

CRITICAL AREAS REPORT

Confluence Park Bridge

Prepared for:

City of Issaquah

Jennifer Fink, Park Planner

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Issaquah, WA 98027-1307

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David Evans and Associates, Inc.

415-118th Avenue SE

Bellevue, WA 98005

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AND ASSOCIATES INC.

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Critical Areas Report

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Summary

At the request of the City of Issaquah (City), David Evans and Associates, Inc. (DEA) conducted this investigation to assess the current condition of critical areas and preliminary project-related impacts that could result from the Confluence Park Bridge Project (Project). This project is part of a phased Master Site Plan (MSP) for the overall park. To date, the City has constructed Phase I, consisting of construction of trails and a new picnic shelter; and the first part of Phase II, consisting of habitat improvements along the East Fork and mainstem of Issaquah Creek. The current Project will continue implementation of Phase II of the MSP by constructing a pedestrian link between the eastern and western portions of the park, as well as constructing additional trails, a new play structure, and a parking lot in the southwest corner of the park.

Confluence Park includes approximately 15.5 acres in the center of downtown Issaquah. Three adjacent City-owned parcels (Cybil-Madeline Green, Tolle Anderson Homestead, and Margaret's Meadow) currently comprise Confluence Park. The majority of the property currently serves as open space and buffer to mainstem and East Fork Issaquah Creek.

Critical areas identified in the project area include Issaquah Creek, a Class I salmon-bearing stream; the East Fork of Issaquah Creek, a Class II salmon-bearing stream; Wetland C – a previously delineated Category III wetland; the 100-year floodplains of both streams; and a critical aquifer recharge area.

The proposed Project would result in permanent impacts to approximately 0.25 acre (10,785 square feet) of aquatic habitat buffer, including 0.21 acre (9,320 square feet) of Issaquah Creek buffer and 0.02 acre (665 square feet) of Wetland C buffer. In addition, the new bridge will create 0.02 acre (800 square feet) of permanent shade over Issaquah Creek. One tree greater than 6 inches in diameter is being removed. Most of the permanent impact areas in the stream buffer are located in previously disturbed areas that are not currently providing a high level of habitat or water quality functions to Issaquah Creek. Potential water quality impacts to Issaquah Creek during construction will be minimized through appropriate implementation of Best Management Practices (BMPs) and the Project Temporary Erosion and Sediment Control Plan.

Proposed increases in the amount of pollution-generating impervious surface will be offset by implementation of water quality treatment measures.

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- Appendix C – USFWS and NOAA Fisheries Species Lists
- Appendix D – Site Photographs
- Appendix E – Wetland Summary Sheets

Acronyms and Abbreviations

BMPs	Best Management Practices
City	City of Issaquah
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DEA	David Evans and Associates, Inc.
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
HUC	Hydrologic Unit Code
IMC	Issaquah Municipal Code
MOU	Memorandum of Understanding
MSP	Master Site Plan
NEPA	National Environmental Policy Act
NHP	Natural Heritage Program
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
PHS	Priority Habitats and Species
Project	Confluence Park Bridge Project
RM	River Mile
SCS	Soil Conservation Service
SEPA	State Environmental Policy Act
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington State Department of Natural Resources
WSGA	Washington State Gap Analysis

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1.0 Introduction

At the request of the City of Issaquah (City), David Evans and Associates, Inc. (DEA) conducted this investigation to assess the current condition of critical areas and preliminary project-related impacts that could result from the Confluence Park Bridge Project (Project). This project is part of a phased Master Site Plan (MSP) for the overall park. To date, the City has constructed Phase I, consisting of construction of trails and a new picnic shelter; and the first part of Phase II, consisting of habitat improvements along the East Fork and mainstem of Issaquah Creek. The current Project will continue implementation of Phase II of the MSP by constructing a pedestrian link between the eastern and western portions of the park, as well as constructing additional trails, a new play structure, and a parking lot in the southwest corner of the park.

When the proposed Project (Confluence Park Phase II) is complete, Confluence Park will be bounded by NW Holly Street on the north, Rainier Boulevard N on the east, Issaquah Creek (East Fork) and multi-family housing on the south, and 3rd Court NW and the eastern boundary of the Issaquah School District (parcel no. 282 406 9012) on the west (**Figure 1**). When (future) Confluence Park Phase III is complete, Park boundaries will have expanded to the south, to the southern boundary of what is now the City of Issaquah Parks Maintenance Facility (parcel no. 282 406 9042). The approximate latitude and longitude of the central project area is approximately 47.8504 N by -122.2825 W. The Park is located in Section 28, Township 24 North, and Range 6 East. The proposed Project is described in more detail below.

Confluence Park is located across Rainer Boulevard North from the Darigold dairy in downtown Issaquah and approximately 1,000 feet from where Olde Town Issaquah begins. Confluence Park is physically separated into three segments by East Fork and mainstem of Issaquah Creek. The proposed Project will involve work in the east segment (Cybil-Madeline Green and Tolle-Anderson Homestead) and west segment (Margaret's Meadow). Park users will access the park from the east from Rainier Boulevard North; from the north from Holly Street; or from a new parking lot on 3rd Court NW, adjacent to Margaret's Meadow, in the west segment; as well as on foot.

1.1 Report Limitations

This report is intended to meet the submittal requirements for streams, wetlands, and fish and wildlife habitat areas as described in the City of Issaquah critical areas ordinance. Other critical areas, including geologic hazard areas, frequently flooded areas, and critical aquifer recharge areas, are described generally based on readily available public domain data only; information provided does not meet critical area reporting requirements for these resources.

Figure 1. Vicinity Map

INSERT VICINITY MAP PDF

2.0 Project Description

2.1 Purpose and Need

The purpose of the proposed Project is to continue implementation of the MSP for Confluence Park, with the goal of improving the natural habitat functions of the East Fork and mainstem of Issaquah Creek, as well as improving recreational and open space opportunities for citizens and visitors to downtown Issaquah.

2.2 Proposed Project

Confluence Park includes approximately 15.5 acres in the center of downtown Issaquah. Three adjacent City-owned parcels (Cybil-Madeline Green, Tolle Anderson Homestead, and Margaret's Meadow) currently comprise Confluence Park. The majority of the property currently serves as open space and buffer to the mainstem and East Fork Issaquah Creek.

Phase I of Confluence Park involved constructing a picnic shelter near the original site of the Anderson farmhouse, pathways and landscaping, a park restroom, a rock garden, a pea patch, and seating and gathering areas. Phase II began with extensive stream channel and buffer enhancement along both the East Fork and mainstem Issaquah Creek, including excavation of extensive floodplain benches, addition of large woody debris and snags, bank reshaping, and installation of thousands of native plants.

The proposed Project is part of Phase II and includes the design, engineering, permitting, and construction of a pedestrian bridge linking the portion of Confluence Park east of Issaquah Creek to Margaret's Meadow, the area west of the creek adjacent to the Issaquah School District property. The Project also includes an upgrade to the existing play structure near the corner of Rainier Boulevard North and NW Holly Street, a parking lot at Margaret's Meadow, and trails as outlined in the MSP. Each of these elements is described in more detail below. Preliminary Design plans are included in **Appendix A**.

Funding for the proposed Project includes solely local funds. Construction of the proposed Project is expected to be completed in the summer of 2016. The location of construction staging and storage areas is unknown at this time and will be determined by the construction contractor.

2.2.1 Pedestrian Trails

The Project includes construction of approximately 4,000 lineal feet of mostly gravel pathways. The pathways vary in width from 3 feet to 10 feet wide, depending on location. The paths will occupy approximately 25,000 square feet of ground surface. Many of the areas where paths are proposed currently have informal paths along those alignments used by the public. Each gravel path will consist of compacted subgrade overlain with geotextile fabric and at least 6 inches of crushed rock. Paths will have positive drainage away from the trail. Small areas of concrete sidewalk will also be constructed, mostly adjacent to the new parking lot.

2.2.2 Parking Lot

A new parking lot will be constructed in the southwest corner of the park to access Margaret's Meadow. This parking lot will be accessed off of 3rd Court NW. The parking lot will be approximately 4,296

square feet in size with 12 standard parking spaces and 2 handicapped spaces. The lot will likely be constructed with pervious pavement.

2.2.3 Play Area

The Project will renovate the existing play area in the northeast corner of the park. This work will include removing old equipment, laying down a new rubber play surface, relocating existing climbing boulders, and installing new play equipment. New equipment will include a climbing boulder with handholds, a natural log and rope climbing structure, and multiple balance structures.

2.2.4 New Pedestrian Bridge

The primary purpose of the Project is to construct a new pedestrian bridge across Issaquah Creek connecting the main portion of the park to Margaret's Meadow. Preliminary design proposes a prefabricated timber arch bridge approximately 135 feet long with the following characteristics:

- Timber arch bridge constructed of glulam beams and tied to the deck with steel cable;
- Galvanized steel railings approximately 42 inches high;
- Cast in place concrete deck with 12 feet minimum width; and
- Various art features incorporated into the deck and bridge design including a steel "mayfly" sculpture incorporated into the bridge arch and railings, as well as mixed color glass and stones in the deck to mimic salmon redds and streambed material.

The bridge will span the ordinary high water mark (OHWM) and floodway of Issaquah Creek, and is designed to provide a minimum 1-foot clearance above the 100-year flood elevation. The bridge will be anchored to poured concrete, pipe-supported abutments with short wingwalls supporting fill approaches that are necessary to get the gravel pathways up to the elevation of the bridge.

2.2.5 Miscellaneous Features

The Project includes two viewing platforms, one located just south of the western abutment of the bridge, and another at the northern trail terminus on the west side of Issaquah Creek. These platforms are constructed of concrete and include boulders, stone walls, park benches, and trash receptacles. These platforms are designed to provide viewing locations for the public, particularly during salmon spawning season. Other miscellaneous project features include critical area signs, a split rail fence, and stone bands and trash receptacles in other areas of the park. Some lighting is proposed as part of the Project. Low profile, directional lighting will be installed on the bridge and bridge approaches. Lighting at the new parking lot will comply with City of Issaquah Municipal Code (IMC) Section 18.07.107 related to outdoor lighting for public safety. Lighting will be designed to minimize spillover onto adjacent properties or onto Issaquah Creek.

2.2.6 Excavation and Grading

Approximately 420 cubic yards of fill (imported gravel borrow) will be placed at the bridge approaches to build up the ground to meet the bridge structure. The gravel borrow will be acquired from a City-approved source. The total affected area will be 6,647 square feet, including the proposed approach areas on either side of the bridge.

Approximately 740 cubic yards of material will be excavated to install the parking lot, for bridge pilings, and for path and playground construction. The total affected area will be 32,000 square feet. A backhoe or similar equipment will be used. Some topsoil will be re-used at proposed planting areas; the remainder will be hauled offsite to an approved facility. Grading will take place at bridge approaches and abutments. Trail will match the existing grade as much as possible.

2.2.7 Stormwater and Impervious Surfaces

Additional impervious surface related to the proposed Project would be 2,520 square feet, including the concrete pads and overlook on the pathway and the bridge deck and abutments. If (as a worst-case scenario) an impervious surface is used at the parking lot, the total impervious surface would be approximately 6,850 square feet. Using the size of the Park (15.5 acres) and the fact that approximately 14 percent of the Project site is estimated to be currently covered in impervious surface (source: Phase I SEPA Checklist), the impervious portion of the site would be approximately 15 percent after construction of the proposed Project.

Additional stormwater runoff will occur from the Project as a result of an increase in impervious surfaces, including the bridge deck and portions of the trail. Stormwater runoff from impervious surfaces will be managed using stormwater treatment methods in accordance with King County Storm Water Design Manual and the IMC. Stormwater runoff from the proposed bridge will be routed off each side of the bridge and dispersed onto the adjacent stream banks. The proposed parking lot is the only potential source of pollution-generating impervious surface, and this area will be constructed with pervious pavement, allowing stormwater to infiltrate to groundwater. The parking lot will consist of approximately 4,296 square feet of pervious pavement. A perforated pipe surrounded by rock or gravel will be placed underneath the parking lot to collect percolated stormwater. The stormwater will then be conveyed to and treated in a bioswale north of the parking lot, between the pathway and the parking lot, as shown in the preliminary design plans (**Appendix A**).

2.2.8 Construction BMPs and Minimization Measures

During construction, standard Best Management Practices (BMPs) will be employed in order to minimize erosion potential at disturbed areas, including the bridge approaches and abutments, the parking lot, playground area, pathways, and construction staging areas. BMPs will include but not be limited to silt fences, straw wattles, inlet protection, and hydroseed. A high-visibility fence will be installed in a north-south direction along the east edge of the construction area, to separate construction activities from park use activities. In the long term, the bridge abutments will have permanent scour protection in the form of rounded rock or riprap that will reduce erosion from creek flow.

3.0 Study Methodology and Coordination

3.1 Study Methods

3.1.1 Study Area

Critical areas were identified within or immediately adjacent to the proposed Project footprint. Presence of special status species, including threatened and endangered species, was evaluated within approximately one mile of the proposed Project to determine if they would be affected by elements of the proposed Project, such as noise.

3.1.2 Affected Environment

Published information about local critical areas was reviewed for evidence of wetlands, streams, geologic hazard areas, floodplains, critical aquifer recharge areas, and potential fish and wildlife habitat. Existing literature and scientific data were reviewed to determine potential wildlife presence in the Project area. This report was prepared following the review of Project plans, public domain resource data, and multiple site visits.

3.1.3 Field Studies

DEA performed site visits on September 11 and October 15, 2015 to verify preliminary data findings, confirm previously delineated wetland boundaries, and document existing habitat conditions and wildlife use. Wetlands were identified on the basis of hydrophytic vegetation, hydric soils, and evidence of wetland hydrology as described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and subsequent U.S. Army Corps of Engineers (Corps) guidance (Regional Supplement for Western Mountains and Valleys [Corps 2010]). DEA also delineated the OHWM of Issaquah Creek in the vicinity of the proposed bridge location, which had changed since the completion of the Phase I stream restoration work.

3.2 Agency Coordination

The U.S. Fish and Wildlife Service (USFWS) was consulted for information on the known or possible occurrence of species listed under the federal Endangered Species Act (ESA) that could occur in the City. The Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) program (WDFW 2016a) and the Washington State Department of Natural Resources (WDNR) Washington Natural Heritage Program (NHP) (WDNR 2016a) were consulted for documented occurrences of priority habitats or species, rare plants, and high quality native ecosystems in the Project vicinity. Priority habitats include but are not limited to such features as wetlands, riparian areas, snag-rich areas, caves, cliffs, oak woodlands, rocky shorelines, and old-growth forests. Priority species are plants and animals listed by the state or federal government as endangered, threatened, sensitive, candidate, or species of concern. The potential use of the Project area by mammals, birds, amphibians, and reptiles was investigated through review of Washington State Gap Analysis (WSGA) data. The information reviewed included the following:

- WDFW PHS data (2016a)
- WDNR NHP data (2016a)

- National Wetlands Inventory (NWI) Online Mapper (USFWS 2016a):
<http://www.fws.gov/wetlands/Data/mapper.html>
- Confluence Park Phase I SEPA Checklist (City of Issaquah 2012)
- Confluence Park Master Site Plan
- Confluence Park Wetlands and Streams Critical Areas Assessment, Anchor QEA, June 2011
- City of Issaquah GIS data
- King County IMAP (2016)
- A Catalog of Washington Streams and Salmon Utilization – Volume 1 – Puget Sound Region. Washington Department of Fisheries (Williams et al. 1975)
- United States Department of Agriculture (USDA) Web Soil Survey (USDA 2016)
- Salmon and Steelhead Habitat Limiting Factors Report for the Cedar – Sammamish Basin (Water Resource Inventory Area 8) (Kerwin 2001)
- Breeding Birds of Washington State – Location Data and Predicted Distributions (Smith et al. 1997)
- Terrestrial Mammals of Washington State - Location Data and Predicted Distributions (Johnson and Cassidy 1997)
- Amphibians and Reptiles of Washington State - Location Data and Predicted Distributions (Dvornich, McAllister, and Aubry 1997)

4.0 Regulatory Context

4.1 Federal and State Regulations

Federal and state laws and regulations pertinent to sensitive wetland, stream, and fish and wildlife resources in the Project area are described in **Appendix B**.

4.2 Local Regulations

4.2.1 City of Issaquah Regulations

The City defines Critical Areas as:

Any of those areas which are subject to natural hazards or those land features which support unique, fragile, or valuable natural resources including fish, wildlife and other organisms and their habitat and such resources which, in their natural state, carry, hold or purify water. Critical areas include the following landform features: erosion hazard areas, flood hazard areas, coal mine hazard areas, landslide hazard areas, seismic hazard areas, steep slope areas, streams, wetlands, and aquifer recharge areas. Critical area buffers are integral to the health of the critical area and therefore for functional purposes are considered a part of the critical area. However, unless indicated otherwise, measurements from critical areas are made from the outside edge of the protected landform feature (e.g., wetland, stream, etc.) and not from the outside edge of the buffer.[18.10.390]

Wetlands

Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate conversion of wetlands.

Within the City, wetlands are classified into Category I, Category II, Category III, and Category IV based on the Washington State Wetland Rating System for Western Washington (Hruby 2004). This results in a total score based on the sum of scores for water quality functions, hydrology functions, and habitat functions. The score for a Category I wetland equals greater than 70 points. The score for a Category II wetland is between 51 and 69 points. The score of a Category III wetland is between 30 and 50 points. The score of a Category IV wetland is less than 30 points.

Buffer widths depend on wetland category, wetland size, the intensity of impacts, and the functions or special characteristics of the wetland. Buffer widths range from 0 (Category IV wetlands less than 2,500 square feet) to 225 feet for high quality Category I and II wetlands.

Streams

Streams are defined as areas of the City where surface waters from natural sources such as streams, lakes, groundwater, springs, or surface flows produce a defined channel or bed. A defined channel or bed is an area which demonstrates clear evidence of the passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. Streams also include constructed or channelized streams used to convey water which flowed in a naturally defined channel prior to construction of such watercourse. This definition is not meant to include excavated or other entirely artificial watercourses, including irrigation ditches, swales, roadside ditches, canals, or storm or surface water runoff devices.

Within the City, streams are rated into Class 1, Class 2, Class 3, and Class 4. Class 1 streams are identified as “Shorelines of State” under the City’s Shoreline Master Program. Class 2 streams are streams smaller than Class 1 streams that flow year-round during periods of normal rainfall. Class 2 streams are further classified based on the presence or absence of salmonids. Class 3 streams are those streams that are intermittent or ephemeral during years of normal rainfall and are not used by salmonids. Class 4 streams are constructed or channelized streams, that are intermittent, are not used by salmonids and do not provide salmonid habitat, and/or are not directly connected to a Class 1, 2, or 3 stream by an above ground channel. Stream buffers are defined in IMC 18.10.785.

Geologically Hazardous Areas

Geologically hazardous areas in the City include:

- Landslide hazard areas;
- Steep slope areas;
- Coal mine hazard areas;
- Erosion hazard areas; and
- Seismic hazard areas (including liquefaction prone areas).

Flood Hazard Areas

Flood hazard areas in the City include those areas subject to inundation by the base flood, including streams, lakes, wetlands, closed depressions, floodways, and floodplains. A flood hazard area consists of the following components which shall be determined by the City after obtaining, reviewing, and utilizing base flood elevation and available floodway data:

- “Floodplain” means the total area subject to inundation by the base flood. The floodplain includes both rapidly flowing water and standing water.
- “Floodway” means the channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the base flood flow without increasing the base flood elevation more than one (1) foot. The floodway is determined by the latest Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).

5.0 Affected Environment

5.1 Regional Setting

The proposed Project is located within Water Resource Inventory Area 8: Cedar – Sammamish Watershed. More specifically, the Project site is within the Issaquah Creek Basin, 6th Field Hydrologic Unit Code (HUC) 171100120201. Confluence Park is located in downtown Issaquah, a mostly developed area with a combination of high density single family and multi-family residential developments, along with commercial and retail development along major arterials such as Front Street and Gilman Boulevard. Confluence Park is the largest undeveloped park property in the City center.

5.2 Project Setting

5.2.1 Background Data

WDFW PHS and WDNR NHP Data

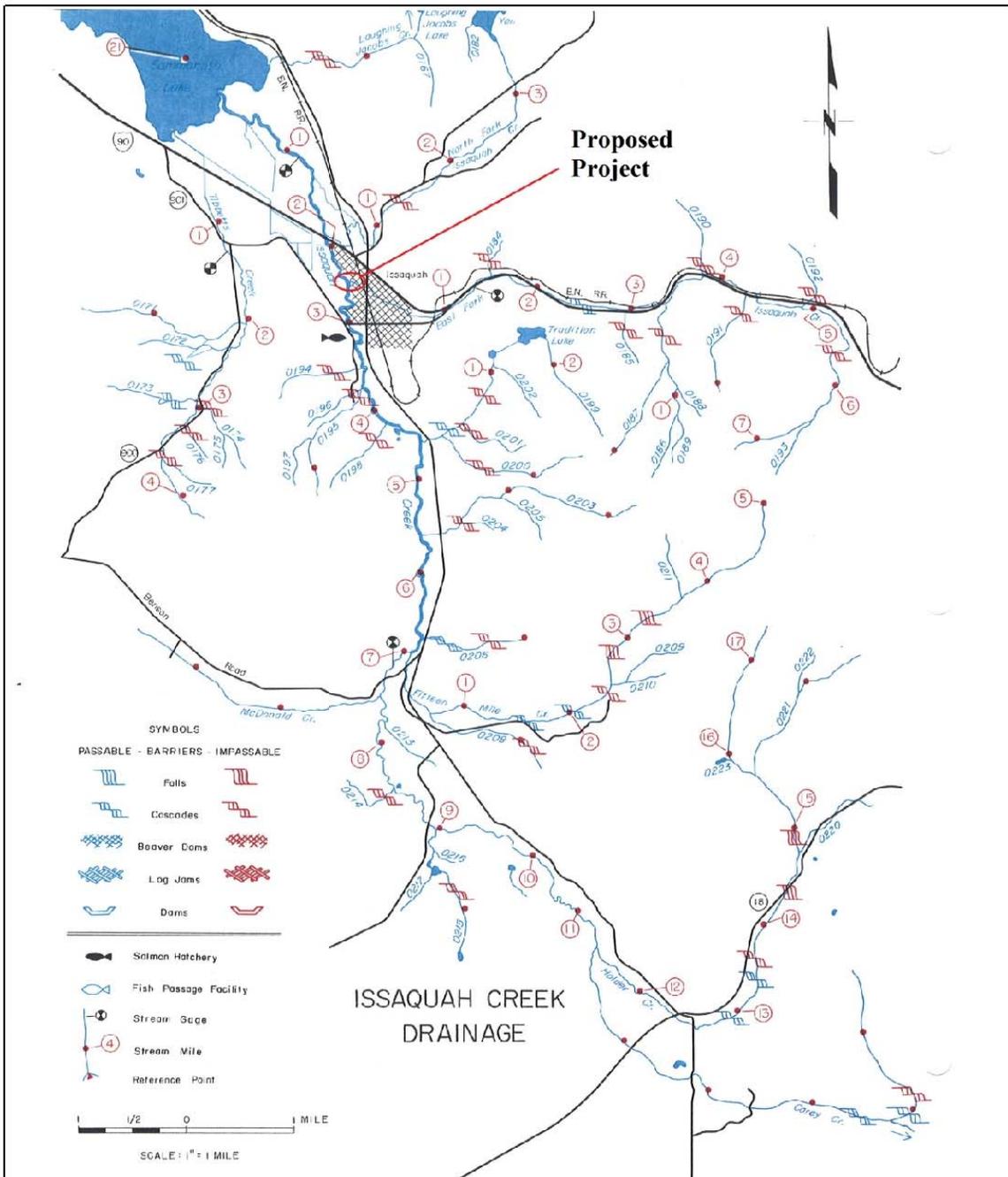
The WDFW PHS data did not identify any priority wildlife heritage points or priority habitat points in the immediate vicinity of the Project site (WDFW 2013a). The closest priority wildlife heritage points are several bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nests located near Issaquah Creek approximately 0.9 mile north of the Project site, north of I-90 and west of East Lake Sammamish Parkway (WDFW 2016a). The PHS data also identified many of the undeveloped areas around central Issaquah (e.g., Squak Mountain, Cougar Mountain, slopes of the plateau) as priority habitat open spaces and biodiversity corridors. The mainstem of Issaquah Creek in Confluence Park is identified as containing numerous priority anadromous and resident fish including fall Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), sockeye salmon (*O. nerka*), winter steelhead (*O. mykiss*), kokanee salmon (landlocked *O. nerka*), and resident cutthroat trout (*O. clarki*).

The WDNR documents no rare plants or plant associations in the park (WDNR 2016a).

Streams

Two streams are located within Confluence Park – mainstem Issaquah Creek (stream number 08.0178) and East Fork of Issaquah Creek (stream number 08.0183) (**Figure 2**). Issaquah Creek has a watershed of approximately 61 square miles, and flows approximately 17 miles from its headwaters on the northern and southern slopes of Tiger Mountain, with major tributaries including North Fork, East Fork, Fifteen Mile Creek, McDonald Creek, Carey Creek, and Holder Creek. The East Fork joins the mainstem at approximately river mile (RM) 2.15 of Issaquah Creek. The East Fork of Issaquah Creek drains the northern slopes of Tiger Mountain, and is approximately 7 miles in length. The East Fork parallels Interstate 90 for much of its length. The Issaquah Creek State Salmon Hatchery, at RM 3.0, produces Chinook and coho salmon. In 2013, more than 2,500 Chinook and 10,000 coho were trapped at the hatchery. Many Chinook also naturally spawn in Issaquah Creek that are not returned to the hatchery. The Confluence Park Wetlands and Streams Critical Areas Assessment (Anchor QEA 2011) concluded that the mainstem was a Class I stream under IMC and the East Fork was a Class II stream. Both streams would have a 100-foot buffer from the OHWM (IMC 18.10.785).

Figure 2. WDFW Stream Map – Issaquah Creek



Source: Washington Stream Catalog, WRIA 08 (Williams et al. 1975)

Figure 2
City of Issaquah Confluence Park Pedestrian Bridge
and Play Structure – Phase II, Stream Map



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Wetlands

The USFWS NWI does not identify any wetlands in the Project vicinity (USFWS 2016a). The Confluence Park Wetlands and Streams Critical Areas Assessment (Anchor QEA 2011) identified one wetland in the southwest quadrant of the park, referred to as Wetland C. This wetland had formerly been mapped as two separate wetlands, but Anchor QEA concluded that the two separate wetlands were connected, and instead should be mapped as a single Category III wetland, based on the Washington State Department of Ecology (Ecology) Wetland Rating System for Western Washington (Hruby 2004), which is the standard used by the City for categorizing wetlands. Based on a habitat score of 17 points, Anchor QEA concluded that Wetland C should have a regulatory buffer of 50 feet. Anchor QEA (2011) identified no other wetlands in the park.

Soils

The USDA Natural Resource Conservation Service (NRCS) mapped soils in the Project area as Briscot silt loam (USDA NRCS 2016) (**Figure 3**). The Briscot silt loam soil is moderately well drained. The surface layer is 9 inches thick and comprised of silt loam, while the lower layer extends to at least 60 inches and is stratified fine sand and silt loam. This soil is considered a hydric soil.

Flood Hazard Areas

City Geographic Information System (GIS) maps identify portions of the park that are both within the 100-year floodplain and within the floodway of both the mainstem and East Fork Issaquah Creek. The boundaries of these areas are shown in **Figure 4**.

Geologic Hazard Areas

There are no steep slope areas within the park, with the exception of several small areas of nearly vertical stream bank. However, these areas are too small to have been previously mapped. No landslide or erosion hazard areas have been identified in the park. However, the Washington State Geological Mapping Portal (WDNR 2016b) identifies the park as being within an area with high liquefaction susceptibility during an earthquake. This large area includes most of the low-lying portions of the City.

Critical Aquifer Recharge Areas

City GIS maps identify the entire Project vicinity as being within a Class 1 CARA for 1- and 5-year wellhead capture zones (**Figure 4**).

Figure 3. NRCS Soils Map



Source: NRCS Web Soil Survey

Figure 3
City of Issaquah Confluence Park Pedestrian Bridge
and Play Structure – Phase II, Soils Map

 NRCS Soil Types

Br = Briscot Silt Loam

EvB = Everett very gravelly sandy loam, 0 to 8 % slopes



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Figure 4. Floodplain and CARA Map



Source: City of Issaquah GIS Data (2016)

Figure 4
 City of Issaquah Confluence Park Pedestrian Bridge
 and Play Structure – Phase II, Floodplain and CARA Map

-  Base Flood Elevations
-  100 year Floodplain
-  Floodway
-  CARA - Critical Aquifer Recharge Area

0 50 100 200 300
 Feet



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Wildlife

The project area supports a wide array of wildlife that is acclimated to the urban/suburban fringe in lowland Puget Sound. These include mammals that are accustomed to a relatively high level of human activity, such as Virginia Opossum (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), Douglas' squirrel (*Tamiasciurus douglasii*), deer mouse (*Peromyscus maniculatus*), muskrat (*Ondatra zibethicus*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), and black-tailed deer (*Odocoileus hemionus*). Birds that are likely to occur in the Project vicinity are listed in **Table 1**. Finally, common reptile and amphibian species that would be expected to occur in the Project vicinity include Pacific treefrog (*Hyla regilla*) and garter snake (*Thamnophis* sp.).

Table 1. Birds Likely to Occur in the Project Vicinity

#	Common Name	Scientific Name	#	Common Name	Scientific Name
1.	Great Blue Heron	<i>Ardea herodias</i>	30.	Black-capped Chickadee	<i>Parus atricapillus</i>
2.	Canada Goose	<i>Branta canadensis</i>	31.	Chestnut-backed Chickadee	<i>Parus rufescens</i>
3.	Mallard	<i>Anas platyrhynchos</i>	32.	Red-breasted Nuthatch	<i>Sitta canadensis</i>
4.	Northern Pintail	<i>Anas acuta</i>	33.	Winter Wren	<i>Troglodytes troglodytes</i>
5.	Northern Shoveler	<i>Anas clypeata</i>	34.	Golden-crowned Kinglet	<i>Regulus satrapa</i>
6.	Gadwall	<i>Anas strepera</i>	35.	Swainson's Thrush	<i>Catharus ustulatus</i>
7.	Bald Eagle	<i>Haliaeetus leucocephalus</i>	36.	American Robin	<i>Turdus migratorius</i>
8.	Cooper's Hawk	<i>Accipiter cooperii</i>	37.	Cedar Waxwing	<i>Bombycilla cedrorum</i>
9.	Red-tailed Hawk	<i>Buteo jamaicensis</i>	38.	European Starling	<i>Sturnus vulgaris</i>
10.	California Quail	<i>Callipepla californica</i>	39.	Hutton's Vireo	<i>Vireo huttoni</i>
11.	Virginia Rail	<i>Rallus limicola</i>	40.	Warbling Vireo	<i>Vireo gilvus</i>
12.	American Coot	<i>Fulica americana</i>	41.	Red-eyed Vireo	<i>Vireo olivaceus</i>
13.	Killdeer	<i>Charadrius vociferus</i>	42.	Orange-crowned Warbler	<i>Vermivora celata</i>
14.	Spotted Sandpiper	<i>Actitis macularia</i>	43.	Yellow Warbler	<i>Dendroica petechia</i>
15.	Glaucous-winged Gull	<i>Larus glaucescens</i>	44.	Common Yellowthroat	<i>Geothlypis trichas</i>
16.	Rock Dove	<i>Columba livia</i>	45.	Wilson's Warbler	<i>Wilsonia pusilla</i>
17.	Band-tailed Pigeon	<i>Columba fasciata</i>	46.	Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
18.	Mourning Dove	<i>Zenaida macroura</i>	47.	Spotted Towhee	<i>Pipilo maculatus</i>
19.	Great Horned Owl	<i>Bubo virginianus</i>	48.	Song Sparrow	<i>Melospiza melodia</i>
20.	Rufous Hummingbird	<i>Selasphorus rufus</i>	49.	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
21.	Belted Kingfisher	<i>Ceryle alcyon</i>	50.	Dark-eyed Junco	<i>Junco hyemalis</i>
22.	Downy Woodpecker	<i>Picoides pubescens</i>	51.	Purple Finch	<i>Carpodacus purpureus</i>
23.	Hairy Woodpecker	<i>Picoides villosus</i>	52.	House Finch	<i>Carpodacus mexicanus</i>
24.	Northern Flicker	<i>Colaptes auratus</i>	53.	American Goldfinch	<i>Carduelis tristis</i>
25.	Pileated Woodpecker	<i>Dryocopus pileatus</i>	54.	House Sparrow	<i>Passer domesticus</i>
26.	Olive-sided Flycatcher	<i>Contopus borealis</i>	55.	Barn Swallow	<i>Hirundo rustica</i>
27.	Willow Flycatcher	<i>Empidonax traillii</i>	56.	Steller's Jay	<i>itta stelleri</i>
28.	Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	57.	American Crow	<i>Corvus brachyrhynchos</i>
29.	Violet-green Swallow	<i>Tachycineta thalassina</i>	58.		

Special Status Species

The USFWS Information for Planning and Conservation species list for the project area (USFWS 2016b) includes 6 species listed as threatened or endangered (**Appendix C**). Based on a review of existing habitat conditions and the WDFW PHS data, no federally listed species under the jurisdiction of the USFWS could potentially utilize the Project vicinity, either due to lack of suitable habitat, the high level of human activity in the project vicinity, or being outside the documented range of the species. Several listed anadromous fish species under the jurisdiction of the National Marine Fisheries Service are documented to occur in the Project area, including fall Chinook salmon and winter steelhead trout. State Species of Concern that could potentially utilize the Project vicinity include bald eagle (*Haliaeetus leucocephalus*), Vaux's swift (*Chaetura vauxi*), and western toad (*Anaxyrus boreas*).

The bald eagle has been delisted at the Federal level, but is still listed as a State Sensitive species in Washington. The Project corridor is located in an urban area and WDFW PHS data (2016a) reports the nearest bald eagle nest as occurring approximately 0.9 mile north of the site adjacent to Issaquah Creek. Bald eagles could possibly roost in Confluence Park, particularly during the salmon spawning season, when eagles commonly forage on spawned out salmon carcasses.

Vaux's swift is a spring and fall migrant, and summer resident in Washington. It is closely associated with old-growth forests, where it utilizes cavities, usually excavated by woodpeckers (WDFW 2012). It is also closely associated with large brick chimneys at key communal roosting sites up and down the West Coast, including several at Joint Base Lewis-McChord, in the City of Monroe, Washington, and in Sedro-Wooley. There are no known roost sites near the Project vicinity.

Western toad is widespread in western Washington, but its population in Puget Sound has declined sharply (WDNR 2005). As with many amphibians, it breeds in wetlands, streams, and lakes. It is possible that it could breed in the Project area, but it is unlikely given the high level of human activity and disturbance to these wetlands and their buffers.

5.2.2 Field Study Results

DEA performed site visits on September 11 and October 15, 2015 to verify preliminary data findings, flag and delineate the OHWM of Issaquah Creek, document existing habitat conditions, and document wildlife use. Site photographs are contained within **Appendix D**.

Wetlands

DEA confirmed the presence of Wetland C, as previously described by Anchor QEA (2011). The boundaries and location of the wetland were confirmed. For purposes of comparison, DEA rated the wetland according to the most recent version of Ecology's rating system, which was revised in 2015. This rating also concluded that Wetland C should be rated as a Category III depressional wetland with a 50-foot buffer. The revised rating form for Wetland C is included in **Appendix E**.

Streams

Streams present on the site are the mainstem and East Fork of Issaquah Creek. The Phase II stream restoration project changed the OHWM of both the East Fork and the mainstem in the Project vicinity. The current OHWM in the vicinity of the proposed pedestrian bridge is shown in **Appendix A**. The Phase I project also installed a significant amount of large woody debris in the stream channels in the Project vicinity, as well as creating several floodplain benches with various habitat features, including snags. Most of this work was completed on the right bank of both tributaries. The previous phases of work also removed much of the riparian vegetation on the right bank of both tributaries; however, a large planting effort conducted in the fall of 2015 replaced and expanded the amount of native vegetation in the riparian zone. See photographs in **Appendix D**. The riparian plant community in the north half of the park along the mainstem as well as the left bank along Margaret's Meadow remained relatively undisturbed. High water events in the winter of 2015 mobilized some of the floodplain bench material, including washing out part of the right bank of the East Fork near the site of the old Anderson farmhouse. Some of the installed large woody debris was also mobilized. It is anticipated that this trend will continue until the stream channels reach a new hydraulic equilibrium.

6.0 Environmental Effect Assessment

6.1 Effects During Construction

6.1.1 Habitat Effects

The proposed Project would result in permanent impacts to approximately 0.25 acre (10,785 square feet) of aquatic habitat buffer, including 0.21 acre (9,320 square feet) of Issaquah Creek buffer and 0.02 acre (665 square feet) of Wetland C buffer. In addition, the new bridge will create 0.02 acre (800 square feet) of permanent shade over Issaquah Creek. Permanent impacts are a result of new pervious and impervious surfaces. Most of the impact (7,039 square feet) is from the pervious gravel pathways. Most pathways have been routed so as to avoid significant tree impacts. As a consequence, only one tree greater than 6 inches diameter at breast height will be removed. See **Appendix A**, Sheet 16, for more details. Most of the permanent impact areas in the stream buffer are located in previously disturbed areas that are not currently providing a high level of habitat or water quality functions to Issaquah Creek.

Outside of aquatic area buffers, impacts to vegetated areas would be limited primarily to portions of the park dominated by lawn. Temporary impact areas are not known at this time, but would include areas such as a crane pad for bridge installation, disturbed areas around bridge abutments, and access areas around the upgraded playground. All temporarily affected areas will be restored to pre-construction conditions.

6.1.2 Effects to Wildlife

Based on the habitat effects discussed above, the proposed Project is anticipated to have minimal impacts on wildlife. Wildlife species using the Project area are limited to generalist species that are accustomed to a high level of human activity. No large blocks of intact wildlife habitat are present in the Project area. The wildlife using these areas would be expected to move away during active construction, but would return soon after construction was complete.

Threatened and Endangered Species

The proposed Project will have no in-water work in the mainstem or the East Fork of Issaquah Creek; therefore, no direct effects to listed fish species are anticipated. Appropriate implementation of BMPs during construction should prevent introduction of sediments or pollutants from entering the creek. The new bridge will be prefabricated, so overwater construction is anticipated to be limited to approximately three weeks. The Project minimizes impacts to riparian buffer vegetation to the extent practicable. The proposed bridge abutments would be supported on 14-inch steel H piles (3 or 4 per abutment) that will be driven with an impact pile driver. While pile driving will be conducted outside the OHWM of Issaquah Creek, it will be in close proximity to the creek (approximately 50 feet on the east side and 30 feet on the west side of the creek). Noise and vibration from this activity could disturb fish using Issaquah Creek during active pile driving. However, pile driving would likely only require approximately one day per abutment, so exposure of fish to this disturbance would be very limited.

Other species of concern potentially present during construction would be expected to avoid the Project area during periods of high human activity, so no direct impacts are anticipated. However, most of the species that would occur in the park are acclimated to high levels of human activity.

6.1.3 Effects to Other Critical Areas

The proposed Project will have no direct effects to most other critical areas, including geologic hazard areas and critical aquifer recharge areas. The Project will result in approximately 750 cubic yards of fill in the 100-year floodplain of Issaquah Creek. The proposed bridge abutments have been placed outside the OWHM and floodway of Issaquah Creek to minimize hydraulic effects to the stream. However, scour protection will be placed around the abutments to prevent future scour during high water events. It is possible that this scour protection will prevent future stream channel migration at the bridge location, but this risk is considered minimal.

6.2 Effects During Operation

Potential operational impacts of the Project are primarily related to long term changes to water quality, stream dynamics, and fish behavior. Potential impacts to water quality would be related primarily to increased impervious surface and increased stormwater runoff from those impervious areas. The only new pollution-generating impervious surfaces from the Project will be limited to the proposed parking lot. However, no long term water quality impacts from this area are anticipated because (1) a pervious surface would likely be used at the parking lot, and (2) all runoff will be detained and routed through an infiltration bioswale. All runoff from the new bridge will be routed to the streambanks where it will be allowed to disperse and infiltrate.

Potential Project impacts to stream dynamics are limited to the areas surrounding the new bridge abutments. In these areas, fill used to match existing grade of the trails to the bridge deck may serve to funnel more water under the bridge during high water events (near 100-year flood elevation). However, the bridge spans the 100-year flood elevation on the east bank, and is located in a relatively straight stream section between the confluence with the East Fork and the nearest stream turning point to the north. Also, any changes to stream morphology at this location would be minor compared to the larger changes made during the first part of Phase II (stream restoration). Finally, any potential adverse hydraulic impacts to Issaquah Creek from the proposed bridge are outweighed by the benefits of the earlier stream restoration activities.

The last potential operational impact of the Project is changes to fish behavior from the permanent increase in shading over Issaquah Creek. This shading will be approximately 800 square feet in size. While shading has been demonstrated to effect the migration patterns of juvenile salmonids along marine and lake shorelines (Johnson et al. 2012; Bloch, Celedonia, and Tabor 2009), shading has not been demonstrated to have a significant effect in stream systems. Natural stream systems considered properly functioning have a high level of shade provided by riparian canopy. That shade often varies seasonally depending on the proportion of deciduous trees. Although the proposed bridge will create a “sharp” edged shadow on the creek below, this shadow will move with the angle of the sun. The use of a concrete deck will also allow the use of pedestrian lighting on the bridge (which is required by City policy for public safety) without creating light pollution onto the surface of Issaquah Creek. Furthermore, there will be at least 9 feet of clearance between the elevation of the OWHM and the underside of the bridge deck, which will allow considerable light underneath the structure. Numerous other bridges and structures cross Issaquah Creek in this area, and they have not been implicated in significant behavioral impacts on either rearing or spawning salmonids.

7.0 Mitigation

The proposed Project will have permanent adverse impacts to wetland and stream buffers that will require compensatory mitigation. This section of the report describes the proposed mitigation approach and proposed monitoring and maintenance measures within the City.

7.1 Avoidance and Minimization Measures

7.1.1 Avoidance

Impacts to wetland and stream buffers were avoided to the greatest extent possible within the constraints of the Project design. Avoidance and minimization measure include:

- Siting of the proposed bridge to minimize impacts to existing riparian vegetation, in particular, large trees;
- Location of gravel pathways, particularly wider pathways, outside the stream buffer of Issaquah Creek and the East Fork and within natural gaps in the plant community;
- Location of bridge abutments outside the OHWM and floodway of the streams; and
- Use of pervious surfaces wherever possible, including the proposed parking lot.

7.1.2 Minimization

BMPs will be utilized to minimize impacts associated with ground-disturbing activities during the construction of the Project. Standard techniques for temporary erosion and sediment control will be employed; proposed measures are described in **Appendix A**.

7.2 Compensatory Mitigation

7.2.1 Mitigation Plan

Permanent wetland and stream buffer impacts in the City will be offset with a mitigation approach that employs on-site buffer mitigation and expansion. Industry standard for buffer impacts is compensation at a ratio of one to one.

Aquatic buffer habitat functions will be replaced by vegetative enhancement of 11,834 square feet (0.26 acre) of the buffer of Issaquah Creek. The enhancement will be conducted in two general areas – one on the east side of the eastern buffer, and one on the waterward side of the western buffer (**Appendix A**). The eastern enhancement area will be an expansion of the existing plantings and buffer conducted in the fall of 2015. The western enhancement area will improve vegetative screening between the creek and the proposed trail and viewing platform. It will also improve the habitat structure in an area currently devoid of understory.

7.2.2 Mitigation Objectives and Performance Standards

The proposed mitigation measures are intended to replace critical area functions lost or impacted by the proposed Project, specifically, to increase the ecological and biological functions of the Issaquah Creek buffer in this location. The following performance standards will be used by the City to measure success of the mitigation objective (**Table 2**).

Table 2. Proposed Stream Buffer Enhancement Performance Standards

Year	Performance Standard
Year 1	Survival of all native trees and shrubs in the upland buffer enhancement areas will be 100 percent one year after installation. If 100 percent survival is not achieved, plants will be replaced.
Years 2 through 5	In Years 2 through 5, aerial cover of all native trees and shrubs in the enhancement areas will increase annually, culminating in 80 percent cover at Year 5. Non-native invasive and noxious plant species such as Himalayan blackberry (<i>Rubus armeniacus</i>), evergreen blackberry (<i>Rubus laciniatus</i>), Scot's broom (<i>Cytisus scoparius</i>), and thistles (<i>Cirsium arvense</i> and <i>C. vulgare</i>) will not exceed 20 percent aerial cover in the upland buffer. If Japanese knotweed (<i>Polygonum cuspidatum</i>), purple loosestrife (<i>Lythrum salicaria</i>), and English ivy (<i>Hedera helix</i>) are observed at the mitigation site, maintenance actions will occur immediately to remove these aggressive non-native species.

7.2.3 Monitoring and Maintenance

Monitoring

Enhancement areas will be monitored for five years following installation. Quantitative monitoring will be completed and documented each year after initial construction. Yearly monitoring will be designed to determine if the performance standards have been met. Monitoring visits will be conducted during the growing season while plants are leafed out, usually between June 15th and September 15th of each year. Monitoring reports will be submitted to the City prior to the end of each monitoring year.

General appearance, health, mortality, volunteer plant species, survival (after first year), and aerial cover (Years 2 through 5) will be monitored. Quantitative monitoring methods shall include a comprehensive census at Year 1 monitoring to measure overall plant survival, and use of the line intercept method during Years 2 through 5 to sample aerial cover. Qualitative monitoring methods will include permanent photo points and visual inspections. Incidental observations of wildlife use of the mitigation site will be recorded.

Maintenance

Maintenance within the enhancement areas will be performed annually as directed by the City or the City's representative. Maintenance tasks include replacement of failed plantings, temporary irrigation, trash removal, repair and replacement of signs and fences, and invasive plant removal. If during the monitoring period it becomes evident that invasive species are impeding establishment of desirable native plants, measures will be implemented to control nuisance species. A progressively aggressive approach will be used to control nuisance species. Control measures will first include hand cutting and removal. If this hand removal is unsuccessful, an herbicide will be applied by a State licensed applicator.

Contingency

It is anticipated that the mitigation goals will be accomplished with the satisfactory construction and installation of the mitigation design as shown on the final mitigation plans. If the results of monitoring indicate that the site is not meeting performance objectives, contingency measures will be implemented. Prior to implementing any corrective actions, site conditions will be evaluated to determine the cause of the problem and the most appropriate countermeasure. Contingency revisions typically require coordination with the permitting agencies. If the contingency plan is substantial, the monitoring period may be extended.

8.0 Consistency with the Master Site Plan

The proposed Project implements planned phased improvements of the original MSP for Confluence Park. Specifically, it provides an important pedestrian connection to the Margaret's Meadow portion of the park, along with planned parking, trail, and playground improvements. It also sets the stage for future continuation of pedestrian access to the future southern extension of the park. While the ecological benefits of the stream restoration in Phase II outweigh the impacts of the current proposed Project, it is appropriate to conduct buffer enhancement in order that those ecological benefits to Issaquah Creek and the East Fork are not incrementally reduced by the proposed Project.

9.0 References

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Appendix A – Preliminary Design Plans

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CITY OF ISSAQUAH

CONFLUENCE PARK BRIDGE

City of Issaquah Project -----

JANUARY 2016

CITY OFFICIALS

MAYOR
FRED BUTLER

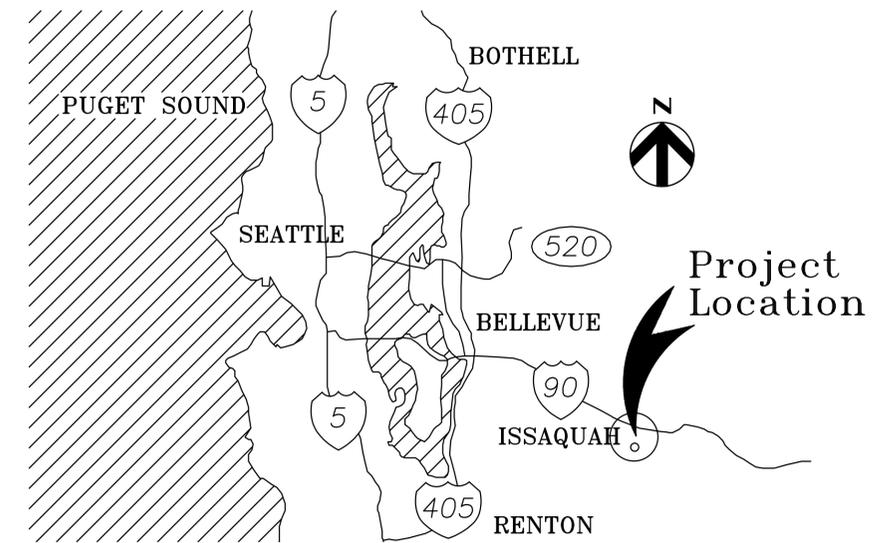
PARKS AND RECREATION DIRECTOR
ANNE MCGILL

PARKS AND RECREATION MANAGER
JENNIFER FINK

CITY COUNCIL MEMBERS

EILEEN BARBER
STACY GOODMAN
TOLA MARTS
MARY LOU PAULY
BILL RAMOS
JENNIFER SUTTON
PAUL WINTERSTEIN

Vicinity Map

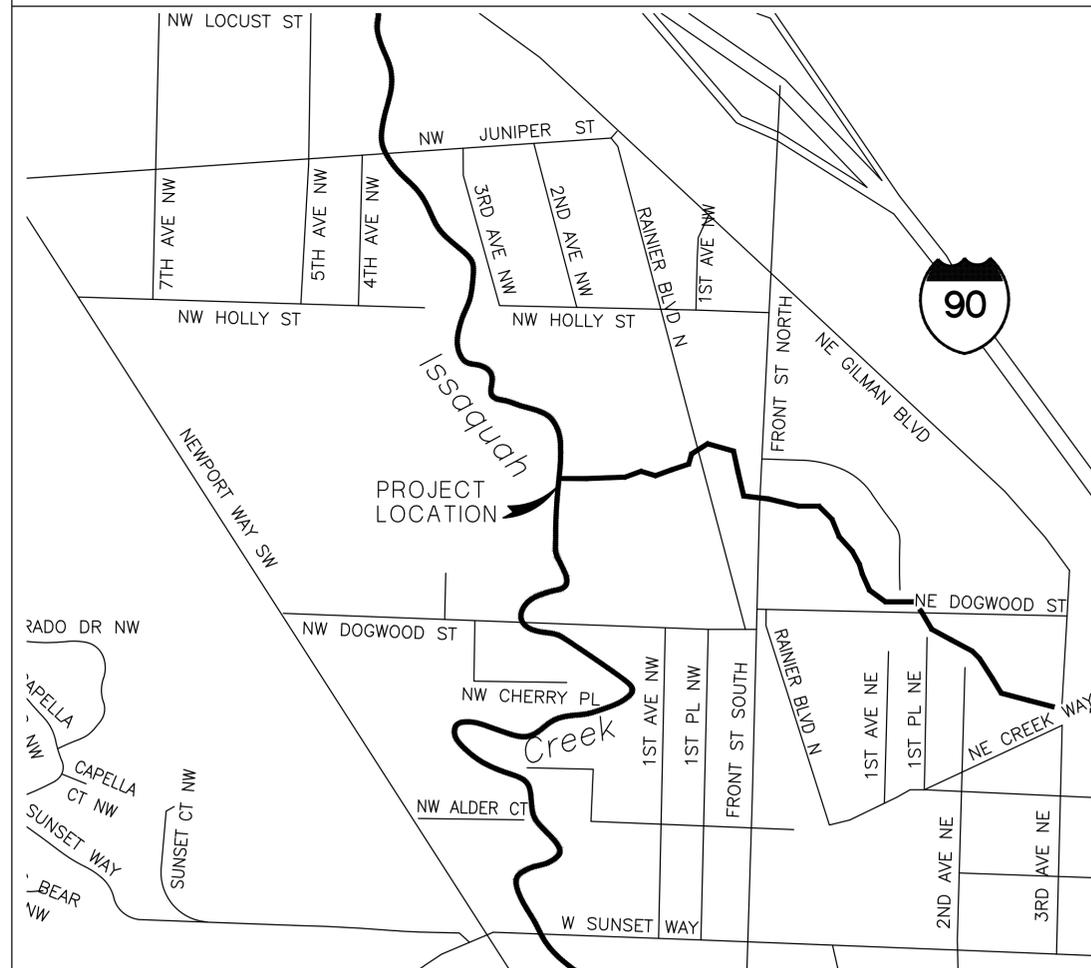


Schedule of Drawings

SHEET	DESCRIPTION
1	COVER SHEET
2	LEGEND, NOTES, AND ABBREVIATIONS
3	KEY PLAN
4-7	TRAIL PLAN
8	TRAIL PLAN AND PARKING LOT PLAN
9	GRADING PLAN AND PROFILE
10-11	LANDSCAPING PLAN
12	TRAIL PLAN ENLARGEMENTS
13	PLAY AREA PLAN AND DETAILS
14	TRAIL AND LANDSCAPING DETAILS
15	TRAIL AND LANDSCAPING DETAILS
16	MITIGATION SUMMARY
17-18	MITIGATION PLANTING PLAN
19	MITIGATION PLANT SCHEDULE AND DETAILS
20	BRIDGE LAYOUT PLAN
21	BRIDGE TYPICAL SECTION AND PROFILE
22	BRIDGE ART FEATURE PLAN AND ELEVATION
23	BRIDGE ART FEATURE DETAILS



PRELIMINARY DESIGN



DAVID EVANS AND ASSOCIATES INC.
415 - 118th Avenue SE
Bellevue Washington 98005-3518
Phone: 425.519.6500

CONFLUENCE PARK
BRIDGE



COVER SHEET

SHEET
1
OF
23

NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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LEGEND

EXISTING	
	CONTROL POINT (AS NOTED)
	IRON PIPE (FOUND AS NOTED)
	REBAR (FOUND AS NOTED)
	BRASS CAP/SURFACE MON. (FOUND AS NOTED)
	MONUMENT (FOUND AS NOTED)
	MONUMENT IN CASE (FOUND AS NOTED)
	TAX LOT / PARCEL NUMBER
	WHEEL CHAIR RAMP
	SIGN
	ORDINARY HIGH WATER MARK
	FLAG POLE OR WETLAND FLAG
	WETLAND DATA PLOT
	POST OR BOLLARD
	MAILBOX
	DECIDUOUS TREE
	CONIFEROUS TREE
	BUSH
	STUMP
	BOULDER
	WATER MANHOLE
	WATER VAULT
	WATER VALVE
	WATER METER
	FIRE HYDRANT
	SEWER MANHOLE
	SEWER CLEANOUT
	STORM DRAIN MANHOLE
	STORM CATCH BASIN
	STORM CULVERT
	ELECTRIC MANHOLE
	ELECTRIC VAULT
	ELECTRIC POLE
	ELECTRIC POLE/STREET LIGHT
	GUY ANCHOR
	GUY POLE
	TELEPHONE MANHOLE
	TELEPHONE VAULT
	TELEPHONE PULLBOX
	TELEPHONE RISER
	TELEPHONE CABINET
	TELEPHONE POLE
	GAS MANHOLE
	GAS VAULT
	GAS VALVE
	GAS METER

EXISTING	
	DITCH LINE
	EDGE OF GRAVEL OR DIRT
	EDGE OF PAVEMENT
	FENCE LINE (TYPE AS NOTED)
	GUARD RAIL
	TRAFFIC STRIPING
	TREE/VEGETATION LINE
	ROCKERY
	CREEK ORDINARY HIGH WATER MARK
	WETLAND BOUNDARY
	EASEMENT LINE
	EXISTING RIGHT-OF-WAY LINE
	PROPERTY LINE
	ROAD CENTERLINE
	CABLE TV UNDER GROUND LINE
	GAS UNDERGROUND LINE
	OVERHEAD UTILITY LINE
	POWER UNDERGROUND LINE
	POWER OVERHEAD LINE
	SANITARY SEWER LINE
	STORM DRAIN LINE
	TELEPHONE UNDERGROUND LINE
	TELEPHONE OVERHEAD LINE
	UNKNOWN UTILITY LINE
	WATER LINE

GENERAL NOTES

- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, (W.S.D.O.T.) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION DATED 2016, AMENDMENTS & SPECIAL PROVISIONS.

T.E.S.C. NOTES

TESC NOTES FOR CIP PROJECTS

- TESC COORDINATION:**
 - THE CONTRACTOR SHALL DESIGNATE A TESC SUPERVISOR WHO SHALL BE RESPONSIBLE FOR THE PERFORMANCE, MAINTENANCE, AND REVIEW OF TESC MEASURES AND FOR COMPLIANCE WITH ALL PERMIT CONDITIONS RELATED TO TESC. THE TESC SUPERVISOR SHALL BE A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD AS DEFINED BY THE DEPARTMENT OF ECOLOGY.
 - AN ONSITE TESC PRECONSTRUCTION MEETING SHALL BE HELD BEFORE ANY WORK BEGINS TO REVIEW IMPLEMENTATION OF THE TESC PLANS.
- TESC INSTALLATION:**
 - ALL TESC FACILITIES REQUIRED BY THE PERMIT MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE SEDIMENT-LADEN WATER DOES NOT ENTER THE CITY DRAINAGE SYSTEM, SURFACE WATERS, OR WETLANDS. ADJACENT PROPERTIES SHALL BE PROTECTED FROM SEDIMENT-LADEN RUNOFF.
 - THE BOUNDARIES OF ANY CLEARING LIMITS AND TREE PROTECTION INCLUDED IN THE PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING PRIOR TO CONSTRUCTION. NO DISTURBANCE BEYOND THE CLEARING LIMITS IS ALLOWED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE TESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION, UNTIL FINAL LANDSCAPING OR OTHER PERMANENT SITE STABILIZATION.
 - ANY STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ONSITE ROADS AND PAVED AREAS SHALL BE KEPT CLEAN TO MINIMIZE TURBIDITY AND RUNOFF. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, SHALL BE REQUIRED IF NEEDED TO ENSURE SEDIMENT IS NOT TRACKED OUT TO CITY STREETS. ANY DIRT TRACKED ONTO CITY STREETS SHALL BE SWEEPED AS NEEDED OR AS DIRECTED BY THE CITY OF ISSAQUAH. STREET SWEEPING IS NOT CONSIDERED A TESC MEASURE AND ALL AVAILABLE TESC MEASURES WILL BE TAKEN TO MINIMIZE TRACKING DIRT ONTO PAVED SURFACES.
 - TESC MEASURES SHALL BE APPLIED IN ACCORDANCE WITH APPENDIX D OF THE KING COUNTY SURFACE WATER DESIGN MANUAL, "EROSION AND SEDIMENT CONTROL STANDARDS". FOR EXAMPLE, IF USING STRAW MULCH AS A COVER MEASURE, THE MINIMUM THICKNESS IS 2 TO 3 INCHES.
 - ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON (OCT 1 TO APRIL 30) OR SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPTEMBER 30) SHALL BE IMMEDIATELY STABILIZED WITHIN APPROVED TESC METHODS (E. G. SEEDING, MULCHING, PLASTIC COVERING, ETC.). THESE TIME LIMITS MAY BE MODIFIED BY THE CITY TO ADDRESS SPECIFIC SITE CONDITIONS.
 - PRIOR TO THE BEGINNING OF THE WET SEASON (OCT 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED OR OTHERWISE COVERED IN PREPARATION FOR THE WINTER RAINS. IF COVER MEASURES ARE NOT ESTABLISHED BY OCT 1, ADDITIONAL TESC MEASURES SHALL BE REQUIRED.
- TURBIDITY MONITORING:**
 - THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING TESC MEASURES SO THAT THE DISCHARGE FROM THE PROJECT SITE SHALL NOT EXCEED 100 NTU AT ALL TIMES UP TO THE 10-YEAR/24-HOUR STORM EVENT. THIS EVENT IS DEFINED AS 3.5 INCHES OF RAINFALL OVER A 24-HOUR PERIOD, AS MEASURED AT THE CITY'S RAIN GAGE. DATA FROM THIS RAIN GAGE IS POSTED ON THE CITY'S WEBSITE.
 - THE CITY OF ISSAQUAH WILL MEASURE THE TURBIDITY OF THE DISCHARGE AT THE DESIGNATED MONITORING POINTS TO VERIFY COMPLIANCE WITH THE 100 NTU DISCHARGE LIMIT.
 - THE TESC SUPERVISOR SHALL BE NOTIFIED OF DISCHARGES ABOVE 25 NTU. THE TESC SUPERVISOR SHALL REVIEW AND MODIFY THE TESC MEASURES AS NEEDED TO KEEP DISCHARGES FROM THE SITE BELOW 25 NTU.
 - FOR PROJECT SITES WHERE DESIGNATING A MONITORING POINT IS NOT FEASIBLE (E.G., FLAT SITES OR LINEAR UTILITY PROJECTS), THE MONITORING LOCATIONS WILL BE AT THE DISCRETION OF THE CITY OF ISSAQUAH.
- ROUTINE TESC MAINTENANCE:**
 - THE TESC FACILITIES SHALL BE INSPECTED BY THE TESC SUPERVISOR DAILY OR MORE OFTEN DURING RAINFALL, AND MAINTAINED TO ENSURE PROPER FUNCTIONING. WRITTEN DOCUMENTATION IS REQUIRED FOR DISCHARGES ABOVE 25 NTU AND SHALL BE READILY AVAILABLE AT THE PROJECT SITE.
 - THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE MODIFIED AS NEEDED FOR UNEXPECTED STORM EVENTS OR OTHER FORESEEN CIRCUMSTANCES, AND TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATIONS OF DITCHES AND SILT FENCES, PERIMETER PROTECTION, ETC.).
 - THE TESC SUPERVISOR SHALL NOTIFY THE CITY OF ISSAQUAH PRIOR TO PUMPING ANY DISCHARGE OFFSITE OR TO CRITICAL AREAS.
 - TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
- OTHER POLLUTION CONTROL MEASURES:**
 - THE CONTRACTOR SHALL USE THE APPROPRIATE POLLUTION CONTROL MEASURES TO ENSURE THAT NO LIQUID PRODUCTS OR CONTAMINATED WATER (SUCH AS RUNOFF FROM CONCRETE SLURRY) ENTERS THE STORM DRAINAGE SYSTEM, SURFACE WATERS, OR OTHERWISE LEAVES THE PROJECT SITE.
- ENFORCEMENT:**
 - FAILURE TO PROVIDE AND MAINTAIN APPROVED TESC FACILITIES, DISCHARGES THAT EXCEED THE 100 NTU TURBIDITY LIMIT, OR OTHER FAILURES TO COMPLY WITH THE CONTRACT ARE CONSIDERED VIOLATIONS OF THE CONTRACT AND MAY BE SUBJECT TO SUSPENSION OF WORK ORDERS AND MONETARY PENALTIES. IF WORK IS ORDERED TO BE SUSPENDED, THE CONTRACTOR SHALL CONTINUE TO CONTROL EROSION, POLLUTION, AND RUNOFF DURING THE SHUTDOWN AND WORKING DAYS WILL CONTINUE TO BE COUNTED.

PROJECT-SPECIFIC TESC NOTES

- INLET PROTECTION SHALL BE INSTALLED AT ALL EXISTING CATCH BASINS IN THE VICINITY OF OPEN CUTS OR AS DIRECTED BY THE INSPECTOR. SEE SHEET 6 FOR SPECIFIC LOCATIONS.
- OTHER EROSION CONTROL MEASURES/BMPS BEYOND THOSE NOTED OR SHOWN ON THE PLANS MAY BE REQUIRED DURING CONSTRUCTION AS DIRECTED BY THE INSPECTOR.

ABBREVIATIONS

AP	ANGLE POINT
ASPH	ASPHALT
BCW	BACK OF CONCRETE WALK
BM	BENCHMARK
BOH	BUILDING OVERHANG
C/L	CENTERLINE
CB	CATCH BASIN
CC	CONCRETE CURB
CG	CURB AND GUTTER
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CMP	CORREGATED METAL PIPE
CO	CLEANOUT
COI	CITY OF ISSAQUAH
CONC	CONCRETE
CPP	CORREGATED PLASTIC PIPE
CULV	CULVERT
CW	CONCRETE SIDEWALK
DIT	DITCH
DW	DRIVEWAY
EAC	EXTRUDED ASPHALT CURB
ECC	EXTRUDED CONCRETE CURB
EG	EDGE OF GRAVEL
EP	EDGE OF PAVEMENT
EW	EDGE OF WATER
FH	FIRE HYDRANT
FL	FLOWLINE
FOG	FOG LINE
GA	GUY ANCHOR
GRND	GROUND
IE	INVERT ELEVATION
JBOX	JUNCTION BOX
MB	MAIL BOX
MIC	MONUMENT IN CASE
MON	MONUMENT
MSP	METAL SIGN POST
OHWM	ORDINARY HIGH WATER MARK
PA	PLANTED AREA
PP	POWER POLE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RETW	RETAINING WALL
TBC	TOP BACK OF CURB
TC	TELEPHONE CLOSURE
TEL	TELEPHONE
TOC	TOP OF CURB
TOE	TOE OF SLOPE
TOP	TOP OF SLOPE
TV	TELEVISION



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BRIDGE



LEGEND, NOTES, AND
ABBREVIATIONS

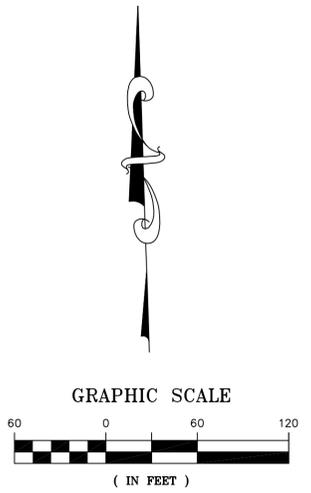
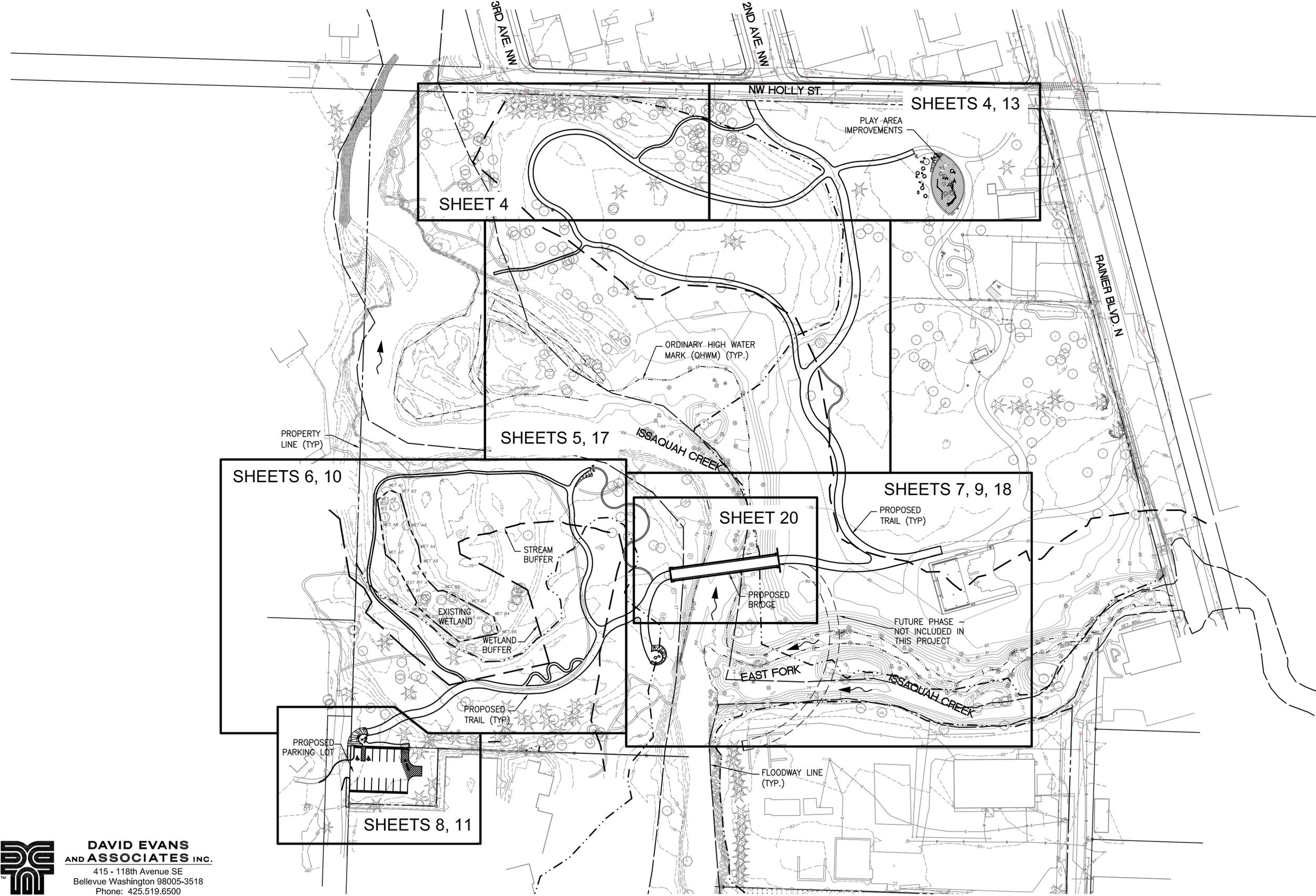
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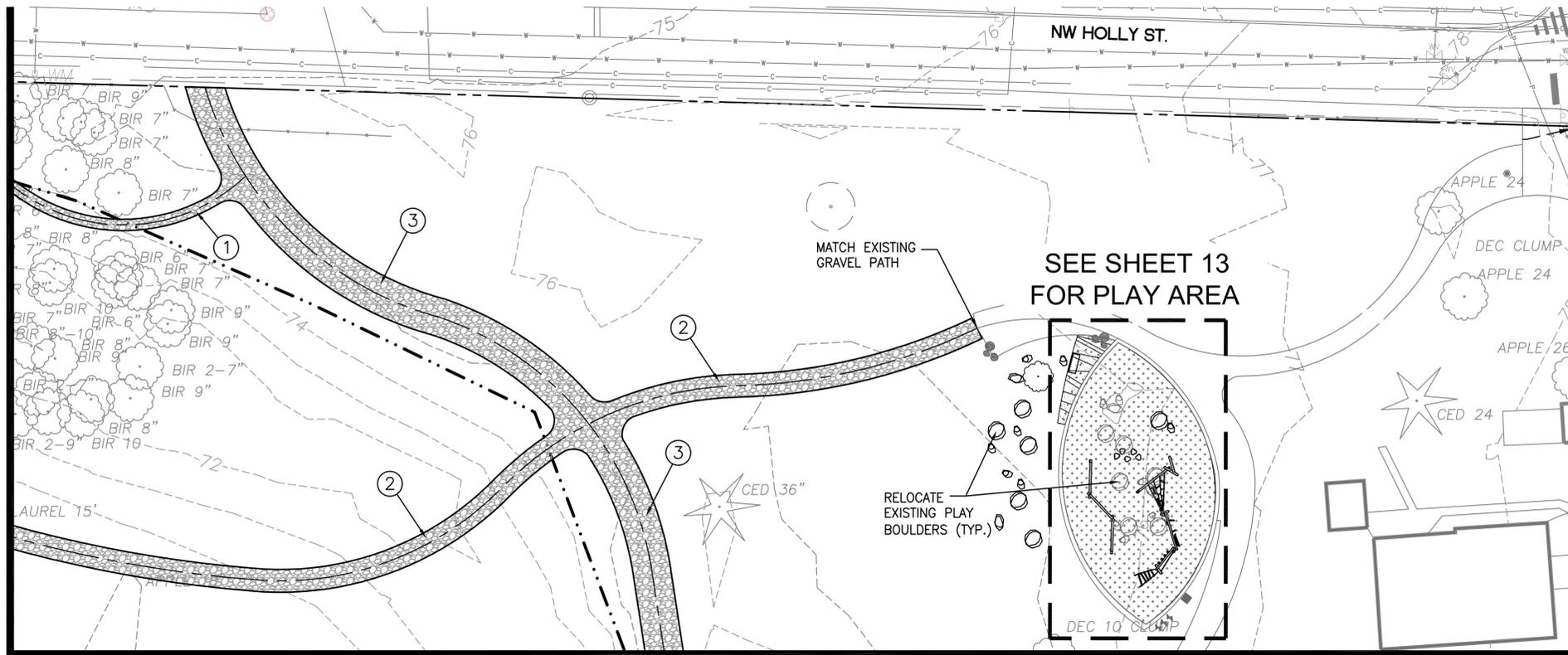
KEY PLAN

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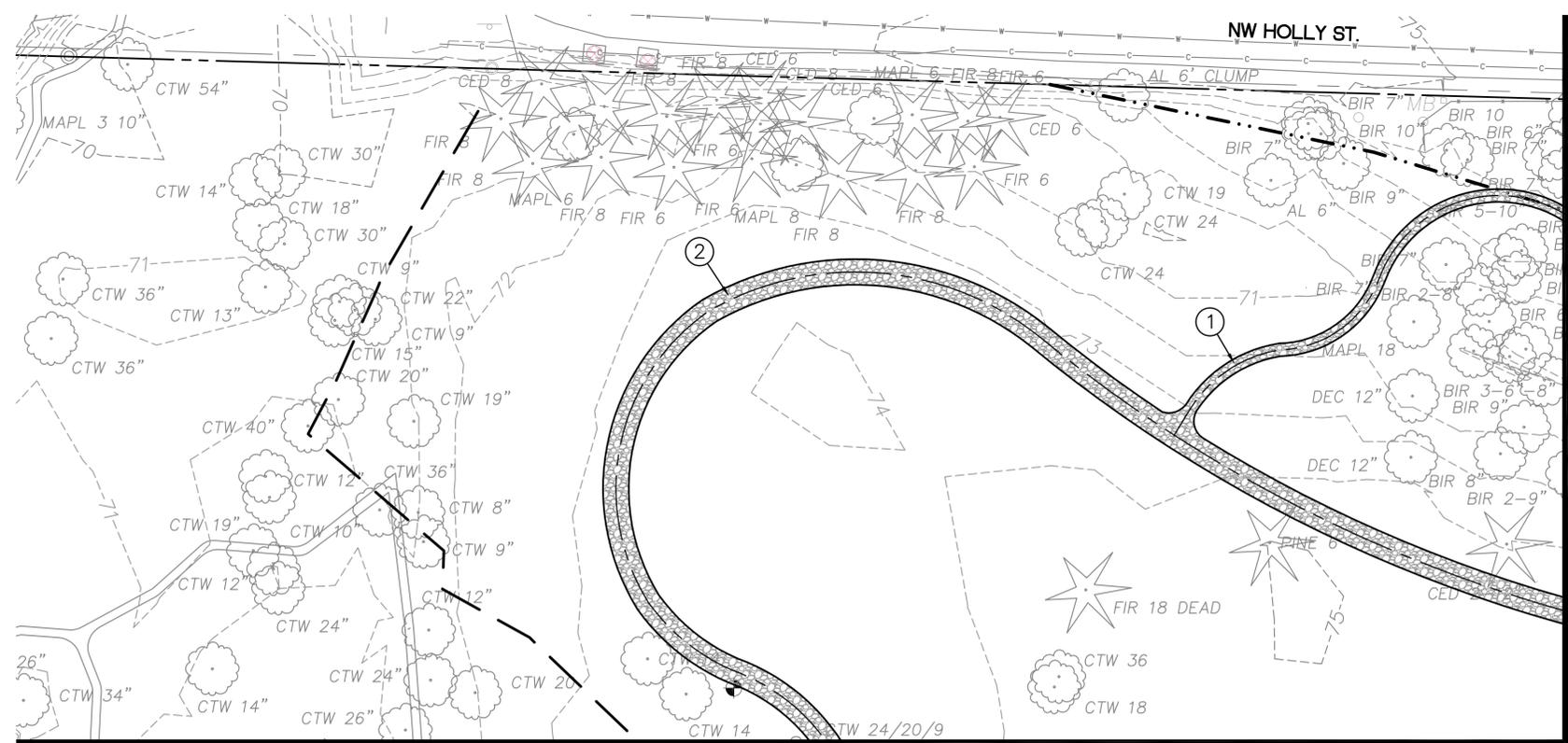
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			OXA	OXA	JCGA	JCGA/MLF

DATE: JANUARY 2016 JOB # SCALE: AS NOTED

MATCHLINE, SEE BELOW RIGHT



MATCHLINE, SEE SHEET 5



MATCHLINE, SEE SHEET 5

CONSTRUCTION NOTES

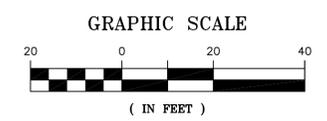
- ① CONSTRUCT 3' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ② CONSTRUCT 6' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ③ CONSTRUCT 10' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ④ CONSTRUCT STONE BAND, SEE DETAIL 3, SHEET 14.

GENERAL NOTES

- 1. GRAVEL PATH SHALL MATCH EXISTING GRADE.
- 2. SEE TRAIL AND LANDSCAPING DETAILS, SHEETS 14-15 FOR DETAILS.

LEGEND

- GRAVEL PATH
- CONCRETE PAVEMENT
- STONE BAND
- ORDINARY HIGH WATER MARK (OHWM)
- STREAM/WETLAND BUFFER
- 100 YEAR FLOODPLAIN (2009, PRE-STREAM RESTORATION)



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CONFLUENCE PARK BRIDGE

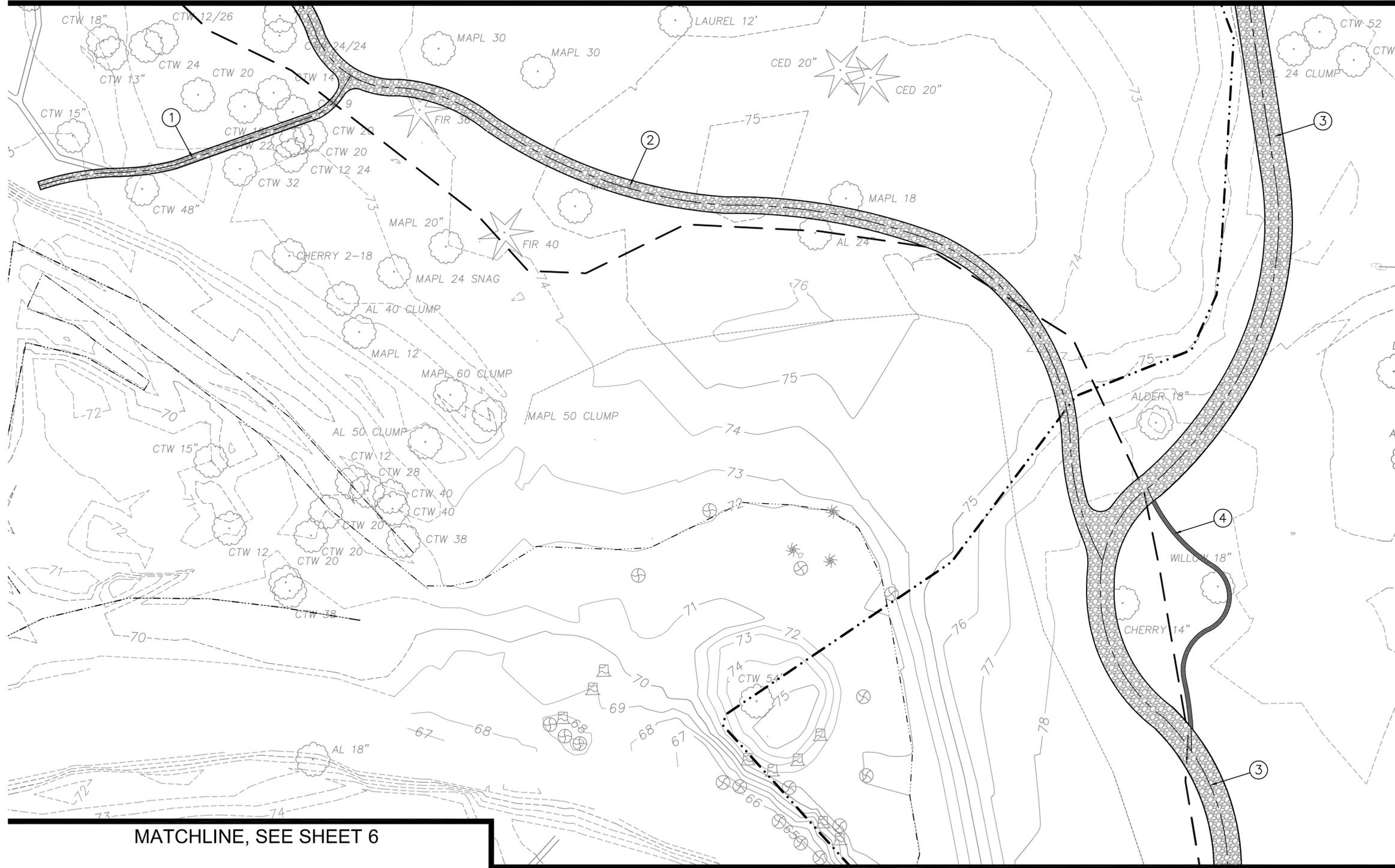


TRAIL PLAN

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NO.	DATE	DESCRIPTION	BY	DRAWN	DSGN.	CHKD.	DATE:	JOB #	SCALE:
				OXA	JCGA	JCGA/MLF	JANUARY 2016		AS NOTED

MATCHLINE, SEE SHEET 4



CONSTRUCTION NOTES

- ① CONSTRUCT 3' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ② CONSTRUCT 6' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ③ CONSTRUCT 10' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ④ CONSTRUCT STONE BAND, SEE DETAIL 3, SHEET 14.

GENERAL NOTES

- 1. GRAVEL PATH SHALL MATCH EXISTING GRADE.
- 2. SEE TRAIL AND LANDSCAPING DETAILS, SHEETS 14-15 FOR DETAILS.

LEGEND

- GRAVEL PATH
- CONCRETE PAVEMENT
- STONE BAND
- ORDINARY HIGH WATER MARK (OHWM)
- STREAM/WETLAND BUFFER
- 100 YEAR FLOODPLAIN (2009)

MATCHLINE, SEE SHEET 6

MATCHLINE, SEE SHEET 7

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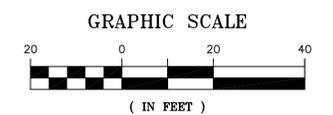
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TRAIL PLAN

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NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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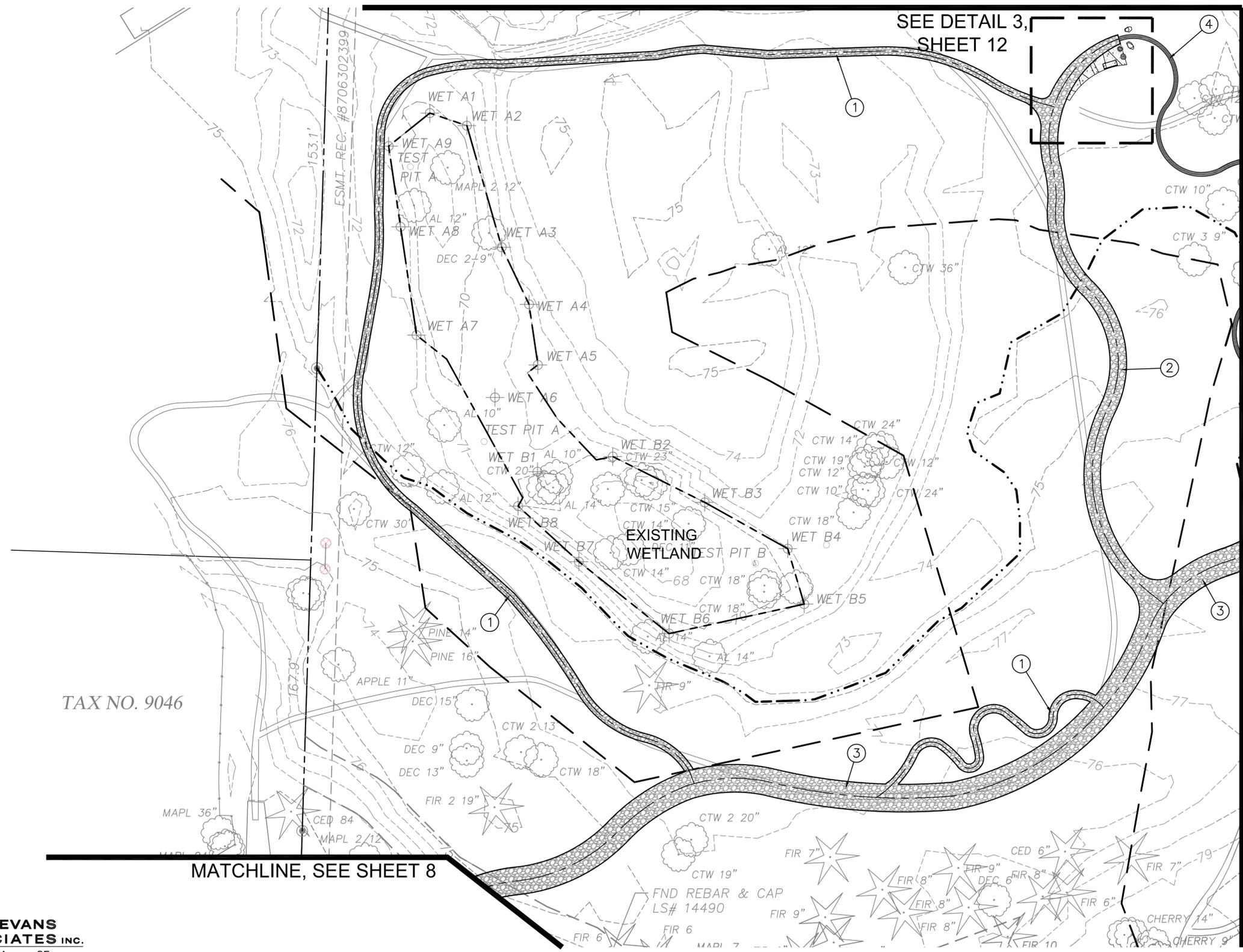


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MATCHLINE, SEE SHEET 5

SEE DETAIL 3,
SHEET 12



CONSTRUCTION NOTES

- ① CONSTRUCT 3' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ② CONSTRUCT 6' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ③ CONSTRUCT 10' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ④ CONSTRUCT STONE BAND, SEE DETAIL 3, SHEET 14.

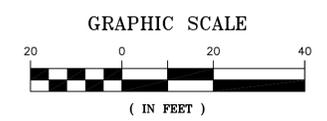
GENERAL NOTES

- 1. GRAVEL PATH SHALL MATCH EXISTING GRADE.
- 2. SEE TRAIL AND LANDSCAPING DETAILS, SHEETS 14-15 FOR DETAILS.

LEGEND

- GRAVEL PATH
- CONCRETE PAVEMENT
- STONE BAND
- ORDINARY HIGH WATER MARK (OHWM)
- STREAM/WETLAND BUFFER
- 100 YEAR FLOODPLAIN (2009)

MATCHLINE, SEE SHEET 7



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MATCHLINE, SEE SHEET 8

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TRAIL PLAN

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NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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MATCHLINE, SEE SHEET 5

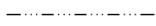
CONSTRUCTION NOTES

- ① CONSTRUCT 3' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ② CONSTRUCT 6' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ③ CONSTRUCT 10' WIDE GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ④ CONSTRUCT STONE BAND, SEE DETAIL 3, SHEET 14.

GENERAL NOTES

- 1. GRAVEL PATH SHALL MATCH EXISTING GRADE.
- 2. SEE TRAIL AND LANDSCAPING DETAILS, SHEETS 14-15 FOR DETAILS.

LEGEND

-  GRAVEL PATH
-  CONCRETE PAVEMENT
-  STONE BAND
-  ORDINARY HIGH WATER MARK (OHWM)
-  STREAM/WETLAND BUFFER
-  100 YEAR FLOODPLAIN (2009, PRE-STREAM RESTORATION)

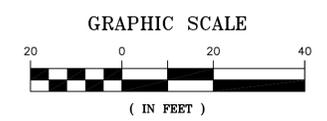
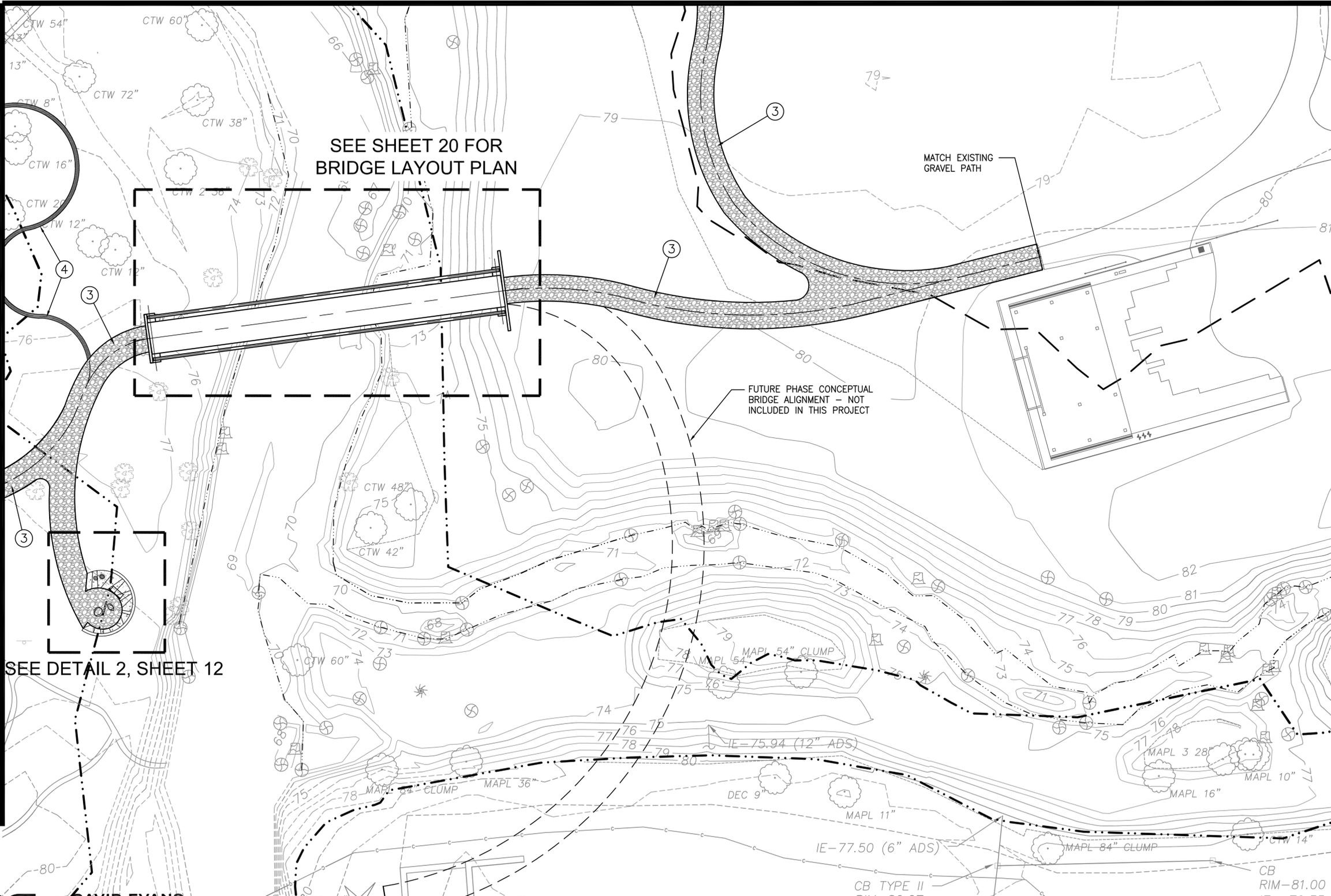
SEE SHEET 20 FOR BRIDGE LAYOUT PLAN

MATCH EXISTING GRAVEL PATH

FUTURE PHASE CONCEPTUAL BRIDGE ALIGNMENT - NOT INCLUDED IN THIS PROJECT

SEE DETAIL 2, SHEET 12

MATCHLINE, SEE SHEET 6



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TRAIL PLAN

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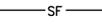
CONSTRUCTION NOTES

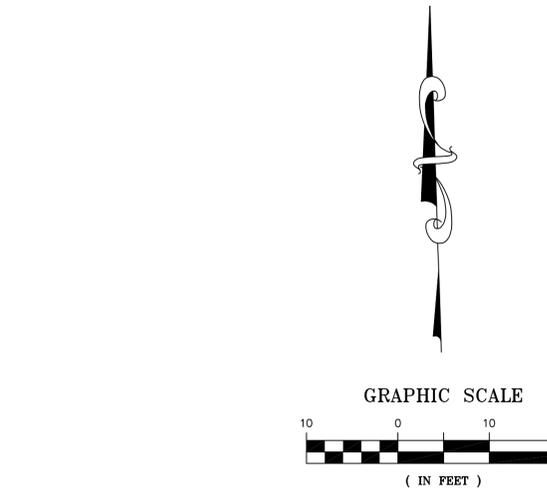
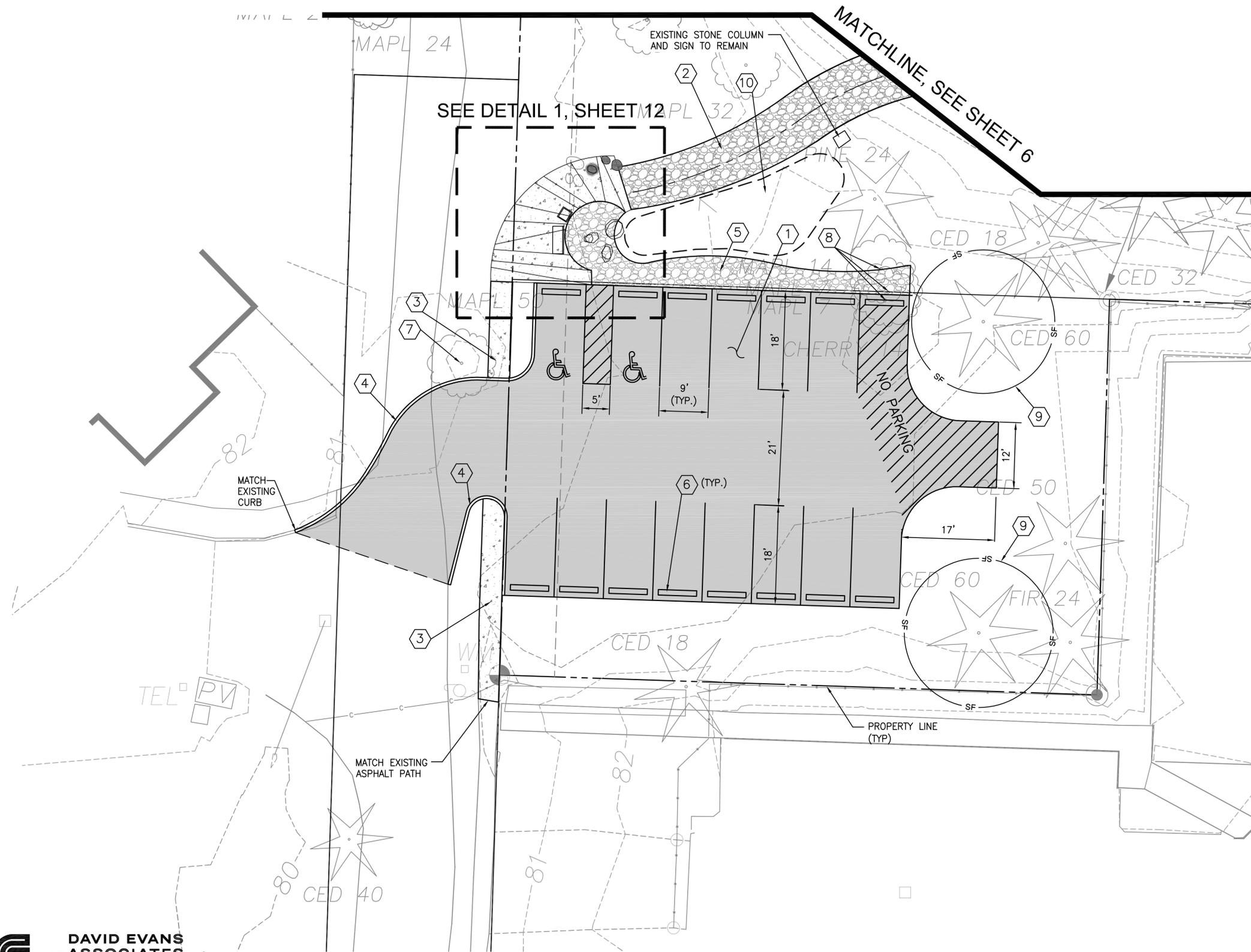
- ① CONSTRUCT PERVIOUS ASPHALT PAVEMENT, SEE DETAIL 8, SHEET 14
- ② CONSTRUCT 10' WIDE GRAVEL PATH.
- ③ CONSTRUCT 4' WIDE CONCRETE SIDEWALK.
- ④ CONSTRUCT CONCRETE CURB, PER ISSAQUAH STD. DETAIL ____
- ⑤ CONSTRUCT VARIABLE WIDTH GRAVEL PATH (4' MINIMUM), SEE DETAIL 4, SHEET 14
- ⑥ INSTALL CONCRETE WHEEL STOP PER ISSAQUAH STD. DETAIL ____
- ⑦ REMOVE EXISTING COTTONWOOD STUMP.
- ⑧ REMOVE EXISTING TREE.
- ⑨ INSTALL TEMPORARY TREE PROTECTION FENCING.
- ⑩ INSTALL RAINGARDEN FOR STORMWATER TREATMENT OF PARKING LOT

GENERAL NOTES

1. GRAVEL PATH SHALL MATCH EXISTING GRADE.
2. SEE TRAIL AND LANDSCAPING DETAILS, SHEETS 14-15 FOR DETAILS.
3. SEE SHEET 11 FOR LANDSCAPING PLAN AND PLATING INSTALLATION.
4. EXISTING TREES TO REMAIN UNLESS OTHERWISE NOTED.

LEGEND

-  GRAVEL PATH
-  CONCRETE PAVEMENT
-  PERVIOUS ASPHALT PAVEMENT
-  TEMPORARY TREE PROTECTION FENCE



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TRAIL PLAN AND PARKING LOT
PLAN

SHEET
8
OF
23

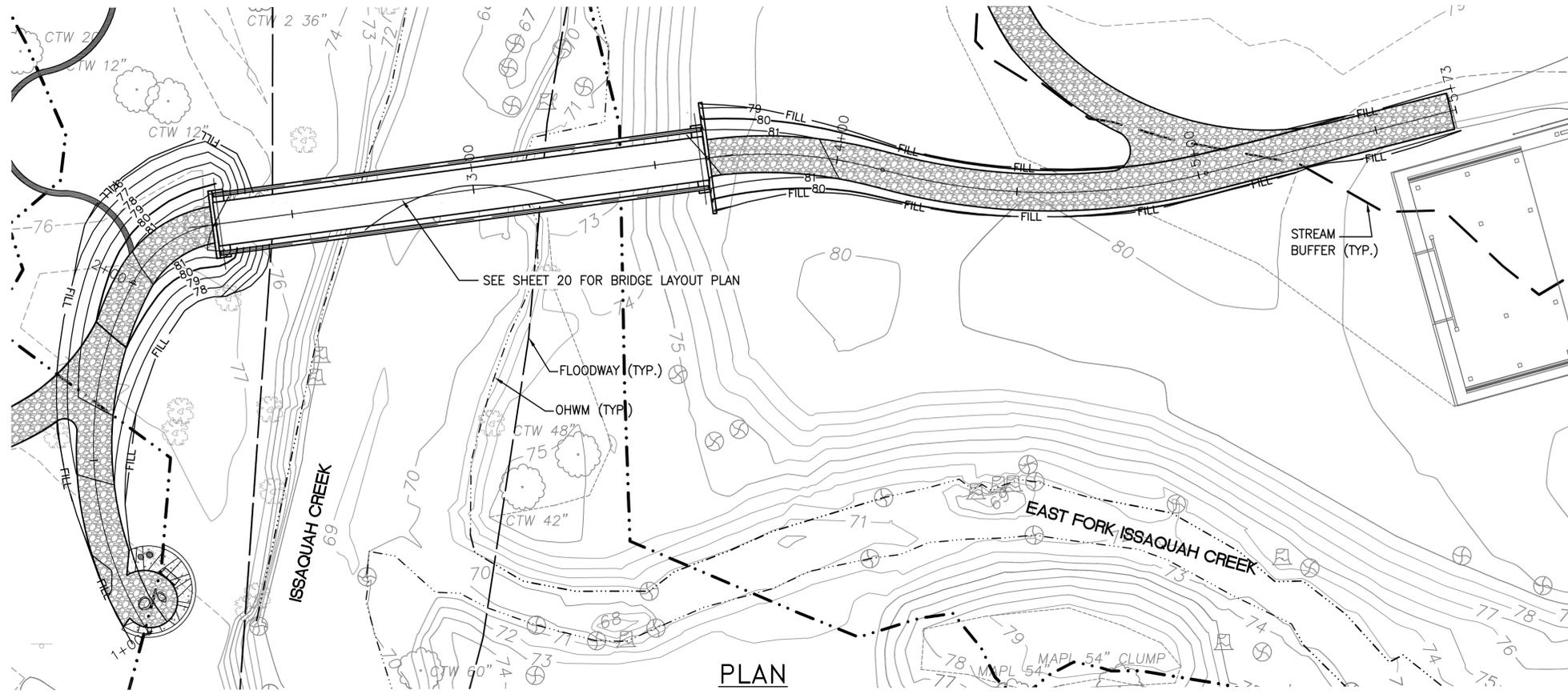
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BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF
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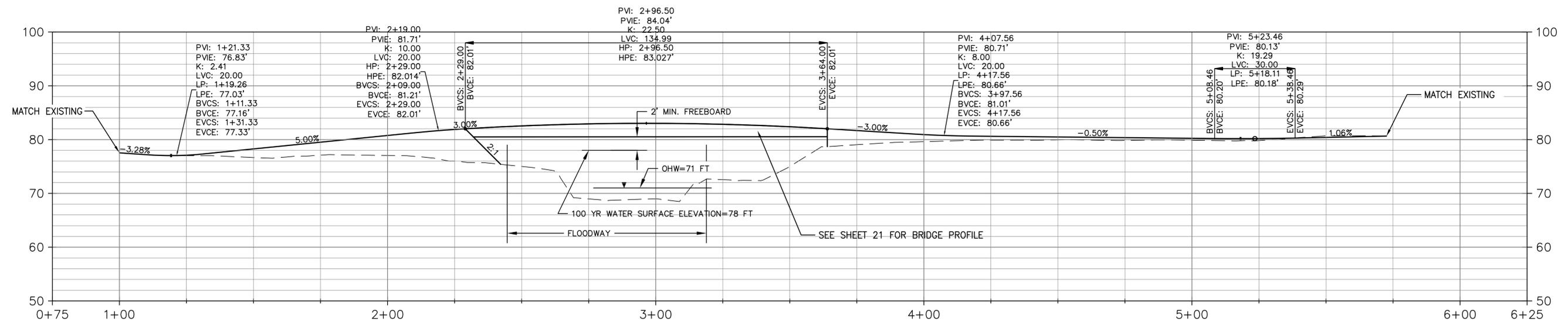


GENERAL NOTES

- 420 CY OF IMPORTED FILL MATERIAL FOR BRIDGE APPROACHES SHALL CONSIST OF GRAVEL BORROW. IMPORTED FILL SHALL BE FROM A CITY APPROVED SOURCE.

LEGEND

- PROPOSED CONTOUR (5' INTERVAL)
- PROPOSED CONTOUR (1' INTERVAL)
- PROPOSED FILL LINE
- 100 YEAR FLOODPLAIN (2009)



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CONFLUENCE PARK BRIDGE



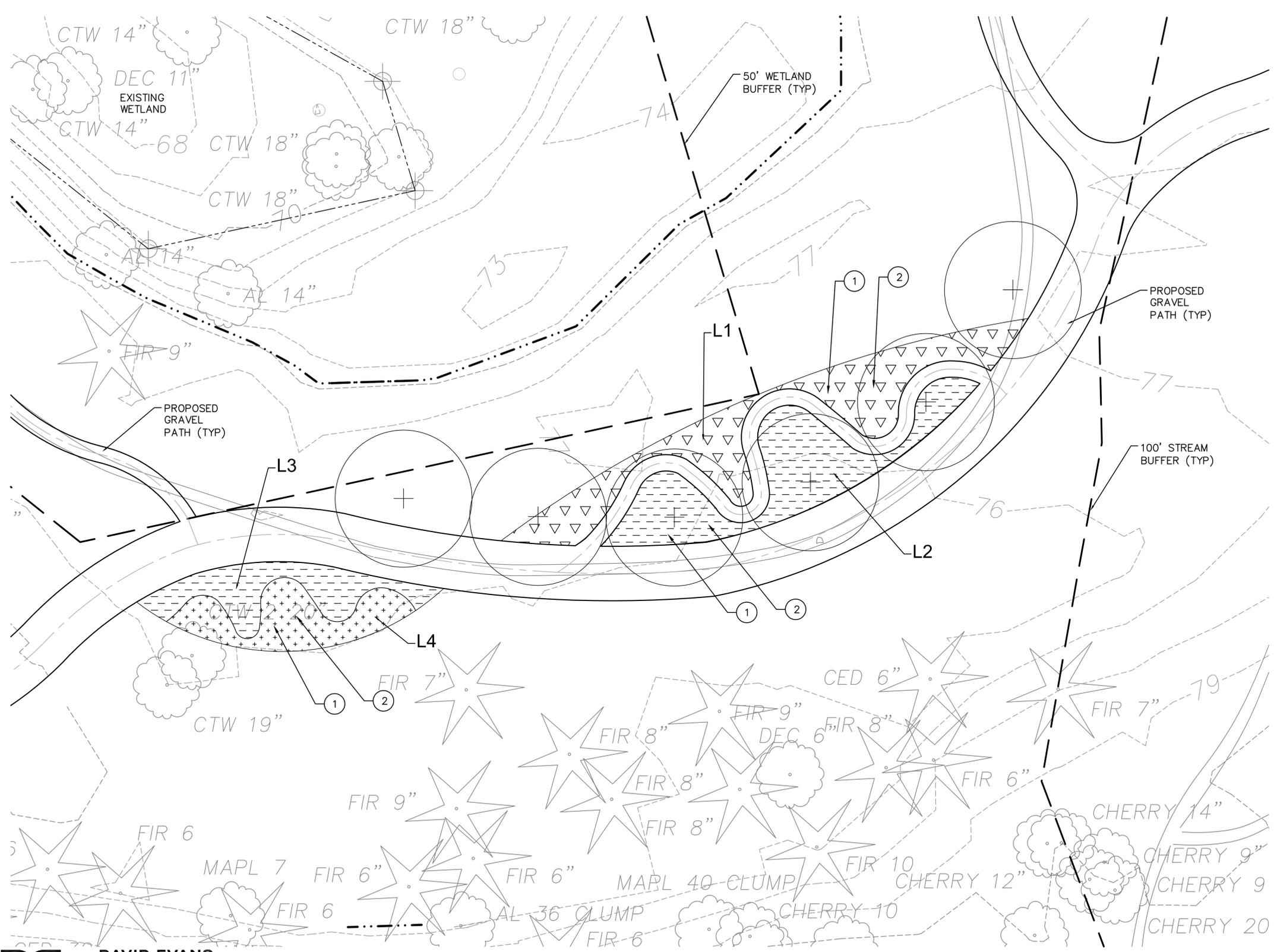
GRADING PLAN AND PROFILE

SHEET 9 OF 23

NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. MLF	CHKD. MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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CONSTRUCTION NOTES

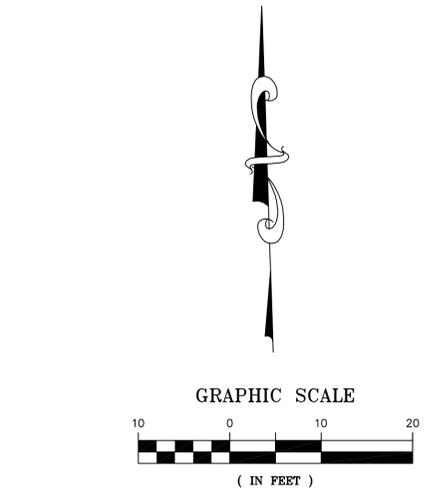
- ① INSTALL 3" COMPOST AMENDMENT TILLED INTO 7" OF EXISTING SOIL.
- ② INSTALL 4" HOG FUEL MULCH.

GENERAL NOTES

- 1. SEE SHEET 15 FOR TREES AND SHRUB PLANTING DETAILS, PLANT SCHEDULE AND LEGEND.

LEGEND

- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- LANDSCAPE PLANTING AREA - LOW SHRUBS, FERNS AND GROUNDCOVERS. (SEE PLANT SCHEDULE)
- LANDSCAPE PLANTING AREA - SHRUBS (SEE PLANT SCHEDULE)
- LANDSCAPE PLANTING AREA - SHADE TOLERANT SHRUBS (SEE SCHEDULE SHEET 15)
- 100' STREAM BUFFER
- 100 YEAR FLOODPLAIN (2009)
- LANDSCAPE PLANTING ZONE



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LANDSCAPING PLAN

SHEET
10
OF
23

NO.	DATE	DESCRIPTION	BY

BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF
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CONSTRUCTION NOTES

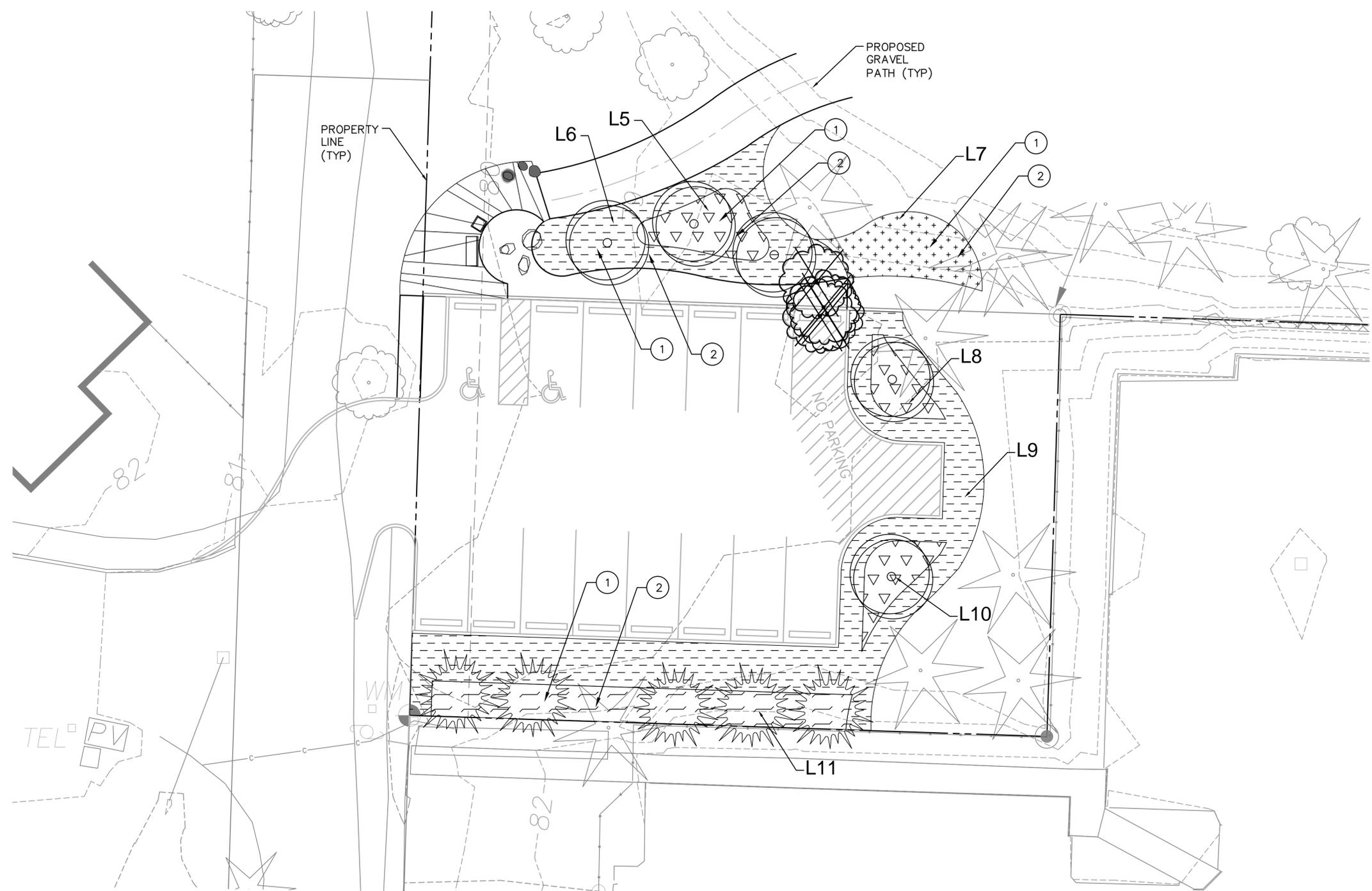
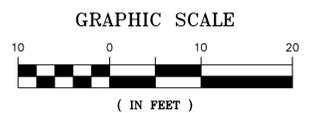
- ① INSTALL 3" COMPOST AMENDMENT AND TILL INTO 7" OF EXISTING SOIL.
- ② INSTALL 4" HOG FUEL MULCH.

GENERAL NOTES

- 1. SEE SHEET 15 FOR TREES AND SHRUB PLANTING DETAILS, PLANT SCHEDULE AND LEGEND.

LEGEND

- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- LANDSCAPE PLANTING AREA - LOW SHRUBS, FERNS AND GROUNDCOVERS. (SEE PLANT SCHEDULE)
- LANDSCAPE PLANTING AREA- SHRUBS (SEE SCHEDULE SHEET 15)
- LANDSCAPE PLANTING AREA- SHADE TOLERANT SHRUBS (SEE SCHEDULE SHEET 15)
- LANDSCAPE PLANTING AREA - PARKING LOT PER CITY OF ISSAQUAH MUNICIPAL CODE 18.12.100
- L1** LANDSCAPE PLANTING ZONE
- TREES TO BE REMOVED:
 14" DBH CHERRY
 14" DBH MAPLE } 1 MULTI-
 7" DBH MAPLE } TRUNK TREE
 7" DBH MAPLE }



PRELIMINARY DESIGN

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 Phone: 425.519.6500

CONFLUENCE PARK BRIDGE



LANDSCAPING PLAN

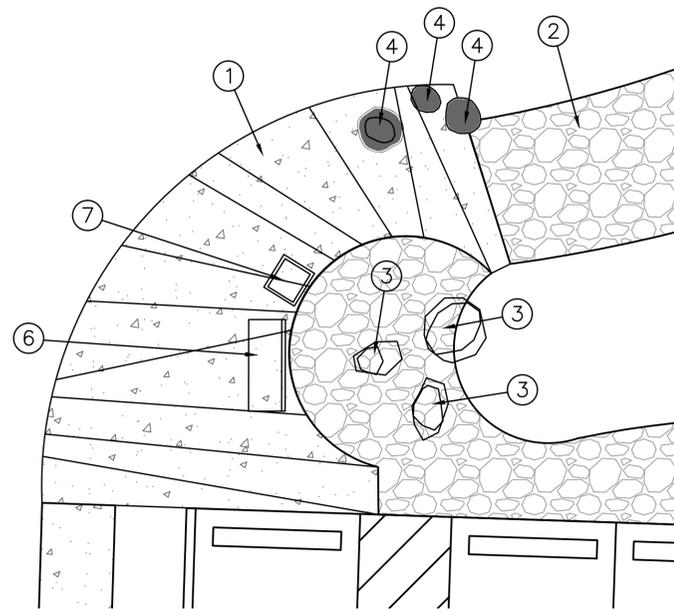
SHEET 11 OF 23

NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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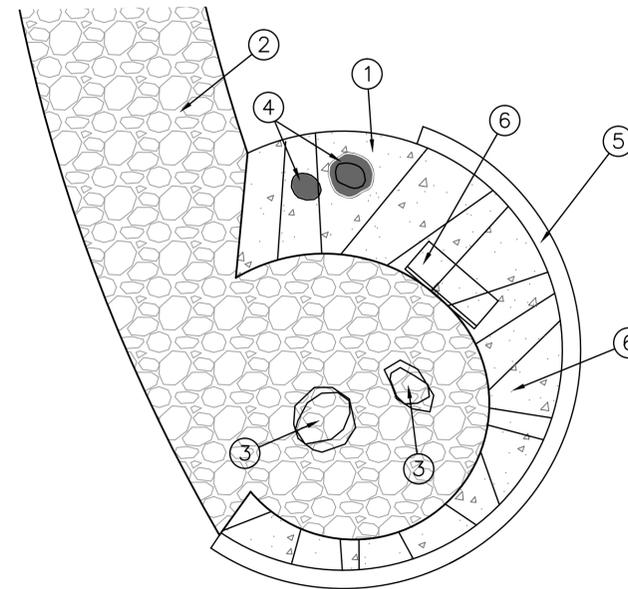
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CONSTRUCTION NOTES

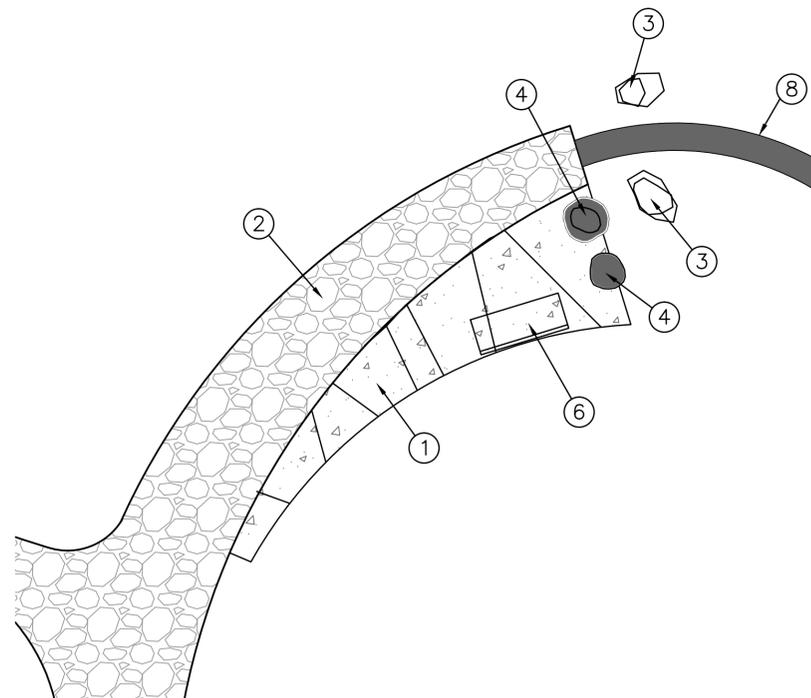
- ① CONSTRUCT CONCRETE PAVEMENT WITH RANDOM JOINT PATTERN, SEE DETAIL 2, SHEET 14.
- ② CONSTRUCT GRAVEL PATH, SEE DETAIL 4, SHEET 14.
- ③ INSTALL PLAY BOULDER, SEE DETAIL 5, SHEET 14.
- ④ INSTALL SEATING BOULDER, SEE DETAIL 6, SHEET 14.
- ⑤ CONSTRUCT STONE WALL, SEE DETAIL 1, SHEET 14.
- ⑥ INSTALL PARK BENCH, SEE DETAIL 4, SHEET 15.
- ⑦ INSTALL TRASH RECEPTACLE, SEE DETAIL 7, SHEET 14.
- ⑧ INSTALL STONE BAND, SEE DETAIL 3 SHEET 14.



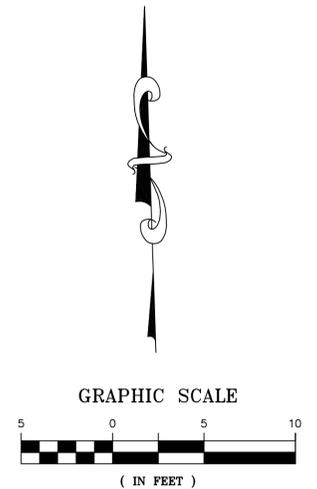
TRAIL GATEWAY DETAIL PLAN ①



VIEWING AREA 1 DETAIL PLAN ②



VIEWING AREA 2 DETAIL PLAN ③



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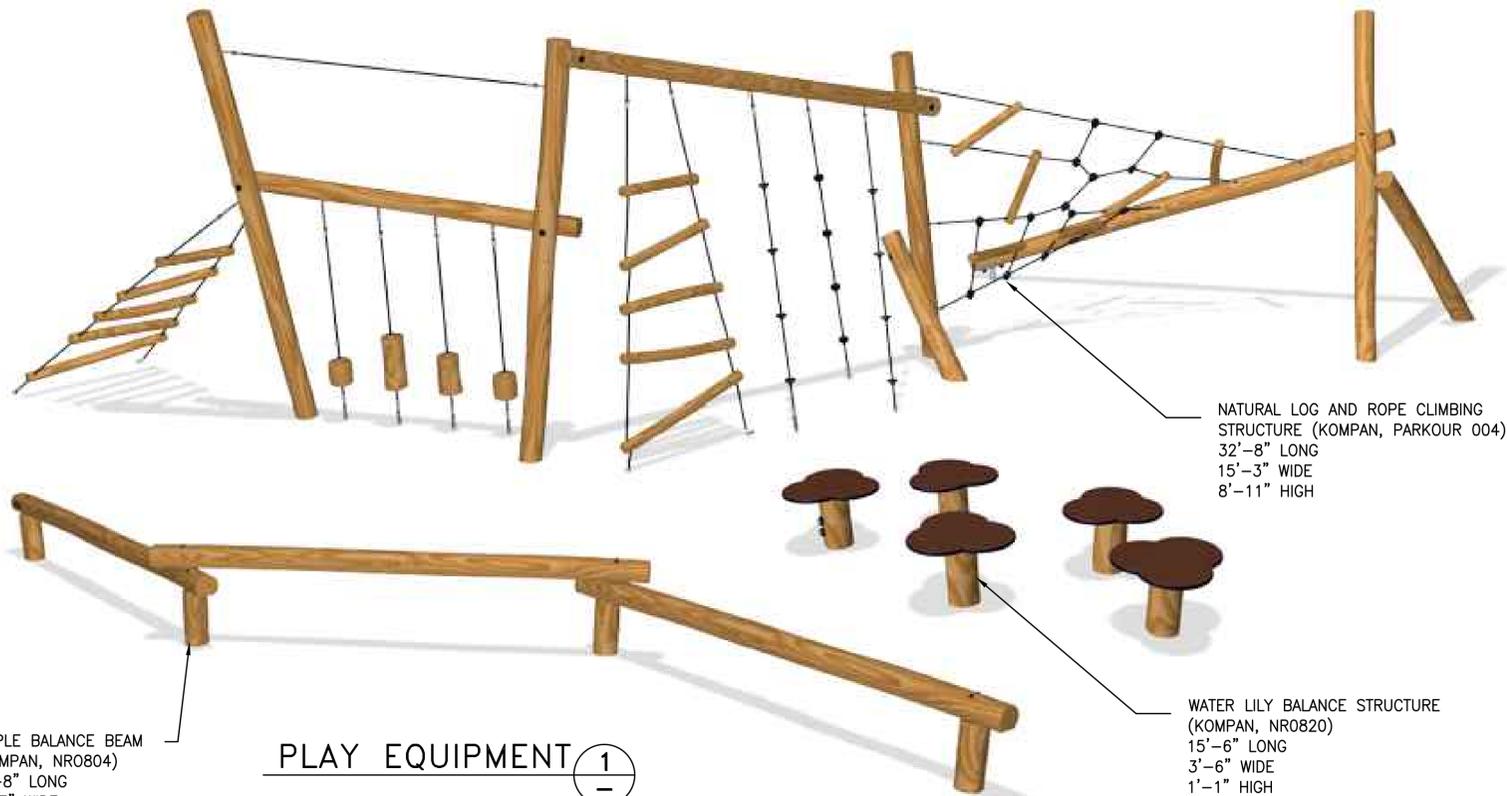
CONFLUENCE PARK
BRIDGE



TRAIL PLAN ENLARGEMENTS

SHEET
12
OF
23

NO.	DATE	DESCRIPTION	BY	DRAWN	DSGN.	CHKD.	DATE:	JOB #	SCALE:
				OXA	JCGA	JCGA/MLF	JANUARY 2016		AS NOTED

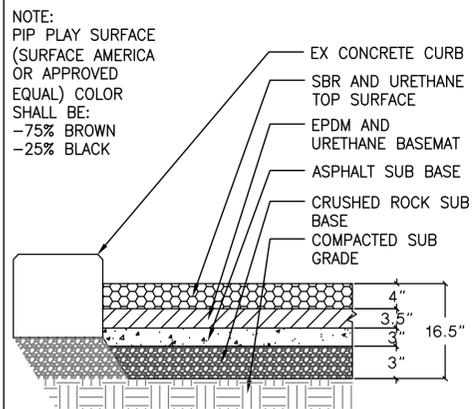


TRIPLE BALANCE BEAM
(KOMPAN, NRO804)
24'-8" LONG
7'-7" WIDE
2'-0" HIGH

PLAY EQUIPMENT ①

NATURAL LOG AND ROPE CLIMBING
STRUCTURE (KOMPAN, PARKOUR 004)
32'-8" LONG
15'-3" WIDE
8'-11" HIGH

WATER LILY BALANCE STRUCTURE
(KOMPAN, NRO820)
15'-6" LONG
3'-6" WIDE
1'-1" HIGH



NOTE:
PIP PLAY SURFACE
(SURFACE AMERICA
OR APPROVED
EQUAL) COLOR
SHALL BE:
-75% BROWN
-25% BLACK

PIP PLAY SURFACE ③
(POUR-IN-PLACE) NTS

PALISADES BOULDER part# CB001

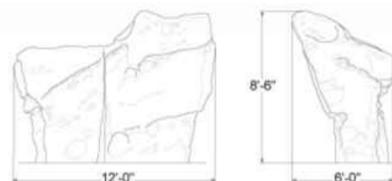


PALISADES BOULDER

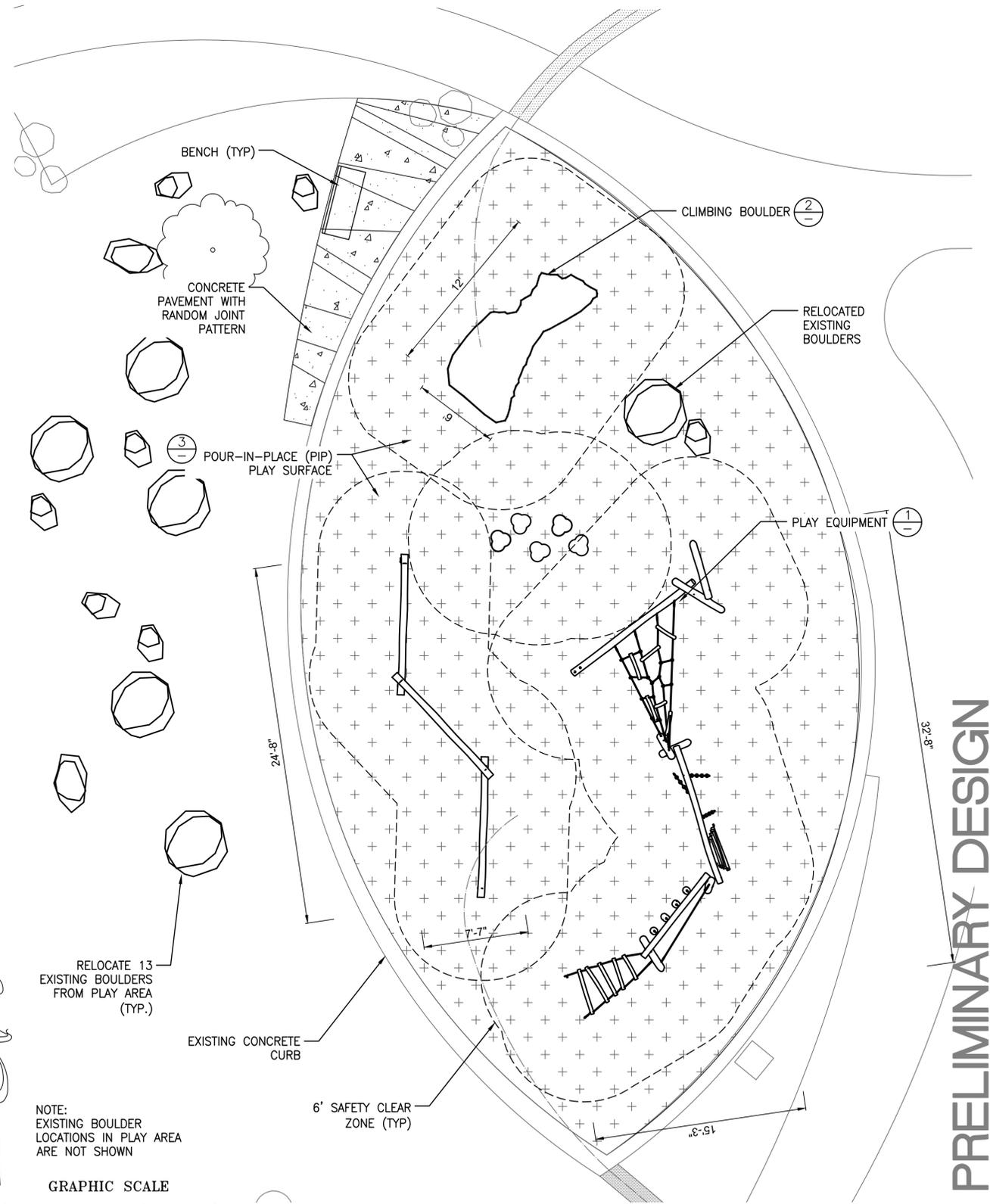
Classic Climbing Boulder
Ages 5-12
Inspired by natural rock forms and designed with climbing in mind, this sandstone-textured boulder is replete with hand sculpted holds for years of climbing fun. The boulder accommodates beginner to intermediate climbers and is ideal for both middle school athletic programs and neighborhood parks.

Dimensions: 12'L x 6'W x 9'H
Weight: 4500 lbs
Footing: reinforced 12' x 6' x 9' slab

- Durable, realistic hand-sculpted surface
- ASTM, CPSC and CWA compliant
- Customizable for site-specific



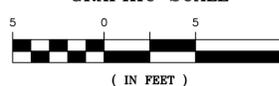
CLIMBING BOULDER ②



RELOCATE 13
EXISTING BOULDERS
FROM PLAY AREA
(TYP.)

NOTE:
EXISTING BOULDER
LOCATIONS IN PLAY AREA
ARE NOT SHOWN

GRAPHIC SCALE



PLAN

PRELIMINARY DESIGN

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CONFLUENCE PARK
BRIDGE

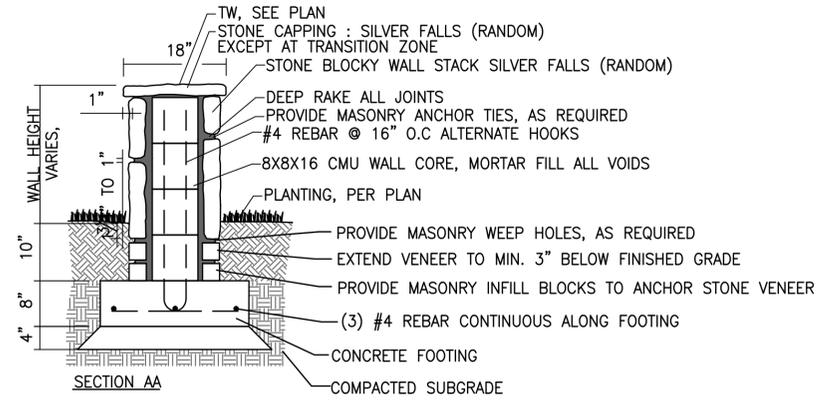


PLAY AREA PLAN AND DETAILS

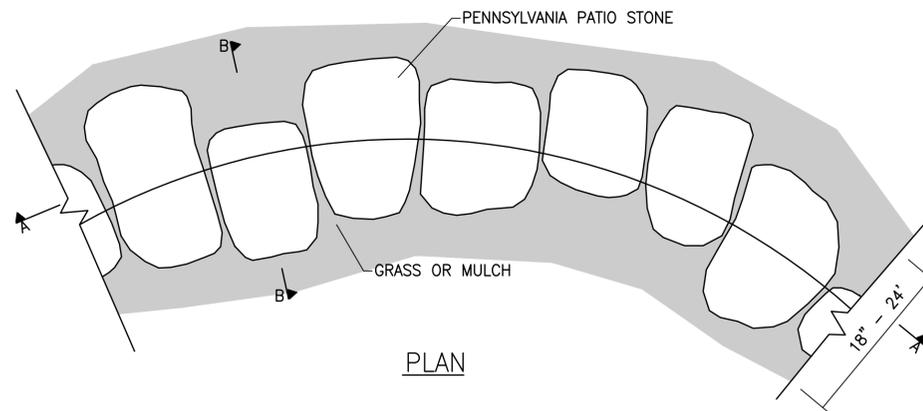
SHEET
13
OF
23

NO.	DATE	DESCRIPTION	BY	DRAWN	DSGN.	CHKD.
			OXA	OXA	JCGA	JCGA/MLF

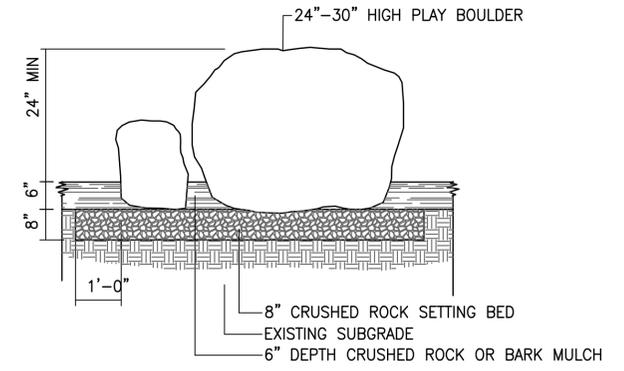
DATE: JANUARY 2016 | JOB # | SCALE: AS NOTED



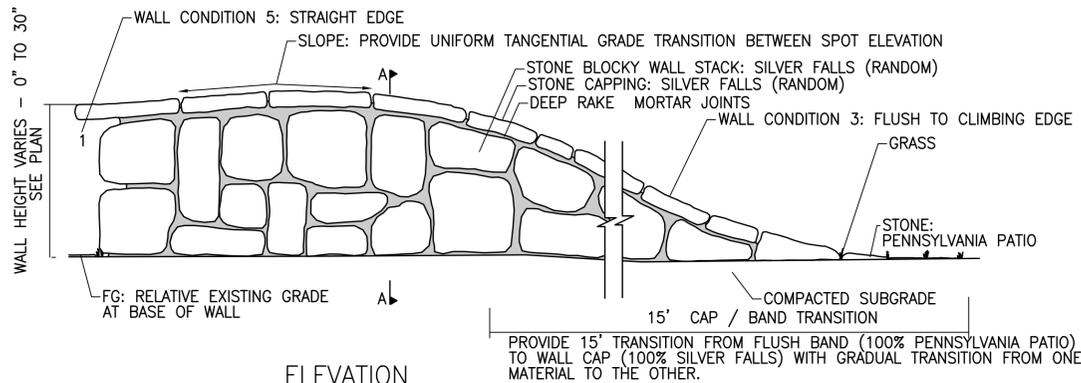
SECTION A-A



PLAN

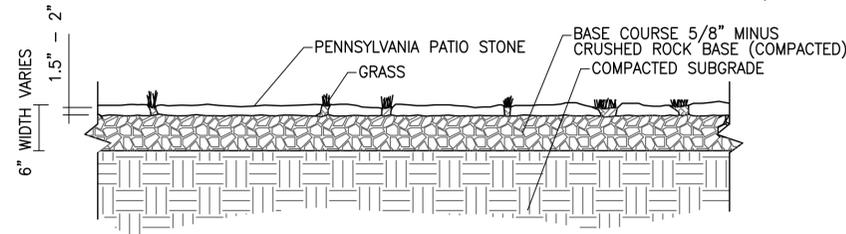


PLAY BOULDER 5

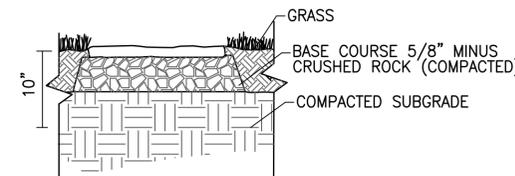


ELEVATION

STONE WALL 1

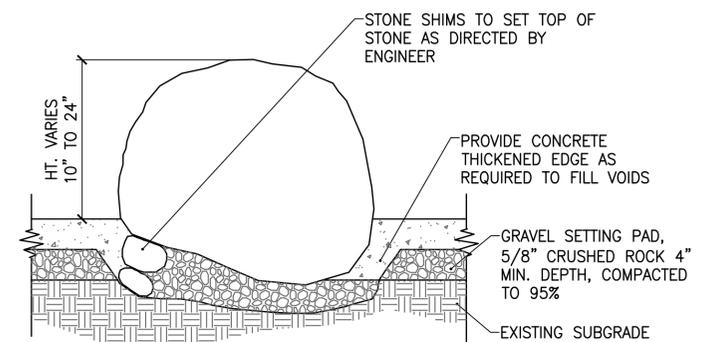


SECTION A-A

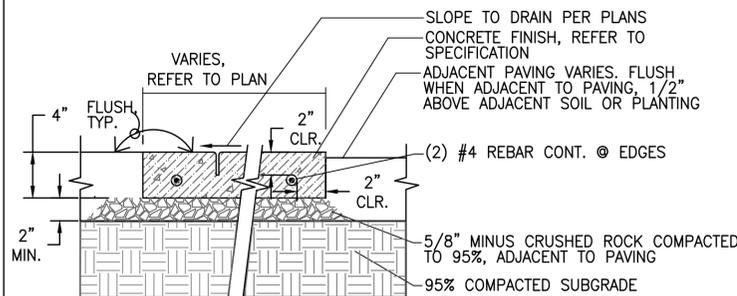


SECTION B-B

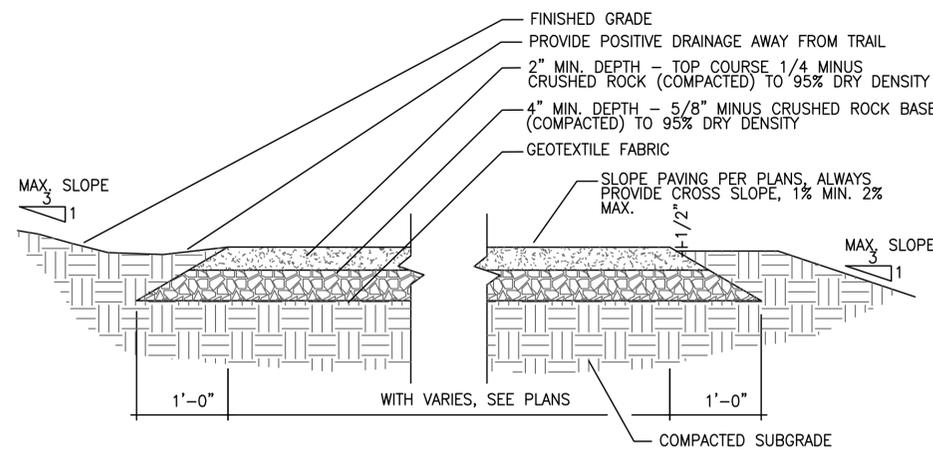
STONE BAND 3



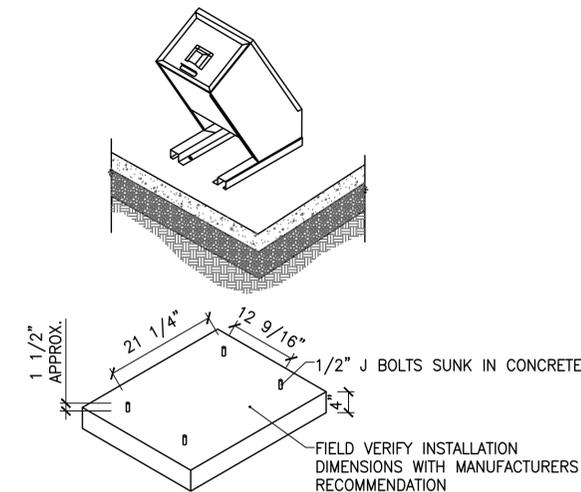
SEATING BOULDERS 6



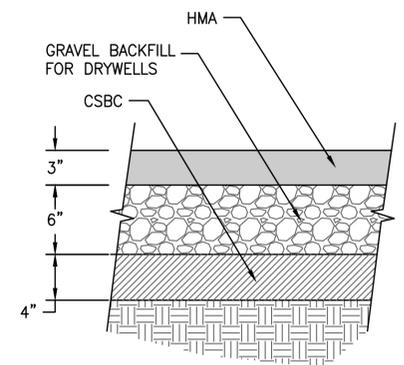
CONCRETE PAVEMENT 2



GRAVEL PATH 4



TRASH RECEPTACLE 7



PERVIOUS ASPHALT PAVEMENT 8

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CONFLUENCE PARK
BRIDGE



TRAIL AND LANDSCAPING
DETAILS

SHEET
14
OF
23

NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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PRELIMINARY DESIGN

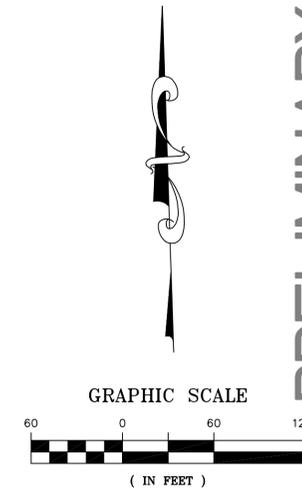


MITIGATION SUMMARY

PERMANENT IMPACTS TO ISSAQUAH CREEK		
IMPACT FROM BRIDGE OVER O.H.W.M. (SHADE):	800 S.F. (0.02 AC)	
PERMANENT IMPACTS TO ISSAQUAH CREEK BUFFER		PROPOSED MITIGATION FOR BUFFER IMPACTS
IMPACT FROM PATHS: (PERVIOUS)	7,039 S.F.	MITIGATION RATIO REQUIRED = 1:1.0
IMPACT FROM STONE BANDS: (PERVIOUS)	360 S.F.	
IMPACT FROM VIEWING PLAZAS: (IMPERVIOUS)	366 S.F.	
IMPACT FROM BRIDGE: (IMPERVIOUS)	1,555 S.F.	
TOTAL STREAM BUFFER IMPACT =	9,320 S.F. (0.21 AC)	BUFFER ENHANCEMENT: ON-SITE MITIGATION AREA = 11,169 S.F. (0.26 AC)
PERMANENT IMPACTS TO WETLAND BUFFER		
IMPACT FROM PATH:	665 S.F.	BUFFER ENHANCEMENT: ON-SITE MITIGATION AREA = 665 S.F. (0.02 AC)
TOTAL WETLAND BUFFER IMPACT =	665 S.F. (0.02 AC)	
TOTAL STREAM BUFFER IMPACTS	10,785 S.F. (0.25 AC)	TOTAL BUFFER ENHANCEMENT PROVIDED = 11,834 S.F. (0.27 AC)
		MITIGATION RATIO PROVIDED = 1.1:1.0
PERMANENT-TREE IMPACT		PROPOSED MITIGATION
TREES > 6" DBH REMOVED DUE TO DEVELOPMENT =	1	TREE REPLACEMENT = 29

LEGEND

- EXISTING TREES TO REMAIN AND TO BE PROTECTED
- EXISTING TREES TO BE REMOVED
- PROPOSED IMPACTS - PATHS AND BRIDGE (IN 100' BUFFER)
- PROPOSED BRIDGE (OVER O.H.W.M.)
- STREAM BUFFER ENHANCEMENT AREA - CLEAR AND GRUB. AND INSTALL NATIVE VEGETATION
- CAPA SIGN
- O.H.W.M. ORDINARY HIGH WATER MARK (O.H.W.M.)
- 100' STREAM BUFFER
- 100 YEAR FLOODPLAIN (2009)
- ISSAQUAH CREEK URBAN CONSERVANCY SHORELINE ENVIRONMENTAL DESIGNATION



PRELIMINARY DESIGN

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CONFLUENCE PARK BRIDGE



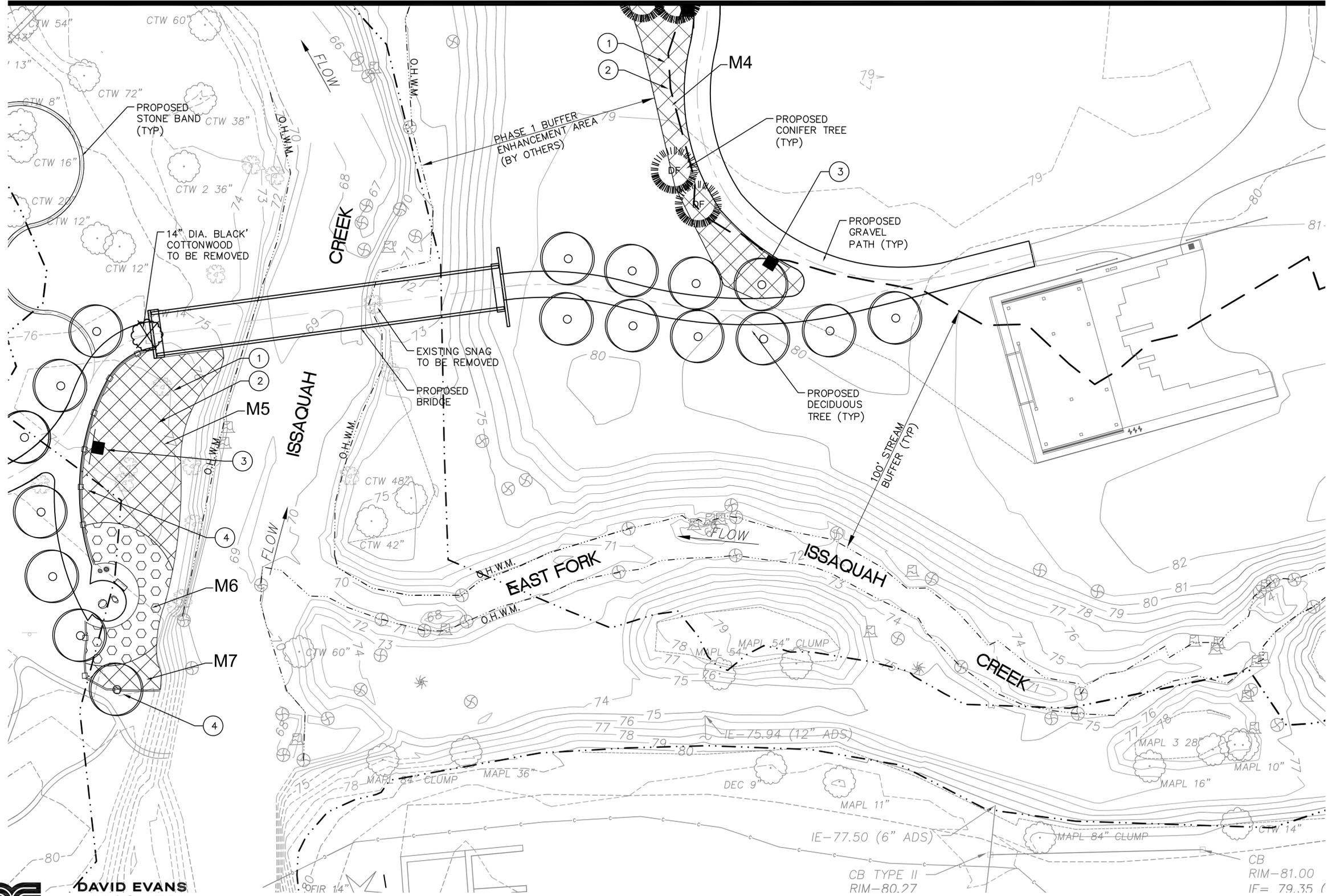
MITIGATION SUMMARY

SHEET
16
OF
23

NO.	DATE	DESCRIPTION	BY	DRAWN	DGNS.	CHKD.
			OXA	OXA	JCGA	JCGA/MLF

DATE: JANUARY 2016 | JOB # | SCALE: AS NOTED

MATCHLINE, SEE SHEET 17



CONSTRUCTION NOTES

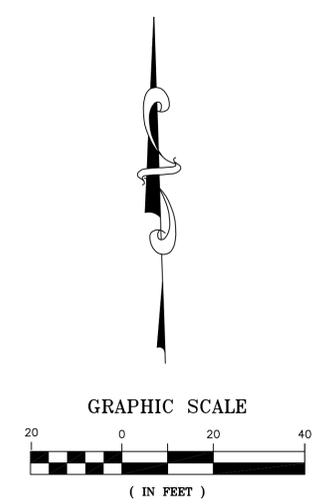
- ① INSTALL 3" COMPOST AMENDMENT TILLED INTO 7" OF EXISTING SOIL.
- ② INSTALL 4" HOG FUEL MULCH.
- ③ INSTALL CAPA SIGN.
- ④ INSTALL SPLIT RAIL FENCE.

GENERAL NOTES

- 1. SEE SHEET 19 FOR TREES AND SHRUB PLANTING DETAILS, PLANT SCHEDULE AND LEGEND.

LEGEND

- STREAM BUFFER ENHANCEMENT PLANTINGS (SEE SCHEDULE SHEET 19).
- STREAM BUFFER ENHANCEMENT AREA (SEE SCHEDULE SHEET 19).
- O.H.W.M. ORDINARY HIGH WATER MARK (O.H.W.M.) LINE
- 100' STREAM BUFFER
- 100 YEAR FLOODPLAIN (2009)
- M1 MITIGATION PLANTING ZONE
- EXISTING TREE TO BE REMOVED



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CONFLUENCE PARK BRIDGE



MITIGATION PLANTING PLAN

SHEET 18 OF 23

NO.	DATE	DESCRIPTION	BY

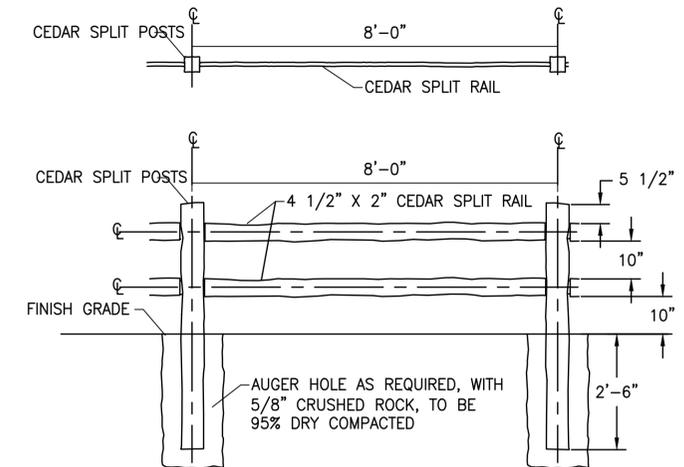
BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF
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DATE:	JANUARY 2016	JOB #	
SCALE:	AS NOTED		

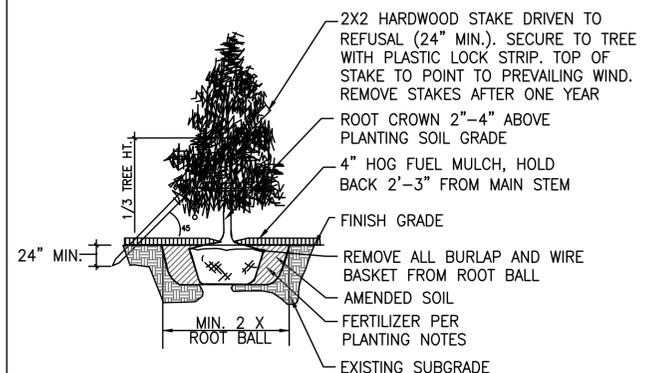
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PLANT SCHEDULE

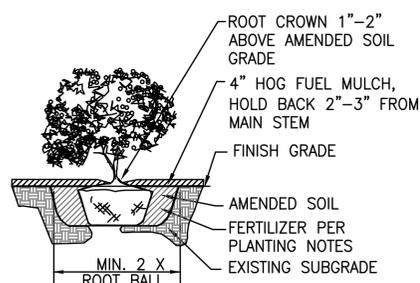
TREES	BOTANICAL NAME	COMMON NAME	SIZE (HT)/ COND.	SPACING	REMARK	SHEET		TOTAL						
						S17	S18							
	PRUNUS EMARGINATA	BITTER CHERRY	2" CAL. MIN., B&B	AS SHOWN	FULL, WELL BRANCHED, STAKED	5	17	17						
	PICEA SITCHENSIS	SITKA SPRUCE	6' HT MIN., B&B	AS SHOWN	SINGLE LEADER, WELL BRANCHED	5		5						
	PSEUDOTSUGA MENZESII	DOUGLAS FIR	6' HT MIN., B&B	AS SHOWN	SINGLE LEADER, WELL BRANCHED	5	2	7						
ZONE														
SHRUBS						M1	M2	M3	M4	M5	M6	M7		
	RHODODENDRON MACROPHYLLUM	PACIFIC RHODODENDRON	2' HT MIN., 2 GAL.	4' O.C.	FULL, WELL BRANCHED	13	5		6	31			3	58
	LONICERA INVOLUCRATA	BLACK TWINBERRY	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	13			6	12				31
	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	66	14	15	24	26			5	150
	ROSA NUTKANA	NOOTKA ROSE	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	40		27	17	26			4	114
	SYMPHORICARPOS ALBUS	SNOWBERRY	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	67	14	12	28	26			4	151
	ROSA GYMNOCARPA	BALD-HIP ROSE	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	40	15		17	23				95
	RIBES SANGUINEUM	RED-FLOWERING CURRANT	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	14		6	6	9				35
	RUBUS PARVIFLORUS	THIMBLEBERRY	2' HT MIN., 1 GAL.	4' O.C.	FULL, WELL BRANCHED	13			6	17				36
FERNS AND GROUNDCOVERS														
	POLYSTICHUM MUNITUM	SWORD FERN	2' HT MIN., 1 GAL.	3' O.C.	FULL, WELL BRANCHED								55	55
	GAULTHERIA SHALLON	SALAL	2' HT MIN., 1 GAL.	3' O.C.	FULL, WELL BRANCHED								55	55



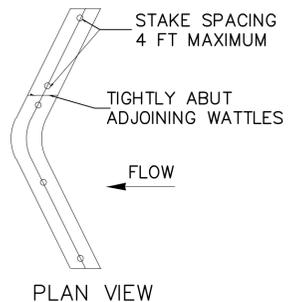
SPLIT RAIL CEDAR FENCE 4



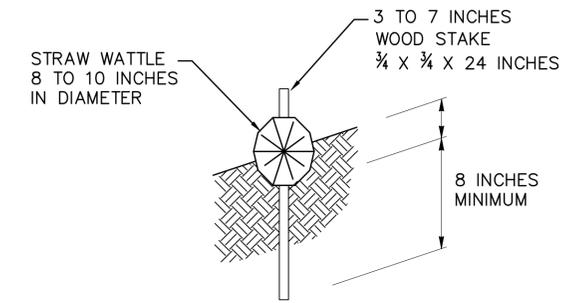
CONIFER TREE PLANTING 1



SHRUB PLANTING 2

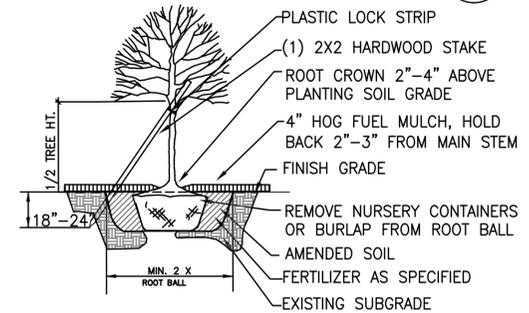


PLAN VIEW

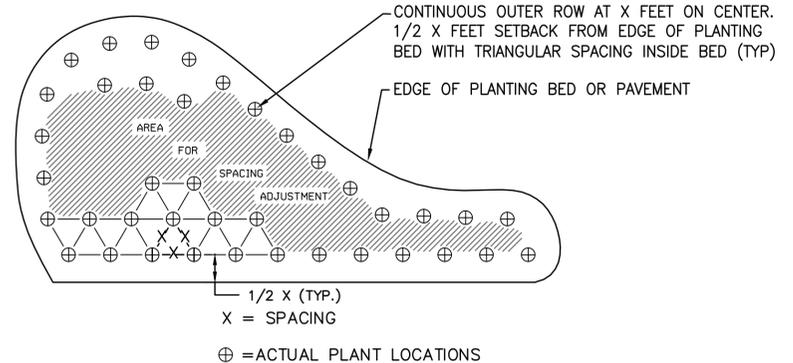


SECTION

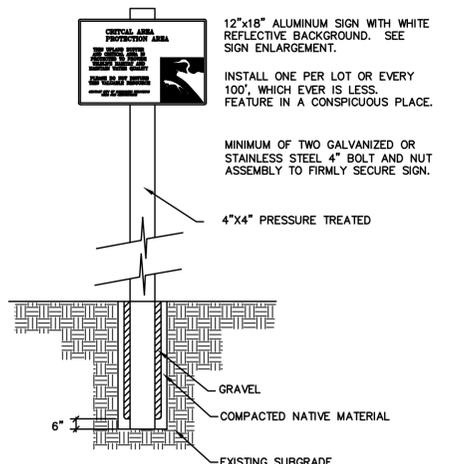
STRAW WATTLE 3



DECIDUOUS TREE PLANTING 5



PLANTING SPACING 6



NOTES:
 1. ONE (1) CAPA SIGN SHALL BE PLACED BY EVERY LOT OR EVERY 50 FEET, WHICHEVER IS LESS, APART AROUND THE PERIMETER OF THE CRITICAL AREA PROTECTION AREA.
 2. SIGN PLACEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE CITY OF SAMMAMISH. ALTERNATIVE SIGN DESIGNS MAY BE SUBMITTED TO THE CITY FOR APPROVAL.

CAPA SIGN 7

DAVID EVANS AND ASSOCIATES INC.
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 Bellevue Washington 98005-3518
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CONFLUENCE PARK BRIDGE



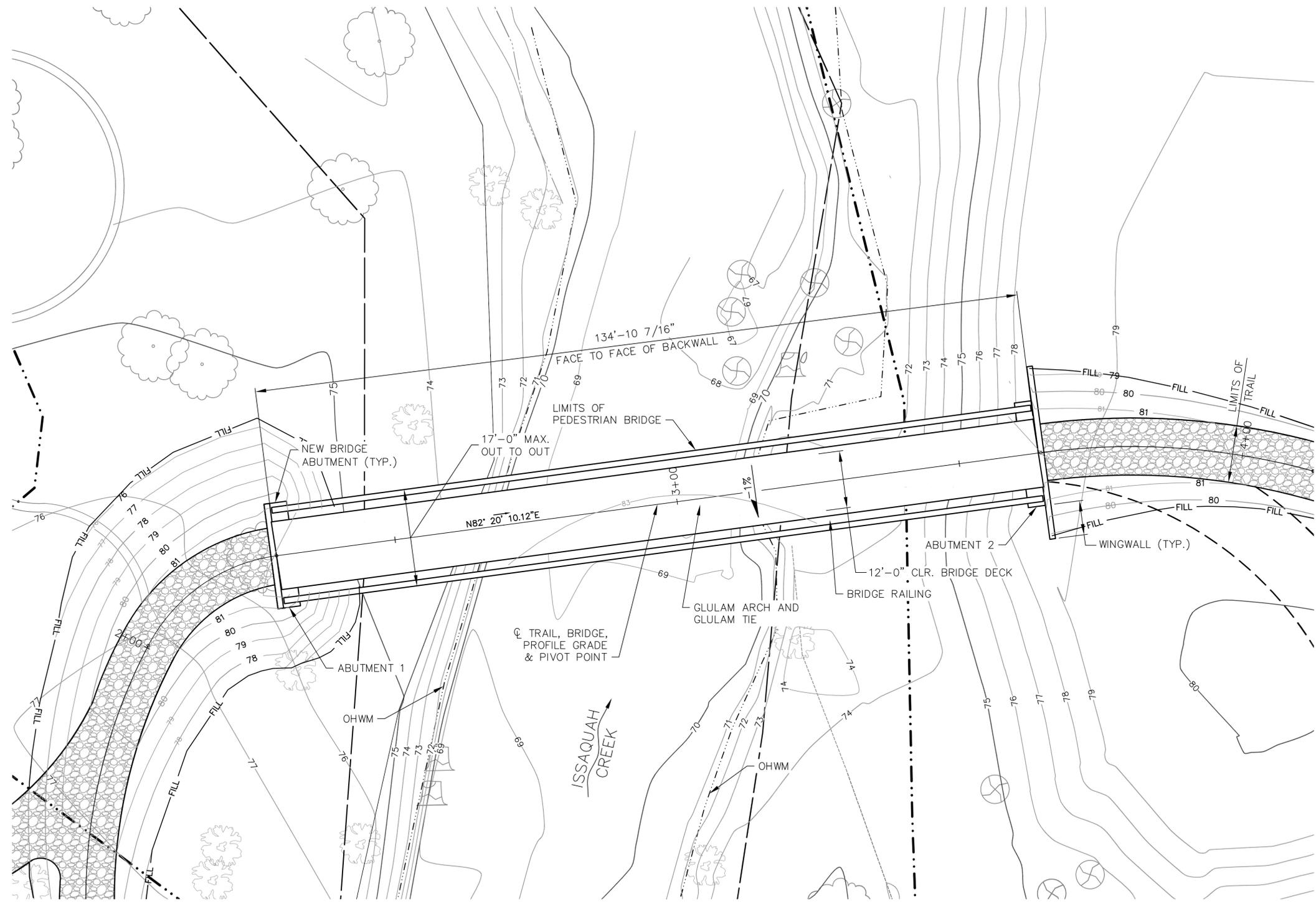
MITIGATION PLANT SCHEDULE AND DETAILS

SHEET 19 OF 23

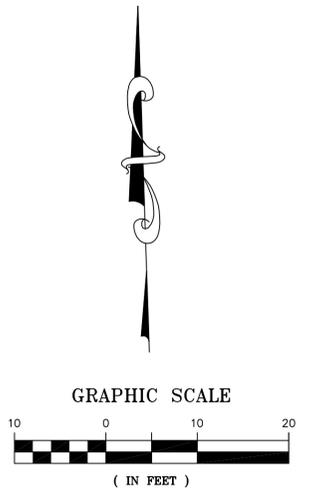
NO.	DATE	DESCRIPTION	BY	DRAWN OXA	DSGN. JCGA	CHKD. JCGA/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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PRELIMINARY DESIGN



PLAN



PRELIMINARY DESIGN

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 Bellevue Washington 98005-3518
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CONFLUENCE PARK
 BRIDGE



BRIDGE LAYOUT PLAN

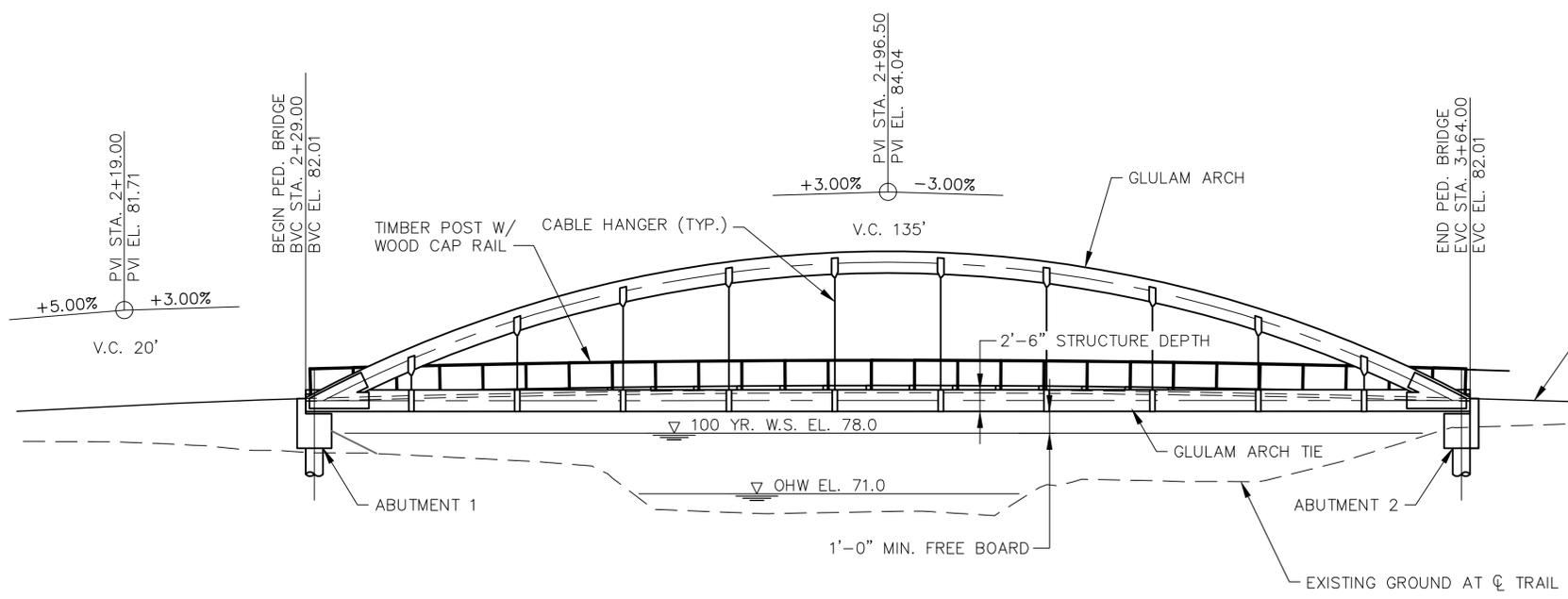
SHEET
 20
 OF
 23

NO.	DATE	DESCRIPTION	BY	DRAWN	DRTE	DSGN.	KECA	CHKD.	PDMO/MLF

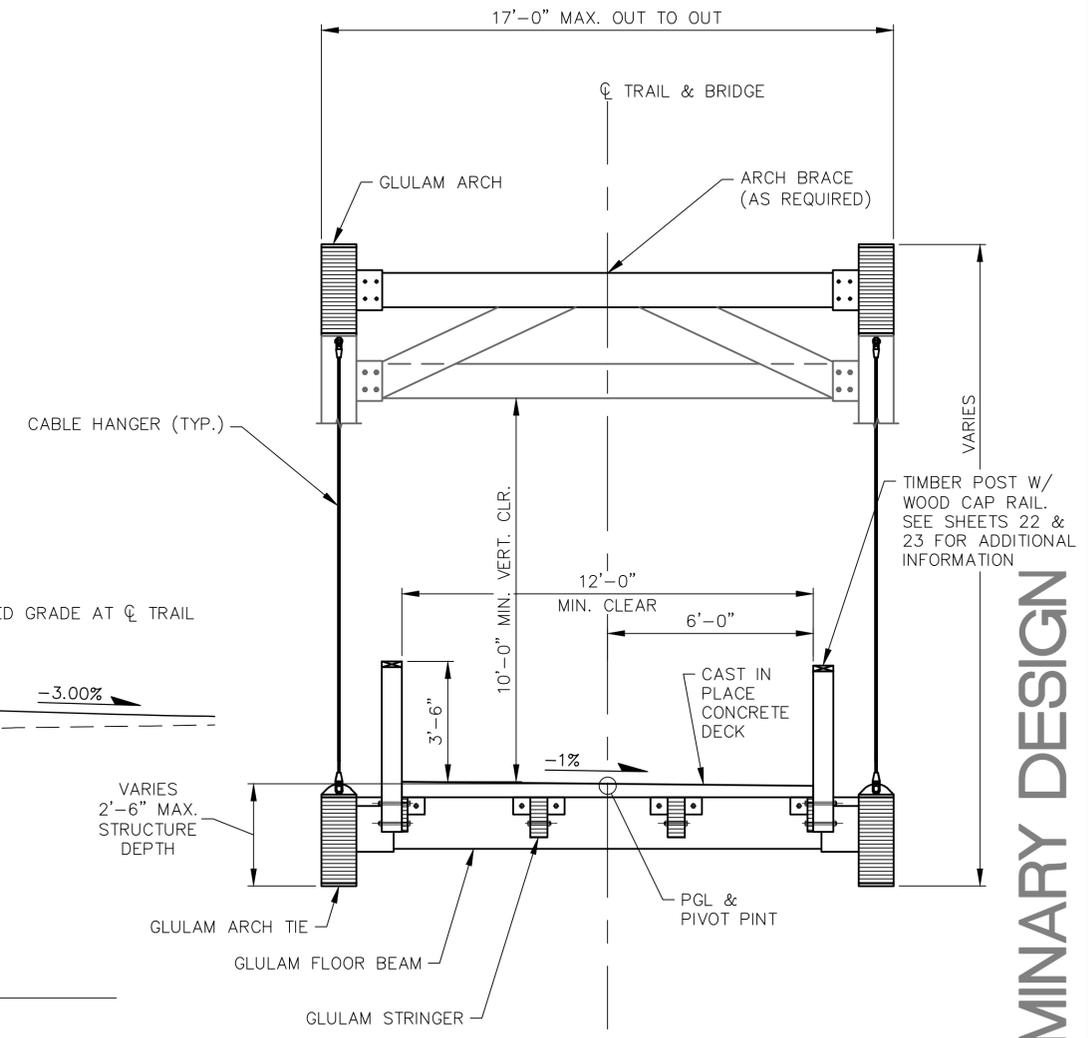
DATE: JANUARY 2016 JOB # SCALE: AS NOTED

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ELEVATION
SCALE: 1"=10'



TYPICAL SECTION
SCALE: 3/8"=1'-0"

REF. EL. 50.00



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CONFLUENCE PARK
BRIDGE



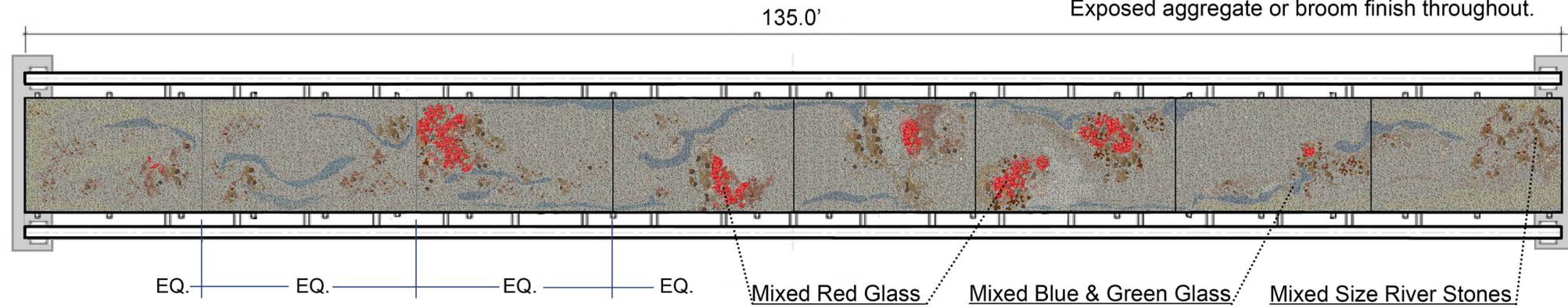
BRIDGE TYPICAL SECTION
AND PROFILE

SHEET
21
OF
23

NO.	DATE	DESCRIPTION	BY	DRAWN DRTE	DSGN. KECA	CHKD. PDMO/MLF	DATE: JANUARY 2016	JOB #	SCALE: AS NOTED
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PRELIMINARY DESIGN

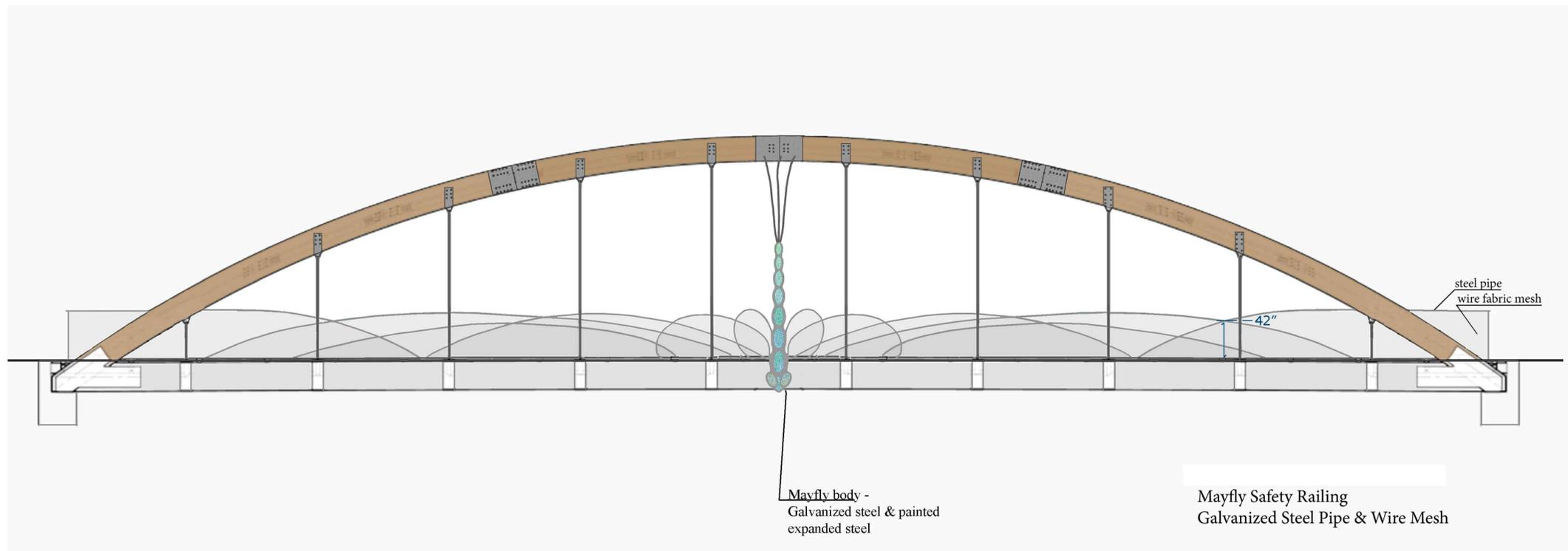
Salmon Redd Deck Paving
 Top-seeded mixed aggregates along bridge deck:
 varied size river stones, mixed size & color glass.
 Exposed aggregate or broom finish throughout.



CONCRETE DECK LAYOUT PLAN

GENERAL NOTES

- SEE SHEET 23 FOR BRIDGE ART FEATURE DETAILS.



ELEVATION

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CONFLUENCE PARK
 BRIDGE



BRIDGE ART FEATURE PLAN
 AND ELEVATION

NO.	DATE	DESCRIPTION	BY	DRAWN	DSGN.	CHKD.

DATE: JANUARY 2016 | JOB # | SCALE: AS NOTED

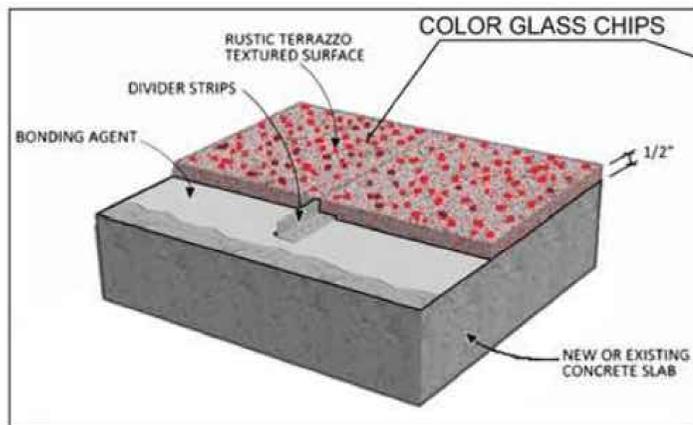
PRELIMINARY DESIGN

SHEET
 22
 OF
 23

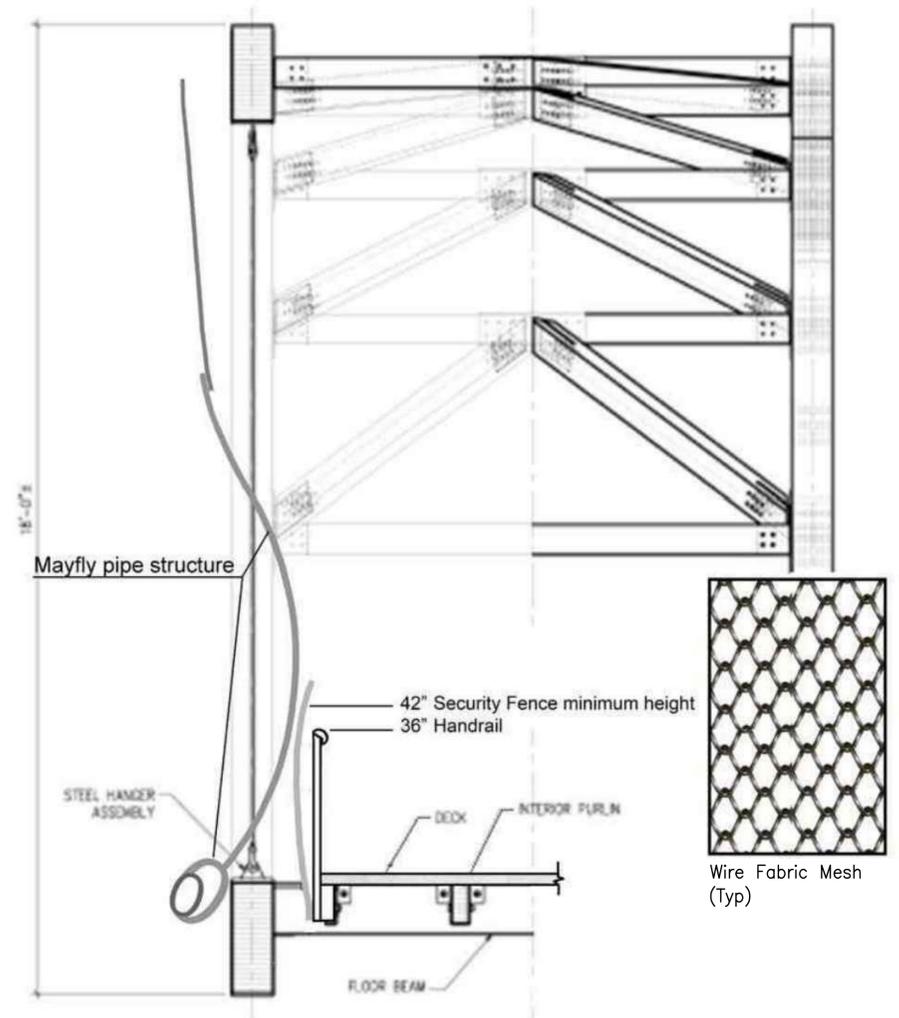
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COTTONWOOD BARK ABUTMENT LINER (1)



CONCRETE DECK FEATURES (2)



ARTISTIC RAIL SECTION (3)

PRELIMINARY DESIGN

DAVID EVANS AND ASSOCIATES INC.
 415 - 118th Avenue SE
 Bellevue Washington 98005-3518
 Phone: 425.519.6500

CONFLUENCE PARK BRIDGE



BRIDGE ART FEATURE DETAILS

SHEET 23 OF 23

NO.	DATE	DESCRIPTION	BY	DRAWN	DSGN.	CHKD.
				JM	JM	JM

DATE: JANUARY 2016 JOB # SCALE: AS NOTED

01/13/16 4:29pm - P:\ISSY0000003\0400CAD\SHEETS\ARPL002ISSY003.dwg

Appendix B – Federal and State Laws and Regulations

Federal Regulations

Endangered Species Act

The criteria for determining threatened and endangered plant and animal species is provided by the Endangered Species Act (ESA), which is administered by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the U.S. Fish and Wildlife Service (USFWS). The goals of the ESA include species conservation, ecosystem conservation, and species recovery. Section 4 of the ESA allows for the listing of species as threatened or endangered based on habitat loss or degradation, over utilization, disease or predation, inadequacy of existing regulatory mechanisms, or other human-cause factors. Section 4(D) allows for the promulgation of regulations to provide for the protection and conservation of listed species. It may allow for the “take” of threatened species. Take is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect, or attempt to engage in such conduct” (1532(18)). Section 7 of the ESA requires each federal agency to ensure its actions to authorize, permit, or fund a project do not jeopardize the continued existence of any threatened or endangered species. It describes consultation procedures and conservation obligations. Section 9 of the ESA prohibits a take of listed species. An exception to the take prohibition applies to endangered plants on non-federal lands, unless the taking is in knowing violation of state law (1538(a)(2)).

Clean Water Act

The Clean Water Act (CWA) was established to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters. The CWA makes it illegal to discharge pollutants from a point source to the waters of the United States. Any activity resulting in the placement of dredge or fill material to waters of the U.S. requires a permit from the Corps under Section 404 of the CWA. Fill is defined as any material that replaces any portion of a U.S. water with dry land or changes the bottom elevation of any portion of a U.S. water. Navigable waters, tributaries to navigable waters, and wetlands that abut any of these waters are “Waters of the U.S.” Wetlands that are hydrologically isolated are not Waters of the U.S. based on the United States Supreme Court ruling of the Solid Waste Agency of Northern Cook County vs. U.S. Army Corps of Engineers (SWANCC Decision, 2001), No. 99-1178, January 9, 2001. Isolated waters, including wetlands, do not require permitting to fill, but still have ecological value.

Section 401(a) of the CWA requires that before issuing a license or permit that may result in any discharge to waters of the United States, a federal agency must obtain from the state in which the proposed project is located, a certification that the discharge is consistent with the CWA, CWA provisions to which Section 401 certification applies include EPA-issued National Pollutant Discharge Elimination System (NPDES) permits (described under Section 402), and Section 404 permits from the Corps (EPA 2011). In Washington State, EPA has delegated authority to manage Section 401 and Section 402 of the CWA to Ecology.

Section 402 of the CWA creates the National Pollutant Discharge Elimination System (NPDES) regulatory program. The NPDES program requires construction site operators engaged in clearing, grading, and excavating activities that disturb one acre or more, including smaller sites

in a larger common plan of development or scale, to obtain coverage under an NPDES permit for their stormwater discharges.

National/State Environmental Policy Act

NEPA requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations such as impacts on surface water/water quality, floodplains, and groundwater are given due weight in the decision making process. SEPA mandates a similar procedure for state and local actions (Ecology 2003).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act, administered by the USFWS, makes it unlawful to take, import, export, possess, sell, purchase, or barter any migratory bird, with the exception of taking of game birds during established hunting seasons. The law also applies to feathers, eggs, nests, and products made from migratory birds. Executive Order 13186, signed by President Bill Clinton effective January 10, 2001, outlines federal agency responsibilities for protecting migratory birds under the Migratory Bird Treaty Act and other statutes. It requires the Federal Highway Administration to enter into a Memorandum of Understanding (MOU) with the USFWS on protecting a wide range of migratory bird species.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, administered by the USFWS, makes it unlawful to take, import, export, sell, purchase, or barter any bald or golden eagle, their parts, products, nests, or egg. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing the eagles. Permits may be issued by the USFWS for scientific or exhibition use, or for traditional and cultural use by Native Americans.

Sustainable Fisheries Act

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery Conservation and Management Act to (1) establish new requirements for Essential Fish Habitat (EFH) descriptions in Federal Fishery Management Plans, and (2) to require federal agencies to consult with NOAA Fisheries on Activities that may adversely affect EFH.

Other Federal Regulations

- Fish and Wildlife Coordination Act (16 USC 661-667 (e))
- Rivers and Harbors Act (33 USC 410)
- Coastal Zone Management Act (15 CFR 923-930)

State Regulations

Washington Department of Fish and Wildlife (RCW Title 77)

WDFW and the Washington Fish and Wildlife Commission are charged with the authority and responsibility of protecting and managing Washington State fish and wildlife resources under Revised Code of Washington (RCW) Title 77. If WDFW determines that a native wildlife species is at risk, the agency director may request the Washington Fish and Wildlife Commission to designate that species as

sensitive, threatened, or endangered (RCW 77.12.020). These species are listed under Washington Administrative Code (WAC) 232-12. Complete regulations governing the listed, delisted, and management of animal species are given in WAC 232-12-297. Primarily for the protection of fish life, WDFW must issue a Hydraulic Project Approval (HPA) for any work below the ordinary high water mark (OHWM) or mean higher high water (MHHW) mark that would use, divert, obstruct, or chance the natural flow or bed of a water of the state.

Washington Department of Natural Resources (RCW 79.70.030)

RCW 79.70.030 authorizes the Washington Department of Natural Resources (WDNR) to establish and maintain a natural heritage program that “shall maintain a classification of natural heritage resources,” which, as defined in RCW 79.70.020, includes special plant species. The Washington Natural Heritage Program (WNHP) assigns endangered, threatened, or sensitive status to plants that face varying risks of extinction. These listings do not provide regulatory protection. Landowners whose property supports a state-listed plant species are encouraged to provide voluntary protection.

Washington State Department of Transportation

The Washington State Department of Transportation (WSDOT) Transportation Commission Policy Catalog contains a specific policy on fish and wildlife protection. Policy 6.3.3 states that: “Efforts will be made to mitigate the potential adverse effects that transportation activities can have on fish and wildlife populations.” WSDOT intends to “protect, restore, and enhance, where feasible, fish and wildlife habitat and populations within transportation corridors.” Action strategies include the following:

- Conduct a study to inventory transportation barriers to fish passage; establish criteria for identifying which barriers pose the most significant environmental harm; prioritize the removal of identified transportation barriers; and seek program funding for fish passage barrier removal
- Identify transportation corridors with significant wildlife losses due to “road kill” or habitat impacts, and develop strategies for reducing wildlife losses within these corridors.
- Improve interagency communications, consultations, and agreements on habitat protection issues.
- Minimize impacts to natural habitats in design, construction, and maintenance activities.

WSDOT is also currently developing a policy that will help minimize the effects of transportation projects on wildlife habitat connectivity. This policy will improve connectivity by rectifying existing problems and incorporating guidance into transportation planning, project development, and operation of the transportation system.

Other State Regulations

- Washington State Department of Ecology (Ecology) SEPA Review
- Shoreline Management Act
- Water Quality Standards (WAC 173-201A)
- Federal Clean Water Act implementation
 - Section 401 Certification
 - Section 402 NPDES Program

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Appendix C – USFWS and NOAA Fisheries Species Lists

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Washington Fish and Wildlife Office
510 DESMOND DRIVE SE, SUITE 102
LACEY, WA 98503
PHONE: (360)753-9440 FAX: (360)753-9405
URL: www.fws.gov/wafwo/

Consultation Code: 01EWF00-2016-SLI-0422

February 09, 2016

Event Code: 01EWF00-2016-E-00344

Project Name: Confluence Park Pedestrian Bridge

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website:

<http://wdfw.wa.gov/mapping/phs/> or at our office website:

http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <http://www.fws.gov/pacific/eagle/for> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Confluence Park Pedestrian Bridge

Official Species List

Provided by:

Washington Fish and Wildlife Office
510 DESMOND DRIVE SE, SUITE 102
LACEY, WA 98503
(360) 753-9440
<http://www.fws.gov/wafwo/>

Consultation Code: 01EWF00-2016-SLI-0422

Event Code: 01EWF00-2016-E-00344

Project Type: RECREATION CONSTRUCTION / MAINTENANCE

Project Name: Confluence Park Pedestrian Bridge

Project Description: Construct pedestrian bridge over Issaquah Creek along with other park improvements including parking lot, trails, and playground.

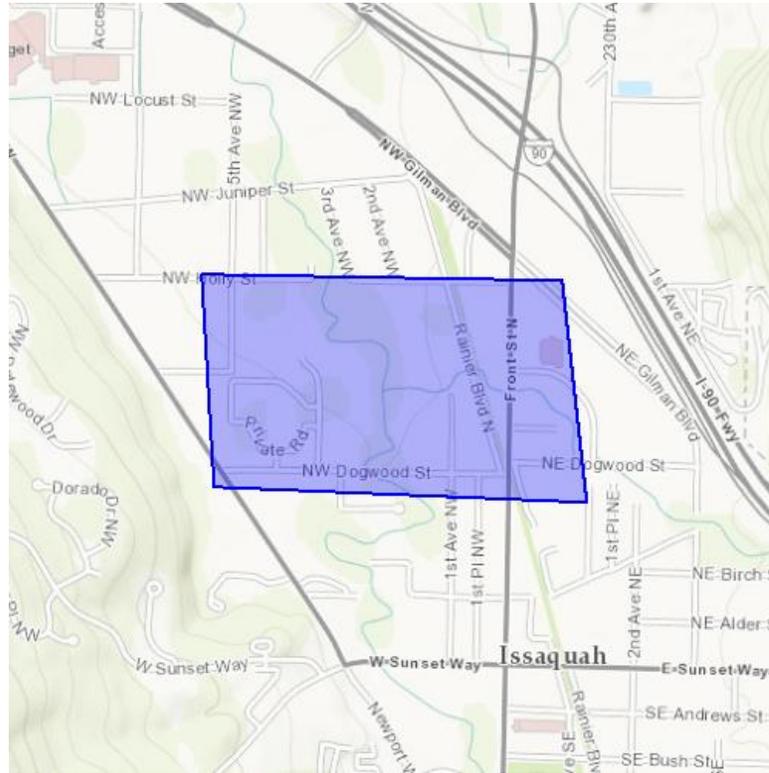
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: Confluence Park Pedestrian Bridge

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-122.04514503479002 47.537601245618134, -122.03493118286133 47.53748535582804, -122.03424453735352 47.53325520318934, -122.04480171203613 47.53354495055771, -122.04514503479002 47.537601245618134)))

Project Counties: King, WA



United States Department of Interior
Fish and Wildlife Service

Project name: Confluence Park Pedestrian Bridge

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Marbled murrelet (<i>Brachyramphus marmoratus</i>) Population: CA, OR, WA	Threatened	Final designated	
Streaked Horned lark (<i>Eremophila alpestris strigata</i>)	Threatened	Final designated	
Yellow-Billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS	Threatened	Proposed	
Fishes			
Bull Trout (<i>Salvelinus confluentus</i>) Population: U.S.A., conterminous, lower 48 states	Threatened	Final designated	
Flowering Plants			
Golden Paintbrush (<i>Castilleja levisecta</i>)	Threatened		
Mammals			
Canada Lynx (<i>Lynx canadensis</i>) Population: Contiguous U.S. DPS	Threatened	Final designated	



United States Department of Interior
Fish and Wildlife Service

Project name: Confluence Park Pedestrian Bridge

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Status of ESA Listings & Critical Habitat Designations for West Coast Salmon & Steelhead

PUGET SOUND DOMAIN

- Puget Sound Chinook (T) [FCH 9/2/05]
- Hood Canal Summer Chum (T) [FCH 9/2/05]
- Ozette Lake Sockeye (T) [FCH 9/2/05]
- Puget Sound Steelhead (T) [CH under dev.; ANPR 1/10/11]

WILLAMETTE/LOWER COLUMBIA DOMAIN

- Columbia River Chum (T) [FCH 9/2/05]
- Lower Columbia River Coho (T) [CH Under dev.; ANPR 1/10/11]
- Lower Columbia River Chinook (T) [FCH 9/2/05]
- Lower Columbia River Steelhead (T) [FCH 9/2/05]
- Upper Willamette River Chinook (T) [FCH 9/2/05]
- Upper Willamette River Steelhead (T) [FCH 9/2/05]

OREGON COAST DOMAIN

- Oregon Coast Coho (T) [FCH 2/11/08]

SOUTHERN OREGON/NORTHERN CALIFORNIA COAST DOMAIN

- Southern Oregon/Northern California Coast Coho (T) [FCH 5/5/99]

NORTH-CENTRAL CALIFORNIA COAST DOMAIN

- Central California Coast Coho (E) [FCH 5/5/99]
- California Coastal Chinook (T) [FCH 9/2/05]
- Northern California Steelhead (T) [FCH 9/2/05]
- Central California Coast Steelhead (T) [FCH 9/2/05]

SOUTH-CENTRAL/SOUTHERN CALIFORNIA COAST DOMAIN

- South-Central California Coast Steelhead (T) [FCH 9/2/05]
- Southern California Coast Steelhead (E) [FCH 9/2/05]

INTERIOR COLUMBIA DOMAIN

- Snake River Sockeye (E) [FCH 12/28/93]
- Snake River Fall Chinook (T) [FCH 12/28/93]
- Snake River Spring/Summer Chinook (T) [FCH 12/28/93; 10/25/99]
- Snake River Steelhead (T) [FCH 9/2/05]
- Upper Columbia River Spring Chinook (E) [FCH 9/2/05]
- Upper Columbia River Steelhead (T) [FCH 9/2/05]
- Middle Columbia River Steelhead (T) [FCH 9/2/05]

CENTRAL VALLEY DOMAIN

- Sacramento River Winter Chinook (E) [FCH 6/16/93]
- Central Valley Spring Chinook (T) [FCH 9/2/05]
- Central Valley Steelhead (T) [FCH 9/2/05]

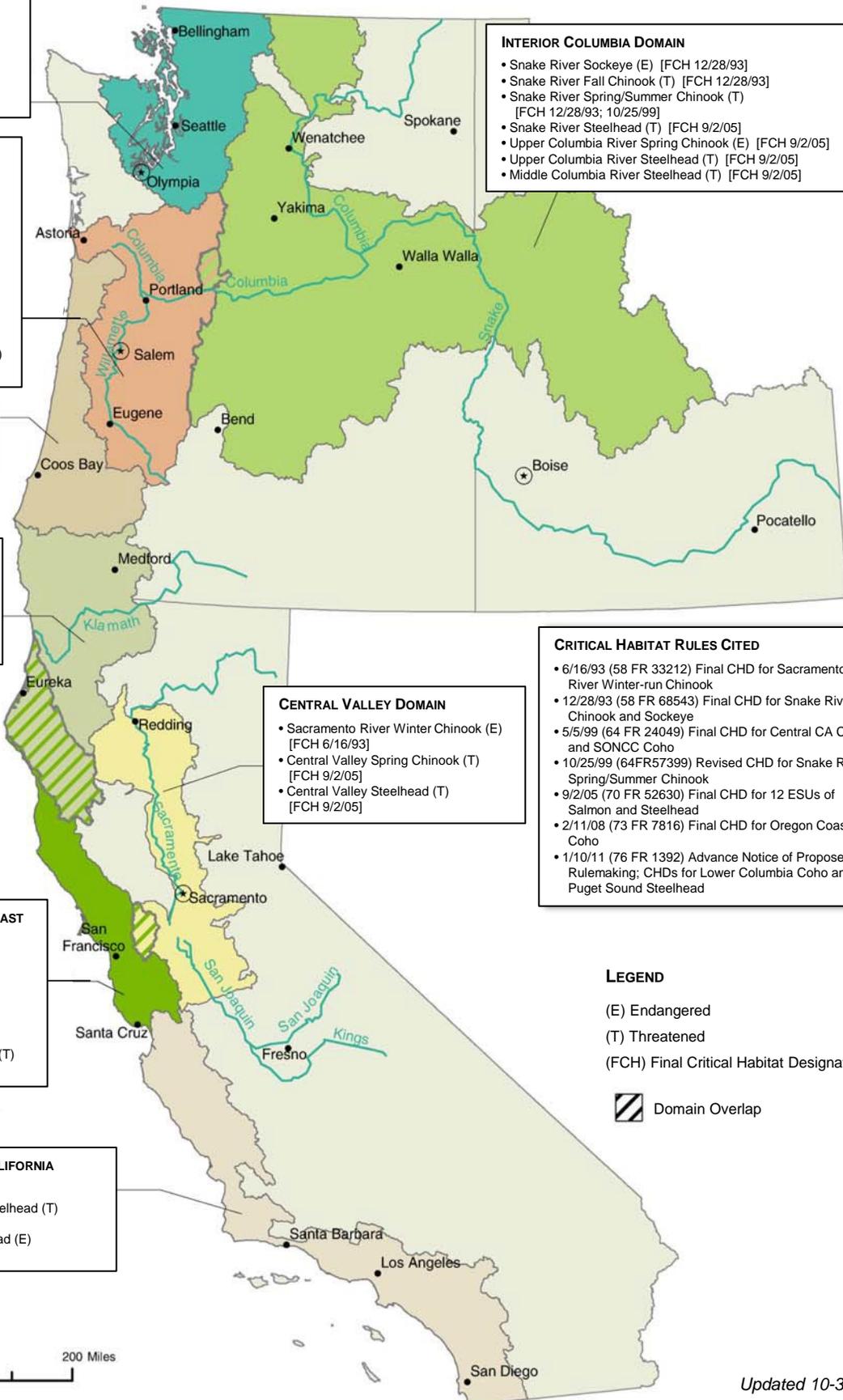
CRITICAL HABITAT RULES CITED

- 6/16/93 (58 FR 33212) Final CHD for Sacramento River Winter-run Chinook
- 12/28/93 (58 FR 68543) Final CHD for Snake River Chinook and Sockeye
- 5/5/99 (64 FR 24049) Final CHD for Central CA Coast and SONCC Coho
- 10/25/99 (64FR57399) Revised CHD for Snake River Spring/Summer Chinook
- 9/2/05 (70 FR 52630) Final CHD for 12 ESUs of Salmon and Steelhead
- 2/11/08 (73 FR 7816) Final CHD for Oregon Coast Coho
- 1/10/11 (76 FR 1392) Advance Notice of Proposed Rulemaking; CHDs for Lower Columbia Coho and Puget Sound Steelhead

LEGEND

- (E) Endangered
- (T) Threatened
- (FCH) Final Critical Habitat Designated

 Domain Overlap



Appendix D – Site Photographs

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PHOTO 1



PHOTO 2

1 View looking at confluence of mainstem and East Fork Issaquah Creek.

2 View looking west at proposed location of pedestrian bridge. Bridge would remove snag where person is standing.

Site Photographs

City of Issaquah Confluence Park Bridge Project – Critical Areas Report

ISSY0000-0003

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Appendix D



DAVID EVANS AND ASSOCIATES INC.



PHOTO 3



PHOTO 4

3 View looking west along proposed alignment of new bridge in winter.

4 View looking downstream at Issaquah Creek and location of new bridge, which would be located behind the tree spanning the creek.

Site Photographs

City of Issaquah Confluence Park Bridge Project – Critical Areas Report

ISSY0000-0003

February 2016

Appendix D



DAVID EVANS AND ASSOCIATES INC.



PHOTO 5



PHOTO 6

- ⑤ View looking at new floodplain bench created as part of Phase II stream improvements.
- ⑥ View looking south near center of park near proposed location of new trails.

Site Photographs

City of Issaquah Confluence Park Bridge Project – Critical Areas Report

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Appendix D



DAVID EVANS AND ASSOCIATES INC.



PHOTO 7



PHOTO 8

7 View looking north along old flood channel of creek with Holly Street in the background. Several trails will cross this area.

8 View from proposed location of viewing platform overlooking confluence.

Site Photographs

City of Issaquah Confluence Park Bridge Project – Critical Areas Report

ISSY0000-0003

February 2016

Appendix D



DAVID EVANS AND ASSOCIATES INC.



PHOTO 9



PHOTO 10

<p>9 View looking upstream near location of western abutment of proposed bridge.</p> <p>10 View looking west at Margaret's Meadow.</p>	<i>Site Photographs</i>		 DAVID EVANS AND ASSOCIATES INC.
	<i>City of Issaquah Confluence Park Bridge Project – Critical Areas Report</i>		
	<i>ISSY0000-0003</i>	<i>Appendix D</i>	
	<i>February 2016</i>		



PHOTO 11



PHOTO 12

11 View looking at large woody debris and channel of Issaquah Creek.

12 View of existing rock play area where new playground will be constructed.

Site Photographs

City of Issaquah Confluence Park Bridge Project – Critical Areas Report

ISSY0000-0003

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Appendix D



Appendix E – Wetland Summary Sheets

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Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 10/15/15
 Rated by C. Road Trained by Ecology? Yes No Date of training _____
 HGM Class used for rating Depositional Wetland has multiple HGM classes? Y N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Figure 1

OVERALL WETLAND CATEGORY II (based on functions ___ or special characteristics ___)

1. Category of wetland based on FUNCTIONS

- _____ Category I – Total score = 23 - 27
- _____ Category II – Total score = 20 - 22
- _____ Category III – Total score = 16 - 19
- _____ Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M L	H M L	H M L	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	2	5	6	18

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number _____

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

NO - go to 2

YES - the wetland class is **Tidal Fringe** - go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO - **Saltwater Tidal Fringe (Estuarine)**

YES - **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3

YES - The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

___ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

___ At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO - go to 4

YES - The wetland class is **Lake Fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

___ The wetland is on a slope (*slope can be very gradual*),

___ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

___ The water leaves the wetland **without being impounded**.

NO - go to 5

YES - The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

___ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

___ The overbank flooding occurs at least once every 2 years.

Wetland name or number _____

NO - go to 6

YES - The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO - go to 7

YES - The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

YES - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS
Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		3
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2		
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0		
Add the points in the boxes above		
12		
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area points = 5		5
Wetland has persistent, ungrazed, plants > 1/2 of area points = 3		
Wetland has persistent, ungrazed plants > 1/10 of area points = 1		
Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. Characteristics of seasonal ponding or inundation:		
<i>This is the area that is ponded for at least 2 months. See description in manual.</i>		
Area seasonally ponded is > 1/2 total area of wetland points = 4		4
Area seasonally ponded is > 1/4 total area of wetland points = 2		
Area seasonally ponded is < 1/4 total area of wetland points = 0		
Total for D 1		

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?

D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	Yes = 1 No = 0	0
Source _____		
Total for D 2		
Add the points in the boxes above		
0		

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?

D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0	2
Total for D 3		
Add the points in the boxes above		
4		

Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = <u>4</u>	4
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	3
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = <u>3</u>	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		
The area of the basin is less than 10 times the area of the unit	points = 5	0
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = <u>0</u>	
Entire wetland is in the Flats class	points = 5	
Total for D 4		7

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 <u>No = 0</u>	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 <u>No = 0</u>	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 <u>No = 0</u>	0
Total for D 5		0

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
• Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	1
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the sub-basin.	points = <u>1</u>	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
	Yes = 2 <u>No = 0</u>	0
Total for D 6		1

Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
 - Emergent 3 structures: points = 2
 - Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
 - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

1

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft². *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

- If you counted: > 19 species points = 2
 5 - 19 species points = 1
 < 5 species points = 0

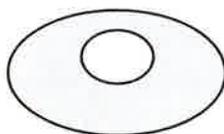
1

H 1.4. Interspersion of habitats

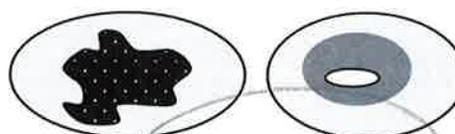
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points

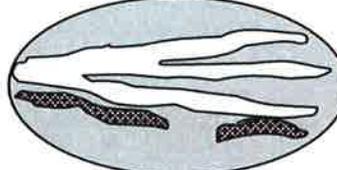
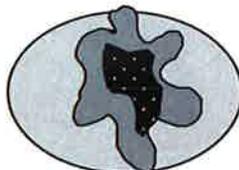
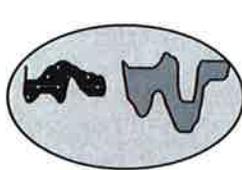


Low = 1 point



Moderate = 2 points

All three diagrams in this row are **HIGH** = 3points



2

Wetland name or number C

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>	1
<p>Total for H 1</p>	7

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L *Record the rating on the first page*

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). <i>Calculate:</i> <u>2</u> % undisturbed habitat 2 + [(% moderate and low intensity land uses)/2] <u>2</u> = <u>4</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon <u>points = 0</u></p>	0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % undisturbed habitat <u>6</u> + [(% moderate and low intensity land uses)/2] <u>2</u> = <u>8</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches <u>36 + 3 + 8 = 47 ac</u> points = 2 Undisturbed habitat 10-50% and > 3 patches <u>776</u> points = 1 Undisturbed habitat < 10% of 1 km Polygon <u>points = 0</u></p>	0
<p>H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2) ≤ 50% of 1 km Polygon is high intensity points = 0</p>	-2
<p>Total for H 2</p>	-2

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M < 1 = L *Record the rating on the first page*

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0</p>	2

Rating of Value If score is: 2 = H 1 = M 0 = L *Record the rating on the first page*

Wetland name or number C

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above).
- ✓ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above).
- ✓ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ✓ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

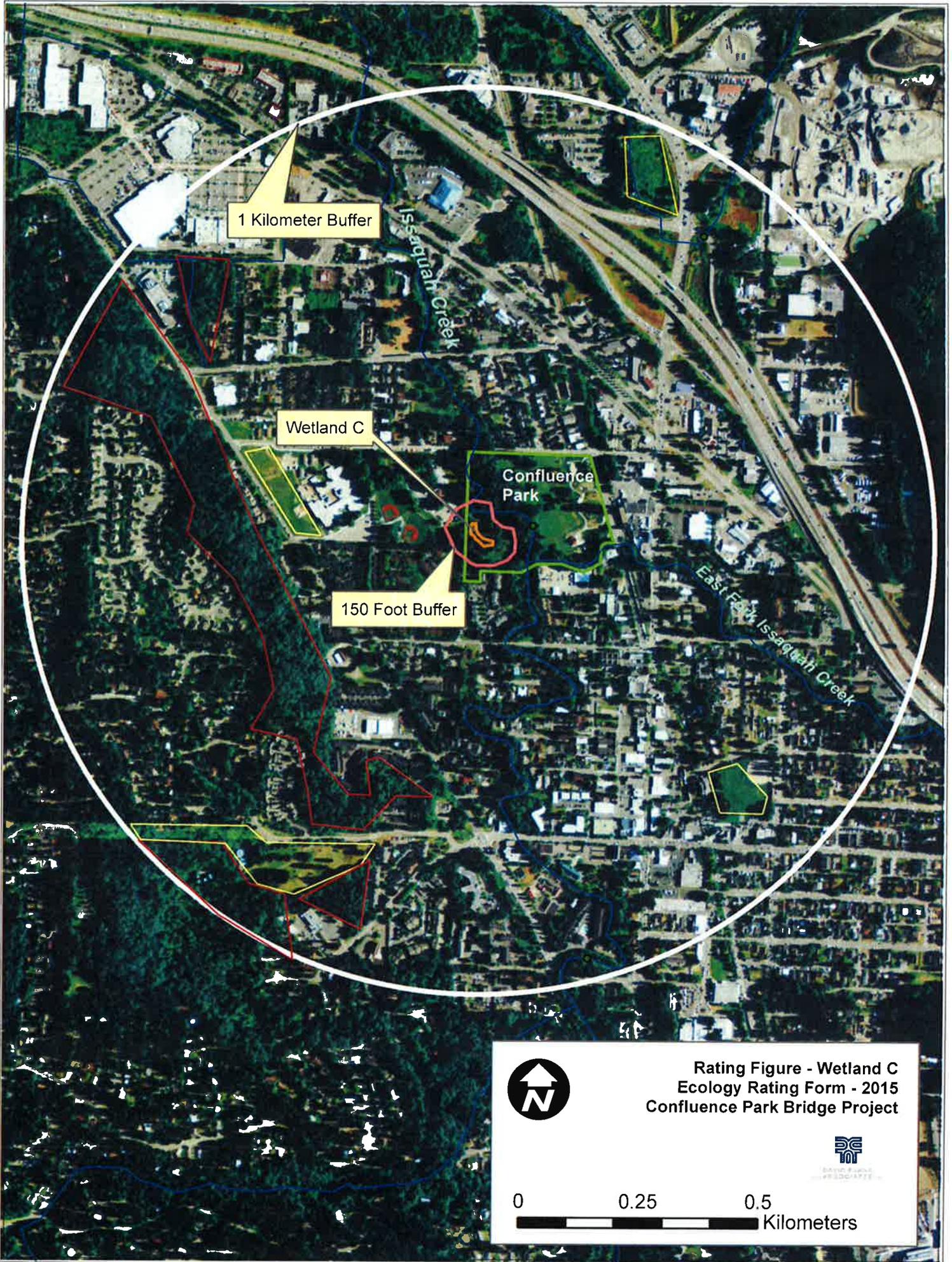
Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt</p> <p style="text-align: right;">Yes – Go to SC 1.1 No = Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = Category I No - Go to SC 1.2</p>	Cat. I
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p> <p style="text-align: right;">Yes = Category I No = Category II</p>	Cat. I Cat. II
<p>SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?</p> <p style="text-align: right;">Yes – Go to SC 2.2 No – Go to SC 2.3 Yes = Category I No = Not a WHCV Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV Yes = Category I No = Not a WHCV</p>	Cat. I
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes – Go to SC 3.3 No – Go to SC 3.2 Yes – Go to SC 3.3 No = Is not a bog Yes = Is a Category I bog No – Go to SC 3.4 Yes = Is a Category I bog No = Is not a bog</p>	Cat. I

Wetland name or number C

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ⅓ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</p> <p style="text-align: right;">Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</p> <p style="text-align: right;">Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?</p> <p style="text-align: right;">Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>NA</p>



1 Kilometer Buffer

Issaquah Creek

Wetland C

Confluence Park

150 Foot Buffer

East Fork Issaquah Creek



Rating Figure - Wetland C
Ecology Rating Form - 2015
Confluence Park Bridge Project



0 0.25 0.5
Kilometers