Seattle Department of Transportation

Willow Creek Fish Passage Restoration Project
Seattle, Washington

SEPA Checklist

April 24, 2023

STATE ENVIRONMENTAL POLICY ACT (SEPA) ENVIRONMENTAL CHECKLIST

A. Background

1. **Name of proposed project, if applicable:**

   Seattle Department of Transportation (SDOT) Willow Creek Fish Passage Restoration Project (the Project)

2. **Name of applicant:**

   SDOT

3. **Address and phone number of applicant and contact person:**

   CJ Holt, Project Manager
   SDOT
   700 5th Avenue Suite 3800
   Seattle, Washington 98104
   206-233-1556

4. **Date checklist prepared:**

   April 24, 2023

5. **Agency requesting checklist:**

   SDOT

6. **Proposed timing or schedule (including phasing, if applicable):**

   Project construction is estimated to occur from March 1, 2024, through December 31, 2024, with the potential to start as early as February 2024 and to finish, with planting within the dormant season, as late as mid-March 2025.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   There are no plans for future additions, expansion, or further activity related to or connected with this proposal.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

The following environmental information has been prepared or will be prepared that is directly related to this proposal;

- *Willow Creek Fish Passage Restoration Project Stream Wetland, and Habitat Assessment Technical Memorandum* (Jacobs Engineering Group Inc., June 2022, prepared for SDOT);
- *Willow Creek Fish Passage Restoration Project Biological Evaluation* (Jacobs Engineering Group Inc., March 2023, prepared for SDOT)
- *Willow Creek Fish Passage Restoration Project Geotechnical Report* (Jacobs Engineering Group Inc., February 2023, prepared for SDOT);
- *Willow Creek Fish Passage Restoration Project Draft Hydrology, Hydraulic, and Geomorphic Analysis Report* (Jacobs Engineering Group Inc., March 2023, based on 90 Percent Design and to be updated prior to construction, prepared for SDOT);
- *Willow Creek Fish Passage Restoration Project Cultural Resources Report* (Jacobs Engineering Group Inc., March 2023, undergoing DAHP review, prepared for SDOT); and
- *Willow Creek Fish Passage Restoration Project Flood Hazard Summary* (Jacobs Engineering Group Inc., pending, being prepared for SDOT)

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No applications are known to be pending for governmental approval of other proposals directly affecting the property covered by the Project.

10. List any government approvals or permits that will be needed for your proposal, if known.

SDOT anticipates that the following government approvals and permits will be needed for the Project:

- National Environmental Policy Act Categorical Exemption
- Clean Water Act Section 401 Water Quality Certification
- Clean Water Act Section 402 National Pollutant Discharge Elimination System Construction Stormwater General Permit
- Clean Water Act Section 404 Permit
- Section 7 Endangered Species Act Consultation
- Section 106 National Historic Preservation Act Consultation
- Coastal Zone Management Act Consistency Determination

- Federal Emergency Management Agency (FEMA) Floodplain Review
- Washington Department of Fish and Wildlife Hydraulic Project Approval Permit
- State Environmental Policy Act Determination
- Seattle Department of Construction and Inspections (SDCI) Construction Permit
- Seattle Parks and Recreation (SPR) Revocable Use Permit

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

In 2021, SDOT completed construction of the Northgate Pedestrian and Bicycle Bridge over I-5 in the Northgate neighborhood of Seattle. The bridge runs over and in the North Watercourse, which is a tributary to the South Branch of Thornton Creek (SB Thornton Creek). The bridge impacted the North Watercourse by decreasing habitat and by retaining the barrier to fish passage by connecting to the City of Seattle's (the City's) storm drainage system along 1st Avenue NE that is not fish passable. In obtaining permits for the bridge, SDOT agreed to mitigate for these impacts by constructing this Project, which is located on Willow Creek and SB Thornton Creek at NE 100th Street near Lake City Way.

This Project will correct a partial fish passage barrier by rerouting Willow Creek so that it bypasses two culverts: one beneath a driveway and one crossing NE 100th Street south to north that is identified as a partial fish passage barrier. To allow Willow Creek to bypass these two culverts, the Project will reconfigure the west end of NE 100th Street as a cul-de-sac located to the east of the west end of the street. The Project will then reroute Willow Creek to flow north between the west end of NE 100th Street and SB Thornton Creek, east along the north side of NE 100th Street's current location, and then north to Willow Creek's confluence with SB Thornton Creek. By eliminating the partial fish passage barrier, the Project will restore upstream fish passage to approximately 3,780 square feet (420 linear feet) of Willow Creek between the Project area and the next upstream fish passage barrier at NE 98th Street. The Project will improve habitat within and adjacent to Willow Creek by replacing streambed material and adding large woody material structures in and adjacent to the creek. The large woody material structures will have about 65 key pieces and 30 other large woody material pieces. The Project will also plant and replace groundcover, shrubs and trees; update stormwater drainage connections in the vicinity of NE 100th Street; and install a pedestrian bridge linking the cul-de-sac to properties northwest of the rerouted Willow Creek that are managed by SPR as part of the LaVilla Meadows Natural Area, thereby maintaining access to that area.

The Project's proposed work limits encompass approximately 35,234 square feet on a combination of three City-owned properties managed by SPR that are part of the LaVilla Meadows Natural Area, City-owned right of way managed by SDOT, and three private properties.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Project is located on and near Willow Creek and SB Thornton Creek at the west end of NE 100th Street, east of Lake City Way NE, and on and near 2500 NE 100th Street. See Figure 1, Project Vicinity Map. The Project will occur largely within City right of way and on three SPR-managed properties that are part of the LaVilla Meadows Natural Area (King County parcel IDs 2568300210, 2568300211, and 2568300220). Some activities, to maintain residential access and utility connections, will occur on three adjacent private properties (King County parcel IDs 1566100005, 1566100010, and 2568300207). See Figure 2, Project Overview Area. The Project is situated in the northeast quarter of Section 33 of Township 26 North, Range 4 East, Willamette Meridian.

B. Environmental Elements

1. Earth

a. General description of the site. Underline or highlight one: <u>Flat</u>, rolling, hilly, <u>steep slopes</u>, mountainous, other:

Ravine with steep slopes and relatively flat uplands.

b. What is the steepest slope on the site (approximate percent slope)?

Greater than 40 percent.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The Natural Resources Conservation Service Web Soil Survey and field observations document sandy loam soils on the site. At two Project geotechnical borings[1] in the right-of-way, soil layers alternated between silty sand and sandy silt with gravel in the upper 8.5 feet.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

A slide occurred in 1997 approximately 118 feet west of the Project (SDCI geographic information system (GIS) map). There are steep slopes associated with the Willow Creek and SB Thornton Creek banks. There are also liquefaction areas along NE 100th Street and east of the Project site. See Figure 3, Existing Geologic Environmentally Critical Areas.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Overall, the Project will temporarily and permanently fill, excavate, and grade surface water areas and uplands. The entirety of the Willow Creek channel and a small portion of the SB Thornton Creek channel within the Project footprint will be regraded, with Project construction impacting a total of about 430 linear feet of stream channel. Of this 430 linear feet, about 285 linear feet (about 2,989 square feet) are currently open stream channel through which the two creeks flow, about 63 linear feet (about 290 square feet) are currently ditches through which Willow Creek flows, and about 82 linear feet are currently within two culverts through which Willow Creek flows. All 285 linear feet of existing open stream channel and 63 linear feet of existing ditches will be regraded or otherwise modified as part of relocating Willow Creek. Some parts will remain stream channel, while other parts will be converted to other habitat types or, in the case of the ditches, fully separated from the relocated creek and converted to part of the revised stormwater drainage system. Other Project temporary and permanent construction filling, excavation, and grading activities will occur during creation and removal of the Willow Creek and SB Thornton Creek stream bypass, relocation of the west end of NE 100th Street, revision of the stormwater drainage system, construction of block retaining walls supporting the cul-de-sac and the driveway extending from the cul-de-sac to two residences, and construction of the pedestrian bridge. Overall, the Project will excavate approximately 3,800 cubic yards of soil and place approximately 2,000 cubic yards of fill across the 35,234 square foot Project footprint. These volumes include soil that will be removed or placed multiple times for the construction of different Project components because the Project will reuse excavated soil for fill where needed and suitable. Where excavated soil is not available

[1] Jacobs Engineering Group Inc. 2023. *Willow Creek Fish Passage Restoration Project Geotechnical Report*. 2023. Prepared on behalf of SDOT.

or suitable for fill, the selected contractor will obtain fill materials from SDOT-approved quarries and facilities.

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

Erosion could occur because of clearing and construction because steep slopes and a liquefaction zone occur in the area. See Figure 3. The risk of post-construction erosion will be equivalent to or less than pre-construction erosion. See B.1.h., below.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

About 14 percent of the Project site is currently covered with pollutant-generating impervious surfaces (PGIS), with no other impervious surfaces. Post-construction, about 16 percent of the Project site will be covered with PGIS from the revisions to NE 100th Street. Post-construction, another 4 percent of the Project site will be covered with non-PGIS, mostly from the pedestrian bridge foundations and the block walls lining the north and west edge of the revised NE 100th Street.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

During construction, temporary erosion-control blankets, mulch, or other industry-approved standard and applicable best management practices (BMPs) will be used to minimize erosion.

The Project was designed to reduce and control potential erosion that could result from Project operations. This included a geotechnical review of the design and incorporation of geotechnical engineer recommendations, like providing a small section of bank stabilization and a buried concave clay and geotextile layer along a small section of the rerouted Willow Creek to protect the existing maintenance hole and prevent creek bed erosion. It also included changing the pedestrian bridge foundations from steel pipe pile supports to slab foundations. Post-construction, erosion will be controlled through vegetation of all areas that are not active stream channel or built structures. See Figure 4, Proposed Geologic Environmentally Critical Areas.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Air emissions during Project construction are restricted to emissions from heavy machinery and passenger truck exhaust. Only a minimal amount of construction dust emissions is expected due to

implementation of applicable BMPs. No change to existing emissions is anticipated after the Project is complete.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-site sources of emissions or odor that may affect the Project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

BMPs, such as minimizing vehicle idling time, will reduce or control emissions.

3. Water

a. Surface Water:

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Willow Creek, a fish-bearing perennial stream, flows through the Project site and connects to SB Thornton Creek, also a fish-bearing perennial stream. A wetland is approximately 78 feet upstream of the Project.

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Construction will occur over, in, and adjacent to Willow Creek and SB Thornton Creek. See Appendix A, Updated Construction Set, between 60 and 90 Percent Design, for construction plans. If Appendix A is not attached to this copy of the SEPA Checklist, the construction plans may be found in the Project Library section of the Project website, given below, or obtained by contacting the applicant and contact person identified in A.3., above.

https://www.seattle.gov/transportation/projects-and-programs/programs/bridges-stairs-and-other-structures/bridges/northgate-pedestrian-and-bicycle-bridge/willow-creek-fish-passage-restoration-project

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

As is stated in Earth Elements Section B.1.e., above, the entirety of the Willow Creek stream channel and a small portion of the SB Thornton Creek stream channel within the Project area will

be regraded. Project-wide, the estimated amount of proposed fill, excavation and grading is presented in Section B.1.e. Post-construction, no built structures will overlap with the relocated and regraded Willow Creek stream channel or the regraded SB Thornton Creek stream channel. Excavated materials will be reused onsite if needed and suitable. All other fill will be imported from SDOT-approved facilities.

4. **Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

   A temporary gravity stream bypass will divert Willow Creek into SB Thornton Creek, diverting water from the most upstream part of Willow Creek to its confluence with SB Thornton Creek. The temporary bypass would be about 210 feet long and 24 inches in diameter. It would discharge to SB Thornton Creek about 250 linear feet upstream from the Willow Creek confluence.

5. **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

   The FEMA 100-year floodplain generally follows Willow Creek and SB Thornton Creek and connects the two creeks west of NE 100th Street. See Figure 5, Existing Aquatic and Habitat Environmentally Critical Areas and Figure 6, Proposed Aquatic and Habitat Environmentally Critical Areas.

6. **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

   The proposed is not expected to involve any discharges of waste materials to surface waters; however, temporary flushes of turbidity may occur during fish salvage and temporary bypass activities.

b. Ground Water:

1. **Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

   No groundwater will be withdrawn from a well. Groundwater may be encountered and withdrawn during temporary stream dewatering and excavation activities. The exact quantity to be withdrawn is unknown. All groundwater will be discharged in accordance with Project permits.

2. **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste material is expected to be discharged into the ground from septic tanks or other sources.

c. Water Runoff (including stormwater):

1. **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

   During Project construction, SDOT's contractor will install and maintain BMPs to intercept water runoff from the Project site before it flows into Willow Creek or SB Thornton Creek. The Project will install a curb and gutter system that will guide storm water runoff to a new set of drainage pipes and treatment devices. Specifically, the curb and gutter system will help the create a vegetated stormwater swale where the current ditched portion of Willow Creek flows, which will collect stormwater flows from adjacent parcels before draining to connecting pipes beneath the reconfigured NE 100th Street. The curb and gutter system will also lead stormwater to catch basins on the south and north sides of the reconfigured NE 100th Street. These catch basins will drain to the connecting pipes beneath the reconfigured NE 100th Street. These pipes will then drain north to proprietary water quality treatment devices before draining to vegetated riparian areas north of NE 100th Street and then into the rerouted Willow Creek. While most of these improvements will be outside of the future 100-year floodplain, a small portion of the two dissipation pads associated with the connecting pipes discharging to vegetated riparian areas will overlap with the future 100-year floodplain.

2. **Could waste materials enter ground or surface waters? If so, generally describe.**

   Construction equipment spills may occur, though appropriate BMPs will be in place to avoid and minimize spills entering groundwater or surface waters.

3. **Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

   The proposal will alter water runoff patterns in the vicinity of the site. Because the NE 100th Street revision will increase on-site PGIS, the Project will provide runoff treatment based on the City's Stormwater Manual. Specifically, as is described in B.3.c.1., above, the Project will add a curb and gutter system to help convert the ditched portion of Willow Creek into a stormwater swale after it is separated from the relocated Willow Creek stream channel. The Project will also direct stormwater discharge from the roadway to catch basins that lead to proprietary water quality treatment devices that discharge stormwater to vegetated riparian areas.

4. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.

During Project construction, water quality BMPs will be followed to minimize runoff water impacts and to comply with Washington Administrative Code 173-201A – Water Quality Standards for Surface Waters of the State of Washington.

4. Plants

a. Check the types of vegetation found on the site:

- ☒ **deciduous tree: alder, maple, aspen, other**
- ☒ **evergreen tree: fir, cedar, pine, other**
- ☒ **shrubs**
- ☐ **grass**
- ☐ **pasture**
- ☐ **crop or grain**
- ☐ **orchards, vineyards, or other permanent crops.**
- ☐ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**
- ☐ **water plants: water lily, eelgrass, milfoil, other**
- ☐ **other types of vegetation**

b. What kind and amount of vegetation will be removed or altered?

Approximately 26,985 square feet of riparian vegetation and landscaped areas consisting of ground covers, shrubs, and trees will be removed or altered for the Project for a combination of access, staging, and grading proposed for the Project. Approximately 47 trees will be removed, roughly 8 of which have been marked as dead.

c. List threatened and endangered species known to be on or near the site.

No threatened or endangered plant species are known to be on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

Tree protection fencing will be constructed to protect trees marked for preservation during Project construction. As part of Project construction, approximately 27,575 square feet of the Project site will be replanted with native, riparian vegetation. The roughly 39 live trees removed for Project construction will be replaced at a 3:1 ratio, resulting in about 117 replacement trees being planted.

e. List all noxious weeds and invasive species known to be on or near the site.

Invasive vegetation species known to be present include creeping buttercup (*Ranunculus repens*), holly (*Ilex aquifolium*), English Ivy (*Hedera helix*), and cherry laurel (*Prunus laurocerasus*).

5. Animals

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.
Examples include:

- **Birds: hawk, heron, eagle, songbirds, other:**
- **Mammals: deer, bear, elk, beaver, other:**
- **Fish: bass, salmon, trout, herring, shellfish, other:**

Birds: Songbirds
Mammals: None observed, though beaver are known to be nearby.
Fish: Chinook salmon, steelhead trout, bull trout, coho salmon, rainbow trout, cutthroat trout; accessible for sockeye

b. List any threatened and endangered species known to be on or near the site.

The Coastal-Puget Sound Distinct Population Segment (DPS) Bull Trout, Puget Sound Evolutionarily Significant Unit Chinook salmon, and Puget Sound DPS steelhead trout are within or near the site. Marbled murrelet are unlikely to be present, but could fly over the Project.

c. Is the site part of a migration route? If so, explain.

Marbled murrelet may fly overhead from foraging to nesting sites. The Project is also within the Pacific Flyway, a bird migration route. SB Thornton Creek and Willow Creek are both fish migration routes.

d. Proposed measures to preserve or enhance wildlife, if any.

As part of pre-construction permitting, the Project will undergo an Endangered Species Act review satisfying the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries), which will issue mitigation measures that the Project will comply with during Project construction. This will ensure no significant impacts occur to threatened and endangered species known to be on or near the Project site.

During construction, the Project will also preserve wildlife as much as possible by protecting mature trees where possible and limiting clearing to the minimum necessary to complete the work. In-water work will also be restricted to the U.S. Army Corps of Engineers and Washington Department of Fish and Wildlife approved in-water work window, and fish salvage activities will

follow the methodologies in the most up-to-date Washington State Department of Transportation and U.S. Fish and Wildlife Service protocols.

Post construction, the Project is expected to enhance wildlife. The primary purpose of the Project is to restore fish passage, which will enhance post-construction aquatic wildlife use. Improving the riparian areas will also likely enhance opportunities for other wildlife. For example, birds may find better habitat in terms of places to forage or hide from predators.

e. List any invasive animal species known to be on or near the site.

One of the primary invasive species of concern is the New Zealand mud snail, known to be present along Thornton Creek by Matthews Beach. Other species of concern[2] in the Lake Washington basin with potential to migrate into the Thornton Creek basin include the following:

- African clawed frogs – not yet documented along Thornton Creek, but known to be present in the City of Bothell
- American bull frog – common throughout the lowlands of Washington
- Invasive crayfish – widespread in the Sammamish River basin, but not yet documented along Thornton Creek
- Nutria – known to be present in Lake Washington and Seattle's waterways[3]

6. Energy and Natural Resources

1. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The completed Project is not anticipated to have substantial energy needs or to need energy in much greater amounts than the Project site currently needs. The energy needs of the completed Project are anticipated to be slightly larger than the current Project site's energy needs because of the plant maintenance work needed during the plant establishment period. Energy that is anticipated to be needed will be in the form of fuel for vehicles and equipment used for maintenance of the Project site itself and for maintenance of the Project's new and replacement plants.

[2] Washington Invasive Species Council. 2023. Priority Species webpage. https://invasivespecies.wa.gov/find-a-priority-species/?_sft_priority-specie-type=invasive-animals. Accessed March 30, 2023.
[3] City of Seattle. 2010. Shoreline Characterization Report. https://www.seattle.gov/documents/Departments/SDCI/Vault/ShorelineMasterProgram/ShorelineCharacterizationReport.pdf. Accessed March 30, 2023.

2. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

   The Project will not affect the potential use of solar energy by adjacent properties. The Project area is currently largely forested and shady and is anticipated to return to that condition once the replanted vegetation matures.

3. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.**

   Because the completed Project is not anticipated to have substantial energy needs, energy to maintain the Project site after Project construction is expected to be comparatively small. Gasoline and diesel fuel will be used by equipment, trucks and heavy machinery during Project construction and by equipment and lighter weight vehicles after Project construction. Generally, trucks and heavy machinery will not idle longer than necessary in order to conserve fuel.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

During construction, it is possible that there could be spills from equipment (either fueling or leaks). Possible spills will be identified in the Project spill prevention, control, and countermeasure plan, which will be developed by SDOT's selected contractor prior to the start of construction.

During operation, it is also possible for there to be fuel spills from SPR vehicles, but it is assumed that SPR has its own protocols for spill containment.

1. **Describe any known or possible contamination at the site from present or past uses.**

   There is no known contamination onsite based on review of the Washington State Department of Ecology's known clean-up sites and underground storage tank locations.[4]

2. **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

   There are no underground liquid or gas transmission pipelines known to cross the Project location or in its vicinity. There are several subsurface sewer crossings, as well as residential natural gas mains. These will be protected in place during construction.

[4] Washington State Department of Ecology. n.d. "What's in my neighborhood" web application. https://apps.ecology.wa.gov/neighborhood/?lat=47.500000&lon=-121.000000&zoom=7&radius=true&searchDistance=1&searchUnit=mile. Accessed March 30, 2023.

3. **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

   During Project construction, use and fueling of construction vehicles could lead to spills or leaks on or off paved surfaces or offsite. SDOT's contractor will be required to prepare a spill prevention, control, and countermeasure plan that will undergo SDOT approval prior to the start of construction. The bridge abutments and the NE 100th Street curb and gutter construction also require concrete pouring, but this will occur during the dry season with BMPs in place to minimize risk of spillage to the natural environment. No other hazardous materials will be stored, used, or produced during the Project's construction.

   After Project construction SPR will likely use equipment and smaller vehicle vehicles during maintenance activities (such as trash clean-up or mulch delivery); it is assumed SPR will follow its best management practices for these activities.

4. **Describe special emergency services that might be required.**

   No special emergency services are anticipated.

5. **Proposed measures to reduce or control environmental health hazards, if any.**

   Construction equipment will be checked for leaks. A spill kit with oil-absorbent materials will be onsite in the event of a spill. Fueling will take place offsite or cordoned off on existing hard surfaces or on surfaces protected from spills. Concrete pouring will also be restricted and managed in a way to prevent spillage or leaching while the concrete cures.

b. Noise

1. **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

   No existing noise in the area will affect the Project.

2. **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?**

   Only short-term construction noise would be created. Construction noise would be made by operation of passenger trucks and heavy equipment. Should nighttime construction be needed to stay on schedule, SDOT's contractor will be required to obtain a noise variance permit. After

Project construction, during Project operation, the Project is not anticipated to create noise above existing levels.

3. **Proposed measures to reduce or control noise impacts, if any.**

Construction noise is anticipated to occur only during daytime hours and will meet the restrictions of City regulations. Should nighttime construction be needed to stay on schedule, SDOT's contractor will be required to obtain and comply with a noise variance permit.

8. Land and Shoreline Use

a. **What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.**

The SPR parcels are used for passive recreation. The right of way is either developed as road way or is undeveloped and in a natural state. Adjacent properties are primarily single-family residences.

b. **Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

Per the Project Cultural Resources Report, the site has not been used for agriculture.

1. **Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

This Project does not occur in working farm or forest land. Pesticides may be applied as part of restoration management, but any use would need to be preapproved by SDOT or SPR and comply with state regulations, since the Project contains sensitive aquatic habitat.

c. **Describe any structures on the site.**

The structures on the site consist of utilities (sanitary sewer, water, and natural gas mains, as well as overhead power lines). Remnant construction debris has been observed adjacent to and in the section of Willow Creek immediately downstream of the NE 100th Street culvert crossing. This debris is left over from a residence that occupied one of the properties when SPR acquired it.

d. **Will any structures be demolished? If so, what?**

The remnant concrete construction debris will be removed. The existing retaining wall along Willow Creek just upstream of the private driveway crossing also be dismantled and removed as

part of the Willow Creek relocation. NE 100th Street and residential driveways will be demolished and rebuilt.

e. What is the current zoning classification of the site?

Per the SDCI GIS Interactive Mapper, the current zoning classification is Neighborhood Residential 2.

f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation is Neighborhood Residential Area.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable; the site is not within a shoreline environment.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

All of the Project site has been classified as being one or more "environmentally critical areas." See Figures 3 and 5. These areas consist of the following:

- The buffer of the potential wetland upstream of the Project area
- The riparian management area associated with Willow Creek and SB Thornton Creek
- Frequently flooded areas, in the form of Zone A and Zone AE floodplains mapped by FEMA
- Steep slopes, based on the Project team's analysis of a topographic survey
- Seismic hazard area, currently mapped by SDCI and extended based on a combination of the roadway borings completed for the Project and the professional judgement of the Project's geotechnical engineers.

i. Approximately how many people would reside or work in the completed project?

No people will reside in the completed Project. No people will work full time in the completed Project. SPR staff are anticipated to work occasionally in the completed Project.

j. Approximately how many people would the completed project displace?

The completed Project will not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any.

Not applicable; no people will be displaced.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

The proposal is compatible with existing and projected land uses and plans in that the City-owned LaVilla Meadows Natural Area will remain a City-owned park providing passive recreation and the rebuilt NE 100th Street and residential driveways will satisfy the residential zoning code.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any.

Not applicable; there are no agricultural or forest lands of long-term commercial significance overlapping with the Project area.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated.

c. Proposed measures to reduce or control housing impacts, if any.

Not applicable; no housing impacts are anticipated.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest height of any proposed structure is the height of the pedestrian bridge, which is 3.5 feet. The principal exterior building materials proposed for the pedestrian bridge are a fiber-reinforced polymer composite superstructure, boardwalk deck, and concrete support structure. The rebuilt NE 100th Street, driveways, and cul-de-sac will generally match the grade of the currently existing NE 100th Street.

b. What views in the immediate vicinity would be altered or obstructed?

Views in the immediate vicinity will temporarily lack the canopy of trees that need to be removed during Project construction; these altered views will gradually revert to having tree canopy as plant establishment progresses.

c. Proposed measures to reduce or control aesthetic impacts, if any.

There are no proposed measures to reduce or control aesthetic impacts.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

During Project construction, light or glare would only be produced from lights used should nighttime construction be needed to stay on schedule. After construction, the Project will produce no light or glare.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

The finished Project will create no light or glare; accordingly, light or glare from the finished Project will not be a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

No existing off-site sources of light or glare may affect the Project.

d. Proposed measures to reduce or control light and glare impacts, if any.

Lights used during any nighttime construction would be adjusted and shielded to prevent nuisance glare to surrounding land uses.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Recreational opportunities in the immediate vicinity consist of one to several informal dirt paths through the SPR parcels (the LaVilla Meadows Natural Area) that are used by the public.

b. Would the proposed project displace any existing recreational uses? If so, describe.

During Project construction, the general public will temporarily be restricted from accessing the SPR-managed properties (the LaVilla Meadows Natural Area). Post construction, this access for recreational uses will be restored.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

The Project will provide a pedestrian bridge to maintain access and connect the NE 100th Street cul-de-sac to the SPR-managed parcels.

13. Historic and Cultural Preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

There are no places or objects on or next to the site listed on or proposed for national, state, or local preservation registers.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The Project's cultural team[5] reviewed the Project's area of potential effects (APE) to determine if any cultural artifacts were likely to be encountered as a result of Project activities, or if qualifying historic properties were present and could be adversely impacted. The former dairy, LaVilla Dairy, was approximately 550 feet northwest of the APE and its building still stands.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The Project's cultural team conducted a desktop review and field investigations and prepared a report of its findings.[5] This report is currently undergoing review by the Washington State Department of Archaeology and Historic Preservation as part of National Historic Preservation Act Section 106 review.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

The Project's cultural team did not identify archaeological resources within the Project APE. They also evaluated seven built environment resources identified as being of historic age but did not recommend them as eligible for listing. These findings will be confirmed as part of the National Historic Preservation Act Section 106 review. While not anticipated, if the Project's cultural team's recommendations are not concurred with, the Project's cultural team will ensure that the review is completed satisfactorily prior to the start of Project construction. A Project-specific Inadvertent Discovery Plan establishing discovery protocols will be developed for implementation during Project construction.

[5] Jacobs Engineering Group Inc. 2023. *Willow Creek Fish Passage Restoration Project Cultural Resources Report*. Prepared for SDOT.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

NE 100th Street ends within the Project site east to west and is not considered an arterial. NE 100th Street connects to Ravenna Avenue NE east of the Project site. See Figure 1, Vicinity Map.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

The site is not currently served by public transit. The approximate distance to the nearest transit stop (north of Lake City Way NE and NE 98th Street) is 0.3 mile.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Currently, there are two onsite parking spaces and zero offsite and accessible bicycle parking spots. The Project will improve NE 100th Street by shifting the roadway east and adding a cul-de-sac with one parking spot reserved for SPR maintenance vehicles. Residential driveways will be revised to connect to the cul-de-sac. Two existing parking spots will be removed, but, during their review, SDCI land use determined that this loss was not significant. No new bike facilities are currently proposed.

d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The Project will not occur in the immediate vicinity of water, rail, or air transportation.

e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

No additional vehicular trips will be generated by the completed Project.

f. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

This proposal will not affect the movement of agricultural or forest products, as the Project will not affect major commercial roadways or arterials.

g. Proposed measures to reduce or control transportation impacts, if any.

There are no proposed measures to reduce or control transportation impacts because no major transportation impacts are anticipated. SDOT's contractor will be required to maintain access for residences along the affected portion of NE 100th Street during Project construction.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The Project will not result in an increased need for public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

There are no proposed measures to reduce or control direct impacts on public services.

16. Utilities

a. Underline utilities currently available at the site: <u>electricity</u>, <u>natural gas</u>, <u>water</u>, <u>refuse service</u>, <u>telephone</u>, <u>sanitary sewer</u>, septic system, other:

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Existing utilities can be used for Project construction. Relocation of Willow Creek and creation of the cul-de-sac will occur in the immediate vicinity of utilities. Some utilities will be rerouted. No new utilities are proposed.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Katherine Chesick Digitally signed by Katherine Chesick Date: 2023.04.24 17:25:58 -07'00'

Date Submitted: April 24, 2023

Attachments:

Figure 1 – Vicinity Map
Figure 2 – Project Overview Area
Figure 3 – Existing Geologic Environmentally Critical Areas

Figure 4 – Proposed Geologic Environmentally Critical Areas
Figure 5 – Existing Aquatic and Habitat Environmentally Critical Areas
Figure 6 – Proposed Aquatic and Habitat Environmentally Critical Areas

Appendix A: Updated Construction Set, between 60 and 90 Percent Design

Figure 1. Vicinity Map

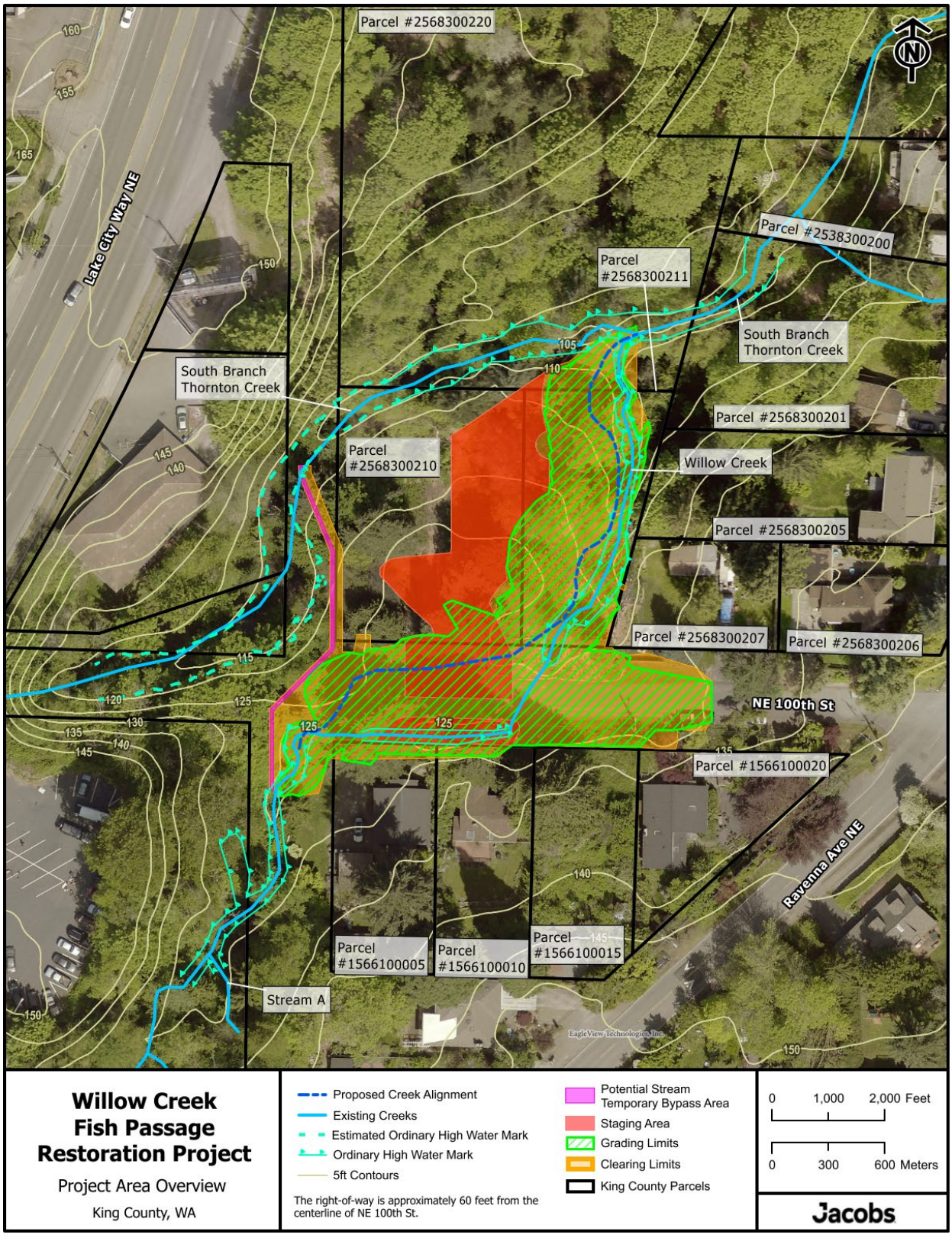


Figure 2. Project Overview Area

LEGEND

- PROPOSED WORK LIMITS
- EXISTING ORDINARY HIGH WATER MARK
- ESTIMATED ORDINARY HIGH WATER MARK
- STEEP SLOPES (EROSION HAZARD AREA, APPROX.)
- STEEP SLOPE BUFFER
- LIQUEFACTION AREA (SEISMIC HAZARD AREA, APPROX.)

N

60 30 0 60 120

SCALE IN FEET

LAKE CITY WAY NE

RAVENNA AVE NE

NE 100TH ST

12 256830-0220

11 253830-0200

10 256830-0201

9 256830-0205

8 256830-0206

7 256830-0207

6 256830-0211

5 256830-0210

1 156610-0005

2 156610-0010

3 156610-0015

4 156610-0020

SOUTH BRANCH THORNTON CREEK

EXISTING ORDINARY HIGH WATER MARK

ESTIMATED ORDINARY HIGH WATER MARK

EXISTING WILLOW CREEK

STEEP SLOPE BUFFER

STEEP SLOPES

RIGHT-OF-WAY

LAKE CITY WAY CULVERT CROSSING OUTLET (APPROX.)

NOTES:

THE OHWM IS DELINEATED WITHIN PROPOSED WORK LIMITS AND ESTIMATED OUTSIDE OF THE PROPOSED WORK LIMITS.

NO OTHER ENVIRONMENTALLY CRITICAL AREAS ARE KNOWN TO BE PRESENT.

WILLOW CREEK FISH PASSAGE RESTORATION PROJECT

PRELIMINARY CRITICAL AREAS SITE PLAN
EXISTING TREES AND GEOLOGIC HAZARDS

PREPARED FOR THE SEATTLE DEPARTMENT OF TRANSPORTATION

JACOBS

Figure 3: Existing Geologic Environmentally Critical Areas

PLOT DATE:3/14/2023 PLOT TIME:12:56 PM

LEGEND

- PROPOSED STREAM RELOCATION
- PROPOSED WORK LIMITS
- EXISTING ORDINARY HIGH WATER MARK (OHWM)
- ESTIMATED ORDINARY HIGH WATER MARK (OHWM)
- STEEP SLOPES (EROSION HAZARD AREA, APPROX.)
- STEEP SLOPE BUFFER
- LIQUEFACTION AREA (SEISMIC HAZARD AREA, APPROX.)

N

60 30 0 60 120

SCALE IN FEET

LAKE CITY WAY NE

RAVENNA AVE NE

NE 100TH ST

12 256830-0220

11 253830-0200

10 256830-0201

9 256830-0205

8 256830-0206

7 256830-0207

6 256830-0211

5 256830-0210

1 156610-0005

2 156610-0010

3 156610-0015

4 156610-0020

SOUTH BRANCH THORNTON CREEK

EXISTING ORDINARY HIGH WATER MARK

ESTIMATED ORDINARY HIGH WATER MARK

PROPOSED WILLOW CREEK

EXISTING WILLOW CREEK

PROPOSED PEDESTRIAN BRIDGE

STEEP SLOPE BUFFER

STEEP SLOPES

PROPOSED RETAINING WALL (EAST)

RIGHT-OF-WAY

PROPOSED NE 100TH STREET CUL-DE-SAC AND DRIVEWAY RECONNECTIONS

LAKE CITY WAY CULVERT CROSSING OUTLET (APPROX.)

PROPOSED RETAINING WALL (WEST)

EXISTING DITCH BECOMING STORMWATER SWALE (AFTER WILLOW CREEK RELOCATION)

TWO NEW STORMWATER OUTLETS AND DISSIPATION PADS

NOTES:

THE OHWM IS DELINEATED WITHIN PROPOSED WORK LIMITS AND ESTIMATED OUTSIDE OF THE PROPOSED WORK LIMITS.

NO OTHER ENVIRONMENTALLY CRITICAL AREAS ARE KNOWN TO BE PRESENT.

WILLOW CREEK FISH PASSAGE RESTORATION PROJECT

PRELIMINARY CRITICAL AREAS SITE PLAN
EXISTING TREES AND GEOLOGIC HAZARDS

PREPARED FOR THE SEATTLE DEPARTMENT OF TRANSPORTATION

JACOBS

Figure 4: Proposed Geologic Environmentally Critical Areas

PLOT DATE:3/14/2023 PLOT TIME:12:56 PM

LEGEND

- PROPOSED WORK LIMITS
- EXISTING ORDINARY HIGH WATER MARK
- ESTIMATED ORDINARY HIGH WATER MARK
- CITY RIPARIAN MANAGEMENT AREA
- EXISTING 100-YEAR FLOODPLAIN (ZONE A)
- EXISTING 100-YEAR FLOODPLAIN (ZONE AE)
- OTHER FISH AND WILDLIFE HABITAT CONSERVATION AREA
- POTENTIAL WETLAND
- ESTIMATED WETLAND BUFFER

N

60 30 0 60 120

SCALE IN FEET

LAKE CITY WAY NE

RAVENNA AVE NE

NE 100TH ST

SOUTH BRANCH THORNTON CREEK

EXISTING ORDINARY HIGH WATER MARK

100 YEAR FLOODPLAIN

EXISTING WILLOW CREEK

OTHER FISH AND WILDLIFE HABITAT CONSERVATION AREA

ESTIMATED ORDINARY HIGH WATER MARK

OTHER FISH AND WILDLIFE HABITAT CONSERVATION AREA

LAKE CITY WAY CULVERT CROSSING OUTLET (APPROX.)

ESTIMATED WETLAND BUFFER

POTENTIAL WETLAND A

RIGHT-OF-WAY

12 256830-0220

11 253830-0200

10 256830-0201

6 256830-0211

9 256830-0205

5 256830-0210

7 256830-0207

8 256830-0206

1 156610-0005

2 156610-0010

3 156610-0015

4 156610-0020

NOTES:

THE OHWM IS DELINEATED WITHIN PROPOSED WORK LIMITS AND ESTIMATED OUTSIDE OF THE PROPOSED WORK LIMITS.

NO OTHER ENVIRONMENTALLY CRITICAL AREAS ARE KNOWN TO BE PRESENT.

WILLOW CREEK FISH PASSAGE RESTORATION PROJECT

PRELIMINARY CRITICAL AREAS SITE PLAN
AQUATIC RESOURCES AND OTHER HABITAT

PREPARED FOR THE SEATTLE DEPARTMENT OF TRANSPORTATION

JACOBS

Figure 5: Existing Aquatic and Habitat Environmentally Critical Areas

PLOT DATE:3/14/2023 PLOT TIME:12:55 PM

LEGEND

- PROPOSED STREAM RELOCATION
- PROPOSED 100-YEAR FLOODPLAIN
- PROPOSED WORK LIMITS
- EXISTING ORDINARY HIGH WATER MARK
- ESTIMATED ORDINARY HIGH WATER MARK
- CITY RIPARIAN MANAGEMENT AREA
- EXISTING 100-YEAR FLOODPLAIN (ZONE A)
- EXISTING 100-YEAR FLOODPLAIN (ZONE AE)
- OTHER FISH AND WILDLIFE HABITAT CONSERVATION AREA
- POTENTIAL WETLAND
- ESTIMATED WETLAND BUFFER

N

60 30 0 60 120

SCALE IN FEET

12 256830-0220

11 253830-0200

10 256830-0201

9 256830-0205

8 256830-0206

7 256830-0207

6 256830-0208

5 256830-0210

4 156610-0020

3 156610-0015

2 156610-0010

1 156610-0005

SOUTH BRANCH THORNTON CREEK

EXISTING ORDINARY HIGH WATER MARK

100 YEAR FLOODPLAIN

EXISTING WILLOW CREEK

OTHER FISH AND WILDLIFE HABITAT CONSERVATION AREA

ESTIMATED ORDINARY HIGH WATER MARK

PROPOSED WILLOW CREEK

PROPOSED PEDESTRIAN BRIDGE

OTHER FISH AND WILDLIFE HABITAT CONSERVATION AREA

RIGHT-OF-WAY

PROPOSED RETAINING WALL (EAST)

PROPOSED NE 100TH STREET CUL-DE-SAC AND DRIVEWAY RECONNECTIONS

NE 100TH ST

LAKE CITY WAY CULVERT CROSSING OUTLET (APPROX.)

ESTIMATED WETLAND BUFFER

POTENTIAL WETLAND A

PROPOSED RETAINING WALL (WEST)

EXISTING DITCH BECOMING STORMWATER SWALE (AFTER WILLOW CREEK RELOCATION)

TWO NEW STORMWATER OUTLETS AND DISSIPATION PADS

LAKE CITY WAY NE

RAVENNA AVE NE

RAVENNA AVE NE

NOTES:

THE OHWM IS DELINEATED WITHIN PROPOSED WORK LIMITS AND ESTIMATED OUTSIDE OF THE PROPOSED WORK LIMITS.

NO OTHER ENVIRONMENTALLY CRITICAL AREAS ARE KNOWN TO BE PRESENT.

WILLOW CREEK FISH PASSAGE RESTORATION PROJECT

PRELIMINARY CRITICAL AREAS SITE PLAN
AQUATIC RESOURCES AND OTHER HABITAT

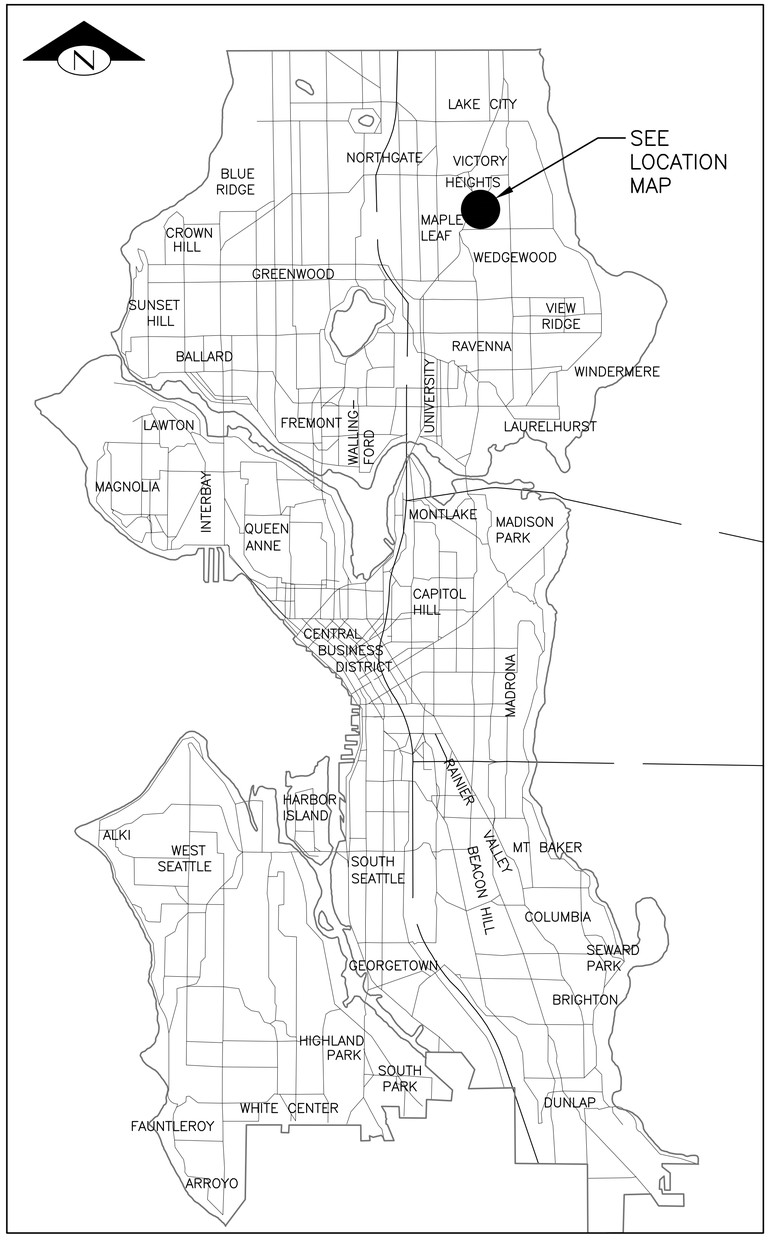
PREPARED FOR THE SEATTLE DEPARTMENT OF TRANSPORTATION

JACOBS

Figure 6: Proposed Aquatic and Habitat Environmentally Critical Areas

PLOT DATE:3/14/2023 PLOT TIME:12:56 PM

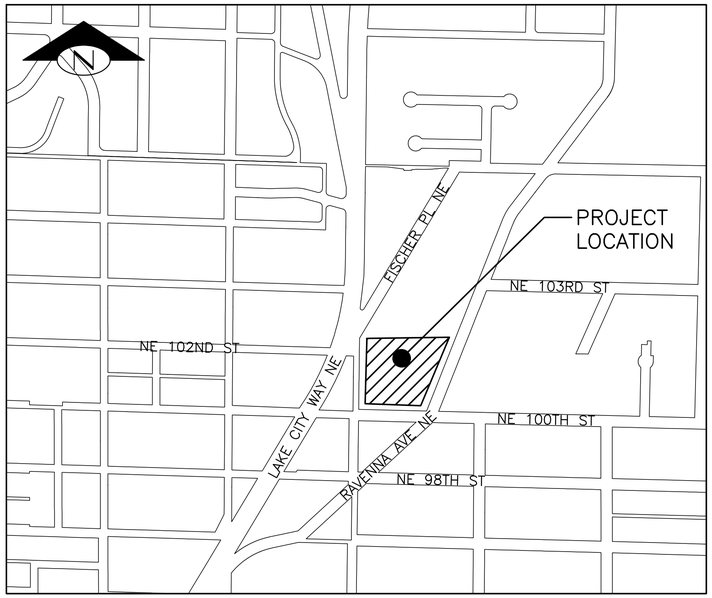
Appendix A – Updated Construction Set (Between 60 and 90 Percent Design)



VICINITY MAP

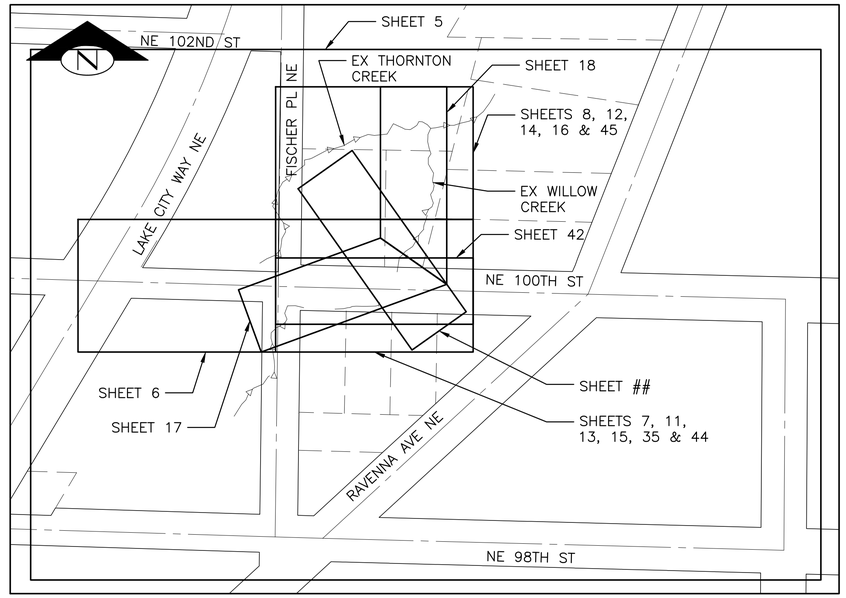
1 0 1 2

SCALE: 1" = 1 MILE



LOCATION MAP

SCALE: 1" = 400'



KEY MAP

SCALE: 1" = 100'

DETAIL AND SECTION REFERENCING

4/9 ← DETAIL REFERENCE NUMBER / SHEET ON WHICH DETAIL APPEARS

(TITLE) (SCALE) 4/9 ← DETAIL REFERENCE NUMBER / SHEET FROM WHICH DETAIL WAS TAKEN

("TYP" SPECIFIES THAT DETAIL IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED.)
("VAR" SPECIFIES THAT DETAIL WAS TAKEN FROM SEVERAL SHEETS.)

A A 32 ← SECTION A–A IS SHOWN ON SHEET 32.

SECTION A–A 30 ← SECTION A–A IS TAKEN FROM SHEET 30.

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

COVER SHEET

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED	AC
CHECKED	JE
DRAWN	TW
CHECKED	JE

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON — STATE OF WASHINGTON — 42169 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI #

G-001

SHEET 1 OF 62

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SHEET INDEX

SHT NO	DWG NO	DESCRIPTION
1	G-001	COVER SHEET
2	G-002	SHEET INDEX
3	G-003	ABBREVIATIONS / GENERAL NOTES SHEET
4	G-004	LEGEND
5	V-001	RIGHT-OF-WAY / EASEMENTS / SURVEY CONTROL PLAN
6	C-101	TREE PROTECTION AND REMOVAL 1 OF 3
7	C-102	TREE PROTECTION AND REMOVAL 2 OF 3
8	C-103	TREE PROTECTION AND REMOVAL 3 OF 3
9	C-301	TREE TABLE 1 OF 2
10	C-302	TREE TABLE 2 OF 2
11	C-111	SITE PREPARATION AND CESC 1 OF 2
12	C-112	SITE PREPARATION AND CESC 2 OF 2
13	C-121	CONSTRUCTION SEQUENCING AND BYPASS 1 OF 2
14	C-122	CONSTRUCTION SEQUENCING AND BYPASS 2 OF 2
15	CS101	GRADING PLAN 1 OF 2
16	CS102	GRADING PLAN 2 OF 2
17	CS111	CREEK PLAN AND PROFILE 1 OF 2
18	CS112	CREEK PLAN AND PROFILE 2 OF 2
19	CS121	LWM LAYOUT 1 OF 2
20	CS122	LWM LAYOUT 2 OF 2
21	CS201	GRADING DETAILS
22	CS202	CREEK CROSS SECTIONS AND DETAILS – SHEET 1 OF 5
23	CS203	CREEK CROSS SECTIONS AND DETAILS – SHEET 2 OF 5
24	CS204	CREEK CROSS SECTIONS AND DETAILS – SHEET 3 OF 5
25	CS205	CREEK CROSS SECTIONS AND DETAILS – SHEET 4 OF 5
26	CS206	CREEK CROSS SECTIONS AND DETAILS – SHEET 5 OF 5
27	CS207	LWM DETAILS 1 OF 4
28	CS208	LWM DETAILS 2 OF 4
29	CS209	LWM DETAILS 3 OF 4
30	CS210	LWM DETAILS 4 OF 4
31	CS211	LWM POINT TABLES 1 OF 4
32	CS212	LWM POINT TABLES 2 OF 4
33	CS213	LWM POINT TABLES 3 OF 4
34	CS214	LWM POINT TABLES 4 OF 4
35	CU101	DRAINAGE PLAN
36	CU102	UTILITY NOTES
37	CU103	UTILITY PLAN
38	CU201	DRAINAGE DETAILS
39	CU202	DRAINAGE DETAILS
40	CU203	DRAINAGE DETAILS
41	CU204	UTILITY DETAILS
42	CP101	PROPOSED ROADWAY ALIGNMENT PLAN AND PROFILE
43	CP201	ROADWAY DETAILS
44	L-101	PLANTING PLAN 1 OF 2
45	L-102	PLANTING PLAN 2 OF 2
46	L-201	PLANTING DETAILS
47	L-202	PLANTING DETAILS
48	L-203	LANDSCAPE DETAILS
49	L-204	IRRIGATION DETAILS
50	L-301	PLANT SCHEDULE
51	L-302	PLANT SCHEDULE, PLANTING LEGEND, NOTES, ABBREVIATIONS, TREE REMOVAL & REPLACEMENT & DETAIL
52	S-001	GENERAL NOTES & PEDESTRIAN BRIDGE TYPICAL SECTION
53	S-101	PEDESTRIAN BRIDGE PLAN AND PROFILE
54	S-102	PEDESTRIAN BRIDGE FOUNDATION LAYOUT
55	S-103	RETAINING WALL 1 PLAN & ELEVATION
56	S-104	RETAINING WALL 2 PLAN & ELEVATION
57	S-201	ABUTMENT 1 DETAILS (1 OF 2)
58	S-202	ABUTMENT 1 DETAILS (2 OF 2)
59	S-203	ABUTMENT 2 DETAILS (1 OF 2)
60	S-204	ABUTMENT 2 DETAILS (2 OF 2)
61	S-205	ANCHOR BOLT AND EXPANSION JOINT DETAILS
62	S-206	GRAVITY BLOCK WALL DETAILS

NATURE OF REVISIONS | MADE | CHK'D | REV'D
DATE | MARK
VAULT SERIAL NO.

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Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

SHEET INDEX

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
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LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON — STATE OF WASHINGTON — 52769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
G-002
SHEET 2 OF 62

ABBREVIATIONS

SEE COS STD PLANS 002 SERIES
FOR ADDITIONAL STD ABBREVIATIONS:

XXXX XXXXXXXXXX

GENERAL NOTES

UNLESS OTHERWISE NOTED

1. ALL WORK MUST CONFORM TO THE 2020 EDITION OF CITY OF SEATTLE STANDARD SPECIFICATIONS AND THE 2020 EDITION OF THE CITY OF SEATTLE STANDARD PLANS. A COPY OF THESE DOCUMENTS MUST BE ON SITE DURING CONSTRUCTION.
2. ALL RESTORATION WORK IN THE RIGHT-OF-WAY MUST CONFORM TO THE SEATTLE DEPARTMENT OF TRANSPORTATION DIRECTOR'S RULE 01-2017 RIGHT-OF-WAY OPENING AND RESTORATION RULES. A COPY OF THESE DOCUMENTS MUST BE ON SITE DURING CONSTRUCTION.
3. A COPY OF THE APPROVED PLANS MUST BE ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
4. ALL PERMITS REQUIRED FOR WORK WITHIN THE PUBLIC RIGHT OF WAY MUST BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
5. ALL DAMAGE TO CITY INFRASTRUCTURE CAUSED BY THE CONSTRUCTION MUST BE IMMEDIATELY REPORTED TO THE ENGINEER AND REPAIRED AS REQUIRED BY THE ENGINEER. TO REPORT DAMAGE TO SPU INFRASTRUCTURE, INCLUDING ANY SEWAGE RELEASE OR BLOCKAGE, CALL 206-386-1800.
6. DATUM: NAVD88 AND NAD 83 (2011) 2010.00 EPOCH.
7. SURVEYING AND STAKING OF ALL IMPROVEMENTS IN THE PUBLIC RIGHT OF WAY MUST BE DONE IN ACCORDANCE WITH SECTION 1-05.5 AND COMPLETED PRIOR TO CONSTRUCTION. CONTRACTOR MUST STAKE THE CURB AT THE CENTERLINE OF DRAINAGE GRATES PER STANDARD PLAN 260A. SURVEY CUT SHEETS MUST BE SUBMITTED AND APPROVED BY THE ENGINEER AT LEAST 5 BUSINESS DAYS PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR REFERENCING AND REPLACING ALL SURVEY MONUMENTS THAT MAY BE DISTURBED, DESTROYED OR REMOVED BY THE PROJECT, AND AT LEAST 2 WORKING DAYS PRIOR TO THE WORK, MUST FILE AN APPLICATION FOR PERMIT TO REMOVE OR DESTROY A SURVEY MONUMENT WITH THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, PURSUANT TO WAC 332-120. THE CONTRACTOR MUST PROVIDE THE ENGINEER AND SPU LAND SURVEY WITH A COPY OF THE APPROVED PERMIT AND COMPLETION REPORT. SEE STANDARD SPECIFICATION 1-07.28 ITEM 17.
9. THE CONTRACTOR MUST NOTIFY THE SEATTLE FIRE DEPARTMENT DISPATCHER (206-386-1400) AT LEAST TWENTY-FOUR (24) HOURS IN ADVANCE OF ALL WATER SERVICE INTERRUPTIONS, HYDRANT SHUTOFFS, AND STREET CLOSURES OR OTHER ACCESS BLOCKAGE. THE CONTRACTOR MUST ALSO NOTIFY THE DISPATCHER OF ALL NEW, RELOCATED, OR ELIMINATED HYDRANTS RESULTING FROM THIS WORK.
10. THE CONTRACTOR MUST LOCATE AND PROTECT ALL CASTINGS AND UTILITIES DURING CONSTRUCTION.
11. THE CONTRACTOR MUST ADJUST ALL EXISTING MANHOLE RIMS, DRAINAGE STRUCTURE LIDS, VALVE BOXES, AND UTILITY ACCESS STRUCTURES TO FINISH GRADE WITHIN AREAS AFFECTED BY THE PROPOSED IMPROVEMENTS.
12. THE CONTRACTOR MUST FOLLOW SPU CORE TAP PROCEDURES FOR ALL NEW CONNECTIONS TO EXISTING SEWER OR DRAINAGE MAINS OR STRUCTURES. CONTRACTORS ARE NOT ALLOWED TO CORE INTO MAINS OR STRUCTURES WITHOUT PRIOR APPROVAL FROM SPU-DWW. TO SCHEDULE CORE CUTS, CONTACT SPU-DWWAT 206-615-0511 A MINIMUM OF 2 BUSINESS DAYS IN ADVANCE.
13. ALL DISTURBED SOILS MUST BE AMENDED PER STANDARD PLAN 142 AND SECTION 8-02 OF THE STANDARD SPECIFICATIONS UNLESS WITHIN ONE FOOT OF A CURB OR SIDEWALK, THREE FEET OF A UTILITY STRUCTURE (E.G., WATER METER, UTILITY POLE, HAND HOLE, ETC.), OR THE DRIPLINE OF AN EXISTING TREE.
14. ALL TRAFFIC CONTROL MUST BE IN ACCORDANCE WITH THE CITY OF SEATTLE TRAFFIC CONTROL MANUAL FOR IN-STREET WORK. AN APPROVED TRAFFIC CONTROL PLAN WILL BE REQUIRED FOR ALL ARTERIAL STREETS PRIOR TO BEGINNING CONSTRUCTION.
15. THE CONTRACTOR MUST NOTIFY KING COUNTY METRO AT 206-477-1140 FOURTEEN DAYS IN ADVANCE OF ANY IMPACT TO TRANSIT OPERATIONS.
16. COORDINATE SIGN AND PAY STATION REMOVAL AND INSTALLATION WITH SEATTLE DEPARTMENT OF TRANSPORTATION AT 206-684-5370. SIGNPOSTS ARE TO BE INSTALLED IN ACCORDANCE WITH STANDARD PLANS 616, 620, 621A, 621B, 625, AND 626.
17. ALL STREET NAME SIGNS MUST BE INSTALLED BY SEATTLE DEPARTMENT OF TRANSPORTATION.
18. WATER MAINS. CAST IRON WATER MAINS ARE KNOWN TO BE SENSITIVE TO EXCESSIVE VIBRATION. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS IF ENCOUNTERED.
19. THE CONTRACTOR MUST CONTACT SEATTLE DEPARTMENT OF TRANSPORTATION, STREET USE INSPECTOR A MINIMUM OF 2 BUSINESS DAYS PRIOR TO PLANTING FOR INSPECTION OF STREET TREES AND LANDSCAPING.
20. UNLESS OTHERWISE NOTED IN THE CONTRACT, THE CONTRACTOR MUST CONTACT THE SEATTLE DEPARTMENT OF PARKS AND RECREATION TO APPLY FOR A SEPARATE PERMIT IF WORKING WITHIN A DESIGNATED PARK BOULEVARD.
21. SAWCUT, REMOVAL, OR PROTECTION OF EXISTING SIDEWALKS AND WALLS MUST BE FIELD ADJUSTED TO THE NEAREST PANEL JOINT UNLESS OTHERWISE NOTED. SLURRY OR OTHER HIGH PH MATERIAL GENERATED DURING SAWCUTTING MUST BE CAPTURED, STORED AND DISPOSED OF PER ACQUIRED PROJECT PERMITS AND ASSOCIATED DISPOSAL PLANS.
22. CONTRACT WORK LIMITS ARE DEFINED BY THE CLEARING AND GRUBBING LIMITS OR TEMPORARY CONSTRUCTION FENCE AS SHOWN IN THE CONTRACT DRAWINGS.
23. IN ACCORDANCE WITH RCW 58.09130, WAS 332-120-030 AND RCW 58.24.040, SURVEY MONUMENTS SHALL BE PROTECTED OR RE-ESTABLISHED THROUGH THE PROCESS OF AN "APPLICATION FOR PERMIT TO REMOVE OR DESTROY A SURVEY MONUMENT" (DNR FORM) SUBMITTED TO THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES.
24. ALL ITEMS NOT SPECIFIED FOR REMOVAL MUST BE PROTECTED IN PLACE.
25. TREE PROTECTION FENCING TO BE INSTALLED PRIOR TO ANY EARTH DISTURBING WORK BEGINS.
26. ADDITIONAL DEMOLITION MAY BE REQUIRED FOR CONTRACTOR CONSTRUCTION ACCESS. ADDITIONAL DEMOLITION MUST BE PERMITTED WITH THE AUTHORITY HAVING JURISDICTION AND ANY REMOVALS MUST BE RESTORED TO EXITING CONDITIONS OR AS AGREED TO IN THE AHJ PERMIT.
27. VEGETATION, EXCLUDING TREE TRUNKS, WILL BE GROUND UP AND USED AS MULCH FOR EROSION CONTROL TO THE EXTENT PRACTICAL.
28. CONTRACTOR MUST PROTECT EXISTING UTILITIES INCLUDING ACTIVE SEWER, WATER, GAS, ELECTRIC, FIBER OPTIC, CABLE, TELECOMMUNICATIONS, AND OTHER UTILITIES FOUND OR OTHERWISE KNOWN TO THE CONTRACTOR BEFORE OR DURING DEMOLTION WORK.
29. CALL 1-800-425-5555, OR 811, A MINIMUM OF 2 AND A MAXIMUM OF 10 BUSINESS DAYS BEFORE EXCAVATION FOR UTILITY LOCATES.
30. BOUNDARIES OF STREAMS, WETLANDS, AND OTHER CRITICAL AREAS WILL BE SURVEYED AND VERIFIED PRIOR TO INSTALLING CLEAR AND GRUB LIMITS.
31. CONTRACTOR TO VERIFY LOCATIONS OF ALL ITEMS TO BE REMOVED PRIOR TO DEMOLITION.
32. ROADWAY WIDTHS ARE GIVEN TO THE FACE OF CURB, UNLESS OTHERWISE NOTED.
33. THE LOCATIONS OF THE EXISTING UTILITIES ARE APPROXIMATE AND WERE COMPILED FROM THE INFORMATION PROVIDED BY PUBLIC AND PRIVATE UTILITY PROVIDERS, LIMITED FIELD SURVEY, POTHOLING, AND SITE OBSERVATIONS. CONTRACTOR TO VERIFY AND UPDATE THIS INFORMATION TO PERFORM DETAILED FIELD INVESTIGATION AS REQUIRED TO DETERMINE THE ACUTAL LOCATIONS OF UTILITY FACILITIES, IMMEDIATELY NOTIFY RESIDENT ENGINEER IF A CONFLICT EXISTS.
34. THE FINAL UTILITY RELOCATIONS WILL BE DEFINED AND DOCUMENTED IN TASK ORDERS WRITTEN BY THE CONTRACTOR. IF UTILITY DESIGNS, DETAILS, AND/OR SPECIFICATIONS CONTAINED WITHIN THE TASK ORDERS CONTRADICT THIS PLAN SET, THE TASK ORDERS MUST TAKE PRECEDENCE. UTILITY ALIGNMENTS AND LOCATIONS DESIGNED BY OTHERS ARE INDICATED IN THIS PLAN SET AND THESE ALIGNMENTS AND TIE IN LOCATIONS ARE APPROXIMATE.
35. EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON BEST AVAILABLE RECORD INFORMATION AT THE TIME OF THIS SUBMITTAL. EXISTING UNDERGROUND UTILITY LOCATIONS AND DEPTH WILL BE VERIFIED WITH LOCATE SERVICES, SURVEY, AND/OR POTHOLING TO CONFIRM DESIGN POST 60%.
36. ALL UTILITY LIDS WITHIN PAVING AND OVERLAY LIMITS SHALL BE ADJUSTED TO FINISHED GRADE. SEE PAVING PLANS FOR PAVING LIMITS.
37. RELOCATION OF IRRIGATION SYSTEMS IN LANDSCAPE AREAS ARE NOT SHOWN OR NOTED AS PART OF THE UTILITY RELOCATION PLAN.
38. CATCH BASIN CONNECTION AND INLET CONNECTION SHALL BE 8" DIAMETER DIP, UNLESS OTHERWISE NOTED.
39. FOR ALL TEES, THE CENTER POINT OF THE TEE SHALL BE INSTALLED NO LOWER THAN 30" AND NOT HIGHER THAN 45" ABOVE THE SPRINGLINE OF THE MAINLINE, PER SECTION 7-17.3(2)C3.
40. CONTRACTOR TO OBSERVE LOCAL, STATE, AND FEDERAL SAFETY AND CLEARANCE REQUIREMENTS WHILST WORKING IN THE VICINITY OF OVERHEAD 26 KV LINES.
41. CONTRACTOR SHALL PROVIDE POLE SUPPORT AND PROTECTION PLANS TO SEATTLE CITY AND LIGHT (SCL) FOR REVIEW PRIOR TO CONSTRUCTION AND/OR DEMOLITION.
42. CONTRACTOR TO SURVEY, VERIFY, AND FLAG/STAKE BOUNDARIES OF STREAMS, WETLANDS, AND OTHER REGULATED CRITICAL AREAS PRIOR TO CONSTRUCTION LIMITS.

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

ABBREVIATIONS / GENERAL NOTES SHEET

VAULT SERIAL NO.	DATE	MARK
NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING .... 20.....
REVIEWED BY SPU/DRAINAGE .... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING .... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON .... 20 ..
BY: ....
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE
DESIGNED AC
CHECKED JE
DRAWN TW
CHECKED JE

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON, STATE OF WASHINGTON, 42769, REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
G-003
SHEET 3 OF 62

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DEMOLITION AND REMOVAL LEGEND

- CLEAR AND GRUB
- REMOVE ASPHALT PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE GRAVEL
- REMOVE LOG
- REMOVE STUMP
- CONSTRUCTION LIMITS
- SILT FENCE
- HIGH VISIBILITY FENCE
- CONSTRUCTION LIMIT CONTROL POINT MARKER

PAVING LEGEND

- ROADWAY POINT TABLE MARKER
- REMOVABLE STEEL BOLLARD PER COS STD PLAN 464
- BEAM GUARDRAIL TYPE 31 PER WSDOT STD PLAN C-20.10-07
- DETECTABLE WARNING SURFACE PER COS STD PLAN 422K
- 2" HMA CL ½", PG 58H-22 OVER 6" HMA CL 1", PG 58H-22 OVER 6" MINRL AGG, TYPE 2 OR MATCH EXISTING IF GREATER
- 2" HMA CL ½", PG 58H-22 OVER 1" MINRL AGG, OVER EXISTING PAVEMENT AND EXPOSED TREE ROOTS
- 3" MINERAL AGGREGATE, TYPE 1
- 3" THICK ARBORIST WOODCHIP MULCH
- MINERAL AGGREGATE, TYPE 2
- COMPACTED SUBGRADE
- 8" MIN BIORENTION SOIL

PLANTING LEGEND

- RETAIN TREE AS HABITAT SNAG; SEE DETAIL 2/32
- TREE TO BE REMOVED; STUMP REMAINS IN PLACE; SEE SITE PREPARATION & CSEC PLANS
- TREE TO BE REMOVED; SEE SITE PREPARATION & CSEC PLANS
- TREE PROTECTION FENCE PER COS STD PLAN 133 & 132B
- SPLIT RAIL FENCE

LARGE WOODY MATERIAL (LWM) LEGEND

- 40' LOG WITH ROOTWAD
- 30' LOG WITH ROOTWAD
- 20' LOG WITH ROOTWAD
- 20' LOG WITHOUT ROOTWAD
- 10' LOG WITH ROOTWAD
- 10' LOG WITHOUT ROOTWAD
- SMALL WOODY MATERIAL
- BENTONITE CLAY LAYER EXTENTS
- FABRIC ENCAPSULATED SOIL LAYER EXTENTS
- 3% AND CONFLUENCE REACH STREAM BED MATERIAL AREA
- 5% REACH STREAM BED MATERIAL AREA
- 7% REACH STREAM BED MATERIAL AREA
- 539 WOODY MATERIAL AND LAYER EXTENTS CONTROL POINT MARKER

GRADING LEGEND

- MINOR CONTOUR
- 115 MAJOR CONTOUR
- WILLOW CREEK CENTERLINE
- WILLOW CREEK HYDRAULIC WIDTH LIMIT
- WILLOW CREEK HIGH FLOW REFUGE LIMIT
- TOE OF BANK
- TOP OF BANK
- GRADING LIMIT CONTROL POINT MARKER

SURVEY MONUMENT PRESERVATION TABLE

POINT NO	N	E	DESCRIPTION
1	259202.11	1279311.92	MIC 41100401
2	259898.78	1279588.29	MIC 41100404
3	259640.00	1278858.75	TLC 41100405
4	259212.32	1278903.07	MIC 41101601
7	259219.64	1278664.38	MON 40625007
8	258894.92	1278469.43	HUB 40625008
11	258879.94	1278961.77	MIC 40625102
14	259179.18	1278682.93	BC 40625105

PRIMARY SURVEY CONTROL TABLE

POINT NO	N	E	ELEV	DESCRIPTION
101	259196.75	1279326	142.62	MAG 41100402
102	259194.17	1279239	137.85	MAG 41100403
103	259126.06	1278790	149.56	MAG 41100406
104	259200.68	1279022	125.86	MAG 4100501
105	259328.30	1279077	117.60	HT 41100801
106	259459.83	1279121	110.58	HT 41100802
107	259421.33	1278989	114.16	HT 41100803
108	259327.06	1278916	114.12	HT 41101301
109	259208.84	1278879	124.53	HT 41101302
110	259128.18	1278917	129.66	HT 40006001
111	258914.11	1278528	155.40	MAG 40007001

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

VAULT SERIAL NO.	DATE	MARK	MADE	CHK'D	REV'D

NATURE OF REVISIONS

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED: DES. CONST. SDOT PROJ. MGR.
CHECKED JE	
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. GRESON STATE OF WASHINGTON #2769 REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

LEGEND

BID PC CO

VPI #

G-004

SHEET 4 OF 62

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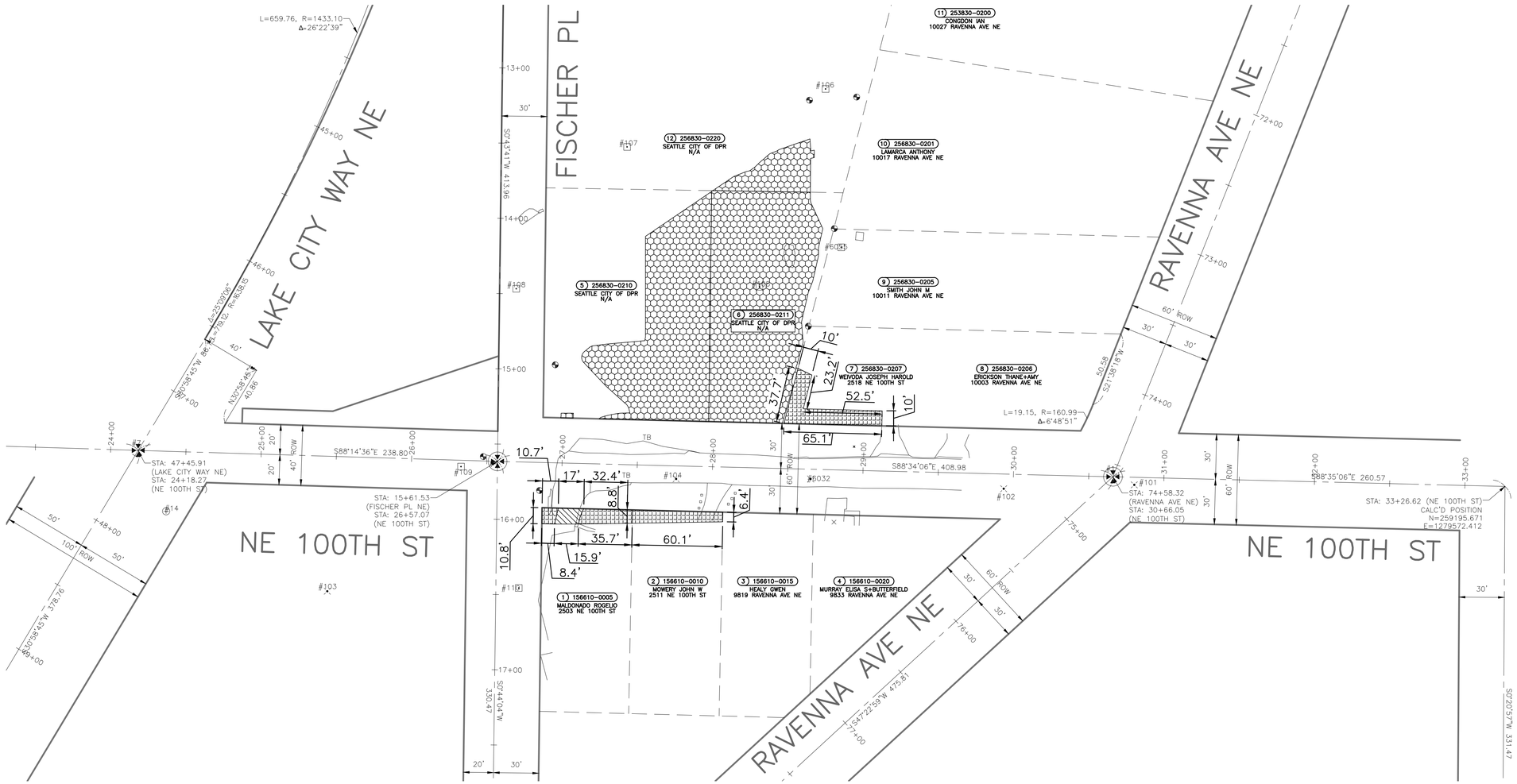

LEGEND:

- COMPENSABLE TEMPORARY EASEMENT
- MUTUAL BENEFIT TEMPORARY EASEMENT
- REVOCABLE USE PERMIT
- R/W (RIGHT OF WAY LINE)
- (PROPERTY LOT LINE)

NOTES:

1. HORIZONTAL DATUM: NAD83–2011 EPOCH 2010.00 DERIVED FROM THE WSRN AND NCS CORS.
2. VERTICAL DATUM: NAVD88.
3. BASIS OF BEARING: WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE.
4. VERTICAL BENCHMARKS: CP #104, SNV–0226
5. PROJECT FIELD BOOK:
   #4000 PGS: 55–56, 59–60
   #4110 PGS: 4–17
   #4061 PGS: 51
6. PROJECT SCALE FACTOR: 0.999968558
7. CONVERGENCE ANGLE: –1°05'34.0"
8. PROJECT COMBINED GRID FACTOR: 0.999966259
9. SCALE FACTOR BASIS:

   NORTHING: 259200.67 EASTING: 1279021.75
10. FIELD MEASUREMENTS FOR THIS SURVEY PERFORMED WITH A 3" THIMBLE TOTAL STATION USING TRAVERSE METHODS THAT MEET OR EXCEED ACCURACY REQUIREMENTS CONTAINED IN WAC 332.130.090.
11. THIS SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THEREFORE DOES NOT CLAIM TO SHOW ALL EASEMENTS OR RESTRICTIONS OF RECORD, IF ANY.
12. FOR SURVEY MONUMENT PRESENTATION TABLE AND PRIMARY SURVEY CONTROL TABLE SEE SHEET 4.

ROW TABLE

PROJ PARCEL NO	SHEET	TAX PARCEL NO	PARCEL ADDRESS	OWNERSHIP (TAXPAYER)	OWNERSHIP TOTAL AREA (SF)	MUTUAL BENEFIT TEMPORARY CONSTRUCTION EASEMENT (SF)	COMPENSABLE TEMPORARY CONSTRUCTION EASEMENT (SF)	TOTAL TEMPORARY CONSTRUCTION EASEMENT (SF)	REVOCABLE USE PERMIT (SF)	REMAINDER (SF)
1	V–001	156610–0005	2503 NE 100TH ST	MALDONADE ROGELIO	8,081	169	430	599	0	8,081
2	V–001	156610–0010	2511 NE 100TH ST	MOWERY JOHN W	8,136	0	458	458	0	8,136
5	V–001	256830–0210	N/A	SEATTLE CITY OF DPR	16,828	0	0	0	7,372	16,828
6	V–001	256830–0211	N/A	SEATTLE CITY OF DPR	10,556	0	0	0	9,710	10,556
7	V–001	256830–0207	2518 NE 100TH ST	WEIVODA JOSEPH HAROLD	13,181	0	893	893	0	13,181
12	V–001	256830–0220	N/A	SEATTLE CITY OF DPR	67,755	0	0	0	1,285	67,755

N

40 20 0 40 80

SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

RIGHT–OF–WAY / EASEMENTS / SURVEY CONTROL PLAN

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....

REVIEWED BY SPU/DRAINAGE ..... 20.....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
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AMY L. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1"=40'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI # V-001

SHEET 5 OF 62

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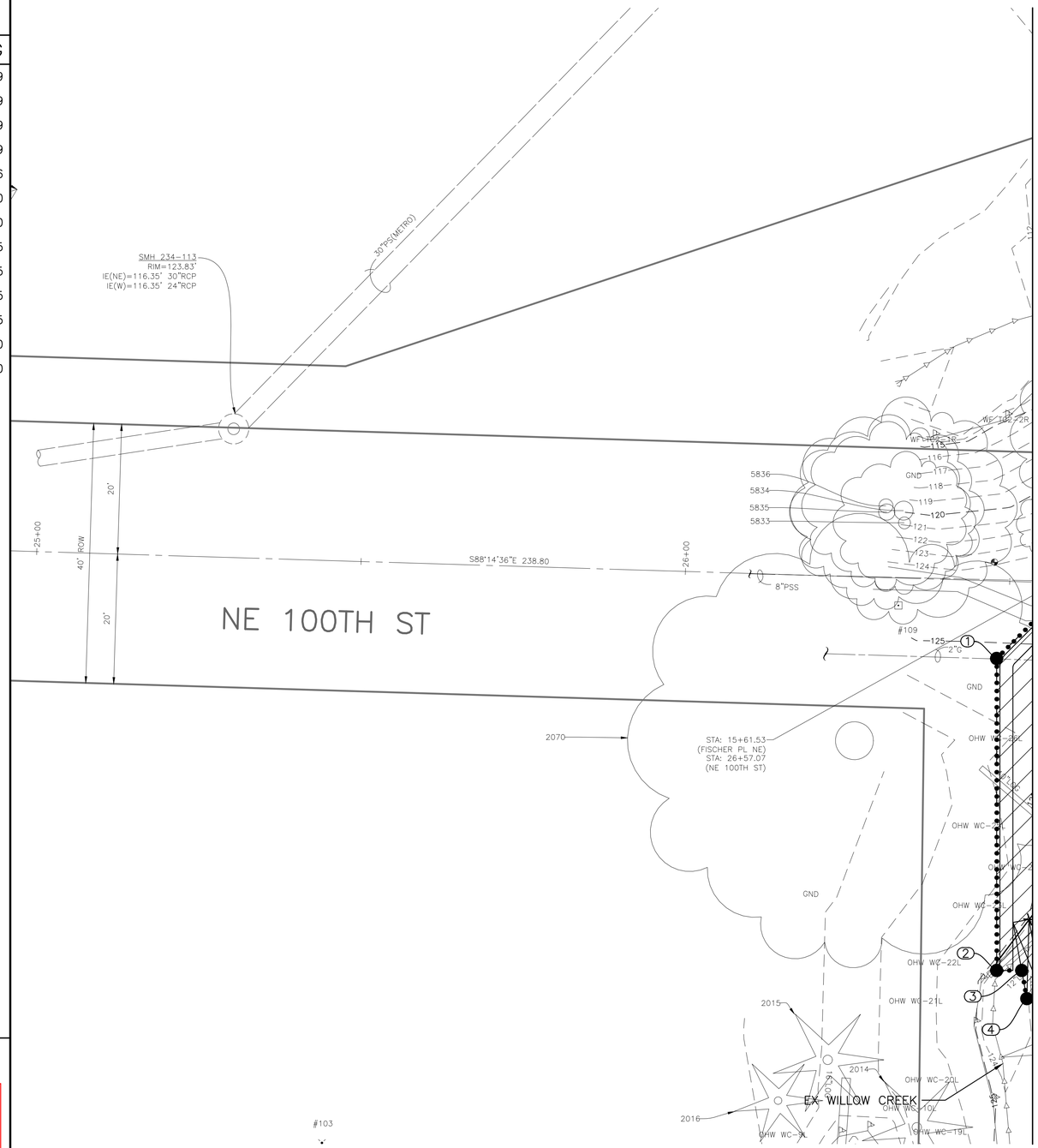
CONSTRUCTION LIMITS POINT TABLE

NO.	NORTHING	EASTING	NO.	NORTHING	EASTING	NO.	NORTHING	EASTING
1	259200.67	1278893.99	41	259385.91	1279110.93	81	259236.26	1278953.49
2	259152.61	1278893.99	42	259413.68	1279111.10	82	259244.32	1278953.49
3	259152.61	1278897.85	43	259414.18	1279113.55	83	259244.32	1278945.39
4	259148.27	1278898.64	44	259419.13	1279113.58	84	259242.58	1278945.39
5	259149.88	1278907.28	45	259418.64	1279111.13	85	259234.24	1278943.56
6	259148.92	1278911.43	46	259419.88	1279111.14	86	259234.24	1278937.20
7	259150.45	1278923.06	47	259426.57	1279110.69	87	259295.05	1278937.20
8	259170.88	1278928.92	48	259419.49	1279090.05	88	259340.33	1278918.45
9	259171.82	1279028.97	49	259418.59	1279088.74	89	259344.36	1278918.45
10	259178.95	1279037.68	50	259416.77	1279083.96	90	259344.36	1278910.95
11	259178.04	1279073.98	51	259410.79	1279077.13	91	259338.95	1278910.95
12	259177.16	1279119.61	52	259407.70	1279073.86	92	259293.56	1278929.70
13	259176.54	1279134.13	53	259405.38	1279070.53	93	259236.39	1278929.70
14	259180.41	1279135.15	54	259404.93	1279068.38			
15	259188.04	1279135.33	55	259401.59	1279059.94			
16	259187.68	1279146.97	56	259399.78	1279057.27			
17	259187.97	1279151.80	57	259361.87	1279001.41			
18	259193.44	1279155.27	58	259295.07	1279001.41			
19	259216.66	1279155.87	59	259292.56	1279000.96			
20	259224.70	1279146.06	60	259290.32	1278976.31			
21	259233.26	1279117.75	61	259289.12	1278966.19			
22	259232.24	1279105.86	62	259288.44	1278964.61			
23	259234.93	1279098.10	63	259285.27	1278960.83			
24	259236.49	1279096.83	64	259278.00	1278960.41			
25	259236.61	1279092.11	65	259271.90	1278966.19			
26	259262.60	1279099.49	66	259262.06	1278975.50			
27	259265.09	1279098.43	67	259250.85	1278988.03			
28	259271.88	1279100.32	68	259247.01	1278990.40			
29	259270.28	1279103.71	69	259244.57	1278991.08			
30	259272.99	1279104.99	70	259244.50	1278989.01			
31	259274.72	1279101.35	71	259244.42	1278986.53			
32	259276.73	1279102.08	72	259244.32	1278984.82			
33	259291.45	1279106.15	73	259244.13	1278982.96			
34	259305.00	1279105.08	74	259243.62	1278979.80			
35	259324.56	1279109.56	75	259243.50	1278979.06			
36	259332.20	1279112.54	76	259242.75	1278975.81			
37	259348.65	1279116.32	77	259242.38	1278974.26			
38	259354.09	1279116.31	78	259241.51	1278971.57			
39	259366.99	1279119.23	79	259238.12	1278967.93			
40	259384.39	1279111.22	80	259236.26	1278958.81			

Updated Construction Set
(Between 60 - 90 Percent Design, Not For Construction)



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SCALE IN FEET

MATCH LINE – SEE SHEET 7

NOTES:

1. SEE SHEET 9 FOR TREE INVENTORY TABLE AND PROPOSED ACTION.
2. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.
3. FOR SITE PREPARATION AND CESC PLANS, SEE SHEETS 11 THRU 12.
4. FOR LANDSCAPING PLANS AND DETAILS, SEE SHEETS 44 THRU 50.
5. FOR RIGHT-OF-WAY, EASEMENTS, AND SURVEY CONTROL INFORMATION, SEE SHEET 5.
6. SEE CONSTRUCTION LIMITS POINT TABLE ON SHEET 6 FOR HORIZONTAL CONTROL FOR CONSTRUCTION LIMITS.
7. SEE SHEETS 7 AND 8 FOR REMAINDER OF CONSTRUCTION LIMITS AND CONTROL POINTS.

KEY NOTES:

- (A) CONSTRUCTION LIMITS, TYP
- (B) TREE PROTECTION FENCE, TYP
- (C) TREE REMOVAL, TYP
- (D) RETAIN TREE AS HABITAT SNAG, TYP
- (E) TREE REMOVAL, STUMP REMAINS IN PLACE, TYP

TREE PROTECTION AND REMOVAL 1 OF 3

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Jacobs

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REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

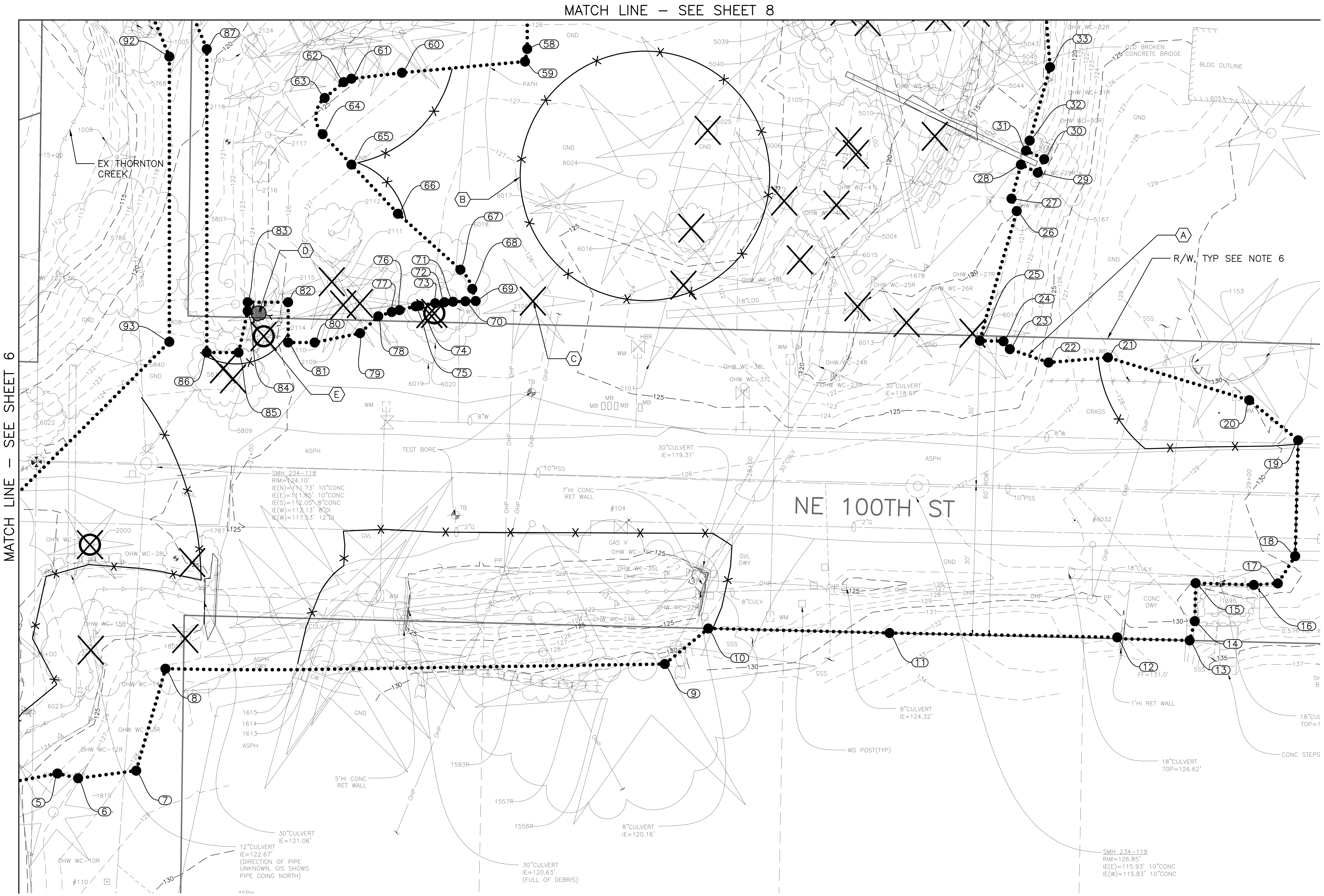
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. GRIMSON
STATE OF WASHINGTON
42769
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

BID ITEM PC CO
VPI #
C-101
SHEET 6 OF 62



NOTES:

1. SEE SHEET 9 FOR TREE INVENTORY TABLE AND PROPOSED ACTION.
2. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.
3. FOR SITE PREPARATION AND CESC PLANS, SEE SHEETS 11 THRU 12.
4. FOR LANDSCAPING PLANS AND DETAILS, SEE SHEETS 44 THRU 50.
5. FOR RIGHT-OF-WAY, EASEMENTS, AND SURVEY CONTROL INFORMATION, SEE SHEET 5.
6. SEE CONSTRUCTION LIMITS POINT TABLE ON SHEET 6 FOR HORIZONTAL CONTROL FOR CONSTRUCTION LIMITS.
7. SEE SHEETS 7 AND 8 FOR REMAINDER OF CONSTRUCTION LIMITS AND CONTROL POINTS.

KEY NOTES:

- (A) CONSTRUCTION LIMITS, TYP
- (B) TREE PROTECTION FENCE, TYP
- (C) TREE REMOVAL, TYP
- (D) RETAIN TREE AS HABITAT SNAG, TYP
- (E) TREE REMOVAL, STUMP REMAINS IN PLACE, TYP

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

TREE PROTECTION AND REMOVAL 2 OF 3

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING .... 20.....
REVIEWED BY SPU/DRAINAGE .... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING .... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON .... 20 ..
BY: ....
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED AC	
CHECKED JE	
DRAWN TW	
CHECKED JE	

INITIALS AND DATE	
REVIEWED: DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON, STATE OF WASHINGTON, 42769, REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
C-102
SHEET 7 OF 62

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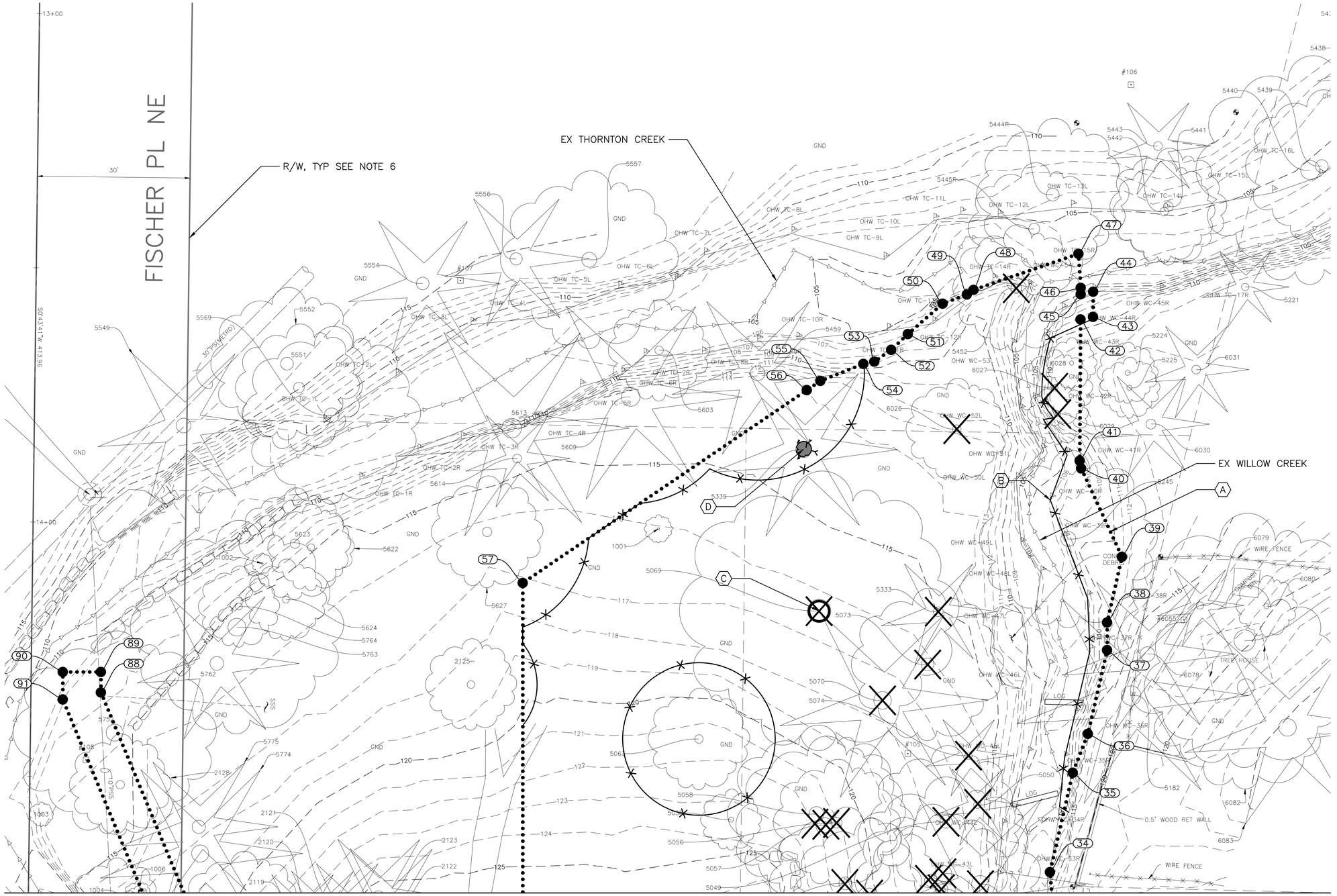

MATCH LINE – SEE SHEET 7

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10 5 0 10 20

SCALE IN FEET

NOTES:

1. SEE SHEET 9 FOR TREE INVENTORY TABLE AND PROPOSED ACTION.
2. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.
3. FOR SITE PREPARATION AND CESC PLANS, SEE SHEETS 11 THRU 12.
4. FOR LANDSCAPING PLANS AND DETAILS, SEE SHEETS 44 THRU 50.
5. FOR RIGHT–OF–WAY, EASEMENTS, AND SURVEY CONTROL INFORMATION, SEE SHEET 5.
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KEY NOTES:

- (A) CONSTRUCTION LIMITS, TYP
- (B) TREE PROTECTION FENCE, TYP
- (C) TREE REMOVAL, TYP
- (D) RETAIN TREE AS HABITAT SNAG, TYP

NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.

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Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

TREE PROTECTION AND REMOVAL 3 OF 3

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY L. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI #

C-103

SHEET 8 OF 62

TREE INVENTORY TABLE

TREE TAG NUMBER	SPECIES COMMON	SPECIES BIOLOGICAL	SINGLE STEM EQUIVALENT DBH (IN)	DRIP RADIUS (FT)	TREE PROTECTION ZONE RADIUS (FT)	INTERNAL CRITICAL ROOT ZONE RADIUS (FT)	TREE CONDITION RATING	EXCEPTIONAL STATUS	PRIORITY PRESERVATION RATING	PROPOSED ACTION
1001	BIG LEAF MAPLE	ACER MACROPHYLLUM	5.9	15	6	3	80	–	1	PROTECT
1002	JAPANESE MAPLE	ACER PALMATUM	4.1	10	6	3	60	–	1	RETAIN
1003	BIG LEAF MAPLE	ACER MACROPHYLLUM	4.8	18	6	3	80	–	1	PROTECT
1004	ENGLISH HOLLY	LLEX AQUIFOLIUM	4.1	10	6	3	80	–	–	PROTECT
1005	ENGLISH HOLLY	LLEX AQUIFOLIUM	5	10	6	3	80	–	–	PROTECT
1006	ENGLISH HOLLY	LLEX AQUIFOLIUM	5.4	10	6	3	80	–	–	PROTECT
1007	BIG LEAF MAPLE	ACER MACROPHYLLUM	5.2	19	6	3	80	–	1	RETAIN
1008	WESTERN RED CEDAR	THUJA PLICATA	6.6	8	7	4	90	–	1	PROTECT
1153	NOBLE FIR	ABIES PROCERA	22.8	16	23	12	70	–	3	PROTECT
1613	DOUGLAS–FIR	PSEUDOTSUGA MENZIESII	24.9	29	25	13	80	–	3	PROTECT
1614	DOUGLAS–FIR	PSEUDOTSUGA MENZIESII	28.3	29	28	14	80	–	3	PROTECT
1615	DOUGLAS–FIR	PSEUDOTSUGA MENZIESII	28	24	28	14	80	–	3	PROTECT
1678	STUMP	STUMP	–	–	–	–	0	–	–	REMOVE
1787	CHERRY LAUREL	PRUNUS LAUROCERASUS	16.2	23	16	8	50	–	1	REMOVE
1819	WESTERN RED CEDAR	THUJA PLICATA	14.0	15	14	7	80	–	2	PROTECT
2000	WESTERN RED CEDAR	THUJA PLICATA	11.1	14	11	6	90	–	2	REMOVE
2070	BIG LEAF MAPLE	ACER MACROPHYLLUM	64.2	40	64	32	80	YES	3	PROTECT
2101	WESTERN HEMLOCK	TSUGA HETEROPHYLLA	25.9	16	26	13	80	YES	3	REMOVE
2105	BIG LEAF MAPLE	ACER MACROPHYLLUM	20.2	24	20	10	20	–	1	REMOVE
2106	PORT ORFORD CEDAR	CHAMAECYPARIS LAWSONIANA	37.2	19	37	19	60	YES	3	REMOVE
2109	PORT ORFORD CEDAR	CHAMAECYPARIS LAWSONIANA	17.6	14	18	9	50	–	2	PROTECT
2110	PORT ORFORD CEDAR	CHAMAECYPARIS LAWSONIANA	18.9	14	19	10	50	–	2	PROTECT
2111	PORT ORFORD CEDAR	CHAMAECYPARIS LAWSONIANA	19.1	15	19	10	0	–	–	RETAIN
2112	UNKNOWN	UNKNOWN	–	–	–	–	0	–	–	RETAIN
2114	SAWARA FALSE CYPRESS	CHAMAECYPARIS PISIFERA	7.9	13	8	4	20	–	1	REMOVE
2115	SAWARA FALSE CYPRESS	CHAMAECYPARIS PISIFERA	9.9	9	10	5	20	–	1	SNAG
2116	CHERRY LAUREL	PRUNUS LAUROCERASUS	8.8	–	9	5	0	–	–	RETAIN
2117	MOSS SAWARA CYPRESS	CHAMAECYPARIS PISIFERA 'SQUARROSA'	16.2	16	16	8	70	–	3	PROTECT
5001	SAWARA FALSE CYPRESS	CHAMAECYPARIS PISIFERA	23.7	13	24	12	70	–	3	REMOVE
5004	BITTER CHERRY	PRUNUS EMARGINATA	4.9	12	5	3	60	–	2	REMOVE
5006	BIG LEAF MAPLE	ACER MACROPHYLLUM	5.9	10	6	3	30	–	1	REMOVE
5010	CHERRY LAUREL	PRUNUS LAUROCERASUS	–	–	–	–	0	–	–	REMOVE
5038	CHERRY LAUREL	PRUNUS LAUROCERASUS	–	–	–	–	0	–	–	REMOVE
5039	RED ALDER	ALNUS RUBRA	–	–	–	–	0	–	–	REMOVE
5040	RED ALDER	ALNUS RUBRA	10.2	14	10	5	20	–	0	REMOVE
5043	WESTERN RED CEDAR	THUJA PLICATA	21.7	7	22	11	50	–	2	REMOVE
5044	RED ALDER	ALNUS RUBRA	10	20	10	5	50	–	1	REMOVE
5045	RED ALDER	ALNUS RUBRA	12.6	20	13	7	50	–	1	REMOVE
5046	RED ALDER	ALNUS RUBRA	11	21	11	6	60	–	1	REMOVE
5049	RED ALDER	ALNUS RUBRA	–	–	–	–	0	–	–	REMOVE
5050	PORT ORFORD CEDAR	CHAMAECYPARIS LAWSONIANA	7.1	7	7	4	90	–	2	REMOVE
5056	RED ALDER	ALNUS RUBRA	8.7	20	9	5	60	–	1	REMOVE
5057	RED ALDER	ALNUS RUBRA	15.1	25	15	8	60	–	1	REMOVE
5058	RED ALDER	ALNUS RUBRA	13	20	13	7	60	–	1	REMOVE
5063	COMMON APPLE	MALUS DOMESTICA	14.8	11	15	8	40	–	3	RETAIN
5069	ENGLISH WALNUT	JUGLANS REGIA	22.5	39	23	12	80	–	3	REMOVE
5070	DOUGLAS–FIR	PSEUDOTSUGA MENZIESII	24.5	22	25	13	80	–	3	REMOVE

NOTES:

1. CONTRACTOR TO PROVIDE A TREE, VEGETATION, AND SOIL PROTECTION PLAN (TVSPP_ PER COS STD SPEC 8–01.3(2)B FOR ALL TREES TO REMAIN.
2. REFER TO CITY OF SEATTLE STANDARD PLAN NO. 132a & 132b FOR TREE PROTECTION FENCING REQUIREMENTS.
3. ACCESS OR STORAGE OF DEBRIS WITHIN THE TREE PROTECTION ZONE SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL.
4. REFER TO CITY OF SEATTLE STANDARD PLAN NO. 133 FOR TREE PROTECTION DURING TRENCHING, TUNNELING, OR EXCAVATION.
5. PRUNING OF EXISTING TREES MAY BE REQUIRED TO ALLOW FOR CONSTRUCTION ACTIVITIES, NOT LIMITED TO HABITAT SNAGS. ALL PRUNING SHALL BE IN ACCORDANCE WITH THE ANSI Z133.1 SAFETY STANDARDS, AND PERFORMED BY AN ISA CERTIFIED ARBORIST.
6. PRIORITY PRESERVATION RATING IS AS FOLLOWS:
   A. 3 – HIGH
   B. 2 – MEDIUM
   C. 1 – LOW
   D. 0 – SAFETY CONCERN
7. TREES, SHRUBS, AND OTHER PLANT MATERIAL NOT DESIGNATED FOR REMOVAL MUST BE PROTECTED FROM DAMAGE.
8. FOR TREES BEING REMOVED, IMPACTS TO ADJACENT TREES SHALL BE MINIMIZED, INCLUDING THE SOIL STRUCTURE.
9. FOR ADDITIONAL TREE PROTECTION AND REMOVAL INFORMATION, SEE SHEET 6 THRU 8.

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
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AMY M. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
C-301
SHEET 9 OF 62

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TREE INVENTORY TABLE

TREE TAG NUMBER	SPECIES COMMON	SPECIES BIOLOGICAL	SINGLE STEM EQUIVALENT DBH (IN)	DRIP RADIUS (FT)	TREE PROTECTION ZONE RADIUS (FT)	INTERNAL CRITICAL ROOT ZONE RADIUS (FT)	TREE CONDITION RATING	EXCEPTIONAL STATUS	PRIORITY PRESERVATION RATING	PROPOSED ACTION
5073	LOMBARDY POPLAR	POPULUS NIGRA 'ITALICA'	33.8	15	34	17	80	–	3	REMOVE
5074	DEODAR CEDAR	CEDRUS DEODARA	13.5	9	14	7	80	–	3	REMOVE
5167	CHERRY LAUREL	PRUNUS LAUROCERASUS	–	–	–	–	0	–	–	RETAIN
5182	WESTERN RED CEDAR	THUJA PLICATA	27	20	27	14	80	–	3	PROTECT
5224	ENGLISH HOLLY	ILEX AQUIFOLIUM	6.6	12	7	4	70	–	1	PROTECT
5225	ENGLISH HOLLY	ILEX AQUIFOLIUM	7	13	7	4	70	–	1	PROTECT
5245	RED ALDER	ALNUS RUBRA	23.5	20	23	12	60	–	2	PROTECT
5333	DEODAR CEDAR	CEDRUS DEODARA	14.8	10	15	8	80	–	3	REMOVE
5339	WESTERN RED CEDAR	THUJA PLICATA	25.4	21	25	13	80	–	3	SNAG
5452	RED ALDER	ALNUS RUBRA	14	15	14	7	60	–	1	REMOVE
5459	DOUGLAS–FIR	PSEUDOTSUGA MENZIESII	20.5	19	21	11	80	–	3	PROTECT
5807	RED ALDER	ALNUS RUBRA	13.9	19	14	7	70	–	1	PROTECT
5808	RED ALDER	ALNUS RUBRA	12.4	19	12	6	60	–	1	PROTECT
5809	CHERRY LAUREL	PRUNUS LAUROCERASUS	–	–	–	–	0	–	–	REMOVE
5810	CHERRY LAUREL	PRUNUS LAUROCERASUS	–	–	–	–	0	–	–	REMOVE
5840	NORWAY MAPLE	ACER PLATANOIDES	13	25	13	7	70	–	1	RETAIN
6013	SAWARA FALSE CYPRESS	CHAMAECYPARIS PISIFERA	24.8	8	25	13	60	–	2	REMOVE
6014	WESTERN RED CEDAR	THUJA PLICATA	13.5	16	14	7	80	–	2	REMOVE
6015	RHODODENDRON	RHODODENDRON SP.	4.0	10	4	2	60	–	1	REMOVE
6016	RHODODENDRON	RHODODENDRON SP.	4.2	8	4	2	60	–	1	REMOVE
6017	PORT ORFORD CEDAR	CHAMAECYPARIS LAWSONIANA	4.3	7	4	2	80	–	2	PROTECT
6018	CHERRY LAUREL	PRUNUS LAUROCERASUS	10.2	–	10	5	0	–	–	RETAIN
6019	UNKNOWN	UNKNOWN	–	–	–	–	0	–	–	REMOVE
6020	BIG LEAF MAPLE	ACER MACROPHYLLUM	8.3	21	8	4	70	–	2	REMOVE
6022	BIG LEAF MAPLE	ACER MACROPHYLLUM	6.4	20	6	3	50	–	1	PROTECT
6023	VINE MAPLE	ACER CIRCINATUM	6.7	23	7	4	70	–	2	REMOVE
6024	MOSS SAWARA CYPRESS	CHAMAECYPARIS PISIFERA 'SQUARROSA'	26.1	26	26	13	70	–	3	PROTECT
6025	MONKEY PUZZLE TREE	ARAUCARIA ARAUCANA	24.6	21	25	13	80	YES	3	PROTECT
6026	VINE MAPLE	ACER CIRCINATUM	5.1	18	5	3	70	–	2	REMOVE
6027	VINE MAPLE	ACER CIRCINATUM	5.6	20	6	3	60	–	2	REMOVE
6028	BITTER CHERRY	PRUNUS EMARGINATA	5.0	8	5	3	80	–	2	PROTECT
6029	RED ELDERBERRY	SAMBUCUS RACEMOSA	4.6	10	5	3	80	–	1	REMOVE
6030	WESTERN RED CEDAR	THUJA PLICATA	12.2	14	12	6	70	–	2	PROTECT
6031	WESTERN RED CEDAR	THUJA PLICATA	10.3	13	10	5	70	–	2	PROTECT
1556R	WESTERN HEMLOCK	TSUGA HETEROPHYLLA	30	30	30	15	80	YES	3	PROTECT
1557R	BIG LEAF MAPLE	ACER MACROPHYLLUM	20	31	20	10	50	–	2	PROTECT
1593R	CHERRY SP.	PRUNUS SP.	6	12	6	3	80	–	2	PROTECT
1855R	CHERRY LAUREL	PRUNUS LAUROCERASUS	13.4	20	13	7	70	–	1	REMOVE
5444R	PACIFIC WILLOW	SALIX LASIANDRA	13.0	15	13	7	70	YES	3	RETAIN
5445R	RED ALDER	ALNUS RUBRA	8	10	8	4	60	–	1	RETAIN

NOTES:

1. CONTRACTOR TO PROVIDE A TREE, VEGETATION, AND SOIL PROTECTION PLAN (TVSPP_ PER COS STD SPEC 8–01.3(2)B FOR ALL TREES TO REMAIN.
2. REFER TO CITY OF SEATTLE STANDARD PLAN NO. 132a & 132b FOR TREE PROTECTION FENCING REQUIREMENTS.
3. ACCESS OR STORAGE OF DEBRIS WITHIN THE TREE PROTECTION ZONE SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL.
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7. TREES, SHRUBS, AND OTHER PLANT MATERIAL NOT DESIGNATED FOR REMOVAL MUST BE PROTECTED FROM DAMAGE.
8. FOR TREES BEING REMOVED, IMPACTS TO ADJACENT TREES SHALL BE MINIMIZED, INCLUDING THE SOIL STRUCTURE.
9. FOR ADDITIONAL TREE PROTECTION AND REMOVAL INFORMATION, SEE SHEET 6 THRU 8.

VAULT SERIAL NO. | DATE | MARK | NATURE REVISIONS | MADE | CHK'D | REV'D

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Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

TREE TABLE 2 OF 2

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
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DRAWN TW	RECEIVED
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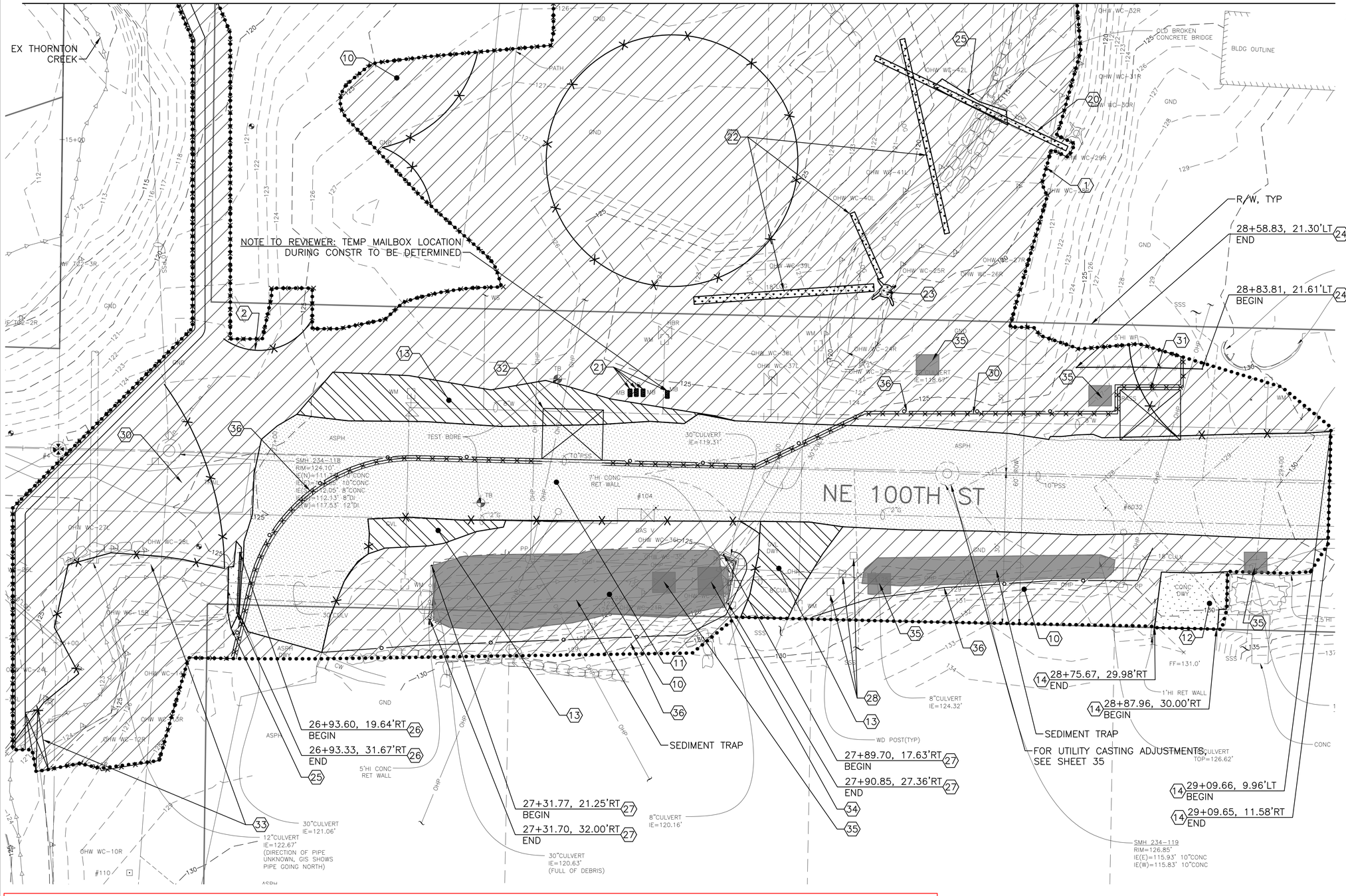
JAMES M. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

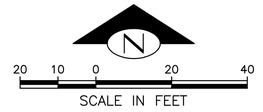
Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI # C-302
SHEET 10 OF 62

MATCH LINE – SEE SHEET 12





NOTES:

1. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.
2. CLEARING AND GRUBBING LIMITS ARE DEFINED BY THE CONSTRUCTION LIMITS, SEE SHEETS 6 THRU 8.
3. ALL ITEMS NOT SPECIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE.
4. FOR TREE PROTECTION, REMOVAL, AND TREE INVENTORY TABLE SEE SHEETS 6 THRU 10. TREE PROTECTION FENCING TO BE INSTALLED PRIOR TO ANY EARTH DISTURBING WORK BEGINS.
5. VEGETATION, EXCLUDING TREE TRUNKS, WILL BE GROUND UP AND USED AS MULCH TO THE EXTENT PRACTICAL.
6. CONTRACTOR TO SURVEY AND VERIFY BOUNDARIES OF STREAMS, WETLANDS, AND OTHER REGULATED CRITICAL AREAS PRIOR TO CONSTRUCTION.
7. CONTRACTOR TO VERIFY LOCATIONS OF ALL ITEMS TO BE REMOVED PRIOR TO DEMOLITION.
8. FOR UTILITY PROTECTION, RELOCATION, AND REMOVALS SEE SHEETS 35 THRU 41.

KEY NOTES:

(1) CONSTRUCTION LIMITS, TYP
(2) TREE PROTECTION FENCE, TYP
(10) CLEAR AND GRUB
(11) REMOVE ASPHALT PAVEMENT
(12) REMOVE CONCRETE PAVEMENT
(13) REMOVE GRAVEL
(14) SAW CUT LINE
(20) SALVAGE LOG
(21) SALVAGE MAILBOX
(22) REMOVE LOG
(23) REMOVE STUMP
(24) REMOVE WOODEN FENCE
(25) REMOVE CONCRETE STRUCTURE W/ DEBRIS
(26) REMOVE BEAM GUARD RAIL
(27) REMOVE CONCRETE HEADWALL
(28) REMOVE WOOD POST
(30) BMP C103 HIGH VISIBILITY FENCE
(31) BMP C106 WHEEL WASH
(32) BMP C154 CONCRETE WASHOUT AREA
(33) BMP C207 CHECK DAM
(34) BMP C209 OUTLET PROTECTION
(35) BMP C220 INLET PROTECTION
(36) BMP C233 SILT FENCE

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

SITE PREPARATION AND CESC 1 OF 2

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
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APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
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DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

A. M. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
C-111
SHEET 11 OF 62

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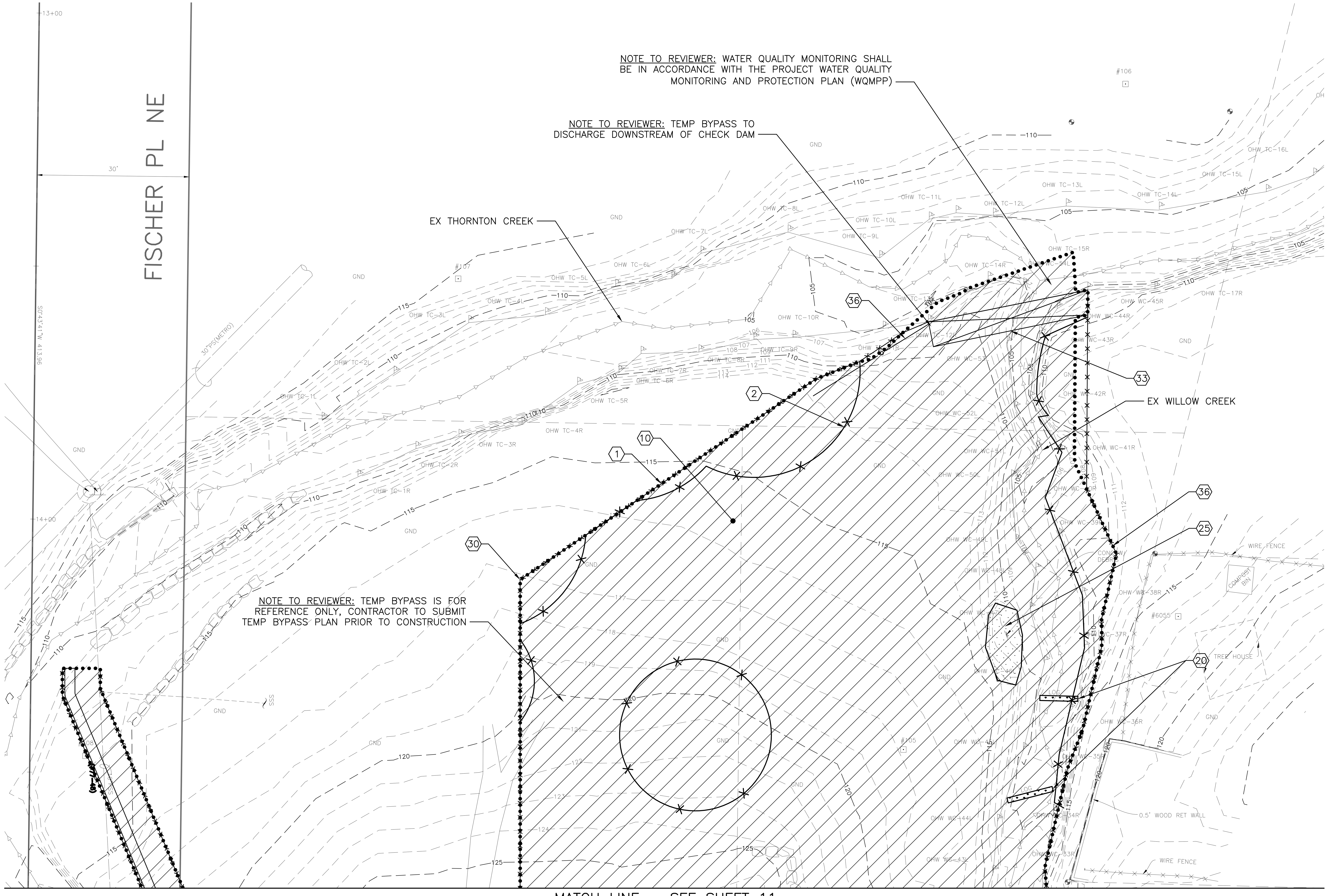

SCALE IN FEET

NOTES:

1. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.
2. CLEARING AND GRUBBING LIMITS ARE DEFINED BY THE CONSTRUCTION LIMITS, SEE SHEETS 6 THRU 8.
3. ALL ITEMS NOT SPECIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE.
4. FOR TREE PROTECTION, REMOVAL, AND TREE INVENTORY TABLE SEE SHEETS 6 THRU 10. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING WORK BEGINS.
5. VEGETATION, EXCLUDING TREE TRUNKS, WILL BE GROUND UP AND USED AS MULCH TO THE EXTENT PRACTICAL.
6. CONTRACTOR TO SURVEY AND VERIFY BOUNDARIES OF STREAMS, WETLANDS, AND OTHER REGULATED CRITICAL AREAS PRIOR TO CONSTRUCTION.
7. CONTRACTOR TO VERIFY LOCATIONS OF ALL ITEMS TO BE REMOVED PRIOR TO DEMOLITION.
8. FOR UTILITY PROTECTION, RELOCATION, AND REMOVALS SEE SHEETS 35 THRU 41.
9. CONTRACTOR TO PROVIDE CESC AND TEMP BYPASS PLAN PRIOR TO CONSTRUCTION.

KEY NOTES:

- (1) CONSTRUCTION LIMITS, TYP
- (2) TREE PROTECTION FENCE, TYP
- (10) CLEAR AND GRUB
- (20) SALVAGE LOG
- (25) REMOVE CONCRETE STRUCTURE W/ DEBRIS
- (30) BMP C103 HIGH VISIBILITY FENCE
- (33) BMP C207 CHECK DAM
- (34) BMP C209 OUTLET PROTECTION
- (36) BMP C233 SILT FENCE

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

SITE PREPARATION AND CESC 2 OF 2

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING .... 20.....
REVIEWED BY SPU/DRAINAGE .... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING .... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON .... 20 ..
BY: ....
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE
DESIGNED AC
CHECKED JE
DRAWN TW
CHECKED JE

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON, STATE OF WASHINGTON, 42769, REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
C-112
SHEET 12 OF 62

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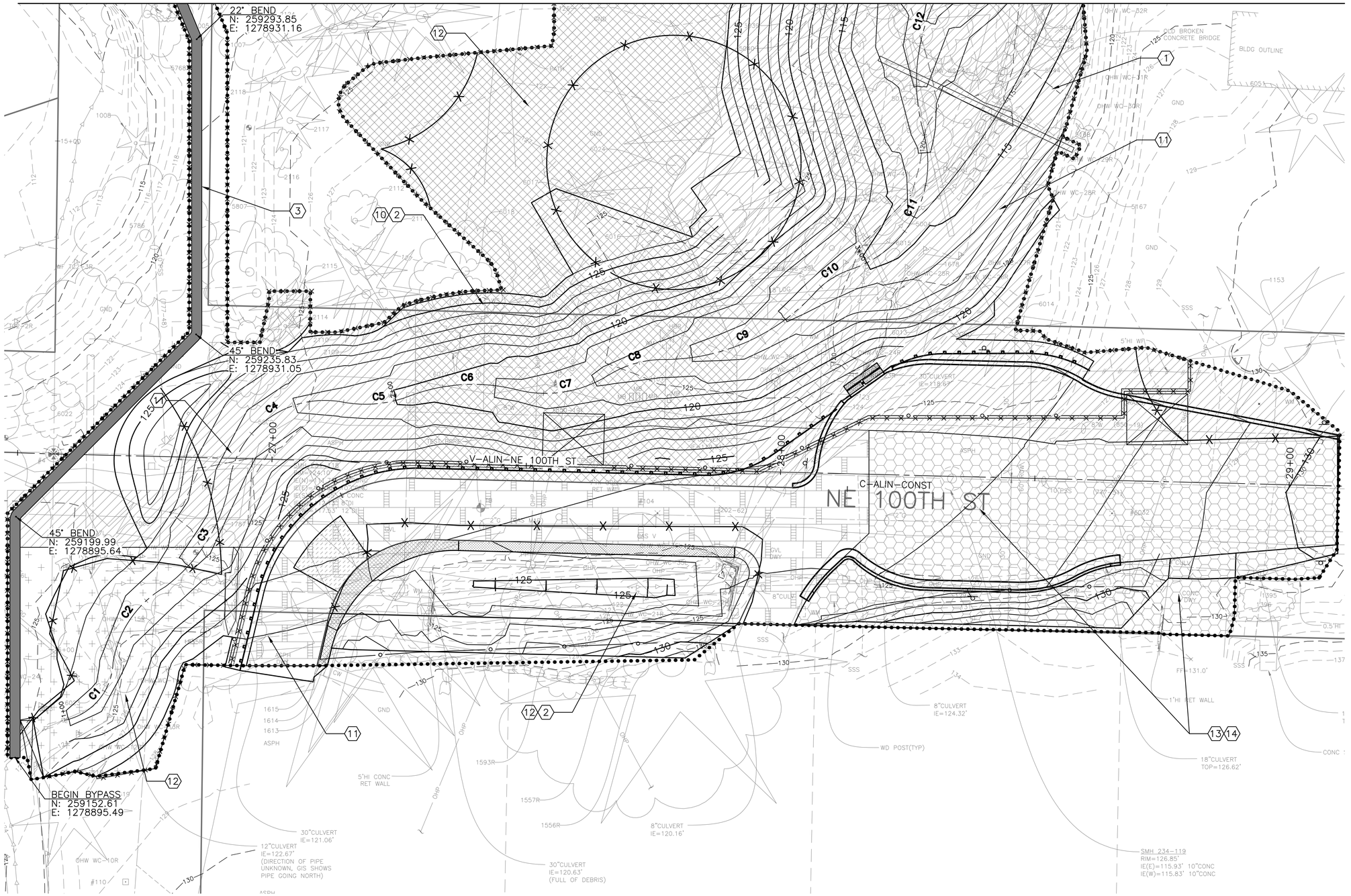
MATCH LINE STA 03+45 – SEE SHEET 14



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SCALE IN FEET

NOTES:

1. LIMITED WORK PERIOD DURING IN-WATER WORK WINDOW. FOR THE PURPOSES OF THIS PROJECT, A CONSERVATIVE IN-WATER WORK WINDOW WILL BE PLANNED FOR JULY 16TH – AUGUST 31ST. MAY BE VARIABLE BASED ON WDFW FISH BIOLOGIST OPINION.
2. WORK NOT IMPACTING THE EXISTING AND/OR FUTURE OHWM MAY BE PERFORMED OUTSIDE THE IN-WATER WORK WINDOW.
3. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCING, FISH SALVAGE, AND BYPASS PLAN PRIOR TO CONSTRUCTION.
4. WILLOW CREEK SHALL BE FISH PASSABLE BY THE END OF THE IN-WATER WORK WINDOW IN 2024.
5. RESIDENTIAL ACCESS SHALL BE MAINTAINED DURING CONSTRUCTION.
6. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.

KEY NOTES:

1. CONSTRUCTION LIMITS, TYP
2. STAGING AREA
3. SINGLE TEMPORARY BYPASS TO BE UTILIZED THROUGH PROJECT CONSTRUCTION.
10. PHASE 1: IMPLEMENT CESC PLAN, TREE PROTECTION PLAN, FISH SALVAGE PLAN, FIRST TEMP BYPASS , RESIDENTIAL ACCESS, AND STAGING AREA
11. PHASE 2: DEMOLITION, CONSTRUCTION OF PROPOSED WILLOW CREEK, UTILITY RELOCATION WITHIN WILLOW CREEK, AND PEDESTRIAN BRIDGE
12. PHASE 3: MOVE TO SECOND STAGING AREA, CONSTRUCT WILLOW CREEK WITHIN FIRST STAGING AREA, FINISH CONSTRUCTION OF WILLOW CREEK, REMOVE BYPASS, RE-VEGETATE ALL DISTURBED AREAS
13. PHASE 4: DEMOLISH EXISTING ROADWAY AND INSTALL REMAINING UTILITY INFRASTRUCTURE
14. PHASE 5: CONSTRUCT CUL-DE-SAC, DRIVEWAYS, ALL REMAINING IMPROVEMENTS, AND DEMOBILIZE

LEGEND:

- RESIDENTIAL ACCESS
- STAGING AREA 1
- PHASE 2
- PHASE 3
- STAGING AREA 2
- PHASE 4 AND 5

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Feb-20-23 4:13pm

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CONSTRUCTION SEQUENCING AND BYPASS 1 OF 2

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED: DES. CONST. SDOT PROJ. MGR.
CHECKED JE	
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON · STATE OF WASHINGTON · 42769 · REGISTERED PROFESSIONAL ENGINEER

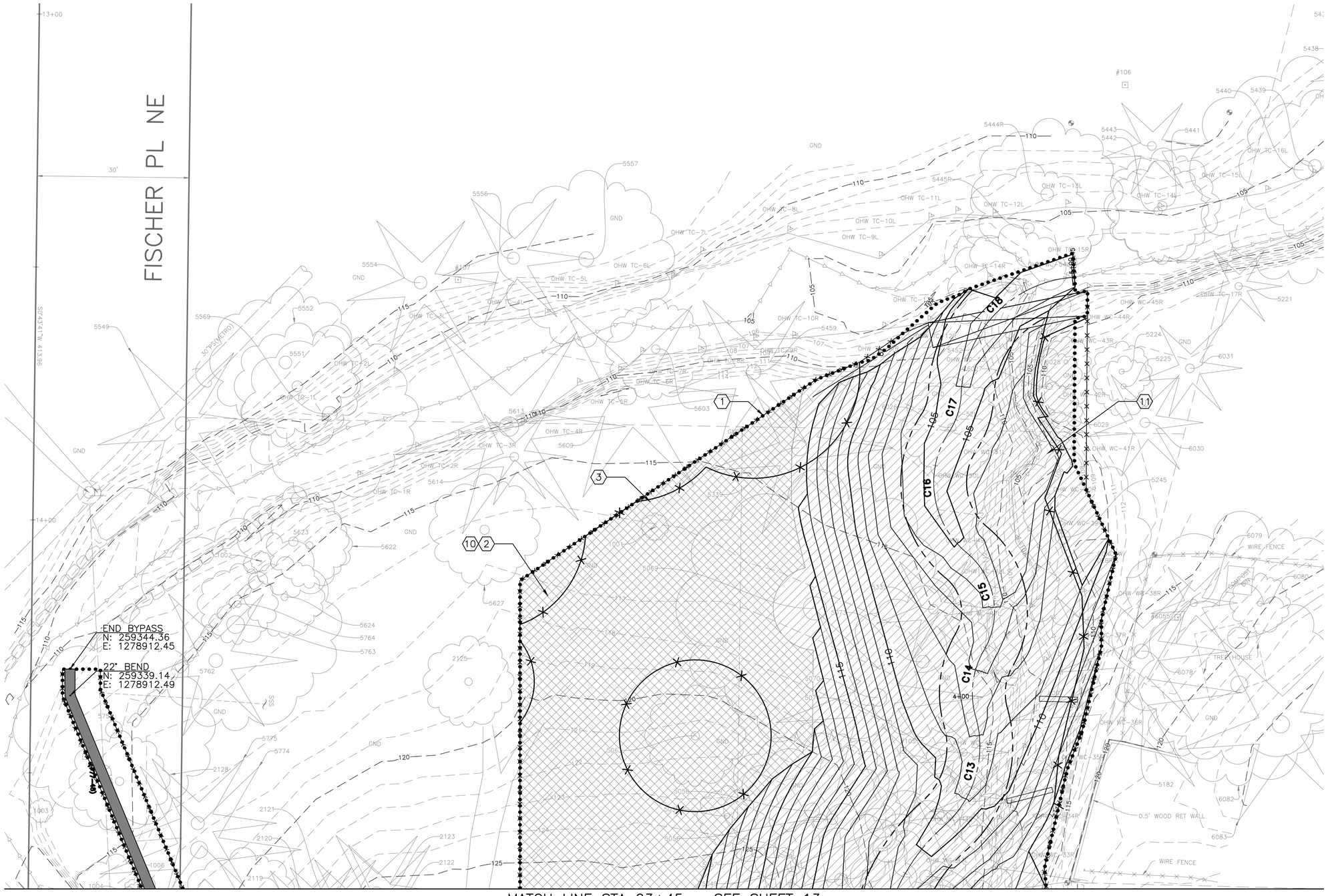
Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC CO
	VPI #
C-121	
SHEET 13 OF 62	



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SCALE IN FEET

NOTES:

1. LIMITED WORK PERIOD DURING IN–WATER WORK WINDOW. FOR THE PURPOSES OF THIS PROJECT, A CONSERVATIVE IN–WATER WORK WINDOW WILL BE PLANNED FOR JULY 16TH – AUGUST 31ST. MAY BE VARIABLE BASED ON WDFW FISH BIOLOGIST OPINION.
2. WORK NOT IMPACTING THE EXISTING AND/OR FUTURE OHWM MAY BE PERFORMED OUTSIDE THE IN–WATER WORK WINDOW.
3. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCING, FISH SALVAGE, AND BYPASS PLAN PRIOR TO CONSTRUCTION.
4. WILLOW CREEK SHALL BE FISH PASSABLE BY THE END OF THE IN–WATER WORK WINDOW IN 2024.
5. RESIDENTIAL ACCESS SHALL BE MAINTAINED DURING CONSTRUCTION.
6. FOR ABBREVIATIONS, GENERAL NOTES, AND LEGEND, SEE SHEETS 3 THRU 4.

KEY NOTES:

(1) CONSTRUCTION LIMITS, TYP

(2) STAGING AREA

(3) SINGLE TEMPORARY BYPASS TO BE UTILIZED THROUGH PROJECT CONSTRUCTION.

(10) PHASE 1: IMPLEMENT CESC PLAN, TREE PROTECTION PLAN, FISH SALVAGE PLAN, FIRST TEMP BYPASS , RESIDENTIAL ACCESS, AND STAGING AREA

(11) PHASE 2: DEMOLITION, CONSTRUCTION OF PROPOSED WILLOW CREEK, UTILITY RELOCATION WITHIN WILLOW CREEK, AND PEDESTRIAN BRIDGE

LEGEND:

- RESIDENTIAL ACCESS
- STAGING AREA 1
- PHASE 2
- PHASE 3
- STAGING AREA 2
- PHASE 4 AND 5

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Feb-20-23 4:13pm

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CONSTRUCTION SEQUENCING AND BYPASS 2 OF 2

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....

REVIEWED BY SPU/DRAINAGE ..... 20....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED AC	
CHECKED JE	
DRAWN TW	
CHECKED JE	

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0–02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

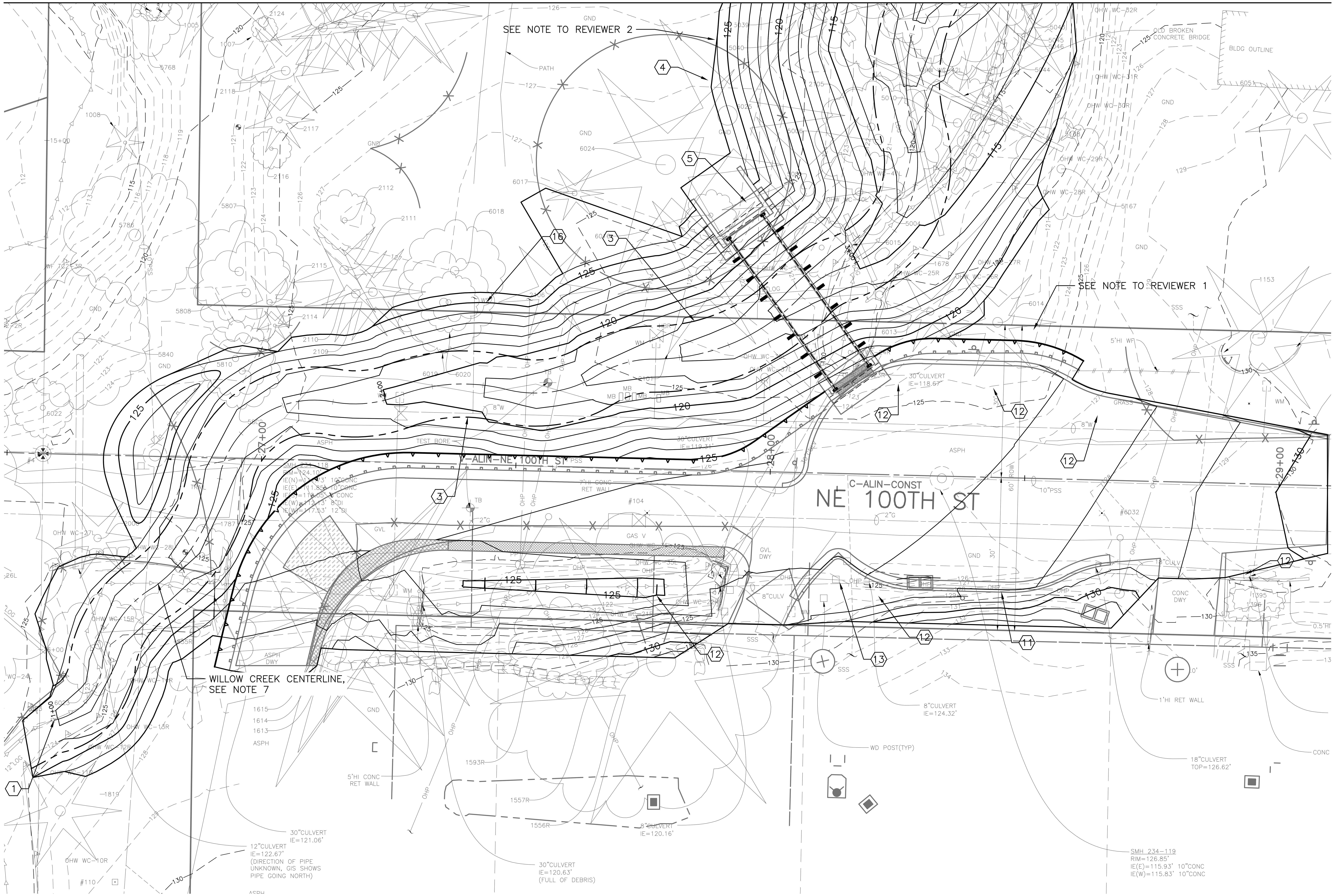
JOB PC CO

VPI #

C-122

SHEET 14 OF 62

MATCH LINE STA 03+55 – SEE SHEET 16



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SCALE IN FEET

NOTES:

1. GRADING EXTENTS OF WILLOW CREEK BASED ON VARYING CROSS SECTIONS. SEE DETAIL 1 ON SHEET 21 FOR STANDARD CREEK CROSS SECTION FOR STA 1+00 TO 3+00. SEE DETAIL 2 ON SHEET 21 FOR STANDARD CROSS SECTION FOR STA 3+00 TO 5+00.
2. SEE SHEET 42 AND 43 FOR ROADWAY DESIGN AND DETAILS.
3. SEE SHEETS 6 AND 7 FOR ALL TREE REMOVAL AND FENCING DESIGN.
4. SEE SHEET 35 FOR DRAINAGE DESIGN.
5. SEE SHEET 37 FOR UTILITY DESIGN.
6. SEE SHEETS 52 THRU 54 FOR BRIDGE DESIGN.
7. FOR PROPOSED WILLOW CREEK HORIZONTAL CONTROL INFORMATION, SEE SHEETS 17, 18 AND 21.
8. FOR LOGS THAT DO NOT INCLUDE A DETAIL PLACEMENT, REFER TO DETAILS PROVIDED FOR GENERAL PLACEMENT METHODOLOGY, CONTROL POINT TABLE, AND DETERMINE APPROPRIATE PLACEMENT LOCATION FOR THE SPECIFIC LOG. ADDITIONAL DETAILS WILL BE ADDED AS NEEDED IN SUBSEQUENT SUBMITTALS.
9. FOR ADDITIONAL INFORMATION REGARDING LARGE WOODY MATERIAL DESIGN AND PLACEMENT, SEE SHEETS 27 THRU 29.

KEY NOTES:

- (1) START OF WILLOW CREEK REROUTE
- (3) TOE OF BANK
- (4) TOP OF BANK
- (5) PROPOSED PED BRIDGE, SEE NOTE 6
- (11) PROPOSED ROADWAY, SEE NOTE 2
- (12) PROPOSED DRAINAGE, SEE NOTE 4
- (13) PROPOSED UTILITIES, SEE NOTE 5
- (16) TREE PROTECTION FENCING, TYP SEE NOTE 3

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

GRADING PLAN 1 OF 2

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING .... 20.....
REVIEWED BY SPU/DRAINAGE .... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING .... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON .... 20 ..
BY: ....
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON, STATE OF WASHINGTON, 42769, REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS101
SHEET 15 OF 62

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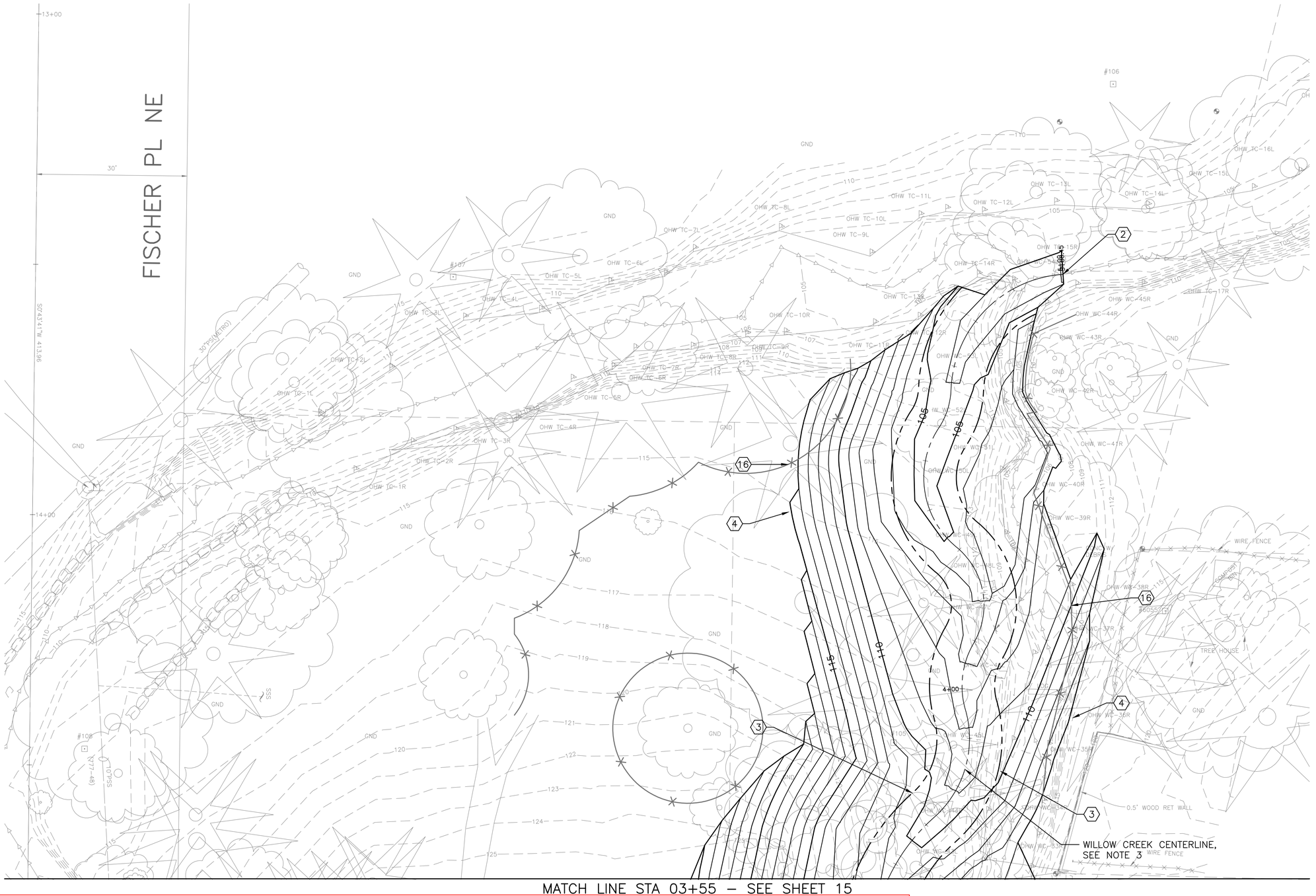

MATCH LINE STA 03+55 – SEE SHEET 15

N

20 10 0 20 40

SCALE IN FEET

NOTES:

1. GRADING EXTENTS OF WILLOW CREEK BASED ON VARYING CROSS SECTIONS. SEE DETAIL 1 ON SHEET 21 FOR STANDARD CREEK CROSS SECTION FOR STA 1+00 TO 3+00. SEE DETAIL 2 ON SHEET 21 FOR STANDARD CROSS SECTION FOR STA 3+00 TO 5+00.
2. SEE SHEETS 6 AND 7 FOR ALL TREE REMOVAL AND FENCING DESIGN.
3. FOR PROPOSED WILLOW CREEK HORIZONTAL CONTROL INFORMATION, SEE SHEETS 17, 18 AND 21.
4. FOR LOGS THAT DO NOT INCLUDE A DETAIL PLACEMENT, REFER TO DETAILS PROVIDED FOR GENERAL PLACEMENT METHODOLOGY, CONTROL POINT TABLE, AND DETERMINE APPROPRIATE PLACEMENT LOCATION FOR THE SPECIFIC LOG. ADDITIONAL DETAILS WILL BE ADDED AS NEEDED IN SUBSEQUENT SUBMITTALS.
5. FOR ADDITIONAL INFORMATION REGARDING LARGE WOODY MATERIAL DESIGN AND PLACEMENT, SEE SHEETS 27 THRU 29.
6. FOR HORIZONTAL CONTROL INFORMATION ON LWM AND SWM PLACEMENT, SEE SHEETS 31 THROUGH 34.
7. STREAMBED MATERIAL GRADATION IS PER THE PROJECT SPECIFICATIONS. EXTENTS OF EACH GRADATION ARE BELOW:

   19) AND STA 4+30 TO 5+00
   7% SBM – STA 3+00 TO 4+30

KEY NOTES:

2. WILLOW CREEK CONFLUENCE WITH THORNTON CREEK, END OF REROUTE
3. TOE OF BANK
4. TOP OF BANK
16. TREE PROTECTION FENCING, TYP SEE NOTE 3

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

GRADING PLAN 2 OF 2

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED AC		REVIEWED:	
CHECKED JE		DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN TW		RECEIVED	
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STATE OF WASHINGTON · JAMES CARLSON · 42769 · REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CS102	
SHEET 16 OF 62	

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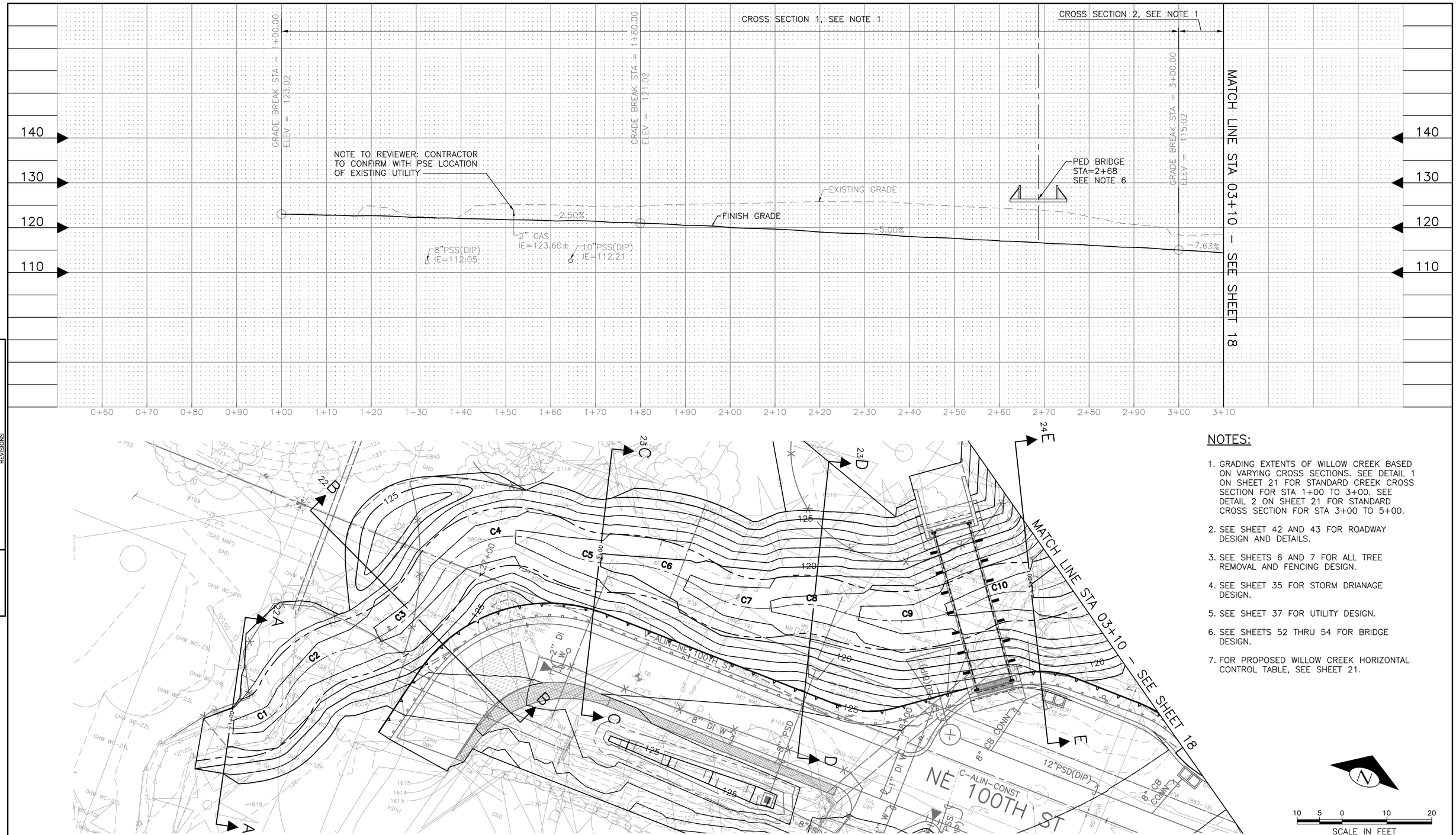

NOTES:

1. GRADING EXTENTS OF WILLOW CREEK BASED ON VARYING CROSS SECTIONS. SEE DETAIL 1 ON SHEET 21 FOR STANDARD CREEK CROSS SECTION FOR STA 1+00 TO 3+00. SEE DETAIL 2 ON SHEET 21 FOR STANDARD CROSS SECTION FOR STA 3+00 TO 5+00.
2. SEE SHEET 42 AND 43 FOR ROADWAY DESIGN AND DETAILS.
3. SEE SHEETS 6 AND 7 FOR ALL TREE REMOVAL AND FENCING DESIGN.
4. SEE SHEET 35 FOR STORM DRIANAGE DESIGN.
5. SEE SHEET 37 FOR UTILITY DESIGN.
6. SEE SHEETS 52 THRU 54 FOR BRIDGE DESIGN.
7. FOR PROPOSED WILLOW CREEK HORIZONTAL CONTROL TABLE, SEE SHEET 21.

N

10 5 0 10 20
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK PLAN AND PROFILE 1 OF 2

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

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AMY L. CARLSON — STATE OF WASHINGTON — 42769 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: H. 1"=20', V. 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS111
SHEET 17 OF 62

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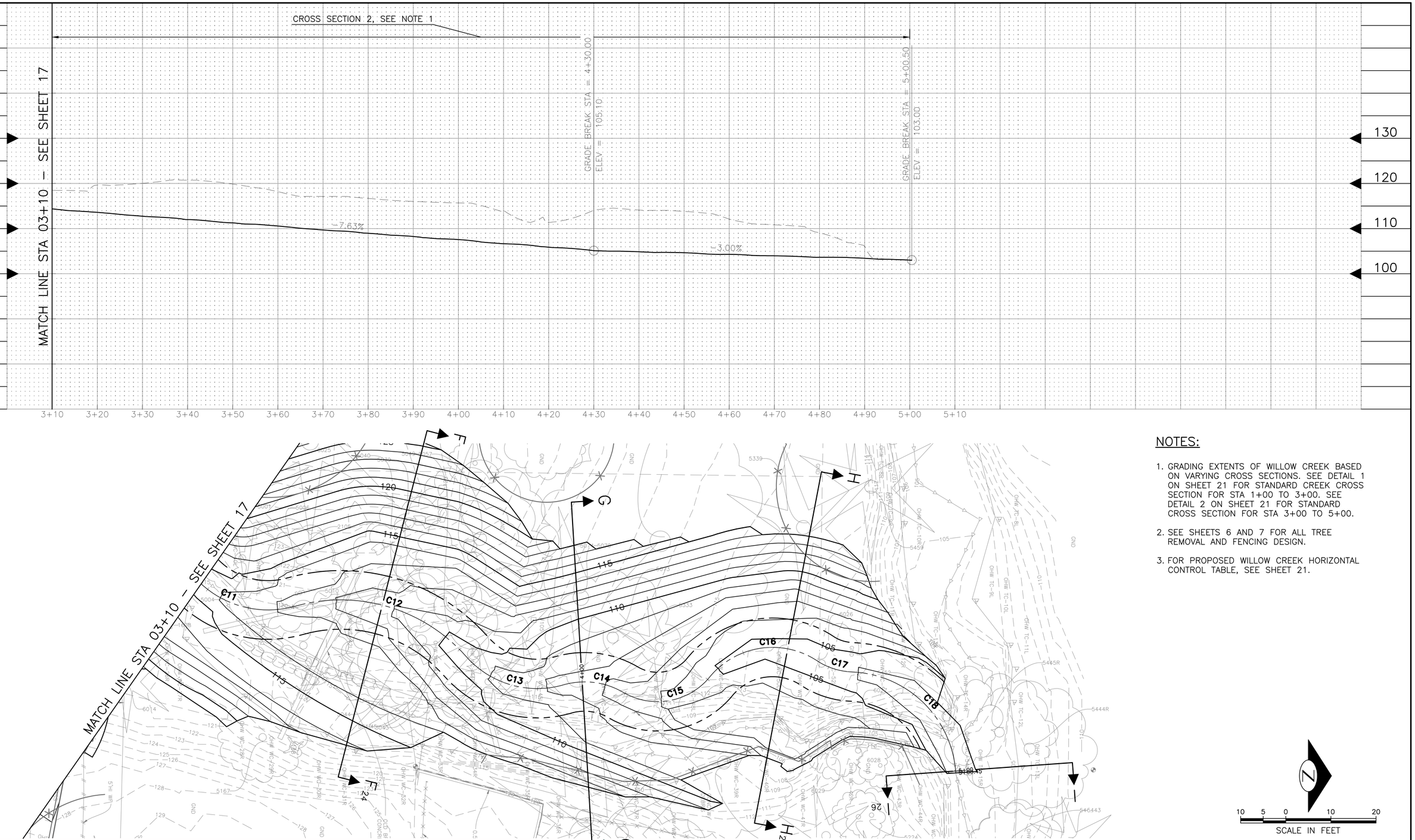

NOTES:

1. GRADING EXTENTS OF WILLOW CREEK BASED ON VARYING CROSS SECTIONS. SEE DETAIL 1 ON SHEET 21 FOR STANDARD CREEK CROSS SECTION FOR STA 1+00 TO 3+00. SEE DETAIL 2 ON SHEET 21 FOR STANDARD CROSS SECTION FOR STA 3+00 TO 5+00.
2. SEE SHEETS 6 AND 7 FOR ALL TREE REMOVAL AND FENCING DESIGN.
3. FOR PROPOSED WILLOW CREEK HORIZONTAL CONTROL TABLE, SEE SHEET 21.

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SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK PLAN AND PROFILE 2 OF 2

VAULT SERIAL NO.	DATE	MARK	REVISIONS	MADE	CHK'D	REV'D
			NATURE			

Jacobs

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LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

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AMY M. CARLSON
STATE OF WASHINGTON
42769
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CS112	
SHEET 18 OF 62	

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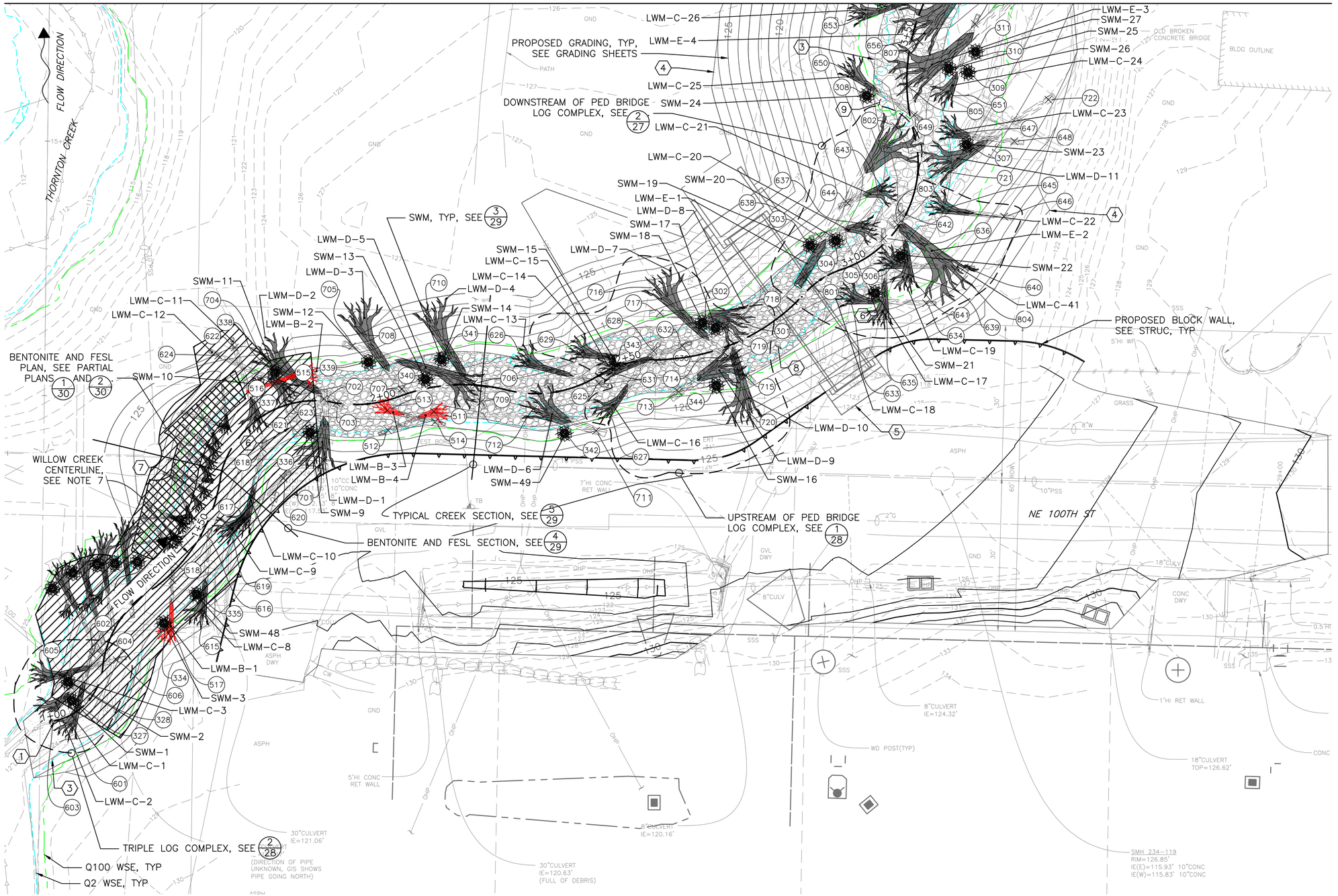
MATCH LINE STA 03+55 – SEE SHEET 16



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SCALE IN FEET

NOTES:

1. SEE SHEET 41 AND 42 FOR ROADWAY DESIGN AND DETAILS.
2. SEE SHEETS 6 AND 7 FOR TREE REMOVAL AND FENCING DESIGN.
3. SEE SHEET 35 FOR DRAINAGE DESIGN.
4. SEE SHEET 36 FOR UTILITY DESIGN.
5. SEE SHEETS XX THROUGH XX FOR BRIDGE DESIGN.
6. FOR PROPOSED WILLOW CREEK HORIZONTAL CONTROL INFORMATION, SEE SHEETS 17, 18, AND 21 .
7. FOR LOGS THAT DO NOT INCLUDE A DETAIL PLACEMENT, REFER TO DETAILS PROVIDED FOR GENERAL PLACEMENT METHODOLOGY. THE CONTROL POINT TABLES INCLUDED IN SHEETS 31 THROUGH 34 INCLUDE HORIZONTAL AND VERTICAL DESIGN INFORMATION TO PLACE THE LOGS IN SPACE. ADDITIONAL DETAILS WILL BE ADDED AS NEEDED IN SUBSEQUENT SUBMITTALS.
8. FOR DETAILS ASSOCIATED WITH LWM INSTALLATION, SEE SHEETS 27 THROUGH 30.
9. FOR HORIZONTAL CONTROL INFORMATION ON LWM AND SWM PLACEMENT SEE SHEETS 31 THROUGH 34.
10. SEE SHEETS 9 AND 10 FOR TREE INVENTORY AND LWM REUSE POTENTIAL.
11. DURING CONSTRUCTION, THE FIELD ENGINEER WILL BE ONSITE TO ASSIST THE CONTRACTOR WITH THE INSTALLATION OF LWM AND SWM.
12. STREAMBED MATERIAL GRADATIONS IS PER THE PROJECT SPECIFICATIONS. EXTENTS OF EACH GRADATION ARE BELOW:
    3% SBM – STA 1+00 TO 1+80 AND STA 4+30 TO 5+00 (SEE SHEET 20)
    5% SMB – STA 1+80 TO 3+00
    7% – STA 3+00 TO 4+30

KEY NOTES:

1. START OF WILLOW CREEK REROUTE
3. TOE OF BANK
4. TOP OF BANK
5. PROPOSED PED BRIDGE, SEE NOTE 5
6. SBM TRANSITION ZONE, SEE NOTE 12
7. 3% REACH SBM EXTENTS, SEE NOTE 12, TYP
8. 5% REACH SBM EXTENTS, SEE NOTE 12, TYP
9. 7% REACH SBM EXTENTS, SEE NOTE 12, TYP

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM LAYOUT 1 OF 2

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

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DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

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DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON — STATE OF WASHINGTON — 42770 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CS121	
SHEET 19 OF 62	

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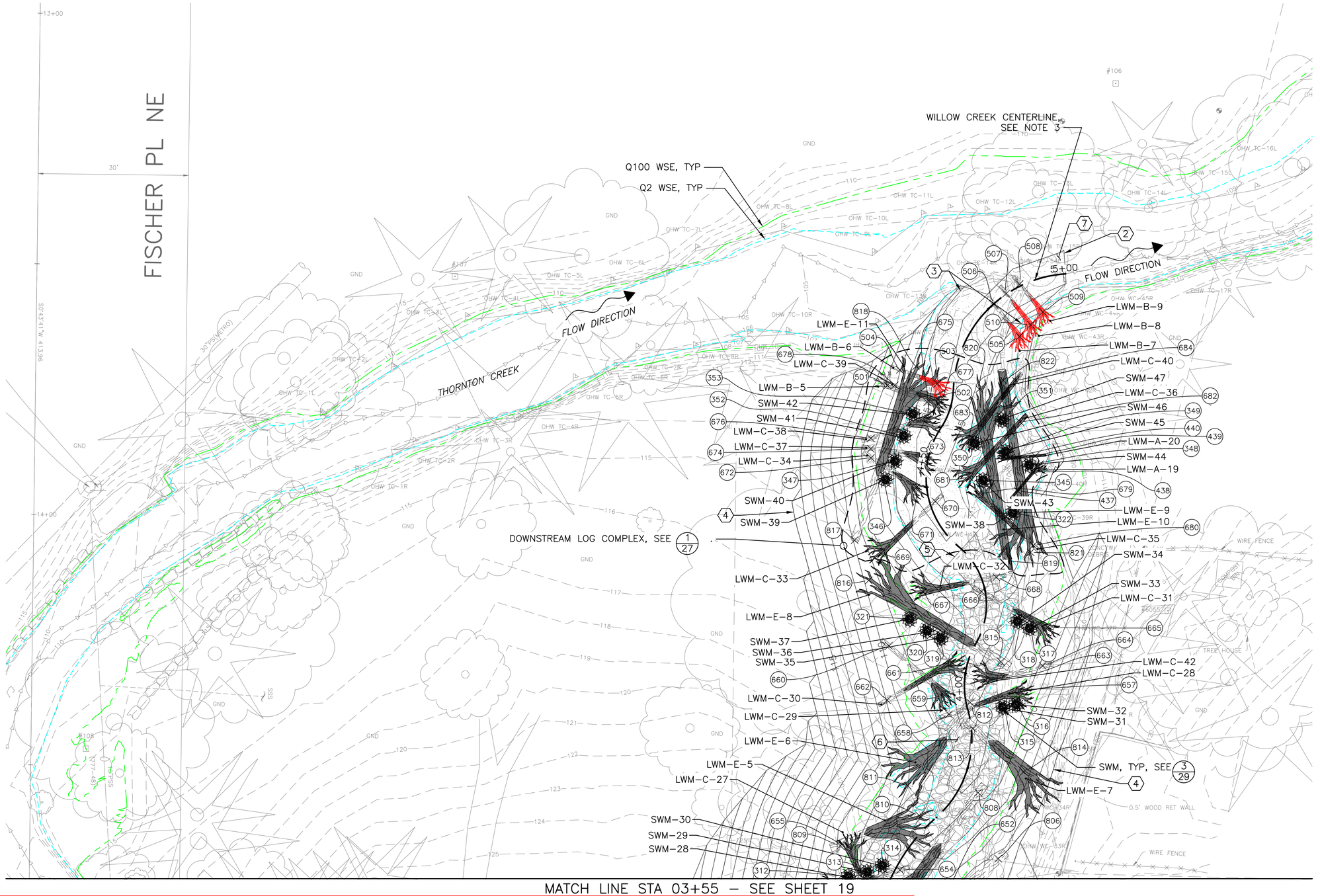
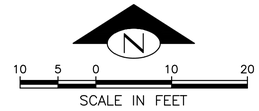


MATCH LINE STA 03+55 – SEE SHEET 19



NOTES:

1. SEE SHEET 41 AND 42 FOR ROADWAY DESIGN AND DETAILS.
2. SEE SHEETS 6 AND 7 FOR TREE REMOVAL AND FENCING DESIGN.
3. SEE SHEET 35 FOR DRAINAGE DESIGN.
4. SEE SHEET 36 FOR UTILITY DESIGN.
5. SEE SHEETS XX THROUGH XX FOR BRIDGE DESIGN.
6. FOR PROPOSED WILLOW CREEK HORIZONTAL CONTROL INFORMATION, SEE SHEETS 17, 18, AND 21 .
7. FOR LOGS THAT DO NOT INCLUDE A DETAIL PLACEMENT, REFER TO DETAILS PROVIDED FOR GENERAL PLACEMENT METHODOLOGY. THE CONTROL POINT TABLES INCLUDED IN SHEETS 31 THROUGH 34 INCLUDE HORIZONTAL AND VERTICAL DESIGN INFORMATION TO PLACE THE LOGS IN SPACE. ADDITIONAL DETAILS WILL BE ADDED AS NEEDED IN SUBSEQUENT SUBMITTALS.
8. FOR DETAILS ASSOCIATED WITH LWM INSTALLATION, SEE SHEETS 27 THROUGH 30.
9. FOR HORIZONTAL CONTROL INFORMATION ON LWM AND SWM PLACEMENT SEE SHEETS 31 THROUGH 34.
10. SEE SHEETS 9 AND 10 FOR TREE INVENTORY AND LWM REUSE POTENTIAL.
11. DURING CONSTRUCTION, THE FIELD ENGINEER WILL BE ONSITE TO ASSIST THE CONTRACTOR WITH THE INSTALLATION OF LWM AND SWM.
12. STREAMBED MATERIAL GRADATIONS IS PER THE PROJECT SPECIFICATIONS. EXTENTS OF EACH GRADATION ARE BELOW:
    3% SBM – STA 1+00 TO 1+80 AND STA 4+30 TO 5+00 (SEE SHEET 20)
    5% SMB – STA 1+80 TO 3+00
    7% – STA 3+00 TO 4+30

KEY NOTES:

2. WILLOW CREEK CONFLUENCE WITH THORNTON CREEK, END OF REROUTE
3. TOE OF BANK
4. TOP OF BANK
5. SBM TRANSITION ZONE, SEE NOTE 12
6. 7% REACH SBM EXTENTS, SEE NOTE 12, TYP
7. 3% REACH SBM EXTENTS, SEE NOTE 12, TYP

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Feb-20-23 4:18pm

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM LAYOUT 2 OF 2

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON — STATE OF WASHINGTON — 42771 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS122
SHEET 20 OF 62

WILLOW CREEK ALIGNMENT						
CURVE NUMBER	RADIUS [FT]	LENGTH [FT]	DELTA	PC	PI	PT
C1	12.00	15.99	103° 39' 38"	STA: 1+00.00 N: 259159.94 E: 1278905.26	N: 259161.91 E: 1278914.49	STA: 1+15.99 N: 259171.34 E: 1278914.75
C2	21.00	18.78	128° 46' 03"	STA: 1+15.99 N: 259171.34 E: 1278914.75	N: 259181.28 E: 1278916.35	STA: 1+34.77 N: 259186.26 E: 1278925.10
C3	33.00	26.46	134° 03' 08"	STA: 1+34.77 N: 259186.26 E: 1278925.10	N: 259194.70 E: 1278936.26	STA: 1+61.23 N: 259208.59 E: 1278937.95
C4	19.00	28.39	094° 23' 36"	STA: 1+61.23 N: 259208.59 E: 1278937.95	N: 259225.63 E: 1278942.33	STA: 1+89.62 N: 259222.56 E: 1278959.66
C5	24.00	13.55	147° 38' 44"	STA: 1+89.62 N: 259222.56 E: 1278959.66	N: 259221.19 E: 1278966.49	STA: 2+03.17 N: 259223.69 E: 1278972.99
C6	35.00	21.96	144° 02' 36"	STA: 2+03.17 N: 259223.69 E: 1278972.99	N: 259227.76 E: 1278983.59	STA: 2+25.14 N: 259224.82 E: 1278994.56
C7	23.00	18.25	134° 31' 54"	STA: 2+25.14 N: 259224.82 E: 1278994.56	N: 259222.63 E: 1279003.95	STA: 2+43.39 N: 259227.79 E: 1279012.09
C8	21.00	10.84	150° 24' 59"	STA: 2+43.39 N: 259227.79 E: 1279012.09	N: 259230.69 E: 1279016.81	STA: 2+54.23 N: 259230.89 E: 1279022.35
C9	40.00	33.07	132° 37' 33"	STA: 2+54.23 N: 259230.89 E: 1279022.35	N: 259230.57 E: 1279039.90	STA: 2+87.30 N: 259243.26 E: 1279052.02
C10	17.00	9.53	147° 52' 27"	STA: 2+87.30 N: 259243.26 E: 1279052.02	N: 259247.05 E: 1279055.13	STA: 2+96.84 N: 259248.59 E: 1279059.77
C11	22.00	33.85	091° 50' 41"	STA: 2+96.84 N: 259248.59 E: 1279059.77	N: 259255.24 E: 1279080.01	STA: 3+30.69 N: 259275.68 E: 1279074.02
C12	37.00	41.44	115° 49' 32"	STA: 3+30.69 N: 259275.68 E: 1279074.02	N: 259298.03 E: 1279067.81	STA: 3+72.13 N: 259313.36 E: 1279085.23
C13	21.00	23.15	116° 50' 54"	STA: 3+72.13 N: 259313.36 E: 1279085.23	N: 259321.90 E: 1279094.90	STA: 3+95.27 N: 259334.39 E: 1279091.65
C14	17.00	14.62	130° 44' 02"	STA: 3+95.27 N: 259334.39 E: 1279091.65	N: 259341.81 E: 1279089.27	STA: 4+09.89 N: 259348.46 E: 1279093.34
C15	15.00	21.28	098° 43' 45"	STA: 4+09.89 N: 259348.46 E: 1279093.34	N: 259359.71 E: 1279099.59	STA: 4+31.17 N: 259367.60 E: 1279089.42
C16	18.00	26.51	095° 37' 35"	STA: 4+31.17 N: 259367.60 E: 1279089.42	N: 259378.27 E: 1279077.08	STA: 4+57.67 N: 259391.60 E: 1279086.49
C17	15.00	7.63	150° 51' 55"	STA: 4+57.67 N: 259391.60 E: 1279086.49	N: 259394.94 E: 1279088.50	STA: 4+65.30 N: 259398.83 E: 1279088.64
C18	24.00	35.14	096° 06' 02"	STA: 4+65.30 N: 259398.83 E: 1279088.64	N: 259420.39 E: 1279089.48	STA: 5+00.45 N: 259421.84 E: 1279111.01

NATURE REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.	DATE	MARK

5 2.5 0 5 10
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

GRADING DETAILS

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED: DES. CONST. SDOT PROJ. MGR.
CHECKED JE	RECEIVED
DRAWN TW	REVISED AS BUILT
CHECKED JE	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

A. M. C. R. E. SON
STATE OF WASHINGTON
42772
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS201
SHEET 21 OF 62

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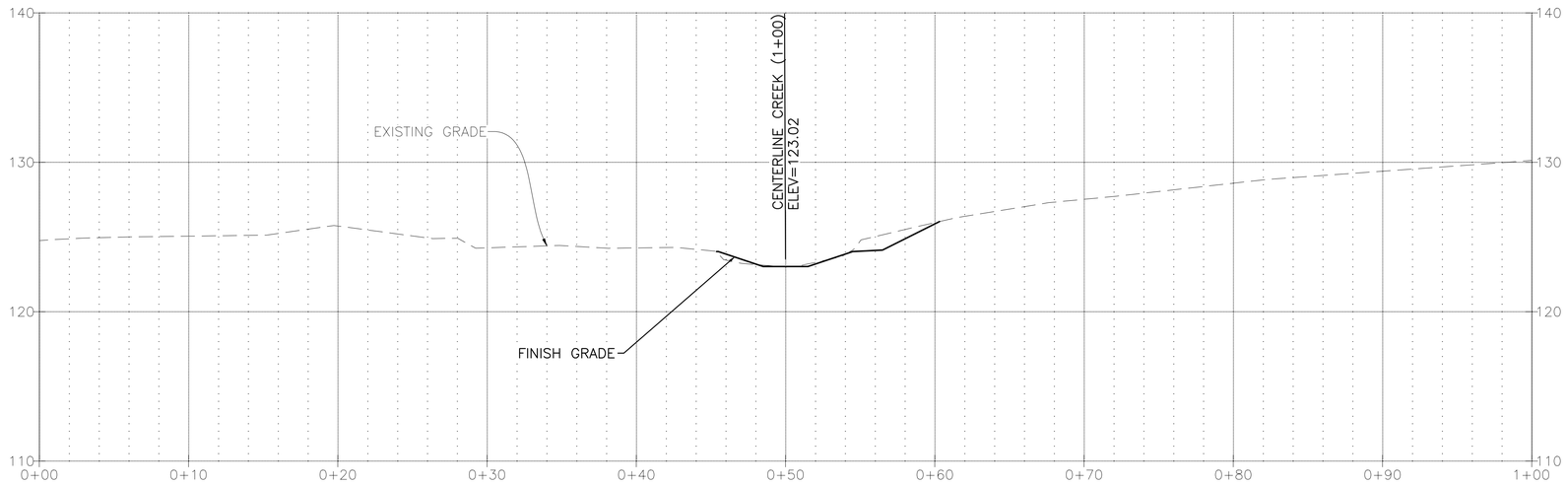
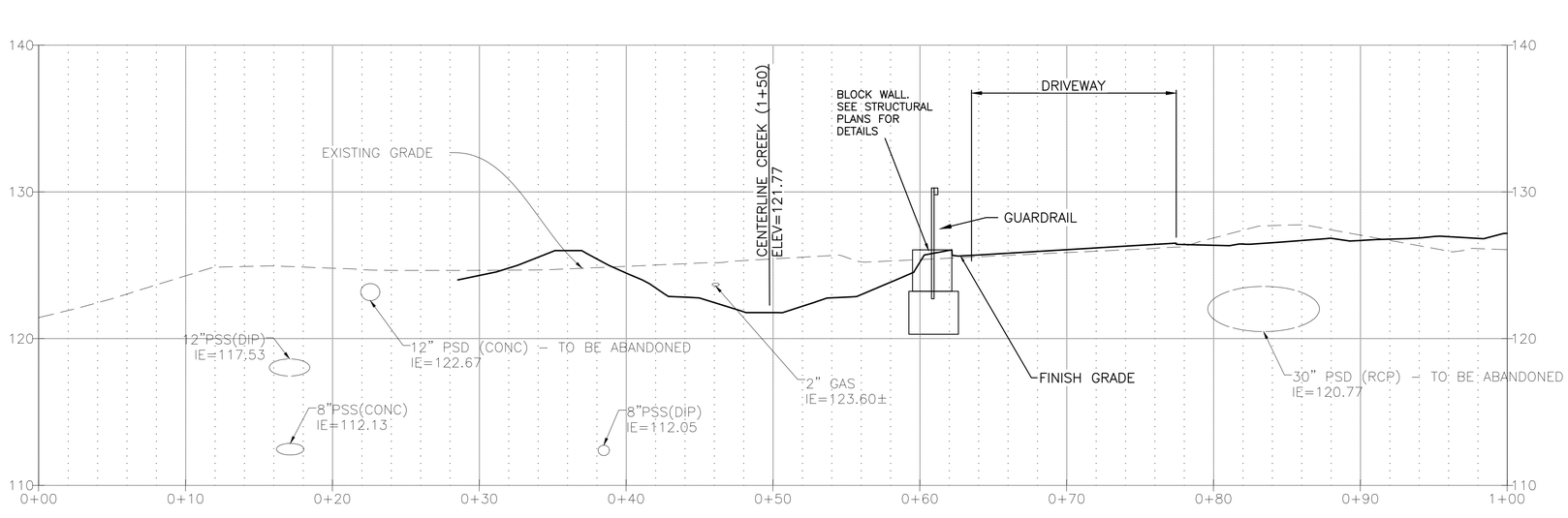
Feb-20-23 4:18pm

NOTES:

1. FOR WILLOW CREEK ALIGNMENT LAYOUT, SEE SHEETS 17 AND 18.
2. FOR WILLOW CREEK ALIGNMENT TABLE, SEE SHEET 21.
3. CROSS SECTIONS A AND B DO NOT MATCH TYPICAL SECTIONS. TRANSITIONING FROM EXISTING TO PROPOSED.



SECTION A–A 15
SCALE: 1"=5'–0"



SECTION B–B 15
SCALE: 1"=5'–0"

5 2.5 0 5 10
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK CROSS SECTIONS AND DETAILS – SHEET 1 OF 5

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. C. PETERSON
STATE OF WASHINGTON
42773
REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS202
SHEET 22 OF 62

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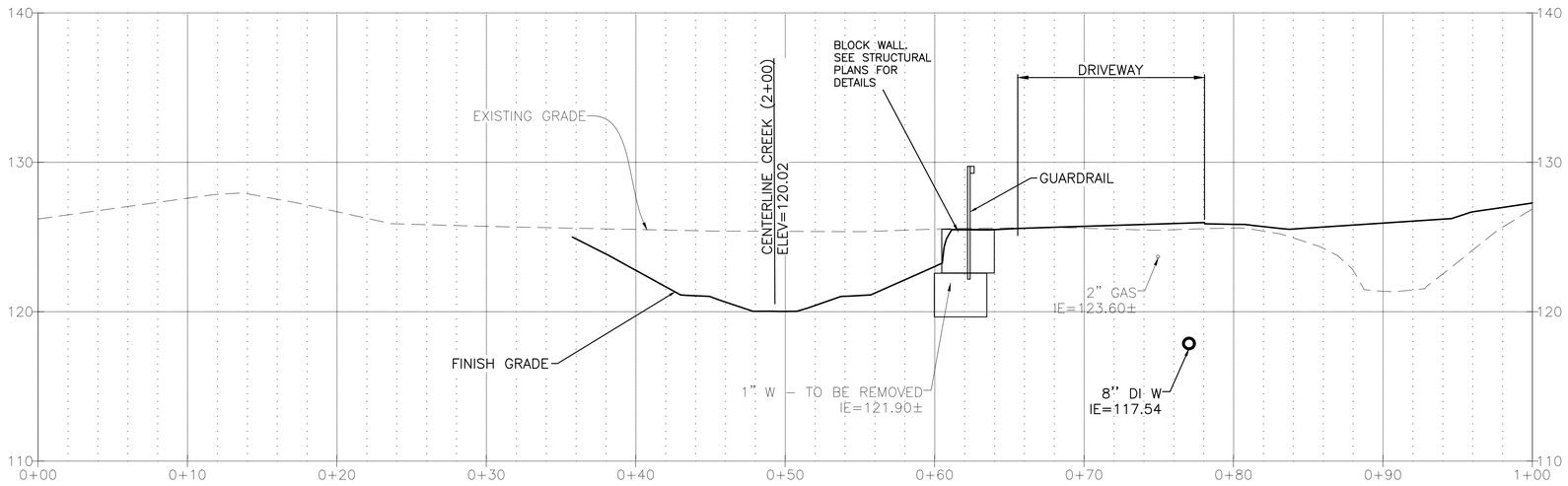
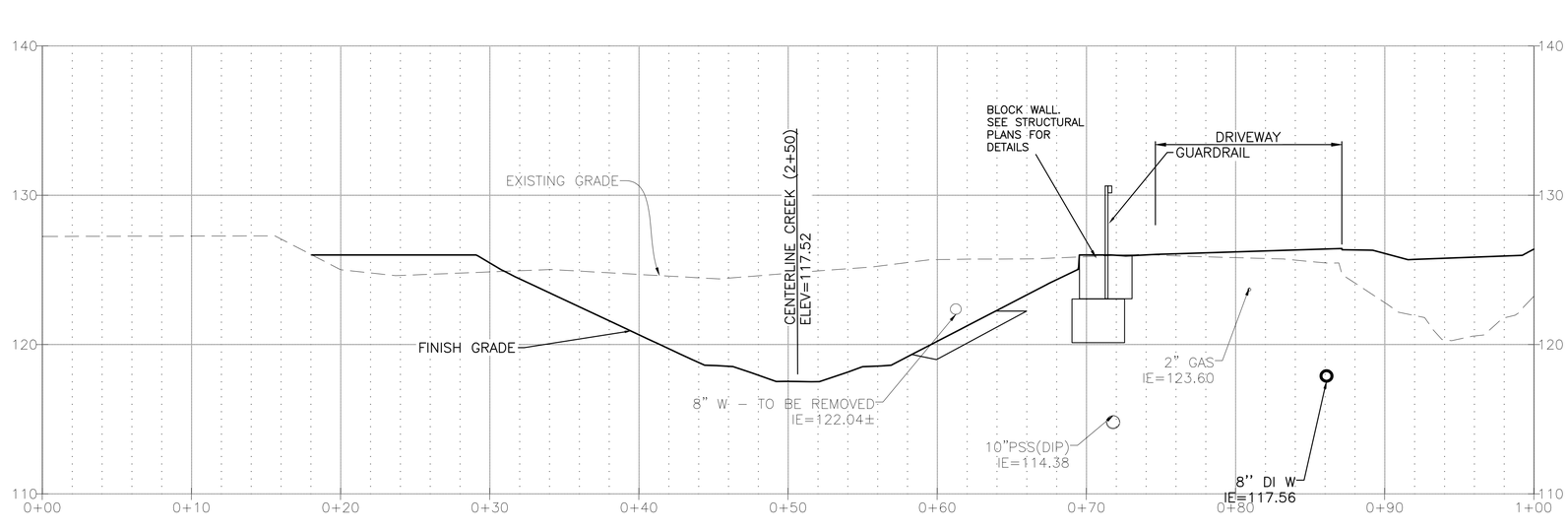
Feb-20-23 4:19pm

NOTES:

1. FOR WILLOW CREEK ALIGNMENT LAYOUT, SEE SHEETS 17 AND 18.
2. FOR WILLOW CREEK ALIGNMENT TABLE, SEE SHEET 21.
3. FOR ADDITIONAL UTILITY INFORMATION, SEE SHEETS 35 THRU 41.



SECTION C–C 15
SCALE: 1"=5'–0"



SECTION D–D 15
SCALE: 1"=5'–0"

5 2.5 0 5 10
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK CROSS SECTIONS AND DETAILS – SHEET 2 OF 5

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

A. M. CARLSON — STATE OF WASHINGTON — 42774 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI # CS203
SHEET 23 OF 62

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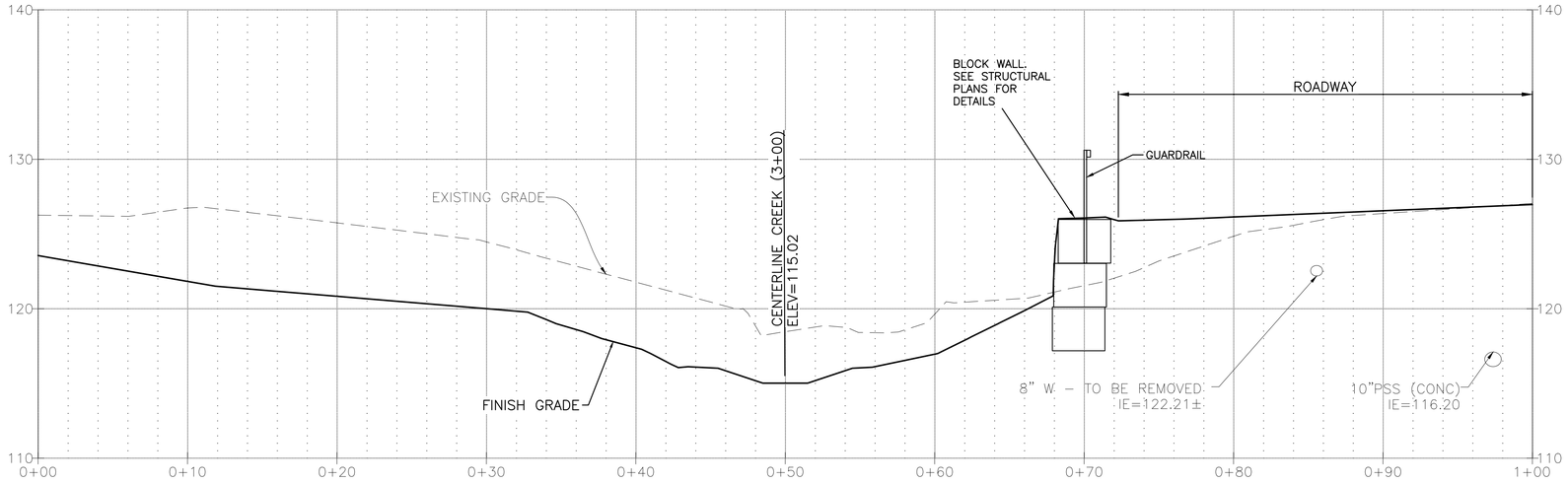

SECTION E–E 15

SCALE: 1"=5'–0"

SECTION F–F 16

SCALE: 1"=5'–0"

NOTES:

1. FOR WILLOW CREEK ALIGNMENT LAYOUT, SEE SHEETS 17 AND 18.
2. FOR WILLOW CREEK ALIGNMENT TABLE, SEE SHEET 21.

5 2.5 0 5 10

SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK CROSS SECTIONS AND DETAILS – SHEET 3 OF 5

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....

REVIEWED BY SPU/DRAINAGE ..... 20.....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED	AC
CHECKED	JE
DRAWN	TW
CHECKED	JE

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

A. M. CARLSON — STATE OF WASHINGTON — 42775 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI #

CS204

SHEET 24 OF 62

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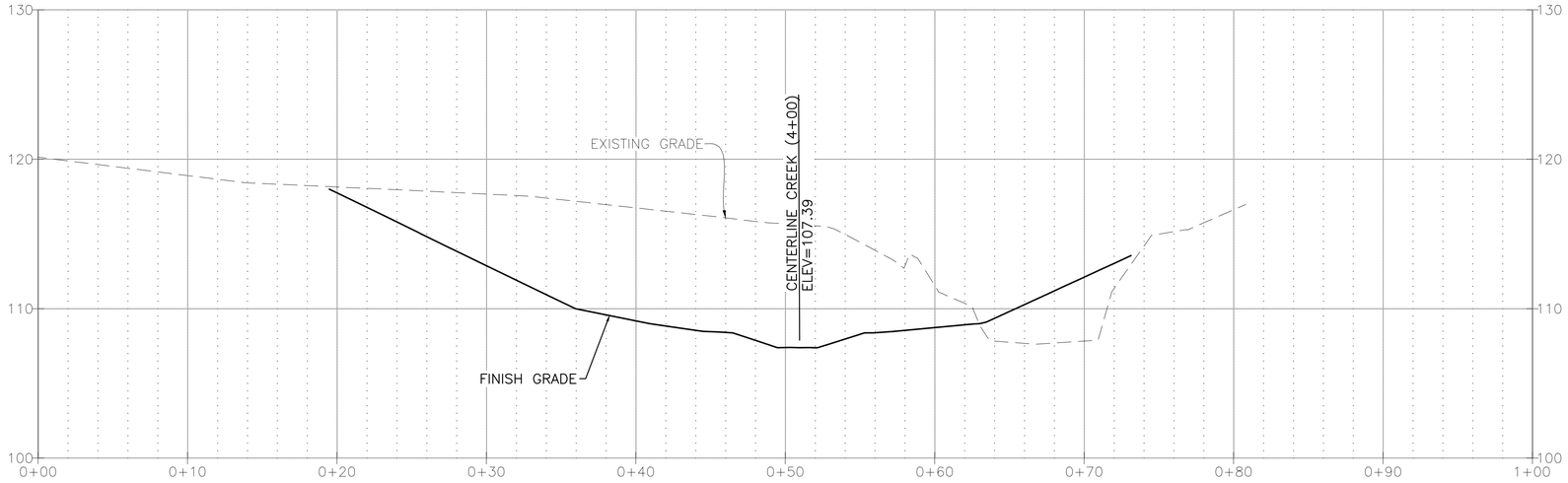

SECTION G–G 16
SCALE: 1"=5'–0"

SECTION H–H 16
SCALE: 1"=5'–0"

NOTES:
1. FOR WILLOW CREEK ALIGNMENT LAYOUT, SEE SHEETS 17 AND 18.
2. FOR WILLOW CREEK ALIGNMENT TABLE, SEE SHEET 21.

5 2.5 0 5 10
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK CROSS SECTIONS AND DETAILS – SHEET 4 OF 5

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

A. M. CARLSON STATE OF WASHINGTON 42776 REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS205
SHEET 25 OF 62

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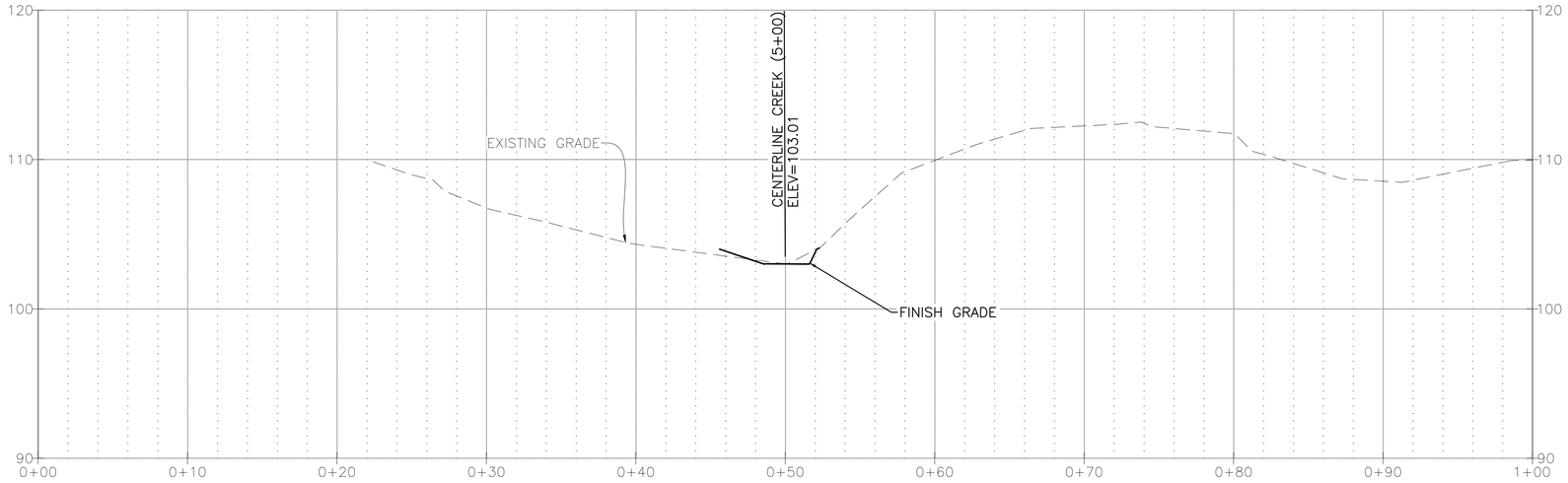
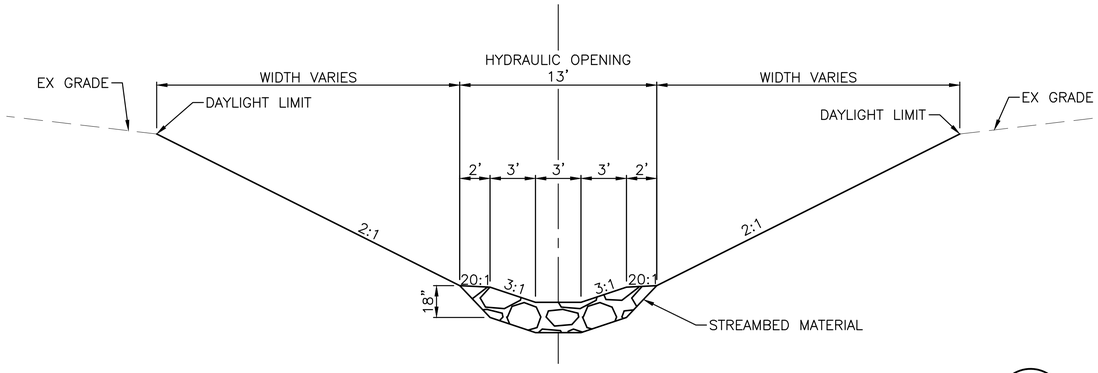
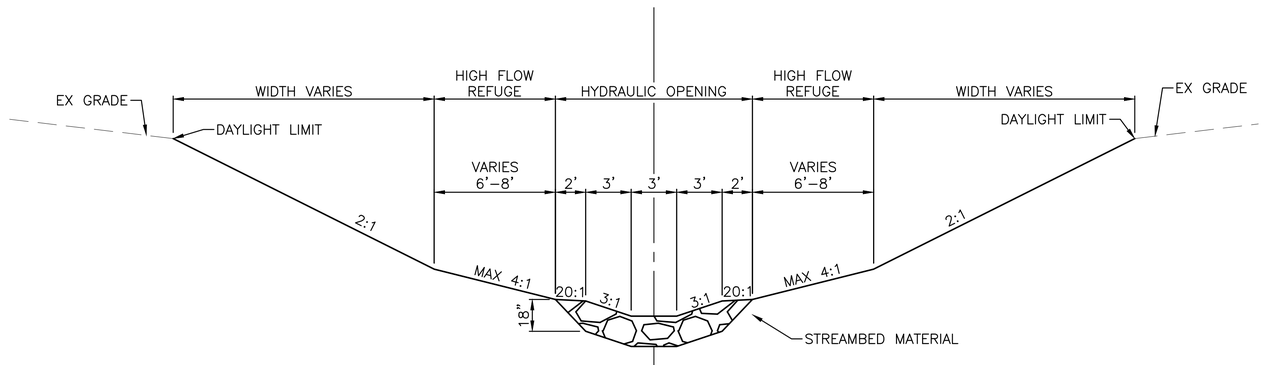


SECTION I–I 16
SCALE: 1"=5'–0"

NOTES:
1. FOR WILLOW CREEK ALIGNMENT LAYOUT, SEE SHEETS 17 AND 18.
2. FOR WILLOW CREEK ALIGNMENT TABLE, SEE SHEET 21.



TYPICAL CREEK CROSS SECTION, STA 1+00 TO 3+00 A 15
SCALE:1"=5'–0"



TYPICAL CREEK CROSS SECTION, STA 3+00 TO STA 5+00 B 15
SCALE:1"=5'–0"

5 2.5 0 5 10
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

CREEK CROSS SECTIONS AND DETAILS – SHEET 5 OF 5

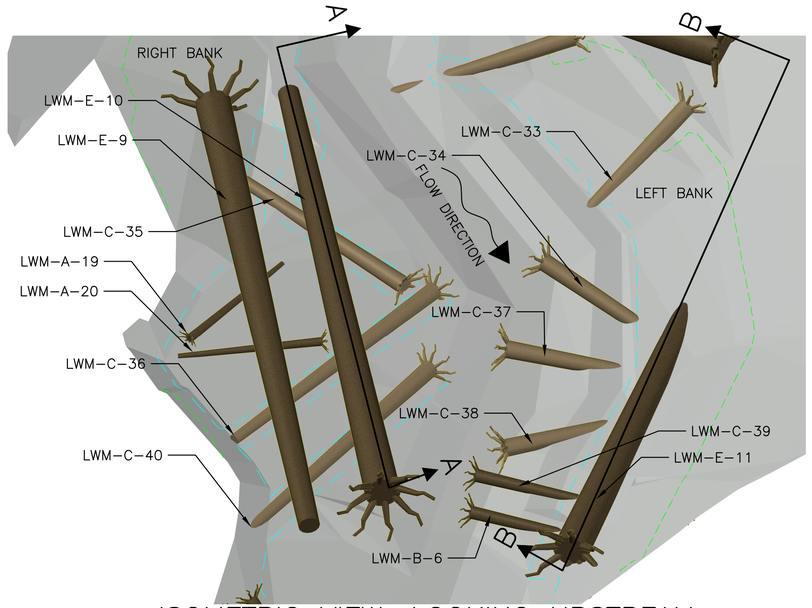
REVIEWED BY SPU/WATER ENGINEERING ..... 20.....	APPROVED FOR ADVERTISING LIZ ALZEER, DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES, SEATTLE, WASHINGTON . . . . . 20 . . .	INITIALS AND DATE: DESIGNED AC, CHECKED JE	INITIALS AND DATE: REVIEWED: DES. CONST. SDOT PROJ. MGR.	Seattle Department of Transportation
REVIEWED BY SPU/DRAINAGE ..... 20.....		DRAWN TW, CHECKED JE	RECEIVED, REVISED AS BUILT	ORDINANCE NO. PW NO.
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....	BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR	ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.		SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

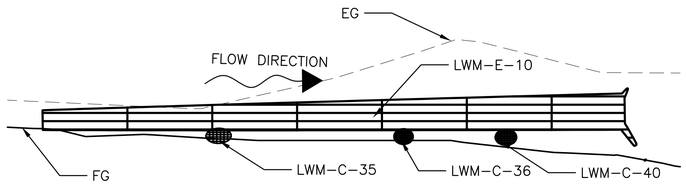
JOB PC CO | VPI # CS206 | SHEET 26 OF 62

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D REV'D

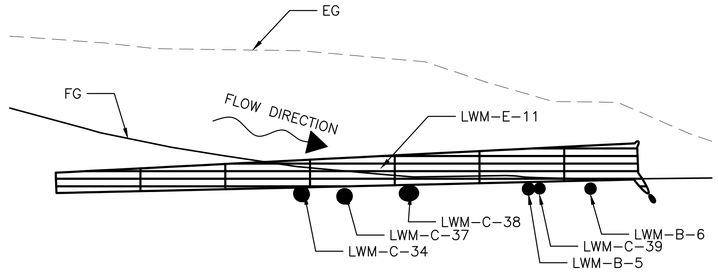
C:\pw_workdir\den003\ch2mhill_1weinste\d1215319\26 CS206.dwg
Feb-20-23 4:21pm



ISOMETRIC VIEW, LOOKING UPSTREAM



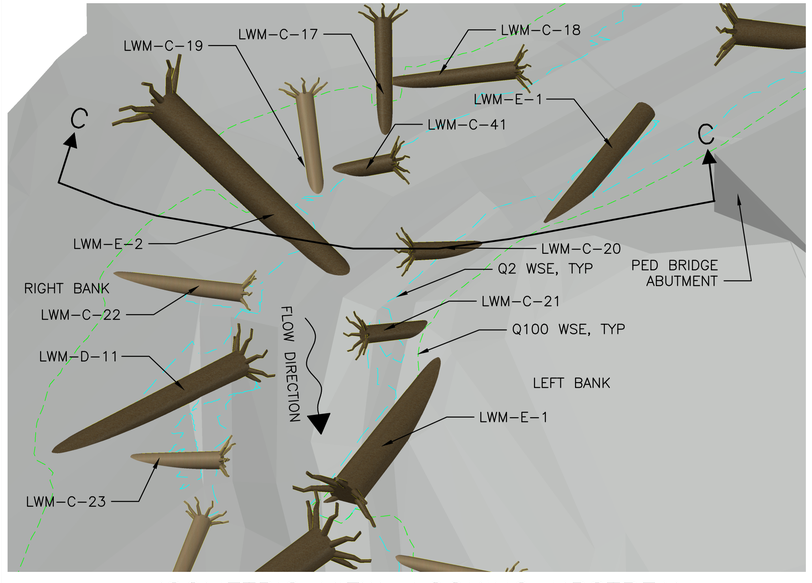
SECTION A–A



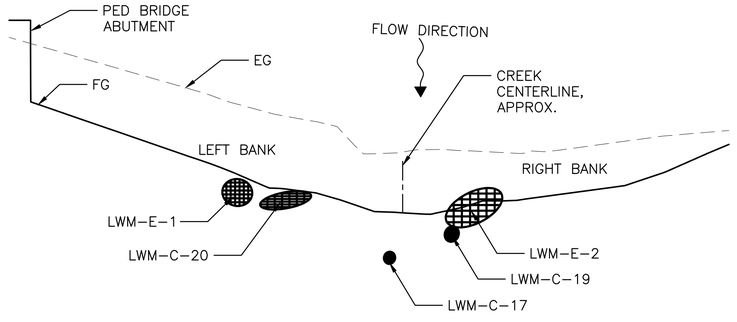
SECTION B–B

DOWNSTREAM LOG STRUCTURES

SCALE:1"=5'–0"



ISOMETRIC VIEW, LOOKING UPSTREAM



SECTION C–C, LOOKING DOWNSTREAM

LOG COMPLEX DS OF PED BRIDGE

SCALE:1"=5'–0"

NOTES:

1. ISOMETRIC AND SECTION VIEWS OF LOG STRUCTURES ARE MEANT AS GUIDES FOR LOG ORIENTATION. REFER TO CONTROL POINTS TABLES ON SHEETS 31 THROUGH 34 FOR PRECISE LOCATION OF LOGS WITHIN CREEK AREA.
2. ADDITIONAL ISOMETRIC VIEWS AND SECTIONS WILL BE ADDED IN SUBSEQUENT SUBMITTALS AS REQUIRED TO CONVEY LWM LAYOUT.
3. SECTIONS ARE 1H:1V SCALE.
4. 3–DIMENSIONAL BLOCKS FOR LWM SHOWN HEREIN ARE APPROXIMATIONS OF LWM USED FOR CONSTRUCTION. ACTUAL DIMENSIONS OF LWM USED WILL DIFFER FROM THESE IDEALIZED BLOCKS. AS SUCH, FIELD FITMENT AND ADJUSTMENT MAY BE REQUIRED TO REACH THE DESIRED LOG ORIENTATION.
5. DURING CONSTRUCTION, THE FIELD ENGINEER WILL BE ONSITE TO ASSIST THE CONTRACTOR WITH THE INSTALLATION OF LWM AND SWM.

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM DETAILS 1 OF 4

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	AC	REVIEWED:	
CHECKED	JE	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TW	RECEIVED	
CHECKED	JE	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0–02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON · STATE OF WASHINGTON · 52778 · REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS207
SHEET 27 OF 62

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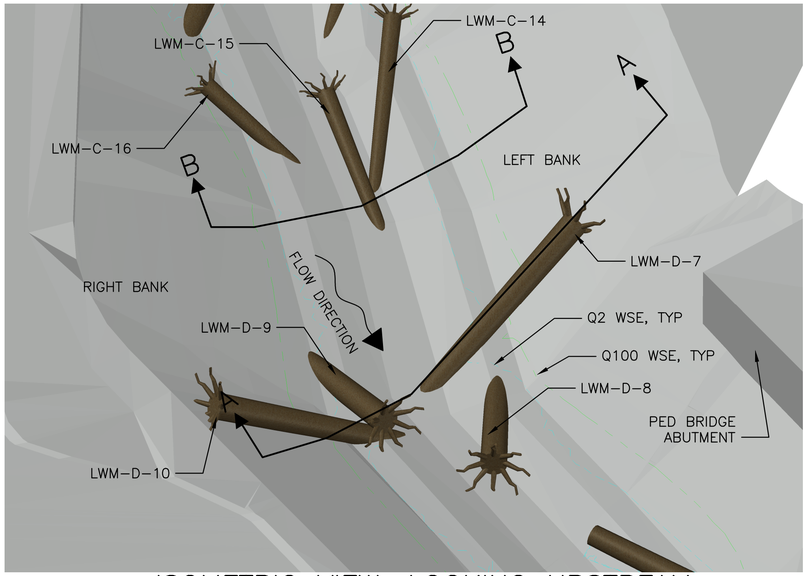
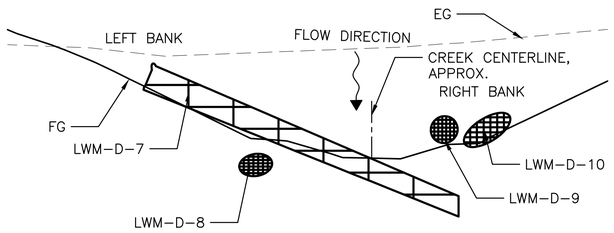
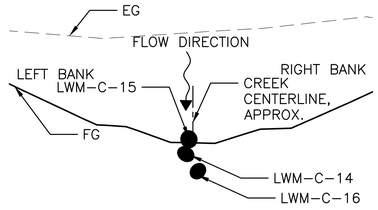


ISOMETRIC VIEW, LOOKING UPSTREAM



SECTION A–A, LOOKING DOWNSTREAM



SECTION B–B, LOOKING DOWNSTREAM

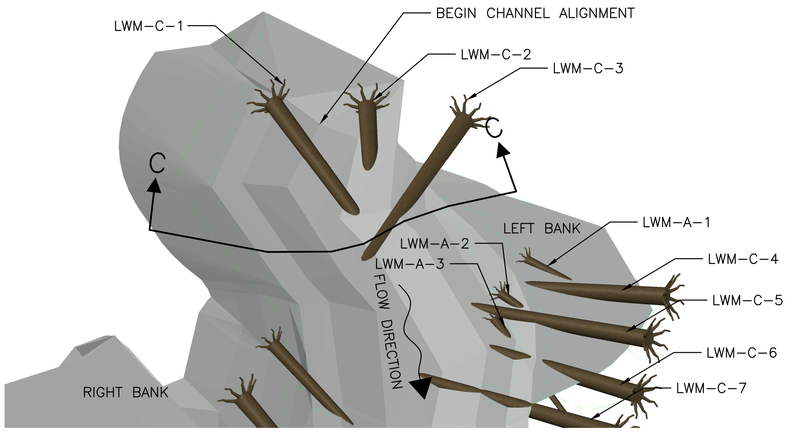
LOG COMPLEX UPSTREAM OF LOG STRUCTURE

SCALE:1"=5'-0"

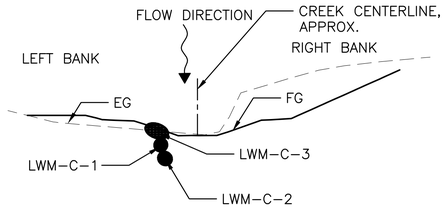
1
28

NOTES:

1. ISOMETRIC AND SECTION VIEWS OF LOG STRUCTURES ARE MEANT AS GUIDES FOR LOG ORIENTATION. REFER TO CONTROL POINTS TABLES ON SHEETS 31 THROUGH 34 FOR PRECISE LOCATION OF LOGS WITHIN CREEK AREA.
2. ADDITIONAL ISOMETRIC VIEWS AND SECTIONS WILL BE ADDED IN SUBSEQUENT SUBMITTALS AS REQUIRED TO CONVEY LWM LAYOUT.
3. SECTIONS ARE 1H:1V SCALE.
4. 3–DIMENSIONAL BLOCKS FOR LWM SHOWN HEREIN ARE APPROXIMATIONS OF LWM USED FOR CONSTRUCTION. ACTUAL DIMENSIONS OF LWM USED WILL DIFFER FROM THESE IDEALIZED BLOCKS. AS SUCH, FIELD FITMENT AND ADJUSTMENT MAY BE REQUIRED TO REACH THE DESIRED LOG ORIENTATION.
5. DURING CONSTRUCTION, THE FIELD ENGINEER WILL BE ONSITE TO ASSIST THE CONTRACTOR WITH THE INSTALLATION OF LWM AND SWM.



ISOMETRIC VIEW, LOOKING UPSTREAM



SECTION C–C, LOOKING DOWNSTREAM

UPSTREAM LOG COMPLEXT

SCALE:1"=5'-0"

2
28

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM DETAILS 2 OF 4

Jacobs	REVIEWED BY SPU/WATER ENGINEERING ..... 20..... REVIEWED BY SPU/DRAINAGE ..... 20..... APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....	APPROVED FOR ADVERTISING LIZ ALZEER DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES SEATTLE, WASHINGTON . . . . . 20 . . . . BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR	INITIALS AND DATE DESIGNED AC CHECKED JE DRAWN TW CHECKED JE ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.	INITIALS AND DATE REVIEWED: DES. CONST. SDOT PROJ. MGR. RECEIVED REVISED AS BUILT	AMY M. CARLSON STATE OF WASHINGTON #22779 REGISTERED PROFESSIONAL ENGINEER	Seattle Department of Transportation ORDINANCE NO. PW NO. SCALE: AS NOTED	WILLOW CREEK FISH PASSAGE RESTORATION	JOB PC CO VPI # CS208 SHEET 28 OF 62

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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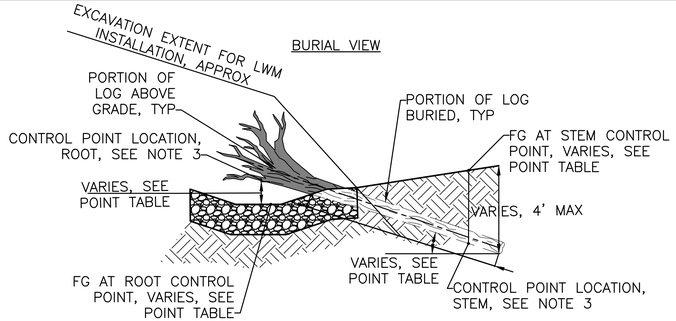
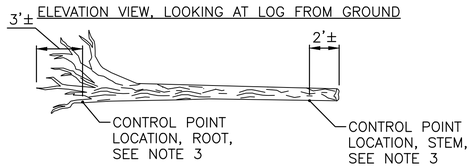
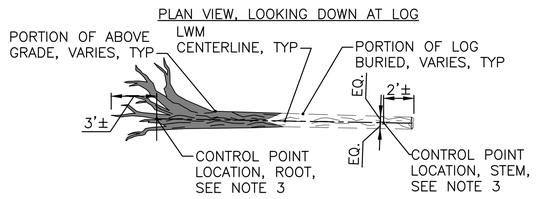


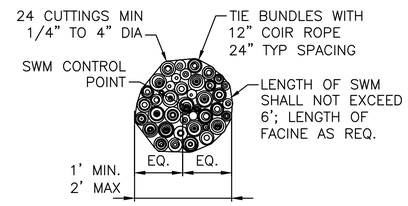




LWM CONTROL POINT LOCATION DETAIL

NTS

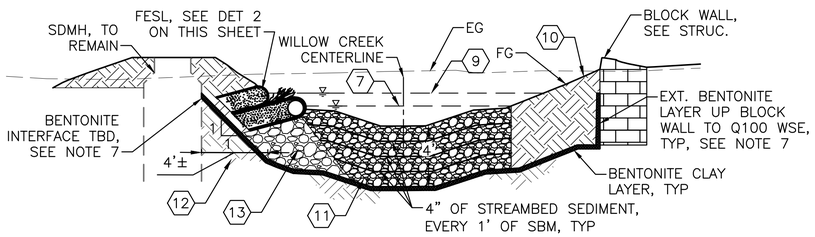
1
29



SMW AND FACINE DETAIL

NTS

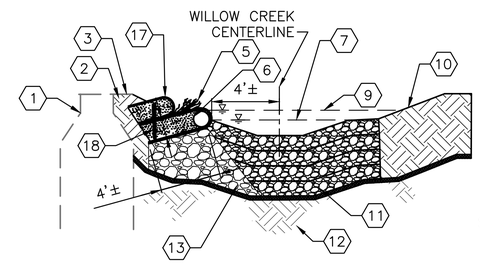
3
29



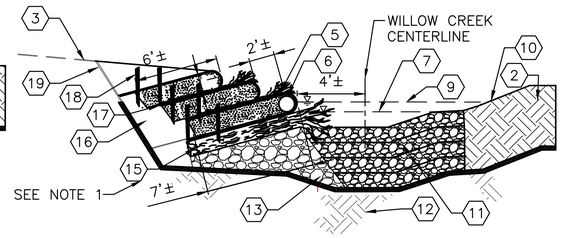
CREEK BUILDUP AT FESL WITH BENTONITE

SCALE:1"=5'–0"

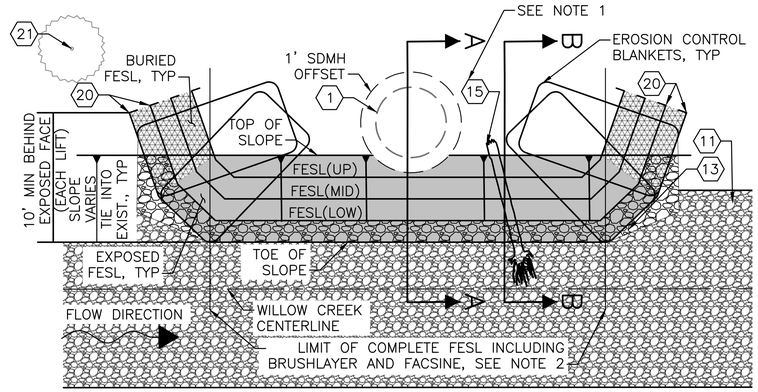
4
29



SECTION A–A



SECTION B–B

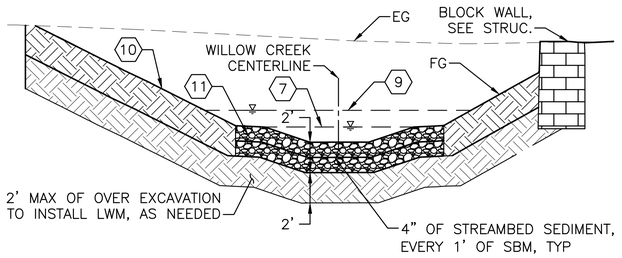


FESL PLAN

FABRIC ENCASED SOIL LIFTS (FESL)

SCALE:1"=5'–0"

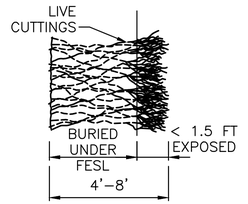
2
29



TYPICAL CREEK SECTION

SCALE:1"=5'–0"

5
29



BRUSH LAYER DETAIL

NOTES:

1. EVERY LWM PIECE NOT SHOWN FOR GRAPHICAL CLARITY, REFER TO SHEETS 19 AND 20 FOR LAYOUT IN PLAN, AND SHEETS 31 THROUGH 34 FOR HORIZONTAL AND VERTICAL PLACEMENT INFORMATION.
2. FESL PLAN SHOWN IN DETAIL 2 IS NOT MEANT TO REPRESENT FIELD CONDITIONS AND IS INTENDED TO GIVE A GENERAL UNDERSTANDING OF HOW THE STRUCTURE IS BUILT. REFER TO SHEET 34 FOR HORIZONTAL CONTROL FOR THE FESL PLAN.
3. CONTROL POINTS SHOWN HEREIN REFER TO LOCATIONS ON LWM SHOWN ON DETAIL 1. CONTROL POINT ONE IS APPROXIMATELY 2 FEET FROM THE END OF THE STEM (S), ALONG THE LOG CENTERLINE, AND AT THE BOTTOM OF THE LOG. CONTROL POINT TWO IS APPROXIMATELY 3 FEET FROM THE FURTHEST MAJOR ROOT PROJECTED ALONG THE LOG CENTERLINE, AND AT THE BOTTOM OF THE LOG. REFER TO SHEETS 31 THROUGH 34 FOR CONTROL POINT DETAILS.
4. LOG BURIAL SHALL NOT BE MORE THAN 4' FROM FINISHED GRADE TO BOTTOM OF THE STEM.
5. BENTONITE CLAY LAYER MATERIAL SHALL BE PER THE PROJECT SPECIFICATIONS.
6. REPRESENTATION OF THE BLOCK WALL IS SCHEMATIC; REFER TO THE STRUCTURAL PLANS FOR DETAILS.
7. INTERFACE BETWEEN THE BENTONITE CLAY LAYER, THE FESL, AND SDMH ARE TO BE DESIGNED IN SUBSEQUENT SUBMITTALS.
8. REFER TO LANDSCAPING PLANTING PLANS FOR DETAILS ON MATERIAL PLANTED ON STREAM SLOPES AND FESL.

KEY NOTES:

1. EXISTING CITY OF SEATTLE STORM SEWER MAINTENANCE HOLE TO REMAIN AND PROTECT IN PLACE.
2. COMPACTED SUBGRADE MATERIAL, TYP
3. FINISHED GRADE, SLOPE TO MATCH EXISTING, SLOPE VARIES ALONG LENGTH OF FESL
4. LIVE SHRUB, SEE PLANTING PLAN, TYP
5. BRUSH LAYER, TYP, SEE DETAIL
6. LIVE FASCINE, TYP, SEE DETAIL
7. Q2 WATER SURFACE ELEVATION
9. Q100 WATER SURFACE ELEVATION
10. STREAM BANK RIGHT, SLOPE PER DETAIL ON SHEET 18
11. STREAMBED AGGREGATE, MIN. DEPTH PER DETAIL
12. EXISTING SUBGRADE, TYP
13. 10–INCH STREAMBED AGGREGATE, MINIMUM 4–FOOT DEPTH TO MATCH BOTTOM OF STREAMBED AGGREGATE
15. 10' LWM EMBEDDED INTO FESL, TYP
16. COMPACTED EARTHFILL, TYP
17. THICK EROSION CONTROL BLANKET, TYP
18. DEAD STAKE, TYP
19. TEMPORARY CUT SLOPE, TO BE DETERMINED BY CONTRACTOR
20. WRAP FACE OF EACH FESL LIFT AROUND TO TIE INTO EXISTING BANK, THEN BACKFILL TYP.
21. PROTECT ROOTS OF EXISTING NATIVE WOOD VEGETATION TO REMAIN.

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM DETAILS 3 OF 4

NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.

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Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON STATE OF WASHINGTON 42780 REGISTERED PROFESSIONAL ENGINEER

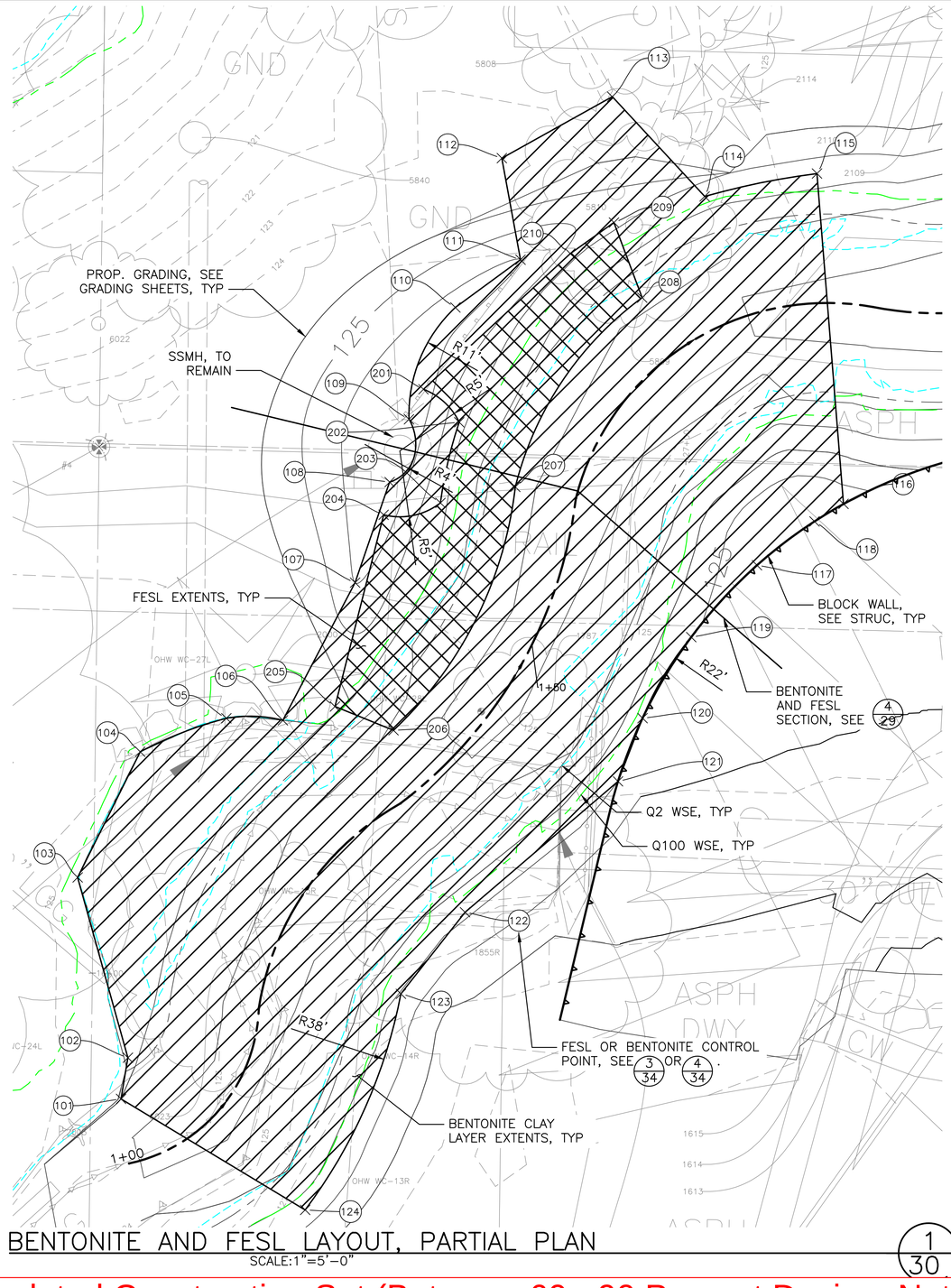
Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

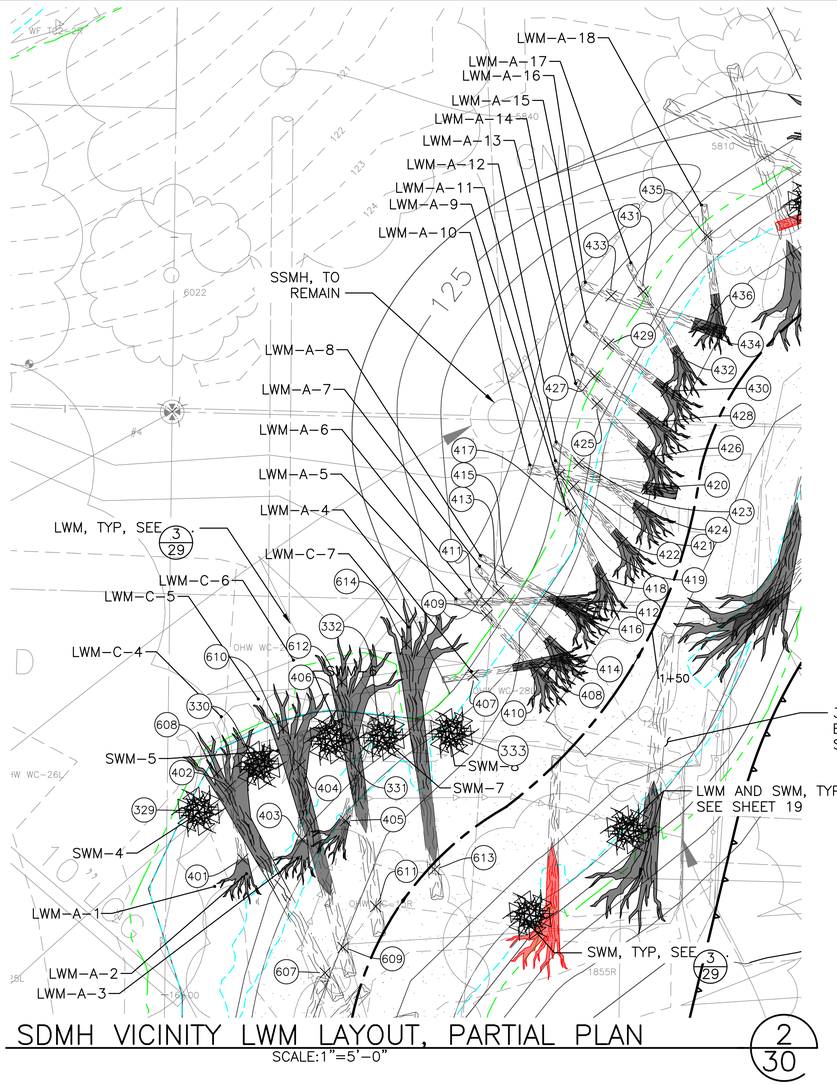
JOB	PC
	CO
VPI #	
CS209	
SHEET 29 OF 62	



BENTONITE AND FESL LAYOUT, PARTIAL PLAN

SCALE:1"=5'-0"

1/30



SDMH VICINITY LWM LAYOUT, PARTIAL PLAN

SCALE:1"=5'-0"

2/30

NOTES:

1. PARTIAL PLAN 1 ON THIS PAGE ARE MEANT TO PROVIDE ADDITIONAL DETAIL FOR FESL AND BENTONITE CLAY LAYER EXTENTS.
2. PARTIAL PLAN 2 IS THE LWM AND SWM LAYOUT PLANS FOR ELEMENTS AROUND THE FESL AND SDMH STRUCTURE. REFER TO SHEETS 31 AND 32 FOR CONTROL POINTS ASSOCIATED WITH ELEMENTS SHOWN HEREIN.
3. REFER TO SHEETS 19 AND 20 FOR REMAINDER OF LWM AND SWM LAYOUT.

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM DETAILS 4 OF 4

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

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LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
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BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED AC	
CHECKED JE	
DRAWN TW	
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INITIALS AND DATE	
REVIEWED: DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

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A. M. CARLSON — STATE OF WASHINGTON — 42781 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

SBB	PC
	CO
VPI #	
CS210	
SHEET 30 OF 62	

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SMALL WOODY MATERIAL CONTROL POINT TABLE
NTS

SWM POINT TABLE

POINT NO.	POINT NAME	NORTHING	EASTING	ELEVATION (FT)
327	SWM−1	259163.9±	1278908.6±	122.9±
328	SWM−2	259167.6±	1278907.9±	123.8±
334	SWM−3	259179.1±	1278926.7±	123.3±
329	SWM−4	259186.0±	1278904.8±	124.0±
330	SWM−5	259189.0±	1278908.8±	124.0±
331	SWM−6	259190.7±	1278913.5±	124.0±
332	SWM−7	259190.9±	1278917.0±	124.0±
333	SWM−8	259191.2±	1278921.5±	123.2±
336	SWM−9	259216.6±	1278955.4±	121.8±
337	SWM−10	259226.1±	1278945.1±	122.3±
338	SWM−11	259228.3±	1278948.5±	122.4±
339	SWM−12	259230.4±	1278966.9±	121.8±
340	SWM−13	259227.1±	1278978.1±	120.0±
341	SWM−14	259231.0±	1278981.3±	120.5±
343	SWM−15	259230.4±	1279015.5±	117.7±
344	SWM−16	259225.8±	1279035.2±	118.4±
301	SWM−17	259237.1±	1279035.1±	117.2±

SWM POINT TABLE

POINT NO.	POINT NAME	NORTHING	EASTING	ELEVATION (FT)
302	SWM−18	259238.1±	1279032.7±	117.7±
303	SWM−19	259253.5±	1279053.6±	117.1±
304	SWM−20	259254.3±	1279058.7±	116.2±
305	SWM−21	259243.9±	1279066.5±	116.3±
306	SWM−22	259251.3±	1279071.5±	115.4±
307	SWM−23	259273.2±	1279084.4±	114.1±
308	SWM−24	259282.8±	1279064.8±	113.7±
310	SWM−25	259288.1±	1279080.9±	113.0±
309	SWM−26	259287.3±	1279084.7±	113.4±
311	SWM−27	259291.4±	1279086.2±	113.3±
312	SWM−28	259301.6±	1279067.7±	112.4±
313	SWM−29	259302.5±	1279071.5±	111.8±
314	SWM−30	259303.7±	1279074.4±	111.2±
315	SWM−31	259335.4±	1279098.5±	108.9±
316	SWM−32	259335.9±	1279101.1±	109.2±
317	SWM−33	259351.1±	1279103.9±	108.1±
318	SWM−34	259352.2±	1279101.8±	107.6±

SWM POINT TABLE

POINT NO.	POINT NAME	NORTHING	EASTING	ELEVATION (FT)
319	SWM−35	259349.4±	1279086.1±	107.9±
320	SWM−36	259350.7±	1279083.2±	108.2±
321	SWM−37	259352.9±	1279079.9±	108.5±
322	SWM−38	259374.1±	1279100.4±	106.1±
346	SWM−39	259380.8±	1279075.1±	106.5±
347	SWM−40	259384.5±	1279077.0±	106.0±
352	SWM−41	259389.5±	1279078.7±	105.5±
353	SWM−42	259393.9±	1279080.6±	105.4±
345	SWM−43	259380.6±	1279094.6±	106.0±
348	SWM−44	259383.7±	1279103.8±	106.0±
349	SWM−45	259386.3±	1279099.0±	106.0±
350	SWM−46	259388.0±	1279092.9±	105.6±
351	SWM−47	259392.6±	1279098.3±	106.0±
335	SWM−48	259184.8±	1278933.1±	123.3±
342	SWM−49	259216.4±	1279005.4±	120.6±

1
31

NOTES:

1. CONTROL POINTS SHOWN HEREIN REFER TO LOCATIONS ON LWM SHOWN ON SHEET 29, DETAIL 1. CONTROL POINT ONE IS APPROXIMATELY 2 FEET FROM THE END OF THE STEM (S), ALONG THE LOG CENTERLINE, AND AT THE BOTTOM OF THE LOG. CONTROL POINT TWO IS APPROXIMATELY 3 FEET FROM THE FURTHEST MAJOR ROOT PROJECTED ALONG THE LOG CENTERLINE, AND AT THE BOTTOM OF THE LOG.
2. FOR RELATIVE LOCATION OF LOGS IN PLAN, POINT NUMBER, AND LWM NAME, SEE SHEET 19 AND 20.
3. LWM LENGTH IS APPROXIMATE, AND IS SUBJECT TO CHANGE DURING FIELD FITMENT.
4. FINISHED GRADE IS GRADE AT LWM CONTROL POINT LOCATION SHOWN ON SHEET 29. OFFSET IN SUBSEQUENT COLUMN SHALL BE APPLIED TO FINISHED GRADE LOCATIONS SHOWN.
5. OFFSET DISTANCE SHOWN IS FROM CONTROL POINT SHOWN ON SHEET 29 TO FINISHED GRADE. DISCREPANCIES MAY EXIST FROM VALUES SHOWN IN TABLE AND FIELD VALUES DUE TO INCONSISTENCIES IN LWM SIZE.
6. ANGLE SHOWN IN TABLE IS RELATIVE TO THE XY PLANE, AND IS MEASURED BETWEEN CONTROL POINTS SHOWN ON SHEET 29. FOR SIMPLICITY ONLY POSITIVE VALUES ARE SHOWN. REFER TO TABLE AND SHEET 19 OR 20 FOR ORIENTATION OF STEM AND ROOT.
7. THE LOG ABOVE COLUMN DISPLAYS A VALUE IF A IF THE INDICATED LOG IS ABOVE ANOTHER LOG. IF "NONE" IS SHOWN, SAID LOG IS EITHER AT THE TOP OF A WOOD STRUCTURE, OR IS STAND ALONE.
8. POINTS ARE NUMBERED SUCH THAT SERIES OF POINT NUMBER CORRELATED TO SPECIFIC DESIGN ELEMENTS. SEE BELOW FOR SERIES AND ASSOCIATED DESIGN ELEMENTS.

   DESIGN ELEMENT − POINT SERIES
   BENTONITE CLAY LAYER − 100s
   FESL − 200s
   SWM − 300s
   10' LWM − 400s
   15' LWM − 500s
   20' LWM − 600s
   30' LWM − 700s
   400' LWM − 800s

9. PROJECT ENGINEER SHALL BE IN THE FIELD DURING LWM SELECTION, STOCKPILING, TAGGING, AND INSTALLATION.

10' LARGE WOODY MATERIAL CONTROL POINT TABLE
NTS

10' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
402	A−1−R	10±	259187.6±	1278906.9±	124.0±	−0.8±	2±	C−4
401	A−1−S		259182.8±	1278907.7±	124.0±	−0.9±		
404	A−2−R	10±	259189.0±	1278911.5±	124.0±	−1.2±	8±	C−5
403	A−2−S		259184.1±	1278911.6±	124.0±	−1.7±		
406	A−3−R	10±	259190.1±	1278915.7±	124.0±	−1.3±	−1±	C−6
405	A−3−S		259185.3±	1278914.5±	123.4±	−1.2±		
408	A−4−R	10±	259195.8±	1278927.8±	122.7±	−0.8±	17±	A−6 A−7
407	A−4−S		259195.0±	1278922.9±	123.6±	−3.1±		
412	A−5−R	10±	259199.8±	1278928.7±	122.9±	−0.2±	6±	NONE
411	A−5−S		259199.8±	1278923.8±	124.8±	−2.6±		
410	A−6−R	10±	259195.2±	1278927.1±	122.8±	−0.6±	13±	NONE
409	A−6−S		259198.9±	1278923.8±	124.5±	−3.3±		
414	A−7−R	10±	259197.0±	1278928.1±	122.9±	−0.3±	14±	A−5
413	A−7−S		259200.5±	1278924.6±	124.6±	−3.2±		
416	A−8−R	10±	259199.2±	1278929.4±	122.8±	−0.5±	16±	A−8
415	A−8−S		259201.7±	1278925.1±	124.6±	−3.7±		
418	A−9−R	10±	259201.3±	1278931.4±	122.7±	−0.5±	6±	NONE

10' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
417	A−9−S	10±	259205.8±	1278929.4±	123.4±	−1.6±	6±	NONE
420	A−10−R	10±	259207.2±	1278934.5±	122.1±	xx±	4±	NONE
419	A−10−S		259208.2±	1278928.6±	123.9±	xx±		
422	A−11−R	10±	259203.7±	1278932.8±	122.4±	−0.5±	6±	A−10
421	A−11−S		259207.4±	1278929.6±	123.4±	−1.9±		
424	A−12−R	10±	259206.0±	1278933.8±	122.2±	−0.7±	10±	A−10
423	A−12−S		259208.9±	1278929.9±	123.4±	−2.6±		
426	A−13−R	10±	259209.3±	1278934.5±	122.2±	−0.4±	6±	A−10
425	A−13−S		259212.9±	1278931.1±	123.3±	−2.0±		
428	A−14−R	10±	259211.6±	1278934.8±	122.4±	−1.0±	11±	NONE
427	A−14−S		259214.7±	1278931.0±	123.7±	−3.1±		
430	A−15−R	10±	259213.7±	1278935.7±	122.4±	−1.0±	11±	NONE
429	A−15−S		259216.8±	1278931.9±	123.8±	−3.3±		
434	A−16−R	10±	259218.1±	1278937.7±	122.3±	xx±	4±	NONE
433	A−16−S		259220.0±	1278932.0±	124.5±	xx±		
432	A−17−R	10±	259215.9±	1278936.5±	122.4±	−0.4±	6±	A−16
431	A−17−S		259220.3±	1278934.1±	123.6±	−2.1±		

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Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM POINT TABLES 1 OF 4

Jacobs

REVIEWED BY SPU/WATER ENGINEERING .... 20.....
REVIEWED BY SPU/DRAINAGE .... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING .... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . 20 . .
BY: . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE
DESIGNED AC
CHECKED JE
DRAWN TW
CHECKED JE

INITIALS AND DATE
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DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

AMY M. CARLSON
STATE OF WASHINGTON
42782
REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CS211
SHEET 31 OF 62

VAULT SERIAL NO. | DATE | MARK | NATURE REVISIONS | MADE | CHK'D | REV'D

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10' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
436	A-18-R	10±	259219.1±	1278939.0±	122.3±	-0.5±	6±	A-16
435	A-18-S		259224.0±	1278938.4±	123.1±	-1.7±		
438	A-19-R	10±	259382.3±	1279104.6±	106.0±	-0.1±	2±	E-9 E-10
437	A-19-S		259378.5±	1279101.5±	106.0±	-0.2±		
440	A-20-R	10±	259385.1±	1279100.1±	106.0±	0.2±	3±	E-9 E-10
439	A-20-S		259385.5±	1279105.0±	106.0±	-0.1±		

10' LARGE WOODY MATERIAL CONTROL POINT TABLE, CONT.

NTS

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NOTE:
1. SEE SHEET 31 FOR GENERAL NOTES ASSOCIATED WITH CONTROL POINT TABLES SHOWN HEREIN.

15' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
517	B-1-R	15±	259177.9±	1278928.0±	124.4±	0.0±	20±	NONE
518	B-1-S		259187.6±	1278928.4±	122.1±	-1.1±		
515	B-2-R	15±	259228.4±	1278954.1±	121.9±	0.2±	-1±	D-2
516	B-2-S		259225.2±	1278944.9±	122.2±	0.3±		
513	B-3-R	15±	259220.9±	1278970.6±	120.4±	0.1±	11±	B-4
514	B-3-S		259218.7±	1278980.0±	120.7±	-2.0±		
511	B-4-R	15±	259220.7±	1278979.8±	120.5±	0.0±	11±	NONE
512	B-4-S		259217.0±	1278970.8±	121.2±	-2.4±		
501	B-5-R	13±	259399.5±	1279075.4±	107.8±	-2.1±	12±	E-11
502	B-5-S		259396.2±	1279083.4±	105.1±	-1.2±		
503	B-6-R	12.3±	259399.9±	1279085.4±	104.7±	0.1±	-1±	E-11
504	B-6-S		259402.7±	1279078.0±	107.1±	-2.2±		
505	B-7-R	12.5±	259409.3±	1279101.8±	106.0±	0.7±	29±	NONE
506	B-7-S		259415.7±	1279096.8±	104.0±	-2.9±		
510	B-8-R	12.3±	259411.6±	1279104.0±	106.1±	1.1±	28±	NONE
507	B-8-S		259417.9±	1279099.2±	104.0±	-2.3±		
509	B-9-R	11.4±	259414.2±	1279106.5±	103.4±	0.1±	33±	NONE
508	B-9-S	11.4±	259419.8±	1279101.8±	104.0±	-3.5±	33±	NONE

15' LARGE WOODY MATERIAL CONTROL POINT TABLE.

NTS

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20' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
601	C-1-R	20±	259158.6±	1278908.7±	123.4±	0.8±	13±	C-3
602	C-1-S		259173.1±	1278912.5±	123.1±	-2.0±		
603	C-2-R	20±	259161.7±	1278904.6±	123.2±	0.1±	14±	C-1 C-3
604	C-2-S		259172.9±	1278914.6±	122.6±	-2.7±		
605	C-3-R	20±	259168.1±	1278902.9±	124.4±	0.5±	16±	NONE
606	C-3-S		259171.9±	1278917.4±	122.9±	-1.9±		
608	C-4-R	20±	259188.5±	1278906.0±	124.0±	-0.2±	15±	A-2
607	C-4-S		259175.3±	1278913.2±	123.1±	-2.5±		
610	C-5-R	20±	259191.4±	1278910.4±	124.0±	-0.3±	15±	A-3
609	C-5-S		259177.0±	1278914.3±	123.0±	-2.6±		
612	C-6-R	20±	259194.5±	1278914.3±	0.0±	0.5±	17±	NONE
611	C-6-S		259179.7±	1278916.5±	122.6±	-2.4±		
614	C-7-R	20±	259197.0±	1278918.5±	0.0±	0.2±	17±	NONE
613	C-7-S		259182.1±	1278920.4±	122.3±	-1.8±		
615	C-8-R	20±	259180.8±	1278934.3±	125.2±	-0.3±	22±	NONE
616	C-8-S		259195.7±	1278935.6±	122.1±	-3.0±		
619	C-9-R	20±	259196.9±	1278939.7±	122.8±	-0.4±	2±	C-10

20' LARGE WOODY MATERIAL CONTROL POINT TABLE, CONT.

NTS

20' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
620	C-9-S	20±	259207.6±	1278950.2±	125.1±	-3.1±	2±	C-10
617	C-10-R	20±	259198.7±	1278942.8±	123.4±	0.6±	16±	NONE
618	C-10-S		259213.3±	1278946.1±	122.1±	-2.2±		
621	C-11-R	20±	259219.1±	1278945.3±	121.2±	0.2±	11±	B-2 C-12
622	C-11-S		259233.3±	1278940.6±	122.0±	-4.4±		
623	C-12-R	20±	259225.5±	1278951.0±	121.7±	-0.2±	8±	B-2
624	C-12-S		259231.7±	1278937.4±	123.4±	-4.0±		
626	C-13-R	20±	259230.3±	1278997.7±	119.7±	0.0±	16±	NONE
625	C-13-S		259226.2±	1279012.2±	117.9±	-2.6±		
629	C-14-R	20±	259232.0±	1279008.5±	119.0±	1.2±	20±	C-15
630	C-14-S		259230.6±	1279023.4±	117.3±	-2.0±		
631	C-15-R	20±	259228.3±	1279014.5±	117.7±	1.4±	19±	NONE
632	C-15-S		259233.6±	1279028.6±	117.0±	-2.5±		
627	C-16-R	20±	259220.5±	1279014.1±	119.6±	0.2±	23±	C-14 C-15
628	C-16-S		259232.6±	1279022.9±	117.3±	-3.4±		
635	C-17-R	20±	259239.7±	1279068.4±	117.5±	0.2±	23±	C-41
636	C-17-S		259254.7±	1279068.1±	114.5±	-2.9±		

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LWM POINT TABLES 2 OF 4

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

MARK	DATE	NATURE OF REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.

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REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
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DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TW	RECEIVED
CHECKED JE	REVISED AS BUILT

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AMY L. CARLSON — STATE OF WASHINGTON — 42783 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CS212	
SHEET 32 OF 62	

20' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
633	C-18-R	20±	259242.5±	1279061.5±	116.3±	0.6±	11±	C-17
634	C-18-S		259242.0±	1279076.5±	117.9±	-3.7±		
641	C-19-R	20±	259246.7±	1279073.4±	116.1±	0.4±	26±	E-2
642	C-19-S		259259.7±	1279071.6±	114.0±	-3.5±		
637	C-20-R	13.7±	259257.4±	1279064.5±	115.4±	-0.3±	10±	E-1
638	C-20-S		259255.2±	1279055.4±	117.2±	-3.6±		
643	C-21-R	11.9±	259264.7±	1279068.0±	114.7±	0.1±	15±	E-1
644	C-21-S		259261.7±	1279061.0±	116.6±	-3.7±		
645	C-22-R	17±	259260.4±	1279079.2±	114.8±	-0.2±	-2±	NONE
646	C-22-S		259259.0±	1279091.8±	118.1±	-2.5±		
647	C-23-R	17±	259275.2±	1279081.2±	113.9±	-0.4±	9±	D-11
648	C-23-S		259273.8±	1279093.8±	115.6±	-3.9±		
651	C-24-R	20±	259282.8±	1279081.0±	113.4±	-0.1±	14±	E-3
652	C-24-S		259296.9±	1279086.0±	112.9±	-3.1±		
650	C-25-R	20±	259287.1±	1279061.5±	114.1±	0.3±	17±	NONE
649	C-25-S		259279.0±	1279074.1±	112.4±	-2.5±		
653	C-26-R	20±	259298.3±	1279063.7±	113.3±	-0.1±	17±	NONE

20' LARGE WOODY MATERIAL CONTROL POINT TABLE, CONT.

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20' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
654	C-26-S	20±	259302.9±	1279078.0±	110.5±	-1.5±	17±	NONE
655	C-27-R	20±	259307.6±	1279067.6±	112.6±	-0.2±	17±	C-26
656	C-27-S		259293.8±	1279073.6±	111.3±	-3.1±		
657	C-28-R	20±	259338.8±	1279101.9±	108.9±	0.3±	14±	NONE
658	C-28-S		259333.9±	1279087.8±	108.6±	-2.7±		
659	C-29-R	20±	259337.9±	1279087.1±	108.5±	-0.4±	10±	C-30
660	C-29-S		259347.6±	1279075.8±	109.7±	-4.0±		
661	C-30-R	20±	259344.3±	1279088.3±	107.7±	-0.2±	-6±	NONE
662	C-30-S		259336.8±	1279075.4±	110.9±	-1.7±		
665	C-31-R	20±	259351.2±	1279107.4±	108.8±	-0.3±	16±	NONE
666	C-31-S		259358.4±	1279094.3±	105.9±	-1.5±		
667	C-32-R	20±	259358.4±	1279082.5±	107.4±	-0.1±	14±	NONE
668	C-32-S		259361.3±	1279097.2±	106.3±	-2.6±		
669	C-33-R	20±	259366.1±	1279074.2±	108.3±	-0.3±	22±	NONE
670	C-33-S		259376.4±	1279085.0±	104.8±	-2.5±		
671	C-34-R	15.1±	259379.2±	1279081.3±	105.0±	1.2±	13±	E-11
672	C-34-S		259385.1±	1279072.2±	107.4±	-3.5±		

20' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
679	C-35-R	20±	259377.9±	1279093.7±	106.0±	-0.2±	1±	E-9 E-10
680	C-35-S		259367.6±	1279104.6±	107.3±	-1.5±		
681	C-36-R	20±	259381.3±	1279091.8±	105.9±	-0.2±	0±	E-9 E-10
682	C-36-S		259392.3±	1279102.0±	106.0±	-0.1±		
673	C-37-R	15.4±	259385.3±	1279083.2±	104.5±	0.6±	7±	E-11
674	C-37-S		259386.9±	1279072.2±	107.3±	-3.3±		
675	C-38-R	16.1±	259393.0±	1279083.6±	104.9±	-0.2±	3±	E-11
676	C-38-S		259389.0±	1279072.2±	107.6±	-3.3±		
677	C-39-R	13±	259396.3±	1279086.0±	104.3±	xx±	-1±	E-11
678	C-39-S		259399.6±	1279077.0±	107.1±	xx±		
683	C-40-R	20±	259388.7±	1279091.9±	105.4±	0.3±	0±	E-9 E-10
684	C-40-S		259400.5±	1279101.0±	106.0±	-0.2±		
639	C-41-R	20±	259249.5±	1279069.1±	115.4±	-0.5±	17±	C-19 E-2
640	C-41-S		259249.0±	1279084.1±	117.6±	-6.7±		
663	C-42-R	16.1±	259340.6±	1279095.0±	107.8±	0.1±	7±	NONE
664	C-42-S		259343.6±	1279106.4±	109.3±	-2.9±		

20' LARGE WOODY MATERIAL CONTROL POINT TABLE, CONT.

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NOTE:

1. SEE SHEET 31 FOR GENERAL NOTES ASSOCIATED WITH CONTROL POINT TABLES SHOWN HEREIN.

30' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
701	D-1-R	15.1±	259211.0±	1278958.1±	124.2±	0.0±	32±	D-2
702	D-1-S		259223.2±	1278958.1±	120.6±	-3.4±		
704	D-2-R	20.4±	259231.6±	1278946.2±	124.0±	2.2±	30±	NONE
703	D-2-S		259222.4±	1278960.6±	120.5±	-3.2±		
708	D-3-R	20.7±	259239.8±	1278963.6±	125.6±	-0.4±	32±	NONE
707	D-3-S		259225.1±	1278973.4±	119.8±	-3.6±		
710	D-4-R	23.5±	259239.9±	1278978.4±	124.7±	0.3±	25±	D-5
709	D-4-S		259222.6±	1278989.0±	119.3±	-3.4±		
706	D-5-R	30±	259226.2±	1278987.6±	119.1±	1.0±	1±	D-3
705	D-5-S		259233.5±	1278963.7±	123.8±	-3.8±		
712	D-6-R	17.2±	259221.1±	1278999.3±	119.1±	0.1±	7±	NONE
711	D-6-S		259217.0±	1279011.6±	121.0±	-3.3±		
716	D-7-R	22.2±	259245.0±	1279023.4±	121.3±	-0.2±	23±	D-9 D-10
715	D-7-S		259227.7±	1279041.0±	0.0±	-3.4±		
718	D-8-R	19.8±	259239.4±	1279040.0±	116.4±	0.4±	7±	D-7
717	D-8-S		259240.1±	1279024.1±	115.1±	-3.6±		
714	D-9-R	16.4±	259231.3±	1279037.8±	117.3±	0.2±	10±	NONE

30' LARGE WOODY MATERIAL CONTROL POINT TABLE

NTS

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Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM POINT TABLES 3 OF 4

NO.	MADE	CHK'D	REV'D	MARK	DATE	NATURE OF REVISIONS

VAULT SERIAL NO.

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Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....

REVIEWED BY SPU/DRAINAGE ..... 20.....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED AC	REVIEWED:
CHECKED JE	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TW	RECEIVED
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AMY L. CARLSON — STATE OF WASHINGTON — 42784 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CS213	
SHEET 33 OF 62	

30' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
713	D-9-S	16.4±	259224.6±	1279027.8±	115.9±	-3.7±	10±	NONE
720	D-10-R	21.3±	259220.3±	1279041.9±	0.2±	-0.1±	28±	D-8 D-9
719	D-10-S		259237.3±	1279037.0±	117.1±	-3.2±		
721	D-11-R	30±	259268.0±	1279079.3±	114.3±	-0.6±	2±	NONE
722	D-11-S		259282.0±	1279100.5±	115.8±	-2.5±		

30' LARGE WOODY MATERIAL CONTROL POINT TABLE, CONT.

NTS

1
34

40' LWM POINT TABLE

POINT NO.	LWM NAME	LENGTH (FT)	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)	ANGLE (DEGREE)	LOG ABOVE
802	E-1-R	40±	259276.8±	1279070.4±	113.2±	-0.8±	-5±	NONE
801	E-1-S		259247.2±	1279052.3±	116.1±	-0.2±		
804	E-2-R	20±	259246.7±	1279083.9±	118.1±	1.1±	23±	NONE
803	E-2-S		259257.5±	1279070.8±	114.2±	-2.4±		
805	E-3-R	36.5±	259284.6±	1279072.9±	112.0±	1.4±	9±	NONE
806	E-3-S		259305.1±	1279097.6±	113.1±	-4.2±		
807	E-4-R	35±	259293.4±	1279075.2±	111.3±	1.2±	15±	NONE
808	E-4-S		259318.3±	1279093.6±	109.9±	-5.1±		
810	E-5-R	21.1±	259313.7±	1279081.8±	110.1±	0.1±	5±	C-27
809	E-5-S		259307.7±	1279066.1±	112.9±	-4.2±		
811	E-6-R	24.4±	259319.7±	1279079.5±	111.0±	-0.3±	19±	C-28
812	E-6-S		259336.3±	1279092.0±	107.6±	-3.6±		
814	E-7-R	22.5±	259322.5±	1279102.7±	111.5±	0.4±	28±	E-6
813	E-7-S		259331.1±	1279092.5±	108.0±	-3.6±		
816	E-8-R	35.7±	259360.6±	1279071.7±	109.6±	-0.8±	9±	NONE
815	E-8-S		259344.4±	1279098.1±	107.8±	-4.0±		
821	E-9-R	40±	259366.2±	1279104.1±	107.1±	0.2±	2±	NONE
822	E-9-S	40±	259400.5±	1279098.6±	105.8±	0.7±	2±	NONE
820	E-10-R	40±	259398.8±	1279093.8±	105.1±	1.6±	1±	NONE
819	E-10-S		259364.5±	1279099.4±	106.5±	0.1±		
818	E-11-R	40±	259403.4±	1279081.2±	105.7±	-0.2±	2±	NONE
817	E-11-S		259368.7±	1279068.9±	109.9±	-4.4±		

40' LARGE WOODY MATERIAL CONTROL POINT TABLE, CONT.

NTS

2
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NOTES:
1. SEE SHEET 31 FOR GENERAL NOTES ASSOCIATED WITH CONTROL POINT TABLES SHOWN HEREIN IN DETAILS 1 AND 2.
2. CONTROL POINTS IN DETAILS 3 AND 4 HEREIN CORRESPOND TO THE PARTIAL PLANS SHOWN ON SHEET 30.
3. CONTROL POINTS IN DETAILS 3 AND 4 ARE FOR THE BENTONITE CLAY LAYER (PRODUCT PER THE PROJECT SPECIFICATIONS) AND FESL EXTENTS.
4. THE PROJECT ENGINEER SHALL BE PRESENT DURING INSTALLATION OF FESL AND BENTONITE CLAY LAYER.
5. LWM SHALL NOT PENETRATE THROUGH BENOTITE CLAY LAYER.
6. INTERFACES BETWEEN BENTONITE CLAY LAYER AND EXISTING SDMH TO BE REFINED.
7. INTERFACE BETWEEN BENTONITE CLAY LAYER AND BLOCK RETAINING WALL IS SHOWN ON SHEET 29. INTERFACE WILL BE REFINED IN

BENTONITE CLAY LAYER POINT TABLE

POINT NO.	NORTHING	EASTING	FINISHED GRADE (FT)	OFFSET (FT)
101	259164.7±	1278904.7±	124.0±	-0.5±
102	259167.7±	1278905.2±	124.0±	-0.5±
103	259180.8±	1278901.5±	124.0±	-0.5±
104	259190.0±	1278906.1±	124.0±	-0.5±
105	259192.5±	1278912.4±	124.0±	-0.5±
106	259192.3±	1278916.5±	124.0±	-0.5±
107	259202.4±	1278921.8±	126.0±	-2.0±
108	259209.8±	1278924.3±	126.0±	-2.3±
109	259214.3±	1278925.7±	126.0±	-2.3±
110	259222.5±	1278929.1±	126.0±	-2.5±
111	259226.0±	1278933.9±	126.0±	-2.5±
112	259233.4±	1278932.5±	123.4±	-1.3±
113	259237.9±	1278940.6±	122.1±	-1.1±
114	259230.6±	1278947.4±	123.5±	-0.5±
115	259232.3±	1278955.6±	123.5±	-0.5±
116	259208.2±	1278957.5±	125.9±	-4.0±
117	259203.7±	1278951.2±	126.0±	-4.0±
118	259206.9±	1278955.4±	126.0±	-4.0±
119	259198.4±	1278946.4±	125.9±	-4.0±
120	259192.5±	1278942.8±	124.6±	-4.0±
121	259187.9±	1278941.0±	125.3±	-4.0±
122	259178.3±	1278929.8±	124.8±	-0.5±
123	259172.3±	1278925.1±	125.1±	-0.5±
124	259156.5±	1278918.1±	125.5±	-0.5±

BENTONITE CLAY LAYER CONTROL POINT TABLE

NTS

3
34

FESL CONTROL POINT TABLE

POINT NO.	NORTHING	EASTING	FINISHED GRADE (FT)
206	259191.6±	1278924.6±	122.9±
205	259193.3±	1278920.3±	±
204	259207.4±	1278923.9±	126.0±
203	259208.2±	1278928.0±	124.2±
207	259209.4±	1278933.5±	122.5±
202	259214.1±	1278929.4±	124.3±
201	259216.5±	1278926.8±	126.0±
208	259223.2±	1278942.8±	122.2±
210	259226.5±	1278937.5±	124.5±
209	259228.7±	1278940.7±	124.0±

FESL CONTROL POINT TABLE

NTS

4
34

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LWM POINT TABLES 4 OF 4

NO.	DATE	MARK	REVISIONS	MADE	CHK'D	REV'D
			NATURE			

VAULT SERIAL NO.

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....

REVIEWED BY SPU/DRAINAGE ..... 20....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED AC	
CHECKED JE	
DRAWN TW	
CHECKED JE	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

AMY M. CRESSON
STATE OF WASHINGTON
42785
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI #

CS214

SHEET 34 OF 62

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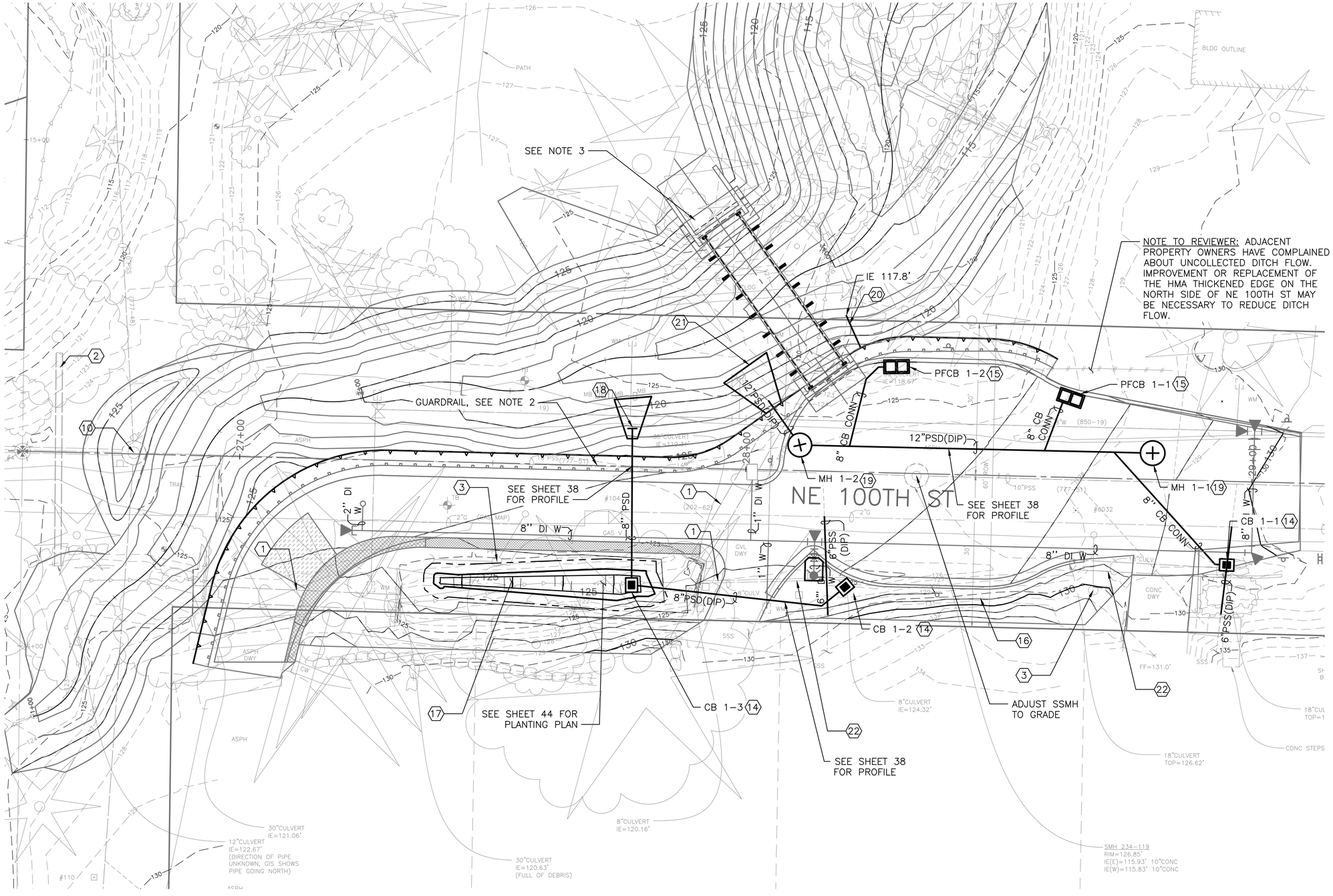

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SCALE IN FEET

NOTES:

1. FOR ADDITIONAL DEMOLITION AND REMOVALS INFORMATION, SEE SHEET 11.
2. FOR ADDITIONAL ROADWAY INFORMATION, SEE SHEET 42.
3. FOR ADDITIONAL STRUCTURAL INFORMATION, SEE SHEETS 52 THRU 62.
4. FOR PROPOSED DRAINAGE PROFILES AND DETAILS, SEE SHEETS 38, 39, AND 40.

NOTES TO REVIEWER:

1. ONSITE STORMWATER MANAGEMENT NOT PROVIDED – CONFIRM NO ADDITIONAL FACILITIES REQUIRED.

KEY NOTES:

1. ABANDON AND FILL EXISTING CULVERT
2. ABANDON EXISTING PSD
3. PROTECT IN PLACE PP AND GUY WIRE
10. REPLACE EXISTING SSMH COVER PER COS STD PLAN 220
14. TYPE 241 CB WITH BEEHIVE GRATE PER COS STD PLAN 241A AND 269
15. PROPRIETARY WATER QUALITY CATCH BASIN PER DETAIL.
16. FILL EXISTING DITCH
17. VEGETATED CONVEYANCE SWALE PER COS STD PLAN 294 (NOT FOR WATER QUALITY TREATMENT)
18. WEST OUTFALL. OUTFALL PROTECTION PER 1/39 DETAIL.
19. TYPE 204A MAINTENANCE HOLE PER COS STD PLAN 204A
20. 6" WALL DRAIN DISCHARGE @ 2% SLOPE
21. EAST OUTFALL. OUTFALL PROTECTION PER 2/39 DETAIL.
22. REMOVE EXISTING CULVERT

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

DRAINAGE PLAN

NATURE OF REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.	DATE	MARK

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED JW	
CHECKED RC	
DRAWN TW	
CHECKED RC	

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

JESSE LEE WILLIAMS STATE OF WASHINGTON 45577 REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CU101
SHEET 35 OF 62

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WATER MAIN CONSTRUCTION SEQUENCING NOTES:

1. FOUR WEEKS PRIOR TO LAYING PIPE THE CONTRACTOR MUST:

   1.1. IN THE PRESENCE OF THE SPU RESIDENT ENGINEER, EXPOSE THE EXISTING WATERMAIN TO DETERMINE ITS ELEVATION AND ALIGNMENT AT CONNECTION POINTS. THE CONTRACTOR MUST EXPOSE THE PIPE ALL AROUND FOR SPU TO OBTAIN OUTSIDE DIAMETER AT THE SAME TIME.

   1.2. PROVIDE ALL CONTROL SURVEYS REQUIRED TO DEFINE THE ALIGNMENT AND ELEVATIONS OF THE WATER MAIN IN CONFORMANCE WITH THE APPROVED PLAN. THE SURVEYS MUST BE PERFORMED BY A SURVEYOR LICENSED BY THE STATE OF WASHINGTON. ALL REFERENCE MARKS MUST BE PRESERVED DURING CONSTRUCTION. A GRADE SHEET, IN ACCEPTABLE FORMAT, MUST BE PROVIDED TO SPU PRIOR TO BEGINNING WORK.

2. THE CONTRACTOR MUST POTHOLE ALL UTILITIES WHERE DEPTHS ARE UNKNOWN PER 2–04.3(9) AND MUST COMPLY WITH THE REQUIREMENTS OF 1–07.17(2) UTILITY CLEARANCES.

3. DRAINAGE WORK MUST BE COMPLETED BEFORE INSTALLING THE FIRE HYDRANT ON THE SOUTH SIDE OF NE 100TH ST.

4. CONSTRUCT AND TEST NEW 8" WATER MAIN AND FIRE HYDRANT.

   4.1. THE CONTRACTOR MUST BE 10'–14' AWAY FROM THE EXISTING 8" WATER MAIN WHEN CONSTRUCTING THE NEW 8" DI WATER MAIN. THE CONTRACTOR MUST PROVIDE SPU WITH AN 8" DI PIPE TO PRE–DISINFECT PRIOR TO MAKING THE CONNECTION.

   4.2. ALL WATER MAINS MUST BE PRESSURE TESTED (300 PSI) AND DISINFECTED IN ACCORDANCE WITH SECTION 7–11.3(11)A OF THE CITY OF SEATTLE STANDARD SPECIFICATIONS. ALL PRESSURE TESTING MUST BE DONE IN THE PRESENCE OF THE CONSTRUCTION INSPECTOR. THE CONTRACTOR MUST PROVIDE PLUGS AND TEMPORARY BLOWOFF ASSEMBLIES FOR PRESSURE TESTING AND DISINFECTION. SEE CITY OF SEATTLE STANDARD PLAN 300 FOR FLUSHING CONNECTION DETAILS.

5. SPU TO INSTALL AND CONNECT TO EXISTING WATER MAIN AND CONTRACTOR–INSTALLED 8" DI TEE WITH CONTRACTOR–INSTALLED CONC THRUST BLOCKING AND CONTRACTOR SUPPORT, IN ACCORDANCE WITH SECTION 7–11.3(9)A OF THE SEATTLE STANDARD SPECIFICATIONS AND SEATTLE STANDARD PLAN 300 SERIES.

6. INSTALL BLOWOFF ASSEMBLY.

7. THE CONTRACTOR WILL SUPPORT SPU CREWS IN RELOCATING SERVICES.

8. DEMOLISH EXISTING 8" WATER MAIN PER PLANS.

WATER NOTES:

1. ALL WATER MAIN CONSTRUCTION MUST CONFORM TO CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS (2020 EDITION) UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

2. PIPE (W) 4" AND LARGER MUST BE DUCTILE IRON PIPE (DIP) CLASS 52 CONFORMING TO SEATTLE STANDARD SPECIFICATION SECTION 9–30.1(1). UNLESS OTHERWISE NOTED, JOINTS MUST BE RESTRAINED JOINT. LATERALS FOR FIRE HYDRANTS AND 4" AND LARGER SERVICES MUST BE DIP WITH MECHANICAL JOINTS (MJ).

3. FITTINGS ON RESTRAINED JOINTED (RJ) PIPE (W) 4" AND LARGER MUST BE DUCTILE IRON. RJ FITTINGS MUST CONFORM TO SPECIFICATION 9–30.2(3). MECHANICALLY JOINTED (MJ) FITTINGS MUST BE DUCTILE IRON AND CONFORM TO AWWA C110, C111, AND C153. ALL RJ AND MJ FITTINGS MUST BE DOUBLE–THICK CEMENT MORTAR LINED CONFORMING TO AWWA C104.

4. ALL MECHANICAL JOINTS ON DUCTILE IRON PIPE MUST BE RESTRAINED WITH WEDGE RESTRAINT GLANDS (WRG). WRG MUST NOT BE USED ON CAST IRON PIPE.

5. ALL PIPE (W) 4" AND LARGER MUST BE POLYETHYLENE ENCASED (FILM WRAPPED) PER STANDARD SPECIFICATIONS 7 – 11.3(6)B AND 9–30.1(4)D. EXTEND ENCASEMENT OVER DIP TO CIP FITTING CONNECTIONS TO THE TRENCH–END WALL AND SECURE TIGHTLY AROUND PIPES WITH DUCT TAPE.

6. PIPE (W) 4" AND LARGER MUST BE SUBJECT TO SEATTLE PUBLIC UTILITIES TASTE TESTING PROCEDURES PER STANDARD SPECIFICATION 7–11.2(3).

7. ALL CONNECTIONS TO EXISTING WATER MAINS MUST BE MADE BY SPU IN ACCORDANCE WITH CITY OF SEATTLE STANDARD PLAN 300 SERIES.

8. ALL EXCAVATION, DEWATERING SHORING, THRUST BLOCKING, BEDDING, BACKFILL, COMPACTION TEMPORARY PAVING AND STREET RESTORATION MUST BE PERFORMED BY THE CONTRACTOR INCLUDING ALL SUCH WORK NEEDED AS CONTRACTOR SUPPORT FOR OTHER ASSOCIATED ITEMS OF WORK TO BE COMPLETED BY SPU.

9. CONTRACTOR MUST PROVIDE ALL EQUIPMENT AND OPERATORS FOR MOVING AND LOWERING THE COMPONENT PARTS FOR SPU WORK ON WATER MAINS INTO POSITION (INCLUDING FOR ALL SPU CONNECTIONS, METER AND METER VAULT INSTALLATIONS, AND SERVICE TRANSFERS). CONTRACTOR MUST PROVIDE ALL TRAFFIC CONTROL FOR SPU WORK. CONTRACTOR MUST INSTALL ALL TEMPORARY AND PERMANENT BLOCKING AT CONNECTION LOCATIONS TO EXISTING MAINS.

10. FOUR WEEKS PRIOR TO LAYING PIPE THE CONTRACTOR MUST:

    10.1. IN THE PRESENCE OF THE SPU RESIDENT ENGINEER, EXPOSE THE EXISTING WATERMAIN TO DETERMINE ITS ELEVATION AND ALIGNMENT AT CONNECTION POINTS. THE CONTRACTOR MUST EXPOSE THE PIPE ALL AROUND FOR SPU TO OBTAIN OUTSIDE DIAMETER AT THE SAME TIME.

    10.2. PROVIDE ALL CONTROL SURVEYS REQUIRED TO DEFINE THE ALIGNMENT AND ELEVATIONS OF THE WATER MAIN IN CONFORMANCE WITH THE APPROVED PLAN. THE SURVEYS MUST BE PERFORMED BY A SURVEYOR LICENSED BY THE STATE OF WASHINGTON. ALL REFERENCE MARKS MUST BE PRESERVED DURING CONSTRUCTION. A GRADE SHEET, IN ACCEPTABLE FORMAT, MUST BE PROVIDED TO SPU PRIOR TO BEGINNING WORK.

11. CARE MUST BE EXERCISED WHEN EXCAVATING NEAR EXISTING CHARGED WATERMAINS.

12. LOCATIONS SHOWN FOR EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. UTILITIES HAVING NO RECORDED DEPTH ARE SHOWN AT THEIR STANDARD DEPTH. UTILITIES THAT APPEAR TO BE WITHIN 5' OF THE PROPOSED WATER MAIN MUST BE EXPOSED BY THE CONTRACTOR PRIOR TO LAYING THE WATER MAIN TO DETERMINE IF CHANGES ARE NEEDED.

13. WATER/SEWER SEPARATION MUST BE PER COS STANDARD PLAN 286A AND MAY REQUIRE ONE OR MORE OF THE FOLLOWING: REPLACEMENT OF EXISTING SEWER OR SANITARY SIDE SEWER WITH DIP CENTERED AT THE CROSSING.

    13.1. ADJUSTMENT OF EITHER THE SIDE SEWER DEPTH OR THE WATER MAIN DEPTH TO MEET THE 1"–6" SEPARATION REQUIREMENT.

    13.2. ADJUSTMENT OF THE WATER MAIN RESTRAINED JOINT LOCATION TO CENTER A SINGLE 18' PIECE OF DIP AT THE CROSSING.

14. ALL WATER MAINS MUST BE PRESSURE TESTED (300 PSI) AND DISINFECTED IN ACCORDANCE WITH SECTION 7–11.3(11)A OF THE CITY OF SEATTLE STANDARD SPECIFICATIONS. ALL PRESSURE TESTING MUST BE DONE IN THE PRESENCE OF THE CONSTRUCTION INSPECTOR. THE CONTRACTOR MUST PROVIDE PLUGS AND TEMPORARY BLOWOFF ASSEMBLIES FOR PRESSURE TESTING AND DISINFECTION. SEE COS STD PLAN 300 FOR FLUSHING CONNECTION DETAILS.

15. THE CONTRACTOR MUST COMPLY WITH ALL REQUIREMENTS OF THE PERMITS ISSUED FOR THIS PROJECT.

16. UNLESS NOTED OTHERWISE, CONTRACTOR MUST BOND ALL DIP JOINTS PER STANDARD PLAN NO. 362.

17. UNLESS NOTED OTHERWISE, CONCRETE THRUST BLOCKING FOR VERTICAL BEND FITTINGS MUST BE PER CITY OF SEATTLE STANDARD PLANS 330A & 330B.

18. UNLESS NOTED OTHERWISE, CONCRETE THRUST BLOCKING FOR HORIZONTAL BEND FITTINGS MUST BE PER CITY OF SEATTLE STANDARD PLANS 331A & 331B.

19. CURVES, HORIZONTAL AND VERTICAL ANGLE POINTS MUST BE CONSTRUCTED BY DEFLECTING A MAXIMUM ONE–HALF OF THE MANUFACTURER 'S ALLOWABLE JOINT DEFLECTION FOR PIPE AND FITTINGS, UNLESS OTHERWISE NOTED.

20. RECORD DRAWING INFORMATION FOR DEPTH OF EXISTING UTILITIES ON THIS PROJECT IS LIMITED IN MOST CASES, DEPTH INFORMATION FOR CROSSING SS, WATER AND GAS SERVICE ARE UNAVAILABLE AND THESE UTILITIES ARE TYPICALLY SHOWN AT STANDARD OR APPROXIMATE DEPTH IN THE PROFILES.

21. CONTRACTOR MUST POTHOLE ALL UTILITIES WHERE DEPTHS ARE UNKNOWN PER 2–04.3(9) AND MUST COMPLY WITH THE REQUIREMENTS OF 1–07.17(2) UTILITY CLEARANCES.

22. VERTICAL AND HORIZONTAL UTILITY CLEARANCES MUST CONFORM WITH SECTION 1–07.17(2).

23. SIDE SEWER (SS) ADJUSTMENTS MAY BE NEEDED TO LOCATIONS WHERE SS ADJUSTMENTS MAY BE NEEDED ARE UNKNOWN AND ARE NOT SHOWN IN THE DRAWINGS. HOWEVER, PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES THE CONTRACTOR MUST LOCATE ALL SIDE SEWERS WITHIN THE PROJECT LIMITS TO DETERMINE IF ADJUSTMENTS ARE NEEDED. WHERE SS ADJUSTMENT IS NEEDED, SS MUST BE REQUIRED AND DOCUMENTED AS SPECIFIED IN SECTION 7–18 SIDE SEWERS.

24. CUT, CAP AND BLOCK: CONTRACTOR MUST ASSIST SPU W/ CUT, CAP AND BLOCK TO EXISTING WATER MAINS. SPU WILL CUT AND CAP. CONTRACTOR MUST SUPPLY ALL MATERIALS INCLUDING BLOCKS AND CAPS, PERFORM ALL NECESSARY EXCAVATION, PROTECTIVE MEASURES AND BACKFILL. THE CONTRACTOR MUST PROVIDE ANY EQUIPMENT AND OPERATORS REQUIRED TO MOVE AND LOWER THE COMPONENT PARTS INTO POSITION.

25. CONTRACTOR MUST PLAN ON PROVIDING 2 ADDITIONAL JOINTS PER PLAN AND PROFILE DRAWING FOR AVOIDING UTILITIES.

26. CONTRACTOR MUST COORDINATE WITH SPU FOR WATER SERVICE SHUT–OFF AND PIPE CONNECTIONS.

27. WATER MAIN TRENCHING AND BEDDING MUST BE IN ACCORDANCE WITH STANDARD PLAN 350 CLASS B FOR DISTRIBUTION WATER MAIN.

28. WHERE ENCOUNTERED, UNSUITABLE FOUNDATIONS FOR UTILITIES, AS DEFINED IN STANDARD SPECIFICATION 2–04.1 MUST BE EXCAVATED. A GEOSYNTHETIC WRAPPED, PERMEABLE BALLAST BACKFILL MUST BE PLACED BETWEEN THE BOTTOM OF THE EXCAVATION AND THE BOTTOM OF THE REQUIRED PIPE BEDDING.

29. DI PIPE SPOOLS AS NEEDED TO MAKE CONNECTIONS BETWEEN ADJACENT MJ FITTINGS SHALL BE INCLUDED EVEN IF NOT SPECIFICALLY CALLED OUT OR REFERENCED ON THE PLANS.

SYMBOLOGY:

1. SEE COS STD PLANS 003 SERIES FOR STD SYMBOLS.

WATER SERVICE TABLE

SVC#	SIZE	TYPE	MATERIAL	ADDRESS	LOCATION	METER#	EQNUM	IN STREET	SIDE	SPU WORK
1	0.75			2503 NE 100TH ST	340' W OF C/L OF NE 100TH ST			NE 100TH ST	S	
2	0.75			2511 NE 100TH ST	261' W OF C/L OF NE 100TH ST			NE 100TH ST	S	
3	0.75			2500 NE 100TH ST	325' W OF C/L OF NE 100TH ST			NE 100TH ST	N	
4	0.75			2518 NE 100TH ST	IN NE 100TH ST, 89' E OF HYD			NE 100TH ST	N	
5	0.75			10003 RAVENNA AVE NE				NE 100TH ST	N	

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

NATURE REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.	DATE	MARK

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....

REVIEWED BY SPU/DRAINAGE ..... 20.....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED JW		REVIEWED:	
CHECKED RC		DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN TW		RECEIVED	
CHECKED RC		REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0–02.3 OF THE PROJECT MANUAL.

JESSE LEE WILLIAMS · STATE OF WASHINGTON · 45577 · REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: NO SCALE

UTILITY NOTES

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CU102	
SHEET 36 OF 62	

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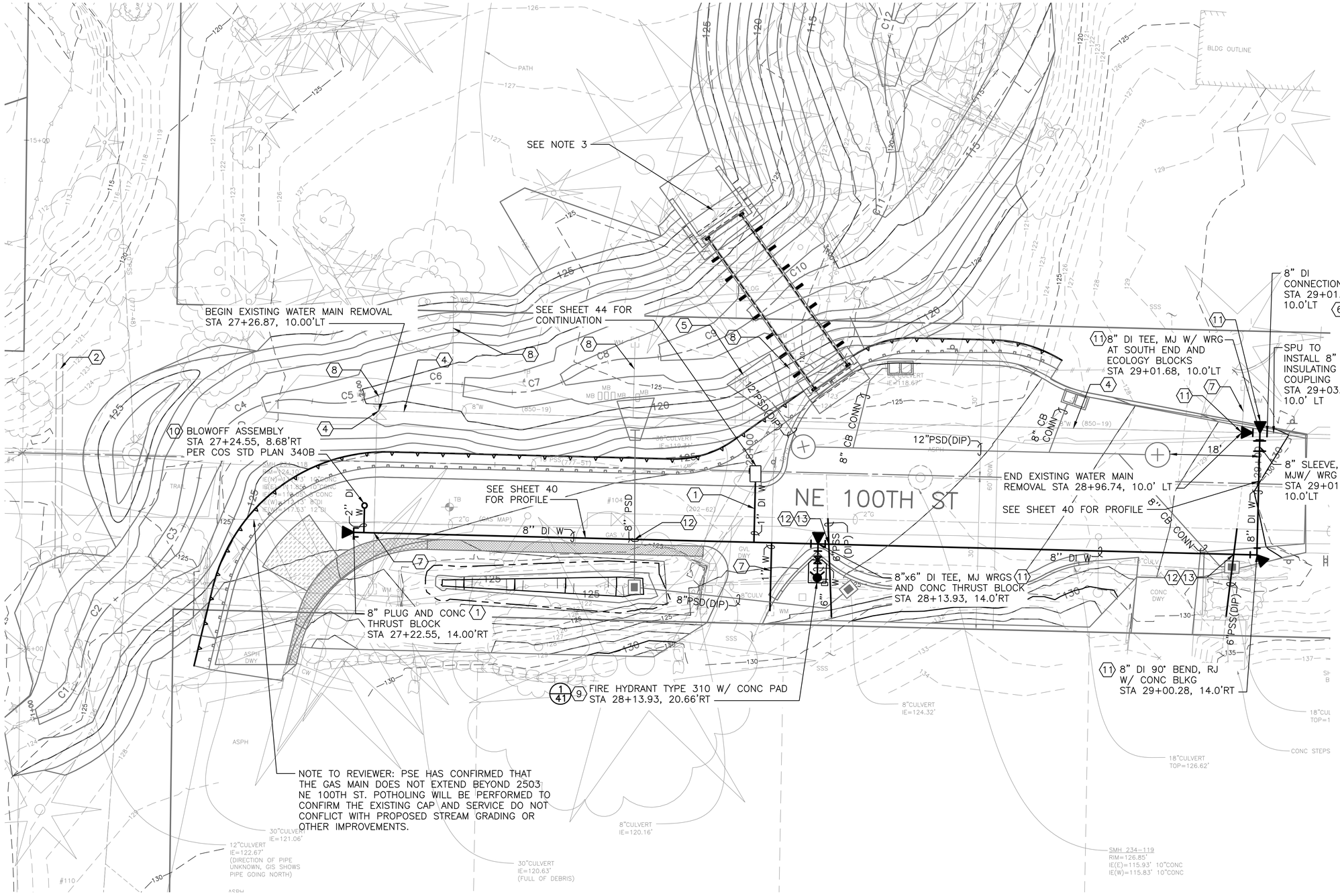

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SCALE IN FEET

NOTES:

1. FOR ADDITIONAL DEMOLITION AND REMOVALS INFORMATION, SEE SHEET 11.
2. FOR ADDITIONAL ROADWAY INFORMATION, SEE SHEET 42.
3. FOR ADDITIONAL STRUCTURAL INFORMATION, SEE SHEETS 52 THRU 62.
4. FOR PROPOSED UTILITY PROFILES, SEE SHEET 41.
5. FOR ADDITIONAL WATER MAIN NOTES, SEE SHEET 36.
6. CONNECTION TO SPU WATER MAIN MUST BE PERFORMED BY SPU STAFF.

KEY NOTES:

1. 1" WATER SERVICE (BY SPU)
4. REMOVE EXISTING WATER MAIN (TYP)
5. REMOVE EXISTING FIRE HYDRANT (BY SPU)
6. SPU TO CONNECT TO EXISTING WATER MAIN PER COS STD PLAN 300A AND 300B WITH CONTRACTOR SUPPORT
7. RECONNECT EXISTING WATER SERVICE TO WATER MAIN (BY SPU)
8. EXISTING WATER SERVICE AND METER TO BE RETIRED (BY SPU)
9. FIRE HYDRANT PER COS STD PLAN 310A AND 310B
10. BLOWOFF ASSEMBLY TYPE B PER COS STD PLAN 340B
11. HORIZONTAL THRUST BLOCK PER COS STD PLAN 331A AND 331B
12. WATER/SEWER SEPARATION MUST BE PER COS STANDARD PLAN 286A
13. RELOCATE PORTION OF CROSSING SIDE SEWER FOR DEEPER VERTICAL CLEARANCE. POTHOLE DURING CONSTRUCTION.

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

UTILITY PLAN

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED JW		REVIEWED:	
CHECKED RC		DES.	CONST.
DRAWN TW		SDOT	PROJ. MGR.
CHECKED RC		RECEIVED	
		REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

JESSIE LEE WILLIAMS · STATE OF WASHINGTON · 35577 · REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CU103
SHEET 37 OF 62

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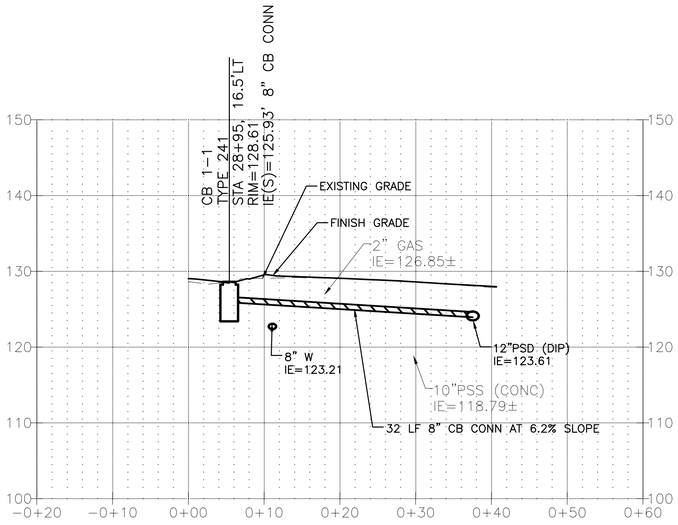
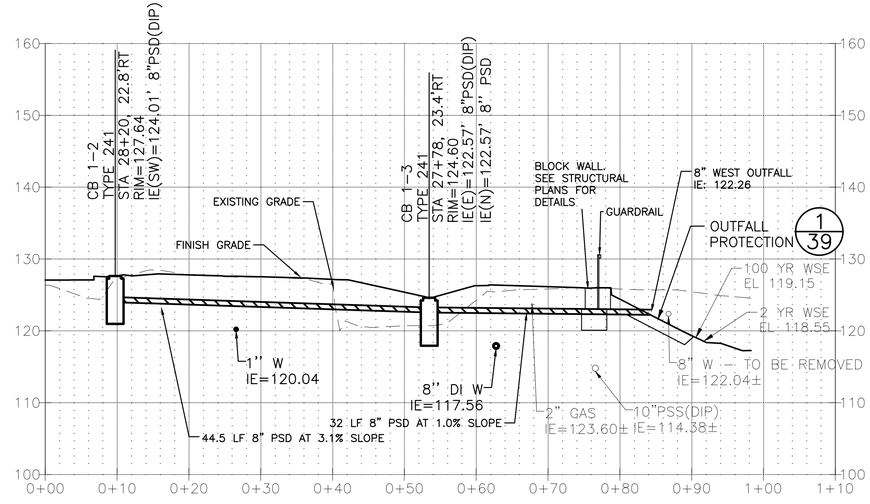


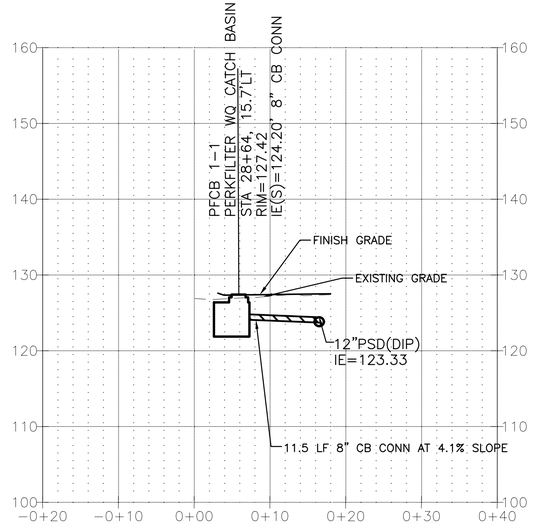
CB 1–1 – PROFILE

SCALE: 1" = 10'



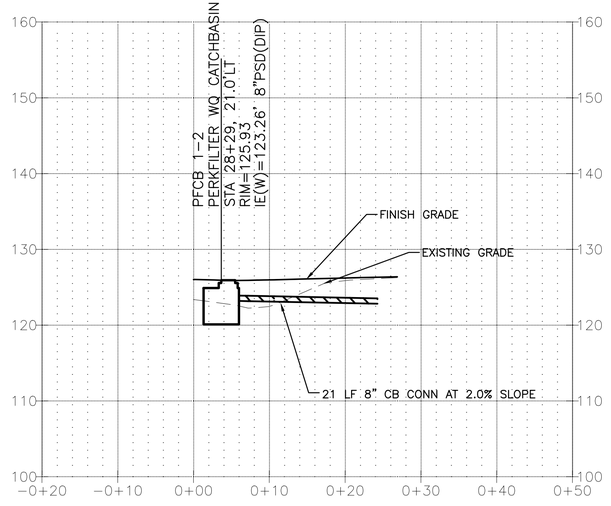
CB 1–2 AND CB 1–3 TO WEST OUTFALL – PROFILE

SCALE: 1" = 10'



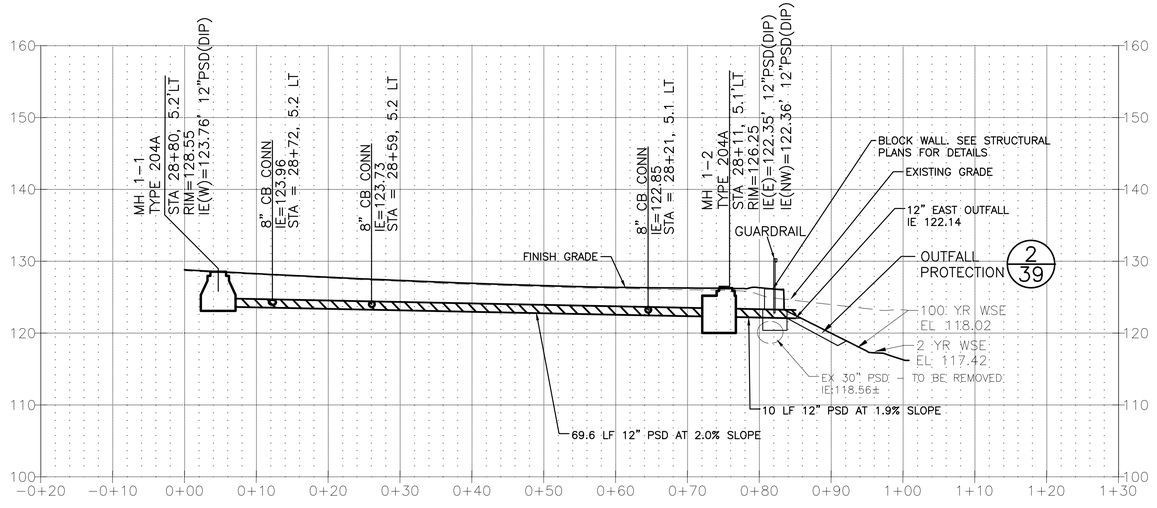
PFCB 1–1 – PROFILE

SCALE: 1" = 10'



PFCB 1–2 – PROFILE

SCALE: 1" = 10'



MH 1–1 TO EAST OUTFALL – PROFILE

SCALE: 1" = 10'

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

DRAINAGE DETAILS

NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D	REV'D

VAULT SERIAL NO.

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Jacobs

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APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED JW	REVIEWED: DES. CONST. SDOT PROJ. MGR.
CHECKED RC	RECEIVED
DRAWN TW	REVISED AS BUILT
CHECKED RC	

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JESSE LEE WILLIAMS · STATE OF WASHINGTON · 45577 · REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

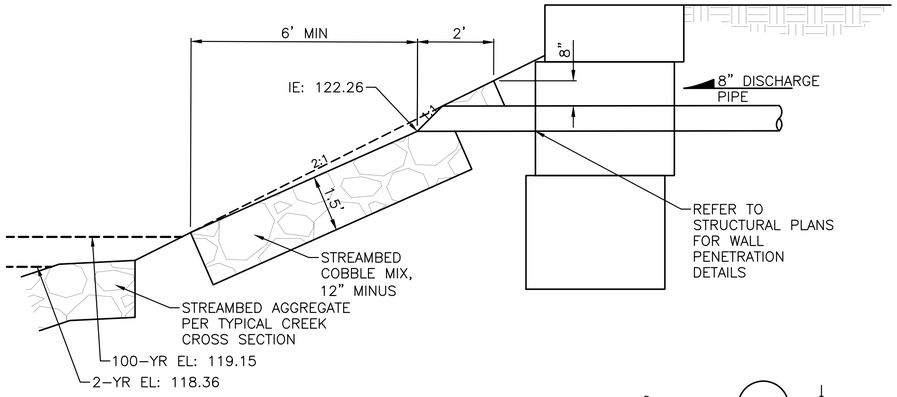
WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

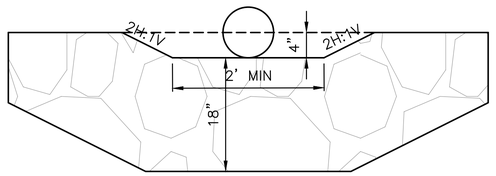
VPI #

CU201

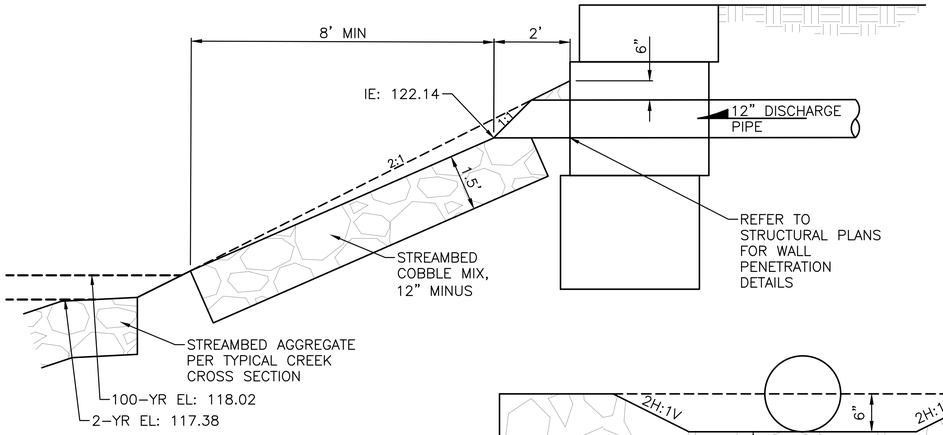
SHEET 38 OF 62



SECTION A–A
SCALE: 1" = 2'



SECTION B–B
SCALE: 1" = 1'



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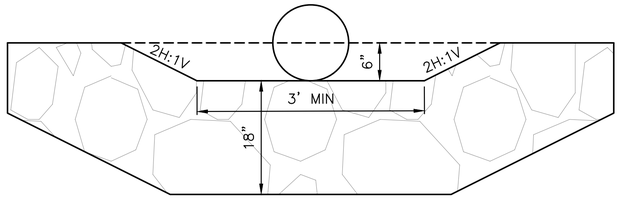
SCALE: 1" = 2'



SECTION B–B
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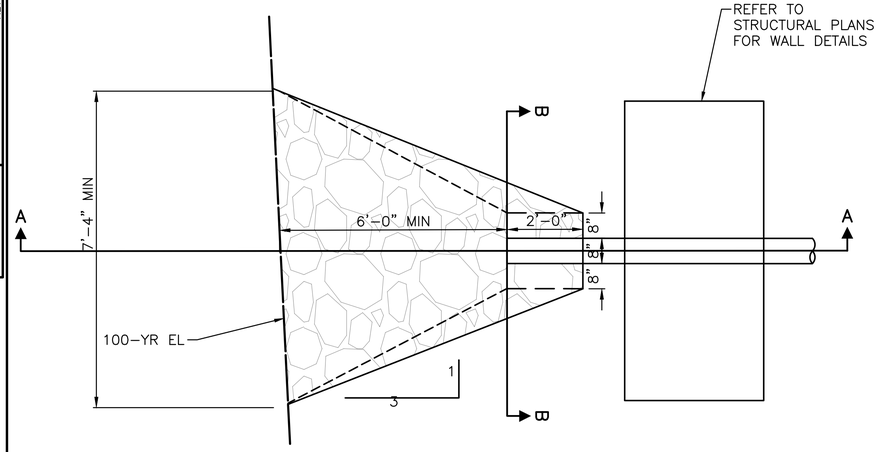
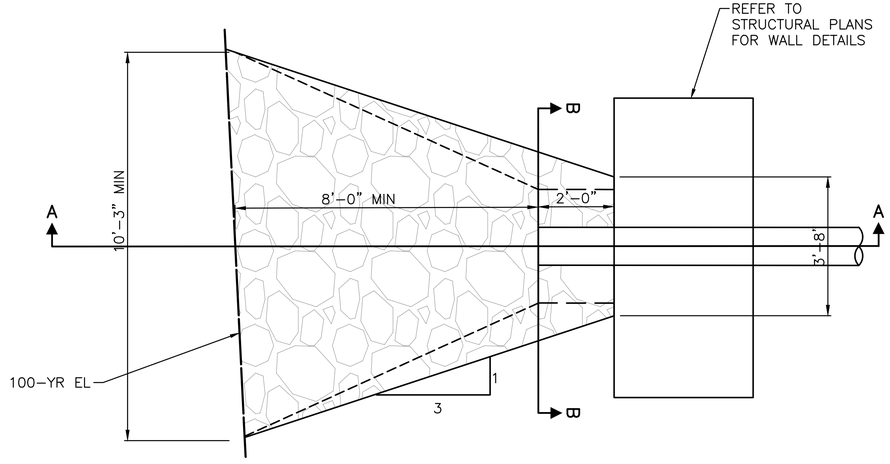


PLAN
SCALE: 1" = 2'



PLAN
SCALE: 1" = 2'

WEST OUTFALL PROTECTION DETAIL 1/35
SCALE:AS NOTED

EAST OUTFALL PROTECTION DETAIL 2/35
SCALE:AS NOTED

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

DRAINAGE DETAILS

NO.	DATE	MARK	REVISIONS	MADE	CHK'D	REV'D
			NATURE			

VAULT SERIAL NO.

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
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INITIALS AND DATE	
DESIGNED JW	
CHECKED RC	
DRAWN TW	
CHECKED RC	

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INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

JESSE LEE WILLIAMS — STATE OF WASHINGTON — 45577 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CU202
SHEET 39 OF 62

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SITE SPECIFIC DATA				
Structure ID				PFCB 1-1
Treatment Flow Rate (cfs)				0.008 cfs
Peak Flow Rate (cfs)				0.07 cfs
Rim Elevation				127.42'
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Outlet	SW Side	8"	DIP	124.20'
Inlet	N/A	N/A	N/A	N/A
Notes: -				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic & Phosphorus	0.030 cfs

WQ CATCH BASIN
SCALE:1"=10'-0"

1/38

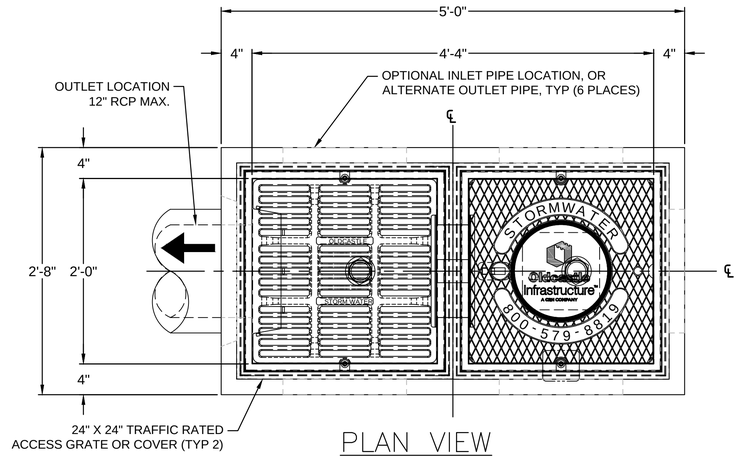
SITE SPECIFIC DATA				
Structure ID				PFCB 1-2
Treatment Flow Rate (cfs)				0.012 cfs
Peak Flow Rate (cfs)				0.11 cfs
Rim Elevation				125.93'
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Outlet	West End	8"	DIP	123.26'
Inlet	N/A	N/A	N/A	N/A
Notes: -				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic & Phosphorus	0.030 cfs

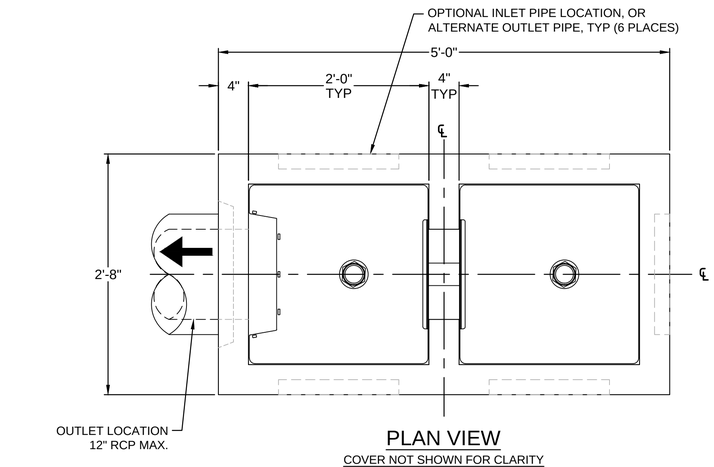
WQ CATCH BASIN
SCALE:1"=10'-0"

2/38

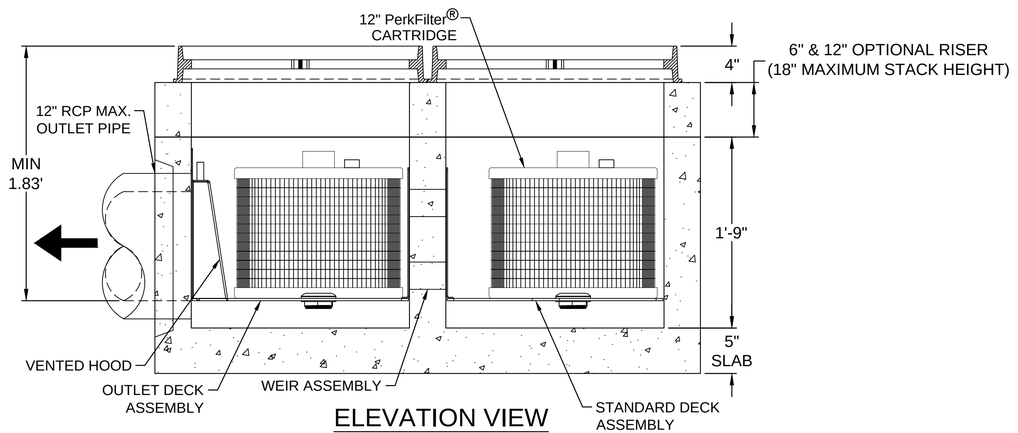
LEFT END VIEW
(OPTIONAL WITH 6" OR 12" RISER)



PLAN VIEW



PLAN VIEW
COVER NOT SHOWN FOR CLARITY



ELEVATION VIEW
(OPTIONAL WITH 6" OR 12" RISER)

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44 W/ IMPACT.
   B. STANDARD DESIGN FILL: MAX TOP OF STRUCTURE.
   C. ASSUMED WATER TABLE: BELOW STRUCTURE.
   D. DRY LATERAL EARTH PRESSURE (EFP) = 45 PCF.
   E. LATERAL LIVE LOAD SURCHARGE = 80 PSF (APPLIED TO 8' BELOW GRADE).
   F. NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALLS, PIERS, OR FOUNDATIONS.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE 5,000 PSI MINIMUM.
3. STEEL REINFORCEMENT: REBAR, ASTM A-615 OR A-706, GRADE 60.
4. CEMENT: ASTM C-150 SPECIFICATION.
5. REQUIRED ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSF.
   CONTRACTOR RESPONSIBLE TO ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. COMPACTED AND LEVEL PER PROJECT SPECIFICATIONS).
6. REFERENCE STANDARD:
   A. ASTM C 890
   B. ASTM C 913
   C. ACI 318-14
7. OUTLET HOLES WILL BE FACTORY CORED/CAST PER PLANS/CUSTOMER REQUIREMENTS. OUTLET LOCATIONS CAN BE CHANGED.
8. MAXIMUM PICK WEIGHT (COMBINED WEIGHT OF BASE, CARTRIDGE & ACCESS COVER) = TBD.
9. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT OLDCASTLE INFRASTRUCTURE.

10 5 0 10 20
SCALE IN FEET

DRAINAGE DETAILS

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

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Feb-20-23 4:28pm

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED JW		REVIEWED: DES.	CONST.
CHECKED RC		SDOT	PROJ. MGR.
DRAWN TW		RECEIVED	
CHECKED RC		REVISED AS BUILT	

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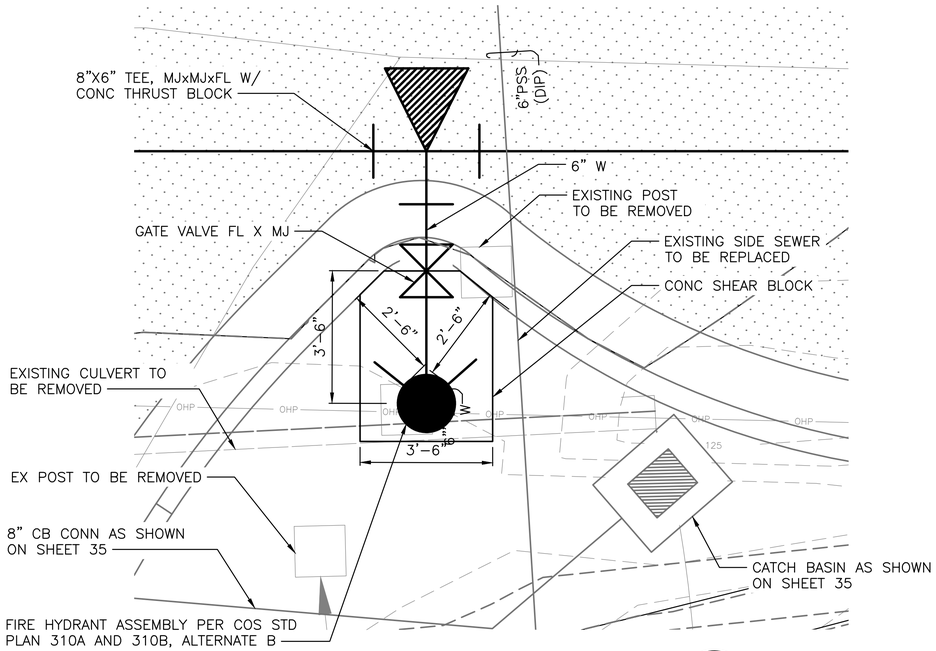
JESSE LEE WILLIAMS STATE OF WASHINGTON 45577 REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

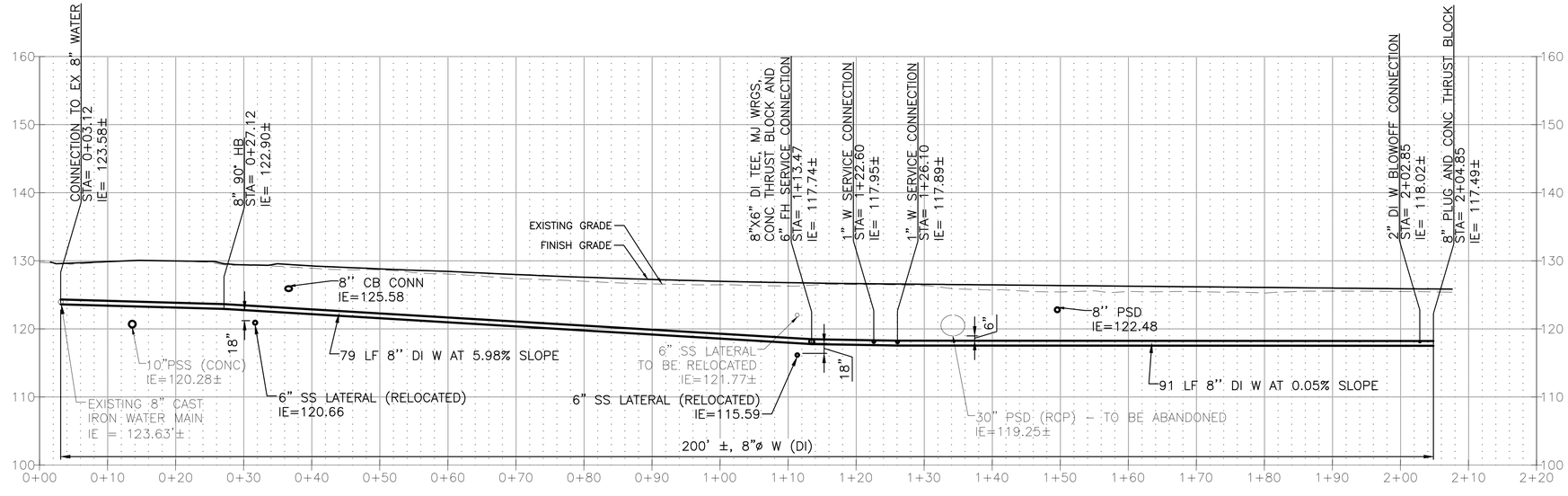
WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CU203
SHEET 40 OF 62



HYDRANT REPLACEMENT DETAIL 1/37

SCALE:1"=2'-0"



PROPOSED NE 100TH ST WATER MAIN – PROFILE

SCALE: 1" = 10'

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

UTILITY DETAILS

NO.	DATE	MARK	VAULT SERIAL	NATURE REVISIONS	MADE	CHK'D	REV'D

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Feb-20-23 4:29pm

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REVIEWED BY SPU/DRAINAGE ..... 20.....
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LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
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INITIALS AND DATE	
DESIGNED JW	
CHECKED RC	
DRAWN TW	
CHECKED RC	

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INITIALS AND DATE		
REVIEWED:		
DES.	CONST.	
SDOT	PROJ. MGR.	
RECEIVED		
REVISED AS BUILT		

JESSE L.E.E. WILLIAMS STATE OF WASHINGTON 45577 REGISTERED PROFESSIONAL ENGINEER

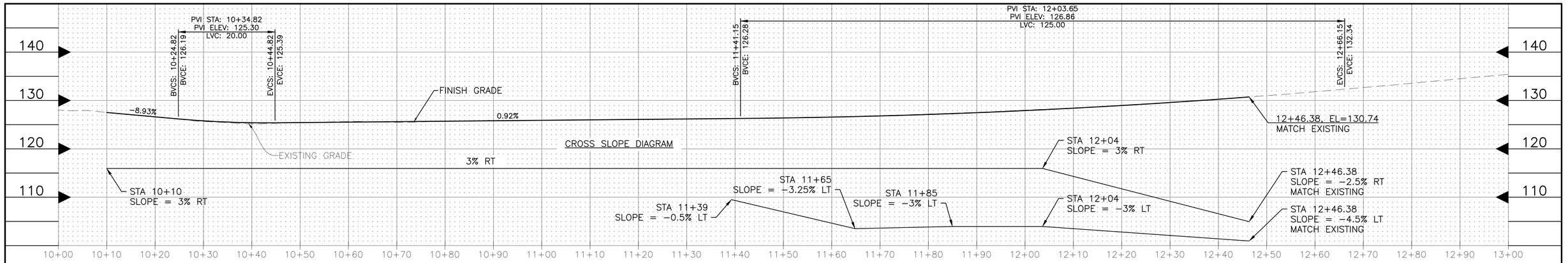
Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

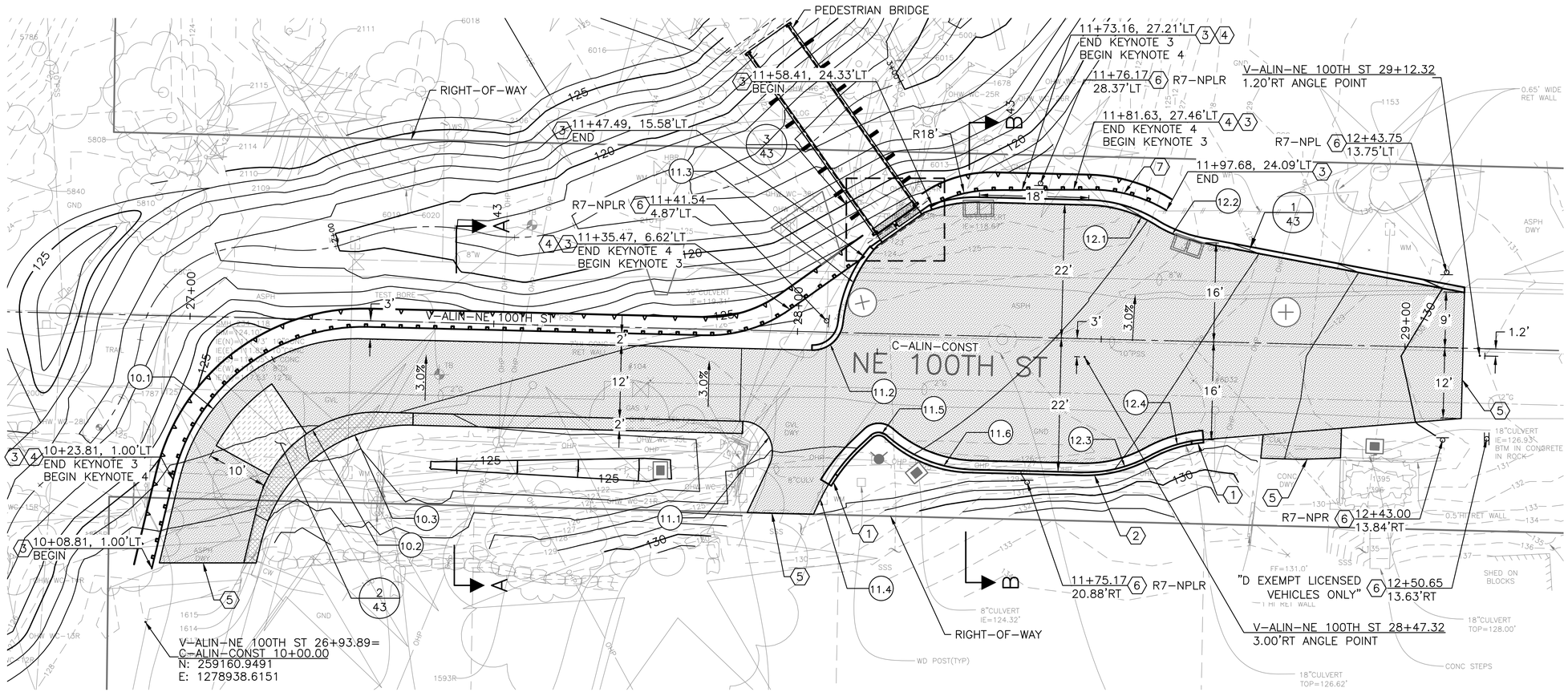
WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
CU204	
SHEET 41 OF 62	



C-ALIN-CONST PROFILE

SCALE: 1" = 10'



ROADWAY PLAN

SCALE: 1" = 10'

SCALE IN FEET

NOTES:

1. FOR ABBREVIATIONS AND GENERAL NOTES SEE SHEET 3.
2. FOR PAVING LEGEND SEE SHEET 4.
3. FOR ROADWAY POINT (#) TABLE SEE SHEET 43.
4. DATUM: NAVD88 AND NAD 83 (2011) 2010.00 EPOCH.
5. CUL-DE-SAC PER STREETS ILLUSTRATED SECTION 3.1 CONSTRUCTION OF ROADWAYS: TURN AROUND AND CUL-DE-SACS
6. ALL SIGNS SHALL BE A MINIMUM 18" AWAY FROM FACE OF CURB/EDGE OF TRAVEL WAY.

KEY NOTES:

1. CURB HEIGHT TRANSITION FROM 6" TO 0" OVER 2 FEET
2. CURB AND GUTTER, CEM CONC, TYPE 410B PER COS STD PLAN 410
3. BEAM GUARDRAIL TYPE 31 ANCHOR TYPE 10 PER WSDOT STD PLAN C-23.60-04
4. BEAM GUARDRAIL TYPE 31 PER WSDOT STD PLAN C-20.10-08
5. MATCH EXISTING
6. SIGN AND POST PER COS STD PLAN 621
7. BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL PER WSDOT STD PLAN C-22.45-06

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PROPOSED ROADWAY ALIGNMENT PLAN AND PROFILE

VAULT	SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....

REVIEWED BY SPU/DRAINAGE ..... 20....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
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SDOT	PROJ. MGR.
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GREGORY MICHAEL SHEPPARD — STATE OF WASHINGTON — 21036713 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: H. 1"=10', V. 1"=5'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI #

CP101

SHEET 42 OF 62

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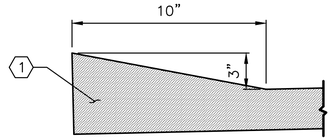
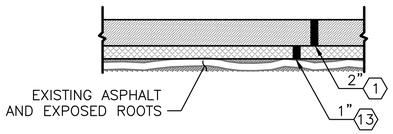
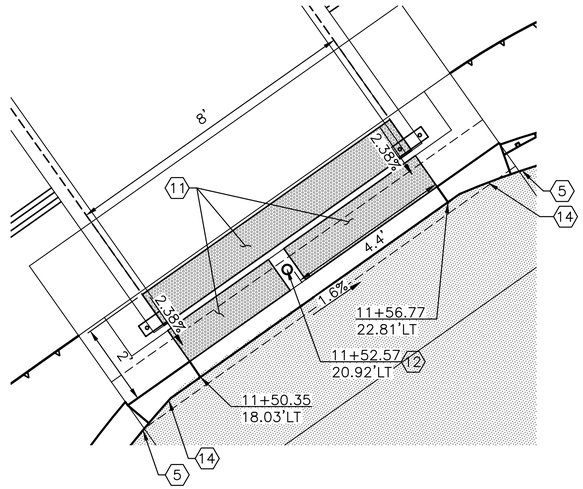


ASPHALT THICKENED EDGE (1/42)
SCALE: NTS

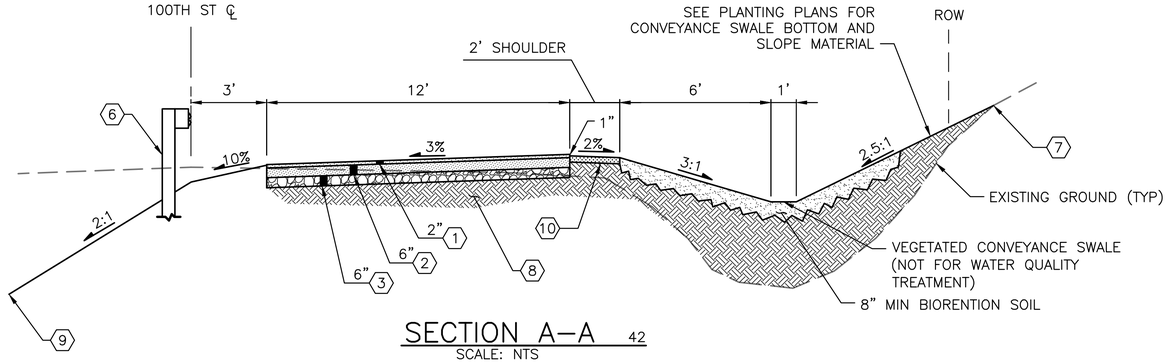


ASPHALT OVER EXPOSED TREE ROOTS (2/33)
SCALE: NTS

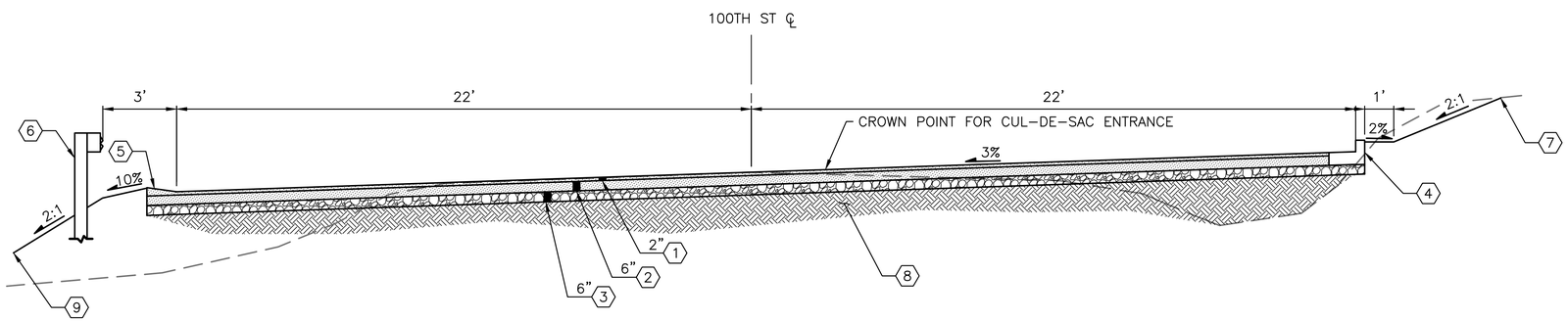


PEDESTRIAN BRIDGE ENTRANCE (3/33)
SCALE: 1" = 2'

CURVE DATA TABLE						
CURVE	PC	PT	RADIUS	DELTA	LENGTH	TANGENT
10.1	10+24.26	10+65.08	30.00'	77°58'14"	40.83'	24.28'
10.2	10+22.96	10+68.23	20.00'	77°58'14"	27.22'	16.19'
10.3	10+17.29	10+73.90	25.00'	77°58'14"	34.02'	20.23'
11.1	11+28.17	11+32.76	5.00'	113°31'14"	9.91'	7.63'
11.2	11+39.25	11+44.23	5.00'	85°45'07"	7.48'	4.64'
11.3	11+44.23	11+66.17	22.00'	85°45'07"	32.93'	20.43'
11.4	11+41.09	11+47.45	30.00'	21°39'38"	11.34'	5.74'
11.5	11+49.21	11+51.91	2.00'	85°13'11"	2.97'	1.84'
11.6	11+51.91	11+66.17	22.00'	40°24'32"	15.52'	8.10'
12.1	11+84.87	11+95.87	22.00'	30°15'49"	11.62'	5.95'
12.2	11+95.87	12+03.32	22.00'	20°58'11"	8.05'	4.07'
12.3	11+84.09	11+94.82	22.00'	30°16'22"	11.62'	5.95'
12.4	11+94.82	12+03.63	22.00'	24°08'37"	9.27'	4.71'



SECTION A–A (42)
SCALE: NTS



SECTION B–B (42)
SCALE: NTS

KEY NOTES:

1. PAVEMENT, HMA CL 1/2 IN, PG 58H–22
2. PAVEMENT, HMA CL 1 IN, PG 58H–22
3. MINERAL AGGREGATE, TYPE 2
4. CURB AND GUTTER, CEM CONC, TYPE 410B PER COS STD PLAN 410
5. ASPHALT THICKENED EDGE, PER DETAIL 1
6. BEAM GUARDRAIL, TYPE 31 PER WSDOT STD PLAN C–20.10–07
7. MATCH EXISTING
8. COMPACTED SUBGRADE
9. FOR ADDITIONAL GRADING DETAILS, SEE CREEK CROSS SECTION AND DETAILS SHEETS
10. 3" THICK ARBORIST WOODCHIP MULCH
11. DETECTABLE WARNING SURFACE PER COS STD PLAN 422K
12. REMOVABLE STEEL BOLLARD PER COS STD PLAN 464, SEE PEDESTRIAN BRIDGE PLAN FOR ADDITIONAL DETAILS
13. MINERAL AGGREGATE, TYPE 1
14. ASPHALT THICKENED EDGE HEIGHT TRANSITION FROM 3" TO 0" OVER 1 FOOT

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

ROADWAY DETAILS

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED GS	
CHECKED BH	
DRAWN GS	
CHECKED BH	

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

GREGORY MICHAEL STEPHAN — STATE OF WASHINGTON — 21036713 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
CP201
SHEET 43 OF 62

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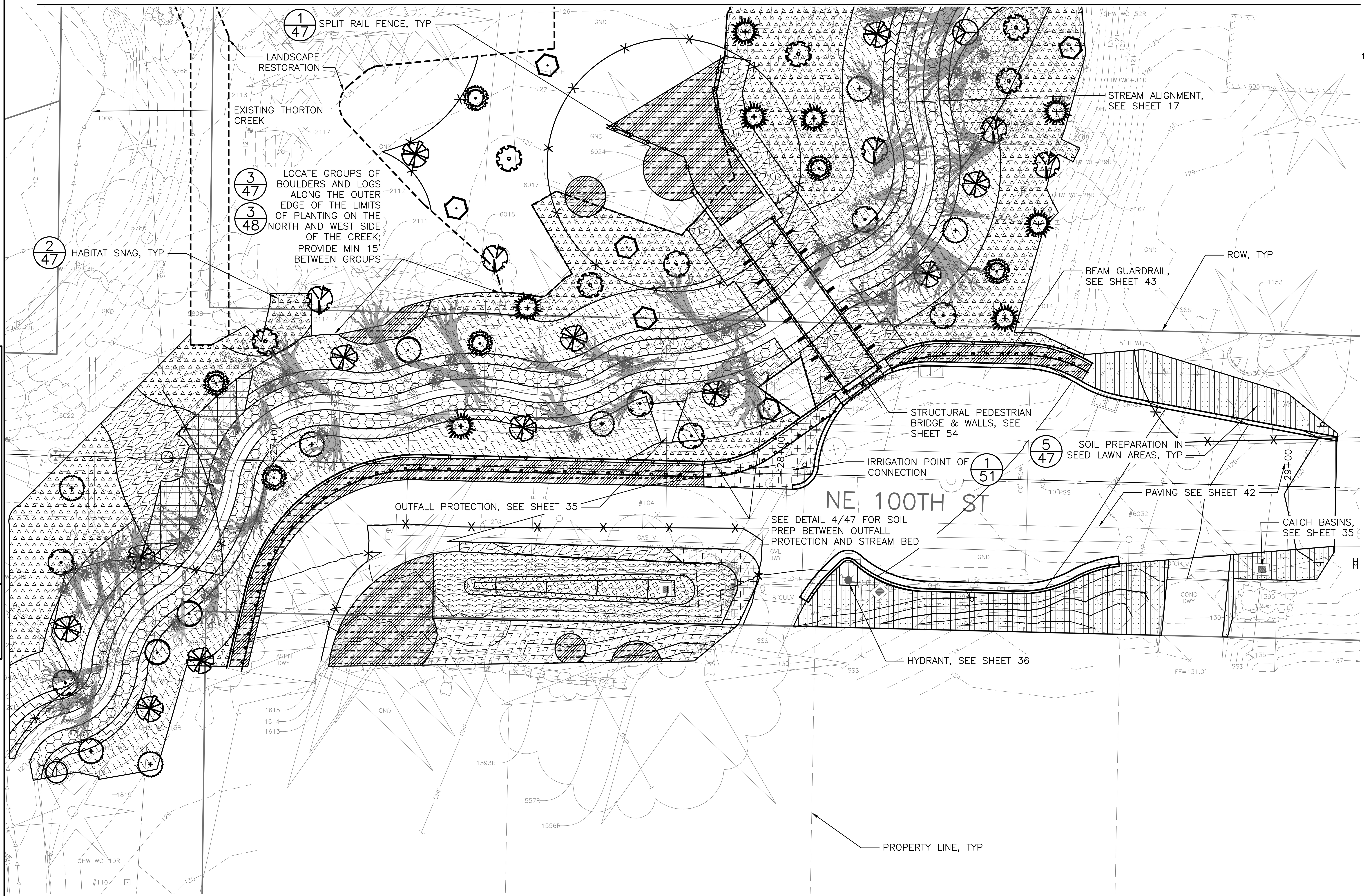
MATCH LINE STA 02+45 – SEE SHEET 45



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10 5 0 10 20
SCALE IN FEET

NOTES:
1. SEE SHEETS 50 & 51 FOR PLANT SCHEDULE.
2. LIMITS OF PLANTING EQUALS LIMITS OF SITE DISTURBANCE, SEE SITE PREPARATION & CSEC SHEET. MEET & MATCH ADJACENT CONDITIONS WITH A SMOOTH TRANSITION.

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PLANTING PLAN 1 OF 2

Jacobs

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BY: ....
PURCHASING AND CONTRACTING DIRECTOR

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DESIGNED	AL	2/20/23	REVIEWED:	
CHECKED	JV	2/20/23	DES.	CONST.
			SDOT	PROJ. MGR.
DRAWN	JB	2/20/23	RECEIVED	
CHECKED	JV	2/20/23	REVISED AS BUILT	

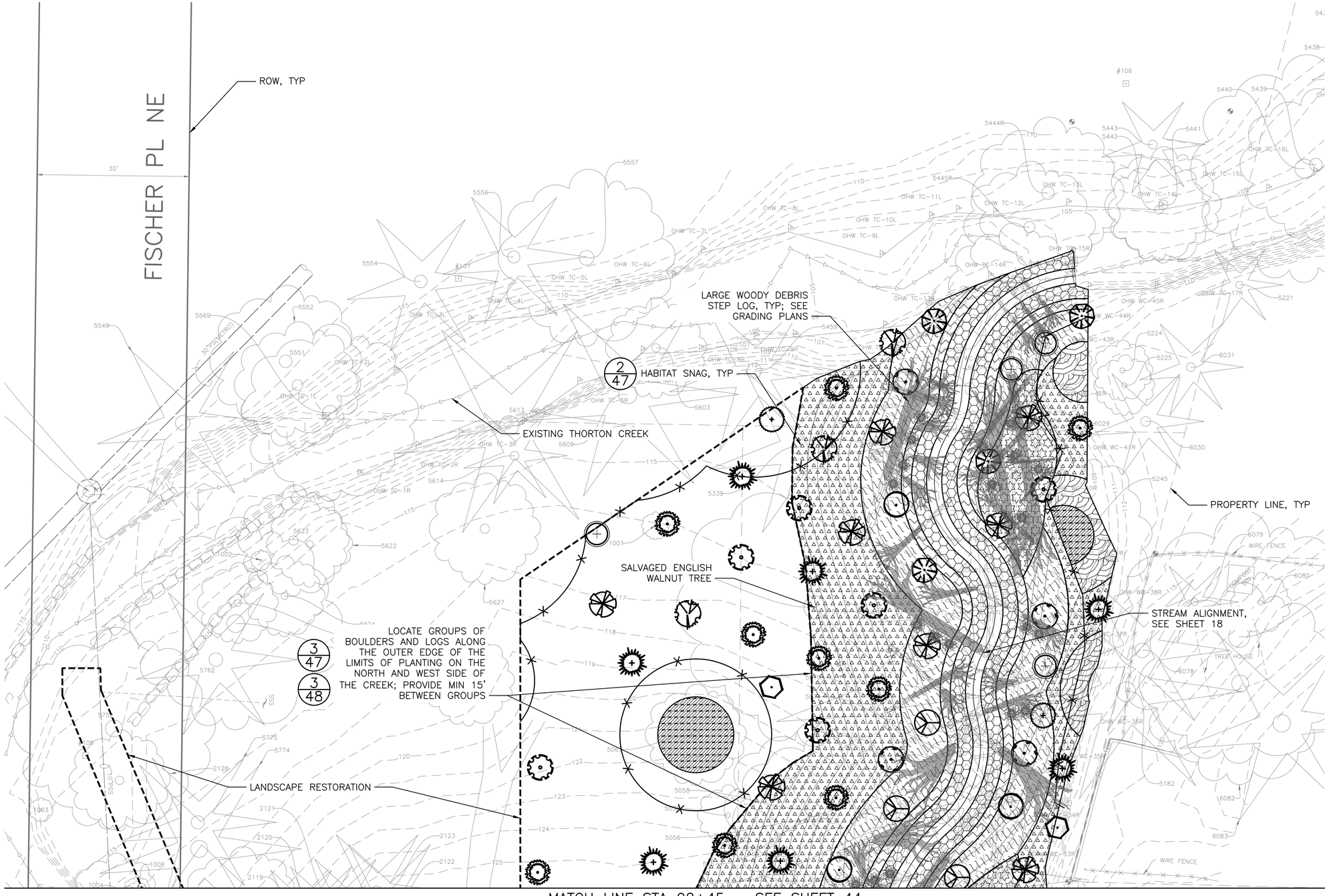
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

STATE OF WASHINGTON – MERIT OVIIR – LICENSED LANDSCAPE ARCHITECT – NO 1396 EXP. 03/2023

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
L-101	
SHEET 44 OF 62	



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10 5 0 10 20
SCALE IN FEET

NOTES:
1. SEE SHEETS 50 & 51 FOR PLANT SCHEDULE.
2. LIMITS OF PLANTING EQUALS LIMITS OF SITE DISTURBANCE, SEE SITE PREPARATION & CSEC SHEET. MEET & MATCH ADJACENT CONDITIONS WITH A SMOOTH TRANSITION.

VAULT SERIAL NO.	DATE	MARK
NATURE REVISIONS	MADE	CHK'D REV'D

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PLANTING PLAN 2 OF 2

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DRAWN	JB	2/20/23
CHECKED	JV	2/20/23

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

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STATE OF WASHINGTON · MERIT OVER · LICENSED LANDSCAPE ARCHITECT · NO 1998 EXP. 03/2023

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1"=10'

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
L-102	
SHEET 45 OF 62	

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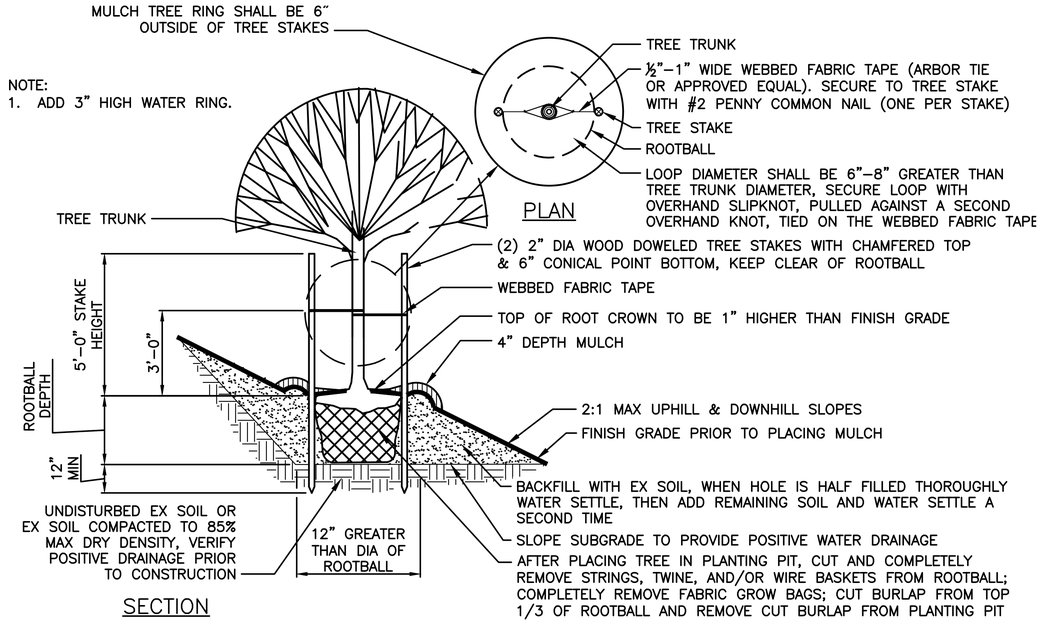
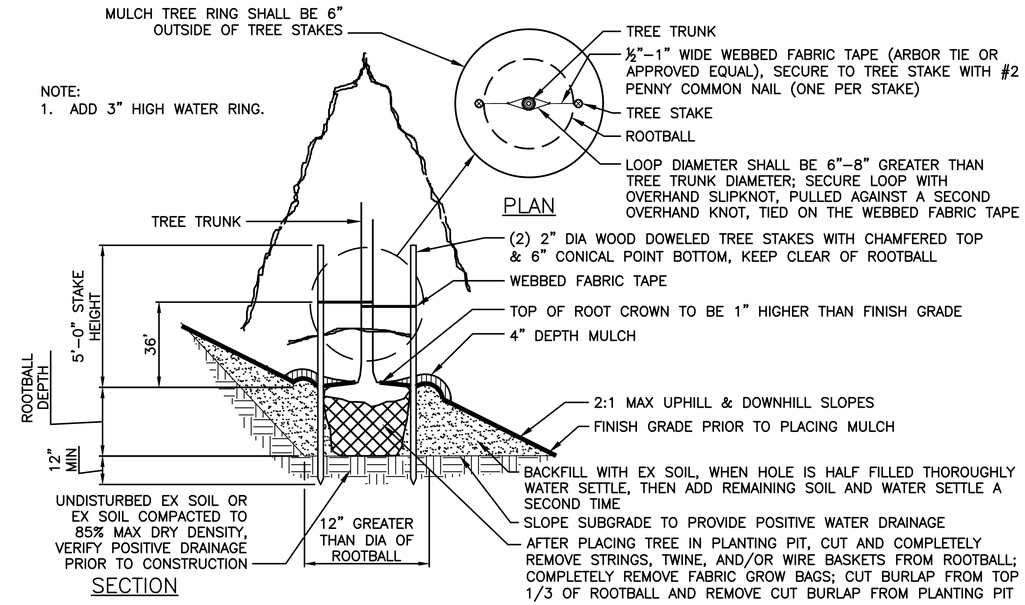
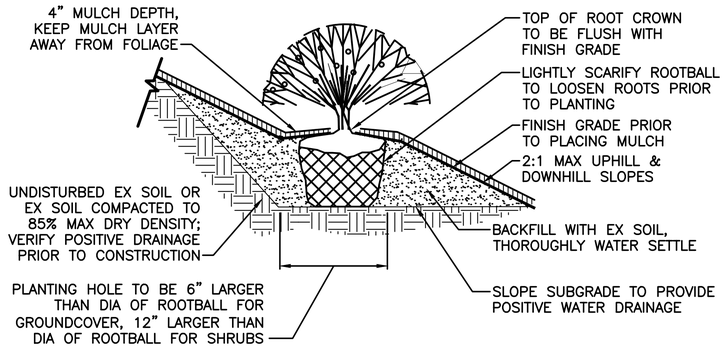


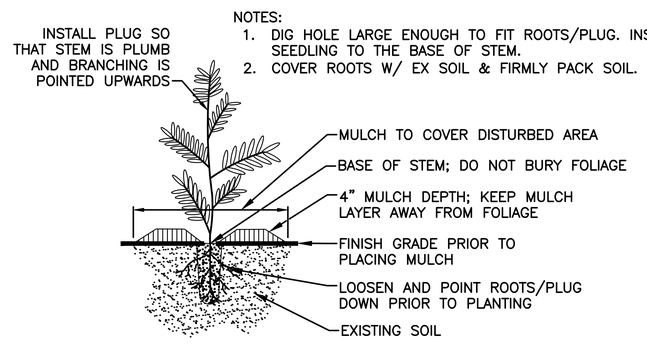
DECIDUOUS TREE PLANTING ON SLOPE (1/46)
NTS



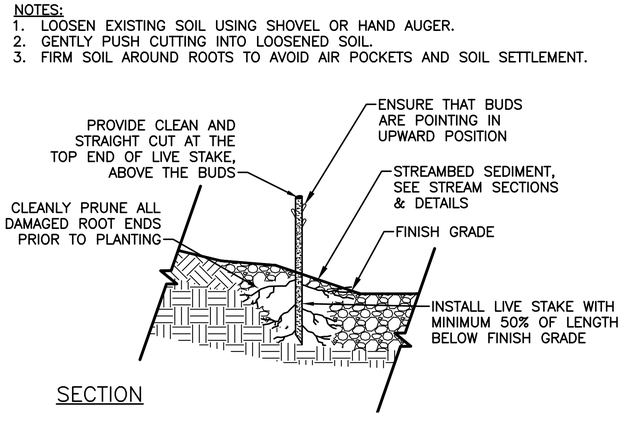
CONIFER TREE PLANTING ON SLOPE (2/46)
NTS



TREE SHRUB & GROUNDCOVER PLANTING ON SLOPE (3/46)
NTS



PLUG PLANTING (4/46)
NTS



LIVE STAKE PLANTING (5/46)
NTS

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PLANTING DETAILS

NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D REV'D

VAULT SERIAL NO.

Jacobs

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DESIGNED	AL	2/20/23
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DRAWN	JB	2/20/23
CHECKED	JV	2/20/23

INITIALS AND DATE	
REVIEWED:	
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SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

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STATE OF WASHINGTON · MERIT OVIR · NO. 996 EXP. 03/2025 · LICENSED LANDSCAPE ARCHITECT

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
L-201
SHEET 46 OF 62

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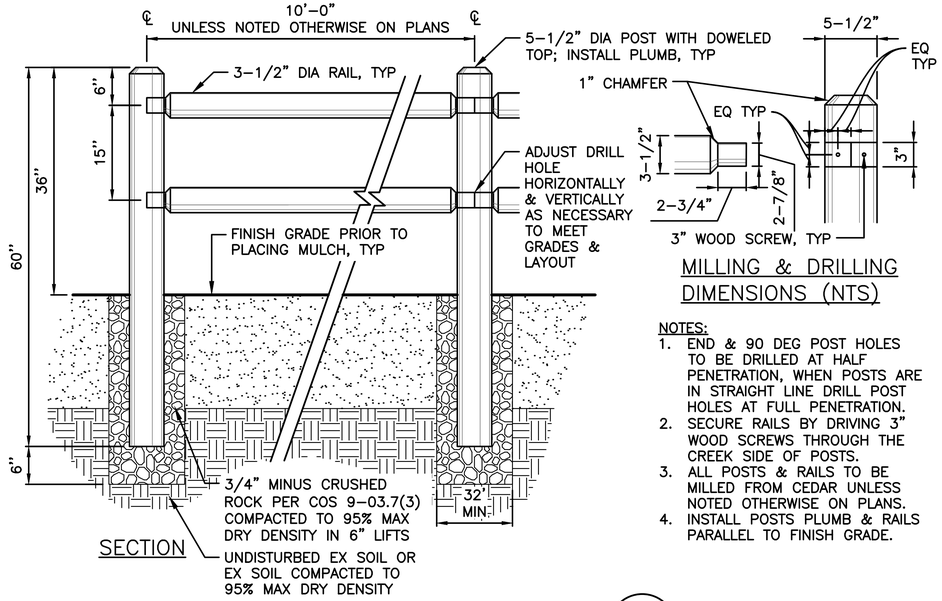
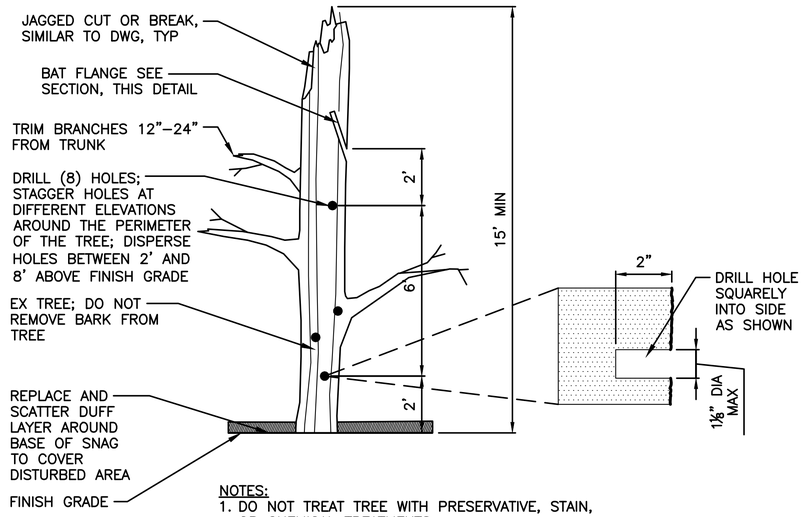


MILLING & DRILLING DIMENSIONS (NTS)

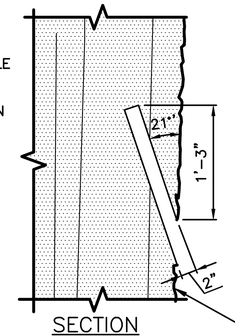
NOTES:
1. END & 90 DEG POST HOLES TO BE DRILLED AT HALF PENETRATION, WHEN POSTS ARE IN STRAIGHT LINE DRILL POST HOLES AT FULL PENETRATION.
2. SECURE RAILS BY DRIVING 3" WOOD SCREWS THROUGH THE CREEK SIDE OF POSTS.
3. ALL POSTS & RAILS TO BE MILLED FROM CEDAR UNLESS NOTED OTHERWISE ON PLANS.
4. INSTALL POSTS PLUMB & RAILS PARALLEL TO FINISH GRADE.

SPLIT RAIL FENCE 1/47
NTS



NOTES:
1. DO NOT TREAT TREE WITH PRESERVATIVE, STAIN, OR CHEMICAL TREATMENTS.
2. BREAK OR CREATE JAGGED APPEARANCE WHEN CUTTING TRUNK AND BRANCHES.
3. REMOVE BRANCHES FOR WOOD CHIP MULCH.
4. HABITAT SNAGS AS SHOWN ON PLANS, DO NOT MOVE TREE OR SNAG FROM EXISTING LOCATION

SECTION

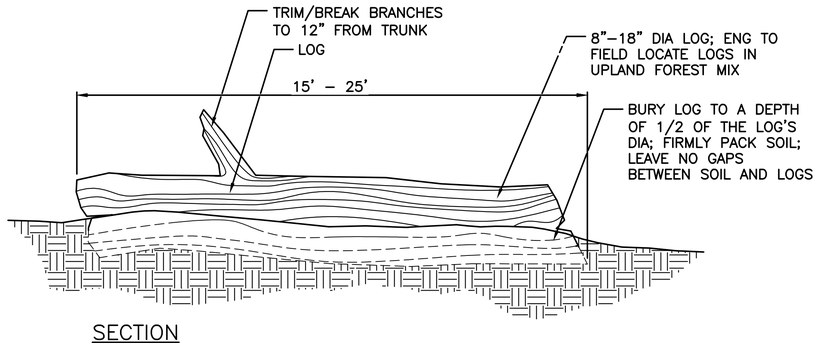


SECTION

NOTES:
1. USE CHAINSAW TO CUT PARALLEL TO THE FACE OF THE TREE.
2. CUT UPWARD AND SLIGHTLY INWARD TO CREATE FLANGE OPENING APPROX. 2" THICK, 8" WIDE, AND 15" TALL.
3. FLANGES TO BE PLACED AT LEAST 10' ABOVE FINISH GRADE.

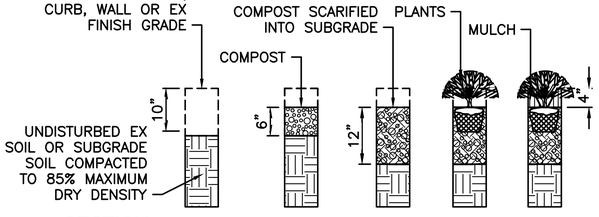
HABITAT SNAG 2/47
NTS

NOTES:
1. INSTALL LOGS IN LOCATIONS AS DIRECTED BY THE ENGINEER.
2. DO NOT TREAT LOG WITH PRESERVATIVES, STAINS, OR CHEMICAL TREATMENTS.
3. TREES SALVAGED DURING DEMOLITION TO BE USED AS LOGS.



SECTION

HABITAT LOG - UPLAND USES 3/47
NTS



SECTION

STEP 1
EXCAVATE TO DEPTH SHOWN BELOW ADJACENT PAVING, CURB, WALL, OR UNDISTURBED EXISTING FINISH GRADE. AVOID UNDERMINING ADJACENT PAVING OR PAVING SUBBASE MATERIAL.

STEP 2
INSTALL COMPOST TO DEPTH SHOWN.

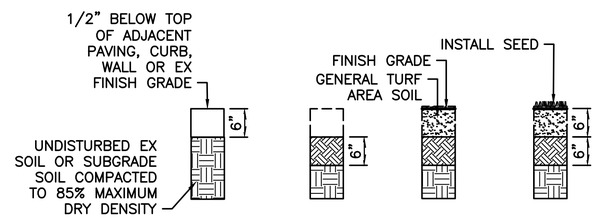
STEP 3
SCARIFY COMPOST INTO THE SUBGRADE TO DEPTH SHOWN. ENG SHALL REVIEW & APPROVE SCARIFICATION. COMPACT TO 85% MAX DRY DENSITY. REVIEW FINISH GRADE WITH ENG PRIOR TO PLANTING.

STEP 4
INSTALL PLANTS. WHERE SLOPES ARE 3:1 OR GREATER, PROVIDE EROSION CONTROL FABRIC PER WSDOT STD PLAN I-60.10-01. FOR SLOPES 2:1 OR GREATER PROVIDE COMPOST SOCKS PER WSDOT STD PLAN I-30.40-02 IN ADDITION TO EROSION CONTROL FABRIC. SEE DETAIL 2, SHEET 39 FOR POCKET PLANTING ON A SLOPE WITHIN EROSION CONTROL FABRIC.

STEP 5
INSTALL MULCH TO DEPTH SHOWN.

NOTES
1. ALL DIMENSIONS INDICATE COMPACTED DEPTHS.

SOIL PREPARATION 4/47
NTS



SECTION

STEP 1
EXCAVATE EXISTING SOIL TO 6'-1/2" DEPTH BELOW ADJACENT PAVING, CURB, WALL, OR UNDISTURBED EXISTING FINISH GRADE. AVOID UNDERMINING ADJACENT CURB OR PAVING SUBBASE MATERIAL. PROVIDE PERCOLATION TEST, PER SPECS, PRIOR TO PROCEEDING TO STEP 2.

STEP 2
SCARIFY SUBGRADE TO A MINIMUM 6" DEPTH. ENGINEER SHALL REVIEW & APPROVE WORK PRIOR TO PROCEEDING TO STEP 3.

STEP 3
INSTALL MINIMUM 6" DEPTH OF GENERAL TURF AREA SOIL. WATER SETTLE/COMPACT PRIOR TO INSTALLING LAWN SEED. REVIEW FINISH GRADE WITH ENG PRIOR TO SEEDING.

STEP 4
INSTALL LAWN SEED.

NOTES
1. ALL DIMENSIONS INDICATE COMPACTED DEPTHS.

SOIL PREPARATION IN SEED LAWN AREAS 5/47
NTS

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PLANTING DETAILS

MARK	DATE	REVISIONS	MADE	CHK'D	REV'D
		NATURE			

VAULT SERIAL NO.

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Feb-20-23 4:32pm

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SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		
DESIGNED	AL	2/20/23
CHECKED	JV	2/20/23
DRAWN	JB	2/20/23
CHECKED	JV	2/20/23

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INITIALS AND DATE		
REVIEWED:		
DES.		CONST.
SDOT		PROJ. MGR.
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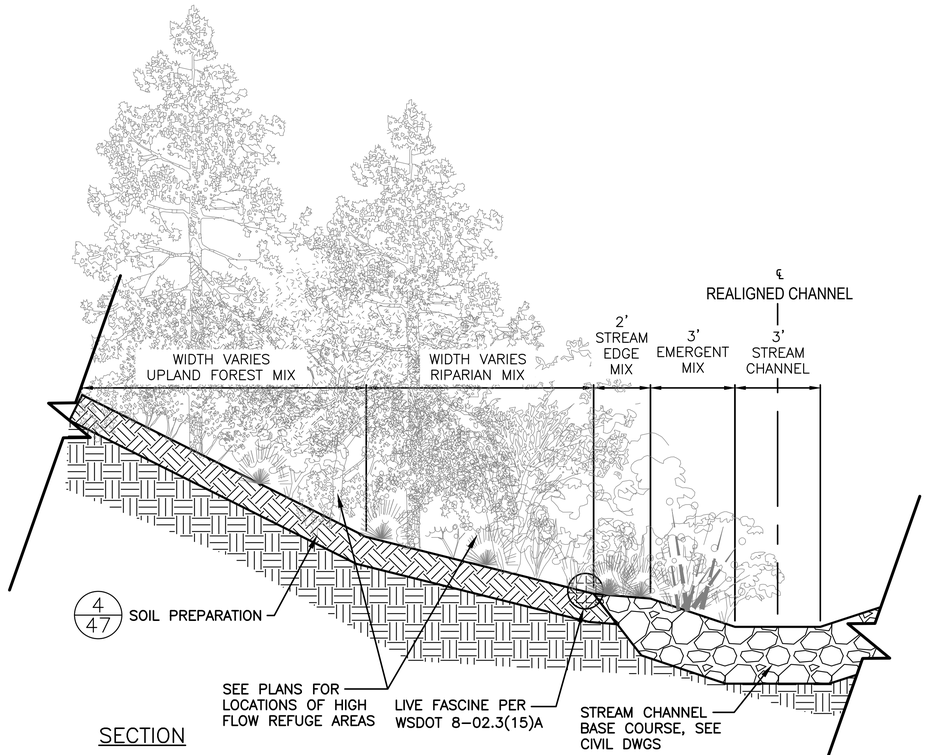
STATE OF WASHINGTON · MERIT OVIR · No. 998 EXP. 03/29/2023 · LICENSED LANDSCAPE ARCHITECT

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

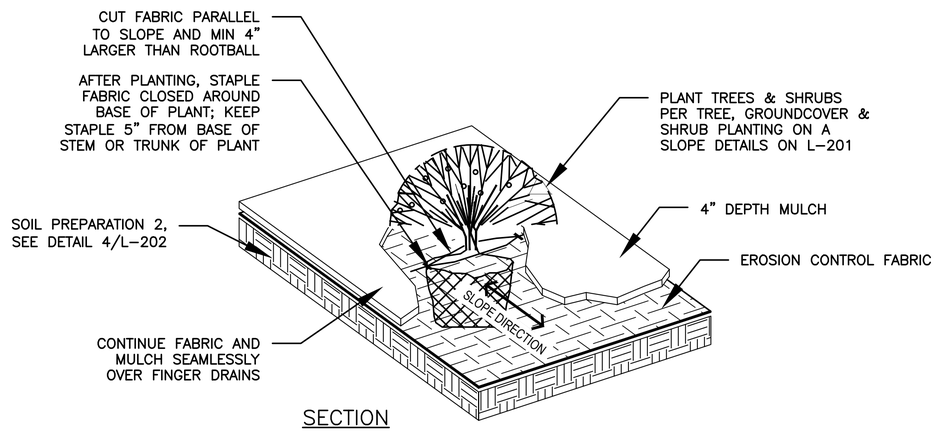
WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
L-202	
SHEET 47 OF 62	



SECTION

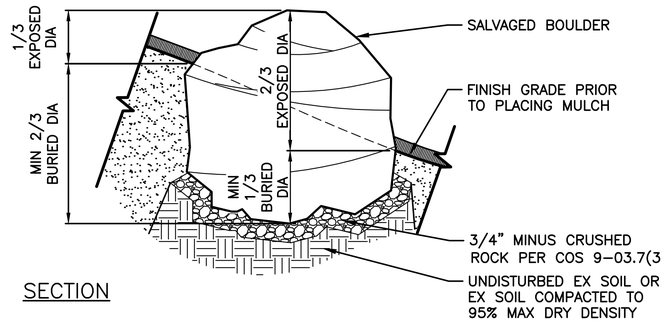
STREAM SECTION 1/48
NTS



SECTION

POCKET PLANTING ON A SLOPE 2/48
NTS

NOTES:
1. LOCATE LANDSCAPE BOULDERS PER ENG FIELD DIRECTIVE.



SECTION

SALVAGED BOULDER ON A SLOPE 3/48
NTS

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

LANDSCAPE DETAILS

NATURE REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.	DATE	MARK

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INITIALS AND DATE		
DESIGNED	AL	2/20/23
CHECKED	JV	2/20/23
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INITIALS AND DATE	
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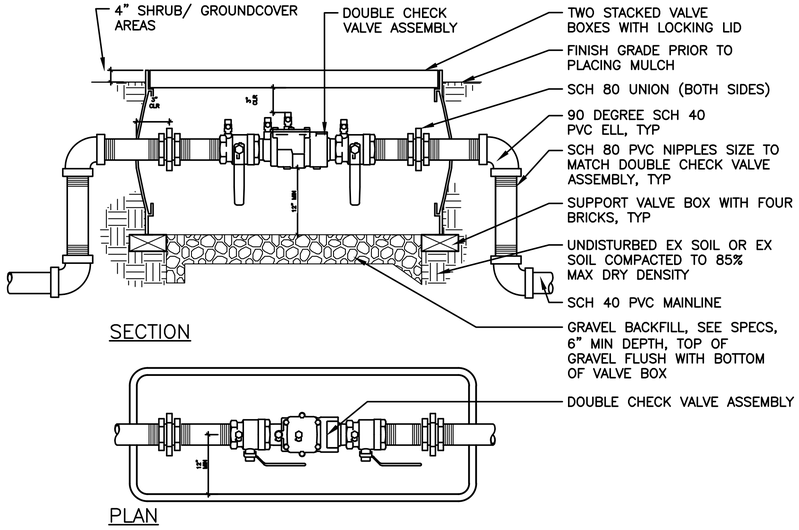
STATE OF WASHINGTON · MERIT OVIR · No. 1996 EXP. 03/20/23 · LICENSED LANDSCAPE ARCHITECT

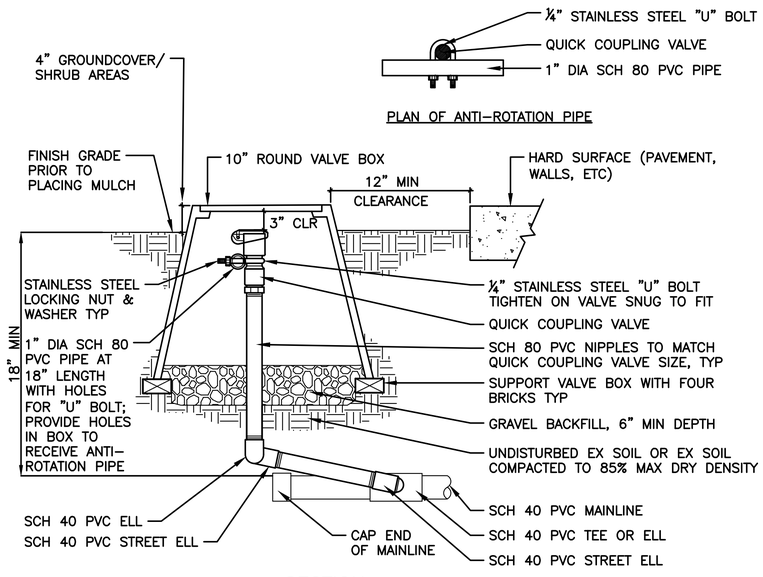
Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

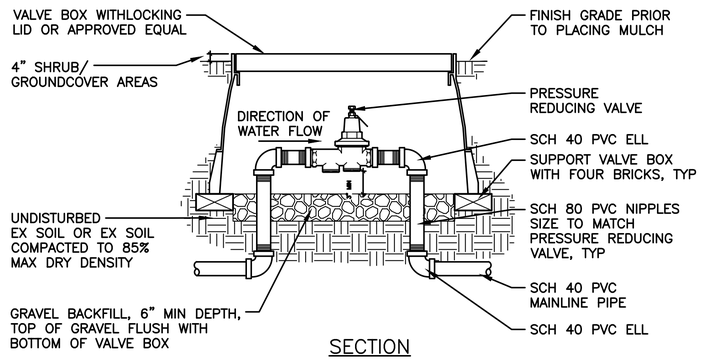
JOB PC CO
VPI #
L-203
SHEET 48 OF 62



DOUBLE CHECK VALVE 1/49
NTS



QUICK COUPLING VALVE 2/49
NTS



PRESSURE REDUCING VALVE 3/49
NTS

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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STATE OF WASHINGTON · MERIT OVIR · No. 998 EXP. 03/29/2023 · LICENSED LANDSCAPE ARCHITECT

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

IRRIGATION DETAILS

JOB PC CO
VPI #
L-204
SHEET 49 OF 62

PLANT SCHEDULE

SYM	QTY	SCIENTIFIC/COMMON NAME	SIZE/REMARKS
		TREES	
	20	Thuja plicata / WESTERN RED CEDAR	MIN 2" CALIPER DECIDUOUS AND 6'–8' HT CONIFER; FULL, WELL BRANCHED & WELL ROOTED; CONIFER TREES SHALL NOT BE SHEARED; NOTE TO REVIEWER: SIZE & QUANTITY OF THESE TREES WILL BE COORDINATED WITH SPR & SDOT (1/46) (2/46)
	15	Pseudotsuga menziesii / DOUGLAS FIR	
	15	Tsuga heterophylla / WESTERN HEMLOCK	
	12	Fraxinus latifolia / OREGON ASH	
	8	Acer circinatum / VINE MAPLE	
	8	Amelanchier alnifolia / SERVICEBERRY	
	6	Alnus rubra / RED ALDER	5 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED (3/46)
	11	Prunus emarginata / BITTER CHERRY	
	9	Rhamnus purshiana / CASCARA	
	4	Salix sitchensis/ SITKA WILLOW	
	4	Salix lucida / PACIFIC WILLOW	
	5	Malus fesca / PACIFIC CRABAPPLE	
		UPLAND FOREST MIX	
		SHRUBS	
	66	Holodiscus discolor / OCEAN–SPRAY	1 GAL CONT; 4' OC TRIANGULAR SPACING, FULL, WELL BRANCHED & WELL ROOTED; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES (3/46)
	66	Mahonia aquifolium / TALL OREGON GRAPE	
	66	Rubus parviflorus / THIMBLEBERRY	
	66	Ribes sanguineum / RED–FLOWERING CURRENT	
	66	Vaccinium ovatum / EVERGREEN HUCKLEBERRY	
	66	Oemleria cerasiformis / OSO BERRY	
		EMERGENT MIX	
		LIVE STAKE SHRUBS	
	60	Rubus spectabilis / SALMONBERRY	(PLANTED ON 3:1 SLOPES OF HYDRAULIC OPENING, SEE SHEET 21) 36" LIVE STAKES; 3' OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN, 36" OFFSET STAKES FROM LWD (5/46)
	60	Rosa pisocarpa / PEAFRUIT ROSE	
	45	Salix geyeriana / GEYER'S WILLOW	
	45	Salix hookeriana / HOOKERS WILLOW	
	60	Cornus sericea / RED–OSIER DOGWOOD	

SYM	QTY	SCIENTIFIC/COMMON NAME	SIZE/REMARKS
		STREAM EDGE MIX	(PLANTED ON 20:1 SLOPES OF HYDRAULIC OPENING, SEE SHEET 21)
		LIVE STAKE SHRUBS	36" LIVE STAKES; 6' OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN (5/46)
	15	Salix geyeriana / GEYER'S WILLOW	
	15	Salix hookeriana / HOOKERS WILLOW	
	15	Cornus sericea / RED–OSIER DOGWOOD	
		PLUGS	10" PLUG; FULL & WELL ROOTED; MIN 2 ROWS AT 12" OC TRIANGULAR SPACING, PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY THROUGHOUT LIVE STAKE SHRUBS (4/46)
	155	Carex obnupta / SLOUGH SEDGE	
	155	Carex stipata / SAWBEAK SEDGE	
	155	Juncus Effusus / COMMON RUSH	
	155	Scirpus lacustris / BULRUSH	
	155	Scirpus microcarpus / SMALL–FLOWERED BULRUSH	
	155	Juncus ensifolius / DAGGERLEAF RUSH	
	155	Carex deweyana / DEWEY'S SEDGE	
	60	Mimulus guttatus / MONKEY FLOWER	
		RIPARIAN MIX	
		SHRUBS	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 4' OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES (3/46)
	52	Crataegus douglasii / BLACK HAWTHORNE	
	52	Physocarpus capitatus / PACIFIC NINEBARK	
	52	Rubus spectabilis / SALMONBERRY	
	53	Symphoricarpos albus / COMMON SNOWBERRY	
	53	Rosa nutkana / NOOTKA ROSE	
	53	Rubus parviflorus / THIMBLEBERRY	
		GROUNDCOVERS	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 24" OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES (3/46)
	314	Mahonia nervosa / LOW OREGON GRAPE	
	314	Gaultheria shallon / SALAL	
	314	Polysticum munitum / SWORD FERN	
	314	Tiarella trifoliata / FOAM FLOWER	

SYM	QTY	SCIENTIFIC/COMMON NAME	SIZE/REMARKS
		HIGH FLOW REFUGE AREA MIX	
		SHRUBS	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 4' OC TRIANGULAR SPACING PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES (3/46)
	10	Physocarpus capitatus / PACIFIC NINEBARK	
	10	Rubus spectabilis / SALMONBERRY	
	10	Sambucus racemosa / RED ELDERBERRY	
	10	Sambucus nigra ssp cerulea / BLUE ELDERBERRY	
	10	Lonicera involucrata / TWINBERRY	
		PLUGS	10" PLUG; FULL & WELL ROOTED; 18" OC TRIANGULAR SPACING, PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES & SHRUBS (4/46)
	72	Carex obnupta / SLOUGH SEDGE	
	72	Carex stipata / SAWBEAK SEDGE	
	72	Juncus Effusus / COMMON RUSH	
	72	Scirpus lacustris / BULRUSH	
	72	Scirpus microcarpus / SMALL–FLOWERED BULRUSH	
		STREAM EDGE MIX UNDER BRIDGE	(PLANTED ON 20:1 SLOPES OF HYDRAULIC OPENING, SEE SHEET 21)
		PLUGS	10" PLUG; FULL & WELL ROOTED; MIN 2 ROWS AT 12" OC TRIANGULAR SPACING, PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY THROUGHOUT LIVE STAKE SHRUBS (4/46)
	10	Carex obnupta / SLOUGH SEDGE	
	10	Carex stipata / SAWBEAK SEDGE	
	11	Juncus Effusus / COMMON RUSH	
	11	Scirpus lacustris / BULRUSH	
	11	Scirpus microcarpus / SMALL–FLOWERED BULRUSH	
	11	Juncus ensifolius / DAGGERLEAF RUSH	
	11	Carex deweyana / DEWEY'S SEDGE	
	5	Mimulus guttatus / MONKEY FLOWER	

SYM	QTY	SCIENTIFIC/COMMON NAME	SIZE/REMARKS
		LOW UPLAND MIX	
		GROUNDCOVERS	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 24" OC TRIANGULAR SPACING, PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES (3/46)
	77	Mahonia nervosa / LOW OREGON GRAPE	
	77	Gaultheria shallon / SALAL	
	77	Polysticum munitum / SWORD FERN	
	77	Tiarella trifoliata / FOAM FLOWER	
		SUN GROUNDCOVER MIX	
		GROUNDCOVERS	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 18" OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN (3/46)
	25	Achillea millefolium / YARROW	
	25	Aquilegia formosa / RED COLUMBINE	
	25	Deschampsia cespitosa / TUFTED HAIRGRASS	
	25	Lupinus latifolius / BROADLEAF LUPINE	
		SHADE GROUNDCOVER MIX	
		GROUNDCOVERS	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 24" OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN. NO SOIL PREPARATION, POCKET PLANTS WITHIN EXISTING SOIL, PROVIDE 4" DEPTH OF MULCH. (3/46)
	23	Dicentra formosa / BLEEDING HEART	
	23	Oxalis oregana/ REDWOOD SORREL	
	23	Vancouveria hexandra / INSIDE–OUT FLOWER	
	23	Cornus canadensis / CREEPING DOGWOOD	
	23	Maianthemum racemosum / FALSE SOLOMON'S SEAL	
	23	Mahonia nervosa / CREEPING OREGON GRAPE	
		FESL MIX	
		LIVE STAKE SHRUB	36" LIVE STAKES; 3' OC TRIANGULAR SPACING; PLANT IN FABRIC ENCAPSULATED SOIL LIFTS; SEE SHEET 25 FOR FESL PLAN AND DETAILS
	17	Cornus sericea / RED–OSIER DOGWOOD	
	8	Rubus spectabilis / SALMONBERRY	
	8	Rosa pisocarpa / PEA FRUIT ROSE	

MARK	DATE	CHK'D	REV'D
VAULT SERIAL NO.	NATURE REVISIONS	MADE	

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PLANT SCHEDULE

Jacobs

HBB
LANDSCAPE ARCHITECTURE
2101 4TH AVENUE, SUITE 1900 SEATTLE, WA 98121
206.682.3051 phone 206.682.3245 fax

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		
DESIGNED	AL	2/20/23
CHECKED	JV	2/20/23
DRAWN	JB	2/20/23
CHECKED	JV	2/20/23

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0–02.3 OF THE PROJECT MANUAL.

STATE OF WASHINGTON · MERIT OVIR · NO. 896 EXP. 03/2024 · LICENSED LANDSCAPE ARCHITECT

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
L-301
SHEET 50 OF 62

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PLANT SCHEDULE

SYM	QTY	SCIENTIFIC/COMMON NAME	SIZE/REMARKS
		BOTTOM OF CONVEYANCE SWALE MIX	
		GROUNDCOVERS	
	21	Carex obnupta / SLOUGH SEDGE	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 18" OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN (3/46)
	21	Maianthemum dilatatum / FALSE LILY OF THE VALLEY	
	22	Juncus Effusus / COMMON RUSH	
	22	Mimulus guttatus / MONKEY FLOWER	
	22	Carex densa / DENSE SEDGE	
		SLOPES OF CONVEYANCE SWALE MIX	
		GROUNDCOVERS	
	27	Cornus kelseyi / KELSEY DOGWOOD	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 24" OC TRIANGULAR SPACING; PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN (3/46)
	27	Gaultheria shallon / SALAL	
	28	Carex deweyana / DEWEY'S SEDGE	
	28	Polysticum munitum / SWORD FERN	
	28	Mahonia repens / CREEPING OREGON GRAPE	
		CONVEYANCE SWALE BUFFER MIX	
		SHRUBS	
	4	Cornus sericea / RED–OSIER DOGWOOD	1 GAL CONT; FULL, WELL BRANCHED & WELL ROOTED; 4' OC TRIANGULAR SPACING PLANT EACH SPECIES IN GROUPS OF 2–3 INTERMIXING SPECIES IN AN IRREGULAR PATTERN; PLANT CONTINUOUSLY UNDER TREES (3/46)
	4	Vaccinium ovatum / EVERGREEN HUCKLEBERRY	
	4	Physocarpus capitatus / PACIFIC NINEBARK	
	5	Oemleria cerasiformis / OSO BERRY	
	4	Lonicera involucrata / TWINBERRY	
	5	Mahonia aquifolium / TALL OREGON GRAPE	
	1,981 SF	WOOD CHIP MULCH ONLY	6" DEPTH OF WOOD CHIP MULCH WHERE SHOWN, KEEP WOOD CHIPS 6"–12" FROM EX TREE TRUNKS SEE SPECS
	1,165 SF	SEED LAWN	
	7,692 SF	LANDSCAPE RESTORATION	RESTORE DISTURBED AREA WITH UPLAND FOREST MIX; SEE SPECS

PLANTING LEGEND

SYM	DESCRIPTION
	RETAIN TREE AS HABITAT SNAG; SEE DETAIL 2/47
	TREE TO BE REMOVED; STUMP REMAINS IN PLACE; SEE SITE PREPARATION & CSEC PLANS
	TREE TO BE REMOVED; SEE SITE PREPARATION & CSEC PLANS
	TREE PROTECTION FENCE PER COS STD PLAN 133 & 132B
	SPLIT RAIL FENCE; SEE DETAIL 1/47
(NO SYMBOL)	HABITAT LOG; SEE DETAIL 3/47

PLANTING NOTES

1. ANY DISCREPANCIES WITH THE DWGS AND/OR SPECS & SITE CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE ENG PRIOR TO PROCEEDING WITH CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
3. FIELD STAKE PLANTING LOCATIONS FOR THE ENG REVIEW AND APPROVAL PRIOR TO INSTALLATION.
4. INSTALL PLANTS IN A TRIANGULAR PATTERN AT SPACING SHOWN IN THE PLANT SCHEDULE. WHERE PLANTS ABUT WALLS, GUARDRAIL, FENCES, PAVING, OR LWM (LARGE WOODY MATERIAL) MIN PLANTING DISTANCE MUST BE HALF THE PLANT SPACING FROM SAME UNLESS OTHERWISE NOTED. MIN WIDTH OF PLANTING TREES SHALL BE 2 FEET.
5. TREE LOCATIONS SHALL MEET THE FOLLOWING MIN SETBACKS FOR CENTERLINE OF TREE TRUNKS TO EDGE OF DRIVEWAY, FACE OF CURB OR INTERSECTION AND TO CENTER OF ALL OTHERS SHOWN:

A.	STREET LIGHTS	10'
B.	DRIVEWAYS	10'
C.	UNDERGROUND SEWER & WATER LINES	5'
D.	UTILITY/POWER POLES	5'
E.	EXISTING TREES	10'
F.	EDGE OF PAVEMENT	5'
G.	PEDESTRIAN BRIDGE	10'
H.	GUARDRAIL	5'
I.	FENCES	3'
J.	LARGE WOODY DEBRIS	3'

7. WHERE PROPOSED PLANTING OR SEEDING IS TO OCCUR WITHIN THE DRIP LINE OF EXISTING TREES, SOIL PREPARATION SHALL BE DONE BY HAND TOOLS ONLY TO AVOID EXISTING TREE ROOTS. PLANTING OF SHRUBS AND GROUNDCOVER SHALL ALSO AVOID DAMAGING EXISTING TREE ROOTS.
8. ALL SOIL PREPARATION SHALL BE PER DETAIL 4/47 EXCEPT FOR MULCH ONLY AREAS, EMERGENT MIX, STREAM EDGE MIX, FESL MIX AND UNLESS OTHERWISE NOTED ON PLANS. SEE SHEET 18 FOR TYPICAL CREEK CROSS SECTION DETAILS AND SOIL PREPARATION WITHIN STREAM EDGE & EMERGENT MIX PLANTING. SEE SHEET 35 FOR SOIL PREPARATION REQUIREMENTS WITHIN THE VEGETATED CONVEYANCE SWALE. SEE DETAIL 1/48 FOR TYPICAL STREAM SECTION DETAIL.
9. PROVIDE CONTINUOUS LIVE FASCINE ON OUTER EDGE OF STREAM EDGE MIX (AWAY FROM THE STREAM) PER WSDOT STD PLAN I–30.60–02.
10. FOR RED ALDER, VINE MAPLE, WESTERN REDCEDAR, DOUGLAS–FIR, PROVIDE PERFORATED PLANT PROTECTION FENCING AROUND PLANTS. FENCING SHALL WRAP AROUND EACH INDIVIDUAL PLANT, MIN 3 FEET HIGH. STAKE FENCING WITH WOOD STAKE.
11. A DEDICATED WATER METER WITH QUICK COUPLER IS PROVIDED FOR CONTRACTOR USE IN WATERING OF PLANTS FOR ESTABLISHMENT PURPOSES. THE MEANS AND METHODS OF WATERING ARE PER THE CONTRACTOR. ANY USE OF ABOVE GROUND IRRIGATION EQUIPMENT MUST BE REMOVED AT THE COMPLETION OF THE LANDSCAPE ESTABLISHMENT PERIOD. CONTRACTOR TO SUBMIT WATERING SCHEDULE PER COS STD SPEC 8–02.3(12)

PLANTING ABBREVIATIONS

#/NO	NUMBER	EX	EXISTING
%	PERCENT	GAL	GALLON
&	AND	HT	HEIGHT
@	AT	ID	INSIDE DIAMETER
ABBV	ABBREVIATIONS	LA	LANDSCAPE ARCHITECT
ALT	ALTERNATE	LF	LINEAR FEET
APPROX	APPROXIMATE	LWD	LARGE WOODY DEBRIS
B&B	BALLED AND BURLAPPED	MFRS	MANUFACTURER'S
CAL	CALIPER	MAX	MAXIMUM
℄	CENTER LINE	MIN	MINIMUM
CLR	CLEAR	NTS	NOT TO SCALE
CONC	CONCRETE	OC	ON CENTER
CONST	CONSTRUCTION	PREP	PREPARATION
CONT	CONTAINER	QTY	QUANTITY
COS	CITY OF SEATTLE	SCH	SCHEDULE
CF	CUBIC FEET	SF	SQUARE FEET
CSEC	CONSTRUCTION STORMWATER EROSION CONTROL	SPEC	SPECIFICATION
		SQ	SQUARE
DIA	DIAMETER	SYM	SYMBOL
DWGS	DRAWINGS	STD	STANDARD
EA	EACH	TYP	TYPICAL
EQ	EQUAL	REP	OWNER REPRESENTATIVE
EQUIV	EQUIVALENT	ENG	ENGINEER

TREE REMOVAL & REPLACEMENT

NOTE:
1. SEE EXISTING TREE INVENTORY SHEETS 8 AND 9 FOR FULL INVENTORY OF TREES.

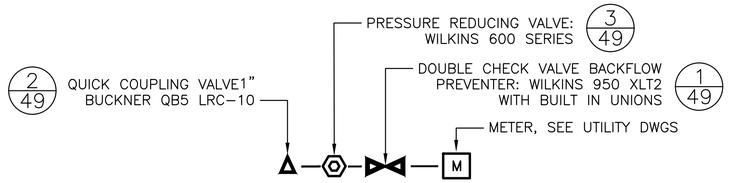
TOTAL NON–EXCEPTIONAL TREES REMOVED:	36
TOTAL EXCEPTIONAL TREES REMOVED:	3
REMOVALS THAT ARE DEAD: (REPLACEMENT NOT REQUIRED)	8
OVERALL LIVE TREE REMOVALS:	39

TREE REPLACEMENT PER EXECUTIVE ORDER 03–05
REPLACEMENT TREES REQUIRED AT 2:1 RATIO: 78 TREES
MIN 2" CALIPER OR 6'–8' HT TREE SIZE

WASHINGTON DEPARTMENT OF FISH & WILDLIFE
REPLACEMENT TREES REQUIRED AT 3:1 RATIO: 117 TREES
NO REQUIREMENT FOR SIZE

TOTAL REPLACEMENT TREES REQUIRED: 117 TREES

TREES PROVIDED:
1–5 GALLON TREES: 39 TREES
2" CALIPER OR 6'–8' HT TREES: 78 TREES



IRRIGATION POINT OF CONNECTION (1/51)
NTS

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PLANT SCHEDULE, PLANTING LEGEND, NOTES, ABBREVIATIONS, TREE REMOVAL & REPLACEMENT & DETAIL

Jacobs

HBB LANDSCAPE ARCHITECTURE
2101 4TH AVENUE, SUITE 1800 SEATTLE, WA 98121 206.682.3051 phone 206.682.3245 fax

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DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		
DESIGNED	AL	2/20/23
CHECKED	JV	2/20/23
DRAWN	JB	2/20/23
CHECKED	JV	2/20/23

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INITIALS AND DATE	
REVIEWED: DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

STATE OF WASHINGTON · MERIT OVIR · NO. 886 EXP. 09/2023 · LICENSED LANDSCAPE ARCHITECT

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: NO SCALE

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
L-302
SHEET 51 OF 62

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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STRUCTURAL GENERAL NOTES

UNLESS OTHERWISE NOTED:

1. BEFORE STARTING ANY CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS SHOWN ON THE DRAWINGS.

SPECIFICATIONS:

1. THE PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE:

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2020, 9TH EDITION.
- AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 WITH 2015 INTERIMS.
- CITY OF SEATTLE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, 2020 EDITION.
- CITY OF SEATTLE STANDARD PLANS FOR MUNICIPAL CONSTRUCTION, 2020 EDITION.
- PROJECT MANUAL, WILLOW CREEK FISH PASSAGE RESTORATION PROJECT.
- GEOTECHNICAL REPORT, WILLOW CREEK FISH PASSAGE RESTORATION PROJECT, JAN, 2021.

2. THE BRIDGE SUPERSTRUCTURE SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

- AASHTO GUIDE SPECIFICATIONS FOR THE DESIGN OF FRP PEDESTRIAN BRIDGES, 2008.
- AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 2002.

DESIGN LOADS:

1. DEAD LOAD:
   FRP (FIBER REINFORCED POLYMER) COMPOSITE SUPERSTRUCTURE: 125 PCF
   REINFORCED CONCRETE: 155 PCF

2. LIVE LOAD:
   PEDESTRIAN LIVE LOAD: 90 PSF
   PEDESTRIAN RAILING: 50 PLF PER AASHTO STANDARD SPECIFICATIONS
   MAINTENANCE VEHICLE: H–5

3. WIND LOAD:
   35 PSF ON FULL PROJECTED AREA OF TRUSS, 35 PSF ON SOLID ELEMENTS OF PEDESTRIAN RAILINGS, AND 15 PSF ON INFILL OF RAILINGS.

4. SEISMIC LOAD:
   SITE CLASS: D A_S=0.486g S_{DS}=1.059g S_{D1}=0.513g

MATERIALS:

1. CONCRETE:
   CLASS 4000

2. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING MUST BE 3" AT SURFACES DEPOSITED AGAINST EARTH AND 2" AT ALL OTHER LOCATIONS.

3. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, EDGES OF CONCRETE WHICH WILL BE EXPOSED UPON COMPLETION OF THE STRUCTURE MUST BE CHAMFERED 3/4".

4. REINFORCING STEEL:
   ASTM A706, GRADE 60.

5. STRUCTURAL STEEL:
   STEEL PLATES AND SHAPES – ASTM A36, UNLESS NOTED OTHERWISE

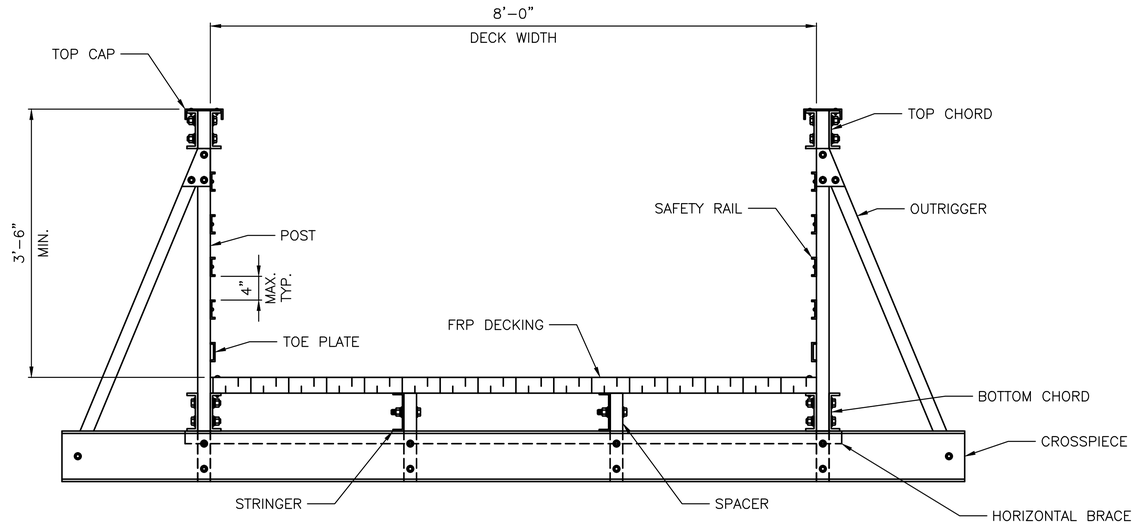
6. FRP (FIBER REINFORCED POLYMER) COMPOSITE SUPERSTRUCTURE BRIDGE, AND RAILING COMPONENTS.

ABBREVIATIONS:

BOT	BOTTOM
CJ	CONSTRUCTION JOINT
EF	EACH FACE
E/G	EXISTING GRADE
ELEV	ELEVATION
EQ	EQUAL
F/G	FINISH GRADE
FRP	FIBER REINFORCED POLYMER
HORZ	HORIZONTAL
MAX	MAXIMUM
MIN	MINIMUM
PJF	PREFORMED JOINT FILLER
SPA	SPACED, OR SPACES
STD	STANDARD
T/B	TOP AND BOTTOM
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD

DATUM:

H: NAD 83/91
V: NAVD88



TYPICAL SECTION
SCALE: 1"=1'–0"

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

GENERAL NOTES & PEDESTRIAN BRIDGE TYPICAL SECTION

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

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DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED TT	REVIEWED:
CHECKED MJ	DES. CONST.
	SDOT ---- PROJ. MGR.
DRAWN TH	RECEIVED
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THOMAS TAYLOR
STATE OF WASHINGTON
20108209
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1" = 1'–0"

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
S-001
SHEET 51 OF 61

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Feb-20-23 4:33pm

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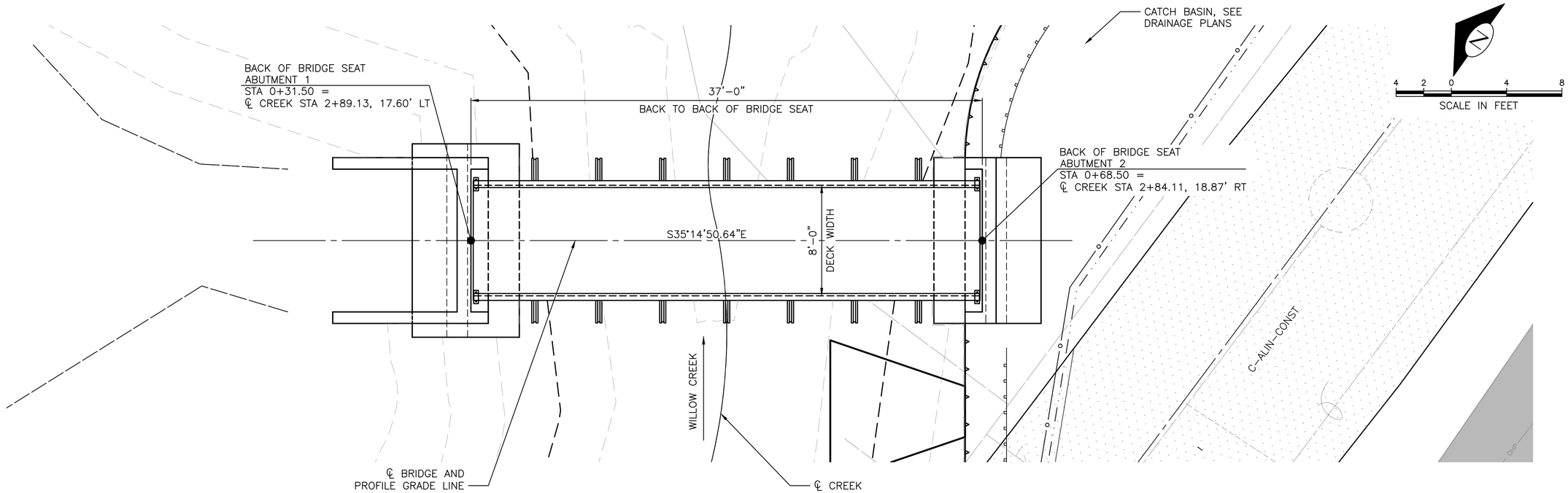
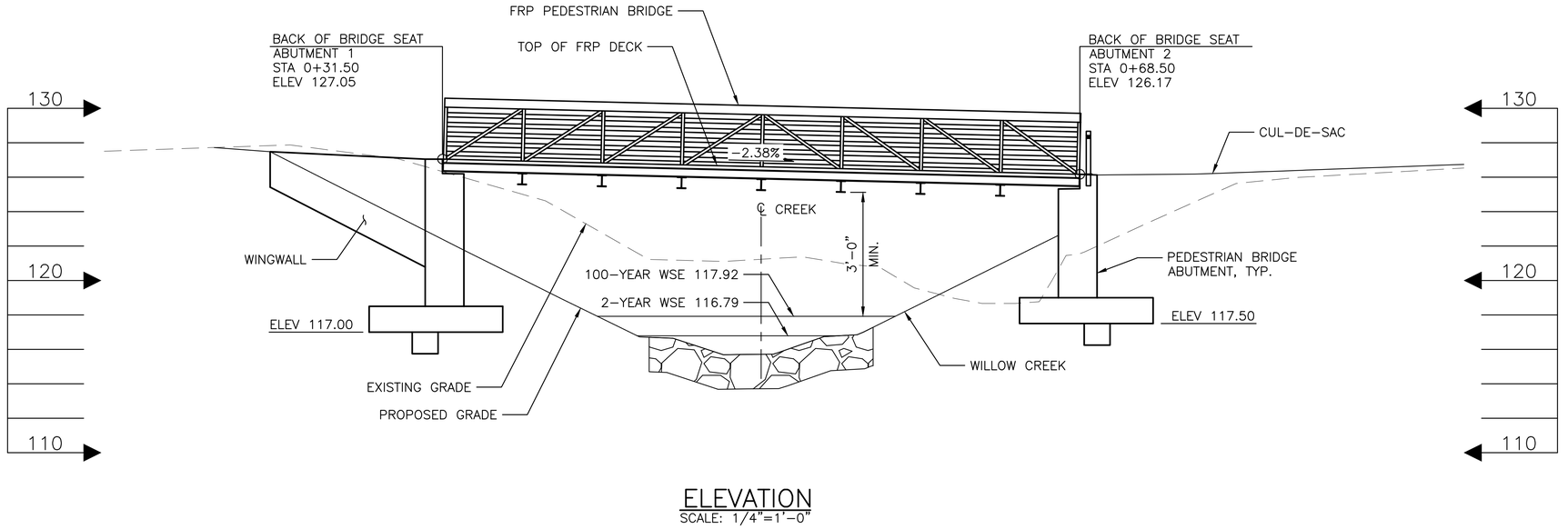


PLAN
SCALE: 1/4"=1'–0"



ELEVATION
SCALE: 1/4"=1'–0"

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PEDESTRIAN BRIDGE PLAN AND PROFILE

NATURE	MADE	CHK'D	REV'D
REVISIONS			
MARK			
DATE			
VAULT SERIAL NO.			

Jacobs

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REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

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DRAWN TH	RECEIVED
CHECKED TT	REVISED AS BUILT ----

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

THOMAS TAYLOR — STATE OF WASHINGTON — 20108209 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1/4" = 1'-0"

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
S-101
SHEET 52 OF 61

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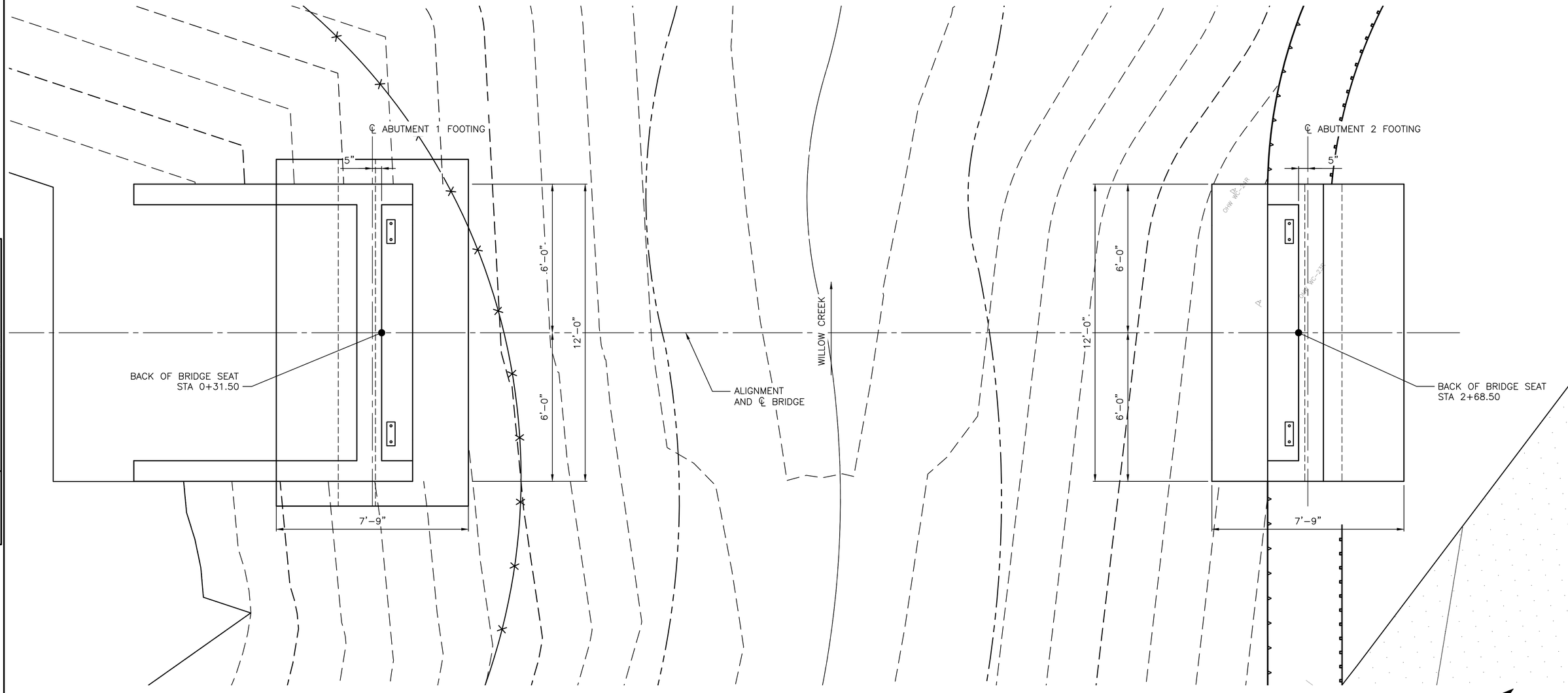
52



FOUNDATION LAYOUT PLAN
SCALE: 1" = 2'-0"

2 1 0 2 4
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

PEDESTRIAN BRIDGE FOUNDATION LAYOUT

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED TT	REVIEWED:
CHECKED MJ	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TH	RECEIVED
CHECKED TT	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

MARK JOHNSON
STATE OF WASHINGTON
29071
REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1" = 2'-0"

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
S-102	
SHEET 45 OF 47	

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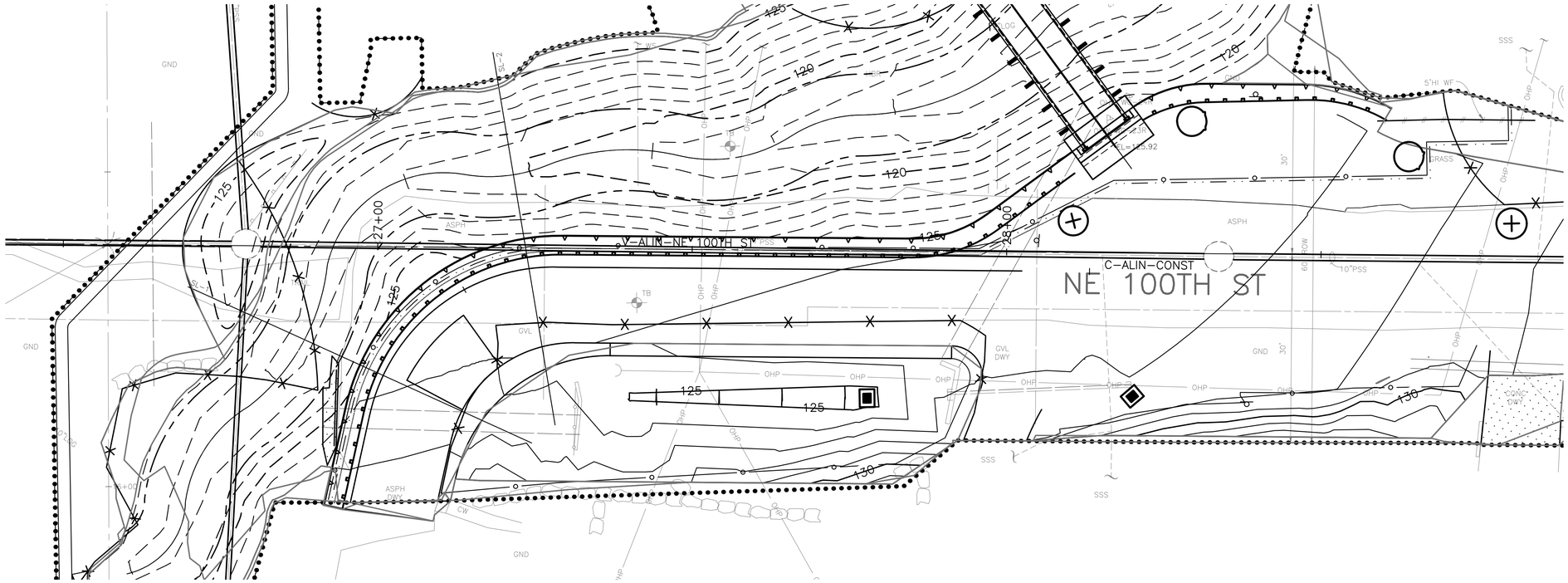
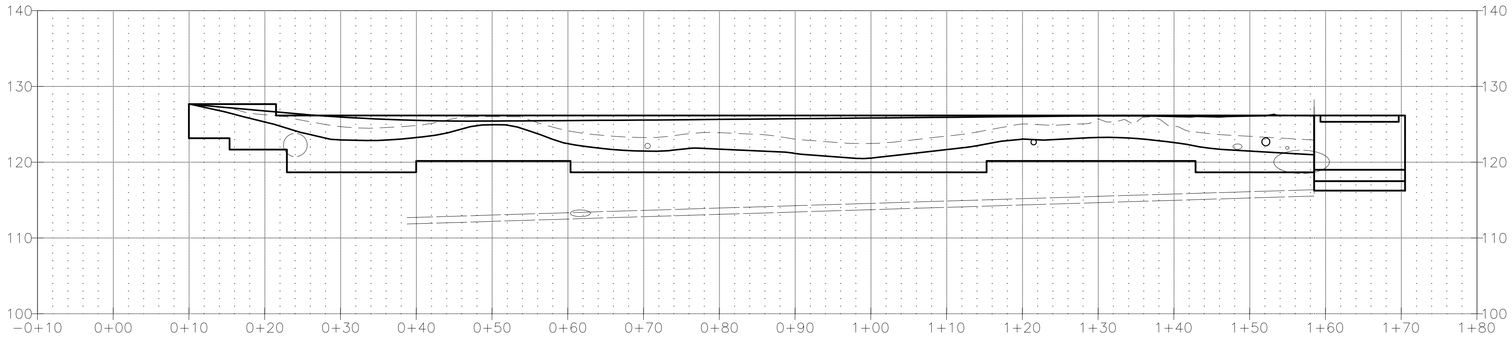
* - 45 *



PLAN – WALL 1
SCALE: 1" = 10'–0"



ELEVATION – WALL 1
SCALE: 1" = 10'–0"

N

10 5 0 10 20
SCALE IN FEET

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

RETAINING WALL 1 PLAN & ELEVATION

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	TT	REVIEWED:	
CHECKED	MJ	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TH	RECEIVED	
CHECKED	TT	REVISED AS BUILT	

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MARK JOHNSON
STATE OF WASHINGTON
29071
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: 1" = 10'–0"

WILLOW CREEK FISH PASSAGE RESTORATION

JOB	PC
	CO
VPI #	
S-103	
SHEET 46 OF 47	

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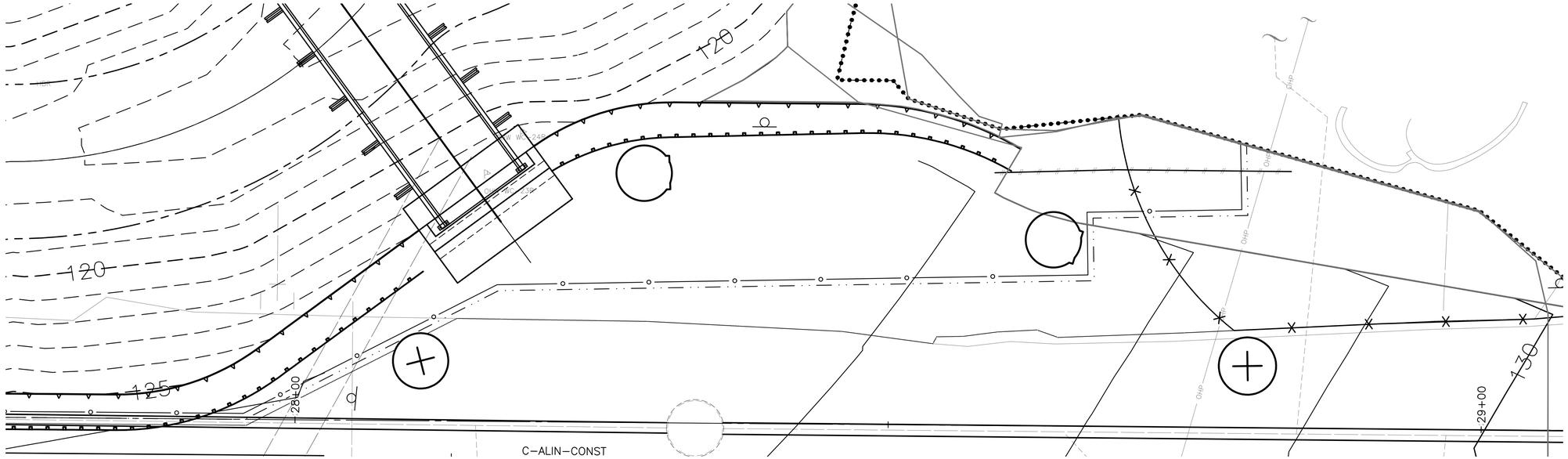
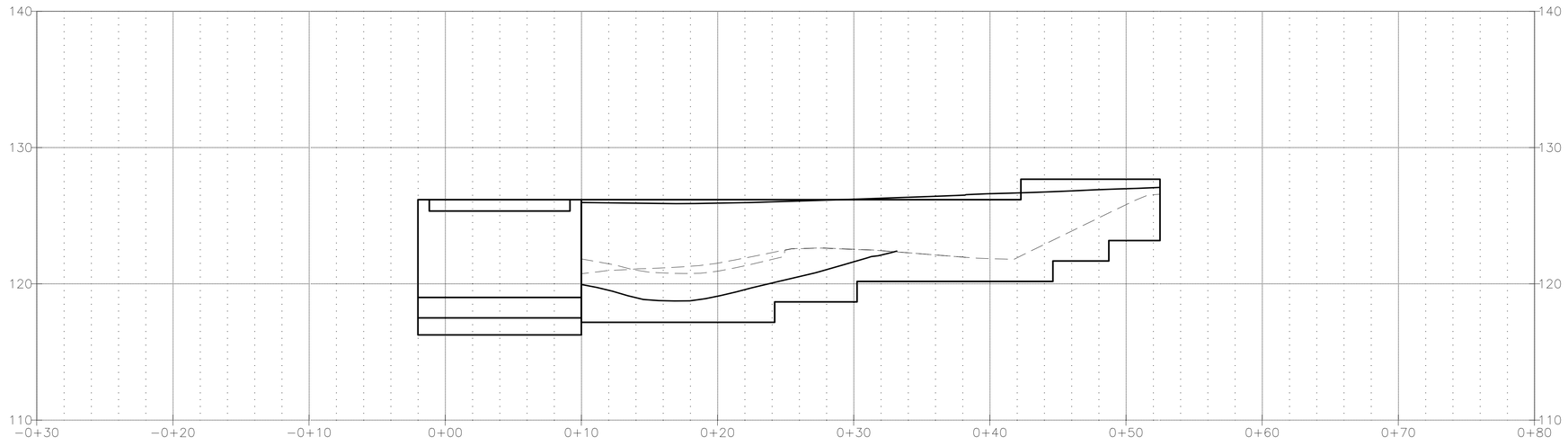
– 46 –



PLAN – WALL 2
SCALE: 1" = 5'–0"



ELEVATION – WALL 2
SCALE: 1" = 5'–0"

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

N

5 2.5 0 5 10
SCALE IN FEET

RETAINING WALL 2 PLAN & ELEVATION

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....

REVIEWED BY SPU/DRAINAGE ..... 20....

APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....

APPROVED FOR ADVERTISING
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DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . .
PURCHASING AND CONTRACTING DIRECTOR

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DESIGNED	TT	REVIEWED:	
CHECKED	MJ	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TH	RECEIVED	
CHECKED	TT	REVISED AS BUILT	

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MARK JOHNSON
STATE OF WASHINGTON
29071
REGISTERED
PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: 1" = 5'–0"

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO

VPI #

S-104

SHEET 47 OF 47

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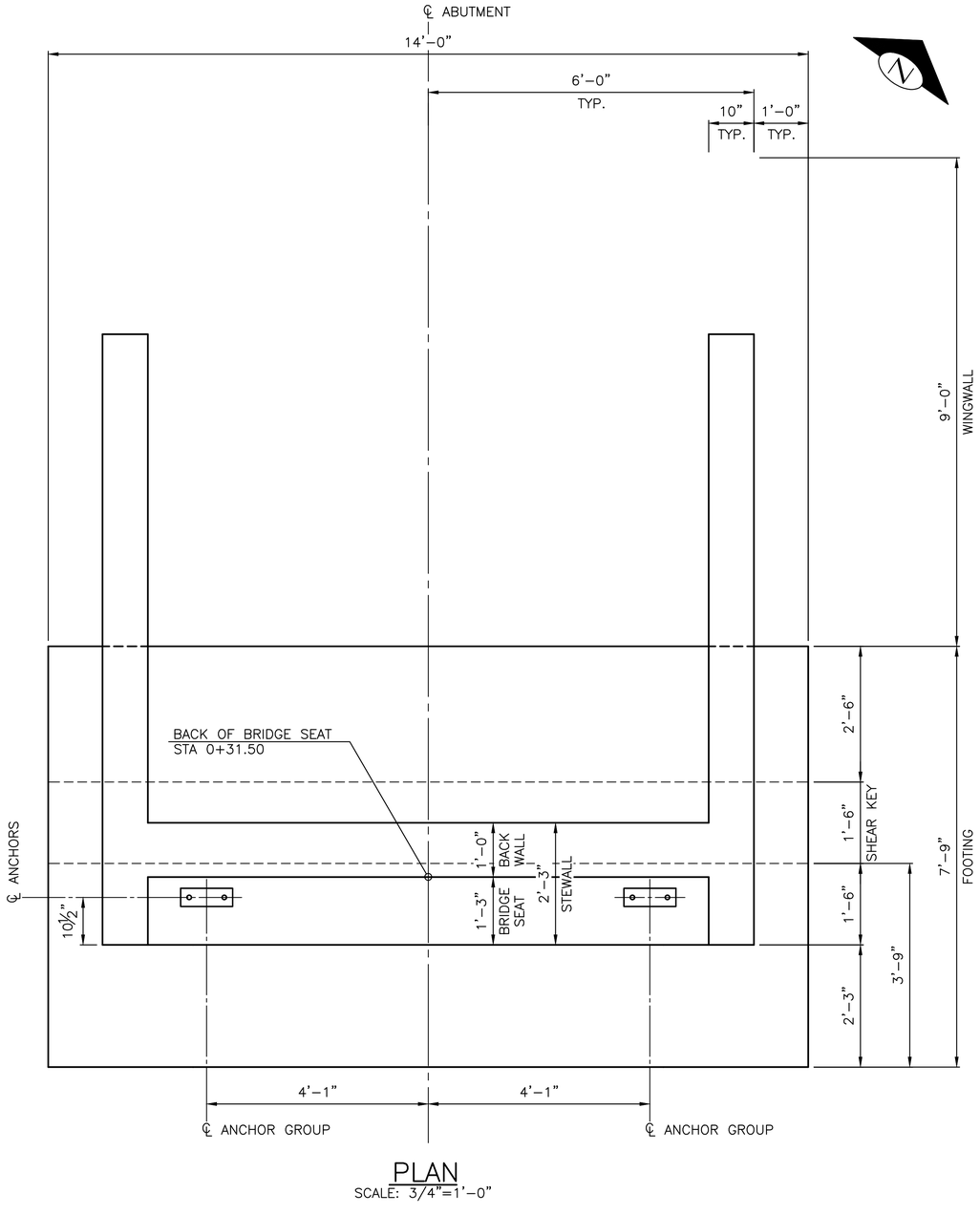
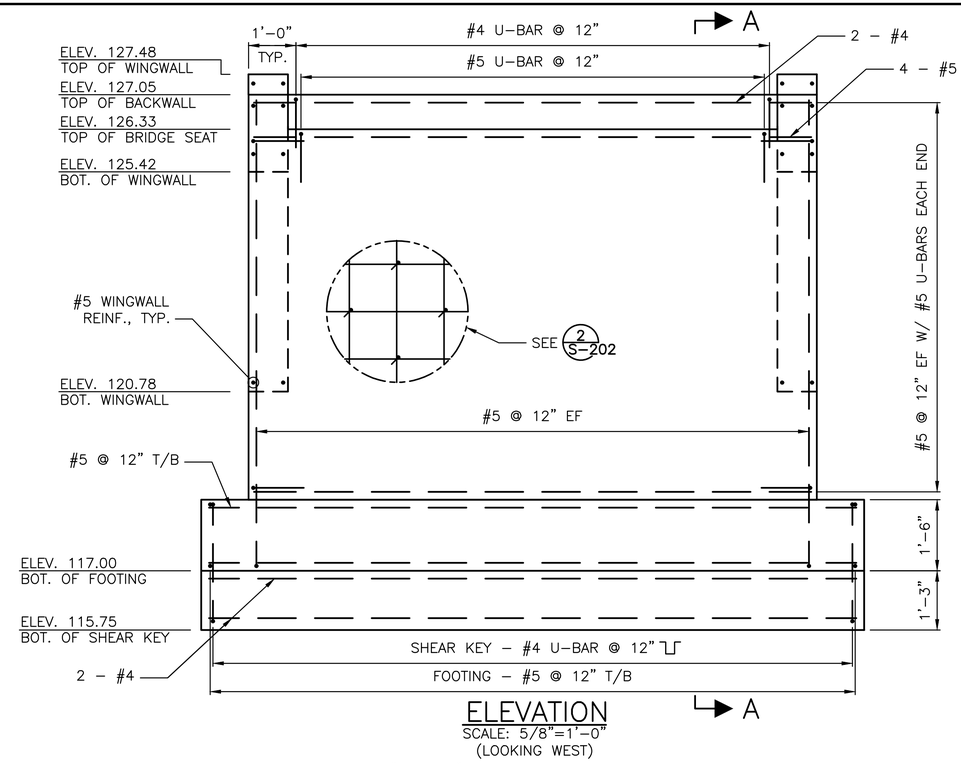
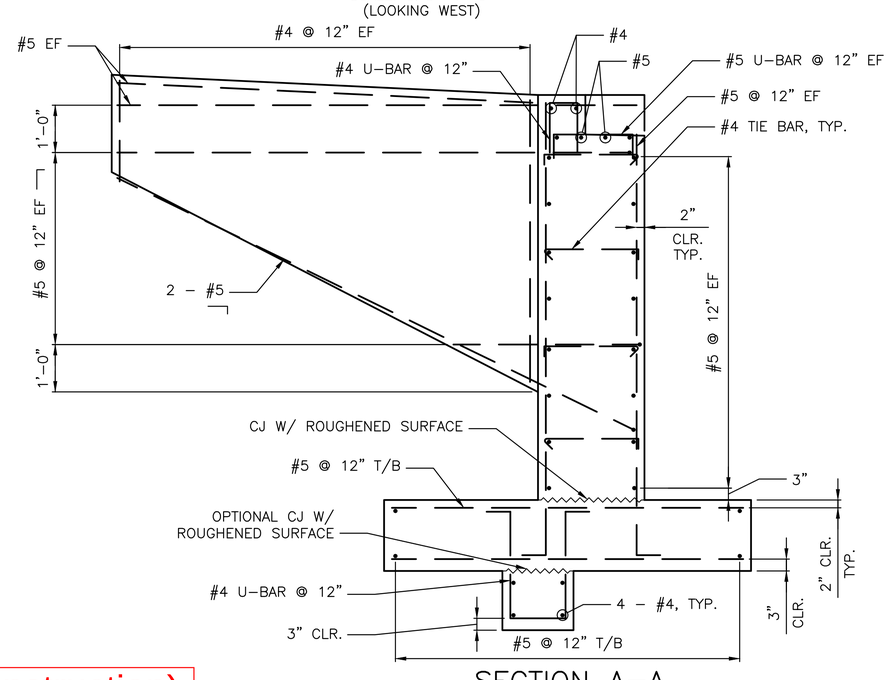
— 47 —



PLAN
SCALE: 3/4"=1'–0"



ELEVATION
SCALE: 5/8"=1'–0"
(LOOKING WEST)



SECTION A–A
SCALE: 5/8"=1'–0"

ABUTMENT 1 DETAILS (1 OF 2)

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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Feb-20-23 4:35pm

56 – ✳

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED TT	
CHECKED MJ	
DRAWN TH	
CHECKED TT	

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT ----	PROJ. MGR.
RECEIVED	
REVISED AS BUILT ----	

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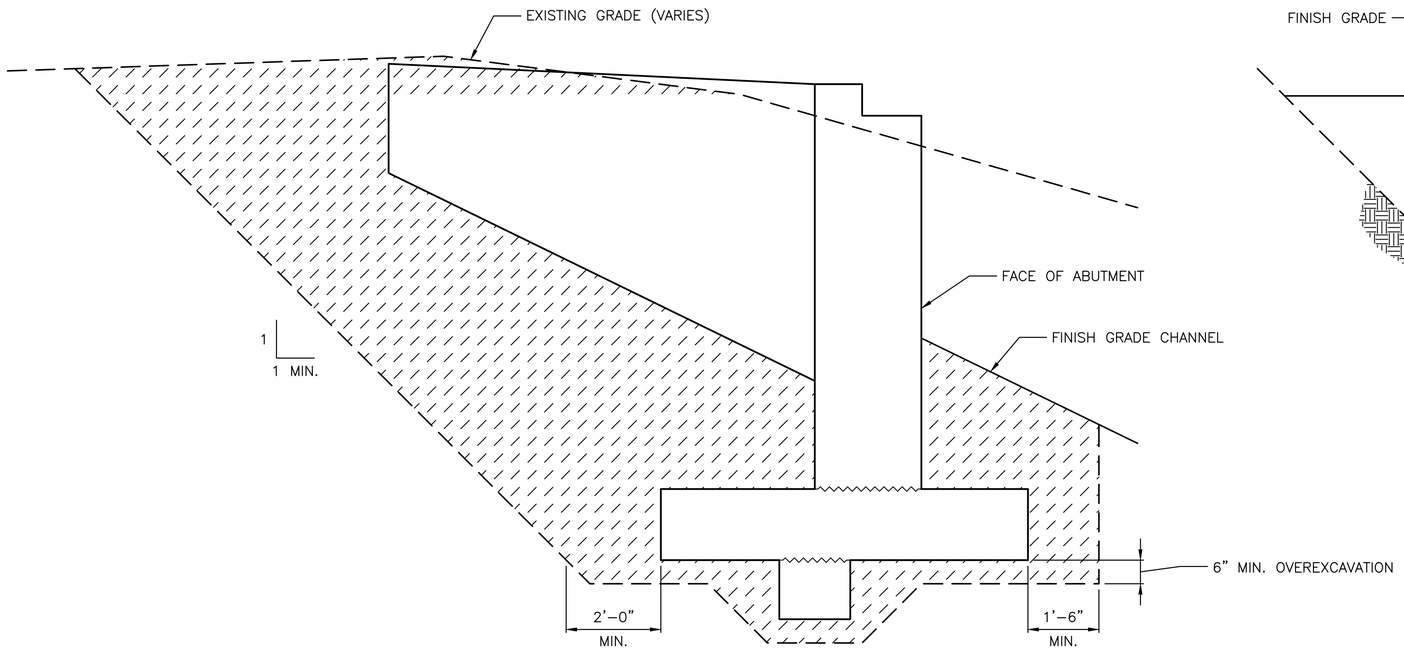
MARK JOHNSON STATE OF WASHINGTON 29071 REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

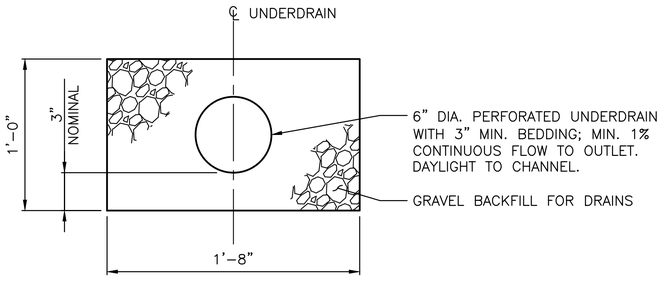
JOB PC CO
VPI #
S-201
SHEET 56 OF 61



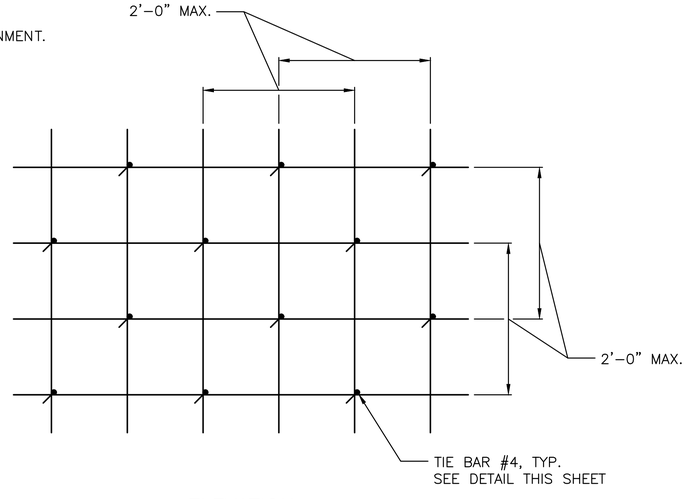
STRUCTURAL EXCAVATION LIMITS

SCALE: 5/8"=1'–0"

NOTE:
SHOWN ALONG BRIDGE ALIGNMENT.



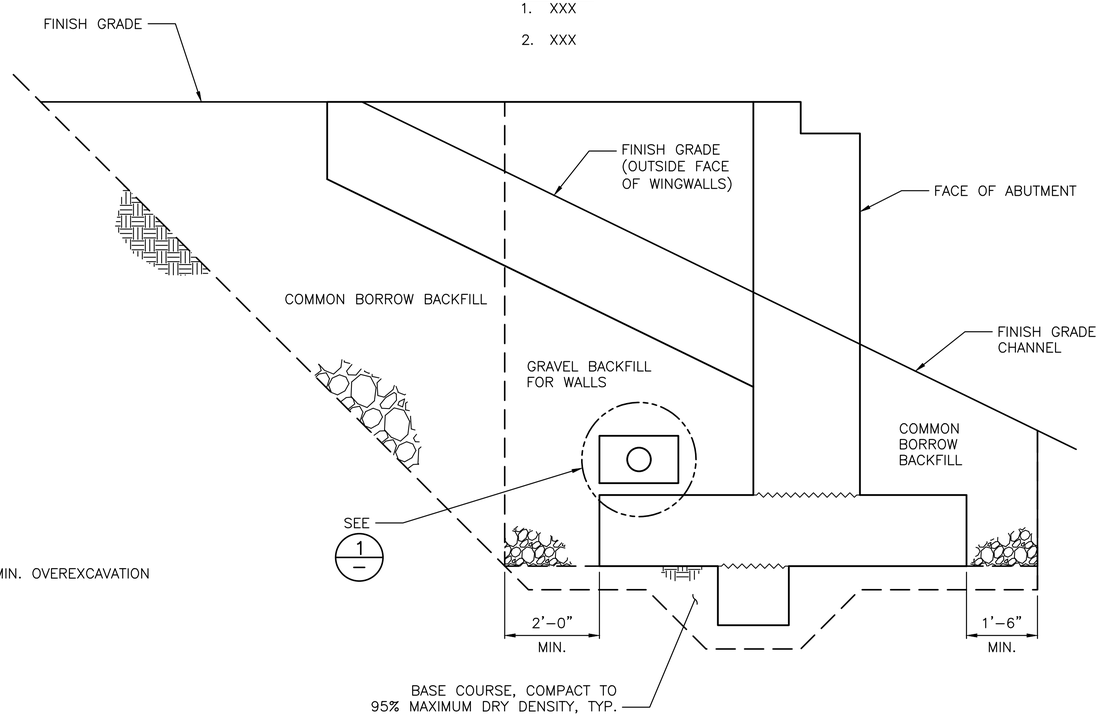
DETAIL 1 / NTS — S–202, S–204



ELEVATION

TIE SPACING DETAIL 2 / NTS

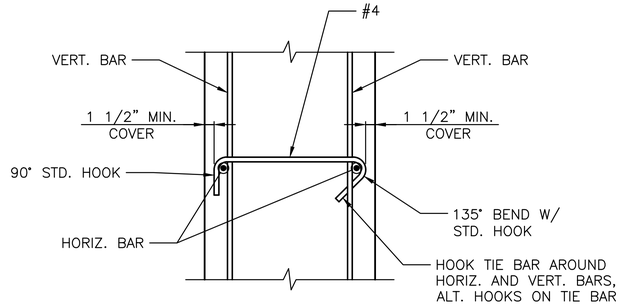
NOTES:
1. XXX
2. XXX



BACKFILL AND DRAINAGE DETAILS

SCALE: 5/8"=1'–0"

NOTE:
SHOWN ALONG BRIDGE ALIGNMENT, UNO.



SECTION

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

ABUTMENT 1 DETAILS (2 OF 2)

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	INITIALS AND DATE
DESIGNED TT	REVIEWED:
CHECKED MJ	DES. CONST.
	SDOT PROJ. MGR.
DRAWN TH	RECEIVED
CHECKED TT	REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

MARK J. JOHNSON — STATE OF WASHINGTON — 29071 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
S-202
SHEET 49 OF 47

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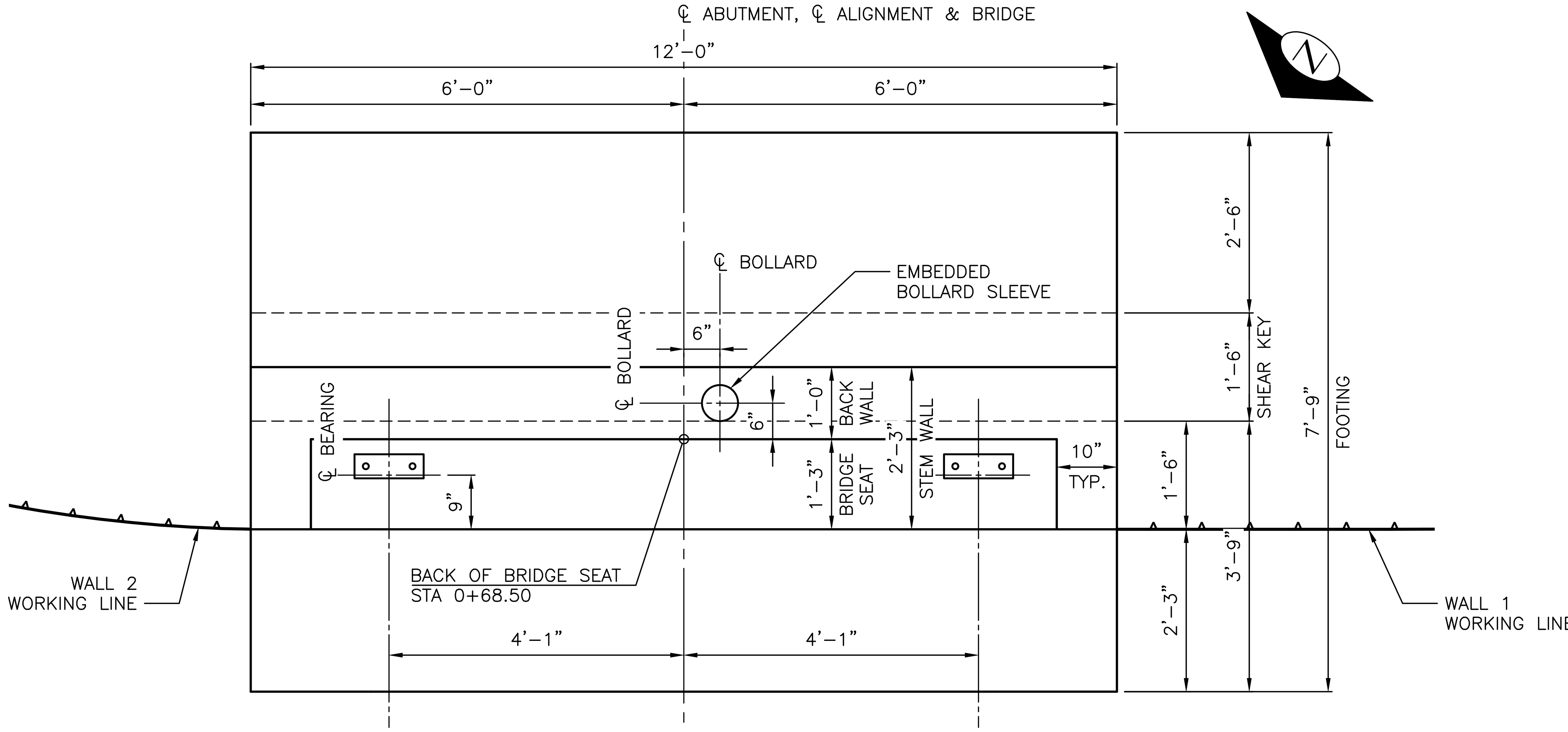
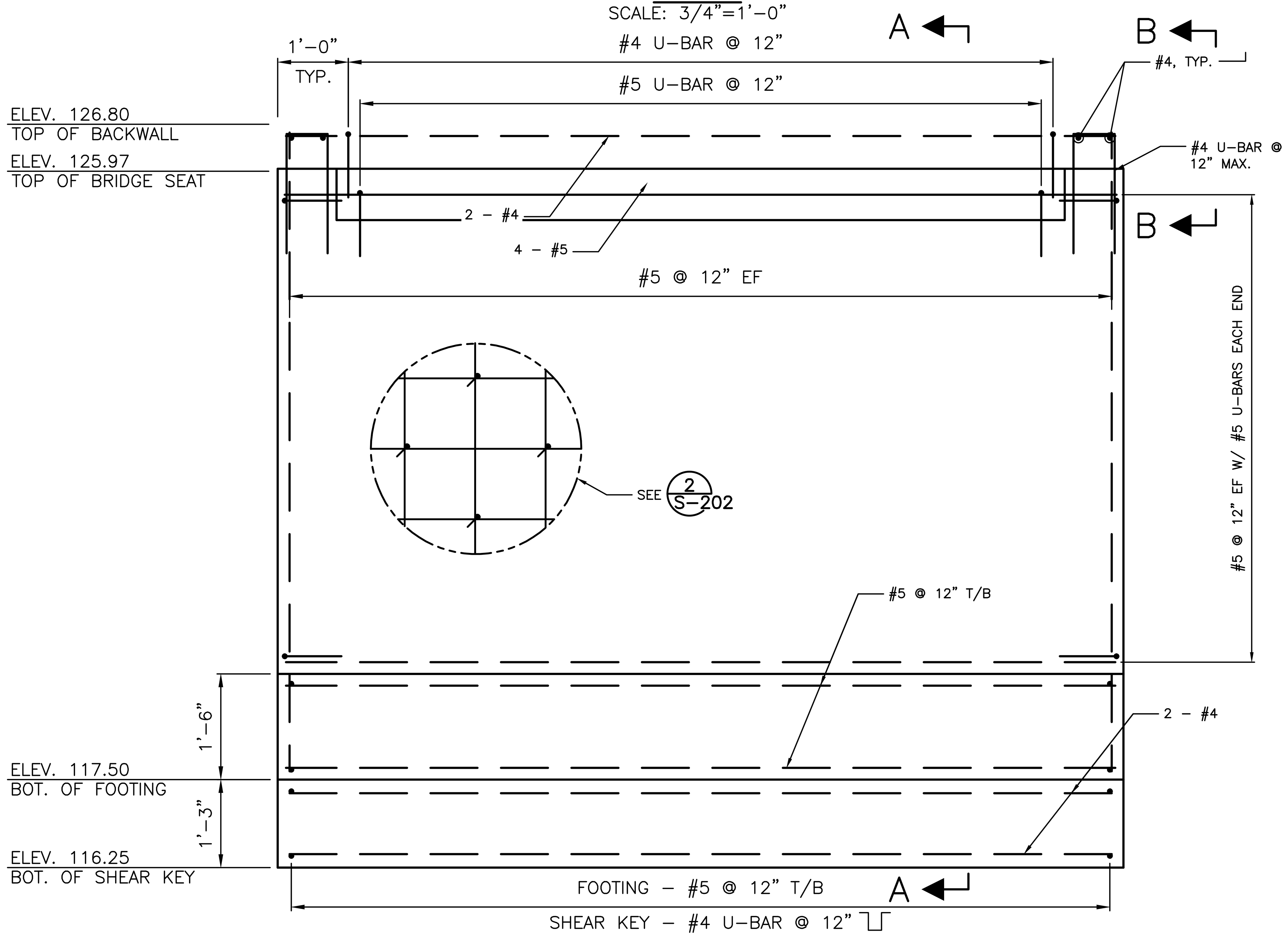
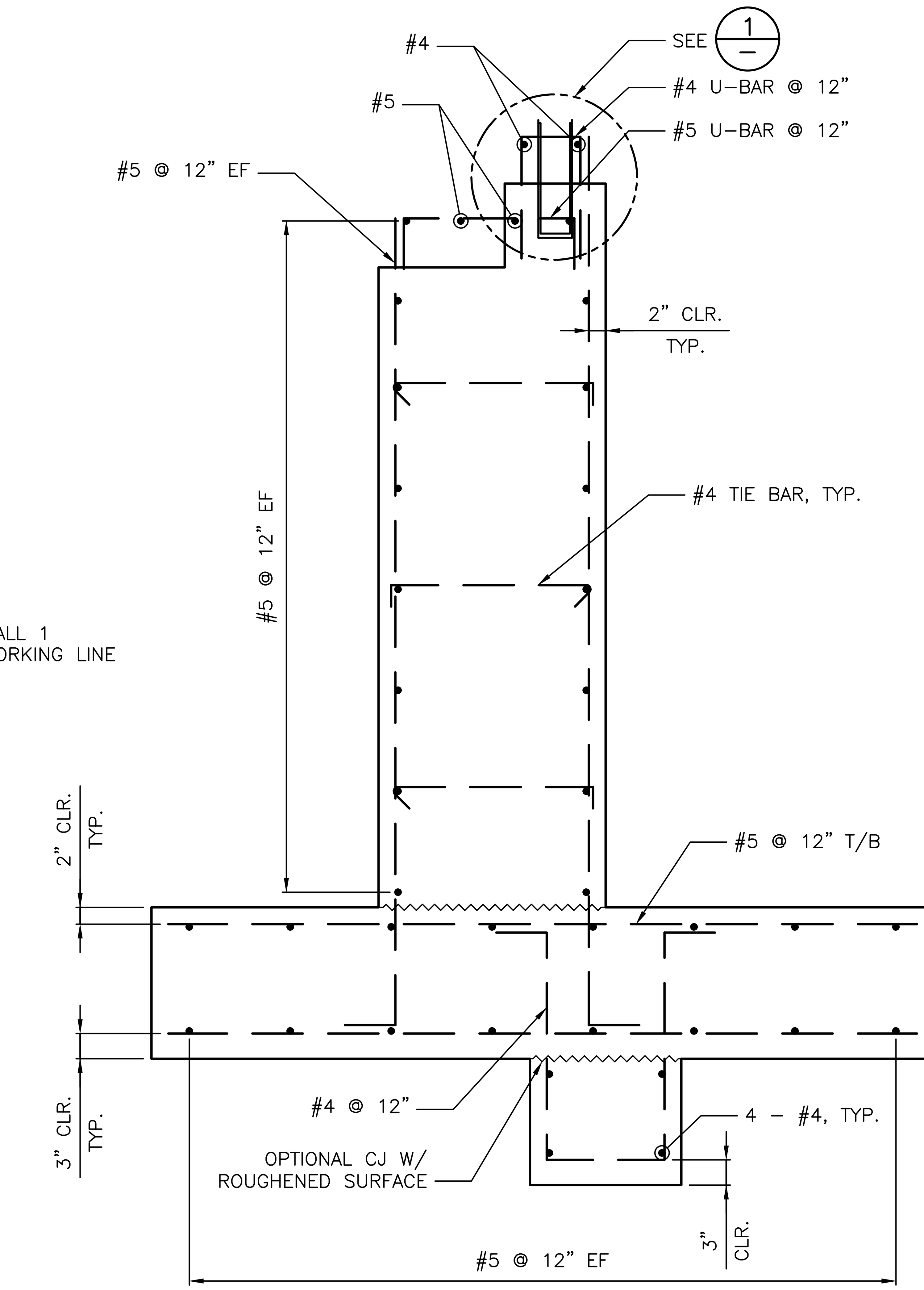
NOTES:
1. XXX
2. XXX



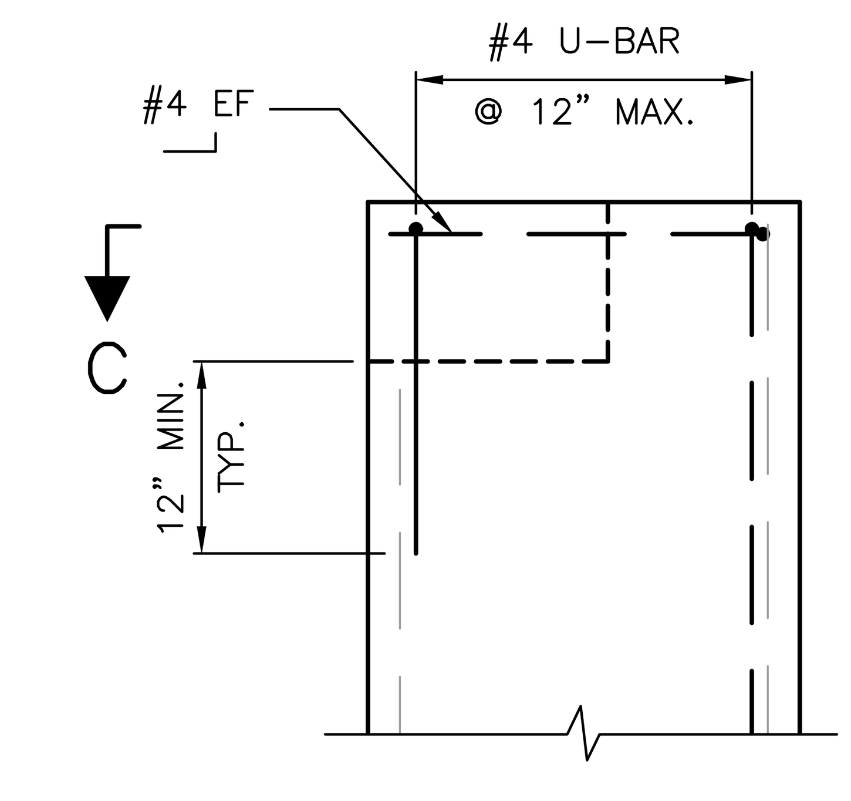
PLAN
SCALE: 3/4"=1'–0"



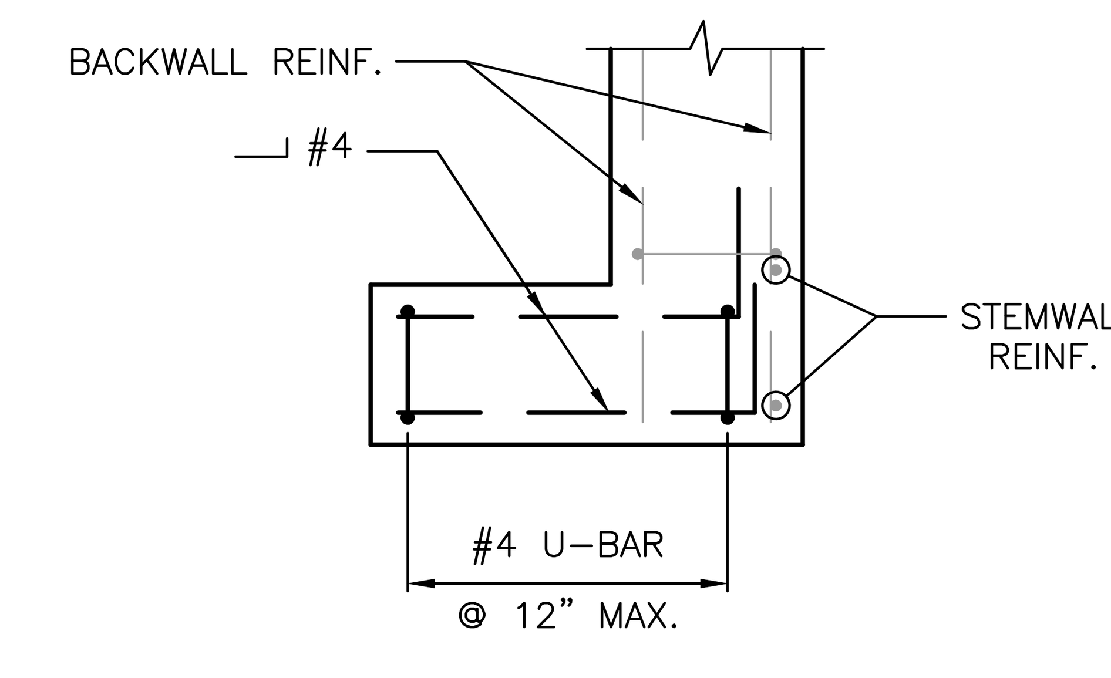
ELEVATION
SCALE: 3/4"=1'–0"



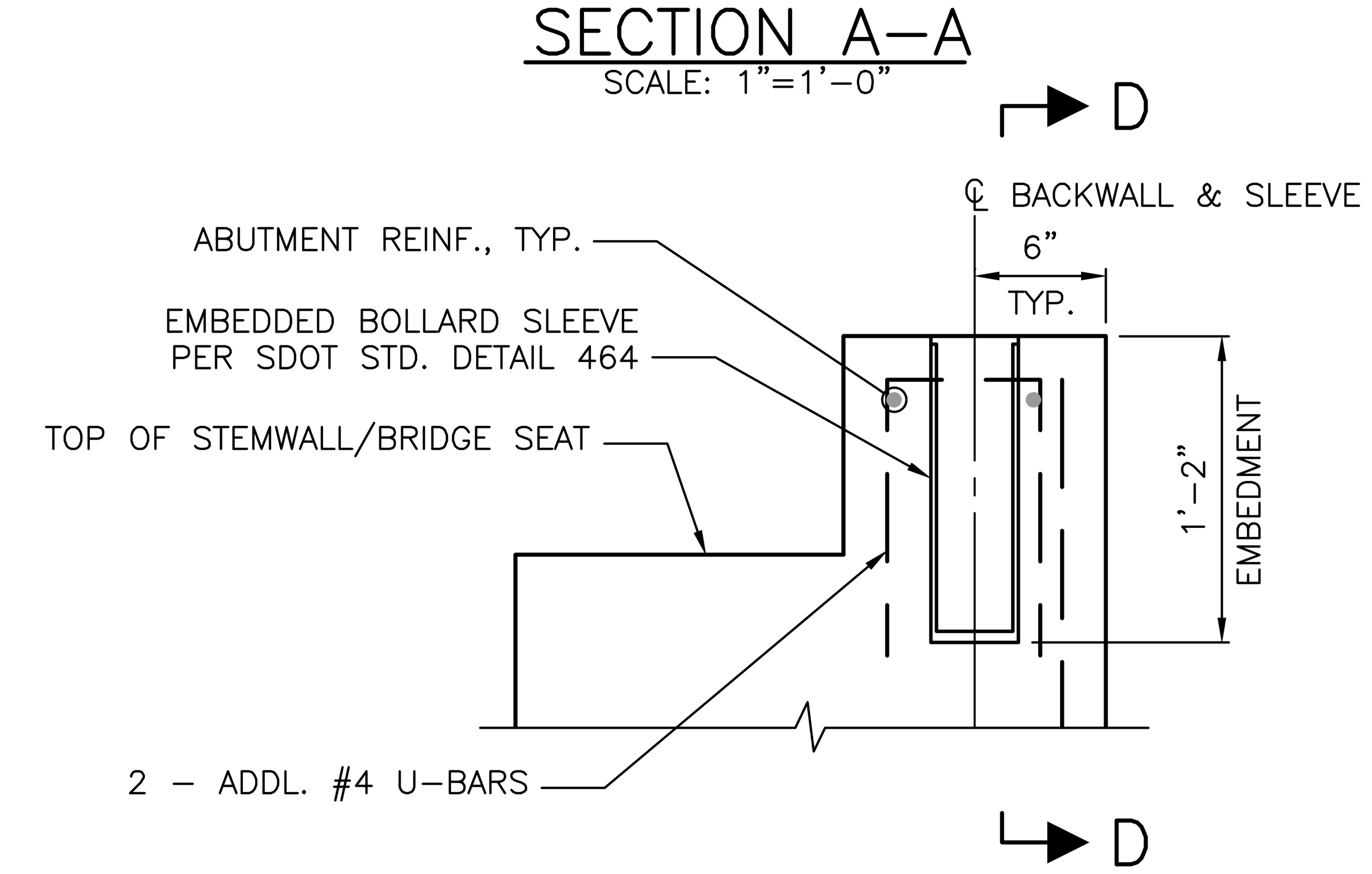
SECTION A–A
SCALE: 1"=1'–0"



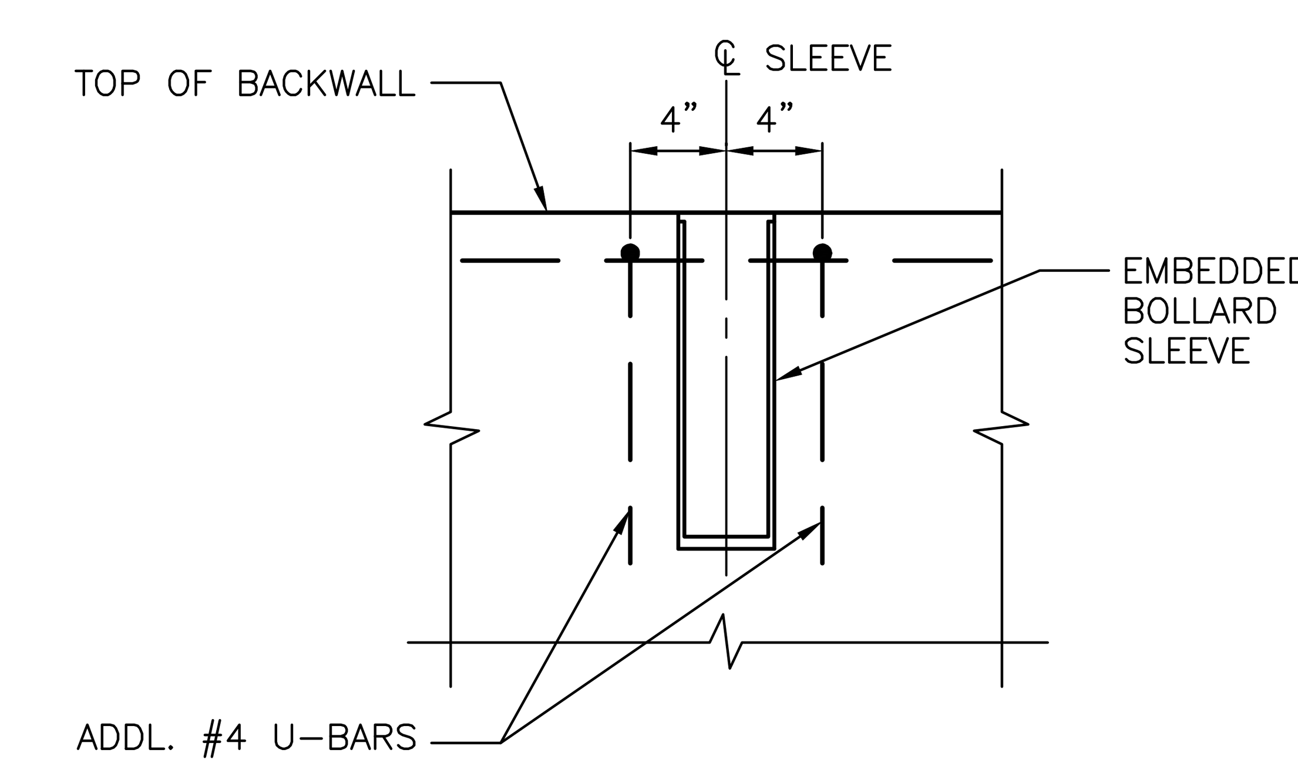
VIEW B–B
SCALE: 1" =1'–0"



SECTION C–C
SCALE: 1" =1'–0"



BOLLARD EMBEDMENT 1
SCALE: 1 1/2" = 1'–0"



SECTION D–D
SCALE: 1 1/2" =1'–0"

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

ABUTMENT 2 DETAILS (1 OF 2)

Jacobs

REVIEWED BY SPU/WATER ENGINEERING .... 20.....
REVIEWED BY SPU/DRAINAGE .... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING .... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON .... 20 ..
BY: ....
PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE
DESIGNED TT
CHECKED MJ
DRAWN TH
CHECKED TT

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

MARK JOHNSON, STATE OF WASHINGTON, 29071, REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB | PC
CO
VPI #
S-203
SHEET 50 OF 47

DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

VAULT SERIAL NO.

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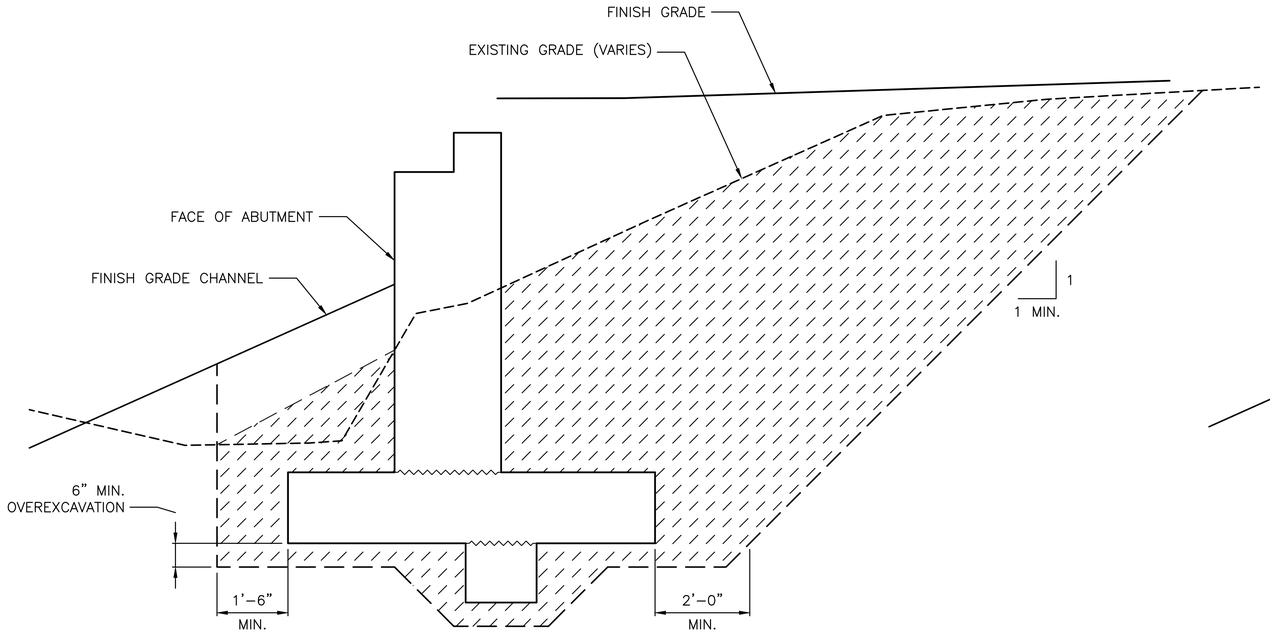
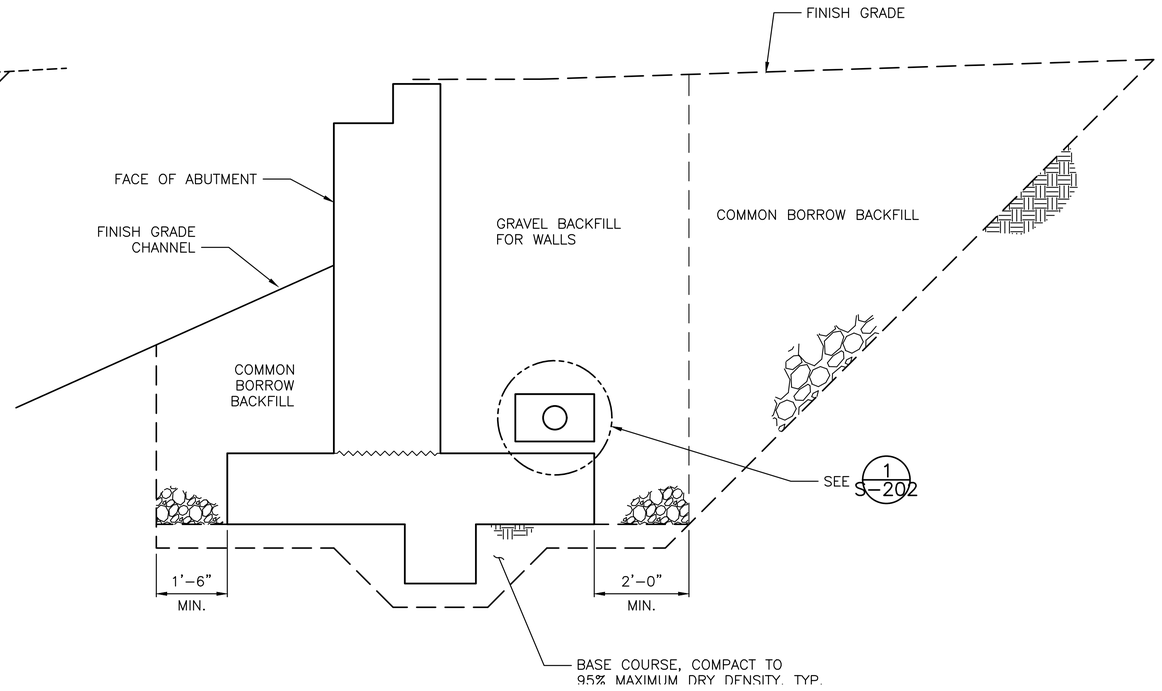
Feb-20-23 4:36pm
50

NOTES:
1. XXX
2. XXX



STRUCTURAL EXCAVATION LIMITS
SCALE: 5/8"=1'–0"

NOTE:
SHOWN ALONG BRIDGE ALIGNMENT.



BACKFILL AND DRAINAGE DETAILS
SCALE: 5/8"=1'–0"

NOTE:
SHOWN ALONG BRIDGE ALIGNMENT, UNO.

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

ABUTMENT 2 DETAILS (2 OF 2)

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20.....
REVIEWED BY SPU/DRAINAGE ..... 20.....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .

BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE	
DESIGNED TT	
CHECKED MJ	
DRAWN TH	
CHECKED TT	

INITIALS AND DATE	
REVIEWED:	
DES.	CONST.
SDOT	PROJ. MGR.
RECEIVED	
REVISED AS BUILT	

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MARK JOHNSON · STATE OF WASHINGTON · 29071 · REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation

ORDINANCE NO. PW NO.

SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
S-204
SHEET 51 OF 47

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

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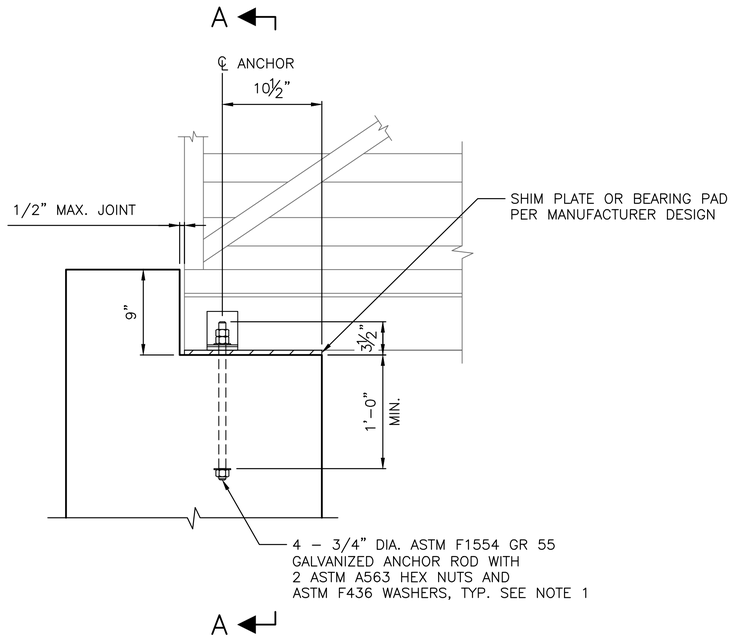
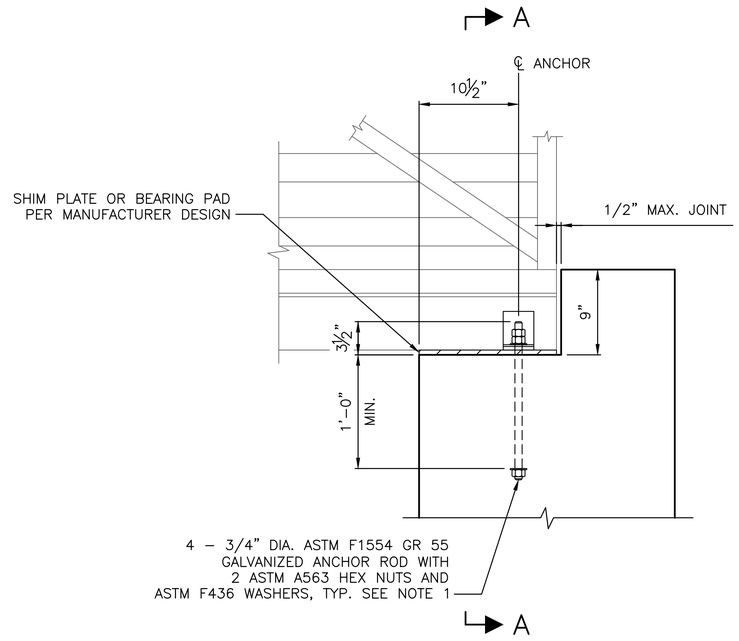
Feb-20-23 4:36pm

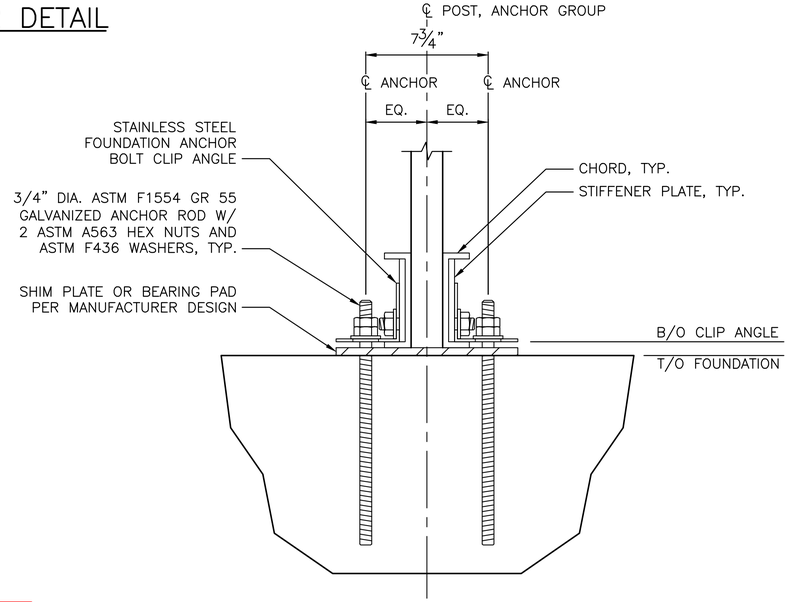
NOTES:
1. BOLTS, WASHERS AND NUTS SHALL BE HOT DIP GALVANIZED ACCORDING TO ASTM A153.



ABUTMENT 1 ANCHOR DETAIL
SCALE: 1 1/2" = 1'–0"



ABUTMENT 2 ANCHOR DETAIL
SCALE: 1 1/2" = 1'–0"



SECTION A–A
NTS

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

ANCHOR BOLT AND EXPANSION JOINT DETAILS

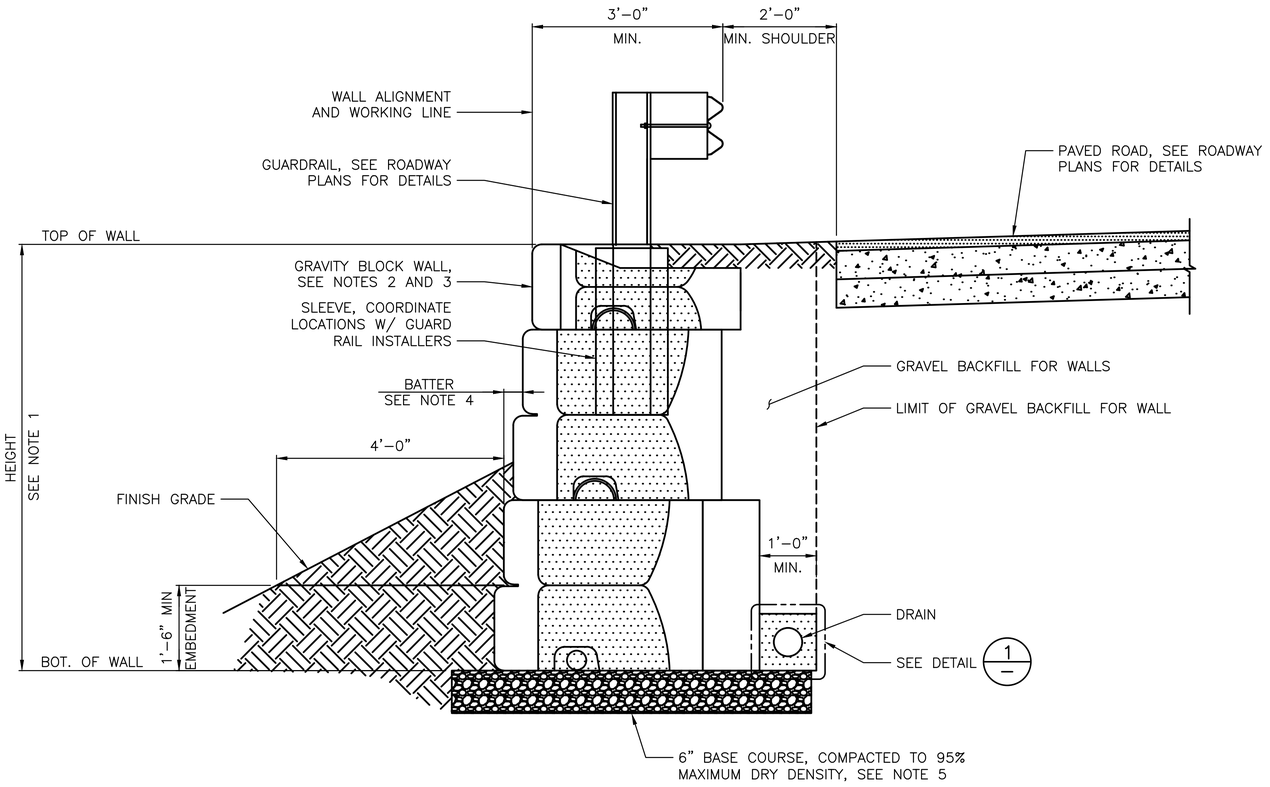
Jacobs	REVIEWED BY SPU/WATER ENGINEERING ..... 20.... REVIEWED BY SPU/DRAINAGE ..... 20.... APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20....	APPROVED FOR ADVERTISING LIZ ALZEER DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES SEATTLE, WASHINGTON . . . . . 20 . . . BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR	INITIALS AND DATE DESIGNED TT CHECKED MJ DRAWN TH CHECKED TT ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.	INITIALS AND DATE REVIEWED: DES. CONST. SDOT ---- PROJ. MGR. RECEIVED REVISED AS BUILT ----	MARK JOHNSON STATE OF WASHINGTON 29071 REGISTERED PROFESSIONAL ENGINEER Seattle Department of Transportation ORDINANCE NO. PW NO. SCALE: AS NOTED	WILLOW CREEK FISH PASSAGE RESTORATION JOB PC CO VPI # S-205 SHEET 60 OF 61

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

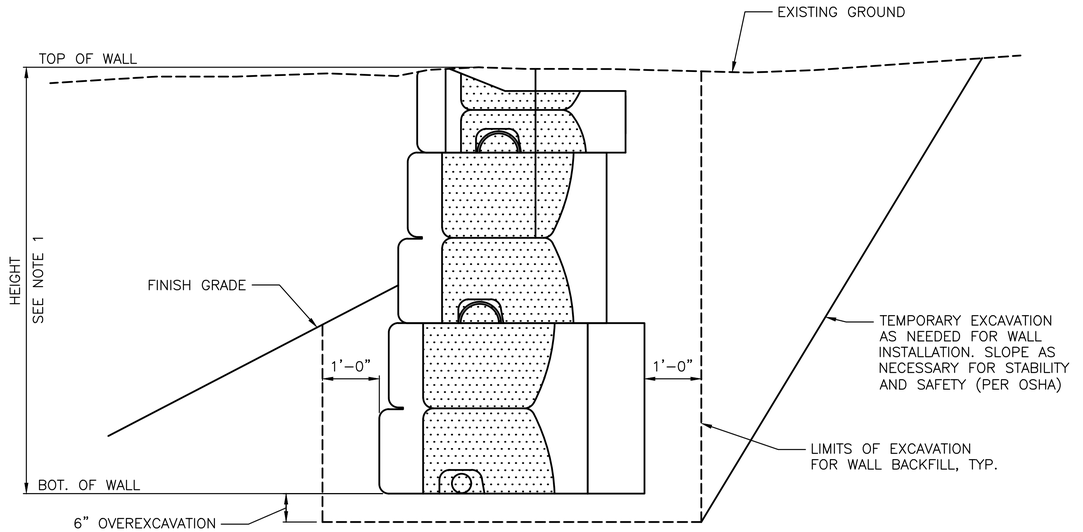
C:\pw_workdir\den003\ch2mhill_tweinste\d1215392\S-205.dwg
Feb-20-23 4:36pm

NOTES:

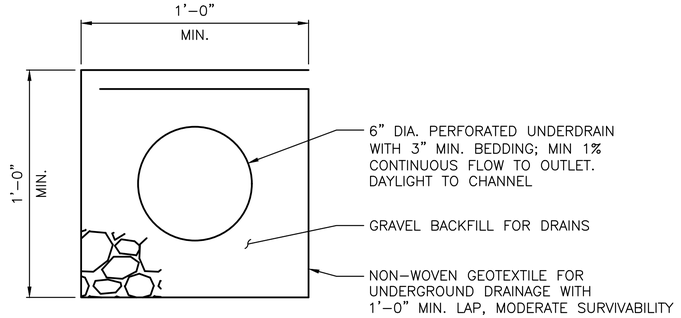
1. SEE "RETAINING WALL PLAN AND ELEVATION" SHEETS FOR WALL LOCATION, LENGTH, AND HEIGHTS.
2. CONTRACTOR SHALL SUBMIT STAMPED GRAVITY BLOCK WALL SHOP DRAWINGS, DETAILS AND CALCULATIONS TO ENGINEER FOR REVIEW AND APPROVAL.
3. WALL SHALL BE DESIGNED TO RESIST A LATERAL 300PLF GUARDRAIL IMPACT LOAD ALONG TOP OF WALL PER AASHTO LRFD SECTION 11.10.10.2.
4. BATTER SHALL BE PER WALL MANUFACTURER DESIGN.
5. PREPARED FOUNDATION BASE COURSE SHALL BE ACCEPTED BY ENGINEER PRIOR TO BLOCK PLACEMENT.



GRAVITY BLOCK WALL – TYPICAL SECTION
SCALE: 3/4" = 1'–0"



STRUCTURAL EXCAVATION LIMITS
SCALE: 3/4" = 1'–0"



WALL UNDERDRAIN 1/–
SCALE: 3" = 1'–0"

Updated Construction Set (Between 60 - 90 Percent Design, Not For Construction)

GRAVITY BLOCK WALL DETAILS

VAULT SERIAL NO.	DATE	MARK	NATURE REVISIONS	MADE	CHK'D	REV'D

C:\pw_workdir\den003\ch2mhill_tweinste\d1215392\S-206.dwg
Feb-20-23 4:36pm

Jacobs

REVIEWED BY SPU/WATER ENGINEERING ..... 20....
REVIEWED BY SPU/DRAINAGE ..... 20....
APPROVED BY SDOT STREET IMPROVEMENT PERMITTING ..... 20.....

APPROVED FOR ADVERTISING
LIZ ALZEER
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON . . . . . 20 . . .
BY: . . . . . PURCHASING AND CONTRACTING DIRECTOR

INITIALS AND DATE		INITIALS AND DATE	
DESIGNED	TT	REVIEWED:	
CHECKED	MJ	DES.	CONST.
		SDOT	PROJ. MGR.
DRAWN	TH	RECEIVED	
CHECKED	TT	REVISED AS BUILT	

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

MARK T. JOHNSON — STATE OF WASHINGTON — 29071 — REGISTERED PROFESSIONAL ENGINEER

Seattle Department of Transportation
ORDINANCE NO. PW NO.
SCALE: AS NOTED

WILLOW CREEK FISH PASSAGE RESTORATION

JOB PC CO
VPI #
S-206
SHEET 53 OF 47