FINAL ENVIRONMENTAL IMPACT STATEMENT

12/31/2015

Tumwater Brewery Planned Action Final EIS

City of Tumwater
Thurston Economic Development Council

FACT SHEET

PROJECT TITLE	Tumwater Brewery Planned Action Environmental Impact Statement (EIS)
PROPOSED ACTION	The City of Tumwater proposes to adopt an ordinance designating a portion of the historic Tumwater Brewery property as a Planned Action area for the purpose of State Environmental Policy Act (SEPA) compliance, pursuant to RCW 43.21C.031 and WAC 197-11-164. Future private mixed-use development and redevelopment of the type and intensity established in the ordinance and evaluated in this EIS would implement the Planned Action.
ALTERNATIVES	This EIS evaluates three alternative conceptual land use scenarios: **Alternative 1 (No Action) –** Assumes continuation of existing development trends. Site redevelopment would occur, without adoption of a planned action ordinance. **Alternative 2 (Moderate Development Intensity) –** Includes redevelopment of existing buildings, the re-building of two demolished structures plus a new-build structure for parking. **Alternative 3 (Maximum Development Intensity) –** Includes the same development as Alternative 2 plus another new-build structure for mixed-use. The parking structure would be larger in size under Alternative 3 to accommodate additional needed parking.
LOCATION	The Tumwater Brewery, for the purposes of this EIS is an area of approximately 32 acres in northeast Tumwater. The area is bounded by Custer Way to the south, Deschutes River to the west, Capitol Lake to the north, and the Union Pacific Railroad right-of-way to the east.
PROPONENT/APPLICANT	City of Tumwater and the Economic Development Council of Thurston County
LEAD AGENCY	City of Tumwater Community Development Department 555 Israel Road SW Tumwater, WA 98501

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PERMITS AND APPROVALS

Approval of a Planned Action Ordinance by the City of Tumwater City Council, and:

City of Tumwater:

- Shoreline Development Permits
- Critical Area Compliance and Permits (as required)
- Site Plan Approval(s)
- Civil Engineering Plan Approval(s)
- Certificate of Appropriateness (Tumwater Historic Commission)
- Boundary Line Adjustment/Lot Consolidation
- Street Vacation - Desoto Street
- Floodplain Development Permit
- Archaeological Excavation Permit (DAHP)
- Section 106 review (triggered by Federal permit review)
- Building Permits

US Army Corps of Engineers

- Section 10/404 Permit
- Section 106 National Historic Preservation Act Compliance
- NEPA Compliance

Ecology

- Section 401 Clean Water Act Certification
- Coastal Zone Management Determination
- Coastal Zone Management Certificate (triggered by Federal Permits)
- NPDES Permit
- Hazardous Material Approvals
- Individual NPDES Construction Stormwater Permit

EIS AUTHORS AND PRINCIPAL CONTRIBUTORS	SCJ Alliance • EIS – Jean Carr, Dan Penrose • Wetlands, Habitat and Shorelines – Lisa Palazzi, Theresa Turpin • Transportation – George Smith GeoEngineers • Geotechnical Analysis – Eric Heller, Dennis J. Thompson AEG • Hazardous Materials – Michael Chun AquaTerra • Cultural Resources – Sarah Amell
PREVIOUS LAND USE AND ENVIRONMENTAL REVIEW DOCUMENTS	1992 – New Market Historic Master Plan (Brewery Master Plan) – City of Tumwater 1996 – Old Brewery Long Range Plan – City of Tumwater 1997 – Phase II Environmental Site Assessment – Tetra Tech 2011 – Community Visioning Project, Former Olympia Brewery Final Report – City of Tumwater 2011 – Brewery Action Plan – City of Tumwater 2011 – Historic Structures Report, Olympia Brewery, Artifacts Consulting 2014 – Brewery Market Feasibility Study – Concord Group for the Thurston County Economic Development Council 2014 – Brewery District Plan – City of Tumwater
LOCATION OF BACKGROUND INFORMATION	City of Tumwater – Community Development Department
DATE OF DRAFT EIS ISSUANCE	September 30, 2015
DATE DRAFT EIS COMMENTS DUE	5:00 PM, October 30, 2015.
DRAFT EIS PUBLIC MEETING	October 14, 2015
AVAILABILITY OF THE DRAFT EIS	Online at www.ci.tumwater.wa.us/BreweryPlannedActionEIS
FINAL EIS	Issued December 31, 2015. Comments received and response sheet are provided in Appendix H.
PLANNED ACTION ORDINANCE	Following the adoption of the Planned Action Ordinance, expected on February 16 2016, individual projects will be reviewed on an individual basis for consistency with the FEIS.

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CHAPTER 1: SUMMARY

1. SUMMARY

1.1 Introduction

This Final Environmental Impact Statement (Final EIS) addresses the City of Tumwater proposal to adopt an ordinance designating a portion of the historic Tumwater Brewery property as a Planned Action area to facilitate private redevelopment of the historic Tumwater Brewhouse and RST Cellars building in the northeast corner of the City of Tumwater, in the center of the urbanized area of Thurston County (Figure 1.1-1). This document refers to two areas of the Tumwater Brewery Planned Action Area: 1) the upper portion of the site where the RST Cellars building is located near the historic Schmidt House, and an existing parking lot there; and 2) the lower portion of the site on which the historic brewhouse is located adjacent to the Deschutes River and Capitol Lake (Figure 1.2-1). Through several studies, including the *Brewery Visioning* and *Brewery District Planning Projects* conducted to-date, the community has expressed a desire to make the Brewery Neighborhood a vibrant mixed-use destination, spurred by phased redevelopment of the historic Tumwater Brewery site and its associated structures located in portions of the New Market Historic District and Brewery District within the Brewery Neighborhood.

This chapter summarizes the Final EIS purpose and scope, the purpose and need for the Tumwater Brewery Planned Action, the Washington State Environmental Policy Act (SEPA) process to be followed and public involvement opportunities, and briefly describes the proposed action and alternatives. A summary table in this chapter compares the potential impacts of the conceptual land use alternatives and expected mitigation measures, and lists whether significant avoidable adverse impacts are anticipated. Chapter 2 provides background information, describes community planning policies related to the proposed action, and provides more detailed descriptions and illustrations of the conceptual land use alternatives. Chapter 3 provides the environmental context for the proposed action by describing the Affected Environment (existing conditions), an analysis of potential impacts, and mitigation measures for each alternative.

This chapter is intentionally brief. Readers should consult individual sections in Chapter 3 and the technical appendices for detailed information concerning the affected environment, potential impacts, and mitigation measures.

The proposed Planned Action is partially funded through a Washington Department of Ecology (Ecology) Integrated Planning Grant. These grants are for local governments to integrate future land use plans with remedial clean up actions. The City of Tumwater is using the grant funds for environmental review of conceptual redevelopment of the site under a Planned Action ordinance. Information describing hazardous materials present on the site and the proposed clean-up action is provided in FEIS Chapter 3, Section 3.6.

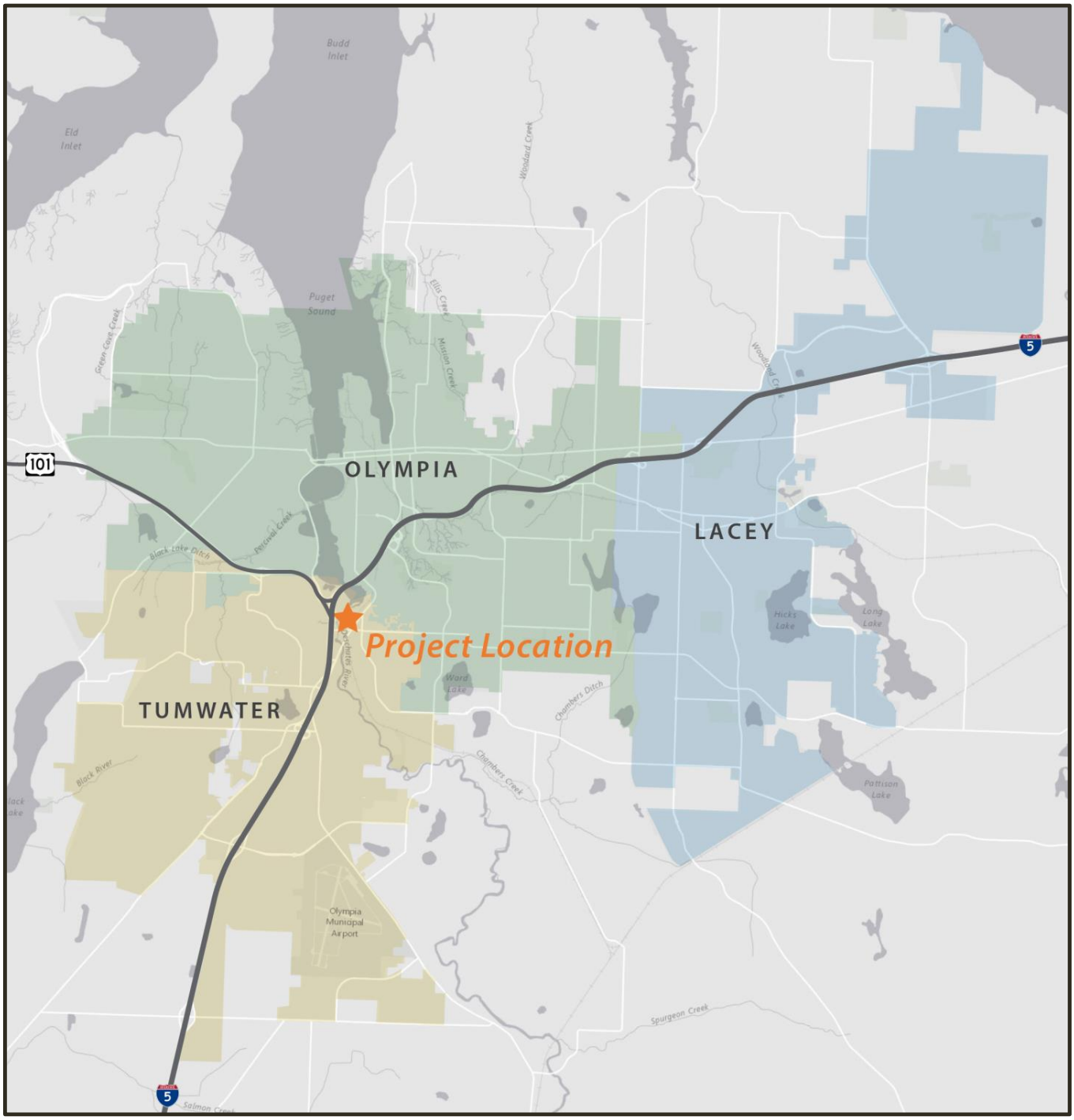


FIGURE 1.1-1. VICINITY MAP

1.2 EIS Purpose and Scope

The proposed Tumwater Brewery Planned Action area, for the purposes of this EIS, is an area approximately 32 acres in size in northeast Tumwater, encompassing the historic brewhouse and its associated structures, including the upper building from the 1960s – the RST Cellars building and existing parking area west of the Schmidt House. The site area is bounded by Custer Way to the south; the Deschutes River to the west; the City of Olympia, Interstate 5 (I-5) and Capitol Lake to the north; and the Union Pacific Railroad right-of-way to the east (Figures 1.2-1 and 1.2-2).

The proposed action is partially funded by an Integrated Planning Grant (IPG) through the Washington Department of Ecology (Ecology). The intent of the grant is to create a well-developed and integrated strategy for cleanup and redevelopment. One of the items to facilitate this integration, listed in Task 2 of the IPG, is to prepare an EIS in support of a SEPA Planned Action. A Planned Action is a tool that the City of Tumwater may use to provide regulatory certainty and encourage economic development. Planned Actions are permitted by Washington State law (RCW 43.21.C.031 and WAC 197-11-164) using an upfront SEPA review for a subarea plan, phased development or distinct geographic area as a way to streamline the SEPA review for subsequent projects proposed to implement the Planned Action that are consistent with the plan.

The purpose of the environmental review is to provide decision makers and citizens with information about the potential environmental consequences of the Tumwater Brewery proposed Planned Action. SEPA requires that governments consider the potential environmental effects of a proposal before taking action to approve its implementation. An EIS provides the greatest amount of information about potential environmental impacts and mitigation measures to avoid, minimize, or compensate for these impacts to a non-significant level.

The City of Tumwater proposes to adopt an ordinance designating a portion of the historic Tumwater Brewery property as a Planned Action area to guide future phased development by others, and to provide for streamlined environmental review of future development proposals. The Planned Action ordinance will outline the type and intensity of mixed-use development conceptually considered and evaluated in this EIS.

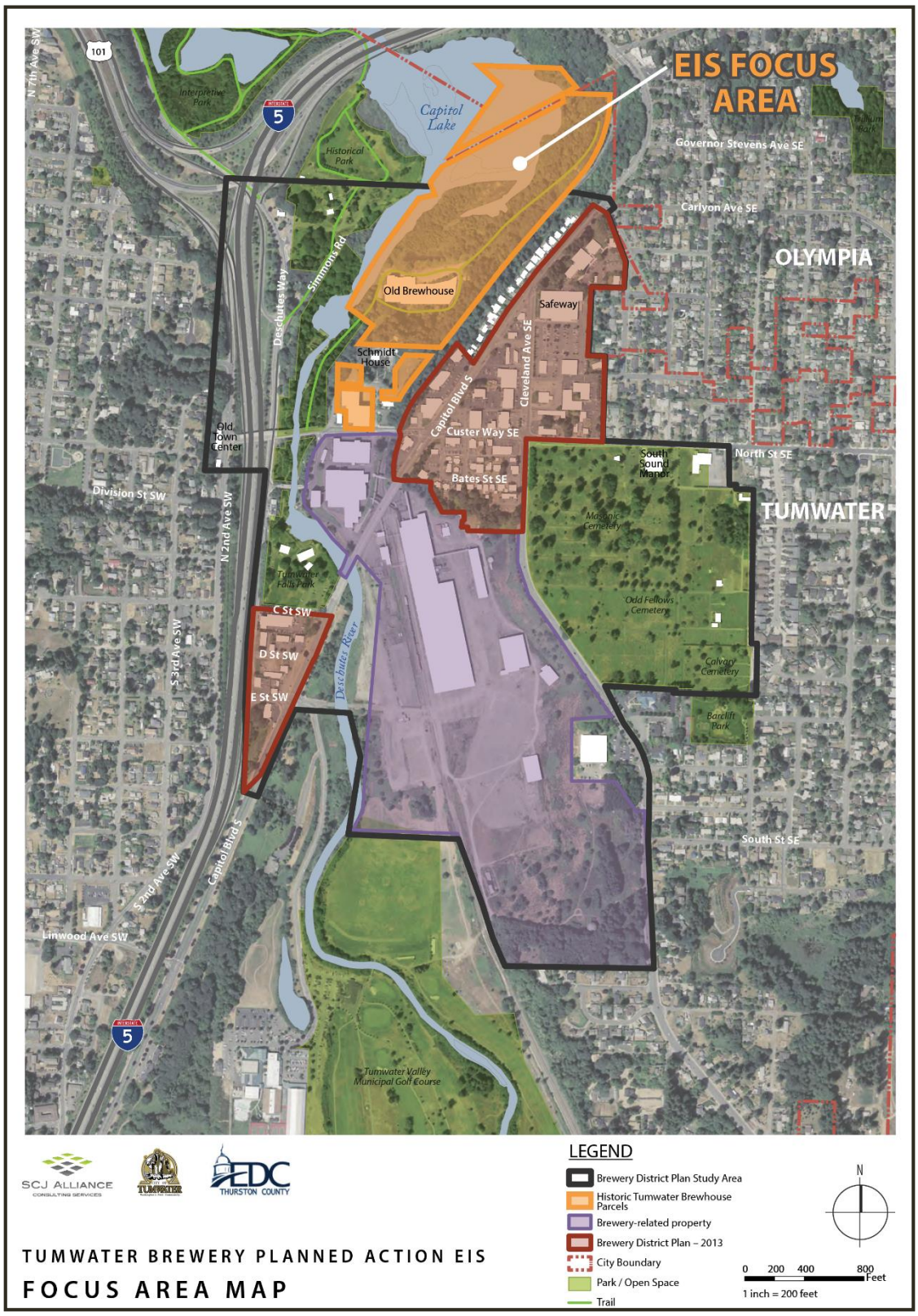


FIGURE 1.2-1. HIGHLIGHT OF PLANNED ACTION STUDY AREA (ADAPTED FROM 2014 BREWERY DISTRICT PLAN)

FIGURE 1.2-2. PROPOSED TUMWATER BREWERY PLANNED ACTION AREA

1.3 Planned Action Purpose and Need

The purpose and need for the Tumwater Brewery Planned Action is to preserve the existing historic site and historic structures, and repurpose the site to provide for public and economic benefit for the Tumwater community. Several community planning and policy studies have been completed (as described in EIS Chapter 2, Section 2.3). The community has identified a desire for a vibrant, mixed-use destination center, to provide an adaptive re-use of the existing historic brewery site. Conceptual alternatives for implementing the Tumwater Brewery Planned Action would build on the *2014 Brewery District Plan* which states:

> *"The Tumwater Brewery District is a vibrant, neighborly mixed-use urban community with abundant shopping and business services, safe and accessible transportation options and outstanding recreational amenities. As the heart of Washington State's "original city," the Brewery District continues to serve as an historic destination, even as it evolves to provide new homes and economic opportunity for a growing regional population."*

Economic development of the site is needed to generate the funds for the necessary repair and on-going maintenance of the site and structures. The historic structures are currently in a deteriorating state. Structural repair and rehabilitation is needed in order to meet current building standards and prevent further deterioration or damage to the historic structures.

The City of Tumwater *Economic Development Plan* outlines several goals and action strategies for economic development, specifically listing the Brewery Properties for economic development:

Goal #4: Make Strategic Use of the Brewery Properties … to Strengthen the City's Economic Base

A. *Explore strategies to acquire and stabilize the Old Brewhouse in the short-term while seeking public/private partnerships for rehabilitation consistent with the New Market Historic District Master Plan and Park, Recreation and Open Space Plan in the long-term*

B. *Use sub-area planning with subsequent public and private investment to revitalize the Brewery Neighborhood and take advantage of this remaining historic core to the City and valuable neighborhood asset*

C. *Establish broad understanding of the future of the brewery properties and the Deschutes River Valley*

D. *Encourage dynamic mixed use development of the brewery properties west of Capitol Boulevard*

E. *Encourage appropriate uses east of Capitol Boulevard within the Deschutes River Valley*

F. *Ensure development of properties adjacent to Cleveland Avenue is compatible with nearby residences*

1.4 SEPA and Planned Action Process

The Planned Action EIS accomplishes programmatic environmental review for the purpose of the City's decision on the Planned Action ordinance, and conceptual-level project review for alternative land use scenarios that could implement the Planned Action. This form of SEPA review precedes specific permit applications for development within subareas, master planned areas, or phased projects. The basic steps in designating Planned Action areas and implementing projects are to:

- Issue a determination of significance (DS)
- Issue a scoping notice
- Take public input on the scope (areas of review) of the EIS
- Prepare an EIS
- Designate Planned Action projects by ordinance, and
- Review permit applications for implementing projects.

Pursuant to SEPA Rules (WAC 197-11-408 through 410), a Determination of Significance and Scoping Notice was issued by the City of Tumwater on September 18, 2014 for the Tumwater Brewery Planned Action. Interested citizens, organizations, affected tribes and agencies were invited to submit comments on the scope of the EIS during the scoping period, which closed on October 20, 2014. A total of 18 written comments were received during the 30-day comment period. These are reproduced in Appendix A. The Determination of Significance and Scoping notice are also included in Appendix A.

During the EIS scoping process, the City of Tumwater, as SEPA lead agency, identified the following elements for discussion in the EIS:

- **Natural Environment**
  - Earth: Geology, Soils and Slopes
  - Wetlands
  - Shorelines
  - Plants and Animals
- **Built Environment**
  - Relationship to Plans and Policies (Community Policy Analysis)
  - Land Use
  - Transportation, Circulation and Parking
  - Environmental Health (Hazardous Materials)
  - Historic and Cultural Resources
  - Public Services
  - Utilities, and
  - Economy

Extensive public review of the development concept for the Planned Action area occurs during the EIS process. Since the public is involved in the EIS, public notice and appeal periods are typically not again required when development permit applications are submitted.

Following completion of the EIS process, the City will adopt a Planned Action ordinance that will contain the mitigation measures identified in this EIS. Together with the City's adopted development regulations, the ordinance will provide the framework to be used by the City to impose appropriate conditions on projects that qualify to implement the Tumwater Brewery Planned Action. Although qualifying planned action projects will not require a SEPA threshold determination, projects must still acquire all necessary permits and satisfy all necessary public notice requirements of those permits (Figure 1.4-1 below).

An ordinance designating a Planned Action is required to include the following elements (WAC 197-11-168):

- A description of the type of project action being designated as a Planned Action
- A finding that the probable significant environmental impacts of the Planned Action have been identified and adequately addressed in an EIS

- Identification of mitigation measures that must be applied to a project for it to qualify as a Planned Action.

The intent of a Planned Action is to provide more detailed environmental analysis during formulation of planning proposals, rather than at the project permit review stage. A Planned Action designation shows that adequate environmental review has been completed. It also means that further environmental review under SEPA, for each specific development proposal or phase, will not be necessary if it is determined that each proposal or phase is consistent with the adopted Planned Action ordinance.

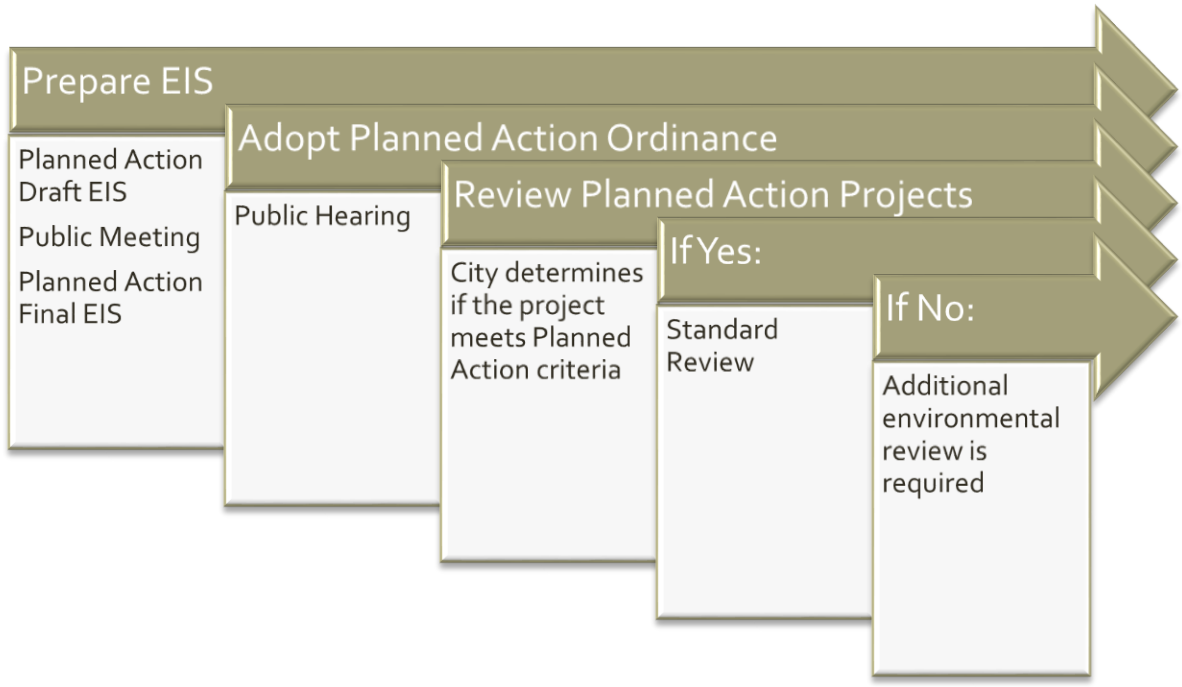


FIGURE 1.4-1. PLANNED ACTION EIS PROCESS

1.4.1 Phased Project Implementation

The Planned Action process is used for project actions that involve phased implementation [WAC 197-11-164(b)(ii)]. In addition to the Planned Action area being within an area addressed in a subarea plan, redevelopment of the historic Tumwater Brewery area is proposed in several phases, as described in EIS Chapter 2, Section 2.5.

1.5 Public Involvement

The City of Tumwater has provided several opportunities for public, tribal and agency review and comment throughout the planning and environmental review process for the Tumwater Brewery area. Key efforts are described below:

- Planned Action Website: The City has created a website for the Planned Action EIS located at http://www.ci.tumwater.wa.us/doing-business/targeted-opportunities/brewery-property
- EIS Scoping Comment Period (September 18, 2014 to October 18, 2014)

- On-line Survey (June 2014)
- Community Workshop (June 18, 2014)
- Draft EIS Comment Period (October 30, 2015)
- Legislative Meetings

1.6 Objectives

SEPA requires a statement of objectives that address the purpose and need for the proposed action (Section 1.3), and around which reasonable alternatives can be evaluated. The following objectives are provided to address the purpose and need for the Tumwater Brewery Project Planned Action.

- Plan for future redevelopment of the Tumwater Brewery Project by defining potential development scenarios that will increase and support the opportunity for future and existing residents to enjoy the historic area.
- Create a vibrant, historic, focused subarea that enhances neighborhood character and provides amenities such as parks, open space and community gathering areas, public art, lighting, signage and way-finding elements, and streetscape features.
- Introduce opportunities for neighborhood business, shopping, and services.
- Encourage use of multi-modal transportation by:
    - Enhancing bicycle, pedestrian safety and mobility;
    - Minimizing traffic impacts to surrounding neighborhoods through traffic calming, as well as improvements to intersections and streets; and
    - Identifying mechanisms to manage parking within the subarea.
- Protect environmentally sensitive areas.
- Foster economic development.
- Promote sustainable development by encouraging historic reuse of buildings within the subarea.

1.7 Alternatives

This EIS evaluates three conceptual land use alternatives for implementing the Tumwater Brewery Planned Action without selecting a preferred alternative. The three conceptual land use alternatives evaluated in the EIS include: Alternative 1 – No Action; Alternative 2 – Moderate Development Intensity; and Alternative 3 – Maximum Development Intensity. EIS Chapter 2, Section 2.3 describes the community planning and policy context that established the parameters for formulating these alternatives. The alternatives are described in more detail in Chapter 2, Section 2.4.

ALTERNATIVE 1

The No Action Alternative assumes that development would occur within the site consistent with existing zoning and development regulations and without an adopted Planned Action ordinance. Any such development or redevelopment that may be proposed within the site in conjunction with the No Action Alternative would be required to include repairing existing structures. Environmental review would be conducted on a project-by-project basis. It is expected that this alternative would provide the least amount of new development or redevelopment of the site (see Figure 2.4-1 in Chapter 2).

ALTERNATIVE 2

The Moderate Development Intensity Alternative is assumed to include redevelopment within existing buildings (262,000 gross square feet [GSF]), a new parking structure (200,000 GSF) with approximately 625 stalls, and reconstruction of two demolished structures (31,500 GSF). Prospective land uses would include: parking, office, retail, distillery, craft brewing, hotel, restaurant and a museum. Total lot coverage by buildings would be approximately 140,000 SF with approximately 443,500 GSF of buildable space. Alternative 2 would provide improved vehicular access, a connecting trail system and boardwalk (see Figure 2.4-2 in Chapter 2).

ALTERNATIVE 3

The Maximum Development Intensity Alternative is assumed to include redevelopment within existing buildings (262,000 GSF), a new parking structure (320,000 GSF) with approximately 1,000 stalls, reconstruction of two demolished structures (31,500 GSF), and a new-build structure (150,000 GSF). Prospective land uses under Alternative 3 would be the same as those under Alternative 2, plus residential (apartments and condos). Total lot coverage by buildings would be approximately 160,000 SF with approximately 763,500 GSF of buildable space. Similar to Alternative 2, improved vehicular access, a connecting trail system and boardwalk would be provided with Alternative 3 (see Figure 2.4-3 in Chapter 2).

1.8 Summary of Potential Impacts and Mitigation Measures

The SEPA Guidelines require a summary of the proposed action, impacts, alternatives, mitigation measures, and significant adverse impacts that cannot be mitigated (WAC 197-11-440[4]), and a comparison of the environmental impacts of the alternatives (WAC 197-11-440[5][c][vi]). These summaries are provided in Table 1.8-1, below. The full text of the Affected Environment, Potential Impacts, and Mitigation Measures for the proposed action and alternatives is presented in EIS Chapter 3. Summary statements of potential impacts in the table are presented in the absence of the context of existing environmental conditions (the Affected Environment discussions in EIS Chapter 3). For these reasons, readers are encouraged to review the more comprehensive discussion of issues of interest in the EIS to develop the most accurate understanding of impacts associated with the proposed action and alternatives.

1.8.1 Impacts Common to All Alternatives

This section describes impacts found to be similar among all studied Alternatives 1, 2, and 3.

Geology, Soils and Slopes

All alternatives will increase the amount of impervious surface at the site.

Wetlands

All alternatives will impact wetland "B".

Shorelines, Plants and Animals

All alternatives will increase the amount of impervious surface at the site.

Land Use

Under all alternatives, additional growth is anticipated within the Planned Action area. Vacant land would, over time, be developed for commercial, residential, recreational, or industrial use, as allowed by the land use and zoning districts adopted under that alternative. Properties occupied by nonconforming uses would eventually be redeveloped in a manner consistent with adopted zoning, and new development and redevelopment would also entail the eventual modification or demolition of some existing structures, as well as the construction of new buildings, which could cause temporary construction-related impacts, such as increased levels of noise, dust, and vehicle traffic.

Transportation, Circulation and Parking

All alternatives will increase the vehicular and pedestrian traffic to enter and leave the site.

Environmental Health

All alternatives will increase the amount of air emissions, noise and visual impacts at the site.

Historic and Cultural Resources

All alternatives will impact historic and cultural resources.

Public Facilities and Services

No significant impacts to these services are anticipated under any of the alternatives that aren't already accounted for in existing planning documents.

Utilities

Under all alternatives, the water, wastewater and power systems have the capacity to accommodate anticipated growth. Each of the alternatives will require new utility lines to service the site and, based on the regional customer base of the utility provider's, additional users are unlikely to have any significant impact on the ability to provide services. The City's Capital Facilities Plan will ensure adequate utility services matches the new demand and reduce the potential for disruption of utility services.

Economy

Economic impacts resulting from construction of any of the Alternatives would include indirect spending impacts for construction materials and jobs and labor income associated with these contractors. Development of any of the land use concepts addressed by the Alternatives within the proposed Tumwater Brewery Planned Action area would result in greater employment and intensity of activity in the area. New employment associated with assumed redevelopment would provide a broad mix of new jobs and would introduce additional economic diversity to the site and the Tumwater Brewery District. In addition, construction jobs would be provided as the site develops over time.

1.9 Major Issues, Significant Areas of Uncertainty, and Issues to be Resolved

Adoption of the Planned Action would support development and redevelopment of the area to a more intensive commercial, residential, and mixed use character consistent with the vision of the 2014 Brewery District Plan. The implementation of the Planned Action would transform the study area from an undeveloped historical site to a vibrant and used focal point of the Brewery District that has an urban character, a multitude of uses and restored historic structures, while advancing environmental protection and enhancement along the Deschutes River.

Majors issues to be considered include the impacts of the transition of the subarea from an unused open space to urban land uses, as well as the associated changes to the visual character, increases in impervious area, need for additional infrastructure, increased traffic, air quality emissions, noise, demand for public services and utilities, and reduction of wildlife habitat space.

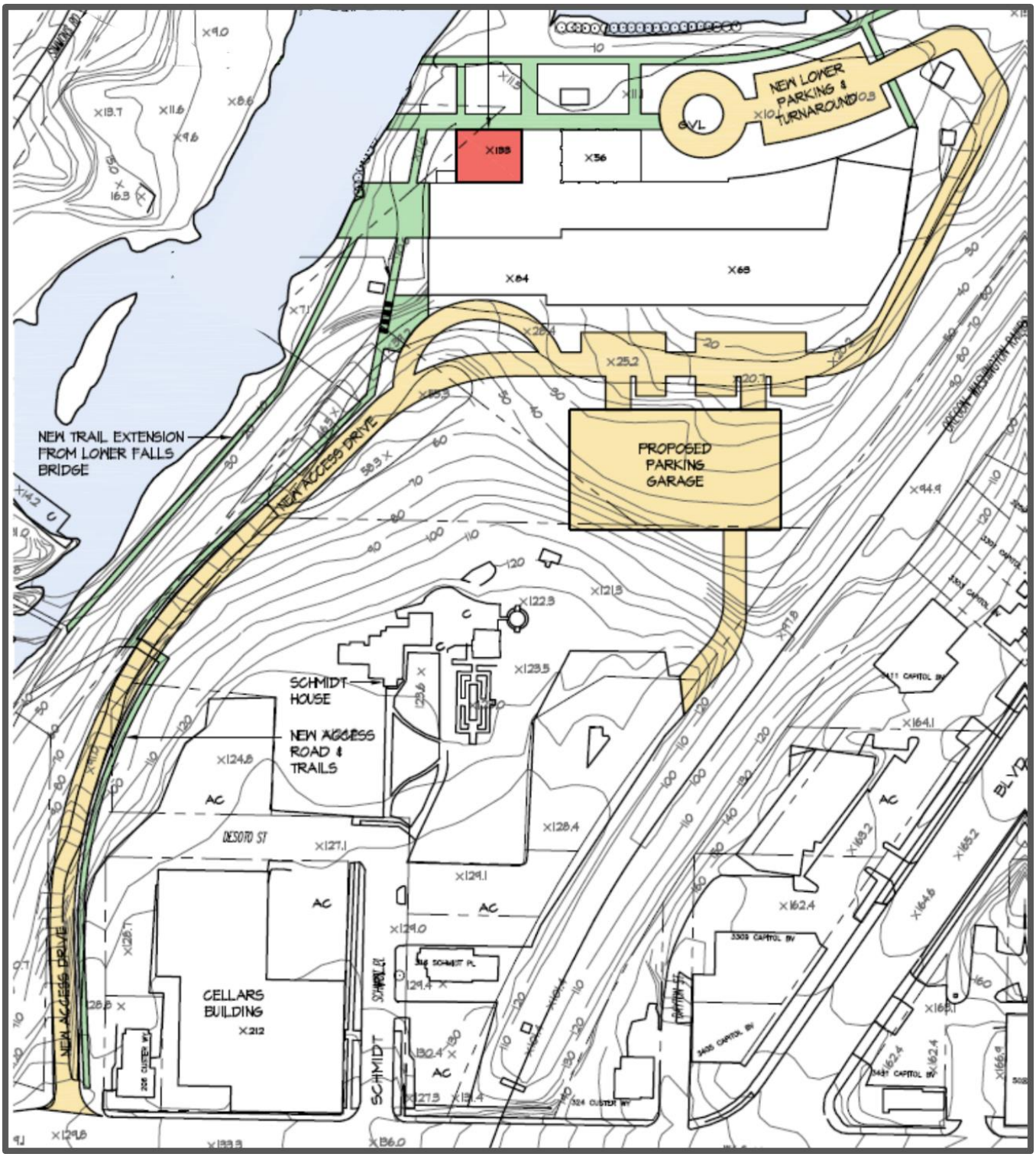


FIGURE 1.9-1. PROPOSED ACCESS AND IMPROVEMENTS (CONCEPTS ONLY)

CHAPTER 2: DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

The City of Tumwater proposes to adopt an ordinance designating a portion of the historic Tumwater Brewery property as a Planned Action area for the purpose of environmental review under the State Environmental Policy Act, pursuant to RCW 43.21C.031 and WAC 197-11-164. The Planned Action designation would apply to mixed-use development and redevelopment implementing projects of the type and intensity established in the ordinance and evaluated in this EIS.

2.2 Background

The Tumwater Brewery Planned Action area is the location of the former Olympia Brewing Company production plant.[1] The property and existing structures are on the National Register of Historic Places. The brewery buildings consist of three buildings near the center of the brewery complex area: the warehouse, the brewhouse and a large stilt shed. The warehouse is a rectangular four-story brick structure oriented approximately east-west and located south of the brewhouse and shed. The brewhouse is a six-story brick structure. The shed is a pole structure with sheet metal sides and located east of the brewhouse. The area between the warehouse, brewhouse, and shed consists of a concrete pad raised approximately 2 to 4 feet above surrounding grades. At the northeast corner of the brewery complex area an abandoned railroad grade heads to the northeast, approximately paralleling the east slope. Other features near the brewery buildings include an access road, concrete pads and vegetation. An access road enters the brewery complex area from the southwest and winds around the south and east sides of the warehouse where the road is located between the warehouse and east slope. Northeast of the warehouse on the east side of the access road there is a concrete pad measuring about 12 feet square. Vegetation around the brewery buildings is limited to grass in unpaved areas and trees and shrubs near the backwater.

The site is located in the heart of Tumwater, adjacent to the Deschutes River, Capitol Lake and visible from the I-5 corridor. It presents challenges and opportunities for historic preservation, cultural endowment, environmental sensitivity and mitigation, riparian restoration, regional recreation and economic development.

2.2.1 Study Area

The proposed Planned Action area, for the purpose of environmental review, is approximately 32 acres in size in northeast Tumwater, encompassing the historic Brewery and its associated structures (see Figure

[1] Leopold Schmidt, a German immigrant from Montana, founded The Capital Brewing Company at Tumwater Falls on the Deschutes River in the Town of Tumwater. He built a four-story wooden brewhouse, a five-story cellar building, a one-story ice factory powered by the lower falls, and a bottling and keg plant. He began brewing and selling Olympia beer in 1896. In 1902, the firm became Olympia Brewing Company and chose the slogan "It's the Water" to promote its flagship product. Statewide Prohibition ended beer making operations for several years. After Prohibition, a new Olympia Brewery was built upstream from the original, and Olympia beer went back on the market in 1934 (Brewery Gems, *An Illustrated History of the Olympia Brewing Company*, http://brewerygems.com/olympia.htm). The proposed Planned Action area is the site of the historic Tumwater Brewery.

1.2-2 in Chapter 1), including the upper building from the 1960s—the RST Cellars building, and existing parking area west of the Schmidt House. The area is bounded by Custer Way to the south; the Deschutes River to the west; the City of Olympia, Interstate 5 and Capitol Lake to the north; and the Union Pacific Railroad right-of-way to the east.

The purpose of the Planned Action is to encourage phased redevelopment of the historic Tumwater Brewery and its associated structures located in portions of the New Market Historic District and Brewery District within the Brewery Neighborhood. This review often references two areas of the site: the upper portion adjacent to and west of the Schmidt House, and the lower portion where the historic brewhouse is located adjacent to the Deschutes River and Capitol Lake.

2.2.2 History

Challenges to the feasibility of reusing the historic brewhouse, its associated structures, and site access road have been identified as early as 1977 (*Old Brewery Long Range Plan* 1996). In 1993, the City adopted the *New Market Historic District Master Plan* which serves as the guide for ongoing planning and development efforts related to the site. Since then, the City of Tumwater has undertaken numerous planning efforts to address goals and policies for redevelopment of the site. Through the *Brewery Visioning* and *Brewery District Planning* projects, the community has articulated a desire to make the Brewery District a vibrant, mixed-use destination. The City of Tumwater was awarded an Integrated Planning Grant from the Washington State Department of Ecology (Ecology) in 2013 to assist in conducting environmental review for potential redevelopment of the site surrounding the historic brewhouse, and adopting an ordinance to facilitate the Tumwater Brewery Planned Action.

2.3 Relationship to Plans and Policies (Community Policy Analysis)

The City's current *Comprehensive Plan* and development regulations were prepared and adopted to guide future development as required under the Growth Management Act (GMA). The *Comprehensive Plan* directly addresses the Tumwater Brewery Project.[2] The state, region, county and City of Tumwater have completed a number of plans, studies, and analyses related to the Brewery site and its surrounding neighborhood. These are discussed below.

2.3.1 Growth Management Act

The City of Tumwater was awarded an Integrated Planning Grant from the Washington Department of Ecology (Ecology) to assist in conducting environmental review of development proposals of the former brewery area north of Custer Way, which includes the Old Brewhouse. The intent of the Integrated Planning Grant is to assist with adaptive reuse of the site and is specifically used for redevelopment efforts, in this case a Planned Action EIS for the brewery site north of Custer Way. GMA sets a framework for managing growth and development within local jurisdictions. The City of Tumwater is required to plan in

[2] The terms "Tumwater Brewery Project" and "Tumwater Brewery Planned Action" may be used interchangeably in this section because some community planning documents refer to it as a project. Technically, it is not a project at the time of this writing, but rather the programmatic action of adopting a Planned Action ordinance. See additional process explanation in the EIS Chapter 1, Section 1.4.

accordance with GMA. Cities and counties planning under GMA must prepare and update comprehensive plans and implement them through their development regulations and capital improvement programs.

2.3.2 Thurston Regional Planning Council

TRPC provides assistance for local jurisdictions in regional transportation, growth management, environmental quality, economic opportunity, citizen involvement, and intergovernmental coordination. The information provided below is from the TRPC *Creating Places Preserving Spaces: a Sustainable Development Plan for the Thurston Region*, and the TRPC *2025 Regional Transportation Plan*.

The TRPC *Creating Places Preserving Spaces: a Sustainable Development Plan for the Thurston Region* provides guidance for the Thurston Region to achieve sustainability and livability. The goals and actions below relate to the Tumwater Brewery District redevelopment within the City of Tumwater.

- Community Goal C-1: North County – Urban Corridors &Centers: Create vibrant city centers and activity nodes along transit corridors that support active transportation and housing, jobs, and services.
    - C-1.1. Conduct District and Neighborhood area planning. Involve the neighborhood in the process, answer questions up front, and encourage sharing of ideas and information with the goal of creating clarity and predictability about outcomes. Processes include discussions about: density and design; and using form-based codes or other tools that may streamline the permit process by creating more certainty about outcomes that may reduce opposition and costly delays. Identify specific action steps needed to achieve resulting District or Neighborhood vision.
- Community Goal C-2: South County – City/Town Centers: Create safe and vibrant South County city and town centers that foster entrepreneurship, active transportation, civic pride, and a sense of place.
    - C-2.7. Build on the quality of place within each of the historic community centers. This includes: ensuring the retention of unique historic architecture and design features during the remodel of storefronts, as well as ensuring that new development complements historic development, when appropriate.
- Economy Goal EC-1: Coordinate economic development efforts to attract and retain businesses and jobs.
    - EC-1.1. Develop an intergovernmental collaboration and coordination panel focused on sustainability and aligned with economic development organizations. Use existing resources and build on successful organizations.
    - EC-1.5. Coordinate within and across jurisdictions to advocate for permitting vision, clarity, and predictability.
    - EC-1.7. Create a community-wide vision and action plan for coordinated and efficient governance that enlists multiple organizations in the implementation of defined community priorities and goals.
- Economy Goal EC-5: Ensure adequate supply of shovel-ready land along primary transportation corridors and invest in commercial and industrial redevelopment.

- EC-5.6. Support brownfield clean-up strategies/planned actions for development and redevelopment.

REGIONAL TRANSPORTATION PLAN

The TRPC *2025 Regional Transportation Plan* (RTP) serves as guidance for local jurisdictions to coordinate transportation and land uses in the region. The following RTP goals and polices relate to the Tumwater Brewery District redevelopment within the City of Tumwater.

- Section 17. Intergovernmental Coordination
  - Goal: Ensure transportation facilities and programs function seamlessly across community borders and between regions.
    - 17a. Encourage coordination among the local, regional, and state governments in the operation of the transportation system.
    - 17b. Work with government agencies to coordinate land uses, implement countywide planning policies, and refine the tools needed to accomplish land use plans.

2.3.3 Countywide Planning Policies

Thurston County's *County-wide Planning Policies* document provides a framework for the comprehensive plans, community development and coordination of local jurisdictions. The following goals and policies relate to the Tumwater Brewery District redevelopment within the City of Tumwater.

- Section VI: Economic Development and Employment
  - City, town and county governments in Thurston County encourage sustainable economic development and support job opportunities and economic diversification that provide economic vitality and ensure protection of water resources and critical areas. In order to attain an economic base that provides an adequate tax base revenue source, enhances the quality of life of community residents, and maintains environmental quality, the cities, towns and county will:
    - 6.1 Provide in their comprehensive plans for an adequate amount of appropriately located land, utilities, and transportation systems to facilitate environmentally sound and economically viable commercial, public sector, and industrial development.
    - 6.7 Coordinate economic development efforts with other jurisdictions, the port, the Economic Development Council, chambers of commerce, and other affected groups.
- Section IX: Environmental Quality
  - In order to fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations; and to assure a safe, healthful, and productive environment for local residents, the county, cities and towns will:
    - 9.6 Preserve and promote awareness of our historic, cultural, and natural heritage.

- 9.8 Provide for parks and open space.

2.3.4 Tumwater Historic District Infrastructure Analysis – 2005

The *Tumwater Historic District Infrastructure Analysis* was undertaken in 2005 when the City was considering sponsoring redevelopment of the brewhouse as a Public Facilities District project (Parametrix 2005). The purpose of the analysis was to determine whether sponsorship of the project was a viable option. It "addressed access, infrastructure, and permitting issues associated with redevelopment of the site." The analysis was performed in collaboration with a focus group comprised of representatives from the City of Tumwater Public Works, Development Services, and Planning and Facilities Departments; the City Administrator; and representatives from Friends of the Brewhouse group.

Four redevelopment alternatives were analyzed. The consultant team determined that, while redevelopment would present significant challenges, it is certainly a plausible option. Adaptive re-use of the existing buildings to contain a cultural center, retail, and office space comprised the preferred redevelopment scenario. The Planned Action being evaluated in this EIS is compatible with the information presented in the 2005 analysis.

2.3.5 Community Visioning Project – 2011

The final report for the *Community Visioning Project* offers recommendations related to developing a community vision for the site of the former Olympia Brewery with a focus on the former brewery complex south of Custer Way, but in the context of the iconic historic brewhouse (Lorig & Associates 2011). In 2011, the City of Tumwater undertook a visioning process for the Brewery site, guided by a citizen-comprised Brewery Visioning Focus Group, as well as by abundant public participation and comment. Values, visions and themes for redevelopment of the Brewery site were defined through a number of public and focus group meetings. Community values defined in the visioning process include:

- Employment Opportunities (business incubator space, new sustainable light industry, mixed commercial development)
- Public Access (provide public plazas, recreation opportunities, bicycle paths and trails throughout the site)
- Create a Place (a new vibrant center of activity for Tumwater)
- Honor the Environment (riparian corridor restoration, access to the river, learning/interpretive center, wildlife viewing)
- Honor the History (acknowledge heritage with museum and evoke history thought restoration and design standards)
- Connectivity (connect site with community, Pioneer Park and provide trails and paths to connect the entire site)

The 2011 report also includes building/site and economic analyses to ensure that redevelopment of the site is feasible. A limited number of recommendations for future activities to help make the vision a reality are also provided, including a recommendation that the City define and implement "an action plan to achieve the vision of the community for the future of the Brewery." The *Community Visioning Project* report makes

it clear that the community values the Brewery site as an historic heart of the City, and emphasizes the importance of "protect[ing] and develop[ing] this community treasure." The Planned Action being evaluated in this EIS is consistent with the community vision in the 2011 report.

2.3.6 Brewery Action Plan – 2011

The *Brewery Action Plan* was prepared by City staff in response to Resolution No. R2011-018, adopted by the Tumwater City Council on October 4, 2011 (City of Tumwater 2011). This resolution directed staff to come up with a plan to implement the recommendations of the *Brewery Visioning Project Final Report*. Input from the City's Brewery Visioning Focus Group was also considered during development of the action plan.

Community action and partnership are identified in the *Brewery Visioning Project Final Report* as critical elements in moving forward with planning for the Brewery site and surrounding area; the *Brewery Action Plan* embraces this recommendation by identifying a wide range of activities and community stakeholders, and creating the framework for future work and collaboration.

The Plan includes actions to be taken toward implementation of the vision identified in the Brewery Visioning Project, and identifies partners involved and steps to be taken in support of these actions. It covers the entire Brewery site, including areas to the south of Custer Way which are not part of the proposed Planned Action area being evaluated in this EIS. Actions specified in the Plan include forming regional partnerships, establishing conceptual trail layout and permitting requirements, acquiring land around Capitol Lake, researching the feasibility of a transportation center in the Brewery area, and creating a trail connection across the Deschutes River. The proposed Planned Action is consistent with the actions recommended in the *Brewery Action Plan*.

2.3.7 Brewery District Subarea Plan – 2014

The *Brewery District Subarea Plan* builds on the vision created for the Brewery site in the 2011 Community Visioning process (Thurston Regional Planning Council 2014). This Plan addresses the Brewery subarea, the approximately 300-acre neighborhood that includes and surrounds the Brewery site. The vision for this area articulated in the Subarea Plan is as follows:

> *The Tumwater Brewery District is a vibrant, neighborly mixed-use urban community with abundant shopping and business services, safe and accessible transportation options and outstanding recreational amenities. As the heart of Washington State's "original city," the Brewery District continues to serve as an historic destination, even as it evolves to provide new homes and economic opportunity for a growing regional population. The District infuses the best of past and present urban development through the preservation of critical heritage sites, incorporation of modern urban design practices and emphasis on creating a unique sense of place.*

Project goals identified in the Subarea Plan include:

- Create a stronger sense of place by facilitating pedestrian access, establishing gathering places for residents and fostering a distinct District identity.

- Improve transportation options, safety and access within and across the District.
- Expand economic opportunity and activity.
- Improve the function and appearance of the built environment.

The Subarea Plan offers three land use/transportation alternatives for the district, and then presents a "preferred alternative," which came together and was refined as the consultant team and City staff worked with key stakeholders, citizens, and a focus group. The preferred alternative "provides a framework for transforming the Brewery District from a largely auto-oriented commercial node, into a lively, walkable, and economically vibrant neighborhood center." The plan also offers implementation strategies for the preferred alternative, including transportation phasing, public realm improvements, potential redevelopment challenges, and financing recommendations. The Planned Action being evaluated in this EIS is consistent with the goals and intent of the Brewery District Plan.

2.3.8 City of Tumwater Strategic Plan – 2010

The City of Tumwater completed its *Strategic Plan* in 2010 (Berk & Associates 2010). The strategic planning process was undertaken "to establish organization-wide goals and action plans on key issues and opportunities facing the community, including residential quality of life, economic development and the fiscal sustainability of the City government, place-making, environmental sustainability, and the cultivation of a healthy community." The City's aim for the plan is that it "will help the community maximize its assets, stay true to its desired character, and evolve into the community desired by its citizens."

The plan outlines five goals:

- Goal #1: Strengthen Tumwater's Civic Society, Neighborhoods, and Residential Quality of Life
- Goal #2: Create Dynamic and Vibrant Places for Residents and Visitors
- Goal #3: Facilitate Desirable Economic Development Consistent with the Community's Vision
- Goal #4: Promote Development that is Environmentally Sustainable and Provides for a Healthy Community
- Goal #5: Manage City Resources Effectively

Goals 2 and 3 specifically discuss the Brewery site and the surrounding neighborhood. The action strategies under these goals include:

- Encourage the dynamic utilization of the Brewery property with community access to the river and integration with the larger river corridor and golf course
- Use sub-area planning with subsequent public and private investment to revitalize the Brewery Neighborhood and take advantage of this remaining historic core to the City and valuable neighborhood asset

Shoreline access, connections to adjacent open space, and revitalization of the Brewery property, and encouraging various uses on the Brewery site are all key components of these action strategies; the Planned Action being evaluated in this EIS is consistent with the goals and strategies of this plan.

2.3.9 City of Tumwater Economic Development Plan – 2010

The City of Tumwater *Economic Development Plan* was adopted into the Tumwater Comprehensive Plan in 2010 (City of Tumwater 2010). This Plan lists the following desired outcomes as a result of proactive economic development:

- Bringing enough wealth and resources into the community to create opportunities for all residents
- Providing enhanced opportunities to shop, play, and work in Tumwater
- Proactively and positively guiding the development that the community will receive as the region grows
- Creating a diverse and sustainable tax base to support the ongoing provision of City services for all residents.

The City's Vision, which guides the *Economic Development Plan*, is that the "Tumwater of the future will be people-oriented and highly livable, with a strong economy, dynamic places, vibrant neighborhoods, a healthy natural environment, diverse and engaged residents, and a living connection to its history." The Economic Development Advisory Committee (EDAC), in crafting this Plan, defined economic development as "the effort to retain and attract capital and talent." Consistent with this definition, the Plan focuses on strengthening and enhancing Tumwater's economic base by "retaining existing firms and attracting new investment in a manner that is consistent with the City's Vision."

The *Economic Development Plan* outlines seven goals and associated action strategies. Goal 4 and its accompanying action strategies specifically list the Brewery properties as a targeted area of economic development:

- Goal #4: Make Strategic Use of the Brewery Properties … to Strengthen the City's Economic Base

    A. Explore strategies to acquire and stabilize the Old Brewhouse in the short-term while seeking public/private partnerships for rehabilitation consistent with the New Market Historic District Master Plan and Park, Recreation and Open Space Plan in the long-term
    B. Use sub-area planning with subsequent public and private investment to revitalize the Brewery Neighborhood and take advantage of this remaining historic core to the City and valuable neighborhood asset
    C. Establish broad understanding of the future of the brewery properties and the Deschutes River Valley
    D. Encourage dynamic mixed use development of the brewery properties west of Capitol Boulevard
    E. Encourage appropriate uses east of Capitol Boulevard within the Deschutes River Valley
    F. Ensure development of properties adjacent to Cleveland Avenue is compatible with nearby residences.

The *Economic Development Plan* also lists a number of opportunities for development of and connections to the Brewery site in order to increase employment and intensity of activity within the area. The Planned

Action being evaluated in this EIS is consistent with the intent of the City of Tumwater *Economic Development Plan*, and is especially supportive of Goal 4.

2.3.10 City of Tumwater Capital Facilities Plan – 2013

The 2014-2019 *Capital Facilities Plan* provides an inventory of the existing infrastructure in the City of Tumwater and identifies deficiencies in the existing capital facilities (including streets, schools, fire, and parks facilities). It also details planned capital projects and financial plans for a six-year period through 2019. The objective of the plan is to provide the capital facilities needed to adequately serve the anticipated future growth within projected funding capabilities (City of Tumwater 2013). New capital facility projects supporting the planning area were included in the current *Capital Facilities Plan*, including:

- Brewery Tower Acquisition and Development
    - This project is to participate with the property owner, other stakeholders, and funders to preserve, restore, and reuse the historic brewhouse tower. This proposal assumes no City financial contribution.
- Brewery Open Space Acquisition
    - This project includes the acquisition of the open space areas adjacent to the Historic Brewhouse for public purposes. Project is dependent on receipt of grant funding. Not due to growth.
- Brewery Neighborhood Planning
    - A neighborhood planning process would enlist the help of property and business owners, other stakeholders, and citizens to adopt plan policies and development regulations that build on the strengths of this unique area.
- Brewery District Plan – Streetscape Improvements
    - This project is programmed to implement the recommendations developed from the Brewery District Planning Project. The funding identified is not sufficient to implement all of the transportation options that have been identified, but is shown as a "placeholder" for implementing selected projects from the plan. Grant funding is being shown for implementing the project. If grant funds are not available, funding may be available from the Transportation CFP fund balance.

The Planned Action being evaluated in this EIS is compatible with the projects included in Tumwater's *Capital Facilities Plan*.

2.3.11 City of Tumwater Shoreline Master Program – 2014

Tumwater's *Shoreline Master Program* (*SMP*) was updated in 2014 as required by Washington's Shoreline Management Act (RCW 90.58). Among other things, the *SMP* aims to guide future use and development of Tumwater's shorelines; plan for restoring shorelines that have been impaired or degraded in the past; increase public access to publicly-owned areas of the shorelines; and increase recreational opportunities for the public within shoreline areas (City of Tumwater 2014).

The SMP designates the Brewery area along the Deschutes River as one of three Urban Intensity Shoreline Environments in the City of Tumwater. As a management policy for this area, and with the aim of encouraging "a variety of urban uses in accordance with City plans and regulations to create a vibrant shoreline consistent with Tumwater's character and quality of life," the *SMP* states:

> *The former Olympia Brewery is located on the east side of the Deschutes River. Consistent with the City's vision for these properties, a wide variety and mixture of uses are envisioned including residential, commercial, industrial, educational and cultural as well as public and recreational places. Future development should include restoration and/or enhancement of degraded shorelines.*

In terms of providing public access to shorelines, which is a major component of the *SMP*, the Brewery site is listed as an opportunity for access to both the Deschutes River and Capitol Lake. It is noted that redevelopment of the historic brewhouse property may include opportunities for public shoreline access. The *SMP* also discusses potential acquisition of a portion of the historic Brewery property for use as a public park with shoreline access.

The *SMP* includes a table of planned projects along with funding sources. This table includes the historic Brewery site as one of the planned riparian restoration projects along the Deschutes River, with the aim of "improv[ing] water quality, aquatic life and habitat." Implementation is scheduled for 2012-2018.

Because of its potential to create a vibrant shoreline with a diversity of urban uses and shoreline access, the Planned Action being evaluated in this EIS is consistent with the intentions of the City of Tumwater *SMP*.

2.3.12 City of Tumwater Park, Recreation and Open Space Plan

The City of Tumwater *Park, Recreation and Open Space Plan* provides an inventory of existing open space and recreational opportunities, both public and private, throughout the City (City of Tumwater 2007). It also identifies opportunities for future open space, trail, and park facilities and recreation services within Tumwater and its urban growth area, as well as proposed implementation strategies so the City may focus its resources where open space, trail, and park facilities and recreation needs are most critical.

The *Park, Recreation, and Open Space Plan* identifies the Brewery site as an existing historical/cultural conservancy site, which means it "provides significant archaeological, cultural, or architectural conservancy potentials." The Plan identifies a proposal to "acquire, restore, and provide public interpretation and access to the original brewhouse, warehouses, and other buildings located on the east shore of the Deschutes River across from Historical Park." Additionally, the Plan lists many opportunities for the development of additional facilities and connections on site, including:

- Define and conserve a system of open space corridors or separators to provide definition between natural areas and urban land uses within Tumwater – especially including the continuation of the Old Brewery property, Heritage Park, Tumwater Falls, Pioneer Park, and the Deschutes River open space system.

- Identify, preserve, and enhance Tumwater's heritage, traditions, and cultural features including historical sites, buildings, artworks, views, and monuments within park sites and historical district – such as the Old Tumwater Brewery property and buildings.
- Incorporate and extend a freshwater trail network for hand-carry or car-top craft including canoes, kayaks, and lorries [dorries] on the Deschutes River extending the length of the navigable river from Deschutes Ridge through Pioneer Park to Tumwater Falls, and from the Old Tumwater Brewery into Capitol Lake.
- Acquire, restore, and enhance the original 34.9 acre, 132,500 square foot complex including the 6-story brewhouse, 5-story warehouse and addition, 2-story warehouse and storage structure, and 2-story keg house to provide an interpretive exhibit, special use rooms, indoor/outdoor special event space, and some offices (in the 5-story warehouse) for non-profit historical and environmentally related tenants.
- Develop special indoor and outdoor cultural and performing arts facilities that enhance and expand music, dance, drama, cultural and historical interpretations, and other audience and participatory opportunities for the city-at-large – including a special summer festival site and historical exhibit at the Old Tumwater Brewery…
- Conserve the woodland and wetland area located around the old brewery complex at the mouth of the Deschutes River and Capitol Lake.
- Develop family and group activity picnic facilities in the plaza and 2-story warehouse facility in the old brewery complex on the Deschutes River.
- Develop picnic shelter capabilities in the old 2-story warehouse facility in the old brewery complex on the east side of the Deschutes River.
- Develop a gravel multipurpose hike and bike trail along the Deschutes River from the brewery complex south through Pioneer Park to the railroad line south of 93rd Avenue.
- Develop a parallel multipurpose hike and bike rail trail on the UP rail line extending south from Capitol Way/the brewery complex to the joining with the railroad line at Fir Tree Road.
- Install playground inside and outside warehouse and plaza activity areas in support of special activity events.
- Install interpretive signage describing the historical events surrounding the development and operation of the Old Brewery complex.
- Develop permanent restroom facilities in this interpretation and special event park facility.

The historic Brewery site plays a key role in the City's *Park, Recreation and Open Space Plan*. The Planned Action being evaluated in this EIS is compatible with the development opportunities listed in that Plan.

2.3.13 City of Tumwater Transportation Plan

The City of Tumwater *2025 Transportation Plan* serves as the transportation element of the City's Comprehensive Plan, which is required to meet the requirements of the Growth Management Act (GMA). The Transportation Plan assesses existing and future conditions of the City's transportation network, which serves all modes, including vehicles, pedestrians, bicycles, and transit. The Transportation Plan

identifies deficiencies in the system based on the City's land use plan, and includes potential funding strategies for needed improvements (Parametrix 2008).

The 2025 6-year Transportation Improvements Program (TIP), which is included in Chapter 8 of the *2025 Transportation Plan*, includes a number of recommendations for the roadway network immediately adjacent to the study area, which are grouped in a subarea plan called the *Cleveland Avenue/Custer Way Strategy Area Transportation Plan*. One of these recommendations, construction of the "E Street Extension" (a new four-lane east/west connector between Cleveland Avenue and Capitol Boulevard) is included in the 6-year TIP. This project is intended to relieve congestion along Custer Way, on the south end of the Brewery District study area. Other longer-range recommendations include signalization of and improvements to the Cleveland Avenue/Capitol Boulevard Intersection, implementation of signal or roundabout control at the Boston Avenue/Custer Way intersection, and lane improvements at the intersection of Cleveland Avenue/Custer Way/North Street. These improvements are intended to improve access, circulation, and connectivity in the area, as well as to create a more pedestrian- and bicycle-friendly street network in the area. The Planned Action being evaluated in this EIS is compatible with the City's *2025 Transportation Plan* (see Chapter 3, Section 3.5).

Based on the analysis of plans and policies above, the proposed Tumwater Brewery Planned Action is compatible with all the previous planning efforts conducted by the City of Tumwater. The Planned Action EIS is a tool to implement and integrate past planning work on the historic Tumwater Brewery site.

2.4 Principal Features of Reasonable Alternatives

2.4.1 No Action

The No Action Alternative (Alternative 1) assumes that development would occur mainly within existing buildings (262,000 gross square feet [GSF]), and that all site development would be consistent with existing zoning and development regulations. All development would be completed without an adopted Planned Action Ordinance. Any development or redevelopment that is proposed within the site under the No Action Alternative would undergo environmental review on a project-by-project basis. For the purpose of calculating necessary on-site infrastructure and evaluating potential impacts, prospective land uses under Alternative 1 would include up to 50 residential units (apartment/condo), office, restaurant, and distillery. This alternative is expected to provide the least amount of new development and redevelopment of the site (see Figure 2.4-1).

FIGURE 2.4-1. ALTERNATIVE 1 (NO ACTION)

FIGURE 2.4-2. ALTERNATIVE 2 (MODERATE DEVELOPMENT INTENSITY)

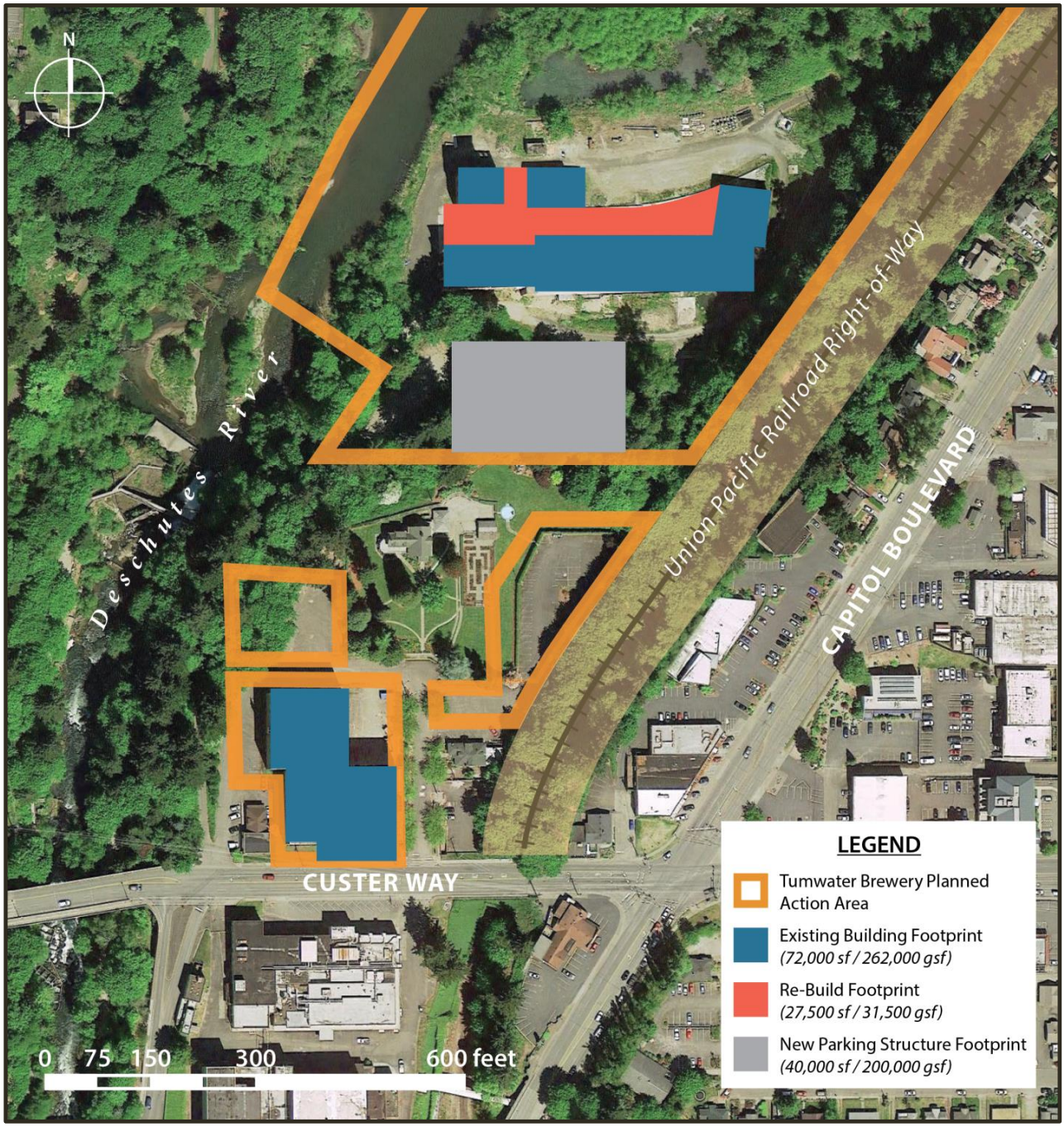
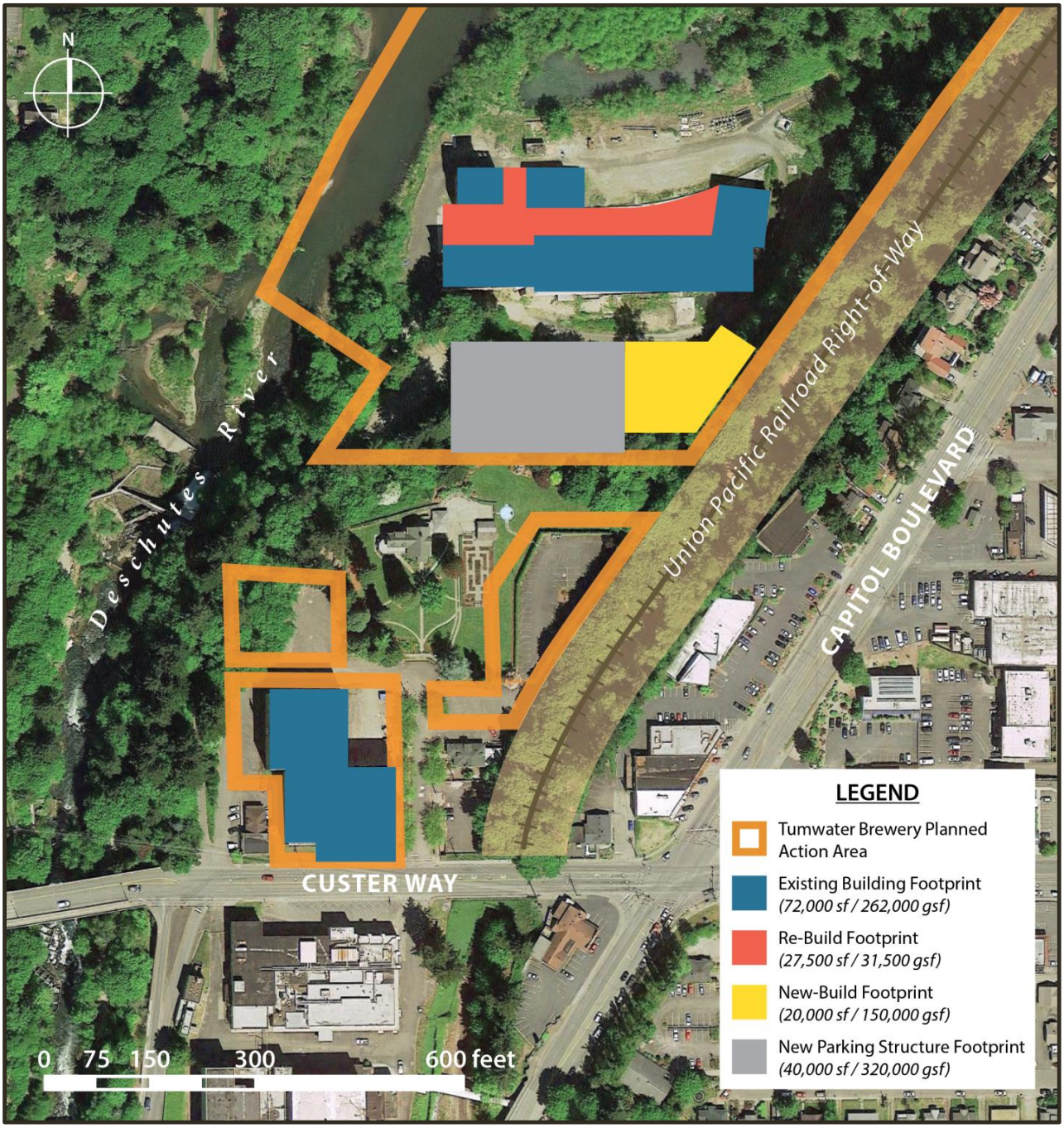


FIGURE 2.4-3. ALTERNATIVE 3 (MAXIMUM DEVELOPMENT INTENSITY)



2.4.2 Moderate Development Intensity

The Moderate Development Intensity Alternative (Alternative 2) is assumed to include redevelopment within existing buildings (262,000 GSF) a new parking structure (200,000 GSF) with approximately 625 stalls, and reconstruction of two demolished structures (31,500 GSF). For the purpose of calculating

necessary on-site infrastructure and evaluating potential impacts, prospective land uses would include: parking, office, retail, distillery, craft brewing, hotel, restaurant and a museum. Total lot coverage by buildings is approximately 140,000 SF with approximately 443,500 GSF of buildable space. Improved vehicular access, a connecting trail system and boardwalk are also included in this Alternative (see Figure 2.4-2).

2.4.3 Maximum Development Intensity

The Maximum Development Intensity Alternative (Alternative 3) is assumed to include redevelopment within existing buildings (262,000 GSF), a new parking structure (320,000 GSF) with approximately 1,000 stalls, reconstruction of two demolished structures (31,500 GSF), and new construction of a 150,000 GSF structure. For the purposes of calculating necessary on-site infrastructure and evaluating potential impacts, prospective land uses under Alternative 3 would be the same as those under Alternative 2, plus up to 150 residential units (apartments and condos). Total lot coverage by buildings is approximately 160,000 SF with approximately 763,500 GSF of buildable space. Similar to Alternative 2, improved vehicular access, a connecting trail system, and a boardwalk would be provided with Alternative 3 (see Figure 2.4-3).

TABLE 2.4-1. TUMWATER BREWERY PLANNED ACTION AREA CONCEPTUAL LAND USE ALTERNATIVES

Alternative 2	**Existing Buildings (262,000 sf existing)**						**Proposed**			
Land Use	**RST Towers (5 stories)**	**Brew-house (6 stories)**	**N Storage (2 stories)**	**W Warehouse (5 stories)**	**E Warehouse (2 stories)**	**Keg House (2 stories)**	**Re-Build within Footprint**	**Garage**	**New Building**	**Total gsf/ land use**
Office/Classroom	70,000									70,000
Retail					35,000	16,000	28,500			79,500
Distillery	30,000									30,000
Hotel			6,000	35,000						41,000
Condo/Apartment										0
Restaurant	5,000					5,000	3,000			13,000
Public (museum)		10,000								10,000
Total gross sq ft	**105,000**	**10,000**	**6,000**	**35,000**	**35,000**	**21,000**	**31,500**		**0**	**243,500**
Parking	**50,000**							**200,000**		**493,500**
Lot coverage (sf)	30,000	2,800	3,400	7,000	18,000	10,400	27,500	40,000	0	139,100

Alternative 3	**Existing Buildings (262,000 sf existing)**						**Proposed**			
Land Use	**RST Towers (5 stories)**	**Brew-house (6 stories)**	**N Storage (2 stories)**	**W Warehouse (5 stories)**	**E Warehouse (2 stories)**	**Keg House (2 stories)**	**Re-Build within Footprint**	**Garage**	**New Building**	**Total gsf/ land use**
Office/Classroom	65,000									65,000
Retail	5,000			35,000		17,000	26,500			83,500
Distillery	30,000									30,000
Hotel		7,000			35,000					42,000
Condo									75,000	75,000
Apartment									75,000	75,000
Restaurant	5,000	3,000					5,000			13,000
Public (museum)			6,000			4,000				10,000
Total gross sq ft	**105,000**	**10,000**	**6,000**	**35,000**	**35,000**	**21,000**	**31,500**		**150,000**	**393,500**
Parking	**50,000**							**320,000**		**763,500**
Lot coverage (sf)	30,000	2,800	3,400	7,000	18,000	10,400	27,500	40,000	20,000	159,100

Notes:
Existing sq ft of buildings is from the Old Brewhouse LLC Leasable Sq. Ft.
Summary
A parking efficiency of 320 sq ft/stall includes stall itself, circulation aisles, vehicle ramps, stairways, elevators and the building structure
Hotel space assumes 417 sf/room and includes all other hotel amenities
Alternative 1 (Existing) lot coverage by buildings is ~67,000 sq ft

2.5 Alternatives Considered and Eliminated From Detailed Evaluation

Early discussions regarding redevelopment of the historic Tumwater Brewery property included re-building the "It's the Water" building formerly located north of the existing Keg House. Alternatives that included this building were eliminated from detailed environmental review in this EIS due to regulatory and environmental constraints. The following City-adopted regulations prohibit re-building the "It's the Water" building:

- Floodplain Zone District Overlay (FP)
- Shoreline Master Program
- Fish and Wildlife Habitat Protection Standards
- Wetland Protection Standards
- Critical Areas Ordinance-Fish and Wildlife Habitat Conservation Areas chapter.

Adding a pedestrian bridge from Tumwater Historical Park on the west side of the Deschutes River to the lower portion of the historic Tumwater Brewery site on the east side of the river was discussed as a possible feature within the proposed Planned Action area, but this feature is not being considered at this time. If this feature is considered in the future, supplemental environmental review will need to be conducted.

2.6 Summary Comparison of the Environmental Impacts of the Alternatives

TABLE 2.6-1. SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

ALTERNATIVE 1 – NO ACTION ALTERNATIVE[1]		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
NATURAL ENVIRONMENT: Geology, Soils and Slopes		**NATURAL ENVIRONMENT: Geology, Soils and Slopes**		**NATURAL ENVIRONMENT: Geology, Soils and Slopes**	
Alternative 1 would not include expansion of the existing building footprints. Based on the likelihood that existing buildings are founded on bedrock, risks to the structures as a result of liquefaction or lateral spreading is low for Alternative 1. Future development would occur consistent with existing zoning and development regulations.	Typical construction mitigation measures would be implemented and could include using deep foundation systems for heavy structures, preloading a building site prior to construction, employing temporary erosion control measures and Best Management Practices, and constructing catchment areas or retaining walls to retain debris, if warranted.	New structures constructed outside the footprint of existing buildings could create the potential for liquefaction and/or lateral spreading that could impact the stability of proposed development in and near low-lying areas, requiring site-specific geotechnical design. The redesign and widening of the existing site access road will be similar to Alternative 1.	• Same construction mitigation measures as described for Alternative 1. • The walls of new structures will likely be top down construction, such as a soil nail or soldier pile wall system, and may incorporate tiebacks depending on the height of the wall, the estimated lateral earth pressures, and the elevation and direction of the groundwater gradient. These designs will have to take into consideration seismic slope stability as well. • Lateral loading upon buildings due to sloping backfill conditions, surcharges, and structures as well as drainage and waterproofing will need to be addressed when designing and planning structures to be built into the slopes for Alternative 2 (south slope). • For excavations, retaining structures consisting of top-down construction and staged construction techniques should be considered to eliminate mass excavation of the slope face, and temporary erosion control measures and Best Management Practices should be used, and catchment areas or retaining walls to retain debris should be constructed if warranted. Deep foundations and/or ground improvement will likely be required in these areas if this Alternative is pursued.	Similar to Alternative 2, Alternative 3 could impact the stability of proposed development in and near the low-lying areas of the site due to increased potential for liquefaction and/or lateral spreading.	Same mitigation as described for Alternative 1, but with expanded need for geotechnical design specific to building on sloped areas.
The most probable impact for Alternative 1 would be continued shallow surficial sloughing on steep slopes to the south and east, a natural process that would occur with or without future additional site development.	A geotechnical study would be required prior to development, including drilled borings to evaluate soil and groundwater conditions for proposed development of the site. These design studies would provide detailed recommendations for maintaining slope stability and limiting erosion that are germane to that development intensity. Any site redevelopment plan will include soils and groundwater testing and remediation of any identified pollutants.			Alternative 3 includes construction of retaining structures along a greater portion of site slopes; therefore, there would be proportionately less potential for short- and long-term erosion and sloughing, and improved static and seismic factors of safety against deep-seated failure can be anticipated.	Mitigation for Alternative 3 would be the same as that described for Alternative 2, with additional permanent retaining structures required along the south and east slopes as part of the construction of the condominium building, which could include ground improvement and/or foundations bearing on shallow bedrock.
Geology, Soil and Slope Impacts and Mitigation Measures Common to All Alternatives:					
Impacts					
• No surface faults are mapped within 200 feet of the project site; therefore, the risk for seismic surface rupture at the site would be low for any of the conceptual site plan Alternatives. • The risk for volcanic and tsunami hazards at the site are low for each of the Alternatives.					
Mitigation					
• Structural engineering and seismic considerations will need to be assessed for the selected Alternative in conjunction with soil conditions during design of new structures and facilities, as well as during renovation of historic structures.					
• Proper building design and construction of retaining structures, including drainage, could reduce the potential for short- and long-term erosion and sloughing, and could improve the static and seismic factors of safety against deep-seated failures. Primary design elements will need to take into consideration drainage of the slope, depths and geometry of retaining structure(s), and embedment depths of foundations.					
• For permanent construction and a widened access roadway, retaining structures and/or slope regrading may need to be considered where steep slopes are present. Although further evaluation should be completed, typically permanent slopes on the order of 2H to 1V (Horizontal to Vertical) are appropriate for the soil types observed and described at the project site. Otherwise, retaining walls may be needed to ensure slope stability.					

- If the existing access road to the east of the existing building is to be improved, the existing retaining wall at the toe of the east slope will need to be evaluated and potentially improved. In addition, some site regrading and other short- and long-term erosion prevention features or techniques will likely be required.

Significant Unavoidable Adverse Impacts: There would be no significant unavoidable adverse impacts to the geology, soils or slopes on the site as a result of implementing any of the Alternatives, provided that geotechnical recommendations are followed.

ALTERNATIVE 1 – NO ACTION ALTERNATIVE[1]		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
NATURAL ENVIRONMENT: Wetlands		**NATURAL ENVIRONMENT: Wetlands**		**NATURAL ENVIRONMENT: Wetlands**	
Under Alternative 1, Future development that would result in impacts to wetland buffers, shoreline setbacks and buffers would require compensatory mitigation.	Mitigation for wetland impacts and wetland and river buffer impacts would need to meet Federal, State and City No-Net-Loss requirements.	Under Alternative 2, road access improvements and construction of the parking garage will result in loss of Wetland A, its buffers and the Deschutes River (FWHA) buffers. These impacts will require compensatory mitigation.	Same as mitigation measures for Alternative 1, but would require additional wetland and river buffer impact mitigation.	• For Alternative 3, the additional building to be constructed to accommodate residential uses would impact additional wetland buffers. • Similar to Alternative 2, Alternative 3 would result in the loss of Wetland A.	Same as mitigation measures for Alternative 1, but would require additional wetland buffer impact mitigation.

Wetland Impacts and Mitigation Measures Common to All Alternatives:

Impacts

- Due to its location adjacent to the existing access road, and to meet current standards for improved access road construction, implementation of any site redevelopment alternative would eliminate Wetland A. Minor impacts to the southern end of Wetland B might also occur from access road construction and related stormwater management improvements under any alternative.
- Following construction of any of the Alternatives, additional engineering and design work would be required to accommodate this groundwater movement across and through the site, and to provide road access adequate to meet current building and safety regulations. This may result in wetland impacts and impact to both wetland and riverine buffers.

Mitigation

- Wetland impacts must be mitigated in accordance with Wetland Protection Standards TMC 16.28
- Planting of native vegetation and enhancing habitat on the islands within the Deschutes River will be designed specifically to enhance off-channel salmonid habitat, in addition to providing habitat for migratory and water-dependent birds.
- Mitigation will be required for any wetland and wetland buffer impacts. Wetland A functions could be replaced and improved through off-site and on-site mitigation through wetland creation and vegetation enhancement and invasive species control. There are on-site opportunities for enhancement of vegetation and related habitat in Wetland B.
- Plantings of native willows within the wetlands, and deep-rooted native trees and shrubs on the upper side slopes and downslope of Wetland B would improve habitat, stabilize soils and improve water quality.
- Noxious and invasive weeds onsite would be controlled with a long-term adaptive management plan.
- Future site development under any Alternative will require improvement of the current stormwater management system.

Significant Unavoidable Adverse Impacts: Loss of Wetland A and impacts to wetland and riverine buffers are unavoidable, but can be mitigated for by improvement of Wetland B functions and values as well as through improvement and/or creation of other nearby wetland and buffer habitats. Therefore, with appropriate mitigation to replace and improve upon the functions and values provided by Wetland A and buffers, there are no significant unavoidable adverse impacts to wetlands under any of the Alternatives.

NATURAL ENVIRONMENT: Shorelines, Plants and Animals	**NATURAL ENVIRONMENT: Shorelines, Plants and Animals**	**NATURAL ENVIRONMENT: Shorelines, Plants and Animals**

Shoreline, Plant and Animal Impacts and Mitigation Measures Common to All Alternatives:

Impacts

- Future site development under any Alternative could result in an increased potential for erosion and sedimentation into the Shoreline of the Deschutes River during ground-disturbing activities.
- Construction activity to implement any of the Alternatives has the potential to impact water quality. Construction projects in or near aquatic habitat would generate minor impacts such as turbidity, noise from machinery and pile driving, and the potential for spills of fuels and/or other toxic materials. If construction activities removed riparian vegetation, it could impact Chinook salmon habitat.
- If Townsend's bats are present, any loss of access to buildings or snags currently used for roosting has potential to negatively impact the bats.
- This shoreline area of the site is currently inaccessible to the public. Implementation of any of the Alternatives would increase access to the shoreline via trails and habitat restoration areas. Foot traffic along the eastern shoreline of the Deschutes River would have the potential to adversely impact shoreline vegetation and habitat.
- WDFW has mapped presence of New Zealand mudsnails in the Deschutes River, and any development along the river shoreline creates potential for transport of the mudsnails offsite in boots or heavy equipment.

Mitigation

- For temporary construction work, Best Management Practices (BMPs) should be in place during construction activities to prevent materials from leaving the construction area. Contractors will be required to implement (at a minimum) a Temporary Erosion and Sediment Control (TESC) plan, a Stormwater Pollution Prevention Plan (SWPPP), and WDFW invasive species management protocols for mudsnails during all construction activities.
- A Habitat Management Plan designed to eliminate potential for expansion of the non-native invasive New Zealand mudsnail from onsite activities will be developed. This may include definition of allowed trail structures designed to keep people from waling in the water and mud along the shoreline.

- A survey by a qualified biologist should be conducted to determine the presence or absence of Townsend's big-eared bats prior to construction activities, and if present, to provide a Habitat Management Plan to minimize impacts to the species.
- Fish and Wildlife Habitat Area (FWHA) impacts approval would be required under Tumwater Municipal Code (TMC) 16.32 to implement site redevelopment under any of the conceptual land use alternatives. There would be some allowances for existing structures; however, since any alternative would increase development intensity and require additional on-site parking, it is anticipated that implementation of any Alternative would require approval under TMC 16.32.
- If mitigation measures are required under TMC 16.32, Section 16.32.065 representative examples would include the following:
  - Planting appropriate riparian trees along the Deshutes River banks that would grow to a height that would provide shade and lower water temperatures in the Deschutes River.
  - Replacing invasive/non-native vegetation with native plantings.
  - Replacing any existing rip-rap with more productive shoreline bank habitat as outlined in WDFW *Integrated Stream Bank Protection Guidelines*.
  - Planting appropriate vegetation to increase root density and increase bank stability.
  - Designing and installing code compliant storm water treatment facilities to minimize pollution and sediment entering the river.
- When applications for specific development proposals to implement the proposed Planned Action are submitted to the City, potential impacts within the Shoreline environment will be considered and addressed, and project-specific mitigation measures will be listed in the permits to be obtained.
- Trees and vegetation will be retained consistent with existing development regulations. New landscaping and replacement trees are required to meet the standard replacement ratio specified in TMC Chapter 16.08.
- Any implementing project would require review and permits under the Tumwater Shoreline Master Program (April 2014) as well as the Fish and Wildlife Habitat Protection chapter of the Tumwater CAO (TMC 16.32).

Significant Unavoidable Adverse Impacts: No significant unavoidable adverse impacts to shorelines, plants or animals would be anticipated under any of the Alternatives, provided that required and other described mitigation measures are properly implemented, monitored and maintained.

ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Land Use		**BUILT ENVIRONMENT: Land Use**		**BUILT ENVIRONMENT: Land Use**	
Alternative 1 assumes that development would occur mainly within existing buildings (262,000 gross square feet [GSF]), and that all site development would be consistent with and subject to existing zoning and development regulations.	Future development under the No Action Alternative would be completed without an adopted Planned Action Ordinance, and would undergo environmental review on a project-by-project basis.	Alternative 2 assumes redevelopment within existing buildings (262,000 GSF), a new parking structure (200,000 GSF) with approximately 625 stalls, and reconstruction of two demolished structures (31,500 GSF).	Activity levels on the site would increase as a result of new employment and housing opportunities, new recreational uses and new public gathering areas.	Alternative 3 would add 150,000 square feet of building to accommodate residential dwellings and apartment-style units to the uses proposed in Alternative 2. Residents in these units would be close to public and private open space, and could enjoy the mixed-use retail and commercial development expected to develop along Custer Way.	Same Mitigation as that described for Alternative 2.
		Land uses that are supported by the vision of the Brewery District would include: parking, office, retail, distillery, craft brewing, hotel, restaurant and a museum. The building footprint would cover approximately 140,000 SF, with approximately 443,500 GSF of buildable space.	The Alternative 2 increase in activity levels could result in increased levels of traffic, noise and air pollution generated by the site. Although redevelopment would occur throughout the property, increased activity levels associated with development along the site perimeter would have the greatest potential to affect adjacent land uses.		

Land Use Impacts and Mitigation Measures Common to All Alternatives:

Impacts

- Development anticipated with implementation of any of the Alternatives could alleviate pressure for growth in outlying areas or at the fringe of the City of Tumwater Urban Growth Area.

Mitigation

- A text amendment to the HC zone is needed to ensure uses permitted in the zone are consistent with the Comprehensive Plan and its subarea plan for the lower portion of site: New Market Historic District Master Plan.
- Development proposals within the Floodplain Overlay District are required to comply with Floodplain Overlay District TMC 18.38.
- Prior to the site being redeveloped for any use, environmental remediation would be required, followed by repair and maintenance to the existing historic structures on the site.
- Trees and vegetation will be retained consistent with existing development regulations in place at the time. New landscaping and any replacement trees are also required to meet the standard replacement ratio specified in TMC Chapter 16.08.

Significant Unavoidable Adverse Impacts: No significant unavoidable adverse impacts to land use would be anticipated with implementation of any of the conceptual Alternatives.

ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Transportation, Circulation and Parking		**BUILT ENVIRONMENT: Transportation, Circulation and Parking**		**BUILT ENVIRONMENT: Transportation, Circulation and Parking**	
Development would be completed without an adopted Planned Action Ordinance and would undergo traffic review on a project-by-project basis.	Any individual development proposal within the study area would be required to prepare a site-specific Traffic Impact Analysis as part of the required SEPA review. Specific off-site mitigation would be identified at that time. There would be no coordinated transportation planning under the provisions of a Planned Action ordinance.	Future development of Alternative 2 would have a measureable impact on area roadways and intersections.	Proponents of future development to implement the Planned Action under Alternative 2 conceptual land use scenarios would be required to pay City of Tumwater transportation impact fees incrementally as the site is built-out.	Future development of Alternative 3 would have a measureable impact on area roadways and intersections.	Proponents of future development to implement the Planned Action under Alternative 3 conceptual land use scenarios would be required to pay City of Tumwater transportation impact fees incrementally as the site is built-out.
	The City of Tumwater collects funds for area roadway improvements through a Transportation Impact Fee (TIF) program. The TIF contribution is calculated by ordinance on a "per unit" basis. Under Alternative 1, developers would pay impact fees incrementally as the site is built-out.	• Alternative 2 would generate New-to-Network PM Peak Trips: 298 total. • Alternative 2 trip generation would exceed the *Brewery District Plan* Traffic Volume Estimate of 27 total PM Peak Hour Trips.	Transportation Impact Fees (TIFs) collected under Alternative 2 would be proportionate to trip generation caused by the level of development.	• Alternative 3 would generate New-to-Network PM Peak Trips: 306 total. • Alternative 3 trip generation would exceed the *Brewery District Plan* Traffic Volume Estimate of 35 total PM Peak Hour Trips.	TIFs collected under Alternative 3 would be incrementally higher than under Alternative 2 due to higher trip generation caused by a higher level of development intensity.
		Access to Alternative 2 development via Schmidt Place would be necessary to allow vehicles to enter the project site from the west via Custer Way and from the south via Boston Street.	Alternative 2 would include internal non-motorized connectivity across the property, and would accommodate the pedestrian crossing from Capitol Boulevard. Future development would also likely entail connecting to the existing trail along the Deschutes River.	Similar to Alternative 2, access to Alternative 3 development via Schmidt Place would be necessary to allow vehicles to enter the project site from the west via Custer Way and from the south via Boston Street.	Same mitigation as that described for Alternative 2.
		Schmidt Place would not operate at an acceptable LOS if it is required to serve all inbound/outbound traffic generated by Alternative 2 site development. The Boston Street/Custer Way intersection would be better suited to serving as the primary access to the Planned Action area.	If the City of Tumwater has not completed the Custer Way improvements identified in the *Brewery District Plan* prior to development that implements the Tumwater Brewery Planned Action under Alternative 2, developer(s) would be required construct a modern roundabout at the Boston Street/Custer Way intersection.	Similar to Alternative 2, Schmidt Place would not operate at an acceptable LOS if it is required to serve all inbound/outbound traffic generated by Alternative 3 site development. The Boston Street/Custer Way intersection would be better suited to serving as the primary access to the Planned Action area.	Same mitigation as that described for Alternative 2.
		Prior to full build-out of Alternative 2, the study area intersections would function at a LOS D condition or better for either access scenario with the exception of Capitol Boulevard/Custer Way for the Boston Street extension-only access scenario.	No mitigation required for LOS D operations.	Same potential impact as that described for Alternative 2.	As with Alternative 2, no mitigation would be required for LOS D operations.
Transportation, Circulation and Parking Impacts and Mitigation Measures Common to All Alternatives:					
Impacts					
• Future development within the proposed Planned Action area would have a measureable impact on area roadways and intersections.					

Mitigation • The internal site circulation system should be designed in a manner that entering and exiting traffic would be split between Schmidt Place and Boston Street. ***Significant Unavoidable Adverse Impacts***: No significant unavoidable adverse impacts to transportation, circulation and parking would be anticipated with future site development to implement the proposed Planned Action under any of the conceptual land use alternatives.					
ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		**ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY**		**ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE**	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Environmental Health (Hazardous Materials)		**BUILT ENVIRONMENT: Environmental Health (Hazardous Materials)**		**BUILT ENVIRONMENT: Environmental Health (Hazardous Materials)**	
Under Alternative 1, the Model Toxics Control Act (MTCA) Method-A unrestricted land use standard applies and would require any future development of the site to assess and abate Contaminants of Concern (COC) in onsite.	• Asbestos within the structures onsite will be addressed using Best Management Practices for isolation and removal throughout existing buildings to be re-developed. Heavy metals in the soil will be characterized in the area near the former paint shop, the area adjacent to the old brewery warehouse, and near the historic brewhouse and storage buildings, all on the lower portion of the site near the river. • Shallow boreholes or hand auger holes would need to be drilled adjacent the Union Pacific Railroad tracks along any areas where future development is contemplated to determine whether there are polycyclic aromatic hydrocarbons (carcinogenic) or "cPAHs" and/or total petroleum hydrocarbons (gasoline, diesel, or heavy oil) present in this area. Samples would be collected and a cleanup plan developed as required to meet State standards.	Site investigations for abatement of asbestos, metals, cPAHs and/or total petroleum hydrocarbons (gasoline, diesel, or heavy oil) would be required.	• Implementation of site development under Alternative 2 would require compliance with the Model Toxics Control Act (MTCA) Method-A unrestricted land use standard, as described for Alternative 1. • The number and locations of soil samples would be larger with Alternative 2 than with Alternative 1 based on the square footage of the redevelopment area and the foot print of new buildings.	Same as described for Alternative 2.	Same mitigation as that described for Alternative 2.
Environmental Health (Hazardous Material) Impacts and Mitigation Measures Common to All Alternatives:					
Impacts • Potential construction impacts under the any of the conceptual land use Alternatives could include exposure/disturbance of contaminated soils and/or asbestos laden materials.					
Mitigation • If Constituents of Concern (COC) are found, additional investigation and remediation will be required prior to initiating site development under any land use alternative. • At least three groundwater monitoring wells would be installed to collect groundwater samples in the area of the Old Brewhouse. All samples would be analyzed for all COCs, both prior to and after cleanup is complete. • If COC concentrations are found to be above MTCA Method-A unrestricted soil cleanup levels, the material would be excavated, stabilized as needed and disposed at a licensed landfill.					
Significant Unavoidable Adverse Impacts: No significant unavoidable adverse impacts from hazardous materials would be anticipated with future site development to implement the proposed Planned Action under any of the land use alternatives, provided that mitigation measures required by applicable regulations are properly implemented.					

ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Historic and Cultural Resources		**BUILT ENVIRONMENT: Historic and Cultural Resources**		**BUILT ENVIRONMENT: Historic and Cultural Resources**	
Future development under Alternative 1 could lead to the potential loss of material and/or structural integrity of the significant historic buildings within the Planned Action area.	Take steps to minimize loss of historic building integrity to include presence of an architectural history monitor or monitoring system if any future construction involves significant vibration, such as may cause subsidence or erosion, loss of material and/or loss of structural integrity to the historic properties.	Same as described for Alternative 1.	Prior to construction and redevelopment of the historic Brewhouse building, the garage structure and site access improvements, an updated historic structures report will be prepared to specifically mitigate and minimize the loss of the character-defining features of the significant historic buildings and structures.	Same as described for Alternative 1.	Same as described for Alternative 2, with a proportionately larger area to be evaluated due to the larger footprint of proposed buildings under Alternative 3.
			Further archaeological survey and/or monitoring during construction prior to site development to ensure that no unknown archaeological deposits are disturbed during construction.	Same as described for Alternative 1.	Same as above.
			Given the probability of encountering cultural resources within the Planned Action area during construction, archaeological monitoring of any future ground-disturbing activity is required.	Same as described for Alternative 1.	Same as above.
			An unanticipated discovery plan for any action that involves excavation.	Same as described for Alternative 1.	Same as above.
		Redevelopment could affect views from offsite historic resources	The U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties will be used in evaluating any project proposal to those buildings located within the historic district.	Same as described for Alternative 2.	Same as above.
Historic and Cultural Resource Impacts and Mitigation Measures Common to All Alternatives:					
Impacts					
• Implementation of the proposed Planned Action under any conceptual land use alternative would increase public access to public shoreline areas where there is a high potential for the presence of cultural materials. • During construction, inadvertent discoveries of archaeological material or cultural resources could occur during ground-disturbing activities within the proposed Planned Action area. These resources could potentially be impacted by excavation and construction activities. Other historic resources in the vicinity could experience indirect impacts such as increases in dust, vibration and traffic levels. • Redevelopment could affect views from offsite historic resources; however, a majority of these sites are currently affected by existing buildings and structures, and development options considered in the Planned Action Area alternatives analysis are likely to retain and improve existing historic buildings.					
Mitigation					
• Steps to minimize loss of historic building integrity to include an architectural history monitor or monitoring system if any future construction involves significant vibration to minimize loss of material and/or structural integrity loss to the historic properties.					
Significant Unavoidable Adverse Impacts: Provided that the appropriate mitigation and monitoring is conducted, no significant unavoidable adverse impacts to cultural resources would be anticipated with implementation of any of the Alternatives.					

ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Public Facilities and Services		**BUILT ENVIRONMENT: Public Facilities and Services**		**BUILT ENVIRONMENT: Public Facilities and Services**	
Emergency access to the site is limited due to the width and steepness of Boston Street. Code compliance would require access to within 150 feet of all exterior portions of the buildings, sufficient for fire truck access.		Emergency access required to serve site development under Alternative 2 would be the same as that described for Alternative 1.	The parking garage concept in Alternative 2 would need to provide emergency access and design requirements as regulated by the City's parking standards (TMC 18.50).	Same as described for Alternative 1.	Same mitigation as that described for Alternative 2.
Alternative 1 would add approximately 114 people to the City's total population of 19,100 (OFM April 1, 2015 estimate), a .06% increase.	The City of Tumwater projects a total population of 30,090 in 2035, an increase of 10,990 from 2015's population estimate. The incremental increase of 114 people from Alternative 1 is less than .1 %.	No residential units are proposed.	No mitigation is required.	The 150 dwelling units anticipated in Alternative 3 would introduce a resident population of approximately 341 persons, an increase of 1.8% to the City's 2015 population or 19,100.	No mitigation is required.
The 50 residential units anticipated in Alternative 1 would generate approximately 0.191 students per unit, for a total of approximately 10 students.	Students residing within the Planned Action Area are projected to be allocated equally to Tumwater Hill Elementary, Tumwater Middle School and Black Hills High School, each which have capacity to serve the projected increase.		Mitigation for the student population would be the same for Alternative 2 as that described for Alternative 1.	The 75 apartments and 75 condominium units anticipated in Alternative 3 would generate approximately 0.191 students per unit, a total of approximately 29 students.	Mitigation for the student population would be the same for Alternative 3 as that described for Alternative 1.
Public Facility and Public Service Impacts and Mitigation Measures Common to All Alternatives:					
Impacts					
• There could be a temporary increase in demand for fire protection and emergency medical aid services within the Planned Action area during construction under any conceptual land use alternative to respond to potential construction site theft and vandalism or construction-related accidents and injuries. • The increased demand for services from the City of Tumwater Fire and Police Departments would be proportional to development intensity (e.g., structural density, enclosed parking areas, and visitors as well as residents). • A resident population would be introduced on the site, some members of which would likely be school-aged children.					
Mitigation					
• Fire and police service needs would be generated incrementally over the buildout period. Development within the Planned Action area would contribute to the City's tax base, and a portion of the tax revenues would help offset the incremental increases in demand for public services as could other sources of revenue such as fees, utility taxes and licenses. • Implementation of any Alternative would be required to meet the International Building Code (TMC 15.04) and International Fire Code (TMC15.16) as adopted by the City. • Development would be required to upgrade vehicular access to the lower portion of the site to improve access for all emergency services. Connection upgrades to the water system are needed to provide the necessary fire flow. • School mitigation fees will be assessed on all residential units subject to Impact Fees (TMC 3.50)					
Significant Unavoidable Adverse Impacts: No significant unavoidable adverse impacts to public services would be anticipated under any of the Alternatives as a result of the mitigation measures described.					

ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Utilities		**BUILT ENVIRONMENT: Utilities**		**BUILT ENVIRONMENT: Utilities**	
The proposed Planned Action area and vicinity has the most projected growth within the City, and therefore the most anticipated increase in demand for water service. Depending on the timing of future site development, system shortfalls may be present in the main distribution network.	It is expected that the 8-inch diameter water main that serves the upper portion of the proposed Planned Action area would adequately serve future development and redevelopment in this area of the site under any of the conceptual land use alternatives.	Same potential impacts to water supply as those described for Alternative 1.	An 8- to 10-inch diameter water main connected to the City's distribution system on Custer Way is required to accommodate the proposed land uses. Best Management Practices (BMPs) and utility corridor restoration requirements in accordance with TMC 13.04 would also be required.	Same potential impacts to water supply as that described for Alternative 1.	Same mitigation (already in-place) as that described for Alternative 1.

Potential Impacts	*Mitigation Measures*	*Potential Impacts*	• *Mitigation Measures*	*Potential Impacts*	*Mitigation Measures*
The lower portion of the proposed Planned Action area would require connection to and possible upgrade to the existing City of Tumwater sewer pump station, along with all new sewer conveyance pipes to serve future development in this area.	The upper portion of the site would connect to the City's existing 12-inch sewer line in Custer Way that has adequate capacity to serve anticipated future development in this area.	Same potential sewer system impacts as those described for Alternative 1.	• Based on land use types and build-out intensities anticipated with Alternative 2, new sewer lines and other system upgrades would be required to be built. • Best Management Practices (BMPs) and utility corridor restoration requirements in accordance with TMC 13.08 will be required. • All areas temporarily disturbed by the installation of sewer conveyance lines would be restored once the installation is complete.	Same potential sewer system impacts as those described for Alternative 1.	Same mitigation measures as those described for Alternative 2.
The existing 20-foot wide emergency access road and turn-around would be paved to serve the lower area of the site. This would introduce new Pollutant Generating Impervious Surfaces (PGIS).	Water quality treatment systems would be required for the roadway PGIS, in accordance with applicable local, State and Federal regulations.	Alternative 2 development would affect stormwater management when widening the existing access road to create a 24-foot wide roadway and 6-foot wide sidewalk, and adding a 20-stall parking lot.	Same stormwater management mitigation as that described Alternative 1.	Same potential impacts as those described for Alternative 2.	Same stormwater management mitigation as that described for Alternative 1.
There is a small existing parking area on the upper portion of the site adjacent to the RST cellars building, and another small parking area across Desoto Street. No stormwater quality treatment is currently provided for these parking areas.	Water quality treatment systems would be required for the upper site parking area PGIS, in accordance with applicable local, State and Federal regulations.	Site area space is limited both physically and as a result of the presence of critical areas and their associated buffers. Therefore, finding space to accommodate a 9,600 cubic foot stormwater quality treatment facility would be challenging.	Regardless of site space constraints, stormwater quality treatment would be required within the Planned Action Area in compliance with applicable local, State and Federal regulations.	Same potential impact as that described for Alternative 2.	Same mitigation requirement as that described for Alternative2.
The larger existing upper parking area is comprised completely of PGIS for which no stormwater quality treatment is currently provided.	Water quality treatment systems would be required for the upper parking lot, in accordance with applicable local, State and Federal regulations.	Same upper parking lot impact as that described for Alternative 1.	An 8- to 10-ft diameter water main connected to the City's distribution system on Custer Way is required to accommodate the proposed land uses. Best Management Practices (BMPs) and utility corridor restoration requirements in accordance with TMC 13.04 would also be required.	Same upper parking lot impact as that described for Alternative 1.	Same mitigation requirement as that described for Alternative 2.
Utility Impacts and Mitigation Measures Common to All Alternatives:					
Impacts					
• Future site development under any of the conceptual land use Alternatives would result in increased demands on all utility systems. The overall water, sewer, electrical, and natural gas system improvements needed to serve the Tumwater Brewery Planned Action would be similar among all Alternatives, with the level of demand and consumption varying in proportion to the development intensity of each Alternative. •					
Mitigation					
• Stormwater management measures to be implemented during construction and in the developed-condition of the site under any Alternative would comply with applicable regulations at the time development permits are submitted. These would include (but not necessarily be limited to): o Department of Ecology Stormwater Manual for Western Washington o City of Tumwater Stormwater regulations o U.S. Environmental Protection Agency – Clean Water Act regulations. • Future site development would comply with all applicable energy codes, at a minimum. The City could encourage developers to utilize natural gas for heating and appliances to minimize the demand for electrical power.					
Significant Unavoidable Adverse Impacts: No significant unavoidable adverse impacts related to utility service would be anticipated with implementation of any of the conceptual land use Alternatives.					

ALTERNATIVE 1 – NO ACTION ALTERNATIVE1		ALTERNATIVE 2 – MODERATE DEVELOPMENT INTENSITY		ALTERNATIVE 3 – MAXIMUM DEVELOPMENT INTENSITY ALTERNATIVE	
Potential Impacts	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***	***Potential Impacts***	***Mitigation Measures***
BUILT ENVIRONMENT: Economy		**BUILT ENVIRONMENT: Economy**		**BUILT ENVIRONMENT: Economy**	
Economic impacts and land use types on the site under Alternative 1 would be determined at the time of development applications, and would likely generate some increases in economic activity.		Alternative 2 would provide a mix of employment opportunities including: office/classroom, hotel, public museum, retail and restaurant jobs. A range of job types and wage scales would likely result onsite.	No mitigation required for positive economic impacts.	Same as Alternative 2 with proportionately higher employment opportunities, and enhancements to the local and regional economy.	No mitigation required for positive economic impacts.
Economic Impacts and Mitigation Measures Common to All Alternatives:					
Impacts					
• Economic impacts during construction of any of the conceptual land use Alternatives would include indirect spending impacts for construction materials and jobs, and labor income associated with these contractors. • Development of any of the land use concepts addressed by the Alternatives within the proposed Tumwater Brewery Planned Action area would result in greater employment and intensity of activity in the area. • New employment associated with assumed redevelopment would provide a broad mix of new jobs and would introduce additional economic diversity to the site and the Tumwater Brewery District.					
Mitigation					
• No mitigation required for positive economic impacts.					
Significant Unavoidable Adverse Impacts: No significant unavoidable impacts to the economy would be anticipated with implementation of any of the conceptual land use Alternatives.					

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2.7 Benefits and Disadvantages of Reserving Implementation of the Proposed Action for Some Future Time

The historic Tumwater Brewhouse is in a state of deterioration (Artifacts Consulting, Inc., 2011). Delaying work on the site could delay repair work to the brewhouse, leading to further deterioration and potential loss of the structure over time. The additional economic development and housing choice opportunities offered by the proposed mixed use urban village would not be created, and other positive impacts identified in this EIS, such as improvement of stormwater quality, increased access to open spaces, and improved emergency service response times, would not be realized.

Delaying implementation of the proposal would delay potential impacts identified in this EIS, including increased traffic congestion, air emissions, noise, and demand for public services and utilities, and reduction of wildlife habitat space. Phased implementation of the proposed Planned Action is intended to support economic redevelopment of the site and necessary repairs to prevent further deterioration of the historic structures. The intent of the Integrated Planning Grant awarded to this project is to provide for environmental clean-up and adaptive re-use of the site.

CHAPTER 3: AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

3. AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

NATURAL ENVIRONMENT

3.1 Geology, Soils and Slopes

3.1.1 Affected Environment

The conditions described in this section are from observations made by the EIS Team geotechnical consultant during an April 9, 2014 site visit (GeoEngineers, Inc., September 2015). Site topography based on LiDAR, contour data, and the geotechnical site visit, indicates the highest point within the proposed Planned Action area is at elevation of approximately 140 feet near Custer Way SW.

Slopes south and east of the historic Brewery are potentially regulated as Landslide Hazard Areas under Chapter 16.20.040 of the City of Tumwater Municipal Code (TMC), since these slopes are steeper than 15%, and have "intersecting geologic contact with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock" and springs or groundwater seepage.

Site soils are mapped on the *Soil Survey of Thurston County, Washington*. In general, field observations confirmed information from the Soil Survey. The majority of the soil within the proposed Planned Action area appears to consist of fine to medium sand with varying amounts of silt.

The lowest elevation is approximately 15 feet near the unimproved area at the north end of the site. The geologic conditions are discussed in three geographic areas: 1) brewery complex, 2) south parcels and access road, and 3) backwater. Figures 3.1-1 and 3.1-2 show relevant site features discussed in the following sections.

BREWERY COMPLEX

Existing improvements on the lower area of the site include three buildings (brewhouse, warehouse and a large stilt shed) that back up to steep slopes. The brewhouse is a six-story brick structure. The warehouse is a rectangular four-story brick structure oriented approximately east-west and located south of the brewhouse and shed. The shed is a pole structure with sheet metal sides and located east of the brewhouse. The area between the brewhouse, warehouse and shed consists of a concrete pad raised approximately 2 to 4 feet above surrounding grades. The area surrounding the brewery buildings generally slopes gently down to the north and west at an inclination of less than 5 percent from about Elevation 25 feet to Elevation 15 feet at the banks of the river and backwater.

FIGURE 3.1-1 STEEP SLOPES SITE MAP

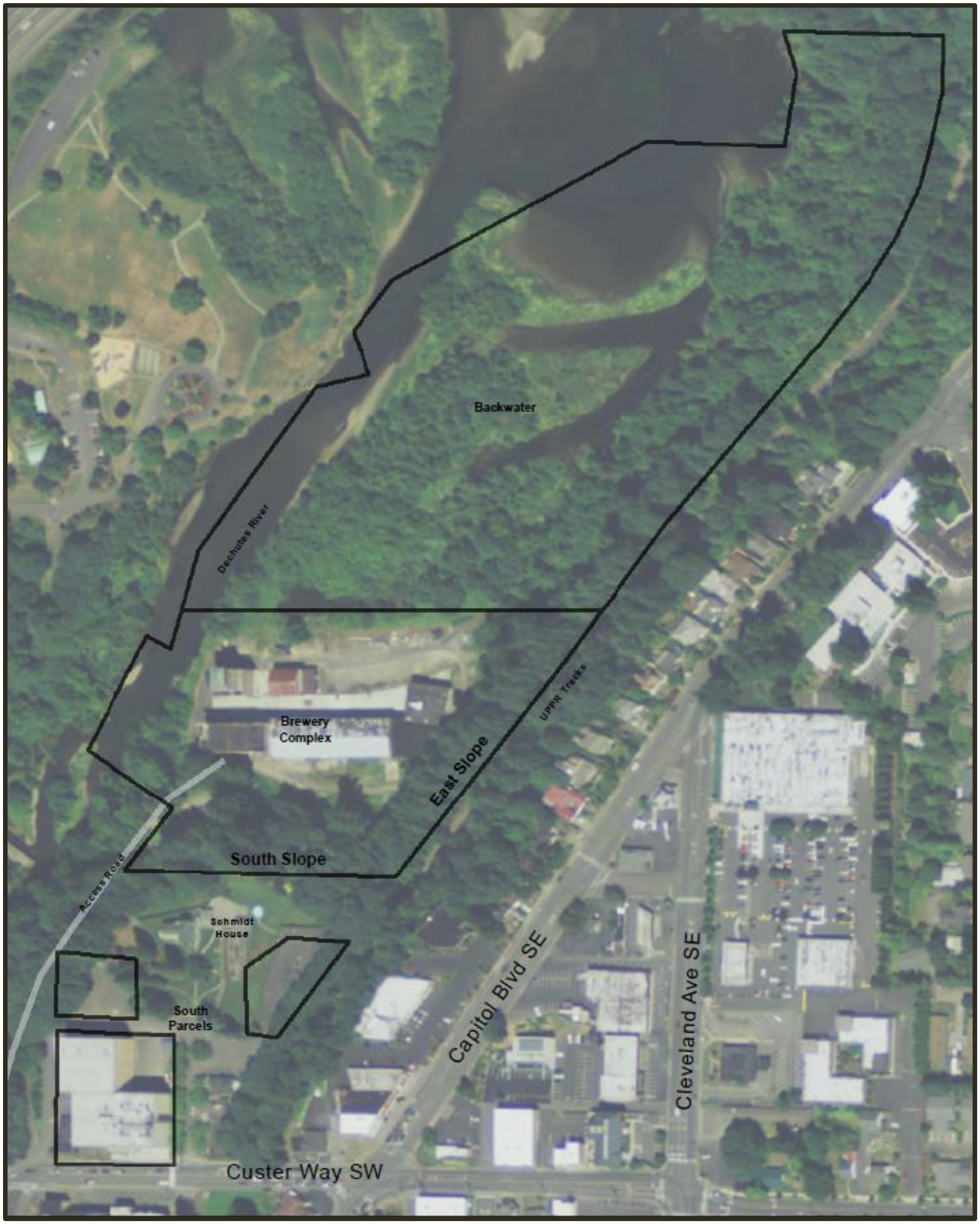

FIGURE 3.1-2 GEOLOGY, SOILS AND SLOPES FOCUS MAP

Surfacing of this area generally consists of gravel or asphalt concrete pavement, which has degraded to gravel; the exceptions are the area south of the warehouse and near the shorelines where the surfaces are unimproved. At the northeast corner of the brewery complex area an abandoned railroad grade heads to the northeast, approximately paralleling the east slope. The railroad grade appears to have been created by cutting and filling the native slopes.

Other features near the brewery buildings include an access road, concrete pads and vegetation. An access road enters the brewery complex area from the southwest and winds around the south and east sides of the warehouse where the road is located between the warehouse and east slope. Vegetation around the brewery buildings is limited to grass in unpaved areas and trees and shrubs near the backwater.

Several seeps were observed at the toe of the slope, and standing water was observed south of the warehouse as well as north of the access road. Between the access road and the area east of the warehouse, there is a large concrete-lined ditch approximately 6 feet deep and 4 feet wide. Water flows in the ditch from two concrete pipes in the east side-wall of the ditch.

Two steep slope areas are present within the brewery complex area, the east slope and the south slope. Both the east and south slopes are generally inclined between about 50 and 70 percent. Where the east and south slopes meet, southeast of the warehouse, the slope is inclined between about 20 to 50 percent. The toe of both slopes are at about Elevation 25 feet. The top of the east slope is at about Elevation 175 feet, the top of the south slope is at about Elevation 125 feet.

Soil on the sloped areas is generally classified as fine to medium sand with silt, which is consistent with the description of recessional sand, Indianola loamy sand, and Puyallup silt loam described in the literature. A bench is located on the south slope on the east side of the access road and south of the brewery buildings. The bench slopes gently down to the north at approximately 5 percent from about Elevation 65 feet to Elevation 55 feet and is surfaced with crushed gravel. Historic photographs indicate this may the former site of the original house which was removed around 1904. Vegetation on the slopes consists of second growth deciduous and coniferous trees, and underbrush, following a clear cut of the existing trees around 1906.

The brewery complex site is adjacent to the Union Pacific Railroad rail grade, which is partially supported by a cast-in-place four-foot high retaining wall at the toe of the east slope. Water was observed seeping through cracks in the wall and standing on the ground surface behind the wall.

SOUTH PARCELS AND ACCESS ROAD

The south parcels are located south of the brewery complex area at the top of the south slope and consist of three parcels. The ground surface in this area slopes gently down to the north at inclinations of less than 5 percent. Development within the south parcels and along the access road consists of existing buildings and associated parking areas surfaced with asphalt concrete pavement.

The grade of the access road extending from Custer Way down to the brewery complex area slopes down to the north between 10 and 15 percent. The slope to the east and west of the access road is inclined at approximately 50 to 70 percent, sloping from the south parcels down to the west. Bedrock is exposed up-

slope and down-slope of the road, but no seepage along the access road or slopes adjacent to the road was observed. Vegetation on the slopes east and west of the access road consists of deciduous trees and shrubs.

BACKWATER

The backwater area of the site extends from the north edge of the brewery complex to the northern site boundary. This area of the site consists of Deschutes River backwater and continuation of the eastern slope. We did not explore surface conditions in the backwater area. Based on our observations from the shoreline and aerial photographs, the backwater area consists of slack water from the Deschutes River and low lying land. The land portions of the backwater area are vegetated with trees, shrubs and grasses.

In general, the east slope in the north portion of the site is similar to the east slope as described in the brewery complex section of this report. The notable exception is an abandoned railroad grade extending from the northeast corner of the brewery complex along the lower portions of the slope. The inclination of the slope below the abandoned railroad grade is approximately 10 to 20 percent. Based on the LiDAR and topographic contours, this variation in slope may be due to spoils from construction of the railroad grade.

The Soils Conservation Service indicates soils with the highest erosion potential (severe) are located on the steep slopes at the south and east portions of the property. Soils in the developed flatter areas are mapped as having slight to moderate erosion hazard.

3.1.2 Potential Impacts During Construction

The soil and geologic conditions existing at the site could potentially affect construction, slope settlement, landslides and erosion for each of the Alternatives.

3.1.3 Potential Developed-Condition Impacts

SEISMIC HAZARD – SURFACE RUPTURE

The Tumwater CAO requires that mapped surface faults within 200 feet of the site be identified and potential impacts including potential displacements and forces from fault displacements be discussed. We reviewed two maps to identify potential fault-related ground surface rupture at or near the project site; *Geologic Map of the Tumwater 7.5-minute Quadrangle, Washington* (Walsh, et al.) and Washington State Department of Natural Resources (WA DNR) Interactive Natural Hazards Map. The literature review shows no surface faults are mapped within 200 feet of the project site and the risk for seismic surface rupture at the site is low for each of the Alternatives.

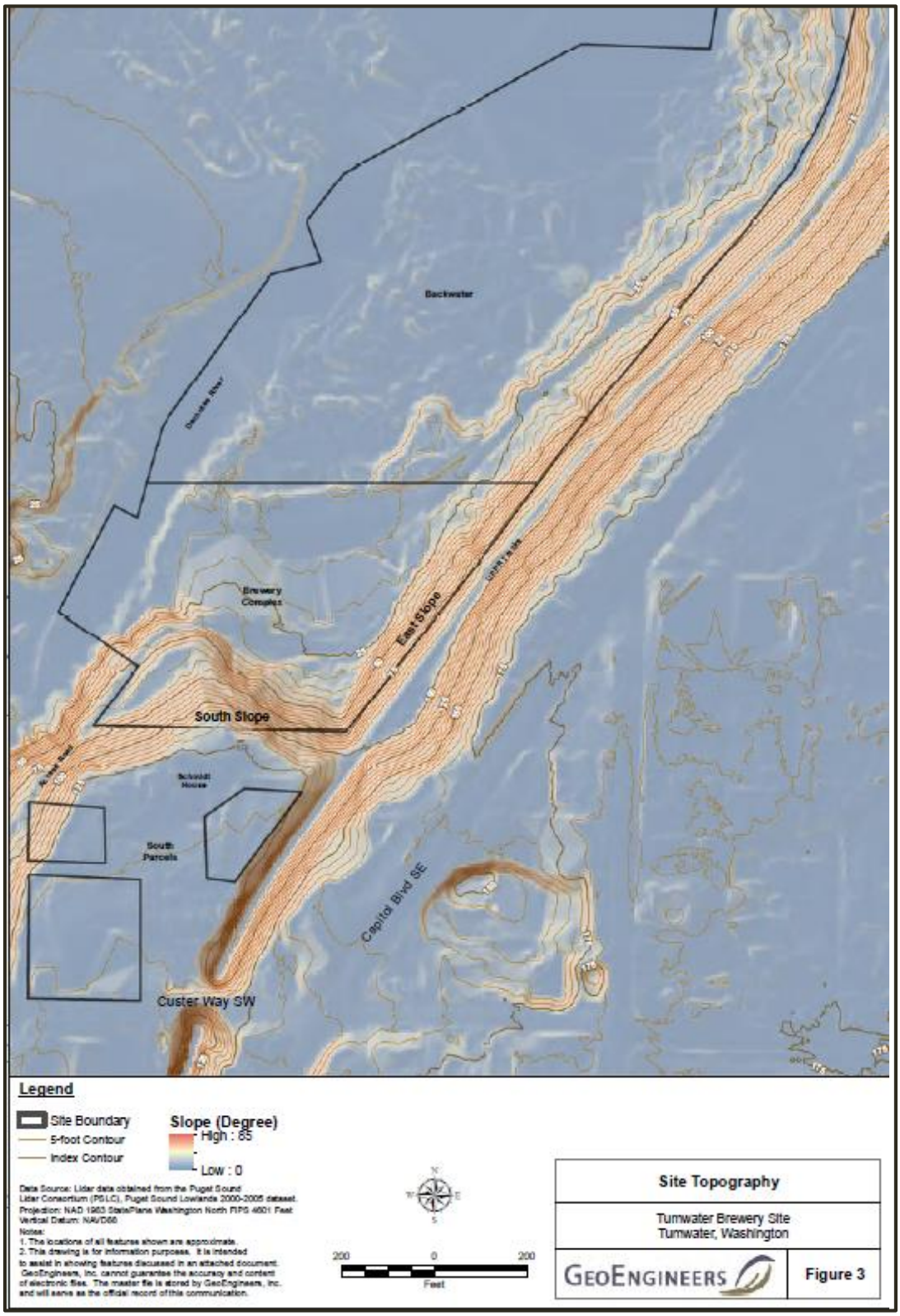

FIGURE 3.1-3. STUDY AREA TOPOGRAPHY MAP

SEISMIC HAZARDS- LIQUEFACTION AND LATERAL SPREADING

Liquefaction refers to a condition where vibration or shaking of the ground, usually from earthquake forces, results in development of excess pore pressures and subsequent loss of strength in saturated soils. In general, soils that are susceptible to liquefaction include loose to medium dense "clean" to silty sands which are below the water table. Lateral spreading related to seismic activity typically involves lateral displacement of large, surficial blocks of non-liquefied soil when a layer of underlying soil loses strength during seismic shaking. Lateral spreading usually develops in areas where sloping ground or large grade changes (including retaining walls) are present. The *Liquefaction Susceptibility Map of Thurston County, Washington* (Palmer, et al., 2004) indicates the site soils have a "low to moderate" liquefaction potential and the lowland areas near the existing brewery buildings are potentially liquefiable and could experience lateral spreading. In general, the magnitude and risk increase as the thickness of the liquefiable portion of the soil increases and distance from the river bank decreases, and the extent of liquefaction and lateral spreading will vary depending on the force and duration of the earthquake.

ALTERNATIVE 1

Alternative 1 does not include expansion of the existing building footprints and based on the likelihood that existing buildings are founded on bedrock, the risks to the structures as a result of liquefaction or lateral spreading is low for Alternative 1.

ALTERNATIVES 2 AND 3

Because both Alternative 2 and Alternative 3 include construction of new structures outside of the existing building footprints there is the potential that liquefaction and/or lateral spreading could impact the proposed development near the low lying areas.

VOLCANIC AND TSUNAMI HAZARDS

Volcanic Hazard Areas are defined in Section 16.20.050 (F) of the TMC as areas subject to pyroclastic flows, lahars, or mud and debris flows derived from volcanic events. We reviewed the WA DNR Interactive Natural Hazards Map and the 2009 Thurston NHMP for mapped volcanic hazards and the site is not located within mapped volcanic hazards.

Tsunami Hazard Areas are defined in Section 16.20.050 (G) of the TMC as coastal areas and large lake shoreline areas susceptible to flooding and inundation as the result of excessive wave action derived from seismic or other geologic events. Currently, no specific boundaries have been established in the City Limits for this type of hazard area. Neither the City of Tumwater nor Thurston County provide a tsunami hazard map. The WA DNR Interactive Natural Hazards Map only provides tsunami inundation estimates in specific study areas; the project site is not located within any of the study areas. The 2009 Thurston NHMP states "although tsunamis are known to impact the coast of Washington and some parts of the Puget Sound, the Thurston Region is unlikely to be impacted by this hazard."

The risk for volcanic and tsunami hazards at the site are low for each of the Alternatives.

LANDSLIDE AND EROSION HAZARDS

A slope stability analysis was performed for the slopes east and south of the existing brewery complex. In general, the slopes appear to be relatively stable with respect to deep-seated or global failures and instability. The results of the analysis indicate the existing slopes have a static factor of safety against deep-seated failures greater than 1.6 and a seismic factor of safety against deep-seated failure on the order of 0.7 to 1.0.

Although the analysis indicates the factor of safety for static slope stability is greater than 1.5, the steep slopes could experience and should be expected to experience shallow surficial sloughing over the long term, due to natural processes such as seepage, saturation of shallow soils during heavy rain events, decay of roots, or root removal of blown down trees. These natural processes occur whether or not the slopes are modified.

Construction of permanent retaining structures can potentially reduce the risk associated with shallow and deep slope instability. In general, the risk of shallow surficial sloughing is managed because a portion of the slope is removed and/or retained, thereby reducing the material would have potentially sloughed.

ALTERNATIVE 1

This alternative includes improvements of the existing structures; no improvements are planned to alter the existing slope conditions. The risk of potential landslide or erosion hazards impacting the existing structures will not significantly increase or decrease. The most probable impact for Alternative 1 is continued shallow surficial sloughing on the steep slopes, a natural process that occurs with or without development.

ALTERNATIVE 2

This alternative includes improvements to the existing buildings and cuts into the south slope to construct a parking garage south of the existing buildings. Permanent retaining structures are envisioned within the steep south slope as part of the construction of the garage. These walls will likely be top down construction, such as a soil nail or soldier pile wall system, and may incorporate tiebacks depending on the height of the wall, the estimated lateral earth pressures, and the elevation and direction of the groundwater gradient. These designs will have to take into consideration seismic slope stability as well.

ALTERNATIVE 3

This alternative is similar to Alternative 2 with the addition of a condominium building adjacent on the east side of the proposed parking garage (south of the existing building). Permanent retaining structures are envisioned within the steep south and east slopes as part of the construction of the condominium building. Similar construction techniques and design considerations as described for Alternative 2 are anticipated for this alternative. Because this alternative includes construction of retaining structures along a greater portion of the slopes, a proportional reduction of the potential for short- and long-term erosion and sloughing and an improvement of the static and seismic factors of safety against deep-seated failures can be anticipated.

3.1.4 Mitigation Measures

Structural engineering and seismic considerations will need to be assessed for each of the Alternatives as existing soil and geologic conditions at the site could potentially affect construction, in conjunction with soil conditions during design of new structures and facilities, as well as during renovation of historic structures. Typical construction mitigation measures would be implemented and could include using deep foundation systems for heavy structures, preloading a building site prior to construction, employing temporary erosion control measures and Best Management Practices, and constructing catchment areas or retaining walls to retain debris, if warranted.

Proper building design and construction of retaining structures, including drainage, can reduce the potential for short- and long-term erosion and sloughing and improve the static and seismic factors of safety against deep-seated failures. Primary design elements will need to take into consideration drainage of the slope, depths and geometry of retaining structure(s), and embedment depths of foundations.

Widening of the access road could pose some construction challenges due to the presence of bedrock. Bedrock is exposed along the east side (above) and west side (below) of the access road. The two borings we performed on the roadway encountered bedrock at depths between 10 and 12 feet. The exposed bedrock does not appear to be easily excavated; removal may require the use of a hydraulic hammer and/or blasting.

Sloughing, weathering and erosion are natural processes that affect steep slope areas. For permanent construction and a widened access roadway, retaining structures and/or slope regrading may need to be considered where soil exists and steep slopes are present. Although further evaluation should be completed, typically permanent slopes on the order of 2H to 1V (Horizontal to Vertical) are appropriate for soil types observed and described at the project site. In many instances, bedrock can be cut steeper or near vertical depending on the condition.

If the existing access road to the east of the existing building is to be improved, the existing retaining wall at the toe of the east slope may need to be evaluated and potentially improved. In addition, some site regrading and other short- and long-term erosion prevention features or techniques could be required.

ALTERNATIVE 1

A geotechnical study would be required prior to development, including drilled borings to evaluate soil and groundwater conditions for proposed development of the site. These design studies would provide detailed recommendations for maintaining slope stability and limiting erosion that are germane to that development intensity.

ALTERNATIVE 2

Lateral loading upon buildings due to sloping backfill conditions, surcharges, and structures as well as drainage and waterproofing will need to be addressed when designing and planning structures to be built into the slopes for Alternative 2 (south slope). For excavations, retaining structures consisting of top-down construction and staged construction techniques should be considered to eliminate mass excavation of the slope face, and temporary erosion control measures and Best Management Practices should be used, and

catchment areas or retaining walls to retain debris should be constructed if warranted. Deep foundations and/or ground improvement will likely be required in these areas if this Alternative is pursued.

ALTERNATIVE 3

Mitigation for Alternative 3 is the same as for Alternative 2, with additional permanent retaining structures required along the south and east slopes as part of the construction of the condominium building, which could include ground improvement and/or foundations bearing on the shallow bedrock.

3.1.5 Significant Unavoidable Adverse Impacts

With the implementation of the required/proposed mitigation measures listed above, no significant unavoidable adverse earth-related impacts would be anticipated.

3.2 Wetlands

3.2.1 Affected Environment

Critical Area and Shoreline Master Program (SMP) regulations guide development on parcels affected by wetlands and streams (Section 3.3 below). The City of Tumwater is the local regulatory agency, and therefore will lead the permit application review and approval process related to future redevelopment within the Planned Action area.

Other state and federal agencies regulate impacts to wetlands, streams and rivers, and to threatened and endangered species. The U.S. Army Corps of Engineers (Corps) regulates impacts to waters of the United States (including wetlands), and they initiate contact with U.S. Fish and Wildlife and National Oceanic Atmospheric Administration for review. In addition, the Washington Department of Fish and Wildlife (WDFW) will review the project for potential impacts to salmonids, and potential impacts from the presence of the invasive New Zealand mud snail (known to be present in Capitol Lake).

Wetlands south and east of the historic Tumwater Brewhouse were identified, delineated, and rated over a period of several days in late February 2014. The wetland review was conducted in accordance with applicable City of Tumwater and Washington Department of Ecology regulations in effect. On-site wetlands were rated by applying the 2004 *Western Washington Wetland Rating System*. Ecology adopted a new rating system on January 1, 2015. The new rating system could potentially result in different rating results (Category classifications) and different standard buffer widths, and would be checked with consistency of the thresholds established by the City in the Planned Action EIS Ordinance.

On-site and upslope wetlands associated with the proposed Tumwater Brewery Planned Action have been significantly impacted by historic development; i.e., disturbance from construction of the upslope railroad and spur in the 1890s, construction of the old brewhouse in the early 1900s, and construction of the I-5 bridge in the mid-1950s.

FIGURE 3.2-1. KNOWN WETLANDS / SHORELINES

Two on-site wetland systems were delineated and surveyed within the proposed Planned Action area in February 2014 (Figure 3.2-1). Wetland A is located on the sideslope south of the historic brewhouse, downslope of the Schmidt House. Wetland B is located on the sideslope northeast of the historic brewhouse, between the upper Union Pacific railroad tracks and the Deschutes River, bisected by an old railroad spur road. The wetland edge as well as the Ordinary High Water Mark (OHWM) on the Deschutes River to the north and west, was surveyed by professional land surveyors. Islands in the river north of the site also include some wetland areas. These would be regulated as part of the Deschutes River Shoreline system, as described in the Tumwater Brewery Wetland and Shoreline Report (Appendix F).

WETLAND A

Wetland A is classified as a "Slope" wetland (Hydrogeomorphic [HGM] Classification System), and as a Palustrine Emergent (PEM)/ Palustrine Scrub-Shrub (PSS) wetland (Cowardin Classification system). This wetland is severely disturbed from impacts of development over the past 100+ years. It is partially filled at the downslope edge from road and drainage impacts, and contains a variety of debris and scrap from previous development – tires, pipes, pump and machinery parts, and fill pads. Wetland A is approximately 17,750 sf in size, or approximately 0.41 acre.

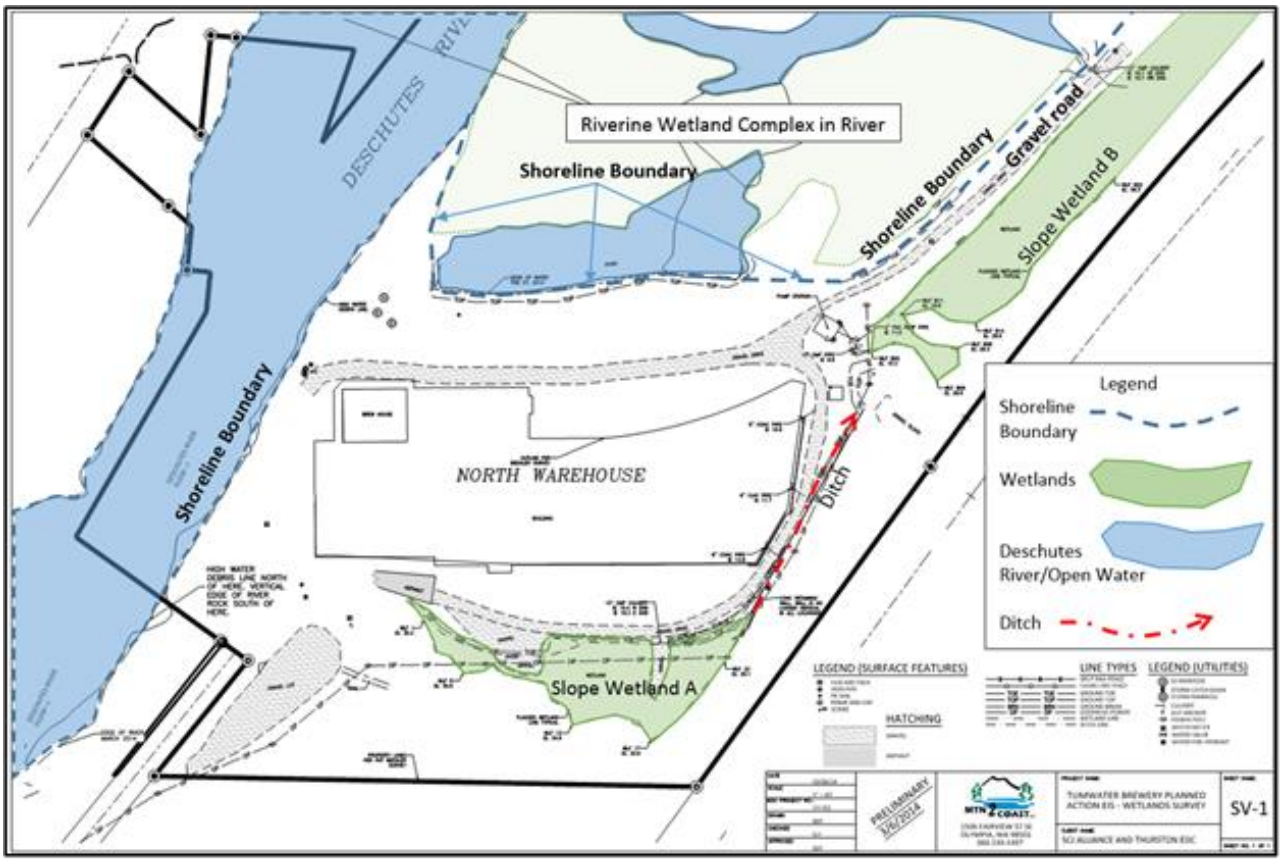

FIGURE 3.2-2. DESCHUTES RIVER SHORELINE, WETLANDS A AND B BOUNDARIES (ADAPTED FROM MTN2COAST SURVEY MAP)

The source of hydrology for Wetland A is from side-slope seeps, including at least two concentrated springs emanating from the slope about 12 to 15 feet above the downslope wetland edge. The downslope edge is defined by fill from the site access road and associated parking areas. The toe-slope flows are captured in a roadside ditch, and diverted around the east side of the historic brewhouse access road, eventually draining through culverts below the fill pad to the Deschutes River channel with an unknown outlet location.

The area around the historic brewhouse has many artesian springs, some of which were developed and used as a water source for the brewing operations. The eastern of the two Wetland A side-slope springs may be from a partially developed or abandoned artesian spring. There are old pipes and apparent pump remnants on the ground in the vicinity, and other standpipes nearby, downslope. Flow from that spring during the February 2014 field delineation was significant, enough to create channelized flow downslope around a fill pad.

Wetland A scored 16 out of 27 possible total points with a Habitat score of 5 points (out of 9 possible) on the Washington Department of Ecology (DOE) updated Wetland Rating Protocol in effect as of January 1, 2015. It is a Category III system under the 2014 rating protocol, and based on draft buffering standards described in that document (*Draft Table 8C-5 Width of buffers needed to protect Category III wetlands in Western Washington)* is assigned a buffer of 150 feet. Under the 2004 wetland rating system and buffering rules, Wetland A would be a Category III system with an 80 foot wide buffer.

WETLAND B

Similar to Wetland A, this wetland shows evidence of severe disturbance from historic land uses. It is affected by the upslope railroad fill from the east, and is partially filled and bisected by an old spur road to the west. Some of the steep fill slopes farther north below the main railroad (which is still actively used) are unstable, showing evidence of shallow surface soil erosion and slippage.

Due to access issues, delineation and survey were completed only on the southern portions of Wetland B within 300 feet of the main brewhouse complex. The wetland system continues to the north along the side-slope at a similar elevation for several hundred feet; therefore, the total size of Wetland B was not determined. The southern portion of Wetland B (closest to the proposed Planned Action area) is trapped upslope (east) of the old gravel road fill, a previous railroad spur, which once provided rail service access to the site from the main railroad track upslope. Water from this portion of Wetland B drains to the Deschutes River shoreline in ditches, and through culverts below the road and fill pad at two locations. Wetland hydrology further north drains through another culvert below the road fill, located about 325 feet north of the historic Brewery building complex.

Wetland B is classified as a Slope wetland (HGM Classification), and as a Palustrine Emergent (PEM)/ Palustrine Scrub-Shrub (PSS) wetland (Cowardin Classification) within the areas delineated, but is assumed to have some Palustrine Forested (PFO) areas further north along the side-slope. Similar to Wetland A, the source of hydrology for Wetland B is from side-slope seeps and springs, including at least

three concentrated springs with associated stream channels emanating from the slope about 15 feet above the wetland toe-slope. The toe-slope in this part of Wetland B is defined by a ditch running along the upslope side of the old gravel spur road, described above. The roadside ditch captures most of the flow from Wetland B within the first 300 feet of wetland, and flows southwest to a culvert near the pump station (at the NE corner of the main fill pad), which presumably sends the flow to the Deschutes River shoreline. Another major spring farther north along the slope drains through another culvert under the road about 325 feet north of the northeast fill pad corner. The area upslope of this spring is actively eroding.

This wetland scored a total of 23 points (out of 27 possible), and 7 points (out of 9 possible) for Habitat Functions. Therefore, it is a Category I system under the 2014 rating protocol., and using the same table as above (*Draft Table 8C-7 Width of buffers needed to protect Category I wetlands in Western Washington)* — a Category I wetland with a High Intensity proposed Land Use and with a Habitat score of 5-7 points has a standard buffer of 150 feet. Under the 2004 rating system and buffering rules, Wetland B would be a Category II system with a 150 ft buffer.

3.2.2 Potential Impacts During Construction

Construction would result in an increased potential for erosion and sedimentation into the wetlands, wetland buffers and shoreline area; however, the implementation of a temporary erosion and sedimentation control plan would reduce the potential for erosion or sedimentation.

3.2.3 Potential Developed-Condition Impacts

The wetlands associated with the lower site as well as the Deschutes River shoreline are significantly affected by long-standing historic development onsite and upslope, starting as early as approximately 1890, as well as by changes in the downstream river system, brought on by construction of the I-5 bridge and construction of the upslope railroad.

Wetland A is a low quality, highly disturbed wetland impounded by the existing access road on the site. Due to its location adjacent to the existing access road, and to meet current standards for improved access road construction, implementation of any of the Alternatives would eliminate Wetland A. Minor impacts to Wetland B would also occur from access road construction under any alternative.

Following construction of any of the Alternatives, additional engineering and design work will be required to accommodate this groundwater water and to provide access road adequate to meet current building and safety regulations.

3.2.4 Mitigation Measures

Mitigation will be required for any wetland impacts. Wetland A functions can be replaced and improved through off-site or on-site mitigation. There are also both on-site and off-site opportunities for mitigation and enhancement of impacts to Wetland B. The *Wetland and Shoreline Report* (SCJ Alliance, June 2015; Appendix F), provides suggestions for mitigation opportunities that include on-site and off-site mitigation for wetland impacts, to include:

The sand-bar islands in the Deschutes River north of the Old Brewhouse are currently covered with seral stage plant species (such as red alder and scrub willows) and with many weed species – such as Himalayan blackberry and yellow flag iris. Planting of native vegetation and enhancing habitat on the islands can be designed specifically to enhance off-channel salmonid habitat, in addition to habitat for migratory and water-dependent birds.

Wetland B, located on the sideslope northeast of the Old Brewhouse is receiving and storing high volumes of eroded sediment from slope failure along the railroad tracks upslope. The vegetation community in the upslope buffer by the railroad tracks is dominated by Himalayan blackberry and English Ivy -- weedy non-native species. Planting of native willows within the wetlands, and deep-rooted native trees and shrubs on the upper side slopes and downslope of Wetland B, by the river will improve habitat, stabilize soils and improve water quality.

Noxious and invasive weeds onsite will be controlled with a long-term adaptive management plan.

ALTERNATIVE 1

Under Alternative 1, areas of the site already developed (current impermeable surfaces) can be redeveloped and remodeled within the existing building footprint, and existing parking surface and roads can be improved within existing footprints. Any development may require redesign of the site access road to meet code, and will likely require mitigation for impacts to wetlands and improvement of the current stormwater management system.

ALTERNATIVE 2

Under Alternative 2, impacts to wetland buffers, shoreline setbacks and buffers which will require compensatory mitigation. Construction of the parking garage and road access improvements will result in loss of Wetland A, which will require mitigation to meet federal, state and city No-Net-Loss requirements.

ALTERNATIVE 3

For Alternative 3, the additional building to be constructed to accommodate residential uses will impact wetland buffers and will eliminate Wetland A. Additional geotechnical mitigation will be needed to address possible steep slope issues.

3.2.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to wetlands would be anticipated under any of the Alternatives provided the mitigation measures are followed.

3.3 Shorelines, Plants, and Animals

3.3.1 Affected Environment

The project area is located within Water Resource Inventory Area (WRIA) 13 – Deschutes. The Deschutes River shoreline is within an Urban Intensity shoreline environment, and the Capitol Lake shoreline is within an Urban Conservancy environment as mapped in the City of Tumwater *Shoreline Master Program* (SMP). The *Lacey, Olympia, Tumwater – Shoreline Analysis and Characterization* describes the Capitol Lake shoreline as highly modified (ESA Adolfson 2008). This report, like many other documents described in the

EIS Chapter 2, Section 2.3, anticipates redevelopment of the historic Brewhouse site in Tumwater. The area previously developed for the Brewery and operations also has a modified shoreline that resulted in modifications to vegetation and habitat. The Urban Conservancy (Capitol Lake) and Urban Intensity (Deschutes River Shoreline) Shoreline designations allow a variety of uses. The SMP specifically mentions the Brewery site being a wide variety and mixture of uses and should include restoration and/or enhancement of degraded shorelines.

Information from the following resources was reviewed to determine wildlife, plants, and/or habitats that exist, may be listed, or are of special concern, within the proposed Planned Action area:

- Washington Department of Fish and Wildlife (WDFW): Priority Habitats and Species (PHS)
- WDFW SalmonScape
- United States Fish and Wildlife (USFWS): Critical Habitat Portal
- USFWS Wetlands Mapper
- USFWS Endangered Species Program
- Washington State Department of Natural Resources (DNR), Natural Heritage Program, List of Rare Plants
- Washington State Department of Ecology (Ecology), Water Resource Inventory Area
- Lacey, Olympia, and Tumwater – Shoreline Analysis and Characterization Report
- Information from Thurston County and City of Tumwater Public Outreach sessions
- City of Tumwater Shoreline Master Program.

Queries of the resources listed above identified the following:

- The Deschutes River, which runs through the proposed Planned Action area, is considered critical habitat for Puget Sound Chinook Salmon (NOAA Fisheries 2015).
- The Deschutes River is on the Clean Water Act Section 303(d) list of impaired waters (Ecology 2014).
- Salmonscape data (WDFW 2015b) shows Capitol Lake is used by Steelhead trout (*Oncorhynchus mykiss),* federally-listed as Threatened under the Endangered Species Act (ESA).
- WDFW PHS data showed roost sites for Townsend's big-eared bats (*Corynorhinus townsendii*) within one-half mile west of the proposed Planned Action area, across the I-5 corridor (WDFW 2015a).
- WDFW also identifies New Zealand mud snails, an invasive species, as being present in Capitol Lake.
- No other federally-listed Threatened & Endangered species, critical habitat, or other impaired ecological conditions were identified for the proposed Planned Action area.

Birds and fish species present in the Deschutes River and Capitol Lake, and species that use adjacent riparian areas, include:

- Herons, Eagles, Several breeds of water fowl
- Fall Chinook salmon, Coho salmon

- Winter steelhead trout, Sea run and resident cutthroat trout
- Sculpin, Stickleback , Bass
- Owl

The Puget Sound steelhead (*Oncorhynchus mykiss)* distinct population segment (DPS) was federally-listed as threatened on May 11, 2007 under the ESA. The Puget Sound DPS of steelhead are declining 3 to 10% annually on average (Puget Sound Salmonids 5 Year Review). Steelhead in the Puget Sound DPS remain at risk through a significant portion of their range (*Puget Sound Salmonids 5 Year Review*). The population in Capitol Lake and the Deschutes River are winter-run. Their status in South Puget Sound is currently unknown (*Deschutes River Fall Management Plan*, WDFW). Steelhead have moved through Capitol Lake and into the Deschutes River since 1954 when a fish ladder was constructed around Tumwater Falls, allowing anadromous fish passage. Historically, juvenile steelhead may have used Capitol Lake as rearing grounds; however, increased water temperature in the lake and reduced oxygen levels discourage steelhead from spending any length of time in the lake. Today, steelhead mostly use Capitol Lake as a migratory route to the Deschutes River (*Implications of Capitol Lake Management*).

WDFW also releases juvenile steelhead trout into the Deschutes River in the south basin of Capitol Lake (WDFW 2013). The released smolt are not considered part of the DPS. Hatchery-raised steelhead now make up the majority of steelhead found in Capitol Lake and the Deschutes River.

The Deschutes River, which flows into Capitol Lake, is listed as Critical Habitat for Puget Sound Chinook salmon (NOAA Fisheries 2015). Puget Sound Chinook are considered an evolutionarily significant unit (ESU) of Chinook salmon. Chinook salmon are federally-listed as threatened under the Endangered Species Act (ESA), and are a Washington State Species of Concern. The Deschutes River Chinook salmon run is entirely hatchery-raised at the Tumwater Falls Fish Hatchery, operated by WDFW to augment a sustainable salmon harvest under the Magnuson/Stevens Act (NOAA Fisheries 2011). The hatchery-raised population of Chinook salmon is not listed under the ESA (NOAA Fisheries 2011).

Salmonids in the Deschutes River were unable to historically access the full system due to the impasse at Tumwater Falls, until 1954 when a fish ladder was constructed. Although historically inaccessible, the Deschutes River and Capitol Lake are listed as Critical Habitat for Puget Sound Chinook salmon. Capitol Lake is a man-made lake. The lake was in the original plans for the Washington State Capitol Campus in 1911 as a reflection pond. The lake was constructed by the U.S. Army Corps of Engineers in 1951, along with Deschutes Parkway and 5th Avenue (CLIPA 2015). The natural area around the brewery has been significantly modified due to historic activities to create Capitol Lake, construct I-5, periodic dredging of the lake, development of the brewery, and construction of the Union Pacific Railroad tracks.

The Deschutes River is also on the Clean Water Act Section 303(d) list of impaired waters for the following parameter; fecal coliform bacteria, temperature, dissolved oxygen, pH, and fine sediment (Ecology 2015). Ecology is currently in the process of establishing total maximum daily loads (TMDLs) for each of the above-listed parameters, and lists potential sources for Deschutes River impairment as: lack of riparian vegetation, deteriorating sewer infrastructure, domestic animals, failing septic systems, fertilizers, recreational users, and road building.

Townsend's Big-eared bat (*Corynorhinus townsendii*) is also listed on the WDFW PHS database. They are a U.S. Fish and Wildlife Service (federal) species of concern, and are a Washington State candidate species for listing as State-endangered, threatened, or sensitive. The PHS database identified several roost sites for Townsend's Big-eared bat within one-half mile of the proposed Planned Action area. Townsend's bats require adequate roosting sites near their feeding grounds (WDFW 2013a). Since Townsend's do not travel long distances between food and roosting sites, roosts are a limiting factor to their success. Townsend's bats use caves, mines, hollow trees, and human structures for roosts. There currently are no reports of Townsend's bats roosting in the old Brewery buildings within the boundaries of the proposed Planned Action area.

The New Zealand Mud Snail (NZMS) is known to exist in Capitol Lake. Currently, WDFW uses signage and fencing to prevent people from accessing the lakeshore and inadvertently spreading this invasive species.

3.3.2 Potential Impacts During Construction

Construction could result in an increased potential for erosion and sedimentation into the shoreline of Deschutes River; however, the implementation of a temporary erosion and sedimentation control plan would reduce the potential for erosion or sedimentation.

CHINOOK SALMON CRITICAL HABITAT

Construction activity in any of the Alternatives has the potential to impacts water quality. Construction projects in or near aquatic habitat would generate minor impacts such as turbidity, noise from machinery and pile driving, and the potential for spills of fuels and/or other toxic materials. If construction activities removed riparian vegetation, it could impact Critical Chinook salmon habitat.

TOWNSEND'S BIG-EARED BAT

Townsend's bats do not typically roost in large colonies, so the presence of any individual bats within the proposed Planned Action area would constitute use. If bats are present, any loss of access to buildings or snags would negatively impact the bats as the bats tend to be easily disturbed by human activity (WDFW 2013a).

3.3.3 Potential Developed-Condition Impacts

Alternative 2 or Alternative 3 would result in construction of structures and conversion of areas of the site to a mixed-use development. This shoreline area is currently inaccessible to the public, and any of the Alternatives would increase access to the shoreline via trails and habitat restoration areas. Foot traffic along the eastern shoreline of the Deschutes River has the potential to impact shoreline vegetation and habitat. Trees would be removed along the southern slope on the lower site to accommodate new structures (parking garage in Alternative 2 and parking garage and residential building in Alternative 3).

3.3.4 Mitigation Measures

For temporary construction work, Best Management Practices (BMPs) should be in place during construction activities to prevent materials from leaving the construction area. Contractors would be required to implement (at a minimum) a Temporary Erosion and Sediment Control (TESC) plan, a

Stormwater Pollution Prevention Plan (SWPPP), and WDFW invasive species management protocols during all construction activities.

A survey by a qualified biologist should be conducted to determine the presence or absence of Townsend's big-eared bats prior to construction activities to implement future site redevelopment within the Planned Action area, to ensure that this species is not present.

For all Alternatives, it is anticipated that actions consistent with WDFW preventative measures would be in place during construction and operation to prevent the spread of the invasive New Zealand mud snail. A Habitat Management Plan designed to eliminate potential for expansion of the invasive snail from onsite activities will be developed.

Construction activities would include a plan for avoiding accidental spreading of the mud snail. Any in-water construction would have a safety plan that includes washing equipment at the water edge, to eliminate potential transport offsite.

- All future boardwalk trails in wetlands or along the river would have railings designed to keep people on the trail.
- Educational signage will be provided that explain how to avoid picking up the snails on shoes and clothing, and what to do if snails are accidentally transported.

Fish and Wildlife Habitat approval would be required under Tumwater Municipal Code (TMC) 16.32 to implement site redevelopment under any of the conceptual land use alternatives. There would be some allowances for existing structures; however, since any alternative would increase development intensity and require additional on-site parking, it is anticipated that implementation of any alternatives would also require approval under TMC 16.32.

Mitigation measures are required under TMC 16.32, Section 16.32.065, with representative examples of mitigation that include:

- Planting appropriate riparian trees that would grow to a height that would provide shade and lower water temperatures
- Replacing invasive/non-native vegetation with native plantings
- Replacing any existing rip-rap with more productive shoreline bank habitat as detailed in WDFW *Integrated Stream Bank Protection Guidelines*
- Planting appropriate vegetation to increase root density and increase bank stability
- Installing an approved vegetative filter strip along the outer 25 to 50 feet of river bank to reduce pollution and sediment entering the river.

The Tumwater SMP provides guidance for shoreline substantial development permits, shoreline conditional use permits, and shoreline variances. When the City's SMP was recently updated, goals and policies were incorporated to assist with redevelopment of the historic Brewery property. These are described in Chapter 2, Section 2.3.11. Specifically, SMP section B. 14. c., provides regulations specific to the historic brewhouse site, recognizing the pre-existing industrial use as well as the historic character of

the surrounding area. Section 4.3 of the SMP further expands on goals for protecting and restoring historical buildings. Section 4.6 expands on opportunities for restoration and enhancement of shoreline ecological functions. When applications for specific development proposals to implement the proposed Planned Action are submitted to the City, potential impacts within the Shoreline environment and any critical areas regulated under TMC 16.32 will be considered and addressed, and project-specific mitigation measures will be listed in the permits to be obtained.

Trees and vegetation will be retained consistent with existing development regulations. New landscaping and replacement trees are required to meet the standard replacement ratio specified in TMC Chapter 16.08.

Any implementing project would require review and permits under the Tumwater Shoreline Master Program (April 2014) and under TMC 16.32.

3.3.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to shorelines, plant or animals would be anticipated under any of the Alternatives provided the mitigation measures are followed.

BUILT ENVIRONMENT

3.4 Land Use

3.4.1 Affected Environment

Land uses within Tumwater are predominantly residential, with over 28% of the city's acreage occupied by either single-family or multi-family residential uses. Industrial uses and commercial uses comprise about 15% of land within the incorporated area. Vacant land is the largest percentage of acreage in the City at nearly 30% of the City's land area. Historic properties account for very few of the City's total number of buildings.

EXISTING LAND USE

The City of Tumwater *Land Use Plan*, an element of the *Tumwater Comprehensive Plan*, identifies and explains the zoning designations within the City. The following designations occur on or within the immediate vicinity of the proposed Tumwater Brewery Planned Action area.

Historic Commercial (HC) Zone

The site is located within the City of Tumwater Brewery Neighborhood. The lower portion is zoned HC Historic Commercial. The upper portion is zoned BD brewery district. The New Market Historic District is the oldest part of the City, and is the district in which the historic brewhouse is located. The lower area is also covered by the Floodplain Overlay District, which includes the 100-year floodplain.

Brewery District (BD) Zone

The properties immediately surrounding the proposed Tumwater Brewery Planned Action area are developed primarily with commercial and industrial uses, zoned BD (Brewery District). The former brewery properties account for all of the industrial uses within the Brewery District. The City of Tumwater has identified the intent of the Brewery District land use designation to be a multi-modal activity center which over time, will transform from a largely auto-oriented commercial node into a lively, walkable and economically vibrant neighborhood center with a mixture of housing and neighborhood-serving businesses.

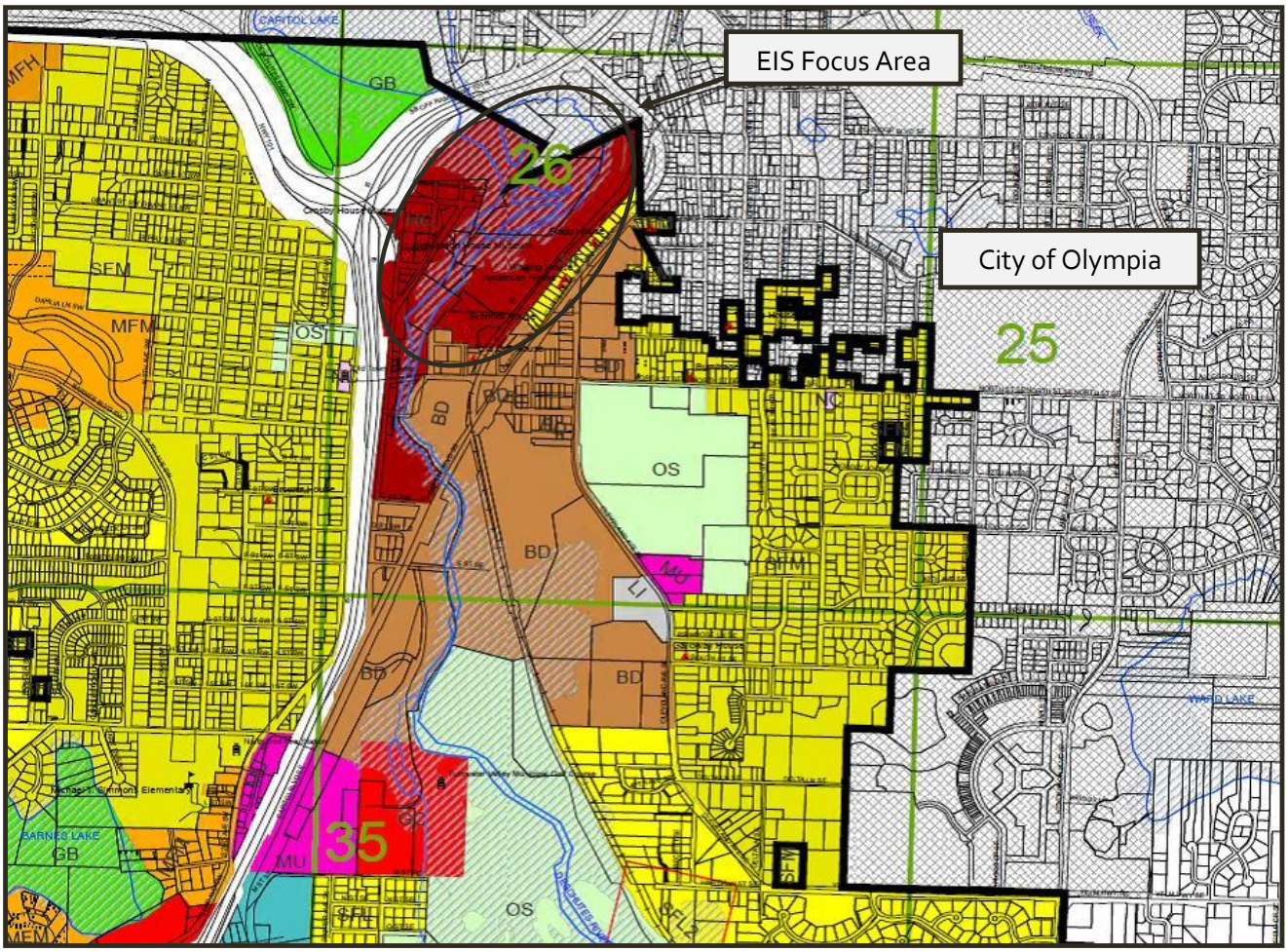

FIGURE 3.4-1. ZOOMED-IN SECTION OF ZONING MAP FOR TUMWATER AND THE URBAN GROWTH AREA

SURROUNDING LAND USE

Properties to the east and west of the proposed Tumwater Brewery Planned Action area consist of established single-family residential neighborhoods, zoned SFL (Single Family Low Density). East of the Union Pacific Railroad, uphill from the site bordering Capitol Boulevard, is a small area of approximately 20 homes also zoned SFL. The parcel north of the site, across I-5, is zoned GB (Green Belt), bordering Capitol Lake. Odd Fellows Memorial Park cemetery to the south is zoned OS (Open Space). Figure 3.4-1 shows the zoning designations in the site vicinity.

3.4.2 Potential Impacts During Construction

Construction associated with projected build out intensities would result in periodic impacts to adjacent land uses over the 20-year buildout period. Construction activities would occur incrementally and could result in temporary impacts to adjacent uses that are in direct proximity to construction areas. Additional construction-related impacts could include dust and emissions from construction equipment and vehicles, increased noise levels and vibration from construction activity, and increased traffic associated with construction workers and vehicles.

3.4.3 Potential Developed-Condition Impacts

As a result of growth expected in Tumwater over the next 20 years, vacant areas would develop with planned residential and commercial uses, developed areas could redevelop and intensify, and areas with new development would see an increase in activity in the localized area. None of the conceptual land use alternatives evaluated for the proposed Planned Action area would skew this City-wide balance, as each would represent a small portion of the commercial, retail or residential space expected to be available in the future. This infill redevelopment could alleviate pressure for growth in outlying areas or at the fringe of the City of Tumwater's Urban Growth Area. Infill redevelopment at the intensity proposed in each of the alternatives consumes less land than would lower density development and could be viewed as being more efficient from a land use perspective.

ALTERNATIVE 1

The No Action Alternative (Alternative 1) assumes that development would occur mainly within existing buildings (262,000 gross square feet [GSF]), and that all site development would be consistent with and subject to existing zoning and development regulations. Development would be completed without an adopted Planned Action Ordinance and would undergo environmental review on a project-by-project basis.

ALTERNATIVE 2

The Moderate Development Intensity Alternative (Alternative 2) is assumed to include redevelopment within existing buildings (262,000 GSF) a new parking structure (200,000 GSF) with approximately 625 stalls, and reconstruction of two demolished structures (31,500 GSF). Land uses that are supported by the vision of the Brewery District would include: parking, office, retail, distillery, craft brewing, hotel, restaurant and a museum and cover approximately 140,000 SF building footprint with approximately 443,500 GSF of buildable space.

Activity levels on the site would increase as a result of new employment and housing opportunities, new recreational uses and new public gathering areas. This increase in activity levels could result in increased levels of traffic, noise and air pollution onsite. The construction of the parking structure into the hillside and the improved access road would require the removal of trees and vegetation. Other redevelopment would occur throughout the site, and increased activity levels associated with development along the site perimeter would have the greatest potential to affect adjacent land uses. However, based on the compatibility of new onsite uses with current and future offsite uses along Custer Way and in the Brewery

District proximity, the separation provided by existing slopes, heavily vegetated buffers, and the Deschutes River, significant land use impacts are not anticipated.

ALTERNATIVE 3

Alternative 3 would add 150,000 square feet of building to accommodate residential dwellings and apartment-style units to the uses proposed in Alternative 2. Residents in these units would be close to public and private open space, and could enjoy the mixed-use retail and commercial development expected to develop along Custer Way. Additional developed condition impacts would be similar to Alternative 2. Table 3.4-1 shows the conceptual land use scenarios for Alternative 2 or Alternative 3.

TABLE 3.4-1. TUMWATER BREWERY PLANNED ACTION AREA CONCEPTUAL LAND USE ALTERNATIVES

Alternative 2	**Existing Buildings (262,000 sf existing)**						**Proposed**			
Land Use	**RST Towers (5 stories)**	**Brew-house (6 stories)**	**N Storage (2 stories)**	**W Warehouse (5 stories)**	**E Warehouse (2 stories)**	**Keg House (2 stories)**	**Re-Build within Footprint**	**Garage**	**New Building**	**Total gsf/ land use**
Office/Classroom	70,000									70,000
Retail					35,000	16,000	28,500			79,500
Distillery	30,000									30,000
Hotel			6,000	35,000						41,000
Condo/Apartment										0
Restaurant	5,000					5,000	3,000			13,000
Public (museum)		10,000								10,000
Total gross sq ft	**105,000**	**10,000**	**6,000**	**35,000**	**35,000**	**21,000**	**31,500**		**0**	**243,500**
Parking	**50,000**							**200,000**		**493,500**
Lot coverage (sf)	30,000	2,800	3,400	7,000	18,000	10,400	27,500	40,000	0	139,100

Alternative 3	**Existing Buildings (262,000 sf existing)**						**Proposed**			
Land Use	**RST Towers (5 stories)**	**Brew-house (6 stories)**	**N Storage (2 stories)**	**W Warehouse (5 stories)**	**E Warehouse (2 stories)**	**Keg House (2 stories)**	**Re-Build within Footprint**	**Garage**	**New Building**	**Total gsf/ land use**
Office/Classroom	65,000									65,000
Retail	5,000			35,000		17,000	26,500			83,500
Distillery	30,000									30,000
Hotel		7,000			35,000					42,000
Condo									75,000	75,000
Apartment									75,000	75,000
Restaurant	5,000	3,000					5,000			13,000
Public (museum)			6,000			4,000				10,000
Total gross sq ft	**105,000**	**10,000**	**6,000**	**35,000**	**35,000**	**21,000**	**31,500**		**150,000**	**393,500**
Parking	**50,000**							**320,000**		**763,500**
Lot coverage (sf)	30,000	2,800	3,400	7,000	18,000	10,400	27,500	40,000	20,000	159,100

Notes:
Existing sq ft of buildings is from the Old Brewhouse LLC Leasable Sq. Ft.
Summary
A parking efficiency of 320 sq ft/stall includes stall itself, circulation aisles, vehicle ramps, stairways, elevators and the building structure
Hotel space assumes 417 sf/room and includes all other hotel amenities
Alternative 1 (Existing) lot coverage by buildings is ~67,000 sq ft

3.4.4 Mitigation Measures

Prior to the site being redeveloped for any use, environmental remediation would be required (as described below in Section 3.6), followed by repair and maintenance to the existing historic structures on the site. When environmental remediation is initiated, it should be completed quickly to prevent further deterioration of the existing historic structures. Once the structures are repaired, it would be necessary to have a financial mechanism to help with the continual maintenance required on the structures, and for additional costs to upgrade the site. Redevelopment of the site to provide for economic benefit is a solution that would benefit the local community and provide additional funds to maintain the historic structures.

Phased development of projects that would implement the proposed Tumwater Brewery Planned Action may include:

Phase 1 Environmental Remediation (any conceptual land use alternative)

- Environmental Site Assessment
- Conduct required remediation and monitoring.

Phase 2 Structural Repair and Maintenance (any conceptual land use alternative)

- Provide necessary repair and maintenance to the existing structures
- Provide necessary infrastructure improvements to the site, including utility infrastructure common to any conceptual land use alternative.

Phase 3 Site Development Requirements (any conceptual land use alternative)

- Determine and provide appropriate economic uses within the repaired structures that would be common to any conceptual land use alternative.
- Provide sufficient site access.

Phase 4 Implement Moderate or Maximum Development (if the preferred conceptual land use is Alternative 2 or Alternative 3)

- Begin build-out of new structures, including proposed parking structure
- Provide additional parking areas and public access
- Provide additional infrastructure (as needed) to support the more intensive site development.

A text amendment to the HC zone is needed to ensure uses permitted in the zone are consistent with the Comprehensive Plan and its subarea plan for the lower portion of site: New Market Historic District Master Plan. Currently, parking structures and wineries/distilleries are not listed outright as uses, but are included in the master plan. The text amendment is expected to be included in the City's Comprehensive Plan Update Process in 2016. Development proposals within the Floodplain Overlay District are also required to comply with TMC 18.38.

For each of the alternatives, trees and vegetation will be retained consistent with existing development regulations in place at the time. New landscaping and any replacement trees are also required to meet the standard replacement ratio specified in TMC Chapter 16.08.

3.4.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to land use would be anticipated under any of the Alternatives provided the mitigation measures are followed.

3.5 Transportation, Circulation and Parking

The *Brewery District Plan* is used as a resource and basis of comparison for the traffic analysis for the proposed Planned Action area. Recently adopted by the City of Tumwater (2014), the *Brewery District Plan* provides a comprehensive evaluation of existing and forecasted transportation conditions within the study area, and a framework for future development and infrastructure improvements. The analysis took into consideration the influence of redevelopment within the historic Brewery properties. A product of the *Brewery District Plan* is a prioritized list of transportation improvements that will allow area roadways and intersections to operate at acceptable levels through the 2035 planning horizon. Figure 1.1-1 in Chapter 1 illustrates the Site Vicinity and the transportation network serving the project area.

The *Brewery District Plan* provided a thorough evaluation of the roadways and intersections that will serve the Tumwater Brewery Planned Action area. It evaluated base year (2012) and future year (2035) conditions, which also serve as the base year and horizon year for the Tumwater Brewery Planned Action. New traffic associated with future development that would implement the Planned Action was included in the *Brewery District Plan* traffic analysis.

The analysis in this EIS was prepared to confirm that traffic from future development within the proposed Tumwater Brewery Planned Action area would operate acceptably within the study area roadway system identified in the *Brewery District Plan*. Many of the improvements adopted in the *Brewery District Plan* are designed to enhance the "walkability" of the area to spur the transition to a multi-modal town center. Although the Planned Action area will receive benefits from the improved multi-modal system, most of the planned improvements would not be required to serve traffic generated by future development within the Tumwater Brewery Planned Action area.

3.5.1 Affected Environment

The project trip generation estimate provided in Section 4 of the Traffic Impact Analysis (TIA; SCJ Alliance, May 2015) shows that the current proposal is nearly identical in traffic generation to the development assumed in the *Brewery District Plan*. For this reason, the Planned Action EIS traffic analysis does not revisit the 2035 analysis or conclusions in the *Brewery District Plan*, but rather focuses on analysis of Custer Way and access points to the proposed Planned Action area. The following intersections were analyzed within the study area:

- Custer Way/Boston Street
- Custer Way/Schmidt Place
- Custer Way/Capitol Boulevard

The project is intended to use the two existing vehicular accesses on Custer Way: one across from Boston Street, and Schmidt Place. The *Brewery District Plan* identifies a future pedestrian route from Capitol Boulevard to the subject property with a grade-separated crossing over the Union Pacific Railroad right-of-way.

ROADWAY INVENTORY

A survey was conducted to identify existing conditions of the primary traffic facilities serving the Tumwater Brewery area.

Capitol Boulevard

Capitol Boulevard SE is classified as a principal arterial and is a designated truck route. Within the study area, Capitol Boulevard has a five-lane section that parallels I-5. The roadway has continuous sidewalks, and bike lanes are provided between E Street and Linwood Avenue. The section of Capitol Boulevard from E Street to Linwood Avenue is divided by a raised median. North of Custer Way, on-street parking is provided on the west side of Capitol Boulevard approximately 600 feet from the intersection. The posted speed limit is 35 mph through the study area. Four Intercity Transit bus routes travel on Capitol Boulevard, Route 12, 13, 43, and 68.

Custer Way

Custer Way SE is classified as a minor arterial. It has a four-lane cross section with sidewalks on both sides and a posted speed limit of 25 mph. Custer Way is a designated truck route. The bridge crossing I-5 provides a sidewalk only on the south side of Custer Way.

Boston Street

Boston Street is a short roadway that connects the higher elevation Custer Way to the lower elevation Deschutes Way. The roadway provides a single lane in each direction with sidewalks on both sides for most of the roadway. The roadway crosses the Deschutes River on the historic Boston Street Bridge.

Schmidt Place

Schmidt Place is a short local access roadway that extends from Custer Way north to the Schmidt House and Tumwater Brewery property. The roadway has a single lane in each direction with sidewalks and landscaping on both sides of the roadway.

TRAFFIC VOLUME DATA

Existing traffic volume counts within the study area were collected by Traffic Count Consultants, Inc. (TC2). The PM peak period (4:00 PM - 6:00 PM) was counted on Wednesday November 19th, 2012. Figure 3.5-1 shows the existing 2012 traffic volumes at all of the study area intersections included in the Brewery District Plan. Typically, it is preferred that traffic counts be no more than two years old, whereas the counts used in this study are three years old. The 2012 counts were determined appropriate for use

considering two factors: 1) the focus of the study is 2035 conditions which will have different circulation patterns than current traffic, and 2) traffic volumes have historically remained fairly stable at study area intersections, and there has been very little new development in the area to add significant traffic.

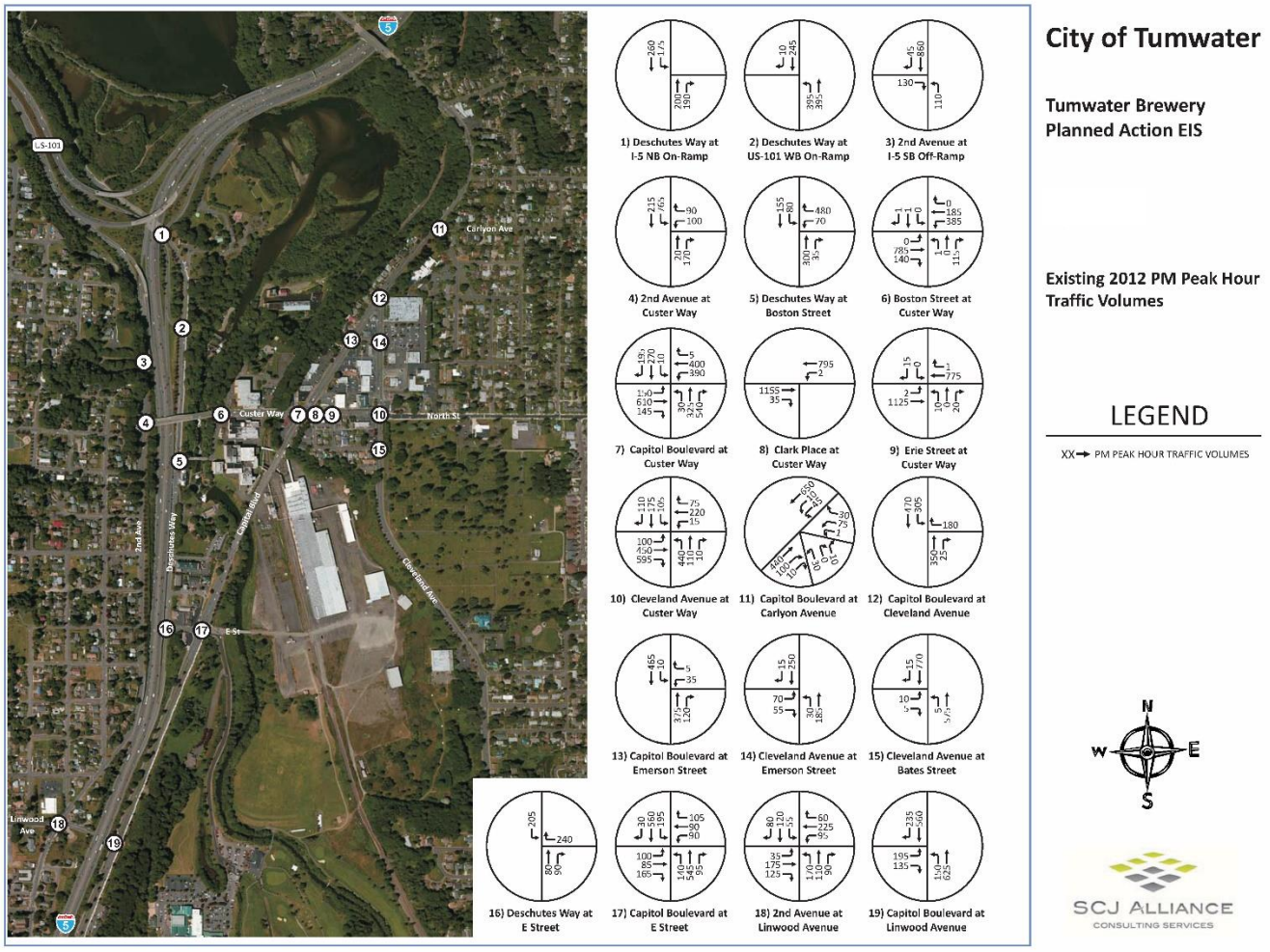

FIGURE 3.5-1. EXISTING 2012 PM PEAK HOUR TRAFFIC VOLUMES

3.5.2 Potential Impacts During Construction

Construction of new roads and buildings will have short term impacts to air quality, primarily in the form of dust resulting from construction. Exhaust from heavy equipment used during construction will also result. On project completion, traffic on new roads and parking lots will increase exhaust emissions within the local areas as people travel to the site.

3.5.3 Potential Developed-Condition Impacts

The project is intended to use the two existing vehicular accesses on Custer Way: one across from Boston Street, and Schmidt Place. In addition, the *Brewery District Plan* has identified a future pedestrian route

from Capitol Boulevard to the subject property with a grade-separated crossing over the Union Pacific Railroad right-of-way.

Conceptual land use plans for the proposed Planned Action are described and illustrated in Chapter 2, Section 2.4.

PROJECT TRIP GENERATION

Project trip generation was calculated using the trip generation rates in the version nine of the Trip Generation Manual by the Institute of Transportation Engineers. The trip generation rates used for this analysis are shown in Table 3.5-1.

TABLE 3.5-1. ITE TRIP GENERATION RATES FOR USES ANTICIPATED WITHIN THE PLANNED ACTION AREA

LAND USE	ITE LAND USE CODE	UNIT	PM PEAK HOUR TRIP RATES		
			TRIP RATE	% ENTER	% EXIT
Office/Classroom	710	1,000-sf	1.49	17%	83%
Apartments	220	Units	0.62	65%	35%
Specialty Retail	826	1,000-sf	2.71	44%	56%
Distillery	140	Emp	0.36	44%	56%
Hotel	310	Room	0.60	51%	49%
Museum	580	1,000-sf	0.18	16%	84%
Restaurant	932	1,000-sf	9.85	60%	40%

INTERNAL CAPTURE

Internal capture calculations were prepared to reflect on-site interaction between the proposed uses occupying the site. The internal trip discount for the PM peak period was derived from the "Multi-Use Development Trip Generation and Internal Capture Summary" worksheets contained in the ninth edition of the ITE *Trip Generation Handbook* and supplemental information contained in NCHRP Report 684 (*Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*). The capture was calculated between specialty retail uses, restaurant, hotel, and office. Residential was also included in the capture calculations for Alternative 3.

PASS-BY TRIPS

A project such as a mixed-use commercial center will attract traffic from people already driving on area roadways. These trips are not new trips added to the local roadways (primary trips) but represent "pass-by" trips according to the following definition:

Pass-by trips are trips made as an intermediate stop from an origin to a primary destination (i.e., stopping to shop on the way home from work) by vehicles passing directly by the project driveway.

The pass-by rates used in this study were taken from the ITE *Trip Generation Handbook* (9th ed.)

Total trip generation expected from future development under Alternative 2 or 3 is calculated by applying the total number of units to the appropriate trip generation rate. The total project trip generation and new-to-network trip generation are shown in Table 3.5-2 for Alternative 2 and Table 3.5-3 for Alternative 3. Detailed trip generation calculations are included in Technical Appendix D.

TABLE 3.5-2. PROJECTED TRIP GENERATION – ALTERNATIVE 2

			PM PEAK HOUR TRIP GENERATION			
LAND USE	**SIZE**	**VARIABLE**	**TOTAL TRIPS**	**LESS INTERNAL CAPTURE**	**LESS PASS-BY**	**NEW-TO-NETWORK TOTAL**
Office/Classroom	70,000	1,000-sf	104	14	0	90
Apartments	0	Units	0	0	0	0
Specialty Retail	80,000	1,000-sf	215	60	31	124
Distillery	20	Employee	7	0	0	7
Hotel	98	Rooms	59	22	0	37
Museum	10,000	1,000-sf	2	0	0	2
Restaurant	13,000	1,000-sf	128	62	28	38
TOTAL			**515**	**158**	**59**	**298**

TABLE 3.5-3. PROJECTED TRIP GENERATION – ALTERNATIVE 3

LAND USE	SIZE	VARIABLE	PM PEAK HOUR TRIP GENERATION			
			TOTAL TRIPS	LESS INTERNAL CAPTURE	LESS PASS-BY	NEW-TO-NETWORK TOTAL
Office/Classroom	65,000	1,000-sf	97	18	0	79
Condo/Apartments	150,000	Units	94	58	0	36
Specialty Retail	84,000	1,000-sf	226	92	27	107
Distillery	20	Employee	7	0	0	7
Hotel	101	Rooms	61	23	0	38
Museum	10,000	1,000-sf	2	0	0	2
Restaurant	13,000	1,000-sf	128	63	28	37
TOTAL			**615**	**254**	**55**	**306**

TRIP GENERATION COMPARISON

The traffic demand model forecast used in the *Brewery District Plan* predicted 286 PM peak hour trips for full development within the Tumwater Brewery Planned Action area by the 2035 horizon. The base year (2009) model volume was 15 PM peak hour trips, for a net increase of 271 PM peak hour trips. As shown in Tables 3.5-2 and 3.5-3, Alternative 2 or Alternative 3 are predicted to generate 298 and 306 PM peak hour trips, respectively. The traffic volume comparison is summarized below in Table 3.5-4. The travel demand model plots showing the 2009 and 2035 traffic forecasts are included in Technical Appendix D.

TABLE 3.5-4. TRAFFIC VOLUME COMPARISON

LAND-USE SCENARIO	New-To-Network PM Peak Hour Trip Generation		
	Inbound	Outbound	Total
Brewery District Plan	101	170	271
Planned Action EIS Alternative 2	115	183	298
Alternative 2 Difference	**+14**	**+13**	**+27**
Planned Action EIS Alternative 3	128	178	306
Alternative 3 Difference	**+27**	**+8**	**+35**

The comparison in Table 3.5-4 shows that the traffic forecasts in the *Brewery District Plan* adequately account for the traffic levels predicted to occur with future development within the Tumwater Brewery Planned Action area. The small increase in predicted traffic would result in an increase of no more than 10 to 20 vehicles at any of the nearby intersections (with the exception of site driveways).

Development that might occur under Alternative 1 would need traffic studies based on the land use types proposed, and on a project-by-project basis. Because either Alternative 2 or Alternative 3 would yield very similar traffic generation estimates, the operational analysis in this EIS uses the slightly higher traffic generating alternative (Alternative 3). The traffic conditions and potential roadway improvement needs will be considered the same for either Alternative 2 or Alternative 3.

SITE ACCESS ALTERNATIVES

The two access locations to the Planned Action area have been identified as Boston Street Extension and the existing Schmidt Place. Internal circulation options will influence which access people will use to get to/from Custer Way; however, because development plans are conceptual at the time of this writing, it has not yet been determined how internal circulation will be served on-site.

To accommodate different potential internal circulation options, site accesses have been analyzed under two "bookend" scenarios: 1) all traffic accessing to/from Boston Street Extension; 2) all traffic accessing to/from Schmidt Place. While either particular scenario is unlikely, it provides a "highest-traffic-potential" scenario for each access.

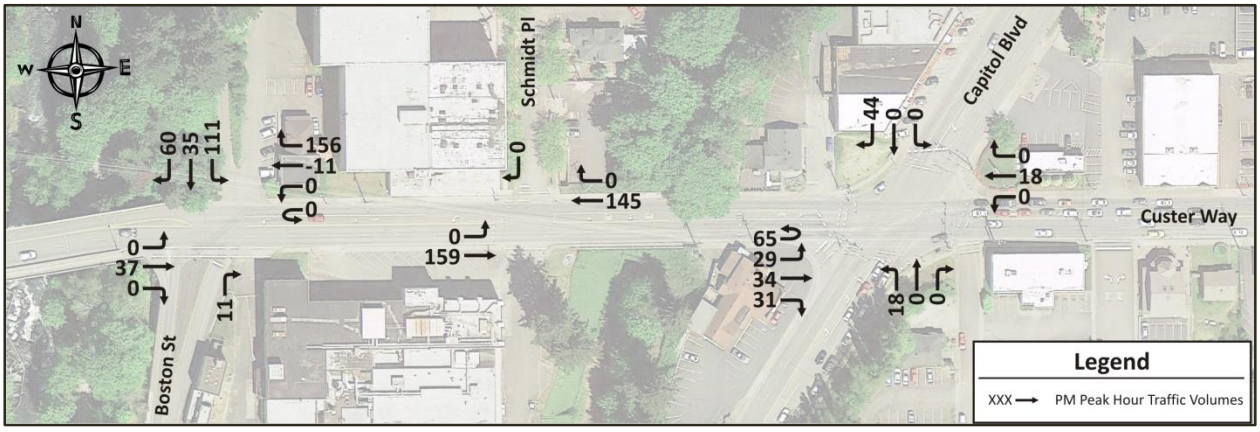

FIGURE 3.5-2. SITE-GENERATED TRAFFIC VOLUMES – 100% BOSTON STREET ACCESS

The traffic assignment was prepared using the future roadway conditions that include a center median on Custer Way between Boston Street and Capitol Boulevard. Under this scenario, Schmidt Place would be a right-turn-only intersection. The Boston Street/Custer Way intersection would be under modern roundabout control with a "teardrop" design that would allow left-turns and u-turns on westbound Custer Way but not eastbound Custer Way. Also, northbound traffic on Boston Street would be required to turn right onto Custer Way. All other movements would be allowed.

The resultant traffic distribution percentages and site traffic assignments on the future roadway network are shown for the Alternative 3 full-build scenario with the roadway restrictions described above. Figure 3.5-2 shows the scenario with all traffic using the Boston Street extension, and Figure 3.5-3 shows all site traffic using Schmidt Place.

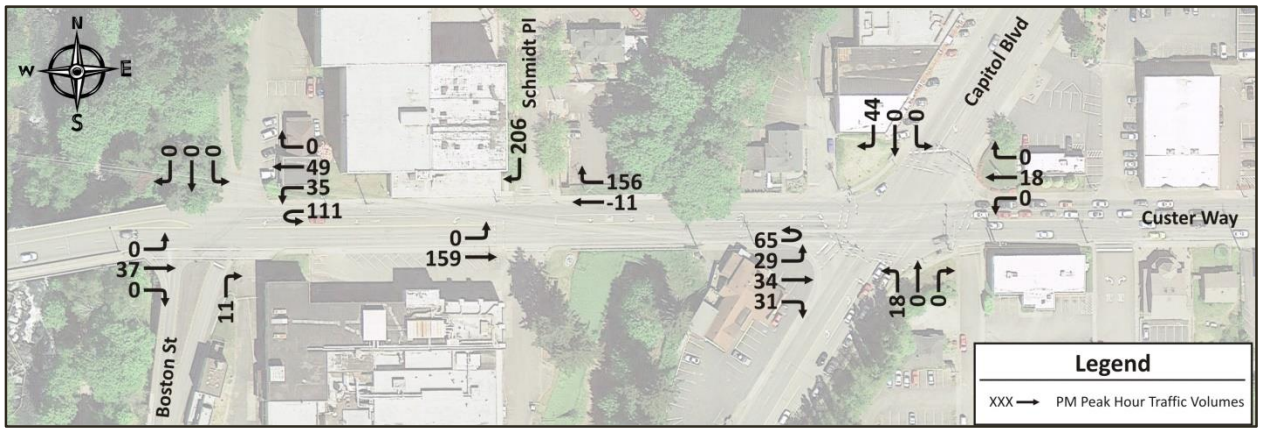

FIGURE 3.5-3. SITE-GENERATED TRAFFIC VOLUMES – 100% SCHMIDT PLACE ACCESS

An expanded site traffic distribution and assignment showing project traffic coming and going from Olympia is provided in Appendix D.

The Tumwater Brewery Planned Action EIS has an analysis horizon year of 2035 to be consistent with the recently completed *Brewery District Plan*. Significant traffic growth has been forecast for the study area by that horizon year. Also, a list of transportation improvements has been identified to accommodate the traffic growth. Following is a description of the conditions forecast for the study area. This description is included in the Potential Developed-Condition Impacts of the Tumwater Brewery Planned Action area because new traffic associated with future projects that implement the Planned Action was included in the Brewery District Plan traffic analysis. Only some proportionate share of the improvements described below would be attributable to future development on the historic Tumwater Brewery properties.

Future Roadway Conditions

Custer Way currently serves as commute route to and from I-5 North and US 101. This traffic demand is anticipated to grow over the next 20 years. The *Brewery District Plan* evaluated the vehicular traffic demands for the area and also evaluated the potential for improving non-motorized circulation within the area. The Brewery District is envisioned as developing into a social/commercial hub with improved facilities making walking, biking and store-front shopping more comfortable and attractive. The transportation improvement package identified in the *Brewery District Plan* is designed to accommodate the overall goal to make the area a walkable community and also to accommodate commute and local vehicle traffic needs.

A key component of the *Brewery District Plan* is to implement vehicle lane reductions on Capitol Boulevard and Custer Way to accommodate expanded non-motorized facilities. Specifically, a northbound travel lane will be removed on Capitol Boulevard from E Street to Cleveland Avenue, and a westbound travel lane

will be removed from Boston Street to Cleveland Avenue. To provide an alternative for vehicular commute traffic, the E Street Extension would be constructed to provide an arterial connection across the Deschutes River Valley from Deschutes Way to Cleveland Avenue.

Table 3.5.5 lists the transportation improvements adopted for implementation by the City of Tumwater to serve the future needs and goals of the Brewery District.

TABLE 3.5-5. BREWERY DISTRICT PLAN – TRANSPORTATION IMPROVEMENT LIST

Priority	Roadway or Intersection Project	Description	Notes
1	E Street Extension - Deschutes Way to Cleveland Avenue	Construct a new arterial roadway	Required to accommodate future improvements to Custer Way and Capitol Blvd
2	Custer Way Corridor Preliminary Design Study	Preliminary design to identify roadway and intersection footprint and ROW requirements	Provides a framework to guide future development along Custer Way
3	2nd Avenue/Custer Way Intersection	Restripe southbound approach to add a second left-turn movement	Lower cost project that could be implemented independent of other projects
4	Bates Neighborhood Circulation	Restripe Clark Place and Erie Street to improve circulation and add landscaping improvements to neighborhood streets	Lower cost project that could be implemented independent of other projects
5	Custer Way Corridor – Boston Street to Cleveland Avenue	Remove eastbound vehicle lane and left-turn lanes through corridor. Construct roundabouts at Boston Street, Capitol Boulevard and Cleveland Avenue. Construct a raised median and add non-motorized and landscaping improvements	
6	Capitol Boulevard/Carlyon Avenue Intersection	Construct roundabout	Required for future median section on Capitol Blvd
7	Capitol Boulevard/Cleveland Avenue Intersection	Construct roundabout	Required for future median section on Capitol Blvd

8	Cleveland Avenue – Capitol Boulevard to Custer Way	Remove the center-turn lane and add non-motorized and landscaping improvements	Could be constructed in phases (northern portion requires relocating Tumwater Transit Center)
9	Capitol Boulevard – Custer Way to Cleveland Avenue	Remove the center-turn lane and a northbound vehicle lane. Construct a raised median and add non-motorized and landscaping improvements. Includes relocating Tumwater Transit Center from Cleveland Avenue to Capitol Boulevard	
10	Capitol Boulevard – E Street to Custer Way	Remove a northbound vehicle lane and add non-motorized improvements	
11	Cleveland Avenue – E Street Extension to Custer Way	Remove a northbound vehicle lane and add non-motorized improvements	
12	Capitol Boulevard – Cleveland Avenue to Carlyon Avenue	Remove the center-turn lane and construct raised median. Add non-motorized and landscaping improvements	

TRAFFIC VOLUME FORECAST

The traffic volume forecast for this analysis is based on the 2035 forecast prepared for the *Brewery District Plan*. The traffic volume forecasts include the influence of the proposed improvement package described in Section 5.1 of that Plan. The traffic volumes at study area intersections have been refined slightly to reflect the specific circulation patterns of the Planned Action area alternative development scenarios and for the "bookend" access alternatives.[3]

The Thurston Regional Planning Council (TRPC) *Regional Travel Demand Model* was used in the *Brewery District Plan* to estimate future traffic flows in the area. The Base Year (2009) travel demand model is calibrated to replicate existing travel patterns. TRPC has also prepared a 2035 scenario which includes future roadway projects and regional growth and shift in household and employment densities. While the model is calibrated to existing conditions, traffic volumes on individual roadways vary somewhat from existing traffic counts. To account for this variance, the transportation model traffic volume assignments were post-processed to align them with existing ground counts. Specifically, the traffic volume growth predicted by the transportation model was used to grow the 2012 traffic volumes to prepare the 2035 PM peak hour traffic volumes used in the analysis. The 2035 volumes were determined by calculating the

[3] The Planned Action area "bookend" access alternatives are defined above in the Site Access Alternatives subsection.

growth between 2009 and 2035 and applying that growth to the existing 2012 traffic volumes. The projected 2035 PM peak hour traffic volumes used for the entire Brewery District study area are shown in Technical Appendix D.

Future development within the proposed Planned Action area would have a measureable impact on area roadways and intersections. As previously noted, the internal circulation design within the Planned Action area has not been completed and it is not yet known which driveway (Boston Street Extension or Schmidt Place) drivers will favor for access to/from Custer Way. For the purpose of environmental review, two "bookend" scenarios were prepared, one with all site-generated traffic using the Boston Street Extension, and one using Schmidt Place. The 2035 total traffic volume assignment with all site-generated traffic using Boston Street is shown on Figure 3.5-4 and all site-generated traffic using Schmidt Place is shown on Figure 3.5-5.

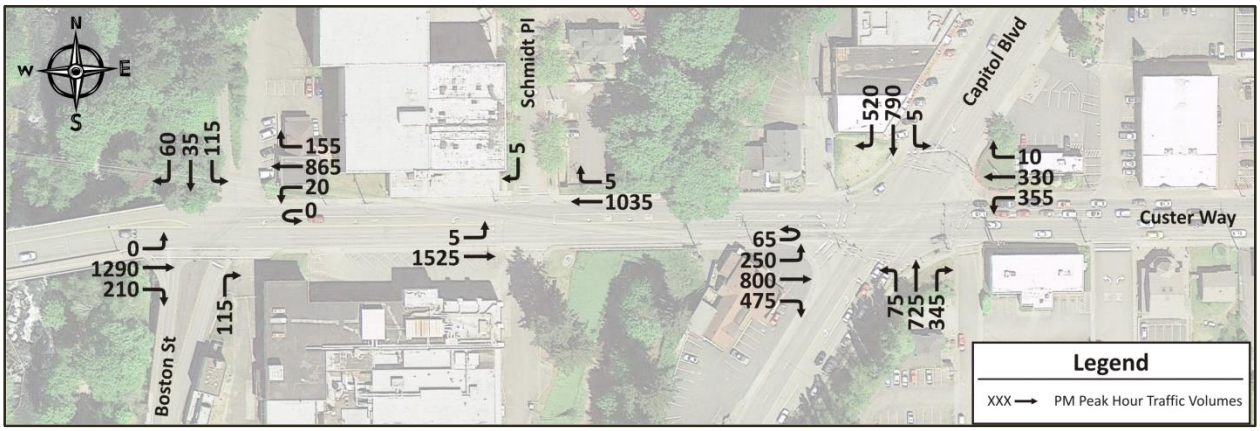

FIGURE 3.5-4. PROJECTED 2035 TOTAL TRAFFIC ASSIGNMENT – 100% BOSTON STREET ACCESS

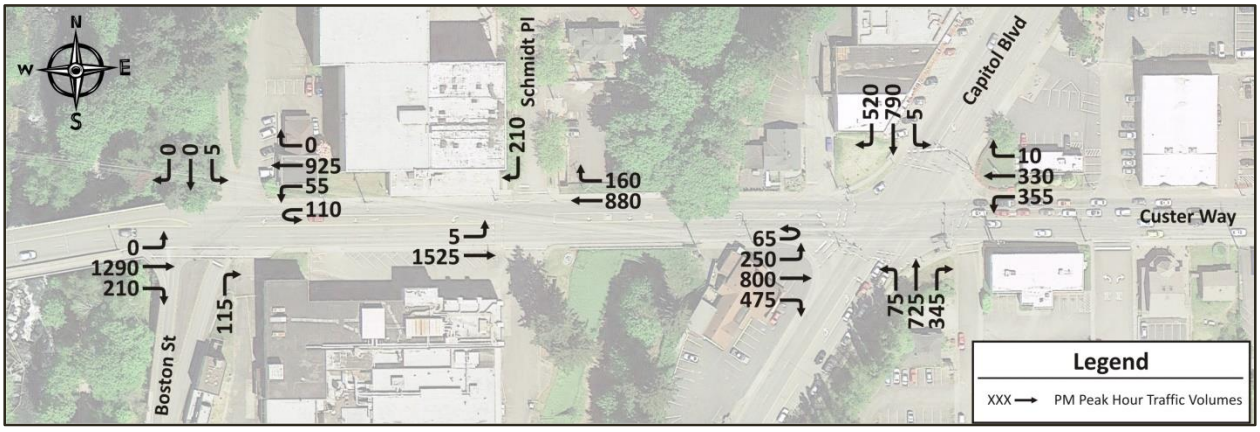

FIGURE 3.5-5. PROJECTED 2035 TOTAL TRAFFIC ASSIGNMENT – 100% SCHMIDT PLACE

CUSTER WAY/BOSTON STREET OPERATIONS

Custer Way/Boston Street is a tee intersection that currently operates with Boston Street stop sign-control. There is also a southbound driveway approach across from Boston Street that would be rebuilt with future project development within the Planned Action area. The northbound approach of Boston

Street has a single approach lane and is signed to prohibit left turns onto WB Custer Way. The EB approach of Custer Way has two through lanes with right-turns made from the curbside through lane. The WB approach of Custer Way has a left-turn lane and a through lane. The intersection currently operates at Level of Service (LOS) B for the NB right-turn movement, and LOS C for the WB left-turn movement.

In the *Brewery District Plan*, this intersection is identified for conversion to modern roundabout control. The intersection will operate with a "teardrop" design that will allow left-turns and u-turns on westbound Custer Way but not eastbound Custer Way. Also, northbound traffic on Boston Street would be required to turn right onto Custer Way. All other movements would be allowed.

Under either 2035 traffic volume scenario, the intersection would operate at LOS A during the PM peak hour as a Modern Roundabout.

CUSTER WAY/SCHMIDT PLACE OPERATIONS

Custer Way/Schmidt Place is a tee intersection that operates under stop sign-control for the southbound approach. There is also an unused driveway approach across Custer Way from Schmidt Place. SB Schmidt Place has a single shared lane. EB Custer Way has two through lanes with left turns made from the inside through lane. The WB approach has a shared through/right-turn lane and a left-turn lane; however, the left-turn lane is used as storage for vehicles queuing to turn onto SB Boston Street. During the PM peak hour, this intersection currently operates at LOS C for the SB approach.

As part of the Custer Way improvements identified in the *Brewery District Plan*, a center median will be installed between Boston Street and Capitol Boulevard that will restrict Schmidt Place to right-in/right out (RIRO). Vehicles wishing to enter from eastbound Custer Way would go past Schmidt Place and perform a u-turn at Capitol Boulevard and enter as a right-turn from westbound Custer Way. Similarly, vehicles wishing to exit onto eastbound Custer Way would turn right onto Custer Way and u-turn at Boston Street.

For the 2035 horizon, the operation of this intersection would vary significantly between the Planned Action area "bookend" access scenarios. The SB right-turn movement would operate LOS E with Schmidt Place as the primary access. With the primary access at the Boston Street Extension, the intersection would operate at LOS C.

CUSTER WAY/CAPITOL BOULEVARD OPERATIONS

Custer Way/Capitol Boulevard is a four-way signalized intersection. The EB approach on Custer Way provides a left-turn lane, a through-left-turn lane and a shared through-right-turn lane. WB Custer Way provides a left-turn lane and a shared left-turn-through-right-turn lane. The NB and SB approaches on Capitol Boulevard each have a left-turn lane, a through lane and a shared through-right-turn lane.

The westbound and eastbound movements operate with split signal phasing. The northbound and southbound left-turn phases are protected. In the PM peak hour, the intersection operates at LOS D.

This intersection is planned to be converted to a modern roundabout as part of the Brewery District Plan improvements. The intersection will be reconstructed as a two-circulating-lane roundabout with the following lane geometries: the northbound approach will have a thorough/left-turn lane and a right-turn

lane. The southbound approach will have a through/left-turn lane and a through/right-turn lane. The eastbound approach will have a right-turn lane, a through lane and a shared through/left-turn lane. The westbound approach will have a left-turn lane and a shared through/right-turn lane.

Under this configuration, the intersection will operate at LOS C during the 2035 horizon under either Planned Action area driveway access scenario.

Table 3.5-6 provides a summary of the level of service analysis for the study area intersections. The capacity analysis worksheets are provided in Technical Appendix D.

TABLE 3.5-6. LEVEL OF SERVICE ANALYSIS FOR STUDY AREA INTERSECTIONS

	Existing 2012 Volumes	Projected 2035 Volumes	
		Boston Street Extension Access	Schmidt Place Access
Intersection	LOS (Delay)	LOS (Delay)	LOS (Delay)
Boston Street/Custer Way	B (14.7)	A (1.3)	A (0.8)
Schmidt Place/Custer Way	C (20.1)	C (19.1)	E (48.3)
Capitol Boulevard/Custer Way	D (38.9)	C (27.7)	C (27.7)

As shown in Table 3.5-6, each of the study area intersections would operate at an acceptable LOS for the 2035 horizon with full build-out within the Tumwater Brewery Planned Action area, except for the Schmidt Place/Custer Way intersection. The analysis indicates that Schmidt Place would not operate at an acceptable LOS if it is required to serve all inbound/outbound traffic generated by site development. The Boston Street/Custer Way intersection is better suited to serving as the primary access to the Planned Action area.

INTERIM IMPROVEMENT STRATEGY

This analysis was prepared to confirm that traffic generated by future development within the Tumwater Brewery Planned Action area would operate acceptably within the roadway system identified for the area in the *Brewery District Plan*. Many of the improvements adopted in the *Brewery District Plan* are designed to enhance the "walkability" of the area to spur the transition to a multi-modal town center. Although future development within the Planned Action area would receive benefit from the improved multi-modal system, most of the improvements planned would not be required to serve traffic that would be generated by this development. However, the proposed roundabout at Boston Street/Custer Way would be essential to site operations. This roundabout would provide the following specific benefits to future development within the Planned Action area:

- Provide access into and out of the site

- Provide for WB to EB u-turns that would, in turn, allow for installation of a center median on Custer Way between Boston Street and Capitol Boulevard
- Improve traffic flows and reduce queuing on Custer Way between 2nd Avenue and Cleveland Avenue.

If the improvements to the Custer Way corridor are not implemented by the City of Tumwater prior to development within the Tumwater Brewery Planned Action area, the developer(s) of implementing projects would be required to construct the "teardrop" roundabout at Boston Street. The roundabout may be designed and constructed in an "interim" configuration as it may not be possible to construct all of the roadway and non-motorized improvements envisioned within the right-of-way currently available. The design and construction of interim improvements would be planned to fit within the context of the ultimate improvements, to minimize work that would have to be redone at a later time. Design and construction of the Boston Street/Custer Way roundabout would be subject to review and approval by the City of Tumwater.

In this interim scenario, the Capitol Boulevard/Custer Way intersection would remain in its current configuration. As noted previously, a benefit of the RAB at Capitol Boulevard would be to allow for EB to WB u-turns on Custer Way, which would in turn allow for construction of a full median along Custer Way. Without the u-turn capability at Capitol Boulevard/Custer Way, the Schmidt Place access becomes more critical to provide entry for vehicles entering the development from the west via 2nd Avenue or from NB Boston Street. A conceptual layout of the interim channelization is shown in Figure 3.5-6

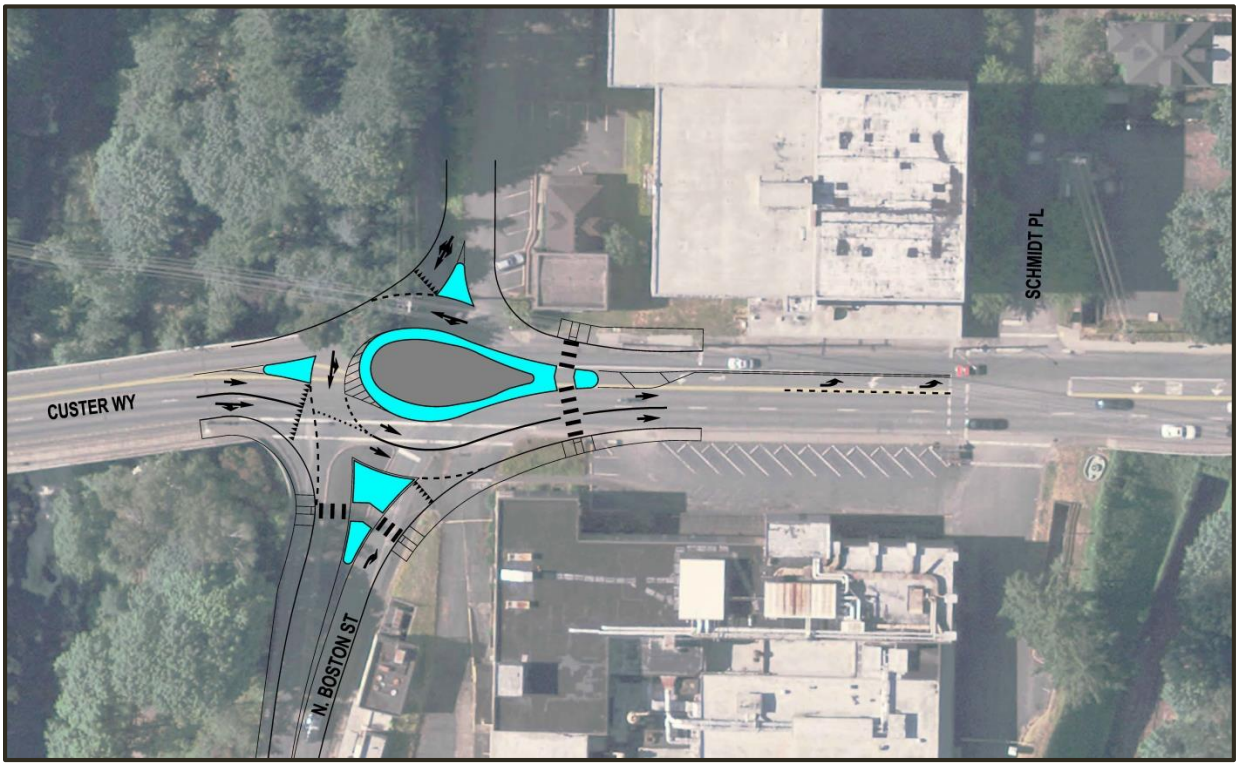

FIGURE 3.5-6. CONCEPTUAL INTERIM CHANNELIZATION

Analysis of the Custer Way intersections with Boston Street, Schmidt Place and Capitol Boulevard has been prepared for a near-term scenario with full build-out of either Alternative 2 or Alternative 3. The analysis was prepared for a "hypothetical" 2018 horizon year and shows the function of the accesses and nearby intersections if some or all of the Planned Action Alternative 2 or 3 development is constructed prior to the roadway improvements identified in the Brewery District Plan.

INTERIM TRAFFIC VOLUME PROJECTIONS

Interim horizon traffic volume projections were prepared by collecting 2015 PM peak hour traffic volume counts at Custer Way/Boston Street and Custer Way/Capitol Boulevard intersections. A 2% annual growth rate was applied to all movements to prepare a 2018 "baseline" volume scenario. The 2015 traffic count volume worksheets are included in Appendix D.

Full-development site-generated traffic volumes were added to the 2018 baseline volumes to estimate 2018 volumes with project development. The assignment of traffic would be slightly different under this scenario, with EB to NB left-turns allowed from Custer Way onto Schmidt Place. Schmidt Place could continue to allow SB to EB left turns onto Custer Way, but for this analysis the SB approach was assumed to operate as a de facto right-turn-only lane, with vehicles wishing to turn onto EB Custer Way using the Boston Street RAB to u-turn. The 2018 PM peak hour volumes with project development are shown on Figure 3.5-7 and Figure 3.5-8.

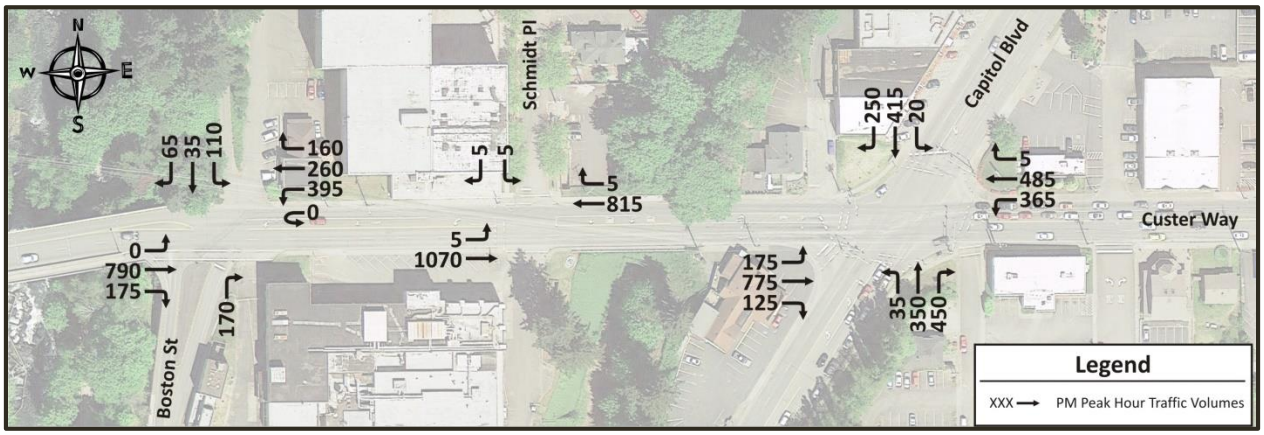

FIGURE 3.5-7. PROJECTED 2018 TOTAL TRAFFIC ASSIGNMENT – 100% BOSTON STREET ACCESS

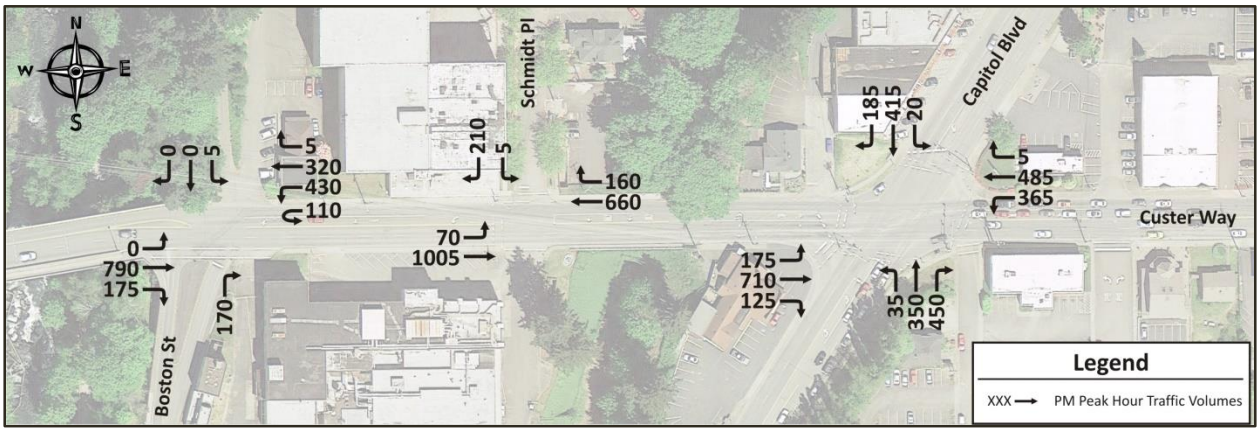

FIGURE 3.5-8. PROJECTED 2018 TOTAL TRAFFIC ASSIGNMENT – 100% SCHMIDT PLACE ACCESS

Custer Way/Boston Street

This intersection would be built to the same configuration as described in The "Custer Way/Boston Street Operations" section above. The roundabout would be of a "teardrop" design that would not allow the NB through movement from Boston Street into the site or EB to NB left-turns into the site. All other movements would be allowed. The WB approach would be a single lane providing right-turn, left-turn and through movements. The SB approach would provide a single lane allowing right-turn and through movements. The EB approach would provide two lanes: a through lane and a through-right lane. The NB approach would provide right-turns only.

Under this scenario the intersection would operate at a LOS A with all site-generated traffic entering at Boston Street or all site generated traffic entering at Schmidt Place.

Custer Way/Schmidt Place

Under the interim scenario, westbound Custer Way would be re-configured to have one westbound lane between Schmidt Place and Boston Street. The center lane, which is currently striped as a WB to SB left-turn lane for vehicles headed south onto Boston Street, would be restriped as an EB to NB left-turn lane into Schmidt Place. The SB approach of Schmidt Place could remain as a full access approach to provide circulation options throughout the day, but it is anticipated that it would function as a de facto right-turn-only approach during the PM peak hour, with vehicles using the Boston Street RAB to perform a WB to EB u-turn.

Under this scenario the SB right-turn movement would operate a LOS D condition with Schmidt Place as the primary access. With the primary access at Boston Street Extension, the intersection would operate at a LOS C condition.

Custer Way/Capitol Boulevard

This intersection would remain under the current configuration under traffic signal control. Under this scenario, the SB right-turn movement would operate at a LOS D condition with Schmidt Place as the primary access. With the primary access at Boston Street Extension, the intersection would operate at a LOS E condition.

The predicted operation of the study intersections for the 2018 interim scenario are shown in Table 3.5-7 below.

TABLE 3.5-7. LEVEL OF SERVICE SUMMARY – INTERIM IMPROVEMENT STRATEGY

	Existing 2012 Volumes	Projected 2018 Volumes	
		Boston Street Extension Access	Schmidt Place Access
Intersection	LOS (Delay)	LOS (Delay)	LOS (Delay)
Boston Street/Custer Way	B (14.7)	A (4.2)	A (3.7)
Schmidt Place/Custer Way	C (20.1)	C (24.6)	D (33.2)
Capitol Boulevard/Custer Way	D (38.9)	E (59.1)	D (54.2)

The study intersections will function at a LOS D condition or better for both access scenarios with the exception of Capitol Boulevard/Custer Way for the Boston Street extension-only access scenario. Access to the development via Schmidt Place is necessary to allow vehicles to enter the project site from the west via Custer Way and from the south via Boston Street. Without a Schmidt Place access, those vehicles would be required to go through the Capitol Boulevard/Custer Way intersection, turn around at the Capitol/Cleveland/Custer triangle and return on westbound Custer Way to enter at Boston Street.

NON-MOTORIZED CIRCULATION

There are currently a number of parks and recreational areas within the Brewery District, including Tumwater Falls Park, Tumwater Historical Park, Henderson House and Crosby House Museums. Existing trails provide a walking route along the Deschutes River west of the proposed Tumwater Brewery Planned Action area, and a trail connection under Interstate 5 to the Capitol Lake Interpretive Park. The City of Tumwater has identified other trail connections that will effectively connect the area to the south along the Deschutes River.

The *Brewery District Plan* has identified additional improvements for non-motorized circulation improvements in the area including an enhanced Transit Transfer Center on Capitol Boulevard with a pedestrian connection between Capitol Boulevard and the proposed Tumwater Brewery Planned Action area, with a bridge over the Union Pacific Railroad right-of-way.

The Alternative 2 and Alternative 3 conceptual land use plans for future development within the Tumwater Brewery Planned Action area integrate into and enhance the non-motorized circulation network planned for the larger community. Either Alternative 2 or Alternative 3 would include internal non-motorized connectivity across the property, and would accommodate the pedestrian crossing from Capitol Boulevard. Future development would also likely entail connecting to the existing trail along the Deschutes River (see Chapter 1, Figure 1.9-1, Proposed Access and Improvement Concepts).

3.5.4 Mitigation Measures

The internal site circulation system shall be designed such that entering and exiting traffic will be split between Schmidt Place and Boston Street. The *Brewery District Plan* anticipated the type of development and traffic loading expected as a result of implementing future development within the Tumwater Brewery Planned Action area in accordance with the conceptual land use alternatives evaluated in this EIS. The analysis contained in the EIS confirms that traffic generated by future development within the Planned Action area would function within the context of the roadway and intersection plan identified for the area in the *Brewery District Plan*. However, to accommodate the specific access needs of site development, the following mitigation measures would be required.

ALTERNATIVE 1

Alternative 1 would require any individual development proposal within the study area to prepare a site-specific Traffic Impact Analysis as part of the required SEPA review. Specific off-site mitigation would be identified at that time. There would be no coordinated planning under the provisions of a Planned Action ordinance.

Pay City of Tumwater Transportation Impact Fee

The City of Tumwater collects funds for area roadway improvements through a Transportation Impact Fee (TIF) program. The TIF contribution is calculated by ordinance on a "per unit" basis. Under Alternative 1, developers would pay impact fees incrementally as the site is built-out.

Pay City of Olympia Transportation Mitigation Fees

Proponents of future development under the Alternative 1 may be required to pay City of Olympia transportation mitigation fees incrementally as the site is built-out.

ALTERNATIVE 2 OR ALTERNATIVE 3

Construct Modern Roundabout at Boston Street/Custer Way

If the City of Tumwater has not completed the Custer Way improvements identified in the *Brewery District Plan* prior to development that implements the Tumwater Brewery Planned Action under Alternative 2 or Alternative 3, developer(s) would be required to construct a modern roundabout at the Boston Street/Custer Way intersection.

Pay City of Tumwater Transportation Impact Fee

Proponents of future development to implement the Planned Action under the Alternative 2 or Alternative 3 conceptual land use scenarios would be required to pay City of Tumwater transportation impact fees

incrementally as the site is built-out. TIFs collected under Alternative 3 would be incrementally higher than under Alternative 2 due to higher trip generation caused by a higher level of development intensity (see Tables 3.5-2 and 3.5-3).

Pay City of Olympia Transportation Mitigation Fees

Proponents of future development to implement the Planned Action under the Alternative 2 or Alternative 3 conceptual land use scenarios may be required to pay City of Olympia transportation mitigation fees incrementally as the site is built-out. The City of Olympia collects the fees based on a "per PM peak hour trip" basis. The actual fees would be calculated by the City of Olympia individually for each building project within the development.

3.5.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to transportation, circulation and parking would be anticipated with future site development to implement the proposed Planned Action under any of the conceptual land use alternatives.

3.6 Environmental Health (Hazardous Materials)

3.6.1 Affected Environment

The intent of the Integrated Planning Grant (IPG) is to cleanup contamination left by past site uses commensurate with facilitating adaptive reuse of the site. Based on the proposed Tumwater Brewery Planned Action area being an IPG recipient, the site is known to have had previous uses that generated hazardous materials. Additionally, the lower portion of the site is currently under a Voluntary Cleanup Plan (VCP). Past uses on the lower portion of the site included such things as a former paint shop, tannery, brewery, and storage areas. In 2012, Associated Environmental Group, L.L.C. (AEG) conducted an interim soil remediation action that included excavation and disposal of approximately 202 tons of metals-impacted soil from the eastern section of the former paint shop area, located adjacent to the southeast corner of the main warehouse complex (lower site). Soil samples were collected from several areas that were associated with the former paint shop. The potential constituents of concern (COCs) were initially determined to be petroleum hydrocarbons and heavy metals (cadmium, chromium, arsenic, lead, and mercury). Petroleum hydrocarbons were not detected in any of the samples. However, elevated concentrations of total lead, cadmium, arsenic, and chromium were detected in shallow soils (0 to 1.5 feet below ground surface [bgs]). Figures 1 and 2 in the *Hazardous Materials Report* (Technical Appendix G) show the surveyed area of concern. AEG's findings of heavy metals (lead, cadmium, chromium, and arsenic) at concentrations exceeding Model Toxics Control Act (MTCA) Method A cleanup levels throughout the site is a confirmation of findings from previous soil sampling environmental investigations conducted by Arcadis and Tetra Tech.

MTCA identifies potential areas for cleanup and defines the methods for investigating sites, site cleanup standards, and site goals. The Washington Department of Ecology is responsible for administering the standard and listing the sites that contain hazardous materials that pose a potential threat to human health and the environment. MTCA establishes cleanup standards and requirements for the cleanup of

sites contaminated with hazardous substances. If an initial investigation confirms contamination is present, and cleanup necessary, the property is entered on Ecology's Site Management Information System.

Following sampling activities, a Restrictive Covenant was recorded for the site in 2002. An amended Restrictive Covenant was recorded in 2003, following the termination of groundwater sampling requirements. The current Restrictive Covenant imposes the following limitations:

- The property shall be used only for industrial purposes unless residual concentrations of lead and arsenic are remediated below MTCA Method A or Method B residential cleanup levels.
- Any activity on the site that may interfere with or reduce the integrity of the remedial action is prohibited.
- Any activity that may result in the release of a hazardous substance that remains on the property is prohibited.
- The owner of the site must give written notice to Ecology of the owner's intent to convey any interest in the site.
- The owner must restrict leases to uses and activities consistent with the Restrictive Covenant.
- The owner must notify and obtain approval from Ecology prior to any use of the site that may be inconsistent with the terms of the Restrictive Covenant.
- The owner or successor owner shall grant Ecology the right to enter the site at reasonable times.
- The owner or successor owner reserves the right to remove this Covenant with Ecology's approval.

As a result of the No Further Action and institutional controls for the site, Ecology conducted a five-year Periodic Review as required by MTCA. The Periodic Review document, dated May 2011, states that based on the review, the Washington Department of Ecology (Ecology) had determined that the requirements of the Restrictive Covenant are being met, but further action is warranted to achieve soil cleanup levels that comply with unrestricted land uses. Due to the current multi-use zoning of the lower portion of the site, the site no longer qualifies for use of MTCA Industrial cleanup levels.

3.6.2 Potential Impacts During Construction

Potential construction impacts under the any of the Alternatives could include exposure/disturbance of contaminated soils. Previous investigations have determined the presence of heavy metals as Constituents of Concern (COC). Asbestos and lead paint are also COCs because of the age of the buildings present on the lower portion of the site. In addition, the Union Pacific right-of-way and railroad tracks run along the southeast and eastern boundary of the various parcels. Associated COCs of the tracks include petroleum hydrocarbons and carcinogenic polynuclear aromatic hydrocarbons (cPAHs). Constituents of Concern would require additional investigation and remediation prior to initiating site development under any conceptual land use alternative.

3.6.3 Potential Developed-Condition Impacts

The development of the site could potentially expose the general public to contaminated soils, and any soils cleanup levels would need to meet the unrestricted level of the MTCA Method-A standard. If

concentrations are found to be above MTCA Method-A unrestricted soil cleanup levels, the material would need to be excavated and disposed of at a licensed landfill.

3.6.4 Mitigation Measures

ALTERNATIVE 1

For Alternative 1, the Model Toxics Control Act (MTCA) Method-A unrestricted land use standard applies and requires any future development of the site to assess and abate the COC in the soils.

Asbestos would need to be addressed using Best Management Practices throughout existing buildings to be re-developed. Metals should be characterized in the area near the former paint shop, the area adjacent to the old brewery warehouse, and historic brewhouse and storage building, all on the lower portion of the site. Shallow boreholes or hand auger holes would need to be drilled adjacent the Union Pacific Railroad tracks along any areas where future development is contemplated to determine whether there are cPAHs and/or total petroleum hydrocarbons (gasoline, diesel, or heavy oil) present in this area. Samples would be collected at the following intervals:

- One sample every 200 feet along the railroad tracks from Custer Way to the area northeast of the north warehouse would be approximately 7 samples collected from the ground surface to approximately 2.5 feet bgs.
- One sample every 100 feet along the north side of the North Warehouse for metals. This would total 7 to 8 samples collected from ground surface to approximately 2.5 feet bgs along the north side of the warehouse area.
- Two samples collected between the warehouse and the Deschutes River at approximately the same depths.
- Nine to ten samples collected along the south end of the warehouse between the river and the railroad right-of-way and analyzed for heavy metals.
- Two shallow soil samples collected at the east end of the warehouse and analyzed for heavy metals.

If concentrations are found to be above MTCA Method-A unrestricted soil cleanup levels, the material would be excavated and disposed of at a licensed landfill.

At least three groundwater monitoring wells would be installed to collect groundwater samples in the area of the Old Brewhouse. All samples would be analyzed for all COCs. Analyses should be conducted using EPA Method 8260 for cPAHs, NWTPH-HCID for petroleum hydrocarbons (and NWTPH-Gx, NWTPH-Dx extended if gasoline-range TPH or diesel/heavy oil-TPH is detected, respectively).

ALTERNATIVE 2 AND 3

Both Alternative 2 and Alternative 3 require the same Model Toxics Control Act (MTCA) Method-A unrestricted land use standard applied to Alternative 1, but the number and locations of soil samples are increased based on the square footage of the redevelopment area and the foot print of new buildings.

3.6.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts from hazardous materials would be anticipated with future site development to implement the proposed Planned Action under any of the conceptual land use alternatives.

3.7 Historic and Cultural Resources

3.7.1 Affected Environment

The proposed Planned Action area has been listed as a historic district on the National Register of Historic Places since 1977. The historic district includes archaeology as well as historic buildings and structures. The area is located within the traditional tribal territories of the Squaxin Island Tribe and Nisqually Indian Tribe.

Washington State laws address archaeological sites and Native American burials. The Archaeological Sites and Resources Act [RCW 27.53] prohibits disturbance of known prehistoric and historic archaeological sites on public or private lands. The Indian Graves and Records Act [RCW 27.44] prohibits the disturbance of American Indian graves and provides that inadvertent disturbance through construction or other activity requires re-internment under supervision of the appropriate Indian tribe. The Washington State Department of Archaeology and Historic Preservation predictive model also records the area of the proposed Planned Action as a high risk area for encountering cultural resources, although no diagnostic artifacts were identified during the 2015 survey.

Along with the proposed Planned Action area's tribal significance, the area is also historically significant as the location of the first industrial development on Puget Sound. Following on the heels of its use as a tannery, the property was bought by Leopold F. Schmidt in 1895 to be used as a brewery. What was first known as the Capital Brewing Company was later renamed as Olympia Brewing Company (NRHP, 1977). The buildings that remain in the Planned Action area date from 1905 to 1945 at the brewhouse complex and 1966 to 1970 at the RST Cellars site (Stevenson & Schreck, 2006).

Today, the built environment consists of the upper area with the RST Cellars building and associated parking, and the lower area that includes the historic brewhouse, a multi-phase warehouse with attached keg house, and a large storage shed. The historic brewhouse is a six-story building designed in a simplified Italianate style. All of the historic buildings in the lower area have been recommended as contributing to the significance of the historic district and appear to be deteriorating (Artifacts Consulting, Inc., 2011). There is a concrete pad in the area between the brewhouse, warehouse and shed that is approximately 2 to 4 feet above the surrounding grade. Most of the parking is located on the upper portion of the site, with minimal parking on the lower area associated with the brewhouse. In addition, the lower site is located within the shoreline environment of Capitol Lake and the Deschutes River, and encompasses critical areas such as steep slopes and wetlands. Implementation of the proposed Planned Action would provide public access to these public shorelines; however, a Shoreline permit, critical area reviews and critical area permits will be required for future development of the site.

SITE OBSERVATIONS

Archaeological monitoring and field investigations were conducted for the Planned Action area in August 2014 and July 2015. The fieldwork consisted of pedestrian survey and shovel test probe excavation. Fill deposits, railway pilings and railroad beds associated with activities at the Tumwater Brewery were identified on the east bank of the Deschutes River north of the Tumwater Brewery complex. Testable materials appeared modern and were not indicative of historic-age activities. Modern materials included a large number of colorless and amber bottle glass shards, metal and wire nails, calcined and saw cut bone, fabric remnants and building materials, including Ludowici terracotta roofing tiles, ceramic floor tiles, saltglazed ceramic drainage pipe fragments, bricks, brick fragments, and concrete slabs. No diagnostic historic-age materials were noted in the subsurface tests.

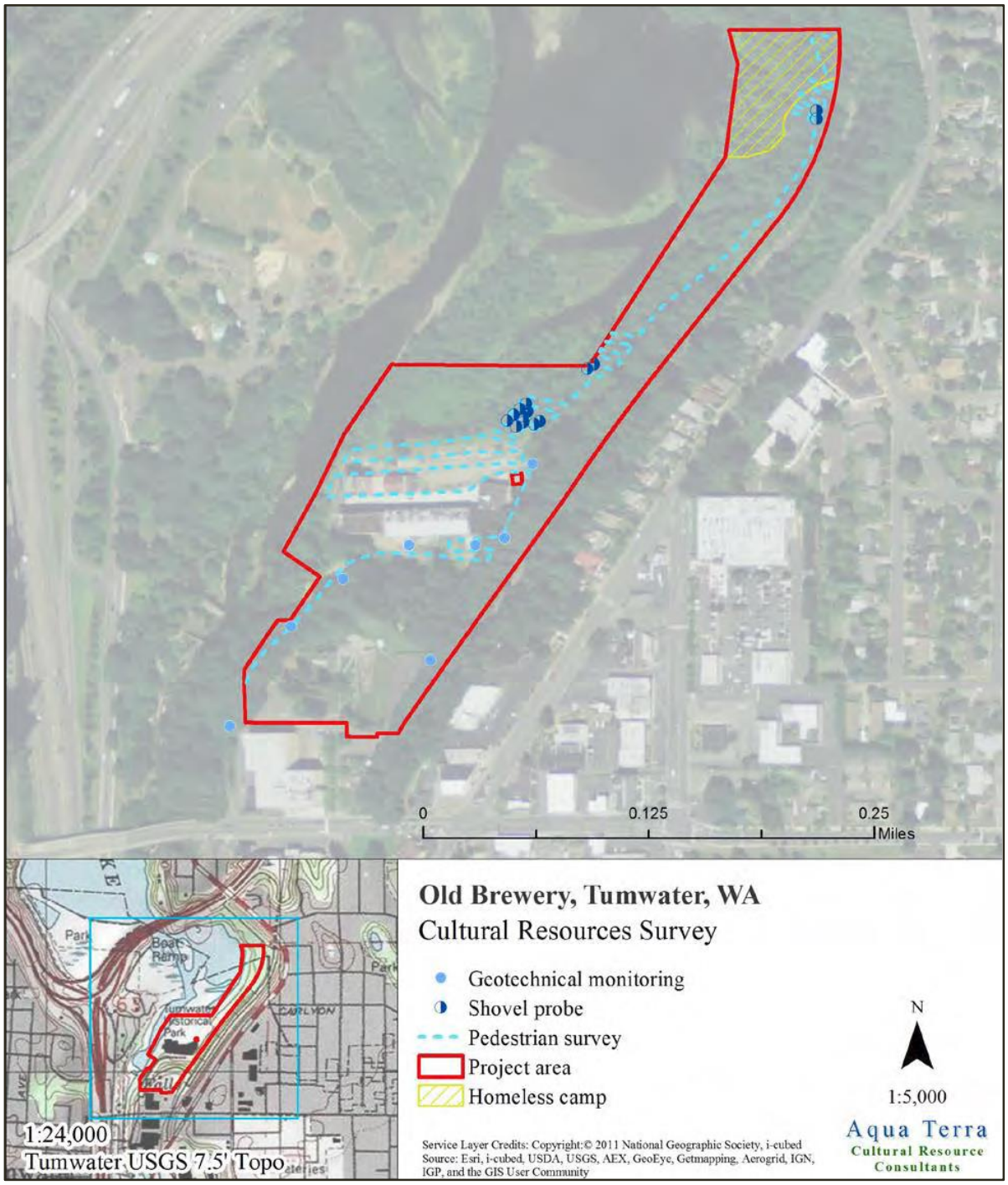

FIGURE 3.7-1. CULTURAL RESOURCES SURVEY

3.7.2 Potential Impacts During Construction

During construction, inadvertent discoveries of archaeological material or cultural resources during project excavation in the proposed Planned Action area could be impacted by excavation and construction activities. Other historic resources in the vicinity could experience indirect impacts such as increases in dust, vibration and traffic levels.

3.7.3 Potential Developed-Condition Impacts

Redevelopment could affect views from offsite historic resources; however, a majority of these sites are currently affected by existing buildings and structures, and development options considered in the Alternatives are likely to retain and improve existing historic buildings.

3.7.4 Mitigation Measures

ALTERNATIVE 1

The actions anticipated under Alternative 1 could lead to the potential loss of material and/or structural integrity of the significant historic buildings in the Planned Action area. If Alternative 1 is selected, steps to minimize loss of historic building integrity to include an architectural history monitor or monitoring system if any future construction involves significant vibration to minimize loss of material and/or structural integrity loss to the historic properties.

ALTERNATIVE 2

Prior to construction and redevelopment of the historic brewhouse building, the garage structure and site access improvements, an updated historic structures report is needed to specifically mitigate and minimize the loss of the character-defining features of the significant historic buildings and structures. The U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties should be used in evaluating any project proposal to those buildings located within the historic district. Further archaeological survey is needed to ensure that no unknown archaeological deposits are disturbed during construction.

Given the probability of encountering cultural resources in the Planned Action area during construction, archaeological monitoring of any future ground-disturbing activity is required. An unanticipated discovery plan is also needed for any action that involves excavation. Similarly, an architectural history monitor or monitoring system is required if any future construction were to involve significant vibration, such as during the construction of pilings or the addition of new structures, in order to minimize loss of material and/or structural integrity of historic properties.

ALTERNATIVE 3

Alternative 3, which adds an additional structure for mixed use and a larger parking garage has the same mitigation measures and monitoring considerations as described for Alternative 2, with a proportional increase to the area evaluated due to the expanded footprint of the proposed buildings.

3.7.5 Significant Unavoidable Adverse Impacts

Provided the above mitigation and monitoring is conducted, no significant unavoidable adverse impacts of cultural resources would be anticipated with future site development of the Planned Action alternatives.

3.8 Public Facilities and Services

3.8.1 Affected Environment

Existing public facilities in the vicinity of the proposed Tumwater Brewery Planned Action area focus on the amenities and natural setting of the Deschutes River as it flows into Capitol Lake. Adjacent to the west and south boundaries of the site are the Tumwater Falls Park, Washington State Department of Fish and Wildlife fish hatchery, and Tumwater Historic Park. To the south and east are the Tumwater Valley Golf Course, Pioneer Park and the Old Settler's cemetery.

Public services are those systems or organizations needed to protect the general health, safety and welfare of a community. They include fire protection, emergency medical response, police services, and public education.

FIRE PROTECTION

The Tumwater Brewery Planned Action area is within the service area of the Tumwater Fire and Emergency Medical Services (EMS) Department. The City of Tumwater web site identifies two fire stations that serve the incorporated area.

EMERGENCY MEDICAL RESPONSE

Emergency medical response is provided by the Tumwater Fire and Emergency Medical Services (EMS) Department.

POLICE PROTECTION

Police protection is provided by the Tumwater Police Department. The department employs 26 commissioned officers, or 1.4 per 1,000 residents – comparable to the Washington State ratio of 1.47 officers per 1,000 residents.

PUBLIC EDUCATION

The Tumwater Brewery Planned Action area is located in the Tumwater School District and is served by Tumwater Hill Elementary School, Tumwater Middle School, and Black Hills High School. The *2014-2020 Tumwater School District Capital Facilities Plan* reports that the district serves a residential population of 37,600 and is planning for a 2030 population of 56,000. Although new classrooms and modernization projects are planned for both Tumwater Hill Elementary and Tumwater Middle School to accommodate this expected future growth, each of the schools that would serve residents in the Planned Action area currently have ample capacity (see Figure 3.8-1).

TUMWATER SCHOOL DISTRICT NO. 33
CAPACITY OF EXISTING SCHOOL FACILITIES
2014 - 2020 Capital Facilities Plan

FACILITY NAME:	Number of Regular Classrooms	Capacity*	Oct. 2014 Headcount Enrollment	Surplus(+) or Deficit(-)	Existing Modular Classrooms	Approved Number of Modulars*
Black Lake Elem.	20	500	498	2	6	8
East Olympia Elem. **	20	500	510	-10	5	5
Littlerock Elem.	15	375	337	38	9	9
Michael T. Simmons Elem.	20	500	610	-110	13	13
Peter G. Schmidt Elem.	20	500	603	-103	10	10
Tumwater Hill Elem.	20	500	460	40	2	2
Total Elementary	***115***	***2875***	***3018***	***-143***	***45***	***47***
Bush Middle School	24	600	544	56	0	7
Tumwater Middle School	23	575	460	115	0	5
Total Middle School	***47***	***1175***	***1004***	***171***	***0***	***12***
Black Hills High School	45	1125	882	243	0	12
Secondary Options***	0	0	99	-99	0	0
Tumwater High School	42	1050	1,166	-116	5	10
Total High School	***87***	***2175***	***2147***	***28***	***5***	***22***
Grand Total	***249***	***6225***	***6169***	***56***	***50***	***81***
New Market Skills Center	20	500	747	-247	0	0
The Skills Center is a stand-alone facility that serves a consortium of ten school districts and is not included in capac						

*Capacity figures do not include modulars.
**East Olympia Elementary is scheduled to have modular classrooms #4 and #5 installed in the 2014-15 school year.
***Secondary Options students are currently housed in BHHS.

FIGURE 3.8-1. TUMWATER SCHOOL DISTRICT CAPACITY

3.8.2 Potential Impacts During Construction

There could be a temporary increase in demand for fire protection and emergency medical aid services within the Planned Action area during construction to respond to potential construction site theft and vandalism or construction-related accidents and injuries.

3.8.3 Potential Developed-Condition Impacts

For the purpose of calculating impacts to public services, it was assumed that development expected under Alternative 1 could include up to 50 residential units. Conceptual land uses for Alternative 2 do not include a residential component. Alternative 3 conceptual land use indicated 75,000 square feet of condominium development and 75,000 square feet of apartments, for a total of 150 residential units.

Using the U.S. Census Bureau's 2013 estimate of 2.27 persons per household for City of Tumwater, Alternative 1 would add 114 people to the City's total population of 19,100 (OFM April 1, 2015 estimate), a .06% increase. The 150 units anticipated in Alternative 3 would add 341 persons to the population, an increase of 1.8%.

FIRE, EMS AND POLICE PROTECTION

The increase demand for services from the City of Tumwater Fire and Police Departments would be proportional to development intensity (e.g., structural density, enclosed parking areas, and visitors as well as residents). Fire and police service needs would be generated incrementally over the buildout period. Development within the Planned Action area would contribute to the City's tax base, and a portion of the tax revenues could help offset incremental increases in demand for public services (fire, police, parks, streets, etc.), as could other sources of revenue such as fees, utility taxes and licenses. These long-term operating and capital needs for City services would likely be addressed through the City's capital facilities planning during the duration of the buildout.

Emergency access to the Planned Action areas was addressed in the *2005 Tumwater Historic District Infrastructure Analysis Summary of Findings* which found that improvements to Boston Street were needed:

> "On-site roadways will need to be upgraded to a minimum of 20 feet wide and must provide emergency vehicle access within 150 feet of all exterior portions of the buildings. This will require that the existing road on the east side of the complex be widened to allow fire trucks and other emergency vehicles access around the buildings."

All Alternatives require that any buildings meet the International Building Code (TMC 15.04) and International Fire Code (TMC15.16) as adopted by the City. The parking garage concept in Alternative 2 or Alternative 3 would need to provide emergency access and design requirements as regulated by the City's parking standards (TMC 18.50).

PUBLIC EDUCATION

Based on the Tumwater School District Student Generation Rate from the *2014-2020 Capital Facilities Plan*, the 50 units anticipated in Alternative 1 and the 75 apartments and 75 condos anticipated in Alternative 3 would generate .191 students per unit. This results in a total of 9.55 students for Alternative 1 and 28.65 students for Alternative 3. For school facility planning purposes for multi-family units, these students would be allocated equally to Tumwater Hill Elementary, Tumwater Middle School and Black Hills High School, each which have capacity to serve this increase (see Figure 3.8-1 above).

3.8.4 Mitigation Measures

Future project development to implement the Planned Action under any conceptual land use alternative would be required to upgrade vehicular access to the lower portion of the site to improve access for all emergency services. Connection upgrades to the water system are needed to provide the necessary fire flow.

3.8.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to public services would be anticipated under any of the Alternatives.

3.9 Utilities

3.9.1 Affected Environment

WATER SERVICE

Potable water is provided to the proposed Tumwater Brewery Planned Action area by the City of Tumwater. According to the City's current *Water System Plan* (2010), the City of Tumwater water system includes 12 groundwater wells, five reservoirs in three pressure zones, three booster stations, and a pipeline distribution network. The proposed Planned Action area is located in pressure zone 350. This zone has a minimum and maximum static service pressure of 38 and 143, respectively. The minimum and maximum elevation served by zone 350 are 20 and 262 feet, respectively. Zone 350 is served entirely by groundwater wells.

Zone 350 is the zone with the most usage and encompasses most of the projected growth in Tumwater. Therefore, this zone will also experience the most increase for demand. The City *Water System Plan* has anticipated historic commercial redevelopment within the proposed Planned Action area; therefore, commensurate commercial demand has been incorporated into the City's water system planning.

The lower site within the proposed Planned Action area is currently served by a 6-inch diameter water line. The upper site is served by an existing 8-inch water main.

The City has planned water system improvement projects that will boost capacity and address future shortfalls. These projects include the Palermo Well Field and the Bush Well Field treatment facility, as well as planned future sources (e.g. the Brewery, Southwest, and Northeast Well Fields). Several of these projects were proposed as part of the City of Tumwater Capital Improvement Program. The only project built to date was a water line that can facilitate future tie-ins to the Palermo Well Field.

SEWER SERVICE

Sewer service to the site is provided by the City of Tumwater. According to the City's current *Sewer System Plan* (1996), the City of Tumwater sewer system serves a 7 square mile area of predominantly residential land use. Existing facilities consist largely of gravity collection lines (ranging in size from 6- to 27-inch diameter), pump stations, and force mains. There are four major interceptors that receive wastewater from the collection lines and route flow toward the Lacey/Olympia/Tumwater/Thurston

County (LOTT) wastewater treatment facility. The system also includes 17 pump/lift stations. These vary in size from 60 to 500 gallons per minute (GPM) and no deficiencies were identified in the existing system. Therefore, it is anticipated that the City's sewage collection system and LOTT treatment plant will have sufficient capacity to serve future redevelopment within the proposed Tumwater Brewery Planned Action area.

The exact location and size of existing on-site sewage collection lines could not be determined; however, the location of a City-owned pump station on the historic Brewery property is known. According to the City, this pump station was designed largely for flows generated by about 20 off-site homes bordering Capitol Boulevard. The City could not verify whether the proposed Planned Action area has a connection to the pump station.

According to drawings from the 1950s, the existing RST building in the upper portion of the proposed Planned Action area connects to a City sewer main within Schmidt Place. This then connects to a 16-inch sewer main that runs adjacent to the railroad tracks east of the site. This sewer main conveys flows north along Capitol Way. In 2007, a 12-inch gravity sewer main was installed along Custer Way. The capacity of this pipe based on calculations is approximately 1.78 cubic feet per second (801 GPM) using the flattest slope. This would indicate available capacity within this system.

STORMWATER MANAGEMENT

Existing development within the proposed Tumwater Brewery Planned Action area pre-dates all current stormwater regulations; therefore, the site does not meet current stormwater management standards. All flow is directed to the Deschutes River or adjacent wetlands. Stormwater runoff from the site is presently uncontrolled and untreated.

The Deschutes River is on the Clean Water Act Section 303(d) list of impaired waters for the following parameters: fecal coliform bacteria, temperature, dissolved oxygen, pH, and fine sediment (*Deschutes River, Capitol Lake, and Budd Inlet TMDL: Technical Report*, 2012). Ecology is currently in the process of establishing total maximum daily loads (TMDLs) for each of the above-listed parameters. Ecology lists potential pollutant sources for impairments to the Deschutes River as: lack of riparian vegetation, deteriorating sewer infrastructure, domestic animals, failing septic systems, fertilizers, recreational users, and road building.

Stormwater management within the City of Tumwater is currently governed by the 2010 Drainage Design and Erosion Control Manual for Thurston County, and the 2012 Department of Ecology Stormwater Management Manual for Western Washington. A code change is proposed during 2015/2016 that will emphasize implementing low impact design (LID) strategies where feasible. Code changes typically occur approximately every 5 to 10 years. Future code requirements may or may not impose more restrictive standards.

ELECTRICAL POWER

According to the City's current *Utilities Plan* (2004), electrical power is provided to the City of Tumwater by the Bonneville Power Administration (BPA) and Puget Sound Energy (PSE). BPA owns and operates the

principle high voltage bulk transmission lines that serve the Puget Sound region. BPA is a power marketing agency of the United States Federal government. PSE provides electrical services as an investor-owned public utility. The primary service BPA provides is wheeled to the PSE service area from several BPA transmission lines.

Tumwater is part of the PSE service area that also includes Bucoda, Lacey, Olympia, Rainier, Rochester, Tenino, Yelm and unincorporated areas of Thurston County. There is one power generation station in Centralia and three transmission stations in Thurston County. In Thurston County, most transmission lines are 115kV. There is a need for additional transmission lines to support the system within the County. It is not anticipated that power system needs for the City of Tumwater would adversely affect the ability of the BPA/PSE system to serve redevelopment within the proposed Tumwater Brewery Planned Action area.

The existing electrical power supply to the proposed Planned Action area includes a 3-phase feeder line along Custer Way with a 3-phase distribution line extending from Custer Way along the Boston Street access and through the site.

3.9.2 Potential Impacts During Construction

Utility impacts during construction activities would be assumed to be similar under all Alternatives and would include removal, replacement, or relocation of most existing onsite utilities, including water, sanitary sewer, electrical, or natural gas lines. The potential for construction impacts related to water quality could vary among the Alternatives, depending upon the amount, type and timing of site work but it is assumed that the Alternatives would result in similar types of construction impacts on a year-by-year basis, and mitigation measures to avoid or minimize these impacts would also be similar.

3.9.3 Potential Developed-Condition Impacts

Each of the Alternatives would result in increased demands on all utility systems. The overall water, sewer, electrical, and natural gas system improvements needed to serve the Tumwater Brewery Planned Action future development would be similar among all Alternatives. The level of demand and consumption would vary proportionate to the development intensity of each Alternative.

WATER SERVICE

The Zone serving the proposed Planned Action area and vicinity (350 Zone) has the greatest current and projected use within the City. Depending on the timing of future site development, system shortfalls may be present in the main distribution network. It is expected that the 8-inch diameter water main that serves the upper portion of the proposed Planned Action area would adequately serve future development and redevelopment in this area of the site under any of the conceptual land use alternatives.

SEWER SERVICE

It is anticipated that the existing LOTT wastewater treatment facility has adequate capacity to provide the necessary treatment for future development under any of the three conceptual land use alternatives. It is anticipated that the lower portion of the proposed Planned Action area would require connection to and possible upgrade to the existing City of Tumwater pump station, along with all new sewer conveyance

pipes to serve future development in this area under any of the three conceptual land use alternative. The upper portion of the site would connect to the City's existing 12-inch line in Custer Way that has adequate capacity to serve anticipated future development in this area under any of the three conceptual land use alternatives.

STORMWATER MANAGEMENT

There are many requirements for stormwater management per current State and County regulations. The two requirements that most significantly affect site development and construction costs are flow control and water quality control. The proposed Planned Action area is exempt from flow control due to its location adjacent to the receiving water body, the Deschutes River (see attached Appendix 1-E of the DOE 2012 Manual). The following analysis of the conceptual land use alternatives, therefore, focuses on stormwater quality treatment requirements only.

Stormwater quality treatment in the developed-condition of a site is only required for pollutant-generating impervious surfaces (PGIS). For the type of development contemplated in the conceptual land use alternatives that would implement the Planned Action, PGIS would typically be comprised of parking areas and access roads. Roof areas (including parking garages with roofs that don't allow parking), landscape areas, and sidewalks would not require runoff water quality treatment.

The forthcoming Ecology Manual updates will have a focus on implementing LID strategies where feasible. Therefore, future site development that would implement the proposed Planned Action would need to analyze whether LID strategies are feasible on the site. Future stormwater management measures would be designed based on the standards in effect at the time of site development. The specific requirements are not yet known, including such things as whether new regulatory requirements will modify LID or stormwater facility size. For the purpose of the EIS impact analysis, current code requirements have been assumed.

ALTERNATIVE 1

Under the No Action Alternative, existing buildings would be redeveloped and repurposed, and future site development would be consistent with existing zoning and development regulations. It is assumed that there would be no expansion of existing building footprints or site improvements. The following impacts of this alternative would be anticipated for three site areas:

The existing 20-foot wide emergency access road and turn around would be paved to serve the lower area of the site. This would introduce new PGIS. Since no stormwater quality treatment is provided on the site at the present time, water quality treatment systems would be required to implement Alternative 1. Based on calculations provided in Technical Appendix E, it was determined that a total treatment volume of about 7,000 cubic feet and a water quality treatment flow of approximately 0.2 cubic feet per second would be required for the roadway PGIS.

There is a small existing parking area on the upper portion of the site adjacent to the RST cellars building, and another small parking area across Desoto Street. No stormwater quality treatment is currently provided for these parking areas; therefore, treatment systems would need to be added. Calculations

provided in Technical Appendix E indicate that a total treatment volume of about 3,000 cubic feet and a water quality treatment flow of approximately 0.08 cubic feet per second would be required for the upper site parking area PGIS.

The larger existing upper parking area is comprised completely of PGIS for which no stormwater quality treatment is currently provided. Based on calculations provided in Technical Appendix E, it was determined that a total treatment volume of about 6,000 cubic feet and a water quality treatment flow of about 0.17 cubic feet per second would be required for this parking lot.

Future treatment retrofits should focus on implementation of LID where feasible. LID facilities that could be added include rain gardens, biofiltration swales, use of pervious paving, and other strategies. Given space limitations on the RST and upper parking sites, implementation of LID might not be possible without reducing the parking area. Therefore, other space-saving alternatives should be considered, such as mechanical treatment filters. Once treated, all stormwater would require conveyance to the Deschutes River or wetlands where the flow currently is conveyed. The location of the current runoff flow outlet shall be maintained per flow control exemption requirements. If flow is diverted from its current flow path, the diverted flow would require flow control. For the purposes of this analysis, it was assumed flow diversion would not be proposed with Alternative 1.

Roof runoff and runoff from other non-PGIS areas would need to be collected and conveyed to the current discharge location.

ALTERNATIVE 2

For Alternative 2, modifications that would affect stormwater management include widening the existing access road to create a 24-foot wide roadway and 6-foot wide sidewalk, and adding a 20-stall parking lot.[4] Based on calculations provided in Technical Appendix E, it was determined that a total stormwater quality treatment volume of 9,600 cubic feet and a water quality treatment flow of 0.27 cubic feet per second would be required for the roadway and parking PGIS. There would be challenges to construct either a volume-based facility (pond) or a flow-based system (mechanical filters). Space is limited both physically and as a result of the presence of critical areas and their associated buffers. Therefore, finding space to accommodate a 9,600 cubic foot stormwater quality treatment facility would be challenging. Vertical elevation would be the challenge for a mechanical filter system. These systems require about 2 ½ feet of vertical elevation change. According to available data (Thurston County GeoData), the elevation change between the Deschutes River and the site is only about 4 feet. Therefore, the available vertical fall for the filter and connecting pipe might be insufficient. Therefore, other space-saving alternatives will need to be identified through the use of regulatory code standards.

[4] The parking structure that would be an element of either Alternative 2 or Alternative 3 would not require stormwater quality treatment as it would be a roofed-structure and therefore not exposed to precipitation falling on surfaces used by motor vehicles. As water would be tracked into the garage and garage floor cleaning would occur, a sewer connection would be required for the garage.

ALTERNATIVE 3

PGIS that would be introduced with Alternative 3 would be the same as that described above for Alternative 2; therefore, stormwater quality treatment requirements would be comparable for either alternative.

ELECTRICAL POWER

The existing 3-phase feeder line along Custer Way with a 3-phase distribution line extending from Custer Way along the Boston Street access and through the site would continue to serve the site under each of the Alternatives. For each of the Alternatives there is projected to be adequate capacity in the power system to accommodate the proposed development without adversely affecting the ability of the BPA/PSE system to serve the site or the other customers in the region. Appropriate mitigation would be implemented during construction to restore areas excavated to install undergrounding power lines.

3.9.4 Mitigation Measures

WATER SERVICE

Each of the Alternatives would likely require additional water capacity to serve the development. For Alternatives 2 and 3, an 8- to 10-ft diameter water main connected to the City's distribution system on Custer Way is required to accommodate the proposed land uses. Best Management Practices (BMPs) and utility corridor restoration requirements in accordance with TMC 13.04 would also be required.

SEWER SERVICE

Each of the Alternatives would require additional sewer capacity to serve the development. Based on land use types and build out intensities provided for Alternatives 2 and 3, new sewer lines and other system upgrades would be required to be built. Best Management Practices (BMPs) and utility corridor restoration requirements in accordance with TMC 13.08 are required. All areas temporarily disturbed by the installation of sewer conveyance lines would be restored once the installation is complete.

STORMWATER MANAGEMENT

Stormwater management measures to be implemented during construction and in the developed-condition of the site under any Alternative that would implement the proposed Planned Action would comply with applicable regulations at the time development permits are submitted. These would include (but not necessarily be limited to):

- Department of Ecology Stormwater Manual for Western Washington
- City of Tumwater Stormwater regulations
- U.S. Environmental Protection Agency – Clean Water Act regulations.

ELECTRICAL POWER

Future site development would comply with all applicable energy codes, at a minimum. The City could encourage developers to utilize natural gas for heating and appliances to minimize the demand for electrical power.

Developers would be responsible for coordinating with PSE regarding the schedule for requiring an increased level of electrical power service to the proposed Planned Action area, and for implementing any associated improvements identified by PSE.

3.9.5 Significant Unavoidable Adverse Impacts

WATER SERVICE

No significant unavoidable adverse impacts related to water service would be anticipated with implementation of any of the Alternatives.

SEWER SERVICE

Because there is sufficient capacity in the existing sewage conveyance and treatment system to serve future development, no significant unavoidable adverse impacts are anticipated for any of the Alternatives.

STORMWATER MANAGEMENT

No significant unavoidable adverse impacts to the site or receiving water body (Deschutes River) would be anticipated under any of the Alternatives.

ELECTRICAL POWER

No significant unavoidable adverse impacts to the electrical power supply system are anticipated for any of the Alternatives.

3.10 Economy

3.10.1 Affected Environment

The potential for economic development will contribute to increased regional employment opportunities, revitalization of the local and regional economy, and reinvigorate a site that has lasting historical, cultural, and community value.

CITY OF TUMWATER ECONOMIC DEVELOPMENT PLAN 2010

Establishment of the Brewery Neighborhood

While much of the historic Tumwater Brewery was removed by construction of I–5 in the 1960s, the area around the Brewery property contains remnants of the old downtown and looks and functions like a historic core for the City. Called the Brewery Neighborhood, it is the area generally bounded by 2nd Avenue, the cemeteries on Cleveland Avenue, Tumwater Historical Park and M Street. This area is characterized by a mix of commercial, office, retail, restaurant, residential and civic uses, and draws both freeway activity as well as activity from the City's Old Town Center facility, the Tumwater Square retail area anchored by Safeway, the regional cemeteries, and close proximity to the City of Olympia. The Brewery neighborhood provides opportunities for mixed-use development, additional commerce,

investment in civic infrastructure for gathering places and pedestrian improvements, entertainment uses, pedestrian–oriented development, and preservation of the remaining historic center of the City.

Historic Brewhouse

The historic Tumwater Brewery complex was built beginning in 1905 across the river from the residential center of early Tumwater. In 1921, the brewery closed and the site was sold. The Olympia Brewery purchased the site in 1965 for storage, and the property has remained in private ownership since that time. The Tumwater Economic Development Plan and the Strategic Plan (2010) recommended that the City continue to explore strategies to acquire and stabilize the Old Brewhouse, and to seek public/private partnerships for its rehabilitation.

TUMWATER BREWERY MARKET FEASIBILITY STUDY

FIGURE 3.10-1 AERIAL VIEW OF BREWHOUSE

FIGURE 3.10-2 HISTORIC VIEW OF BREWERY

In 2014, The Concord Group prepared a *Tumwater Brewery Market Feasibility Study* which assessed site and regional characteristics and analyzed potential land uses. The market feasibility study drew the following conclusions:

- Underlying demographic trends and the site's location and historic connection make it possible to capture demand for mixed-use development
- Over approximately a 10-year timeframe, the site has potential to capture demand for up to 425,000 s.f. of residential and commercial development (utilizing existing structures and new construction)
- A phased development strategy is required, and will lead to enhanced value for later phases
- A successful early stage "catalyst" project will bring activity to the site and set the stage for future development of surrounding district
- Interest from educational institutions present opportunities for an "anchor" in the historic structures
- Value created for partnership from mix of rental revenues, sales dispositions and tax revenues
- There are national examples of successful redevelopments of former brewery sites

- Public/private partnership should develop master plan for Site with strategy for development, infrastructure, and parking, and with a vision for connecting to local area

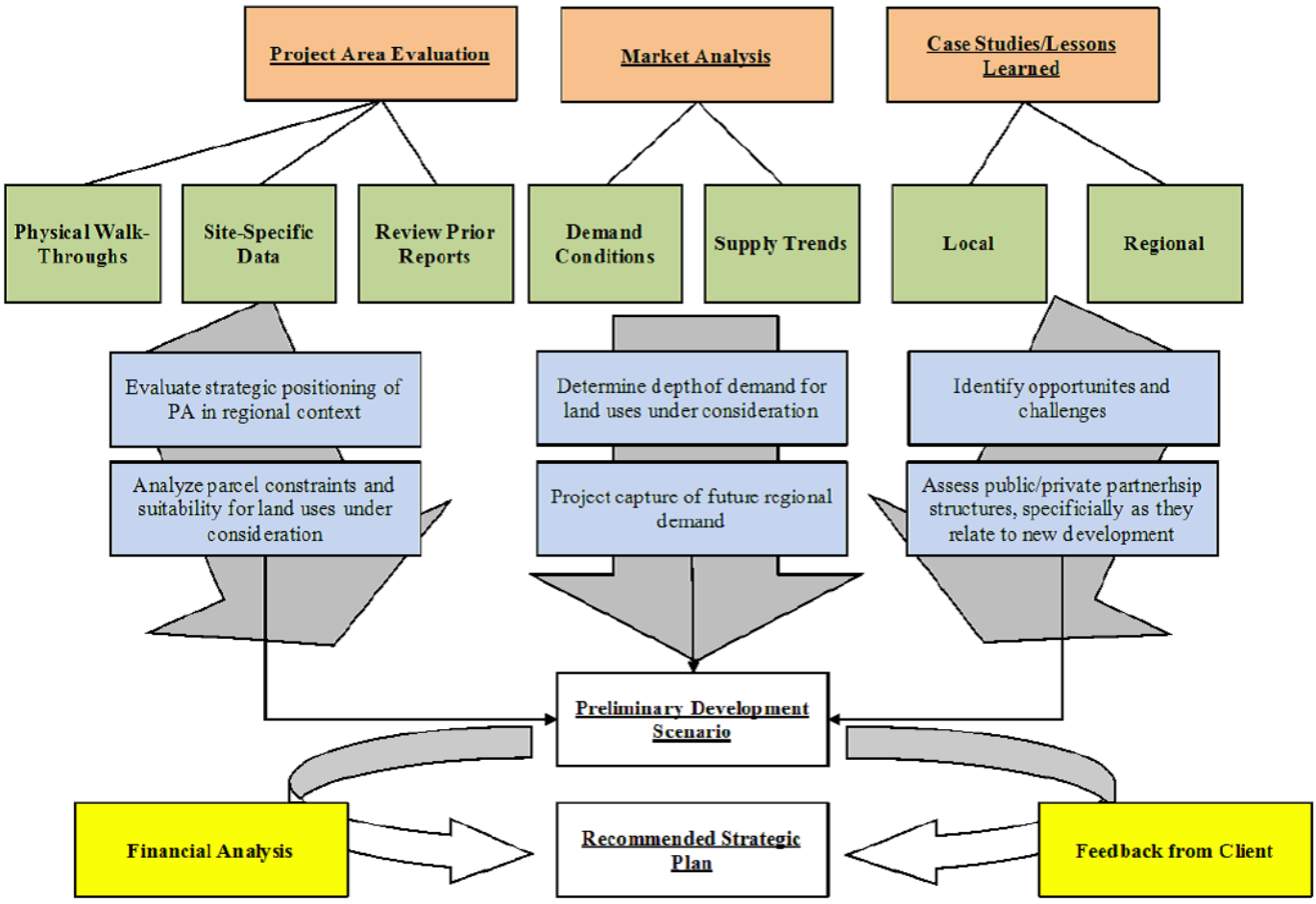

FIGURE 3.10-3 TUMWATER BREWERY MARKET FEASIBILITY STUDY ECONOMIC DEVELOPMENT FRAMEWORK

An estimate of the actual economic and fiscal impact of the Alternatives was not conducted as the land uses envisioned are conceptual and not yet fully known. Certain existing businesses within the city would benefit from the development of new businesses and uses within the Planned Action area. Ultimately this would depend on the specific type of businesses that locate on the site and other economic and market factors.

3.10.2 Potential Impacts During Construction

Economic impacts resulting from construction of any of the Alternatives would include indirect spending impacts for construction materials and jobs and labor income associated with these contractors.

3.10.3 Potential Developed-Condition Impacts

Development of any of the land use concepts addressed by the Alternatives within the proposed Tumwater Brewery Planned Action area would result in greater employment and intensity of activity in the area.

New employment associated with assumed redevelopment would provide a broad mix of new jobs and would introduce additional economic diversity to the site and the Tumwater Brewery District. In addition, construction jobs would be provided as the site develops over time.

ALTERNATIVE 1

Economic impacts and land use types of the site under Alternative 1 would be determined at the time of development application and would likely generate some increases in economic activity.

ALTERNATIVE 2 OR 3

Either Alternative 2 or 3 would provide a mix of employment including: office/classroom, hotel, public museum, retail and restaurant jobs. A range of job types and wage scales would likely result onsite. The intensity of Alternative 3 would result in a proportionate change to employment opportunities, and the local and regional economy.

3.10.4 Mitigation Measures

No mitigation measures would be required.

3.10.5 Significant Unavoidable Adverse Impacts

No significant unavoidable impacts are anticipated to the economy for any of the Alternatives.

CHAPTER 4: REFERENCES

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TALMADGE, JOHN F
TAYLOR NICK
TEAGUE, ROY D
TERHUNE BOB
TERHUNE DONNA
THAYNE RUTH
THE ENTRUST GROUP INC
THE OLD BREWHOUSE LLC
THELEN LAURA
THISSELL SHERRIE
THOMAS, JACOB E
THOMPSON DONNA
THOMPSON, DEBORAH J
THOMPSON-RYSER, JERRILYNN
THORFINSON PAMELA
THUNEN, EDWARD R
THURSTON, COUNTY OF
TOMMILO LLOYD
TOUSLEY AMY
TOUSLEY, GERALD
TRIMBLE FAITH
TRUMBLE TERESA
TUGGLE SUSAN
TUMWATER SQUARE ASSOC
TURK JON
TYTLER, SYLVIA V
UNION PACIFIC RAILROAD CO
UNSOELD JANINE
UNSOELD KRAG
US AUCTION ASSOC OF WA
VAGLIENTI JOHN
VALENZUELA KAREN
VAN DAALEN CHRIS
VAN DE WEGE, JOHN & MITZI
VAN GELDER MICHAEL
VAN MIEGHEM WILLIAM
VANN JAMIE & NICK

VARKADOS FAMILY REVOCABLE
VAVRINEC, JAMIE L
VERSCHUYL, SHARON J
VIGUE LAUNI
VIIK ARVE
WAGNER LYDIA
WALDRON, MARTIN O
WALK RICK
WALKER, FRANCIS J
WALL, MARLA D
WALSH TRUSTEE, BRIAN
WALTON JULIA
WAPOLY LLC
WARD, LOIS & STEPHEN
WARREN MARILEE
WARREN NICOLE
WARREN, MARILEE V
WASANKARI, LORI R
WASH-DEPT OF ENTERPRISE
WASH-FISHERIES DEPT
WASH-STATE OF
WATERMAN-HOEY STACEY
WATILO LARRY
WATTENBERG VICKI
WAY JOHN
WEBB GARY
WEBB, RUSSELL D
WEIDENFELLER JOHN
WEINSTEIN ELYETTE
WEIRAUCH MOLLY
WEISENFELD, SHIRLEY R
WELSH, MICHAEL F
WERTZ MICHAEL
WESSELMAN RANDY
WEST, CHRISTOPHER B
WHEATON, PRESTON S
WHEELER, JOSEPH F & LESLIE A
WHITAKER, EWAN R
WHITE DAVID
WHITE J
WICKHAM, BROOKE K
WIEANDT DANIETTE
WIEST JIM
WILCOX, MICHELLE
WILLIAMS VERA
WILLIAMS, FRAN A
WILLIAMS, RACHEL K
WILLIE, M C
WILMOTH MOLLY
WILSON CAMERON
WILSON CINDY
WILSON ROGER
WILSON TERRY
WILSON, HELEN A
WOEHL, NIKKI
WOJNIR LEE
WOMER DAN
WOODWARD CAROL
WORDEN MARISA
WRIGHT, GERI C
WRIGHT, THOMAS
WULFSBERG CARLA
YOUNG, CATHERINE
YRAGUI NAN
YRI TRUSTEE, MAY ROSE
YUEN, VICKI L
ZESSIN LARRY
ZIMINSKI MARYANN
ZIMMERMAN MICAEL AND RENEE
ZUCHOWSKI TYLE

APPENDIX A:

APPENDIX B:

APPENDIX C:

APPENDIX D:

APPENDIX E:

APPENDIX F:

APPENDIX G:

APPENDIX H:

APPENDIX I: