwellings (120 instead of 160 units) than under the Proposal. Overall, there would be less daily employment and residential activity in a similar footprint of development.

Exhibit 3.6-4. Comparison of Land Uses – Proposal and Redevelopment Alternative



Source: Goldsmith, 2017; BERK, 2017.

There would be greater customer and tourist visitors attending the outdoor performance space. Weekend and evening use would be seasonally higher with such a use than under the Proposal.

Onsite uses would be designed for compatibility, separating more intensive activities from less intensive activities by landscaping or parking areas. Vertical mixed uses would be intentional with live-work style homes and commercial businesses located together.

Compatibility with Adjacent Uses

Compatibility of uses under the Redevelopment Alternative would be similar to that described in the Proposal, with the primary differences described below:

- Warehouse/Industrial: Warehouse/Industrial would be added to Planning Area 3 and would abut trail uses to the east and open space/vacant land to the south. Depending on the location of warehouse/industrial in relation to office campus uses in Planning Area 3 and the alignment of the planned trail, there could be some compatibility impacts with the trail to the east. Design and landscape standards and appropriate transitions could reduce potential impacts.
- Outdoor Performance Space: The outdoor performance space in Planning Area 3 would consist of an approximate 3.7-acre open space with a 2,000-square foot stage. It would be designed to support other onsite uses, such as wineries and retail areas, but would function primarily as a local and regional entertainment venue for concerts and events. Use of the space would be seasonal, and most events are expected to occur in the evening and on weekends, after normal business hours.

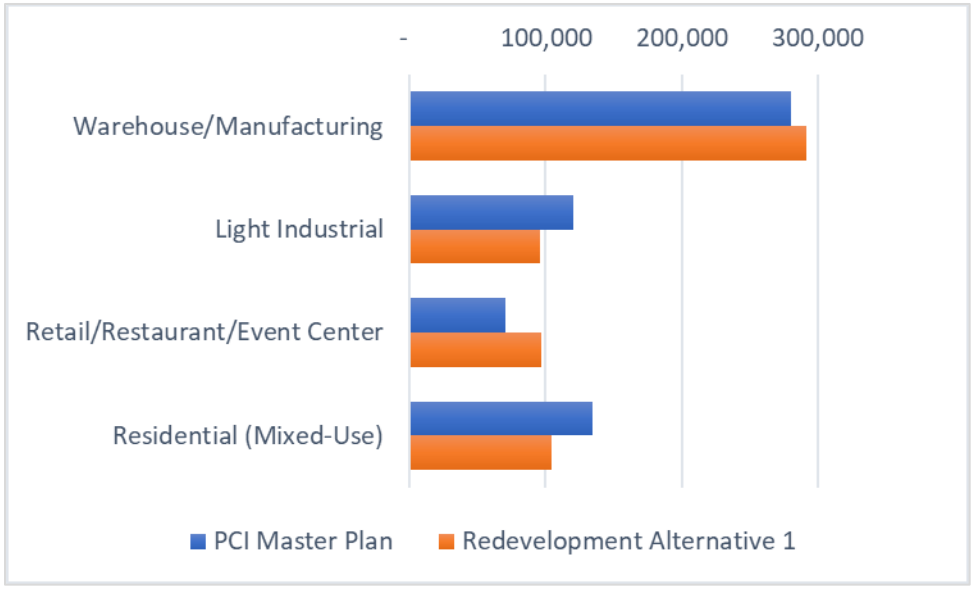
  Based on planned location of the space, performances would occur near to planned office,

warehouse, and industrial uses in Planning Area 3, and it is possible that there could be some conflicts between performances and on-site employment uses due to lighting, noise, and traffic. Noise impacts would generally attenuate with distance from the entertainment venue. The lower employment density of the Redevelopment Alternative would generally result in less potential impacts on-site from outdoor performances; off-site noise and traffic impacts are discussed in those respective sections of the EIS. The outdoor performance area would be a more intense but sporadic use compared to the trail and park to the east, and open space to the south; however, due to the temporary and seasonal nature of the performance use, significant compatibility impacts are not anticipated. If the park abutting the trail were designed for passive recreation the concerts could alter the quiet expected at such a park, but the disturbance would be temporary; some passive park users may enjoy the performances remotely. Additionally, recreationalists may enjoy the ambient outdoor performance as they pass through.

Planning Area 1

In Planning Area 1, there would be more warehouse/manufacturing and less light industrial space under the Redevelopment Alternative compared with the Proposal. There would be more retail/restaurant space, a larger event space, and less residential space; see Exhibit 3.6-5. The use of Planning Area 1 for more customer/visitor experiences would be greater under the Redevelopment Alternative than the Proposal, and there would be less daily employee and resident usage.

Exhibit 3.6-5. Comparison of Redevelopment Alternative and Proposal in Planning Area 1



Source: Goldsmith, 2017; BERK, 2017.

Under the Redevelopment Alternative, the compatibility of Planning Area 1 uses is anticipated to be similar as with the Proposal. The Event Center would be an enclosed space and similar in character to other commercial uses. The use would be internal to the site and separated by

open space from other less intensive off-site uses to the north and south. Land uses to the west are compatible (sewer treatment plant), and those to the east would be part of the master plan with similar uses and common design and landscape standards.

No Action Alternative

PCI Plan

There would be no change in current land uses or the type or level of development, leading to the least activity on the property among the alternatives. Existing on-site uses, including DirtFish, would continue indefinitely. The site would not redevelop in the foreseeable future.

Planning Area 1

Planning Area 1 would remain largely vacant and would not promote the mixed commercial and industrial uses called for in adopted City plans and codes. There would be no change in shoreline character; existing remnant structures and site alterations would remain.

3.6.3. Mitigation Measures

Incorporated Features of Proposal

PCI Plan

The Proposal includes an open space strategy that focuses development into approximately one-third of the site area and separates it from other uses to the north, and the river and lake to the south. As proposed, approximately 68% of open space would be maintained and enhanced and would include:

- Natural Open Spaces – sensitive area wetlands and streams, buffers, regraded and revegetated buffers; stormwater management (treatment) areas; and floodplain management (compensating storage) areas.
- Landscape and Active Open Spaces – public spaces and landscape areas incorporated into the site design including public plazas, public open spaces, green areas, commons areas, grassy areas, and active/passive trails through the natural open spaces.

The PCI Application proposes to develop Covenants, Conditions, and Restrictions (CC&Rs) and to adopt design guidelines and a design review process that would address land use, site planning, and design, prior to submittal and City review of building permit applications. The design guidelines would address the following:

- Permitted uses; site planning and design; dimensional requirements, including building height, lot coverage, and setbacks; architectural design; building materials; off street parking; landscaping; lighting; signage; outdoor storage; and operational performance standards (e.g., to control noise and other emissions).

Planning Area 1

Planning Area 1 would develop with a pedestrian-oriented retail/mixed use main street and an active open space feature on the east. Passive open space would be located to the north and south and retain wetlands. A heavily vegetated buffer would be retained and enhanced in some locations, along the perimeter of the site.

Other Responsibilities and Requirements

Application of the City's Comprehensive Plan policies and designations, zoning code requirements, and SMP standards, together with the Post-Annexation Implementation Plan and proposed Development Agreement, are anticipated to provide sufficient guidance to mitigate potential land use conflicts and ensure compatibility among planned uses.

- Comprehensive Plan: The Snoqualmie Comprehensive Plan Land Use Map identifies the study area predominantly as Planned Commercial/Industrial, which "requires a master-planned development plan for a potential mix of commercial, office and light industrial and manufacturing uses." The Parks/Open Space designation allows commercial recreation uses and natural open space. The master plan is intended to create a cohesive mixed-use employment area with open space features.
- Zoning Code: The Zoning Districts implement the Comprehensive Plan with a PCI district and Open Space-2 district. These zones regulate permitted uses and dimensional standards to promote compatible and predictable development patterns.
- Shoreline Master Program: The City adopted an updated SMP for shorelines within the city limits consistent with the goals and policies of the Shoreline Management Act. The updated SMP allows planned shoreline uses, public access, and environmental conservation. The updated SMP was adopted in August 2019 and was submitted to the Department of Ecology for review; agency comments have not been received as of this writing and will be addressed in the Final EIS, as appropriate.
- Post-Annexation Implementation Plan (AIP): The AIP provides information about current land uses and the anticipated transition to future land uses. It reinforces the applicability of PCI and Open Space-2 zone uses and provides a Planning Area Overview Exhibit that shows areas of development, conservation, and phasing. The PCI Plan application is intended to fulfil the Post-Annexation Plan requirements.

Other Potential Mitigation Measures

See Section 3.9 Aesthetics, Light, and Glarefor proposed site and landscape mitigation measures that would assist with land use compatibility.

3.6.4. Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are anticipated. The site would develop as intended in City's plans and codes, and in the approved AIP. Planned redevelopment would create a mixed-use commercial and industrial neighborhood. Open space and public access would be

provided along the shoreline. There would be a significant and unavoidable change from the former mill and remnant industrial uses; currently dormant lands would be redeveloped to more intensive mixed urban uses, but extensive open space would separate proposed PCI Plan uses from off-site uses. The Proposal would create a cohesive master-planned community, and together with anticipated design and landscape standards, it would allow sufficient transitions of land uses on-site and off-site. The impacts of the change in land use are not considered to be adverse.

3.7. CONSISTENCY WITH PLANS AND POLICIES

This section of the EIS evaluates the consistency of the proposed PCI Plan (also referenced as the Proposal) with selected regional and local policies and development regulations. The discussion is focused on consistency with the City's Comprehensive Plan, including annexation implementation plan requirements, zoning regulations, shoreline requirements and flood hazard regulations. King County land use designations applicable to unincorporated lands adjacent to the Snoqualmie Mill site are also described.

This section is organized to describe each relevant source of policies and regulations and to provide a discussion of consistency of the Proposal.

Consistent with SEPA Rules at WAC 197-11-440 (6), this section provides a summary of existing plans and development regulations applicable to the Proposal, and how the Proposal is consistent and inconsistent with them. The Proposal and Redevelopment Alternative are similar in numerous ways, apart from growth levels and entertainment uses, and several environmental effects. But at a policy level, the consistency of the Redevelopment Alternative is nearly the same as the Proposal; the major differences include providing relatively fewer and different types of jobs, less housing /population, reduced service demands and less revenue, which in turn would fulfill City economic development policies to a lesser degree than the Proposal.

This section does not compare the No Action Alternative to adopted policies; the focus of the discussion, as set forth in the SEPA Rules, is on the Proposal's consistency with adopted policy. The No Action Alternative would not meet the City's adopted policy goals for the subarea because it does not offer development that supports the Regional Growth Strategy; it would not provide job and housing opportunities, infill development, or opportunities for environmental enhancement (e.g. wetland buffer enhancement and remediation of past legacy) highlighted in Comprehensive Plan policies.

3.7.1. Puget Sound Regional Council: Vision 2040

Vision 2040 Summary

Vision 2040 is a *Regional Growth Strategy* for accommodating and focusing population and employment growth in the designated Urban Growth Area (UGA), within cities and, more specifically, within centers in cities.

Centers are locations characterized by compact, pedestrian-oriented development, with a mix of different office, commercial, civic, entertainment, and residential uses. Centers of different sizes and scales — from the largest centers to the smallest — are envisioned for all the region's cities; they are expected to receive a significant proportion of future population and employment growth.

Concentrating growth in centers allows cities and other urban service providers to maximize the use of existing infrastructure, make more efficient and less costly investments in new

infrastructure, and minimize the environmental impact of urban growth. Centers create improved accessibility and mobility for walking, biking, and transit, and as a result play a key transportation role in the region.

The *Regional Growth Strategy* focuses most of the region's employment and housing growth into both Metropolitan and Core Cities, which together contain more than two dozen designated Regional Growth Centers. At a smaller scale, locally identified city and town centers also serve similar roles for Small Cities, providing services and housing that support vital and active communities at intensities appropriate to smaller municipalities. Free-Standing Cities and Towns, a category that includes Snoqualmie, are urban islands surrounded by rural and resource lands and separated from the contiguous UGA. They are intended to serve as hubs for relatively higher density housing choices, and as job and service centers for surrounding rural areas. These cities may also designate Local Centers to help focus growth in compact areas.

Vision 2040 Discussion

Consistent with Vision 2040 Regional Growth Strategy, the Snoqualmie 2032 Comprehensive Plan, which was updated in 2014, identifies the project site as a planned Local Center (see Economic Development Element, p. 3-8; and Land Use Element, p. 7-6). Redevelopment of the project site for a mix of commercial, industrial, retail, residential and open space uses, in a compact pattern, and generation of a significant number of jobs would be consistent with the intended functions of a Local Center.

3.7.2. Snoqualmie 2032: Snoqualmie Comprehensive Plan

Land Use Designations

Summary

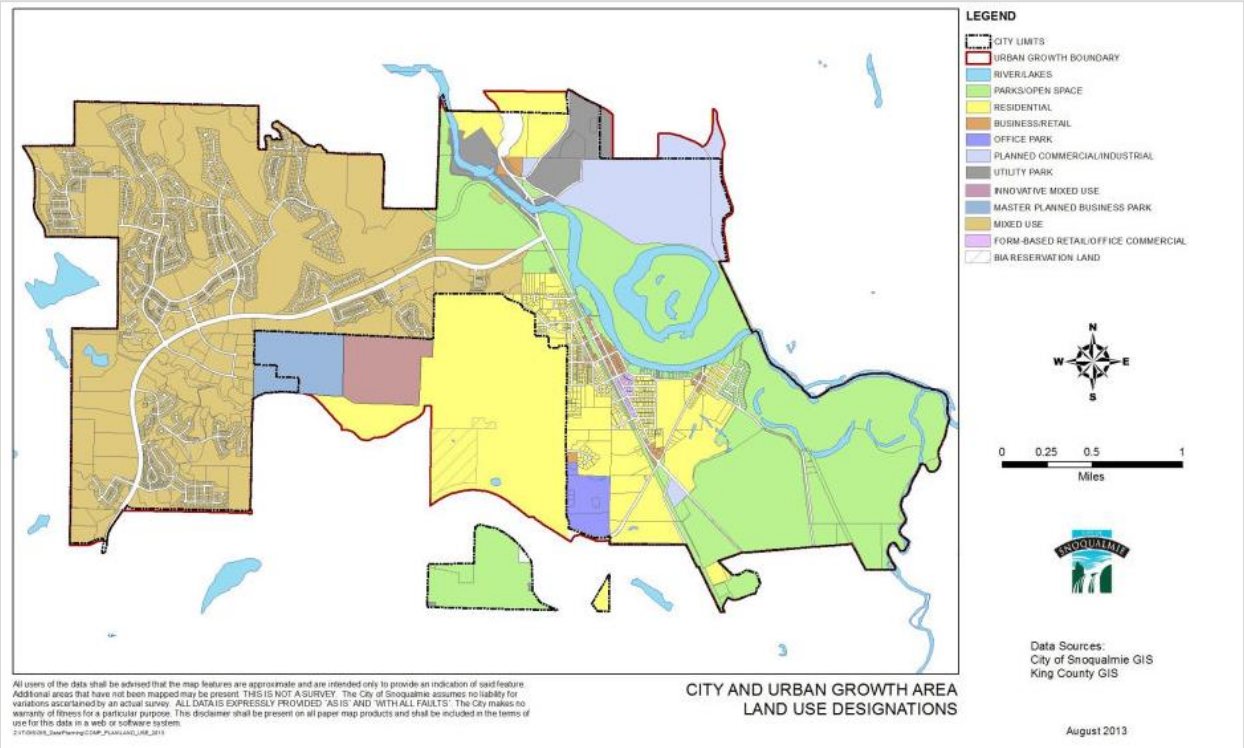
Snoqualmie 2032

The Snoqualmie Comprehensive Plan Land Use Map identifies the study area predominantly as Planned Commercial/Industrial, which "requires a master-planned development plan for a potential mix of commercial, office and light industrial and manufacturing uses." This designation applies in the city limits and UGA. See Exhibit 3.7-1. Policies also allow for institutional uses in the Planned Commercial/Industrial designation (Policy 7.6.2)

A smaller portion of the project site, located southwest of Planning Areas 1 and 3, is designated as Parks/Open Space. See Exhibit 3.7-1. The Parks/Open Space designation allows: "Active and passive recreation areas, allowing for museums, natural/cultural interpretive centers, community centers, golf courses and other commercial recreation uses in some areas, agriculture, along with natural open space and wildlife corridors."

City of Snoqualmie zoning designations applicable to the site are discussed below; see Policy 3.3.4 and the subsection on zoning.

Exhibit 3.7-1. Comprehensive Plan Future Land Use



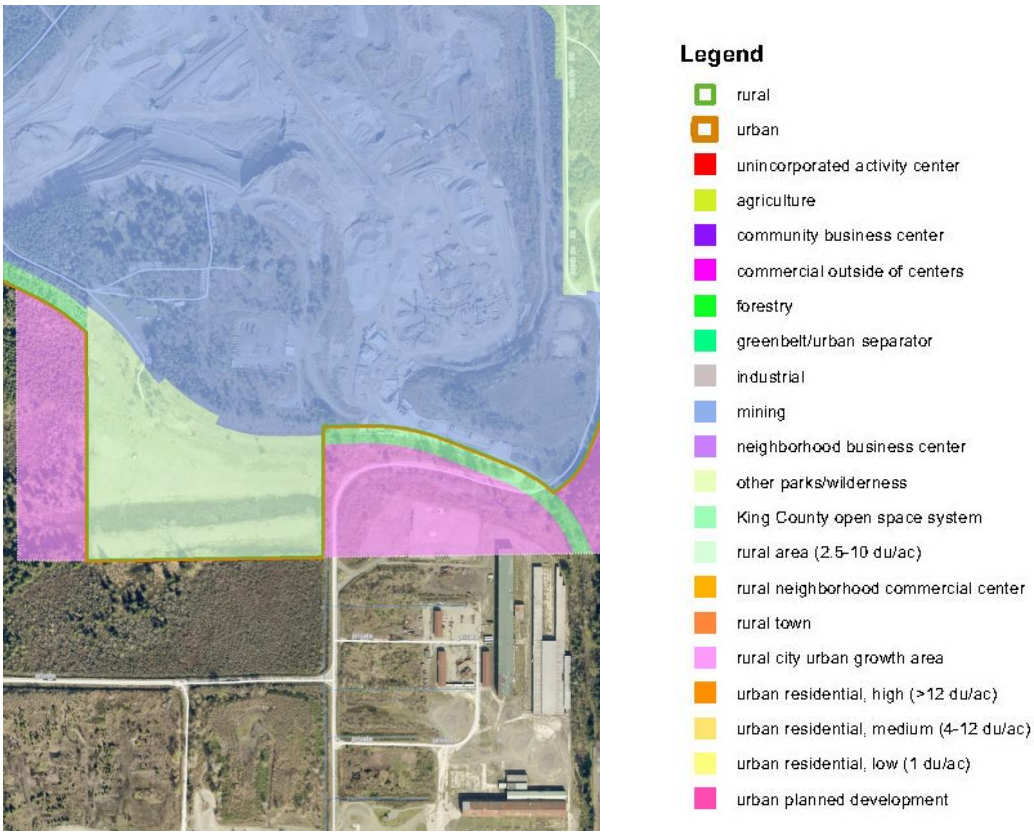
Source: City of Snoqualmie, 2014.

King County Comprehensive Plan and Zoning Designations

Some lands adjacent to the Mill site are within unincorporated King County. The 15.7-acre area in the northeastern portion of the site, currently outside the city's corporate boundary, is designated by King County's Comprehensive Plan as "Rural City Urban Growth Area." This designation indicates that it is intended to be annexed to the city in the future. Current King County zoning for this parcel is Industrial: property-specific (p-suffix) conditions applicable to the parcel refer to resource-based industrial use pursuant to a master plan. The City's Comprehensive Plan also identifies the parcel as being within the City's UGA.

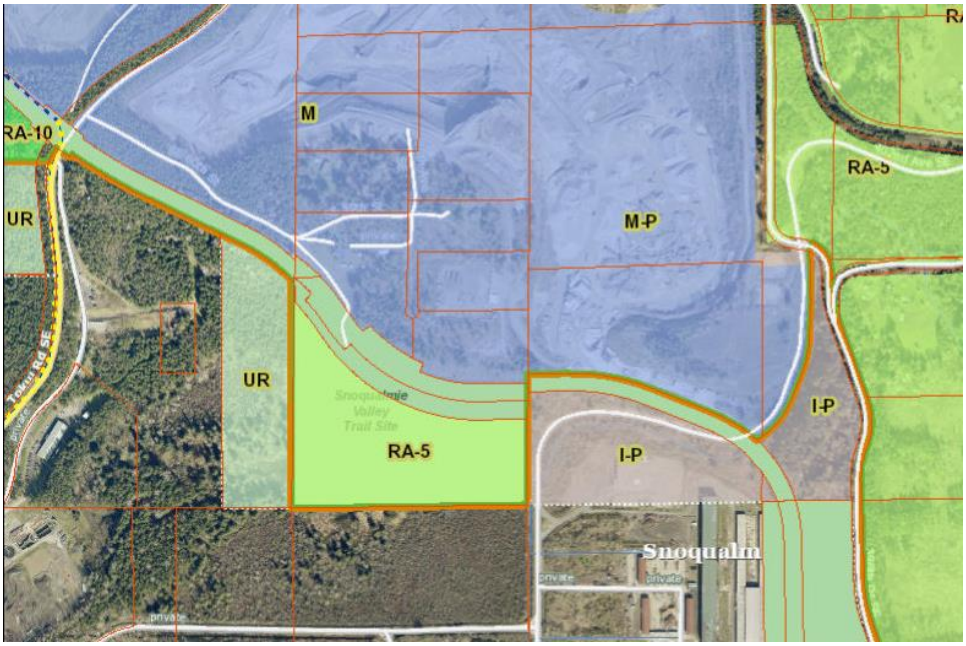
The Rural City Urban Growth Area designation (and Urban Reserve (UR) zoning)) also applies to land northwest of Planning Area 1. The future Snoqualmie Valley Trail is designated as "King County Open Space System" and "Rural Area" (zoned RA-5 acres) to the north. The CalPortland mining site north of Planning Area 2 is designated "Mining". See Exhibit 3.7-2 and Exhibit 3.7-3.

Exhibit 3.7-2. King County Comprehensive Plan Land Use Designations



Source: King County iMap, 2017.

Exhibit 3.7-3. King County Zoning



Legend: M – Mining, UR – Urban Residential, RA-5 – Rural Area-5, I – Industrial, P – Property Specific Condition
Source: King County iMap, 2017.

Discussion

Proposed land uses are consistent with the Comprehensive Plan's Land Use designations for the Snoqualmie Mill site. The PCI Plan proposes 1.83 million square feet of commercial, office and light industrial and manufacturing uses, and these uses are the focus of the PCI Land Use and zoning designations. The PCI Plan also includes 160 residential units in mixed-use buildings; multifamily residential use is conditionally allowed in the PCI zone. Proposed open space uses and trails are consistent with the Parks/Open Space designation. Compatibility of the PCI Plan with adjacent land uses and the area's land use pattern are discussed further in Section 3.6.

As noted previously, the 15.7-acre portion of the Snoqualmie Mill still site that remains in unincorporated King County would not be proposed for development until it is annexed to the City. At this time, the contemplated use of the parcel is primarily open space, which is less intensive than what is permitted by the current King County designation. Development of the PCI Plan for the uses proposed would be consistent with the Industrial designation of the unincorporated parcel.

Vision and Policy Plan

Summary

Comprehensive Plan policies applicable to the proposal are organized below according to Plan element.

Exhibit 3.7-4. Comprehensive Plan Policies

Policies	Discussion
Snoqualmie 2032: Vision	
The central themes of the City's vision for the community include the following: *Complete Community*, where residents may live, work and play with a full range of land uses and public and private services; *Sustainable Development*, a pattern of resource use that meets human needs (including social and economic considerations) and maintains health of natural systems. *Prosperity*, economic growth that supports desired development of health, well-being, community services, recreation, employment and other aspects of prosperity.	The PCI Plan would generally support the central themes of the City's vision. As described in Chapter 2 and Chapter 3, the Proposal would primarily contribute employment uses, along with retail services and some housing. It is not intended to function as a complete community by itself. As described in Sections 3.1 (Earth Resources), 3.2 (Air Quality and GHG), 3.3 (Water Resources), and 3.4 (Plants and Animals), development of the Snoqualmie Mill site would retain the majority of the site as open space, would avoid impacts to critical areas, and would enhance degraded buffers and habitat. Sustainable development would also be promoted by the project's design guidelines. The Fiscal Analysis (Section 3.16) indicates that tax revenues generated by the Proposed Action, during construction and operation, would contribute a substantial and positive increase in net revenues to the city annually. It would also generate a substantial number of jobs and would support tourism and economic growth.

Policies	Discussion
Economic Development	
3.2.1 Provide sufficient, appropriately zoned area to support growth of targeted industry clusters and improve the local jobs/housing balance.	The project site was zoned Planned Commercial/ Industrial (PCI) and Open Space (OS) upon annexation to the City in 2012. The PCI zone permits a wide range of commercial and light industrial uses; the proposal includes a range of warehouse, manufacturing, light industrial, office and restaurant/retail uses. The focus of Planning Area 1 is on attracting wine producers and/or outdoor equipment manufacturing and complimentary businesses. As of 2014, the City's balance of jobs to housing was approximately 0.76. At the time, the Comprehensive Plan estimated that the site would accommodate 822 jobs. Based on the current PCI plan, approximately 3,410 jobs could be located on the site at buildout, which is more than 3 times greater than the Comprehensive Plan estimate. Snoqualmie Mill jobs would have a positive effect on the city's balance of jobs to housing.
3.3.1 Build on local opportunities and competitive advantages by targeting specific business and industry sectors identified by the Puget Sound Regional Council's regional economic development strategy.	PSRC's regional economic development strategy (*Amazing Place: Growing Jobs & Opportunity in the Puget Sound Region (September 2017)* identifies tourism, food, and beverage – including wine production and wine tourism – as significant regional business sectors. The report notes: "The region's wineries are part of Washington's world-renowned wine industry, connecting the region to the state through grape production and tourism activities." The Proposal's targeting of these economic sectors in Planning Area 1 would be consistent with the regional economic development strategy.
3.3.4 Apply zoning controls that limit uses with low employment density, lower wage jobs, and/or minimal tax revenue to the City, particularly in the Snoqualmie Hills and Mill Planning Areas, including uses such as warehouse/distribution, server farms and similar uses.	The PCI zone applies to the site and permits a wide range of commercial and light industrial uses. Housing is a conditional use. The Proposal includes a range of warehouse, manufacturing, light industrial, office, restaurant/retail uses, and housing in mixed use buildings, all of which are consistent with permitted or conditionally permitted uses in the PCI zoning district. Based on the findings of the fiscal analysis in Section 3.16, the net increase in tax revenues to the City from the Proposal's mix of uses would be approximately $2 million annually.
3.5 The City has increased and directed visitor traffic to support tourism as a mainstay of the City's economic vitality.	Tourism is a significant element of the city's economic development strategy. The proposed action would leverage and expand existing tourism visits to the Snoqualmie Valley and provide a new attraction and destination.
3.5.3 Promote historic and cultural events, activities and urban design elements that build a distinctive sense of place and attract visitors, such as art and music events and public artworks.	The Proposal's design concept is intended to echo elements of the site's industrial history. Several historic buildings are proposed to be retained; they could be rehabilitated and reused if economically practicable. The PCI Plan is oriented to help focus views towards these historic structures and Mt. Si.

Policies	Discussion
3.5.7 Make optimum use of Meadowbrook Farm, Snoqualmie Point Park, and other large park and open space properties as premier event venues, while also promoting their passive use and enjoyment by visitors and residents.	Portions of the overall project site are zoned Open Space and are not proposed for development except for pedestrian trails and some utility infrastructure. The Redevelopment Alternative includes an approximate 3.7-acre outdoor performance space which, although not located on a site specifically zoned for open space, would function as a venue for music and other events; the use, although not included in the proposed PCI Plan, would be consistent with the Comprehensive Plan policy.
3.6.1 Balance development with environmental protection and conservation to maintain and enhance the health and beauty of the City's natural setting.	The Proposal would develop approximately one-third of the site for urban uses and retain two-thirds of the site as open space, landscaping, habitat, and compensatory flood storage. This relatively low intensity of development is intended to achieve a balance between development and conservation.
Housing	
4.2.1 Encourage innovative housing that helps promote City goals for affordability, high-quality sustainable design, and housing to meet diverse household sizes, types and age ranges, and consider flexibility in density and design standards to support such projects.	Housing is a conditional use in the PCI zone. The Proposal includes 160 units of market-rate rental housing located on the second floor and above in mixed-use buildings. These buildings would be in the pedestrian oriented mixed-use center in Planning Area 1. Units would be 1- and 2-bedroom in size.
Community Character	
5.1.2 Protect roadside views of the shoreline and other natural features from unnecessary clearing, signage and other visually degrading features or practices, and allow for the maintenance of existing view corridors through vegetation management that minimizes sensitive areas impacts.	Existing vegetation currently blocks most views into and from of the site. Views of the Snoqualmie River from Mill Pond Road would be retained. The realigned Mill Pond Road streetscape would provide an attractive walkable character and include sidewalks and pedestrian amenities, such as benches, street trees, planters, and ornamental lighting. A roundabout would be constructed at the project entrance on Mill Pond Road and would provide access to Mill Street, the main street through the mixed-use village center. The roundabout would be landscaped and complement the trees and landscaping on roadsides. See Exhibit 2.3-5 River Outfall Landscaping in Chapter 2. No impacts to wetlands would occur in Planning Area 1, although some buffers could be disturbed and/or restored or enhanced consistent with city regulations. Impacts to sensitive areas from subsequent phases of development would be evaluated and determined, and avoided or minimized to the extent possible, as detailed planning progresses.
5.1.4 Encourage all public and private projects to incorporate neighborhood profile design recommendations from Element 3 Community Character and incorporate pertinent sections of the 2006 Downtown Master Plan.	See the *Community Character* discussion following.

Policies	Discussion
Community Character Element Neighborhood Profile: E9. Mill Site Development in this area should incorporate the following features: <u>Streets, Sidewalks & Trails</u> Improve vehicle access to the site to serve the projected traffic volumes of proposed developments. Develop connections to Snoqualmie River Walk and the regional SVT Trail. <u>Other</u> Ensure environmental cleanup sufficient for intended development uses. Encourage assessment of the Mill Pond waters and development of public access as appropriate. Protect and, as funding allows, provide support for the rehabilitation and adaptive reuse of the old powerhouse building.	The features identified in the Community Character Neighborhood Element for the project site have been incorporated into the proposed PCI Plan to the extent they are within the applicant's control. <u>Streets, Sidewalks & Trails</u> The transportation section of the EIS indicates that, with programmed improvements and proposed mitigation, all affected roads would operate at acceptable levels of service. As required by the Pre-Annexation Agreement, the applicant has committed to provide land to the City and King County to connect to planned local and regional trails. <u>Other</u> Section 3.5 of the EIS discusses legacy site contamination from historic industrial use in Planning Areas 2 and 3 and proposes a strategy and plan for further investigation and remediation consistent with MTCA standards in conjunction with phased development of the site. No contamination has been identified in or affecting Planning Area 1. The Mill Pond is not owned or controlled by the applicant and is not part of the Snoqualmie Mill site that is included in the PCI application. Any additional investigation or development would be the responsibility of the property owner. As noted previously, the applicant intends to preserve the Powerhouse and the Planer building; the economic feasibility of rehabilitation and adaptive use are being evaluated.
5.1.5 Employ zoning and development standards for site planning, building design, and landscaping that encourage appropriate infill development and maintain or enhance neighborhood character.	Although this policy appears to be intended to provide direction to the City, the Proposal would help to implement it. The PCI Plan represents redevelopment of a brownfield infill site, and it would be developed at relatively low intensities and would maintain extensive open space and landscaping. Proposed uses are consistent with applicable PCI district zoning standards; in some instances, development standards could be modified as permitted by the PCI district and the PUD process.
5.1.7 Use a Design Review Board to oversee commercial and industrial development, including site planning, exterior features, parking, signage, landscaping, sidewalk design, lighting and related elements.	The City's Planning Commission, which will review the proposed PCI Plan, also functions as the design review board for commercial and industrial development projects. The applicant will also create a set of design guidelines and an architectural review committee, which will review development plans for consistency with established objectives. The design guidelines, which are summarized in Chapter 2 of the EIS, will address the design elements mentioned in Policy 5.1.7.

Policies	Discussion
5.2.1 Work individually and cooperatively to identify and evaluate important aspects of historical and cultural heritage and adopt appropriate regulations or other strategies to protect these resources.	The applicant and EIS consultants are consulting with the state Department of Archaeology & Historic Preservation, affected tribes, King County, the Japanese Cultural & Community Center of Washington, and interested residents to identify and document the site's history and cultural heritage. The PCI Plan also preserves, and is investigating potential reuse of, the historic Power Plant and Planer Building.
5.2.7 Work with property owners and developers to implement best management practices and/or adaptive reuse strategies that will reserve the character and viability of our historic sites, buildings, districts, landscape features and neighborhoods.	As noted in the discussion of Policy 5.2.1, the applicant is working with agencies, tribes and interested organizations and citizens, and professional consultants to document and preserve remaining structures and other elements of the site's industrial history. The Power Plant and Planer Buildings are being investigated for potential reuse; it is uncertain whether restoration will be economically practicable.
Environment	
6.1.2 In protecting and enhancing sensitive areas, incorporate the full spectrum of planning and regulatory measures including the comprehensive plan, shoreline master program, development regulations, stormwater management plans, project mitigation, and state and federal programs.	The site contains numerous critical areas – including wetlands, streams, geologic hazards, shorelines – all of which are regulated by a variety of city code provisions. Various sections of the EIS evaluate how critical areas could be affected by planned development and identify measures to mitigate potential impacts (E.g., see sections 0, 3.3, and 3.4). The City will adopt appropriate conditions of approval that address affected critical areas.
6.1.5 Locate open space areas to protect critical areas such as wetlands, landslide hazard and erosion-prone areas, and maintain such areas in their natural condition, including native vegetation preservation.	Most of the project site has been extensively disturbed to facilitate its historical use as a lumber mill. Although wetlands and streams occur on the property, little, if any, of the site is in a natural condition. The PCI Plan proposes to retain and enhance a significant portion of the central area of the site for wildlife habitat, passive open space, landscaped areas, on-site mitigation, and compensatory flood storage.

Policies	Discussion
6.4 Natural hydraulic, hydrologic and habitat functions, and scenic and recreational values, of rivers, streams, wetlands and natural drainage courses, are protected.	See Section 3.4, Plants and Animals. The PCI Plan would avoid direct impacts to wetlands and streams. Though degraded wetland buffers would be reduced in width in some individual locations in Planning Area 1, they would be enhanced and restored, creating an improved condition and net increase in buffers in Planning Area 1. The PCI Plan includes a Master Drainage Plan that would comply with King County's Surface Water Design Manual requirements and be consistent with City standards. Policy 6.4 to protect hydraulic and wetland and stream habitat values would be met. The PCI Plan would not adversely impact threatened, endangered, and sensitive species. Current open space and vegetation supports other wildlife species, including elk a Priority Species. With site development, open space would be reduced but would still constitute almost two-thirds of the overall site. Elk would use the central habitat corridor identified in the PCI Plan as well as offsite river corridor habitat and other adjacent rural open space. As described in Section 3.4 of the EIS, some indirect impacts to wetland vegetation and wildlife as a result of increased human activity and associated disturbance on site are unavoidable; the site is planned for urban infill development but much of the site would be retained in open space. EIS Section 3.13 Parks demonstrates the ability of the PCI Plan to meet recreation values.
6.5 Public health and property damage risk associated with flood and geologic hazard areas have been reduced, while preventing irreparable harm to regionally significant ecological resources. A tradeoff of small, isolated wetlands in exchange for a larger connected system can achieve greater resource protection, reducing wetland habitat fragmentation.	Compensatory storage would be provided by the PCI Plan to reduce flood impacts. While some impervious area would increase, most of the site would be retained in open space and habitat, e.g. enhanced and restored wetland buffers. Under any development scenario, the project site would be subject to seismic risk, including potential structural damage and lateral spreading, and the banks of the Snoqualmie River would be subject to ongoing risk of erosion and channel migration of the Snoqualmie River. Future development under the Proposal would be designed to meet International Building Code standards for seismic hazards, and structures would be supported by deep foundation systems to avoid horizontal displacement. Except for a realigned portion of SE Mill Pond Road, no structures will be built within the mapped moderate or severe channel migration zones (CMZs) as required by the SMC; transportation structures (such as roads) are allowed in moderate and severe CMZs when no other feasible alternative exists. See Chapter 3.1 – Earth Resources.
6.5.3 Limit the scale and density of development in areas with severe geologic hazard potential, requiring development to minimize grading and restore native vegetation to the greatest extent possible.	See Discussion above under policies 6.4 and 6.5.

Policies	Discussion
Land Use	
7.1 Snoqualmie's urban growth area is sufficiently sized and configured to accommodate projected growth and maintains long term compatibility between a range of land uses.	The project site is within the City's UGA; the land use analysis in Section 3.6 concludes that the Proposal would be screened from and compatible with surrounding land uses. The Proposal would exceed expected job growth for the planning area and would provide some additional housing, helping the City to balance population and housing and to achieve its growth targets; see EIS Section 3.8.
7.2.1 Zone to allow and encourage mixed-use areas that integrate residential, commercial, office and public uses so that housing, jobs, daily needs and other activities are within easy walking distance of each-other.	The PCI zoning district that is applicable to the project site permits, either outright or by conditional use, a mix of commercial, industrial, and residential uses. Planning Area 1 would be developed along a pedestrian-oriented main street; it would locate housing and jobs within the same building or within walking distance of each other. The PCI Plan fulfills the intent of Policy 7.2.1.
7.2.5 Ensure land use and zoning changes do not result in significant adverse impacts to adjacent properties and require appropriate landscape buffers or mitigation to minimize the potential for incompatibility between existing and proposed uses.	The project site is separated from most surrounding uses by open space parcels, the Snoqualmie River, and roads. A vegetated buffer would be retained around the perimeter of the site, which would screen on-site uses from most off-site views, and mitigate potential land use conflicts or incompatibilities. The land use analysis in Section 3.6 does not identify significant adverse impacts to adjacent properties from development of the PCI Plan.
7.3.1 Limit creation of new single-family residential lots in the floodplain to low density where roads and services are adjacent, but allow for small lot infill and redevelopment with attached townhomes and residential units above commercial uses in the floodplain where such uses can be served by alleys and are within walking distance of the historic downtown commercial core.	The project site is located entirely within the floodplain; single family residential use is not proposed. The Proposal includes 160 multi-family rental units constructed above street-level commercial uses in the mixed-use portion of the site (Planning Area 1). This portion of the site is approximately ½ mile from downtown Snoqualmie as the crow flies but is a longer walking distance due to limited opportunities to cross the river. The City's 2019-2024 Transportation Improvement Plan includes a Snoqualmie River SR 202 Pedestrian Bridge, that would connect the downtown and River Walk trail to Snoqualmie Falls.
7.3.6 Do not permit the construction of critical facilities or heavy industrial uses within the floodplain unless there is no feasible alternative. Require critical facilities permitted within the floodplain to be elevated or flood proofed consistent with FEMA technical guidance.	The PCI zoning classification that applies to the project site permits light industrial uses but prohibits heavy industrial uses. Neither the Proposal nor alternatives would involve construction of heavy industrial uses or critical facilities within the floodplain. (Note that a preliminary site plan map erroneously identified heavy industrial uses as part of the plan.)
7.4.1 Maintain land use designations and zoning to allow and encourage a spectrum of housing types and price ranges that match the jobs in the City and make it possible for people to live and work in Snoqualmie.	Under the Proposal, housing would consist of 1 and 2-bedroom rental units. Apartments will be market rate and are intended to accommodate the local workforce.

Policies	Discussion
7.5.1 Provide enough areas with appropriate zoning to provide the full continuum of goods and services needed to serve the local population.	The site is zoned PCI and Open Space. The PCI zone allows a wide range of industrial, commercial, and other uses. The Proposal would provide jobs and some goods to serve the local community and regional tourism. However, it is intended to provide a limited range of commercial goods and services related to and compatible with wine production, or to serve on-site workers.
7.5.3 Allow and encourage neighborhood scale retail and service business uses within large-scale master- planned residential and mixed-use developments.	The Proposal would occur on a large site that is being master planned for primarily commercial and industrial uses. Planning Area 1 contains a compact main street area that would include a complimentary mix of office, manufacturing and retail uses. Retail uses would be complimentary to anticipated industrial production and would not consist of typical neighborhood retail and service businesses.
7.5.4 Require industrial development be designed to minimize environmental impacts, complement viewscapes, retain significant trees, and buffer impact-generating activities from other less intense uses.	This Draft EIS evaluates potential environmental impacts and identifies reasonable measures that could avoid, reduce, or minimize identified impacts. Section 3.9 of the Draft EIS identifies potential effects on viewscapes. The master plan is oriented in a manner to channel on-site views on preserved historical structures and on Mt. Si. Off-site views into the site are limited. Existing site vegetation is degraded and generally of low quality; Section 3.4 of the Draft EIS identifies measures to enhance vegetation and habitat.
7.5.6 Support the transformation of underutilized lands such as brownfields and greyfields to viable mixed-use or commercial/ industrial employment areas as appropriate.	As noted in Section 2.2, the project site is an underutilized "brownfield" property which is proposed to be redeveloped, cleaned up, and reused as a productive commercial/industrial employment area. Planning Area 1 would also contain a compact mixed-use area developed along a pedestrian-oriented main street. Section 3.5 discusses the status of studies and actions that have or will be implemented to address the site's legacy contamination.
Transportation	
8.1 A multi-modal transportation system that supports the City's planned land use pattern.	Under the PCI Plan, there would be a main street with pedestrian features as well as auto access. The applicant has transferred property to the east of the PCI Plan site to King County, which will be used for a regional pedestrian and bicycle trail. See Section 3.11 for addition discussion of multimodal transportation opportunities including auto, pedestrian, bicycle, and transit modes.
8.1.3 Ensure transportation improvements or strategies accommodate development impacts concurrent with that development and prohibit development if it causes the levels of service for transportation facilities to decline below adopted standards, as required by the GMA.	Based on the analysis in Section 3.11 of the Draft EIS, transportation improvements that will be implemented by the project or that are identified and programmed by the city and WSDOT, are sufficient to maintain the city's adopted level of service concurrent with development.

Policies	Discussion
8.3.4 For street development and redevelopment projects, plan for complete streets, which meet the needs of pedestrian, bicycle and transit users within the street right of way wherever feasible, consistent with street classification and projected travel volumes.	See discussion under Policy 8.1.
8.4.1 Provide and require new development to provide pedestrian and bicycle pathways that safely connect residential neighborhoods, commercial areas, schools, transit routes, parks, regional trails and other destinations within the City.	See discussion under policy 7.3.1 and 8.1, as well as Section 3.11 Transportation and Section 3.13 Parks.
8.4.6 Require large office and industrial development to provide facilities to support employee bicycle commuting.	See discussion under policy 7.3.1 and 8.1, as well as Section 3.11 Transportation.
Capital Facilities & Utilities	
9.1.2 Require the provision of essential capital facilities and services to meet adopted level of service standards and accommodate growth concurrent with development.	See Sections 3.11 Transportation, 3.13 Parks, 3.14 Public Services, and 3.16 Fiscal and Economic Impacts. The Proposal would increase demand for capital facilities and services, but applicant-proposed improvements and mitigation, together with tax revenue generated, are more than sufficient to meet levels of service. See discussion under Policy 8.1.3.
9.1.3 Require future development to bear a fair share of costs for planned capital improvements, concurrent with development, to achieve and maintain the adopted level of service.	See discussion under Policy 9.1.2.
9.4.2 The City of Snoqualmie establishes the level of service standards and staffing guidelines in Table 1.2 to guide the future delivery of community services and facilities, and to provide a measure to evaluate the adequacy of actual services.	See Section 3.16 regarding Fiscal and Economic Impacts. The Proposal would generate additional tax revenue that would support adequacy of City staffing.

3.7.3. Mill Planning Area – Annexation Implementation Plan Requirements

The project site comprises most of the Mill Planning Area, which is one of 7 areas the City has defined to help manage its ongoing planning activities. See Figure 7.2 in the Comprehensive Plan Land Use element. Table 1.3 in the Comprehensive Plan (Vision & Policy Plan, page 1-34) identifies key issues that were to be addressed in an Annexation Implementation Plan for the Mill Planning Area.

The Snoqualmie City Council approved an Annexation Implementation Plan (AIP) for the Mill Planning Area in November 2016. At that time, site planning was still very preliminary, a specific development plan did not exist, and some planning elements addressed by City policy could not be meaningfully evaluated. Comprehensive Plan policy 7.8.8 anticipated this situation and allowed such planning considerations to be deferred until a development plan was submitted. In the AIP, the applicant also committed to preparing an EIS, and the EIS was identified as a logical and appropriate point in time to consider deferred planning issues. AIP requirements are identified in Exhibit 3.7-5 below; responses provide references to relevant discussion contained in the EIS.

Exhibit 3.7-5. Annexation Implementation Plan (AIP) Requirement and EIS Section Evaluation

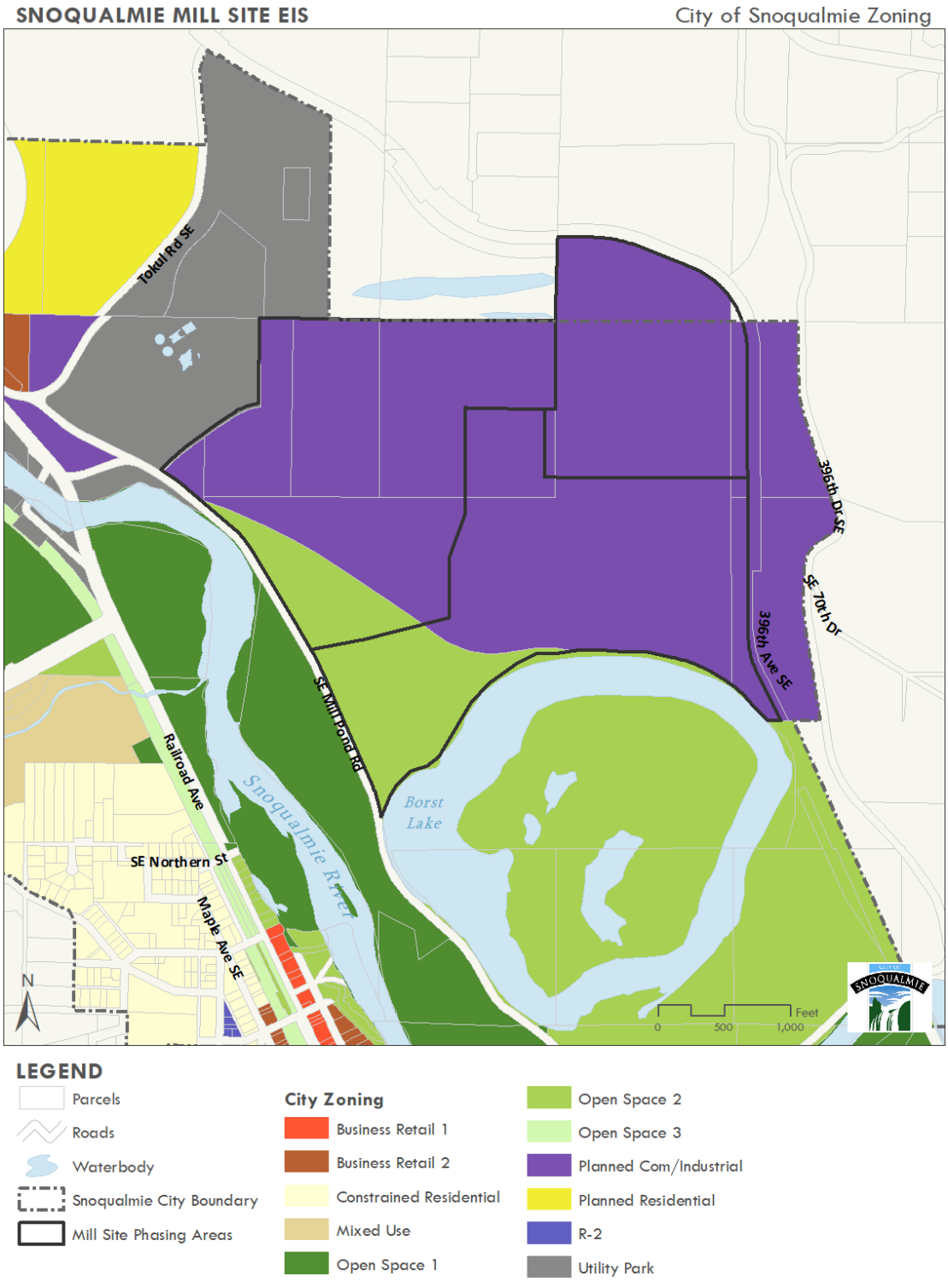
AIP Requirement	EIS Section Reference/Comment
a. Flood hazard considerations per the City's Hazard Mitigation Plan, including an independent survey comparing 1984-identified base flood elevation and current floodplain elevations.	Section 3.3
b. Preserve flood storage and conveyance functions of the floodway.	Section 3.3. No increase in flood elevation is projected to occur from development.
c. Protect and preserve unique natural features and viewsheds.	Sections 3.1, 3.4, and 3.9
d. Assess toxic contamination and necessary cleanup to support planned land uses, prevent further environmental impacts and protect public health as may be required by applicable state or federal regulations. Environmental remediation must be completed prior to development of each phase.	Section 3.5 of the Draft EIS documents known existing legacy contamination and outlines a plan to remediate the site, consistent with MTCA standards. Cleanup would occur in a phased program of evaluation and mitigation, in coordination with development of Planning Areas 2 and 3. The site evaluation determined that Planning Area 1 was not affected by past industrial operations conducted on or adjacent to the planning area.
e. Provide visual and aural buffers to future residential and open space uses from the gravel quarry and sewage treatment plant.	Sections 3.9 and 3.12
f. Prepare a comprehensive transportation analysis.	Section 3.11
g. A plan and commitment to provide trail ROW to connect local & regional trails as identified in city and county parks, open space and trails plans.	Sections 2.3 and 3.13. Also included in PCI application and approved AIP; will be included in proposed development agreement.
h. Protect the city's north well field area from potential contamination from future land uses and development.	Sections 3.1 and 3.6

3.7.4. City of Snoqualmie Zoning (SMC Title 17)

Summary

City of Snoqualmie zoning for the Mill site and surrounding area is shown in Exhibit 3.7-6.

Exhibit 3.7-6. City of Snoqualmie Zoning Districts – Snoqualmie Mill Project Site and Vicinity



Source City of Snoqualmie, 2020.

Planned Commercial-Industrial (PCI) District (SMC 17.20)

The Planned Commercial Industrial (PCI) district applies to most of the Snoqualmie Mill site. The purpose of the PCI district is to provide space for creative and well-designed master planned commercial/industrial development containing compatible and complimentary uses, including retail (single or mixed use), service and professional businesses, light industrial, office, and open space. Residential use above the second floor in mixed-use buildings are conditionally permitted, as are restaurants and taverns, unenclosed commercial recreation, and schools (elementary, middle, and high).

The code defines "Light Industrial/Manufacturing" uses as those involving "the mechanical or chemical transformation of materials, substances or components into new products, when such processing is carried on indoors, produces minimal environmental disturbances including but not limited to noise, dust, smoke, fumes, vibration or glare, does not involve the use, storage, production, transport or discharge of polluting or hazardous wastes or by-products, and does not involve outdoor storage of materials or products" (SMC 17.10.020.FF).

Additional objectives of the PCI district are to: optimize efficient use of land; maintain existing small-town character; provide opportunities for public amenities, such as open space, parks, and trails; encourage and provide opportunity for coordinated, continuous pedestrian and bicycle corridors; and achieve compatibility with existing and planned uses on adjacent lands.

Development standards address building height (40 feet, excluding customary rooftop appurtenances); setbacks (20 feet front yard, 10 feet side and rear); and minimum lot size (5,000 square feet). Site coverage is not limited. At least 35% of the total acreage for a PCI development proposal must be dedicated to open space, natural areas, or parks. The district encourages creative design by allowing modifications of development standards, when approved by the City Council.

PCI plan applications must submit information and follow the review process identified in the city's planned unit development (PUD) regulations (SMC 17.50.090). The Snoqualmie Mill PCI plan application was deemed to be complete on April 19, 2017. PCI plans require a public hearing and are reviewed by the Planning Commission and approved by the City Council.

An approximate 15-acre parcel in Planning Area 3 was not included in the 2012 annexation of the site and remains in unincorporated King County, outside the City's zoning authority; see Exhibit 2.3-1. The King County zoning map designates this parcel industrial/manufacturing (with p-suffix development conditions).

Parks and Open Space District (SMC 17.25)

The southwestern portion of the Mill property, approximately 39 acres south of Mill Pond Road, is zoned Open Space 2 (OS-2). The OS-2 zone is Intended for active park and recreational uses such as golf courses and riding stables.

An OS-1 district designation applies to property located between the Mill site's OS-2 land and the river. Intended for natural open space preservation, informal low-intensity recreation and limited agricultural use. Non-open space and recreational uses are very limited.

The Constrained Residential district property contiguous to the site on the east was purchased by King County and is planned to be used to fill in a missing link in the Snoqualmie Valley trail. This property, which contains DirtFish Rally School, is excluded from the overall PCI Plan.

Performance Standards (SMC 17.55.080)

The zoning code contains general environmental standards that are applicable to the operation of all land uses within the city. These performance standards address the following potential impacts and are intended to control emissions that are perceptible off-site or that exceed more specific adopted standards:

- air quality, including emissions of offensive odors, dense smoke, dense dust, harmful gases;
- vibration (measured by displacement or acceleration);
- heat (not perceptible off-site);
- glare (not perceptible off-site);
- noise (regulated by SMC 8.16.050);
- liquid or solid waste (discharges regulated by Ecology standards); and
- storage and disposal of hazardous materials (regulated by state and local standards).

Discussion

PCI District

Permitted Uses

In general, the uses proposed in the PCI Plan and within Planning Area 1 are consistent with uses permitted outright or conditionally permitted in the PCI district.

The PCI Plan overall, and Planning Area 1, are focused on types of uses that are typically defined and categorized as light industrial and manufacturing. Although the City's zoning code does not call out some potential manufacturing uses proposed in Planning Area 1, such as wineries, distilleries, and breweries, they fit within the code's definition of light industrial and manufacturing. As conducted in other Puget Sound communities, these operations are usually conducted indoors and do not involve use of heavy equipment or extensive outdoor storage.

Several conditionally permitted uses are proposed within Planning Area 1, including multifamily residences (above 2nd floor in mixed-use buildings), restaurants and wine tasting rooms. Conditional uses are decided by the City Hearing Examiner based on criteria in the code relating to land use compatibility, consistency with the Comprehensive Plan, conformance with environmental performance standards, and mitigation of impacts.

The zoning code requires a conditional use permit for "unenclosed commercial recreation" uses, such as mini-golf, batting cages, amusement rides, etc., in the PCI district (SMC 17.55.020). Theaters and auditoriums are permitted uses, however, but neither of these terms is defined. Although not certain, the outdoor performance center in Planning Area 3 for the

Redevelopment Alternative would seem to fit into the unenclosed commercial recreation category. The outdoor venue would likely be located outside of shoreline jurisdiction based on the general location shown in Exhibit 2.3-12. It is noted that the Comprehensive Plan promotes regional recreation and tourism uses in the Mill Planning Area, which includes the Snoqualmie Mill site.

Development Standards

Based on the site plan in Exhibit 2.3-11, Planning Area 1 would be consistent with the setback and lot size requirements for the PCI district. Approximately 64% of the total site would be retained in open space, compared to 35% required. A deviation from the standard height standard would be required to allow buildings up to 55 feet in height. Deviations from fixed standards may be permitted by the City Council to further the intent of the PCI district and to encourage creative design. Sections 3.6 and 3.9 of the EIS discuss the compatibility of land uses and proposed building bulk and scale with surrounding land uses.

Performance Standards

- Air quality: discussed in Section 3.2
- Noise: discussed in Section 3.12
- Glare: discussed in Section 3.9
- Vibration (measured by displacement or acceleration);
- Heat (not perceptible off-site);
- Liquid or solid waste (discharges regulated by Ecology standards); and
- Storage and disposal of hazardous materials (regulated by state and local standards): discussed in Section 3.5.

Conclusions of consistency are based on uses that are planned/anticipated at this time. None involve unusual vibration or heat, or liquid or solid waste. Wine production would involve the use of chemicals for the cleaning equipment, some of which is categorized as hazardous. Refer to the discussion of the city's flood hazard regulations below. Individual uses/tenants and proposed operations would be reviewed and evaluated by the City subsequent to approval of the PCI plan.

OS- Districts

The OS-2 zoned property is part of the Mill property and included in the PCI Plan. Primarily it would be retained as passive open space, which is consistent with the intent of the zoning district. There is a wetland with a buffer that will be enhanced consistent with wetland mitigation program; this activity would meet the intent of the zone. In addition, a portion of the parking lot lies in the OS-2 zone; the code identifies parking as a permitted use (SMC 17.55.020).

There will be improvements constructed in the OS-1 zone, including an outfall to the river,

landscaped viewing area, and trails. The OS-1 zone allows public utilities by Conditional Use Permit; the outfall is a development requirement and likely would be interpreted to be similar to a public utility. The OS-1 zone permits parks and open space, a phrase that is not defined in Section 17.10. Viewpoints and trails are typically considered part of parks systems.

Development Agreement

RCW 36.70B.170 authorizes development agreements between local governments and persons owning or controlling property.

> *A development agreement must set forth the development standards and other provisions that shall apply to and govern and vest the development, use, and mitigation of the development of the real property for the duration specified in the agreement.*

The Development Agreement for the Snoqualmie Mill PCI Plan is contemplated to address permitted uses, residential and nonresidential densities and intensities or building sizes, infrastructure impact fee amounts or terms, mitigation measures, conditions of approval, design standards, open space preservation, dedication of property for city and regional trails, phasing, review periods, vesting, and other development requirements or procedures. A development agreement will be subject to a public hearing and approval by the City Council. A draft Development Agreement will be submitted to the City subsequently, following review of comments on the Draft EIS and in conjunction with any adjustments to the PCI Plan application based on the conclusions of environmental review.

3.7.5. Shoreline Management Act and Shoreline Master Program

Summary

Background

The legislature enacted the Washington State Shoreline Management Act (SMA, RCW 90.58) to promote coordinated planning, protect the public interest in shorelines of the state, and achieve balanced use of the state's shoreline resources. The primary mechanism for implementing the SMA is the requirement that cities adopt local Shoreline Master Programs (SMP), development regulations, and a permit process for shorelines and adjacent uplands. Local SMPs are subject to Ecology review and approval, must be updated periodically, and must be coordinated and consistent with local Comprehensive Plans and development regulations. A shoreline "substantial development" permit must be obtained for any project or improvement greater than $7,047 in value (as of 2017).

The SMA establishes local planning and regulatory requirements for water bodies that meet a specified size or flow threshold. Shoreline jurisdiction includes "shorelines of the state" with a flow of at least 20 cubic feet per second (cfs) and lakes at least 20 acres in size plus lands within 200 feet of the ordinary high-water mark of water bodies. Shoreline jurisdiction also includes lands 200 feet from floodways and associated floodplain wetlands.

Ecology adopted guidelines that identify the contents of local SMPs. Contents required includes, (but are not limited to) shoreline policies and regulations, and designation of specific "shoreline environments" or districts to address the varied physical conditions and development settings along shorelines. SMPs must contain specific elements, including economic development, public access, recreation, circulation, shoreline uses, conservation, historic/cultural, and flood reduction. The City of Snoqualmie adopted an updated SMP in May 2019; the Plan is under review by Ecology as of this writing.

Approval of the PCI plan is required before any development applications may be submitted for the property. The Snoqualmie Mill property owner would not submit a shoreline substantial development permit application until the City has adopted an updated SMP; the June 2017 draft SMP is the most current document available and is used to indicate the City's direction. The City's current update schedule indicates that an updated SMP will be adopted in June 2019.

The Pre-Annexation Agreement for the Snoqualmie Mill property, adopted in 2011, identified proposed shoreline environment designations for the site that would become effective upon approval by Ecology. The environment designations are based on the City's adopted (1978) SMP. These included Conservancy and Natural Environment designations for properties south and west of Mill Pond Road and located within the floodway; and Urban Floodplain for the property within the floodplain but outside the floodway. (Note: the former properties are zoned Open Space, and the latter are zoned Planned Commercial/Industrial.)

The property was annexed in 2012, and the AIP, adopted in 2016 and discussed above, also identified the proposed shoreline environment designations for the property. The city's SMP update process is ongoing as of this writing.

King County's 1978 SMP and shoreline designations were applicable to the site prior to annexation. When King County updated its SMP in 2013, however, it removed the site from maps in the SMP showing shoreline jurisdiction and shoreline environment designations. The prior (1978) shoreline designations preceded enactment of the Growth Management Act and reflected a very different land use vision and regulatory requirements for the Snoqualmie Valley overall. Those designations may be of historical interest but are not seen as relevant to the current proposal and are not discussed herein.

2019 SMP Update

The project site lies within shoreline jurisdiction of the Snoqualmie River and Borst Lake. The study area is split into segments 12 on the north and 11 on the south. See Exhibit 3.7-7.

The SMP's shoreline use environment designations function as zoning overlays and promote shoreline uses, public access, and environmental conservation consistent with the SMA. The Urban Floodplain designation applies to the portion of the Snoqualmie Mill site in Segment 12 within 200 feet of the floodway; and the Urban Conservancy designation applies to Segment 11 encompassing the floodway. The purposes of these shoreline environments are as follows:

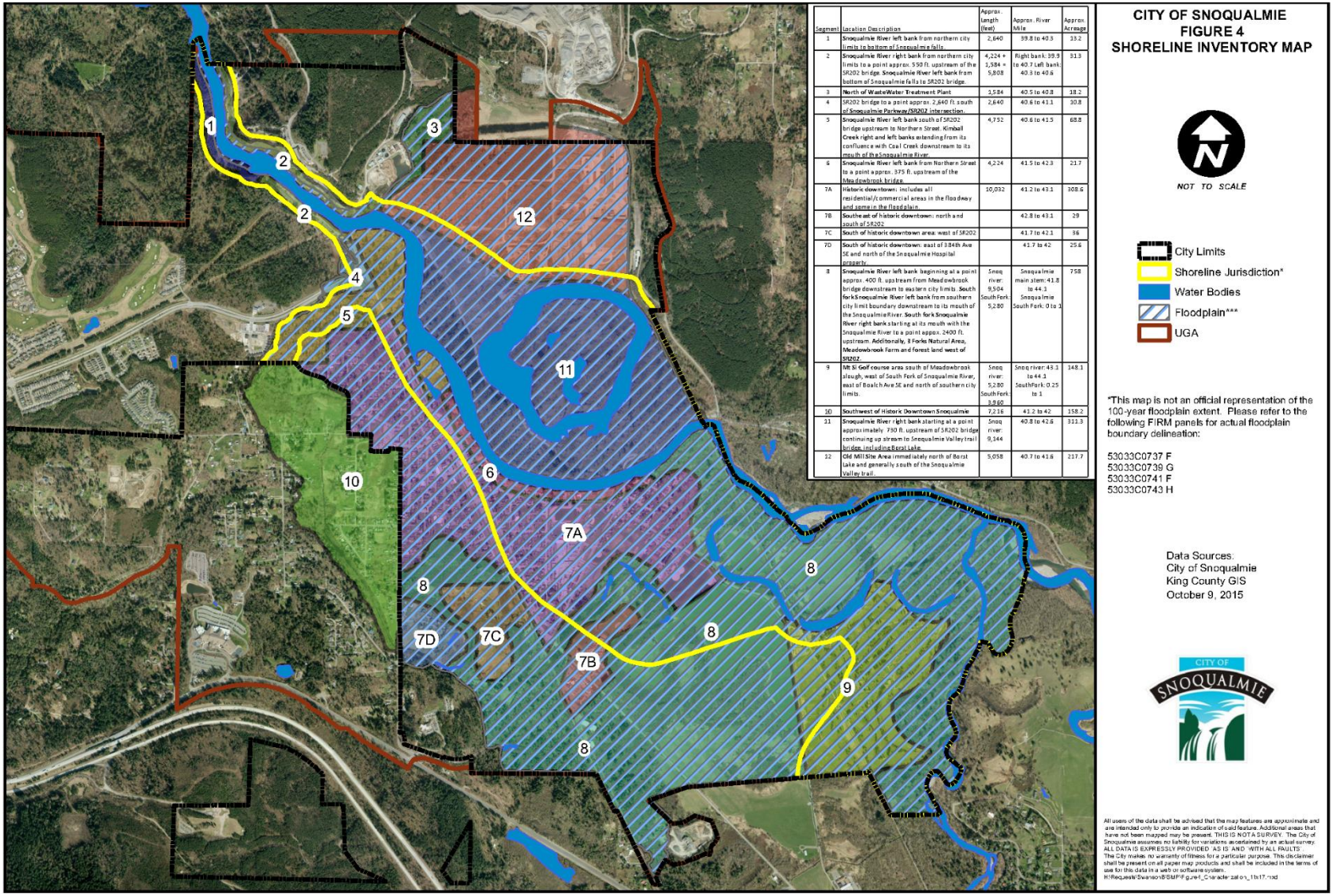
- Urban Floodplain: provide for existing and future commercial, residential, mixed-use, transportation, light industrial, recreation and open space uses within the floodplain

consistent with federal, state and local regulations for development in the floodplain.

- Urban Conservancy: provide for a variety of open space, park, low intensity recreation, and low intensity agricultural uses consistent with effective environmental management of the largely undeveloped portions of the floodway and other critical areas. Because the majority of the area within the urban conservancy environment is publicly owned park and open space lands, another purpose of this designation is to provide for the protection and maintenance of floodplain functions and restoration of wetland and wildlife habitat function within the relatively undeveloped, publicly owned open space areas.

Uses permitted within these shoreline environments are congruent with the stated purposes and are discussed below.

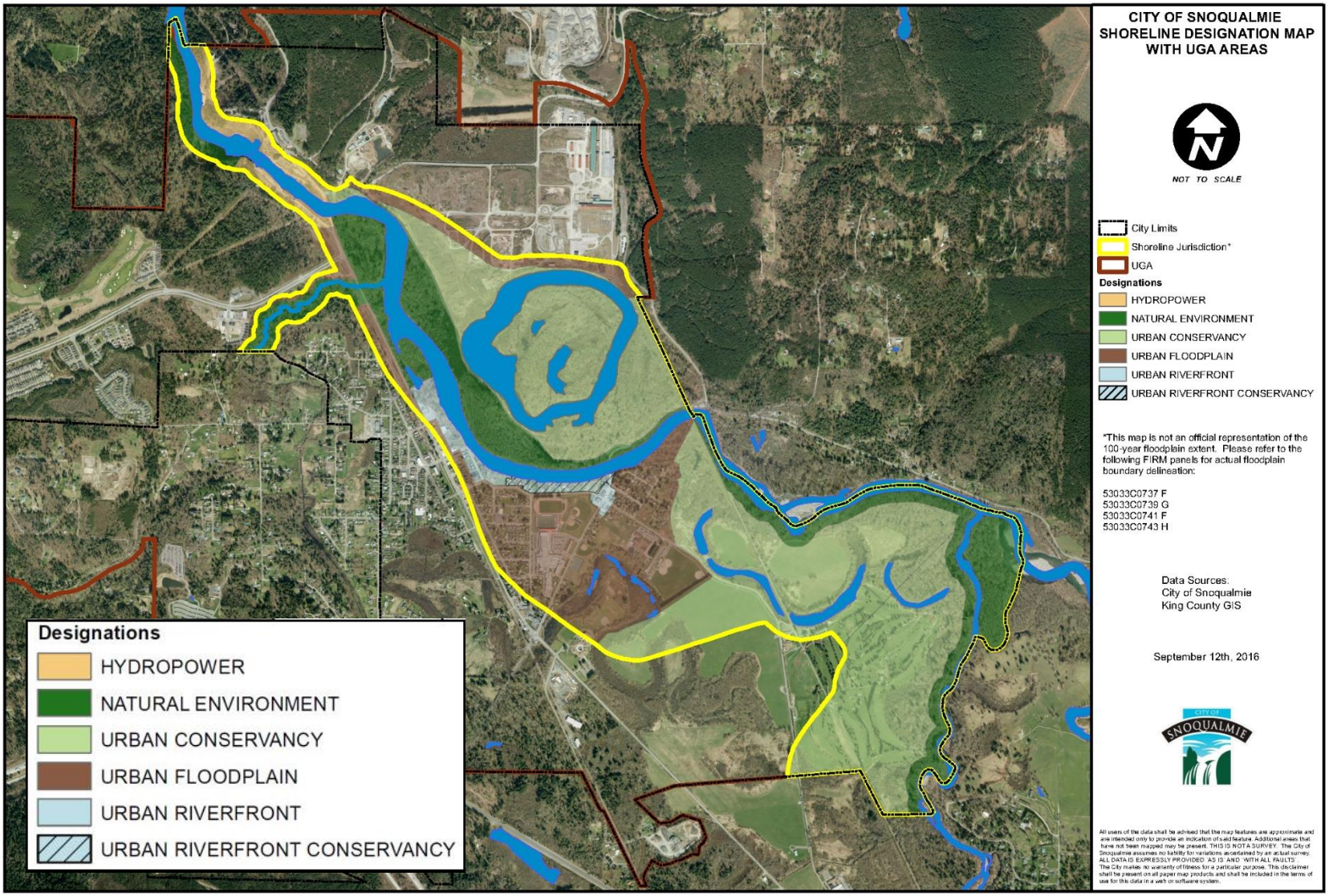
Exhibit 3.7-7. Snoqualmie Shoreline Jurisdiction



Segment	Location Description	Approx. Length (feet)	Approx. River Mile	Approx. Acreage
1	Snoqualmie River left bank from northern city limits to bottom of Snoqualmie falls.	2,640	39.8 to 40.3	33.2
2	Snoqualmie River right bank from northern city limits to a point approx. 550 ft. upstream of the SR202 bridge. Snoqualmie River left bank from bottom of Snoqualmie falls to SR202 bridge.	4,224 + 1,584 + 5,808	Right bank: 39.8 to 40.7 Left bank: 40.3 to 40.6	31.3
3	North of Waste Water Treatment Plant	1,584	40.5 to 40.8	38.2
4	SR202 bridge to a point approx 2,640 ft. south of Snoqualmie Parkway/SR202 intersection.	2,640	40.6 to 41.1	30.8
5	Snoqualmie River left bank south of SR202 bridge upstream to Northern Street. Kimball Creek right and left banks extending from its confluence with Coal Creek downstream to its mouth of the Snoqualmie River.	4,752	40.6 to 41.5	68.8
6	Snoqualmie River left bank from Northern Street to a point approx. 375 ft. upstream of the Meadowbrook bridge.	4,224	41.5 to 42.3	21.7
7A	Historic downtown: includes all residential/commercial areas in the floodway and some in the floodplain.	10,032	41.2 to 43.1	308.6
7B	Southeast of historic downtown: north and south of SR202.		42.8 to 43.1	29
7C	South of historic downtown area: west of SR202		41.7 to 42.1	36
7D	South of historic downtown: east of 384th Ave SE and north of the Snoqualmie Hospital property.		41.7 to 42	25.6
8	Snoqualmie River left bank beginning at a point approx. 400 ft. upstream from Meadowbrook bridge downstream to eastern city limits. South fork Snoqualmie River left bank from southern city limit boundary downstream to its mouth of the Snoqualmie River. South fork Snoqualmie River right bank starting at its mouth with the Snoqualmie River to a point approx. 2400 ft. upstream. Additonally, 3 Forks Natural Area, Meadowbrook Farm and forest land west of SR202.	Snoq river: 9,504 South Fork: 5,280	Snoqualmie main stem: 41.8 to 44.1 Snoqualmie South Fork: 0 to 1	758
9	Mt Si Golf course area south of Meadowbrook slough, west of South Fork of Snoqualmie River, east of Boalch Ave SE and north of southern city limits.	Snoq river: 5,280 South Fork: 3,960	Snoq river: 43.1 to 44.1 SouthPark: 0.25 to 1	148.1
10	Southwest of Historic Downtown Snoqualmie	7,216	41.2 to 42	158.2
11	Snoqualmie River right bank starting at a point approximately 730 ft. upstream of SR202 bridge continuing up stream to Snoqualmie Valley trail bridge, including Borst Lake.	Snoq river: 9,144	40.8 to 42.6	311.3
12	Old Mill Site Area immediately north of Borst Lake and generally south of the Snoqualmie Valley trail.	5,058	40.7 to 41.6	217.7

Source: City of Snoqualmie, 2017

Exhibit 3.7-8. City of Snoqualmie Shoreline Environment Designations



Source: City of Snoqualmie, 2017.

Discussion

Proposed uses – for the overall PCI Plan and for Planning Area I – would be consistent with those permitted in applicable shoreline environments identified in the City's adopted SMP update. Within the Urban Floodplain designation, PCI proposed uses include light industrial, retail, residential, and circulation. These uses are all permitted in the Urban Floodplain environment. No structures are proposed in the Urban Conservancy designation other than circulation and parking.

3.7.6. Flood Hazard Regulations (SMC 15.12)

Summary

The flood hazard regulations are intended to protect areas of the city that are subject to periodic flooding, which pose risks to human life and public and private property. Much of the City, and all the project site, is located within the floodplain of the Snoqualmie River and Kimball Creek; the general location of the floodplain and floodway are shown on Figure 10 in the Comprehensive Plan. The regulations address various methods to reduce flood losses in susceptible locations, including restricting or prohibiting land uses, controlling alteration of floodplains and filling or grading, and preventing or regulating construction of flood barriers. A flood improvement permit is required for any subdividing, improvement, alteration, or development of land within the floodway or floodplain.

Pertinent regulations are summarized below. It should be noted that many of the flood hazard program's standards apply to building design and construction and are, therefore, most relevant at the building permit stage.

- No increase in average finished grade of lots;
- Anchoring of all new construction and improvements to prevent flotation, collapse or lateral movement;
- Use of materials resistant to flood damage;
- Design of utility systems to eliminate or minimize infiltration of floodwaters, impairment of systems, or discharge of contaminants;
- Residential structures shall construct the lowest floor at least 1 foot above the base flood elevation;
- Fully enclosed areas below the lowest floor that are subject to flooding are prohibited unless designed to allow the entry and exit of floodwaters;
- Commercial and industrial construction shall either have the lowest floor elevated to or above the base flood elevation, or shall be flood-proofed with substantially impermeable walls and have structural components;
- Critical facilities – including schools, hospitals, police and fire facilities, and the production, use or storage of hazardous wastes – shall be located outside the base flood floodplain to

the extent possible unless no feasible alternative location is available;

- Any fill that would reduce the capacity to store floodwater and accommodate surface flow must be balanced by an equal amount of storage capacity; and
- No use or storage of chemicals, petroleum products or by-products or other materials that would constitute a hazard to life, health, or safety when inundated or adversely affect the quality of surface waters.

Discussion

As noted above, many of the flood hazard program's standards apply to building design and construction and are most relevant to evaluate at the building permit stage. Following PCI Plan approval, detailed design will proceed and will incorporate the provisions of the flood hazard regulations. Consistency with these regulations would be evaluated again at the time of permit application.

- Multifamily residential units would be constructed above the ground floor of mixed-use buildings.
- Construction of commercial and industrial buildings would be constructed above the base flood elevation or floodproofed.
- Based on the proposed development plan, grading plan, and compensatory storage areas, modeling of impacts to flood elevations indicates that the proposal would not increase the base flood elevation; it would decrease the flood elevation in 2 locations. See the discussion in Section 3.3 of the Draft EIS.
- No critical facilities are included in the PCI Plan.

Wine production facilities, which are proposed in Planning Area 1, would be located within the currently designated FEMA floodplain and would use some chemicals that are categorized as hazardous for cleaning of equipment used in production. The potential for releases and risk to groundwater and surface waters are identified in Section 3.5 of the Draft EIS. Yeast and sulfites are also added to wine during production, but these chemicals are not hazardous. The wineries anticipated to locate in Planning Area 1 are mostly small in size and are not likely to store large quantities of chemical substances; off-site storage is identified as possible mitigation measure, along with preparation of a Spill Prevention Plan and Emergency Response Plan. The flood hazard regulations also provide that the City Council may issue variances pursuant to specific criteria. However, based on the proposed grading plan, buildings that will house wine production facilities will above the base flood elevation following construction; a Letter of Map Revision (LOMR) will be pursued with FEMA to remove these portions of the site from the floodplain.

3.7.7. Critical Area Regulations (SMC 19.12)

Summary

Snoqualmie has adopted regulations to designate and protect critical areas, as required by the Growth Management Act. The regulations, which were updated in 2016, address geologic hazards (erosion hazards, landslide hazards, steep slopes, seismic hazards), channel migration zones, frequently flooded areas, critical aquifer recharge areas, streams, wetlands, and fish and wildlife habitat conservation areas. The intent is to protect the environmental functions and values of the applicable critical area, and/or to protect human health and safety. Critical areas subject to the program's standards and requirements are identified using a combination of regulatory definitions, city maps, identification in the field, and special technical studies. Most development activities and alterations that could significantly impact critical areas are subject to review and approval by the city. Buffers of varying width are also established adjacent to many critical areas – particularly streams and wetlands – to provide additional protection. Impacts must be mitigated according to planning requirements and mitigation standards – (e.g., avoidance, replacement, compensation, enhancement).

The specific standards applicable to individual critical areas are copious and detailed and are identified in the following sections of the Draft EIS: sections 3.1 (geologic hazards, aquifer recharge), 3.3 (flooding), and 3.4 (streams, wetlands, and habitat conservation areas).

Discussion

The 2011 Pre-Annexation Agreement required the applicant to prepare a sensitive area study within 30 days of the effective date of annexation. This study was based on the adopted critical area regulations in effect at that time. The study, which was submitted in 2012, within the required time period, was based on critical area regulations in effect at that time. Land use and environmental planning for the Snoqualmie Mill site continued for several years, based on the same regulations and standards, culminating in submittal and approval of the Annexation Implementation Plan in 2016. The City was working on an update to its critical area regulations during this time period; it adopted a revised ordinance in 2016. Some requirements, including those related to wetland buffers, changed as a result of the update. The discussion of critical areas in the Draft EIS is based on updated analyses that reflect current regulatory requirements. Individual sections of the Draft EIS, referenced above, identify the regulatory standards, significant impacts (where applicable) and mitigation measures and strategies proposed for various critical areas located on the Snoqualmie Mill site.

In particular, the wetland discussion in Section 3.4 identifies a proposed wetland buffer enhancement and restoration plan for the PCI Plan. No impacts to wetlands would occur, but alterations and enhancements of degraded buffer areas are proposed in exchange for some focused buffer intrusions. This enhancement plan is proposed in the context of an approach to site development that also retains 2/3 of the overall site as open space, landscaping, and compensatory flood storage. Buffer enhancement as mitigation for buffer intrusions is generally authorized by several provisions in the zoning code and critical area regulations.

- The PCI zoning district regulations applicable to the site encourage "imaginative well-designed master planned commercial -industrial development" proposals (SMC 17.20.050 A), and provides flexibility from fixed, quantitative standards. The district authorizes the City Council to approve deviations from general standards where they determine that the deviation will not threaten health, safety or the environment. (SMC 17.20.050 I).
- The Planned Unit Development (PUD) regulations, which determine the application and procedural requirements for PCI projects, permit flexibility and variation in design, and modifications in requirement and standards (except within shoreline districts) to accomplish planned developments that are as good or better than traditional lot-by-lot projects (SMC 17.50.060 A).
- The critical area regulations authorize enhancement of habitat within wetlands and their buffers based on approval of a habitat enhancement plan (SMC 19.12.170 H.2). The regulations further permit "other uses" in wetlands and buffers if the city determines they can be developed in a manner that does not degrade the functioning of the wetland (SMC 19.12.170 H.6).

Buffer modification and enhancement are also addressed in the proposed development agreement for the PCI Plan. The City Council will determine whether proposed modifications and deviations should be approved.

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3.8. POPULATION, HOUSING, AND EMPLOYMENT

3.8.1. Affected Environment

Population and Housing

Current Data

The City of Snoqualmie's estimated population in April 2017 was 13,210 persons (OFM, 2017). This reflects a growth of 2,540 people (23.8%) since the 2010 U.S. Census (10,670 persons), and an average annual growth rate of 3.4 %. Housing in the City increased by 831 units, from 3,761 to an estimated 4,592 units, in this same period (OFM, 2017). Average household size in 2017 was approximately 2.8 persons per household. Area Median Income (AMI) as of 2017 ranged, depending on household size, from $67,200 for a one-person household, to $96,000 for a four-person household.

Approximately 85% of the City's existing housing stock is single family and 15% is categorized as multifamily (encompassing all housing forms except traditional single family) (OFM, 2017). The median price of homes for sale as of January 31, 2018 was $615,000.[21] The market for apartment rentals is limited and monthly costs are high; based on a search of online listings in mid-March 2018, available rental units (in Echo Glen) ranged from $1,600 per month for one-bedroom units to $2,400 for two-bedroom units.[22] The data showed no units for rent in smaller, older multi-family buildings in the City.

Housing affordability is measured by what a household can afford to spend on housing, based on AMI and a rule-of-thumb that a household should spend no more than 30% of its income on housing. Table 4-13 in the Comprehensive Plan shows rental limits according to household income categories, measured in income ranges relative to AMI. A household earning 30-50 % of AMI, for example, is categorized as "low income" and can afford to spend $499 per month or less on housing. A "moderate income" household (50-80 % of AMI) can afford to spend $850-$1,370 per month, and a "middle income" household (80-120 % of AMI) can afford to spend $1,370-$1,999 per month. The Comprehensive Plan acknowledges a lack of reliable data regarding the inventory and price of "affordable" housing units in the City. Based on the online data cited previously, currently available rental units are affordable only to middle income households and those earning 120-180% of AMI.

Growth Targets

For cities in King County, population, housing, and employment targets are established for planning purposes by the Growth Management Planning Council (GMPC) in the Countywide Planning Policies (CPPs). The GMPC follows a data- and consensus-driven process to allocate

[21] See: www.zillow.com.
[22] See: www.apartmentfinder.com, www.apartments.com.

the 20-year county-wide Growth Management Act (GMA) growth target provided by the state for GMA planning among the individual cities in the county. Snoqualmie's planning target for the 2006 to 2031 period, the last period for which GMPC estimates are available, was 1,615 dwelling units. Using a range of between 2.5 and 3.0 persons per household, this yields a 2031 population increase range of 4,038 to 4,845. GMA population targets are considered a minimum that must be planned for and are not considered to be a cap.

After reviewing the GMPC data, the City developed what it believes to be a more accurate middle-range growth estimate to plan for growth in the 2014 Comprehensive Plan, using zoned household capacity based on current zoning. The City is planning for a 2032 population increase of 4,882 and total population of 15,552 (using the 2010 Census population as a base. Assuming 2.5-3 persons per household, this equates to an increase of 1,627-1,953 housing units, and a total of 5,184-6,220 housing units by 2032.

The Comprehensive Plan allocates population growth to each of the City's planning areas based on zoned residential capacity. The Mill Planning Area is envisioned as an employment center, however, and no housing growth is assumed. The Planned Commercial Industrial (PCI) zoning district applicable to the Mill site does conditionally permit multi-family housing, however.

The CPPs also establish goals for affordable housing, which cities are required to use in their planning. County-wide needs, expressed as a percentage total housing targets, are 16% for moderate income households, and 12% each for low income (30-50% of AMI) and very low-income households (0-30% of AMI).

Employment

Current Data

Snoqualmie had 3,006 total jobs as of 2012 (City of Snoqualmie, 2014). Puget Sound Regional Council (PSRC) estimates that jobs (covered employment) had increased to 3,608 by 2016. The largest employment sectors included services (36%), manufacturing (17.5%), government (17%), and education (12%). Smaller job categories included wholesale/trade/communication/utilities (7%), construction (5%); the retail and finance/insurance real estate categories each represented 2% of total jobs.

Growth Targets

The CPPs provide employment targets for comprehensive planning in the King County region. Snoqualmie's target for the 2006-2031 period was 1,050 new jobs (GMPC, 2012). Recent City job growth has occurred significantly faster than indicated in the CPP targets; some conditions have also changed since the CPP targets were prepared, including annexation of the Mill Planning Area, which is not reflected in the current CPP targets. The Comprehensive Plan includes locally updated planning targets, therefore, and anticipates an increase of 2,729 jobs by 2032, for a city-wide total of 5,735 jobs.

The 2014 Comprehensive Plan projects that the Mill Planning Area (PCI zoned portion), which currently contains an estimated 45 jobs, will add 84 new jobs by 2021 and a total of 872 new

jobs by 2032. The capacity of the Mill Planning Area was estimated as 1,650 jobs and it was assumed 50% would redevelop by 2032.

Updated PSRC modeling (2015) of Snoqualmie employment estimates 5,246 jobs by 2030 and 5,435 jobs by 2035. However, these projections did not modify the Comprehensive Plan's estimated job capacity or growth estimates for the Mill site.[23]

Jobs/Housing Balance

The Comprehensive Plan recognizes that the local balance of jobs and housing is an aspect of both economic development and environmental protection. Providing opportunities for people to live and work in the same community can also result in numerous personal and environmental benefits, including reduced commuting time/cost/stress, and reduced traffic and air pollution.

Jobs/housing balance is a measure of the ratio of jobs to households (housing units) in a community. A ratio that is less than one indicates that a community contains more households than jobs, while a ratio greater than one indicates the presence of more jobs than households. The ratio is used as a general indicator for planning and is not intended to be a hard, quantitative target.

The Comprehensive Plan identifies a range of 1 to 1.5 jobs per household as an appropriate goal for the City. The average ratio across King County jurisdictions in 2010 was 1.3, with higher ratios in larger cities (e.g., 1.6 in Seattle and Eastside cities) and lower ratios in smaller cities and rural areas (e.g., 0.6 in the rural cities in northeast King County). In 2012, the City's jobs: housing ratio was 0.76, and this was projected to increase to 0.97 in 2032; the latter projection assumed 822 jobs and no housing in the Mill Planning Area.

3.8.2. Impacts

Impacts of Proposal

Population and Housing

PCI Plan/Planning Area 1

All of the proposal's 160 multifamily housing units would be constructed in Planning Area 1 in the first phase of development (by 2023). Housing, including work-force units, would be 1- and 2-bedroom units and rented at market rates. Assuming an average household size of 1.9 persons per household for multi-family units, population would equate to 304 persons.

The 2014 Comprehensive Plan does not assume any housing or population growth in the Mill Planning Area, so this growth of 304 additional people is above the City's current planning target. As noted previously, GMA planning targets are considered to be minimums which cities must plan for and are not considered to be regulatory caps or limits.

[23] Rebeccah Maskin, personal communication, March 15, 2018

Population growth in itself is not an adverse environmental impact. However, this growth can entail impacts to various elements of the environment – including, but not limited to, traffic, public services, and utilities – particularly if it is not planned for and coordinated. The potential impacts associated with this additional increment of growth are addressed throughout this EIS.

Multifamily housing is a conditionally permitted use in the PCI district; the City Council will determine whether it should be allowed as part of mixed-use development with appropriate conditions.

Housing Affordability

Snoqualmie Mill's residential units are anticipated to rent in a range of approximately $1,800 to $2,400 a month for one-bedroom and two-bedroom apartments, respectively. As documented in the *Affected Environment* sub-section above, this price range is consistent with current market rates in new multifamily units in Echo Ridge and the Woodlands. According to affordability categories in King County, apartments in this rent range are affordable to households falling in the middle income and over median income categories, with household income greater than 80 % of AMI and are not affordable to households categorized as moderate income or below. All new rental units in Snoqualmie are above the rental limits for moderate income households; rents affordable to lower income households typically require a subsidy.

The proposal would generate a substantial number of new jobs in the City, and these jobs would indirectly add to the demand for housing that is affordable to households in various income categories. The extent of the demand would depend on the wages and household characteristics of new workers, which are not known. It is likely, however, that some could be categorized as moderate income, and the proposal could exacerbate the need for housing affordable to this and lower income households. The proposal's housing units would address some, but not all, of the housing demand generated by new on-site jobs.

The Comprehensive Plan indicates that affordable housing should be required in new Mixed Use, Planned Residential and Innovative Development district projects, and should include a mix of rental and for sale units. The Snoqualmie Mill proposal is zoned Planned Commercial/Industrial and does not fall within any of the districts in which affordable housing is specified in the Comprehensive Plan. City policies also indicate that incentives should be considered to encourage housing affordable to low and very low-income households, and that priority in the development review process should be granted to projects that provide at least 15% affordable housing units.

City of Snoqualmie development regulations do not currently require the provision of affordable housing or payment of an impact fee to support development of such housing. However, the City has used SEPA and/or negotiated development agreements in the past to address affordable housing impacts.

Employment

PCI Plan

As shown in Exhibit 3.8-1, the PCI plan's proposed land uses could generate an estimated 3,410 jobs by 2032. This estimate is based on typical ratios of the number of employees associated with an amount of space for various land uses (e.g., 3 employees per 1,000 square feet of office space). Since project tenants are not known, the precise types and mix of jobs cannot be known with certainty at the present time; the precise number of employees could be somewhat higher or lower. The estimates are believed to be reasonable for planning purposes and are consistent with industry experience.

Exhibit 3.8-1. PCI Plan Employment Estimates by Use and Planning Area

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Total
Warehouse/Manufacturing	130	190	0	320
Office	0	0	2,670	2,670
Residential Mixed Use	-	-	-	-
Light Industrial	240	0	0	240
Retail	120	0	40	160
Specialty Retail/Event Space	20	0	0	20
Total	**510**	**190**	**2,710**	**3,410**

Source: ECONorthwest, 2018; Snoqualmie Mill Ventures LLC, 2018

In any event, the total number of projected jobs is significantly greater – more than 2,500 jobs greater – than the 2032 estimates contained in the Comprehensive Plan for the Mill Planning Area (872). The discrepancies may be explained by a combination of factors: limited site-specific information that was available to the City at the time of the 2014 Comprehensive Plan update; the absence of a site master plan and/or Phase I plan at the time; and the existence of only very general information about planned land uses and employment for the Mill Planning Area in 2014. While the City's planning estimates were reasonable at the time, in retrospect they were also based on: (1) a conservative estimate of developable land on the Mill site; and (2) assumed employment ratios (i.e., jobs per square feet for various uses) that were not specific to the mix of uses proposed in the PCI Plan that are lower than ratios in current use. As noted previously, GMA planning targets are considered to be minimums which cities must plan for and are not considered to be regulatory caps or limits.

While the increase in employment is significant in the context of the City's economy, job growth is not in itself an adverse environmental impact. As indicated in the fiscal analysis in Section 3.16, employment growth can produce positive impacts to the local economy and generate revenues that support numerous city functions. At the same time, this growth can entail impacts to various elements of the environment, including traffic, public services, and utilities. These and other potential impacts are addressed throughout this EIS.

Planning Area 1

As shown in Exhibit 3.8-1. the mix of land uses in Planning Area 1 is estimated to generate 510 jobs in the first phase of development (2023). As noted previously, the Comprehensive Plan assumes that 84 jobs would locate on the Mill site in this general time period, so the PCI Plan represents a potential increase of 426 jobs over current City projections. The PCI Plan discussion above also provides a possible explanation for the discrepancy in growth estimates. At the time the City completed initial job estimates for the Mill site, it could not have known how development would be phased, or what amount and mix of uses and jobs would be proposed in a subsequent master plan.

As described previously for the PCI Plan, job growth is not in itself an adverse environmental impact. As indicated in the fiscal analysis in Section 3.16, employment growth can produce positive impacts to the local economy and generate revenues that support numerous city functions. At the same time, this growth can entail impacts to various elements of the environment, including traffic, public services, and utilities. These and other potential impacts are addressed throughout this EIS.

Jobs/Housing Balance

PCI Plan/Planning Area 1

The additional, unanticipated jobs generated by the PCI Plan, above current City estimates, would have a positive effect on the City's jobs/housing balance. Adding the additional 2,500 PCI Plan jobs, and 160 unanticipated housing units to the current Comprehensive Plan's 2032 planning estimates would equate to 8,235 total jobs and 6,047 housing units city-wide, resulting in a jobs:housing ratio of 1.36.

Indirect and Cumulative Impacts

Development of the proposal would create a substantial increase in housing and employment on the Mill site. As noted in the previous sections, such development could increase vehicle traffic to and from the site associated with new residents and employees. Over the long term, the proposal would also increase local demand for new housing, including affordable housing and could increase development pressures on surrounding properties, both within and adjacent to city limits.

Alternatives

Redevelopment Alternative

Population and Housing

All of the Redevelopment Alternative's 120 multifamily housing units would be constructed in Planning Area 1 in the first phase of development. Housing, including work-force units, would be one- and 2-bedroom units and rented at market rates. Assuming an average household size of 1.9 persons per household for multi-family units, population would equate to 228 persons.

The 2014 Comprehensive Plan does not assume any housing or population growth in the Mill Planning Area, so this growth of 228 additional people is above the City's current planning target. As noted previously, GMA planning targets are considered to be minimums which cities must plan for and are not considered to be regulatory caps or limits.

Population growth in itself is not an adverse environmental impact. However, this growth can entail impacts to various elements of the environment – including, but not limited to, traffic, public services, and utilities – particularly if it is not planned for and coordinated. The potential impacts associated with this additional increment of growth are addressed throughout this EIS.

Multifamily housing is a conditionally permitted use in the PCI district; the City Council will determine whether it should be allowed as part of mixed-use development with appropriate conditions.

Impacts to housing affordability would be the same as identified for the proposal.

Employment

The Redevelopment Alternative could generate approximately 1,570 jobs, fewer than one-half the number of jobs of the proposal. The reduced number of jobs relative to the proposal is due to the alternative's greater focus on industrial and warehouse uses, which involve fewer employees per square foot of space. Office uses, which involve a higher number of employees per square foot of space, would be reduced considerably compared to the proposal.

This estimate is based on typical ratios of the number of employees associated with an amount of space for various land uses (e.g., 3 employees per 1,000 square feet of office space). Since project tenants are not known, the precise types and mix of jobs cannot be known with certainty at the present time; the precise number of employees could be somewhat higher or lower. The estimates are believed to be reasonable for planning purposes and are consistent with industry experience.

Exhibit 3.8-2. Redevelopment Alternative Employment Estimates by Use and Planning Area

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Total
Warehouse/Manufacturing	140	190	340	670
Office	0	0	520	520
Residential Mixed Use	-	-	-	-
Light Industrial	190	0	0	190
Retail	160	0	0	160
Specialty Retail/Event Space	30	0	0	30
Total	**520**	**190**	**860**	**1,570**

Source: ECONorthwest, 2017; Snoqualmie Mill Ventures LLC, 2017

The Redevelopment Alternative would result in a net increase of 698 jobs over the Comprehensive Plan's 2032 employment estimate for the Mill site. As noted previously, GMA

planning targets are considered to be minimums which cities must plan for but are not considered to be regulatory caps or limits.

As noted for the proposal, job growth is not in itself an adverse environmental impact. As indicated in the fiscal analysis in Section 3.16, employment growth can produce positive impacts to the local economy and generate revenues that support numerous city functions. At the same time, this growth can entail impacts to various elements of the environment, including traffic, public services, and utilities. These and other potential impacts are addressed throughout this EIS.

Jobs/Housing Balance

The additional jobs generated by the PCI Plan, above current City estimates, would have a positive effect on the City's jobs/housing balance. Adding the net additional 698 PCI Plan jobs and 120 housing units to the Comprehensive Plan's 2032 planning estimates would equate to 6,432 total jobs and 6,007 housing units in the City, resulting in a jobs:housing ratio of 1.07.

No Action

No housing or population growth would occur on the Mill site. Similarly, no new jobs would occur, and the positive fiscal benefits associated with increased employment and economic development would not occur. Existing on-site uses and associated 45 jobs are assumed to continue. However, existing buildings currently being leased to businesses would continue to deteriorate; some might need to be evacuated or demolished because of unsafe conditions. If this occurred, the number of jobs on-site would be reduced.

3.8.3. Mitigation

No significant adverse impacts to population, housing or employment have been identified, therefore no mitigation measures are required.

3.8.4. Significant Unavoidable Adverse Impacts

The increases in population and housing associated with the PCI Plan are not considered significant impacts, and population growth is not in itself an adverse impact. Potential indirect impacts associated with population growth are identified throughout the EIS.

The increase in employment associated with buildout of the PCI Plan would be significant but is not an adverse impact to the environment. Many impacts associated with potential indirect impacts associated with growth are identified throughout the EIS.

3.9. AESTHETICS, LIGHT, AND GLARE

This section addresses aesthetic and visual impacts associated with the proposal and alternatives, including visual character, views, light and glare, and shading conditions. Consistency with City policies regarding protection of scenic character and visual resources is also discussed.

3.9.1. Affected Environment

Visual Character and Context

The City of Snoqualmie is located just a few miles west of the Mount Baker-Snoqualmie National Forest, and the region surrounding Snoqualmie is characterized by a mix of suburban and rural development against a backdrop of forested hills. The Snoqualmie Mill site is located adjacent to the northeastern boundary of the City of Snoqualmie, separated from the city by the Snoqualmie River; the site is located approximately 0.4 mile east-southeast of Snoqualmie Falls.

The mill site is bordered on the south and southwest by the Snoqualmie River with heavy vegetation present along the riverbank. The western edge of the site consists of a forested slope leading up to 396th Avenue SE; the area east of 396th Avenue SE is rural in character and sparsely developed. A CalPortland sand and gravel mine is located immediately to the north, though it is not visible from the site itself, separated by a road and intervening vegetation. The city's wastewater treatment plant is adjacent to the site on the northwest.

The perimeter of the property is heavily vegetated, and the interior of the mill site is relatively flat and open with scattered pockets of trees. Most buildings remaining from historic industrial use are located on the northeast portion of the property or along the northern edge of the Mill Pond (Borst Lake). Existing buildings on and immediately adjacent to the site include remnant structures from the previous Weyerhaeuser lumber mill operation – including the historic powerhouse and smokestack, the Planer mill buildings – the DirtFish Rally School offices, and various small storage buildings. The DirtFish racing track is currently the primary use of the site. The DirtFish school and office is housed in a one-story building on the hillside east of the site. Historical use of the site is described in Chapter 2 and in Section 3.10 (Historic and Cultural Resources). The property may be characterized as a dormant brownfield site that was used for heavy industrial purposes for almost 100 years. Exhibit 3.9-1 through Exhibit 3.9-3 show the interior of the project site.

Exhibit 3.9-1. Site Interior - View from DirtFish Offices, Looking West (Viewpoint 1)



Source: BERK, 7-14-2017 (Sony a6000, f/13 16mm).

Exhibit 3.9-2. Historic Powerhouse – Viewed from DirtFish Offices (Viewpoint 1)



Source: Miller-Hull Architects, 9-1-2016 (iPhone 6, f/2.2 4.15mm).

Exhibit 3.9-3. Historic Weyerhaeuser Planer Mill Building – Viewed from DirtFish Offices (Viewpoint 1)



Source: Miller-Hull Architects, 9-1-2016 (iPhone 6, f/2.2 4.15mm).

Height, Bulk, and Scale

Planning Area 1 (as shown on Exhibit 3.9-4) was historically used for log storage and does not contain any buildings. Most of the remaining lumber mill era buildings are clustered in Planning Area 3 and the northeastern portion of the site; the historic powerhouse is located in the southeastern portion. The mill buildings in this area consist of the planer mill building, two large lumber sheds, and several package sheds. The locations of these buildings are shown in Exhibit 3.10-7 in Section 3.10 – Historic and Cultural Resources. These industrial buildings are approximately 40-50 feet in height but have a large footprint, creating a sense of bulk and visual mass for ground-level observers.

In the central, southern, and western areas of the site, the visual impression is quite different. The few buildings, which consist mostly of storage sheds and shop buildings, are much smaller and more widely scattered; as described in Chapter 2, the western portion of the site in Planning Area 1 is almost devoid of structures, and it was extensively graded and cleared of vegetation to accommodate log storage.

The areas of the site proposed for development are in the City's Planned Commercial/Industrial (PCI) zoning district (Snoqualmie Municipal Code Chapter 17.20.040). The PCI zone allows a variety of master planned commercial, industrial, office, and mixed-use development. Building heights are limited to 40 feet with 20-foot front setbacks and 10-foot setbacks on side and rear yards. The code does not contain site coverage or bulk limitations, but 35% of the sites in the PCI zone must remain in open space. The Code states that the PCI zone's development regulations are intended to preserve small-town character and promote pedestrian and bicycle-oriented development (SMC 17.20.050.A), but development proposals should not necessarily be restricted by these standards if deviation from them would advance the goals of the PCI

zone as established in the code (SMC 17.020.050.I). Proposed deviations are described in Chapter 2 and discussed in Section 3.7 (Consistency with Plans and Policies) of the EIS.

Views and Scenic Resources

The City and the mill site lie in the Snoqualmie River valley, surrounded by the foothills of the Cascade mountains. The area around Snoqualmie contains several highly visible local landmarks, including Mount Si to the southeast, Rattlesnake Mountain to the south, and Snoqualmie Falls to the northwest. Snoqualmie Falls is both a popular regional tourist destination and a site of cultural significance for the Snoqualmie Tribe, and both Mount Si and Rattlesnake Mountain are popular destinations for hiking and other outdoor recreation.

Relevant Planning Policies

The Snoqualmie Comprehensive Plan's Community Character Element establishes several goals and policies for the protection of aesthetic and visual resources relevant to the Mill Site, and identifies the following as major scenic resources:

- Mount Si (southeast of the site),
- Rattlesnake Ridge (south of the site),
- Cascade Mountains (east of the city),
- Snoqualmie Falls (northwest of the site), and
- Snoqualmie River corridor (west and south of the site).

The element also establishes several view corridors, which encourage protection of views of significant natural and scenic resources. The element lists the following view corridors along the main stem of the Snoqualmie River:

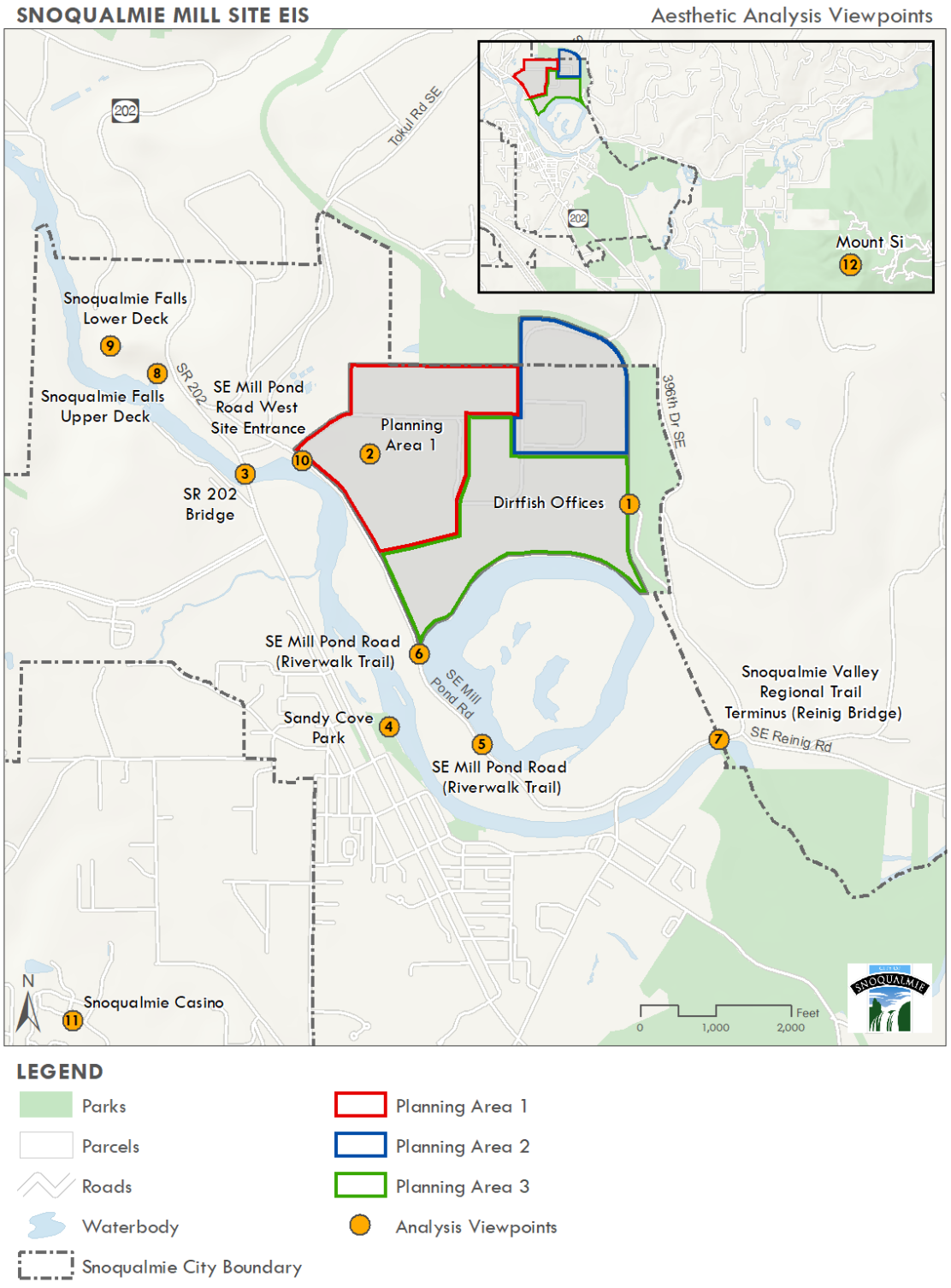
- From the observation platform and public access areas at Snoqualmie Falls Park and Salish Lodge;
- From the SR 202 bridge;
- From the Meadowbrook bridge;
- Upstream to Mt. Si from the corner of Park Street and River Street; and
- Borst Lake from access points along Mill Pond Road.

The zoning code does not regulate these views, however.

Based on these established view policies and evaluation of the site's topographic conditions, a series of viewpoints were selected for analysis in the EIS. The locations of these viewpoints are shown on Exhibit 3.9-4 and include several locations in the site interior, as well as locations to the south and west on Borst Lake and along the Snoqualmie River. The northern perimeter of the study area is heavily vegetated, as are many of the properties located north of the site, which obscures views from the north. Site visits indicated that clear views of the site are generally not available from the north, though partial views may intermittently exist for drivers

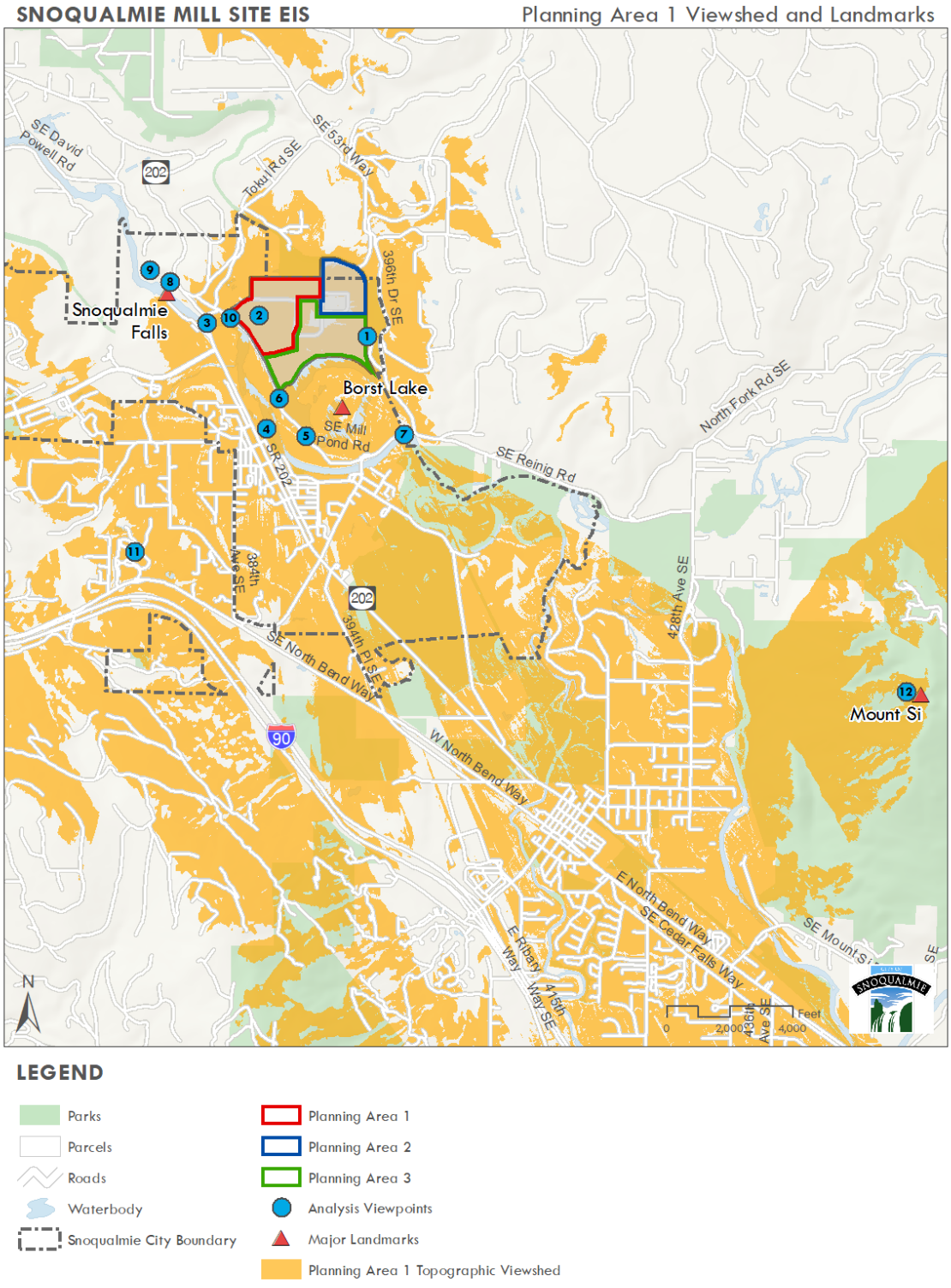
on Tokul Road, depending on location, topography, and seasonal variations in vegetation density. Exhibit 3.9-5 shows the topographic viewshed for Planning Area 1, located in the western portion of the mill site, as well as several major visual landmarks in the vicinity. The topographic viewshed represents locations with line of sight to a hypothetical 55-foot-tall structure in Planning Area 1, based solely on natural topography. Line of sight from these locations may be blocked by vegetation, buildings, or other obstructions. The following sections examine the availability of both on-site views and views of the site from exterior locations.

Exhibit 3.9-4. Aesthetic Analysis Viewpoint Locations



Source: BERK, 2020.

Exhibit 3.9-5. Planning Area 1 Topographic Viewshed



Source: BERK, 2020.

Exterior Views of the Site

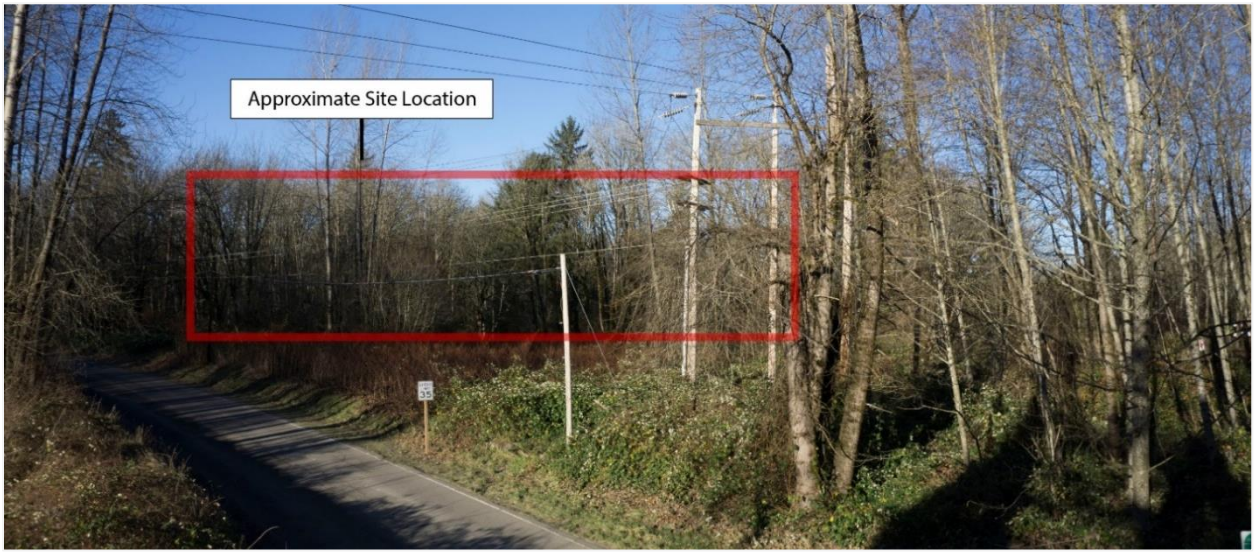
As described under Visual Character, above, most of the site perimeter is characterized by either heavy vegetation or changes in topography, which screens much of the interior of the site from surrounding areas. Based on the policy guidance in the Comprehensive Plan and stakeholder input from the SEPA scoping process, the EIS evaluates views of the site from the following locations: Snoqualmie Valley Regional Trail, Sandy Cove Park, Snoqualmie Falls/Snoqualmie River, Borst Lake, the Snoqualmie Casino, and Mount Si.

Snoqualmie Valley Regional Trail

The Snoqualmie Valley Regional Trail is part of the King County regional trail system, connecting parks and open spaces in eastern King County. The nearest access point to the existing trail right-of-way is south of the mill site, on the south bank of the Snoqualmie River at the Reinig Bridge. Future development plans for the trail include a connection from this terminus to an access point north of the mill site on Tokul Road. The proposed trail extension would travel along SE Mill Pond Road, past Borst Lake, and Planning Area 1.

Near the existing regional trail terminus, the riverbank is heavily forested, blocking view of the site from this location, as shown in Exhibit 3.9-6.

Exhibit 3.9-6. View from Snoqualmie Valley Regional Trail – Looking North from Reinig Bridge (Viewpoint 7)

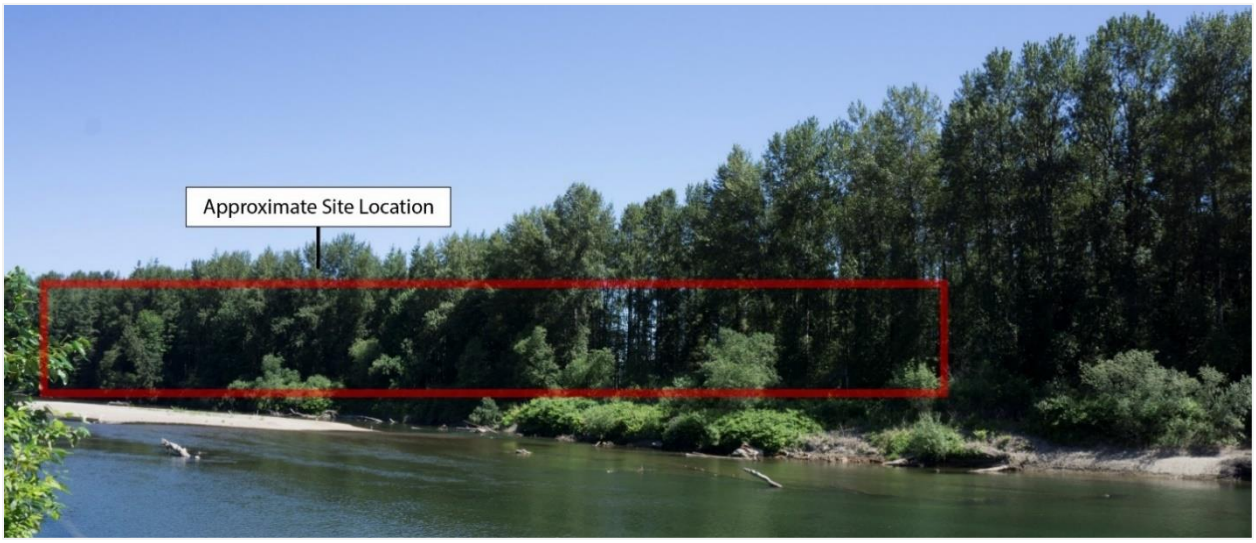


Source: BERK, 12-7-2017 (Sony a6000, f/9, 16mm).

Sandy Cove Park

Sandy Cove Park is a municipal park on the banks of the Snoqualmie River, near the intersection of SE King Street and Railroad Avenue SE in Snoqualmie, featuring an open lawn area and picnic tables. The park is located southwest of the mill site, separated from the site by the Snoqualmie River, SE Mill Pond Road, and Borst Lake. As shown in Exhibit 3.9-7, the riverbank is heavily vegetated, including many mature trees, which block views of the site from this location.

Exhibit 3.9-7. View from Sandy Cove Park – Looking Northeast Across Snoqualmie River (Viewpoint 4)



Source: BERK, 7-14-2017 (Sony a6000, f/13 16mm).

Snoqualmie Falls/Snoqualmie River

Snoqualmie Falls, located approximately one-half mile downstream (East-Northeast) of the mill site, is an important scenic and cultural landmark in the Snoqualmie Valley. The falls are a sacred site to the Snoqualmie Tribe, as well as a major tourist destination in the region. The top of the falls features an observation deck for visitors and the adjoining Salish Lodge and Spa resort. Due to topography, the course of the river, and dense vegetation along the riverbank, no publicly accessible point at the top of the falls has direct line of sight to the mill site. Exhibit 3.9-8 and Exhibit 3.9-9 show the view conditions at the lower and upper observation decks at the falls, respectively. Line of sight is achievable from the SR 202 bridge, slightly upstream of the falls, though the riverbank is heavily vegetated in this location, as shown in Exhibit 3.9-10.

Exhibit 3.9-8. View from Snoqualmie Falls Lower Observation Deck – Looking East-Southeast (Viewpoint 9)



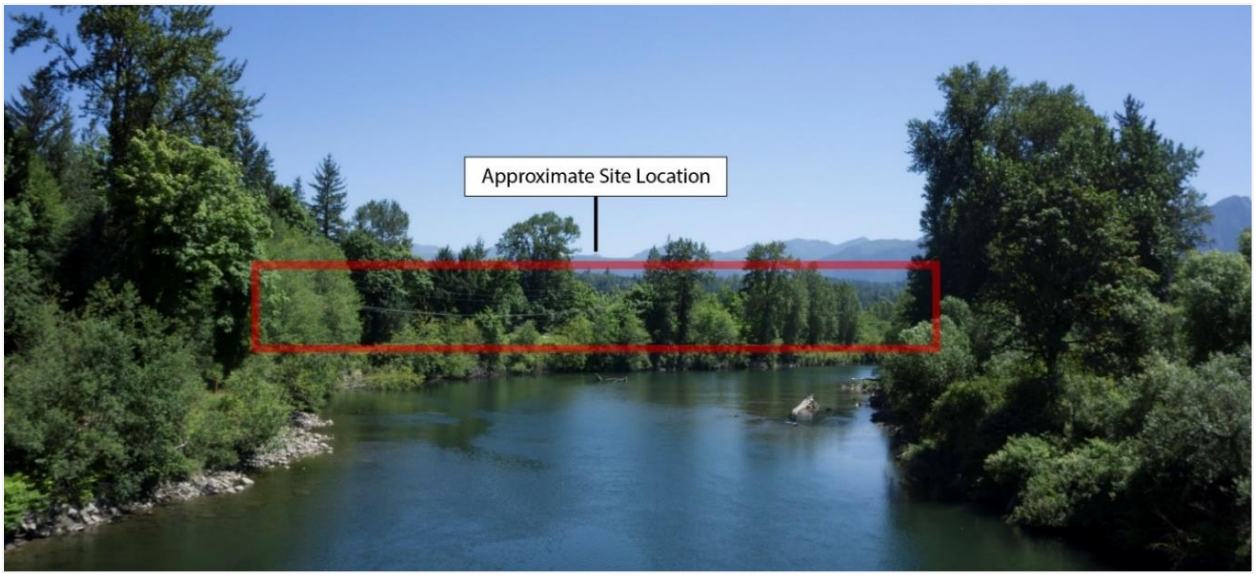
Source: BERK, 12-7-2017 (Sony a6000, f/9 16mm).

Exhibit 3.9-9. View from Snoqualmie Falls Upper Observation Deck – Looking East-Southeast (Viewpoint 8)



Source: BERK, 12-7-2017 (Sony a6000, f/9 16mm).

Exhibit 3.9-10. View from SR 202 Bridge – Looking East Toward Mill Site (Viewpoint 3)

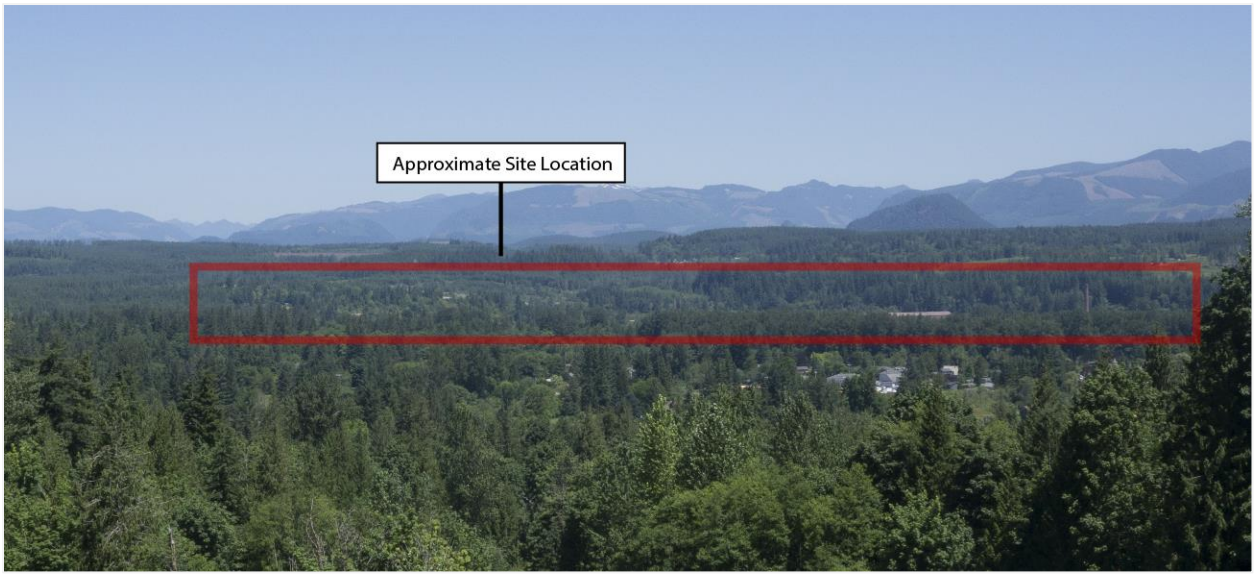


Source: BERK, 7-14-2017 (Sony a6000, f/11 16mm).

Snoqualmie Casino

The Snoqualmie Casino is located approximately 1.5 miles southwest of the mill site on the Snoqualmie Reservation. While outside Snoqualmie city limits, the casino is a major regional tourist destination, and its position on a hillside south of the city provides it with commanding views of the Snoqualmie Valley, including the Cascade foothills and mill site. As shown in Exhibit 3.9-11, the powerhouse smokestack is visible above the tree line, as is a portion of the Planer mill building roof.

Exhibit 3.9-11. View of Mill Site from Snoqualmie Casino – Looking Northeast (Viewpoint 11)



Source: BERK, 7-14-2017 (Sony a6000, f/11 38mm).

Borst Lake

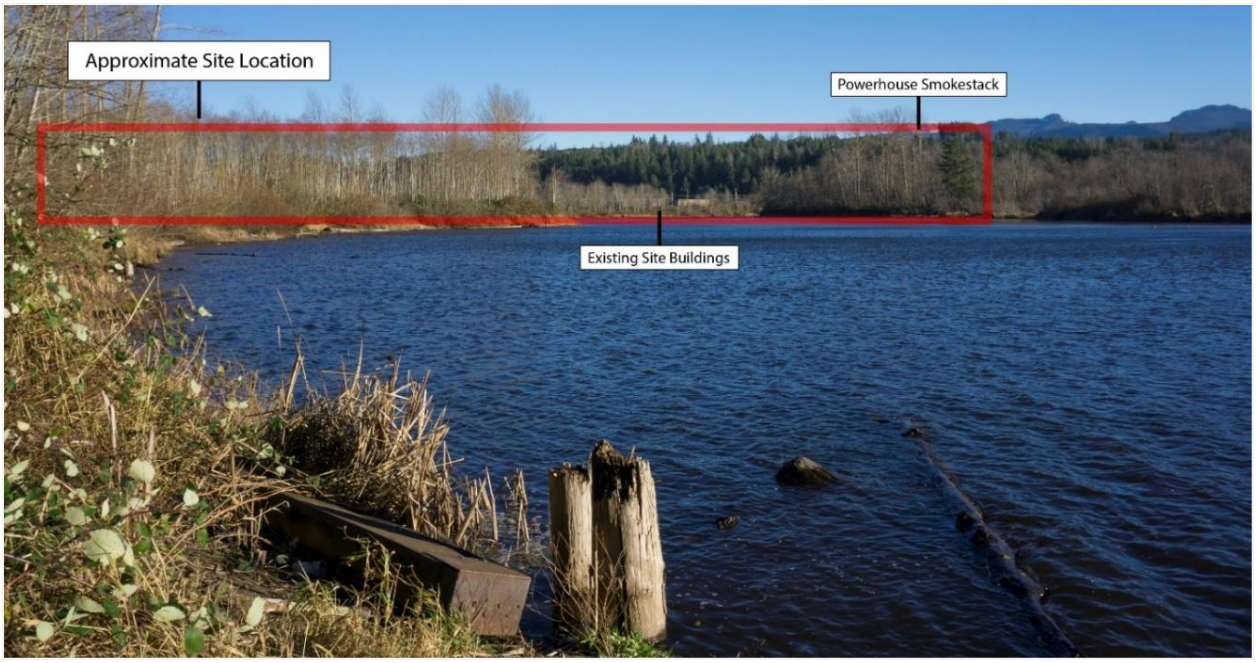
Borst Lake, located immediately south and west of the site, served as a mill pond and log float area when the site was in active production. The lake offers picturesque views of the surrounding landscape, including Mount Si, and residents frequent the area for recreation. The City's Snoqualmie Riverwalk Master Plan calls for future trail development in this area, which is likely to increase pedestrian and bicycle traffic near this viewpoint. Exhibit 3.9-12 shows the view of Mount Si from the west end of Borst Lake. The development area of the proposed action is located out of frame to the left of this view. Exhibit 3.9-13 shows the project site from the northwest corner of the lake, near a proposed trailhead for the future Snoqualmie Riverwalk trail system. While vegetation at the north end of the lake screens much of the site from view, some existing buildings are visible, including the smokestack of the historic powerhouse.

Exhibit 3.9-12. Mount Si from West End of Borst Lake – Looking East (Viewpoint 5)



Source: Miller-Hull Architects, 9-1-2016 (iPhone 6, f/2.2 4.15mm).

Exhibit 3.9-13. Project Site from SE Mill Pond Rd – Looking Northeast (Viewpoint 6)



Source: BERK, 12-7-2017 (Sony a6000, f/9 18mm).

On-Site Views

In addition to views of the mill site from exterior locations, this EIS also addresses views of major scenic resources from the mill site itself, specifically Mount Si and the Cascade foothills. Because most of the site interior has been cleared of vegetation and is relatively free of buildings, Mount Si and the surrounding foothills are visible from most locations on the site. Exhibit 3.9-14 and Exhibit 3.9-15 show views from the western portion of the site (Planning Area 1, shown on Exhibit 3.9-4).

Exhibit 3.9-14. Mount Si from Site Interior Near West Entrance – Looking Southeast (Viewpoint 2)



Source: BERK, 7-14-2017(Sony a6000, f/13 16mm).

Exhibit 3.9-15. Cascade Foothills from Site Interior Near West Entrance – Looking East (Viewpoint 2)



Source: BERK, 7-14-2017 (Sony a6000, f/13 29mm).

The site also offers territorial views of the Snoqualmie River Valley and surrounding foothills, as illustrated in Exhibit 3.9-14 and Exhibit 3.9-15. Future King County trail extensions are planned for the area east of the mill site, and portions of the mill site may be visible to trail users, depending on the precise trail alignment and existing vegetation. Structures likely to be visible include the DirtFish offices (which are located off-site), the Planer building, and the historic powerhouse.

Light and Glare

Light and glare at the project site are currently minimal. The mill site contains no major sources of illumination or glare visible from off-site. While the DirtFish racing facility includes site lighting and exterior building illumination, existing vegetation heavily screens the site from surrounding properties most of the year; this effect is somewhat reduced in winter due to seasonal leaf drop. The adjacent roads carry relatively low traffic volumes, making vehicle headlights a minor source of light and glare, which is also screened by heavy vegetation.

3.9.2. Impacts

Impacts of Proposal

This section describes the potential impacts of the alternatives to the aesthetic character of the Mill Site and the surrounding area. The EIS recognizes that the evaluation of aesthetic impacts is subjective and can vary depending on an individual's perspectives and preferences. The following sections cover potential impacts to visual character; development height, bulk, and scale; and views and scenic resources.

Visual Character

Overall Site-Level Impacts

As described in Chapter 2, the proposal would develop approximately 1.83 million square feet of commercial and industrial space and approximately 160 multifamily residential units on a site that is mostly open space or dormant industrial buildings. As a result, development under the proposal would represent a substantial change to the current visual character of the site. However, as described in Chapter 2, the proposal would maintain two-thirds of the site in open space, restricting development to approximately one-third of the overall site area. While individual buildings would have a large footprint and increase development intensity, reserving this open space would moderate the effects of increased development intensity on the site.

As described in Affected Environment, the project site is visible from several points around Borst Lake, specifically along SE Mill Pond Rd, where the City is planning construction of a new trail system. New trails would increase hiker and cyclist traffic in the area, which would also make views of the site available to more members of the public. As shown in Exhibit 3.9-13, existing buildings currently visible from these areas include the historic powerhouse and several structures associated with operation of the DirtFish Rally School. Future development on the site, particularly in Planning Areas 2 and 3, would be visible from Borst Lake to pedestrians and cyclists. However, as existing structures associated with DirtFish Rally School are replaced with new buildings under the proposed master plan, the visual quality could potentially improve, compared to the appearance of the existing industrial buildings on site.

As described in Chapter 2, the PCI Master Plan will include illustrative design concepts and standards for Phase 1 of the project, and design standards to govern future development in Planning Areas 2 and 3. These standards would require the use of building forms and materials that reflect the site's rural and industrial heritage and require protection of significant on-site view corridors. Some additional design standard provisions are recommended in Section 3.9.3 – Mitigation Measures.

Planning Area 1

As described in Chapter 2, the Proposal would develop Planning Area 1 (shown on Exhibit 3.9-4) as a pedestrian-oriented village with a mix of commercial, light industrial, retail, and residential uses. Development of a mixed-use village along a main street in Planning Area 1, which currently consists of open area, would result in a substantial change in character – from undeveloped to urban – and increases in development intensity and activity levels in the area. Exhibit 3.9-16 and Exhibit 3.9-17 illustrate the style of development and level of intensity proposed for Planning Area 1. As shown in these exhibits, the proposed development style employs industrial design elements across proposed land use categories, evoking the site's history; integrates vegetation and open space into the urban design of the village; and preserves elements of the site's rural and industrial visual character. Planned building layout would also preserve an on-site view corridor focused on the Planer building and Mt. Si.

Exhibit 3.9-16. Planning Area 1 Conceptual Design – West Entry (Viewpoint 10)



Source: Miller-Hull Architects, 2017.

Exhibit 3.9-17. Planning Area 1 Conceptual Design – Main Street (Viewpoint 2)



Source: Miller-Hull Architects, 2017.

Height, Bulk, and Scale

PCI Master Plan

As described in Chapter 2, development of the proposal would introduce buildings up to approximately 55 feet high, which is taller than the current 40-foot height limit in the PCI zone. However, this height is comparable in scale to the existing industrial structures in Planning Area 2 and the historic Planer building in Planning Area 3. Planning Area 1 is currently undeveloped, and development at the planned scale would represent a significant increase in height and bulk and a marked change in visual character in this location. As described under Affected Environment, however, the development regulations of the PCI zone are intended to be flexible, to promote creative design, and to allow consideration of deviations from the zone's standard height limit.

The site plan, as shown in Chapter 2, would maintain two-thirds of the Snoqualmie Mill site as open space, which would moderate the perceived height and bulk associated with proposed development. This open space, along with the site's perimeter vegetation, would create a visual buffer around on-site development and would reduce the potential for adjacent properties and developments to experience adverse height and bulk impacts from the proposal.

Overall Site-Level Impacts

Exhibit 3.9-16 and Exhibit 3.9-17 illustrate the style of development and level of intensity proposed for Planning Area 1 (shown on Exhibit 3.9-4). Because Planning Area 1 is currently undeveloped and open in character, the level of development envisioned, which includes 4-5 story buildings at heights up to 55 feet, would represent a significant increase in height and bulk over existing conditions; as noted previously, proposed heights would require a deviation from the current zoning standard. However, the conceptual designs presented in Exhibit 3.9-16 and Exhibit 3.9-17 illustrate several techniques to minimize height, bulk, and scale impacts, including extensive use of glass to reduce the visual weight of structures, provision of pedestrian infrastructure to enhance the street-level experience, and use of street trees and retained vegetation features to soften the street edge and reduce visual mass. Additionally, as described in the previous section, the development regulations of the PCI zone are intended to be flexible for projects that advance the zone's urban design goals. Deviations from fixed standards may be permitted to encourage creative design. Increased building height could be viewed as a trade-off to facilitate the PCI plan's low site coverage (almost 36%) and extensive open space (approximately 64%).

As described in Chapter 2, the PCI Master Plan will include design concepts and standards that will guide future development of the site. These standards are intended to ensure compatible design, consistent with the site's industrial history, and to avoid adverse height, bulk, and scale impacts. Recommended design standard provisions are listed in Section 3.9.3 – Mitigation Measures.

Views and Scenic Resources

Overall Site-Level Impacts

As described under Affected Environment, views of the mill site from most off-site locations are limited due to topography and extensive vegetation on the perimeter of the site. The anticipated visibility of new structures in Planning Area 1 is described in the following section, based on the site plan and concept drawings prepared by the project architect. Given the height of proposed buildings, new development in Planning Areas 2 and 3 would primarily be visible from locations at elevations higher than the Snoqualmie Mill site and far enough away to see over the surrounding screen of vegetation. One example would be the Snoqualmie Casino, which is more than 1 mile away (direct path). As illustrated in Exhibit 3.9-11, the existing Weyerhaeuser Planer building, which is comparable in height and scale to what is proposed in the PCI plan, is visible from this location. However, at such distances, development would be indistinct and any adverse impacts to off-site viewers would be considered moderate to minimal and not significant; development of taller buildings or removal of perimeter vegetation would increase visibility and the potential for adverse impacts.

Planning Area 1

New development in Planning Area 1 (shown on Exhibit 3.9-4) has the potential to cause adverse impacts to views if it obstructs views of significant scenic resources. From Planning Area 1, the primary scenic landmark that is visible is Mount Si, southeast of the mill site. As shown in Exhibit 3.9-16 and Exhibit 3.9-17, retained views of Mount Si are a prominent feature of the Proposal's conceptual site plan, and the proposed arrangement of streets and buildings in Planning Area 1 are intended to preserve these on-site views.

New development in Planning Area 1 could also potentially result in adverse impacts if it interferes with scenic views from publicly accessible off-site locations, or substantially alters the visual landscape as seen from nearby important scenic or cultural landmarks. As described under Affected Environment, significant viewpoints in the vicinity of the mill site include Sandy Cove Park, Snoqualmie Falls/Snoqualmie River, Borst Lake, the Snoqualmie Casino, and Mount Si. View simulations in the following sub-sections present proposed Planning Area 1 building envelopes in a bright teal color to highlight building locations for the reader and provide a general approximation of building heights and forms in Planning Area 1; they do not reflect final building locations or designs. Building exteriors are expected to consist of a mixture of metal, wood, and glass in a color palette similar to that shown in Exhibit 3.9-16 and Exhibit 3.9-17.

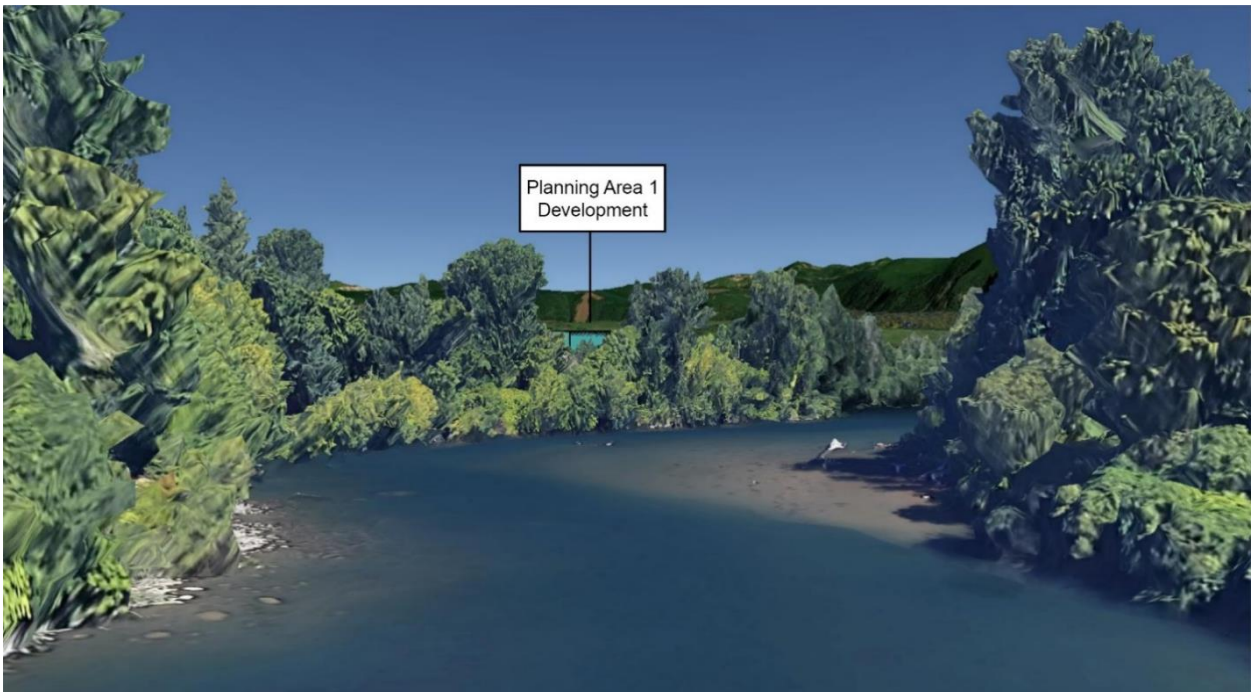
Sandy Cove Park

Development in Planning Area 1 would not be visible from Sandy Cove unless extensive mature vegetation was removed along the north bank of the Snoqualmie River. The proposal would not modify this vegetation. Consequently, development of the proposal would not affect views from this location and would not result in any significant adverse impacts.

Snoqualmie Falls/Snoqualmie River

As described in Affected Environment and shown in Exhibit 3.9-8 and Exhibit 3.9-9, no publicly accessible point at the top of Snoqualmie Falls has direct line of sight to the mill site, due to intervening topography, riverbank vegetation, and the curving course of the river itself. The Snoqualmie Mill site is partially visible from the river at the SR 202 bridge, and a simulated view of proposed development from this location is illustrated in Exhibit 3.9-18.

Exhibit 3.9-18. Planning Area 1 Proposed Development – View from SR 202 Bridge/Snoqualmie River (Viewpoint 3)



Source: Google, 2018; BERK, 2018.

As shown in the exhibit, portions of some buildings in Planning Area 1 (shaded teal) may be visible from this location, but the site is heavily obscured from view by riverbank vegetation. As such, it is unlikely that development under the proposal would disrupt views from Snoqualmie Falls or other points on the Snoqualmie River downstream of the mill site. However, Planning Area 1 buildings would likely be visible from the landscaped open space, viewing platform and trail near the stormwater outfall (see Exhibit 2.3-4 and Exhibit 2.3-5).

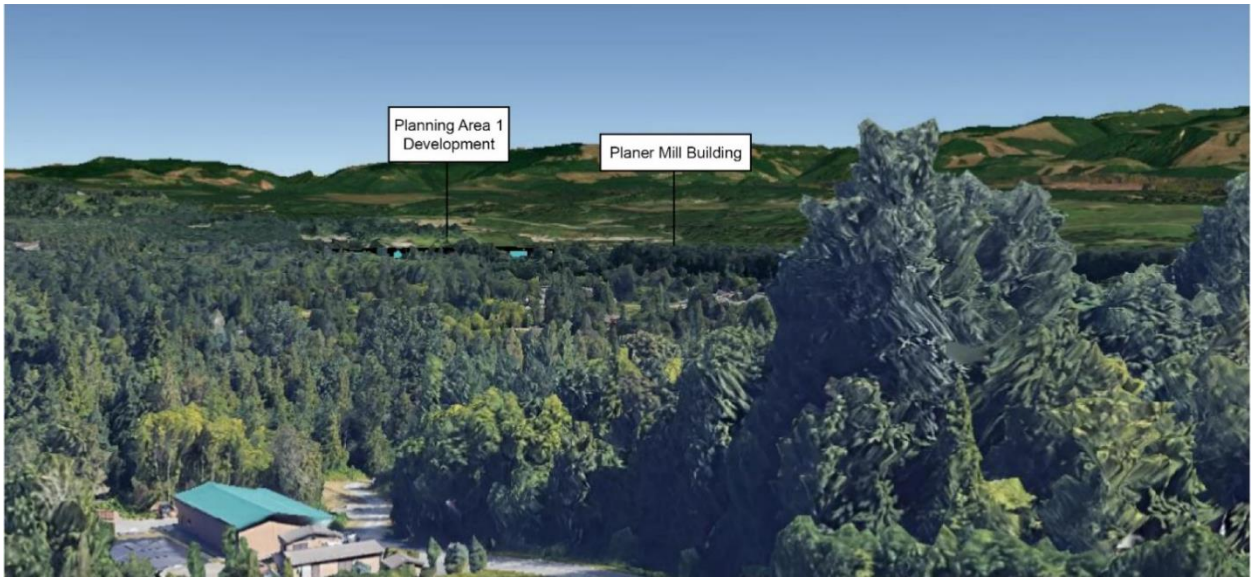
Borst Lake

While development in Planning Area 1 would be visible from various points on and around Borst Lake, the proposal would not result in obstruction of major scenic views. Views of Mount Si are available from the west side of Borst Lake, as shown in Exhibit 3.9-12. From this location, all three Planning Areas are positioned to the north, placing them outside the sightlines to Mount Si and the surrounding foothills. Development of the proposal would therefore not result in significant adverse impacts to views.

Snoqualmie Casino

As shown in Exhibit 3.9-19, development in Planning Area 1 would be partially visible from the Snoqualmie Casino (shaded in teal), but it would not be of sufficient height as currently proposed to obstruct views of the surrounding foothills or other scenic elements of the Snoqualmie River Valley. Development of the proposal would therefore not affect views from this location and would not result in significant adverse impacts.

Exhibit 3.9-19. Planning Area 1 Proposed Development – View from Snoqualmie Casino (Viewpoint 11)

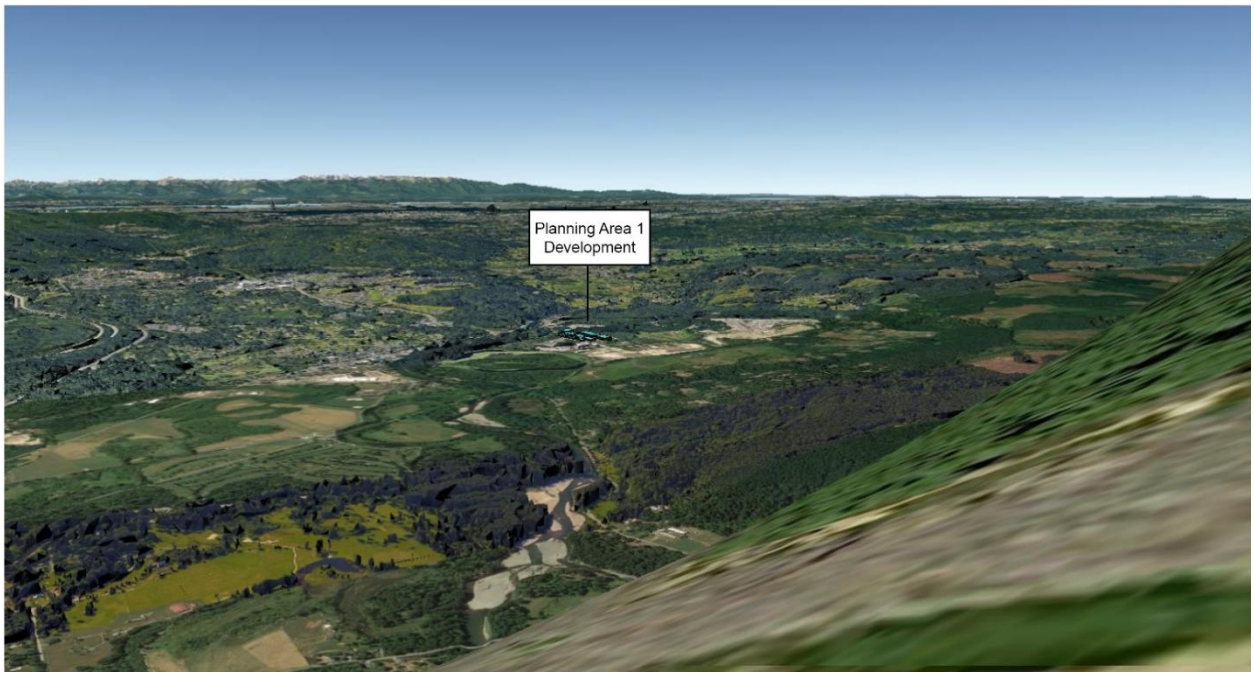


Source: Google, 2018; BERK, 2018.

Mount Si

As stated in Affected Environment, Mount Si is a major regional landmark and popular destination for outdoor recreation. The summit provides clear views of the valley below, including the Snoqualmie Mill site. As shown in Exhibit 3.9-20, proposed development in Planning Area 1 would be visible from Mount Si but would not be a prominent feature of the territorial view. Other developed areas, including downtown Snoqualmie, and nearby industrial sites, including the CalPortland gravel mine, are also visible from the mountain. Development of the proposal is therefore not anticipated to result in significant adverse impacts to views from this location.

Exhibit 3.9-20. Planning Area 1 Proposed Development – View from Mount Si (Viewpoint 12)



Source: Google, 2018; BERK, 2018.

Light and Glare

Overall Site-Level Impacts

Development of the proposal would add new buildings to a site that is largely undeveloped, which would necessitate the addition of exterior illumination. New roads, parking, and on-site circulation would require installation of streetlights and other forms of artificial lighting. Increased development on the site would also result in an increase in vehicle traffic that would increase light and glare from vehicle headlights. Land uses that would require lighting in the evening hours, such as retail, restaurants, and residences, would generate much greater light and glare than the development currently on-site. If manufacturing uses were to operate on a 24-hour schedule, lighting impacts would increase accordingly.

Light and glare impacts associated with development under the PCI plan would be moderated by the presence of heavy vegetation along the site perimeter, as well as topographic changes to the east and north. While areas close to the mill site would likely be shielded from direct exposure to these lighting impacts, nighttime light and glare could be visible from locations farther away. For example, the ambient glow of nighttime site lighting could be visible at viewpoints whose line of sight is obscured by vegetation, such as the SR 202 Snoqualmie River bridge, Snoqualmie Falls, or the Snoqualmie Casino. Recommended design standard to mitigate this possible impact are listed in Section 3.9.3 – Mitigation Measures.

Planning Area 1

Light and glare impacts associated with Planning Area 1 (shown on Exhibit 3.9-4) are similar to those for the PCI Master Plan as a whole. Planning Area 1 would contain all of the site's planned

residential uses and most of the retail/restaurant uses, which are the development types most likely to operate during the evening hours and generate more significant light and glare effects. As a result, the Proposal should implement design standards to minimize spillover of light and glare from the site to surrounding areas to avoid significant adverse light and glare effects. Recommended design standard provisions are listed in Section 3.9.3 – Mitigation Measures.

Indirect and Cumulative Impacts

As identified in the foregoing analysis, the Snoqualmie Mill site is buffered from most off-site views by existing vegetation, which would be retained. However, development on the site could be visible from more distant points at higher elevations, such as the Snoqualmie Casino or Mount Si.

In general, future development located in many portions of the city could similarly be visible from higher elevations, depending on specific location and the amount of clearing associated with development. These and similar details are not knowable at this time; no specific planned or proposed development projects within the viewshed have been identified. From a cumulative perspective, clearing and development could result in incremental changes to visual character. However, it is generally assumed that any future development would be consistent with the City's Comprehensive Plan and would identify and mitigate significant impacts to views.

Alternatives

Redevelopment Alternative

Implementation of the Redevelopment Alternative would result in building design, heights, architectural forms, design characteristics, and building layout comparable to the proposal, with minor variations in building arrangement and some variations in uses. As a result, aesthetics impacts, both in Planning Area 1 and the PCI Master Plan area as a whole, would be generally similar to those described for the Proposal.

The inclusion of an outdoor performance space with a stage in Planning Area 3 would be an exception to this statement. Outdoor performances would increase light and glare impacts compared to the proposal due to the likely use of additional illumination during performances, both for audience areas and the performance stage itself. This illumination could periodically increase ambient light levels during evening performances. In addition to the recommended measures listed in Section 3.9.3 – Mitigation Measures, specific mitigation associated with the performance space would be necessary to avoid such adverse impacts under the Redevelopment Alternative. Such measures could include design requirements to control the orientation of exterior lights away from other nearby developments and roadways, screening of lights by buildings or vegetation, and/or restrictions on hours of usage.

No Action Alternative

As described in Chapter 2, the No Action Alternative would result in no redevelopment of the mill site. As such, current uses on the mill site would continue under the No Action Alternative, resulting in no significant changes to current aesthetic or visual conditions.

3.9.3. Mitigation Measures

Incorporated Plan Features

The Proposal includes the adoption of a master plan to guide future development on the project site. The master plan will include design concepts, design standards and an architectural review process for all on-site development. As described in Chapter 2, the draft design standards address site planning, architectural design, building materials, landscaping, signage, lighting, and other design features, as outlined below.

Visual Character

- Draft site design standards encourage integration of open space and natural features with development, including landscaping with native species, to reduce the visual effect of increased development intensity on the site.

Height, Bulk, and Scale

- Draft site design standards for pedestrian environments require the provision of street plantings and pedestrian amenities.

Views and Scenic Resources

- Draft design standards identify on-site view corridors, particularly those encompassing Mount Si and historic structures on the site, such as the Planer building and the powerhouse smokestack and require that placement of future buildings and trees minimize disruption of these views.

As described in Chapter 2, the Proposal would also restrict development to a relatively small portion of the mill site, leaving approximately 64% of the site as open space, preserving natural features, particularly in the southern portion of the site along Borst Lake. Preservation of scenic views and screening of the site are also features of the proposal.

Regulations and Commitments

Development in the City of Snoqualmie is governed by the provisions of the Snoqualmie Municipal Code. Title 17 – Zoning establishes development regulations governing allowed uses, building heights, and required setbacks. Title 17 also establishes the City's design review board, which is required to review all development proposals (with exceptions for single-family residences and projects undergoing historic design review). The design review board is tasked with ensuring that new development is well-designed and "harmonious with the natural and manmade environments." (SMC 17.80.010) The design review process is required by code to review landscaping and site treatments, building scale, exterior lighting, and architectural design.

The zoning code contains several provisions for projects in the PCI zone, which applies to the mill site. The provisions are intended to protect visual character and scenic quality. Specifically, the code requires that PCI projects be developed in a manner that reflects Snoqualmie's small-town character and emphasizes public amenities, such as open space, parks, and trails.

Other Potential Mitigation Measures

Aesthetic and visual impacts could be further mitigated by application of the following or similar measures:

Views and Scenic Resources

- Maintain open space and native vegetation areas on the site perimeter to buffer surrounding areas from development on site.

Light and Glare

- Design standards should require the use of exterior illumination designed to reduce off-site light pollution, including the use of shielded lighting, ground-level fixtures, and other screening techniques.
- Design standards should include measures to limit nighttime light pollution or incorporate by reference such standards as promulgated by the International Dark-Sky Association (IDA).

3.9.4. Significant Unavoidable Adverse Impacts

Given the mostly undeveloped nature of the mill site, almost any form of development would result in changes to the visual character and lighting conditions on the property. While the change would be significant, particularly in Planning Area 1, it would occur in the context of an historical industrial site and is not considered adverse. In addition, given the topographic conditions and the location of existing vegetated areas at the perimeter, the mill site is relatively visually isolated, and development will not be visible from most off-site locations. With application of proposed design standards and recommended mitigation measures, no significant unavoidable adverse impacts are anticipated.

3.10. HISTORIC AND CULTURAL RESOURCES

This section of the EIS is based on a *Snoqualmie Mill Planned Commercial/Industrial Complex SEPA Cultural Resources Assessment* prepared October 23, 2018 by Cascadia Archaeology (referred to as the Cultural Resources Assessment. The report, which is included in Appendix E, contains confidential information which has been redacted based on based on Washington State statute and City of Snoqualmie confidentiality procedures. The history of the site and region is abbreviated for purposes of the EIS; the interested reader is encouraged to consult Appendix E for greater detail. The appendix also includes definitions of technical terms relevant to the analysis.

This section addresses cultural resources listed in or eligible for listing in a heritage register, located within the project site, and an area one mile downstream, Snoqualmie Falls. The study areas for direct and indirect effects to theses cultural resources are defined below:

- Direct: The area of potential direct effects includes Snoqualmie Mill PCI Plan Planning Areas 1, 2, and 3, but excludes the wetland conservation easement north of the road in Planning Area 1. The easement will not be altered under any project alternative.
- Indirect: The area of potential indirect effects includes the three PCI Plan planning areas as well as a zone extending one mile out from the boundary of the three planning areas on the project site.

3.10.1. Affected Environment

An historic or cultural resource qualifies to be listed in a heritage register based on definitions and procedures in federal, state, and local laws, and, accordingly, the Affected Environment begins with a description of applicable laws and rules. This is followed by a description of methods employed in the Cultural Resources Assessment to inventory cultural resources and evaluate the probability for buried archaeological resources to be present. The environmental context, cultural contexts, and cultural resources survey results are also presented.

Regulatory Framework

Culturally significant resources in the US are evaluated and recognized through a combination of national, state, and local programs. Such programs generally include:

- The establishment of registers or lists of qualifying cultural resources;
- A set of criteria that define historical significance and establish eligibility for inclusion in the list;
- Nomination procedures, including application and documentation requirements; and
- Incentives or regulations to encourage preservation of the significant features of listed buildings or sites.

The protection of register-eligible historic resources on private lands at the federal and state levels relies only on incentives, such as tax benefits, to encourage protection. Qualification and

listing on either (or both) the national or state heritage registers does not entail any limitation on a property owner's ability to modify a listed historic building, structure, or object. Typically, there is also an option for effected property owners to accept or decline to being listed. Local historic preservation programs, such as in Snoqualmie, may establish their own criteria and procedures for determining significance and may use zoning tools to impose limitations on future use or modification of historic resources.

Archaeological resources are protected by RCW 27.53: Archaeological Sites and Resources. This statute prohibits knowingly excavating or disturbing a prehistoric archaeological resource or site or a register-eligible historic archaeological resource or site. Burials and human remains found on non-federal and non-tribal lands are protected in Washington by RCW 68.50: Human Remains, RCW 27.44: Indian Graves and Records, and RCW 68.60: Abandoned and Historic Cemeteries and Historic Graves.

Depending on the circumstances, environmental review is another tool that may be used to document and evaluate cultural resources. Federal "actions" (e.g., funding, projects, or decisions) that trigger environmental review pursuant to the National Environmental Policy Act (NEPA), and state or local actions that are subject to the Washington State Environmental Policy Act (SEPA), require that measures to mitigate significant adverse impacts to historic properties be identified and considered.

An overview of applicable federal, Washington State, and City of Snoqualmie programs is below, to provide context for the conclusions and recommendations in this section of the EIS.

National Register of Historic Places

The US Department of the Interior National Park Service (NPS) administers the National Register of Historic Places (NRHP), which was authorized by the National Historic Preservation Act of 1966 as amended (16 US Code 470 et seq.). Rules for the program are contained in 36 Code of Federal Regulations Part 60. The NRHP is the official federal list of Historic Properties, which are districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture, and that retain sufficient historic integrity to convey their significance. NRHP properties have significance to the history of their community, state, or the nation. Nominations for listing historic properties typically come from the following individuals and agencies who often initiate this process and prepare the necessary documentation: State Historic Preservation Officers, private individuals and organizations, local governments, and American Indian tribes. A professional review board in each state (the Advisory Council on Historic Preservation in Washington) considers each nomination and makes a recommendation on the cultural resource's eligibility according to defined criteria. The NPS criteria are also commonly used, sometimes with minor variations, in state and local historic resource programs. The NPS Criteria are as follows:

> *The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of significant persons in our past; or

C. That 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. That have yielded or may be likely to yield, information important in history or prehistory.

Under federal law, the listing of a property in the NRHP places no restrictions on what a non-federal owner may do with his or her property, up to and including demolition, unless the property is involved in a project that receives federal assistance, typically funding or some type of licensing or permitting. Similarly, NRHP listing does not lead to public acquisition or require public access. An individual property will not be listed if the owner objects and a proposed district will not be listed if a majority of property owners object. NRHP listing is also independent of state or local designation.

Washington Heritage Register

The Washington Heritage Register (WHR) is a listing of sites, properties, buildings, districts, structures, and objects that have been identified and documented as being significant in local and state history, architecture, archaeology, engineering, or culture. The WHR is authorized by Revised Code of Washington (RCW) 27.34.220 and is administered by the Washington State Department of Archaeology & Historic Preservation (DAHP). Listing is "strictly an honorary designation" that is intended to raise awareness about historic and cultural values, according to DAHP's website. As with the NRHP, listing or a determination of eligibility for listing, does not impose any limitations on the use of property.

The nomination process for listing is established in Washington Administrative Code (WAC) 25-12-060. It generally requires submittal of an application to DAHP, and transmittal of complete applications by the State Historic Preservation Officer to the State Advisory Council on Historic Preservation for a decision. The state criteria for historical significance are generally the same as the NPS criteria. An eligible cultural resource should have a medium to high level of "historic integrity" and retain important character-defining features from its period of significance. A property owner may consent or object to review by the State Advisory Council on Historic Preservation and listing on the WHR.

DAHP involvement in the review of individual projects typically occurs through the SEPA (and/or the NEPA) process if it applies to a proposed action and is based on standards established by the SEPA statute and rules; specifically, whether a proposed action will result in a probable significant adverse impact to an identified historic property. The information and study methodology required to identify resources is guided by documentation and reporting standards established by DAHP policy. In the SEPA process, DAHP is a consulting agency, not a

permitting agency, in regard to historic resources and it recommends mitigation to the SEPA lead agency (the City of Snoqualmie in this instance).

City of Snoqualmie Historic Overlay Zones and Landmarks

The City of Snoqualmie has established a separate program in its zoning code (SMC 17.35), independent of the national and state registers to identify, designate and regulate cultural resources that meet adopted criteria for local landmark designation. Although King County regulations do not generally apply outside unincorporated areas, the City's regulations incorporate several sections of King County's landmark protection program (KCC 20.62); key provisions incorporated into city regulations include designation criteria, nomination and designation procedures, evaluation of economic impacts, and appeals and special valuation provisions for designated properties. These King County criteria were incorporated by reference in the City's Code and are "specifically applicable only to sites, buildings, structures and objects within the downtown landmark district." SMC 17.35.030. Designation criteria (KCC 20.62.040) are almost identical to the NPS criteria referenced previously, with a few exceptions: buildings and properties 40 years old, rather than 50 years old, are eligible for designation; and a category of "community landmark" is recognized but does not require a certificate of appropriateness for proposed physical modifications.

The City's code creates an historic district overlay zone that is intended to preserve and enhance buildings and the uses of historic structures and buildings within the City (SMC 17.35.080). As an overlay, it supplements the requirements of the underlying zoning district. The overlay zone applies only to the Downtown Historic District and the Meadowbrook Historic District, and so is not applicable to the Snoqualmie Mill site. The City's code does not provide authority to designate new landmarks or historic districts outside of this overlay zone.

Methods

Archival research, consultations, and field survey formed the basis for the identification of cultural resources, and whether a cultural resource met federal, state, or local criteria for listing in a heritage register. Archival research included but was not limited to review of cultural resource investigations and inventory forms, histories, ethnographies, newspaper articles, correspondence with local historians and Weyerhaeuser archives, and historic maps and photographs. The cultural resources consultant corresponded and/or met with the following persons:

- Gretchen Kaehler, Department of Archaeology and Historic Preservation
- Karen Yoshitoshi, Japanese Cultural and Community Center of Washington
- James Szubski, concerned citizen
- Steve Mullen-Moses, Snoqualmie Nation
- Laura Murphy, Muckleshoot Indian Tribe
- Richard Young, Tulalip Tribes

Field survey of the built environment began with a reconnaissance level survey and evolved into a more intensive survey, as defined by the Department of Archaeology and Historic Preservation. Archaeological field survey was comprised of 10 mechanically excavated trenches placed to test for buried soils that could contain pre-contact archaeological material and evidence of a portion of the community for mill workers.

Project Setting

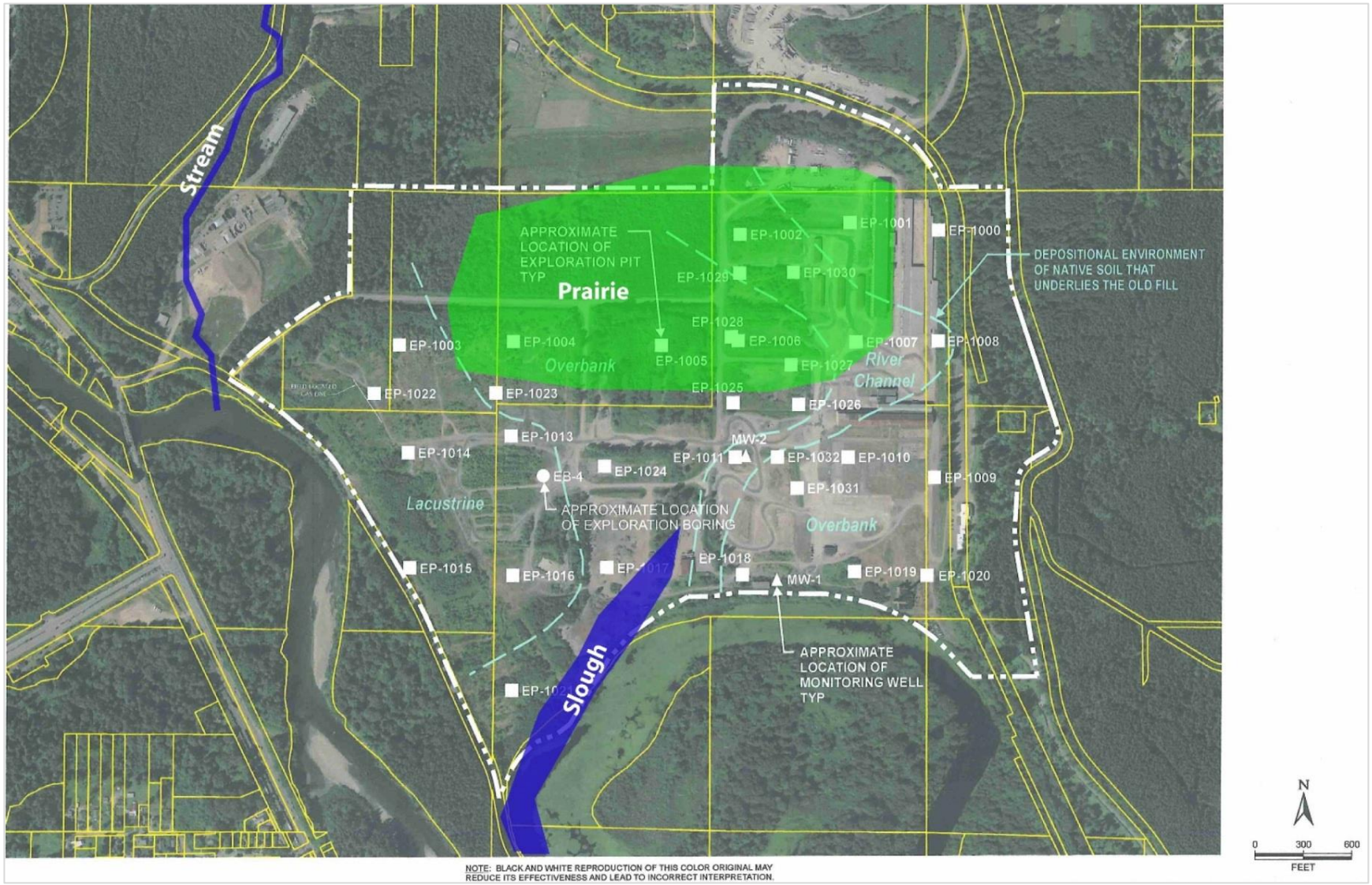
Environmental Context

The Cascadia Archaeology Cultural Resources Assessment considered geological and historical environmental conditions. Geological conditions were based on technical analysis prepared for this EIS in Section 3.1 and results of the archaeological survey. Historical environmental conditions were reconstructed from maps, surveyor's notes, photographs, ethnographic and ethnohistoric studies, and natural histories. This section summarizes conditions relevant to the potential for pre-contact and historic archaeological resources to be present within the PCI complex.

The project area is within the western hemlock (*Tsuga heterophylla*) vegetation zone typical of the Puget Lowland. Prior to development as a mill site, a small prairie was located in the northern half of the subject property and a slough, which likely developed into Lake Borst, was present at the southwest boundary of the SMV property. See Exhibit 3.10-1. These habitats would potentially have been utilized by Native Americans for harvesting plant and animal resources. The full Cultural Resources Assessment provides more detail on species important to Native American culture and economy. The construction of the Snoqualmie Mill complex which included clearing, grading and filling of the land, and diking of the north shoreline of Borst Lake substantially altered most if not all of project area.

The results of the archaeological survey in Planning Area 1 in combination with results of the geotechnical study (AESI 2012) indicate that the probability of a buried soil that would contain pre-contact archaeological material, or sediments that would contain register-eligible historic archaeological material, is low within Planning Area 1. Five major stratigraphic units were defined in Planning Area 1. Three of the strata were imported fill deposits that include large amounts of gravel or woody debris. The fill was 6.4 feet to 10.3 feet thick. Underlying the fill, two strata comprised of native sediments could be found. These strata were alluvial overbank sediment of varying thickness atop firm, clayey silt lacustrine deposits, probably glaciolacustrine deposits. Buried soil was found only in one archaeological trench, encountered at 9.8 feet below surface; no archaeological material was associated with it. Archaeological survey of Planning Areas 2 and 3 was not carried out, because development plans are very conceptual at this time.

Exhibit 3.10-1. Historical Prairie and Slough Shown on the Geotechnical Survey Map



Source: AESI, 2012; Cascadia Archaeology, 2018.

Cultural Context

Ethnography

The direct and indirect study areas are within the Southern Coast Salish region (Suttles and Lane 1990). Tribes, consisting of villages or extended families, were each associated with their respective river drainages. More specifically, the direct and indirect study areas are in the historic territory of the Snoqualmie, who lived inland of Puget Sound in the Snoqualmie and Tolt river drainages. They are divided into two groups, the Lower Snoqualmie, who lived below Snoqualmie Falls, and the Upper Snoqualmie, who lived above the falls on the prairies around present-day Snoqualmie and North Bend (Baenen 1981, Lane 1975). Ethnographer T.T. Waterman recorded six place names within an area extending about one mile out from the SMV property.

More recent ethnographic work identified two use areas. Larson (1988) reported that a member of the Snoqualmie Tribe used an area just within or near the boundary of Planning Area 1 on the bank of the Snoqualmie River for spirit renewal ceremonies. Use of that location may only date to the historic period. The second area was first identified during a study by Murphy et al. (2000) for the Falls Crossing Mixed-Use Development on property that sits across the river from Planning Area 1. Members of the Snoqualmie Tribe communicated that the Falls Crossing project area and its surroundings have cultural significance for a variety of reasons and had been utilized within at least the past 50 years (Murphy et al. 2000). Their concern was reiterated in 2018 during a survey on land adjacent to the Falls Crossing Project area (Valentino 2018). During consultation for the Falls Crossing Project, the Tulalip Tribes and Muckleshoot Indian Tribe also expressed concern about development near Snoqualmie Falls (Murphy et al. 2000).

Traditional Cultural Properties

The NRHP designates a TCP when a place is found to have an "…association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (NPS, National Register Bulletin, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, National Register Bulletin 38). One example of a TCP given in the NRHP *Guidelines* is a location associated with the traditional beliefs of a Native American tribe about its origins or its cultural history of the nature of the world. A TCP recognized in the NRHP is a specific physical property or place with designated boundaries; the TCP is not the intangible beliefs, customs or practices that give it significance (NPS, *Guide for Preserving Native American Cultural Resources*, Draft 2012).

The Snoqualmie Falls TCP is listed in the NRHP and WHR. The traditional name for the Snoqualmie Falls TCP has various spellings; *SquEd* is used in the EIS which is the spelling recorded by ethnographer T.T. Waterman (2001). *SquEd* translates as "the underpart to which the stream plunges" (Waterman 2001). In the NRHP nomination form, the Snoqualmie Falls TCP is defined as "The Falls (from rim to basin, the pool below, and the rock cliffs which enclose the basin" (Garfield 1992:7-1). Thompson (1996) describes the TCP based on the graphic with the

National Register Registration Form, as an approx. 8-acre area that includes the "natural character defining features of the Falls, which consist of the rock cliff (including Seattle Rock), the waterfall and the plunge pool. The boundary extends along the rim of the cliff where the waterfall plunges over the rock, then continues southwest and down a cliff to cross the river downstream of the plunge pool."

Other descriptions of the TCP include mention of the mist that at times rises from the basin, which has cultural significance as discussed below (Garfield 1992:7-1,7-2). The place is visited and used by the Snoqualmie for a variety of reasons (Garfield 1992). During consultation conducted by Cascadia Archaeology for the Snoqualmie Mills proposal, concerns regarding indirect effects to this TCP were communicated to the project proponents.

The Snoqualmie Tribe's beliefs and practices regarding the Falls have been described in the NRHP application for designation, on the Tribe's website and in various environmental documents and legal decisions. The Falls is prominent in the Snoqualmie Tribe's creation story and is an important location for its religious practices (NHRP registration form 1992). The Snoqualmie Tribe believes that the mist generated by the Falls connects the earth to the heavens, and that a powerful water spirit inhabits the base of the Falls (*Snoqualmie Indian Tribe v. FERC*, 545 F.3d 1207, 9th Circuit, 2008). The Snoqualmie Falls TCP was determined eligible for the NRHP in 1992 and formally designated in 2009. The registration form describes the Falls significance based on its close association with the traditional cultural heritage of the Snoqualmie Tribe. The Falls provides a place for prayer, meditation, and spiritual renewal.

Based on a published news report, the Snoqualmie Tribe considers that the NRHP-designated TCP does not accurately reflect the Falls' sacredness or the geographic extent of its significance. The Tribe believes that the sacredness of the TCP is inherent in the mist that arises from the Falls and its influence extends to any area from which the mist is visible; this could extend for a distance of several miles and encompass one-half of the Snoqualmie Valley, depending on meteorological conditions (www.livingsnoqualmie.com, "The Battle Over What is Sacred: Development Threatens City, Tribe Relationship", Oct. 12, 2015). The Snoqualmie Tribe also considers that residents and visitors – and associated traffic, noise, light, and other intrusions – interfere with solitude, privacy, and ongoing tribal spiritual and religious practices in and around the Falls. These intrusions will increase, the Tribe feels, with future growth of population and tourism (Snoqualmie Indian Tribe v. City of Snoqualmie, Land Use Petition, 2016).

Snoqualmie Falls has been a popular tourist attraction since the late 19th century. Snoqualmie Falls Park and the observation deck were constructed in the 1960s and the Falls currently attracts more than 1.5 million visitors per year. As noted previously, the Snoqualmie Tribe considers that tourist visitation disturbs its cultural practices and ceremonies.

Archaeology

Queries on WISAARD[24] resulted in a finding of no archaeological resources identified within the direct study area. Within the indirect study area, Kassa (2015) noted four historic archaeological

[24] WISAARD refers to the state's digital repository for architectural and archaeological resources and reports.

sites and one site with both historic and pre-contact components. Since Kassa's study, two isolated lithic artifacts (45KI1273, 45KI1275) have been found within 0.2 miles of the direct study area (Parvey 2016; Shantry 2016) and a pre-contact culturally modified tree site (45KI1048) in use by the Snoqualmie Tribe (Valentino 2018) have been recorded within one-quarter mile of the property.

History

Numerous events, people, and inventions are part of the history of the lumber industry in the Pacific Northwest. Within this broader context, four historic contexts (or themes) are associated with the project site: The Weyerhaeuser Timber Company, the Snoqualmie Falls Lumber Company (SFLCo), electrification of the lumber industry, and Snoqualmie Falls Company Town.

The Weyerhaeuser Timber Company

The lumber industry, statewide and nationwide, changed dramatically in 1900 when the Weyerhaeuser Timber Company was formed and subsequently purchased 900,000 acres of timberland from the Northern Pacific Railroad. By this one acquisition, the Weyerhaeuser Timber Company became the second largest private owner of timberland in the United States (Ficken 1987:91). In Washington, this shift to large-scale private ownership of timberlands was one of the primary factors leading to the disappearance of small, independently owned mills and logging operations. By 1905, the state of Washington was the leading producer of lumber in the nation, a fact that did not change until the 1930s when the center of the industry shifted to Oregon (Chiang and Reese 2016; Melton 1936:9). In 1914, Weyerhaeuser Timber Company began construction of the Everett Mill B and Weyerhaeuser formed the Snoqualmie Falls Lumber Company as a joint venture with the Grandin-Coast Lumber Company. These two endeavors made Weyerhaeuser Timber Company the prominent figure in the supply side of the Pacific Northwest lumber industry and one of, if not the most, prominent figure on the manufacturing side. The lumber industry was impacted by the Great Depression and, although the demand for lumber increased during World War II and the postwar housing boom, it lost its title as the largest employer in Washington.

The large-scale operations of the logging industry prior to the 1960s is unlikely to be seen again. The operations of that era are reflected in the "monumental" architecture and engineering of the mill structures of the time. Historic manufacturing facilities reflected the large size of the old growth logs and the flourishing industry at that time. Old growth lumber was abundant and inexpensive, so grand structures could be built. The period of significance for the Weyerhaeuser Timber Company venture as it relates to the SFLCo is recommended as 1914 through 1944. This period begins with the inception of the SFLCo venture and ends with the decline in importance of the lumber industry in Washington. Within this historical context, the SFLCo was significant at the regional (Pacific Northwest), state, and county geographic levels for its economic impact.

Snoqualmie Falls Lumber Company (SFLCO)

In 1914, Weyerhaeuser and Grandin-Coast Lumber Company partnered to form the Snoqualmie Falls Lumber Co. with offices in Seattle. See Exhibit 3.10-2. The intent of the newly formed

company was to design and construct an all-electric mill at Lake Borst. “In 1929, the Weyerhaeuser plants at Everett, Snoqualmie Falls, and Longview produced 460 million board feet of lumber, far and away the largest figure in the region” (Ficken 1987:176). After World War II, because of a lack of old growth timber, facilities built for large-scale log processing became inefficient. In 1948, the SFLCo became a wholly owned branch of the Weyerhaueser Timber Company. Plant upgrades and modifications for the production of Silvacel (a wood fiber product trademarked by Weyerhaeuser and used in a variety of industrial products) and plywood in the 1950s did not stop the slow demise of the mill. The mill finally closed in 2003 (Kirby 2005). The period of significance of the SFLCo is recommended to be the 1916-1944, from initial mill construction through to the decline of the lumber industry. The SFLCo during its period of significance had an important economic impact at the state, county, and local level.

Exhibit 3.10-2. Photographic Overview of the SFLCo Mill Site, Dated to Between the 1930s and 1952, Facing Northeast



Source: Snoqualmie Valley Historical Museum (SVHM), PO 558.0120.

Electric Mill

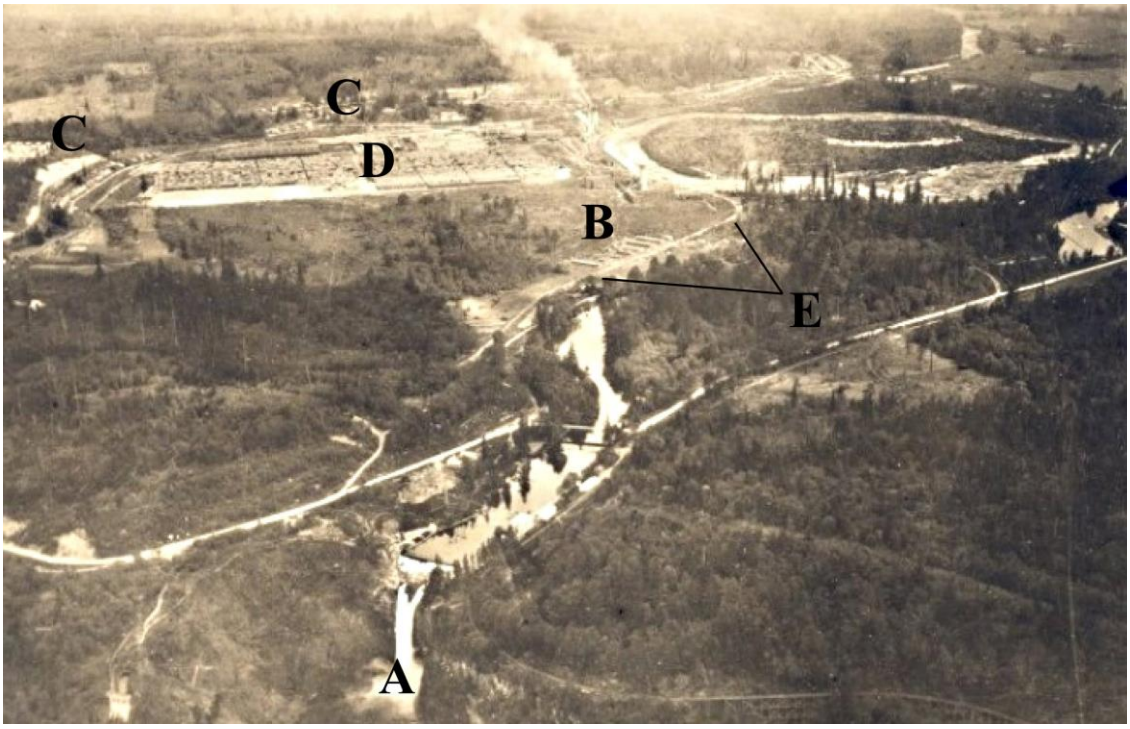
The SFLCo mill was the second “all electric” mill in the United States, according to Weyerhaeuser history. However, it was the first such mill of all new construction (David Battey, personal communication 2017). Innovation in the use of electricity throughout the mill site

extended to timber harvesting in the 1920s with use of an electric yarder over a steam-driven yarder (Gray 1919). The period of significance for the invention of the all-electric milling and logging operations is recommended as 1916-1930. This timeframe encompasses the design and construction of the SFLCo mill site and inventions developed in the 1920s in using electric equipment to extract timber and mill lumber. This entire system included electrified railways and power lines.

Snoqualmie Falls Company Town

Most of the Snoqualmie Falls townsite was on the hillsides east and north of the project site and outside the project site boundary. See Exhibit 3.10-3. Community growth ended in the 1930s when homes began to be removed. By 1958, most homes had been relocated across the Snoqualmie River and most remaining buildings demolished. A few community buildings continued to be used, with the last, the YMCA, demolished in the 1970s. Some of the town's remnants include concrete structural remains associated with the school and hospital, all of which are being enveloped by vegetation and duff (Truscott 2010).

Exhibit 3.10-3. Portion of a Photo Taken ca. 1920/24 Showing the Location of the Japanese Community



Legend: (A) Snoqualmie Falls (foreground), (B) Snoqualmie Falls townsite-Japanese community, (C) Snoqualmie Falls townsite, (D) mill operations, (E) railway.
Source: SVHM, PO 381.0009.

The Japanese community of Snoqualmie Falls was geographically separate from the rest of the town and is located partially within the southwest corner of Planning Area 1. It is the only portion of the Snoqualmie townsite that is within the boundary of the PCI plan site. See Exhibit

3.10-3. The Japanese were some of the first employees at SFLCo and remained a significant part of the workforce until 1942, when internment was carried out under Executive Order (EO) 9066 due to the United States entering World War II following the bombing of Pearl Harbor (Battey 1994, Fels 2004, House n.d.). Initially, Japanese employees may have stayed in tents and later lived in eight "bunkhouses" or barracks. After the forced internment of Japanese residents under EO 9066, the barracks were razed (House n.d.).

The 1917-1958 lifespan of the Snoqualmie Falls townsite, which lies outside the project area, is recommended as its period of significance. The portion of the Snoqualmie Falls townsite comprised of the Japanese community is recommended as having its own period of significance from its year of construction ca. 1918 until 1942. It was geographically separate from the remainder of the townsite and its period of use was shortened by the forced internment of the residents. The historic significance of any remnant of this company town depends on whether an archaeological investigation of that remnant can address research questions yielding important information about our history.

Register-Eligible Resources

Indirect Effects Study Area

Six listed historic buildings or structures are located within one mile of the PCI complex. See Exhibit 3.10-4. Two of these are related to the hydroelectric plant at Snoqualmie Falls. Two others – the Snoqualmie School Campus and the Snoqualmie Depot (listed as Seattle, Lake Shore and Eastern Railway Depot in WISAARD) – are located further away. The fifth is the Snoqualmie River Bridge, which was determined eligible for listing by the DAHP. The sixth is *SquEd*, Snoqualmie Falls TCP, which is discussed above.

Exhibit 3.10-4. Listed Historic Built Resources

Resource Name	Listing	Distance from the Project Site (approx. miles)
Snoqualmie Falls Hydroelectric Power Plant Historic District	NRHP listed under criteria A and C, October 24, 1992	0.20
Snoqualmie Falls Cavity Generating Station	NRHP listed April 23, 1976; criterion not specified but C applies. WHR listed.	0.35
Snoqualmie School Campus	NRHP listed 16, 1989 under criterion A. WHR listed.	0.50
Snoqualmie Depot	NRHP listed July 24, 1974; criterion not specified but criteria A and C appear to apply. WHR listed.	0.35
Snoqualmie River Bridge	Determined eligible under criterion C, July 26, 2017.	0.14
SquEd	NRHP listed 2009	1.00

Source: Cascadia Archaeology, 2018.

Seven resources located within one mile of the Snoqualmie Mill site have not been evaluated and are considered potentially eligible for listing in a heritage register.

Exhibit 3.10-5. Potentially Eligible Resources

Archaeological Sites & Place Names	Description	Listing Status	Distance from the Project Site (approx. miles)
45KI546	Historic Bridges	Potentially Eligible	0.2
45KI547	Historic Logging Properties	Potentially Eligible	0.2
45KI683	Historic Object(s)	Inventory (not evaluated)	0.5
45KI937	Historic Debris Scatter/Concentration, Pre-Contact and Historic Components, Pre-Contact Lithic Material (Isolate)	Inventory (not evaluated)	0.4
45KI1275	Pre-Contact Lithic Material (Isolate)	Inventory (not evaluated)	0.1
45KI1273	Pre-Contact Lithic Material (Isolate)	Inventory (not evaluated). Found during monitoring	0.2
45KI11408	Pre-Contact Culturally Modified Tree	Inventory (not evaluated)	0.2

Source: Adapted from Kassa, 2015.

Listed Properties: Direct Effects Study Area

The SFLCo Power Plant, which consists of the powerhouse and associated smokestack, was listed as a King County landmark in 2005. The exterior of the plant and smokestack seem unchanged since 2005 (Exhibit 3.10-6). The structures are fenced off for safety (due to concerns about lack of structural integrity) and to prevent looting, so the interior of the power plant was not viewed by the consultant.

Exhibit 3.10-6. Power Plant South and East Elevations



Note: The power poles run wire from modern transformer station 150 feet southeast of the Power Plant. Taken October 2017.
Source: Cascadia Archaeology, 2017.

Cultural Resources Potentially Eligible for Listing in a Heritage Register

The Cultural Resources Assessment evaluated buildings on SMV property older than 40 years old regarding their eligibility to be listed on the NRHP and WHR. See Exhibit 3.10-7. Archaeological sites within the Direct Effects Study Area were also evaluated. Four buildings and one archaeological site (SF-CR#2) that were inventoried are considered eligible. See Exhibit 3.10-8. Six buildings or structures are considered to contribute to the historic integrity of a potential historic district. See Exhibit 3.10-6. Below a brief description of each individually eligible cultural resource is provided; refer to the Cultural Resources Assessment Report Sections 7.2, 7.8, and 8.1 for full descriptions of all resources. The historic integrity of archaeological site SF-CR#2 is not fully known as the deposit sits beneath the water table. The potentially eligible buildings were assessed as retaining sufficient historic integrity to express their association with the themes Weyerhaeuser Timber Company and the SFLCo, even though some visual elements have been lost because of decay, remodeling, and repair. Buildings eligible individually for listing appear to be significant for their type of construction as well as their association with the mill operation.

Exhibit 3.10-7. Buildings 40 Years of Age or Older



Note: The cooling shed is shown in parentheses because no physical remain was observed; the footprint of the former building is designated by distinctive vegetation.
Source: Google Earth, Cascadia Archaeology, 2018.

Exhibit 3.10-8. Listed and Potentially Eligible Resources

Cultural Resource	Location (Project Phase)	Recommendation for Listing
SF-CR#1	Planning Area 1	Not eligible (historic debris scatter of unknown provenience)
SF-CR#2	Planning Area 1	Eligible
Power Plant	Planning Area 3	Listed King County landmark; Contributes to district
Fuel Vault	Planning Area 3	Contributes to district; Not eligible individually
Dry kilns	Planning Area 3	Contributes to district; Not eligible individually
Transfer shed	Planning Area 3	Contributes to district, Not eligible individually
Transfer Rails & Routes	Planning Area 3	Contributes to district; Not eligible individually
Crane Shed No. 3	Planning Area 3	Eligible; Contributes to district
Planing Mill-Crane Shed	Planning Area 3	Eligible; Contributes to district
Planing Mill	Planning Area 3	Contributes to district; Not eligible individually
Finished Lumber Shed	Planning Area 2	Contributes to district; Not eligible individually
Package Lumber Shed	Planning Area 2	Eligible; Contributes to district
SFLCo historic district	Planning Areas 2 and 3	Eligible
SquEd	1 mi downstream	Listed in the NRHP

Source: Cascadia Archaeology, 2018.

Five cultural resources identified on the mill site are considered eligible for listing in the WHR and or NRHP:

1. SF-CR#2: comprised of domestic debris associated with Japanese residents of the SFLCo's company town, SF-CR#2 attains its significance under the broad thematic areas of Community Planning and Development, and Ethnic Heritage. Unlike an evaluation of the built environment, archaeological resources are typically found to be eligible for listing in a heritage register if they have the potential to address research questions that inform on important aspects of our history or prehistory. Archaeological investigations of company towns can inform on labor relations within the SFLCo and broader lumber industry. Additionally, current research trends in Pacific Northwest archaeology regarding immigrant communities explore their absorption into or adoption of American culture and conversely their maintenance of ethnic identity. Four research questions relevant to these themes that can potentially be addressed by further study of SF-CR#2 are presented in the Cultural Resources Assessment.

2. SFLCo Crane Shed No.3: also referenced on maps as Rough Package Shed, was constructed in the 1930s (Fels 2004). It is of post and beam construction with a trussed roof. It reaches over three stories in height and measures approximately 575 feet in length and 80 feet wide. It retains its original dimensions. The defining characteristic of its historic integrity is the combination of its design, materials, and workmanship.

Buildings this immense of post and beam construction are quite rare. In its design it reflects the scale of the operations and purpose of the SFLCo during its heyday when it was one of the largest lumber mills in the Pacific Northwest. See Exhibit 3.10-9.

Exhibit 3.10-9. Crane Shed No. 3 Interior, Facing East



Source: Cascadia Archaeology, 2017.

3. SFLCo Planing Mill-Crane Shed: a gabled roof open space rising to approximately two-stories high and is approximately 325 feet long and 55 feet wide, which are the original dimensions. It differs from the other sections of the Planing Mill as it appears to have been a storage or crane shed. It is noted as Crane Shed No. 1 on a map dating to 1963. It is post and beam construction with a trussed roof covered in metal roofing material and has vinyl siding on the exterior of the east, west, and a portion of the north elevations. Its structural system is independent of the section to the north. It also is emblematic of a large-scale early twentieth century lumber mill.

4. SFLCo Package Lumber Shed: an early twentieth century large industrial building of post and beam construction retaining its location, setting, overall design, materials, workmanship, feeling, and association. It is emblematic of a large-scale early twentieth century milling operation during its heyday. It was constructed in the 1930s and is approximately 790 feet long and 80 feet wide. It is an open space rising three stories high, approximately 30 feet in height, and has a very low slope gable trussed roof. Because of safety concerns after a partial collapse, the southern half of the east wall was replaced with sloped corrugated metal laid atop the original external support

beams and one section between vertical posts appears to have been removed from the south end. The latter resulted in a loss of about 10 feet off the original plan. Portions of the roof of this building collapsed or blew off during the February, 2019 snowstorms; some portions of the building have been taped off to prevent access and ensure safety.

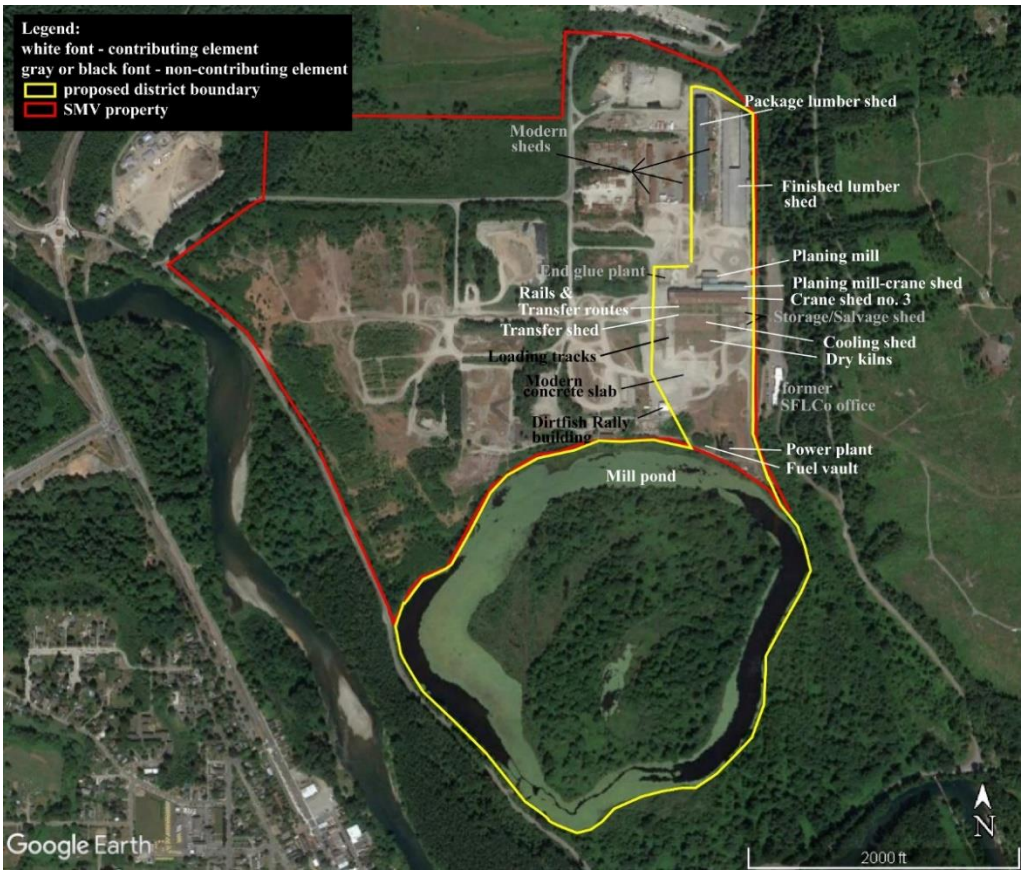
5. Potential SLFCo Mill Site Historic District: the concentration of historic buildings and structures on the east side of Planning Areas 2 and 3 that date to the period of significance 1916-1944 (see Exhibit 3.10-8). Some "structures" in the potential district include the remnants and/or foundations of former buildings. The potential SFLCo historic district was assessed as meeting NHRP eligibility criteria as it is emblematic of the Weyerhaeuser Timber Company's and the SFLCo's influence within the regional and local lumber industries and economies from 1916-1944, and for its type of construction. "The powerhouse/stack complex, along with the adjacent millpond and the remaining woodsheds, provides a physical, geographic record of how a lumber mill worked. Although the sawmill is no longer extant, the remaining structures display the [scale of and the] process of lumber production" (Fels 2004).

The potential district encompasses roughly 38.5 acres of the 261-acre SMV property and the 136-acre mill pond (Lake Borst), which is not owned by SMV and is not part of the Proposed Action. See Exhibit 3.10-10. Within the SMV property, the proposed boundary spans the area between the raceways on either side of the Planer Building (also referred to as Crane Shed No. 3), which is a maximum 730 feet east-west, and from and including the north portion of the mill pond to the north end of the Package Lumber Shed, which is 2,640 feet north-south. This proposed boundary is smaller than all the land used by the mill during the period of significance because the land west of the buildings on which timber and lumber was stockpiled is undistinguished from the lands further to the west. One historic structure, the concrete floor/foundation of the Blacksmith & Machine Shop, was excluded as it sits to the west of the lineal arrangement of the other historic buildings and structures and its purpose was ancillary to the flow of lumber through the mill site. The office building, located on the slope east of the SMV property, is excluded as it was constructed after the period of significance.

This EIS acknowledges there may be differences of opinion among professionals regarding how to delineate an historic district. In the instant case, some may feel that SF-CR#2, the archaeological site in Planning Area 1, should be included in the potential historic district in Planning Area 3. The EIS analyst, however, determined that it should not be included in the potential district for several reasons: the archaeological resource is connected historically to the Snoqualmie Falls townsite rather than to Mill operations; it is significant based on different designation criteria (Community Planning and Development, and Ethnic Heritage); and it has a different period of significance, relative to the industrial character and significance of the potential district. In addition, the archaeological resource in Planning Area 1 is separated from the historic resources and historic operations in Planning Area 3 by a substantial distance, approximately 3/4 mile. As a result, the boundaries and

appearance of any resulting “district” would be odd and counterintuitive.

Exhibit 3.10-10. Potential SFLCo Historic District



Source: Google Earth, 2018; Cascadia Archaeology, 2018.

3.10.2. Impacts

An assessment of potential effects was performed by applying Federal standards (36 CFR 800 Parts 4 and 5), where “Effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for” a heritage register.

This section considers both the effect of the Proposed PCI Plan on the characteristics of eligible historic properties under applicable law, and whether these effects would have more than a moderate adverse impact (i.e., is a significant impact per SEPA criteria) on historic and cultural resources pursuant to SEPA, considering federal, state, and city historic preservation and cultural resources laws and rules. Note that the discussion integrates evaluation of direct and indirect/cumulative impacts for historic and archaeological resources; subsection headers are used throughout the section to indicate which category of impacts is being discussed.

Impacts of Proposal

Planning Area 1

The development of Planning Area 1 would have no significant impact on historic properties. Ground disturbance in the vicinity of SF-CR#2 will be shallower than the depth of this resource and any other potentially similar resource in its vicinity given how thick the fill is. Development of Planning Area 1 will alter the environment within which the potential SFLCo historic district and its contributing elements are located; however, the open space currently contained within Planning Area 1 does not have any visual elements that associate it with historic SFLCo operations. Development of Planning Area 1, therefore, is considered to have no significant impact (No Effect) within the Direct Effects Study Area.

Regarding indirect impacts, see the discussion of Cultural Resources: Indirect Study Area for the PCI Proposal, which applies to Planning Area 1.

PCI Plan

Historic Buildings and Structures: Direct Effects Study Area

The applicant plans to retain and reuse the Power Plant and Crane Shed No. 3. Any renovation to retain these buildings should follow the Secretary of the Interior's Standards for Rehabilitation (36 CFR 67) and should follow the Guidelines *for Rehabilitating Historic Buildings* to prevent an Adverse Effect. Plans are not yet finalized so project effects cannot be evaluated.

The removal of specific historic SFLCo buildings in Planning Areas 2 and 3 would cause Adverse Effect to the Package Lumber Shed, the Planing Mill-Crane Shed, and to the potential SFLCo historic district. If only the Power Plant and Crane Shed No. 3 are retained, as proposed by the PCI Plan, the historic setting and design of the mill site would be altered, and the potential historic district would no longer have enough historic integrity to be eligible for listing in a heritage register.

Register-Eligible Cultural Resources: Indirect Effects Study Area

Planning Area 1 is not anticipated to have adverse environmental impacts to archaeological resources, as defined by RCW 27.50.

Because site planning for Planning Areas 2 and 3 is still preliminary, and archaeological survey has not been conducted in these areas, it is not known if an archaeological resource meeting the criteria for designation as an historic property is present in that area. Archaeological survey in Planning Areas 2 and 3 will occur in the future, when site planning is more definite; it is possible that the areas may never be developed. Management recommendations regarding assessing if such resources are present are presented under Mitigation Measures.

Historic Properties: Indirect Effects Study Area

The Snoqualmie Mill site is located approximately one mile from Snoqualmie Falls at its closest point and two miles or more at its furthest point. The proposed PCI Plan would not cause any direct, physical impacts to Snoqualmie Falls, to the designated TCP as listed in the NRHP, or to

the area adjacent to the Falls.

The five previously listed buildings and structures (see Exhibit 3.10-4) will not be affected by the proposed project. The proposed development is not within the viewscape of any of these historic properties.

A range of indirect and cumulative impacts, identified in numerous sections of the EIS, would be associated with increased employees and residents, and an increase in tourism. Such impacts include traffic, noise, air quality and aesthetics. The proposed PCI Plan would add an estimated 304 people and 3,410 jobs to the City at buildout; these increases would be in addition to other new jobs and residents associated with development of Snoqualmie Ridge, the Salish Lodge expansion and other background growth. Increases in tourism and recreation – from future wine-related activities at Snoqualmie Mill, and from background growth unrelated to the Proposed Action – could result in more visitors to the Falls and other destinations in the surrounding area and could generate related increases in traffic, air quality and noise. As identified in the Aesthetics section of the EIS (3.9), the Snoqualmie Mill site is not visible from public vantage points at the Falls; therefore, no impacts to views are anticipated.

As noted previously, Snoqualmie Falls has been a popular tourist attraction since the late 1800s, and almost 2 million tourists currently visit the Falls on an annual basis. In the context of historical and current visitor traffic, and using objective measures, the incremental increase in traffic from Snoqualmie Mill would be considered minor in terms of its proportional increase. Because SEPA is focused on impacts to the physical environment, no known metric is available to objectify or quantify impacts to a set of spiritual values, beliefs and practices. It is not known, for example, what baseline condition would pertain to an analysis of intrusions from traffic, noise or light.

While population, employment and tourism are evaluated in the EIS, the extent and significance of any related impacts (including indirect and cumulative impacts) to the spiritual aspects of the Snoqualmie Falls TCP, as distinct from the physical location, are not deducible in this analysis. While this discussion acknowledges the existence and validity of the Snoqualmie Tribe's beliefs and values, it is impossible for an outside observer to objectively evaluate and quantify impacts on these values. In addition, spiritual values, beliefs and practices are not SEPA "elements of the environment" (per WAC 197-11-444, and 197-11-448) and are, therefore, outside the scope of an EIS.

In connection with other recent development projects located closer to the Falls – including the Tokul Roundabout and the recently approved expansion of the Salish Lodge – the Snoqualmie Tribe has commented that additional traffic, visitors and noise cause a significant burden or interfere with traditional cultural and spiritual practices that occur in the area around the Falls. This EIS acknowledges that spiritual impacts may be experienced by the Tribe even if those impacts are incremental and minor or cannot be objectively quantified for purposes of analysis in an EIS.

Cumulative Impacts

There are no identified planned or vested projects that would cumulatively, in combination with the Proposed PCI Plan, affect historic or archaeological resources located on the

Snoqualmie Mill site. As discussed previously, the activity and traffic associated with the proposal's contribution to local tourism could be perceived by some to generate indirect and cumulative impacts to the designated Snoqualmie Falls TCP and its spiritual context. Similarly, planned growth in the city, independent of Snoqualmie Mill, could do the same and could create pressure for the demolition or conversion of historic buildings and/or the potential for unintentional disturbance of unknown archaeological resources.

Alternatives

Redevelopment Alternative

Effects to historic properties and archaeological resources would be the same under the Redevelopment Alternative as for the PCI Plan. No direct adverse environmental impacts to historic properties in Planning Area 1 are anticipated under the Redevelopment Alternative.

Regarding indirect effects, see the discussion of Cultural Resources: Indirect Study Area for the PCI Proposal, which applies to Planning Area 1.

No Action Alternative

Although no development would occur, adverse effect to the historic buildings on-site and the potential historic district will occur if the No Action Alternative is adopted. Extant buildings would continue to deteriorate, and the documentation recommended in project-related mitigation measures in the following subsection would not occur. If ongoing repairs to historic buildings over time are assumed to be consistent with those made in the past, some would likely not meet the Secretary of Interior's Standards for the Treatment of Historic Properties or NPS guidelines for maintenance of historic properties.

No Action will have no effect on SF-CR#2 or *SquEd*.

No adverse environmental impacts to historic properties in Planning Area 1 are anticipated.

3.10.3. Mitigation Measures

Incorporated Features of Proposal

As described in Chapter 2, the applicant will continue to investigate the economic and engineering feasibility of adapting and reusing the historic Power Plant building and Crane Shed No. 3 (also referred to in the EIS as the Planer building). Potential uses of those buildings are not currently assumed in the PCI Plan land use program, however.

Other Responsibilities and Requirements

- See the Regulatory Framework in Section 3.10.1, which discusses the following:
  - National Historic Preservation Act of 1966 as amended (16 U.S.C. 470 et seq.), and associated rules in 36 CFR Part 60.
  - Washington Heritage Register (WHR) authorized by RCW 27.34.220.

- Washington statutes protecting archaeological resources, RCW 27.53.
- City of Snoqualmie zoning code regulations at SMC 17.35.
- King County Code 20.62 – Protection and Preservation of Landmarks, Landmark Sites and Districts, applicable to the Power Plant as King County Landmark.

- Archaeological sites are protected from disturbance under Revised Code of Washington (RCW) 27.53.
- Washington State statutes address procedures in the event of finding and protection of human remains or potential human remains (RCW 27.44; 68.50; 68.60) and regulates disturbance to archaeological resources (RCW 27.53).

Other Potential Mitigation Measures

Planning Area 1

Development of Planning Area 1, as described and evaluated in this section of the EIS, is not anticipated to cause or result in any effect/significant adverse impact on previously designated or potential historic properties.

In Planning Area 1, only a small area around SF-CR#2 is considered to have potential for the presence of an archaeological resource that retains its historic integrity. However, project disturbance as currently planned would not reach the depth at which such a resource would be found. Plans are that ground disturbance in the area mapped as the Japanese Community will extend no more 1.8 m (6 feet) below the surface grade elevation (as it was at the time of the survey, approximately 424 feet above sea level). This provides 0.76 m (2.5 feet) buffer overlying the depth at which SF-CR#2 was found. This buffer suffices if there is any undiscovered archaeology because the three probes in the area (EP01014, TP5, and TP6) had fill to depths of 7.2-10 feet below surface. If, in the future, a different project is planned to occur near SF-CR#2 and subsurface disturbance will extend 6 feet below the current grade, the DAHP must be consulted regarding potential effects. The remainder of Planning Area 1 is considered to have very low to low potential for disturbing a historic property because of past alterations to the land and the depth of fill in relation to the depth of proposed ground disturbance. No further archaeological investigation or monitoring by an archaeologist is recommended for development of Planning Area 1. However, it is recommended that a professional archaeologist review the final grading plan to confirm the depth of excavation in the vicinity of SF-CR#2 is consistent with the preliminary plan evaluated in the EIS.

PCI Plan

Any action regarding mitigation of adverse effects to historic properties in Planning Area 2 and Planning Area 3 will only occur if these areas are developed in the future. It is recommended that prior to any action that would cause an adverse effect to Crane Shed No. 3, Planing Mill-Crane Shed, and the Package Lumber Shed, the developer should complete Historic American Buildings Survey (HABS) documentation Level III. This documentation primarily consists of large-format photography. HABS documentation requires coordination with DAHP and National Park

Service Columbia Cascades System Support Office.

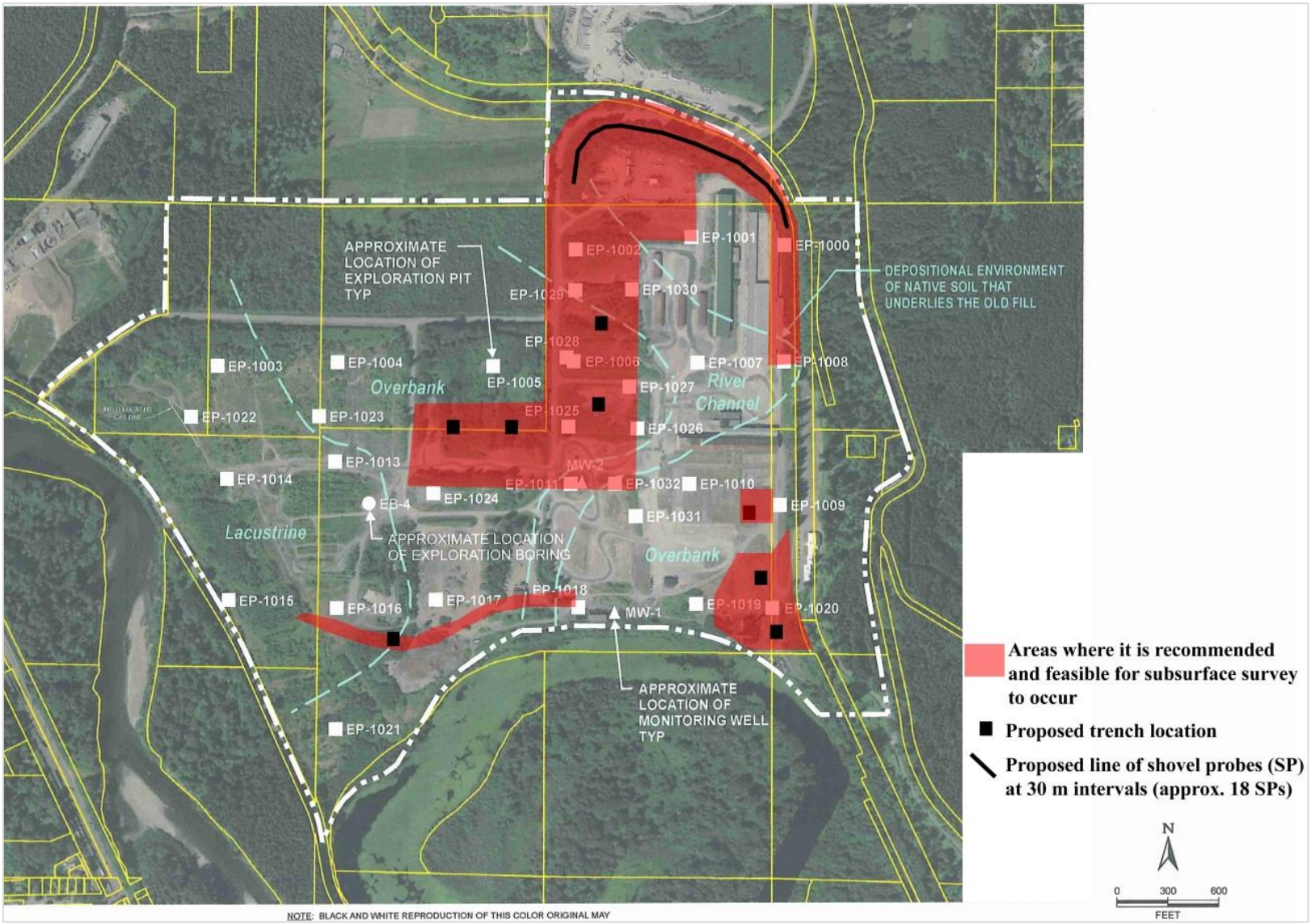
It is recommended that the future adverse effect to the potential SFLCo historic district from demolition of eligible or contributing buildings or structures in Planning Area 2 or 3 be mitigated by Level II documentation as defined by DAHP. It is recommended that the Level II documentation consist of Appendix E of this EIS [i.e., the Cultural Resources Amendment Report] and HABS Level III documentation of the Planer Mill-Crane Shed, Crane Shed No. 3, and Package Lumber Shed.

Archaeological survey within Planning Areas 2 and 3, consisting of trench excavations and shovel probes, are recommended in the future when those planning areas are proposed for development (see Exhibit 3.10-11). Planning Areas 2 and 3, based on the environmental and cultural contexts, have moderate potential for the presence of pre-contact archaeological material in some areas. The areas have a low probability for having historic archaeological resources that possess historic integrity excepting buried structural remains, if present. The proposed location of probes was decided by considering the historical location of prairie and slough, results of the geotechnical survey, historical photographs, and where buildings once stood.

Washington State has enacted legislation regarding the finding and protection of human remains or potential human remains (RCW 27.44; 68.50; 68.60) and disturbance to archaeological resources (RCW 27.53). All ground disturbance associated with the development of the PCI Plan should be subject to an Archaeological Unanticipated Discovery Plan (UDP), approved by the City of Snoqualmie and DAHP, in case archaeological resources and/or human remains are exposed during ground-disturbing activities and construction. Anyone that will be directly involved with ground-disturbing activities should be trained by a professional archaeologist (defined in RCW 27.53.030) on the UDP and the applicable laws regarding the protection of cultural resources and human remains. King County has a UDP that could be tailored to this project.

During removal of subsurface portions of the Planer Building, Dry Kilns, Finished Lumber Shed, and Package Lumber Shed, a qualified architect or architectural historian meeting the standards of the Secretary of Interior's Professional Qualifications should be present to evaluate the significance of any structure exposed.

Exhibit 3.10-11. Proposed Archaeological Survey for Planning Areas 2 and 3



Source: AESI, 2012; Cascadia Archaeology, 2018.

3.10.4. Significant Unavoidable Adverse Impacts

Mitigation measures are designed to ensure consistency with federal and state laws and rules and provide techniques to avoid, minimize, or compensate for loss, changes to, and disturbance to cultural resources listed in or eligible for listing in a heritage register. At a minimum the recommended mitigation measures, if implemented, would assure no loss of historic information. Federal, state and local laws do not require prevention of physical loss of historically significant buildings and structures. The feasibility of retaining eligible but unlisted structures and buildings for adaptive reuse is unknown and would determine whether loss is unavoidable. If eligible resources for the potential historic district are removed, federal and state laws and rules would be implemented to document the significance of the buildings and structures; thus, the loss of structures could be adverse but not significant as laws and requirements would be followed and the historic significance of the building would be recorded.

The EIS has not identified significant indirect impacts to cultural resources in relation to *SquEd* (Snoqualmie Falls TCP), given the results of aesthetics and noise analyses and distance, and based on federal, state, and local laws and rules. However, the EIS acknowledges that spiritual impacts are significant to the Tribe even if those impacts cannot be objectively quantified for purposes of this analysis.

3.11. TRANSPORTATION

3.11.1. Affected Environment

This section details the existing transportation conditions in the affected environment, including the existing roadway network, existing AM and PM peak hour traffic volumes, existing intersection level of service (LOS), and existing site access/circulation.

Roadway Network

The primary travel routes to and from the site are described below. The relationship of these roadways to the project site is shown in Exhibit 2.1-1 and Exhibit 3.11-1.

- Interstate 90 (I-90) is an east-west interstate freeway south of Snoqualmie. Shoulders exist on both sides of the freeway. The posted speed limit on I-90 is 70 miles per hour (mph) near Snoqualmie.
- Snoqualmie Parkway is a two-way, four-lane, east-west principal arterial near the project site. Sidewalks and crosswalks exist at all signalized intersections. Shoulders exist on both sides of the street, as does a center median. The Snoqualmie Ridge Trail is located on the north side of the street. The posted speed limit on Snoqualmie Parkway is 40 mph near the project site.
- Railroad Avenue (SR 202) is a two-way, north-south, two-lane principal arterial near the project site. Shoulders exist on both sides of the street. The posted speed limit on Railroad Avenue varies between 30 and 40 mph near the project site.
- Meadowbrook Way SE is a two-way, north-south, two-lane minor arterial near the project site. Intermittent shoulders and sidewalks exist on both sides of the street. The posted speed limit on Meadowbrook Way SE is 25 mph near the project site.
- SE Mill Pond Road is a two-way, north-south, two-lane collector along the project frontage. Shoulders exist on both sides of the street. The posted speed limit on SE Mill Pond Road is 35 mph along the project frontage.
- SE Reinig Road is a two-way, east-west, two-lane minor arterial along the project frontage. Shoulders exist on both sides of the street. The posted speed limit on SE Reinig Road is 35 mph along the project frontage.
- 396th Drive SE is a two-way, north-south, two-lane local road along the project frontage with shoulders on both sides. The posted speed limit is 35 mph along the project frontage.
- The Haul Road is a two-way, east-west, private road with a pavement section varying between 22 and 26 feet with minimal shoulders. The speed limit is 25 mph.

Study Intersections and Traffic Volumes

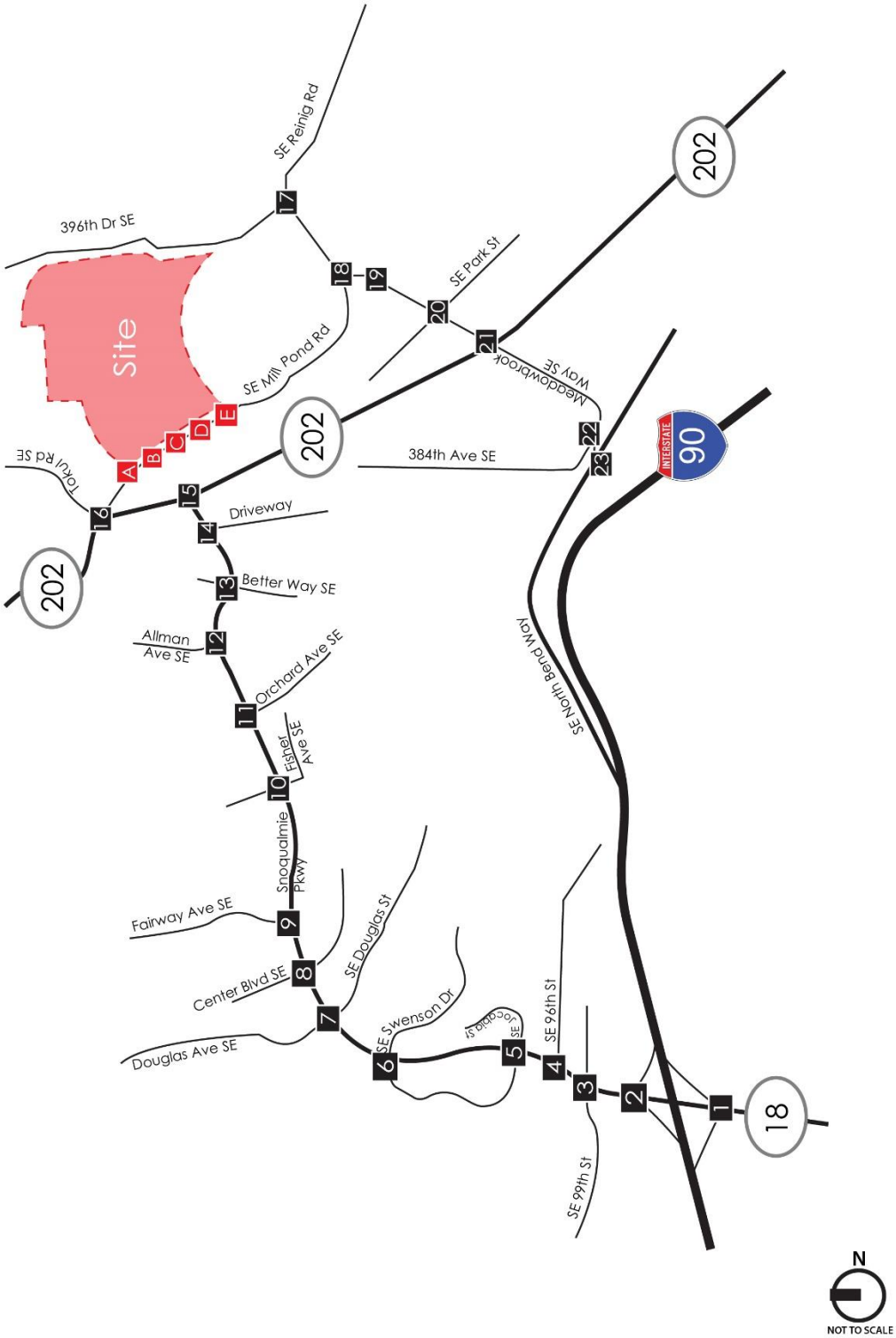
Exhibit 3.11-1 shows a map of the study intersections. Study intersections were identified

through discussions with the City of Snoqualmie as part of the SEPA scoping process and subsequently.

1. SR 18 / I-90 East-Bound (EB) Ramps
2. SR 18 / Snoqualmie Parkway / I-90 West-Bound (WB) Ramps
3. Snoqualmie Parkway / SE 99th Street
4. Snoqualmie Parkway / SE 96th Street
5. Snoqualmie Parkway / SE Jacobia Street
6. Snoqualmie Parkway / SE Swenson Drive
7. SE Douglas Street / Douglas Avenue SE / Snoqualmie Parkway
8. SE Center Street / Center Boulevard SE / Snoqualmie Parkway
9. Fairway Avenue SE / Snoqualmie Parkway
10. Fisher Avenue SE / Snoqualmie Parkway
11. Orchard Avenue SE / Snoqualmie Parkway
12. Allman Avenue SE / Snoqualmie Parkway
13. Better Way SE / Snoqualmie Parkway
14. Trail Access Road / Snoqualmie Parkway
15. SR 202 / Snoqualmie Parkway
16. Tokul Road SE / SR 202 / SE Mill Pond Road
17. 396th Drive SE / SE Reinig Road
18. SE Mill Pond Road / Meadowbrook Way SE / SE Reinig Road
19. Meadowbrook Bridge
20. Meadowbrook Way SE / SE Park Street
21. Meadowbrook Way SE / SR 202
22. 384th Avenue SE / Meadowbrook Way SE
23. SE North Bend Way / Meadowbrook Way SE

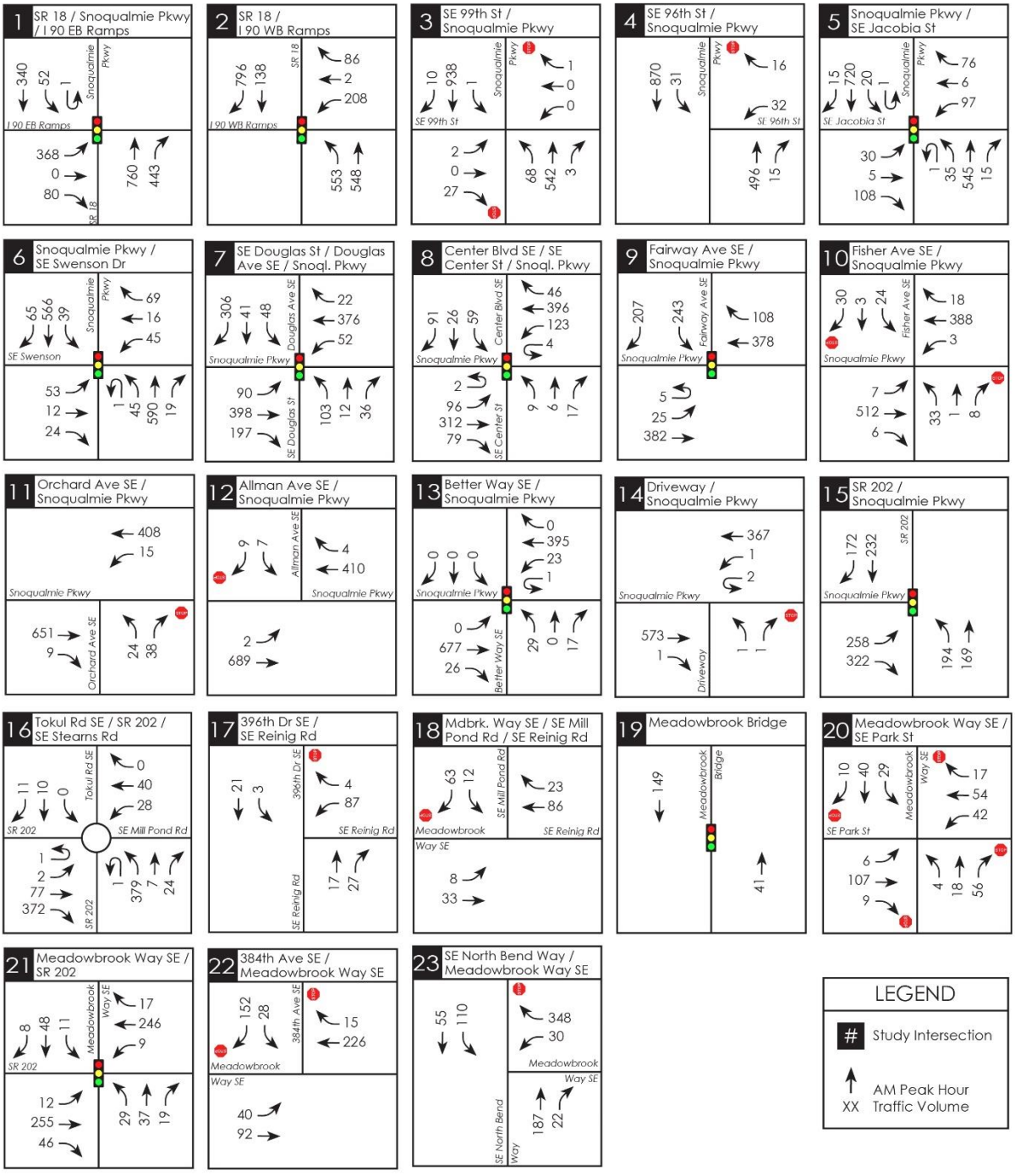
Existing weekday AM and PM peak hour traffic volumes at the study intersections are shown in Exhibit 3.11-2 and Exhibit 3.11-3, respectively. Volumes are based on counts collected by All Traffic Data in 2018 and 2020. The weekday AM peak hour represents the highest 60-minute time period between 7:00 and 9:00 AM at the study intersections, while the weekday PM peak hour represents the highest 60-minute time period between 4:00 and 6:00 PM. The existing traffic count worksheets are included in Appendix F.

Exhibit 3.11-1. Traffic Volume Base Map



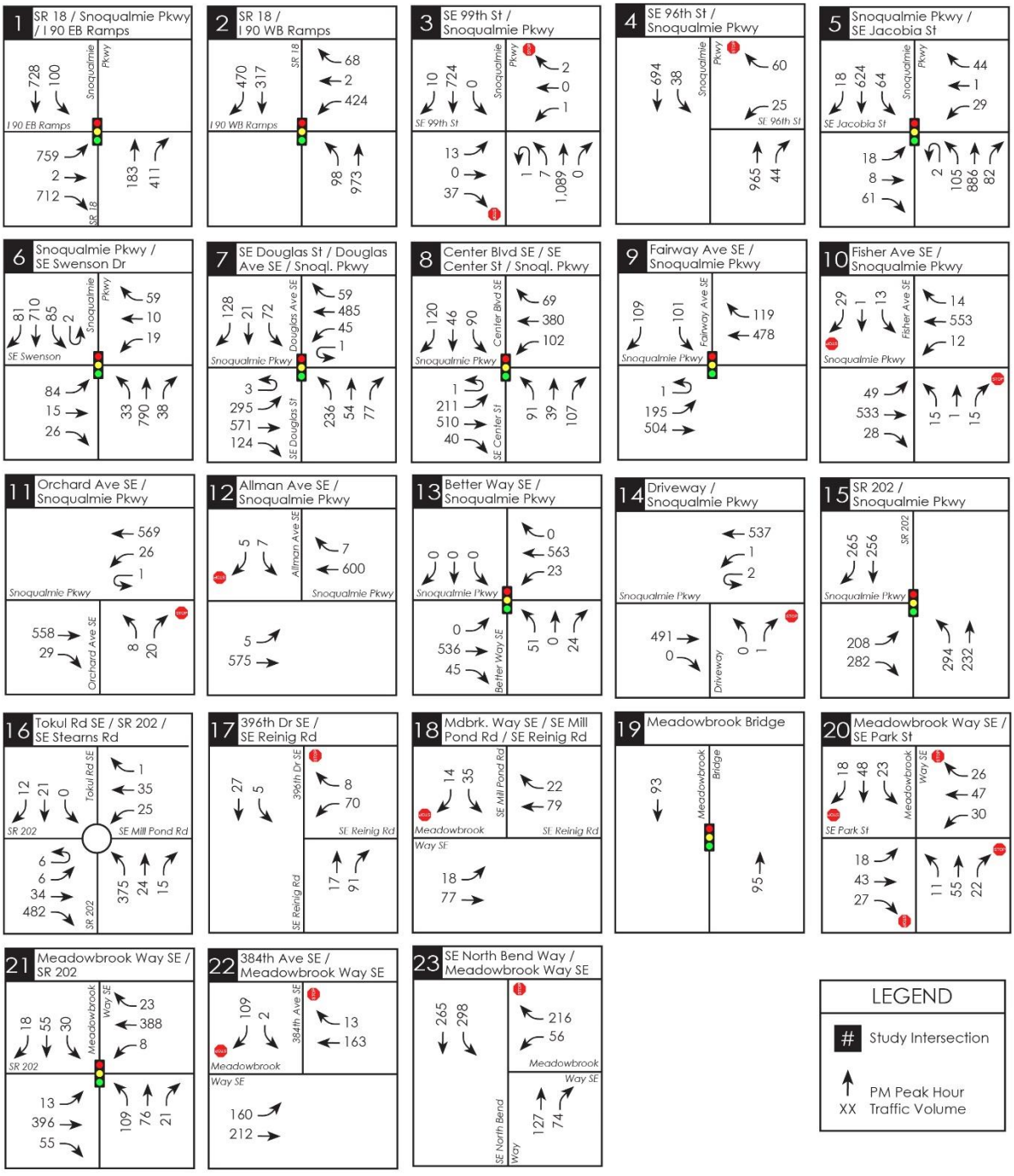
Source: Transportation Engineering Northwest (TENW), 2020.

Exhibit 3.11-2. Existing AM Peak Hour Traffic Volumes



Source: TENW, 2020.

Exhibit 3.11-3. Existing PM Peak Hour Traffic Volumes



Source: TENW, 2020.

Intersection Level of Service (LOS)

Weekday AM and PM peak hour level of service (LOS) analyses were conducted at the 23 off-site intersections identified previously. 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 generally describes 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, and 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).

Exhibit 3.11-4 outlines the current Highway Capacity Manual (HCM) 6th edition LOS criteria for signalized and stop-controlled intersections based on these methodologies (Transportation Research Board, 2016).

Exhibit 3.11-4. LOS Criteria for Signalized and Stop-Controlled Intersections

Signalized Intersections			Stop-Controlled Intersections		
	LOS by Volume-to Capacity (V/C) Ratio[1]			LOS by Volume-to Capacity (V/C) Ratio[2]	
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

[1] For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.
[2] 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.

Source: Highway Capacity Manual, Transportation Research Board, 6th edition, 2016.

LOS calculations for intersections were based on methodology and procedures outlined in the 6th edition of the Highway Capacity Manual using Synchro 10 traffic analysis software for signalized and stop-controlled intersections. Sidra Intersection 8 traffic analysis software was

used for roundabouts. Existing signal timing used in the analysis was provided by the City of Snoqualmie and the Washington State Department of Transportation (WSDOT).

The existing weekday AM and PM peak hour LOS analysis results at the 23 off-site study intersections are summarized in Exhibit 3.11-5. The detailed LOS worksheets are included in Appendix F.

Exhibit 3.11-5. 2018 Existing AM and PM Peak Hour LOS Summary

Study Intersection / Movement	AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Signalized Intersections				
1. SR 18 / I-90 EB Ramps	C	24.8	C	28.7
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps	F	82.6	C	31.8
5. Snoqualmie Pkwy / SE Jacobia St	B	12.5	A	9.9
6. Snoqualmie Pkwy / SE Swenson Dr	C	20.8	C	20.4
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	20.0	C	20.9
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	A	9.7	B	13.1
9. Fairway Ave SE / Snoqualmie Pkwy	A	10.0	A	7.3
13. Better Way SE / Snoqualmie Pkwy	A	6.4	A	6.1
15. SR 202 / Snoqualmie Pkwy	B	13.7	B	11.6
19. Meadowbrook Bridge [3]	B	17.8	B	15.6
21. Meadowbrook Way SE / SR 202	A	7.8	A	9.6
Roundabouts				
16. Tokul Rd SE / SR 202 / SE Mill Pond Rd	A	7.0	A	6.5
All-Way Stop-Controlled Intersections				
20. Meadowbrook Way SE / SE Park St	B	10.5	A	8.2
Two-Way Stop-Controlled Intersections				
3. Snoqualmie Pkwy / SE 99th St				
Northbound Left-Turn	B	10.9	A	9.3
Eastbound Left-Right-Thru	C	16.9	C	20.9
Westbound Left-Right-Thru	B	10.0	D	26.7
Southbound Left-Turn	A	8.6	A	0.0
4. Snoqualmie Pkwy / SE 96th St				
Westbound Left-Turn	C	15.9	D	25.5
Westbound Right-Turn	A	9.9	B	14.0
Southbound Left-Turn	A	8.5	B	11.3
10. Fisher Ave SE / Snoqualmie Pkwy				

Study Intersection / Movement	AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Northbound Left-Right-Thru	E	46.9	E	40.8
Eastbound Left-Turn	A	8.5	A	9.1
Westbound Left-Turn	A	8.9	A	8.9
Southbound Left-Right-Thru	D	26.7	D	30.2
11. Orchard Ave SE / Snoqualmie Pkwy				
Northbound Left-Right	C	17.1	B	13.7
Westbound Left-Turn	A	9.5	A	9.0
12. Allman Ave SE / Snoqualmie Pkwy				
Eastbound Left-Turn	A	8.3	A	8.9
Southbound Left-Right	B	13.4	C	16.1
14. Trail Access Road / Snoqualmie Pkwy				
Northbound Left-Right	C	15.1	A	9.9
Westbound Left-Turn	A	9.1	A	8.5
17. 396th Dr SE / SE Reinig Rd				
Westbound Left-Right	A	9.2	A	9.4
Southbound Left-Turn	A	7.3	A	7.4
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd				
Eastbound Left-Turn	A	7.7	A	7.4
Southbound Left-Right	A	9.7	A	9.8
22. Meadowbrook Way SE / 384th Ave SE [3]				
Eastbound Left-Right	A	8.0	A	8.1
Southbound Thru-Right	B	12.4	B	10.3
23. Meadowbrook Way SE / SE North Bend Way				
Westbound Left-Turn	B	12.0	C	24.4
Westbound Right-Turn	A	0.0	A	0.0
Southbound Left-Turn	A	7.9	A	8.2

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.

The City of Snoqualmie standard for LOS is D except for side-street stop-controlled intersections where a traffic signal warrant is not met. As shown in Exhibit 3.11-5, all signalized study intersections, the roundabout, and controlled movements at the unsignalized study intersections currently operate at LOS D or better during both the weekday AM and PM peak hours, with two exceptions:

- The SR 18 / Snoqualmie Parkway / I-90 WB Ramps intersection (intersection #2), which operates at LOS F during the AM peak hour; and
- The northbound movement of the Fisher Avenue SE / Snoqualmie Parkway intersection (intersection #10), which operates at LOS E during the AM and PM peak hours.

PCI Plan Site Access and Circulation

Several current uses on the Snoqualmie Mill site are anticipated to continue operating in the near and mid-term, with or without the Proposed PCI Plan. DirtFish Rally School operates a driving instruction school using the site's network of paved and unpaved roads. DirtFish operates from a building located off-site, adjacent to the site's eastern boundary; primary vehicular access to DirtFish is provided via an access road on SE Mill Pond Road and two accesses on 396th Drive SE. DirtFish driving roads would be reconfigured in increments and eventually displaced over time as the Snoqualmie Mill site develops.

Transit Service

Public transit service in the area is provided by King County Metro Transit. METRO CONNECTS is King County's long-term vision for bringing more and better transit service to King County communities over the next 25 years via frequent, reliable and fast service. The nearest Park and Ride is located at Snoqualmie Community Park on SE Ridge Street, which serves routes 208 and 628 and includes 20 parking spaces.

Route 208 provides all-day weekday and Saturday service between North Bend and the Issaquah Transit Center via Snoqualmie Ridge, with stops on Snoqualmie Parkway and Railroad Avenue in the site vicinity. Route 628 is a Community Shuttle that provides weekday-only service between North Bend and the Issaquah Highlands Park and Ride with stops on Railroad Avenue and Snoqualmie Parkway. Both routes 208 and 628 travel along Snoqualmie Parkway between I-90 and SR 202, and along SR 202 via Railroad Avenue and North Bend Boulevard to North Bend.

Valley Shuttle is a deviated fixed-route service that connects riders to Metro bus stops between North Bend, Snoqualmie, Fall City, Carnation, and Duvall. It operates between 5:30 a.m. and 9:50 p.m. on weekdays only.

Collision History and Traffic Safety

Collisions at the study intersections were reviewed and summarized for the most recent 5-year period data were available from WSDOT– from January 1, 2013 to December 31, 2017. Summaries of the total, yearly average, collisions per million entering vehicles (MEV), and collisions per million vehicle miles (MVM) are provided in Exhibit 3.11-6. Summaries of collisions by type are provided in Exhibit 3.11-7.

Exhibit 3.11-6. Collision Data Summary, January 1, 2013 to December 31, 2017

Intersection / Road Segments	2013	2014	2015	2016	2017	5-Year Total Collisions	Average Annual Collisions	Collisions per MEV[1] / MVM[2]
Intersections								
1. SR 18 / I-90 EB Ramps	3	5	6	7	5	26	5.20	0.49
2. SR 18 / I-90 WB Ramps	13	12	7	17	9	58	11.60	1.35
3. Snoqualmie Pkwy / SE 99th St	0	0	3	4	3	10	2.00	0.29
4. Snoqualmie Pkwy / SE Jacobia St	1	1	2	0	4	8	1.60	0.23
5. Douglas Ave SE / Snoqualmie Pkwy	1	2	1	3	2	9	1.80	0.23
6. SE Center St / Snoqualmie Pkwy	3	0	3	5	0	11	2.20	0.33
7. Fisher Ave SE / Snoqualmie Pkwy	1	0	0	1	0	2	0.40	0.09
8. Unnamed Road / Snoqualmie Pkwy	0	0	0	0	0	0	0.00	0.00
9. SR 202 / Snoqualmie Pkwy	2	4	2	2	3	13	2.60	0.46
10. SR 202 / Tokul Rd SE / SE Stearns Rd	1	1	0	0	0	2	0.40	0.11
11. 396th Dr SE / SE Reinig Rd	0	0	0	0	1	1	0.20	0.25
12. Meadowbrook Way SE / SE Mill Pond Rd / SE Reinig Rd	0	0	1	0	0	1	0.20	0.22
13. Meadowbrook Bridge	0	0	0	0	0	0	0.00	0.00
14. Meadowbrook Way SE / SE Park St	1	0	0	0	0	1	0.20	0.15
15. SR 202 / Meadowbrook Way SE	0	2	1	5	0	8	1.60	0.37
Road Segments								
1. SR 18 from I-90 EB Ramps to I-90 WB Ramps	1	0	2	3	2	8	1.60	1.62
2. Snoqualmie Pkwy from I-90 WB Ramps to SE 99th St	0	0	0	1	2	3	0.60	0.54
3. Snoqualmie Pkwy from SE 99th St to SE Jacobia St	0	1	0	0	1	2	0.40	0.17
4. Snoqualmie Pkwy from SE Jacobia St to SE Douglas St	3	0	0	1	0	4	0.80	0.15
5. Snoqualmie Pkwy from SE Douglas St to SE Center St	0	0	0	0	0	0	0.00	0.00
6. Snoqualmie Pkwy from SE Center St to Fisher Ave SE	1	2	0	1	0	4	0.80	0.24
7. Snoqualmie Pkwy from Fisher Ave SE to Unnamed Road	2	3	2	0	2	9	1.80	0.40
8. Snoqualmie Pkwy from Unnamed Road to SR 202	0	0	0	0	0	0	0.00	0.00
9. SR 202 from Snoqualmie Pkwy to SE Steams Rd	1	2	2	0	2	7	1.40	1.46

Intersection / Road Segments	2013	2014	2015	2016	2017	5-Year Total Collisions	Average Annual Collisions	Collisions per MEV[1] / MVM[2]
10. SE Reinig Rd from SE Mill Pond Rd to 396th Dr SE	0	0	0	1	0	1	0.20	0.85
11. Meadowbrook Way SE from SE Park St to SE Mill Pond Rd	0	0	0	0	0	0	0.00	0.00
12. SE Mill Pond Road (Project Frontage)	0	0	0	0	0	0	0.00	0.00
13. 396th Dr SE (Project Frontage)	0	2	0	0	1	3	0.60	5.57

[1] MEV = Million Entering Vehicles for intersections.
[2] MVM = Million Vehicle Miles for road segments.

Source: WSDOT Collision Records.

Exhibit 3.11-7. Collision Data Summary by Type, January 1, 2013 to December 31, 2017

Intersection / Road Segments	5-Year Total Collisions	Average Annual Collision Rate	Collision Type						
			Right Angle	Rear-End	Side Swipe	Approach Turn	Ped/Cycle	Parked Veh or Fixed Object	Other
Intersections									
1. SR 18 / I-90 EB Ramps	26	5.20	2	12	2	4	0	6	0
2. SR 18 / I-90 WB Ramps	58	11.60	8	18	20	4	0	3	5
3. Snoqualmie Pkwy / SE 99th St	10	2.00	1	1	0	8	0	0	0
4. Snoqualmie Pkwy / SE Jacobia St	8	1.60	2	1	0	5	0	0	0
5. Douglas Ave SE / Snoqualmie Pkwy	9	1.80	3	2	0	3	1	0	0
6. SE Center St / Snoqualmie Pkwy	11	2.20	2	4	0	4	1	0	0
7. Fisher Ave SE / Snoqualmie Pkwy	2	0.40	1	0	0	0	1	0	0
8. Unnamed Road / Snoqualmie Pkwy	0	0.00	0	0	0	0	0	0	0
9. SR 202 / Snoqualmie Pkwy	13	2.60	0	5	0	4	1	1	2
10. SR 202 / Tokul Rd SE / SE Stearns Rd	2	0.40	0	0	1	0	0	1	0
11. 396th Dr SE / SE Reinig Rd	1	0.20	0	0	0	0	0	1	0
12. Meadowbrook Way SE / SE Mill Pond Rd / SE Reinig Rd	1	0.20	0	1	0	0	0	0	0
13. Meadowbrook Bridge	0	0.00	0	0	0	0	0	0	0
14. Meadowbrook Way SE / SE Park St	1	0.20	0	1	0	0	0	0	0
15. SR 202 / Meadowbrook Way SE	8	1.60	3	1	1	3	0	0	0
Road Segments									
1. SR 18 from I-90 EB Ramps to I-90 WB Ramps	8	1.60	0	7	1	0	0	0	0
2. Snoqualmie Pkwy from I-90 WB Ramps to SE 99th St	3	0.60	0	3	0	0	0	0	0
3. Snoqualmie Pkwy from SE 99th St to SE Jacobia St	2	0.40	0	2	0	0	0	0	0
4. Snoqualmie Pkwy from SE Jacobia St to SE Douglas St	4	0.80	0	1	0	1	0	1	1
5. Snoqualmie Pkwy from SE Douglas St to SE Center St	0	0.00	0	0	0	0	0	0	0
6. Snoqualmie Pkwy from SE Center St to Fisher Ave SE	4	0.80	0	1	0	0	0	2	1

Intersection / Road Segments	5-Year Total Collisions	Average Annual Collision Rate	Collision Type						
			Right Angle	Rear-End	Side Swipe	Approach Turn	Ped/Cycle	Parked Veh or Fixed Object	Other
7. Snoqualmie Pkwy from Fisher Ave SE to Unnamed Road	9	1.80	0	1	0	0	0	3	5
8. Snoqualmie Pkwy from Unnamed Road to SR 202	0	0.00	0	0	0	0	0	0	0
9. SR 202 from Snoqualmie Pkwy to SE Stearns Rd	7	1.40	0	3	1	2	0	1	0
10. SE Reinig Rd from SE Mill Pond Rd to 396th Dr SE	1	0.20	0	0	0	0	0	1	0
11. Meadowbrook Way SE from SE Park St to SE Mill Pond Rd	0	0.00	0	0	0	0	0	0	0
12. SE Mill Pond Road (Project Frontage)	0	0.00	0	0	0	0	0	0	0
13. 396th Dr SE (Project Frontage)	3	0.60	0	0	0	0	0	2	1

[1] MEV = Million Entering Vehicles for intersections.
[2] MVM = Million Vehicle Miles for road segments.

Source: WSDOT Collision Records.

The two I-90 ramp intersections with Snoqualmie Parkway experienced accident rates of more than five accidents per year. Both intersections will be improved by 2023 to include a new interchange, which is expected to increase capacity and improve safety.

3.11.2. Impacts

The EIS impact analysis evaluates future traffic conditions using three scenarios: a "baseline" or No Action scenario (i.e., current and future conditions without the Proposal); the Proposed PCI Plan, and the EIS Redevelopment Alternative. All scenarios evaluate conditions in years 2023 (the assumed completion of Planning Area 1) and 2032 (assumed buildout of the PCI Plan). The analysis proceeds in several steps. First, the study area road network is described, including planned improvements. This discussion identifies situations where planned improvement projects are or are not included in the analysis based on identified project funding or the unavailability of detailed information for future improvements. The analysis then projects traffic volumes for the AM and PM peak hours at study intersections, followed by an analysis of the projected level of service (LOS). This is compared to the City's adopted LOS for its road system. The last step is to identify recommended improvements that the Proposal should construct or contribute to mitigate LOS conditions that exceed City standards.

Note that the analysis in the transportation analysis is cumulative in nature; all known and projected growth is included in the analysis. Therefore, cumulative impacts are not discussed separately.

No Action Alternative (Baseline)

The No Action Alternative reflects future conditions without the proposed PCI Plan, and provides a baseline against which to measure the Proposal (2018). The analysis addresses conditions in 2023, the year Planning Area 1 would be completed under the PCI Plan and Redevelopment Alternative, and year 2032, which represents planned buildout of the Proposal and Redevelopment Alternative. Roadway network, traffic volumes, intersection LOS, and site access/circulation would have limited changes under No Action due to planned/programmed roadway improvements and background growth in the City and surrounding area.

Roadway Network

The future roadway network under No Action is consistent with the existing roadway network as no funded planned improvements are anticipated to be constructed prior to 2023. It should be noted that a number of planned improvements identified in the City of Snoqualmie's 6-year Transportation Improvement Plan (TIP) 2020-2025 (adopted June 2019) would impact study intersections. Based on information about the TIP available at this time, improvement projects relevant to the PCI Plan are either not funded, or the type of improvement planned would not create additional roadway capacity (i.e., only pavement improvements or trails.

- Snoqualmie Parkway to I-90 Westbound On-Ramp: This WSDOT interim project was recently completed to improve traffic flow to westbound I-90 by widening the westbound on-ramp to two lanes and reconstructing the shoulders to meet current design standards.
- Snoqualmie Parkway and SE 99th Street Roundabout and Intersection Improvements: This project will design and construct intersection improvements on the Snoqualmie Parkway at the SE 99th Street intersection #3 to add a roundabout. Construction was scheduled to begin in 2019 and be completed by 2023, but the project is not fully funded.
- SR 202 Corridor Improvements: This project will improve lane width and intersection channelization, upgrade underground utilities, and improve and update sidewalks, Americans with Disabilities Act (ADA) ramps, parking access, street lighting, streetscape, traffic calming, underground aerial lines, and pavement rehabilitation from SE Northern Street to the SR 202 bridge. Construction is anticipated to begin in 2021. This would result in widening at the Snoqualmie Parkway signalized intersection #9, but the project is not fully funded.
- SR 202 Kimball Creek Bridge Replacement: This project will replace both the SR 202 Kimball Creek Bridge and the Centennial Trail Bridge that is adjacent to it on the western side of the roadway. The bridge would be widened and replaced with a new bridge to meet current bridge standards. The Centennial Trail would be widened and relocated onto a 14-foot-wide shared-use trail deck. This project would result in widening and improvements at the signalized intersection #9. Construction was scheduled to begin in 2019, but the project is not fully funded.
- SR 202 Snoqualmie River Bridge: This WSDOT project will replace and widen the SR 202 bridge located a few hundred feet south of the Tokul roundabout, which includes study intersection #10. Funding for this project has not been identified in the City's 6-year TIP.

- Meadowbrook Way SE / SR 202 Intersection Improvements: This project will provide new loops, signal timing, and striping to add to left turn lanes at the intersection for improved safety at study intersection #15. However, the project is not funded in the City's 6-year TIP.
- Snoqualmie Parkway Pavement and Intersection Improvements: This project will grind and overlay 2 inches of asphalt concrete pavement at the intersections of SE Center Street and SE Swenson Drive; update sidewalks and sidewalk ramps per ADA guidelines; replace traffic loops and striping; and update signing and traffic control. Construction was scheduled to begin in 2019.
- I-90 / SR 18: WSDOT is planning an improvement project for the I-90 interchange; it also includes widening SR 18 and a new weigh/inspection station. Funding, planning, and design were not affected by the moratorium on transportation projects announced last year by the Governor. The project is fully funded and currently is planned to be completed in 2023. WSDOT's public outreach for the I-90 / SR 18 project has included several community meetings, open houses, and stakeholder meetings. WSDOT has also convened a Stakeholder Advisory Group (SAG), which is comprised of state, tribal, and local government representatives, business interests, and environmental groups. A second phase of community engagement is planned for spring 2020; project documentation is expected to be released at that time. The I-90 interchange project is categorically excluded from detailed review under the National Environmental Policy Act (NEPA), pursuant to the Federal Highway Administration's (FHWA's) NEPA rules; environmental information to support the categorical exclusion is required, however, and will be available. The project is subject to SEPA, and a SEPA Checklist is expected to be published at that time.

  WSDOT presented its preferred alternative for the I-90 interchange project at a SAG meeting in May 2019. The preferred alternative is a four-lane divergent diamond interchange (four-lane DDI); it was selected from a group of eight alternatives because it provided the best performance at the least cost. The results of initial modeling of the four-lane DDI were included in an Interchange Justification Report Addendum (IJR), completed in August 2019 (WSDOT, 2019). (Note that the IJR states that traffic operations with construction of the preferred alternative will meet LOS standards at all locations, but the IJR excerpts provided by WSDOT do not provide LOS for individual locations.)

  No additional documentation or information is available from WSDOT at this time. Additional information will be provided in the Final EIS if it is available.

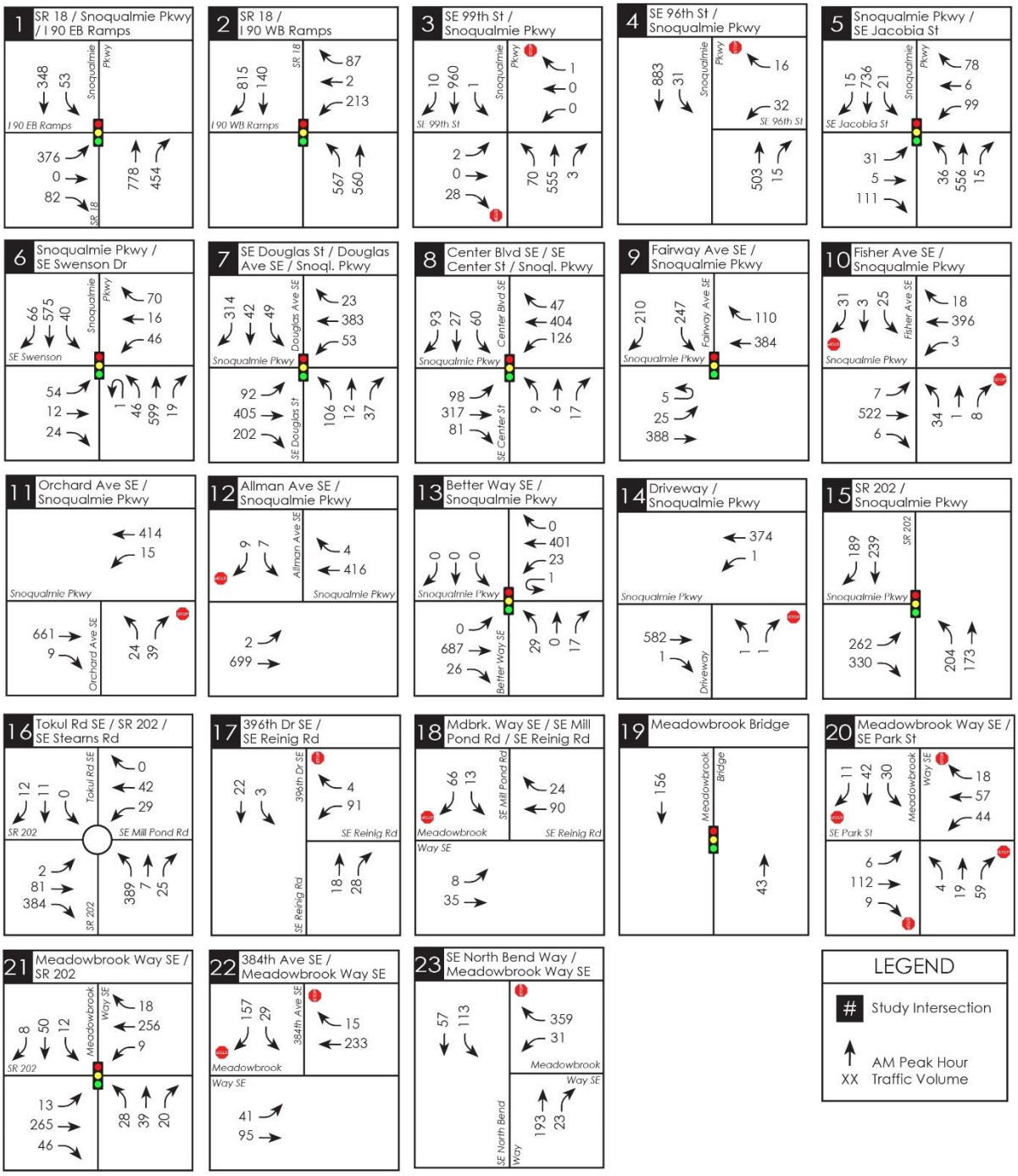
Traffic Volumes

The background growth rates used in the analysis of No Action were based on a study entitled *Trip Distribution Analysis for the Proposed Snoqualmie Mill Development,* conducted by Fehr & Peers dated August 7, 2018, which is included as Appendix F.

Future years 2023 and 2032 weekday AM and PM peak hour traffic volumes for the No Action Alternative at the study intersections were estimated by applying a 1% annual growth rate to the existing volumes (see Exhibit 3.11-2 and Exhibit 3.11-3), except for Snoqualmie Parkway, which used a 0.5% annual growth rate to estimate future volumes.

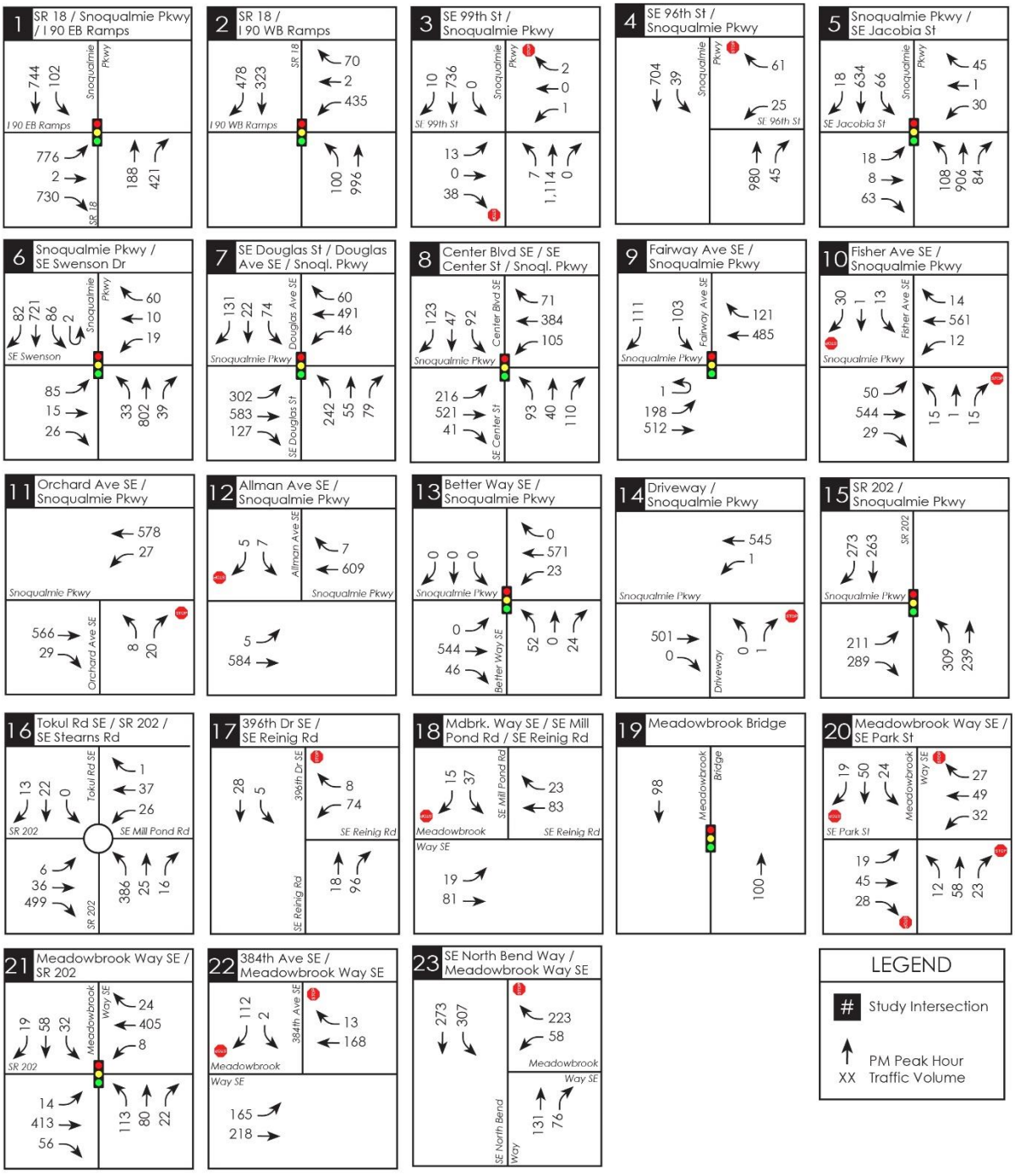
Future year 2023 weekday AM and PM peak hour traffic volumes for No Action at the study intersections are shown in Exhibit 3.11-8 and Exhibit 3.11-9. Future year 2032 weekday AM and PM peak hour traffic volumes for No Action are shown in Exhibit 3.11-10 and Exhibit 3.11-11.

Exhibit 3.11-8. 2023 No Action AM Peak Hour Traffic Volumes



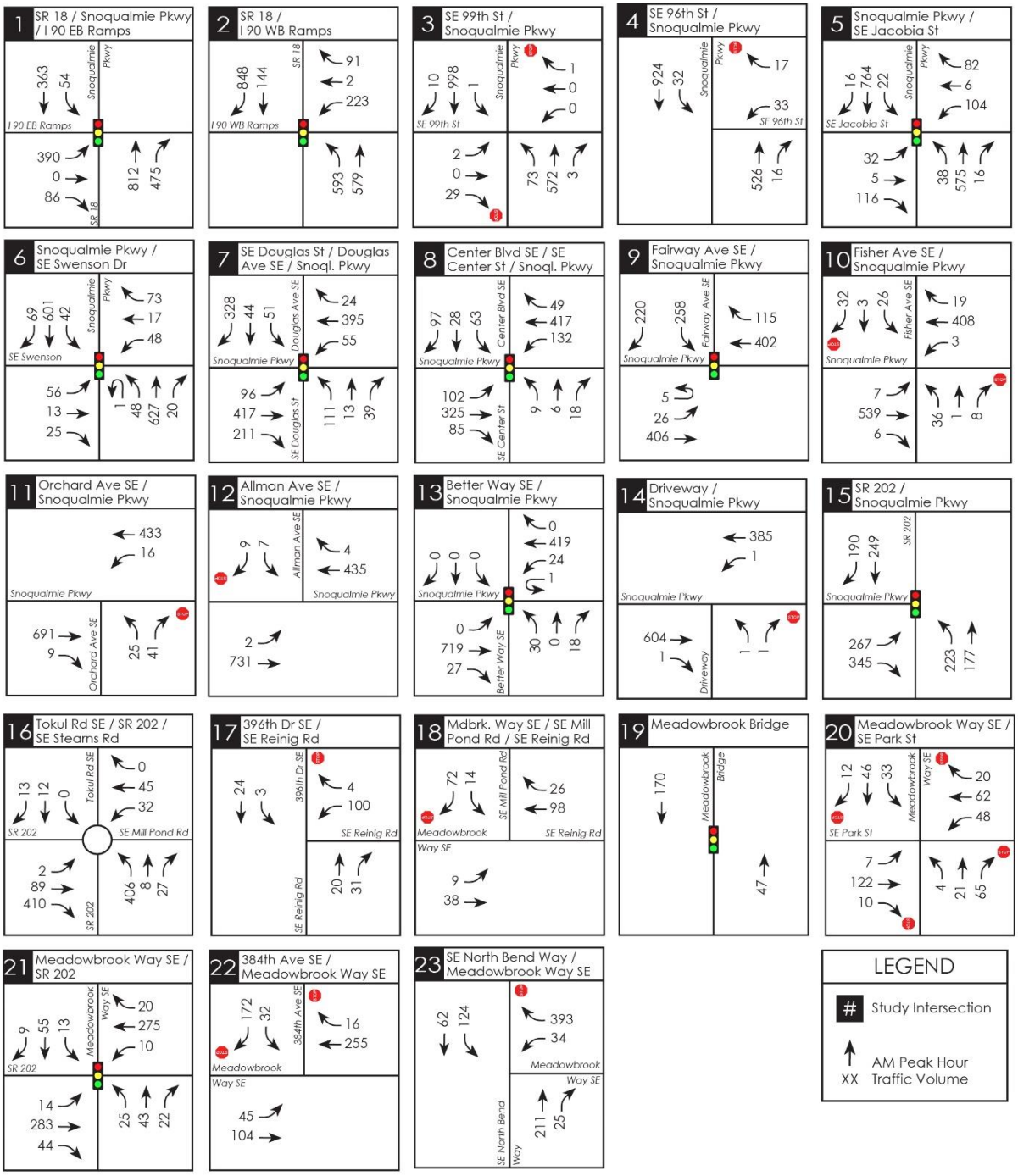
Source: TENW, 2020.

Exhibit 3.11-9. 2023 No Action PM Peak Hour Traffic Volumes



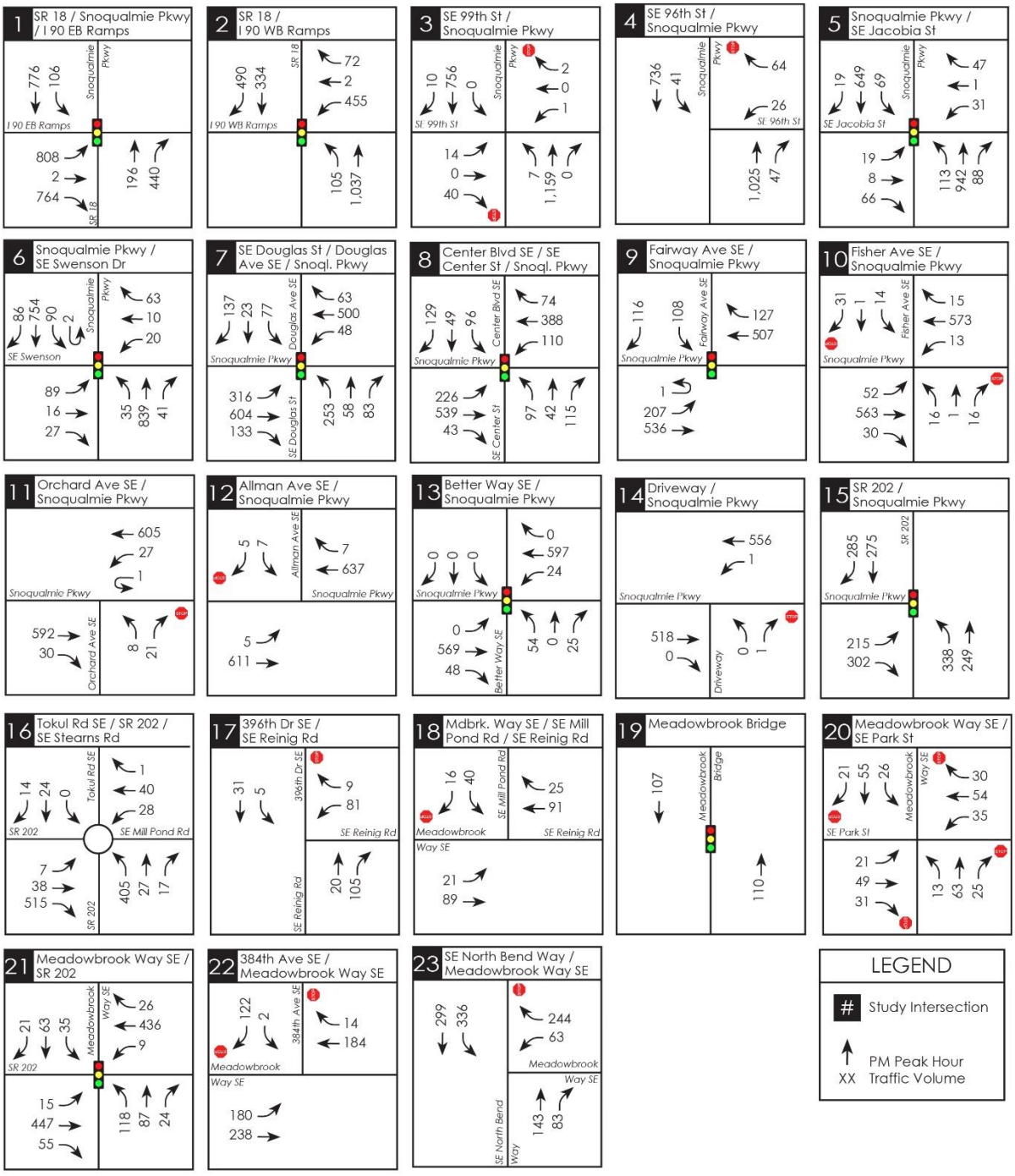
Source: TENW, 2020.

Exhibit 3.11-10. 2032 No Action AM Peak Hour Traffic Volumes



Source: TENW, 2020.

Exhibit 3.11-11. 2032 No Action PM Peak Hour Traffic Volumes



Source: TENW, 2020.

Intersection Level of Service (LOS)

LOS analyses for future years 2023 and 2032 for No Action were conducted at the study intersections during the weekday AM and PM peak hours, and are summarized in Exhibit 3.11-12 and Exhibit 3.11-13, respectively.

For No Action in 2023, the existing roadway network and signal timing were assumed to remain unchanged from existing conditions. It should be noted that a number of planned improvements identified in the City of Snoqualmie's 6-year TIP would likely affect study intersections but are either not funded or do not result in additional lane capacity (i.e., pavement improvements or trails). These improvements were excluded from the road network for purposes of analysis.

For No Action in 2032, all of the projects identified in the City's 6-year TIP are assumed to be funded and completed. However, several of those projects do not have specific plans for improving intersection operations at this time, so they could not be included in the LOS analysis. One example is the intersection at Meadowbrook Way SE/384th Avenue SE/SE North Bend Way where a City TIP project would add a roundabout, but no design configuration has been identified; so in this case, the LOS analysis is reported based on the existing condition with a future roundabout noted as the anticipated fix to achieve acceptable LOS.

The detailed LOS worksheets are included in Appendix F.

Exhibit 3.11-12. Future 2023 AM and PM Peak Hour LOS with No Action

Study Intersection / Movement	AM Peak Hour LOS[1]	AM Peak Hour Delay (sec)[2]	PM Peak Hour LOS[1]	PM Peak Hour Delay (sec)[2]
Signalized Intersections				
1. SR 18 / I-90 EB Ramps [4]	- [4]		- [4]	
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps [4]	- [4]		- [4]	
5. Snoqualmie Pkwy / SE Jacobia St	B	12.7	B	10.0
6. Snoqualmie Pkwy / SE Swenson Dr	C	20.9	C	20.5
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	20.5	C	21.5
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	A	9.8	B	13.3
9. Fairway Ave SE / Snoqualmie Pkwy	B	10.0	A	7.3
13. Better Way SE / Snoqualmie Pkwy	A	6.5	A	6.1
15. SR 202 / Snoqualmie Pkwy	B	12.0	B	10.3
19. Meadowbrook Bridge [3]	B	18.4	B	15.6
21. Meadowbrook Way SE / SR 202	A	8.0	A	9.5
Roundabouts				
16. Tokul Rd SE / SR 202 / SE Mill Pond Rd	A	6.5	A	6.0
All-Way Stop-Controlled Intersections				
20. Meadowbrook Way SE / SE Park St	B	10.9	A	8.3
Two-Way Stop-Controlled Intersections				
3. Snoqualmie Pkwy / SE 99th St				
Northbound Left-Turn	B	11.0	A	9.3
Eastbound Left-Thru-Right	C	17.3	C	21.4
Westbound Left-Thru-Right	B	10.1	D	27.5
Southbound Left-Turn	A	8.6	A	0.0
4. Snoqualmie Pkwy / SE 96th St				
Westbound Left-Turn	C	16.1	D	26.0
Westbound Right-Turn	B	10.0	B	14.2
Southbound Left-Turn	A	8.5	B	11.4
10. Fisher Ave SE / Snoqualmie Pkwy				
Northbound Left-Right-Thru	F	50.6	E	43.5
Eastbound Left-Turn	A	8.5	A	9.2
Westbound Left-Turn	A	8.9	A	8.9
Southbound Left-Right-Thru	D	28.0	D	31.5
11. Orchard Ave SE / Snoqualmie Pkwy				

Study Intersection / Movement	AM Peak Hour LOS[1]	AM Peak Hour Delay (sec)[2]	PM Peak Hour LOS[1]	PM Peak Hour Delay (sec)[2]
Northbound Left-Right	C	17.3	B	13.8
Westbound Left-Turn	A	9.6	A	9.0
12. Allman Ave SE / Snoqualmie Pkwy				
Eastbound Left-Turn	A	8.3	A	8.9
Southbound Left-Right	B	13.5	C	16.4
14. Trail Access Road / Snoqualmie Pkwy				
Northbound Left-Right	C	15.4	B	10.0
Westbound Left-Turn	A	9.2	A	8.5
17. 396th Dr SE / SE Reinig Rd				
Westbound Left-Right	A	9.3	A	9.5
Southbound Left-Turn	A	7.3	A	7.4
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd				
Eastbound Left-Turn	A	7.7	A	7.4
Southbound Left-Right	A	9.8	A	9.8
22. Meadowbrook Way SE / 384th Ave SE [3]				
Eastbound Left-Right	A	8.0	A	8.2
Southbound Thru-Right	B	12.7	B	10.4
23. Meadowbrook Way SE / SE North Bend Way				
Westbound Left-Turn	B	12.1	D	25.8
Westbound Right-Turn	A	0.0	A	0.0
Southbound Left-Turn	A	7.9	A	8.3

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.
[4] Results from IJR Addendum for I-90/SR 18 Interchange Report (Aug. 2019) indicated that the interchange would operate at acceptable LOS, but the specific LOS is not identified.

Exhibit 3.11-13. Future 2032 AM and PM Peak Hour LOS with No Action

Study Intersection / Movement	AM Peak Hour LOS[1]	AM Peak Hour Delay (sec)[2]	PM Peak Hour LOS[1]	PM Peak Hour Delay (sec)[2]
Signalized Intersections[3]				
1. SR 18 / I-90 EB Ramps[4]	- [4]		- [4]	
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps [4]	- [4]		- [4]	
5. Snoqualmie Pkwy / SE Jacobia St	B	13.1	B	10.2
6. Snoqualmie Pkwy / SE Swenson Dr	C	21.2	C	20.8
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	21.5	C	22.7
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	B	10.0	B	13.7
9. Fairway Ave SE / Snoqualmie Pkwy	B	10.3	A	7.5
13. Better Way SE / Snoqualmie Pkwy	A	6.6	A	6.3
15. SR 202 / Snoqualmie Pkwy	B	12.4	B	10.9
19. Meadowbrook Bridge [3]	C	20.6	B	15.8
21. Meadowbrook Way SE / SR 202	A	8.3	B	10.1
Roundabouts				
16. Tokul Rd / SR 202 / Mill Pond Rd	A	6.5	A	6.1
All-Way Stop-Controlled Intersections				
20. Meadowbrook Way SE / Park St	B	11.7	A	8.4
Two-Way Stop-Controlled Intersections				
3. Snoqualmie Pkwy / SE 99th St				
Northbound Left-Turn	B	11.3	A	9.4
Eastbound Left-Thru-Right	C	18.1	C	23.2
Westbound Left-Thru-Right	B	10.2	D	30.0
Southbound Left-Turn	A	8.7	A	0.0
4. Snoqualmie Pkwy / SE 96th St				
Westbound Left-Turn	C	16.6	D	27.8
Westbound Right-Turn	B	10.1	B	14.7
Southbound Left-Turn	A	8.6	B	11.7
10. Fisher Ave SE / Snoqualmie Pkwy				
Northbound Left-Right-Thru	F	61.7	F	51.3
Eastbound Left-Turn	A	8.6	A	9.3
Westbound Left-Turn	A	9.0	A	9.0
Southbound Left-Right-Thru	E	31.8	E	37.5
11. Orchard Ave SE / Snoqualmie Pkwy				

Study Intersection / Movement	AM Peak Hour LOS[1]	AM Peak Hour Delay (sec)[2]	PM Peak Hour LOS[1]	PM Peak Hour Delay (sec)[2]
Northbound Left-Right	C	18.3	B	14.2
Westbound Left-Turn	A	9.7	A	9.2
12. Allman Ave SE / Snoqualmie Pkwy				
Eastbound Left-Turn	A	8.4	A	9.0
Southbound Left-Right	B	13.9	C	17.1
14. Trail Access Road / Snoqualmie Pkwy				
Northbound Left-Right	C	16.0	B	10.1
Westbound Left-Turn	A	9.3	A	8.6
17. 396th Dr SE / SE Reinig Rd				
Westbound Left-Right	A	9.3	A	9.6
Southbound Left-Turn	A	7.3	A	7.5
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd				
Eastbound Left-Turn	A	7.7	A	7.5
Southbound Left-Right	B	10.0	B	10.0
22. Meadowbrook Way SE / 384th Ave SE[3]				
Eastbound Left-Right	A	8.1	A	8.3
Southbound Thru-Right	B	13.7	B	10.6
23. Meadowbrook Way SE / SE North Bend Way				
Westbound Left-Turn	B	12.5	D	31.0
Westbound Right-Turn	A	0.0	A	0.0
Southbound Left-Turn	A	8.0	A	8.4

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.
[4] Results from IJR Addendum for I-90/SR 18 Interchange Report (Aug. 2019) indicated that the interchange would operate at acceptable LOS, but the specific LOS is not identified.

Comparisons of 2023 and 2032 intersection LOS for the No Action Alternative to buildout of the PCI Plan and the Redevelopment Alternative are provided later in this section (Exhibit 3.11-34 and Exhibit 3.11-35, respectively).

The City of Snoqualmie intersection standard is LOS D, except for side-street stop-controlled intersections where a traffic signal warrant is not met. As shown in Exhibit 3.11-12 and Exhibit 3.11-13, all signalized study intersections, the roundabout, and controlled movements at the unsignalized study intersections would operate at LOS D or better during both the weekday AM and PM peak hours in 2023 and 2032 with No Action, except the following:

- The SR 18 / Snoqualmie Parkway / I-90 WB Ramps intersection (intersection #2) is still being designed, but the preferred alternative is expected to result in acceptable AM and

PM peak hour LOS once it has been completed by 2023. More specific LOS data were not available in the information provided by WSDOT from the *I-90/SR 18 Interchange Justification Report Addendum* (WSDOT, 2019). No additional information is available at this time.

- The northbound movement of the intersection of Fisher Avenue SE / Snoqualmie Parkway is anticipated to operate at LOS F during the AM peak hour and at LOS E during PM peak hour. The City recently installed a High-Intensity Activated crossWalK (HAWK) signal to improve pedestrian safety, but it is anticipated that full intersection signalization is needed to obtain acceptable LOS. It should be noted that the Snoqualmie Hills West development may be required to construct a full traffic signal at this intersection if triggered by planned buildout.

Site Access and Circulation

For No Action, site accesses and circulation are assumed to remain the same as existing conditions.

Transit Service

Transit service in the vicinity will continue to be provided by King County Metro Transit. One of Metro's key future objectives is to improve transit service in the north Eastside area to accommodate the growing and changing conditions. This will be done through Metro's North Eastside Mobility Project. While transit service on the Eastside is expected to expand, there are no specific service expansions planned for the Snoqualmie area or North Bend.

Traffic Safety

Both I-90 ramp intersections at Snoqualmie Parkway had an annual accident rate of over 5 accidents per year. Both of these intersections will be improved in the future with a new interchange, which is expected to increase capacity and improve safety. Increased traffic volumes on area roadways may result in minor increases in accident rates, but none of the remaining study intersections were identified as high accident locations.

Impacts of Proposal

This subsection describes the impacts of the Proposed Action. The analysis includes the future roadway network, future weekday AM and PM peak hour traffic volumes, future intersection LOS, and future site access/circulation. The Proposed Action is evaluated for two phases and time periods:

- A detailed analysis of Planning Area 1 at completion in 2023; and
- A more general review of the overall PCI Plan at full buildout in 2032.

The types and amounts of land uses assumed in each of the PCI Plan's planning areas for 2023 and 2032 are described in Section 2.3 of the EIS. Primary vehicular access to the site would be provided via a new roundabout (initially one lane) on SE Mill Pond Road for Planning Area 1; a portion of SE Mill Pond Road would also be reconfigured. Access would also be provided from

the intersection at the existing private Haul Road along the northern boundary of the site, intersecting with SE Mill Pond Road. The proposed locations for site access are shown in Exhibit 2.3-1.

Vehicular access for full buildout in 2032 would be similar to Planning Area 1, with the addition of a new private road traversing the site from east to west to provide access for Planning Area 3.

Note that the analysis in the Transportation section is cumulative in nature; all known and projected growth is included in the analysis. Therefore, cumulative impacts are not discussed separately. Potential indirect impacts could include some increase in tourism-related vehicular trips, which would likely occur primarily on weekends rather than during the AM or PM peak hours. Most visitors to the site are assumed to be attracted from visitors already visiting the area. The number of indirect trips is speculative at this time and has not been estimated.

Roadway Network

Planning Area 1 (2023)

The future roadway network for Proposed Action Planning Area 1 is similar to the No Action Alternative, plus improvements that are elements of the proposed PCI Plan which include new road improvements with Planning Area 1:

- Primary access to the site would be from SR 202 and Mill Pond Road.
- A segment of Mill Pond Road would be realigned and moved farther to the north. Another portion of the existing Mill Pond Road would also be reconfigured and would integrate sidewalks, a pedestrian trail, and landscaping. See Exhibit 2.3-4 and Exhibit 2.3-5.
- A roundabout would be constructed at the entrance to Planning Area 1 and would provide access to Mill Street, the main street through the Planning Area 1 mixed-use area.
- Heavy trucks would use the internal drive aisle, adjacent to the warehouses, to enter and exit Planning Area 1 from and to the Haul Road west of the Planning Area. Heavy trucks would avoid using Mill Street and would not use the northern portion of the Haul Road.

Internal streets and drive aisles would connect to individual buildings and parking areas.

PCI Plan Buildout (2032)

The roadway network under the PCI Plan at full buildout does not include any of the City's planned improvements in the six-year TIP, either because the projects are not funded or because the specific improvements have not been designed and cannot be evaluated in detail; however, where a TIP project is planned, it is assumed and noted to achieve acceptable LOS at the intersection. The 2032 road network does include Planning Area 1 project elements, which include a new east-west private road traversing the site for access to Planning Area 3 with internal road connections to allow vehicles, trucks, and non-motorized access between the three planning areas. Further improvements to the Haul Road/Mill Pond Road intersection and the northern segment of the Haul Road are also described in the Mitigation subsection.

Traffic Volumes

The analysis of the Proposed Action considers two phases and time periods: Planning Area 1 (2023) and full buildout under the PCI Plan (2032), in that order.

Planning Area 1 (2023)

Trip Generation

The trip generation estimate for PCI Plan Planning Area 1 was based on the methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 10th edition (2018) for planned land uses: LUC 130 (Industrial Park), LUC 221 (Mid-Rise Multifamily Housing), and LUC 820 (Shopping Center).

Trip generation estimates were made based on total gross leasable building area (gla) of each type or category of land use. Adjustments were then made to account for internal trips, and then pass-by trips. Truck trips are included with the total trip generation estimates for each land use category and based on ITE data.

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 residential and retail uses were based on the established methodology in the ITE *Trip Generation Handbook*, 3rd edition.

Adjustments were then made to the trip generation to account for pass-by trips. Pass-by trips are trips that are already on the adjacent roadways and stop at the proposed use on the way to their primary destination (e.g., on the way from work to home). These trips are not new to the adjacent road network but are accounted for at the project site access points. The pass-by trip adjustments were based on information and methodology provided in the ITE *Trip Generation Handbook*, 3rd edition.

Exhibit 3.11-14 summarizes the estimated total trip generation for the Proposed Action for Planning Area 1 only. The detailed trip generation calculations are provided in Appendix F. Trip generation is provided for weekday daily, AM peak hour, PM peak hour, and Saturday daily.

Exhibit 3.11-14. Trip Generation Summary for Planning Area 1 (2023)

Time Period	New Trips Generated		
	Trucks	Passenger Vehicles	Total Trips
Weekday Daily	251	5,517	5,768
Weekday AM Peak Hour	21	336	357
Weekday PM Peak Hour	21	438	459
Saturday Daily	132	5,648	5,780

Source: TENW, 2019.

Planning Area 1 is estimated to generate 5,768 weekday daily trips, with 357 trips occurring during the weekday AM peak hour and 459 trips occurring during the weekday PM peak hour. A total of 5,780 Saturday daily trips would also occur.

The Saturday trip generation estimate, like that of the weekday, is estimated based on trip rates for an "industrial park" use with 400,000 square feet (sf), plus 160 residential units and 70,000 sf of retail. The trip generation for the industrial park captures a range of uses that could include wine-oriented employment with production, as well as visitors to complementary wine-related retail uses within the 70,000 sf of retail. The wine-oriented uses are anticipated to be smaller in scale than what exists in Woodinville and would primarily capture visitors already traveling to Snoqualmie for existing tourism offerings and destinations in the area, rather than generating substantial new tourism trips. The numbers of tourism-related trips have not been quantified.

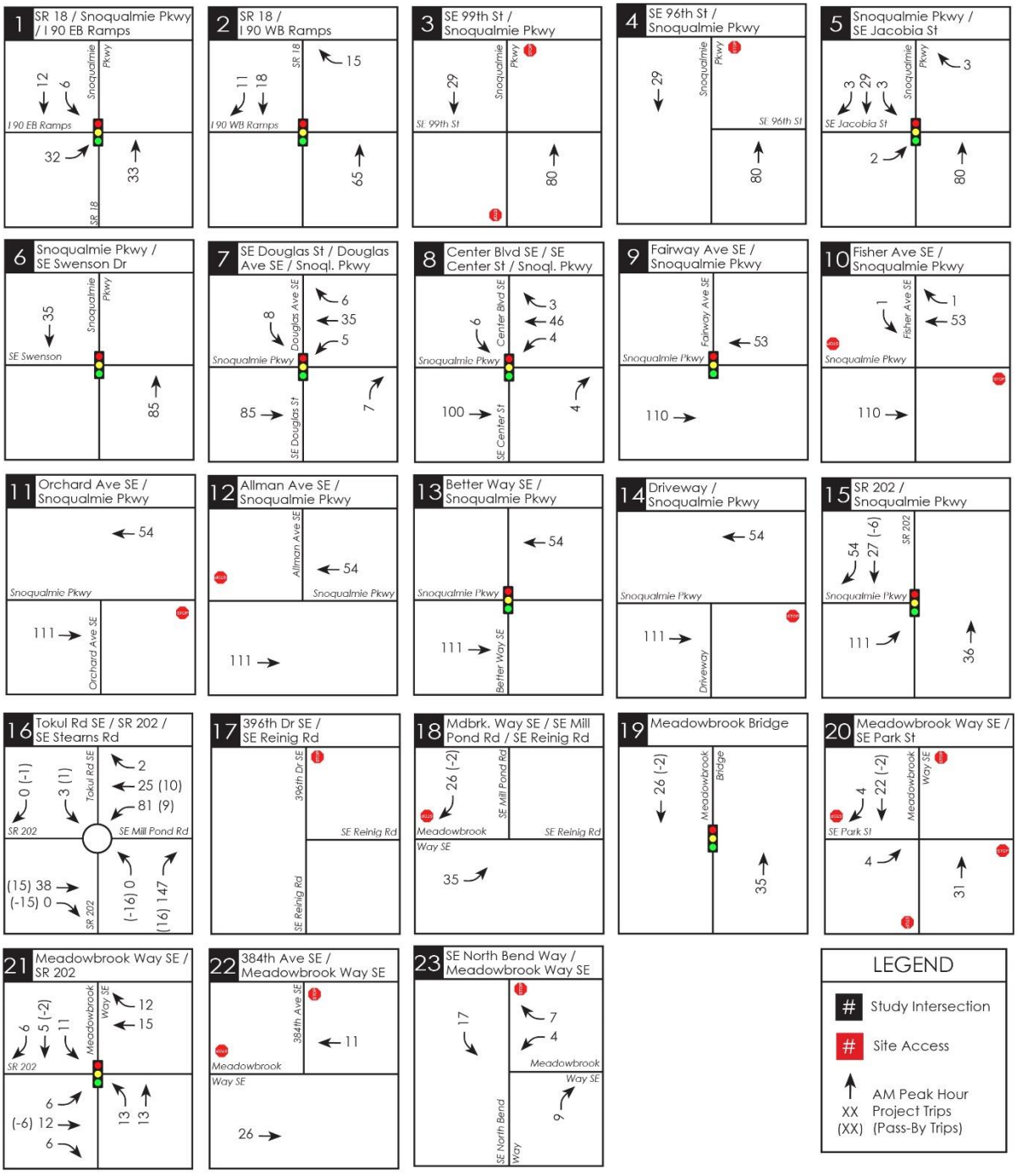
Trip Distribution

"Trip Distribution" generally refers to the pattern of forecast traffic, usually in percentages traveling in different directions. The distribution of project traffic for Planning Area 1 was estimated based on a study entitled *Trip Distribution Analysis for the Proposed Snoqualmie Mill Development* (Fehr & Peers, August 7, 2018), which is included as Appendix F. These trips are then "assigned" to various routes/roads and intersections in the study area and the effects of forecast trips are evaluated in terms of LOS at study intersections. Exhibit 3.11-15 and Exhibit 3.11-16 provide a graphic illustration of the assignment of the net new weekday AM and PM peak hour project trips, respectively, for Proposed Action Planning Area 1. Truck trips were not assigned south down SE Mill Pond Road because of the narrow roadways and intersection conditions not conducive to truck turn needs

Study Area Traffic Volumes

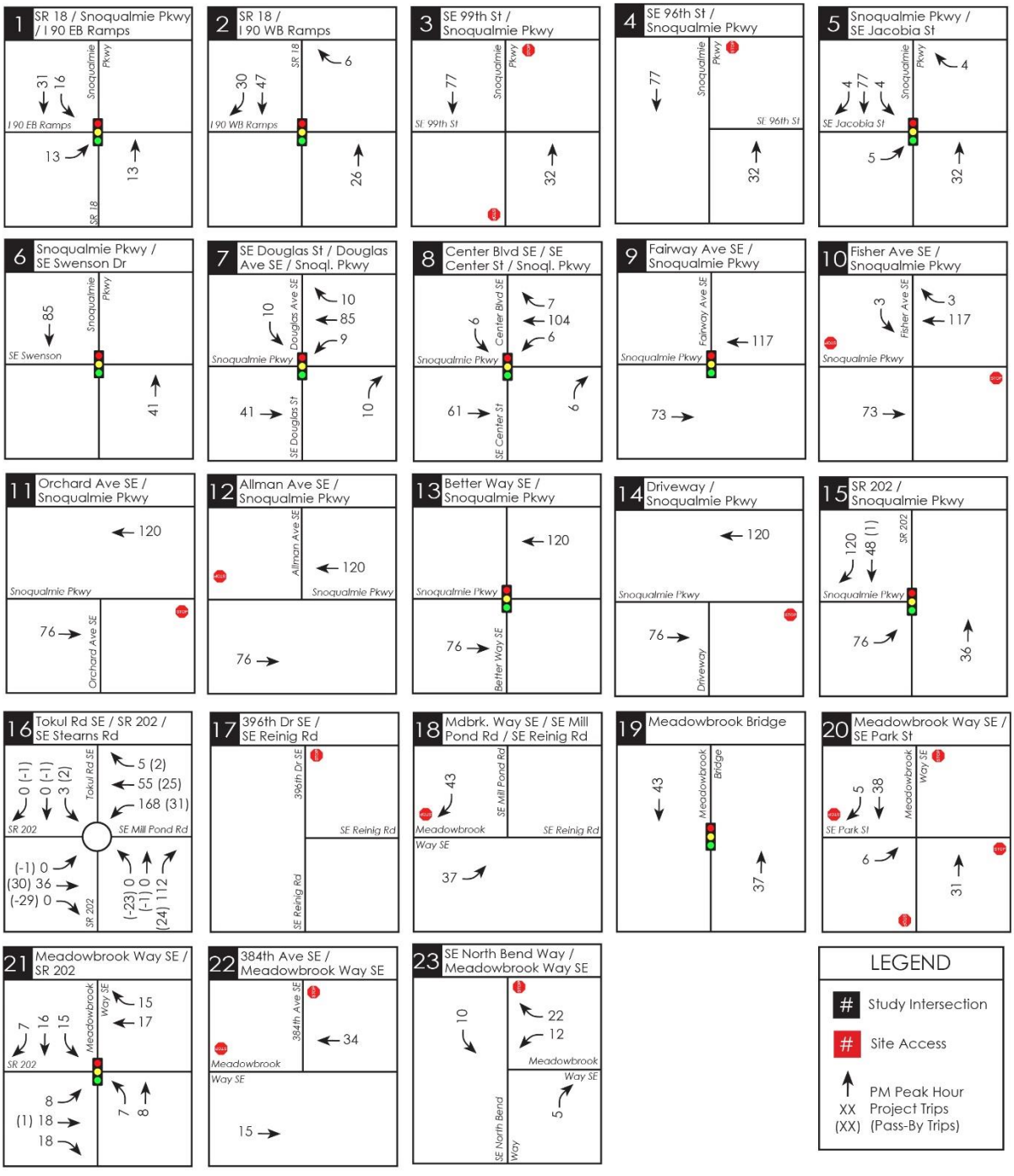
Future year 2023 weekday AM and PM peak hour traffic volumes for Planning Area 1 at the study intersections were estimated by adding the No Action Alternative traffic volumes to the assignment of AM and PM peak hour project. Future year 2023 weekday AM and PM peak hour traffic volumes for Proposed Action Planning Area 1 at the study intersections are shown in Exhibit 3.11-17 and Exhibit 3.11-18, respectively.

Exhibit 3.11-15. AM Peak Hour Net Project Trip Assignment for Planning Area 1



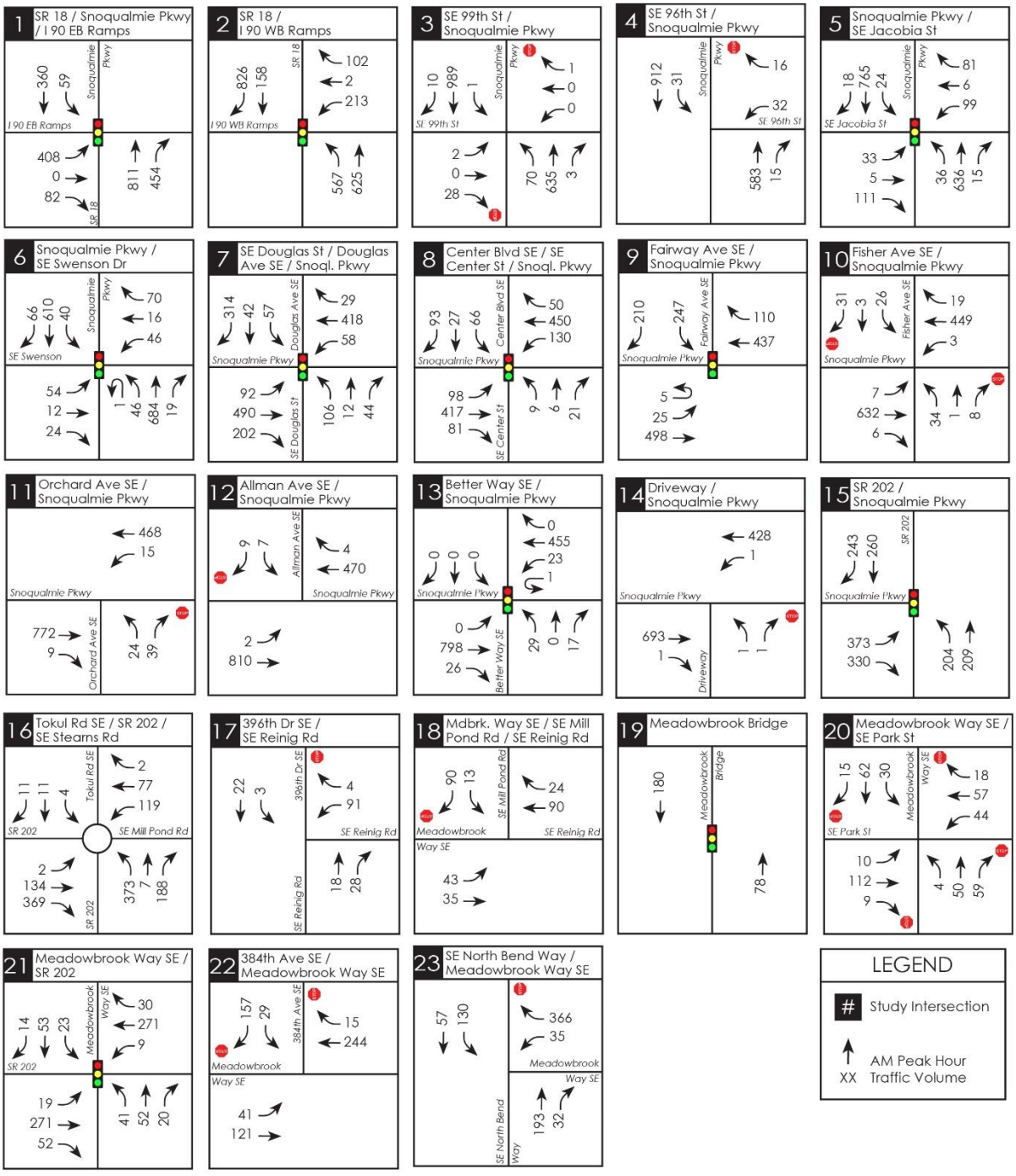
Source: TENW, 2020.

Exhibit 3.11-16. PM Peak Hour Net Project Trip Assignment for Planning Area 1



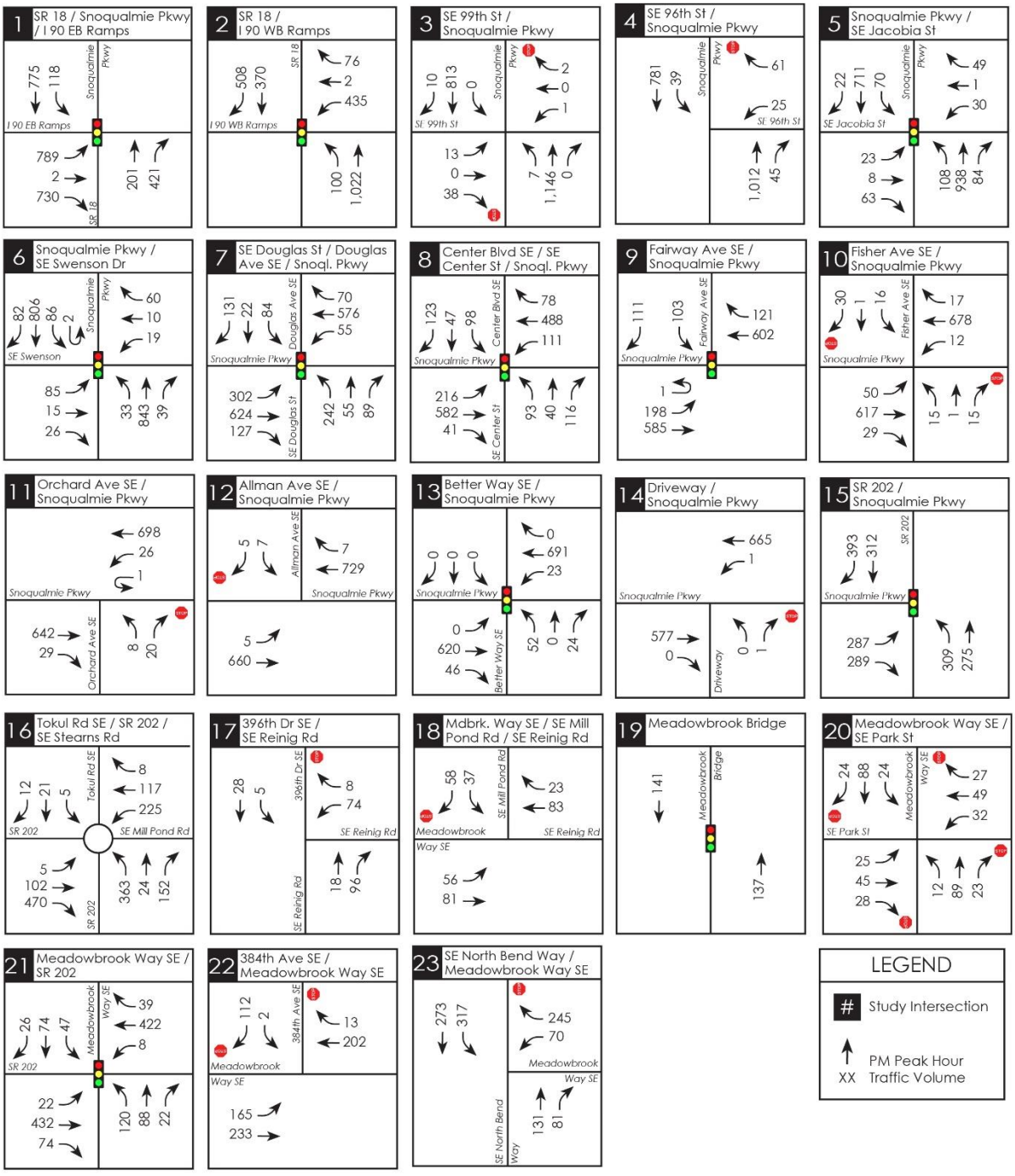
Source: TENW, 2020.

Exhibit 3.11-17. AM Peak Hour Traffic Volumes for 2023 With Planning Area 1



Source: TENW, 2020.

Exhibit 3.11-18. PM Peak Hour Traffic Volumes for 2023 With Planning Area 1



Source: TENW, 2020.

PCI Plan Buildout (2032)

Trip Generation

The trip generation estimate for the proposed PCI Plan at full buildout in 2032 was based on methodology documented in the ITE *Trip Generation Manual*, 10th edition for anticipated land uses: LUC 130 (Industrial Park), LUC 221 (Multifamily Housing – Mid-Rise), LUC 710 (General Office Building), and LUC 820 (Shopping Center).

Trip generation estimates were made based on gla of each land use type or category. Adjustments to the trip generation were then made to account for internal trips and pass-by trips consistent with established methodology in the ITE *Trip Generation Handbook*, 3rd edition. Truck trips are also included in the total trip generation estimate.

Exhibit 3.11-19 summarizes the total trip generation estimate for the Proposed Action full buildout in 2032. The detailed trip generation calculations are provided in Appendix F.

Exhibit 3.11-19. Trip Generation Summary for PCI Plan Full Buildout (2032)

	New Trips Generated		
Time Period	Trucks	Passenger Vehicles	Total Trips
Weekday Daily	360	13,144	13,504
Weekday AM Peak Hour	42	1,171	1,213
Weekday PM Peak Hour	41	1,421	1,462
Saturday Daily	264	9,597	9,861

Source: TENW, 2019.

The Proposed Action full buildout is estimated to generate 13,504 new weekday daily trips with 1,213 trips occurring during the weekday AM peak hour and 1,462 trips occurring during the weekday PM peak hour. It would also generate an estimated 9,861 Saturday daily trips.

The Saturday trip generation estimate, like that of the weekday, is estimated based on trip rates for an "industrial park" use with 800,000 sf, plus 160 residential units and 95,000 sf of retail and restaurant use. The trip generation for the industrial park is intended to capture a range of uses that could include wine-oriented employment with production, as well as visitors to complementary wine-related retail uses in Planning Area 1. The wine-oriented uses are anticipated to be smaller in scale compared to what exists in Woodinville, and the retail uses are expected to attract some visitors from outside the area as well as some visitors who are attracted to the Snoqualmie area by the existing tourism offerings and destinations.

Trip Distribution

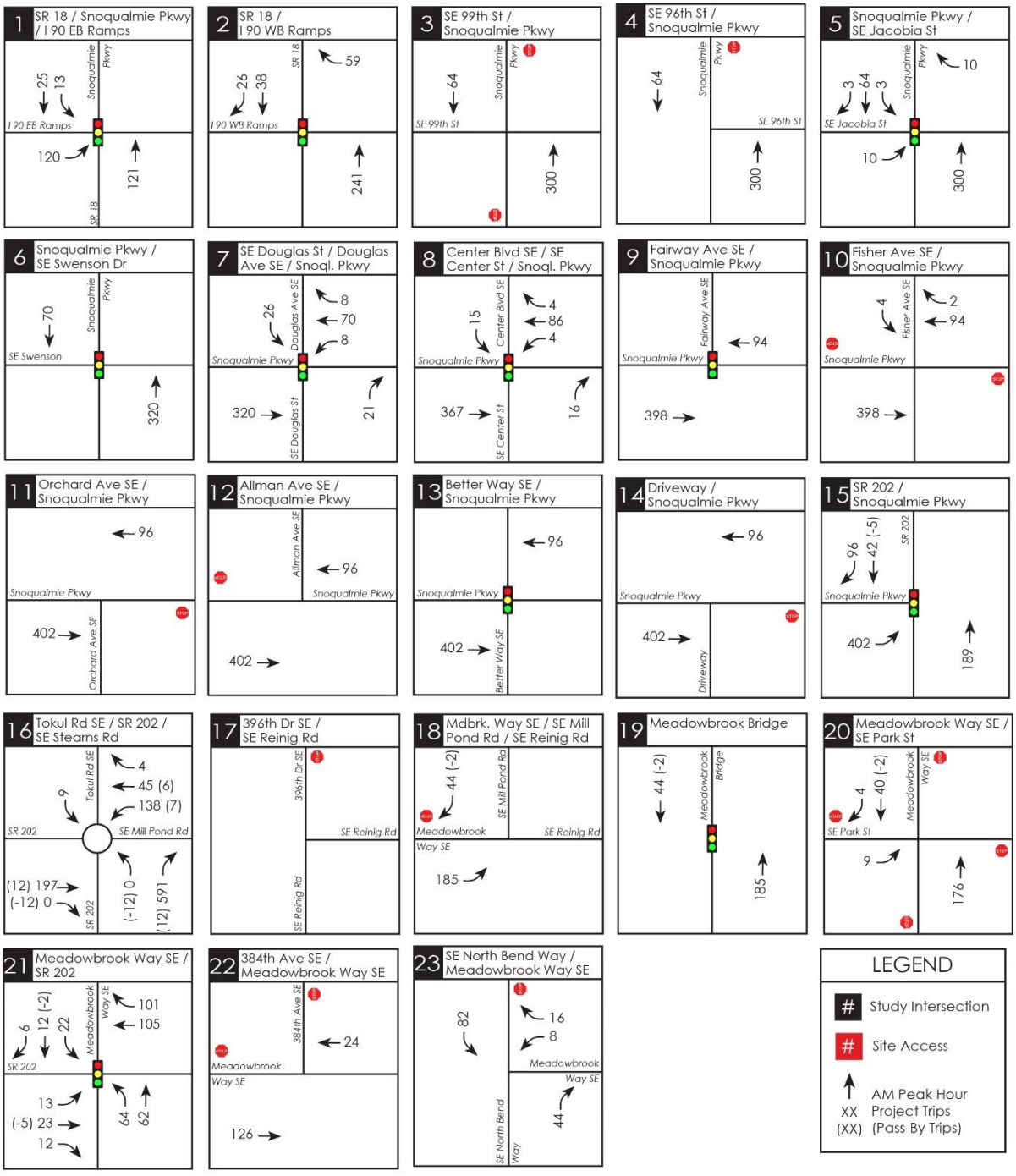
The distribution of project traffic for full buildout was estimated based on a study entitled *Trip Distribution Analysis for the Proposed Snoqualmie Mill Development* conducted by Fehr & Peers dated August 7, 2018, which is included as Appendix F. Truck trips were not assigned south

down SE Mill Pond Road because of the roadway and intersection conditions. Exhibit 3.11-20 and Exhibit 3.11-21 graphically illustrate the assignment of the net new weekday AM and PM peak hour project trips, respectively, for Proposed Action full buildout.

Study Area Traffic Volumes

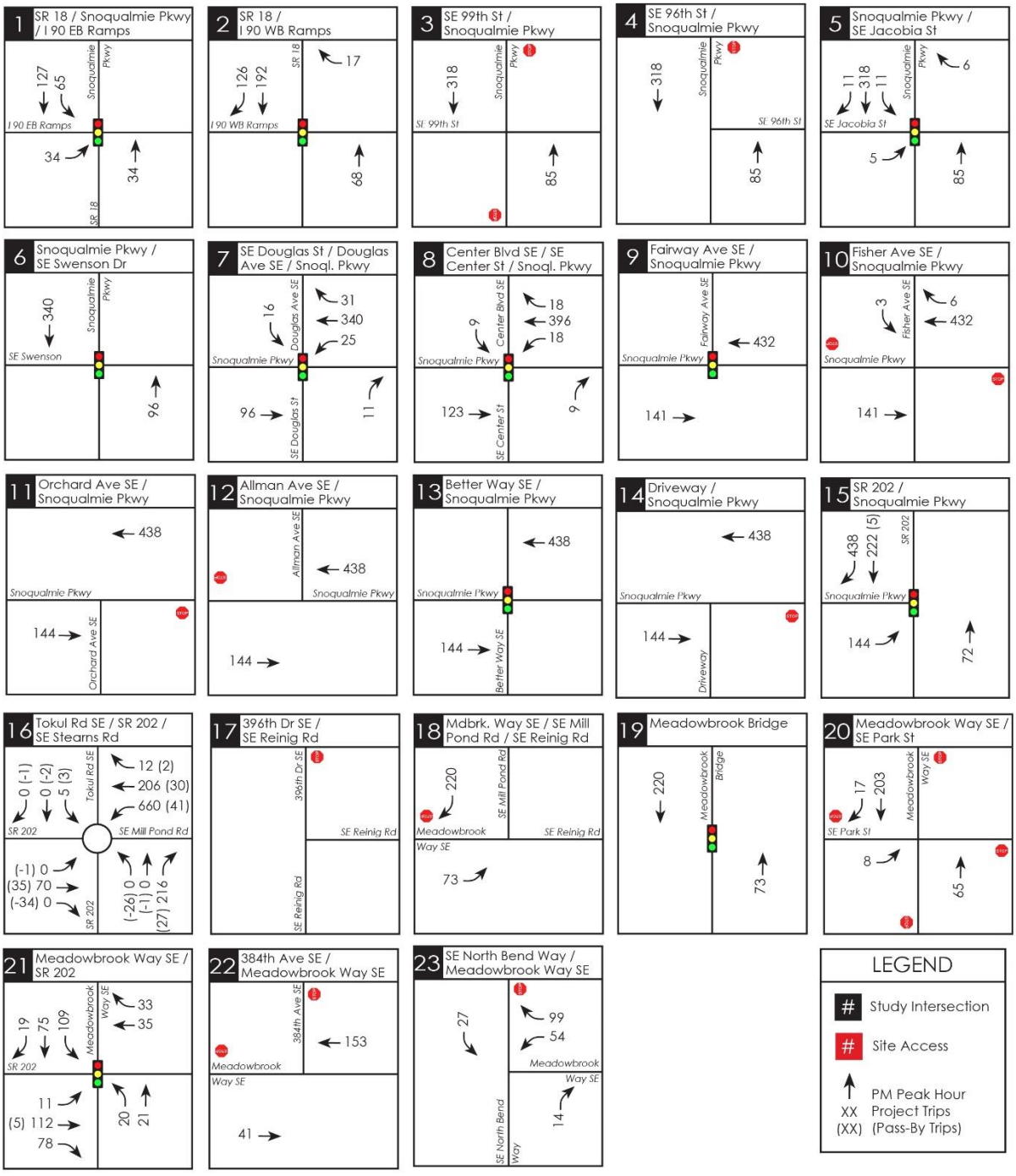
Future year 2032 weekday AM and PM peak hour traffic volumes for full buildout at the study intersections are shown in Exhibit 3.11-22 and Exhibit 3.11-23, respectively.

Exhibit 3.11-20. AM Peak Hour Net Project Trip Assignment for Full Buildout



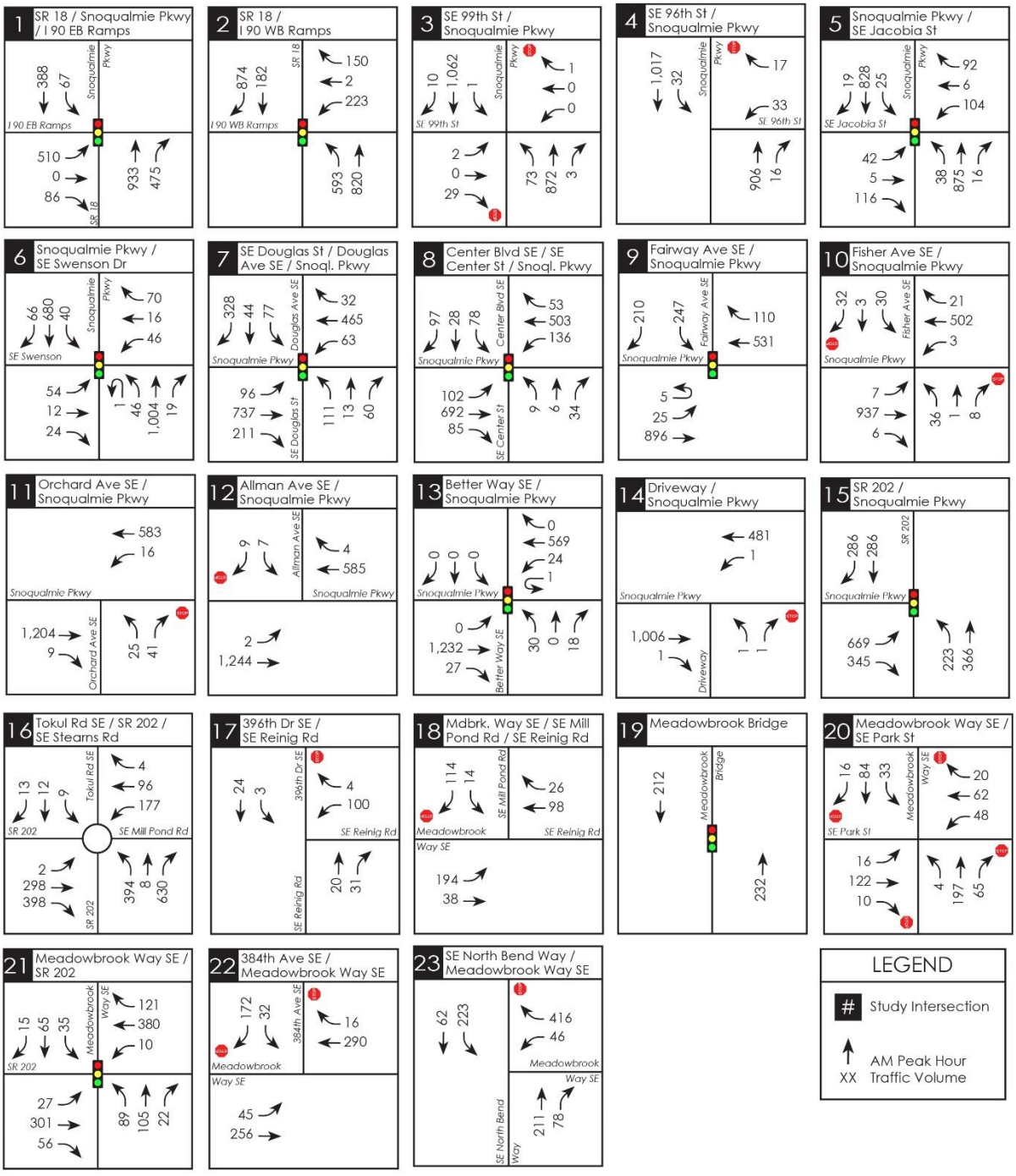
Source: TENW, 2020.

Exhibit 3.11-21. PM Peak Hour Net Project Trip Assignment for Full Buildout



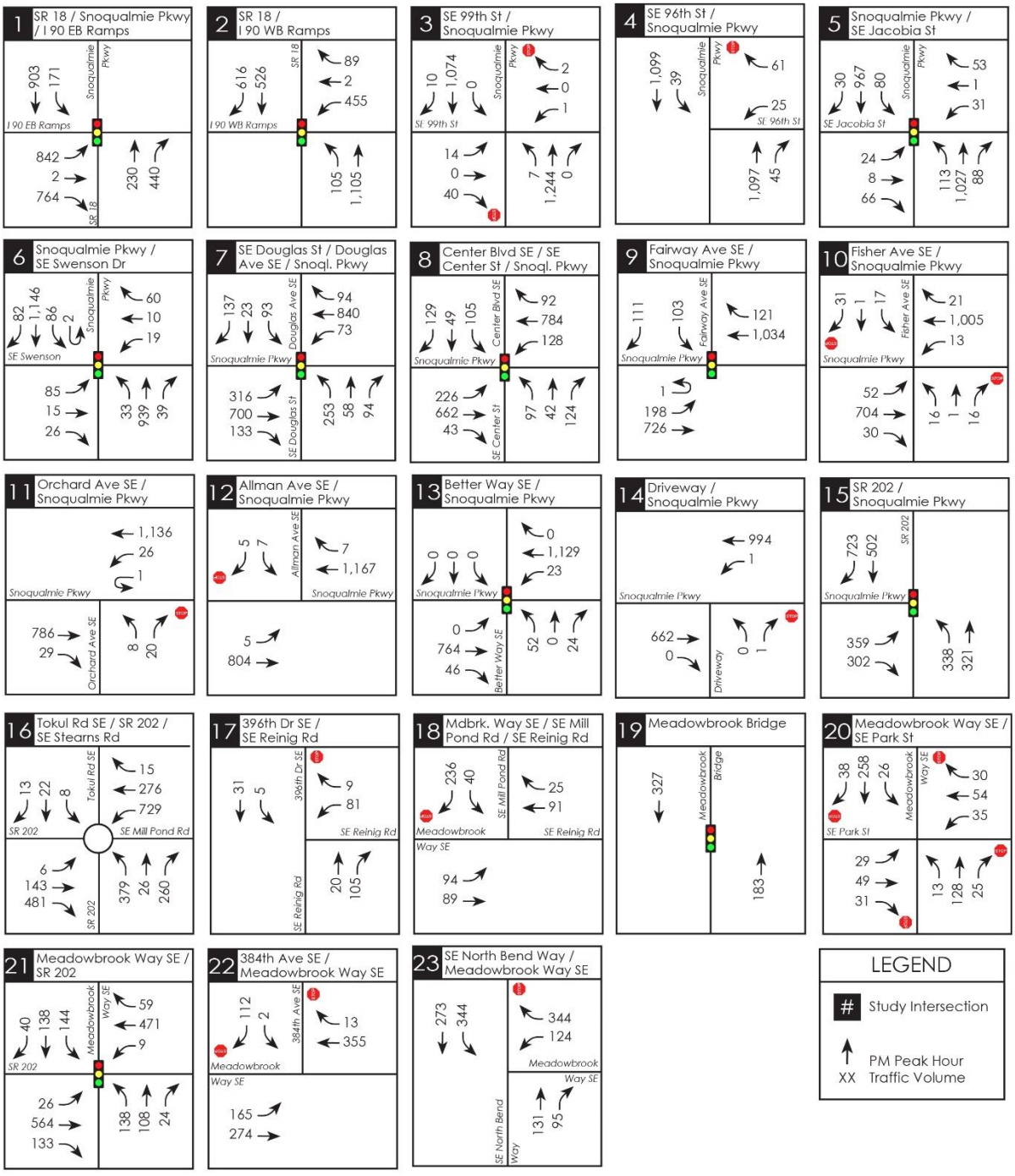
Source: TENW, 2020.

Exhibit 3.11-22. AM Peak Hour Traffic Volumes for 2032 With Full Buildout



Source: TENW, 2020.

Exhibit 3.11-23. PM Peak Hour Traffic Volumes for 2032 With Full Buildout



Source: TENW, 2020.

Intersection Level of Service (LOS)

The Proposed Action is divided into two phases/time periods for purposes of analysis: Planning Area 1 (2023) and full buildout under the PCI Plan (2032).

Planning Area 1 (2023)

Future year 2023 LOS analyses were conducted at the study intersections for the Proposed Action Planning Area 1 during weekday AM and PM peak hours. The base roadway network and signal timing for the analysis of Planning Area 1 does not include any roadway network improvements, similar to the analysis presented for the No Action Alternative.

The weekday AM and PM peak hour LOS results for PCI Plan Planning Area 1 (year 2023) at the study intersections are summarized in Exhibit 3.11-24, with a comparison to No Action. Detailed LOS worksheets are included in Appendix F.

Exhibit 3.11-24. LOS Summary for PCI Plan Planning Area 1 (2023)

	No Action Alternative				Proposed Action – Planning Area 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Study Intersection / Movement	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Signalized Intersections[3]								
1. SR 18 / I-90 EB Ramps[4]	- [4]		- [4]		- [4]		- [4]	
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps[4]	- [4]		- [4]		- [4]		- [4]	
5. Snoqualmie Pkwy / SE Jacobia St	B	12.7	B	10.0	B	13.0	A	10.2
6. Snoqualmie Pkwy / SE Swenson Dr	C	20.9	C	20.5	C	21.4	C	20.8
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	20.5	C	21.5	C	21.3	C	23.0
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	A	9.8	B	13.3	B	10.1	B	13.8
9. Fairway Ave SE / Snoqualmie Pkwy	B	10.0	A	7.3	A	9.9	A	7.5
13. Better Way SE / Snoqualmie Pkwy	A	6.5	A	6.1	A	6.6	A	6.2
15. SR 202 / Snoqualmie Pkwy	B	12.0	B	10.3	B	14.1	B	12.0
19. Meadowbrook Bridge[3]	B	18.4	B	15.6	B	16.1	B	16.5
21. Meadowbrook Way SE / SR 202	A	8.0	A	9.5	A	8.5	B	10.3
Roundabouts								
16. Tokul Rd SE / SR 202 / SE Mill Pond Rd	A	6.5	A	6.0	A	6.6	A	6.9

Study Intersection / Movement	No Action Alternative				Proposed Action – Planning Area 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
All-Way Stop-Controlled Intersections								
20. Meadowbrook Way SE / SE Park St	B	10.9	A	8.3	B	12.2	A	8.7
Two-Way Stop-Controlled Intersections								
3. Snoqualmie Pkwy / SE 99th St								
Northbound Left-Turn	B	11.0	A	9.3	B	11.2	A	9.6
Eastbound Left-Thru-Right	C	17.3	C	21.4	C	18.3	C	24.4
Westbound Left-Thru-Right	B	10.1	D	27.5	B	10.4	D	30.2
Southbound Left-Turn	A	8.6	A	0.0	A	8.9	A	0.0
4. Snoqualmie Pkwy / SE 96th St								
Westbound Left-Turn	C	16.1	D	26.0	C	17.1	D	28.4
Westbound Right-Turn	B	10.0	B	14.2	B	10.3	B	14.5
Southbound Left-Turn	A	8.5	B	11.4	A	8.8	B	11.6
10. Fisher Ave SE / Snoqualmie Pkwy								
Northbound Left-Right-Thru	F	50.6	E	43.5	F	96.2	F	65.6
Eastbound Left-Turn	A	8.5	A	9.1	A	8.7	A	9.7
Westbound Left-Turn	A	8.9	A	8.9	A	9.4	A	9.2
Southbound Left-Right-Thru	D	28.0	D	31.1	D	42.6	F	57.8
11. Orchard Ave SE / Snoqualmie Pkwy								
Northbound Left-Right	C	17.3	B	13.8	C	20.6	C	15.5
Westbound Left-Turn	A	9.6	A	9.0	B	10.1	A	9.4
12. Allman Ave SE / Snoqualmie Pkwy								
Eastbound Left-Turn	A	8.3	A	8.9	A	8.5	A	9.4
Southbound Left-Right	B	13.5	C	16.4	B	14.8	C	19.3
14. Trail Access Road / Snoqualmie Pkwy								
Northbound Left-Right	C	15.4	B	10.0	C	18.0	B	10.3
Westbound Left-Turn	A	9.2	A	8.5	A	9.7	A	8.8
17. 396th Dr SE / SE Reinig Rd								
Westbound Left-Right	A	9.3	A	9.5	A	9.3	A	9.5
Southbound Left-Turn	A	7.3	A	7.4	A	7.3	A	7.4
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd								
Eastbound Left-Turn	A	7.7	A	7.4	A	7.7	A	7.5
Southbound Left-Right	A	9.8	A	9.8	B	10.1	A	10.1

Study Intersection / Movement	No Action Alternative				Proposed Action – Planning Area 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
22. Meadowbrook Way SE / 384th Ave SE[3]								
Eastbound Left-Right	A	8.0	A	8.2	A	8.0	A	8.3
Southbound Thru-Right	B	12.7	B	10.4	B	13.0	B	10.7
23. Meadowbrook Way SE / SE North Bend Way								
Westbound Left-Turn	B	12.1	D	25.8	B	12.5	D	28.8
Westbound Right-Turn	A	0.0	A	0.0	A	0.0	A	0.0
Southbound Left-Turn	A	7.9	A	8.3	A	8.0	A	8.3

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.
[4] Results from IJR Addendum for I-90/SR 18 Interchange Report (Aug. 2019) indicated that the interchange would operate at acceptable LOS. No additional information is available at this time.

The City's adopted standard is LOS D, except for side-street stop-controlled intersections where a traffic signal warrant is not met. As shown in Exhibit 3.11-24, all signalized study intersections, the roundabout, and controlled movements at the unsignalized study intersections would operate at LOS D or better with or without PCI Plan Planning Area 1 in 2023 during both the weekday AM and PM peak hours, except for the following:

- The SR 18 / Snoqualmie Parkway / I-90 WB Ramps intersection (intersection #2) is still being designed but is expected to result in acceptable AM and PM peak hour LOS once it has been completed by 2023, according to information in WSDOT's I-90/SR 18 IJR (August 2019). Traffic generated by PCI Planning Area 1 in 2023 would increase traffic at the interchange by about 3-4% in the weekday AM and PM peak hours.

The side-street approaches at the intersection of Fisher Avenue SE / Snoqualmie Parkway (intersection #10) are anticipated to operate at LOS F during the AM and PM peak hours with the City's planned HAWK signal, with or without the PCI Plan. A full signalized intersection is needed to achieve acceptable LOS. Snoqualmie Mill, along with other developments such as Snoqualmie Hill West, may be required to contribute a pro rata share towards this improvement.

PCI Plan Buildout (2032)

LOS analyses were conducted at the study intersections for the PCI Plan at full buildout in 2032 during weekday AM and PM peak hours, with results summarized in Exhibit 3.11-25. Detailed LOS worksheets are included in Appendix F.

Exhibit 3.11-25. LOS Summary for PCI Plan 2032 Buildout AM and PM Peak Hour

Study Intersection / Movement	No Action Alternative				Proposed Action – Full Buildout			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Signalized Intersections[3]								
1. SR 18 / I-90 EB Ramps [4]	- [4]		- [4]		- [4]		- [4]	
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps [4]	- [4]		- [4]		- [4]		- [4]	
5. Snoqualmie Pkwy / SE Jacobia St	B	13.1	B	10.2	B	14.0	B	10.9
6. Snoqualmie Pkwy / SE Swenson Dr	C	21.2	C	20.8	C	21.8	C	21.3
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	21.5	C	22.7	C	25.3	C	28.3
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	B	10.0	B	13.7	B	10.9	B	15.8
9. Fairway Ave SE / Snoqualmie Pkwy	B	10.3	A	7.5	A	9.8	A	8.1
13. Better Way SE / Snoqualmie Pkwy	A	6.6	A	6.3	A	6.8	A	6.5
15. SR 202 / Snoqualmie Pkwy	B	12.4	B	10.9	D	49.1	B	16.1
19. Meadowbrook Bridge [3]	C	20.6	B	15.8	B	18.8	C	20.1
21. Meadowbrook Way SE / SR 202	A	8.3	B	10.1	B	12.0	B	16.1
Roundabouts								
16. Tokul Rd / SR 202 / Mill Pond Rd	A	6.5	A	6.1	A	6.4	E	63.3
All-Way Stop-Controlled Intersections								
20. Meadowbrook Way SE / Park St	B	11.7	A	8.4	E	42.8	B	11.5
Two-Way Stop-Controlled Intersections								
3. Snoqualmie Pkwy / SE 99th St								
Northbound Left-Turn	B	11.3	A	9.4	B	11.8	B	10.9
Eastbound Left-Thru-Right	C	18.1	C	23.2	C	22.2	E	43.7
Westbound Left-Thru-Right	B	10.2	D	30.0	B	11.5	E	41.8
Southbound Left-Turn	A	8.7	A	0.0	A	9.8	A	0.0
4. Snoqualmie Pkwy / SE 96th St								
Westbound Left-Turn	C	16.6	D	27.8	C	23.0	D	33.1
Westbound Right-Turn	B	10.1	B	14.7	B	11.8	C	15.3
Southbound Left-Turn	A	8.6	B	11.7	B	10.0	B	12.3

Study Intersection / Movement	No Action Alternative				Proposed Action – Full Buildout			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
10. Fisher Ave SE / Snoqualmie Pkwy								
Northbound Left-Right-Thru	F	61.7	F	51.3	F	716.1	F	253.7
Eastbound Left-Turn	A	8.6	A	9.3	A	9.0	B	11.8
Westbound Left-Turn	A	9.0	A	9.0	B	11.3	A	9.6
Southbound Left-Right-Thru	E	31.8	E	37.5	F	175.2	F	401.7
11. Orchard Ave SE / Snoqualmie Pkwy								
Northbound Left-Right	C	18.3	B	14.2	F	53.1	C	21.5
Westbound Left-Turn	A	9.7	A	9.2	B	13.1	B	10.0
12. Allman Ave SE / Snoqualmie Pkwy								
Eastbound Left-Turn	A	8.4	A	9.0	A	8.9	B	11.6
Southbound Left-Right	B	13.9	C	17.1	C	20.9	E	38.0
14. Trail Access Road / Snoqualmie Pkwy								
Northbound Left-Right	C	16.0	B	10.1	D	28.9	B	10.7
Westbound Left-Turn	A	9.3	A	8.6	B	11.7	A	9.1
17. 396th Dr SE / SE Reinig Rd								
Westbound Left-Right	A	9.3	A	9.6	A	9.3	A	9.5
Southbound Left-Turn	A	7.3	A	7.5	A	7.3	A	7.5
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd								
Eastbound Left-Turn	A	7.7	A	7.5	A	8.2	A	7.6
Southbound Left-Right	B	10.0	B	10.0	B	11.8	B	11.3
22. Meadowbrook Way SE / 384th Ave SE [3]								
Eastbound Left-Right	A	8.1	A	8.3	A	8.2	A	9.0
Southbound Thru-Right	B	13.7	B	10.6	C	15.5	B	12.6
23. Meadowbrook Way SE / SE North Bend Way								
Westbound Left-Turn	B	12.5	D	31.0	C	15.8	E	48.9
Westbound Right-Turn	A	0.0	A	0.0	A	0.0	A	0.0
Southbound Left-Turn	A	8.0	A	8.4	A	8.3	A	8.4

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.
[4] Results from IJR Addendum for I-90/SR 18 Interchange Report (Aug. 2019) indicated that the interchange would operate at acceptable LOS. No further information is available from WSDOT at this time.

The City of Snoqualmie LOS standard is LOS D, except for side-street stop-controlled intersections where a traffic signal warrant is not met. The following intersections require

mitigation, described in the Mitigation subsection, to address LOS deficiencies or will be improved with planned City/WSDOT road projects:

- The SR 18 / Snoqualmie Parkway / I-90 WB Ramps intersection (intersection #2) is still being designed and is expected to result in acceptable AM and PM peak hour LOS once it has been completed by 2023. Traffic generated by the PCI Plan at full buildout in 2032 would increase traffic at the interchange by about 12–14% in the weekday AM and PM peak hours.
- The side-street approaches at the intersection of Fisher Avenue SE / Snoqualmie Parkway (intersection #10) are anticipated to operate at LOS F during the AM and PM peak hours with the City's planned HAWK signal, with or without the PCI Plan. A full signalized intersection is needed to achieve acceptable LOS. Snoqualmie Mill, along with other developments such as Snoqualmie Hill West, may be required to contribute a pro rata share towards this improvement.
- The northbound approach at the unsignalized Orchard Avenue SE / Snoqualmie Parkway intersection (intersection #11) is anticipated to operate at LOS F during the AM peak hour. To improve intersection operations, side-street (northbound) left-turns should be restricted by providing an eastbound to westbound U-turn on Snoqualmie Parkway or at the Allman Avenue SE / Snoqualmie Parkway intersection to the east.
- The southbound approach at the unsignalized Allman Avenue SE / Snoqualmie Parkway intersection (intersection #12) is anticipated to operate at LOS E during the PM peak hour. To improve intersection operations, side-street (southbound) left-turns should be restricted by providing a westbound to eastbound U-turn on Snoqualmie Parkway or at the Orchard Avenue SE / Snoqualmie Parkway intersection to the west.
- The SR 202 / Snoqualmie Parkway intersection (intersection #15) is anticipated to operate at LOS D during the AM peak hour. Widening of SR 202 to provide one additional through lane in each direction would result in acceptable LOS at the intersection; note that widening is planned as part of the City's 6-year TIP. Project mitigation could include a pro rata share contribution toward this City project.
- The single-lane roundabout intersection at Tokul Road SE / SR 202 / SE Mill Pond Road (intersection #10) is anticipated to operate at LOS F during the AM and PM peak hour with the PCI Plan at full buildout. The existing roundabout is sufficient to support development of Planning Area 1; however, development of Planning Area 3 (anticipated in 2032) would require widening to allow two circulating lanes. The two-lane roundabout would need to be coordinated with the City's planned future four-lane bridge to the south, which is included in the City's 6-year TIP. The four-lane bridge and the sequence of required improvements and related actions are discussed in the Mitigation subsection.
- The intersection of Meadowbrook Way SE / Park Street (intersection #20) is expected to operate at LOS E during the AM peak hour with full buildout. Mitigation to achieve acceptable LOS would include the addition of turn lanes or an urban mini-roundabout.
- The side-street left-turn at the Meadowbrook Way SE / SE North Bend Way intersection

(intersection #23) is expected to operate at LOS E during the PM peak hour with full buildout. The City has a 6-year TIP project to add a new roundabout at this intersection; project mitigation could include contribution toward this City project.

Site Access and Circulation

Planning Area 1 (2023)

The weekday AM and PM peak hour LOS results are summarized in Exhibit 3.11-26; detailed worksheets are included in Appendix F. All proposed site access internal road intersections with Planning Area 1 are anticipated to operate at LOS B or better. Note that most of the identified site access points and internal roads do not currently exist and therefore are not part of the road network. They are identified with letter designations on the following exhibits.

PCI Plan Buildout (2032)

Vehicular access to the site with full buildout would be similar to Planning Area 1 with the addition of internal road connections and intersections for Planning Areas 2 and 3.

The weekday AM and PM peak hour LOS results are summarized in Exhibit 3.11-27; detailed LOS worksheets are included in Appendix F.

Exhibit 3.11-26. Future Year 2023 AM and PM Peak Hour Site Access Level of Service Summary with PCI Plan Planning Area 1

	Proposed Action – Planning Area 1			
	AM Peak Hour		PM Peak Hour	
Site Access Intersection / Movement	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Roundabouts				
B. SE Mill Pond Rd / Mill Street (Planning Area 1)	A	4.6	A	4.3
Two-Way Stop-Controlled Intersections				
A. SE Mill Pond Rd / NW Haul Road				
Westbound Left-Right	B	10.2	B	11.3
Southbound Left-Turn	A	8.1	A	7.9
C. SE Mill Pond Rd / North Parking Lot Driveway				
Westbound Left-Right	A	9.7	B	10.1
Southbound Left-Turn	A	7.6	A	7.7
D. SE Mill Pond Rd / South Parking Lot Driveway				
Westbound Left-Right	A	9.4	A	9.5
Southbound Left-Turn	A	7.5	A	7.5

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.

Exhibit 3.11-27. Future Year 2032 AM and PM Peak Hour Site Access Level of Service Summary with PCI Plan Full Buildout

Site Access Intersection / Movement	Proposed Action – Full Buildout – Year 2032			
	AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Roundabouts				
B. SE Mill Pond Rd / Mill Street	A	4.6	A	4.4
Two-Way Stop-Controlled Intersections				
A. SE Mill Pond Rd / NW Haul Road				
Westbound Left-Right	B	13.8	F	101.6
Southbound Left-Turn	B	11.2	A	8.4
C. SE Mill Pond Rd / North Parking Lot Driveway				
Westbound Left-Right	A	9.6	B	10.2
Southbound Left-Turn	A	7.5	A	7.7
D. SE Mill Pond Rd / South Parking Lot Driveway				
Westbound Left-Right	A	9.3	A	9.6
Southbound Left-Turn	A	7.5	A	7.5
E. SE Mill Pond Rd / Planned SE Access Rd				
Westbound Left-Right	B	10.7	B	11.4
Southbound Left-Turn	A	0.0	A	0.0

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.

As shown in Exhibit 3.11-27, all proposed intersections of site accesses with internal roads are anticipated to operate at LOS B or better, except for the westbound movement at the intersection of SE Mill Pond Road / NW Haul Road, which would operate at LOS F during the PM peak hour. This intersection will need to be upgraded to a roundabout to mitigate project impacts, which is discussed further in the mitigation section.

Transit Service

The Proposed Action would bring an estimated 3,410 new jobs and 304 new residents to the Snoqualmie area. With increased jobs, it is anticipated that King County Metro may evaluate and identify additional services to the Snoqualmie area, including potential new routes and more transportation choices.

With the anticipated wine-oriented retail uses with the Proposed Action, coupled with the current amount of recreation and tourist offerings and destinations in and around Snoqualmie, additional demand is expected for shuttles and charter buses.

Traffic Safety

The increased traffic on area roadways generated by the Proposed Action may result in

moderate increases in accident rates, but none of the study intersections were identified as high accident locations. The improvements at the I-90 interchange at Snoqualmie Parkway are expected to alleviate previous traffic safety concerns.

The City's recently installed HAWK signal will improve pedestrian safety at the Fisher Avenue SE / Snoqualmie Parkway (intersection #10, although it will not address congestion issues at this intersection. A full intersection signal would be necessary to achieve acceptable LOS.

Improvements included as elements of the proposed PCI Plan and mitigation measures discussed in the Mitigation subsection below would improve traffic safety on area roads and intersections in 2023 and at buildout in 2032

Impacts of the Redevelopment Alternative

The Redevelopment Alternative discussion includes a detailed analysis of Planning Area 1 (2023) and a more general review of full buildout of the overall PCI Plan (including Planning Area 1) by 2032. The types and amounts of land use included in the Redevelopment Alternative are described in Section 2.3 of the EIS. Uses are of the same general type as included in the PCI Plan, but with modified amounts and different emphases. One new use is included – a 3.7-acre outdoor performance space would be located in Planning Area 3. Proposed site access and road improvements incorporated into the design of the PCI Plan, described previously, are also elements of the Redevelopment Alternative.

Roadway Network

Planning Area 1 (2023) and Redevelopment Alternative Buildout (2032)

The Redevelopment Alternative analyzes two phases and points in time: Planning Area 1 (2023), and full buildout (2032). The roadway network for both phases of the Redevelopment Alternative includes the planned improvements identified in the City's six-year TIP, which are described for the No Action alternative, and road improvements that are included in the Proposed Action.

Traffic Volumes

The Redevelopment Alternative considers two phases/time periods: Planning Area 1 (2023) and full buildout (2032).

Planning Area 1 (2023)

Trip Generation

The trip generation estimates for the Redevelopment Alternative (Planning Area 1) were based on the methodology documented in the ITE *Trip Generation Manual*, 10th edition for planned land uses: LUC 130 (Industrial Park), LUC 221 (Multifamily Housing – Mid-Rise), and LUC 820 (Shopping Center). Truck trips are also included based on ITE data.

Trip generation estimates were made similar to the Proposed Action (Planning Area 1) based on gla of each land use type to establish the total trip generation estimate. Adjustments to the trip

generation were then made to account for internal trips and pass-by trips consistent with established methodology in the ITE *Trip Generation Handbook,* 3rd edition.

Exhibit 3.11-28 summarizes estimated trip generation for the Redevelopment Alternative (Planning Area 1) including trucks for weekday daily, AM peak hour, PM peak hour, and Saturday daily. Detailed trip generation calculations are provided in Appendix F. The Redevelopment Alternative (Planning Area 1) is estimated to generate 5,932 weekday daily trips, with 342 trips occurring during the weekday AM peak hour and 484 trips occurring during the weekday PM peak hour. The Redevelopment Alternative (Planning Area 1) is estimated to generate 6,265 Saturday daily trips.

The Saturday trip generation estimate, like that of the weekday, is estimated based on trip rates for an "industrial park" use with 300,000 sf, plus 125 residential units and 82,000 sf retail. The trip generation for industrial park is intended to capture a range of uses that could include wine-oriented employment with production, as well as visitors to complementary wine-related retail uses (in Planning Area 1) within the 82,000 sf of retail. The wine-oriented uses are anticipated to be smaller in scale compared to what exists in Woodinville and would primarily attract visitors from existing tourism offerings and destinations in the Snoqualmie area.

Exhibit 3.11-28. Trip Generation Summary for Redevelopment Alternative - Planning Area 1

	New Trips Generated		
Time Period	Trucks	Passenger Vehicles	Total Trips
Weekday Daily	248	5,684	5,932
Weekday AM Peak Hour	20	322	342
Weekday PM Peak Hour	20	464	484
Saturday Daily	129	6,136	6,265

Source: TENW, 2019.

Compared to the proposed PCI Plan, trip generation in the Redevelopment Alternative would be slightly higher for daily weekday (+184 trips) and weekday PM peak hour (+25 trips), while weekday AM peak trips would be slightly lower (-15). This is because Planning Area 1 would have slightly more jobs in the Redevelopment Alternative than in the proposed PCI Plan. As described subsequently, however, jobs and traffic generation under the Redevelopment Alternative would be significantly less at buildout compared to the proposed PCI Plan.

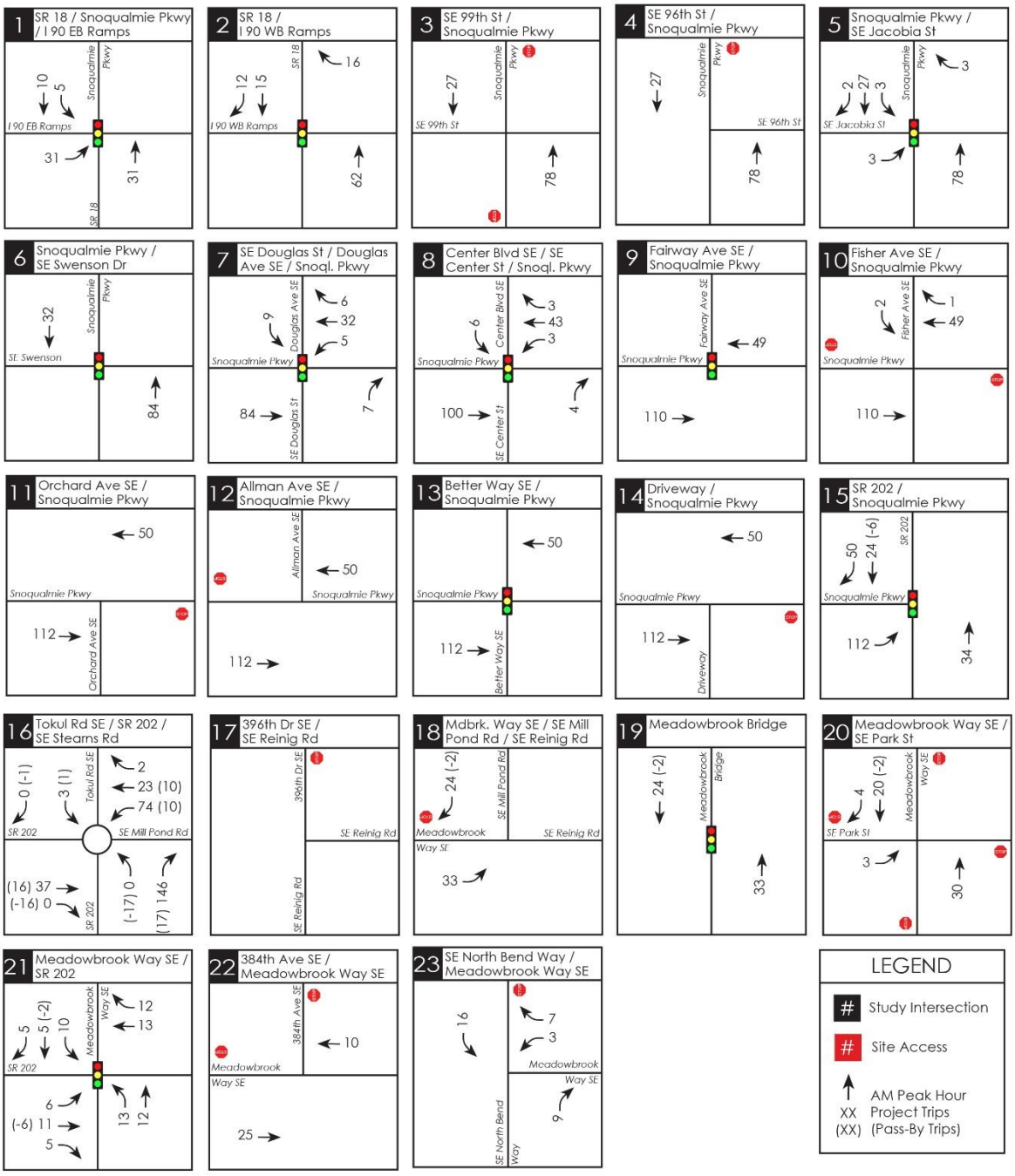
Trip Distribution

The distribution of project traffic for the Redevelopment Alternative Planning Area 1 would be similar to the Proposed Action (Planning Area 1) distribution, and is shown in Exhibit 3.11-29 and Exhibit 3.11-30 for AM and PM periods, respectively.

Study Area Traffic Volumes

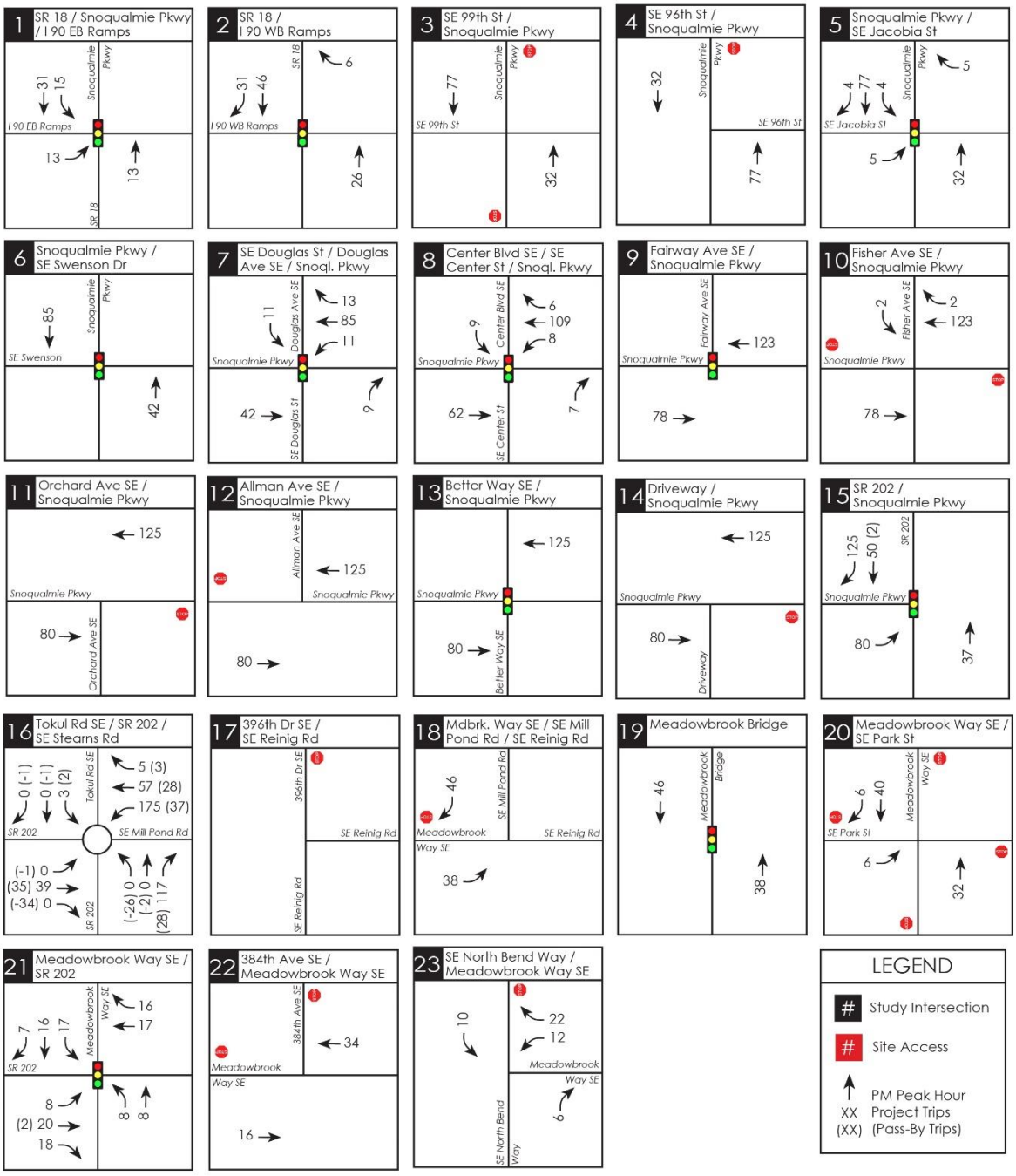
Future year 2023 weekday AM and PM peak hour traffic volumes for Planning Area 1 are shown in Exhibit 3.11-29 and Exhibit 3.11-30, respectively.

Exhibit 3.11-29. 2023 AM Peak Hour Net Project Trip Assignment for Redevelopment Alternative Planning Area 1



Source: TENW, 2020.

Exhibit 3.11-30. 2023 PM Peak Hour Net Project Trip Assignment for Redevelopment Alternative Planning Area 1



Source: TENW, 2020.

Redevelopment Alternative Buildout (2032)

Trip Generation

The trip generation estimate for the Redevelopment Alternative (full buildout) followed the same methodology used for Planning Area 1 and PCI Plan Buildout, described previously. ITE land use categories included LUC 130 (Industrial Park), LUC 221 (Multifamily Housing – Mid-Rise), LUC 710 (General Office Building), and LUC 820 (Shopping Center).

Trip generation estimates were made based on total gla of each land use type. Adjustments to the trip generation were then made to account for internal trips and pass-by trips consistent with established methodology in the ITE *Trip Generation Handbook*, 3rd edition.

The Redevelopment Alternative with full buildout includes both an event center and an outdoor performing space; the types and frequency of events are described in Section 2.3. Trip generation for events would vary based on the type of event, number of attendees, time of day, and implementation of transportation management strategies.

The trip generation estimates provided in Exhibit 3.11-31 include trips associated with a Saturday event with up to 100 people at the Event Center, which would occur on a typical week. The outdoor performance space is anticipated to have an average of two concerts per week on weekend evenings in the summer months (June thru September) with a maximum capacity of up to 5,000 attendees. For larger events at the performance center, trip generation is estimated to be as much as 2,000–3,000 vehicle trips between approximately 5:00 p.m. and 11:00 p.m. based on a 7:00 p.m. event start. This estimate assumes that 25% would arrive by shuttles, group carpools and non-vehicle ride sharing mobile services (Uber/Lyft/Shuttle), and the remaining arrivals have an average vehicle occupancy (AVO) of 2.5. An Event Management Plan would also be required for larger events, which is likely to include supplemental mitigation measures such as promotion of shuttles and carpooling, and event management traffic control at gateway intersections.

Exhibit 3.11-31 summarizes the total trip generation estimate for the Redevelopment Alternative (full buildout). The detailed trip generation calculations are provided in Appendix F. Trip generation including trucks is provided for weekday daily, AM peak hour, PM peak hour, and Saturday daily.

Exhibit 3.11-31. Trip Generation Summary for Redevelopment Alternative -Full Buildout 2032

	New Trips Generated		
Time Period	Trucks	Passenger Vehicles	Total Trips
Weekday Daily	499	8,411	8,910
Weekday AM Peak Hour	78	862	940
Weekday PM Peak Hour	78	984	1,062
Saturday Daily*	495	9,464	9,960

* Note: these data do not include trips associated with a weekend evening event at the outdoor performance space, which is limited to summer months.

The Redevelopment Alternative (full buildout) is estimated to generate 8,910 weekday daily trips, with 940 trips occurring during the weekday AM peak hour and 1,062 trips occurring during the weekday PM peak hour. The Redevelopment Alternative (full buildout) is estimated to generate 9,960 Saturday daily trips.

Trip generation for the Redevelopment Alternative (full buildout) is approximately 35% less than trip generation for the proposed PCI Plan full buildout on a typical weekday. AM peak hour trips would be 22% lower, and PM peak hour trips would be 27% lower than the proposed PCI Plan at buildout. Saturday trip generation for the Redevelopment Alternative is expected to be similar to the proposal during a non-summer week. During summer months when there are events at the outdoor performance space, trip generation would be higher.

The Saturday trip generation estimate, like that of the weekday, is estimated based on trip rates for an "industrial park" use with 1.4 million sf plus 120 residential units and 82,000 sf retail. The trip generation for the industrial park is intended to capture a range of uses that could include wine-oriented employment with production, as well as complementary wine-related retail uses within the 82,000 sf of retail. The wine-oriented uses are anticipated to be smaller in scale compared to what exists in Woodinville, and the retail uses are expected to attract visitors from the existing tourism offerings and destinations in the Snoqualmie area, as well as visitors from outside the area. Additionally, for the Redevelopment Alternative, events at the outdoor performance space are expected to attract tourists and some recreation visitors already in the area who would also visit the site's wine-oriented retail uses.

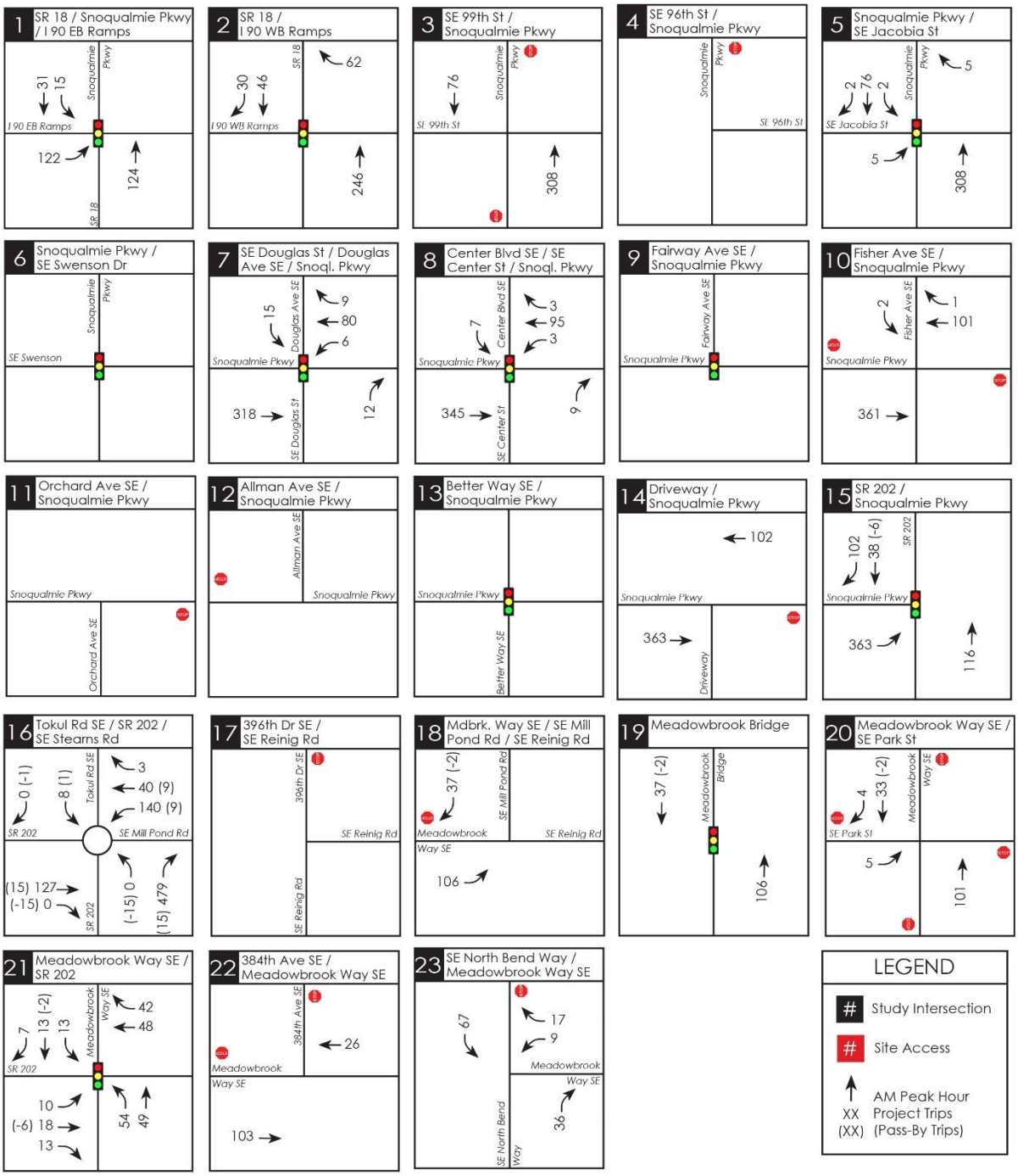
Trip Distribution

Exhibit 3.11-32 and Exhibit 3.11-33 graphically illustrate the assignment of the net new weekday AM and PM peak hour project trips, respectively, for the Redevelopment Alternative (full buildout).

Study Area Traffic Volumes

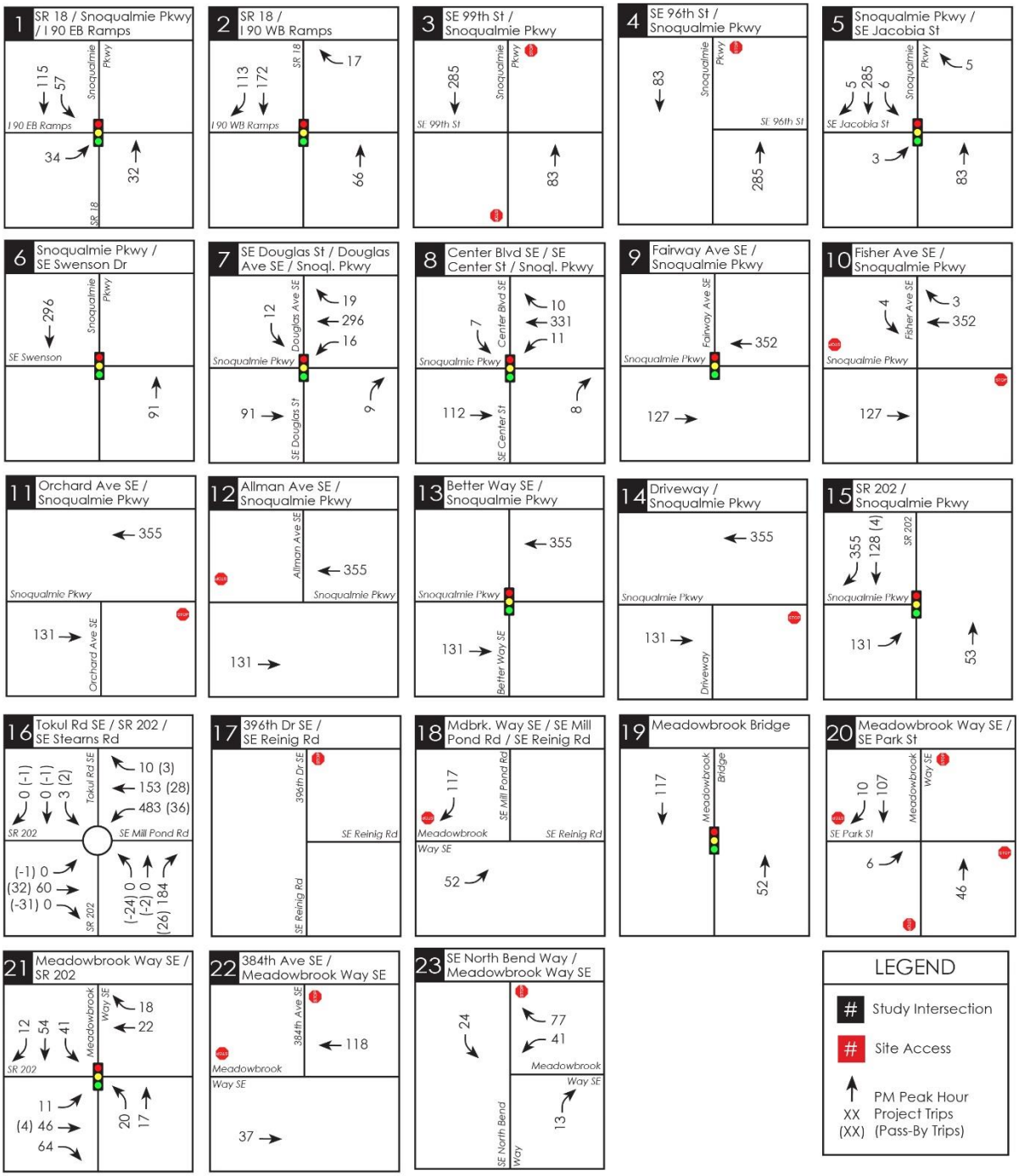
Future year 2032 weekday AM and PM peak hour traffic volumes for the Redevelopment Alternative (PCI Plan full buildout) at the study intersections are shown in Exhibit 3.11-34 and Exhibit 3.11-35, respectively.

Exhibit 3.11-32. AM Peak Hour Net Project Trip Assignment for Redevelopment Alternative Full Buildout (2032)



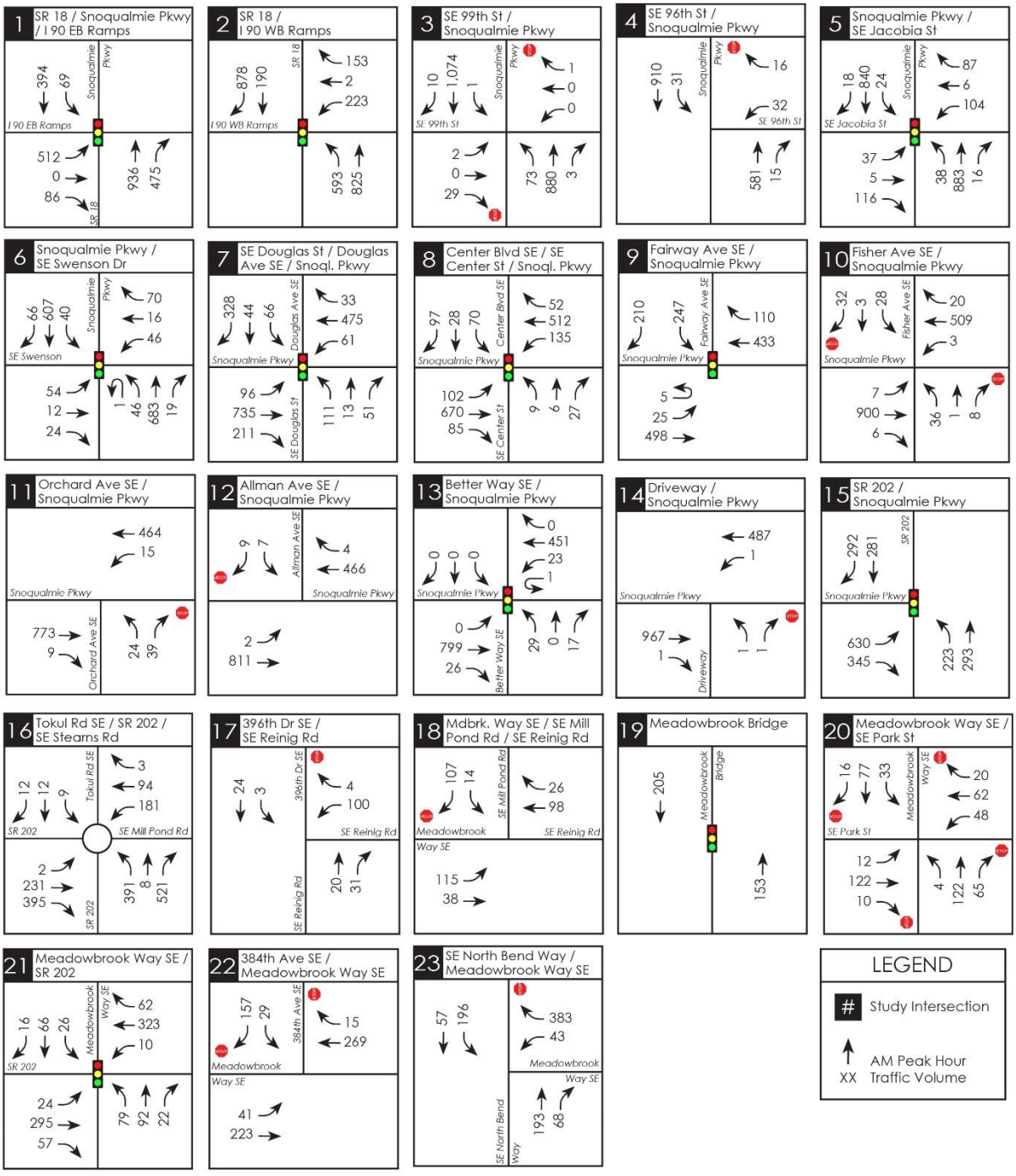
Source: TENW, 2020.

Exhibit 3.11-33. PM Peak Hour Net Project Trip Assignment for Redevelopment Alternative Full Buildout (2032)



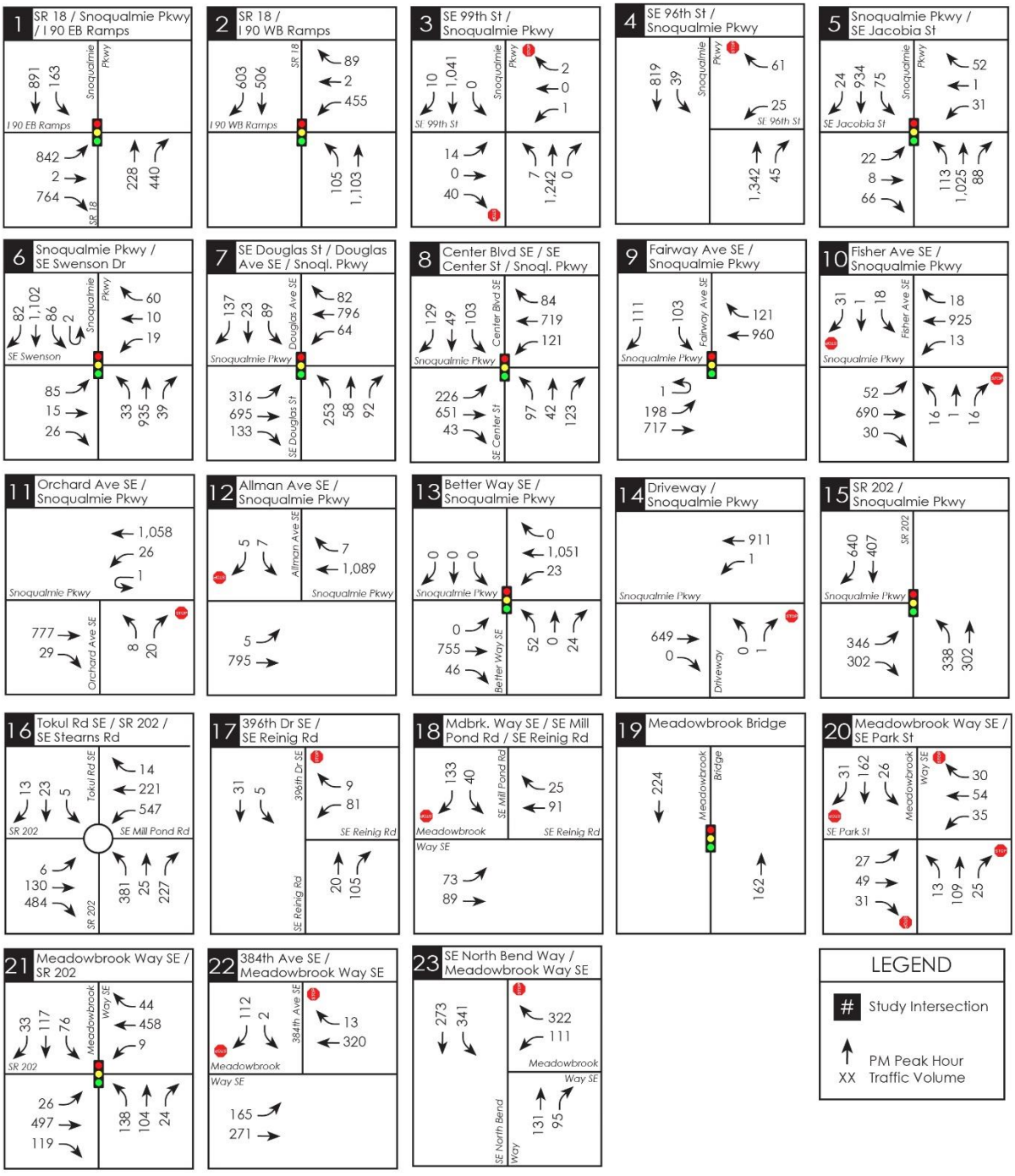
Source: TENW, 2020.

Exhibit 3.11-34. AM Peak Hour Traffic Volumes for Redevelopment Alternative Full Buildout (2032)



Source: TENW, 2020.

Exhibit 3.11-35. PM Peak Hour Traffic Volumes for Redevelopment Alternative Full Buildout (2032)



Source: TENW, 2020.

Intersection Level of Service (LOS)

The Redevelopment Alternative considers two phases: Planning Area 1 (2023) and full buildout under the PCI Plan (2032).

Planning Area 1 (2023)

The weekday AM and PM peak hour LOS results for the Redevelopment Alternative Planning Area 1, including comparisons to No Action, are summarized in Exhibit 3.11-36; LOS worksheets are included in Appendix F.

Exhibit 3.11-36. Future 2023 LOS Summary of the Redevelopment Alternative (Planning Area 1)

	No Action Alternative				Redevelopment Alternative – Planning Area 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Study Intersection / Movement	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Signalized Intersections [3]								
1. SR 18 / I-90 EB Ramps [4]	- [4]		- [4]		- [4]		- [4]	
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps [4]	- [4]		- [4]		- [4]		- [4]	
5. Snoqualmie Pkwy / SE Jacobia St	B	12.7	B	10.0	B	13.0	A	10.2
6. Snoqualmie Pkwy / SE Swenson Dr	C	20.9	C	20.5	C	21.3	C	20.8
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	20.5	C	21.5	C	21.3	C	23.0
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	A	9.8	B	13.3	B	10.1	B	13.9
9. Fairway Ave SE / Snoqualmie Pkwy	B	10.0	A	7.3	A	9.9	A	7.5
13. Better Way SE / Snoqualmie Pkwy	A	6.5	A	6.1	A	6.6	A	6.2
15. SR 202 / Snoqualmie Pkwy	B	12.0	B	10.3	B	14.1	B	12.2
19. Meadowbrook Bridge [3]	B	18.4	B	15.6	B	16.1	B	16.6
21. Meadowbrook Way SE / SR 202	A	8.0	A	9.5	A	8.5	B	10.3
Roundabouts								
16. Tokul Rd SE / SR 202 / SE Mill Pond Rd	A	6.5	A	6.0	A	6.5	A	6.9
All-Way Stop-Controlled Intersections								
20. Meadowbrook Way SE / SE Park St	B	10.9	A	8.3	B	12.1	A	8.7

Study Intersection / Movement	No Action Alternative				Redevelopment Alternative – Planning Area 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Two-Way Stop-Controlled Intersections								
3. Snoqualmie Pkwy / SE 99th St								
Northbound Left-Turn	B	11.0	A	9.3	B	11.2	A	9.6
Eastbound Left-Thru-Right	C	17.3	C	21.4	C	18.3	C	24.4
Westbound Left-Thru-Right	B	10.1	D	27.5	B	10.4	D	30.2
Southbound Left-Turn	A	8.6	A	0.0	A	8.9	A	0.0
4. Snoqualmie Pkwy / SE 96th St								
Westbound Left-Turn	C	16.1	D	26.0	C	17.1	D	29.5
Westbound Right-Turn	B	10.0	B	14.2	B	10.3	B	14.9
Southbound Left-Turn	A	8.5	B	11.4	A	8.8	B	11.9
10. Fisher Ave SE / Snoqualmie Pkwy								
Northbound Left-Right-Thru	F	51.1	E	43.5	F	96.2	F	68.7
Eastbound Left-Turn	A	8.5	A	9.2	A	8.7	A	9.7
Westbound Left-Turn	A	8.9	A	8.9	A	9.4	A	9.2
Southbound Left-Right-Thru	D	28.4	D	31.5	E	43.4	F	57.8
11. Orchard Ave SE / Snoqualmie Pkwy								
Northbound Left-Right	C	17.3	B	13.8	C	20.7	C	15.6
Westbound Left-Right	A	9.6	A	9.0	B	10.1	A	9.4
12. Allman Ave SE / Snoqualmie Pkwy								
Eastbound Left-Turn	A	8.3	A	8.9	A	8.5	A	9.4
Southbound Left-Right	B	13.5	C	16.4	B	14.8	C	19.5
14. Trail Access Road / Snoqualmie Pkwy								
Northbound Left-Right	C	15.4	B	10.0	C	18.0	B	10.3
Westbound Left-Turn	A	9.2	A	8.5	A	9.7	A	8.8
17. 396th Dr SE / SE Reinig Rd								
Westbound Left-Right	A	9.3	A	9.5	A	9.3	A	9.5
Southbound Left-Turn	A	7.3	A	7.4	A	7.3	A	7.4
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd								
Eastbound Left-Turn	A	7.7	A	7.4	A	7.7	A	7.5
Southbound Left-Right	A	9.8	A	9.8	B	10.1	A	10.1
22. Meadowbrook Way SE / 384th Ave SE [3]								
Eastbound Left-Right	A	8.0	A	8.2	A	8.0	A	8.3
Southbound Thru-Right	B	12.7	B	10.4	B	13.0	B	10.7

Study Intersection / Movement	No Action Alternative				Redevelopment Alternative – Planning Area 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
23. Meadowbrook Way SE / SE North Bend Way								
Westbound Left-Turn	B	12.1	D	25.8	B	12.5	D	28.8
Westbound Right-Turn	A	0.0	A	0.0	A	0.0	A	0.0
Southbound Left-Turn	A	7.9	A	8.3	A	8.0	A	8.3

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.
[4] Results from IJR Addendum for I-90/SR 18 Interchange Report (Aug. 2019) indicated that the interchange would operate at acceptable LOS. No additional information is available at this time.

The City of Snoqualmie standard for intersections is LOS D, except for side-street stop-controlled intersections where a traffic signal warrant is not met. As shown in Exhibit 3.11-36, all signalized study intersections, the roundabout, and controlled movements at the unsignalized study intersections currently operate at LOS D or better, with or without the Redevelopment Alternative for Planning Area 1 during both the weekday AM and PM peak hours, except for the following:

- The SR 18 / Snoqualmie Parkway / I-90 WB Ramps intersection (intersection #2) is still being designed and is expected to result in acceptable AM and PM peak hour LOS once it has been completed by 2023.
- The side-street approaches at the Fisher Avenue SE / Snoqualmie Parkway (intersection #10) are expected to operate at LOS F during the AM and PM peak hours with the City's recently installed HAWK signal. A full intersection signal is necessary to achieve acceptable LOS.

Redevelopment Alternative Buildout (2032)

The weekday AM and PM peak hour LOS results in 2032 (full buildout) for the Redevelopment Alternative (at the study intersections are summarized in Exhibit 3.11-37. For purposes of comparison, LOS results for the No Action Alternative in 2032 are also provided. Detailed LOS worksheets are included in Appendix F.

Exhibit 3.11-37. AM and PM Peak Hour LOS Summary with Redevelopment Alternative (Full Buildout, 2032)

Study Intersection / Movement	No Action Alternative				Redevelopment Alternative			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Signalized Intersections[3]								
1. SR 18 / I-90 EB Ramps[4]	- [4]		- [4]		- [4]		- [4]	
2. SR 18 / Snoqualmie Pkwy / I-90 WB Ramps[4]	- [4]		- [4]		- [4]		- [4]	
5. Snoqualmie Pkwy / SE Jacobia St	B	13.1	B	10.2	B	14.0	B	10.8
6. Snoqualmie Pkwy / SE Swenson Dr	C	21.2	C	20.8	C	21.8	C	21.3
7. SE Douglas St / Douglas Ave SE / Snoqualmie Pkwy	C	21.5	C	22.7	C	25.5	C	27.2
8. SE Center St / Center Blvd SE / Snoqualmie Pkwy	B	10.0	B	13.7	B	10.8	B	15.4
9. Fairway Ave SE / Snoqualmie Pkwy	B	10.3	A	7.5	A	9.8	A	7.9
13. Better Way SE / Snoqualmie Pkwy	A	6.6	A	6.3	A	6.7	A	6.4
15. SR 202 / Snoqualmie Pkwy	B	12.4	B	10.9	D	43.4	B	16.1
19. Meadowbrook Bridge[4]	C	20.6	B	15.8	B	17.5	B	17.7
21. Meadowbrook Way SE / SR 202	A	8.3	B	10.1	B	10.5	B	13.1
Roundabouts								
16. Tokul Rd / SR 202 / Mill Pond Rd	A	6.5	A	6.1	A	6.6	C	22.3
All-Way Stop-Controlled Intersections								
20. Meadowbrook Way SE / Park St	B	11.7	A	8.4	C	18.4	A	9.7
Two-Way Stop-Controlled Intersections								
3. Snoqualmie Pkwy / SE 99th St								
Northbound Left-Turn	B	11.3	A	9.4	B	11.9	B	10.7
Eastbound Left-Thru-Right	C	18.1	C	23.2	C	22.6	E	41.1
Westbound Left-Thru-Right	B	18.2	D	30.0	B	11.6	E	41.1
Southbound Left-Turn	A	8.1	A	0.0	A	9.8	A	0.0
4. Snoqualmie Pkwy / SE 96th St								
Westbound Left-Turn	C	16.6	D	27.8	C	22.3	D	34.1
Westbound Right-Turn	B	10.1	B	14.7	B	11.7	C	15.8

Study Intersection / Movement	No Action Alternative				Redevelopment Alternative			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Southbound Left-Turn	A	8.6	B	11.7	B	10.0	B	12.6
10. Fisher Ave SE / Snoqualmie Pkwy								
Northbound Left-Right-Thru	F	61.7	F	51.3	F	650.2	F	193.3
Eastbound Left-Turn	A	8.6	A	9.3	A	9.0	B	11.2
Westbound Left-Turn	A	9.0	A	9.0	B	11.0	A	9.6
Southbound Left-Right-Thru	E	31.8	E	37.5	F	144.0	F	280.8
11. Orchard Ave SE / Snoqualmie Pkwy								
Northbound Left-Right	C	18.3	B	14.2	E	43.3	C	20.6
Westbound Left-Turn	A	9.7	A	9.2	B	12.5	A	10.0
12. Allman Ave SE / Snoqualmie Pkwy								
Eastbound Left-Turn	A	8.4	A	9.0	A	8.8	B	11.1
Southbound Left-Right	B	13.9	C	17.1	C	19.7	D	33.6
14. Trail Access Road / Snoqualmie Pkwy								
Northbound Left-Right	C	16.0	B	10.1	D	27.3	B	10.8
Westbound Left-Turn	A	9.3	A	8.6	B	11.4	A	9.0
17. 396th Dr SE / SE Reinig Rd								
Westbound Left-Right	A	9.3	A	9.6	A	9.3	A	9.5
Southbound Left-Turn	A	7.3	A	7.5	A	7.3	A	7.5
18. SE Mill Pond Rd / Mbrook Way SE / SE Reinig Rd								
Eastbound Left-Turn	A	7.7	A	7.5	A	7.9	A	7.6
Southbound Left-Right	B	10.0	B	10.0	B	10.9	B	10.5
22. Meadowbrook Way SE / 384th Ave SE[3]								
Eastbound Left-Right	A	8.1	A	8.3	A	8.1	A	8.8
Southbound Thru-Right	B	13.7	B	10.6	B	14.1	B	12.1
23. Meadowbrook Way SE / SE North Bend Way								
Westbound Left-Turn	B	12.5	D	31.0	B	14.5	E	42.5
Westbound Right-Turn	A	0.0	A	0.0	A	0.0	A	0.0
Southbound Left-Turn	A	8.0	A	8.4	A	8.2	A	8.4

[1] LOS = Level of Service.
[2]. Delay refers to average control delay expressed in seconds per vehicle.
[3] Reported HCM 2000 LOS results.
[4] Results from IJR Addendum for I-90/SR 18 Interchange Report (Aug. 2019) indicated that the interchange would operate at acceptable LOS. No further information is available at this time.

As shown in Exhibit 3.11-37, all signalized study intersections, the roundabout, and controlled movements at the unsignalized study intersections would operate at LOS D or better without or with the Redevelopment Alternative during both the weekday AM and PM peak hours, except the following:

- The SR 18 / Snoqualmie Parkway / I-90 WB Ramps intersection (intersection #2) is still being designed and is expected to result in acceptable AM and PM peak hour LOS once it has been completed by 2023.
- The side-street stop-controlled approaches at the Snoqualmie Parkway / SE 99th Street intersection (intersection #3) are expected to operate at LOS E during the PM peak hour. The City's 6-year TIP identifies a future improvement at this intersection (signal or roundabout) which is expected to achieve acceptable LOS.
- The side-street approaches at the intersection of Fisher Avenue SE / Snoqualmie Parkway (intersection #10) are anticipated to operate at LOS F during the AM and PM peak hours with the City's planned HAWK signal, with or without the PCI Plan. A full signalized intersection is needed to achieve acceptable LOS. Snoqualmie Mill, along with other developments such as Snoqualmie Hill West, may be required to contribute a pro rata share towards this improvement.
- The side-street left-turn at the Meadowbrook Way SE / SE North Bend Way intersection (intersection #23) is expected to operate at LOS E with full buildout. The City has a 6-year TIP project to add a new roundabout at this intersection; project mitigation could include contribution toward this City project.

Site Access and Circulation

Planning Area 1 (2023)

Site access for the Redevelopment Alternative would be the same as described for Planning Area 1 (2023) under the proposed PCI Plan. The locations of the proposed site access locations are shown in Exhibit 2.3-12. Connections between these driveways would be provided by internal roads and intersections.

LOS analyses conducted at the proposed site accesses and internal road intersections for the Redevelopment Alternative (Planning Area 1) during weekday AM and PM peak hours are summarized in Exhibit 3.11-38. Detailed LOS worksheets are included in Appendix F. As shown in Exhibit 3.11-38, all proposed site accesses internal road intersections with Redevelopment Alternative (Planning Area 1) are anticipated to operate at LOS B or better.

Exhibit 3.11-38. Future Year 2023 AM and PM Peak Hour Site Access Level of Service Summary with Redevelopment Alternative (Planning Area 1)

Site Access Intersection / Movement	Redevelopment Alternative – Planning Area 1 AM Peak Hour LOS[1]	AM Peak Hour Delay (sec)[2]	PM Peak Hour LOS[1]	PM Peak Hour Delay (sec)[2]
Roundabouts				
B. SE Mill Pond Rd / Mill Street (Planning Area 1)	A	4.6	A	4.5
Two-Way Stop-Controlled Intersections				
A. SE Mill Pond Rd / NW Haul Road				
Westbound Left-Right	B	10.2	B	11.5
Southbound Left-Turn	A	8.0	A	7.9
C. SE Mill Pond Rd / North Parking Lot Driveway				
Westbound Left-Right	A	9.7	B	10.3
Southbound Left-Turn	A	7.6	A	7.7
D. SE Mill Pond Rd / South Parking Lot Driveway				
Westbound Left-Right	A	9.4	A	9.6
Southbound Left-Turn	A	7.5	A	7.6

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.

Redevelopment Alternative Buildout (2032)

Site access improvements for buildout of the Redevelopment Alternative would be the same as described for the proposed PCI Plan and are shown on Exhibit 2.3-12.

LOS analyses conducted at the proposed site accesses and internal road intersections for the Redevelopment Alternative at full buildout during weekday AM and PM peak hours, are summarized in Exhibit 3.11-39. Detailed LOS worksheets are included in Appendix F. As shown, all proposed site accesses, except the Mill Pond Road/NW Haul Road intersection, would operate at LOS B or better.

Exhibit 3.11-39. Future Year 2032 AM and PM Peak Hour Site Access Level of Service Summary with Redevelopment Alternative (Full Buildout)

Site Access Intersection / Movement	Redevelopment Alternative – Full Buildout			
	AM Peak Hour		PM Peak Hour	
	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Roundabouts				
B. SE Mill Pond Rd / Mill Street (Planning Area 1)	A	4.7	A	4.4
Two-Way Stop-Controlled Intersections				
A. SE Mill Pond Rd / NW Haul Road				
Westbound Left-Right	B	11.3	D	25.1
Southbound Left-Turn	A	9.6	A	8.2
C. SE Mill Pond Rd / North Parking Lot Driveway				
Westbound Left-Right	A	9.6	B	10.3
Southbound Left-Turn	A	7.6	A	7.7
D. SE Mill Pond Rd / South Parking Lot Driveway				
Westbound Left-Right	A	9.4	A	9.7
Southbound Left-Turn	A	7.5	A	7.6
E. SE Mill Pond Rd / SE Access Road				
Westbound Left-Right	B	10.3	B	10.3
Southbound Left-Turn	A	0.0	A	0.0

[1] LOS = Level of Service.
[2] Delay refers to average control delay expressed in seconds per vehicle.

Transit Service

The Redevelopment Alternative would bring an estimated 1,570 new jobs and 228 new residents to the Snoqualmie area. With increased jobs, it is anticipated that King County Metro would evaluate and may identify additional services to the Snoqualmie area, including potential new routes and more transportation choices.

Anticipated wine-oriented retail uses, coupled with the current supply of recreation and tourist offerings and destinations, would likely involve additional demand for shuttles and charter buses.

Additionally, with the outdoor performance area, an Event Management Plan is expected to include shuttles and charters for specific events based on the size and anticipated attendance levels.

Traffic Safety

Traffic safety impacts and area road improvements with the Redevelopment Alternative would be similar to the Proposed Action.

Construction Impacts

The PCI Plan would result in temporary construction-related traffic impacts over the buildout of the project, which would occur in phases between approximately 2021 and 2032. Construction activity for Planning Areas 2 and 3 would be anticipated to be similar to Planning Area 1.

Off-site transport of materials would be hauled in the daytime during construction. Truck traffic would be via the Haul Road and Mill Pond Road through the Tokul intersection, and routed to either SR 202, or to/from I-90 via Snoqualmie Parkway. The destination of hauled material would depend on the amount of cut or fill material needed for the site, as well as regional supply and demand for soil at the time of construction. All excavation and disposal would be in accordance with local agency codes and permit requirements.

Construction impacts would generally include the following: traffic associated with construction workers, deliveries and removal of materials, and parking associated with construction workers. In general, vehicle traffic generated by the construction activity is anticipated to be less than traffic generated by buildout of the PCI Plan. However, depending on construction activity, there is a potential that during the later years of development, the combined total construction activity for Planning Area 3 coupled with development traffic from Planning Areas 1 and 2 could be temporarily higher than with the buildout condition.

To minimize construction traffic impacts, the applicant would prepare a Construction Management Plan prior to beginning construction. A traffic monitoring plan can also be developed to manage traffic levels at the site access locations and determine if traffic levels with construction are higher than evaluated for the project 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 Snoqualmie, WSDOT, and King County, as necessary, depending on the off-site location where haul material would be transported.

3.11.3. Mitigation Measures

Roadway network improvements required to mitigate transportation impacts of the PCI Plan are identified below. Mitigation measures are identified separately for the Proposed Action and Redevelopment Alternative.

The City's adopted and planned roadway system improvements in the current 2020–2025 six-year TIP were considered in the analysis, but none were assumed to be completed by 2023 with the exception of the I-90 WB on-ramp from Snoqualmie Parkway (City STIP #2), which was recently completed. However, it was assumed that the 6-year TIP projects would be completed by 2032.

Improvements necessary to achieve acceptable intersection LOS at the intersections evaluated in this study were identified and tied to future planned projects identified in the 6-year TIP. Additional site access-related improvements necessary to accommodate the additional traffic and trucks generated by the PCI Plan are also identified.

The analysis of impacts and mitigation measures for the development of Planning Areas 2 and 3 of the Proposed PCI Plan or Redevelopment Alternative by 2032 is based on the planned types and amounts of land uses and the projected timing of development that is documented in the PCI Plan land use program (as described in Chapter 2). This is the best, most current information available at this time. It is acknowledged that planned land uses and the timing of development could change in the future, based on changing market or economic conditions or other extrinsic events or conditions, which are currently unknown. As with any phased master plan proposal, current assumptions should be verified in the future and adjusted if necessary; additional transportation analysis would be performed as planning for subsequent phases of development progresses. This approach is consistent with phased environmental review, as described in Section 2.2.

Incorporated Features of Proposal

Planning Area 1

- A portion of Mill Pond Road would be realigned to the north and a roundabout added at the entrance to Planning Area 1. A portion of Mill Pond Road would also be abandoned as the new entry road segment is completed; some portions would be converted to a pedestrian trail and restored habitat.
- It is assumed that WSDOT's adopted I-90 ramp improvements will result in acceptable LOS at the interchange ramp intersections, based on the information available from WSDOT at this time.

PCI Plan Buildout

- Add internal roadway connections between the three planning areas to allow on-site circulation for vehicles, trucks, and non-motorized uses.
- Provide access to a new east-west private road traversing the site and connecting to Planning Area 3 via a new intersection with SE Mill Pond Road.
- The existing private Haul Road north of the site would be used to provide access for heavy trucks to service industrial and warehouse uses in Planning Area 2. The Haul Road may warrant widening in a few locations where it is less than 25 feet wide, to ensure adequate lane width for trucks. However, the road is bounded by wetlands and a stream and their buffers; widening would likely intrude into the buffers and possibly the wetlands. Given these environmental constraints, alternatives to widening should be examined. In addition, pedestrian and other frontage improvements should not be required given that the road is private and will primarily be used by truck traffic.

Other Potential Mitigation Measures

Planning Area 1

The side-street approaches at the intersection of Fisher Avenue SE / Snoqualmie Parkway

(intersection #10) are anticipated to operate at LOS F during the AM and PM peak hours with the City's planned HAWK signal, with or without the PCI Plan. A full signalized intersection is needed to achieve acceptable LOS. Snoqualmie Mill, along with other developments such as Snoqualmie Hill West, may be required to contribute a pro rata share towards this improvement.

No additional mitigation measures are required for Planning Area 1.

PCI Plan Buildout

The following improvements are recommended to address impacts resulting from full buildout of the PCI Plan. The applicant should work with the City to determine its appropriate proportional fair share of the cost of the identified improvements. In addition, the transportation analysis should be updated at the time of development application for Planning Areas 2 and/or 3 to confirm current conditions and adopted City improvement plans, and to re-evaluate the need, design and timing of project-specific mitigation requirements for the applicable Planning Area.

- Replacement and expansion of the existing SR 202 bridge crossing the Snoqualmie River is included in the City of Snoqualmie TIP (for 2020-2025). The project is not included in WSDOT's current Capital Improvement Plan and is not funded at this time, however. The existing bridge has sufficient capacity to support proposed development of Planning Area 1; however, a new bridge would be necessary to support traffic associated with continued growth in background traffic and buildout of the Snoqualmie Mill PCI Plan. A new four-lane bridge would also require that the single-lane Tokul roundabout be widened to a two-lane roundabout.

  Planning, design, and funding for a new bridge would require a concerted and cooperative effort among the City, WSDOT, and the applicant; additional environmental review would also be needed. The timing of implementation is uncertain at this point. The applicant should work with the City and WSDOT to develop a plan to evaluate location and design alternatives, determine funding needs, and determine environmental concerns; consultation with the Snoqualmie Tribe should also occur.

- Widening of the intersection of the Haul Road with Mill Pond Road and construction of a new roundabout.

- The single-lane roundabout intersection at Tokul Road SE / SR 202 / SE Mill Pond Road (intersection #16 is anticipated to operate at LOS E during the PM peak hour with the Proposed Action full buildout. The existing roundabout is sufficient to support development of Planning Area 1; development of Planning Area 3, anticipated in 2032, would require widening to allow two circulating lanes.

- The SR 202 / Snoqualmie Parkway intersection (intersection #15) is anticipated to operate at LOS E during the AM peak hour with the Proposed Action at full buildout. Widening of SR 202 to provide one additional through lane in each direction would result in acceptable LOS at the intersection; note that widening is planned as part of the City's 6-year TIP, but the

project is not fully funded at this time. Project mitigation could include contribution toward this City project.

- The side street approaches at the SE 99th Street/Snoqualmie Parkway intersection (intersection #3) are projected to operate at LOS E during the PM peak hour. Installation of a roundabout at this intersection would result in acceptable LOS. It should be noted that improvements at this intersection are included in the City's current 6-year TIP, but the project is not fully funded at this time. Snoqualmie Mill mitigation could include a pro rata fair share contribution to this improvement.
- The northbound side-street approach at the unsignalized intersection of Orchard Avenue SE / Snoqualmie Parkway (intersection #11) is expected to operate at LOS F during the AM peak hour with full buildout. To improve intersection operations, side-street (northbound) left-turns should be restricted by providing an eastbound to westbound U-turn on Snoqualmie Parkway or at the Allman Avenue SE / Snoqualmie Parkway intersection to the east.
- The southbound side-street approach at the unsignalized intersection of Allman Avenue SE / Snoqualmie Parkway (intersection #12) is expected to operate at LOS E during the PM peak hour with full buildout. To improve intersection operations, side-street (southbound) left-turns should be restricted by providing a westbound to eastbound U-turn on Snoqualmie Parkway or at the Orchard Avenue SE / Snoqualmie Parkway intersection to the west.
- The intersection of Meadowbrook Way SE / Park St (intersection #20) is expected to operate at LOS E during the AM peak hour with full buildout. Project mitigation to achieve acceptable LOS would include the addition of turn lanes or an urban mini-roundabout.
- The side-street approaches controlled by stop signs at the Fisher Avenue SE / Snoqualmie Parkway (intersection #10 are expected to operate at LOS F during the AM and PM peak hours with the City's planned HAWK signal. This condition would also occur under No Action without the PCI Plan, although the PCI Plan would increase the amount of delay. While the HAWK signal will improve pedestrian safety, the City should consider adding a full signal at this intersection for vehicle turn movements, with or without the PCI Plan. A full signal would improve operations to LOS B. If the City concurs that this improvement is appropriate, project mitigation could include contributing a proportional share toward the full signal.
- The westbound-left turn at the Meadowbrook Way SE / SE North Bend Way intersection (intersection #23) is expected to operate at LOS E with full buildout. Project mitigation could be to contribute a proportional share to the cost of the City's planned roundabout at this intersection.
- To minimize construction traffic impacts, the applicant should prepare a Construction Management Plan prior to beginning construction. Haul route agreements and truck routes would be established in coordination with the City of Snoqualmie, WSDOT, and King County, as necessary. A traffic monitoring plan can also be developed to manage traffic

levels at the site access locations and determine if traffic levels with construction are higher than evaluated for the project buildout. If so, additional mitigation measures could be implemented to reduce construction or general traffic levels.

Redevelopment Alternative Improvements

Mitigation measures for the Redevelopment Alternative would be the same as for the Proposed Action, with one addition: development of an Event Management Plan, including Transportation Management Plan (TMP) strategies to accommodate traffic generated by large events at the outdoor performance space.

As with the Proposed PCI Plan, the analysis of impacts and mitigation measures for the development of Planning Areas 2 and 3 of the Redevelopment Alternative by 2032 is based on the planned types and amounts of land uses and the projected timing of development that is documented in the PCI Plan land use program (as described in Chapter 2, Proposal and Alternatives). This is the best, most current information available at this time. It is acknowledged that planned land uses and the timing of development could change in the future, based on changing market or economic conditions or other extrinsic events or conditions, which are currently unknown. As with any phased master plan proposal, current assumptions should be verified in the future and adjusted if necessary; additional transportation analysis would be performed as planning for subsequent phases of development progresses. This approach is consistent with phased environmental review, as described in Section 2.2.

3.11.4. Significant Unavoidable Adverse Impacts

Traffic and congestion on area roadways will unavoidably increase as a result of the proposed PCI Plan and background growth. With implementation of currently programmed road improvements and additional improvements recommended for the proposal, however, all study intersections would operate at satisfactory levels of service, consistent with adopted City standards.

3.12. NOISE

3.12.1. Affected Environment

Uses currently located on the Snoqualmie Mill site and land uses occurring on surrounding properties are identified in Chapter 2 and Section 3.6 – Land and Shoreline Use of the Draft EIS. Nearby noise-sensitive residential properties are located north, south, west, and east of the Snoqualmie Mill site.

The Snoqualmie Mill site currently emits noise associated with the auto driving track facility, truck traffic, and other vehicle traffic. Other sources of noise in the vicinity of the Snoqualmie Mill site include traffic along nearby roads, operational activity from the City's sewer treatment plant, gravel mining operations, and residential construction and yard maintenance.

Southeast Mill Pond Road and 402nd Avenue SE currently are the only access routes to the Snoqualmie Mill site. Traffic accessing the site connect via SR 202 to Southeast Mill Pond Road. The existing haul road to the north, 402nd Avenue SE, is a private road that is primarily used by heavy trucks accessing portions of the site.

Basic Principles of Noise

Noise is sometimes defined as unwanted sound. This section makes no such distinction, and the terms noise and sound are used more or less synonymously. The human ear responds to a very wide range of sound intensities. The decibel (dB) scale used to describe and quantify sound is a logarithmic scale that provides a convenient system for considering the large differences in audible sound intensities. On this scale, a 10-dB increase represents a perceived doubling of loudness to someone with normal hearing. Therefore, a 70-dB sound level will sound twice as loud as a 60-dB sound level.

On the logarithmic dB scale, a doubling of sound-generating activity (i.e., a doubling of the sound energy) causes a 3-dB increase in average sound produced by that source, not a doubling of the loudness of the sound (which requires a 10-dB increase). For example, if traffic along a road is causing a 60 dB sound level at some nearby location, twice the traffic on this same road would cause the sound level at this same location to increase to 63 dB.

People generally cannot detect sound level differences (increases and decreases) of 1 dB in a given noise source. Although differences of 2 or 3 dB can be detected under ideal laboratory conditions, such changes are difficult to discern in an active outdoor noise environment. A 5-dB change in a given noise source or environment would be likely to be perceived by most people under normal listening conditions. A 10-dB increase in a given sound, as mentioned above, can be perceived as a doubling of loudness.

When addressing the effects of noise on people, it is necessary to consider the "frequency response" of the human ear, or those frequencies that people hear best. Sound-measuring instruments are therefore often programmed to "weight" sound based on the way people hear. The frequency-weighting most often used to evaluate environmental noise is A-weighting, and

measurements using this system are reported in “A-weighted decibels” or dBA. All sound levels discussed in this evaluation are reported in A-weighted decibels.

For a given noise source, a number of factors affect the sound transmission from the source, which in turn affects the potential for noise impacts. Important factors include distance from the source, frequency of the sound, absorbency and roughness of the intervening ground surface, the presence or absence of obstructions and their absorbency or reflectivity, and the duration of the sound. The degree of impact on humans also depends on who is listening and on existing sound levels. Typical sound levels of some familiar noise sources and activities are presented in Exhibit 3.12-1.

Relatively long, multi-source "line" sources such as roads emit cylindrical sound waves, and sound levels from such sources decrease with each doubling of distance from the source at a rate of about 3 dBA. Depending on whether the nature of the intervening ground is soft and absorptive, this attenuation rate for sound waves moving close to the ground can increase up to about 4.5 dBA per doubling of distance. Sound waves from discrete events or stationary "point" sources spread as a sphere, and sound levels from such sources decrease at a rate of about 6 dBA per doubling of the distance from the source. Conversely, moving half the distance closer to a source increases sound levels by 3 dBA and 6 dBA for line and point sources, respectively.

Some local jurisdictions, including the City of Snoqualmie, use the equivalent sound level (L_{eq}) to characterize sound levels and evaluate noise impacts (SMC 8.16.050 H, adopting King County standards in King County Code 12.88). The L_{eq} is the level that if held constant over the same period of time would have the same sound energy as the actual, fluctuating sound. As such, the L_{eq} can be considered an energy-average sound level. But this metric should not be confused with an arithmetic average which tends to de-emphasize high and low values. The L_{eq} gives most weight to the highest and longest duration sound levels because they contain the most sound energy. The maximum sound level, or L_{max}, is the highest sound level recorded over a given time period.

Exhibit 3.12-1. Common Sound Levels and Sources

Thresholds/Noise Sources	Sound Levels (dBA)	Subjective Evaluations[1]	Possible Effects on Humans[1]
Human Threshold of Pain **Carrier jet takeoff at 50 ft**	140	Deafening	Continuous exposure to levels above 70 can cause hearing loss in the majority of the population
Siren at 100 ft **Loud rock band**	130		
Jet takeoff at 200 ft **Auto horn at 3 ft**	120		
Chain saw **Noisy snowmobile**	110	Very Loud	
Lawn mower at 3 ft **Noisy motorcycle at 50 ft**	100		
Heavy truck at 50 ft	90		Speech Interference
Pneumatic drill at 50 ft **Busy urban street, daytime**	80	Loud	
Normal automobile at 50 mph **Vacuum cleaner at 3 ft**	70		
Air conditioning unit at 20 ft **Conversation at 3 ft**	60	Moderate	
Quiet residential area **Light auto traffic at 100 ft**	50		Sleep Interference
Library; Quiet home	40	Faint	
Soft whisper at 15 ft	30		
Slight rustling of leaves	20	Very Faint	
Broadcasting Studio	10		
Threshold of Human Hearing	0		

Source: EPA 1974 and Others

[1] Note that both the subjective evaluations and the physiological responses are continuums without true threshold boundaries. Consequently, there are overlaps among categories of response that depend on the sensitivity of the noise receivers.

Regulatory Context

City of Snoqualmie Municipal Code and King County Code (KCC)

The Snoqualmie Mill site is subject to the noise rules and regulations established by the Snoqualmie Municipal Code (SMC). SMC 8.16.050 establishes general policies and regulations for noise and adopts, by reference, the maximum environmental noise levels from Chapter 12.88 [sic] of the King County Code (KCC). (Note that the correct reference is to KCC 12.86.)

KCC 12.86 establishes "maximum permissible" sound levels based on the district (i.e., zoning) of the noise source and the receiving properties. The Snoqualmie Mill site is located in the City's

urban growth area (UGA), and the City has designated the area as a Planned Commercial/Industrial zone. While the project includes a mix of commercial and industrial uses, for purposes of this assessment, and to be conservative, the Snoqualmie Mill site is considered a Commercial district. Properties to the south and west of the site within the City are zoned for residential, mixed use, business retail, and utility park. The surrounding properties to the north and east are located in unincorporated King County and are zoned for mineral (M) and rural residential use (RA-5), respectively. The applicable noise limits for sources located in Commercial Districts are included in Exhibit 3.12-2.

Exhibit 3.12-2. City of Snoqualmie/King County Maximum Permissible Sound Levels (DBA)

	District of Receiving Property Within King County/Snoqualmie			
District of Sound Source	Rural Day/ Night[1]	Residential Day/Night[1]	Commercial	Industrial
Rural	49/39	52/42	55	57
Residential	52/42	55/45	57	60
Commercial	55/45	57/47	60	65
Industrial	57/47	60/50	65	70

Source: KCC 12.86.110; SMC 8.16.050 H

[1] The limitations for noise received in Rural and Residential Districts are reduced by 10 dBA between 10 p.m. and 7 a.m. during weekdays, and between 10 p.m. and 9:00 a.m. on weekends.

Per KCC 12.86.110, the L_{max} may exceed the sound level limits identified above by no more than 15 dBA.

When determining compliance of a sound source relative the limits identified in Exhibit 3.12-2, KCC 12.86.110(A) states that sound level measurements shall be taken for a minimum of one-minute for "constant" sound sources (i.e., sources that emit a constant sound that would not change over a given time period), and a minimum of thirty-minutes for "non-continuous" sound sources (i.e., sources that are not continuous over a given time period).

The Snoqualmie Code does not specify quantitative noise limit for construction activities. SMC 9.36.020(B)(2) states that allowable hours for construction activities are between 7 a.m. and 8 p.m. Monday through Friday, between 8 a.m. and 8 p.m. on Saturday, and between 9 a.m. and 8 p.m. on Sunday. Construction activities conducted outside these hours would be considered a public disturbance.

Existing Sound Levels

The noise impact assessment included measurements of existing sound levels to characterize the acoustic environment adjacent to, or potentially affected by, the project. Four long-term (LT) measurements (24 hour or longer duration) were taken near existing residential and commercial areas that surround the site. One short-term (ST) measurement was taken close to the Snoqualmie Falls upper observation deck.

Exhibit 3.12-3 and Exhibit 3.12-4 summarize long-term and short-term sound level measurement data, respectively. The locations of these measurements and location of the primary access routes are illustrated in Exhibit 3.12-5.

Exhibit 3.12-3. Long-Term Sound Level Measurement Data

Location	Measured Time and Date	L^{eq} Range	Loudest Hour
LT-SLM1	11:00 AM 9/6/2017 to 11:00 AM 9/7/2017	Day: 35-55 dBA Night: 32-40 dBA	5:00 PM
LT-SLM2	12:00 PM 9/6/2017 to 12:00 PM 9/7/2017	Day: 35-53 dBA Night: 35-49 dBA	5:00 PM
LT-SLM3	11:00 AM 9/6/2017 to 11:00 AM 9/7/2017	Day:42-59 dBA Night: 37-48 dBA	5:00 PM
LT-SLM4	11:00 AM 9/6/2017 to 11:00 AM 9/7/2017	Day: 49-55 dBA Night: 41-51 dBA	7:00 AM
Sound Level Measurement Description			
LT-SLM1: Located along SE 60th Street and north of the proposed Snoqualmie Mill site. LT-SLM2: Located along SE 70th Drive and east of the proposed Snoqualmie Mill site. LT-SLM3: Located in Sandy Cove Park near the intersection of Railroad Avenue and SE King Street. Measurement location is southwest of the proposed Snoqualmie Mill site LT-SLM4: Located near the intersection of Allman Avenue SE and Snoqualmie Parkway. Measurement location is west of the proposed Snoqualmie Mill site Note: DirtFish was operating vehicles during the measurement period and noise associated with driving classes was audible.			

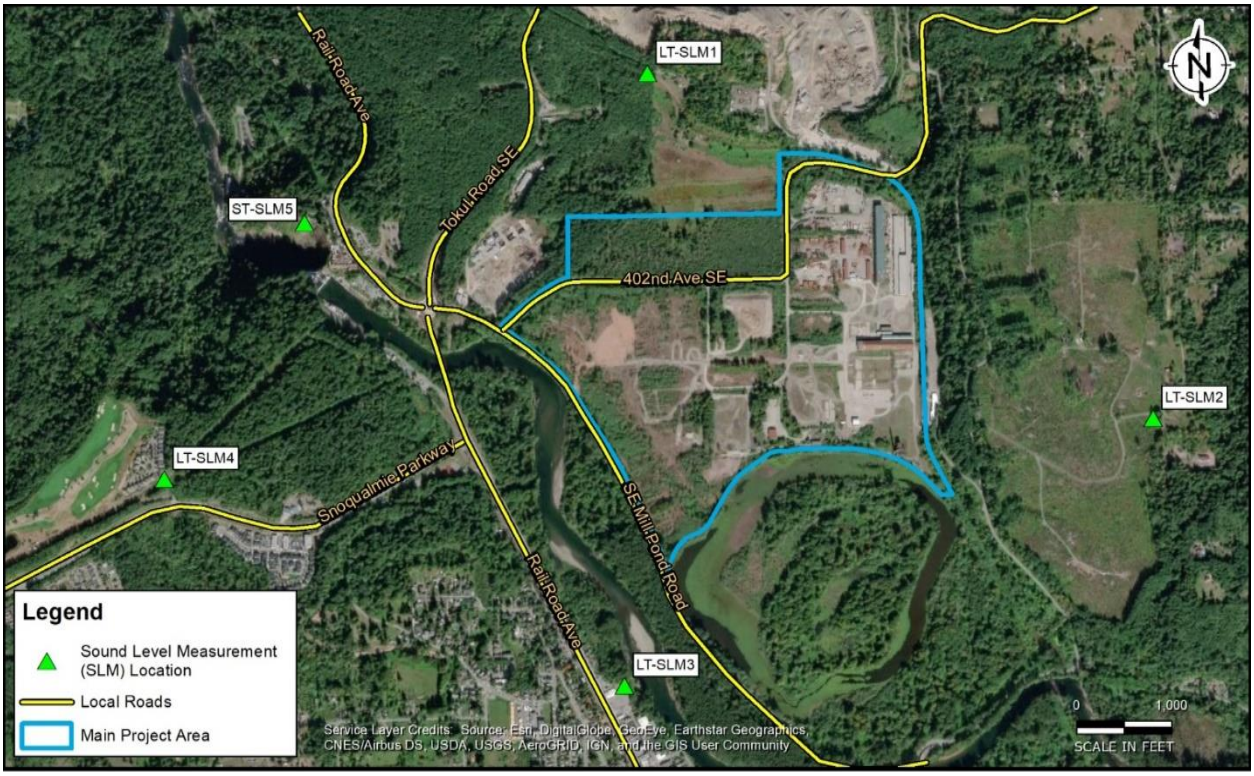
Source: Ramboll, 2019.

Exhibit 3.12-4. Short-Term Sound Level Measurement Data

Location	Measured Time and Date	L^{eq} (dBA)
ST-SLM5	9:20 AM to 9:30 AM on 9/13/2018	68
Sound Level Measurement Description		
ST-SLM5: Located at the Snoqualmie Mill Falls observation deck along Railroad Ave.		

Source: Ramboll, 2019.

Exhibit 3.12-5. Sound Level Measurement (SLM) Locations



Source: Ramboll, 2019.

3.12.2. Impacts

Construction Impacts

Impacts of the Proposal

The proposal (PCI Planning Area 1 in 2023 and PCI Full Build in 2032) would involve construction activities that include excavation and site work, demolition of existing structures on-site, and new on-site construction including surfacing and paving of new parking lots. For Planning Area 1 and Full Build, construction activity could occur over multiple years: Planning Area 1 between 2022 – 2023, Planning Area 2 between 2025 – 2026, and Planning Area 3 between 2030 – 2032.

During construction, there would be temporary increases in sound levels at locations near active construction areas and along routes to these areas from heavy equipment and the hauling of construction materials. The increase in noise levels would depend on the type(s) of equipment being used and the amount of time it is in use. Excavation, grading, and construction would generate sound audible on surrounding properties and completed portions of the phased development. Exhibit 3.12-6 shows the typical range of noise levels for construction equipment that could be used during the project. Construction equipment and activities are typically stationary or slow-moving mobile sources, and so are considered as "point" sources of noise. Therefore, noise from construction equipment and activties typically decrease at a rate

of about 6 dBA for each doubling of distance away from the source.

Exhibit 3.12-6. Typical Noise Levels from Construction Activities Equipment (DBA)

Activity	Range of Hourly Sound Levels			
	At 50'	At 50'	At 200'	At 500'
Clearing	83	77	71	63
Grading	75-88	69-82	63-76	55-68
Paving	72-88	66-82	60-76	52-68
Erection	72-84	66-78	60-72	52-64
Types of Equipment	**Range of Hourly Sound Levels**			
	At 50'	At 100'	At 200'	At 500'
Bulldozer	77-96	71-90	65-84	57-76
Dump Truck	82-94	76-88	70-82	62-74
Scraper	80-93	74-87	68-81	60-73
Paver	86-88	80-82	74-76	66-68
Generators	71-82	65-76	59-70	51-62
Compressors	74-81	68-75	62-69	54-61

Source: EPA, 1971.

Noise from construction activity, as received at nearby off-site receivers, as well as received at on-site noise-sensitive receivers present during later construction phases, may at times exceed the existing ambient levels, and may be perceived as an annoyance. However, as summarized above, SMC 9.36.020(G)(2) states that noise from construction activities is permitted between 7 a.m. and 8 p.m. Monday through Friday, between 8 a.m. and 8 p.m. on Saturday, and between 9 a.m. and 8 p.m. on Sunday. Therefore, although some daytime construction activities may be audible and perceived as an annoyance, noise from such activities is permitted during daytime hours.

Further, due to the temporary nature of the proposed project-related construction activities, the potential for perceived noise impacts from construction would be limited in duration.

Alternatives

Redevelopment Alternative

Similar to the proposed PCI Plan, the Redevelopment Alternative is evaluated in two distinct parts: Planning Area 1 (2023) and Full Build (2032). The Redevelopment Alternative would include many similar features to the proposed project, but it would include the construction of an outdoor performance space (amphitheater) in the southeast portion of Planning Area 3; would include less retail space and a smaller indoor event space, no office uses, and fewer

residential units. Total development of Planning Area 1 would be less, and development in Planning Area 3 would be somewhat greater, compared to the proposed PCI Plan. Noise from construction of the Redevelopment Alternative, including the potential for perceived impacts during permitting daytime construction activities, is anticipated to be similar to the proposed project alternatives.

No Action

With the No Action alternative, the proposed project alternatives would not be built, no construction activities would occur, and no construction noise would be generated at the project site.

Operational Noise Impacts

Impacts of the Proposal

Operation of the proposed project alternatives is expected to generate noise emissions that may be received at nearby existing, off-site residential properties. At the time of this study, many details of site development, buildings and structures, including stationary noise sources, are not known with certainty. It should be noted that noise associated with winery and light industrial operations would not affect nearby residences because operations would occur within enclosed buildings. However, stationary equipment such as rooftop air handling units, as well as trucks and passenger vehicles, are typically considered as acoustically-significant sound sources found at most mixed-use developments. The operational noise assessment for the proposed project alternatives was completed to evaluate the potential for noise emission from these typical operational noise sources.

Noise Prediction Model

Noise modeling was completed using the CadnaA noise model, based on the noise propagation algorithms established in ISO 9613-2. CadnaA is a computerized noise prediction model that can calculate sound levels after considering the noise reductions or enhancements of a range of factors including distance, topography, ground surface types, intervening structures, atmospheric absorption, and meteorological conditions. Noise sources were based on frequency-specific measurements of representative equipment or on estimates of typical equipment noise levels. The modeling considered noise emissions from all proposed project-related sources (both stationary and traffic-related) and predicted off-site sound levels at nearby sensitive receiving locations.

The project buildings were modeled at an assumed height of 55 feet above ground, and local topography was imported from a publicly available online source. The ground type in the vicinity of the proposed project was assumed to be soft, or acoustically “absorptive,” with the exception of paved roads and parking lots.

Emission Sources

Noise modeling was completed for the assumed operation of new warehouses, light industrial

and mixed-use buildings within Planning Area 1 of the proposed project, plus onsite traffic. Equipment typical of dry-storage warehouses, light industrial and mixed-use buildings include air handling units such as rooftop heating, ventilation, and air-conditioning (HVAC) units, air make-up units, exhaust fans, and ground-level emergency generators. Sound level data for these typical sources were taken from Ramboll's sound source library. Specific uses and activities that will operate within individual buildings are not known, for the most part; wine-making operations are assumed to locate in Planning Area 1, although these uses are not certain. In any event, all industrial activities would occur within enclosed buildings, and it is assumed that existing zoning standards – i.e., permitted uses and performance standards applicable to the PCI district – would limit the potential for categories and types of uses activities that involve significant noise emissions to locate within the PCI Plan area.

The following sources were modeled in CadnaA for each building type:

Warehouse

- 6 Rooftop HVAC units for office heating and cooling
- 12 Rooftop Make Up Air units
- 6 Rooftop Exhaust Fans
- 1 Emergency Diesel Generator

Light Industrial

- 2 Rooftop HVAC units
- 1 Rooftop Make Up Air unit
- 2 Rooftop Exhaust Fans
- 1 Emergency Diesel Generator

Mixed-Use

- 2 Rooftop HVAC units
- 1 Rooftop Make Up Air unit

Onsite traffic volumes for trucks and vehicles accessing the proposed project warehouses were provided by Transportation Engineering Northwest for the AM and PM peak period (refer to EIS Section 3.11). The highest peak-period traffic volumes were during the AM peak-period and therefore AM peak-period traffic were used in the assessment operation noise. As a worst-case and unlikely operating scenario, it was assumed that all onsite traffic, equipment and activities, including testing of the emergency generators, would occur concurrently.

Exhibit 3.12-7 provides a tabular summary of the sound sources and approxiate sound levels used for this assessment.

Exhibit 3.12-7. Noise Source Summary

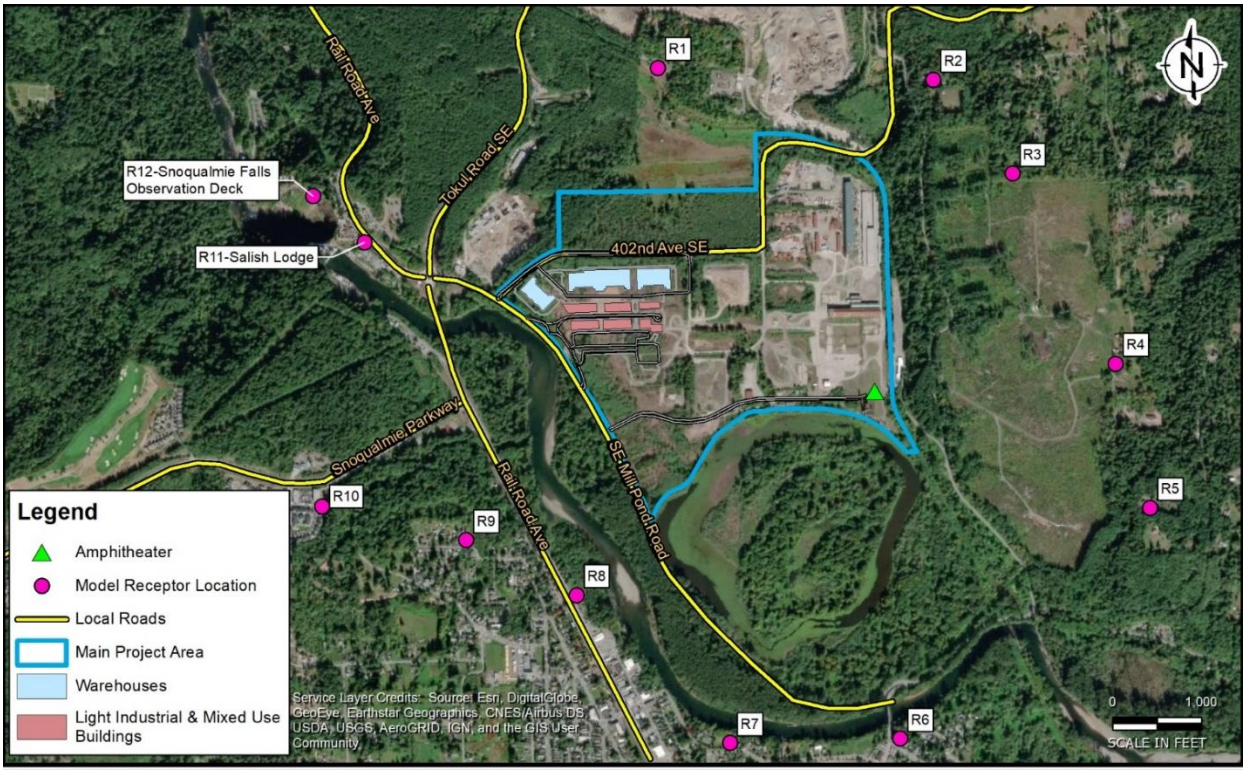
Source Type	Approximate Sound Level at 50 feet (dBA)
Rooftop HVAC Unit	52 dBA [1]
Rooftop MUA Unit	54 dBA [1]
Rooftop Exhaust Fan	56 dBA [1]
Emergency Generator	66 dBA [2]

Source: Ramboll, 2019.
[1] Sound pressure level based on sound level measurement taken by Ramboll.
[2] Sound level for generator based on manufacturer specifications for 30 kW generator plus 5 dBA penalty added to conservatively estimate potentially larger generator at the site.

Noise Sensitive Receivers

Noise modeling was completed to estimate operational noise emissions from the proposed project alternatives for ten (10) residential and two (2) commercial locations in the vicinity of the Snoqualmie Mill site. Each receiver is representative of one or more residential properties. A graphical illustration of noise-sensitive receiving locations is found in Exhibit 3.12-8.

Exhibit 3.12-8. Noise Receptor Locations



Source: Ramboll, 2019.

Noise Modeling Results – Assessment of Compliance with City of Snoqualmie/King County Limits

Model-calculated sound levels are presented in Exhibit 3.12-9. Operation of the proposed project is expected to be well within the applicable City of Snoqualmie/King County sound level limits at all nearby residential receiving properties.

At the nearest residential receiver to the proposed project, represented by R1 (see Exhibit 3.12-8), the predicted worst-case noise emissions from the proposed project alternatives (*PCI Planning Area 1 in 2023* and *PCI Full Build in 2032*) would result in hourly sound levels of 38 dBA and 39 dBA, respectively. These levels would be 19 dBA and 18 dBA below the applicable daytime limit of 57dBA, respectively. Operational sound levels at all remaining residential and rural receivers are predicted to be even lower, and well below the rural and residential sound level limits.

At the Salish Lodge (R11), the predicted worst-case operation noise emissions from the proposed project alternatives would result in an hourly sound levels of 35 dBA and 36 dBA. These levels would be 25 dBA and 24 dBA below the applicable limit of 60 dBA for this commercial receiving property (applicable during both daytime and nighttime hours). Operational sound levels at the Snoqualmie Falls observation deck (R12) would be even lower.

During nighttime hours, operation of the proposed project alternatives is anticipated to include lower levels of traffic, may include continuous operation of air-handling equipment, but is unlikely to include testing of emergency generators. Therefore, noise emissions from the proposed project alternatives during nighttime hours would be even lower than described above, and within the applicable nighttime sound level limits for rural and residential receivers (i.e., 45 dBA and 47 dBA, respectively).

Noise Modeling Results – Assessment of Increase over Existing Conditions

Impacts due to the increase in the ambient noise environment were evaluated for the proposed project. In general, a 10-dBA increase over ambient noise conditions would be considered an impact, although smaller increases may be considered an impact where existing ambient levels are already considered to be high (i.e., lower tolerance for additional noise). In the vicinity of the project, ambient levels are relatively low, and so a 10-dBA increase was considered as the threshold for impacts due to project-related increases in the ambient noise environment.

Noise emissions from operation of the proposed project is anticipated to be highest during the AM peak hour period, when the highest levels of traffic are anticipated to access the Snoqualmie Mill site. Further, ambient noise conditions during the AM peak hour currently are much lower than during the PM peak hour. Therefore, an assessment of proposed project operational noise emissions during the AM peak hour, when compared with existing ambient conditions during this same time period, provide a worst-case assessment of the potential for increases in ambient noise environment.

At the nearest residential receiver (R1), the addition of noise from operation of the proposed project to the existing ambient environment would result in up to a 2-dBA increase over AM peak hour sound levels. As indicated, people generally cannot detect increase in noise less than

3 dBA in active outdoor environments, especially when these increases occur over a number of years. Therefore, the proposed project-related noise increase at R1 is unlikely to be perceptible and would not be considered an impact. Increases in noise at all other noise model receiver locations would be even less than 2 dBA. Therefore, impacts due to proposed project-related increases in the ambient noise environment are not anticipated at any receiving location.

Results provided in Exhibit 3.12-9 include expected worst-case increases over ambient noise levels at each noise-sensitive receiver location.

Exhibit 3.12-9. Noise Modeling Results for Proposed PCI Plan (DBA)

Receiver	A Background: Existing Noise Level [1]	PCI Planning Area 1 in 2023			PCI Full Build in 2032			Assessment of Compliance	
		B Project Only Sound Levels	C Project plus Background (A + B)	D Increase from Project + Background Over Background (C – A) [2]	B Project Only Sound Levels	C Project plus Background (A + B)	D Increase from Project + Background Over Background (C – A) [2]	City/King County Sound Level Limit	Project Only (B) Complies with City/King County Limit?
R1	42	38	43	1	39	44	2	57 [3]	Yes
R2	42	31	42	0	32	42	0	55	Yes
R3	51	31	51	0	32	51	0	55	Yes
R4	51	31	51	0	32	51	0	55	Yes
R5	51	27	51	0	28	51	0	55	Yes
R6	48	26	48	0	27	48	0	57	Yes
R7	48	28	48	0	29	48	0	57	Yes
R8	48	33	48	0	34	48	0	57	Yes
R9	48	34	48	0	34	48	0	57	Yes
R10	55	32	55	0	32	55	0	57	Yes
R11 – Salish Lodge	68 [4]	35	68	0	35	68	0	60	Yes
R12 – Snoqualmie Falls Observation Deck	68 [4]	29	68	0	30	68	0	60	Yes

Source: Ramboll, 2019.

[1] Ambient Leq during AM-peak hour.

[2] Tabulated results are rounded to the nearest whole number, and apparent calculations errors are due to rounding.

[3] R1 is a residential property located in unincorporated King County and is zoned as Mineral (M). The limit shown here represents the King County Sound Level Limit for residential zoning.

[4] Existing levels measured during low water flow due to the absence of snowpack melt and fall rains at Snoqualmie Falls. This is assumed to be the lowest sound level.

Alternatives

Redevelopment Alternative

As discussed above, the Redevelopment Alternative is similar to the proposed project but would also include the construction and operation of an outdoor amphitheater in the southeast portion of Planning Area 3. Also, the Redevelopment Alternative would include less retail and office space, and fewer residential units, and would include a smaller indoor event space compared to the proposed PCI Plan. Therefore, operational noise from building equipment and traffic (i.e., excluding the amphitheater) are anticipated to be slightly lower than the proposed project, resulting in compliance with the King County Code sound level limits, and small to no increase over existing ambient conditions.

Operation of the amphitheater was evaluated separately from air-handling equipment and traffic and was completed assuming the operation of an outdoor music concert. The specific types of performances that would occur are not known; they could range from relatively quiet dramatic or dance events to various forms of music. The noise assessment assumed that loud music performances could occur, with amplified instruments (drums, guitars, bass and vocals) and a PA system rated to reach an audience within the entire amphitheater seating area. Sound level data for a typical outdoor performance area source was taken from the noise consultant's sound source library and assumes 90 dB at a distance 100 feet. This is considered to be a conservative and likely worst-case noise event for purposes of the EIS.

For the purposes of this assessment, the amphitheater was assumed to be open on all sides, and without an amphitheater-style enclosure that typically shields all but one side of the stage. Therefore, the assessment does not account for typical shielding that likely would reduce noise emissions at nearby sensitive receivers that are not directly facing the front of the performance venue.

Exhibit 3.12-10 provides a tabular summary of the sound source used for this assessment, including the estimated sound level.

Exhibit 3.12-10. Noise Source Summary for Amphitheater

Source Type	Approximate Sound Level at 50 feet (dBA)
Amphitheater	97 dBA [1]

Source: Ramboll, 2019.
[1] Sound pressure level based on sound level measurement taken by Ramboll.

Noise Modeling Results – Assessment of Compliance with City of Snoqualmie/King County Limits

Model-calculated sound levels are presented in Exhibit 3.12-11. Operation of the amphitheater is expected to be within the applicable City of Snoqualmie/King County sound level limits at all nearby receivers.

The highest predicted noise levels from the amphitheater would occur at R6 (see Exhibit

3.12-8), where noise from the amphitheater would result in an hourly sound level of 56.9 dBA, 0.1 dBA below the applicable daytime limit of 57 dBA. Operational sound levels at all remaining residential and rural receivers are predicted to be lower.

At the Salish Lodge (R11), predicted noise levels from the amphitheater would result in an hourly sound level of 47 dBA, 13-dBA below the applicable limit of 60 dBA (applicable during both daytime and nighttime hours). Similarly, operational sound levels at the Snoqualmie Falls observation deck (R12) would be even lower.

It should be noted that regardless of results of this assessment of compliance with City of Snoqualmie/King County limits, a performance venue would be required to comply with applicable sound levels limits at all times, unless a noise variance is granted by the City.

Noise Modeling Results – Assessment of Increase over Existing Conditions

At all nearby residential receivers (R1 – R10), operation of the amphitheater, under worst-case conditions, could result in sound level increases that range from between 0 dBA and 20 dBA above existing ambient noise levels. As indicated above, noise emissions from the performance area would be likely reduced with an enclosure around the amphitheater itself (i.e., a bandshell). Regardless, increases of up to 20 dBA over ambient conditions may be considered an impact by some receiving properties.

Note that although perceptible increases over ambient noise levels are anticipated during use of the amphitheater, use of this venue is likely to be temporary (i.e., a period of several hours) and infrequent (likely weekends only). Therefore, perceived impacts also would be for short durations only and not continuously during all daytime hours.

No Action

With No Action, the proposed project and alternatives would not be built, so no operational noise from onsite and off-site sources related to the project would be generated at the site. Noise from existing uses would continue.

Exhibit 3.12-11. Noise Modeling Results for The Amphitheater (DBA)

Receiver	A Background: Existing Noise Level (1)	Amphitheater B Amphitheater Only Sound Levels	Amphitheater C Amphitheater plus Background (A + B)	Amphitheater D Increase from Amphitheater + Background Over Background Range (C – A) [2]	Assessment of Compliance City/King County Sound Level Limit	Assessment of Compliance Amphitheater Only (B) Complies with City/King County Limit?
R1	35 – 55	51	51 – 56	1 – 15	57 [3]	Yes
R2	35 – 55	53	53 – 57	2 – 17	55	Yes
R3	35 – 53	55	55 – 57	4 – 20	55	Yes
R4	35 – 53	52	52 – 55	2 – 17	55	Yes
R5	35 – 53	53	53 – 56	3 – 18	55	Yes
R6	41 – 59	57	57 – 61	2 – 16	57	Yes
R7	41 – 59	56	56 – 61	2 – 16	57	Yes
R8	41 – 59	51	52 – 60	1 – 11	57	Yes
R9	41 – 59	50	50 – 59	0 – 10	57	Yes
R10	46 – 55	53	53 – 57	2 – 7	57	Yes
R11 – Salish Lodge	68 [4]	47	68	0	60	Yes
R12 – Snoqualmie Falls Observation Deck	68 [4]	46	68	0	60	Yes

Source: Ramboll, 2019

[1] Range of measured hourly Leq between 12 p.m. and 10 p.m.

[2] Tabulated results are rounded to the nearest whole number, and apparent calculations errors are due to rounding.

[3] R1 is a residential property located in unincorporated King County and is zoned as Mineral (M). The limit shown here represents the King County Sound Level Limit for residential zoning.

[4] Existing levels measured during low water flow due to the absence of snowpack melt and fall rains at Snoqualmie Falls. This is assumed to be the lowest sound level.

Indirect and Cumulative Impacts

Off-Site/Cumulative Traffic Noise Related to the Alternatives

The proposed PCI Plan and Redevelopment Alternative would generate traffic through operation of new residential, office, retail, entertainment, and recreational facilities. While traffic noise from public roadways is exempt from applicable sound level limits, project-related traffic may cause perceptible increases over existing noise levels or result in noise that interferes with speech or enjoyment of outdoor activities. Exhibit 3.12-12 provides Existing (2018), Planning Area 1 (2023) and Full Build (2032) predicted future traffic volumes for the proposed PCI Plan and No Action alternatives. Traffic volumes for the No Action alternatives for 2023 and 2032 reflect a continuation of existing conditions (e.g. operation of the DirtFish auto driving track) with the addition of background growth and without the proposed PCI Plan. The roadways in Exhibit 3.12-12 represent the most project-affected roadways near existing off-site sensitive receiving locations. The nearest sensitive receivers to the most project-affected roadways include the Salish Lodge (R11) and Snoqualmie Falls observation deck (R12) west of Tokul Road and residential neighborhoods (R10) along Snoqualmie Parkway (see Exhibit 3.12-8).

Exhibit 3.12-12. Existing and Future AM Peak Traffic Volumes (Vehicles per Hour)

Roadway	Traffic Direction	AM Peak Traffic Volumes [1]										
		2018 Existing		2023 No Action		2023 with Planning Area 1		2032 No Action		2032 Full Build		
		LDV	HDV	LDV	HDV	LDV	HDV	LDV	HDV	LDV	HDV	Speed (mph)
Railroad Avenue west of Tokul Road SE	NB	373	54	380	55	515	67	388	56	955	80	35
	SB	523	31	538	31	557	33	561	33	595	36	
Snoqualmie Parkway west of Railroad Avenue	EB	647	47	656	48	759	56	687	50	1201	74	40
	WB	400	24	406	24	457	27	424	25	571	28	

Source: Traffic volumes from Transportation Engineering NorthWest, 2018/2019/2020.
[1] AM peak traffic volumes and composition based on data provided by Transportation Engineering NorthWest.
LDV – "light duty vehicles" including passenger cars and small trucks.
HDV – "heavy duty vehicles" including delivery and haul trucks.

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Lookup was used to calculate off-site traffic noise levels at distances representative of the nearest sensitive receiving locations along these roadways. Traffic data for No Action (2023 and 2032) suggest that population growth in the project vicinity will result in a 1-2% traffic increase between 2018 and 2023 and a 6% traffic increase between 2018 and 2032. With the proposed project, traffic volumes are expected to increase up to 17% over 2023 No Action conditions and up to 61% over 2032 No Action conditions. The largest increases would occur along Railroad Avenue, west of Tokul Road SE, where existing and future traffic volumes are lower.

The calculated traffic noise levels associated with existing conditions and PCI Plan and alternatives are provided in Exhibit 3.12-13. Measurements and traffic projections indicate existing AM-peak period sound levels near the most project-affected roadways are between 63 and 68 dBA. The noise levels near the Snoqualmie Falls observation deck are dominated by sound from Snoqualmie Falls. As noted previously, traffic noise is exempt from City/King County noise standards.

Background growth under the future No Action alternative would increase traffic noise levels minimally (i.e., less than 0.5 dBA) in 2023 and 2032 compared to 2018 Existing conditions. With the proposed project, traffic noise would increase over No Action levels in both 2023 and 2032 by 1 dBA at the Salish Lodge and by 2 dBA near Snoqualmie Parkway. At the Snoqualmie Falls Overlook, no change in overall levels would be expected with the project. As indicated above, most people cannot detect changes in noise of less than 3 dBA in active outdoor environments, 5-dBA changes would likely be perceived by most people under normal listening conditions, and a 10-dB change would be perceived as a doubling of the loudness. Therefore, it is likely that most people would not perceive the differences in traffic noise between the Existing, No Action, and proposed PCI Plan alternatives.

Based on the traffic analysis, AM-peak period traffic volumes associated with the Redevelopment Alternative would be similar or less than the volumes associated with the proposed PCI Plan. Therefore, off-site traffic noise associated with the Redevelopment Alternative would be similar to or less than the proposed project.

Exhibit 3.12-13. Existing and Future AM Peak Traffic Sound Levels (DBA)[1,2]

Receiver Description	Nearest Roadway	Traffic Direction	Distance (ft)	Traffic Sound Levels								
				2018 Existing	2023 No Action	2023 with Planning Area 1			2032 No Action	2032 Full Build		
				Sound Level	Sound Level	Sound Level	Increase over Existing	Increase over No Action	Sound Level	Sound Level	Increase over Existing	Increase over No Action
Salish Lodge	Railroad Avenue west of Tokul Road SE	NB	80	65	65	65	1	1	65	66	1	1
		SB	50									
Snoqualmie Falls Observation Deck[3]		NB	360	68	68	68	0	0	68	68	0	0
		SB	340									
Residential Neighborhoods	Snoqualmie Parkway west of Railroad Avenue	EB	75	63	64	64	1	1	64	66	2	2
		WB	120									

Source: Ramboll, 2019, 2020.

[1] Sound levels rounded to nearest whole decibel. Apparent errors in math are due to rounding.

[2] Cells in grey indicate locations with sound levels at or above levels identified as impacted based on WSDOT impact criteria (Leq ≥ 66 or increase ≥ 10) for outdoor use areas. Note that these criteria are provided for reference only and do not apply to the PCI Plan or alternatives. In addition, the sound levels at the Snoqualmie Falls Observation Deck are dominated by noise from the waterfall and not traffic. Traffic noise is exempt from the City noise regulations.

[3] Measurements indicate that sound levels are primarily due to noise from Snoqualmie Falls. Therefore, Existing sound levels are based on the ambient Leq measured at ST-SLM5 during the AM-peak hour, as described in Table 3.5-4. Future No Action and project traffic sound levels due to additional traffic volumes compared to 2018 volumes were added to 2018 Existing noise measurements when calculating future overall sound levels.

3.12.3. Mitigation Measures

Noise may be audible at residential locations during some elements of construction and operation of the proposed project and alternatives. However, neither construction nor operation of the facility is expected to result in significant noise impacts, and no mitigation measures are warranted.

3.12.4. Significant Unavoidable Adverse Impacts

No significant unavoidable adverse noise impacts are anticipated related to construction and operation of the proposed PCI Plan and alternatives. Noise from operation of the amphitheater, which is only included in the Redevelopment Alternative, may be perceived at some residential locations depending on when the facility operates, but is nevertheless expected to comply with applicable sound level limits.

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3.13. PARKS

This section of the EIS describes existing and planned parks, trails and recreational facilities within and provided by the City, and existing and planned regional trails in unincorporated King County. The analysis is based on adopted level of service standards and needs identified in the City's 2018 Open Space, Parks and Recreation Plan.

3.13.1. Affected Environment

Existing Service

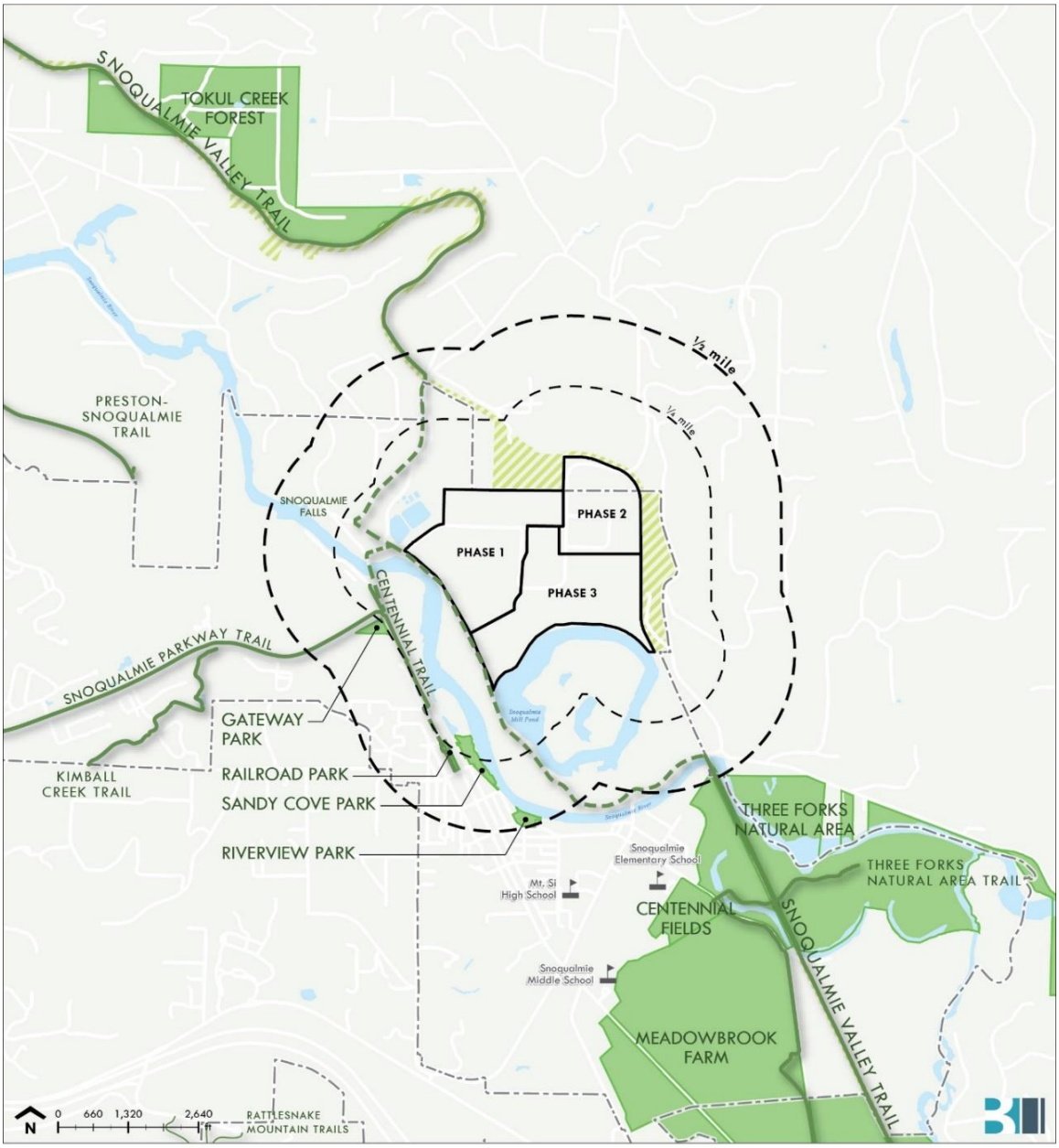
The City of Snoqualmie's park and recreation facilities include 39 parks, over 25 miles of trails, and over 620 acres of open space. Exhibit 3.13-1 and Exhibit 3.13-2 identify park and recreation facilities within one-half mile of the Snoqualmie Mill property. The City of Snoqualmie's service area standards vary by type of park but generally encompass a quarter- to half-mile radius (see Exhibit 3.13-3 and associated discussion below). A description of each facility follows.

Exhibit 3.13-1. Existing Park, Open Space, and Recreation Facilities Near the Snoqualmie Mill Property

Facility	Owner	Type of Facility	Size/Length
Centennial Trail	City of Snoqualmie	Trail	½ mile
Gateway Park	City of Snoqualmie	Natural/Conservancy Areas	1.5 acres
Railroad Park	City of Snoqualmie and Northwest Railway Museum	Neighborhood Park	2.13 acres
Riverview Park	City of Snoqualmie	Neighborhood Park	2.6 acres
Sandy Cove Park	City of Snoqualmie	Natural/Conservancy Areas	4.4 acres
Snoqualmie Falls Park	Private Facility (Puget Sound Energy)	Regional Park	2 acres
Snoqualmie Parkway Trail	City of Snoqualmie	Trail	4 miles
Snoqualmie Valley Trail	King County	Regional Trail	36 miles
Three Forks Natural Area	King County	Regional Open Space	435 acres (215 acres in City of Snoqualmie)

Source: Snoqualmie Open Space, Parks and Recreation Plan, 2018; City of Snoqualmie Parks & Recreation Website, 2017; King County Park TrailFinder Interactive Map, 2017.

Exhibit 3.13-2. Existing Park, Open Space, and Recreation Facilities Near the Snoqualmie Mill Property



LEGEND

- Snoqualmie City Boundary
- Waterbody
- Roads
- Schools

Mill Site

- Phasing Areas
- ½ Mile Radius
- ¼ Mile Radius

Existing Facilities

- Park Boundary
- Trail, Dedicated
- Trail, Road
- King County SVT Property

Note: The City of Snoqualmie's service area standards vary by the type of park but are generally within a ¼-½ mile radii (see Exhibit 3.13-3) – ¼ and ½ mile radii around the Snoqualmie Mill property are included for reference.
Source: Snoqualmie Open Space, Parks and Recreation Plan, 2018; City of Snoqualmie Parks & Recreation Website, 2017; King County Park TrailFinder Interactive Map, 2017.

Parks within a half-mile of the site are described below relying on the 2018 Snoqualmie Open Space, Parks and Recreation (PROS) Plan, and City park and recreation information available on the City's website:

- **Centennial Trail (City of Snoqualmie).** This half-mile paved trail parallels the railroad tracks and State Route (SR) 202 in historic downtown Snoqualmie. Centennial Trail currently ends at the intersection of SR 202 and Snoqualmie Parkway. The future vision for this route is to connect to Puget Sound Energy's Snoqualmie Falls Park (see missing trail #4 Exhibit 3.13-5 and the associated analysis below). The following ADA-accessible facilities are located along the trail:
  - **Gateway Park (City of Snoqualmie).** Located at the corner of Snoqualmie Parkway and State Route 202, this approximately 1.5-acre park is a passive recreation site with a trailhead and playfield. The site used to be an old pole yard storage facility and was rehabilitated with a mixture of donated funds and volunteer efforts from the Snoqualmie Valley Rotary, the City, and others.
  - **Railroad Park (City of Snoqualmie and Northwest Railway Museum).** Railroad Park is a passive 2.13-acre parkway and plaza located along SR 202, across the street from the historic train depot. The small plaza includes the Steward Swenson Rose Garden, Bud King memorial gazebo and a kiosk used by artists and craft-persons during events like Snoqualmie Railroad Days. The covered historic log on display in the park also features informational displays and seating. All the railroad parks and open space are partly owned by both the City and the Northwest Railway Museum.
  - **Riverview Park (City of Snoqualmie).** Riverview Park is a roughly 2.6-acre site located at the end of Newton Street, along the Snoqualmie River. Facilities in the park include picnic tables, playground equipment, public restrooms, basketball court, and a picnic shelter.
  - **Sandy Cove Park (City of Snoqualmie).** Sandy Cove Park is a 4.4-acre park located along the Snoqualmie River at the end of King Street, adjacent to downtown Snoqualmie. A 900-foot nature trail on King County property begins in the park and leads to a sandy beach at the river's edge.
  - **Snoqualmie Falls Park (Puget Sound Energy Regional Park).** Snoqualmie Falls Park is associated with the Snoqualmie Falls Hydroelectric Power Plant operated and managed by Puget Sound Energy. The 2-acre park is located on the north bank of the river just downstream of the Falls. Recreational facilities include an observation deck, restrooms, picnic facilities, and a trail to the base of the Falls. In 2013 a 3.5-year reconstruction project was completed to update the energy infrastructure and visitor facilities at the Falls. Facility improvements included: improved hiking trails between the upper and lower park areas; new interpretive signage; improved lighting, fencing, and viewpoints; new lower-park interpretive center, restrooms, and parking; improved river access for whitewater craft enthusiasts; and rehabilitation of the Train Depot and Carpenter Shop for public display.

- **Snoqualmie Parkway Trail (City of Snoqualmie).** This black-topped, 4-mile trail parallels the north and west side of the Snoqualmie Parkway from the beginning of the Parkway down to SR-202. The trail provides the primary pedestrian connection between Snoqualmie Ridge and Historic Snoqualmie.

- **Snoqualmie Valley Trail (King County Regional Trail).** The Snoqualmie Valley Trail is a 36-mile soft surface regional trail located on the old Chicago-Milwaukee Railroad right-of-way – the trail corridor runs north/south from the King/Snohomish county line to the City of Snoqualmie. The trail was originally planned as an unpaved pedestrian, equestrian, and mountain bicycle trail, and will eventually be continued north to Bellingham. Another 18-mile section extends southeast from Snoqualmie through North Bend and on to Rattlesnake Lake, where it connects to the cross-state John Wayne trail. The two portions of the trail are currently separated by the old Weyerhaeuser Mill property – King County owns much of the land needed to connect the two sections but has not yet developed the missing link (see Exhibit 3.13-2 and missing trail #9 in Exhibit 3.13-5). Trail users currently use Mill Pond Road to connect between the trail segments.
- **Three Forks Natural Area (King County Regional Open Space).** Three Forks Natural Area and Park is a King County regional park site located at the confluence of the three forks of the Snoqualmie River. The 435-acre park is predominantly natural, and is meant to preserve unique habitat areas, provide river-related recreation opportunities, preserve the flood storage capacity of the land, and provide connections to regional trails in the Snoqualmie Valley. About 215 acres of the Three Forks Natural Area is located within the City of Snoqualmie.

Other Nearby Facilities

Additional nearby properties located more than a half-mile from the Snoqualmie Mill site but that serve the larger region include Centennial Fields, Kimball Creek Trail, Meadowbrook Farm and Trail, the Preston-Snoqualmie Trail, the Snoqualmie Ridge Soft Surface Trail, Three Forks Island, and Tokul Creek Forest.

- **Centennial Fields (City of Snoqualmie).** Snoqualmie's largest athletic field facility, Centennial Fields, contains 19 acres (15 usable acres) and provides three youth/adult baseball fields and a football/soccer field, as well as a paved perimeter jogging trail, a restroom and concession building, play structure, picnic shelter, and barbecue pits.
- **Kimball Creek Trail (City of Snoqualmie).** Kimball Creek Trail connects Fisher Creek Park to the Snoqualmie Parkway Trail. The future vision for this route is to connect to the Centennial Trail at SR 202 (see missing trail #6 in Exhibit 3.13-5). This missing link would also connect to an approximately 600' pedestrian nature trail provided through an access easement across private property following Kimball Creek from SR 202 to the Snoqualmie River.
- **Meadowbrook Farm and Trail (Cities of Snoqualmie and North Bend).** Meadowbrook Farm is a 462-acre property located within the corporate limits of North Bend and Snoqualmie; approximately 247 acres are in the City of Snoqualmie. An interlocal

agreement between King County and both cities restrict development of the site to passive, open space uses. The approximately 0.75-mile Meadowbrook Farm Trail connects Centennial Fields across the farm property in Snoqualmie to the farm property in North Bend and ends at the interpretive center.

- **Preston-Snoqualmie Trail (King County Regional Trail).** The Preston-Snoqualmie Trail is an 8.5-mile paved trail corridor running east and west from Preston to Lake Alice within the Mountains to Sound Greenway, with proposed connections to the East Sammamish and Snoqualmie Valley trail system. The existing portion of the trail runs along the old Burlington Northern railroad right-of-way, ending at the trestle west of Snoqualmie Falls. An additional 2-mile section of the trail is planned to complete the link from Lake Alice to Snoqualmie.
- **Snoqualmie Ridge Soft Surface Trail (City of Snoqualmie).** This soft-surface pedestrian /equestrian multi-use trail network connects through Snoqualmie Ridge and the Snoqualmie Ridge Business Park, with spurs connecting to the Preston-Snoqualmie Trail. The trail network, including Deep Creek Trail, Silent Creek Trail, and Deer Park Trail, totals 16 miles.
- **Three Forks Island (Puget Sound Energy).** Three Forks Island is riparian open space property adjacent to Three Forks Park and owned by Puget Sound Energy. The "island" is surrounded by channels of the South Fork and main stem Snoqualmie River.
- **Tokul Creek Forest (Private Facility).** Tokul Creek Forest is owned and operated by Campbell Global, a Portland, OR firm, as part of their larger Snoqualmie Forest property. The Tokul East trail system, located within Tokul Creek Forest, consists of logging road climbs and a combination of loose, technical descents and trails primarily used for mountain biking. King County has purchased most of the development rights for the forest, but much of Tokul East was kept out of that deal and it is zoned residential, with future homes possible for this area. Motorized and non-motorized recreation permits are available for purchase from Campbell Global.

Level of Service Standards

Classification and Service Area Level of Service

As part of the City of Snoqualmie's Comprehensive Plan and Parks, Recreation, and Open Space Plan, the City has identified classification and service area Level of Service (LOS) standards for park and recreation facilities. The LOS standards are utilized to determine park and recreation facility needs and are used as tools for capital facilities planning for the City. These LOS standards represent overall levels of facilities that the City seeks to achieve on a citywide basis. Exhibit 3.13-3 summarizes the adopted LOS standards, actual existing LOS (based on the current ratio of facilities to population), and existing (unmet) needs for park and recreation facilities per the 2018 Open Space, Parks and Recreation Plan.

Exhibit 3.13-3. City of Snoqualmie Adopted LOS, Existing/Future LOS, and Existing/Future Needs

Facility Type	Service Area Radius and Desirable Size	Adopted LOS Std.	Current Supply	Existing LOS	Existing Need
Parks					
Mini Park[1,2]	**Service Area Radius:** Less than ¼ miles **Desirable Size:** 1/3 to 1 acre	0.25 acres per 1,000 residents	9.96 acres	0.75 acres per 1,000 residents	None
Neighborhood Park[1]	**Service Area Radius:** ¼ to ½ mile **Desirable Size:** 2 to 10 acres	2 acres per 1,000 residents	24.71 acres	1.87 acres per 1,000 residents	**1.71 acres**
Community Park[1,2]	**Service Area Radius:** ½ to 25 miles **Desirable Size:** 10+ acres	8 acres per 1,000 residents	73.97 acres	5.60 acres per 1,000 residents	**47.71 acres**
Natural Park	**Service Area Radius:** ½ mile **Desirable Size:** Sufficient to protect resource	Sufficient to protect resource	684.0 acres	N/A	N/A
Water Access Area	**Service Area Radius:** ½ to 5 miles **Desirable Size:** 1 acre	1 acre per 1,000 residents	0 acres	0 acres per 1,000 residents	**13.21 acres**
Parkways and Trails[2]	**Service Area Radius:** ½ mile **Desirable Size:** 0.5 to 4+ miles	1.5 miles per 1,000 residents	30.06 miles	2.28 miles per 1,000 residents	None
Recreation					
Adult Baseball Field	**Service Area Radius:** ¼ to ½ mile **Dimensions:** Baseline 90', Field 400'; 3 acres	1 field per 5,000 residents	3	1 field per 4,403 residents	None
Youth Baseball / Adult Softball Field	**Service Area Radius:** ¼ to ½ mile **Dimensions:** Baseline 60', Field 325'; 2 acres	1 field per 2,000 residents	4[3]	1 field per 3,303 residents	**2.6 fields**
Soccer Field	**Service Area Radius:** 1 to 2 miles **Dimensions:** 225' x 360'; ½ to 2 acres	1 field per 2,000 residents	5[3,4]	1 field per 2,642 residents	**1.6 fields**
Youth Football	**Service Area Radius:** 5 to 10 miles **Dimensions:** 160' x 360'	1 field per 10,000 residents	2[4]	1 field per 6,605 residents	None

Facility Type	Service Area Radius and Desirable Size	Adopted LOS Std.	Current Supply	Existing LOS	Existing Need
Basketball Court	**Service Area Radius:** ¼ to ½ mile **Dimensions:** Undefined	1 court per 2,000 residents	5.5	1 court per 2,402 residents	**1.1 courts**
Tennis Court	**Service Area Radius:** ¼ to ½ mile **Dimensions:** 36' x 78', 2 acres	1 court per 2,000 residents	6[4]	1 court per 2,202 residents	**0.6 courts**
Volleyball*	**Service Area Radius:** 5 to 10 miles **Dimensions:** 30'x 60'; 4,000 ft[2]	1 court per 10,000 residents	1	1 court per 13,210 residents	**0.3 courts**
Skate Park	**Service Area Radius:** 3 to 5 miles **Dimensions:** Undefined	1 skate park per 12,000 residents	1	1 skate park per 13,210 residents	**0.1 skate parks**
Track	**Service Area Radius:** 1 to 2 miles **Dimensions:** ¼ mile length	1 track per 10,000 residents	2	1 track per 6,605 residents	None
Swimming Pool	**Service Area Radius:** 5 to 10 miles **Dimensions:** 25m x 16m or 25yd x 45ft; need 2 acres	1 pool per 12,500 residents	0	0 pools	**1.1 pools**
Gymnasium*	**Service Area Radius:** 3 to 5 miles **Dimensions:** Undefined	1 gymnasium per 5,000 residents	1	1 gymnasium per 13,210 residents	**1.6 gymnasiums**
Community Center*	**Service Area Radius:** 5 to 10 miles **Dimensions:** Undefined	1 center per 10,000 residents	1	1 community center per 13,210 residents	**0.3 community centers**
Community Garden	**Service Area Radius:** Undefined **Dimensions:** Undefined	3 plots per 1,000 residents	36	3 plots per 1,101 residents	**3.6 plots**

Note: Existing LOS and needs are identified in the 2018 Open Space, Parks and Recreation Plan and based on a population of 13,210 (2017, OFM). Park and recreation facilities with an existing need are bolded. Indoor facilities are denoted by an (*).

[1] All acreage is unconstrained, usable land.

[2] For purposes of calculating existing LOS, the current supply is consistent with the analysis in the 2018 Open Space, Parks and Recreation Plan.

[3] A multipurpose field was installed at Carmichael Park in 2012, increasing the number of youth baseball and soccer fields by 1 each as compared to the 2018 Open Space, Parks and Recreation Plan.

[4] Includes facilities added at Jeanne Hansen Park in 2013 (two soccer fields, one football field, and one tennis court).

Source: Snoqualmie Open Space, Parks and Recreation Plan (Table 9.3 and Table 9.4), 2018; BERK, 2020.

As identified in Exhibit 3.13-3, the City had an existing need for 1.71 acres of neighborhood park, 47.71 acres of community park, and 13.21 acres of water access area based on 2017 population. In addition, the City had an existing need for all recreation facilities except adult baseball fields, youth football fields, and tracks based on 2017 population.

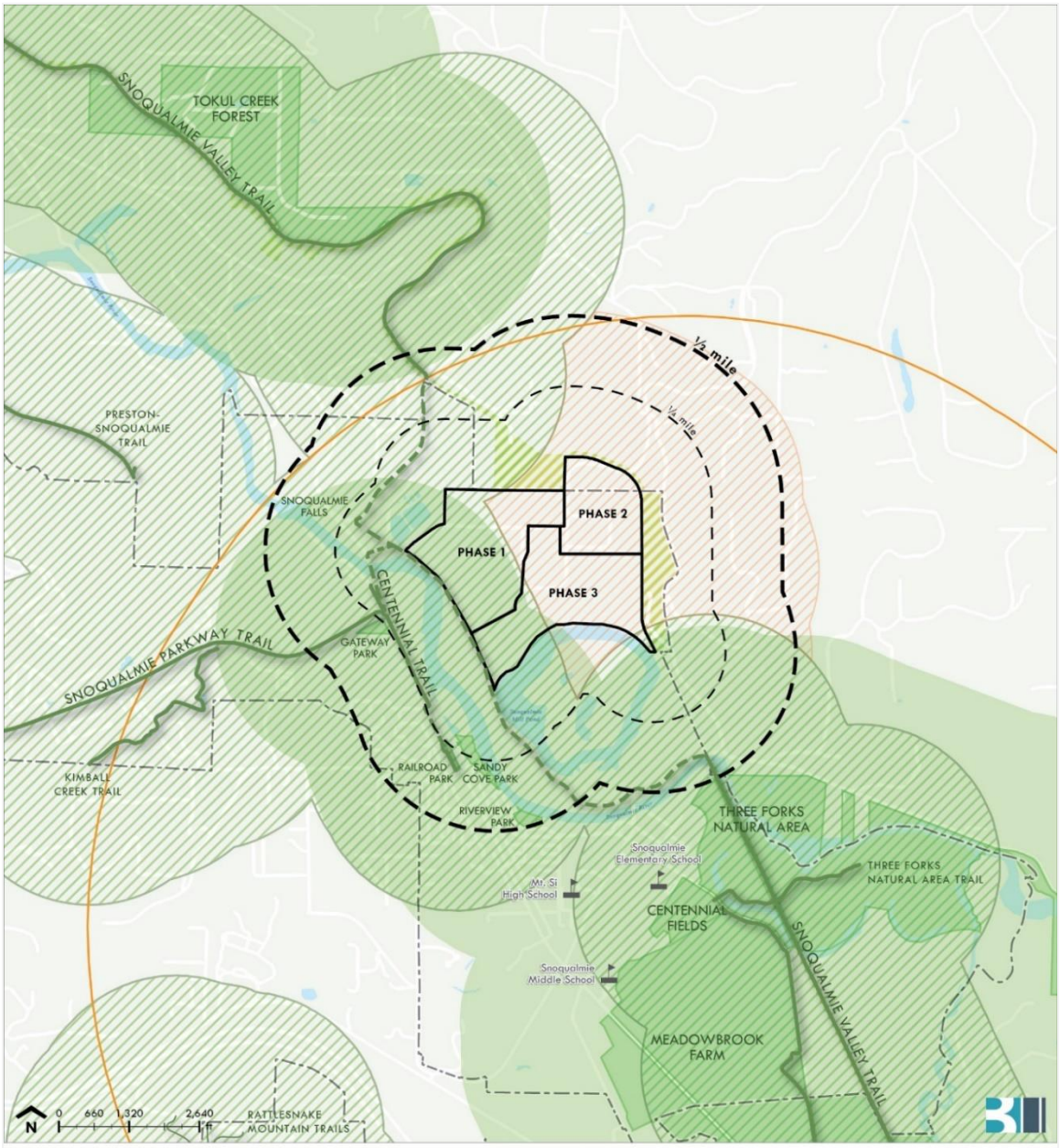
Exhibit 3.13-4 identifies existing geographic service area gaps based on the service area radii identified in Exhibit 3.13-3 for various types of facilities. Approximately 1/3 of Planning Area 1, 2/3 of Planning Area 2, and all of Planning Area 3 are currently underserved by existing trails and neighborhood parks. When King County develops the missing link of the Snoqualmie Valley Trail, the entire Snoqualmie Mill site will be within one half-mile of a trail facility. The football/soccer field at Centennial Fields is within the 1- to 2-mile service area of soccer fields and 5- to 10-mile service area of youth football fields. The entire Mill area is outside the quarter- to half-mile service area of an existing youth baseball/adult softball fields.

Staffing Level of Service

The Comprehensive Plan identifies an average staffing service standard of 1 maintenance staff per every 13 park acres citywide.[25] The City currently manages 138.7 acres of parks[26] and budgets for 10.82 FTE parks staff (including 0.5 admin staff)[27] – this results in an existing LOS of 1 maintenance staff per 13 park acres, consistent with the adopted standard.

[25] City of Snoqualmie Comprehensive Plan (Table 1.2 on page 1-33), 2014.
[26] Parks Recreation and Open Space Plan (Table 9.5), 2018. Includes mini parks, neighborhood parks, community parks, water access areas (currently none), and parkways and trails (1 mile counted as 1 acre).
[27] City of Snoqualmie 2017-2018 Adopted Budget Worksheet.

Exhibit 3.13-4. Existing Park and Recreation Service Area Gaps



Source: Snoqualmie Open Space, Parks and Recreation Plan, 2018; City of Snoqualmie Parks & Recreation Website, 2017; King County Park TrailFinder Interactive Map, 2017.

Other City Policies, Plans, and Requirements

Trails

Although the City's LOS standards for trails are currently met, several missing trail sections currently inhibit full connectivity for those using the trails for bicycle, pedestrian, and equestrian transportation and recreational uses (see Exhibit 3.13-5). The Comprehensive Plan includes a requirement specific to the Mill Planning Area (which encompasses the Snoqualmie Mill property), to plan for and commit to provide trail right-of-way to connect local and regional trails in the Annexation Implementation Plan (AIP; Comprehensive Plan Vision & Policy Plan 1-34, Table 1.3, Requirement (g)). This includes the Riverwalk Route and missing Snoqualmie Valley Trail link:

- **Riverwalk Route** (starts at Tokul roundabout and ends at Meadowbrook Farm): Would proceed south from Sandy Cove, eventually loop across the river, and come up east of the river along the Mill site.

  The City of Snoqualmie has developed objectives and policies to support tourism and maximize the City's tourism assets in its Comprehensive Plan (Vision & Policy Plan 1-12, Objective 3.5), which specifically identifies plans for "opening the riverfront by developing a looped "riverwalk" trail with connections to the local Centennial Trail and the regional Snoqualmie Valley and Preston-Snoqualmie trails." Both the Comprehensive Plan and Downtown Master Plan describe the Riverwalk as a "destination trail loop" to be enjoyed by residents and visitors alike.

  The 2015 Riverwalk Master Plan further illustrates and describes design and planning elements of the entire Riverwalk route from Snoqualmie Falls to Three Forks Natural Area, including phased implementation of a hierarchy of trails and trail types along the north and south shores of the Snoqualmie River. Specific goals addressed in the Plan include connecting to regional trail systems and linking the City's focal points – such as the Downtown Historic District, the Northwest Railway Museum, the Snoqualmie River and its adjacent wilderness, Snoqualmie Falls, and the Salish Lodge.

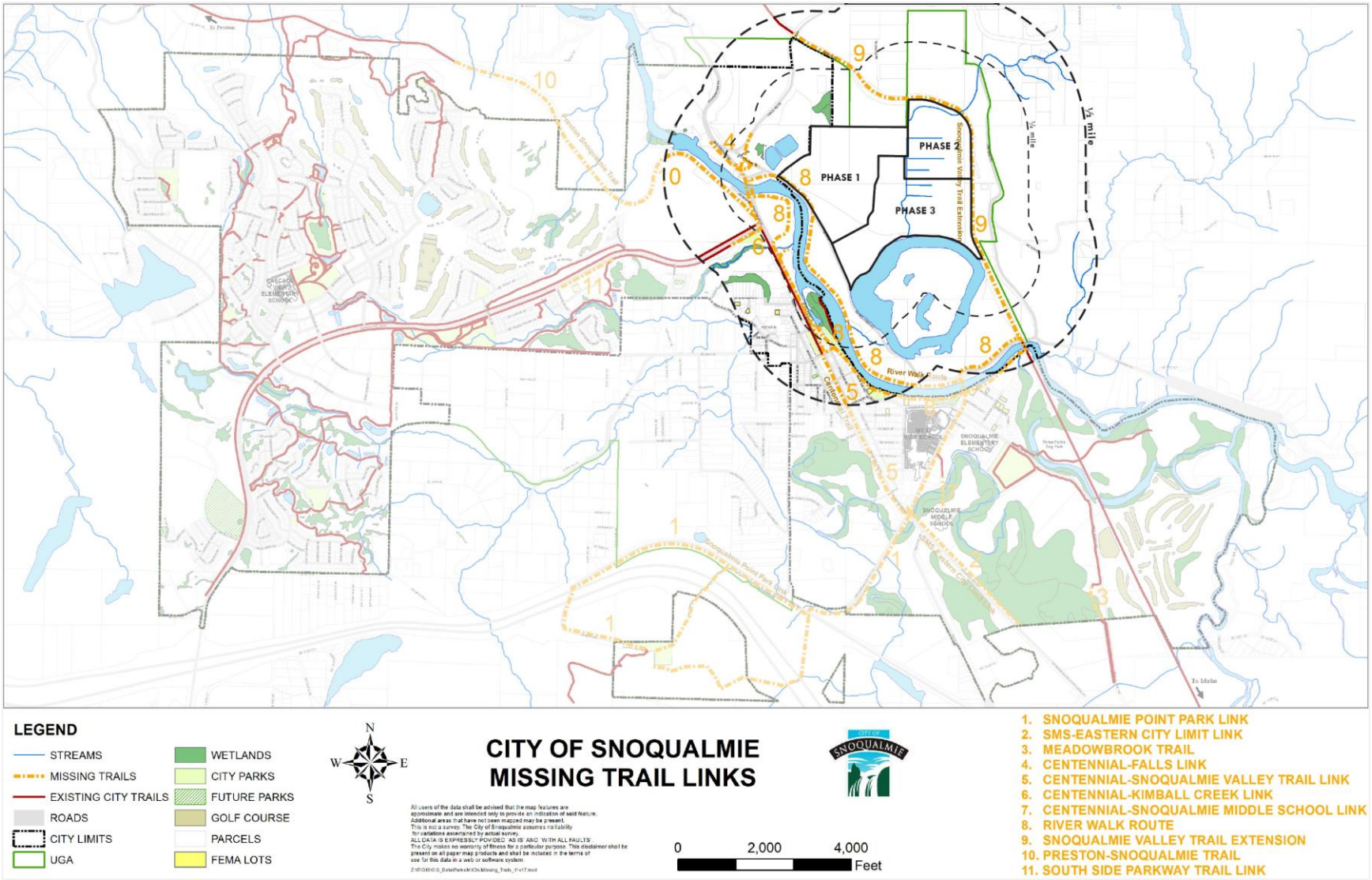
  Per the Pre-Annexation Agreement, the owner of the portion of the Mill Planning Area lying south and west of SE Mill Pond Road, within the Natural Shoreline Environment and the Open Space 1 District, is required to dedicate a 20-foot wide area to the City for a Riverwalk Trail Corridor in the area (the parcel is currently owned by Weyerhaeuser). This trail will be located within the Snoqualmie River critical area buffer. The exact location will be determined as mutually agreed upon by the property owners and the City.

- **Snoqualmie Valley Trail Extension** (starts at Meadowbrook Bridge and ends at the existing Snoqualmie Valley Trail): A multi-use, regional trail that allows cross-state trail connections to Idaho. The missing link would need to connect to the current official endpoint for the trail, bridging the gap across the Snoqualmie River.

  To address the missing link of the Snoqualmie Valley Trail, the Pre-Annexation Agreement requires Snoqualmie Mill Ventures or Weyerhaeuser Real Estate Development Company to

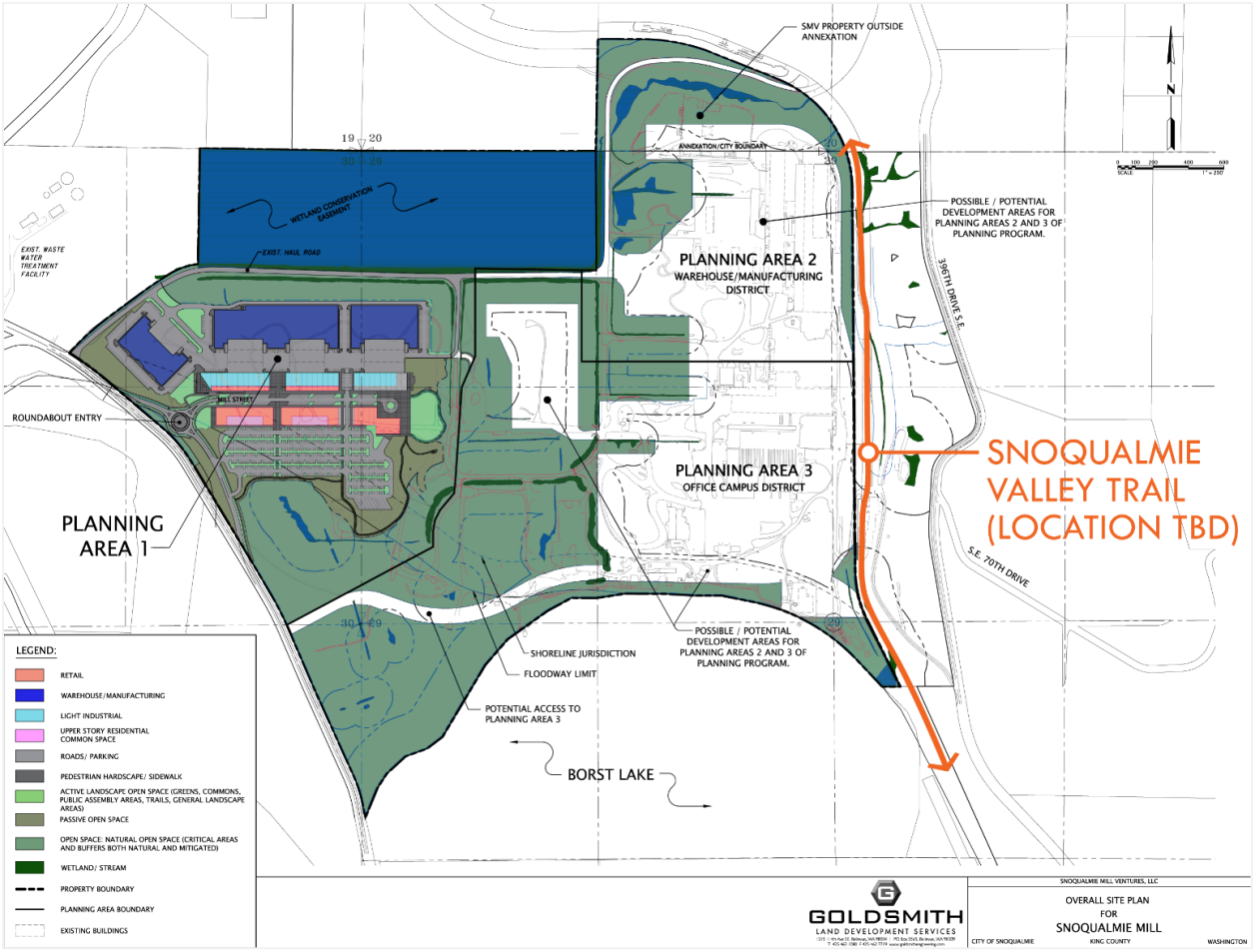
provide an easement, right-of-way dedication, or transfer of ownership through the Mill Planning Area (which extends beyond the Snoqualmie Mill property). King County purchased approximately 32 acres of the "hillside" in 2015 to accommodate a portion of this missing link (parcels 2924089002, 2924089003, and 2924089028), but additional land will be required to complete the trail system through the Mill Planning Area as set forth in the Pre-Annexation Agreement. Exhibit 3.13-6 shows the planned alignment for the trail located east of the boundary of the Snoqualmie Mill site, across the hillside that was purchased by King County The ultimate location of the trail dedication or easement will be determined in the future as agreed upon by the owners, the City, and King County Parks Department.

Exhibit 3.13-5. Missing Trail Links



Source: Adapted from Figure 9-2 in the Snoqualmie Open Space, Parks and Recreation Plan, 2018.

Exhibit 3.13-6. Planning Area Overview, Snoqualmie Valley Trail



Source: Goldsmith, 2018.

Additional missing trail links within a half-mile of the Snoqualmie Mill property include the Centennial-Falls link (intended to assist people walking from Snoqualmie Falls to the Centennial Trail), the Centennial-Snoqualmie Valley Trail link (crossing the river from the Snoqualmie Valley Trail to the Centennial Trail), the Centennial-Kimball Creek link (connecting Kimball Creek Village to the Centennial Trail), and a portion of the Preston-Snoqualmie Trail (from the existing trail end to Railroad Parkway at the Centennial Trail). Exhibit 3.13-5 shows the missing trails citywide and within a half-mile of the Mill property.

The PROS Plan also indicates a desire to develop park/trail and recreation facilities identified as a current or future need to meet the City's LOS standards, and to provide safe water access to the Mill Pond upon annexation and development of the former mill site (see the text box on page 20 of the 2018 Open Space, Parks and Recreation Plan).

Open Space

The City of Snoqualmie's Municipal Code requires development within the Planned Commercial Industrial (PCI) District to set aside at least 35% of the total acreage for open space, natural areas, parks, or green and common areas.

> *"At least 35% of the total acreage for the development proposal must be dedicated to open space, natural areas, parks, or greens, commons or public assembly areas; provided, for projects subject to the provisions of subsection D of this section, the common open space may be provided within the area subject to the plan as a whole." (SMC 17.20.050 (G))*

Capital Facilities Planning

The City of Snoqualmie adopted 2015-2020 Capital Improvement Plan (CIP) identifies park and recreation capital improvements projects through the year 2020.[28] These include:

- Renovate Railroad Park in conjunction with Downtown Phase II improvements, including landscaping and trail realignment ($200,000 funded in 2019)
- Construct skateboard facilities in an existing park or a new skateboard park (development shown in 2013-2014)
- Riverwalk property acquisition (~$3.8 million funded acquisition shown from 2015-2020) and construction (Phases I-III in 2017-2019, primarily unfunded) to provide shoreline protection, park space, and visual shoreline access

The City's 2019-2024 Transportation Improvement Plan (TIP) also includes a Snoqualmie River SR 202 Pedestrian Bridge, that would connect the downtown and Riverwalk Route to Snoqualmie Falls. The design project is a complete replacement of both the SR 202 Kimball Creek Bridge and the Centennial Trail Bridge, which is adjacent on the western side of the roadway. The bridge would be widened and replaced with a new bridge to meet current bridge design standards, and the Centennial Trail would be widened and relocated onto a 14-foot wide shared-use trail deck. WSDOT currently does not have funds to replace the bridge.[29]

3.13.2. Impacts

Impacts Common to All Alternatives

Classification and Service Area Level of Service

City-wide population growth in the City of Snoqualmie without the proposed PCI Plan would generate increased demand for parks and recreational facilities and programs. Exhibit 3.13-7

[28] The 2017-2022 CIP update covers only utility capital projects. According to the 2017 CIP, the 2015-2020 CIP (adopted December 2014), "is still applicable and financially binding for General Government, Parks, Public Safety, and Transportation capital projects."

[29] See the 2019-2024 Transportation Improvement Plan as adopted by Resolution 1457.

includes an analysis of existing and future LOS and associated need to meet the City's adopted LOS standards under 2032 future background growth[30] and all alternatives. Increased demand for neighborhood parks, community parks, water access areas, youth baseball/adult softball fields, soccer fields, basketball courts, tennis courts, volleyball courts, skate parks, swimming pools, gymnasiums, community centers, and community gardens would increase the City's existing deficiencies in those categories (see discussion under Level of Service Standards above). In addition to the existing deficiencies, future baseline population growth and growth under the Proposed PCI Plan and the Redevelopment Alternative would result in additional needs for an adult baseball field.

The No Action Alternative would contribute no population or employment growth specific to the Mill site. Under the No Action Alternative, no redevelopment would occur because a PCI Plan would not be approved for the Mill site; City policies and regulations require approval of a PCI plan as a pre-requisite for redevelopment. Existing on-site uses, including DirtFish Rally and other uses identified in Section 2.2, would continue indefinitely, as permitted by the Pre-Annexation Agreement. Impacts to existing and planned park and recreation facilities are therefore considered analogous to the impacts of future baseline growth citywide.

Population growth under either the PCI Plan or Redevelopment Alternative would not result in significant impacts or LOS deficiencies significantly greater than those under future background growth (without the PCI Plan). Approximately 160 or 120 market-rate 1- to 2-bedroom rental units would be added under the PCI Plan or the Redevelopment Alternative, respectively. Assuming an average household size of 1.9,[31] this would result in a population increase of approximately 304 under the PCI Plan and 228 under the Redevelopment Alternative over future background growth. This population growth would occur with development of Planning Area 1 by 2023 for both the Proposed PCI Plan and Redevelopment Alternative.

The City has not adopted a parks and recreation Level of Service Standard for non-residential uses. However, it is anticipated that additional employees under the PCI Plan would make only limited use of the nearby park facilities on lunch breaks or before or after work hours. This effect would be most pronounced under the PCI Plan proposal due to its larger number of employees. The Redevelopment Alternative could generate approximately 46% fewer jobs compared to the PCI Plan. Under either the Proposal or Alternative, jobs would be phased across all three Planning Areas and demand would increase gradually.

Any increase in tourism associated with the PCI Plan or Redevelopment Alternative would likely result in an insignificant and transient increase in demand for city park and recreational facilities.

[30] Assumes the medium 2032 projected growth citywide anticipated in the 2014 Comprehensive Plan (15,552 persons) without the Snoqualmie Mill project as proposed.
[31] Personal communication with Erik Rundell (ECONorthwest), email on October 12, 2017.

Exhibit 3.13-7. Citywide Park and Recreation LOS and Needs, All Alternatives

Facility Type	Adopted LOS Std. (2018)	Current Supply (2017)		Existing LOS & Need (2017)	Future Baseline – No Action LOS & Need (2032)[1]	Proposed Alt. LOS & Need (2032)[2]	Redev. Alt. 1 LOS & Need (2032)[2]
Parks							
Mini Park[3]	0.25 acres per 1,000 residents	9.96 acres	*LOS*	0.75 acres per 1,000 residents	0.64 acres per 1,000 residents	0.63 acres per 1,000 residents	0.63 acres per 1,000 residents
			Need	None	None	None	None
Neighborhood Park[3,4]	2 acres per 1,000 residents	24.71 acres	*LOS*	1.87 acres per 1,000 residents	1.69 acres per 1,000 residents	1.65 acres per 1,000 residents	1.66 acres per 1,000 residents
			Need	**1.71 acres**	**4.89 acres**	**5.5 acres**	**5.35 acres**
Community Park[3]	8 acres per 1,000 residents	73.97 acres	*LOS*	5.6 acres per 1,000 residents	4.76 acres per 1,000 residents	4.67 acres per 1,000 residents	4.69 acres per 1,000 residents
			Need	**47.71 acres**	**50.45 acres**	**52.88 acres**	**52.27 acres**
Natural Park	Sufficient to protect resource	684 acres	*LOS*	N/A	N/A	N/A	N/A
			Need	N/A	N/A	N/A	N/A
Water Access Area	1 acre per 1,000 residents	0 acres	*LOS*	0 acres	0 acres	0 acres	0 acres
			Need	**13.21 acres**	**15.55 acres**	**15.86 acres**	**15.78 acres**
Parkways and Trails[4]	1.5 miles per 1,000 residents	30.06 miles	*LOS*	2.28 miles per 1,000 residents	2.11 miles per 1,000 residents	2.07 miles per 1,000 residents	2.08 miles per 1,000 residents
			Need	None	None	None	None
Recreation							
Adult Baseball Field	1 field per 5,000 residents	3	*LOS*	1 field per 4,403 residents	1 field per 5,184 residents	1 field per 5,285 residents	1 field per 5,260 residents
			Need	None	**0.1 fields**	**0.2 fields**	**0.2 fields**
Youth Baseball / Adult Softball Field[5]	1 field per 2,000 residents	4	*LOS*	1 field per 3,303 residents	1 field per 3,888 residents	1 field per 3,964 residents	1 field per 3,945 residents
			Need	**2.6 fields**	**3.8 fields**	**3.9 fields**	**3.9 fields**
Soccer Field[5]	1 field per 2,000 residents	5	*LOS*	1 field per 2,642 residents	1 field per 3,110 residents	1 field per 3,171 residents	1 field per 3,156 residents
			Need	**1.6 fields**	**2.8 fields**	**2.9 fields**	**2.9 fields**

Facility Type	Adopted LOS Std. (2018)	Current Supply (2017)		Existing LOS & Need (2017)	Future Baseline – No Action LOS & Need (2032)[1]	Proposed Alt. LOS & Need (2032)[2]	Redev. Alt. 1 LOS & Need (2032)[2]
Youth Football	1 field per 10,000 residents	2	*LOS*	1 field per 6,605 residents	1 field per 7,776 residents	1 field per 7,928 residents	1 field per 7,890 residents
			Need	None	None	None	None
Basketball Court	1 court per 2,000 residents	5.5	*LOS*	1 court per 2,402 residents	1 court per 2,828 residents	1 court per 2,883 residents	1 court per 2,869 residents
			Need	**1.1 courts**	**2.3 courts**	**2.4 courts**	**2.4 courts**
Tennis Court	1 court per 2,000 residents	6	*LOS*	1 court per 2,202 residents	1 court per 2,592 residents	1 court per 2,643 residents	1 court per 2,630 residents
			Need	**0.6 courts**	**1.8 courts**	**1.9 courts**	**1.9 courts**
Volleyball*	1 court per 10,000 residents	1	*LOS*	1 court per 13,210 residents	1 per 15,552 residents	1 per 15,856 residents	1 per 15,780 residents
			Need	**0.3 courts**	**0.6 courts**	**0.6 courts**	**0.6 courts**
Skate Park	1 skate park per 12,000 residents	1	*LOS*	1 skate park per 13,210 residents	1 skate park per 15,552 residents	1 skate park per 15,856 residents	1 skate park per 15,780 residents
			Need	**0.1 skate parks**	**0.3 skate parks**	**0.3 skate parks**	**0.3 skate parks**
Track	1 track per 10,000 residents	2	*LOS*	1 track per 6,605 residents	1 track per 7,776 residents	1 track per 7,928 residents	1 track per 7,890 residents
			Need	None	None	None	None
Swimming Pool	1 pool per 12,500 residents	0	*LOS*	0 pools	0 pools	0 pools	0 pools
			Need	**1.1 pools**	**1.2 pools**	**1.3 pools**	**1.3 pools**
Gymnasium*	1 gym per 5,000 residents	1	*LOS*	1 gym per 13,210 residents	1 gym per 15,552 residents	1 gym per 15,856 residents	1 gym per 15,780 residents
			Need	**1.6 gyms**	**2.1 gyms**	**2.2 gyms**	**2.1 gyms**
Community Center*	1 center per 10,000 residents	1	*LOS*	1 center per 13,210 residents	1 center per 15,552 residents	1 center per 15,856 residents	1 center per 15,780 residents
			Need	**0.3 community centers**	**0.6 community centers**	**0.6 community centers**	**0.6 community centers**
Community Garden	3 plots per 1,000 residents	36	*LOS*	3 plots per 1,101 residents	3 plots per 1,292 residents	3 plots per 1,321 residents	3 plots per 1,315 residents
			Need	**3.6 plots**	**10.7 plots**	**11.6 plots**	**11.3 plots**

Note: Existing LOS and needs are identified in the 2018 Open Space, Parks and Recreation Plan and based on a population of 13,210 (2017, OFM). Consistent with the 2014 Comprehensive Plan and 2018 Open Space, Parks and Recreation Plan, the No Action Alternative assumes a 2032 population of 15,552. Park and recreation facilities with an existing or future need are bolded. Indoor facilities are denoted by an (*).

[1] The No Action Alternative will contribute no population or employment growth specific to the Mill site. Under the No Action Alternative, no redevelopment would occur because City policies and regulations require approval of a PCI plan as a pre-requisite for redevelopment. Impacts to existing and planned park and recreation facilities are therefore considered analogous to the impacts of future baseline growth citywide.

[2] Approximately 160 market-rate 1-2-bedroom rental units would be added under the PCI Plan. Assuming an average household size of 1.9, this would result in approximately 304 additional residents over the future baseline and a citywide population of 15,856. Approximately 120 market-rate 1-2-bedroom rental units would be added under the Redevelopment Alternative, resulting in approximately 228 additional residents over the future baseline and a citywide population of 15,780. This population growth over the future baseline would occur by 2023 with development of Planning Area 1, which contains the full amount of planned residential.

[3] All acreage is unconstrained, usable land.

[4] The 2018 Open Space, Parks and Recreation expects 1.5 acres of neighborhood parks ("Mobile" Park) and 2.7 miles of parkways and trails (Meadowbrook/Park St Trail and Riverwalk Phase I and II) to be added to the City's inventory between 2018-2024. These properties are included in the calculations of future 2032 LOS and need but not in the listed 2017 current supply.

[5] A multipurpose field was installed at Carmichael Park in 2012, increasing the number of youth baseball and soccer fields by 1 each as compared to the 2018 Parks, Recreation and Open Space Plan.

Source: Snoqualmie Open Space, Parks and Recreation Plan (Table 9.3 – 9.6), 2018; Personal communication with Erik Rundell (ECONorthwest), email on October 12, 2017; BERK, 2020.

Staffing Level of Service

The Comprehensive Plan establishes a service standard of approximately one maintenance staff per every 13 park acres citywide. Under the future baseline growth scenario, an additional 70.89 park acres[32] and associated 5.45 maintenance staff would be needed. Under the proposed PCI Plan, an additional 74.24 park acres and associated 5.71 maintenance staff would be cumulatively needed with the future baseline growth (or 0.26 more staff than under future baseline growth). Under the Redevelopment Alternative, an additional 73.40 park acres and associated 5.65 maintenance staff would be needed cumulatively with the future baseline growth (0.2 more staff than under future baseline growth).

Impacts of Proposal

PCI Plan / Planning Area 1

Because residential population is the driver of City parks-related level of service standards, and population growth would occur only in Planning Area 1, the PCI Plan and Planning Area 1 are considered together.

Planning Area 1 is expected to be developed by 2023, before the horizon year of the City's Comprehensive Plan. However, because the City's 2018 Open Space, Parks and Recreation Plan plans for needs through 2032 and did not contemplate residential development on the PCI Plan site, the incremental addition of demand on the system due to growth in Planning Area 1 is identified below.

Classification and Service Area Level of Service

Population growth under the proposal would result in a net increase in need by 2023 and would be in addition to the need identified for the City's expected 2032 population. As discussed under Impacts Common to All Alternatives, all park and recreation facilities listed below would fail to meet LOS standards under future baseline growth:

- neighborhood parks;
- community parks;
- water access areas;
- adult baseball fields;
- youth baseball/adult softball fields;
- soccer fields;
- basketball courts;
- tennis courts;

[32] Includes mini parks, neighborhood parks, community parks, water access areas, and parkways and trails (1 mile counted as 1 acre).

- volleyball courts;
- skate parks;
- swimming pools;
- gymnasiums;
- community centers; and
- community garden plots.

Existing demand and demand under future baseline growth would need to be addressed through the City's capital facility planning process and updates to the PROS Plan.

Exhibit 3.13-8. Park and Recreation Facilities with an Increased Net Need over Future Background Growth

Facility Type	Future Baseline Growth Need (2032)[1]	Proposed Alt.[2]		Redevelopment Alt. 1[2]	
		Need	*Change from Future Baseline*	*Need*	*Change from Future Baseline*
Parks					
Mini Park	None	None	—	None	—
Neighborhood Park[3,4]	4.89 acres	5.50 acres	**0.61 acres**	5.35 acres	**0.46 acres**
Community Park[3]	50.45 acres	52.88 acres	**2.43 acres**	52.27 acres	**1.82 acres**
Natural Park	N/A	N/A	—	N/A	—
Water Access Area	15.55 acres	15.86 acres	**0.30 acres**	15.78 acres	**0.23 acres**
Parkways and Trails[4]	None	None	—	None	—
Recreation					
Adult Baseball Field	0.1 fields	0.2 fields	**0.1 fields**	0.2 fields	—
Youth Baseball / Adult Softball Field[5]	3.8 fields	3.9 fields	**0.2 fields**	3.9 fields	**0.1 fields**
Soccer Field[5]	2.8 fields	2.9 fields	**0.2 fields**	2.9 fields	**0.1 fields**
Youth Football	None	None	—	None	—
Basketball Court	2.3 courts	2.4 courts	**0.2 courts**	2.4 courts	**0.1 courts**
Tennis Court	1.8 courts	1.9 courts	**0.2 courts**	1.9 courts	**0.1 courts**
Volleyball*	0.6 courts	0.6 courts	—	0.6 courts	—
Skate Park	0.3 skate parks	0.3 skate parks	—	0.3 skate parks	—
Track	None	None	—	None	—
Swimming Pool	1.2 pools	1.3 pools	—	1.3 pools	—
Gymnasium*	2.1 gyms	2.2 gyms	**0.1 gyms**	2.2 gyms	—

Facility Type	Future Baseline Growth Need (2032)[1]	Proposed Alt.[2]		Redevelopment Alt. 1[2]	
		Need	*Change from Future Baseline*	*Need*	*Change from Future Baseline*
Community Center*	0.6 community centers	0.6 community centers	—	0.6 community centers	—
Community Garden	10.7 plots	11.6 plots	**0.9 plots**	11.3 plots	**0.7 plots**

Notes: Because residential population is the driver of City parks-related level of service standards, and population growth would occur only in Planning Area 1, the PCI Plan and Planning Area 1 are considered together. Existing LOS and needs are identified in the 2018 Open Space, Parks and Recreation Plan and based on a population of 13,210 (2017 OFM). Consistent with the 2014 Comprehensive Plan and 2018 Open Space, Parks and Recreation Plan, the No Action Alternative assumes a 2032 population of 15,552. Park and recreation facilities with an existing or future need are bolded. Indoor facilities are denoted by an (*). Need and change from future baseline may appear off from one another due to rounding.

[1] The No Action Alternative will contribute no population or employment growth specific to the Mill site. Under the No Action Alternative, no redevelopment would occur because City policies and regulations require approval of a PCI plan as a pre-requisite for redevelopment. Impacts to existing and planned park and recreation facilities are therefore considered analogous to the impacts of future baseline growth citywide.

[2] Approximately 160 market-rate 1-2-bedroom rental units would be added under the PCI Plan. Assuming an average household size of 1.9, the PCI Plan would result in approximately 304 additional residents over the future baseline and a citywide population of 15,856. Approximately 120 market-rate 1-2-bedroom rental units would be added under the Redevelopment Alternative, resulting in approximately 228 additional residents over the future baseline and a citywide population of 15,780.

[3] All acreage is unconstrained, usable land.

[4] The 2018 Open Space, Parks and Recreation expects 1.5 acres of neighborhood parks ("Mobile" Park) and 2.7 miles of parkways and trails (Meadowbrook/Park St Trail and Riverwalk Phase I and II) to be added to the City's inventory between 2018-2024. These properties are included in the calculations of future 2032 LOS and need.

[5] A multipurpose field was installed at Carmichael Park in 2012, increasing the number of youth baseball and soccer fields by 1 each as compared to the 2018 Open Space, Parks and Recreation Plan.

Source: Snoqualmie Open Space, Parks and Recreation Plan (Tables 9.3 – 9.6), 2018; Personal communication with Erik Rundell (ECONorthwest), email on October 12, 2017; BERK, 2020.

Trails

Redevelopment of the Snoqualmie Mill site would trigger the Comprehensive Plan and Pre-Annexation Agreement requirement to plan for and commit to provide trail rights-of-way to connect local and regional trails. As discussed under Existing Facilities, this includes the Riverwalk Route and the missing Snoqualmie Valley Trail link:

- **Riverwalk Route:** The Pre-Annexation Agreement requires Weyerhaeuser to dedicate a 20-foot wide area south and west of SE Mill Pond Road, within the Natural Shoreline Environment and the Open Space 1 District, to the City for a Riverwalk Trail Corridor. This trail would be constructed by the city and located within the Snoqualmie River critical area buffer (see Exhibit 3.13-6). The exact location will be determined as mutually agreed upon by the property owners and the City.
- **Snoqualmie Valley Trail:** To provide for the missing link of the Snoqualmie Valley Trail, the Pre-Annexation Agreement requires that an easement, right-of-way dedication, or transfer of ownership be to accommodate a trail connection through the Mill Planning Area. King County purchased approximately 32 acres of the "hillside" in 2015 to accommodate a portion of this missing link (parcels 2924089002, 2924089003, and 2924089028). Exhibit

3.13-6 above shows the Snoqualmie Valley Trail connection within a portion of the Mill Planning Area property that has been conveyed to King County. As set forth in the Pre-Annexation Agreement, additional land will be required to complete the trail system through the Mill Planning Area. The ultimate location of the trail will be determined in the future as agreed upon by the owners, the City, and King County Parks Department.

The PCI Plan proposes an integrated trail system throughout the entire site – at a concept level, future pedestrian connections and extensions of the trail system are generally indicated on the landscape plan. The trails will include passive and active recreation opportunities for visitors and future employees. Several initial segments of Snoqualmie Mill's planned trail system would be constructed in Planning Area 1 and would provide pedestrian connections to the trail system planned in the central open space area, and to development in Planning Areas 2 and 3. On the Snoqualmie Mill site as a whole, the trail system would be focused in the large central open space area in Planning Area 3. More detailed planning and design for these future trails would occur in conjunction with ongoing planning for Planning Area 3; the landscape plan will be expanded in increments to provide detail for subsequent phases of the development as detailed site planning extends across the balance of the property.

Most pedestrian activity in Planning Area 1 would be focused along Mill Street in the mixed-use village center identifies approximately 5,000 linear feet of trails and walkways that are planned in Planning Area 1 and adjacent to the Snoqualmie River west of Mill Pond Road.[33] Approximately 2,600 linear feet of soft-surfaced trails would be located in Planning Area 1 within open space areas, on the south and east sides of the parking area and around the lawn area; trail widths would vary from 6 to 12 feet, as shown in. Approximately 2,400 linear feet of hard surface trail/sidewalk would be constructed along both sides of the realigned Mill Pond Road in this general location.

Open Space

The City of Snoqualmie Municipal Code requires development within the PCI District to set aside at least 35% of the total acreage for open space, natural areas, parks, or green and common areas (17.20.050 (G)). Approximately 64% of the overall site would be retained as open space under the PCI Plan (166 of 261 acres under each alternative).

In Planning Area 1, development is proposed on approximately one-third of the planning area (33 acres), with two-thirds retained as open space (69 acres). Large natural open spaces and wetland conservation areas would be located north and south of the developed area, with additional landscaped open spaces integrated into the planning area.

Indirect and Cumulative Impacts

The foregoing discussion of Parks Services encompasses planned population growth and associated demand for services for Snoqualmie as a whole, as expressed in the City's adopted Comprehensive Plan. This approach to analysis encompasses cumulative impacts.

[33] This trail calculation does not include pedestrian paths within Planning Area 1's parking area or sidewalks along Mill Street.

Alternatives

Redevelopment Alternative

PCI Plan Site / Planning Area 1

Classification and Service Area Level of Service

Similar to the Proposal, development in Planning Area 1 is anticipated by 2023 under the Redevelopment Alternative. Population growth under the Redevelopment Alternative was not contemplated in the 2012 Open Space, Parks and Recreation Plan and the alternative would add incremental demand but would have slightly less impacts than the PCI Plan. The population increase of approximately 228 under the Redevelopment Alternative is less than the PCI Plan's 304 population.

Facilities that would have a marginal increase in demand above background growth due to the Redevelopment Alternative include:

- neighborhood parks;
- community parks;
- water access areas;
- youth baseball/adult softball fields;
- soccer fields;
- basketball courts;
- tennis courts; and
- community garden plots.

There would be no increase in impacts above background growth under the Redevelopment Alternative, and therefore less impact than the PCI Plan, regarding the following facilities:

- adult baseball fields; and
- gymnasiums.

While there is no Level of Service Standard for non-residential uses, it is likely that the 1,550 employees under the Redevelopment Alternative would make limited use of the nearby park facilities. Use of parks would be less that for the proposed PCI Plan.

Trails

As with the PCI Plan, redevelopment of the Snoqualmie Mill site under the Redevelopment Alternative would trigger the Comprehensive Plan requirement to plan for and commit to provide trail right-of-way to connect local and regional trails. This includes the Riverwalk Route and missing Snoqualmie Valley Trail link. The fulfilment of Comprehensive Plan requirements is the same under the Redevelopment Alternative as for the PCI Plan. See above.

Open Space

Under the Redevelopment Alternative, the percentage set aside for open space is the same as

for the PCI Plan. In addition to the proposed uses of open space planned in the PCI Plan, the Redevelopment Alternative would have a 3.7-acre landscaped/grass open space area with a permanent stage (2,000 sf), and a capacity for approximately 5,000 people. An average of 2 concerts per week are assumed to occur primarily on weekend evenings from June through September. This is assumed to be a private recreation venue and would not change the fulfilment of City LOS standards, which do not address amphitheaters.

No Action Alternative

The No Action Alternative would contribute no population or employment growth specific to the Mill site. For Snoqualmie Mill, "No Action" means the proposed action (the PCI Plan) would not go forward and the City would not act on the proposal. Since City policies and regulations require approval of a PCI plan as a pre-requisite for redevelopment, no redevelopment is assumed to occur. Existing on-site uses, including DirtFish Rally and other uses identified in Section 2.2, would continue indefinitely, as permitted by the Pre-Annexation Agreement.

No impacts to existing and planned park and recreation facilities would result from the No Action alternative. Any impacts to parks would result from future background growth in the city.

3.13.3. Mitigation Measures

Incorporated Features of Proposal

PCI Plan

Trails

Per the City's Comprehensive Plan and the Pre-Annexation Agreement, the Snoqualmie Mill Site AIP must plan for and commit to provide, trail rights-of-way to connect local and regional trails, specifically the Riverwalk Route and missing Snoqualmie Valley Trail link. The PCI Plan will provide land for both trails through continued planning and consultation with the City of Snoqualmie and King County; the exact location of the River Walk Route will be determined as mutually agreed upon by the property owners and the City, and the exact location of the missing Snoqualmie Valley Trail link will be determined as mutually agreed upon by the property owners, the City, and King County Parks Department.

The PCI Plan also includes an integrated trail system throughout the entire site to meet resident and on-site employee demands. The trails will include passive and active recreation opportunities for visitors and future employees. Several initial segments of Snoqualmie Mill's planned trail system would be constructed in Planning Area 1 and would provide pedestrian connections to the future trail system planned in the central open space area, and to future development in Planning Areas 2 and 3. Most pedestrian activity in Planning Area 1 would be focused on sidewalks along Mill Street in the mixed-use village center. Trails and sidewalks would also be provided along the realigned portion of Mill Pond Road.

Open Space

The City of Snoqualmie's Municipal Code requires development within the PCI District to set aside at least 35% of the total acreage for open space, natural areas, parks, or green and common areas (17.20.050 (G)). Under the PCI Plan, approximately 64% of the overall site would be open space (166 of 261 acres). In Planning Area 1, development is proposed on approximately one-third of the planning area (33 acres), with two-thirds retained as open space (69 acres). Large natural open spaces and wetland conservation areas would be located north and south of the developed area, with additional landscaped open spaces integrated into the planning area.

Redevelopment Alternative

The Incorporated Features of the Redevelopment Alternative are the same as for the PCI Plan regarding Trails and Open Space percentages.

In addition, the Redevelopment Alternative would have a 3.7-acre landscaped/grass open space area with a permanent stage allowing for concerts, providing private recreation and enjoyment.

Other Potential Mitigation Measures

In general, the City does not impose a park impact fee but has used the SEPA process and/or a development agreement as a means to require mitigation of impacts to park and recreation facilities. The City could, for example, potentially require that the applicant pay a proportionate share of future park and recreation facilities costs based on the proposal's incremental increase in demand for facilities. However, as identified in the EIS, the demand for parks and recreation associated with on-site population growth would be minor; similarly, demand by on-site employees is expected to be insignificant. In addition, the Fiscal analysis (Section 3.16) indicates that development of the property would result in a significant increase in tax revenue to the City, and a portion of future revenues could be used to address park needs. In this situation, additional mitigation may not be warranted.

3.13.4. Significant Unavoidable Adverse Impacts

There are no significant unavoidable adverse impacts related to parks, recreation, and open space caused by the proposed PCI Plan. Although demand for these services would increase incrementally as a result of the proposed PCI Plan, the increase is not considered significant. In addition, the application of existing plans, codes, or other available procedures could address the needs associated with future growth, so impacts are not unavoidable.

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3.14. PUBLIC SERVICES

The public services discussed in this section include police, fire, and schools. The providers of these services to the Snoqualmie Mill site include the Snoqualmie Police Department, Snoqualmie Fire Department, and the Snoqualmie Valley School District, as seen in Exhibit 3.14-1. The Study Area for public services consists of the Snoqualmie Mill site and city limits; the Police Department and School District also serve areas outside the city limits. This analysis is primarily based on 1) interviews with Snoqualmie City police and fire officials responsible for providing public services, and 2) a review of relevant City and School District plans and studies.

Exhibit 3.14-1. Summary of Snoqualmie Public Services

Service	Provider
Police	City of Snoqualmie Police Department (SPD)
Fire	City of Snoqualmie Fire Department (SFD)
Schools	Snoqualmie Valley School District (SVSD)

Source: City of Snoqualmie, 2017; BERK, 2017.

It should be noted that the Fiscal Impact section of the EIS (Section 3.15) was coordinated with the analysis of Public Services. The Fiscal analysis discusses potential impacts to other City departments, including Finance and Administration, which could be affected by the proposed PCI Plan. It was determined that any impact was likely to be incremental, marginal and not significant. Please refer to the discussion in Section 3.15.

3.14.1. Affected Environment

Police

Existing Service

The Snoqualmie Police Department (SPD) provides policing services and other services to the entire City of Snoqualmie and the City of North Bend, except for the Snoqualmie Casino. SPD is also a member of the Coalition of Small Police Agencies, a task force of regional agencies who cooperate on policing matters and combine resources. This Coalition uses combined resources that can be provided for crowd control, special events, and other services, as well as providing shared equipment. Dispatch and jail service are provided to the City through a contract with the Issaquah Police Department, and inmate management services are contracted with Issaquah as well as King County. SPD also coordinates and assists the Echo Glen Children's Center as needed.

SPD has one facility located in the Snoqualmie Ridge Marketplace area, located at 34825 SE Douglas St. This is approximately 3 miles from the Proposal via a direct drive.[34]

SPD follows a "no call too small" policy, where every incident will receive a police officer visit and a formal report will be written. In 2016, the year with recent full available data, 6,188 calls to SPD were made as seen in Exhibit 3.14-2. In prior years, SPD was responsible for calls to the Snoqualmie Casino, but no longer serves that property.

Exhibit 3.14-2. Annual Calls for Service

Population 2016	Employment 2016	Number of Calls for Service 2016
13,110	3,608	6,188

Source: City of Snoqualmie, 2018; State of Washington Office of Financial Management (OFM), 2018; BERK, 2018.

Calls for service by time of day can be seen in Exhibit 3.14-3. There are more daytime calls for service than nighttime calls. SPD has indicated that it is reasonable to assume that calls that occur during the daytime are primarily related to commercial activity and calls that occur during the evening are primarily related to residential activity (Pers. Com. SPD Police Captain N. Almquist, 2018). This is based on what is considered a typical schedule for a worker and resident. For a typical schedule, daytime activities occur primarily at work and evening activities primarily occur at home. Over time SPD may wish to capture call data with more specifics on the location to understand the demand for service by residential or commercial activity.

Exhibit 3.14-3. Calls for Service by Time of Day

Time of Day	Calls for Service
Daytime (7a-6p)	3,590
Nighttime (6p-7a)	2,582
Total	**6,172**

Note: The data for total calls for service and the total calls for service by time of day have a small difference.
Source: Pers. Com. SPD Police Captain N. Almquist, 2018.

For purposes of EIS analysis, however, calls for service data cannot be easily categorized by commercial or residential demand or by time of day.

Exhibit 3.14-4 provides 2016 crime data for the city limits. Offenses and arrests are reported by the Washington Association of Sheriffs and Police Chiefs (WASPC) and tracked by the National Incident-Based Reporting System (NIBRS). The reported crime rate in Snoqualmie was 37.1 offenses per 1,000 people, compared to 67.5 for Washington State, meaning Snoqualmie has a

[34] The distance between the Snoqualmie Police Department and the Snoqualmie Water Department is 2.6 miles. The Snoqualmie Water Department location at 38194 SE Sterns Rd would be the closest entry to the proposed Snoqualmie Mill area. The Google Maps path of travel would be using Snoqualmie Parkway to connect to WA-202 (Railroad Ave) and to cross the bridge over the Snoqualmie River. Past the bridge a vehicle would turn to SE Stearns Road where they would have potential access to the site from a vehicle.

relatively low crime rate. This crime rate considers Group A offenses, which are designated as incident offenses and include offenses such as assault, burglary, destruction of property, drug/narcotic offenses, and other similar offenses. Group A offenses are not required to have an arrest to be reported in the NIBRS. Group B offenses, designated as arrest offenses, includes disorderly conduct, driving under the influence, trespassing, and other similar offenses. Based on these designations, Group A crimes create active caseload work for officers, while Group B offenses requires an arrest to be reported.

The estimated caseload for each officer is 7.1 per year based on the number of arrests in the city. Caseload alone does not consider the full workload of officers, who also respond to calls for service that don't result in reported crimes, nor does it show Group B offenses that result in arrests for incidents.

Exhibit 3.14-4. Crime Reports and Arrests, 2016

Number of Officers	Reported Offenses	Crime Rate	Arrests	Caseload Per Officer
15	486	37.1	106	7.1

Source: City of Snoqualmie Adopted Budget Worksheet, 2017-2018; WASPC NIBRS, 2017; WA Office of Financial Management (OFM), 2017; BERK, 2017.

The 486 reported offenses included 61 crimes against persons (principally simple assault), 373 crimes against property (primarily theft and larceny), and 52 crimes against society (mostly drug offenses). About 40% of reported offenses in Snoqualmie were larceny related.

SPD has 19.8 full-time equivalent (FTE) employees, including 15 operations officers, with 3.8 administrative staff and 1 school resource officer.[35] The City also has an interlocal agreement with the City of North Bend lasting through at least March 2019, where SPD hires additional officers and administrative support to provide a minimum number of officers on duty within North Bend city limits. This contract is not reflected in the number of FTE employees seen in Exhibit 3.14-5.

[35] Source: City of Snoqualmie 2017-2018 Adopted Budget Worksheet.

Exhibit 3.14-5. Police Department Staffing Levels, 2017-18

Position	FTE Employees
Administrative	3.8
Operations	15
School Resources Officer	1
Total	**19.8**

Source: City of Snoqualmie Adopted Budget Worksheet, 2017-2018; BERK, 2017.

An inventory of police equipment is shown in Exhibit 3.14-6. The Snoqualmie Comprehensive Plan Capital Facilities Element anticipates an expansion of the existing police station after 2020 with a specific timing to be determined through a planning process. The 2015-2020 Capital Improvement/Facilities Plan identifies unfunded projects including a building security fence, covered patrol vehicle parking, and a vehicle charging station.

Exhibit 3.14-6. Police Equipment Inventory and Facilities

Inventory Item	Details
Police Station	34825 SE Douglas Street 16,906 Square Feet 21 personal capacity 2047 estimated replacement year
6 Patrol Vehicles	5-year rotational replacement schedule
4 North Bend Patrol Vehicles	
1 Jail Transport Vehicle	
2 Supervisory/Patrol Vehicles	

Source: City of Snoqualmie Comprehensive Plan, 2014; BERK, 2017.

Level of Service Standards

The City's 2014 Comprehensive Plan established police department staffing level of service (LOS) guidelines. The City established an "officers on duty" and response time guideline, rather than a per-capita standard. The City prefers this approach because per-capita standards do not consider the effectiveness of the officers and other workload considerations.

Exhibit 3.14-7. Police Department Level of Service Guidelines

LOS Guidelines	Performance
The department standard is that staff and equipment should be sufficient to maintain a minimum of two officers on-duty at all times within the city.	Met
It should also provide staff and equipment sufficient to respond to priority calls within five minutes 90% of the time.	Staffing allows sufficient response. Response time data in Exhibit 3.14-8 is between 5:32 and 6:42 minutes, but the response time 90% of the time is unknown.

Source: City of Snoqualmie Comprehensive Plan, 2014; BERK, 2017.

Exhibit 3.14-8 shows the performance measure for SPD's response to priority calls. SPD has three levels of priority calls. Priority 1 calls require an officer response but are not considered urgent; the Priority 1 calls include reports of theft, fraud, and other similar calls. Priority 2 calls require an elevated response by the officer, and includes calls for suspicious persons/activities, missing children, and others. Priority 3 calls require the most urgency in an officer's response, and includes calls for in-progress assault, domestic violence, traffic collisions where injuries occur, and other similar calls.

Exhibit 3.14-8. Average Response Times for Calls by Prioritization: 2016

Response Priority	Average Response Time
Priority 1	6:42
Priority 2	6:18
Priority 3	5:32

Source: City of Snoqualmie Police Department, Data Request by BERK, 2017.

The City of Snoqualmie has a minimum level of service of two on-duty officers, which it has met. While the City does not use a per capita LOS standard, Exhibit 3.14-9 calculates an effective level of service for the number of officers per 1,000 population, which is a commonly accepted LOS. Jurisdictions adopt different standards, depending on the level that each community needs, desires and will accept, ranging from 1-3 per capita. A "west coast" level of service standard is around 1.1 to 1.2 officers per 1,000; some cities on the east coast have as many as 3 officers per 1,000.[36]

Exhibit 3.14-9. Police Department Effective Level of Service, 2016 and 2017

Year	Number of Officers	Population	Officers per 1,000 Residents
2016	12	13,110	0.92
2017	15	13,210	1.14

Source: City of Snoqualmie Adopted Budget Worksheet, 2017-2018; Washington State OFM, 2017; BERK, 2017.

The Snoqualmie Mill proposal is primarily a jobs-based project; thus, an effective level of service standard based on population does not fully estimate the potential service demand for the Snoqualmie Police Department. The relationship of residential and commercial calls for service is unclear in SPD data.

Special Events

The Snoqualmie Police Department also provides services for reviewing permits on public property related to public safety. Permits are required for certain special events, which involves other regulations and standards that the SPD is responsible for. See further discussion under Impacts.

[36] Personal Communications with Police Captain N. Almquist, 2017.

Fire

Existing Service

The Snoqualmie Fire Department (SFD) provides fire services, emergency management services, and other services to the City. SFD is also responsible for the Department of Emergency Management, which prepares the City to be able to mitigate natural and manmade disasters.

SFD partners with other organizations to provide services. SFD provides medical service to Echo Glen Children's Center and has an interlocal agreement with King County Fire Protection Districts #27 and #45 for shared staffing and resources to reduce overtime demand. The City is also part of a mutual aid agreement that allows for the sharing of resources throughout King County. Advanced Life Support (ALS) services are provided by King County Emergency Management Services, and fire dispatch services are contracted through North East King County Regional Public Safety Communication Agency (NORCOM). SFD no longer is contracted to provide fire and EMS response to the Snoqualmie Casino.[37]

SFD and other fire management organizations are in discussions to share equipment, which could affect SFD's ability to respond to calls. SFD is currently undergoing a community risk assessment, which identifies and assesses risks that an organization would be exposed to.

SFD has one facility located across from the Kimball Creek Village area, located at 38180 Southeast Mill Pond Road. This is approximately 1.9 miles from the study area via a direct drive.[38] SFD is looking at the option of moving its fire station in the future or considering a second station if necessary.

In 2016, SFD received 1,030 calls for service, while the fire chief estimates that their current saturation point for calls is about 1,600.[39,40] Exhibit 3.14-10 shows the number of calls SFD received by category. Overall, about 50% of calls were for residential occupancies, and about 20% of calls were for commercial occupancies. Of the 266 "other" calls for service, 150 calls were to roadways. The remainder of "other" calls is comprised of open space areas, schools, or government buildings.

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[37] City of Snoqualmie Comprehensive Plan, 2014, Personal Communications with Fire Chief M. Correira, 2017.

[38] The distance between the Snoqualmie Fire Department and the Snoqualmie Water Department is 1.9 miles. The Snoqualmie Water Department location at 38194 SE Sterns Rd would be the closest entry to the proposed Snoqualmie Mill area. The Google Maps path of travel would be using Snoqualmie Parkway to connect to WA-202 (Railroad Ave) and to cross the bridge over the Snoqualmie River. Past the bridge a vehicle would turn to SE Stearns Road where they would have potential access to the site from a vehicle.

[39] Personal Communications with Fire Chief M. Correira, 2017.

[40] A March 2018 report on the potential for consolidation of SFD and Fire District 27 indicates the City's incident volume was 1,209, presumably for the year 2017. This is still below the saturation point for calls. More detailed data by type of land use is not presented. (Fire Services Consolidation Exploration, March 31, 2018, available: https://www.ci.snoqualmie.wa.us/DocumentCenter/View/20207/Snoqualmie-and-Fall-City-Fire-Scoping-Report-03-2018-PDF.)

Exhibit 3.14-10. Snoqualmie Fire Department Annual Calls for Service, 2016

Category	Number of Calls
Residential	514
Commercial	199
Other	266
Total	**1,030**

Source: Personal Communication with Snoqualmie Fire Chief M. Correira, City of Snoqualmie 2017; BERK, 2017.

As of 2017, SFD has 20.5 FTEs, and about 20 volunteers (with a goal of 25 volunteers) as shown in Exhibit 3.14-11. Of the 20.5 FTE employees, 13 are in roles that involve active firefighting (the fire chief, lieutenants, and firefighters).[41,42]

Exhibit 3.14-11. Fire Department Staffing Levels, 2017

Position	FTE Employees
Paid Staff	20.5
Volunteers	20 (fluctuates)
Emergency Management	1

Source: City of Snoqualmie Adopted Budget Worksheet, 2017-2018; Personal Communications with Fire Chief M. Correira, BERK, 2017.

An inventory of SFD equipment and facilities is shown in Exhibit 3.14-12. The 2015-2020 Capital Improvement/Facilities Plan identified an unfunded 220-volt vehicle charging station.

Exhibit 3.14-12. Fire Department Equipment Inventory and Facilities

Inventory Item	Details
Fire Station	7600 SE Snoqualmie Parkway 17.360 SF 36-40 FTE capacity 2055 estimated replacement year
2 Basic Life Support Units (BLS)	
2 Command Vehicles	
Main Fire Engine	
Reserve Fire Engine	

Source: City of Snoqualmie Comprehensive Plan, 2014; BERK, 2017.

[41] The Fiscal analysis indicates 2016 FTEs of 19.5: 1 chief, 3 lieutenants, and 8 firefighters. The analysis also notes 1 additional firefighter was added in year 2017.
[42] City of Snoqualmie Adopted Budget Worksheet, 2017-2018.

Level of Service Standards

The City's 2014 Comprehensive Plan established SFD LOS standards for staffing and equipment for fire suppression, as well as response and travel time standards based on RCW 35.103, which contains performance standards related to fire suppression operations. This state law does not limit or modify the authority of local governments to set levels of service but does require fire service providers to establish performance objectives related to turnout time and response time that must be met 90% of the time. The SFD level of service standards and performance can be seen in Exhibit 3.14-13.

The last year that the SFD reported on its performance objectives was in 2013, and more recent reports are still being prepared.[43] In 2013 SFD had an average response time for all calls of 6:59 minutes. It was noted that response average includes calls to the Snoqualmie Casino based on previous contractual service. The casino accounted for 24% of service calls with an average response time of 6:49 minutes. Calls to the casino are no longer part of the SFD workload.

Exhibit 3.14-13. Fire Department Level of Service Standards

LOS Standard	Performance
Staffing and equipment sufficient to maintain a minimum of 3 fire-suppression trained individuals on-duty at all times within the City.	Met
Turnout time: 90 seconds. To be met 90% of the time.	Under review by SFD
Response/travel time: 8.5 minutes for arrival of the first engine company at a fire suppression incident. To be met 90% of the time.	Under review by SFD
Response/travel time: 6.5 minutes for the arrival of a first responder unit to an emergency medical incident. To be met 90% of the time.	Under review by SFD
Response/travel time: 15.5 minutes for the arrival of a full 1st alarm response at a fire suppression incident. To be met 90% of the time.	Under review by SFD

Source: City of Snoqualmie Comprehensive Plan, 2014; Fire Department Annual Report, 2013; BERK, 2017.

SFD has a minimum level of service of three on-duty firefighters. The City does not use a per capita LOS standard, and response time data does not exist. Therefore, for the purposes of this EIS, Exhibit 3.14-14 calculates an effective, de facto level of service regarding the number of firefighters per population.

Exhibit 3.14-14. Fire Department Effective Level of Service, 2016 and 2017

Year	Number of Firefighters	Population	Firefighters Per 1,000 Residents
2016	13	13,110	0.99
2017	13	13,210	0.98

Source: City of Snoqualmie Adopted Budget Worksheet, 2017-2018; BERK, 2017.

Because the Snoqualmie Mill proposal is primarily a jobs-based project, an effective level of

[43] Personal Communication with Snoqualmie Fire Department Administrative Assistant, 2017.

service standard based on population does not fully estimate the potential service demand for SFD services. However, residential population is typically a better indicator of service demand than employment, because commercial and industrial developments typically generate fewer calls for service. As shown in Exhibit 3.14-10, most calls for service currently come from developments with residential occupancy.

Special Events

The SFD also reviews permits on public property related to public safety. Permits are required for certain special events, which has other regulations and standards that the SFD is responsible for. See further discussion of special use permits under Impacts.

Schools

Existing Service

Public education is provided to the City of Snoqualmie by the Snoqualmie Valley School District (SVSD). The district serves approximately 400 square miles, including the cities of Snoqualmie and North Bend, and the Fall City community. SVSD provides educational services to 7,165 students as of fall 2018. The district operates 11 schools, 7 of which serve the City of Snoqualmie, as seen in Exhibit 3.14-15. SVSD plans for growth accommodation and its future development in its Capital Facilities Plan (2018-23) and Strategic Plan (2017-18).

Exhibit 3.14-15. Snoqualmie Valley School District Schools Serving Snoqualmie Students

School	Grade Span	Address
Cascade View Elementary School	K - 5	34816 SE Ridge St Snoqualmie, WA
Snoqualmie Elementary School	Pre-K, K - 5	39801 SE Park Street Snoqualmie, WA
Timber Ridge Elementary School	K - 5	34412 SE Swenson Drive Snoqualmie, WA
Chief Kanim Middle School	6 - 8	32627 SE Redmond-Fall City Rd Fall City, WA
Twin Falls Middle School	6 - 8	46910 SE Middle Fork Rd North Bend, WA
Mount Si High School & Freshman Campus	9 – 12 9 (freshman campus)	*Main Campus* 8651 Meadowbrook Way SE Snoqualmie, WA *Freshman Campus* 9200 Railroad Ave SE Snoqualmie, WA
Two Rivers (alternative school)	7 - 12	330 Ballarat North Bend, WA

Source: State of Washington Office of Superintendent of Public Instruction, 2017; BERK, 2017.

Level of Service Standards

The City of Snoqualmie does not set LOS standards for schools, instead the Snoqualmie Valley School District establishes a "standard of service" in compliance with SMC 20.10 (and King County Code 21A.06.1225 and 21A.043), for the purposes of establishing school impact fees. The district sets a target average student to teacher ratio for each school level.

Standard of Service for Elementary Students

- Average target class size for grades K – 2: 17 students
- Average target class size for grade 3: 17 students
- Average target class size for grades 4-5: 27 students
- Special Education for students with disabilities may be provided in a self-contained classroom. Average target class size: 12 students

Standard of Service for Secondary Students

- Average target class size for grades 6-8: 27 students
- Average target class size for grades 9-12: 29 students
- Average target class size for Two Rivers School: 20 students
- Special Education for students with disabilities may be provided in a self-contained classroom. Average target class size: 12 students

The district calculates the demand for services, and ultimately the school impact fee assessed on new residential development, based on a per dwelling unit student generation factor identified in the six-year capital facilities plan.

The SVSD facilities do not currently have sufficient permanent capacity for its student enrollment. The District's current overall capacity after consideration for smaller class sizes in grades K-3 is 7,182 students (5,170 in permanent classrooms and 2,012 in portable classrooms). The district meets the current deficit in capacity through relocatable temporary portables (about 28% of the district's capacity comes from portables).

A portion of these capacity needs are currently being addressed. SVSD opened Timber Ridge Elementary School in 2016. SVSD also increased permanent capacity with the Mount Si High School expansion under construction should open fall 2019. The high school expansion will allow the current Mount Si freshman campus available to be converted back into a middle school.

3.14.2. Impacts

Impacts of Proposal

Year-Round Service Demand

Impacts to public services will result from increased demand directly and indirectly generated by residential and employment growth associated with the Snoqualmie Mill PCI Plan. Indirect impacts could include a higher level of activity in the area due to attractions that bring visitors into the area.

Methodology

To help assess what impacts would occur because of the proposal or alternatives, City of Snoqualmie public service providers were interviewed, and City plans and studies were consulted.

The adopted LOS and City suggested methods for each provider were applied to assess impacts. Following are definitions of terms used in discussion of the impacts section.

- **Direct impacts**: Growth and activity that occurs directly related to the proposal. Impacts occur due to the growth in employment and residences in Snoqualmie Mill.
- **Indirect impacts**: Growth and activity that may occur is not directly attributable to the Snoqualmie Mill proposal. Direct growth in Snoqualmie Mill site may influence the type/mix of development or activity (such as tourism) elsewhere in the city. Indirect demand cannot be accurately quantified for purposes of estimating public service demands.
- **Cumulative effects**: Are the overall effects of the proposal, including direct and indirect impacts, along with future baseline growth.
- **Future baseline growth**: Growth assumed under the updated 2015 Comprehensive Plan for the city without the PCI Plan; this is intended to help distinguish the PCI plan from background growth. Future baseline growth is shown under the Assumptions section in Exhibit 3.14-16.

Assumptions

The PCI Plan mix of uses, building space and phases of development are described in Chapter 2. The proposal includes restaurants, specialty retail stores, an indoor event space, and residential units in up-to 5-story mixed-use buildings, but the project will emphasize light industrial and warehouse space, and office space in later phases of development.

The projected population and employment growth are seen in Exhibit 3.14-16, and would affect day-to-day police, fire, and school services. However, there are also likely additional indirect police and fire service demands related to visitors that would be attracted to the study area when developed.

Exhibit 3.14-16. Projected Population and Employment by Alternative

	PCI Plan Buildout	PCI Plan Phase 1 2023	Redevelopment Alternative Buildout	Redevelopment Alternative Phase 1 2023	No Action
Residential Units	160	160	120	120	0
Projected Population	304	304	228	228	0
Projected Employees	3,410	510	1,570	520	0

Source: ECONorthwest, 2018.

Future baseline conditions are shown in Exhibit 3.14-17 below based on the Comprehensive Plan. This citywide growth by 2032 is illustrated with and without the PCI Plan and Alternative 1. The 2014 Comprehensive Plan assumed 872 jobs, which is 26% of jobs planned by the

Proposal and 56% of the jobs for the Redevelopment Alternative. For simplicity, this EIS compares demand for public services under the future baseline excluding the 872 jobs on-site compared with implementation of the PCI Plan and the Redevelopment Alternative.

Exhibit 3.14-17. Snoqualmie Future Baseline Growth with and Without PCI Plan and Alternatives

	Residential Units	Population*	Employees
Comprehensive Plan Total 2032**	*5,887*	*15,552*	*5,735*
Snoqualmie Mill Total in Comprehensive Plan 2032	-	-	872
Future Baseline with PCI Plan: 2032	**6,047**	**15,856**	**8,273**
PCI Plan Growth Full Build	160	304	3,410
Mill as % of Future Baseline	3%	2%	41%
Future Baseline and PCI Plan Phase 1: 2023	*6,047*	*15,856*	*5,373*
PCI Plan Growth 2023	160	304	510
Mill as % of Future Baseline	3%	2%	9%
Future Baseline with Redevelopment Alternative: 2023 & 2032	**6,007**	**15,780**	**6,433**
Alternative Growth Full Build	120	228	1,570
Mill as % of Future Baseline	2%	1%	24%
Growth 2023	120	228	520
Mill as % of Future Baseline	2%	1%	8%

*Population is from the 2015 Comprehensive Plan Update, assuming medium projections. The Comprehensive Plan assumed 2.5-3 residents per housing unit.
**The Comprehensive Plan assumed a housing unit net growth of 2,126, population net growth of 2,702, and a net employment growth of 2,733 by 2032.
*** This table shows total units by 2032. The Comprehensive Plan assumed a net increase of 2,126 dwellings between 2010-2032. Between 2010-2017 696 single family units were produced and 151 multi-family units. The expected net future baseline 2017-2032 for single family units is 871 and multifamily units is 402.
Source: BERK, 2019.

The impact analysis for each EIS alternative applies City or district adopted or effective LOS to the projected population or housing growth. However, the analysis is challenging for the overall PCI Plan and Phase I proposals for two reasons:

- the LOS projections are based on per capita/resident demand, but the proposal will result in greater employment than population growth, which is not captured completely by either the adopted or effective levels of service; and
- the proposal will indirectly generate and/or capture some activity from regional tourism and special events, but this activity cannot be accurately quantified. Some of the tourism related activity may reflect visitors who would visit Snoqualmie independent of the proposal, so it is not clear that any impact resulting from these visits is directly or uniquely attributable to the proposal.

These caveats should be applied when interpreting the subsequent impact analyses.

Periodic Special Events

Per the Pre-Annexation Agreement and Post-Annexation Implementation Plan, special event permits are restricted to a maximum of two events annually, up to two days in duration each. Currently, the City defines special events as occurring on public right-of-way or parks (for more than 30 people).[44] As such, special events for future onsite retail, restaurants, or wineries under the Proposal or the Redevelopment Alternative, or event centers or outdoor performance space are not anticipated to require Snoqualmie special event permits because on-site roads and open space would be private. However, the Snoqualmie Police and Fire Departments have identified potential effects on operations due to special events and resulting traffic impacts as concerns.

From interviews with Snoqualmie service providers, officials noted that events with and without permits would need to be considered for their impacts on demand for public services.

- **Allowed Permitted events.** These events would be regulated when triggered by the city's thresholds for Special Events and permitting requirement.
- **Allowed Non-permitted events.** These events would not trigger the city permitting requirements. They could be general events and activities under the City's thresholds, or that are approved along with the proposal in agreement with the Post-Annexation Implementation Plan.

An example of a large event that would not trigger a permit could be events that occur within private event centers, where service providers may still have an interest in the event. Most large non-permitted events would likely have private security. SPD has stated than an officer or two being present for large events is preferred. These officers would usually be in parking lots, to maintain a presence and connection to the community.

PCI Plan

The PCI Plan would increase the number of residents and employees in the Snoqualmie Mill site, adding 160 dwellings, 304 persons, and 3,410 jobs.

The proposal would also provide for retail establishments, such as wine bars, restaurants, and specialty retail, and for winemaking including on-site tasting rooms/retail. An indoor event space would also be developed. These types of uses could create demand for special events that act as an attraction to the area, which may create temporarily higher peaks of demand.

Police

Direct Impacts

The proposal development will create direct demand for day-to-day activities and special events in the area. The presence of more residents and employees means there could be more

[44] SMC Chapter 12.20.

calls for police service.

About 0.35 full-time equivalent (FTE) staff would be needed to maintain SPD's current effective/de-facto level of service of officers per thousand residents, seen in Exhibit 3.14-18. However, interviews with the SPD have indicated that at least 1.0 FTE would be needed to serve the expected growth in population and employment. (Personal Communications with Police Captain N. Almquist, 2017)

Exhibit 3.14-18. Police Service Provider Level of Service and Needs 2023– PCI Plan

Effective LOS	1.14 Officers per 1,000 residents
PCI Plan Population 2023	304
PCI Plan: Demand 2023	0.35
% of current FTEs at 2023	2%

Source: BERK, 2018.

Proposed commercial, winery, and entertainment uses, primarily in Phase I of the PCI Plan, would also attract visitors to the site and could also increase calls for service, including on evenings or weekends.

City regulations require special event permits only for events on public properties or rights-of-way, which is not anticipated to be applicable to the Snoqualmie Mill site itself, which is a private property and will have private roads. Currently, SPD already has difficulty staffing large events. Snoqualmie uses the Coalition of Small Police Agencies to support staffing for large events.

Indirect and Cumulative Impacts

It is expected that most demand for public services would occur from citywide population growth, where based on population an additional 2.79 officers would be needed by 2032, or 3.14 more officers cumulatively with the PCI Plan. The demand by the PCI Plan would be 11% of the expected officers needed if considering only the on-site residential uses; see Exhibit 3.14-18. If 1.0 officers were added per SPD estimates of demand from the PCI Plan including employees, that would represent about 26% of the future officers added for citywide growth.

Exhibit 3.14-19. Police Service Provider Level of Service and Needs 2032 – Future Baseline and PCI Plan

Effective LOS	1.14 Officers per 1,000 residents
Future Baseline Population 2032	15,552
Future Baseline no PCI Plan: Demand 2032	17.79
Future Baseline + PCI Plan: Demand 2032	18.14
Net Future Baseline: Demand 2032	3.14
% of net Future Baseline 2032	11%

Source: BERK, 2018.

Interviews with SPD staff suggested that the roundabout on 18th and the Meadowbrook bridge

may currently be at capacity which in turn may impede the police from maintaining their LOS response times. Additional trips on this route from full buildout of the PCI Plan may also incrementally add to congestion. For an analysis of traffic conditions and recommended mitigation measures please see Section 3.11 of the Draft EIS.

Fire

Direct Impacts

SFD achieved its three-person minimum on-duty firefighter standard in 2016. At buildout of the PCI Plan, there would be a need for 0.30 FTE to maintain the effective level of service of firefighters per thousand residents. See Exhibit 3.14-20. However, the department currently has excess staff capacity since it no longer serves the casino; therefore, the current number of firefighters is expected to be adequate for the PCI Plan.

Exhibit 3.14-20. Fire Service Provider Level of Service and Needs – PCI Plan

Effective LOS	0.98 Firefighters per 1,000 residents
PCI Plan Population 2023	304
PCI Plan: Demand 2023	0-0.30
Future Baseline Population 2032	15,552
Future Baseline no Master Plan: Demand 2032	15.30
Future Baseline + Master Plan: Demand 2032	15.30-15.60
Net Future Baseline: Demand 2032	2.30-2.60
Master Plan % of net Future Baseline 2032	0-11%

Source: BERK, 2018.

The demand for fire code permit review and code inspections is expected to increase due to development. However, based on interviewing staff at the City of Woodinville in November 2017, the workload for wineries and distilleries is comparable to other commercial businesses. According to International Building Codes, distilleries may require more stringent code standards if they exceed allowable quantities of hazardous materials. Depending on the type of commercial, industrial, or manufacturing development, inspections could be required by the SFD if hazardous materials are stored.

SFD would be involved in the special events permit process for public events in the right-of-way or on public properties, which is not anticipated to be applicable to the site itself as a private property with private roads. With some private onsite special events, building and fire code provisions could apply to temporary structures that may be established, such as tents for outdoor events.

Indirect and Cumulative Impacts

It is expected that most demand for fire services would occur from citywide residential and employment growth, and relatively less from activity in the study area. Residential

development in the PCI Plan would represent 3% of the future baseline demand of residential growth in the city as a whole; see Exhibit 3.14-20. As noted previously, and as shown in Exhibit 3.14-10, residential population is typically a better indicator of service demand than employment, because commercial and industrial developments typically generate fewer calls for service.

Traffic congestion and response times effects are anticipated to be similar for the SFD as described for the SPD. For an analysis of traffic conditions and mitigation measures please see Section 3.11.

School

Direct Impacts

The SVSD student generation rates, shown in Exhibit 3.14-21, were used to estimate the number of new students that would result from the PCI Plan. As new residents move into the Snoqualmie Mill multifamily housing, some may have children that would attend SVSD schools; based on multifamily student generation estimates, only about 28 students are anticipated due to the PCI Plan.

Exhibit 3.14-21. Projected Students Generated and Capacity Need – PCI Plan

Schools and Student Generation Rates			PCI Plan 2023		Net Future Baseline 2032		Net Future Baseline w/ PCI Plan 2032	
School Level	Single Family Rates	Multi-family Rates	Single Family New Students	Multi-family New Students	Single Family New Students	Multi-family New Students	Single Family New Students	Multi-family New Students
Elementary	0.39	0.089	0	14	340	36	340	50
Middle School	0.169	0.042	0	7	147	17	147	24
High School	0.198	0.045	0	7	172	18	172	25
Total	0.685	0.175	0	28	659	71	340	50
Grand Total			**28**		**730**		**758**	

Source: Snoqualmie Valley School District Capital Facilities Plan, 2019; BERK, 2019.
Note: totals don't correspond due to rounding.

Indirect and Cumulative Impacts

Growth under the future baseline (without the PCI Plan) would potentially generate 730 students. The PCI Plan would contribute 28 students, bringing citywide student growth by 2032 to 758. The PCI Plan would incrementally add 4% to the net future baseline students.

Visitors to the site would not affect school services. No indirect impacts are anticipated.

Planning Area 1

Planning Area 1 is the first phase of development in the PCI Plan. See Chapter 2 and Exhibit 3.14-16 for development assumptions. Planning Area 1 would contain 160 dwellings with an estimated population of 304 persons. Employment uses would generate about 510 employees. The area is proposed to be developed as a pedestrian-oriented village center, containing a mix of industrial and warehouse uses, retail, and all the residential units for the site.

Planning Area 1 is focused on attracting tenants who would make and store wine, and other retailers. The area is expected attract restaurant uses, tasting rooms, and specialty retail. This residential and business development would increase the demand for public services.

Police and Fire Service Impacts

Phase 1 impacts would be similar to the full the PCI Plan since all residential growth would occur in Phase 1. The demand for police staff would equal 0.35 FTE as with the PCI Plan at buildout. SPD has indicated the potential need for 1.0 FTE for the PCI Plan in view of the large number of jobs projected (3,410); since Phase 1 would only have 510 employees, a full FTE may not be needed for that phase.

With the same number of residential units in Phase 1 as the PCI Plan at buildout, about 0.30 FTE would be needed to retain the same effective firefighter ratio as today, but the SFD has indicated that the department has excess capacity and additional staff may not be needed. There would be a need for fire code review of Phase I development though the extent of review would be less than the PCI Plan as a whole.

Special events in Planning Area 1 are expected to occur in the events center; since they would be located on private land and served by private roads, these events would not require special event permits under currently adopted regulations. However, events that are planned to take place in the public right-of-way would require special event permits from the City. Any larger temporary structures, such as tents, could be subject to building and fire code review.

During development and with ongoing business operations, the workload required by each department may vary. The SFD may require annual inspections for each winery or potential distilleries if located in the area and if subject to more stringent code due to the presence of flammable substances.

Schools

All PCI Plan residential development would occur in Planning Area 1 and would generate 28 students; this would have the same cumulative impacts to school services noted previously for the PCI Plan at buildout. No indirect impacts due to visitors are anticipated.

Alternatives

Redevelopment Alternative

The Redevelopment Alternative would add less employment and residential space in the study area – it would generate about 46% of the jobs (1,570) and 75% of the dwelling units (120 units)

compared with the PCI Plan. However, the Redevelopment Alternative would include an outdoor performance space (in Planning Area 3) and a dedicated event center (in Planning Area 1) that could create higher off-peak visitor use due to larger special events.

The outdoor performance area would include a 3.7-acre landscaped/grass open that that would have a 2,000-square foot outdoor performance space with capacity for approximately 5,000 people. It is expected to host an average of two concerts per week, primarily on weekend evenings from June to September.

With this venue, the Redevelopment Alternative would have a greater potential to generate special events, though these would occur on private lands and would be responsible for their own security.

Police

Direct Impacts

Most direct impacts to police services under the Redevelopment Alternative would be the same as under the PCI Plan; see the discussion under that section for more information. Exhibit 3.14-22 shows the demand created and the number of officers needed to maintain an effective level of service standard of police officers to residents. The demand of 0.26 FTE officers would be slightly lower than the Proposed Action due to fewer planned dwellings.

Exhibit 3.14-22. Police Service Provider Level of Service and Needs – Redevelopment Alternative 2023

Effective LOS	1.14 Officers per 1,000 residents
Alternative 1 Population 2023	228
Alternative 1: Demand 2023	0.26
% Of Current FTES at 2023	2%

Source: BERK, 2018.

Indirect and Cumulative Impacts

Compared to the proposed PCI Plan, the Redevelopment Alternative would have a smaller contribution of 0.26 FTE, which equates to 9% of the cumulative demand of 3.05 FTEs that is projected to occur with the future baseline.

Exhibit 3.14-23. Police Service Provider Level of Service and Needs – Redevelopment Alternative 2032

Effective LOS	1.14 Officers per 1,000 residents
Future Baseline Population 2032	15,552
Future Baseline, No Alternative 1: Demand 2032	17.79
Future Baseline + Alternative 1: Demand 2032	18.05
Net Future Baseline: Demand 2032	3.05
Alternative 1 % Of Net Future Baseline 2032	9%

Source: BERK, 2018.

The outdoor performance venue included in the Redevelopment Alternative could increase the possibility of special events, though they would be unlikely to occur on public lands or roads in the study area and would not likely require offsite traffic control or increase the need for SPD services.

SPD interviews suggested that current congestion and road capacity constraints at some locations could affect LOS response times, which are described for the PCI Plan. Population and employment growth with the Redevelopment Alternative growth may also incrementally add to traffic congestion, but to a lesser degree than the PCI Plan. For an analysis of traffic conditions and recommended mitigation measures please see Section 3.11 of the Draft EIS.

Fire

Direct Impacts

Exhibit 3.14-24 shows the need for additional firefighters created by the Redevelopment Alternative to maintain an effective level of service standard of firefighters to residents. The demand (0.22) is slightly lower than the PCI Plan due to the lesser amount of residential development. Since the SFD has indicated it has surplus staffing, the practical need for FTEs may be minimal or zero.

Exhibit 3.14-24. Fire Service Provider Level of Service and Needs – Redevelopment Alternative

Effective LOS	0.98 Firefighters per 1,000 residents
Alternative 1 Population: 2023	228
Alternative 1: Demand: 2023	0-0.22
Future Baseline Population: 2032	15,552
Future Baseline, No Alternative 1 2032	15.30
Future Baseline + Alternative 1 2032	15.30-15.52
Net Future Baseline 2032	2.30-2.53
Alternative 1 % Of Net Future Baseline 2032	0-9%

Source: BERK, 2017.

The demand for fire code permit review and code inspections is expected to increase due to development. This would be less than the PCI Plan due to lesser commercial and industrial development and associated jobs.

SFD is typically involved in the special events permit process for events in the public right-of-way or on public properties; this requirement is not anticipated to apply to the Snoqualmie Mill site, which is a private property which will have private roads. Private on-site special events, however, could involve temporary structures such as tents, which would trigger building and fire code provisions.

Indirect and Cumulative Impacts

Redevelopment Alternative residential development would represent 1% of the 2032 baseline demand of residential growth in the city. This is a smaller share than the PCI Plan. Though

employment uses may also increase demand for fire services, Exhibit 3.14-10 shows that current fire services are most impacted by residential activity.

Traffic congestion and response time effects are anticipated to be similar for the SFD as described for the SPD. For an analysis of traffic conditions and recommended mitigation measures please see Section 3.11 of the Draft EIS.

School

Direct Impacts

Exhibit 3.14-24 shows the generation of students under Redevelopment Alternative. The need for classroom space created from growth under the Redevelopment Alternative is 21 students.

Exhibit 3.14-25. Projected Students Generated – Redevelopment Alternative

Schools and Student Generation Rates			Redevelopment Alt. 1 2023		Net Future Baseline 2032		Net Future Baseline w/ Redevelopment Alt.	
School Level	Single Family Rates	Multi-family Rates	Single Family New Students	Multi-family New Students	Single Family New Students	Multi-family New Students	Single Family New Students	Multi-family New Students
Elementary	0.39	0.089	0	11	340	36	340	46
Middle School	0.169	0.042	0	5	147	17	147	22
Highschool	0.198	0.045	0	5	172	18	172	23
Total	0.685	0.175	0	21	659	7	659	92
Grand Total			**21**		**730**		**751**	

Note: totals don't correspond due to rounding.
Source: Snoqualmie Valley School District Capital Facilities Plan, 2019; BERK; 2019.

Indirect and Cumulative Impacts

The growth projected under the future baseline (without Snoqualmie Mill development) would generate an estimated 730 students by 2032. The Redevelopment Alternative would contribute 21 students (3%), bringing the student growth by 2032 to 751.

No indirect impacts are anticipated. Visitors to the site would not affect school services.

No Action Alternative

Police

There would be no direct, indirect or cumulative impacts under the No Action alternative. No growth would occur on the Snoqualmie Mill site and demand for police services would not change from current conditions. Approval of a PCI Plan is a pre-condition of any development of the site, and under No Action a PCI Plan would not be approved.

Projected growth in the future baseline would contribute a demand for 17.79 officers, a net increase of 2.2.79 above the 15 present officers. See Exhibit 3.14-26. Although the 2014 Comprehensive Plan assumed 872 jobs by 2032, these would not occur with No Action.

Exhibit 3.14-26. Police Service Provider Level of Service and Needs – No Action Alternative

Effective LOS	1.14 Officers per 1,000 residents
No Action Population	0
No Action Demand	0
Future Baseline Population: 2032	15,552
Future Baseline: Demand: 2032	17.79
Future Baseline + No Action: Demand: 2032	17.79
Net Future Baseline: Demand: 2032	2.79
No Action % of net Future Baseline: 2032	0%

Source: BERK, 2017.

Fire

There will be no changes to the site under the No Action Alternative, and demand for fire services would not change from current conditions. There would be no direct, indirect or cumulative impacts associated with development of the site.

Demand for fire service would increase as growth occurs under the Comprehensive Plan; to maintain current firefighter ratios per thousand population, about 15.30 FTEs would be needed, or a net increase of 2.30; there would be no contribution of demand from the site. See Exhibit 3.14-27. None of this demand would be attributable to development of the Snoqualmie Mill site.

Exhibit 3.14-27. Fire Service Provider Level of Service and Needs – No Action Alternative

Effective LOS	0.98 Firefighters per 1,000 residents
No Action Population	0
No Action Demand	0
Future Baseline Population: 2032	15,552
Future Baseline: Demand: 2032	15.30
Net Future Baseline: Demand: 2032	2.30
No Action % of net Future Baseline: 2032	0%

Source: BERK, 2017.

School

There will be no changes to the site under the No Action Alternative, and demand for school services would not change from current conditions. There would be no direct, indirect or cumulative impacts associated with development of the site.

Demand for educational services would increase as growth occurs in the City under the Comprehensive Plan. The future baseline growth would result in a future increase of 730 students across K-12 grades. No new residential uses would be proposed on the Snoqualmie Mill site and there would be no contribution to future demand for school space. See Exhibit 3.14-28.

Exhibit 3.14-28. Projected Students Generated – Redevelopment Alternative

Schools and Student Generation Rates			Net Future Baseline: 2032	
School Level	Single Family Rates	Multi-family Rates	Single Family New Students	Multi-family New Students
Elementary	0.39	0.089	340	36
Middle School	0.169	0.042	147	17
Highschool	0.198	0.045	172	18
Total	0.685	0.175	659	71
Grand Total			**730**	
Difference with Future Baseline			**0**	

Note: totals don't correspond due to rounding.
Source: Snoqualmie Valley School District Capital Facilities Plan, 2017; BERK, 2017.

3.14.3. Mitigation Measures

Incorporated Features of Proposal

PCI Plan

Development of the site will increase tax revenue that would offset increases in demand for municipal services. Refer to the Fiscal Impact analysis in Section 3.15 of the EIS.

Planning Area 1

Same as above.

Other Responsibilities and Requirements

Future uses will meet International Building and Fire Code standards regarding the design of structures and handling of hazardous materials as appropriate. Private road and circulation will be designed to meet International Fire Code standards. See Title 15 SMC.

City regulations impose a school impact fee for residential development (SMC 20.10). The current rate is $1,700.07 per multifamily dwelling unit; applicable fees would be calculated at the time of building permit approval.

Other Potential Mitigation Measures How

The pending development agreement could specify procedures for private special events including conditions associated with private security and fire/EMS services for events over a certain size or that require fire code or building code review.

3.14.4. Significant Unavoidable Adverse Impacts

The proposal will create an incremental increase in demand for public services. Increased tax revenue that will be generated from the development that would enable the city to maintain appropriate levels of service for police and fire services. Future residential development would be subject to school impact fees to ensure adequate capacity for students at schools. No significant unavoidable adverse impacts are anticipated.

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3.15. UTILITIES

This section is based on information contained in the Master Drainage Plan (MDP), which is included in Appendix A, and in the City's adopted utility Comprehensive Plans. The analysis identifies the current and planned capacity of City utility infrastructure systems and estimates additional demand that would be created by development of the proposed PCI Plan.

3.15.1. Affected Environment

The Snoqualmie Mill site is within the service area of the City of Snoqualmie for water and sanitary sewer, and the City currently serves the site with domestic water and sanitary sewer service. The project site is also within the boundary of the City's stormwater utility. As stated in the approved Mill Planning Area Annexation Implementation Plan (AIP), future development or redevelopment of the site will be predicated upon adequate capacity to serve proposed uses at the time of formal Site Development (e.g., construction, grading or subdivision) application. The proposed PCI Plan is a land use action, however, and is not defined as site development.

The City of Snoqualmie established a combined water, sewer and stormwater utility in 1997. The purpose, functions and operations of the utility are described in SMC 13.10. In regard to stormwater, the purpose of the utility is to support city stormwater management activities, including planning, design, construction, operations and maintenance of the public stormwater system, and to perform other activities to assure compliance with the NPDES municipal stormwater permit. The utility is supported by charges and fees that are based on the amount of impervious area on a property. The utility also imposes a connection charge and a general facility charge on new customers. The amount of fees and charges are established annually and are billed to the property owner monthly along with other utilities.

The following discussion of the City's water and wastewater systems, and capacity to serve Snoqualmie Mill, are based on the City's adopted utility system plans in effect at the time of the PCI Plan application and preparation of the DEIS. These include the **Water System Plan** (Gray & Osborn 2013), and the **General Sewer/Wastewater Facility Plan** (Gray & Osborn 2012). The discussion includes summaries of the City's current program to update these system plans; the system plans updates are on-going and expected to be complete sometime in 2020. Information presented about the direction of the system plan updates was provided by the City and its engineering consultants in the context of their review of the preliminary Draft EIS. This is the best information available at this time, and it is included based on direction in the SEPA Rules. Supplemental information about utility system plans, including any updated information about capacity, will be presented in the Final EIS.

As noted elsewhere in the DEIS, PCI Plan approval is a required step in permitting for development but does not itself confer approval of site development. The City is required to certify the availability of adequate water supply to serve development at the time that site development and construction is approved.

Water

The Snoqualmie Water System Plan (WSP) evaluates the current City domestic water system capacity and the capacity to serve projected growth for 20 years (i.e. approximate Year 2032) for the City and its service area. The City updated its Water System Plan (WSP) in 2013; a memorandum updating the plan's capacity calculations was also completed in 2016 and is discussed below. Another update of the WSP is underway as of this writing.

System Summary

Per the 2013 WSP, the projected system demand based on anticipated growth is as follows:

Exhibit 3.15-1. Snoqualmie 2013 Water System Plan Demand Summary

	2010 Baseline	2032 Projected	Buildout
Average Daily Demand (ADD)	1,173,817 gpd[1]	1,908,729 gpd	2,350,371 gpd
Number of Equivalent Residential Units (ERUs)	4,722 ERU	7,589 ERU	9,550 ERU

[1] gpd = gallons per day
Source: City of Snoqualmie Water System Plan, 2013.

The WSP cites both a 2032 growth projection and a buildout projection. Although the Mill Planning Area and the Snoqualmie Mill site are within the City's service area, the WSP specifically excludes growth from the planning area and the site from its projections of demand, both for 2032 and projected "buildout." The additional city growth assumed to reach the WSP buildout scenario anticipates approximately 945 residential dwelling units and 190 acres of commercial development, resulting in approximately 1,300 new employees, beyond what is included in the 2032 plan projections. As noted previously, these calculations do not include growth from the Snoqualmie Mill site.

The evaluation of available system capacity in the WSP is summarized as follows:

Exhibit 3.15-2. Snoqualmie 2013 Water System Plan Capacity Summary

	Available	2018 Demand*	2032 Demand
Storage Capacity	4,413,750 MG[1]	1,709,364 MG	2,278,664 MG
Treatment Capacity	2,993 gpm[2]	3,048 gpm	3,218 gpm
Annual Water Right	2,172 ac-ft/yr[3]	1,998 ac-ft/yr	2,110 ac-ft/yr
Instantaneous Water Right	3,148 gpm	3,048 gpm	3,218 gpm

*Demand as projected in 2013 plan
[1] MG = million gallons
[2] gpm = gallons per minute
[3] ac-ft/yr = acre-feet per year
Source: City of Snoqualmie Water System Plan, 2013.

As calculated in 2013, instantaneous water rights and treatment capacity would be insufficient for the projected 2032 growth (without the PCI Plan). As shown, there is additional capacity for

treatment and storage. The WSP states that the City is taking actions to develop well claim sources and to redevelop decommissioned wells, which would postpone the need for additional water rights or source capacity to a date (unspecified) beyond the 20-year plan. This would indicate that with the measures identified, the water system is adequate to serve the projected demands in the WSP.

2016 Water System Capacity Analysis Update for the Mill Planning Area

The 2013 Water System Plan evaluated water system demands at a 2010 base year with "projected" growth, together with committed service by contract or agreement to Snoqualmie Ridge and Snoqualmie Ridge II, and a reserve for service to the Lake Alice Community Association, contingent on a need identified through monitoring. Between 2010 and 2015, new growth occurred, and the City entered into additional commitments for service to Kimball Creek Development, the Salish Lodge expansion, and the Mt. Si High School Renovation project.

Gray & Osborne, Inc., the City's consulting engineers, prepared a Technical Memorandum (June 2, 2016, and Revision 1 dated June 27, 2016) that provides an updated capacity analysis of the City's water system. This update was prepared in order to determine how much excess capacity currently exists beyond current uses and current commitments. The conclusion of the memorandum states:

> *The City has adequate annual water rights to provide all allocated water. However, the City currently lacks developed instantaneous water rights and source capacity to serve all customers to whom water has already been allocated. If the two groundwater claims are considered, the City has adequate instantaneous water rights to serve the allocated water and approximately 290 additional ERUs.*
>
> *The City's capacity to serve additional connections could be increased by the following measures:*
>
> - *If the City uses the two groundwater right claims and fully develops sources for those rights, the City could serve 290 ERUs in addition to existing demands and the demands already allocated for current development.*
> - *If the City were to curtail the augmentation of potable water to Eagle Lake and the reclaimed Class A irrigation systems, the City could regain up to approximately 315 ERUs of maximum day demand (corresponding to instantaneous withdrawal, Qi).*
> - *The construction of a backwash decant and recycle facility at the North Wellfield will allow the City to more efficiently use the existing water rights by decreasing the amount of wasted backwash water. If the backwash recycle system is able to recycle at least 50 percent of the backwash, the City could regain up to approximately 285 ERUs of maximum day demand (corresponding to instantaneous withdrawal, Qi).*

According to the Technical Memorandum, the City has over-committed, or has over-allocated water service to planned development projects, by approximately 152 ERUs over developed source capacity and therefore must implement one or more of the recommended measures to increase available capacity.

Exhibit 3.15-3 identifies the anticipated results of implementing the recommended measures and indicates that they could potentially yield approximately 890 ERUs of additional/excess capacity within the system for development. This capacity could be applied within the Mill Planning Area, or other identified growth areas within the City, before additional water rights would be needed to provide additional service. The City is taking action to develop existing source capacity up to the maximum groundwater right claims, which will provide approximately 290 ERUs of excess capacity. The City is in the process of upgrading the water reclamation (backwash) facility and has submitted applications for additional water rights. The update to the WSP that is currently underway (the 2020 WSP, described below) will provide updated information about the status of these actions and capacity.

Exhibit 3.15-3. Projected Water System Capacity Upgrade Results

Upgrade	Capacity Increase
Groundwater Right Claims	+ 290 ERUs
Eagle Lake (Reclaimed Class A Irrigation)	+ 315 ERUs
Recycle Backwash Water	+ 285 ERUs
Total Anticipated Increase in Capacity	**+ 890 ERUs**

Source: Goldsmith Engineering, 2020.

2020 Water System Plan Update

The City is in the process of updating the Water System Plan and extending it to 2040. This updated plan was a work in progress during preparation of the DEIS for Snoqualmie Mill. The following clarifications and refinements to the DEIS evaluation are based on the direction of the plan.

The updated Water System Plan will include Snoqualmie Mill, as well as the entire 2011 annexation area, within the retail service area of the City. Snoqualmie Mill development will not require updates to the Water System Plan unless and until such time that a level of development exceeds the service capacity determined by the 2020 update. The expanded capacity from the 2013 system plan will include, but not be limited to:

- Completed capital facilities as discussed in the above evaluation of the 2013 Plan,
- Expanded Source and Supply from the recently granted water rights claims *(Ecology Report of Examination for Water Right Change CG1-20316C, CG1-00059S and CG100060S issued December 2018).*

The system plan will address the system capacity as it relates to projected growth identified in the Comprehensive Plan. It will acknowledge that Snoqualmie Mill is zoned Planned Commercial/Industrial (PCI) District, and development of the PCI district is a part of the projected growth of the City.

Based on the direction of the City's water system plan update, as communicated by the City to the PCI Plan engineering consultant (RH2 Engineering, August 22, 2019 letter to City of

Snoqualmie Wastewater Superintendent; and meeting with City staff and engineering consultants on October 10, 2019), the initial PCI Plan water system proposal, as described in the Master Drainage Plan (Goldsmith Engineering, 2020), would be modified as follows.

- To serve Snoqualmie Mill Planning Area 1, primary water supply to the site will be provided directly from the City's 599 Zone. This may be accomplished by installing one of the connections as described below.
    1. Water main from the site may be extended south along SE Mill Pond Road, along existing haul roads or along other alignments in order to connect to the City's existing 599 Zone water main near the intersection of Meadowbrook Way SE and SE Reining Road.
    2. New 599 Zone water main may be extended north along Railroad Avenue from Snoqualmie Parkway, crossing the Snoqualmie River (either on the SR 202 bridge or under the river) to the Tokul Roundabout, then heading southeast on SE Mill Pond Road to the site.
- A proposed pressure reducing valve from the 705 Zone water main in SE Mill Pond Road near the Water Reclamation Facility may be installed to provide redundancy and backup water supply for Planning Area 1.
- To serve Snoqualmie Mill Planning Areas 2 and 3, both alternative water main alignments may be necessary.
- All proposed water mains will be sized by hydraulic analyses, and the conceptual water plan will be confirmed in the City's water model once more detailed information on the proposed development plan becomes available.
- The development of Planning Area 2 and 3 may necessitate additional storage to support normal operational demands. As such, a new water storage facility may be required on or adjacent to the site to serve this extension of the 599 Zone under the Snoqualmie Mill Planning Areas 2 and 3 scenario. Although there is excess storage in the Snoqualmie Ridge area that may be transferred to the site under an emergency condition, there are storage limitations in the 599 Zone which affect the ability of the zone to fully support the Mill site under normal conditions. The water storage needs will be reviewed during the 2020 WSP Update and as more detailed information on the proposed development plan becomes available.
- The City's water system currently has water right and water source capacity to support the development of Planning Area 1, but not for the full buildout of Planning Areas 2 and 3. Of the mitigation measures discussed in *the 2016 Water System Capacity Analysis Update* by Grey & Osborn, Inc., one has been completed and the other two are currently being evaluated. The City is also considering implementation of an Aquifer Storage and Recovery (ASR) program to address future water right shortfalls. It is not yet known if these measures, once complete, will add sufficient capacity to support projected growth beyond Planning Area 1 development. If not, additional water supply improvements may need to be identified to support full development under the Proposed Action.

- The water plan for Snoqualmie Mill will conform to the system plan in effect or direction provided by the City at the time of project approval.

As noted, this discussion is based on the direction in the emerging 2020 plan update and could be modified based on subsequent changes in direction.

Sewer

The City completed an update to its General Sewer/Wastewater Facilities Plan (WWP) in 2012. The WWP evaluates the City sewer system and wastewater treatment plant capacity and the capacity to serve the projected growth in the City and its service area for 20 years (i.e. approximate Year 2032). As with the WSP, the projections did not include growth within the Mill Planning Area. Excerpts from that analysis are included in the discussion below.

System Summary

The capacity of the wastewater treatment plant is limited by the approved design criteria contained in the 2011 modification to the National Pollutant Discharge Elimination System (NPDES) Permit for the City of Snoqualmie's Wastewater Treatment and Water Reclamation Facility (PERMIT # WA-002240-3). The analysis of projected loading from anticipated background growth, excluding the Mill Planning Area, is as follows:

Exhibit 3.15-4. Projected 2032 Sewer System Loading

	Permitted Under NPDES	2032 Projected[2]	Residual Capacity
Max. Month Loading	2.15 MGD[1]	1.95 MGD	0.20 MGD
Number of Equivalent Residential Units (ERUs)	8,052 ERU	7,286 ERU	766ERU

[1] MGD = million gallons per day
[2] Projected ERUs are based only on flow with constant infiltration and inflow (I&I) measured at the time the wastewater plan was completed. I&I is significantly different between new and older plants. The City is taking actions to reduce I&I over time.
Source: Goldsmith Engineering, 2020.

Like the Water System Plan, the WWP assumes a level of continued development beyond the 2032 projection that was considered in the design and the rating of the wastewater treatment plant (i.e., buildout). The WWP also assumes a significant rate of growth between the 2010 baseline and 2018, coincident with anticipated completion of Snoqualmie Ridge and Snoqualmie Ridge II. After 2018, the growth factors were significantly reduced. Snoqualmie Mill was not included in this analysis.

Based on the data and projections in Exhibit 3.15-4, there is approximately 0.20 MGD of maximum month residual capacity (2.15 MGD – 1.95 MGD). Based solely on the ERU analysis in the WWP, this equates to approximately 766 ERU of residual capacity, assuming all projected 2032 growth. This excludes ongoing efforts to reduce I&I.

In addition to the analysis of permitted capacity shown in Table 3.15-4, the WWP also analyzes

residual capacity of the water reclamation facility based on Biological Oxygen Demand (BOD) and loading per ERU. That analysis concluded that the water reclamation facility contained a residual capacity of approximately 3,900 ERU, beyond the existing and committed ERU's in 2012 (5,980). This would equate to a total permitted water reclamation facility capacity of 9,880 ERUs, or approximately 2,586 ERUs beyond the 2032 projected growth considered in the WWP.

2020 General Sewer Plan Update

The City is in the process of updating the General Sewer Plan (GSP) and extending it to 2040. The following clarifications and refinements to the above evaluation are based on the direction of the GSP update, which is in progress.

The updated GSP will include Snoqualmie Mill, as well as the entire 2011 annexation area, within the service area of the City. Therefore, subject to the following, capacity within the wastewater system identified in the GSP would be available to Snoqualmie Mill, since it is part of 2040 projected growth.

Because of Department of Ecology requirements for wastewater growth planning, the 2020 GSP update already includes an evaluation of alternatives for increasing the wastewater treatment facility's rated BOD_5 loading capacity, as this will be required to continue to serve other planned growth in the City. The City will incorporate the estimated BOD_5 and TSS loads to be generated by Snoqualmie Mill Planning Areas 1, 2, and 3 under the Proposed Action in the analyses to increase capacity of the Water Reclamation Facility (WRF).

Based on the preliminary analyses conducted to date for the 2020 GSP update, it is estimated that the City's wastewater treatment facility may not have sufficient BOD_5 treatment capacity to serve the full buildout of Snoqualmie Mill Planning Area 1 under the Proposed Action, or sufficient BOD_5 loading capacity to serve Snoqualmie Mill Planning Areas 2 and 3 under the Proposed Action. Depending on final estimates of winery production wastewater flows and strength, additional improvements to increase the wastewater treatment facility's rated BOD_5 loading capacity appear necessary to support full development of Snoqualmie Mill Planning Area 1 under the Proposed Action. It is anticipated that the updated GSP will include a proposed upgrade to the wastewater treatment plant to increase the capacity for flow, BOD_5 (i.e., BOD as measured over a 5-day period), and Total Suspended Solids (TSS) treatment. As a result, the City may not want Snoqualmie Mill to provide the proposed level of pretreatment discussed previously for the winery wastewater. The amount of and level of pretreatment for the winery wastewater from the Snoqualmie Mill is uncertain at this time and will be reevaluated when the proposed development for winery production is more certain, but prior to design of the utilities for Planning Area 1.

Following PCI Plan approval and as part of the first development application, all proposed and existing affected sewer mains will be sized, and their hydraulic capacities will be determined. These will be determined consistent with flows and peaking factors promulgated in the 2020 GSP update and included in the engineering review for the first Snoqualmie Mill development project.

Stormwater Drainage

The mill site contains nearly 12,000 linear feet of man-made channels, built to convey stormwater drainage. These channels ultimately drain to the Snoqualmie River via several on-site wetland and the adjacent Borst Lake. A detailed description of on-site drainage features is presented in Section 3.3 – Water Resources, and existing drainage discharge from the mill site is presented in Exhibit 3.3-8.

3.15.2. Impacts

Impacts of Proposal

Water

PCI Master Plan

The 2016 Annexation Implementation Plan (AIP) included an initial estimate of water demand for the Snoqualmie Mill site based on demand criteria from the 2013 Snoqualmie WSP and land use and employment estimates from the Snoqualmie Comprehensive Plan. This initial estimate was developed before a more specific land use mix for the PCI Plan had been determined. It also assumed a level of demand per acre similar to the nearby development at Snoqualmie Ridge (5.5 ERU per acre). This resulted in an overall estimated demand of approximately 594 ERU. Chapter 2 of the MDP (Appendix A) contains a detailed description of this analysis and its underlying assumptions.

The MDP and the Draft EIS provide an updated analysis of water demand based on more refined planning and the specific amounts, categories and/or types of land uses that are proposed in the PCI Plan, including residential uses and wineries. This refined analysis indicates that the estimate contained in the AIP is likely higher than actual demand.

As shown in Exhibit 3.15-5, total demand, based on the uses proposed for the PCI Plan area and recent research conducted by the Department of Ecology on water consumption of winery operations, would be approximately 799 ERU. In the process of preparing its Winery General Permit, which will go into effect July 1, 2019, the Washington Department of Ecology gathered information on water demand and wastewater discharge associated with wineries. Based on these data, the estimated water demand resulting from the anticipated number and sizes of wineries are presented in Exhibit 3.15-6. These estimates of winery water use are included in the total usage demand estimates in Exhibit 3.15-5. The detailed factors used in the calculations of demand are included in Appendix A (Chapter 2).

Exhibit 3.15-5. Snoqualmie Mill Water Usage Estimate

Residential						
	Bldg Area (sf)	Num of Units	Est. ERU's	ADD (gpd)	Total ERU
Planning Area 1	N/A [1]	160	112	22,400	***112***

Light Industrial/Retail								
	Gross Area (ac)	Bldg Area (sf)		Estimated Retail Employees	L.I. Winery ADD (gpd)	Gross Area/Retail ADD (gpd)	Total ADD (gpd)	Total ERU
		L.I.	Retail					
Planning Area 1	26	120,000	70,000	140	1,858	17,200	19,058	***95***
Planning Areas 2-3	5	0	25,000	40		3,700	3,700	***19***

Industrial Warehouse					
	Gross Area (ac)	Bldg Area (sf)	Estimated Employees	Total ADD (gpd)	Total ERU
Planning Area 1	12	280,000	130	6,360	***32***
Planning Areas 2-3	25	400,000	190	10,700	***54***

Business Park Campus					
	Gross Area (ac)	Bldg Area (sf)	Estimated Employees	Total ADD (gpd)	Total ERU
Planning Areas 2-3	40	800,000	2,670	97,540	***488***

Totals					
	Gross Area (ac)	Bldg Area (sf)	Estimated Employees	Total ADD (gpd)	Total ERU
Planning Area 1 Total	38	470,000	270[2]	45,960	***239***
Planning Areas 2-3 Total	70	1,225,000	2,900	111,940	***560***
Total	**108**	**1,695,000**	**2,559[2]**	**157,900**	***799***

[1] Square footage of residential development (134,000 sq ft) not used to estimate water demand and is excluded from this table.
[2] Excludes winery-related employees. Winery water demand is calculated on the basis of gallons produced, rather than employees.
Source: Goldsmith Engineering,2020 ; ECONorthwest, 2018.

Exhibit 3.15-6. Estimated Winemaking Water Demand – Range of Wineries Anticipated at Snoqualmie Mill

	Number of Wineries	Cases of Wine per Year	Volume of Wine (gal)	Water Demand	Daily Demand Sept. – Nov. (gpd)	Average Daily Demand (gpd)
2,000 Cases per Year	4	8,000	19,040	114,240	1,269	313
3,500 Cases per Year	5	17,500	41,650	249,900	2,777	685
6,000 Cases per Year	2	12,000	28,560	171,360	1,904	469
10,000 Cases per Year	1	10,000	23,800	142,800	1,587	391
Totals	12	47,500	113,050	678,300	7,537	1,858

1. 2.38 gallons of wine per case
2. 6 gallons of water demand per gallon of wine, per Department of Ecology General Winery Permit
3. 4 gallons of wastewater per gallon of wine, per Department of Ecology General Winery Permit
4. Daily Demand Sept.-Nov. = Total volume / 90 days
5. ADD Water Demand = Total volume / 365 days

Source: Goldsmith Engineering, 2020 Snoqualmie Mill Ventures LLC, 2018.

Planning Area 1

Water demand for Planning Area 1 is shown in Exhibit 3.15-5. As shown in the exhibit and described in Chapter 2 of the EIS, Planning Area 1 would include a mix of residential uses, retail, industrial warehouse, and light-industrial winery operations. Planning Area 1 would include all the residences and winery operations proposed by the PCI Plan, as well as approximately 78% of the retail employment and 41% of the PCI Plan's proposed industrial warehouse employment; business park uses would be confined to Planning Areas 2 and 3. Planning Area 1 is assumed to be constructed by 2023.

As shown in the preceding tables, the greatest impacts to water demand from development of the Proposal in Planning Area 1 are associated with the residential and light-industrial winery operations, including a significant increase in short-term demand during the primary wine processing months of September through November.

The City's water system currently has capacity to support the demands anticipated for Planning Area 1. The City is currently pursuing additional water supply improvements to support the demand estimated for buildout of the PCI Plan (799 ERU). As noted previously, the City is pursuing all of the measures identified in the 2016 memorandum to provide additional supply, including evaluating ASR, and has applied for additional water rights. The update to the WSP that is currently underway will provide information about the status of these actions and anticipated effects on capacity.

Sewer

PCI Master Plan

Wastewater Flows and Treatment Capacity

As mentioned previously, it is estimated that the City's wastewater treatment facility may not have sufficient BOD_5 treatment capacity to serve the full buildout of Snoqualmie Mill Planning Area 1 or Planning Areas 2 and 3 under the Proposed Action based on the 2020 GSP update. Additional improvements to increase the wastewater treatment facility's rated BOD_5 loading capacity are necessary to support full development of Snoqualmie Mill Planning Area 1 under the Proposed Action.

General Sewer System Design/Planning Area 1 Sewer System

The MDP (Appendix A) contains a detailed discussion of pre-planning and design issues relating to the proposed sewer system; the following summary is focused on the conceptual design for the Snoqualmie Mill sewer system, which is shown in Exhibit 3.15-7.

The gravity sewer for Planning Area 1 would be designed to accommodate flows from Planning Area 1 and future flows from Planning Area 2. Lift Station #1 would be located in the northwestern corner of the site per the recommendations of the draft *Soils, Geology, Groundwater, and Geologic Hazards Report* (AESI, 2018). It would be designed to serve Planning Area 1 with ability to increase capacity in the future for Planning Area 2. Lift Station #1 would pump to the north under Mill Pond Road and discharge into a gravity manhole which flows directly into the City's Wastewater treatment plant.

In general, the proposed locations for sewer lift stations throughout the site are intended to facilitate the design of stable foundations for these facilities. The utility extensions would be placed within over-excavated utility trenches backfilled with a combination of geotextile fabric and/or rip-rap or compacted import soil to provide a firm unyielding trench bed. However, the design of gravity flow utilities would be provided with a conservative (additional) minimum slope to accommodate modest settlement over time while maintaining a positive grade and gravity flow.

Planning Area 2 sewer would collect wastewater and flow to Lift Station #2 which would be located on the far eastern boundary of Planning Area 2. Lift Station #2 would pump to the Planning Area 1 gravity sewer stubbed at the Planning Area 1 east boundary which would flow to Lift Station #1. Development of Planning Area 2 would require upgrading the pumping capacity of Lift Station #1. Planning Area 3 sewer would collect wastewater and flow to Lift Station #3. Lift Station #3 would be pumped independently to the City's Wastewater treatment plant by force main to the west under the Planning Area 3 future access road and to the north under Mill Pond Road. The Planning Area 3 force main would then discharge into a manhole draining directly to the Wastewater treatment plant.

The plan to serve Snoqualmie Mill Planning Areas 2 and 3 will be reevaluated when the proposed development for both areas are more certain, but prior to design of the utilities for

these areas. At that time, it should be evaluated if one lift station could be used to serve both Snoqualmie Mill Planning Areas 2 and 3, or if both lift stations could pump to the lift station that will serve Snoqualmie Mill Planning Area 1. The City's objective is to minimize additional maintenance from new developments where feasible, which includes limiting the number of lift stations owned and operated by the City.

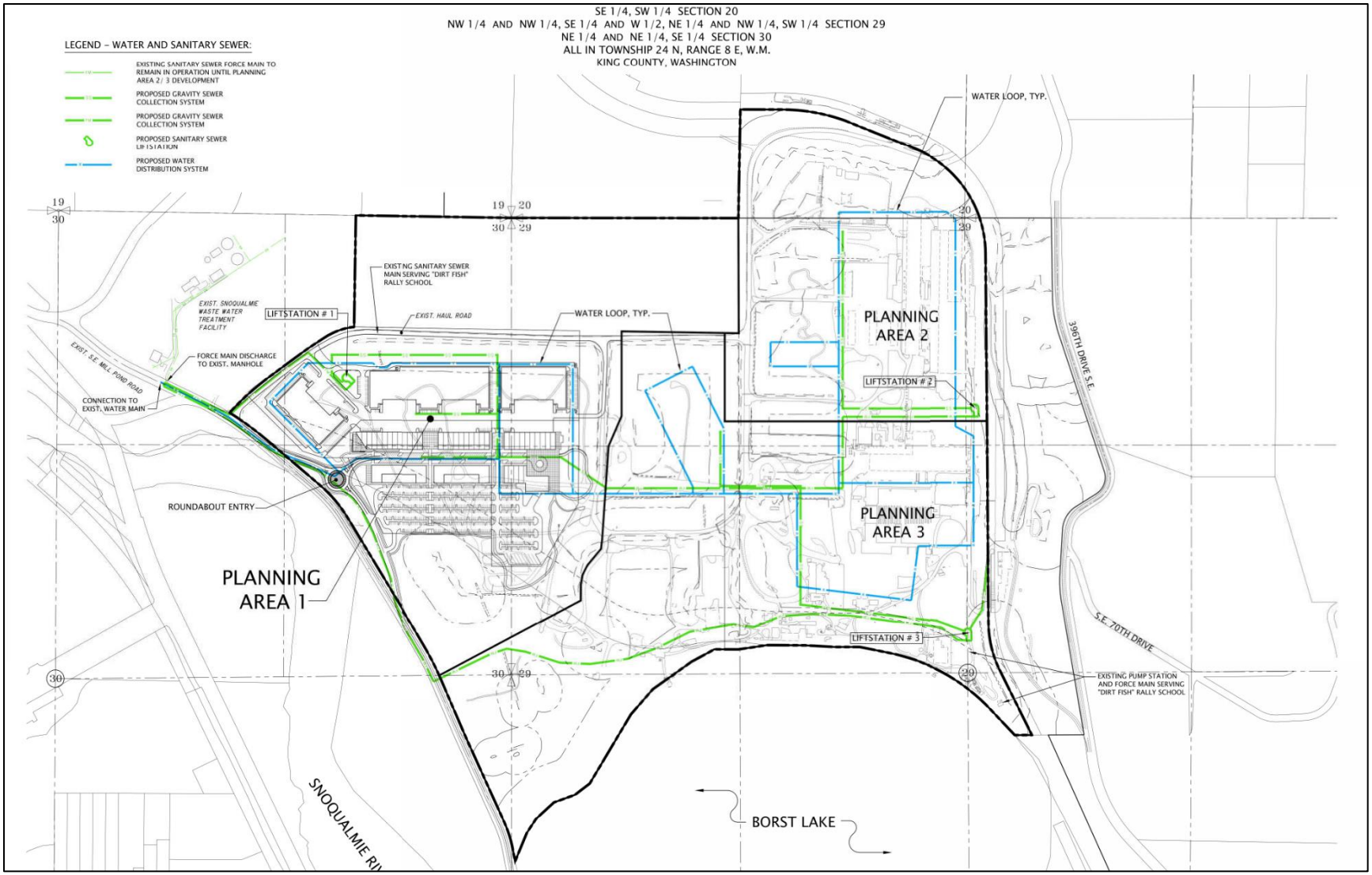
Planning Area 1 Winery Wastewater Flows and Treatment Capacity

As described earlier in this chapter, and in greater detail in Chapter 2, the development concept for Planning Area 1 includes wine production, and the following discussion identifies wastewater demand and treatment issues specific to wine making. Ecology has performed research regarding water demand and the volumes and concentrations of wastewater from the production of wine in the State of Washington. Winery production generates wastewater with high concentrations of Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS); depending on the volume of wastewater, winery flows can adversely affect wastewater treatment facility operations unless mitigated.

The total estimated wastewater flow from wineries in Planning Area 1 is shown in Exhibit 3.15-9; these quantities are included in the previously calculation of total wastewater flows for the PCI Plan as a whole.

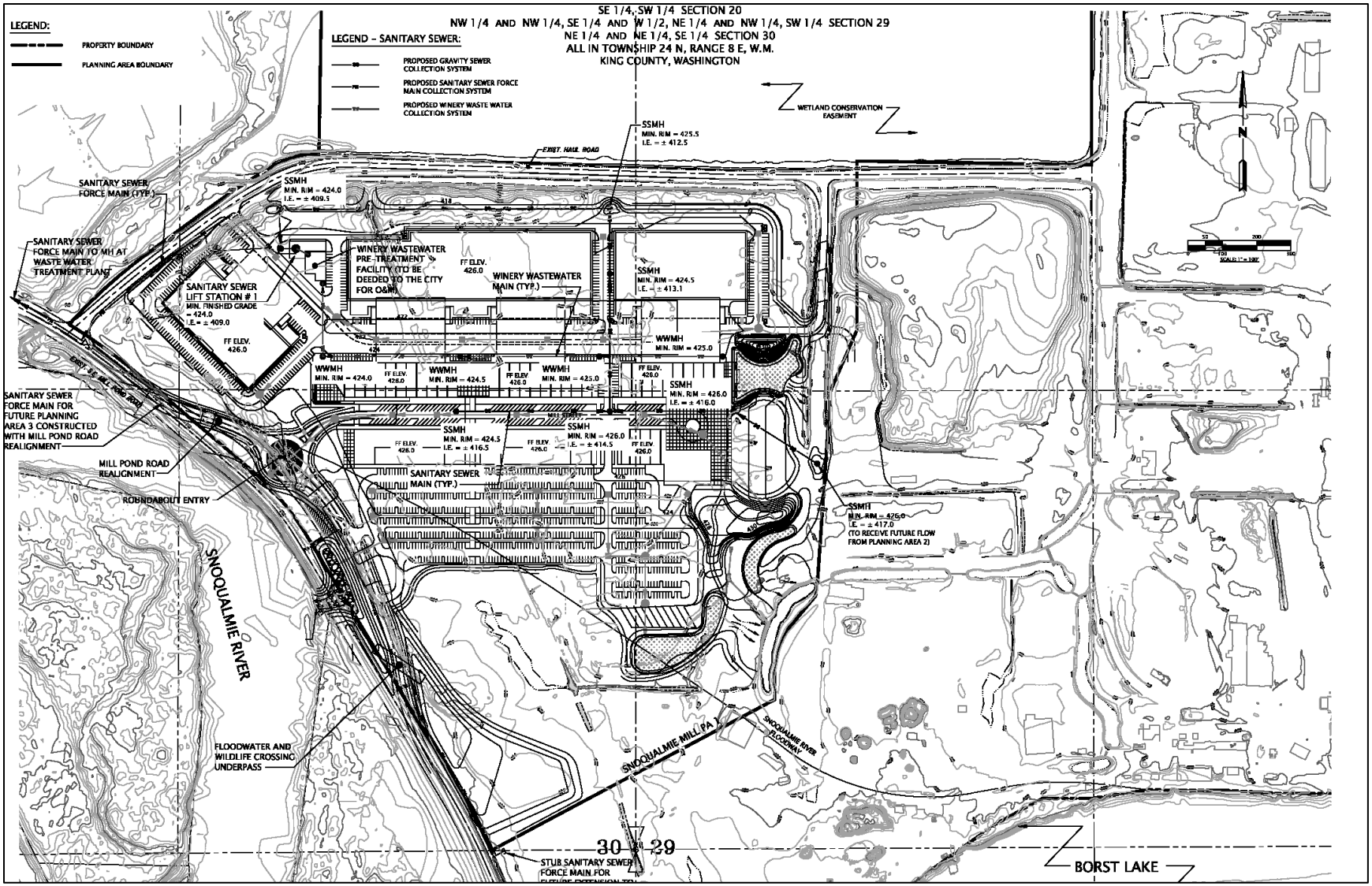
Individual wineries within Planning Area 1 that produce at least 7,500 cases of wine per year and release to a public wastewater treatment plant will be required to apply for and obtain a Winery General Permit from Ecology. As noted previously, all but one are estimated to fall below the threshold for a Winery General Permit.

Exhibit 3.15-7. Mill Site Conceptual Water and Sewer Plan



Source: Goldsmith Engineering, 2020.

Exhibit 3.15-8. Planning Area 1 Conceptual Sewer Plan



Source: Goldsmith Engineering, 2020.

Exhibit 3.15-9. Estimated Winemaking Wastewater Flow – Range of Wineries Anticipated at Snoqualmie Mill

	Number of Wineries	Cases of Wine per Year	Volume of Wine (gal)	Wastewater Flow Sept. – Nov. (Gal)	Wastewater Flow Sept. – Nov (gpd)
2,000 Cases per Year	4	8,000	19,040	76,160	846
3,500 Cases per Year	5	17,500	41,650	166,600	1,851
6,000 Cases per Year	2	12,000	28,560	114,240	1,269
10,000 Cases per Year	1	10,000	23,800	95,200	1,058
Totals	12	47,500	113,050	452,200	5,024

1. 2.38 gallons of wine per case
2. 6 gallons of water demand per gallon of wine, per Department of Ecology General Winery Permit
3. 4 gallons of wastewater per gallon of wine, per Department of Ecology General Winery Permit
Source: Goldsmith Engineering, 2018.

According to Ecology, typical wastewater discharges from a winery can often contain 3,000 ppm or more of BOD_5 and 800 ppm or more of TSS. City of Snoqualmie regulations (SMC 13.04.460) requires notice to the City where discharges to the public sewer will likely contain a 5-day BOD of greater than 300 parts per million (ppm) or more than 350 parts per gallon by weight of suspended solids, or other toxins prohibited by law. Where necessary, as determined by the Director (of Public Works), discharges may be required to provide pretreatment to reduce BOD to 300 ppm and reduce Suspended Solids (TSS) to 350 parts per million by weight.

A pre-treatment facility is included in the design of the sewer system to address residue and biological oxygen demand created by emissions from winemaking operations. A single consolidated facility would be more cost effective and provide better monitoring of total daily flow and concentration. As an option, individual wineries could also provide individual pretreatment facilities within each winery production space. Pre-treatment is intended to implement the requirements and/or recommended best management practices (BMPs) of Ecology's Winery General Permit (issued May 2018, effective July 1, 2019). Although few of the wineries anticipated to be located in Planning Area 1 could be subject to the permit's requirements, based on projected size of the operations (as measured in gallons produced), the Mitigation subsection recommends that Ecology's BMPs should be implemented by all Snoqualmie Mill wineries. This would also ensure that wastes reaching the City's wastewater treatment plant are consistent with the City's discharge standards in SMC 13.04.430 and SMC 13.04.460.

As shown in Exhibit 3.15-8, the conceptual wastewater plan for Planning Area 1 proposes to locate both the pretreatment facility and Lift Station #1 in essentially the same location. On-site

collection of winery wastewater would occur separately, with all wineries discharging first to the pretreatment facility, which would then discharge to the co-located Lift Station #1, which would then pump raw domestic sewage and pretreated winery wastewater to the headworks of the wastewater treatment plant. According to City regulations (SMC 14.01.470), maintenance of pre-treatment facilities would be the responsibility of the owner.

The level of pretreatment of the winery wastewater before discharge to the City's sewer system needs to be finalized with the City as plans for the wineries are further developed. Some pretreatment is likely required, but a higher level of pretreatment, including biological treatment, may be better accomplished at the City's WRF. One option would be for these wineries to acquire sufficient treatment capacity in the City's WRF through appropriate connection fees and sewer service charges to have the winery wastewater treated at the WRF. This could be in the best interest of both the wineries and the City, especially if the City is already planning to increase the capacity of the WRF through conversion of existing treatment processes.

Stormwater Drainage

Impacts to stormwater drainage with respect to conveyance are described in the following subsections. Note that Section 3.3 – Water Resources, discusses the effects of the alternatives on the surface hydrology of associated streams, wetlands, water bodies, and groundwater features, as well as effects on flood conditions and compensatory flood storage.

PCI Master Plan

The drainage concept for the overall site is based on discharge to the Snoqualmie River, which is described in Section 3.3 and Appendix A. Discharge to the Snoqualmie River from Planning Areas 2 and 3 is the same in concept as that planned for the eastern portion of Planning Area 1, described in the following subsection. Similar to Planning Area 1, all proposed impervious surfaces for all on-site Planning Areas would be required to maintain surface hydrology levels to surface water dependent wetlands and drain to the existing Wetland 12 conveyance system to Borst Lake. Open space grading for compensating storage will provide direct conveyance paths to the river for overflow and receding floodwaters.

Planning Area 1

A preliminary engineering plan for grading and stormwater control for Planning Area 1 is depicted in Exhibit 3.15-10**.** Other depictions of the concept of fill for Planning Area 1 and compensating storage are shown in Figures 2-6 through 2-9 of the Master Drainage Plan, attached to this EIS as Appendix A. Exhibit 3.15-10 shows the concept for collection and conveyance of runoff, treatment areas and treatment types and discharge locations. It includes the location in Planning Area 1, based on preliminary design, of an outfall to the Snoqualmie River for direct discharge of treated stormwater and for improved control of receding floodwater. A more detailed conceptual plan for the Snoqualmie River Outfall Concept is shown in Exhibit 3.15-11**.**

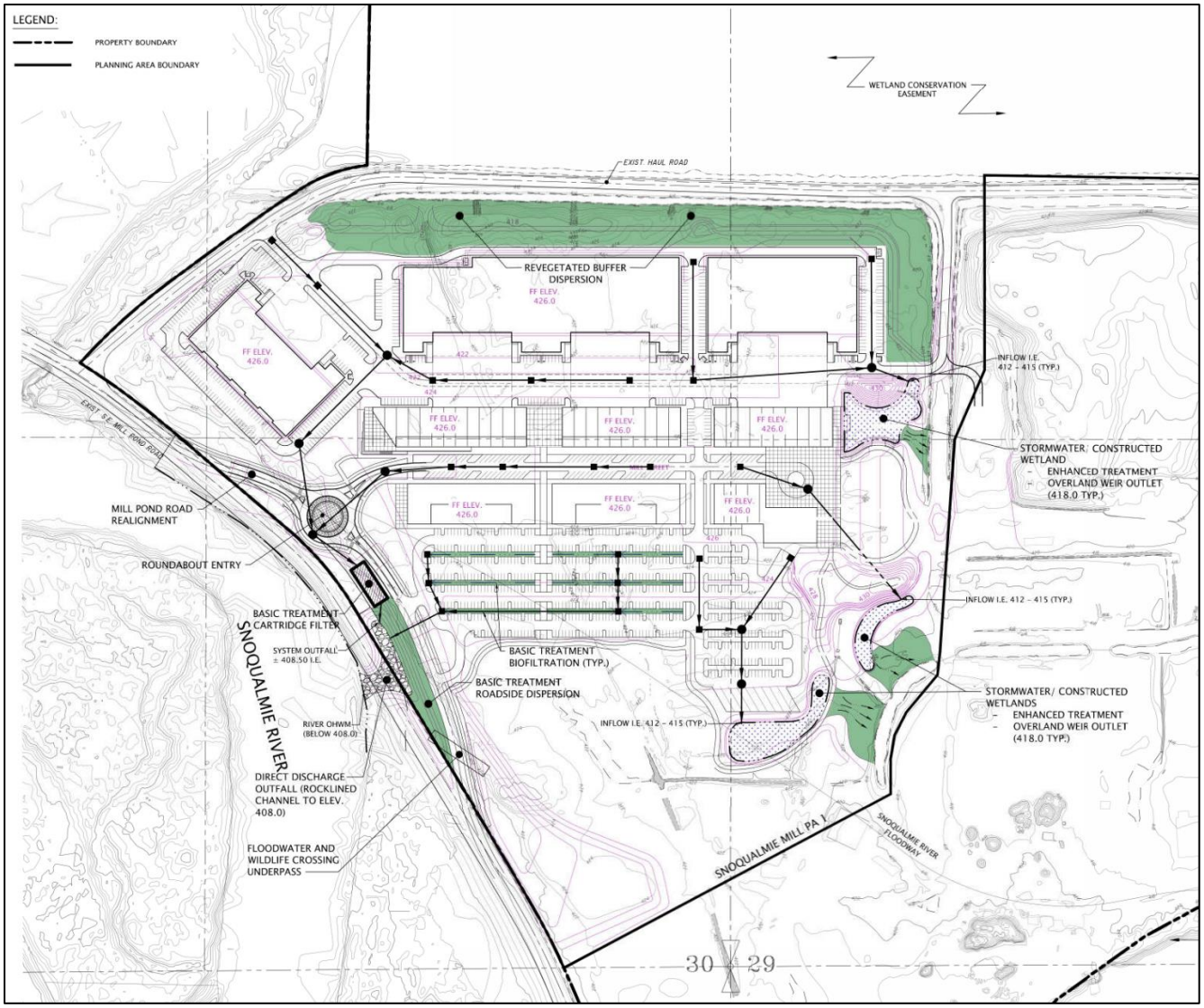
The outfall is proposed as a broad surface swale along portions of the realigned Mill Pond Road

to provide surface flow to the OHWM of the river. Clean and/or treated runoff from the western portion of the site would be conveyed (through storm pipes) to the broad swale. The swale will be constructed by excavating a portion (to be abandoned) of the existing Mill Pond Road to provide positive drainage to the river. Design of the channel and the banks of the swale will include necessary stabilizing rock, rip-rap, and vegetation to prevent destabilization of the existing Mill Pond Road embankment over time.

Runoff from the eastern portion of Planning Area 1 site would be conveyed to the river through on-site and off-site wetlands to maintain wetland hydrology, as required by King County's criteria for direct surface water discharge. These wetlands are existing conveyance paths for stormwater runoff.

In general, the quality of stormwater discharged to the Snoqualmie River is expected to improve relative to current condition. The proposed wetland buffer restoration and enhancement plan, discussed in Section 3.4, would improve the effectiveness of currently degraded wetland buffers to filter impurities from stormwater. In addition, as described in the Master Drainage Plan, runoff from developed areas would be treated prior to discharge to the river. Impacts to Snoqualmie River water quality are not expected to be significant; see the additional discussion in Section 3.3 of the Draft EIS.

Exhibit 3.15-10. Planning Area 1 Conceptual Stormwater Drainage Plan



Source: Goldsmith Engineering, 2020.

Exhibit 3.15-11. Snoqualmie River Outfall Concept



Source: Weisman Design Group, 2018.

Alternatives

Redevelopment Alternative

Compared to the Proposal, the Redevelopment Alternative would include a greater share of warehouse uses and reduced retail, office, and residential uses, and would include an outdoor performance space, which is not part of the Proposal. Overall development footprint would remain approximately the same. Increasing the amount of warehouse uses on the site and reducing retail and office uses would lower the amount of employment overall and eliminate office use; these changes would reduce water consumption and wastewater discharge compared to the Proposed PCI Plan.

The analyses of the Proposed PCI Plan based on the 2020 WSP and GSP updates concluded that there is not sufficient water supply or wastewater treatment capacity, based on the information in those documents at this time. The same conclusion would apply to the Redevelopment Alternative.

Because the overall development footprint would be approximately the same, the Redevelopment Alternative would have the same stormwater drainage impacts as the Proposal.

No Action

Under the No Action Alternative, the proposed development would not occur, and the site would continue to operate under existing development conditions. No additional impacts to water resources are anticipated under the No Action Alternative.

3.15.3. Mitigation Measures

Incorporated Features of Proposal

- Site grading and sanitary sewer systems would be designed in such a manner that the rims (or tops) of manholes would lie above the 100-year base flood elevation of the Snoqualmie River.
- Critical facilities (Lift Stations) would be located in areas recommended by the geotechnical engineer that can provide stable foundations and would lie above the 100-year base flood elevation of the Snoqualmie River, as required by the City's Flood Hazard regulations (SMC 15.12).
- Critical gravity utilities, primarily sanitary sewer, would be placed on an engineered subgrade per the recommendation of the geotechnical engineer. This will likely consist of over-excavating utility trenches and preparing an engineered pipe bed foundation of geotextile fabric and/or rock or compacted imported bed material. Additionally, minimum pipe grades would be increased to a more conservative slope (at least 1.0% for gravity sewer main) to account for potential settlement to ensure positive gravity drainage.
- Use of earthquake resistant ductile iron pipe will be considered to reduce the risk of failure of the water distribution system for the Proposal from a seismic event.

- Use of high-density polyethylene (HDPE) pipe will be considered for possible mitigation of potential settlement for gravity sewer mains. Utilizing backfill that has the same density as the native soil will also be considered for possible mitigation of potential settlement of gravity sewer mains.
- Critical infrastructure needed for ingress and egress to the site, and to ensure long term stability, would be realigned along Mill Pond Road.
- Work within existing functional wetland or stream buffer boundaries would be limited to the dry season (avoiding November through February) where feasible.

Other Responsibilities and Requirements

- Snoqualmie Mill's water, wastewater and stormwater improvement requirements and fair share mitigation responsibilities will be determined more specifically as updates to the city's water and wastewater plan updates progress and review of the project continues.
- Design water main facilities to minimize potential leaking or inflow from groundwater inundation. Materials and pipe connection systems would be reviewed by the City at the time detailed development plans are submitted.
- Design sanitary sewer systems to minimize potential infiltration and inflow from groundwater. Materials and pipe connection methods would be reviewed by the City at the time detailed development plans are submitted.
- The Snoqualmie Mill site will be included as part of the City's retail water service area for the 2020 WSP update. As such, it includes the jobs and population associated with the Snoqualmie Mill proposal, except for any winery production at the Snoqualmie Mill site. At a minimum, Department of Health (DOH) construction document approval will be required, but the development also may require a Project Report.
- The Snoqualmie Mill site will be included as part of the City's sewer service area for the 2020 GSP update. As such, it includes the jobs and population associated with the Snoqualmie Mill proposal, except for any winery production at the Snoqualmie Mill site. The Department of Ecology (Ecology) may require an Engineering Report outlining any proposed winery production at the Snoqualmie Mill site.
- An NPDES Permit for Stormwater Discharges associated with construction activities would be obtained from Ecology.
- A Stormwater Pollution Prevention Plan (SWPPP) would be prepared as required by the NPDES permit and would be used and updated on-site as warranted, including monitoring requirements determined by Ecology for the permit.
- Major Temporary Erosion and Sedimentation Control (TESC) measures (per King County CSWPP Plan, 2016) likely to occur in the NPDES permit would include, but are not limited to, the following:
    - Marking the clearing limits (i.e., marking limits, critical areas and buffers on plans and in the field using plastic, metal, or stake wire fence);

- Installation of temporary construction access (stabilized entrances) and staging areas (i.e., limiting construction vehicles to points stabilized with quarry spall or rock with wheel wash);
- Road cleaning (i.e., street sweeping);
- Perimeter protection such as silt fencing when necessary (i.e., all perimeter areas not upslope of construction clearing) to intercept fine sediments and fencing or flagging of clearing limits;
- Soil stabilization: temporary or permanent cover over disturbed areas or stockpiles, such as seeding, mulching, sodding, plastic covering, or erosion control fabrics and matting to the soil or gravel base, to prevent erosion;
- Use of an on-site TESC inspector;
- Treatment of runoff to remove sediment (e.g. sediment traps or ponds);
- Stabilization of channels and outlets (i.e. armoring as necessary to prevent erosion or scour);
- Control of all pollutants on-site, including removal and legal disposal of construction waste or soils contaminated by construction activity or accidental spills;
- Accidental spill response plans, on-site clean-up materials storage, and worker training;
- Use of BMPs to prevent adverse pH affect from concrete work on the site or cause violation of water quality standards for pH in the receiving water (See section 3.2.2 below);
- Control of dewatering (flow rate and sediment control) into a controlled conveyance system to receiving waters (if clean and non-turbid), or retention for other purposes (i.e., dust control);
- Dust control: preventative measures to minimize wind transport of soil; and
- Maintenance and inspection of BMPs and TESC measures.

Other Potential Mitigation Measures

- Include provisions in the project development standards/design guidelines to require the usage of water-conservation features to reduce water demand and ensure development does not exceed system capacity. Examples could include water-efficient fixtures, greywater reuse systems, rainwater harvesting, or draught-resistant landscaping.
- Implement the best management practices identified in Ecology's Winery General Permit, which include removal of solids, control of organic loads, maintenance of the waste management system, and improving water efficiency. Additional BMPs to address the use and storage of chemicals are addressed in Section 3.5 – Environmental Health.
- To ensure coordinated planning and operation of stormwater facilities, an Operation and Maintenance Manual should be provided to the City at the

completion of each Phase of development and at the completion of the overall site that summarizes the stormwater system operation and maintenance requirements.

3.15.4. Significant Unavoidable Adverse Impacts

As described in the Impacts discussion, development of the site would substantially increase the amount of employment and residences compared to existing conditions, creating increased demand for water, sewer and drainage utility services. Although this increase is a significant and unavoidable result of the proposal, the increase in itself is not necessarily adverse, provided that water supply is sufficient to support it, that required facilities to convey and treat water and wastewater are adequate, and that drainage facilities protect water quality. Water supply, as estimated in the EIS, is adequate to support development of Planning Area 1; additional water sources will be needed to support development of Planning Areas 2 and 3 of the PCI Plan, and to support long-term growth of the city generally. Existing wastewater treatment capacity is not sufficient to support BOD_5 loading from Planning Area 1 under the Proposed Action. The potential impacts of winemaking emissions to wastewater treatment facilities is not unavoidable, and measures are incorporated in proposed utility design to avoid significant impacts. The 2020 GSP update is already evaluating alternatives for increasing the wastewater treatment facility's rated BOD_5 loading capacity, and the City will incorporate the loads to serve Snoqualmie Mill Planning Areas 1, 2, and 3 in the analyses to increase capacity of the WRF. Stormwater discharge would increase, but design features incorporated into the Proposal (e.g., water quality treatment) and proposed measures would mitigate significant impacts to water quality.

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3.16. FISCAL AND ECONOMIC IMPACTS

This section of the EIS presents an analysis, prepared by ECONorthwest, of the fiscal and economic impacts of the Snoqualmie Mill PCI Plan. Fiscal impacts are focused on the impact to City revenues and expenditures. Economic impacts consider the increase in economic activity in the local economy, specifically focusing in on the number of jobs created and additional spending in the local economy.

Fiscal impact analysis is are intended to provide a reasonable estimate of potential future costs and revenues for the City associated with development of the PCI Plan and the Redevelopment Alternative over the 2018-2037 period. This time horizon extends from the assumed start of construction of Planning Area 1 (2022) to 5 years following buildout (assumed 2032); the additional 5 years following buildout is intended to show stabilized, post construction revenues and costs. (2018 is included for consistency with the use of 2018 dollars for the analysis.) Development assumptions are shown in Exhibit 3.16-1 and Exhibit 3.16-2, for the PCI Plan and Redevelopment Alternative, respectively. The No Action alternative assumes that no development would occur, and the site would continue to generate current costs and revenues into the future.

Exhibit 3.16-1. Proposed PCI Plan Phasing, 2022-2032 (Gross Square Feet*)

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Total
Warehouse/Manufacturing	280,000	400,000	0	680,000
Office	0	0	800,000	800,000
Residential Mixed Use	171,000	0	0	171,000
Light Industrial	120,000	0	0	120,000
Retail/Restaurant	28,000	0	25,000	53,000
Wine Tasting Rooms	45,000	0	0	45,000
Event Space	10,000	0	0	10,000
Total	**654,000**	**400,000**	**825,000**	**1,879,000**

*Note: Building area totals reflect gross building area, which is approximately 50,000 square feet greater than leasable area. See the discussion in Section 2.3.

Source: Snoqualmie Mill Ventures LLC

Exhibit 3.16-2. Redevelopment Alternative Phasing, 2023-2032

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Total
Warehouse/Manufacturing	291,000	390,000	715,000	1,396,000
Office	0	0	156,000	156,000
Residential Mixed Use	133,000	0	0	133,000
Light Industrial	96,000	0	0	96,000
Retail/Restaurant	48,000	0	0	48,000
Wine Tasting Rooms	50,000	0	0	50,000
Event Space	15,000	0	0	15,000
Total	**633,000**	**390,000**	**871,000**	**1,894,000**

Note: Note: Building area totals reflect gross building area, which is approximately 50,000 square feet greater than leasable area. See the discussion in Section 2.3.

Source: Snoqualmie Mill Ventures LLC

3.16.1. Affected Environment

Analysis Methods and Approach

This section provides an overview of the approach and methods used to analyze the fiscal impacts of the Snoqualmie Mill site development to the City of Snoqualmie. The section first discusses challenges related to fiscal impact analysis, and the specific methods and assumptions used to evaluate the impacts to the City.

Alternatives Comparison

The analysis compares the differences in impacts between the No Action alternative and two action alternatives, the proposed PCI Plan and the Redevelopment Alternative. Because the No Action alternative assumes that no new development occurs on the site, this alternative assumes current revenues would stay the same and there would be no increase public service costs. Current revenues generated by the Snoqualmie Mill site include property tax for the general fund and stormwater fees for the City's stormwater utility, which total over $300,000 a year.

Fiscal Impact Considerations

An impact analysis is simple in concept but challenging to execute in practice. There are numerous fundamental questions that must be answered to conduct the analysis, and the analysis will inevitably be constrained by the availability of resources (time, data, and budget). Here are some issues to keep in mind:

What costs and revenues to include. While an impact analysis deals with *direct* impacts, it does not necessarily deal with all public-sector impacts. For the EIS, this analysis focuses on major revenue sources and service costs for the City of Snoqualmie. However, additional levels of governments (local, county, state, and federal) could be impacted by the development. While including all impacts to all governments would be informative, the constraints of time and

budget argue for a more focused approach. Impacts to the Snoqualmie Valley School District are discussed.

Economies of Scale. It is likely that the City will enjoy certain economies of scale in delivering services to address future growth. These savings mean that the average cost-per-resident of providing many city services will tend to decrease as the City becomes larger. In practical terms, the analysis framework reflects economies of scale by identifying positions that will not be affected by growth (e.g. growth will not trigger the need to hire another City Manager, Finance Director, Council, etc.).

Marginal versus average costs. Two broad categories of approaches are used to estimate expenditures or costs in fiscal impact analyses: marginal-cost approaches and average-cost approaches. Average-cost approaches generally assume that the average cost of services remains constant so that future costs can be estimated by multiplying current average cost times the quantity of new services required. Marginal-cost approaches do not assume that costs remain constant, because some forms of public infrastructure are fixed in the short run, and diminishing returns set in as variable inputs are combined with fixed inputs. For this analysis, given the lack of detailed information on future service requirements, we used an average-cost approach to determine the marginal change in service costs.

Dealing with time. An impact analysis that spans years or even decades presents challenges:

- **Timing of new growth**. The timing of development affects fiscal impacts. When development occurs, it generates new revenue and creates a need for new services and infrastructure improvements to meet adopted service standards. Services can increase, or infrastructure improvements can accommodate the incremental growth.
- **Future changes in rates for taxes and fees**. It may be the case today that sales tax is the primary source of funding for parks service in a jurisdiction, and the jurisdiction's sales tax rate is 8.6%. But, future changes in public policy could change how a jurisdiction funds its parks (or any other service type). One cannot hope to anticipate future changes in rates for taxes and fees, or how future governments choose to allocate their more fungible resources. The analysis usually assumes that the basic funding framework remains the same for the duration of the forecast period.
- **Dealing with inflation**. Conducting an impact analysis is difficult enough when examining only the short-run impacts. When the analysis is extended to cover a long period of time, inflation adds another degree of uncertainty and difficulty that affects revenues and costs.

Approach and Assumptions

The analysis considers the marginal fiscal impacts of the Snoqualmie Mill site by comparing the additional revenue generated by development to the additional service and infrastructure costs needed to serve that development. Comparing revenues and costs from development is a complicated task. Revenues derived from development (property tax, sales tax, real estate excise tax, other taxes as well as impact fees) all flow to different funds, some of which are available for use citywide in an annual budgeting process, and some of which are restricted in

use in different ways (like certain portions of the sales tax or the real estate excise tax, which may only be used to fund specific programs or services).

Revenues also accrue over time and may not be available at the time that an infrastructure investment (a cost) is incurred. In this analysis, our approach is 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.

Time Period and Phasing

The analysis period is from 2019 to 2037 (18 years) to capture the revenue generated by development completed in the last phase of development and several years subsequent. It is important to note that costs and revenues to these jurisdictions will extend far into the future, beyond this time frame. Development for both scenarios is assumed to be phased over 10 years starting in 2022. The assumed phasing schedule used to estimate revenues and costs is as follows:

- Planning Area 1 – starting in 2022 and complete in 2023.
- Planning Area 2 – starting in 2025 and complete in 2026.
- Planning Area 3 – starting in 2030 and complete by 2032.

However, the timing of projects will be dependent on market condition, which could change.

Tax Revenue Analysis

The tax revenue analysis estimates future tax revenues based on changes in the components of the City's tax base resulting from development at the site. Components of growth that influence revenues include the timing, scale, and quality of the project's development, as well as the population and employment impacts of the development as it is completed (described in section below).

The analysis differentiates tax revenues into three categories:

- **One-time Revenues.** These General Fund revenues are tied to the construction of new development and infrastructure. Specifically, they include the retail sales tax on construction (material and services) and the business and occupation tax on construction.
- **Recurring Revenues**. These General Fund revenues are derived from the occupation of commercial, industrial and mixed-use buildings by residents. Specific revenues include the property tax, retail sales tax (resulting from new sales tax sourcing rules), and utility taxes.
- **Non-General Fund Capital Restricted Revenues.** These revenues are statutorily restricted to fund capital expenses. Specific revenues relevant to the City include the real estate excise tax and the state distribution of the motor vehicle fuel tax.

Taxes used to fund general operating expenses for the City include:

- **Property Tax Current Expense Levy.** Development of the site would be taxed at the City's levy rate. Initiative 747, which limited the legal levy to 101%, results in an erosion of the

property tax's purchasing power over time since the revenues do not keep pace with cost inflation of government services. The 2017 current expense levy rate in Snoqualmie is $2.780 per $1,000 in assessed value.

- **Sales and Use Taxes.**
  - **Local Option:** Of the 8.6% sales tax currently collected in the City of Snoqualmie, a 1% "local" share of the tax accrues to the local jurisdictions. In incorporated areas, the city receives 85% of the 1% local tax and King County receives 15% (less administrative costs collected by the Department of Revenue). This tax is levied on businesses in the area, and on construction activity and some transactions related to housing and business, such as certain online purchases and the delivery of personal and business goods.
  - **Criminal Justice Sales Tax:** A 0.1% sales tax is levied by the County for criminal justice programs. Ten% of revenue goes directly to the County and the remaining 90% is distributed to the County and cities within the county on a per capita basis.
  - **Utility taxes.** The analysis uses current utility taxes rates for water, sewer, electricity, natural gas, cable, and telephone utility purchases (shown in Exhibit 3.16-3). These taxes are only collected by cities in Washington. The analysis creates effective purchasing estimates of these utilities based on land use types and applies the appropriate tax policy to estimate tax revenues.
- **State Shared Revenues.** The combination of Liquor Excise Tax and Liquor Board Profits are dispersed based on a per capita distribution of revenues.
- **Business and Occupation Taxes.** The City levies a business and occupation tax of 0.15% on gross revenues.

Exhibit 3.16-3: City of Snoqualmie Utility Tax Rates

Utility	Fee
Water	9.0%
Electric	6.0%
Natural Gas	6.0%
Wastewater	9.0%
Surface Water	9.0%
Solid Waste	9.0%
Cable	6.0%
Telephone	6.0%

Source: City of Snoqualmie

Note, we have not estimated revenues from an admissions tax for revenues generated by ticket sales for performances. This is because the uncertainty about the type, size, and frequency of possible events at the proposed outdoor space. The City currently has a five% admission tax.

Taxes restricted to fund capital purposes include:

- **Real Estate Excise Tax (REET).** Real estate transactions are subject to a 0.5% tax on the value of the transaction. REET revenues are placed in the capital restricted funds to finance capital projects. REET revenues are uncertain given 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. For the purposes of this analysis, it is assumed that all new completed projects would be sold and then five% of all property value would turn over in any given year—this rate is based on 4 to 6% figure cited in the City's 2017-2018 budget and is in line with long-term trends in the region.
- **Motor Vehicle Fuel Tax.** Local governments receive a gas tax distribution that is unrestricted for street purposes from the State. The distribution is determined using a formula that is heavily weighted towards population. ECONorthwest used a proxy of this formula to derive these revenues to the city.

Tax Base Productivity Assumptions

It is assumed that each housing unit will house 1.9 persons and that the development will be 90% occupied (to account for times when homes sit vacant). When fully built, the PCI Plan will result in an incremental population increase of 305 people and 3,410 jobs. The Redevelopment Alternative will result in an incremental population increase of 235 people and 1,570 jobs.[45]

- Construction costs represent the average per square foot cost for different building types based on recent construction comparables. These costs are subject to retail sales and business and occupation taxes:
  - Warehouse/Manufacturing: $90.00 per square foot
  - Light Industrial: $100.00 per square foot
  - Event Center: $160.00 per square foot
  - Retail/Restaurant: $215.00 per square foot
  - Wine Tasting Rooms: $215.00 per square foot
  - Office: $160.00 per square foot
  - Multifamily Unit: $230,000
- Taxable assessed value assumptions are based on a local survey of Assessor data:
  - Warehouse/Manufacturing: $120.00 per square foot
  - Light Industrial: $150.00 per square foot
  - Event Center: $200.00 per square foot

[45] In the Fiscal analysis population associated with the PCI Master Plan is rounded up from 304 to 305, and population under the Redevelopment Alternative is rounded up from 228 to 235.

- Retail/Restaurant: $300.00 per square foot
- Wine Tasting Rooms: $300.00 per square foot
- Office: $200.00 per square foot
- Multifamily Unit: $391,000

- Taxable retail sales are based on assumed comparable businesses:
  - Warehouse/Manufacturing: $2.00 per square foot
  - Light Industrial: $2.00 per square foot
  - Event Center: $125.00 per square foot
  - Retail/Restaurant: $250.00 per square foot
  - Wine Tasting Rooms: $1,200 per square foot
  - Office: $25.00 per square foot
  - Multifamily Unit: $1,235.00 per unit[46]
- Gross business income assumptions are based on the ratio of taxable retail sales to gross business income by sector:
  - Warehouse/Manufacturing: $100.00 per square foot
  - Light Industrial: $100.00 per square foot
  - Event Center: $150.00 per square foot
  - Retail/Restaurant: $300.00 per square foot
  - Wine Tasting Rooms: $1,200 per square foot
  - Office: $500.00 per square foot
  - Multifamily Unit: $0.00
- Taxable business income assumes that all taxable construction activities would be taxed at the City's B&O rate of 0.15% of gross revenue.

Revenue Modeling

New development and the spending associated with construction and new residents are key drivers of revenues. To model tax revenues, a 20-year cash flow model was created to reflect development over time and applied the appropriate tax base productivity and tax rates to estimate the stream of future tax revenues. Revenue results in this study should be interpreted as order-of-magnitude estimates of the revenue impacts at full build-out, rather than a specific year-by-year cash flow analysis. Those future revenues are discounted at a rate of 4% to account for the time value of money for local governments plus some risk premium.

[46] Electronic shopping sales per capita per year in Snoqualmie are $647 (Source: Washington Department of Revenue, NAICS 4541). This is multiplied by the assumed household size of 1.9 people per unit to reach a rounded $1,235.

Public Service Cost Analysis

The public service costs analysis identifies the additional administrative, fire, park, police, and public work costs related to the increased level of service required to meet the needs of the additional residents and jobs over the 20-year study period.

While the project is still in the planning phase of development, enough information on the scale, timing, and nature of the development under both the PCI Plan and the Redevelopment Alternative is available to identify how the City may need to respond to increases in demand for public services. Having already scaled its public services to accommodate growth at Snoqualmie Ridge, the City is likely to be able to exploit economies of scale in its services delivery. As described above, the marginal cost to serve future residents citywide is likely to be less than in the past.

Staffing projections used in this analysis are based on current levels of service and information from City staff and are the best estimates available. As growth occurs, the City will determine exact staffing levels for each department based on the actual timing of development as well as overall growth in the City. As a result, the number of personnel needed and the timing of hiring by position will be planned to a greater level of detail than was possible for this planning-level analysis.

From a fiscal perspective, operating costs for public services fall into two categories based on how they are funded.

- **General Fund Services.** General fund services include general government functions such as police, fire, and city administration. The general fund is primarily supported by city taxes, including property, sales, business and occupation, and utility taxes. These services may also be supported by other funds that are restricted for certain purposes, but some portions rely on general fund support.
- **Enterprise Fund Services.** Enterprise fund services are self-supporting and are funded by ratepayers. Enterprise fund services in Snoqualmie include stormwater, sewer, and water utilities. Because enterprise funds are self-supported by ratepayers, costs related to new growth are paid for by existing and new ratepayers. As a result, this analysis excludes these services from evaluation of impacts, which includes stormwater fees currently assessed on the site and any changes in stormwater fees related to the development of additional impervious surface area.

Within the general fund services there are two types of functions: direct service provision and indirect overhead.

- **Direct service provision** includes performing the specific tasks needed, such as police officers patrolling the city or park staff maintaining parks.
- **Indirect support/overhead** includes the administrative function needed within an individual department and the broader city government, such as clerical, human resources, and management related work.

Our approach is to estimate the incremental cost of increasing both direct local services and

indirect overhead due to the development of the Snoqualmie Mill Site. Specifically, the assessment focuses on the additional administration, fire, park, police, and public works services needed. Public service costs are assumed to be the same for each scenario because the scale of each development scenario is similar. The PCI Plan does assume more office space in Phase 3 compared to the Redevelopment Alternative, which assumes more warehouse and manufacturing uses. However, this difference in the mix of uses is likely not enough to increase staffing levels for local public services, including police and fire service, for either scenario.

ECONorthwest relied primarily on the 2017-2018 adopted city budget and a meeting with City staff for assumptions about service needs and costs. All service costs assume an annual escalation rate of five% per year to account for recent trends in the cost of delivering public services. The analysis then converted the cumulative costs to present value terms using a 4% discount rate for the 20-year period. The approach for each type of service is discussed in more detail below.

Community Development Department

- **Current:** In 2016 there were 7.0 full-time equivalent (FTE) employees evenly divided between the Planning and Building Divisions. The department is primarily funded through fees and charges for service. However, the department still receives 30% of its funding from the general fund to support activities not funded through fees and charges for service.
- **Assumed Future Needs:** It is assumed that all permit related work generated by the development would be paid for through the fees and charges for service needed. As a result, the costs for increased development review and inspections are not included. The growth in population and employment would likely create some additional need for long-range planning and administrative work efforts. Conversations with department staff indicate that additional planning and permitting work could be handled with the existing staff levels. As a result, the analysis assumed no new staff is needed.

Finance and Administration Department

- **Current:** In 2016 the Administration Department has 3.0 FTEs and the Finance Department has 7.66 FTEs. A 1.0 FTE budget analyst and a 0.75 FTE human resource analyst position are proposed to be added starting in 2017.
- **Assumed Future Need:** Service costs assumes the Finance Department would have some additional work due to the increase in population and employment from the development as well as from the increase in police staff. The additions of a budget and human resource analysts are likely capable of handling increases in workload, which was confirmed through conversations with department staff. As a result, the analysis assumed no new staff is needed.

Fire Department

- **Current:** In 2016 there were 19.5 FTEs including one chief, three lieutenants, and eight firefighters. One additional firefighter is being added in 2017 at the cost of about $130,000

per year due to the passage of the Public Safety levy. The fire department currently has at minimum three firefighters on duty 24 hours a day. The existing service configuration has the capacity to respond to additional calls for service. Currently, the City has about 1,200 incidents a year with the capacity to respond to 1,600 to 1,700 incidents a year.

- **Assumed Future Needs:** As development occurs, additional firefighters will likely be needed to respond to a likely increase in calls for service. Based on conversations with department staff, the City has the capacity to respond to the additional calls for service anticipated to be generated by the development. As a result, the analysis assumed no new firefighters would be needed to meet the increase in demand.

Additional calls for service would also result in added wear and tear on vehicles and equipment, particularly for emergency medical services, resulting in higher vehicle and equipment maintenance. To estimate the additional maintenance costs, the analysis calculated the Fire Department's 2016 per person (i.e., population and jobs) spending on vehicle and equipment maintenance, which was applied to the development's future population growth. Cost assumptions include:

- Vehicle and Equipment Maintenance per person: $17.50 in 2017 dollars.

Police Department

- **Current:** In 2016 there were 17.8 FTEs including one chief, one captain, two sergeants, and eight officers (of which two positions were vacant). The department is adding two additional officer positions in 2017 at a cost of about $140,000 per officer per year due to the passage of the Public Safety levy.
- **Assumed Future Needs:** Service costs assume that as development occurs, additional police officers would be needed to respond to the increase in calls for service and monitor the additional traffic generated by the site. Based on conversation with department staff, the analysis assumed the City would add one additional officer to meet this increased need. ECONorthwest assumed this officer would be added in 2025 to coincide with Phase 2 of the development.

In addition, any special events held at the site would generate the need for additional police service to manage traffic and crowds. This analysis assumes that all additional service for these events would be privately funded by the event hosts. As a result, they would not have a financial impact on the City.

Costs assumptions include:

- Salary and benefits: $140,000 per year in 2017 dollars.
- New equipment: $45,000 for each new staff (including their vehicle) at their start date in 2017 dollars.

Parks and Recreation Department

- **Current:** In 2016 the department had 11.58 FTEs, including six dedicated to maintenance.

The department also contracts for maintenance services. Full-sized parks and trail maintenance are primarily the responsibility of the City. Mini-parks are sometimes the responsibility of the City or a private homeowner association.

- **Assumed Future Needs:** In total, the site would have 169 acres of passive open space and a trail system focused on the central open space area. Open space would be owned and maintained by the developer. As a result, it is assumed City would not have responsibility or incur costs for maintaining any of the on-site trails or open space.

Public Works Department

- **Current:** The Public Works department is responsible for street maintenance in the City. In 2016 there were 2.37 FTEs for street maintenance. In addition, the City contracts out for street maintenance services. Annual roadway maintenance expenditure in 2016 totaled $768,957.
- **Assumed Future Needs:** Mill Pond Road would be realigned and reconstructed across the site as the phases of development occur. The road construction would be paid for by the developer, but the road would be public, and maintenance would be the responsibility of the City. Internal streets on the site would be maintained as private roads and would not be the responsibility of the City.

Costs assumptions include:

- Maintenance cost per year: $190 per acre.

School District Service Cost Analysis

The school district service costs analysis evaluates the additional capital and operational costs related to the additional residents over the 20-year study period.

Snoqualmie Valley School District

Current: The site is currently within the Snoqualmie Valley School District. The district currently has five elementary schools, two middle schools, and one high school. In 2015 a property tax levy was passed to expand and improve school facilities in the district, including a new elementary school, an expanded high school, reinstatement of an additional middle school, and other improvements.

Assumed Future Needs: The development is planning to have approximately 160 one- and two-bedroom units. The District's 2017 capital facilities plan outlines the student generation factors for multifamily housing units used to calculate the school impact fee per units. Student generation factors per unit by school type are as follows:

- Elementary school = 0.089
- Middle school = 0.041
- High school = 0.047

Using these factors, the development would generate an assumed 28 students. Based on the

small number of students and the funded expansions, it is assumed that existing and future school facilities have capacity to accommodate the additional students. In addition, the City also assesses a school impact fee on new development that accounts for the school-related capital needs generated by new development.

Capital Needs

Buildout of the proposed development will require additional infrastructure improvements including internal streets, the potential upgrade of the existing northern haul road, a possible new bridge or expanded/reconstructed bridges across the Snoqualmie River, water and sewer connections and conveyance systems, and stormwater treatment facilities. The developer would construct these improvements. In addition, in 2016, the City and developer executed a development agreement where the developer made a mitigation payment to the City for transportation impacts. This payment went toward the construction of the Tokul Road roundabout.

The cost for on-going maintenance depends on who has ownership: the developer, a utility enterprise, or the City. This analysis assumes:

- Public roads, including a possible new or reconstructed bridge(s), would be the responsibility of the City.
- Internal streets would be private and the responsibility of the developer.
- Water and sewer utilities would become the responsibility of the utility enterprise.
- Stormwater would be privately owned and the responsibility of the developer.
- Long-term capital needs and maintenance will be treated as part of the City's normal long-term capital facilities planning process for roads, parks, and other facilities.

3.16.2. Impacts

This section summarizes the growth in tax revenues and service costs for the City as a result of the development of the Snoqualmie Mill site for the PCI Plan, and the Redevelopment Alternative. By law, local governments must balance their budgets each year. If service costs increase faster than revenues, service cuts or increases in taxes are required. The limitation on property taxes enacted by the legislature in 2001 forced Washington cities to embrace new models of fiscal sustainability. Over the last decade and a half, revenue growth driven by consumer spending and leveraging B&O and utility taxes has been sufficient to meet cost increases. However, the recession and the decline in some taxes led to widespread cuts in employees and services. With a challenging local tax structure, cities must define with their residents the elements of the "social contract": how to balance the extent and nature of public service with taxes. How a city manages growth goes a long way towards defining this balance.

When new development occurs, it generates both one-time and ongoing revenues. The new development may also result in new costs in the form of increased demands for City services. However, when development is located within an existing urban area, there are significant opportunities to leverage existing service and infrastructure capacity. These economies of scale

present a significant opportunity for growing cities to have a greater ability to bend the revenue curve in their favor. The implication for elected officials and residents is that either a greater amount of public services can be supported—since revenues are growing faster than costs—or constituent tax burdens can be lowered or maintained without compromising services. In addition, lower effective tax burdens allow residents to bear greater amounts of voted tax burdens for specific public benefits and infrastructure.

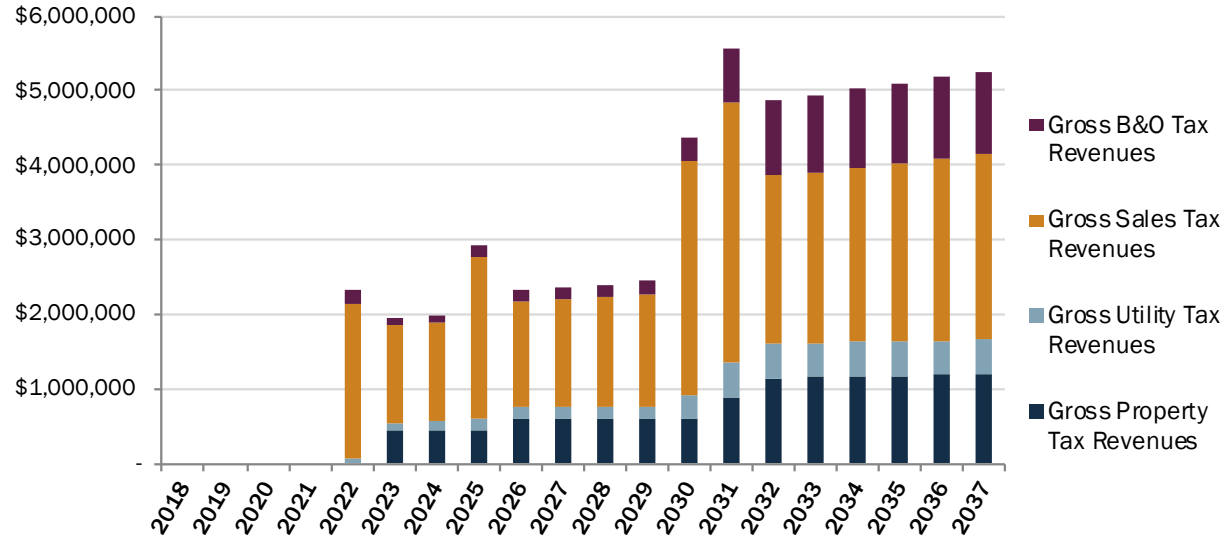
Tax Revenue Impacts

New development at the Snoqualmie Mill site will generate new revenue for the City. On an annual basis, general fund revenues received will vary from year to year. Total revenue generated for each action alternative differs based on its development program and amount and mixture of uses.

PCI Plan

In the PCI Plan, sales taxes would generate the largest share of revenue. Sales tax revenues include both one-time sales tax on construction activity and on-going sales tax revenue generated primarily by wine tasting rooms at the site. Revenues would increase substantially in 2032 when the last phase of construction is complete. By 2037 projected annual general fund revenues would reach almost $5.3 million in 2037 dollars.

Exhibit 3.16-4. PCI Plan Projected Annual General Fund Revenue (Year of Expenditure Dollars)



Source: ECONorthwest, Snoqualmie Ventures LLC

Exhibit 3.16-5 summarizes the total present value of the cumulative general fund revenues that would accrue to the City over the 20-year study period under the PCI Plan. In total, the City would receive an additional $34.6 million in taxes in 2018 dollars by 2037. Recurring sources of revenue account for 87% of general fund revenues. On-going sales tax from the retail, restaurant, and wine tasting rooms account for almost 47% of this total with $16.1 million in revenue. Property tax revenue also generates a substantial amount of revenue with $7.0 million

(20% of total revenue). Sales tax from construction and B&O tax revenue account for $4.1 million and $4.3 million, respectively.

Exhibit 3.16-5. PCI Plan Present Value of Incremental General Fund Revenues, 2018-2037 (2018$)

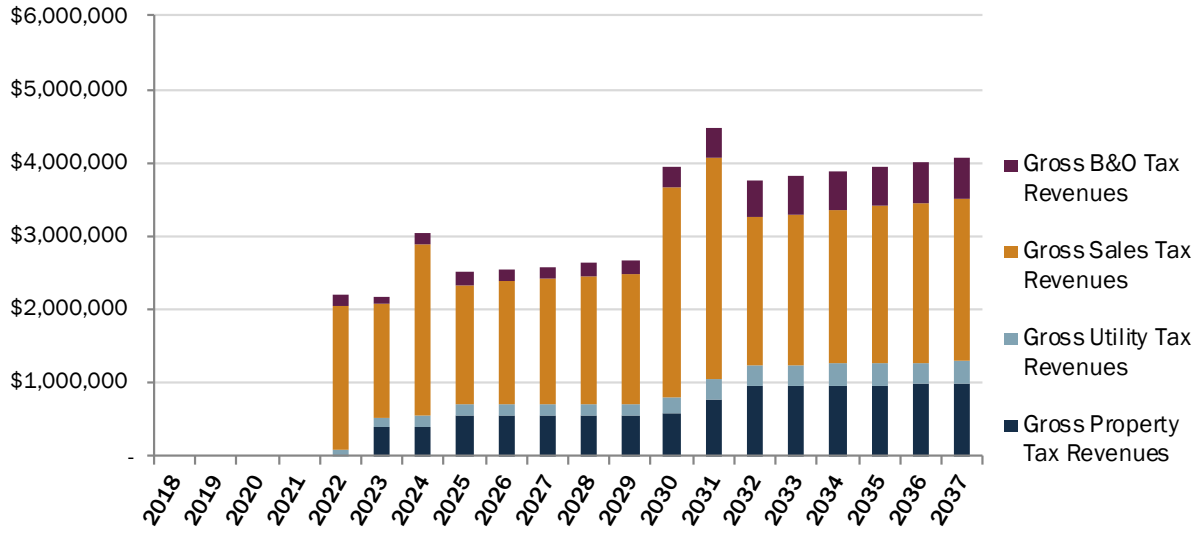
Revenue Source	20-Year Present Value
Property Taxes	$7,030,000
Ongoing Sales Tax	$16,090,000
Ongoing B&O Tax	$4,265,100
Utility Taxes	$2,640,000
State Shared Revenue	$40,000
Sales Tax on Construction	$4,170,000
B&O on Construction	$340,000
General Fund Revenues	**$34,575,100**

Source: ECONorthwest, Snoqualmie Ventures LLC

Redevelopment Alternative

Under the Redevelopment Alternative, sales tax revenues also account for a substantial amount of sales tax revenue from construction and on-going sales tax revenue from wine tasting rooms. At the same time, property tax revenues continually grow as more units are built. In 2037 total projected incremental general fund revenues would total $4.0 million in 2037 dollars.

Exhibit 3.16-6. Redevelopment Alternative Projected Annual General Fund Revenue (Year of Expenditure Dollars)



Source: ECONorthwest, Snoqualmie Ventures LLC

Exhibit 3.16-7 provides a summary of the total present value of the cumulative general fund revenues that would accrue to the City over the 20-year study period. In total, the City would receive an additional $31.4 million in taxes in 2018 dollars by 2037. Recurring sources of revenue account for 88% of general fund revenues. The large share of recurring revenues is

from $16.8 million in on-going sales tax revenue. Property tax revenue account for $6.2 million in recurring revenue. One-time sales taxes on construction accounts for 11.0% of the general fund revenues, at almost $3.5 million.

Exhibit 3.16-7. Redevelopment Alternative Present Value of Incremental General Fund Revenues, 2018-2037 (2018$)

Revenue Source	20-Year Present Value
Property Taxes	$6,260,000
Ongoing Sales Tax	$16,800,000
Ongoing B&O Tax	$2,595,800
Utility Taxes	$1,990,000
State Shared Revenue	$30,000
Sales Tax on Construction	$3,450,000
B&O on Construction	$280,000
General Fund Revenues	**$31,405,800**

Source: ECONorthwest

Public Service Impacts

The primary additional service costs generated by the development of the Snoqualmie Mill site for the City would be expanded police services. Total estimated service costs over the 20-year study period are $2.9 million in 2018 dollars. The analysis assumed that the City would need to add an additional police officer in 2025. The additional officer would also result in a one-time cost for purchasing a new vehicles and equipment for that officer in 2025. In all, the additional staffing for police service accounts for approximately $2.0 million of the $2.9 million in additional service costs, in 2018 dollars.

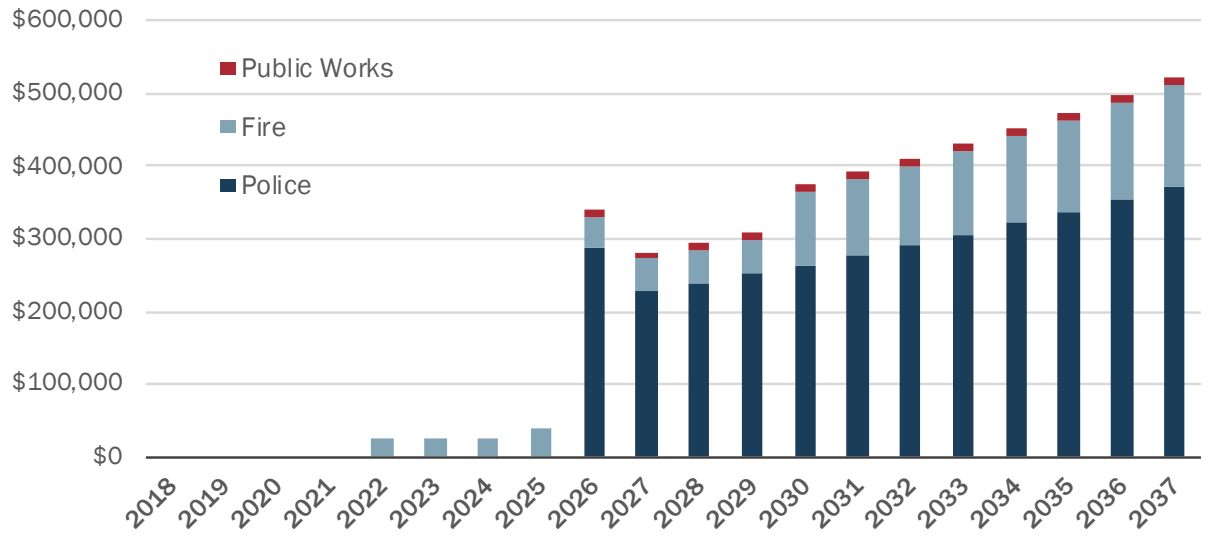
In addition, the analysis assumed the additional development, including new public roads, would lead to additional maintenance costs for the City and specifically for the Fire Department and Public Works Department. These service costs account for just $730,000 and $70,000 respectively, in 2018 dollars.

Exhibit 3.16-8. Present Value of Public Service Costs by Department, 2018-2037 (2018$)

Service	20-Year Present Value
Community Development	$0
Finance and Administration	$0
Fire	$730,000
Parks and Recreation	$0
Police	$2,060,000
Public Works	$70,000
Total	**$2,860,000**

Source: ECONorthwest

Exhibit 3.16-9. Projected Public Service Costs by Department (Year of Expenditure Dollars)



Source: ECONorthwest

Capital Impacts

Capital Restricted Revenues

In addition to general fund revenues, new development under the PCI Plan and the Redevelopment Alternative would generate revenues that can only be used for capital improvements, including real estate excise taxes (REET).

PCI Plan

The PCI Plan would generate $640,000 in capital restricted funds over the 20-year study period. REET revenues would account for the large share of capital restricted revenues with $580,000. The City's distribution of the State motor vehicle fuel tax is estimated to be $60,000.

Exhibit 3.16-10. PCI Plan Present Value of Incremental Capital Restricted Revenues, 2018-2037 (2018$)

Revenue Source	20-Year Present Value
REET	$580,000
Mortor Vehicle Fuel Tax Dist.	$60,000
Capital Restricted Revenues	**$640,000**

Source: ECONorthwest

Redevelopment Alternative

Under the Redevelopment Alternative, capital restricted sources would generate $500,000 over the 20-year study period. REET revenues account for $450,000 of the total. The City's distribution of the State motor vehicle fuel tax is estimated to be $50,000.

Exhibit 3.16-11. Redevelopment Alternative Present Value of Incremental Capital Restricted Revenues, 2018-2037 (2018$)

Revenue Source	20-Year Present Value
REET	$450,000
Mortor Vehicle Fuel Tax Dist.	$50,000
Capital Restricted Revenues	**$500,000**

Source: ECONorthwest

Capital Needs

This analysis assumes the developer is paying for almost all new infrastructure costs. The City would have responsibility for maintaining any public roads after they are built. The public service cost analysis above assumes some level of maintenance costs for assuming ownership for these facilities (primarily in the impacted Public Works department). Ultimately, any capital restricted revenues above the cost for road maintenance could be used for other capital facility projects throughout the city.

Summary of Fiscal Impacts and Planning Area I

Both alternatives represent opportunities for large positive fiscal impacts to the City. Over the time period, the City's revenue base would grow as a result of 1) taxation of the direct investment in construction, and 2) taxation of retail activities the primarily represent the spending of individuals living outside of the city. On the public service cost side of the equation, the City is well poised to take advantage of economies of scale in the provision of its current service delivery activities. As a result, development of Planning Area I/Phase 1 would also generate substantial positive fiscal impacts for the City because most service cost increases would occur in later development phases. Note that the 2018-2025 period shown in Exhibit 3.16-12 reflects the net revenues and costs from the present to the start of Planning Area II development in 2025.

A comparison of the alternatives for Phase 1 and the 20-year study period is listed below.

Exhibit 3.16-12. Comparison of Net Operating Impact of PCI Alternative and Redevelopment Alternative, Phase 1 - 2018-2025 (2018$)

	PCI Plan	Redevelopment Alternative 1	Difference (PCI -Alt 1)
General Fund Revenues	$7,106,000	$7,697,500	-$591,500
Capital Restricted Revenues	$420,000	$320,000	$100,000
Total Incremental Revenues	$7,526,000	$8,017,500	-$491,500
Service Costs	-$87,915	-$87,915	$0
Net Total	**$7,438,085**	**$7,929,585**	**-$491,500**

Source: ECONorthwest

Exhibit 3.16-13. Comparison of the Net Operating Impact of PCI Alternative and Redevelopment Alternative, 2018-2037 (2018$)

	PCI Plan	Redevelopment Alternative 1	Difference (PCI -Alt 1)
General Fund Revenues	$34,575,100	$31,405,800	$3,169,300
Capital Restricted Revenues	$640,000	$500,000	$140,000
Total Incremental Revenues	$35,215,100	$31,905,800	$3,309,300
Service Costs	-$2,860,000	-$2,860,000	$0
Net Total	**$32,355,100**	**$29,045,800**	**$3,309,300**

Source: ECONorthwest

Community and Economic Impacts

Economic impacts are the changes in economic activity that result from an investment of dollars that create new demand for goods and services. They are often measured through changes in spending, jobs, incomes, tax revenues, and the like. Economic impacts also consider the "multiplier effect" of these changes: a new job added to the economy means more spending by businesses buying things down their supply chains, which in turn induces additional new jobs to support that new spending.

Development of the Snoqualmie Mill site will generate new economic activity on the site and in the local economy. This new economic activity will positively impact the local economy by bringing in new direct investment, more opportunities for local businesses to serve regional demand, and enhancing the productivity of existing retail and service businesses in the city. These economic effects would include the potential to support and even catalyze commercial development and contribute to Snoqualmie's economic development objectives[47] for increasing the quality of life, growing tourism, supporting community retail, and increasing jobs with salaries that match local housing costs. These effects could then lead to additional development projects and further positive economic impacts and generate additional jobs and tax revenues for the City.

New Economic Activity

The Snoqualmie Mill development is intended to create a regional destination for visitors and consumers that will include a mix of uses including warehouse or manufacturing space, light-industrial uses, office space, restaurants, wine tasting rooms and production space, and an indoor event space. A focus for the development is to create space for complementary businesses (production, retailing, restaurants, and events), particularly in the wine and/or outdoor recreation sectors.

Creating a destination would bring new jobs and visitors to Snoqualmie that support economic development and the local tax base. In addition, a development focused on wine tasting and

[47] City of Snoqualmie Comprehensive Plan, Snoqualmie 2032

production is complementary to existing destinations, such as Snoqualmie Falls, Salish Lodge, Snoqualmie Casino, and other destinations that currently draw a sizable number of people to the Snoqualmie area.

Direct Investment

The development programs described in this analysis reflect millions of dollars of direct construction investment at the Snoqualmie Mill site. Specifically:

- The PCI Alternative is estimated to reflect over $408 million in construction investment.
- The Redevelopment Alternative is estimated to reflect about $290 million in construction investment.

Retail Spending

The commercial components for the project will capture future spending from the broader retail, services, and tourism marketplace. Over the 20-year period, the project is estimated to capture significant spending; specifically:

- The PCI Plan is estimated to capture $120 million in regional spending by 2037.
- The Redevelopment Alternative is estimated to capture over $100 million in regional spending by 2037.

Employment

Based on the types of uses and planned square feet of building area, ECONorthwest estimated the potential number of jobs the development would support when built. Exhibit 3.16-14 and Exhibit 3.16-15 show estimates of employment on the site for the PCI Plan and the Redevelopment Alternative. The actual number of future employees occupying the commercial and industrial space built will depend on the type and characteristics of businesses that locate there.

The PCI Plan would generate the most jobs because of the larger amount of office space in that scenario. Office uses would account for the most jobs in the PCI Plan. Warehouse and manufacturing uses would account for the largest amount of jobs in the Redevelopment Alternative.

Exhibit 3.16-14. PCI Plan Employment Estimates by Use and Planning Area

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Total
Warehouse/Manufacturing	130	190	0	320
Office	0	0	2,670	2,670
Residential Mixed Use	-	-	-	-
Light Industrial	240	0	0	240
Retail	120	0	40	160
Specialty Retail/Event Space	20	0	0	20
Total	**510**	**190**	**2,710**	**3,410**

Source: ECONorthwest, Snoqualmie Mill Ventures LLC

Exhibit 3.16-15. Redevelopment Alternative Employment Estimates by Use and Planning Area

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Total
Warehouse/Manufacturing	140	190	340	670
Office	0	0	520	520
Residential Mixed Use	-	-	-	-
Light Industrial	190	0	0	190
Retail	160	0	0	160
Specialty Retail/Event Space	30	0	0	30
Total	**520**	**190**	**860**	**1,570**

Source: ECONorthwest, Snoqualmie Mill Ventures LLC

Construction of the development over the planned 10-year build-out period would also create temporary construction jobs within the City. ECONorthwest did not estimate the total number of construction jobs, and they would vary depending on how buildings are phased and developed. These workers, some of whom would likely live in the Snoqualmie vicinity, would bring additional spending to the city that would not have otherwise occurred.

The additional jobs within the City would have a positive economic impact on the local economy. Future employees at the site are going to spend money in the local economy, pay taxes, and a number of them will choose to live in the community and buy or rent homes. The size of the impact is related to the actual number and wages of the jobs on the site.

Exhibit 3.16-16 shows the average annual wage for jobs in a variety of sectors that would be likely to occupy the space of the proposed uses on the site. Wages range widely. Professional and technical service jobs, which occupy office space, average $100,000 a year in King County. Retail and food service jobs, which occupy retail space, average about $25,000 to $35,000 a year. Production and warehousing related jobs are in the middle with average annual wages of $55,000 to $70,000.

Exhibit 3.16-16. King County Annual Average Wages by Sector, 2016

Sector (NAICS 3-Digit)	Average Annual Wage
Professional and technical services	$100,020
Construction of buildings	$73,113
Miscellaneous manufacturing	$69,876
Warehousing and storage	$54,235
Food manufacturing	$54,068
General merchandise stores	$34,293
Food services and drinking places	$24,454

Source: Washington Employment Security Department, Quarterly Census of Employment and Wages

The higher the share of jobs that are office or manufacturing related compared to retail or food service jobs, the larger the economic impacts will be.

Visitors and Spending Supporting Local Business Sectors

The development would also attract additional visitors and spending to the City, and this activity would have spillover effects for the local economy. Specifically, these spillovers are likely to increase the business productivity of these existing enterprises. The City already has numerous tourism and recreational destinations for visitors, including Snoqualmie Falls, Mt. Si, the Railroad Museum, the Salish Lodge, the Snoqualmie Casino, and other sites providing recreational opportunities and historical interests. Snoqualmie Falls alone attracts more than 1.5 million visitors a year.[48] A wine-oriented employment center at the Snoqualmie Mill site, for example, would provide a different but complimentary destination for visitors from throughout the region and elsewhere.

Visitors to the site are likely to be attracted to experience the wine production process and sample wine offerings. These visitors are also likely to be middle- to high-income individuals with more disposable income and the potential make one or more stops in Snoqualmie outside of the Mill site. Many of the visitors are likely to live outside Snoqualmie and represent new spending in the City that would not have occurred otherwise. This new spending is a result of 1) having an additional location or opportunity to spend more as part of a trip they were already making or 2) the Mill site is a destination for a new trip to Snoqualmie that they would not have otherwise made.

The 2015 Washington Wine Industry Economic and Fiscal Impact Study cites a total of 808,000 wine-tourists visited wineries in Washington in 2014. These visitors spent $193.1 million on non-wine purchases, such as hotel rooms, food, and other travel expenses. This represents $239 in spending per person per day. However, visitors making day trips are likely to spend less, particularly on hotel stays. Spending on hotel accommodations accounted for $114 of the $239 and on-site wine purchases account for another $50. This leaves $75 per person per day spent on food and other items.

[48] http://www.snoqualmiefalls.com/

With approximately 30 wineries[49] and 150 wine tasting rooms[50] Woodinville is an example of a more developed wine tourism destination in Puget Sound area. The 2017 Woodinville Tourism Study estimated that 795,000 people a year visited Woodinville for wine tourism.

A wine-oriented development at the Snoqualmie Mill site would be significantly smaller in scale than what exists in Woodinville, but it could still attract a sizable number of visitors, in part because Snoqualmie already has a number of tourism offerings and destinations. To estimate the potential number of new visitors, spending, and sales tax generated from the development of the Mill site, ECONorthwest used the figures from the Economic and Fiscal Impact Study and Woodinville Tourism Study.

The analysis assumes there will be spaces for 22 production and tasting rooms at the Mill site when built out. The city will benefit from sales tax and business and occupation taxes generated by spending from visitors that come to the city for the purpose of visiting these facilities. It is estimated that visitors will spend an average of $75 per visit on a range of wine, food and beverage, and retail relate expenses. Most of these trips would likely be individual day trips going to other attractions as well and would not include hotel stays. This figure is adjusted from the Washington State Wine Industry Economic and Fiscal Impact Study that surveys spending by visitors in this sector for Washington State. The analysis assumes a similar level of annual visitation per wine production and tasting room spaces as is seen in the Woodinville area. On average, a wine production or tasting room space generates approximately 26,500 visitors per year to Woodinville according to a study commissioned by King County on the Sammamish Valley Area Wine and Beverage Industry. If the Snoqualmie Mill Site wine production and tasting rooms generate a similar level of visitation as seen in the Woodinville study, it is not unreasonable to expect approximately 583,000 people a year would visit the Snoqualmie Mill site for wine tourism. Assuming the $75 in spending per person, an estimated $43.7 million would be spent in the local economy each year as a result of wine tourism, which would support local business on the site or in the community. The City of Snoqualmie could realize an additional $372,000 in sales tax revenue per year and almost $65,000 in business and occupation tax revenue per year for its general fund, in addition to the estimated revenue generated at the site summarized in Section 3.1 based on this level of spending by visitors.

Summary of Conclusions

The development of the Snoqualmie Mill site as envisioned in the proposed PCI Plan or the Redevelopment Alternative will generate positive fiscal and economic impacts for the City of Snoqualmie compared to the No Action alternative where the site stays in its current condition.

Fiscal Impacts. Over the 20-year study period, development will generate an estimated $34.6 million in new general fund revenue for the PCI Plan and $31.4 million under the Redevelopment Alternative compared to just $2.9 million in additional service costs. Infrastructure improvements needed to develop the site will be paid for by the developer. The

[49] Woodinville Tourism Study, 2017.
[50] Based on conversation with Kerry Langan, Woodinville Fire Department, 11/1/2017.

City will have a small amount of new on-going maintenance costs. Development will also generate $640,000under the PCI Plan and almost $500,000 in the Redevelopment Alternative for capital purposes, most of which can be spent on capital needs elsewhere in the City.

Community and Economic Impacts. The development will accommodate between 1,570 and 3,410 new jobs. It will also be a destination attracting new visitors and additional spending to the City. This additional economic activity will generate additional economic activity in the City, which will benefit businesses throughout the City and further the City's economic development objectives.

3.16.3. Mitigation Measures

The proposed PCI Plan would generate positive fiscal and economic impacts to the City and would more than off-set any financial burdens on city services from development; no mitigation is required.

3.16.4. Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would occur.

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4.0 References

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5.0 Acronyms and Abbreviations

AADT	Annual average daily traffic
ADA	Americans with Disabilities Act
ADD	Average daily demand
ADF	Average daily flow
ADT	Average daily traffic
AIP	Annexation Implementation Plan
ALS	Advanced life support
AMI	Area median income
ASCE	American Society of Civil Engineers
AST	Above ground storage tank
AVO	Average vehicle occupancy
BACT	Best Available Control Technology
BE	Biological Evaluation
BFE	Base flood elevation
BMPs	Best management practices
BO	Biological opinion
B&O	Business & occupation tax
BOD	Biological oxygen demand
CAO	Critical Areas Ordinance
CARA	Critical aquifer recharge area
CC&R	Covenants, conditions and restrictions
CFP	Capital Facilities Plan
CFR	Code of Federal Regulations
CIG	Climate Impacts Group
CIP	Capital improvement program
CMZ	Channel migration zone
CO	Carbon monoxide
CO2	Carbon dioxide
COE/Corps	U.S. Army Corps of Engineers
CPT	Cone penetrometer test
CSWPPP	Construction Stormwater Pollution Prevention Plan
Cy	Cubic yards

DAHP	Washington State Department of Archaeology and Historic Preservation
dB/dBA	Decibels/A-weighted decibels
DDES	King County Department of Development and Environmental Services
DDI	Divergent diamond interchange
DOH	Department of Health
DPS	Distinct population segment
Ecology	Washington State Department of Ecology
EIA	Effective impervious area
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ERU	Equivalent residential unit
ESA	U.S. Endangered Species Act
ESU	Evolutionarily significant unit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTE	Full time equivalent
GHG	Greenhouse gas
GLA	Gross leasable area
GMA	Washington State Growth Management Act
GMPC	Growth Management Planning Council
GMU	Game management unit
gpd	Gallons per day
gpm	Gallons per minute
GSP	General Sewer Plan
HABS	Historic American Buildings Survey
HAWK	High intensity activated crosswalk signal
HCM	Highway Capacity Manual
HDPE	High density polyethylene
HPA	Hydraulic Project Approval
HVAC	Heating, ventilation & air conditioning

I	Interstate
IBC	International Building Code
IDA	International Dark-Sky Association
IPCC	Interstate Panel on Climate Change
ITE	Institute of Transportation Engineers
JD	Jurisdictional Determination
KCC	King County Code
KCSWDM	King County Surface Water Drainage Manual
LEED	Leadership in Energy and Environmental Design
LIDAR	Light Detection and Ranging
LOMR	Letter of Map Revision
LOS	Level of service
LWD	Large woody debris
MDP	Master Drainage Plan
mg	Million gallons
mgd/MGD	Million gallons per day
mph	Miles per hour
MSAT	Mobile source air toxics
MTCA	Model Toxics Control Act (WAC 173-340)
MTCO2e	Metric tons of CO_2 equivalent
MVET	Motor vehicle excise tax
NAAQS	National ambient air quality standard
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NIBRS	National Incident-Based Reporting System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NORCOM	North East King County Regional Public Safety Communication Agency
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OFM	Washington State Office of Financial Management
OHWM	Ordinary high water mark
OSHA	Occupational Safety and Health Administration
PCI	Planned Commercial/Industrial [district or plan]
PDD	Peak daily demand
PGIS	Pollution generating impervious surface
PPM	Parts per million
PROS	Snoqualmie Parks, Recreation & Open Space Plan
PSCAA	Puget Sound Clean Air Agency
PSRC	Puget Sound Regional Council
PUD	Planned Unit Development
RCW	Revised Code of Washington
REET	Real estate excise tax
RMF	Rattlesnake Mountain Fault Zone
ROW	Right-of-way
RTP	Regional Transportation Plan
SCS	U.S. Soil Conservation Service
SEPA	State Environmental Policy Act (RCW 43.21C)
SFD	Snoqualmie Fire Department
SFLCO	Snoqualmie Falls Lumber Company
SMA	Shoreline Management Act
SMC	Snoqualmie Municipal Code
SMP	Shoreline Master Program
SPD	Snoqualmie Police Department
SPT	Standard penetration test
SR	State Route
SSA	Sewer service area
SVHM	Snoqualmie Valley Historical Museum
SVSD	Snoqualmie Valley School District

SVT	Snoqualmie Valley Trail
SWPPP	Stormwater pollution prevention plan
TCP	Traditional cultural property
TESC/TESCP	Temporary erosion and sedimentation/plan
TDM	Transportation demand management
TIP	Transportation improvement program
TMDL	Total maximum daily load
TNM	Traffic noise model
TOD	Transit-oriented development
TOT	Time of travel
TSP	Total suspended particulates
TSS	Total suspended solids
UDP	Unanticipated Discovery Plan
UGA	Urban Growth Area
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground storage tank
V/C	Volume to capacity ratio
VCP	Voluntary cleanup program
VMT	Vehicle miles traveled
WAC	Washington Administrative Code
WASIST	Washington State Intersection Screening Tool
WASPC	Washington Association of Sheriffs and Police Chiefs
WDFW	Washington Department of Fish and Wildlife
WHR	Washington Heritage Register
WISHA	Washington Industrial Safety and Health Act
WRF	Water Reclamation Facility
WSA	Water service area
WSDOT	Washington State Department of Transportation
WSP	Water System Plan
WWHM	Western Washington Hydrology Model

WWP	Wastewater Facilities Plan
WWTP	Wastewater treatment plant

6.0 Distribution List

6.1. AGENCY CONTACTS

Century Link
City of Carnation
City of Covington
City of Duvall
City of Issaquah
City of Maple Valley
City of North Bend
City of Redmond
City of Sammamish
Federal Emergency Management Agency (FEMA)
King County Department of Local Services, Permitting Division
King County Department of Local Services, Road Services Division
King County Department of Natural Resources and Parks
King County Historic Preservation Program
King County Library System
Muckleshoot Indian Tribe
National Marine Fisheries Service (NMFS)
Port of Seattle
Puget Sound Clean Air Agency (PSCAA)
Puget Sound Energy (PSE)
Puget Sound Partnership (PSP)
Puget Sound Regional Council (PSRC)
Rainier Audubon Society
Snoqualmie Tribe
Snoqualmie Valley School District #410
Snoqualmie Valley Watershed Improvement District
Snoqualmie Watershed Forum
State of Washington Energy Facility Site Evaluation Council (EFSEC)
Tulalip Tribes
US Army Corps of Engineers - Seattle (USACE)
US Fish and Wildlife Service (USFWS)

Washington Department of Archaeology and Historic Preservation (DAHP)
Washington Department of Fish and Wildlife (WDFW)
Washington State Department of Agriculture (WSDA)
Washington State Department of Commerce
Washington State Department of Corrections (DOC)
Washington State Department of Ecology
Washington State Department of Health (DOH)
Washington State Department of Natural Resources (DNR)
Washington State Department of Social and Health Services (DSHS)
Washington State Department of Transportation (WSDOT)
Washington State Parks and Recreation Commission

6.2. INTERESTED PARTIES

Akers, Mike
Anderson, Casey
Armstrong, Elaine
Bach, David
Berger, Suzy
Berkebile, Cody
Boranian, Anna
Bray, Courtney & Chad
Bryant/Waedock
Callahan, Maura
Capps, Carter
Cassady, Philip
Cernak, Kristin
Coffing, Chris
DiTrani, Bobby
Donaldson, William
Edmunds, Steve
Eiffert, Dave
Emory, Mark
Ericson, Erin
Fletcher, Fuzzy
Grant, Rick
Greenhaw, Elizabeth

Hamerly, Shawn
His, Li
Hu, Henry
Hubanks, Dana
Insalaco, Sam
Irey, Maureen
Kaster, Sarah
Kipp, Gregory
Lake, Julie
Llewellyn, David
Lowney, Monica
McCann, Rob
McCarty, Mike
McCormick, Kit
Michelsen, Theresa
Nelson, Robert
Norkis , Daniel
Norton, Mary
Petersen, Amelia
Ranney, Susan
Ross, Michael
Rupert, Bobbe
Scheel, Richard
Shepard, Peggy
Shppard, Lesley
Simon, Jim
Simpson, Carolyn
Sorenson, Terry
Sotelo, Anna
Storrs, Jane
Szubski, James
Tautz-Hair, Laura
Thomas, Nancy
Thomas, Wendy
Trostel, Xandra
Uno, Alison

Vega, Brissa
Vega, Sierra
Weatherholtz, Jason
Welborn, Tim
Wheatley, Sarah
Wilson, Darcy
Wood, Teri
Wood, Tom