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May 2021  
Confluence Parkway Project



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# Water Resources Technical Study

Prepared for the City of Wenatchee

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Confluence Parkway Project

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**Prepared for**  
City of Wenatchee  
1350 McKittrick Street, Suite A  
Wenatchee, Washington 98801

**Prepared by**  
Anchor QEA, LLC  
23 S. Wenatchee Avenue, Suite 220  
Wenatchee, Washington 98801

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Appendix A	Project Description
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## ABBREVIATIONS

BNSF	Burlington North Santa Fe
BMP	best management practice
cfs	cubic feet per second
CFU	colony forming units
Chelan PUD	Public Utility District No. 1 of Chelan County
DDE	dichlorodiphenyldichloroethylene
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FTEC	fish tissue equivalent concentration
HPA	hydraulic project approvals
mL	milliliters
MPN	most probable number
NGVD29	National Geodetic Vertical Datum of 1929
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit
PCB	polychlorinated biphenyl
Project	Confluence Parkway Project
RCW	Revised Code of Washington
RM	river mile
SWMMEW	Stormwater Management Manual for Eastern Washington
TMDL	Total Maximum Daily Load
USC	United States Code
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WCC	Wenatchee City Code
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

# 1 Introduction and Project Description

Water Resources includes surface water, shorelines, floodplains and floodways, and groundwater. This technical study documents and describes water resources in the Confluence Parkway Project (Project) area and identifies potential impacts on these features as a result of the Project. The Project is a proposed 2.5-mile bypass corridor that is intended to reduce vehicle congestion on SR 285/North Wenatchee Avenue. The Project extends from the U.S. 2/Euclid Avenue interchange, crosses the Wenatchee River on a new bridge, and extends south to the intersection of North Miller Street and SR 285/North Wenatchee Avenue. The Project area is primarily to the east of the Burlington Northern Santa Fe (BNSF) railroad tracks with a large portion adjacent to the Wenatchee Confluence State Park, including the Horan Natural Area. The Confluence Parkway Project will provide relief from the current North Wenatchee Avenue Bridge bottleneck and alleviate vehicular congestion in this area.

The Project is located in the City of Wenatchee (City) in Chelan County (Figure 1). Wenatchee is located in a valley in central Washington at the confluence of the Columbia and Wenatchee rivers. Currently, Wenatchee is the second largest city in central Washington, and is an urban hub for north-central Washington. A full project description can be found in Appendix A.

## 2 Regulatory Context

Federal, state, and local regulations and policies related to the Water Resources study area are discussed in this section.

### 2.1 Federal Regulations

Federal regulations to consider regarding Project impacts on water resources include portions of the Clean Water Act, the Safe Drinking Water Act, and the Floodplain Management Executive Order. These regulations are discussed in the following sections.

In addition to the regulations described in this section, there are regulatory considerations related to the Federal Energy Regulatory Commission's (FERC) license for the Rock Island Hydropower Project. The Chelan PUD owns the Wenatchee Confluence State Park, including the Horan Natural Area, as part of the Rock Island license. Any changes to these recreational resources will require FERC approval.

#### 2.1.1 *Clean Water Act*

The Clean Water Act (33 United States Code [USC] 1251 et seq.) establishes the basic structure for regulating discharges or pollutants into waters of the United States and regulating quality standards for surface waters. Applicable portions of the Clean Water Act for this study include Sections 401, 402, and 404.

## **Section 401: State Certification of Water Quality**

Section 401 of the Clean Water Act provides states and authorized Tribes tools to help protect the water quality of federally regulated waters in collaboration with federal agencies. For any federally licensed or federally regulated project that requires work within or may result in a discharge to waters of the United States, a water quality certification must be issued to ensure the discharge complies with applicable water quality requirements (33 USC 1251).

Updated guidance from the Environmental Protection Agency (EPA) on Section 401 Certification was released on June 7, 2019. This guidance encourages federal permitting agencies and states and Tribes to actively coordinate on timing, information needs, and obligations under the Clean Water Act to help create a more predictable and transparent Section 401 certification process (EPA 2019).

On June 1, 2020, EPA finalized the Clean Water Act Section 401 Certification Rule to implement the water quality certification process consistent with the text and structure of the Clean Water Act. The final rule is effective September 11, 2020 (EPA 2020).

## **Section 402: National Pollutant Discharge Elimination System**

Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES), which provides a permit process to ensure federal receiving waters achieve specified water quality standards. All construction sites that propose to disturb 1 acre or greater of land that discharges wastewater or stormwater directly from a point source into surface water must obtain coverage under an NPDES permit prior to discharging any stormwater from the site. NPDES construction stormwater permits provide conditions and limitations for discharges of stormwater and wastewater to waters of the United States (33 USC 1251).

## **Section 404: Fill and Dredged Material Discharge Regulation**

Section 404 of the Clean Water Act established a program to regulate the discharge of dredged or fill material into the waters of the United States, including wetlands. Activities regulated under this program include infrastructure development (such as highways). Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States. This program regulates activities through a permit review process where applicants show steps have been taken to avoid impacts to wetlands, streams, rivers, and other aquatic resources, to minimize potential impacts, and to provide compensation for unavoidable impacts (33 USC 1251).

### ***2.1.2 Safe Drinking Water Act***

The Safe Drinking Water Act (42 USC 300f et seq.) was established to protect the quality of drinking water in the United States, whether from aboveground or underground sources, and whether the waters are actually designed, or potentially designed, for drinking use. The Safe Drinking Water Act authorized EPA to establish minimum standards to protect tap water and requires all owners or

operators of public water systems to comply with these health-related standards. The Safe Drinking Water Act also directed EPA to establish minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids (42 USC 300f).

### *2.1.3 Floodplain Management Presidential Executive Order*

Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. According to Executive Order 11988, “Each agency shall provide leadership and take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out responsibilities” for acquiring, managing, and disposing of federal lands and facilities, for providing federally undertaken, financed, or assisted construction and improvements, or for conducting federal activities and programs affecting land use (FEMA 2020).

## **2.2 State Regulations**

Several state regulations in the Washington Administrative Code (WAC) and Revised Code of Washington (RCW) need to be considered regarding Project impacts on water resources. These regulations are discussed below.

### *2.2.1 Water Quality Standards for Surface Waters*

Water quality standards for surface waters of the State of Washington are set by WAC 173.201A. The purpose of WAC 173.201A is to establish water quality standards consistent with public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife.

Water quality criteria are dependent on the parameter and designated uses for surface waters in the project area. Applicable water quality criteria are described later in this document.

### *2.2.2 Water Quality Standards for Groundwater*

Water quality standards for groundwaters of the State of Washington are set by WAC 173.200. The goal of WAC 173.200 is to maintain the highest quality of the state’s groundwaters and protect existing and future beneficial uses of groundwater through the reduction or elimination of discharge of contaminants to groundwater. To implement this goal, WAC 173.200 establishes groundwater quality standards that provide for the protection of the environment, human health, and existing and future beneficial uses of groundwater (WAC 173.200). Water quality criteria are dependent on the parameter; applicable water quality criteria are described later in this document.



### *2.2.3 Flood Control Management Act*

RCW 86.16 gives policy and regulation statutes for flood control in the State of Washington. RCW 86.16 established statewide floodplain management regulation through local governments' administration of National Flood Insurance Program regulation requirements, minimum state floodplain management requirements that equal minimum federal requirements for the National Flood Insurance Program, and issuance of regulatory orders. This chapter gives the Washington State Department of Ecology (Ecology) the authority to examine, approve, or reject design and plans for structures to be built upon banks or in or over channels and across floodways of any stream or body of water in the state (RCW 86.16).

### *2.2.4 Water Pollution Control Act*

RCW 90.48 provides for the State of Washington to retain and secure high quality for all waters of the state and to work cooperatively with the federal government to remove sources of water quality degradation. RCW 90.48 gives Ecology jurisdiction to control and prevent pollution of all surface and underground waters of the state and gives Ecology the authority to amend rules and regulations relating to water quality standards and discharges to maintain the highest possible standards of all waters of the state in accordance with public policy (RCW 90.48).

### *2.2.5 Shoreline Management Act*

RCW 90.58 states the policy of the State of Washington is to provide for the management of shorelines of the state by planning for and fostering all reasonable and appropriate uses to ensure shoreline development occurs in a manner that will promote and enhance the public interest (RCW 90.58).

WAC 173.26 implements requirements put forth in RCW 90.58 by authorizing Ecology to adopt rules necessary and appropriate to carry out RCW 90.58. WAC 173.26 also provides minimum requirements as necessary to comply with statutory requirements while providing latitude for local government to establish procedural systems based on local needs and circumstances, because the program is intended to be a cooperative program between the state and local governments (WAC 173.26).

### *2.2.6 Washington State Department of Transportation Hydraulics Manual*

The Washington State Department of Transportation (WSDOT) Hydraulics Manual provides detailed information on hydrologic and hydraulic analyses related to highway design, including culverts, open-channel flow, drainage collection and conveyance systems, fish passage, and pipe materials. The Hydraulics Manual is based on the Federal Highway Administration's Hydraulic Engineering Circulars (WSDOT 2019).

The Hydraulics Manual describes WSDOT policy regarding hydraulic design and hydraulic reports, and it provides guidance for analysis and design of stormwater facilities for roadway and other transportation infrastructure projects (WSDOT 2019).

### *2.2.7 Washington State Hydraulic Code*

WAC 220.660 provides the authority for the Washington Department of Fish and Wildlife (WDFW) to issue hydraulic project approvals (HPAs). HPAs ensure that construction or performance of work for a hydraulic project is done in a manner that protects fish life. A hydraulic project is the construction or performance of work that will use, divert, obstruct, or change the natural flow or bed of any salt or fresh waters of the state (WAC 220.660).

WAC 220.660 provides common provisions for the protection of fish life for typical projects proposed to WDFW. They reflect current and best science, technology, and construction practices related to the protection of fish life, but HPAs may have provisions modified, deleted, or added based on the individual project that may have project-specific or site-specific considerations. Hydraulic projects must also meet applicable mitigation requirements in WAC 220.660.

### *2.2.8 Stormwater Management Manual for Eastern Washington*

The SWMMEW provides guidance for measures necessary to control the quantity and quality of stormwater in eastern Washington. The SWMMEW is not a regulation, but it is a guidance document to provide a set of stormwater management practices, that, if implement correctly, should result in compliance with existing regulatory requirements for stormwater, including compliance with the federal Clean Water Act (Section 2.1.1), federal Safe Drinking Water Act (Section 2.1.2), and state Water Pollution Control Act (Section 2.2.4) (Ecology 2019).

## **2.3 Local Regulations**

The City of Wenatchee also has regulations to be considered regarding Project impacts to water resources, specifically City code on flood hazard prevention and construction and post-construction stormwater. These codes are described further in the following sections.

### *2.3.1 Wenatchee City Code: Flood Hazard Prevention*

WCC 2.05 codifies flood hazard prevention and applies to all areas of special flood hazards within the City of Wenatchee as defined by the Flood Insurance Studies. WCC 2.05 requires that a development permit be obtained before construction or development begins within a special flood hazard area. WCC 2.05 also describes application requirements and provisions for construction or development within a special flood hazard area.

### 2.3.2 *Wenatchee City Code: Construction and Post-Construction Stormwater*

The purpose of WCC 9.20 is to comply with the Eastern Washington Phase II Municipal NPDES Stormwater Permit, safeguard people, protect property, and prevent environmental damage caused by stormwater runoff from new development and redevelopment. WCC 9.20 specifies requirements on stormwater best management practices (BMPs), conveyance systems, and stormwater site plan documents.

## 3 Methodology

For this study, the Project impact areas were determined based on drainage areas where the alternatives will be located. These impact areas were analyzed using data from existing sources, including water quality data from the EPA and Ecology; water data from the U.S. Geological Survey (USGS); floodplain data from the Federal Emergency Management Agency (FEMA); GIS data from local, state, and federal sources; and various related data from other local jurisdictions. These data were used to determine the baseline conditions against which the Project impacts on water resources were analyzed.

The analyses were based on literature review, qualitative and quantitative comparisons of existing data and proposed alternatives, and professional judgment. Detailed models of water resource elements were not necessary to determine impacts for this study.

## 4 Affected Environment

The affected environment for this study focuses on water resources in the Project impact areas, which are the drainage areas within the Project boundaries. The affected environment provides a baseline against which impacts from Project alternatives are analyzed. Affected environment for this study includes surface water, shorelines, floodplains and floodways, and groundwater. Each element is described in further detail in the following sections.

### 4.1 Surface Water

The Project area is located at river mile (RM) 1 on the Wenatchee River near its confluence with the Columbia River (RM 468 on the Columbia River) in the Rock Island pool. The Project area is in Water Resource Inventory Area 45, the Wenatchee River Watershed. The Wenatchee River Watershed encompasses approximately 1,371 square miles (MWG 2003). Figure 2 shows the Project area in relation to the Wenatchee River Watershed.

#### 4.1.1 *Water Quantity*

The Project area is in the City of Wenatchee, which has an annual average precipitation of less than 9 inches and an average total snowfall of about 26 inches (WRCC 2020).

The Wenatchee River is the main body of water in the Project area. The Wenatchee River is generally a snow-dominated waterbody, where hydrology is characterized by high spring and early summer flows resulting from snowmelt and low flows in the late summer and early fall. Flows in the Wenatchee River are monitored continuously at USGS gage No. 12462500 (Wenatchee River at Monitor) at RM 7.0, 6 miles upstream of the Project area. Gage No. 12462500 has a period of record from Water Years 1963 (October 1962) to present (USGS 2020). Table 1 presents the average, minimum, and maximum monthly flow data for the period of record for the Wenatchee River at Monitor.

**Table 1**  
**Wenatchee River Monthly Flow Data: USGS Gage No. 12462500 – Water Years 1963 to 2019**

Month	Average Monthly Flow (cfs)	Minimum Monthly Flow (cfs)	Maximum Monthly Flow (cfs)
October	1,123	346	3,095
November	2,314	426	9,636
December	1,978	556	6,984
January	1,839	527	4,309
February	1,984	518	5,447
March	2,388	995	6,853
April	4,047	1,634	9,311
May	8,138	3,565	13,210
June	8,556	2,273	17,020
July	4,205	799	9,880
August	1,378	377	3,985
September	770	301	1,628

Note:

Source: USGS 2020

#### 4.1.2 Water Quality

Water quality criteria for the Project is based on Wenatchee River water quality criteria at the Project area. The Wenatchee River is a surface water of the state not listed in WAC 173.201A.602 with a specific designation. Therefore, as stated in WAC 173.201A.600, the Wenatchee River in the Project area is “to be protected for designated uses of: salmonid spawning, rearing, and migration; primary contact recreation; domestic, industrial, and agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values.” Table 2 lists the water quality criteria for the Wenatchee River at the Project area.

**Table 2**  
**Wenatchee River Water Quality Criteria**

Parameter	Criterion
Temperature	17.5°C (63.5°F) 13.0°C (55.4°F) (Supplemental Spawning from October 1 to May 15)
Dissolved oxygen	8.0 milligrams per liter
pH	6.5 to 8.5 Human-caused variation less than 0.5 units
Turbidity	5 NTU over background when background is 50 NTU or less 10 percent increase when background is more than 50 NTU

Parameter	Criterion
Bacteria	<p>E. coli must not exceed geometric mean of 100 CFU or MPN per 100 mL                      10 percent of samples obtained cannot exceed 320 CFU or MPN per 100 mL</p> <p>Fecal coliform must not exceed geometric mean of 100 CFU or MPN per 100 mL                      10 percent of samples obtained cannot exceed 200 CFU or MPN per 100 mL</p>

Notes:  
 Source: Ecology 2020a

The Ecology water quality database was reviewed to identify water quality listings for the Wenatchee River within or near the Project area. In the Project area, the Wenatchee River is currently listed for four parameters. A description of the listings is presented in Table 3. These areas are also mapped in Figure 3.

**Table 3**  
**Wenatchee River Water Quality Listings**

Listing	Parameter	Category	Description/Project
12388	4,4'-DDE	5 (303(d))	Tissue samples of largescale sucker and mountain whitefish exceeded FTEC <sup>1</sup>
14299	PCBs	5 (303(d))	Tissue samples of largescale sucker and mountain whitefish exceeded FTEC
3729	Temperature	4A	Wenatchee River Watershed Temperature TMDL
10702	pH	4A	Wenatchee River Watershed Multiparameter TMDL

Notes:  
 Source: Ecology 2020b

1. FTEC: fish tissue equivalent concentration; the concentration of a contaminant in fish tissue that equates to the National Toxics Rule water quality criterion for the protection of human health.

As noted in Table 3, an EPA-approved Total Maximum Daily Load (TMDL)<sup>1</sup> plan is in place and implemented for temperature and pH for the Wenatchee River (category 4A), and the Wenatchee River is listed on the 303(d) list of impaired waterbodies that require a water improvement project for 4,4'-dichlorodiphenyldichloroethylene (DDE) and polychlorinated biphenyls (PCBs; category 5).

As part of the Wenatchee River Watershed Multiparameter TMDL, phosphorus load reduction was determined to be the key strategy to improve pH and dissolved oxygen levels. Ecology is responsible

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<sup>1</sup> The TMDL process (also called a water quality improvement project) is a science-based approach to cleaning up polluted water so it meets state water quality standards. The Clean Water Act requires states to develop a TMDL plan for each waterbody on the state's polluted waters, or 303(d), list. A TMDL is a numerical value that represents the highest amount of pollutant a surface waterbody can receive and still meet water quality standards. The TMDL process includes developing a study to determine what the specific TMDL is for the waterbody. The study includes pollutant loading analyses, an implementation plan, and a monitoring plan. Once the TMDL study is complete, it goes through a public review period and then is submitted to EPA for approval. After approval, the TMDL plan is implemented (Ecology 2020c).

for issuing and managing NPDES permits that set phosphorus limits to the Wenatchee River (Ecology 2009).

As part of the Wenatchee River Watershed Temperature TMDL, several recommendations were made to implement actions that will reduce temperatures in the Wenatchee River Watershed streams and rivers. One action listed in the TMDL includes working with WSDOT to manage runoff from paved surface areas near the Wenatchee River. Runoff from paved surface areas could raise temperatures in the Wenatchee River and the type and extent of vegetation in the right-of-way areas could potentially lower water temperatures in the Wenatchee River. Riparian management is also recommended in collaboration with the TMDL to reduce the impact of sunlight and exposure on water temperatures (Ecology 2007).

### **4.1.3 Stormwater**

The Project area is in the City of Wenatchee Phase II Permit Area (Permit Number WAR046011). The City of Wenatchee is part of the Wenatchee Valley Stormwater Management Program, which has the goal of developing a regional stormwater program and meeting the requirements of the Eastern Washington Phase II Municipal Stormwater Permit.

The City of Wenatchee's municipal stormwater system consists of about 75 miles of storm drains, 12 outfalls, and 14 water quality facilities (Wenatchee Valley Stormwater Management Program 2019). Figure 4 shows the stormwater facilities for the City of Wenatchee.

## **4.2 Shorelines**

Shorelines in the Project area are identified in the City of Wenatchee Shoreline Master Program. The Shoreline Master Program defines the shoreline jurisdiction boundary to be all "lands extending landward for 200 feet...from the ordinary high water mark of the...Wenatchee river; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the...Wenatchee river" (City of Wenatchee 2014).

Figure 5 shows the shorelines designated in the Project area. Two types of designations exist in the Project area, Urban Conservancy and Waterfront Park. Policies and regulations differ based on the shoreline designation.

Shorelines designated as Urban Conservancy shorelines are the majority of the shorelines in the Project area. The purpose of Urban Conservancy shorelines is "to protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses" (City of Wenatchee 2014).

The remaining shorelines in the Project area are designated as Waterfront Park shorelines. The purpose of Waterfront Park shorelines is “to ensure appropriate management and development of existing and future public parks and recreation areas” (City of Wenatchee 2014).

### 4.3 Floodplains and Floodways

FEMA floodplains and floodways in the Project area are shown in Figure 6. In the Project area, 100-year floodplains (Zone A) and floodways have been established for the Wenatchee River. A 100-year event is defined as an event that has a 1 percent chance of occurring in any given year. The estimated flow related to this event is based on statistical analyses of historical flow data. Peak flow events in the Wenatchee River are summarized in Table 4.

**Table 4  
Wenatchee River Peak Flows (at Monitor Gage)**

Event	Probability of Annual Recurrence	Peak Flow (cfs)
10-year	10%	26,500
50-year	2%	38,500
100-year	1%	48,700
500-year	0.2%	82,000

Note:  
Source: FEMA 2004

At the Project area, the 100-year (1 percent chance annual recurrence) base flood elevation is 629.0 feet National Geodetic Vertical Datum of 1929 (NGVD29). For base flood events, the area immediately downstream of the Project area is based on flooding curves for the Columbia River within the Rock Island reservoir (FEMA 2004).

Floodway information for the Wenatchee River at the Project area is summarized in Table 5.

**Table 5  
Wenatchee River Floodway Data**

Parameter	Units	Value
Floodway width	Feet	410
Floodway section area	Square feet	6,512
Floodway mean velocity	Feet per second	5.3
Base flood water surface elevation	Feet NGVD29	629.0

Note:  
Source: FEMA 2004



## 4.4 Groundwater

Groundwater wells and groundwater source protection areas are shown in Figure 7. Group A sources are sources that supply a system with 15 or more service connections or serve 25 or more people 60 or more days per year. Group B sources are sources that supply a system with fewer than 15 service connections and fewer than 25 people per day.

The southern end of the Project area is within the 5-year time of travel zone of one of the City of Wenatchee's emergency groundwater wells (East Wenatchee Water District Well No. 7) (DOH 2020). Time of travel zones are part of wellhead protection areas identified in the wellhead protection program designed to prevent contamination of groundwater used for drinking water. The wellhead protection program is required by the Safe Drinking Water Act. The 5-year travel zone is managed to control chemical contaminants from entering groundwater (DOH 2010).

Recent groundwater wells for water use in the Project area are drilled to about 70 feet below ground surface and are 6 to 12 inches in diameter (Ecology 2020d). Water wells in the Project area are likely hydraulically connected to the Wenatchee and/or Columbia rivers.

## 5 Impacts Analysis

This impact analysis assesses the potential direct and indirect impacts to water resources from the Project. Direct impacts are effects that would potentially be caused by the Project and would occur at the same time and place as Project construction or operation. Indirect impacts are potential effects that would be caused by the Project at a later time or further distance but are still reasonably foreseeable to occur. Indirect impacts may also occur through the implementation of mitigation measures for environmental impacts from other resources as part of this Project or through supporting projects that are not yet defined or considered part of the Project. The impacts analysis is divided into short-term construction impacts, long-term operational impacts, and cumulative impacts.

Impacts are defined as low, medium, or high depending on the potential the Project has to impact various water resources. Table 6 defines the thresholds for each water resource. Table 7 summarizes the impact category and reasoning for the category.

**Table 6**  
**Threshold Definition Table: Water Resources**

Parameter	Low Impact Description	Medium Impact Description	High Impact Description
Surface water quantity	Change in flow or area to a waterbody that is not measurable in the waterbody	Measurable change in flow or area to a waterbody that does not change the waterbody's function	Change in flow or area that impacts the waterbody's function

Parameter	Low Impact Description	Medium Impact Description	High Impact Description
Surface water quality	Increase in parameter that can be mitigated for with practical measures so there is no measurable difference	Measurable increase in parameter with TMDL that can be reduced with practical mitigation measures	Increase in parameter above water quality standards that cannot be addressed with practical mitigation measures
Stormwater	Increase in stormwater runoff that can be mitigated for with practical measures so there is no measurable difference	Measurable increase in stormwater runoff that can be reduced with practical mitigation measures	Increase in stormwater runoff that cannot be addressed with practical mitigation measures
Shorelines	Degradation of shoreline function that can be mitigated for with practical measures so there is no change in ecological function	Degradation of shoreline function that can be reduced with practical mitigation measures but may still impact ecological function	Degradation of shoreline function that cannot be addressed with practical mitigation measures
Floodplains and floodways	Reduction of floodway storage area or rise in base flood elevation that can be mitigated for with practical measures so there is no measurable difference	Measurable reduction of floodway storage area or rise in base flood elevation that can be improved with practical mitigation measures	Reduction of floodway storage area or greater than 1-foot rise in base flood elevation that cannot be addressed with practical mitigation measures
Groundwater quality	Increase in parameter concentration within Source Protection Area that can be mitigated for with practical measures so there is no measurable difference	Measurable increase in parameter concentration within Source Protection Area that can be improved with practical mitigation measures	Increase in parameter concentration within Source Protection Area that cannot be addressed with practical mitigation measures

**Table 7**  
**Impact Summary: Water Resources**

Parameter	Construction Impacts		Operational Impacts	
	Direct	Indirect	Direct	Indirect
Surface water quantity	Medium	Low	Low	Low
Surface water quality	Medium	Low	Low	Low
Stormwater	Low	Low	Low	Low
Shorelines	Medium	None	Low	None
Floodplains and floodways	Medium	Low	Low	Low
Groundwater quality	Low	Low	Low	Low

## 5.1 Construction Impacts

Construction impacts are those impacts that would potentially be caused by construction activities such as concrete work, material handling and transport, hazardous material storage and use, shaft drilling, trenching, dewatering, and other related activities.

### 5.1.1 Direct Impacts

#### Surface Water

During construction of all Project elements, water quantity is not expected to significantly change due to the Project. There may be minor increases in peak flows due to an increase in impervious area that may drain to the Wenatchee and Columbia rivers. During construction, the temporary work access trestle for the new Wenatchee River bridge may require rerouting or other dewatering of some areas of the Wenatchee River at the Project area. This rerouting or other dewatering elevates the potential Project impact to be a **medium impact** for surface water quantity for direct construction impacts.

For water quality, construction work can cause an increase in contaminants to the Wenatchee and Columbia rivers due to a potential for leaks or spills during hazardous material storage or use or due to fluid leaks from construction machinery during the construction process. Tree clearing in the construction area near the Wenatchee River may cause an increase in water temperature due to reduced shading. Increased turbidity can also occur due to in-water work during shaft drilling, construction of the work access trestle, and stormwater runoff from areas cleared or disturbed for roadway construction. These impacts can be reduced as part of BMPs for mitigation, so the potential direct impact the Project may have on surface water quality is a **medium impact**.

Direct impacts to stormwater can be minimized with BMPs as mitigation, so the potential direct impact the Project may have on stormwater is a **low impact**.

#### Shorelines

Shorelines in the Project area would be impacted by construction activities due to likely tree removal from roadway construction in designated shorelines, causing some degradation to the shoreline function. These impacts can be reduced with mitigation efforts, so the potential direct impact the Project may have on shorelines is a **medium impact**.

#### Floodplains and Floodways

Floodplains and floodways would be impacted during construction of the Wenatchee River bridge. The piles supporting the temporary trestle would be in the floodplain and the floodway, reducing the area available for flood conveyance. Additionally, the temporary work access trestle is located below the base flood elevation with the Wenatchee River, so area blocked from the trestle would also

reduce the area available for flood conveyance. The in-water infrastructure is relatively small compared to the floodway area, so the function of conveying floodwaters will mostly be maintained and impacts can be improved with mitigation efforts, so the potential direct impact the Project may have on floodplains and floodways during construction is a **medium impact**.

### **Groundwater**

Construction work can cause an increase in contaminants to groundwater due to the potential for leaks or spills during hazardous material storage and use or due to fluid leaks from construction machinery during the construction process. These spills can be minimized through construction mitigation plans, so the potential direct impact the Project may have on groundwater during construction is a **low impact**.

## *5.1.2 Indirect Impacts*

### **Surface Water**

Indirect impacts to surface water caused by construction activities are likely minor. Water quality impacts from potential leaks or spills during hazardous material storage or use or due to fluid leaks from construction machinery during the construction process could travel downstream in the Wenatchee and Columbia rivers beyond the Project area. These potential impacts can be minimized with BMPs, so the indirect construction impact the Project may have on surface water is a **low impact**.

### **Shorelines**

Indirect impacts to shorelines from construction are not expected.

### **Floodplains and Floodways**

Floodplains and floodways in the Wenatchee River upstream of the Project area could be slightly impacted during construction of the Wenatchee River bridge. The piles supporting the temporary trestle would be in the floodplain and the floodway, reducing the area available for flood conveyance, which could cause floodwaters to back upstream slightly during a flood event. Additionally, the temporary work access trestle is located below the base flood elevation with the Wenatchee River, so area blocked from the trestle would also reduce the area available for flood conveyance and potentially cause floodwaters to back upstream slightly during a flood event. These impacts are minor and can be minimized with mitigation efforts, so the indirect construction impact the Project has on floodplains and floodways is a **low impact**.

### **Groundwater**

Construction work can cause an increase in contaminants to groundwater due to a potential for leaks or spills during hazardous material storage and use or due to fluid leaks from construction machinery

during the construction process. These leaks and spills could be held in the soil and potentially cause impacts to groundwater at a later time, or they could migrate and potentially cause impacts at a different place than the Project area. These potential impacts can be minimized with BMPs, so the indirect construction impact the Project may have on groundwater is a **low impact**.

## 5.2 Operational Impacts

Operational impacts are those impacts that would potentially be caused by activities that are part of the alternative itself after construction is complete.

### 5.2.1 Direct Impacts

#### Surface Water

Water quantity is not expected to significantly change due to the Project. There may be minor increases in peak flows due to an increase in about 7.5 acres of impervious area that drain to the Wenatchee or Columbia rivers, but these flows are likely minor relative to the flow in the rivers, so the potential direct operational impact the Project has on surface water quantity is a **low impact**.

Water quality may be slightly impacted due to the Project. An increase of about 5.12 acres of pollution-generating impervious surfaces could cause an increase in pollutants in stormwater runoff, which could impact water quality in the Wenatchee and Columbia rivers. These impacts can be minimized through mitigation efforts such as incorporating permanent stormwater BMPs as recommended in the SWMMEW to treat and control stormwater runoff to surface water, so the potential direct operational impact the Project has on surface water quality and stormwater is a **low impact**.

#### Shorelines

Shorelines in the Project area would be impacted by operational impacts as the roadway alignment is located in designated shoreline areas. The roadway area would change the current shoreline area from trees to roadway, reducing ecological use of the impacted shoreline areas. This degradation of shoreline function can be minimized through mitigation such as replacing trees and other shade and improving shoreline function in shoreline areas, so the potential direct operational impact the Project has on shorelines is a **low impact**.

#### Floodplains and Floodways

Floodplains and floodways would be slightly impacted by the Project. The piers of the new bridge are located in the floodway and in the floodplain of the Wenatchee River, causing a decrease in volume available for conveyance of floods. These changes are unlikely to result in a cumulative increase of 1 foot to the base flood (100-year flood) elevation. These impacts are minor and can be minimized with mitigation efforts such as providing compensatory storage within the floodplain upstream and

in the vicinity of the new bridge, so the potential direct operational impact the Project has on floodplains and floodways is a **low impact**.

### **Groundwater**

The Project may potentially cause an increase in contaminants to groundwater due to the increase in pollution-generating impervious areas that could have pollutants run off from the surfaces and infiltrate into the shallow groundwater. These potential increases can be minimized through mitigation plans such as incorporating permanent stormwater BMPs as recommended in the SWMMEW for treating and controlling stormwater runoff to groundwater, so the direct operational impact the Project may have on groundwater is a **low impact**.

## *5.2.2 Indirect Impacts*

### **Surface Water**

Indirect impacts to surface water caused by the Project are likely minor. Water quality impacts from an increase in pollutants in stormwater runoff due to the increase in pollution-generating impervious area that drains to the Wenatchee and Columbia rivers may continue beyond the Project area. These potential impacts can be minimized with BMPs such as incorporating permanent stormwater BMPs as recommended in the SWMMEW to treat and control stormwater runoff to surface water, so the indirect operational impact the Project may have on surface water is a **low impact**.

### **Shorelines**

Indirect impacts to shorelines are not expected from the Project.

### **Floodplains and Floodways**

Floodplains and floodways in the Wenatchee River upstream of the Project area could be slightly impacted due to the Project. The piles supporting the bridge would be in the floodplain and the floodway, reducing the area available for flood conveyance, which could cause floodwaters to back upstream slightly during a flood event. These impacts are minor and can be minimized with mitigation efforts such as providing compensatory storage within the floodplain upstream and in the vicinity of the new bridge, so the indirect operational impact the Project has on floodplains and floodways is a **low impact**.

### **Groundwater**

The Project may potentially cause an increase in contaminants to groundwater due to the increase in pollution-generating impervious areas that could have pollutants run off from the surfaces and infiltrate into the groundwater. These contaminants could be held in the soil and potentially cause impacts to groundwater at a later time, or they could migrate and potentially cause impacts at a different place than the Project area. These potential impacts can be minimized with mitigation plans

including incorporating permanent stormwater BMPs as recommended in the SWMMEW for treating and controlling stormwater runoff to groundwater, so the indirect operational impact the Project may have on groundwater is a **low impact**.

### 5.3 Cumulative Impacts

Cumulative impacts on water resources from the Project were determined by combining the Project's impacts with other past, present, and reasonably foreseeable future actions. Based on these actions, cumulative impacts are expected to be similar to those described in previous sections.

## 6 Potential Mitigation

Below is a list of potential mitigation measures that would minimize and mitigate impacts to surface water:

- Implement temporary stormwater BMPs as recommended in the SWMMEW during construction to prevent erosion and the discharge of sediment-laden or polluted stormwater to the Wenatchee River.
- Incorporate permanent stormwater BMPs to treat and control stormwater to meet the requirements of the SWMMEW to mitigate increased stormwater runoff and contaminants.
- Incorporate floodplain compensatory storage as needed, to mitigate for fill areas from the in-water piers. This could include removing fill from the floodplain upstream but in the vicinity of the in-water piers at a quantity equal to the volume of the in-water piers.
- Replace trees and other shade to mitigate for losses of shade on the Wenatchee River riparian area, which will help mitigate for impacts to the shoreline and to potential temperature increases.
- Improve shoreline function to mitigate loss of shoreline use near the Project area.

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# Figures

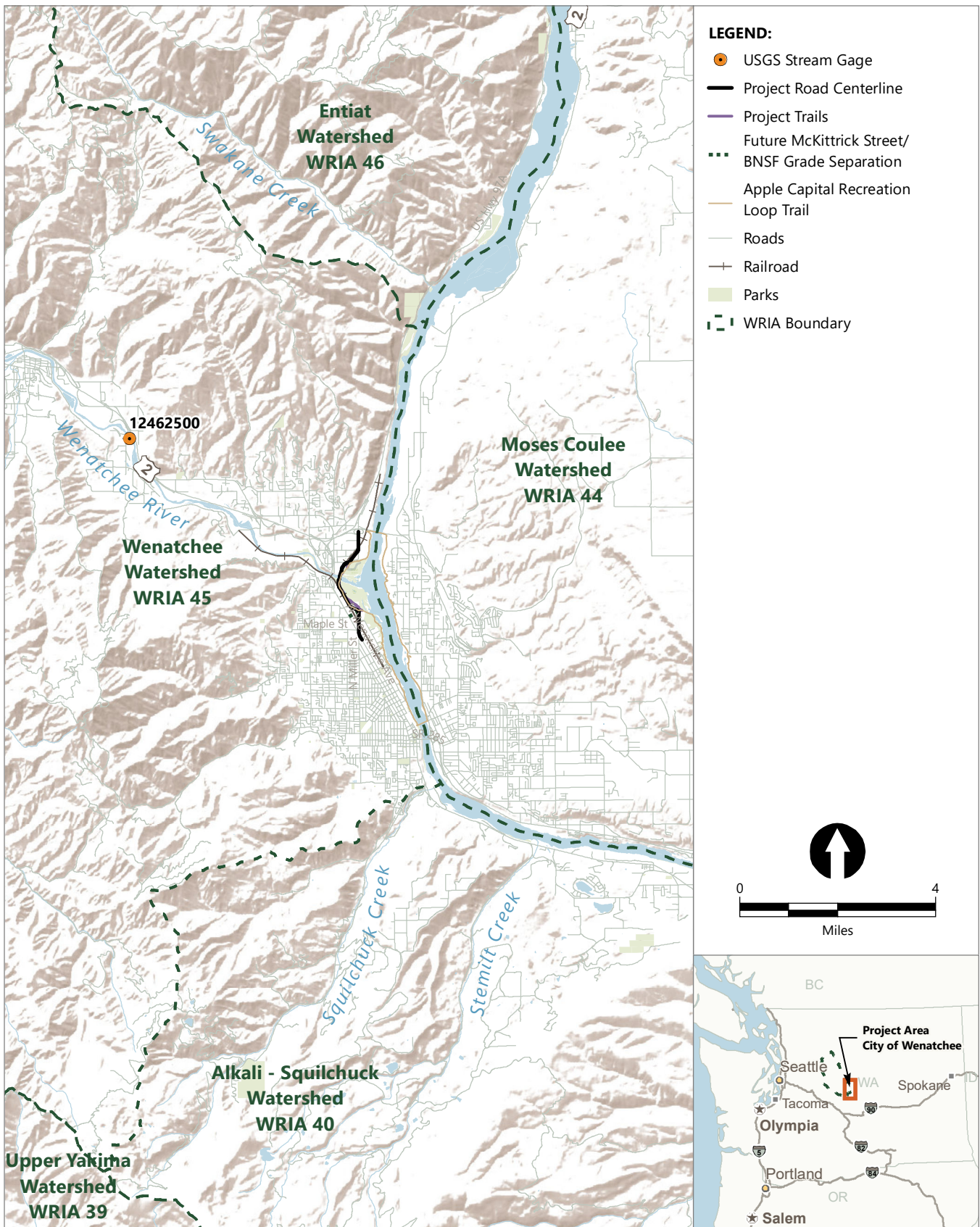
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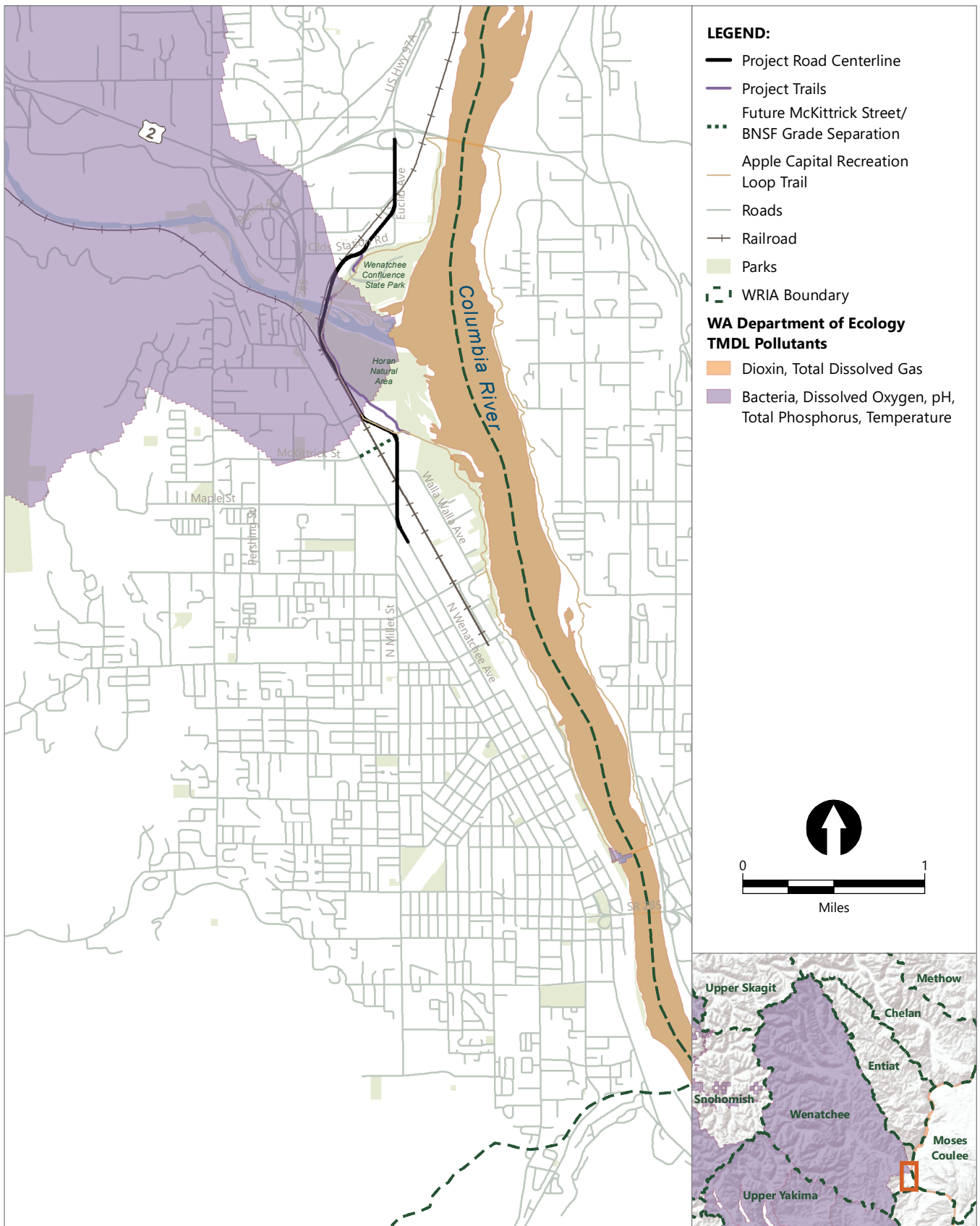
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**Project Vicinity**  
 Water Resources Technical Study  
 Confluence Parkway Project



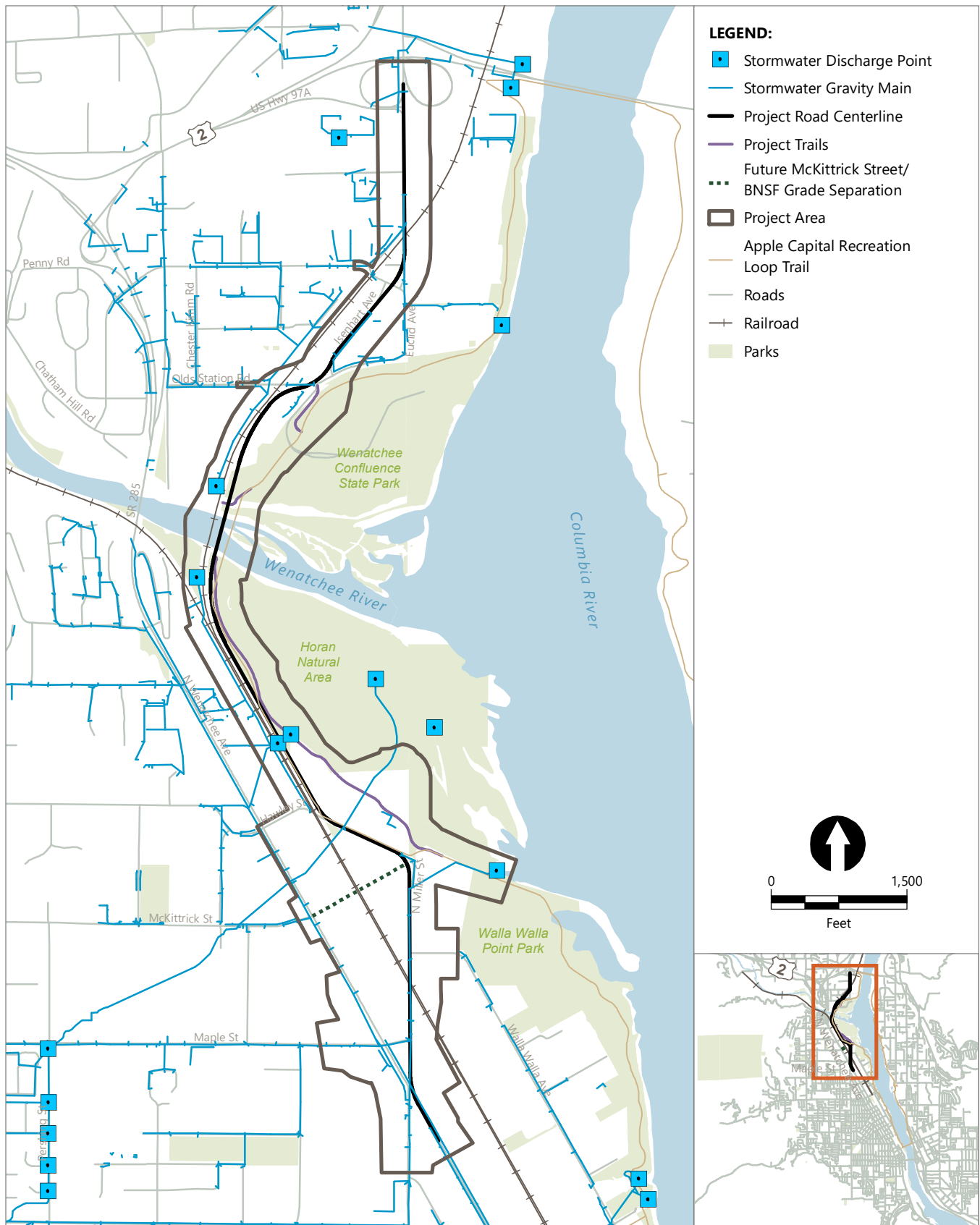
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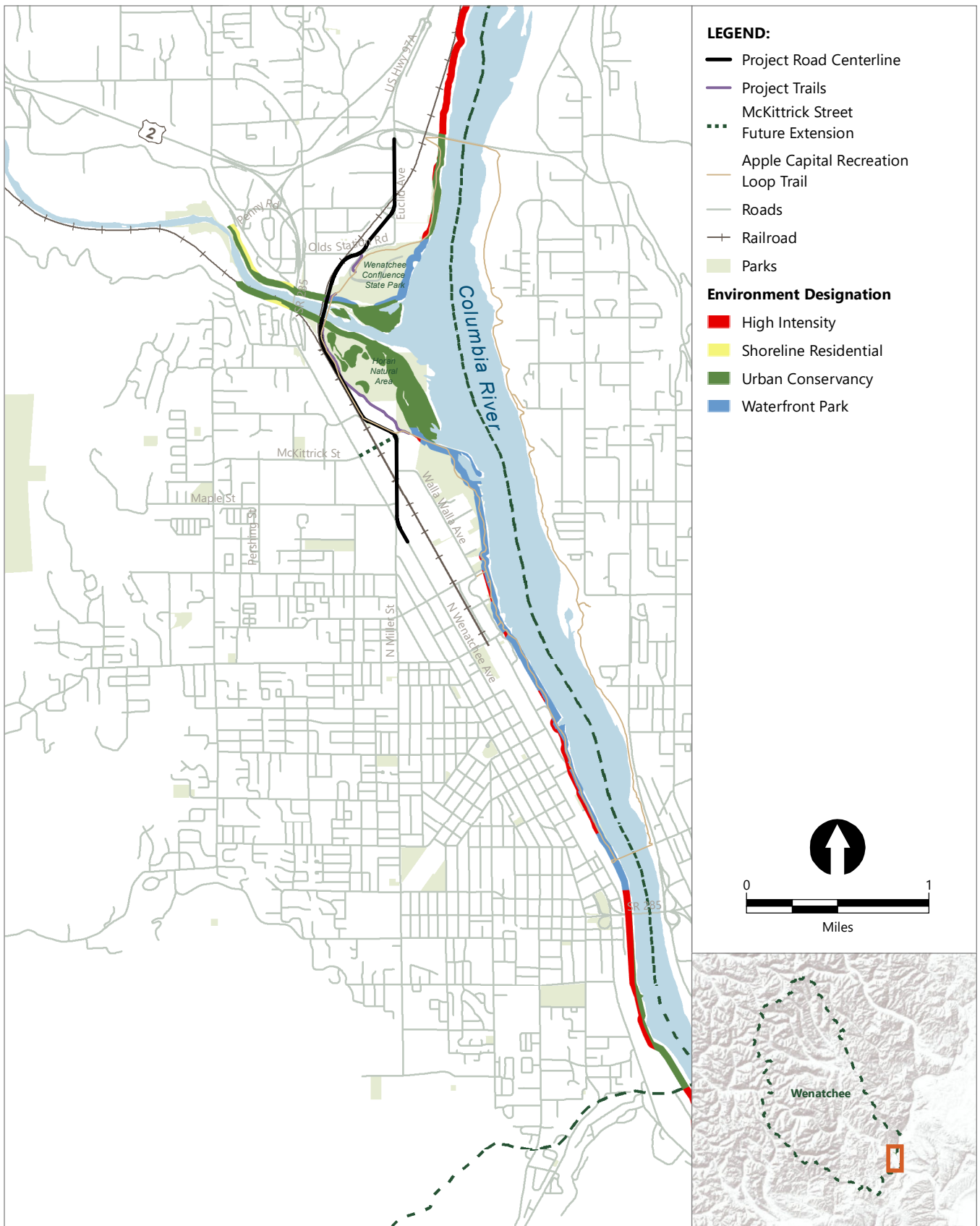
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**Project Area and Gage Location**  
 Water Resources Technical Study  
 Confluence Parkway Project



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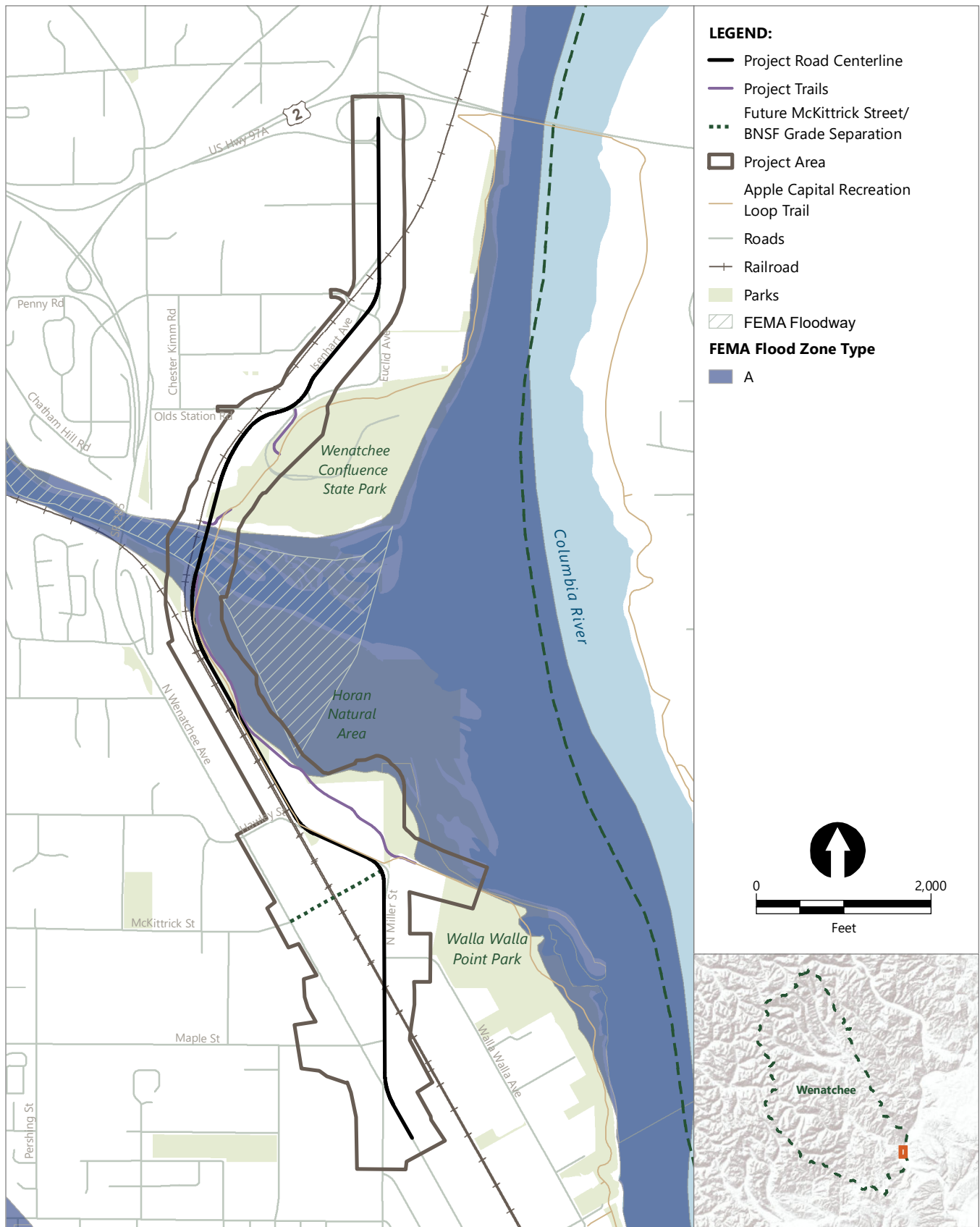


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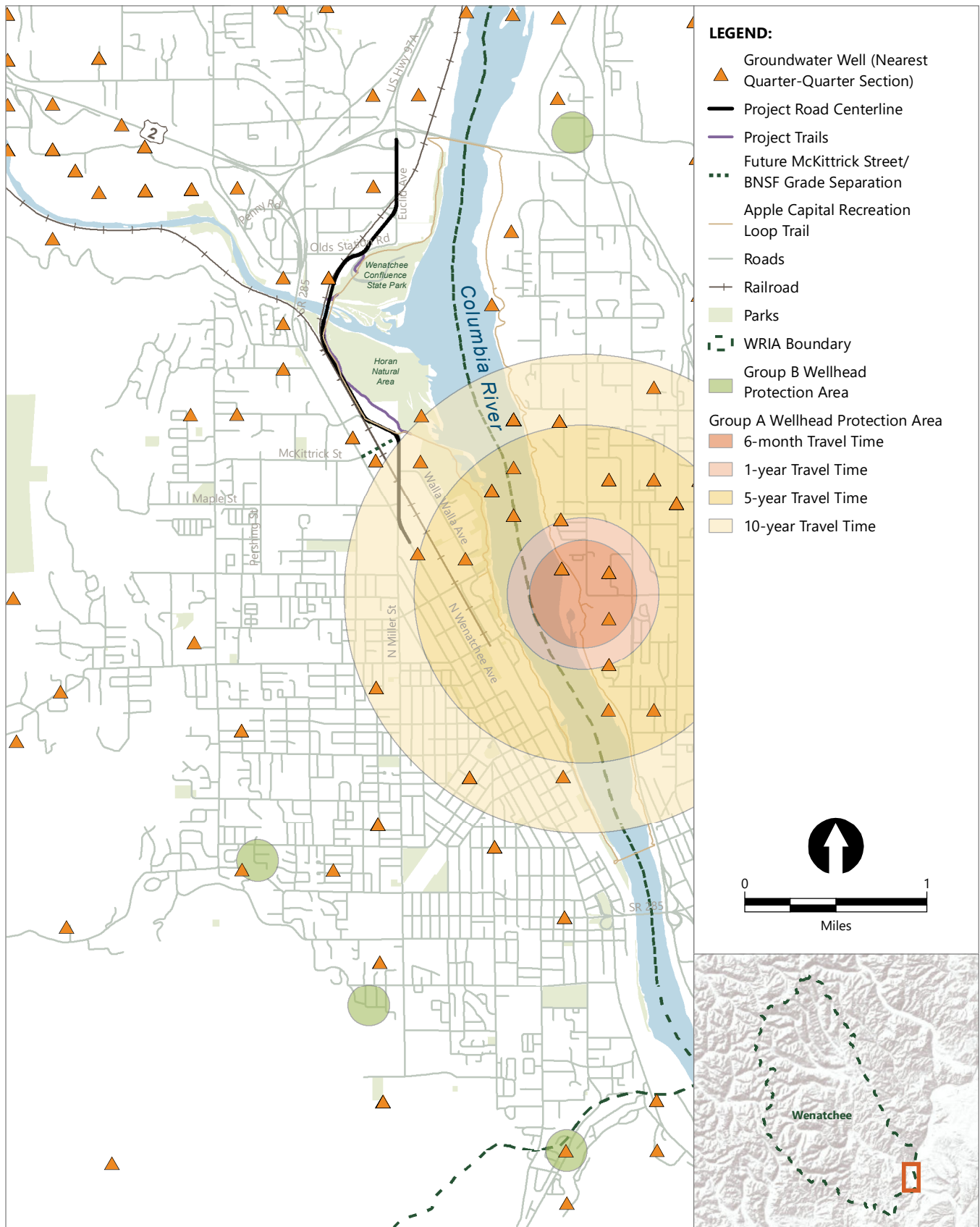


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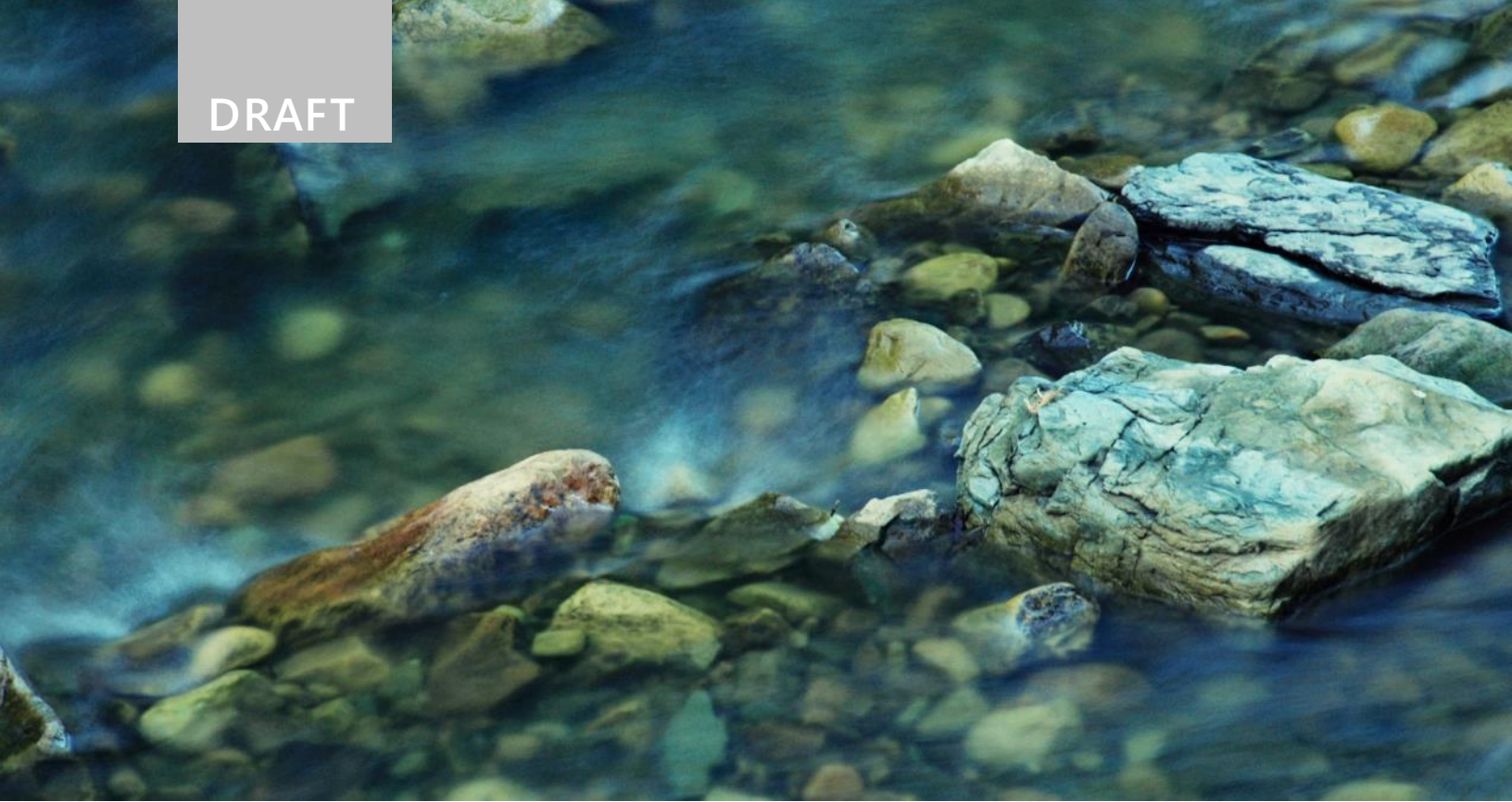


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Appendix A  
Project Description

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DRAFT



May 2021  
Confluence Parkway Project



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## Project Description

Prepared for City of Wenatchee

DRAFT

May 2021  
Confluence Parkway Project

## Project Description

**Prepared for**  
City of Wenatchee  
1350 McKittrick Street, Suite A  
Wenatchee, Washington 98801

**Prepared by**  
Anchor QEA, LLC  
23 South Wenatchee Avenue, Suite 220  
Wenatchee, Washington 98801

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## ABBREVIATIONS

ADA	Americans with Disabilities Act of 1990
BNSF	Burlington Northern Santa Fe
Chelan PUD	Public Utility District No. 1 of Chelan County

# 1 Introduction

The Project is a proposed 2.5-mile bypass corridor that is intended to reduce vehicle congestion on SR 285/North Wenatchee Avenue. The Project is a part of a larger effort known as the Apple Capital Loop Project, which is a network of projects that, together, will complete an integrated highway, transit, and non-motorized trail loop that functions as the backbone of the Wenatchee Valley's transportation system. The Project will provide relief from the current North Wenatchee Avenue Bridge bottleneck and alleviate congestion in this area.

The Project connects the central downtown area with the U.S. 2/Euclid Avenue interchange on the north end of Wenatchee. The Project area is primarily to the east of the Burlington Northern Santa Fe (BNSF) railroad tracks with a large portion adjacent to the Wenatchee Confluence State Park, including the Horan Natural Area. The sections that follow provide a description of key Project elements and construction methods.

## 1.1 Location

The Project is located in the City of Wenatchee in Chelan County (Figure 1). Wenatchee is located in a valley in central Washington at the confluence of the Columbia and Wenatchee rivers. Currently, Wenatchee is the largest city in north-central Washington and is an urban hub for the region.

## 1.2 Project Elements

### 1.2.1 Roadway Alignment

Confluence Parkway would be a new two-lane arterial street that would begin at the existing U.S. 2/Euclid Avenue interchange, cross the Wenatchee River on a new bridge, and extend south to the intersection of North Miller Street and SR 285/North Wenatchee Avenue. The corridor would have one vehicle travel lane and bicycle lane in each direction. Two-way left turn lanes would be included between Wenatchee Confluence State Park and the U.S. 2/Euclid Avenue interchange as well as south of the junction of Hawley Street and North Miller Street. All Project elements would meet current design standards, including compliance with the Americans with Disabilities Act of 1990 (ADA), where applicable. New traffic signals, illumination upgrades, and safety measures for at-grade railroad crossings would be part of the Confluence Parkway.

Traffic signals would be installed at, and other modifications made to, the existing U.S. 2/Euclid Avenue interchange to accommodate the additional traffic associated with the Confluence Parkway (Figure 2a). The new roadway would continue southwest along the existing Euclid Road alignment, cross the railroad tracks on a new at-grade railroad crossing at Euclid Avenue, and follow along the existing Isenhardt Avenue alignment. The existing at-grade crossing at Penny Road would remain and the intersection of Confluence Parkway with Euclid Avenue would be upgraded from a three-leg to



four-leg intersection to accommodate the through movement on the Confluence Parkway. From there, the new roadway would continue south along the current alignment of Isenhart Avenue to Olds Station Road (Figure 2b). Olds Station Road would end on the west side of the railroad in a cul-de-sac and the at-grade railroad crossing would be removed.

South of Isenhart Avenue, the new road would turn slightly west and continue through the west side of the existing McDougall & Sons warehouses. The existing Wenatchee Confluence State Park entrance would remain in its current location. Modifications would be required to the southwestern portion of the park for the roadway. The existing Wenatchee Confluence State Park staff housing will be removed and replaced with a new housing facility within the park.

Confluence Parkway would cross the Wenatchee River on a new bridge approximately midway between the existing BNSF rail bridge and the Apple Capital Recreation Loop Trail pedestrian/bicycle bridge (Figure 2c). The bridge would be a combined two-level vehicle and pedestrian bridge. The top portion would consist of a vehicle travel lane and bike lane in each direction, and the bottom would consist of a shared use bicycle and pedestrian path that replaces the existing narrow and aging pedestrian bridge. The new bridge would include three piers in the water, which would likely be in the same alignment as those on the existing railroad bridge. The existing pedestrian bridge would be removed after the new bridge is open.

From the river crossing south to Hawley Street, Confluence Parkway would create a new roadway along the east side of the BNSF railroad tracks, which are east of and parallel to the existing alignment of North Wenatchee Avenue, requiring a portion of the western edge of the Horan Natural Area (Figure 2d). It would join the existing alignment of Hawley Street just south of where Hawley Street currently crosses the BNSF mainline at-grade. The at-grade crossing would be closed, with Hawley Street becoming a cul-de-sac west of the railroad tracks.

Confluence Parkway would follow the existing alignment of North Miller Street (Figure 2e). The existing North Miller Street at-grade railroad crossing would be replaced with a new railroad underpass. New signals would be installed at the Walla Walla Avenue and Maple Street intersections. The existing SR 285/North Wenatchee Avenue and Miller Street intersection would be reconfigured to accommodate the new traffic volumes associated with Confluence Parkway. Approximately 450 feet south of that intersection, a new street would connect Miller Street and North Wenatchee Avenue with traffic signals at each intersection. These improvements in the vicinity of the existing Miller Street/North Wenatchee Avenue intersection represent the southern end of Confluence Parkway.

### 1.2.2 *Bicycle and Pedestrian Facilities*

Confluence Parkway would include bicycle lanes in each direction along its entirety. Bike lane buffers would be provided in the more developed areas of the Project to the south of the existing Hawley Street railroad crossing.

Between the north end of the Project and the Wenatchee Confluence State Park entrance, there would generally be a planted buffer and sidewalk on both sides of the roadway. The Project does not propose sidewalks between the Wenatchee Confluence State Park entrance on the north and Hawley Street on the south because pedestrians will use the parallel Apple Capital Recreation Loop Trail along this stretch of roadway and there are no business or residential properties to generate a need for pedestrian access at the street. The sidewalk and planted buffer would continue between approximately Hawley Street and the southern extent of the Project at North Miller Street and North Wenatchee Avenue.

Connections would be provided between the roadway pedestrian and bicycle facilities and the Apple Capital Recreation Loop Trail at both Walla Walla Park and Wenatchee Confluence State Park. North of the Wenatchee River, pedestrians would connect from the sidewalk to the existing Apple Capital Recreation Loop Trail and would use the new combined vehicle and pedestrian bridge to cross the river.

On the north side of the Wenatchee River, the Apple Capital Recreation Loop Trail would largely remain in its current configuration. The trail would be rerouted slightly to align with the new combined vehicle and pedestrian bridge. A new connection from the street level to the trail will also be provided at the Wenatchee Confluence State Park entrance in order to separate non-motorized trail users from vehicular access to the park.

The trail would cross the Wenatchee River on a new combined vehicle and pedestrian bridge, with a travel lane for vehicles on the top deck and a bicycle and pedestrian lane below. On the south side of the Wenatchee River, the trail would converge with the roadway, running parallel on its east side with a vegetated berm separating the trail from vehicle traffic. Retaining walls would also be installed in this area where necessary to minimize impacts to the Horan Natural Area. At the north end of the Public Utility District No. 1 of Chelan County (Chelan PUD) maintenance yard, located between Hawley Street and Wenatchee Confluence State Park, the trail would diverge from the road alignment, continuing to the south between the Chelan PUD property and the Horan Natural Area. It would converge back with the existing trail near the intersection of Hawley Street and Miller Street and Walla Walla Point Park.

The existing pedestrian bridge would remain open to the extent possible. Portions of the trail may need to be temporarily rerouted during construction. The City of Wenatchee will provide notice to the bicycle commuters and recreational trail users in advance of trail closures or rerouting.

Demolition of the pedestrian bridge will be scheduled to occur after the new bridge is operational, if feasible.

### 1.2.3 *Property Acquisition*

The Project would require property acquisition in several areas along the alignment. All acquisitions and relocations would be compliant with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. A total of approximately 10 acres will be acquired. The acquisition process for most of these properties has not yet begun, except that the City has had preliminary conversations with the owners of the McDougall & Sons warehouses.

Key property acquisitions including those that require building demolition and/or relocations include the following:

- Three residential structures north of Euclid Court, which currently house commercial businesses, would be acquired and demolished to construct the upgrades to the Penny Road/Isenhardt Avenue intersection. One additional residential structure in this area may need to be demolished, pending further design.
- The McDougall & Sons warehouses, which are used for apple packing, would be acquired, and most structures would be demolished. The existing office space on the north side of the property would be preserved.
- Approximately 1 acre of the Wenatchee Confluence State Park would be acquired between the park entrance and the new Wenatchee River bridge. The existing park staff housing would be relocated.
- Approximately 3 acres of the Horan Natural Area would be acquired for the Confluence Parkway alignment and the relocated Apple Capital Recreation Loop Trail. An additional 1.5 acres of Chelan PUD property between the railroad tracks and the PUD maintenance yard would also be acquired.
- The drive-through of the Taco Bell located on North Miller Street would be acquired. The property could be reconfigured with the drive through located on a different part of the property. Business relocation is not anticipated.
- The following properties would be acquired in their entirety. The buildings would be removed and the businesses would be relocated.
  - The Igloo bar and restaurant located on North Miller Street.
  - Denny's located on North Wenatchee Avenue.
  - Valley North Service Center gas station located on North Miller Street.

### 1.2.4 *Utilities*

Construction of the Confluence Parkway offers opportunities to consolidate utility corridors for sanitary sewer, water, electrical transmission and distribution, telecommunications service, and

natural gas. Portions of existing utility infrastructure would require relocation in coordination with roadway construction.

The existing sanitary sewer force main beneath the Wenatchee River would be relocated to the new Confluence Parkway Bridge and extend from the existing Olds Station Lift Station to the approximate location of the existing at-grade railroad crossing at Hawley Street. A portion of the 30-inch regional waterline would be relocated from its current location beneath the Wenatchee River to be suspended from the Confluence Parkway Bridge. Aerial electrical transmission, distribution, and telecommunications lines would be relocated parallel to and adjacent to the new roadway. Electrical distribution and telecommunications would be installed underground within the roadway right-of-way where feasible. Natural gas relocations are anticipated at some locations where they would otherwise conflict with new gravity stormwater facilities.

### *1.2.5 Stormwater*

New stormwater facilities would be installed along the entire Project corridor. Conveyance and treatment facilities will be designed to meet the requirements of the August 2019 Stormwater Management Manual for Eastern Washington and Wenatchee City Code Chapter 9.20, as described in the Project Preliminary Stormwater Report (KPG 2021).

### *1.2.6 Relation to the McKittrick Street/BNSF Grade Separation*

The McKittrick Street/BNSF Grade Separation is a planned project with independent utility and logical termini, located in the southern portion of the Confluence Parkway Project vicinity, at the intersection of Hawley and North Miller streets. McKittrick Street currently ends in a "T" intersection with North Wenatchee Avenue. It will be extended to the east as a grade-separated underpass of the railroad tracks. The extension will continue to a planned round-about at the intersection of Hawley and North Miller streets. The portion of the McKittrick Street project west of the railroad tracks is funded and scheduled for construction in 2021. The railroad undercrossing and the connection to North Miller and Hawley streets is currently unfunded. The City of Wenatchee is working to secure additional funds.

## **1.3 Construction Methods and Timing**

### *1.3.1 Construction Methods*

Confluence Parkway would include a combination of new road construction and upgrades to the existing roadway. The existing roadway would be preserved to the largest extent possible and will follow the existing alignment and profile. In many areas, construction would include grinding the roadway and placing asphalt in the travel lanes and constructing planters and sidewalks adjacent to the roadway. In other places, construction of the roadway would include the removal of existing

asphalt and concrete surfaces, clearing and grading of adjacent areas, and placing subgrade material to form a stable roadbed. New road surfaces would be primarily asphalt and concrete.

Fill would be required on both sides of the new bridge and in the area where the roadway would be constructed on a new alignment. Fill would also be required between the BNSF right-of-way and the top of the portion of roadway that borders the west edge of the wetlands in the Horan Natural Area. All fill would come from existing off-site, permitted sources.

Construction equipment could include, but is not limited to, cranes, backhoes, excavators, front loaders, pavement grinders, jack hammers, drilling rigs, pile drivers, trucks, and concrete pumping equipment. Staging areas would be located within the right-of-way and adjacent City-owned parcels where possible to allow for parking, large equipment storage, and material stockpiles.

The new bridge across the Wenatchee River would likely be supported on drilled shaft foundations within the river. Drilled shafts are created by installing a steel casing, excavating the soil and sediment from within the casing, and placing steel and concrete within the excavated casing.

Construction of the bridge foundations, columns, pier caps, and girders would require the installation of a temporary, pile-supported work access trestle. The details would be developed as design progresses and would likely consist of driven steel pipe piles with steel framing that support timber decking. This trestle would allow for heavy equipment to access the foundation locations and for the delivery of construction materials. The bridge deck, barriers, and pedestrian walkway would likely be constructed without the need of the trestle. The existing pedestrian/bicycle trail would remain open during construction of the new bridge.

A large portion of Confluence Parkway, including the new bridge structure, would be constructed without requiring road closures or detours as it will be along a new roadway alignment. It is anticipated that Miller Street would be closed during constructing of the railroad underpass, with local access provided via Maple Street to the south and McKittrick Street to the north. Short-term local detours will be required as needed for improvements along existing roadways. The Apple Capital Recreation Loop Trail would be kept open to the extent possible during construction of the roadway and trail realignment.

### *1.3.2 Project Timing*

Construction is anticipated to begin in 2025, depending on availability of funding, and will span multiple years. In-water work will be performed within the allowable in-water work windows established by regulatory agencies to minimize potential disturbance of sensitive fish and wildlife species. It is anticipated that the in-water work window will be from July 15 to September 30 of each year. The temporary work access trestle would remain in the water for a period of up to three in-water work windows.

## 2 References

KPG, 2021. *Confluence Parkway Project Preliminary Stormwater Report*. Draft Prepared for City of Wenatchee. February 2021.

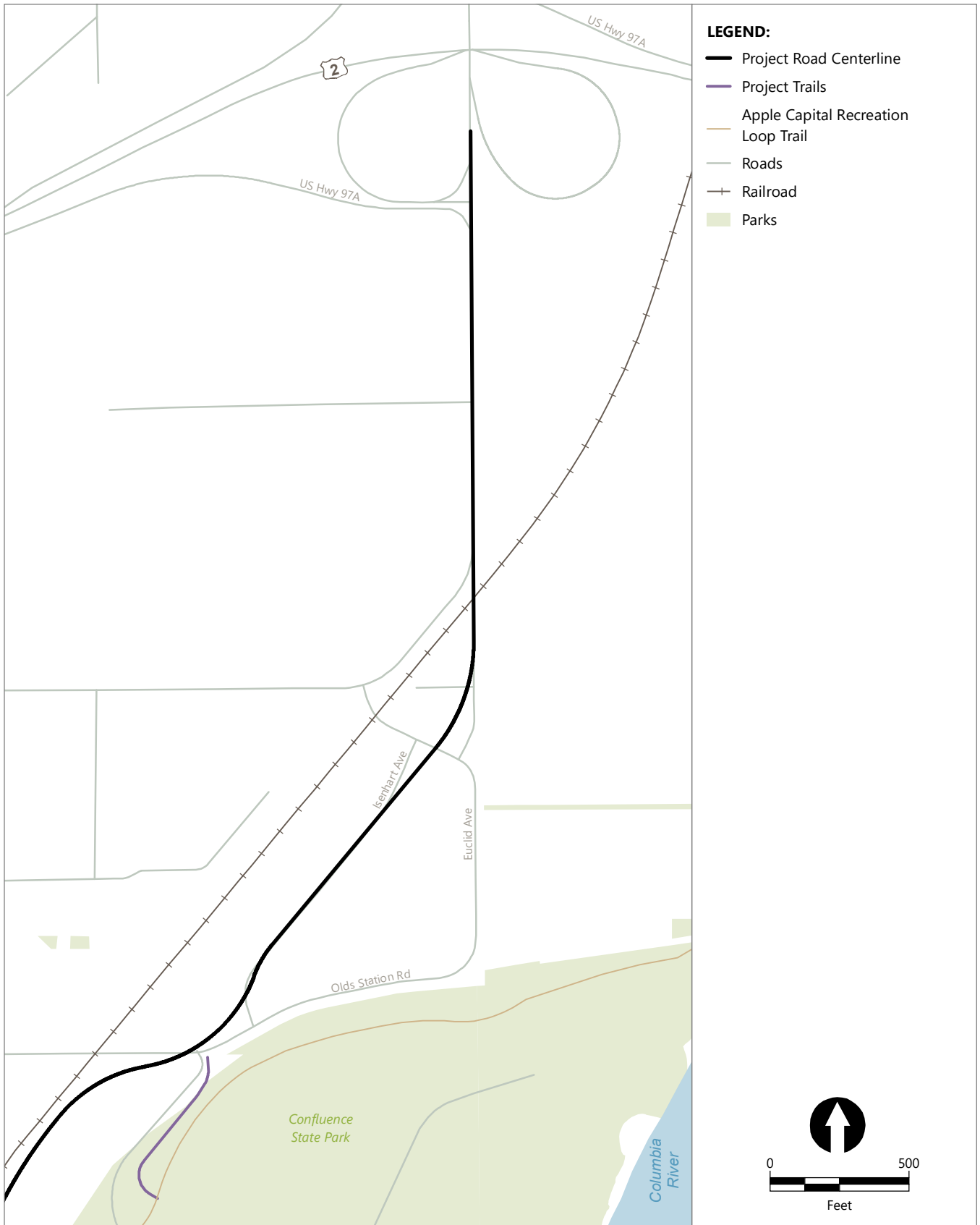
## Figures

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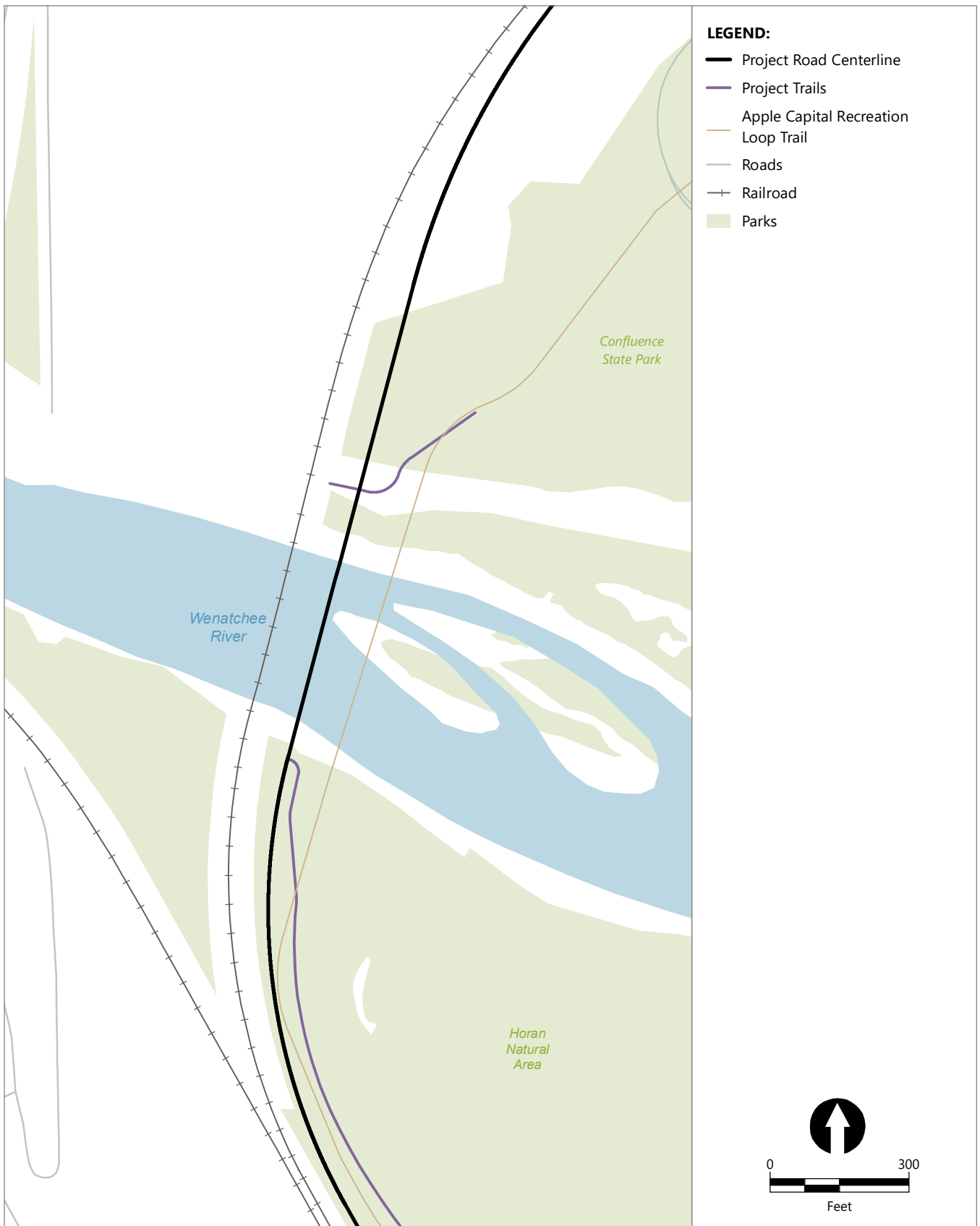
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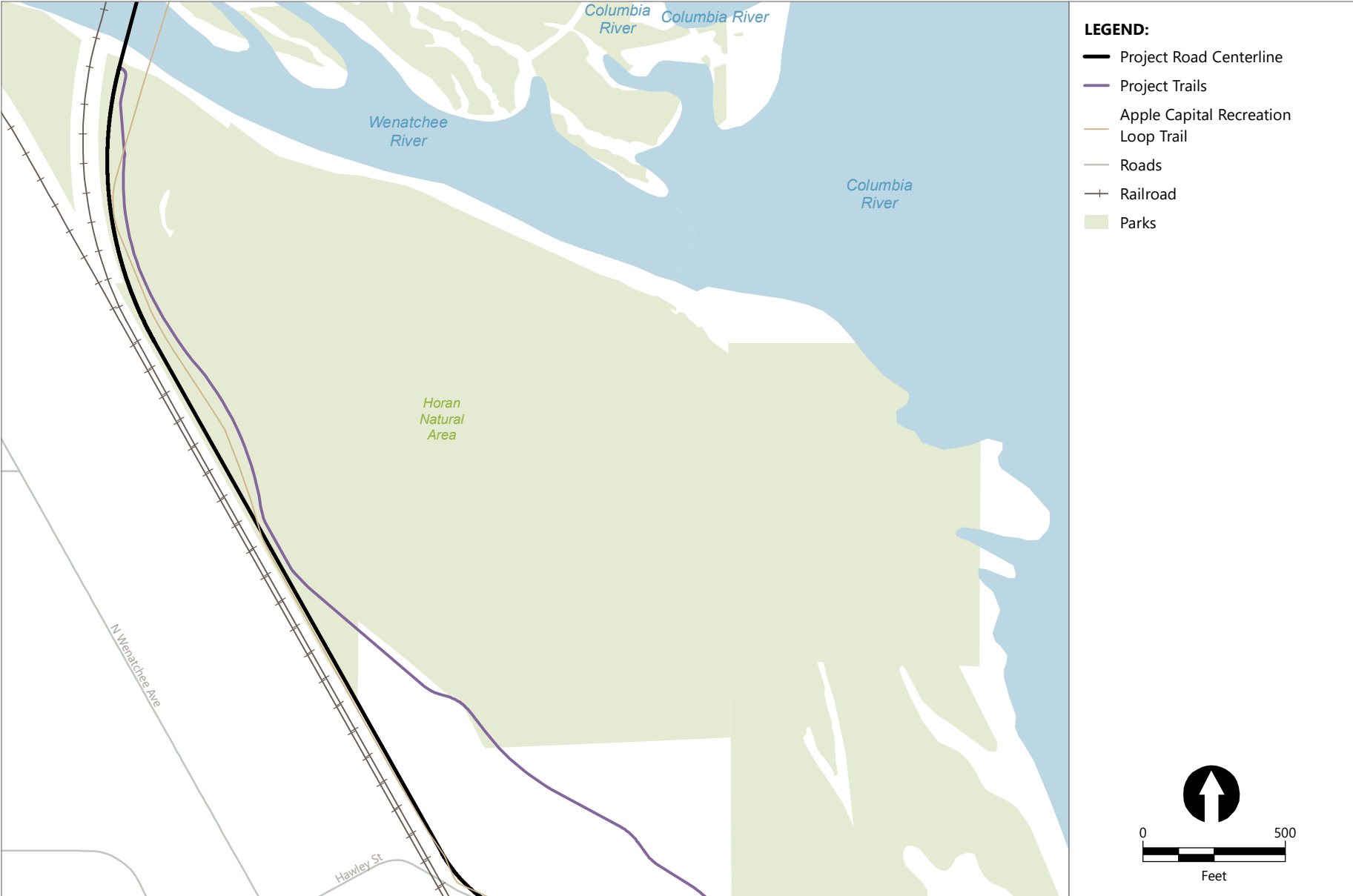
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**Figure 2b**  
**Wenatchee Confluence State Park Vicinity**  
Confluence Parkway  
City of Wenatchee



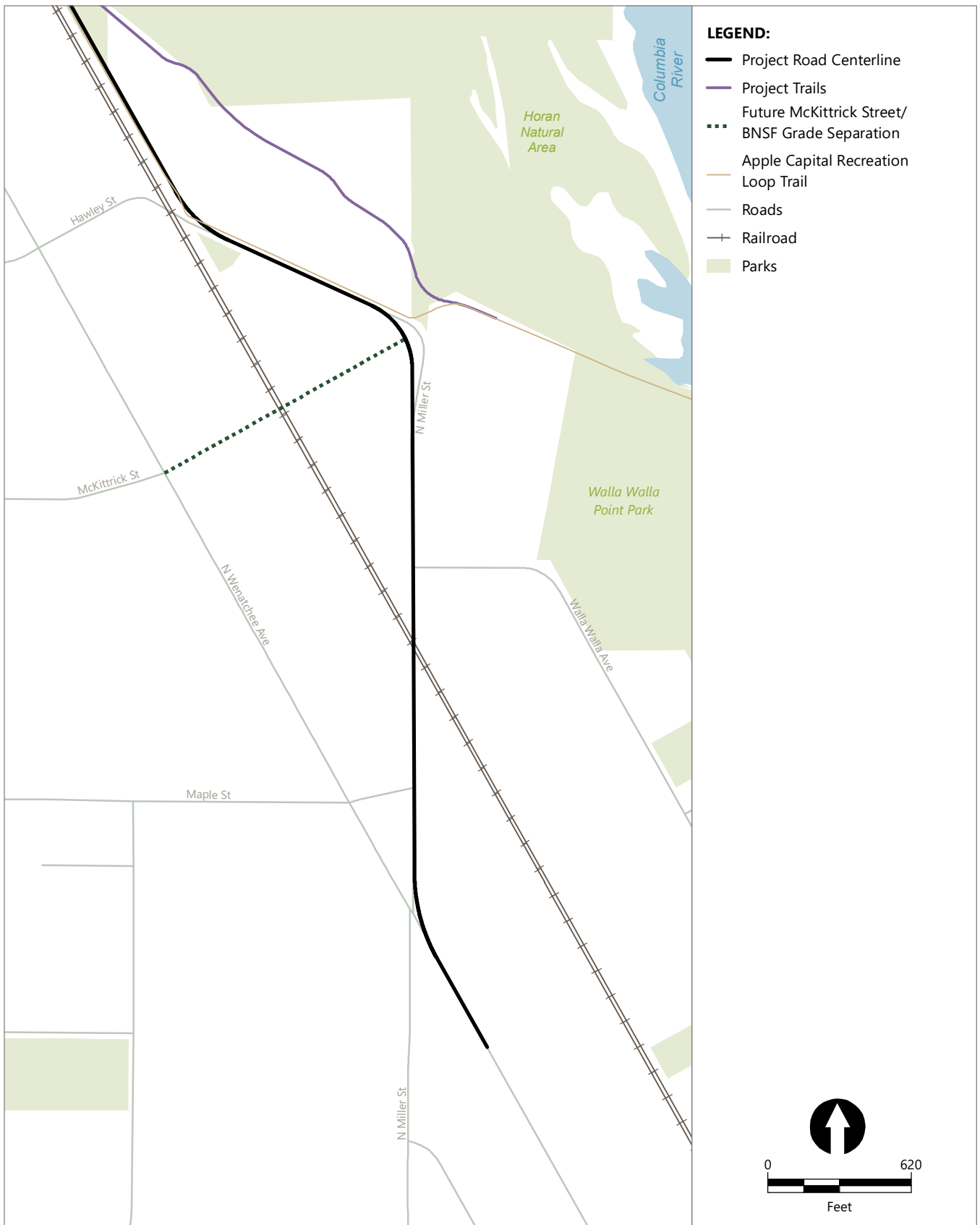
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**Figure 2d**  
**Horan Natural Area Vicinity**  
Confluence Parkway  
City of Wenatchee



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**Figure 2e**  
**McKittrick Street to North Mission Street**  
Confluence Parkway  
City of Wenatchee