Project Number: 13-034
Project Title: Multnomah & Wahkeena Creeks Restoration Project
Project Type: Habitat Restoration
Sponsor: Lower Columbia Estuary Partnership

Enhancement/Restoration: Enhancement
Funds Requested: $50,019
Total Project Cost: $50,019

Match:
Project does have match funds but are being reported in OWEB grant proposal instead
Total Match: $0

Review Team Score: 1.7

Score Definitions
0 – 1 = Do not support
2 – 3 = Some concern, but worthy of further discussion
4 – 5 = Recommend funding

The review team had the following comments about the project:

The review team members were not sure that the habitat restoration portion of the request would provide much benefit to a fishery. If the applicant could provide more information about the amount of salmon habitat which occurs above the project site, it might help explain the project's benefit to the angler. There are also concerns that the project design, as proposed, could create significant challenges in the future as it is likely that the large wood could move downstream and plug the culverts. Also, the riparian vegetation would not provide enough resistance to the changing flow of the stream, and this could impact the park's infrastructure.

Some review team members thought that it might be difficult to estimate the cost of the project without the design being complete. Also, ~ 20% of the R&E grant request would currently go toward salary and administrative costs, which is even more than the standard 10% that OWEB is willing to pay towards these kinds of costs. Though no matching contributions are included in the project budget, it is true that a proposal has been submitted to OWEB and that other match funding sources have been guaranteed contingent upon OWEB approval. Has OWEB decided to fund the project or does it seem likely? In the proposal, a tree donation is mentioned. Could the applicant potentially use this as an "Other" match contribution in the project budget?

The applicant did ask the local ODFW District Fish Biologist about the possibility of the diversion modification being considered a fish passage trigger, and was told that it would not be. However, the ODFW Fish Passage Program has not been contacted about the project. Based on their initial review of the application, they say that it is not clear whether the diversion structure is something like a dam or an actual diversion. Therefore, the applicant is still strongly advised to contract ODFW Fish Passage staff about the details of the proposal as soon as possible. More details about the diversion modification, and how it is related to future plans for Hartman Pond and Hartman Pond water management, should also be included in the presentation to the R&E Board.

R & E Grant Application 13 Biennium

Project #: 13-034

Multnomah and Wahkeena Creeks Restoration Project

Project Information

R&E Project Request: $49,774.40
Match Funding: $0.00
Total Project: $49,774.40
Start Date: 7/1/2014
End Date: 12/15/2014
Project Email: ccollins@estuarypartnership.org
Project Biennium: 13 Biennium
Organization: Lower Columbia Estuary Partnership (Tax ID #: 93-1249298)

Fiscal Officer

Name: Tom Argent
Address: 811 SW Naito Pkwy, Suite 410
Portland, OR 97204
Telephone: 503-226-1565 x242
Fax: 503-226-1580
Email: targent@estuarypartnership.org

Applicant Information

Name: Debrah Marriott
Address: 811 SW Naito Pkwy, Suite 410
Portland, OR 97204
Telephone: 503-226-1565 x235
Email: dmarriott@estuarypartnership.org

Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Project Summary

This project is NOT part of ODFW's 25 Year Angling Plan.

Activity Type: Miscellaneous (Enhancement)
Summary: The Lower Columbia Estuary Partnership (Estuary Partnership) respectfully requests $49,774 to implement the Multnomah and Wahkeena Creeks Restoration Project, which is Phase I of its science-based restoration plan for 60 publicly-owned acres in the Columbia River Gorge. Phase I restoration actions, which focus on Wahkeena Creek and lower Multnomah Creek, include modifying

Hartman Pond infrastructure (to reduce the Wahkeena Creek diversion and eliminate low-flow discharge from Hartman Pond to Wahkeena Creek); constructing a sustainable stormwater facility to treat runoff from 0.7 acres of impervious parking lot; and placing approximately 60 logs for in-stream habitat improvement. The Estuary Partnership has developed final designs, will submit permit applications during January 2014, and plans to construct the project during summer 2014. Project partners include the U.S. Forest Service (USFS), Oregon Parks and Recreation Department (OPRD), and ODFW.

Objectives:

The project team completed a baseline assessment and alternatives analysis at the site during 2010 and 2011. The ecological objective of the proposed project is to address the limiting factors identified during that study, which are listed below for reference (see question re: current conditions) and primarily are due to impacts associated with construction of Interstate-84 (Figure 1).
Specific project objectives include reducing summer temperatures in lower Multnomah Creek by 2-3 degrees Celsius; providing thermal refugia for migrating adult and juvenile salmon at the mouth of Multnomah Creek; improving spawning habitat for coho salmon and steelhead; improving access (fish passage) to the site for coho and Chinook salmon, steelhead, and lamprey; improving Multnomah Creek's overall water quality; increasing instream habitat diversity; removing invasives and restoring native riparian communities; and restoring hydrologic and sediment transport regimes (to the greatest extent possible).

Fishery Benefits:

Angling opportunities at the site include trout fishing in Wahkeena Creek, Multnomah Creek, Benson Lake, and Hartman Pond; fishing for warmwater species in Hartman Pond and Benson Lake; and fishing for a variety of species in the Columbia River. The project will not directly benefit warmwater fishing opportunities; however, it will maintain those fisheries in their current condition while increasing fishing opportunities for salmon and steelhead and improving natural production of salmon and steelhead. Specifically, by improving habitat, increasing flow (water depths) during spawning season, improving fish passage into the site, improving water quality, and increasing food production within the site, factors that are limiting production of salmonids will be addressed and on-site salmonid production should increase. Additionally, by improving the site's thermal regime, we will bring summer temperatures below 18 degrees Celsius (the regulatory limit) in lower Multnomah Creek therefore providing thermal refugia for salmon and steelhead migrating through the mainstem Columbia River. In addition to thermal benefits, this cold-water habitat also will provide refuge for juvenile salmonids from predators such as smallmouth bass, which require summer temperatures in excess of 19 degrees Celsius. This combination of factors will increase production and survival, therefore increasing the number of fish available for angling. Additionally, it is anticipated to attract mainstem migrants into an area of thermal refuge; many of these thermal refuge areas become productive fishing grounds within the mainstem Columbia River.

Watershed Benefits:

The proposed project is outlined in the attached 60% plan set (specific sheet numbers noted below). Specific restoration actions funded through this request (and their associated benefits to the watershed) include the following:

- Enhancement Action 1: Retrofit Wahkeena Creek diversion structure to fix the diversion at the minimal rate required to maintain the Hartman Pond fishery (sheet 11; Figure 5). Based on a detailed study conducted in 2012, the diversion rate required to maintain water levels in Hartman Pond is estimated to be 0.8 cfs during low flow months (June through September). The current low-flow diversion averages 2.0 cfs. Benefit: Increase base flows in Wahkeena Creek by approximately 45% (from ~2.5 cfs to ~3.7 cfs) without negatively effecting Hartman Pond and its fishery. Augmenting instream flows in Wahkeena Creek will increase water depths available for spawning salmon, decrease summer temperatures in lower Multnomah Creek by approximately 2-3°C (i.e., from approximately 19°C to 17°C), and improve fish passage conditions through the I-84 culvert (Figure 6). Note: Wahkeena Creek is spring-fed therefore its base flows and temperatures are consistently 4-5 cfs and 10-13°C during July, August, and early September.
- Enhancement Action 2: Raise the invert elevation of Hartman Pond's eastern outlet structure to eliminate low flow discharge from Hartman Pond to Wahkeena Creek (sheet 12; Figure 5). Benefit: Ensure poor water quality discharge from Hartman Pond, which has warm temperatures and algae blooms during summer months, does not affect water quality in Wahkeena and Multnomah Creeks.
- Enhancement Action 3: Place approximately 60 pieces of large woody debris (LWD) in 700 feet of Wahkeena and Multnomah Creeks (sheets 6, 8, 9, and 13; Figure 5). Benefit: Increase habitat structure for rearing juveniles and pre-spawn adults to reference conditions, i.e., LWD densities observed in undisturbed streams (minimum of 29 pieces of LWD per 100 meters of stream). Increase retention of organic matter to improve food web dynamics.
- Enhancement Action 4: Construct a stormwater treatment facility to treat runoff from 0.7 acres of impervious parking lot (sheet 10; Figure 4). Currently, stormwater discharges directly to Wahkeena Creek. Benefit: Removal of oils, grease, heavy metals, and other pollutants prior to discharge to Wahkeena Creek. Research has shown that copper (primarily sourced from brake pads) in stormwater is particularly harmful to spawning coho salmon, who often enter streams during the first significant rain when many of the pollutants that have accumulated on impervious surfaces during dry summer months are washed into adjacent streams therefore causing a spike in their concentrations. Elevated copper levels can cause adult coho to die before they successfully spawn.
- Enhancement Action 5: Encourage sustained beaver activity by providing structure to anchor dams, therefore helping prevent dams from failing and having to be reconstructed annually (sheet 9; figure 3). Benefit: Encourage floodplain connectivity, improve instream habitat for juvenile rearing, discourage Himalayan blackberry by increasing the water table, and retain organic matter.
-Enhancement Action 6: Revegetate approximately 3.5 acres of riparian forest (sheet 14). Benefit: Provide shade, cover, and a future source of LWD recruitment.

Current Situation:

Currently, the site is developed as a state park, and the two streams are flanked by 10-50 feet wide riparian zones beyond which mowed grassy areas contain picnic facilities, fishing piers, swimming areas, and a frisbee golf course. A large parking lot drains directly to Wahkeena Creek (Figure 4). Approximately 40% of Wahkeena Creek's low-flow discharge is diverted to Hartman Pond (Figure 5). Very little LWD

or other structure exists in either stream (Figures 3 and 5). Aside from this development, the remainder of two streams' watersheds are in relatively pristine condition and are undeveloped, except for hiking trails. The watersheds also are protected by a combination of public (mostly USFS) ownership, their location within the National Scenic Area (a protective land use overlay), and wilderness designations. For these reasons, watershed-scale processes are intact and restoration efforts at the project site have a high likelihood of long-term success. During the baseline site assessment, the project team collected and reviewed extensive site data and identified limiting factors related to historic impacts, ecological function, and the site's current and potential ability to support multiple life stages of native species (particularly salmonids). Limiting factors identified in the baseline study include the following:

1. Water quality is impaired by stormwater runoff from impervious surfaces, discharge from Benson Lake and Hartman Pond, and the diversion of Wahkeena Creek.
2. Stream temperature is above regulatory limits in Multnomah Creek due to the diversion of Wahkeena Creek and thermal loading from Benson Lake and Hartman Pond (Figure 6).
3. Instream habitat quality and diversity is impaired throughout most of the site due to reduced wood loading and the channelization and diversion of both streams (Figures 3 and 5).
4. Habitat connectivity for native species, including ESA-listed salmonids, is impacted by passage constraints (primarily the I-84 culvert) and thermal loading (Figure 6).
5. Sediment supply and sediment transport capacity is severely limited in many reaches due to undersized infrastructure, altered channel alignments, and stream diversions.
6. Wahkeena Creek's hydrologic regime is impaired by the Hartman Pond diversion, which limits water depths available for spawning and runoff from impervious surfaces (Figures 4 and 5).
7. Food web production and nutrient cycling is impaired by the dominance of Himalayan blackberry in the riparian zone and lack of instream habitat structure to retain organic inputs to the stream channels (Figures 3 and 5).
8. Riparian forests are on a declining trajectory due to the historic clearing of mature, native stands and competition from invasive species.

Alternatives: In 2010 and 2011, the Estuary Partnership worked with the three landowners (OPRD, ODFW, and USFS) to complete a feasibility investigation and alternatives analysis. A variety of alternatives were considered, including replacement of the Wahkeena Creek diversion structure, decommissioning of Hartman Pond's outlet to Wahkeena Creek, diverting Multnomah Creek around Benson Lake, and alternate stormwater treatment facilities. The project partners rejected these alternatives (in favor of those selected) either because they did not address the site's limiting factors, they were cost-prohibitive, or they negatively impacted recreation and fishing activities at the site. The project activities selected represent the most cost-effective means of achieving project objectives while maintaining or enhancing current recreational activities.

Designer: Inter-Fluve completed the project designs.

Methods: The project design team developed enhancement actions that not only address project objectives, but also re-establish natural processes to the greatest extent possible, enhance current recreation and fishing opportunities, and require minimal future maintenance. Construction will comply with all regulatory requirements and standard Best Management Practices, including fish salvage during isolation of in-water work areas. LWD structures will be anchored (see sheets 6, 9, and 13 of the design plans) such that they do not present a public safety concern and do not affect nearby infrastructure, i.e., they will NOT migrate downstream and affect the I-84 culvert or any other infrastructure. All LWD will be conifers and will be appropriately sized for the dimensions of the two streams. Thirty percent of the LWD will have intact rootwads. The diversion structure will be left in place (to allow ODFW to maintain its water right) but will be locked in the closed position. A subgrade perforated pipe (with a gate valve to control flow) will be installed that will allow for adjusting the Wahkeena Creek diversion such that it provides the minimal rate required to maintain water levels in Hartman Pond. The diversion structure is designed to be resistant to clogging with sediment, but can easily be cleaned if this occurs. Modeling conducted during design indicates that increased flow in Wahkeena Creek will NOT negatively impact OPRD or ODOT infrastructure. The stormwater facility consists of a vegetated swale constructed of a 50/50 mix of coarse substrate removed from the culvert and native soil that focuses not only on pollutant removal but also infiltrating runoff (to restore a natural hydrograph). All construction activities will be accomplished by Aquatic Contracting Inc., a licensed, bonded, and insured contractor that specializes in aquatic restoration projects. The Estuary Partnership selected Aquatic Contracting through a competitive bid process.

Inspector: Chris Collins (Principal Restoration Ecologist and Project Manager, Estuary Partnership), Todd Alsbury (ODFW District Biologist), Mark Stevenson (OPRD Park Manager), and Bill Norris (P.E., InterFluve)

Funding Elements: R&E funds primarily will support the construction contractor's work, specifically retrofitting the existing diversion structure, retrofitting Hartman Pond's outlet structure, and removing accumulated gravel from the park road culvert (to provide sufficient capacity for added in-stream flow). The total amount dedicated to the construction contractor will be $43,500 (87% of funds requested).
A portion of the R&E funds, $4,532 (9% of funds requested), will fund InterFluve staff time to provide field engineering services. Because this is a design-build project, the engineer will need to be involved with construction to provide detail/guidance not included in the design drawings. Specific guidance will include supervising LWD placement (to insure the logs are properly anchored), installation of the diversion structure, and removal of sediment from the culvert.
In addition to the above, $1,742 (4% of funds requested) is requested for administrative costs.

Partners: Yes

1) OPRD - Landowner and project partner. OPRD is providing LWD, coordinating access and park closures during construction, providing site preparation and

maintenance of riparian plantings, and maintaining the stormwater swale.
2) ODFW - Water rights holder and technical and regulatory oversight. ODFW is providing technical input and approving activities that affect Hartman Pond. ODFW also is coordinating with Hartman Pond's stakeholder group to insure the proposed restoration actions do NOT effect current or future management of the Hartman Pond fishery. ODFW also is providing technical and regulatory input regarding all project activities.
3) USFS (adjacent landowner). The USFS will provide technical support (as needed) during construction.
See attached letters of support from these three partners.

Existing Plan: Yes

During summer 2011, the USFS completed a Watershed Restoration Action Plan for the Lower Columbia Gorge Tributaries, i.e., all Washington and Oregon tributaries entering the Columbia River between the Sandy River and Bonneville Dam. That plan identified all potential habitat restoration actions in the lower Gorge and worked with a stakeholder group to prioritize potential projects based on a variety of factors, including species benefited, size of the project, and cost-effectiveness. The Multnomah and Wahkeena Creeks Restoration Project ranked in the top 25% of 58 potential projects, primarily due to its benefit to both local and upriver salmon stocks and high certainty of success. In addition to these reasons, the Estuary Partnership is pursuing Phase I now (above other projects in the lower Gorge) because it can be funded through existing grant sources (versus other projects that will require large capital investments), can be implemented in a relatively short time-frame, and continues building strong relationships with ODFW, OPRD, USFS, ODOT, and other partners that will be critical to future restoration efforts at the site and in other portions of the Gorge.
Oregon's Recovery Plan does not identify specific projects in the Gorge, but it does identify priority restoration actions. Our project addresses three of these priority actions: flow improvements, restoring degraded riparian areas, and restoring instream habitat complexity (including LWD placement).

Affected Contacted: No

Affected Supportive: Yes

Affected Comments: ODOT is the only agency potentially impacted by this project that has not been notified. However, their infrastructure will not be affected directly (e.g., all LWD will be anchored such that it can withstand the 100-year flood and will NOT migrate downstream), and indirect impacts will be positive. For example, the project design provides an alternate structure for beavers to anchor their dams (currently they use the inlet of the I-84 culvert as an anchor, which reduces the hydraulic capacity and necessitates ODOT maintenance staff removing the dams periodically).

Project Schedule/Participants/Funding

Activity	Date	Participants

Receive permit approvals	5/30/2014	Estuary Partnership
Construction	7/15/2014	Estuary Partnership, construction contractor

Affected Species:

Chinook Salmon
Coho Salmon
Lamprey
Steelhead
Warmwater

Project Permits

Name	Issued By	Secured?	Date Secured	Date Expected
Section 404 of the Clean Water Act	USACE	No	1/1/0001	5/1/2014
Removal/Fill Permit	Dept. of State Lands	No	1/1/0001	5/1/2014
Grading and Erosion Control/Floodplain Development	Multnomah County	No	1/1/0001	5/1/2014
Endangered Species Act (SLOPES IV)	NMFS and USACE	No	1/1/0001	5/1/2014
Columbia River Gorge National Scenic Area	Multnomah County	No	1/1/0001	7/1/2014
Scientific Collection Permit	ODFW	No	1/1/0001	5/1/2014

Project Monitoring

Organization	Address	Activity	Frequency
Lower Columbia Estuary Partnership	811 SW Naito Pkwy, Suite 410 Portland, OR 97204	Visually observe runoff from parking lot to ensure 100% is directed to the stormwater facility, i.e., 0.0 cfs is discharged directly to Wahkeena Creek.	Two design storm events per year for two years.
Lower Columbia Estuary Partnership	811 SW Naito Pkwy, Suite 410 Portland, OR 97204	Quantify diversion from Wahkeena Creek by using a flow meter to measure discharge in the diversion channel.	Monthly from June through September for two years after construction.
Lower Columbia Estuary Partnership	811 SW Naito Pkwy, Suite 410 Portland, OR 97204	Use staff plate to measure the decrease in Hartman Pond water levels during summer and early fall (June through October).	Monthly for two years after construction (June through October only).

Project Maintenance

Organization	Address	Activity	Frequency
ODFW	17330 SE Evelyn Street Clackamas, OR 97015	Maintain existing Hartman Pond infrastructure. No additional maintenance requirements for Hartman Pond (above those already implemented) are anticipated.	Maintain current schedule.
OPRD	2501 SW 1st Avenue, Suite 100 Portland, OR 97201	Maintain stormwater facility (remove trash, pull weeds).	Annually

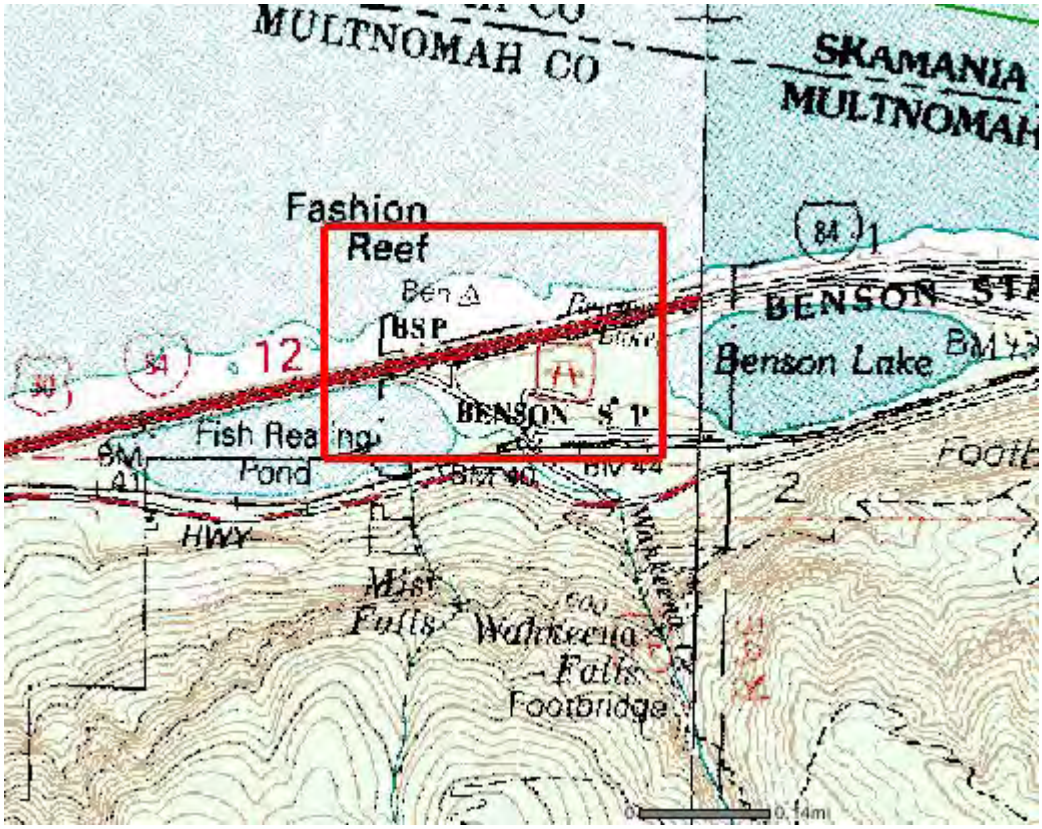
Project Match Funding

Funding Source	Cash	In-Kind	Other	Description	Total	Secured?	Conditions?	Comments
R&E Request	$49,774.40	$0.00	$0.00	None	$49,774.40	No	No	
				Total Match Funding:	$49,774.40			

Project Budget

Item	Item Type	Units	Unit Cost	R&E Funds	Match Funds	Total
LCEP Staff Time - Finance Manager	Administration	30	$58.08	$1,742.40	$0.00	$1,742.40
Dewatering; Erosion and Sediment Control	Contracted Services	1	$5,200.00	$5,200.00	$0.00	$5,200.00
Install New Wahkeena Cr. Diversion Structure	Contracted Services	1	$30,000.00	$30,000.00	$0.00	$30,000.00
InterFluve Field Engineering/Const. Oversight	Contracted Services	40	$113.30	$4,532.00	$0.00	$4,532.00
Mobilization	Contracted Services	1	$3,300.00	$3,300.00	$0.00	$3,300.00
Remove Sediment from OPRD Culvert	Contracted Services	1	$5,000.00	$5,000.00	$0.00	$5,000.00
					Total Budget:	$49,774.40

Project Map



Additional Files

Click a link to view that particular file.

501(c)3 status name change

60-percent_Plan_Set_Sheets_1 thru 5.pdf

60-percent_Plan_Set_Sheets_6_thru_14.pdf

ODFW letter of support

OPRD letter of support

Proof of 501(c)3 status

Signature Authorization Page

Site photos and maps

USFS letter of support

Figure 1 – Site Location

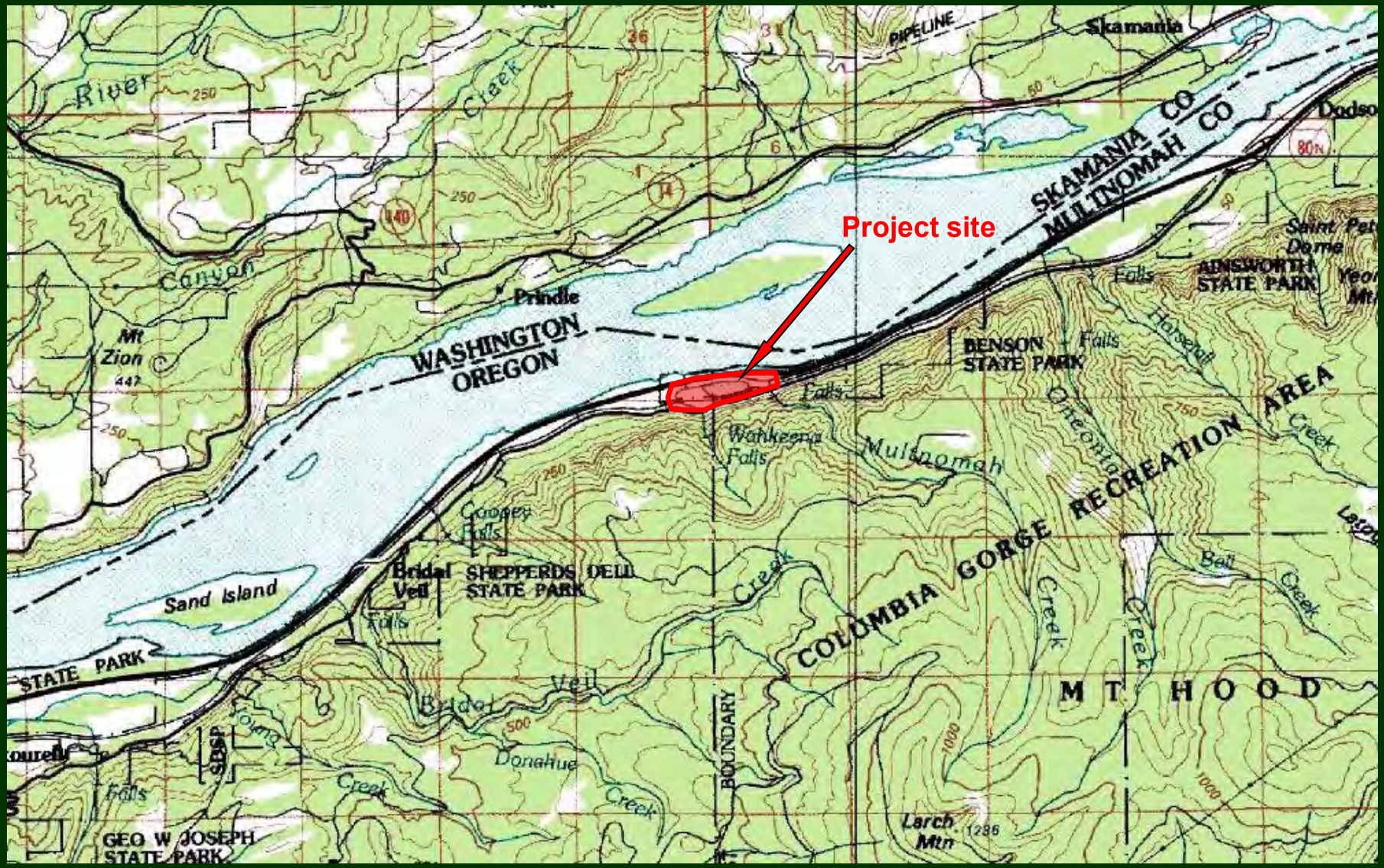


Figure 2 – Historic vs. Current Conditions

Figure 3 – Lower Multnomah Creek (below Benson Lake)

Proposed Actions:

- Substrate augmentation
- LWD placement (~15 logs)
- Encourage beaver activity (away from I-84 culvert)
- Riparian plantings

Riparian area along Multnomah Creek

Beaver dam constructed on face of I-84 culvert

Instream habitat conditions

Figure 4 – Stormwater Treatment

Proposed Action: Stormwater treatment for 0.94 impervious acres that drains directly to Wahkeena Creek

Parking lot that drains directly to Wahkeena Creek

0.94 acre parking lot drains to this location, which discharges directly to Wahkeena Creek

Figure 5 – Wahkeena Creek

Proposed Actions:

- Remove accumulated substrate from culvert
- Regrade channel to create average slope of 1.5%
- LWD placement (~50 logs)
- Reduce Wahkeena diversion to Hartman Pond
- Eliminate low-flow discharge from Hartman to Wahkeena

Instream habitat in lower portion of Wahkeena Creek (near I-84 culvert)

Hartman Pond outlet structure

Instream habitat in upper portion of Wahkeena Creek (near entrance road culvert)

Wahkeena Creek diversion structure

Figure 6 – Temperature and Discharge Monitoring Results

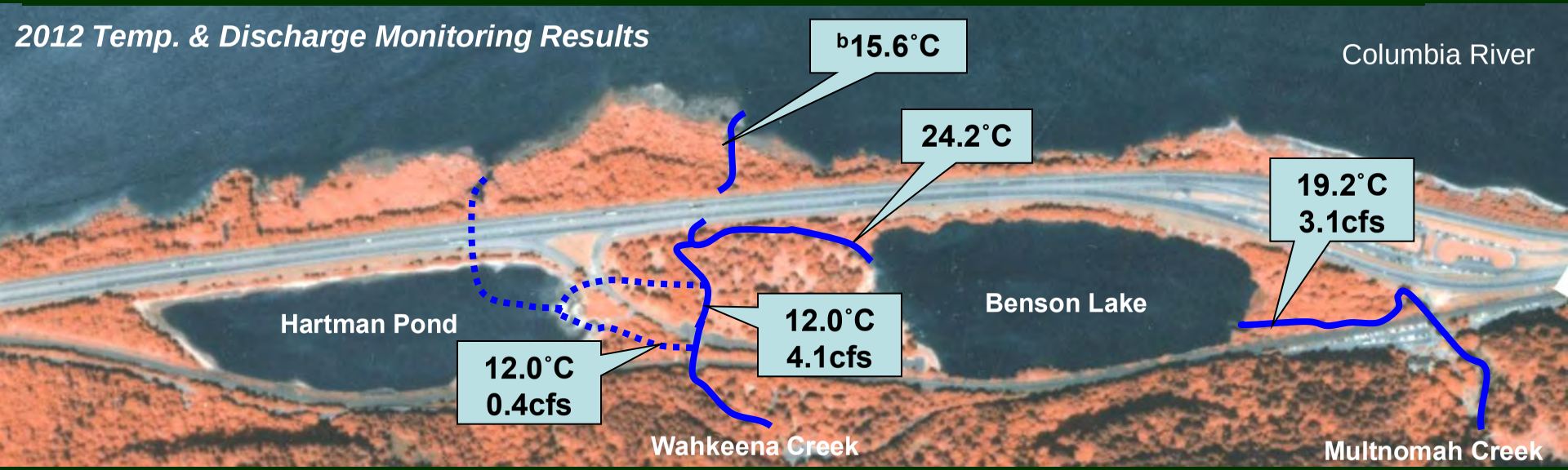
USFS Temp. Data for Lower Multnomah Creek (downstream of I-84 culvert):

Highest 7-Day Avg. Max. Temp:

2005 = 17.8˚C
2006 = 18.9˚C
2008 = 19.2˚C
2010 = 18.3˚C

Avg. = 18.6˚C
2012[a,b] = 15.6˚C

[a] *Wahkeena's instream flow increased by ~60% due to reduction in diversion from ~2.0cfs to 0.4cfs.*
[b] *Data collected by Estuary Partnership.*



Notes:

a) Temperatures represent the highest 7-day average maximum temperatures recorded b/t June and Sept.
b) Discharge values measured in August
c) <14°C is ideal for juvenile salmon; 18°C is regulatory limit
d) >19°C is suitable for smallmouth bass
e) Columbia River typically >20°C during summer months.

United States Department of Agriculture
Forest Service
Columbia River Gorge National Scenic Area
902 Wasco Ave., Suite 200
Hood River, OR 97031
541-308-1700
FAX 541-386-1916

File Code: 2510
Date: January 14, 2013

Ms. Debrah Marriott
Executive Director
Lower Columbia Estuary Partnership
811 SW Naito Parkway
Suite 410
Portland, OR 97204

Dear Ms. Marriott,

This letter is to confirm that the USDA Forest Service Columbia River Gorge National Scenic Area supports the Lower Columbia Estuary Partnership's efforts to implement restoration and enhancement actions on the floodplains of Multnomah and Wahkeena Creeks. Although much of the direct work is proposed on State land, National Forest Land is directly adjacent to the proposed work and will benefit as well.

The Forest Service has a strong desire to cooperate with Oregon State Parks, the Oregon Department of Transportation, and Oregon Department of Fish and Wildlife to improve the riparian and aquatic habitats of these two streams. Consequently, we are fully supportive of the Estuary Partnership's effort to complete project designs and implement construction in 2014. We have participated with this group in the development of project plans for this restoration work and agree that salmon, wildlife, scenic values, and recreational resources stand to benefit from careful restoration of this area. Both in-stream and riparian restoration are appropriate on this site, especially the volunteer and education component currently proposed by the Estuary Partnership's Education Team.

As a landowner in the area and a dedicated long-term steward, we look forward to continuing our work with the Estuary Partnership to restore this and other portions of the Columbia River Gorge National Scenic Area.

Please let me know what we can do to be of further assistance and feel free to call Mark Kreiter (541-308-1744) with any questions regarding our involvement in this project.

Sincerely,

/s/ Lynn Burditt
LYNN BURDITT
Area Manager

Oregon
John Kitzhaber, Governor

Parks and Recreation Department
Columbia River Gorge Management Unit
Rooster Rock State Park
Corbett, OR 97019
(503) 695-2261
FAX (503) 695-2226

January 10, 2013

Ms. Debrah Marriott
Executive Director
Lower Columbia Estuary Partnership
811 SW Naito Parkway, Suite 410
Portland, OR 97204

Dear Debrah,

Over the past eight years, the Oregon Parks and Recreation Department (OPRD) has enjoyed a productive relationship with the Lower Columbia Estuary Partnership (Estuary Partnership) and others as we have worked together to restore OPRD property along the Columbia River. Through our work with the Estuary Partnership, we have reforested 95 acres of riparian habitat, installed 140 logs with root wads to improve salmon habitat in 1-mile of stream, improved fish passage through two culverts, and developed restoration plans for three OPRD properties. We have also enjoyed working with the Estuary Partnership's education program, which brings students and volunteers to our sites to enhance habitat and promote stewardship.

Although natural resource management and protection is part of OPRD's mission, we lack the ability to fund large-scale restoration projects at all of our properties, many of which are priority sites for natural resource management. Consequently, we consider our work with the Estuary Partnership as being vital to accomplishing our mission and are excited about your current proposal to implement your stakeholder-approved restoration plan for Wahkeena Creek at Benson State Recreation Area.

This letter is to confirm that OPRD supports your proposed project. OPRD support for the final design and construction phase of this project will include the following specific contributions:

- 60 logs for in-stream fish habitat
- 20 root wads for in-stream fish habitat
- Coordinating access to the site
- Staff time to review project designs and permits

This proposal presents a unique opportunity for public, non-profit, and private groups to join together in an effort to improve ecological function, expand public education and outreach efforts, and benefit several listed species. As a dedicated long-term steward of the Gorge, we are committed to seeing this site restored to the greatest extent practical and will provide our agency's support to attain the goals set out in the Estuary Partnership's proposal.

Sincerely,

[redacted]

Mark Stevenson,

Park Manager

Columbia River Gorge Management Unit

INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: OCT 16 2003

LOWER COLUMBIA RIVER ESTUARY
PARTNERSHIP
811 SW NAITO PKY STE 120
PORTLAND, OR 97204-0000

Employer Identification Number:
93-1249298
DLN:
17053263752093
Contact Person:
JAMES A BRANDES ID# 31150
Contact Telephone Number:
(877) 829-5500
Public Charity Status:
170(b)(1)(A)(vi)

Dear Applicant:

Our letter dated April 1, 1999, stated you would be exempt from Federal income tax under section 501(c)(3) of the Internal Revenue Code, and you would be treated as a public charity during an advance ruling period.

Based on our records and on the information you submitted, we are pleased to confirm that you are exempt under section 501(c)(3) of the Code, and you are classified as a public charity under the Code section listed in the heading of this letter.

Publication 557, Tax-Exempt Status for Your Organization, provides detailed information about your rights and responsibilities as an exempt organization. You may request a copy by calling the toll-free number for forms, (800) 829-3676. Information is also available on our Internet Web Site at www.irs.gov.

If you have general questions about exempt organizations, please call our toll-free number shown in the heading between 8:00 a.m. - 6:30 p.m. Eastern time.

Please keep this letter in your permanent records.

Sincerely yours,

[redacted]

Lois G. Lerner
Director, Exempt Organizations
Rulings and Agreements

Letter 1050 (DO/CG)

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
Northwest Region
17330 SE Evelyn Street
Clackamas, OR 97015-9514
(971) 673-6000
(971) 673-6070

October 24, 2013

Ms. Debrah Marriot
Executive Director, Lower Columbia Estuary Partnership
811 SW Naito Parkway, Suite 410
Portland, OR 97204

Re: ODFW Support for Habitat Restoration Proposed in Wahkena and Multnomah Creeks

Dear Ms. Marriot,

The Oregon Department of Fish and Wildlife (ODFW) would like to express our full support for your efforts to improve fish and wildlife habitat in Wahkena and Multnomah creeks near Benson State Park. ODFW's involvement over the past two years provided us the ability to see the project develop from concept to completed design and we are confident the Lower Columbia Estuary Partnership (Estuary Partnership) will be capable of implementing a successful project that will provide long term benefits to Oregon's natural resources.

The Estuary Partnership took a thorough and defensible, science-based approach to evaluating restoration opportunities at the site that resulted in design plans that were reviewed and approved by ODFW district staff and engineering. The proposed restoration actions will improve instream and riparian habitat conditions in Wahkena and Multnomah creeks in addition to reducing temperature of thermal refugia at the creek's confluence with the Columbia River.

Listed salmonid populations throughout the Columbia Basin may utilize the site for juvenile rearing or adult holding on their upstream migration. Local salmonid populations in the Lower Columbia River ESU (coho, winter steelhead, fall Chinook, and possibly chum) will benefit from improved spawning and rearing conditions in both creeks as well as rearing conditions at the confluence.

We look forward to seeing successful implementation of this project and the corresponding benefits to salmon and steelhead populations that will accrue over time. Please keep in contact with us as the project moves forward so we can schedule ODFW staff involvement in salvage or other implementation assistance we can provide.

Thank you!

[redacted]

Todd Alsbury
District Fish Biologist
North Willamette Watershed District

Cc: Jim Brick, ODFW

ESTIMATED QUANTITIES TABLE WAHKEENA CREEK		
ITEM	QUANTITIES	UNITS
LOGS WITH ROOTWAD (35' x 14"-18" DIA.)	17	EA
CUT LOGS (20' x 14"-18" DIA.)	9	EA
CUT LOGS (35' x 14"-18" DIA.)	41	EA
TURBIDITY CURTAIN	35	LF
FISH SCREEN	100	LF
1" THREADED ROD (ASTM F1554 GRADE 105)	270	FT
1" BOLTS (ASTM F1554 GRADE 105)	140	EA

1. FULLY THREADED ROD SHALL BE 1 INCH DIA. AND MEET THE REQUIREMENTS OF ASTM F1554, GRADE 105.
2. FULLY THREADED ROD SHALL BE OF SUFFICIENT LENGTH TO FASTEN THROUGH AT LEAST TWO LOG DIAMETERS.

LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING WATERLINE
- EXISTING FENCE
- ORDINARY HIGH WATER
- 100-YEAR FLOODPLAIN
- TEMPORARY CONSTRUCTION ACCESS
- EXISTING TREES
- LWD PLACEMENT
- EXISTING PICNIC TABLES

INSTALL FISH SCREEN PER ODFW REQUIREMENTS (2/5)

TURBIDITY CURTAIN (3/5)

LWD HABITAT ENHANCEMENT WOOD (TYPICAL). POSITION SHOULD AVOID EXISTING DOGWOOD. (DOGWOOD TO BE PRESERVED)

EXISTING PICNIC TABLES

EXISTING GRAVEL ACCESS

STAGING/STOCKPILE AREA

BENSON LAKE ROAD/PARKING LOT

UNION PACIFIC RAILROAD

EXISTING PUMP HOUSE

EXISTING BRIDGE

LOG TO LOG CONNECTION (TYPICAL) (1-3/13)

EXISTING UTILITY BOX

STA: 5+75

STA: 5+30

STA: 7+06

INSTALL PIPE IN DIVERSION DITCH SEE SHEET 11

(1-3/8) POOLS (TYPICAL)

STA: 4+78

STA: 4+18

STA: 3+50

EXISTING TREES (TYPICAL)

THREE TREES TO BE REMOVED AND INCORPORATED INTO PROPOSED LOG JAMS

PILES (TYPICAL)

PRESERVE POINT BAR

EXISTING BRIDGE

GRADING CROSS SECTION LOCATIONS (TYPICAL)

TEMPORARY ACCESS

EXISTING CULVERT FROM HARTMAN POND

(1,2/4) GRAVEL CONSTRUCTION ENTRANCE

PARK INGRESS/EGRESS

0 40 80

SCALE IN FEET

G:\M-P\Multnomah & Wahkeena Creek_130232\Drawings\FI_Multnomah and Wahkeena Creek_082213.dwg

NO.	BY	DATE	REVISION DESCRIPTION

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DRAWN	DESIGNED	CHECKED
BN,DS	09/27/13	13-02-32
APPROVED	DATE	PROJECT

LOWER COLUMBIA ESTUARY PARTNERSHIP
MULTNOMAH AND WAHKEENA CREEKS
RESTORATION PROJECT

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Hood River, OR 97031
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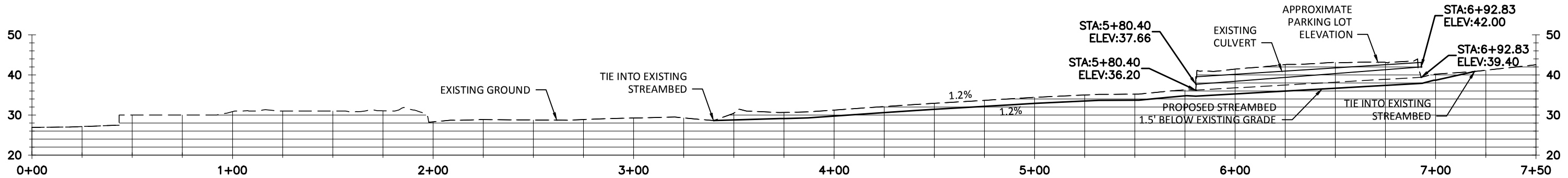
PROPOSED CONDITIONS
WAHKEENA CREEK

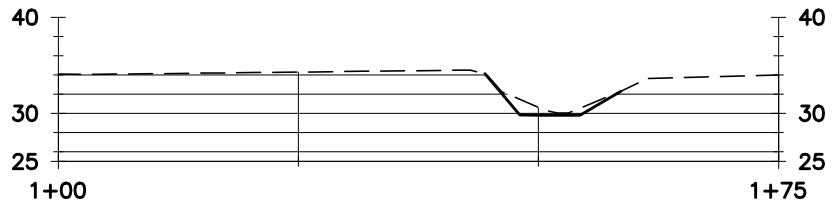
SHEET
6 OF 14



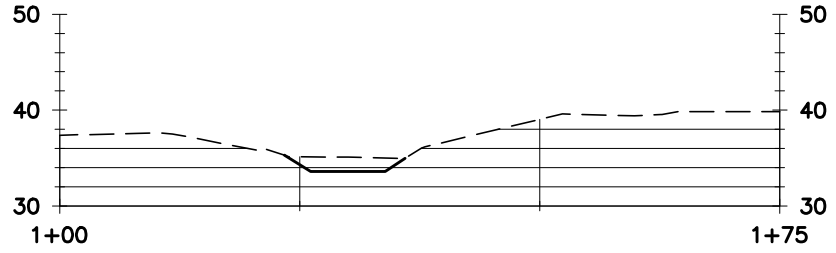
WAHKEENA CREEK CENTERLINE

0 50 100

HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=25'



GRADING CROSS SECTION STATION 3+50

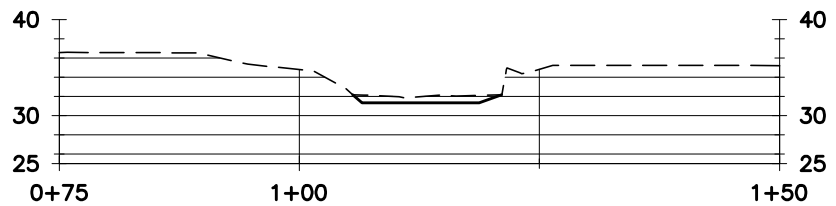


GRADING CROSS SECTION STATION 5+30

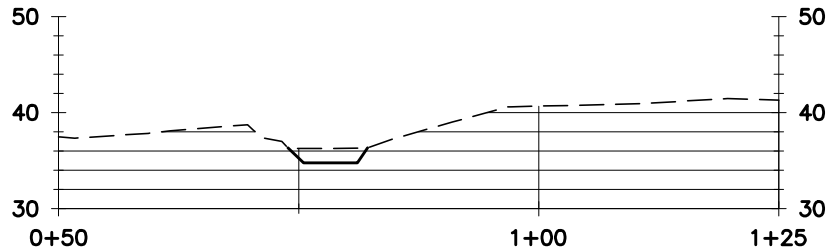
LEGEND:

EXISTING GROUND

PROPOSED GROUND



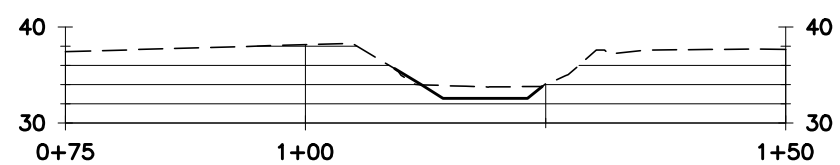
GRADING CROSS SECTION STATION 4+18



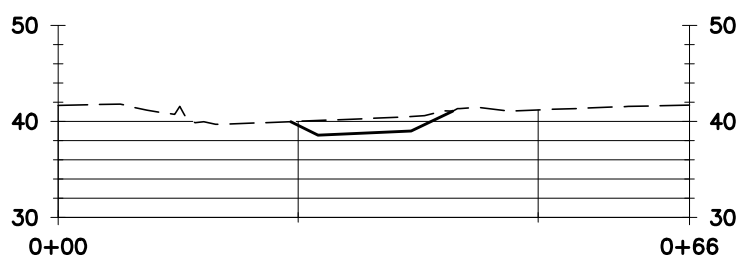
GRADING CROSS SECTION STATION 5+75

SCALE IN FEET

20 20



GRADING CROSS SECTION STATION 4+78



GRADING CROSS SECTION STATION 7+06

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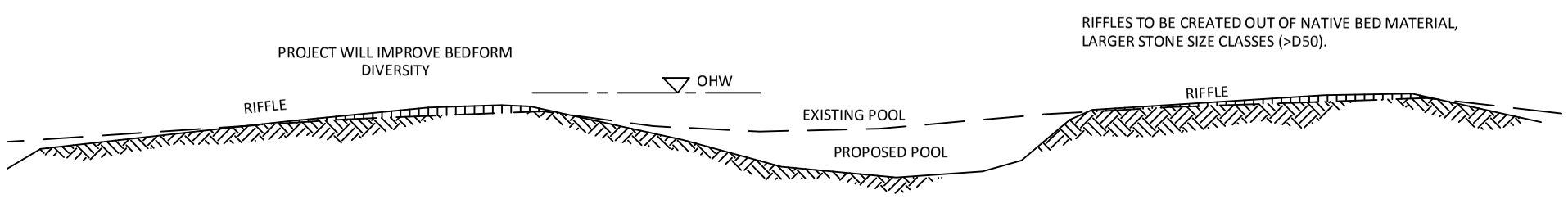
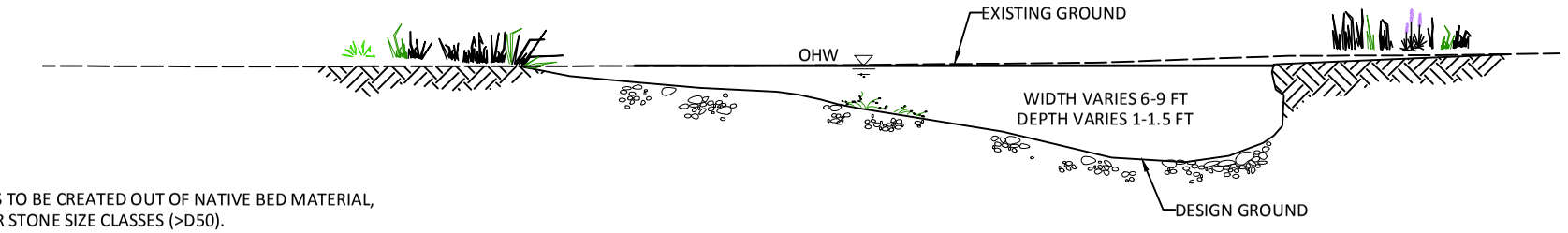
PROFILE AND SECTION VIEWS
WAHKEENA CREEK

SHEET
7 OF 14



2/8 TYPICAL POOL PROFILE VIEW

NOT TO SCALE



1/8 TYPICAL POOL CROSS SECTION VIEW

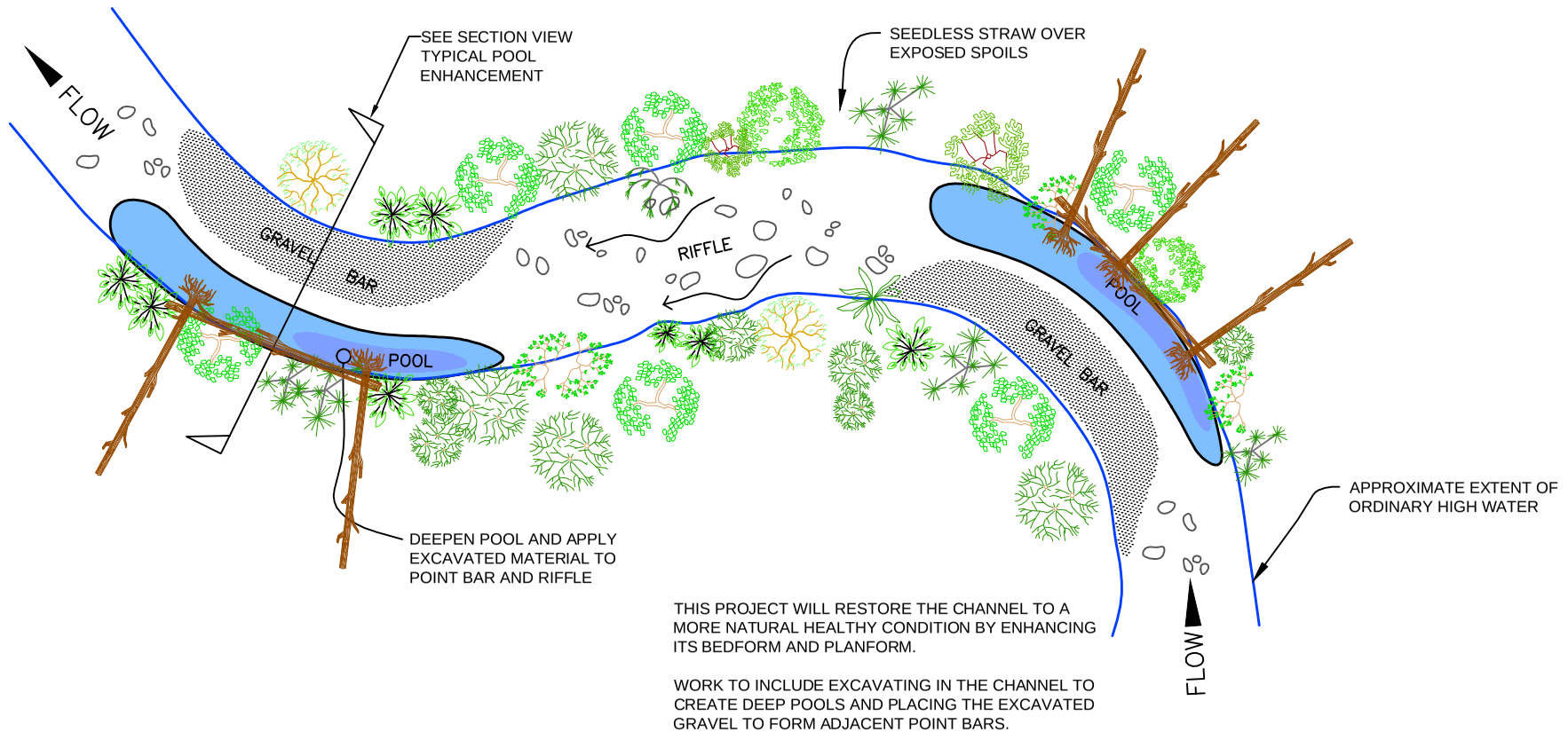
NOT TO SCALE

TOTAL ESTIMATED QUANTITIES TABLE

ITEM	QUANTITIES	UNITS
CHANNEL EXCAVATION	307	CY
LOG JAM EXCAVATION	540	CY
POOL EXCAVATION	286	CY
SWALE EXCAVATION	170	CY
EXCESS FILL	748	CY
LOGS WITH ROOTWAD (35' x 14"-18" DIA.)	20	EA
CUT LOGS (20' x 14"-18" DIA.)	12	EA
CUT LOGS (35' x 14"-18" DIA.)	48	EA
TURBIDITY CURTAIN	35	LF
SILT SCREEN	108	LF
FISH SCREEN	90	LF
8" DIA. SCHEDULE 40 PVC PIPE	40	LF
8" DIA SCHEDULE 40 PVC WELL SCREEN WITH 0.05-INCH SLOT WIDTH	40	LF
8" GATE VALVE	1	EA
1" THREADED ROD (ASTM F1554 GRADE 105)	300	FT
1" BOLTS (ASTM F1554 GRADE 105)	200	EA
2x8 (6' FIR)	2	EA
SEED AND MULCH	4	AC
ESTIMATED QUANTITIES BELOW OHW		
ITEM	**QUANTITIES**	**UNITS**
CHANNEL EXCAVATION	307	CY
LOG JAM EXCAVATION	135	CY
POOL EXCAVATION	286	CY
8" WELL SCREEN	27	LF
TURBIDITY CURTAIN	22	LF
SILT SCREEN	97	LF
FISH SCREEN	90	LF

1. ALL MATERIALS QUATITIES ARE BASED ON IN-PLACE CONDITIONS DETERMINED BY A PRE-PROJECT CONDITION SURVEY (PROVIDED BY HENDERSON).

2. SEED AND MULCH ALL DISTRUBED AREAS.



THIS PROJECT WILL RESTORE THE CHANNEL TO A MORE NATURAL HEALTHY CONDITION BY ENHANCING ITS BEDFORM AND PLANFORM.

WORK TO INCLUDE EXCAVATING IN THE CHANNEL TO CREATE DEEP POOLS AND PLACING THE EXCAVATED GRAVEL TO FORM ADJACENT POINT BARS.

3/8 TYPICAL POOL PLAN VIEW

NOT TO SCALE

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TYPICAL DETAILS AND QUANTITIES

SHEET 8 OF 14

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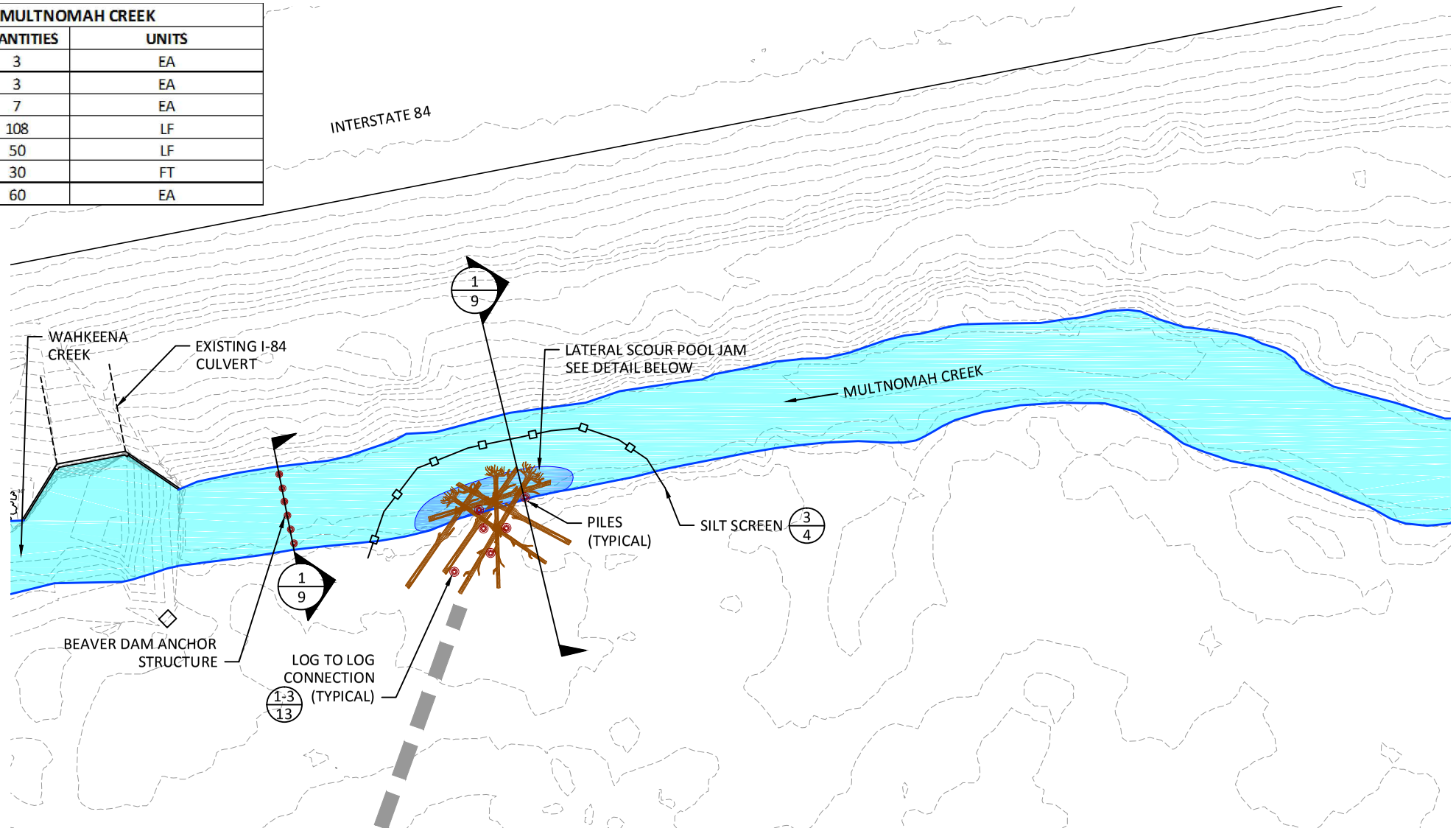
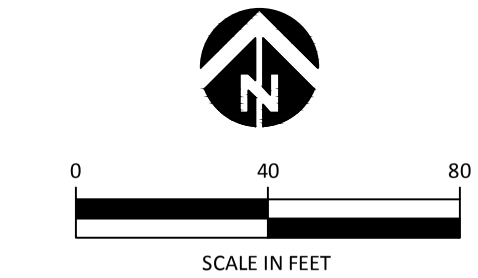
ESTIMATED QUANTITIES TABLE MULTNOMAH CREEK		
ITEM	QUANTITIES	UNITS
LOGS WITH ROOTWAD (35' x 14"-18" DIA.)	3	EA
CUT LOGS (20' x 14"-18" DIA.)	3	EA
CUT LOGS (35' x 14"-18" DIA.)	7	EA
SILT SCREEN	108	LF
FISH SCREEN	50	LF
1" THREADED ROD (ASTM F1554 GRADE 105)	30	FT
1" BOLTS (ASTM F1554 GRADE 105)	60	EA

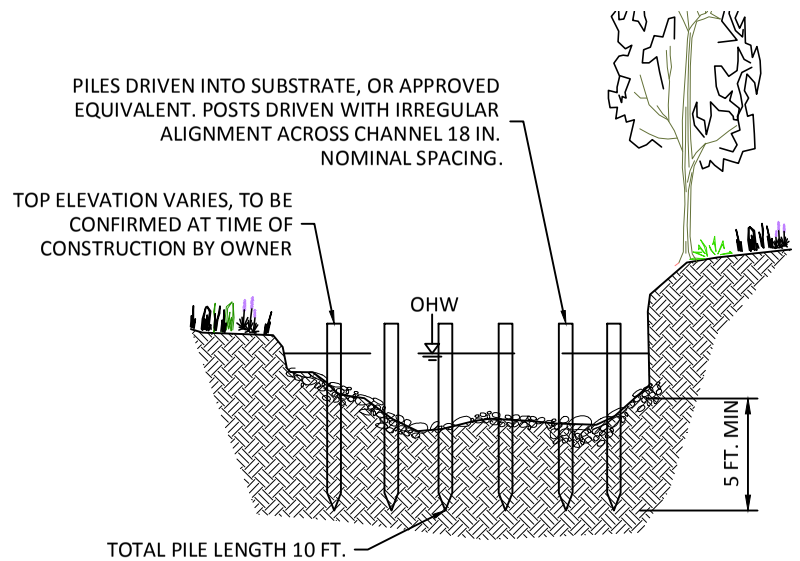




LEGEND:

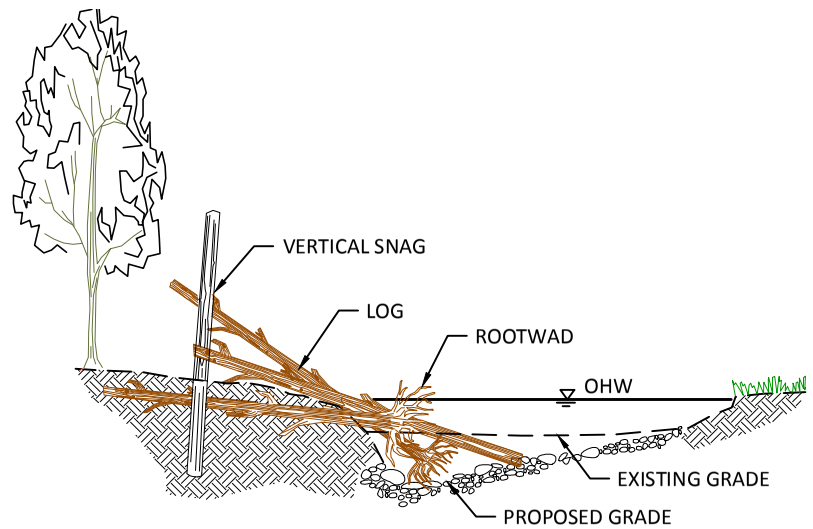
- EXISTING CONTOURS
- ORDINARY HIGH WATER
- TEMPORARY CONSTRUCTION ACCESS
- WAHKEENA AND MULTNOMAH CREEK
- LWD PLACEMENT

PROPOSED CONDITIONS



1/9 BEAVER DAM STRUCTURES TYPICAL SECTION

NOT TO SCALE



2/9 TYPICAL LATERAL SCOUR POOL JAM SECTION VIEW

NOT TO SCALE

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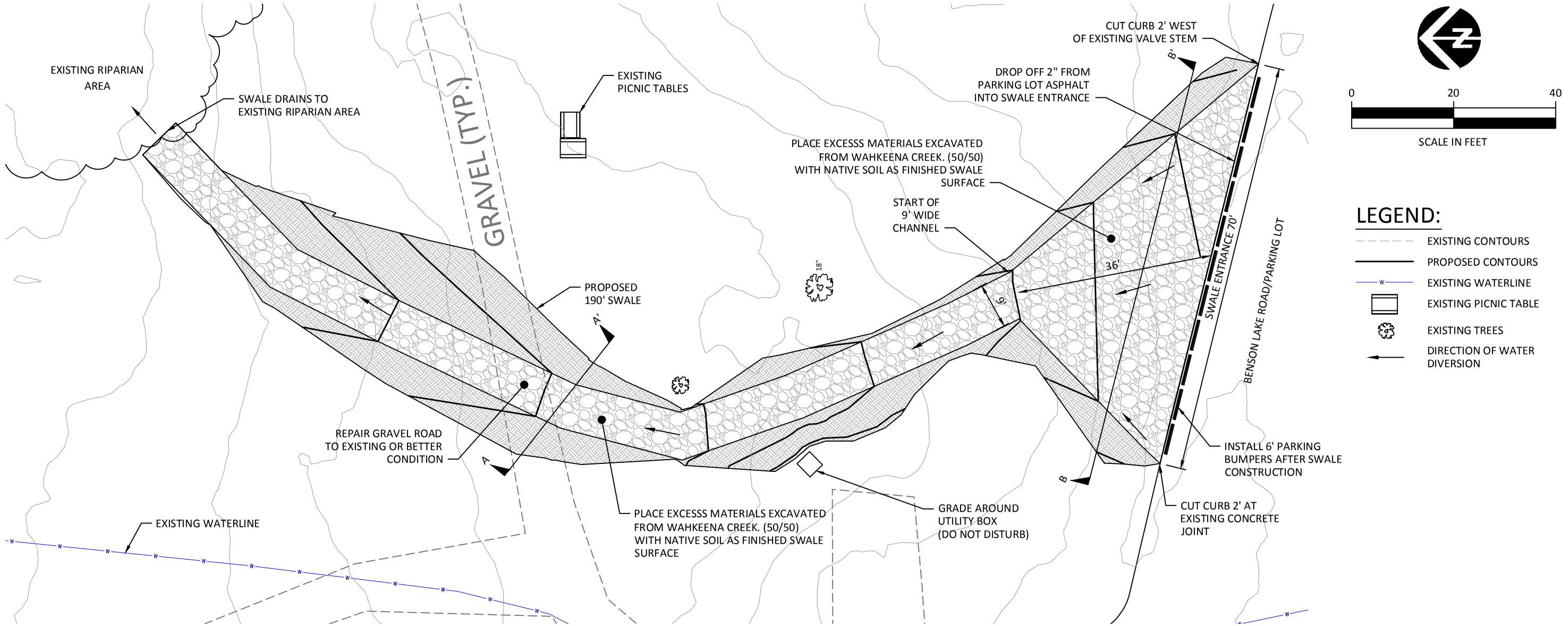
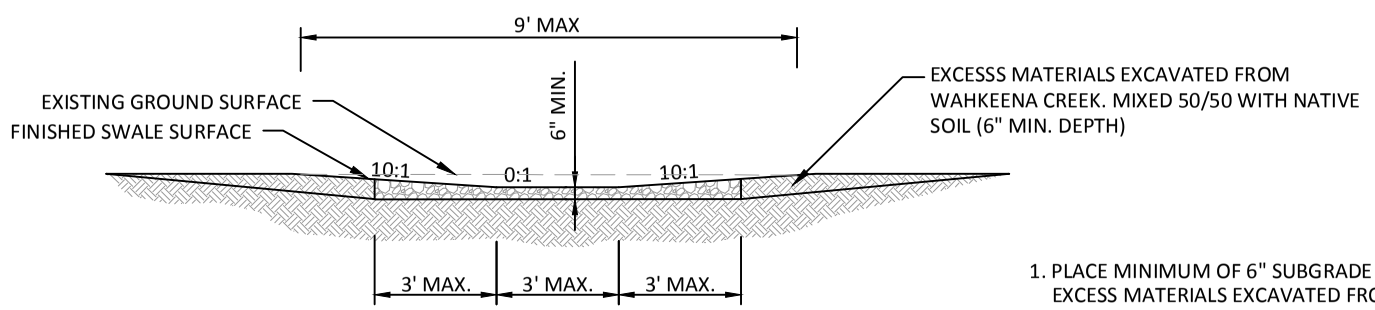
PROPSED PLAN AND TYPICAL SECTION MULTNOMAH CREEK

SHEET 9 OF 14

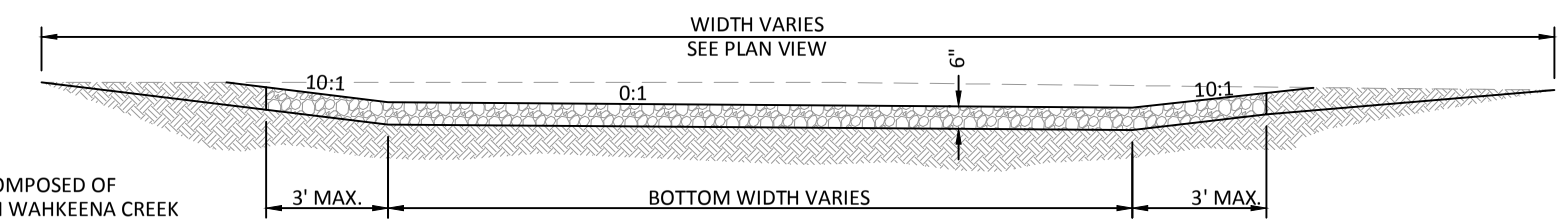


PROPOSED CONDTIONS



SECTION A-A'
NOT TO SCALE

1. PLACE MINIMUM OF 6" SUBGRADE COMPOSED OF EXCESS MATERIALS EXCAVATED FROM WAHKEENA CREEK MIXED WITH EXISTING SOIL EXCAVATED FOR SWALE. APPROXIMATELY 50/50 MIX OF VOLUME.



SECTION B-B'
NOT TO SCALE

NO.	BY	DATE	REVISION DESCRIPTION

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DRAWN	DESIGNED	CHECKED
BN,DS	09/27/13	13-02-32
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PARKING LOT STORMWATER FACILITY

SHEET
10 OF 14

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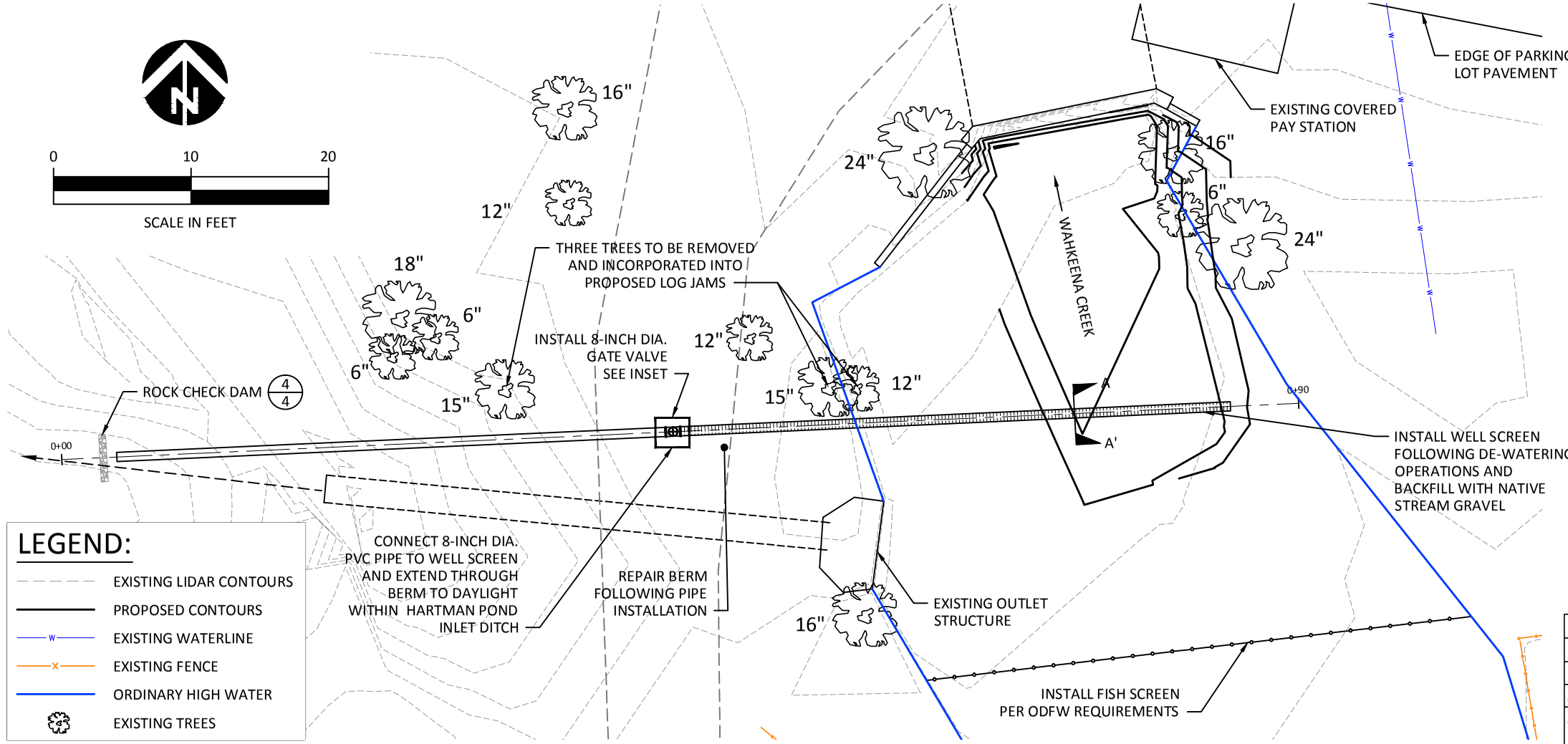
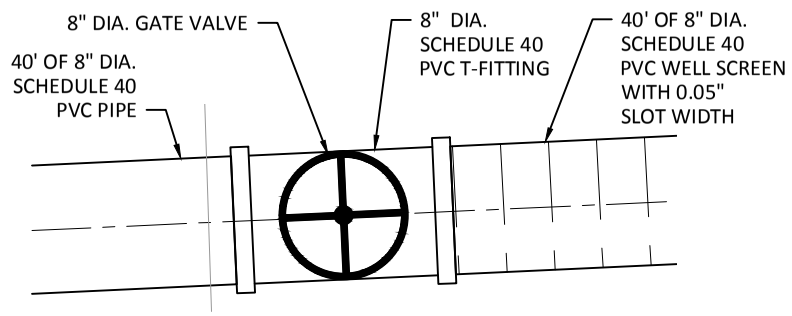
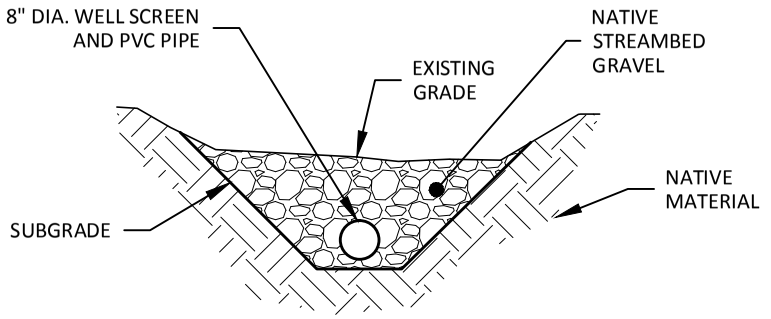


PROPOSED CONDTIONS



PROPOSED GATE VALVE

SCALE: 1" = 1'

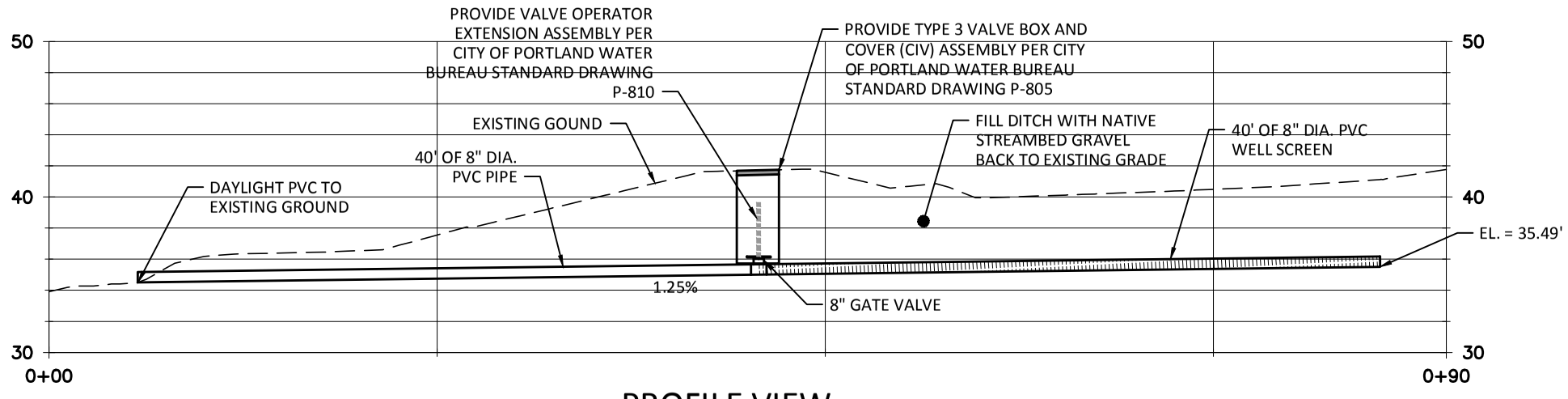


SECTION A-A' PIPE DETAIL

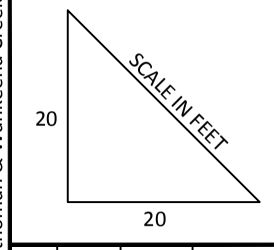
NOT TO SCALE

ESTIMATED QUANTITIES TABLE HARTMAN POND DIVERSION

ITEM	QUANTITIES	UNITS
FISH SCREEN	50	LF
8" DIA. SCHEDULE 40 PVC PIPE	40	LF
8" DIA SCHEDUL 40 PVC WELL SCREEN WITH 0.05 INCH SLOT WIDTH	40	LF
8" GATE VALVE	1	EA



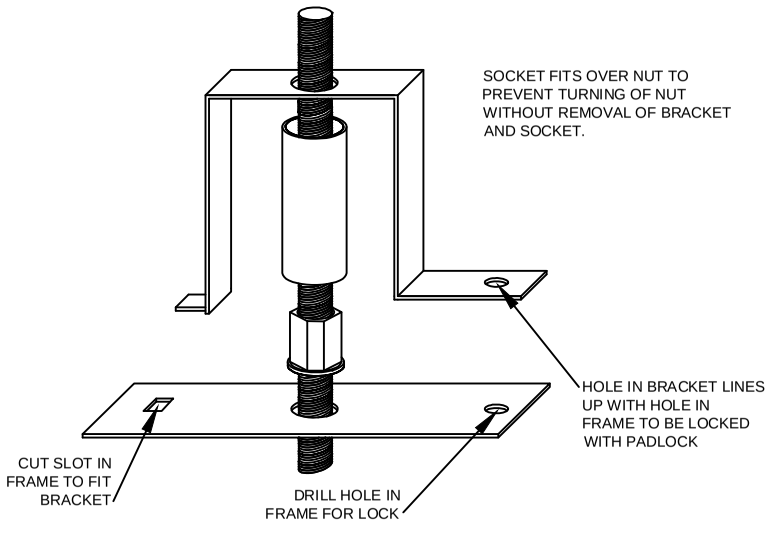
PROFILE VIEW



LEGEND:

EXISTING GROUND

PROPOSED GROUND



PROTOTYPE FOR VALVE LOCKOUT

NOT TO SCALE

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HARTMAN POND DIVERSION

SHEET 11 OF 14

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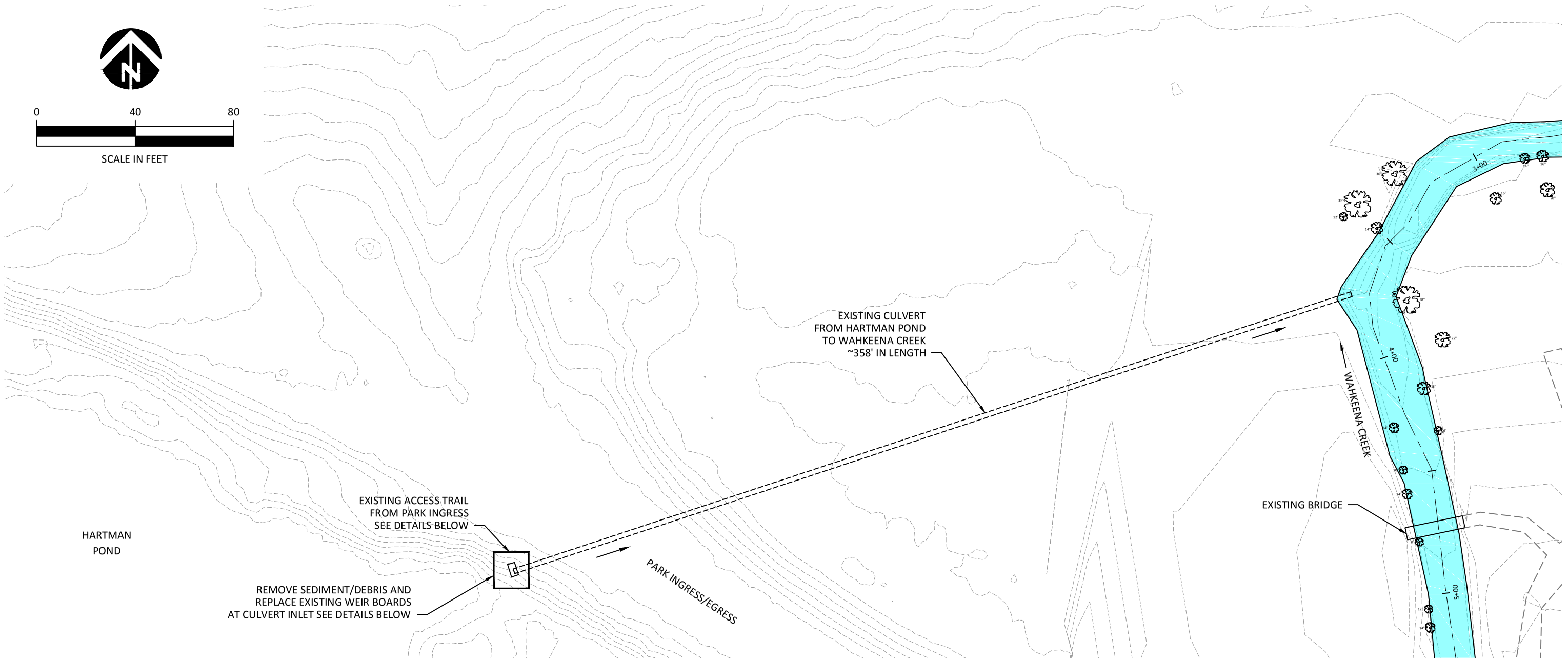
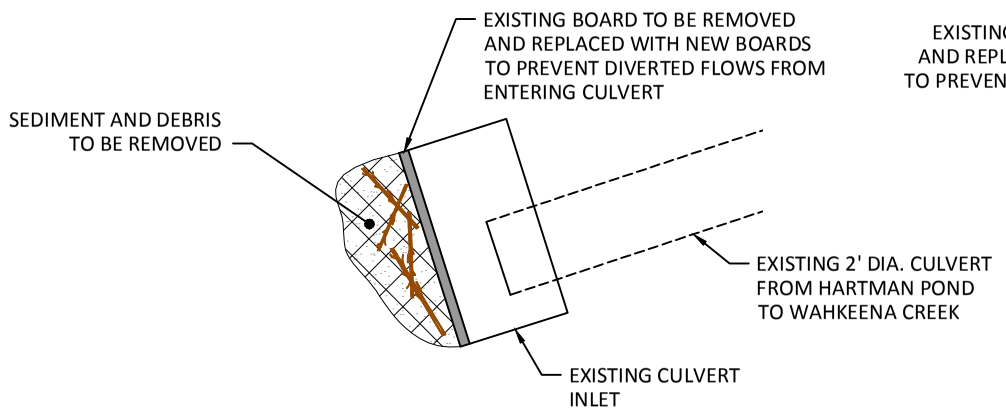
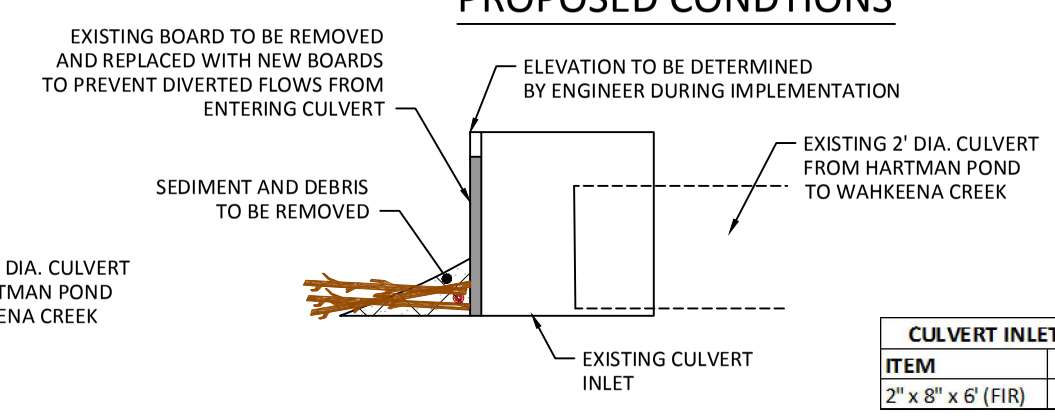


PROPOSED CONDTIONS



1/12 CULVERT INLET - PLAN VIEW
NOT TO SCALE



2/12 CULVERT INLET - SECTION VIEW
NOT TO SCALE

LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- WAHKEENA AND MULTNOMAH CREEK
- EXISTING TREES

CULVERT INLET ESTIMATED QUANTITIES TABLE

ITEM	QUANTITIES	UNITS
2" x 8" x 6' (FIR)	4	EA

NO.	BY	DATE	REVISION DESCRIPTION

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HARTMAN POND OUTLET STRUCTURE

SHEET 12 OF 14

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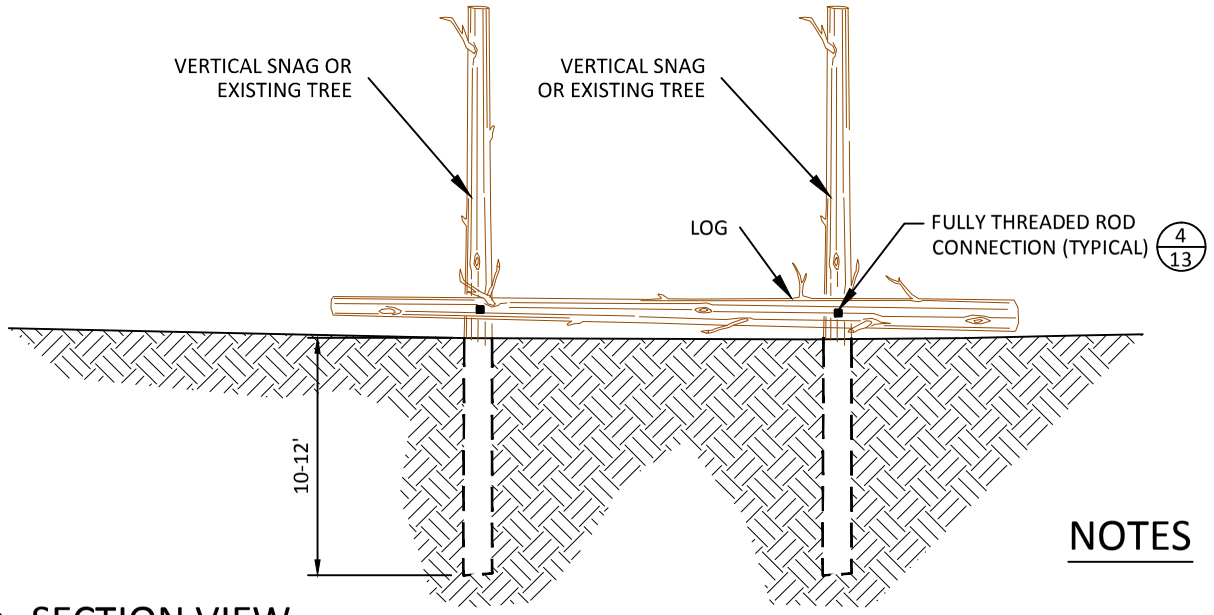
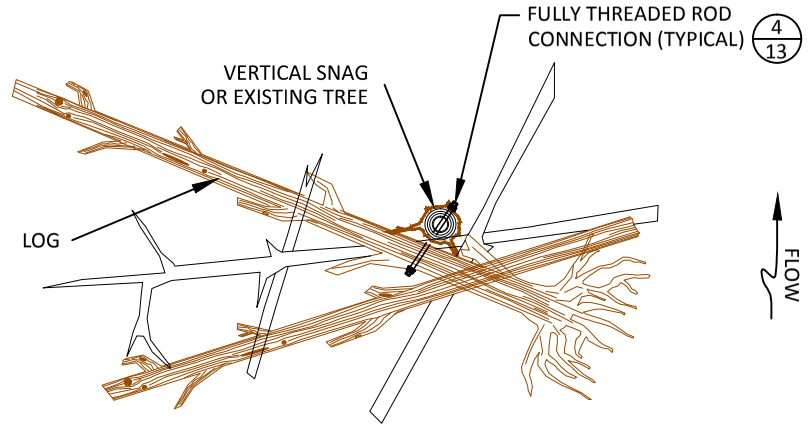


1/13 SECTION VIEW
TYPICAL LOGS SECURED AT VERTICAL SNAG
NOT TO SCALE

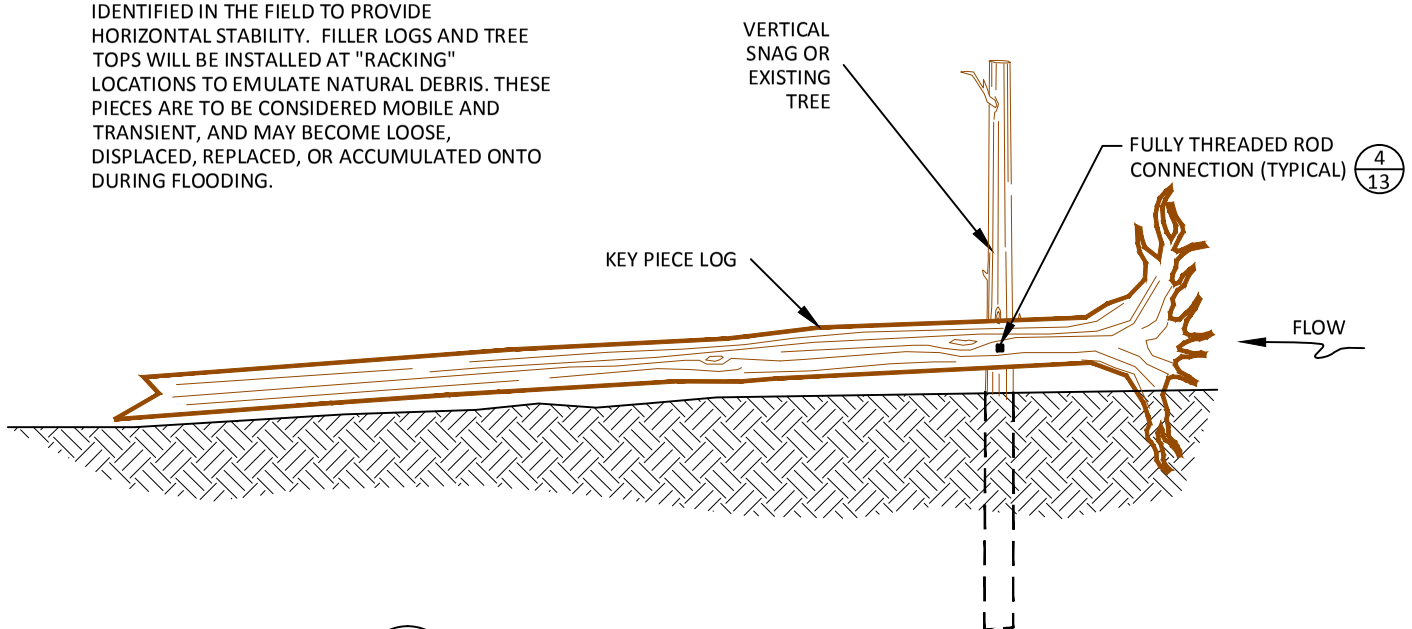
NOTES

SPECIFIC ORIENTATION OF LOGS AND MATERIALS MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SIZE AND SHAPE OF MATERIAL DELIVERED OR SALVAGED.

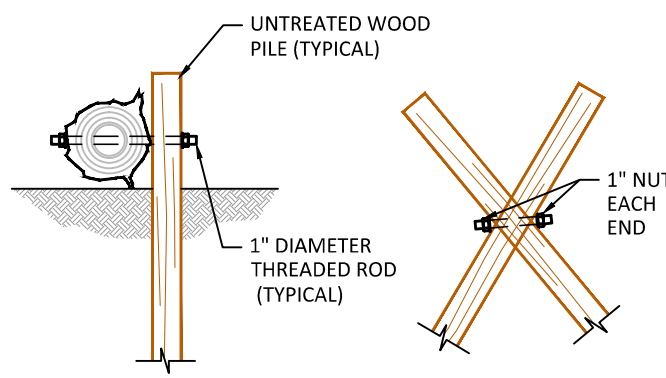
BRACING TO EXISTING TREES OR INSTALLED VERTICAL LOGS WILL OCCUR AT LOCATIONS IDENTIFIED IN THE FIELD TO PROVIDE HORIZONTAL STABILITY. FILLER LOGS AND TREE TOPS WILL BE INSTALLED AT "RACKING" LOCATIONS TO EMULATE NATURAL DEBRIS. THESE PIECES ARE TO BE CONSIDERED MOBILE AND TRANSIENT, AND MAY BECOME LOOSE, DISPLACED, REPLACED, OR ACCUMULATED ONTO DURING FLOODING.



2/13 PLAN VIEW
TYPICAL FLOODPLAIN WOOD
NOT TO SCALE



3/13 SECTION VIEW
TYPICAL LOG TO PILE CONNECTION
NOT TO SCALE



4/13 TYPICAL FULLY THREADED ROD
NOT TO SCALE

NO.	BY	DATE	REVISION DESCRIPTION

MWJ	BN,DS	BN,DS
DRAWN	DESIGNED	CHECKED
BN,DS	09/27/13	13-02-32
APPROVED	DATE	PROJECT

LOWER COLUMBIA ESTUARY PARTNERSHIP
MULTNOMAH AND WAHKEENA CREEKS
RESTORATION PROJECT

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Hood River, OR 97031
541.386.9003
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TYPICAL LOG TO PILE CONNECTION DETAILS

SHEET 13 OF 14

G:\M-P\Multnomah & Wahkeena Creek_130232\Drawings\IFI_Multnomah and Wahkeena Creek_082213.dwg

0 100 200

SCALE IN FEET

INTERSTATE 84

MULTNOMAH CREEK

WAHKEENA CREEK

0.6 AC

2.6 AC

0.5 AC

BENSON LAKE

HARTMAN POND

PARK INGRESS/EGRESS

0.15 AC

0.05 AC

UNION PACIFIC RAILROAD

Multnomah/Wahkeena Creek Restoration Project
Phase I - planting plant
1,800 plants per acre: bare root or live stakes as appropriate

Common Name	Scientific Name	Relative abundance
Redstem dogwood	*Cornus sericea*	25%
Pacific ninebark	*Physocarpus capitatus*	15%
Snowberry	*Symphoricarpos albus*	15%
Western red cedar	*Thuja plicata*	10%
Pacific willow	*Salix lasiandra*	10%
Red alder	*Alnus rubra*	5%
Red elderberry	*Sambucus racemosa*	5%
Oregon ash	*Fraxinus latifolia*	5%
Black cottonwood	*Populus balsamifera*	5%
Salmonberry	*Rubus spectabilis*	5%

NOTES:
1. PLANT PLACEMENT WILL BE CONSISTENT WITH NATURALLY OCCURRING PLANT COMMUNITIES. TREES OR SHRUBS SHALL BE PLACED IN SINGLES OR CLUSTERS OF THE SAME SPECIES TO PROVIDE A NATURAL PLANTING SCHEME.

2. PATHWAYS AND ACCESS WILL BE MAINTAINED OR CREATED THROUGH VEGETATION TO MAINTAIN ACCESS TO EXISTING INFRASTRUCTURE.

PROPOSED CONDTIONS

LEGEND:

- EXISTING LIDAR CONTOURS
- PLANTING AREA
- WAHKEENA AND MULTNOMAH CREEK

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REVEGETATION PLAN

SHEET
14 OF 14

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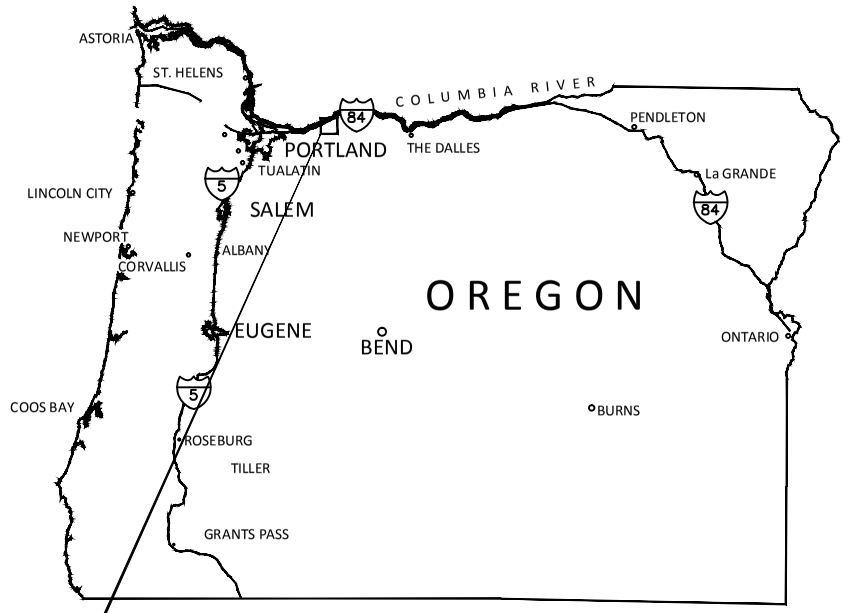
MULTNOMAH AND WAHKEENA CREEK RESTORATION PROJECT

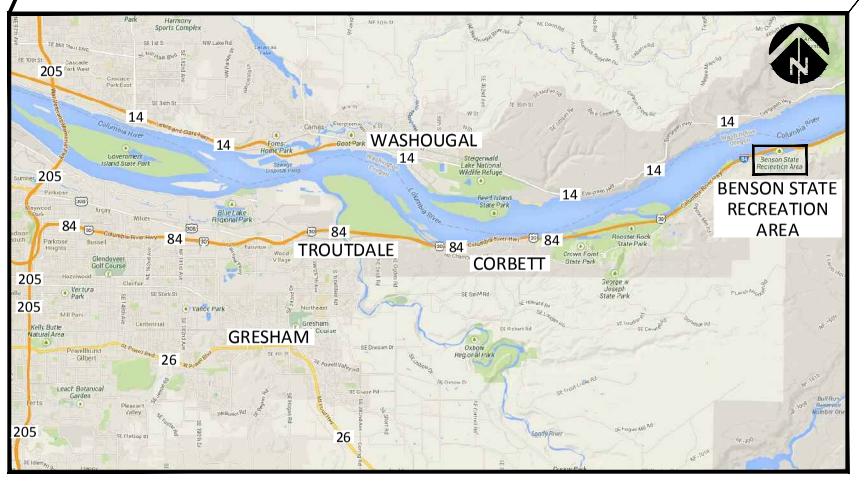
MULTNOMAH COUNTY, OREGON

September 27, 2013



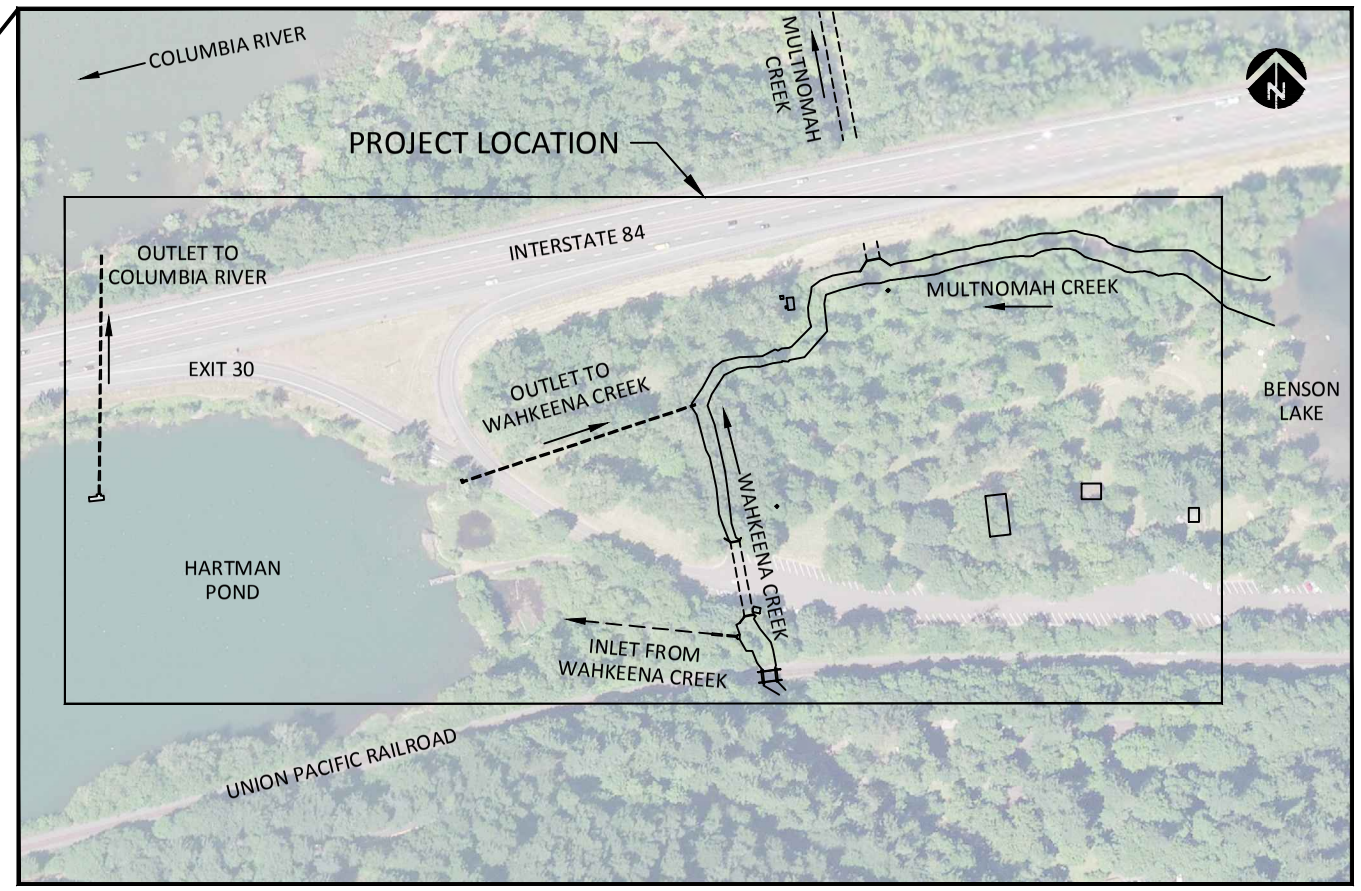
STATE OF OREGON

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



SITE MAP

NOT TO SCALE

SHEET INDEX

SITE LOCATION

LATITUDE: 48°22'06" NORTH
LONGITUDE: 120°09'20" WEST
MULTNOMAH COUNTY, OREGON

Lower Columbia Estuary Partnership

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COVER, SHEET INDEX AND VICINITY MAP

SHEET 1 OF 14

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COLUMBIA RIVER

MULTNOMAH CREEK

INTERSTATE 84

MULTNOMAH CREEK

PUMP HOUSE

EXISTING BRIDGE

EXISTING IRRIGATION PUMP

EXIT 30

EXISTING CULVERT FROM HARTMAN POND ~358' IN LENGTH

EXISTING STAND PIPE AND CULVERT THAT DISCHARGES TO THE COLUMBIA RIVER

BENSON LAKE

PARCEL ID: BENSON STATE RECREATION AREA

EXISTING BRIDGE

GRAVEL TYP.

EXISTING PAVILLION

EXISTING RESTROOMS

EXISTING ACCESS

EXISTING VOLLEYBALL COURT

WAHKEENA CREEK

PARK INGRESS/EGRESS

EXISTING UTILITY BOX

EXISTING RAMPS

HARTMAN POND

EXISTING INLET TO HARTMAN POND

EXISTING CULVERT

RAILROAD MAINTENANCE ENTRANCE

BENSON LAKE ROAD/PARKING LOT

UNION PACIFIC RAILROAD

PARCEL ID: 251178
UNITED STATES OF AMERICA
620 SW MAIN ST
PORTLAND, OR 97205

PARCEL ID: 250711
OREGON STATE OF (HWY COMM.)
9200 SE LAWNFIELD RD
CLACKAMAS, OR 97015

PARCEL ID: 251178
UNITED STATES OF AMERICA
620 SW MAIN ST
PORTLAND, OR 97205

HISTORIC COLUMBIA RIVER HIGHWAY

PARCEL ID: 251177
UNITED STATES OF AMERICA
902 WASCO AVE
HOOD RIVER, OR 97031

LEGEND:

- EXISTING CONTOURS
- PROPERTY LINES
- EXISTING WATERLINE
- EXISTING FENCE
- ORDINARY HIGH WATER
- EXISTING PICNIC TABLES
- WAHKEENA AND MULTNOMAH CREEK

N

0 150 300

SCALE IN FEET

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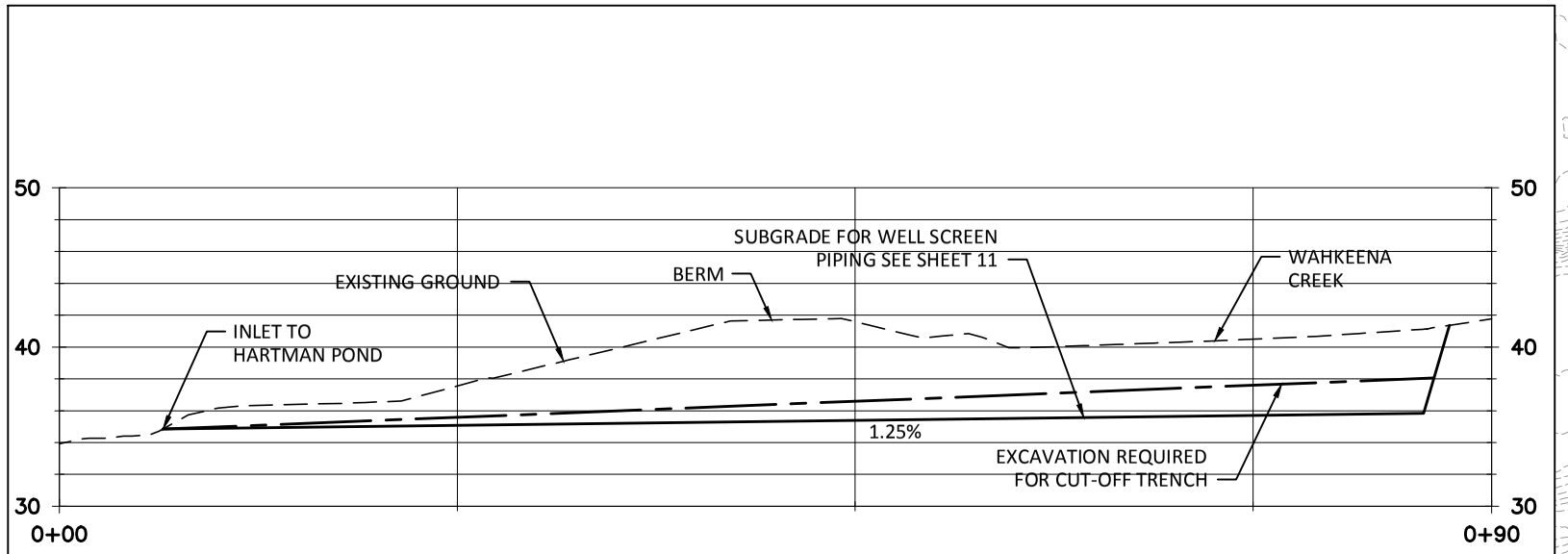
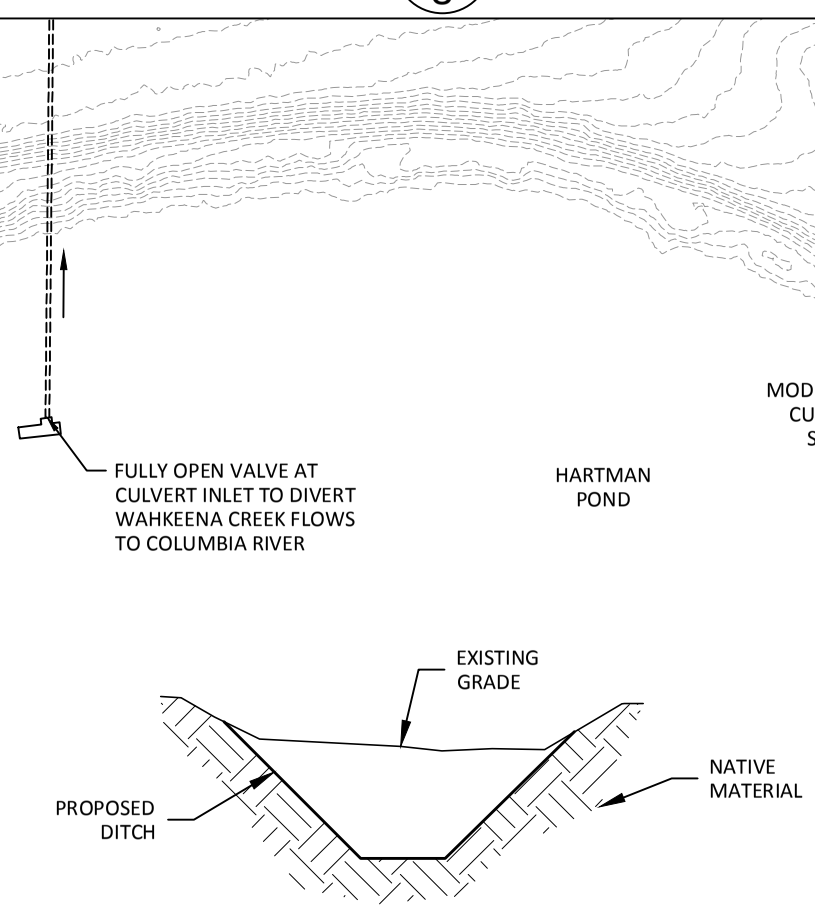
EXISTING CONDITIONS AND PROPERTY OWERNSHIP

SHEET
2 OF 14



1/3 DIVERSION DITCH PROFILE

NOT TO SCALE



LEGEND:

- EXISTING CONTOURS
- EXISTING WATERLINE
- EXISTING FENCE
- ORDINARY HIGH WATER
- TEMPORARY CONSTRUCTION ACCESS
- WAHKEENA AND MULTNOMAH CREEK
- EXISTING TREES
- EXISTING PICNIC TABLES

2/3 DIVERSION DITCH SECTION

NOT TO SCALE

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FLOW DIVERSION AND EROSION CONTROL

SHEET 3 OF 14

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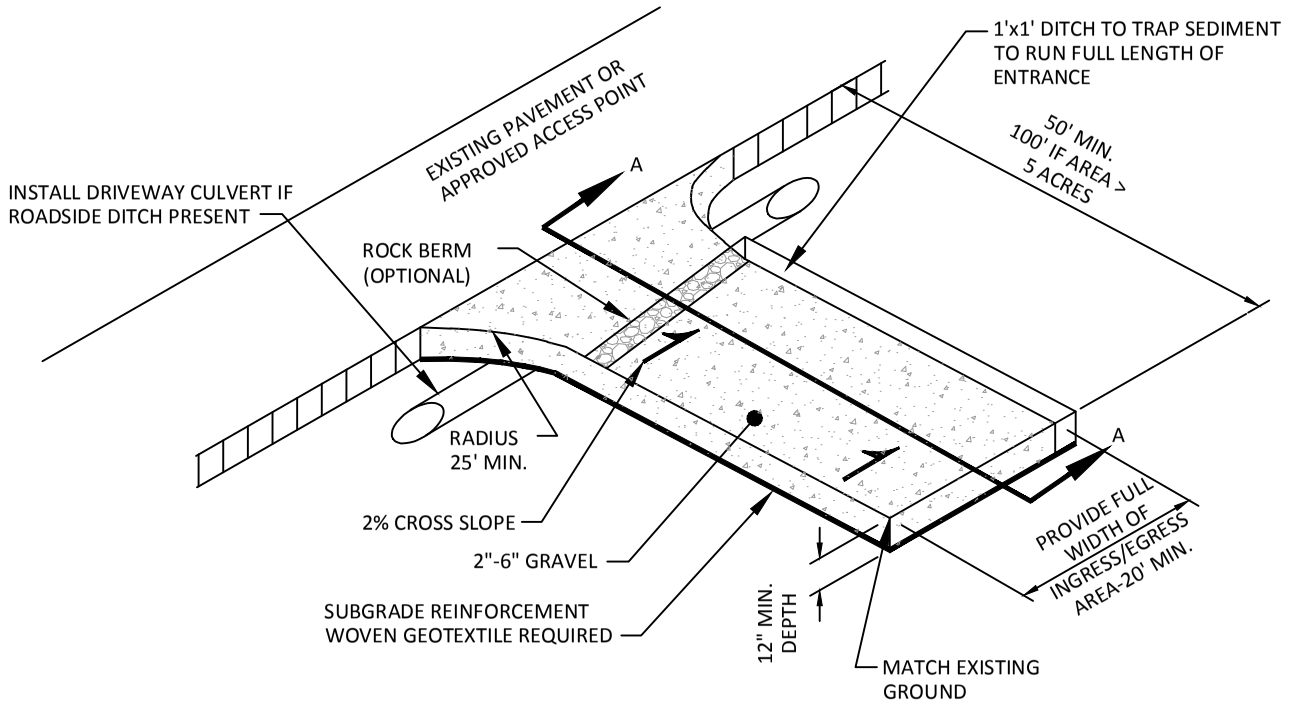


1/4 GRAVEL CONSTRUCTION ENTRANCE PLAN VIEW

NOT TO SCALE

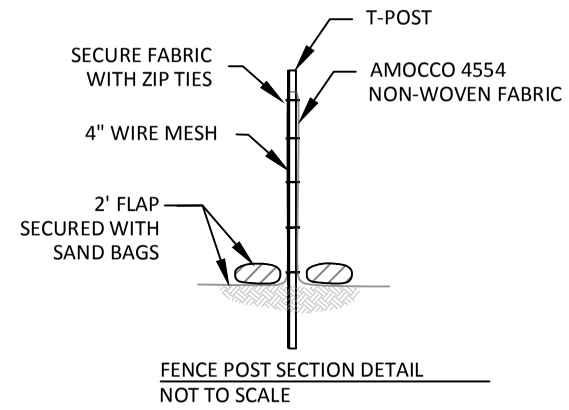
1. EXCAVATE MINIMUM OF 12" OF EXISTING SOILS.
2. PLACE MINIMUM OF 12" OF 2"-6" GARVEL.
3. CONSTRUCT ROCK BERM ALONG TRANSITION POINT TO FINISH ROAD SURFACES, DIVERT RUNOFF TO ONSITE AREA (OPTIONAL).

2/4 GRAVEL CONSTRUCTION ENTRANCE PROFILE VIEW A-A'

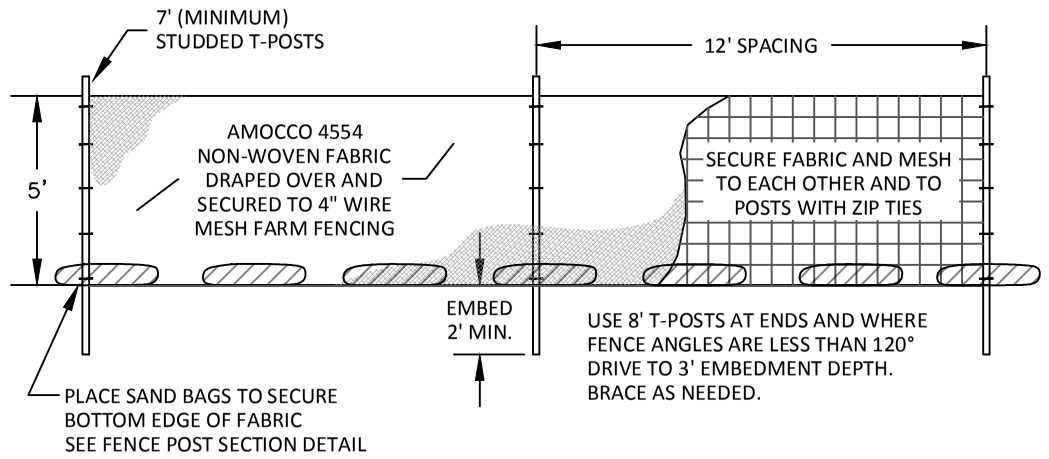
NOT TO SCALE

NOTES:

1. INSTALL WOVEN GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.
2. VEHICLE WASHDOWN AREA, IF REQUIRED, IS TO BE INSTALLED AND USED TO REMOVE SEDIMENT FROM VEHICLES THAT ARE ABOUT TO ENTER AN ESTABLISHED ROAD.
3. WASHDOWN AREA TO BE MADE UP OF CLEAN 2"- 6" GRAVEL, 12" DEEP (MIN) OVER WOVEN GEOTEXTILE FABRIC. WASHDOWN AREA TO BE FULL WIDTH OF ENTRANCE AND 50' LENGTH (MIN.), AND 100' IF EXPOSED SOIL IS OVER 5 ACRES.
4. THE RESPONSIBLE EROSION CONTROL INDIVIDUAL IS TO ENSURE THAT ALL VEHICLES USE THIS ENTRANCE AND ARE TO BE INSPECTED AND CLEANED OF SOILS BEFORE LEAVING PROJECT, AND THAT THE ENTRANCE IS TO BE KEPT CLEAN AT ALL TIMES.

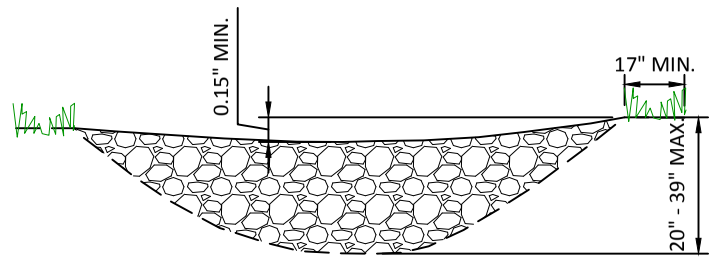


FENCE POST SECTION DETAIL
NOT TO SCALE

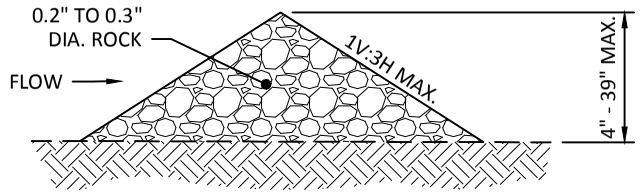


3/4 TYPICAL SILT SCREEN DETAIL

NOT TO SCALE



ELEVATION VIEW



SECTION VIEW

4/4 TYPICAL ROCK CHECK DAM

NOT TO SCALE

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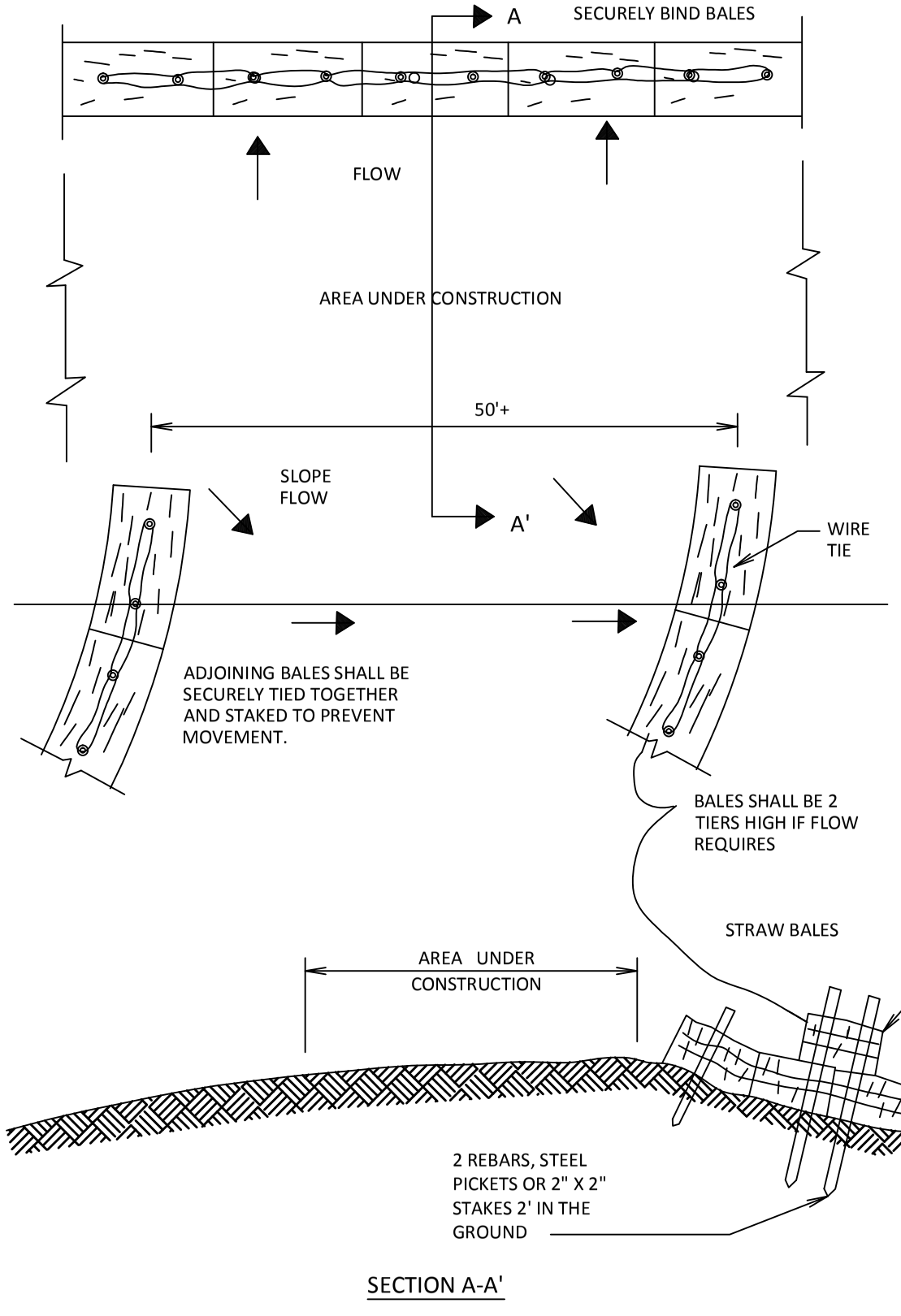
EROSION CONTROL DETAILS

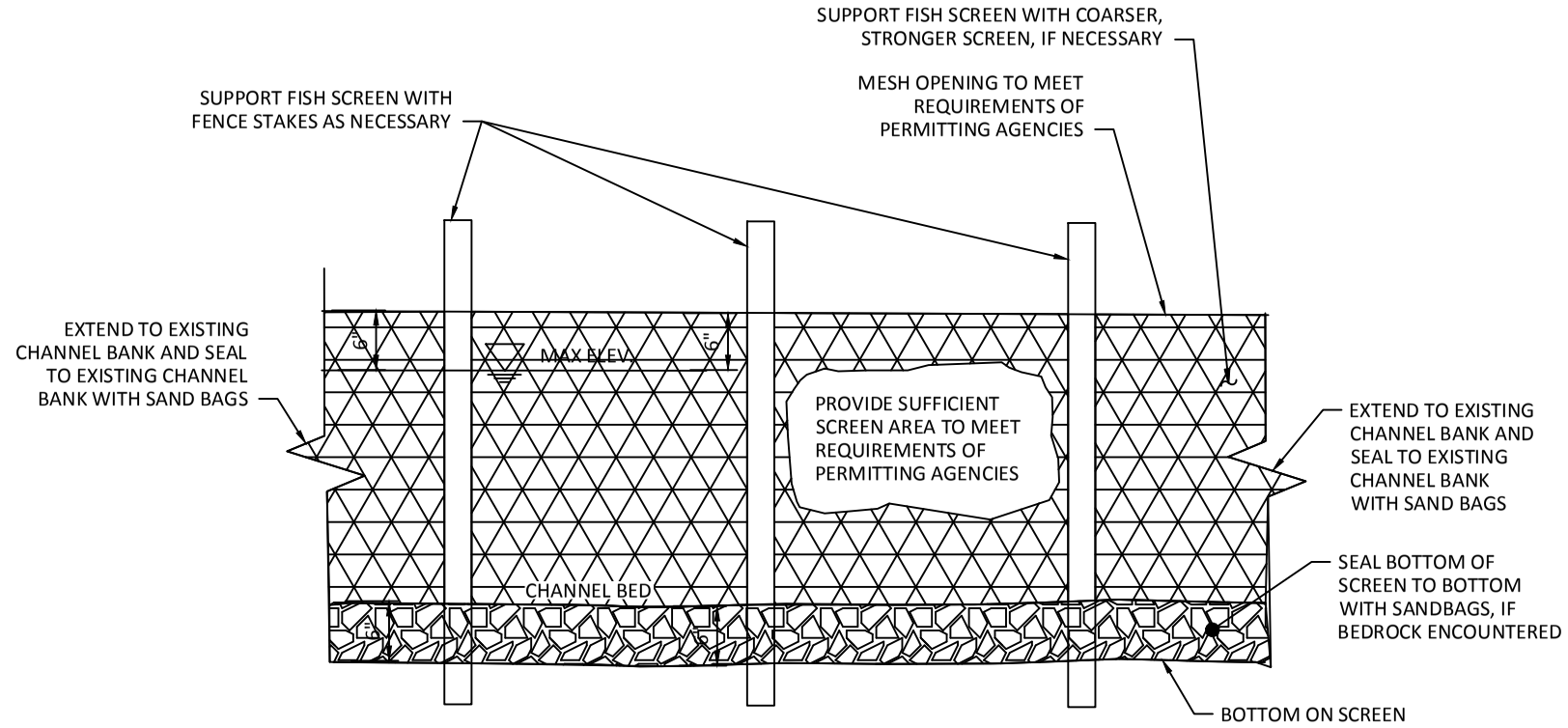
SHEET 4 OF 14



SECTION A-A'

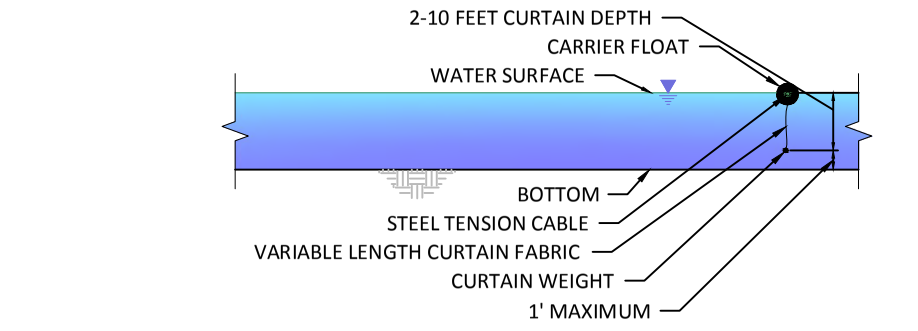
1/5 TYPICAL STRAW BALE SEDIMENT BARRIER

NOT TO SCALE

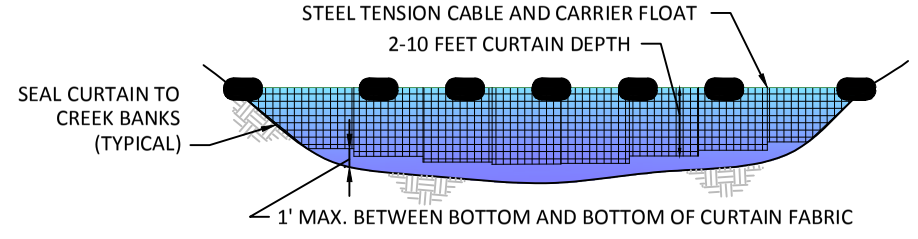


2/5 TYPICAL FISH EXCLUSION SCREEN

NOT TO SCALE



PROFILE VIEW



SECTION VIEW

3/5 TYPICAL TURBIDITY CURTAIN DETAIL

NOT TO SCALE

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EROSION CONTROL DETAILS CONTINUED

SHEET 5 OF 14

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Signature Authorization Page

I hereby make an application for financial assistance under the terms and conditions of the R&E Program as described in my project application.

I understand that if my project is approved for funding, the following will apply:

- All project sponsors must sign a grant agreement containing the terms and conditions on which funding will be released.
- Project expenses which occur before the grant agreement is signed or after the expiration date will not be paid by the R&E Program.
- Copies of all necessary permits must be submitted to the R&E Program.
- Project sponsors must certify compliance with local, state, and federal regulations and laws.
- Landowner, monitoring and maintenance agreements must be submitted to the R&E Program.
- Regular progress reports may be required, and at the end of each project a Completion Report must be submitted.
- Educational products resulting from projects are public domain.
- All information submitted to either party under this application is subject to the federal Freedom of Information Act.

Project Title: Multnomah and Wahkeena Creeks Restoration Project

Applicant: [redacted]

Date: 12/12/2013

Fiscal Officer: [redacted]

Date: 12/12/2013