Willamette Falls Portage Trail Concept Study - Phase 2

CONCEPT DESIGN PACKAGE

May - December 2019

Mayer/Reed

Flowing solutions

Generously funded by Clackamas County Tourism & Cultural Affairs

Acknowledgments

We Love Clean Rivers *

Sam Drevo, Founding Board Member, Chair

Kate Govaars, Board Member, Secretary

Matt Taylor, Board Member, Treasurer

Fortrose Group Ltd.

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Oregon State Marine Board

Janine Belleque, Boating Facilities Manager

Randy Henry, Boating Program Manager

Josh Mulhollem, Policy and Environmental Program Manager

Portland General Electric

Sid Hillier, Civil Engineering Manager, Water Resources

Chelsea Herrera, Civil Engineer, Water Resources

* Study generously funded by Clackamas County Tourism & Cultural Affairs

Table of Contents

This document is a compilation of exhibits prepared as part of the Phase 2 effort for the Willamette Falls Portage Trail Concept Study. Records of meetings with various agencies can be found at the end of this document package.

Statement of Intent

With a grant from Clackamas County Tourism & Cultural Affairs, We Love Clean Rivers is working with Fortrose Group, Mayer/Reed, and Flowing Solutions to develop a Willamette Falls Portage Trail. In March 2019, this team concluded work on the first phase of the Willamette Falls Portage Trail Concept Study, which provided alternatives along the east bank for portage trail routes and access points around Willamette Falls for light watercraft, including kayaks, canoes, paddle boards, and other human-powered vessels. This package includes the exhibits prepared as part of the Phase 2 effort, which focused on the following:

- Selection of a preferred upstream access point on the east bank of the Willamette River, including refinement of locations and types of in-water safety structures
- Development of "10% Level" design drawings of an upstream portage ramp for inclusion in a Department of State Lands/US Army Corps of Engineers Joint Permit Application as part of the Willamette Falls Riverwalk project.
- Preliminary alignment for a light watercraft portage trail and access points along the west bank of the Willamette River.

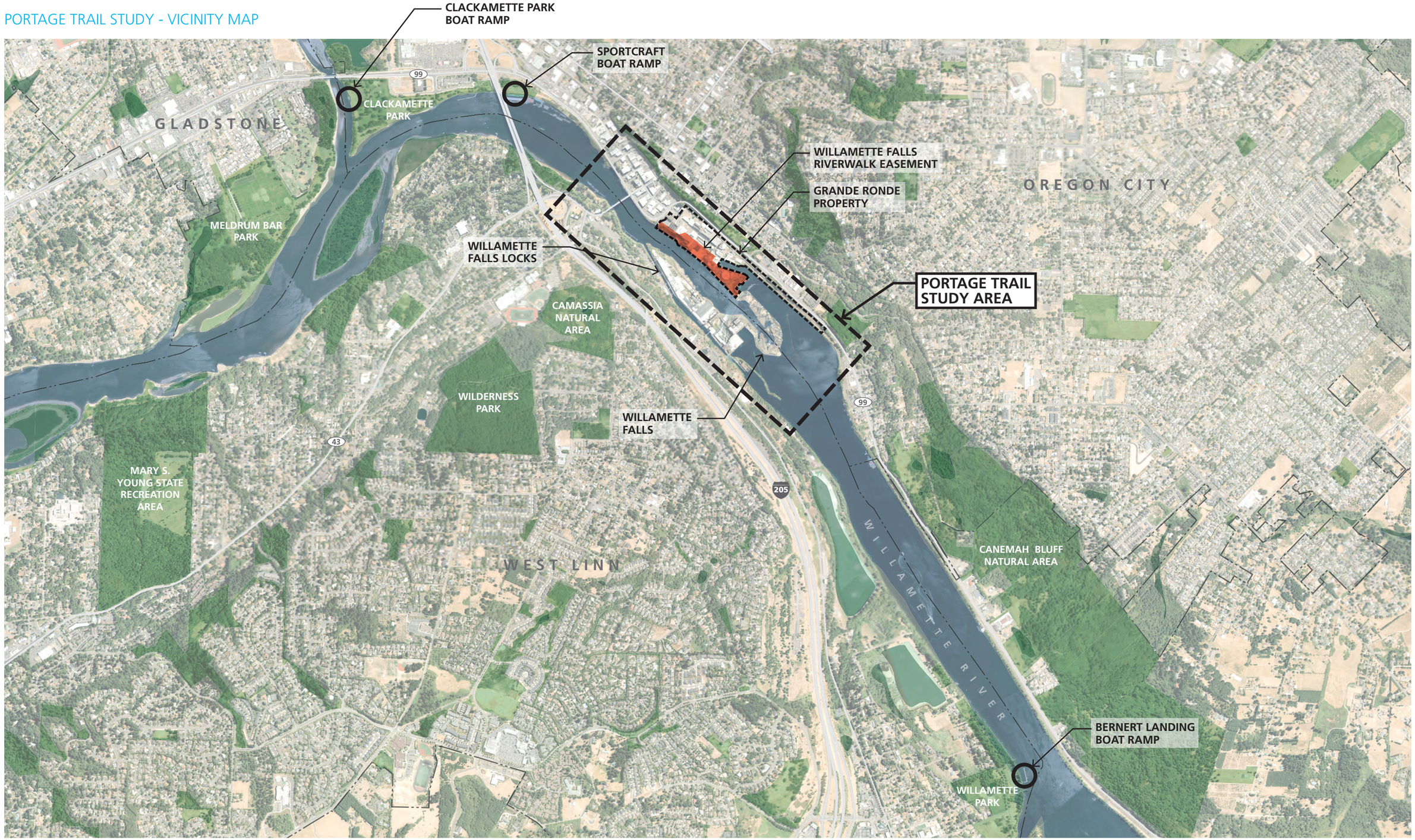
STUDY GOALS

- Prioritize the safest, shortest, most accessible route.
- Design for peak use and users.
- Minimize impacts to and enhance habitat for flora and fauna.
- Complement proposed Willamette Falls Riverwalk and future redevelopment efforts.
- Recognize the unique character, history and physical challenges of the falls and the Blue Heron site.
- Coordinate portage project with PGE dam facilities and operations.

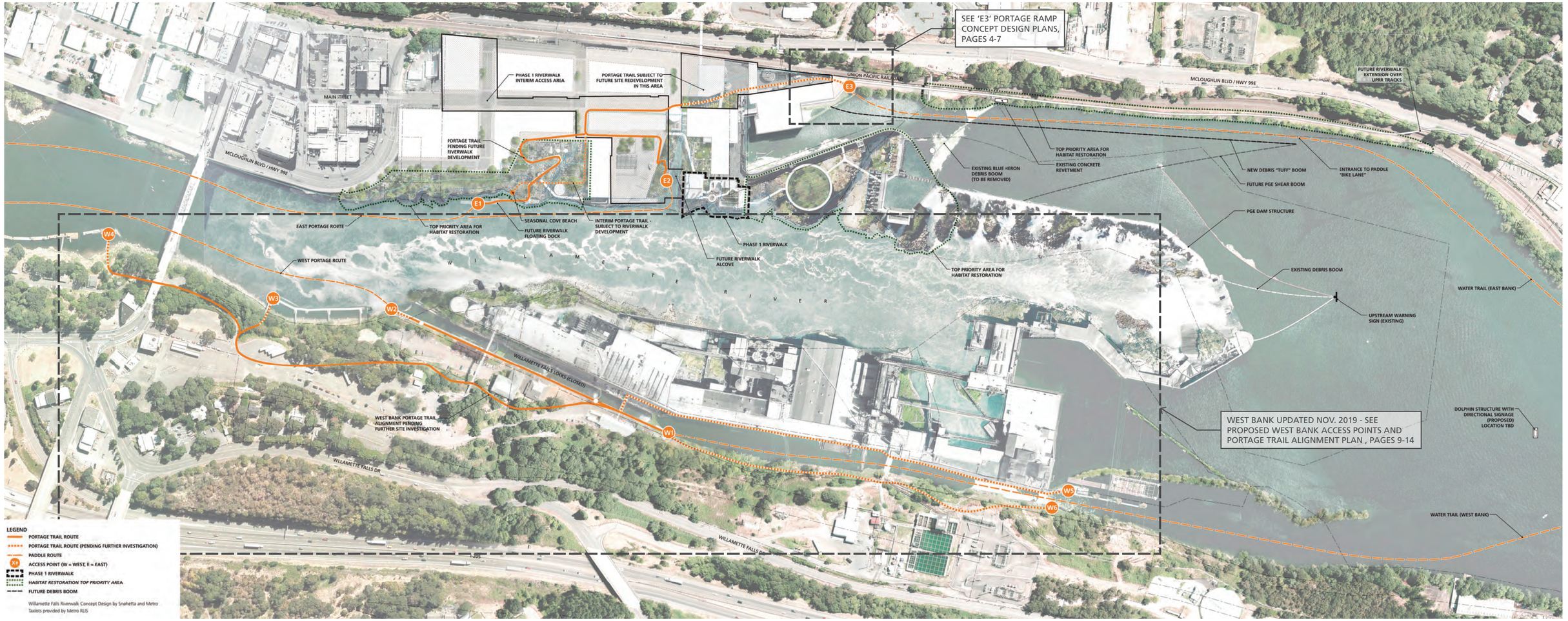
ABOUT WE LOVE CLEAN RIVERS, INC.

We Love Clean Rivers, Inc. (WLCR) is a 501(c)(3) non-profit organization dedicated to cleaning Oregon's high use rivers and advocating for better public access and recreation opportunities by mobilizing the river recreation community in partnership with local environmental organizations and local government & state agencies. WLCR established the annual Clackamas "Down the River Cleanup" in 2003, created the "Ripple" recycled art program in 2006, and managed Oregon City's Clackamette Park Sculpture project in 2013 funded by a Metro Enhancement grant and unveiled by the Grand Ronde Tribe at the Willamette Falls Festival. WLCR delivered the Willamette Falls Whitewater Park technical studies/PR efforts in response to Metro's Riverwalk initiative in 2015-2017, and coordinated the Willamette Falls Portage Trail Concept Studies in 2018 & 2019. WLCR's motto "Turning Restoration in to Recreation" directs our efforts on the Clackamas River, at Willamette Falls, and other rivers in Oregon where we partner to promote river stewardship.

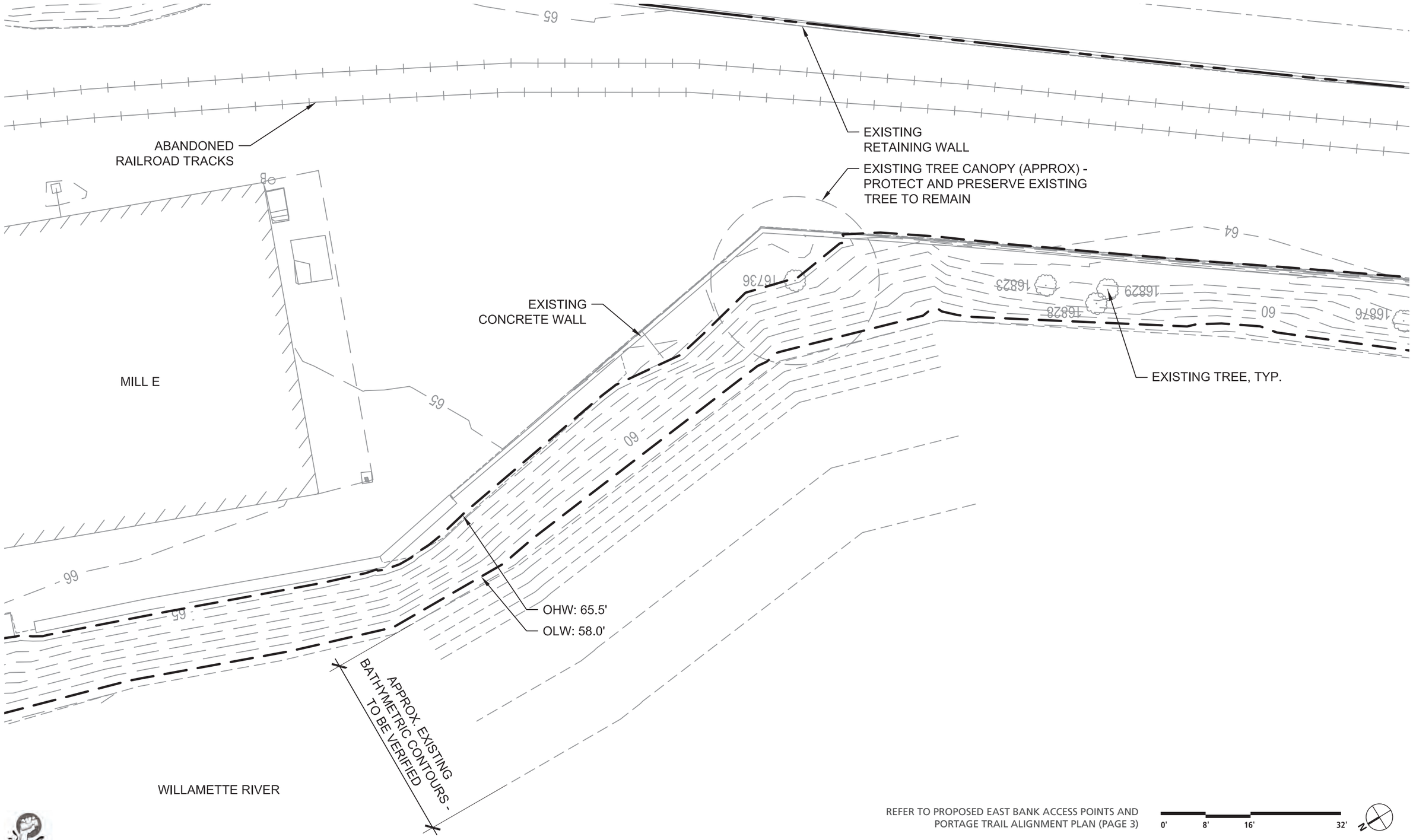
PORTAGE TRAIL STUDY - VICINITY MAP



PROPOSED EAST BANK ACCESS POINTS AND PORTAGE TRAIL ALIGNMENT PLAN - JULY 2019



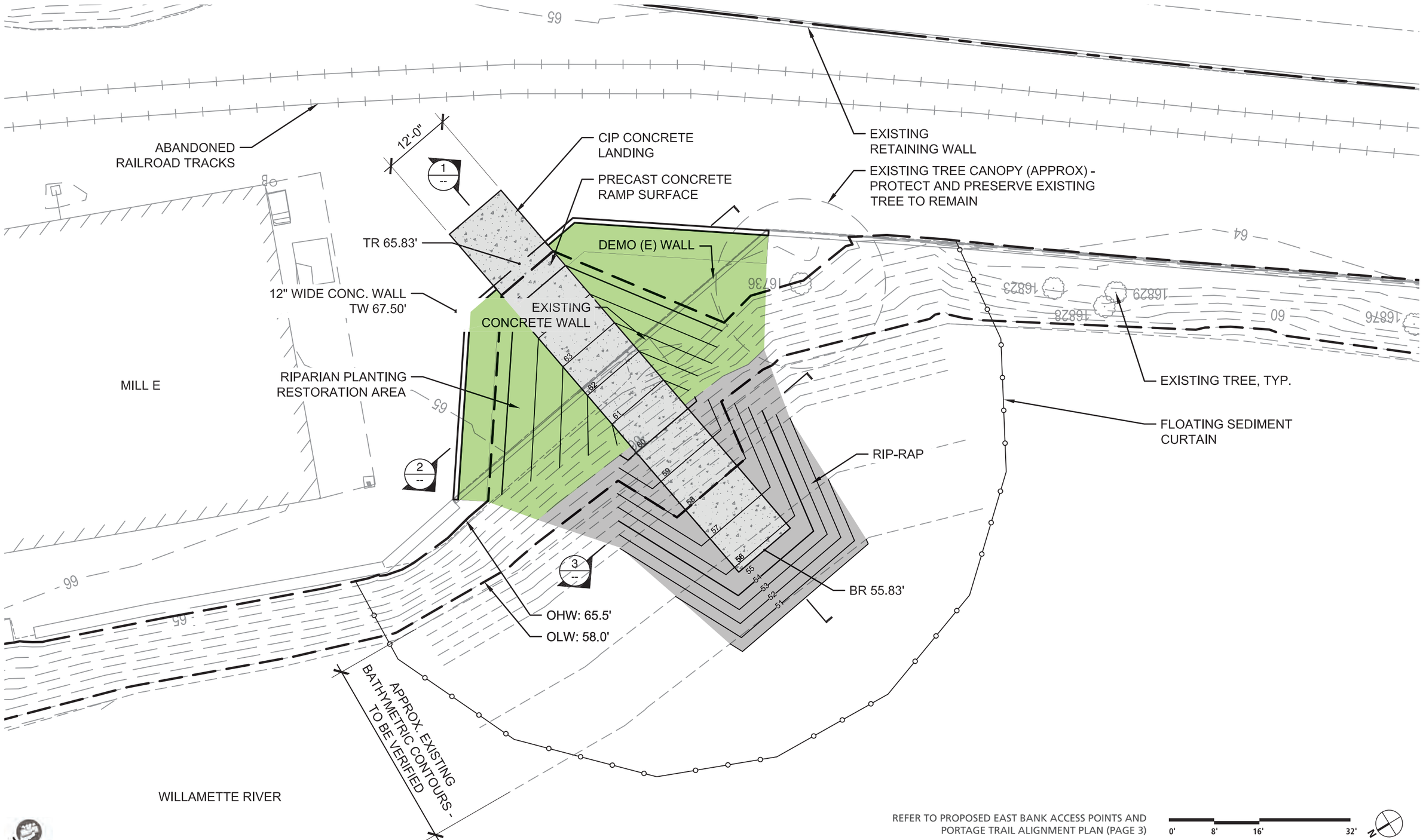
EAST BANK 'E3' PORTAGE RAMP - EXISTING CONDITIONS PLAN



REFER TO PROPOSED EAST BANK ACCESS POINTS AND
PORTAGE TRAIL ALIGNMENT PLAN (PAGE 3)

0' 8' 16' 32'

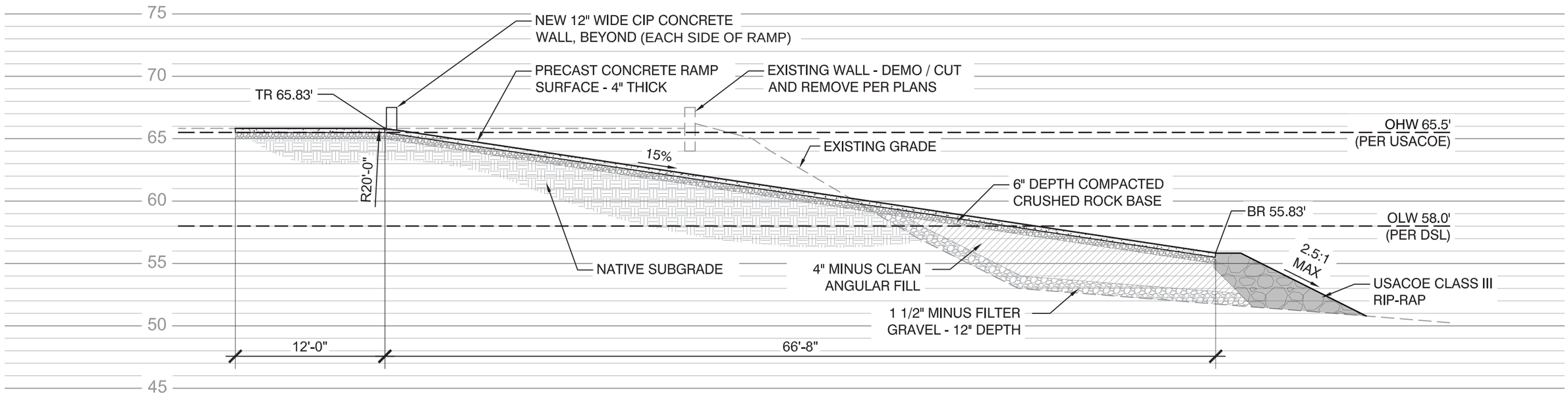
EAST BANK 'E3' PORTAGE RAMP - SCHEMATIC DESIGN PLAN



REFER TO PROPOSED EAST BANK ACCESS POINTS AND PORTAGE TRAIL ALIGNMENT PLAN (PAGE 3)

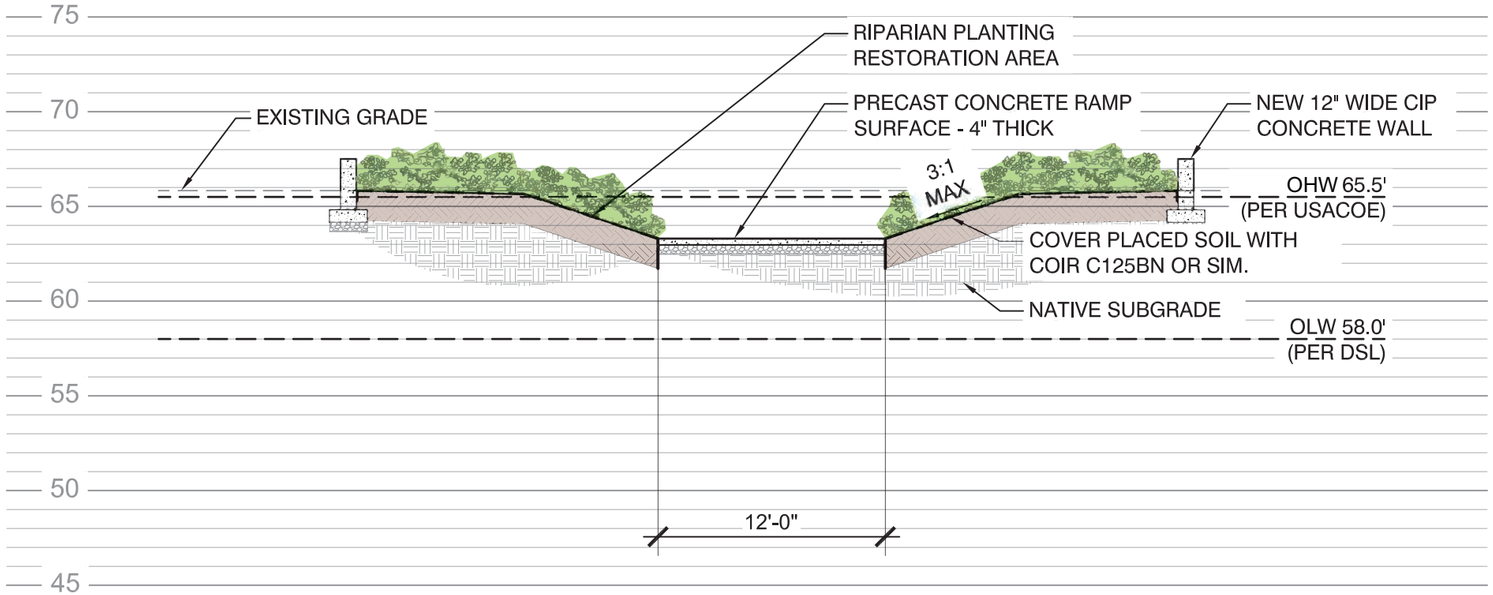
0' 8' 16' 32'

EAST BANK 'E3' PORTAGE RAMP - PROFILE SECTION



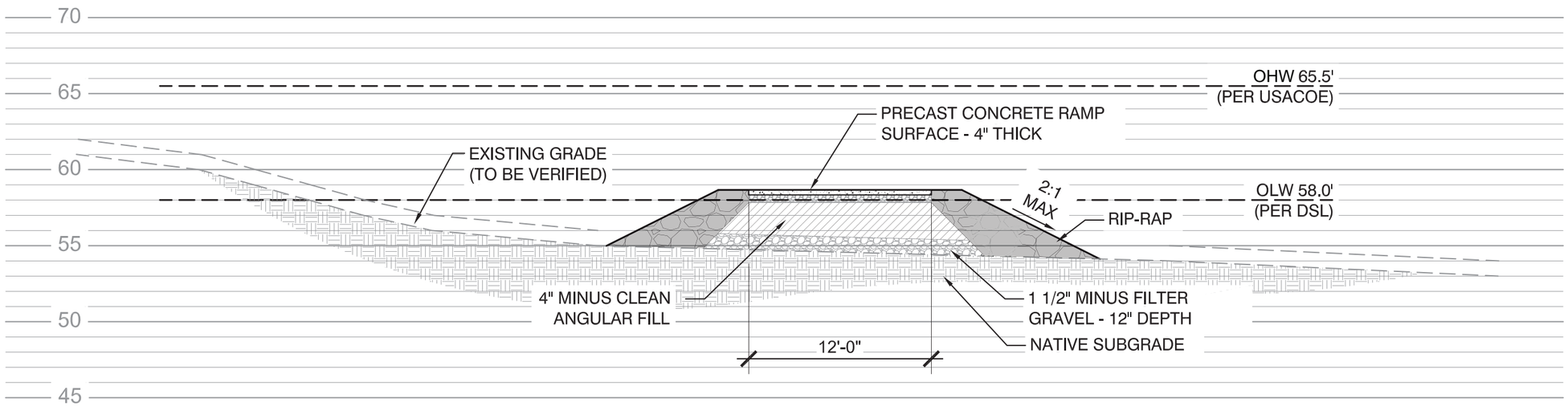
1 E3 - LONGITUDINAL SECTION

SCALE: 1/8"= 1'-0"



2 **E3 - CROSS SECTION**

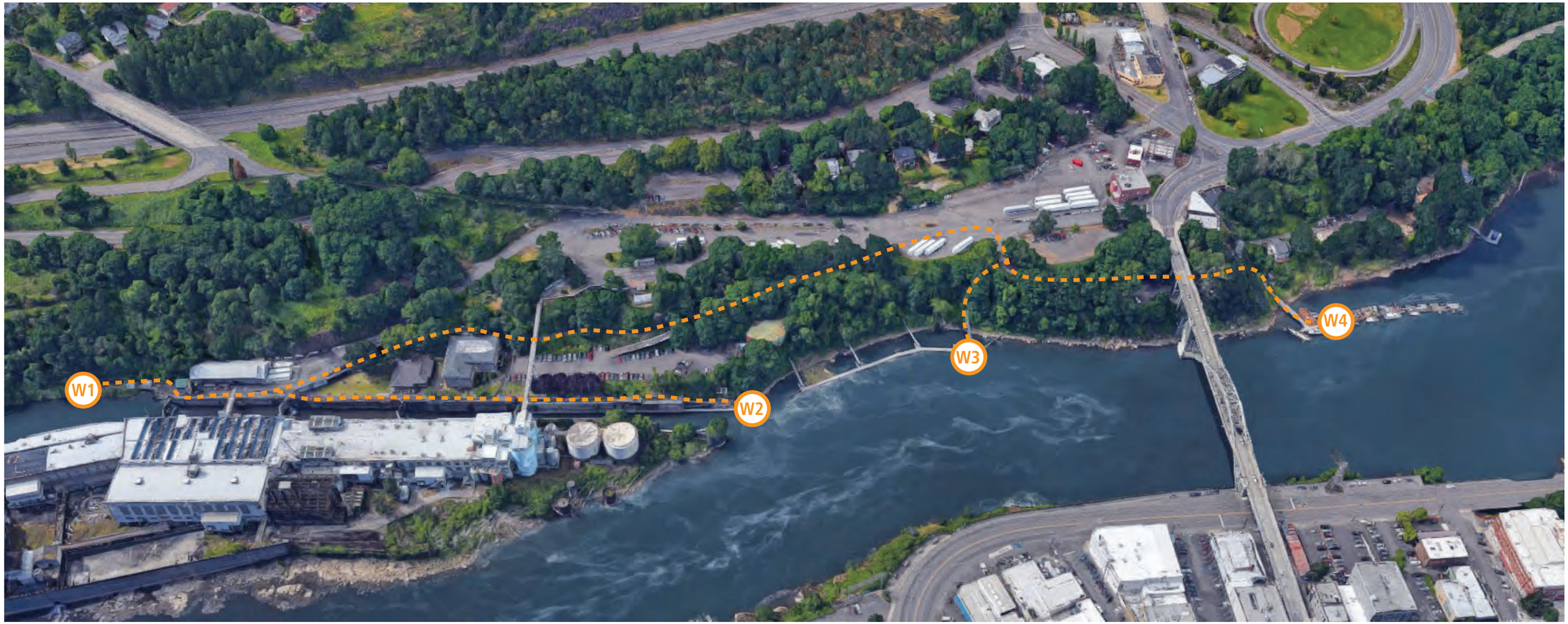
SCALE: 1/8"= 1'-0"



3 **E3 - CROSS SECTION**

SCALE: 1/8"= 1'-0"

PROPOSED WEST BANK ACCESS POINTS AND PORTAGE TRAIL ALIGNMENTS - OBLIQUE AERIAL



Three Options:

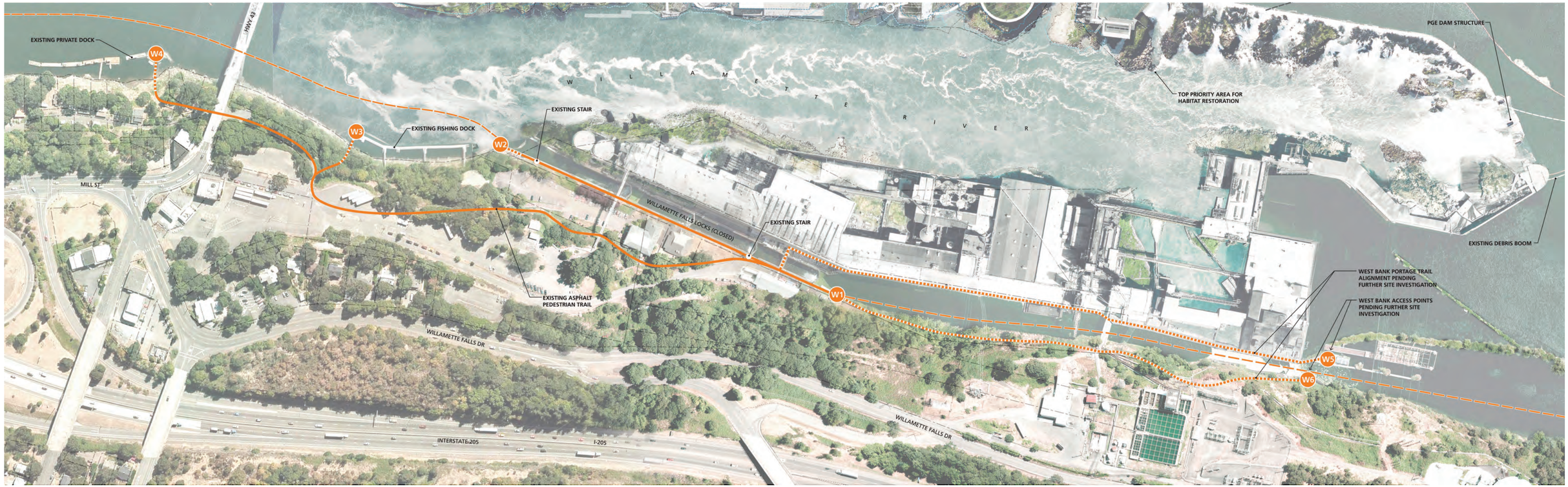
W1 → W2

W1 → W3

W1 → W4

NTS

PROPOSED WEST BANK ACCESS POINTS AND PORTAGE TRAIL ALIGNMENT PLAN - NOVEMBER 2019



Refer to 'Willamette Falls Portage Trail Concept Study - March 2019' (Phase 1) for a list of design criteria to use as guidance in locating and designing portage trails and small watercraft access points.

WEST BANK ‘W1’ ACCESS POINT - SITE PHOTO (LIMITED ACCESS)

WEST BANK 'W2' ACCESS POINT - SITE PHOTOS

WEST BANK 'W3' ACCESS POINT - SITE PHOTOS

WEST BANK 'W4' ACCESS POINT - SITE PHOTOS

WEST SIDE PORTAGE TRAIL OPPORTUNITY AND CONSTRAINT MATRIX

	Access Points			
	W1	**W2**	**W3**	**W4**
Location relative to WF	Upstream	Downstream	Downstream	Downstream
Access Point Type	Ramp	Modified existing dock structure	Modified existing dock structure	Modified existing dock structure
Ownership	Federal (WF Locks)	Federal (WF Locks)	City of West Linn	Private
Water Level				
OHW	65.5	27.87	27.87	27.87
OLW	58	7.23	7.23	7.23
Portage Distance from W1				
Feet	n/a	1,143	1,913	2,396
Miles	n/a	0.22	0.36	0.45
Elevation				
Gain from W1 (Ft)		0	45	45
Change from W1 (Ft)		60	150	150
Opportunities	• Area of relatively shallow grades allow for the use of an earth ramp	• Views and experience of the locks along the portage • Location for extended dock within calmer eddy waters • Potential interpretive element	• Route bypasses central Mill and Lock infrastucture	• Route bypasses central Mill and Lock infrastucture
Constraints	• Close proximity to small existing structures • Adjacent hillside may require a retaining wall	• Additional ramps or modifications needed at locks to traverse approx. 25' of elevation change at existing stairs • Conflicts with Mill operations likely require alternate portage trail route • Modification to dock and pier structures • Piles in bedrock VERY expensive; Boom extension likely needed • Potential impact to historical character due to route following Lock infrastucture	• Existing gangways and stair access on slope VERY steep • Conflicts with Mill operations likely require alternate portage trail route • Modification to dock access structure • Light watercraft launch addition • Utilizes vehicular areas for portage	• Utilizes vehicular areas for portage • Private dock requires agreement with owner for public use • Long portage route • Light watercraft launch addition
Recommendation				

Assumptions
Guard lock furthest upstream remains open to allow access point W1.
Downstream access points are structures due to space constraints and large fluctuations in water levels.

WEST BANK 'W5' ACCESS POINT - SITE PHOTOS

Photo provided by WLCR. This site was not observed in the field by the consultant team.

WEST BANK 'W6' ACCESS POINT - SITE PHOTOS

Photo provided by WLCR. This site was not observed in the field by the consultant team.

Meeting Records

May 23, 2019 | Metro | Upstream Access Points: PGE Update

July 18, 2019 | Oregon State Marine Board

July 29, 2019 | Portland General Electric

Mayer/Reed

MEETING RECORD

Project	Willamette Falls Portage Trail Concept Plan	**Meeting Type**	Meeting Notes
Date	5.23.19	**Time**	9-10 am
Subject	Upstream access points: PGE Update		
By	Tim Strand	**To**	WLCR

Attendees

Metro: Brian Moore, Alex Gilbertson

We Love Clean Rivers (WLCR) : Sam Drevo

Fortrose Group (FG): CJ Sylvester

Mayer/Reed (M/R): Carol Mayer-Reed, Tim Strand

THE FOLLOWING IS A SUMMARY OF MEETING DISCUSSION AND DECISIONS. PROVIDE CORRECTIONS OR CLARIFICATIONS WITHIN 2 DAYS.

The following is a record of the meeting with Brian Moore and Alex Gilbertson at Metro held on May 23, 2019 to discuss recent conversations between Metro and PGE regarding upstream access points.

- From a meeting with PGE, Metro stated that PGE prefers a new alignment for the existing debris boom – see attached mark-ups made to Mayer/Reed-provided plan in the meeting;
    - PGE requires new primary debris boom connecting to shoreline as a primary catchment; existing secondary debris boom to remain in corrected location as shown;
- PGE representatives in the Metro meeting were comfortable with any of the upstream access sites; however, the Site engineer was not present and more detailed conversations need to take place.
- PGE representatives in the Metro meeting thought there may be too many challenges along west side of the river for a portage trail and access points.
    - Pending further discussions with PGE; M/R to set up meeting with PGE to review portage both sides of the river sometime after the State Marine Board meeting (PGE engineer and Andy J. to be present at that meeting).
- Willamette Falls Riverwalk Phase 1 schedule
    - Plans of the riverwalk project will be ready for submittal to Corps for JPA mid-August (complete submittal mid- to late- Sept after Pacific Habitat Services formats plans to meet JPA requirements)
    - Intent is to synchronize WLCR Phase 2 project work effort with this riverwalk schedule
- Metro concerned about inexperienced paddlers using the paddle lane during high water events.
    - Portage trail facilities intended for seasonal, summer use;
    - Difficult passage during high water events due to flow and overhanging vegetation;
        - This is not a change from current conditions
    - Take lessons from other projects that experience a weather-related trail closure such as Portland's Eastbank Esplanade;

  - Need to work with City and/or eventual project owner/operator to develop management strategy for high water events;
  - Inquire with Ryan Sparks at OP&R for his input?
  - Willamette Waterkeeper maintains interactive river trail map and conditions on its website; could it include information about portage access status (open/closed/river issues)?
  - Seasonal signage upriver should be considered part of the capital project;
- The team expects to schedule a meeting with Marine Board that will focus on safety and best practices;
- Add city limits and property lines to plan views;
- Who constructs, owns and maintains the portage trail and access points?
  - OC and Metro to maintain the riverwalk;
  - Outstanding question that will not be answered as part of Phase 2 work effort. Longer timeline associated with Blue Heron public/private site redevelopment
- Existing private access point on east side of river just upstream from the end of our new booms per Sam;
- South end of riverwalk property still unresolved
  - Contamination; structural issues (Main street over an aging railroad trestle structure)
    - Ph 1 and Ph 2 Environmental studies only focused on tailraces and so provided incomplete information; Subsequent studies will be focused on the Yard which has serious contamination;
  - Brian: not a barrier to the portage trail in the long run as it will ultimately be cleaned up as part of site redevelopment;
    - In the short run – no clear path for access without escorts in RW Phase 1
  - Addressing contamination conditions lies with the property owner at this time;
  - It may be possible to set up an escort for groups through this area via scheduled events;
  - Portage trail may not be able to extend through contamination area before conditions are addressed;
    - Potential for interim route through Phase 1 riverwalk; needs additional study;
    - Alcove is RW Phase 2;
- E2 access point is an unofficial (informal) access point (no ADA); E1 is the official (formal) RW downstream access point (ADA)
- $20M in currently proposed Bond for 2019 ballot intended to leverage private funding by 6:1 to meet $150M total riverwalk budget;
  - $19.5M in public funds currently in hand; Metro contributed $5M; State contributing $12.5M – does not have match requirement; Non-profit has raised $7M and is working on a campaign for $15M.
  - The project needs all partners to contribute more.
- Clackamas Co. Tourism – it would be desirable to have portage on both sides of falls.

- Next Steps / Action Items
  - M/R to set up technical meeting with PGE (Eric Underwood) to occur after meeting with State Marine Board
    - Include Sid Heiler and Chelsea Herrera from PGE
    - Discuss: existing and proposed debris booms, boom anchoring, modifications to existing debris booms to accommodate paddle thru-lane;
    - Include Andy J, C.J. and Metro staff
  - M/R to continue trying to set up West Linn site visit
    - PGE plant manager pushed back on initial request and suggested including an elected official; M/R has reached out to West Linn Mayor Russ Axelrod.
    - Can occur on separate timeline from east side work efforts since not tied to JPA
  - M/R to develop schedule that parallels riverwalk schedule
  - M/R to set up kick-off meeting with WLCR ASAP

Attachment

Cc: File

Mayer/Reed

MEETING RECORD

Project	Willamette River Portage Trails - Concept Design	**Meeting Date**	July 2, 2019
Issue Date	July 18, 2019	**Time**	10-11:30am
Subject	Oregon State Marine Board Meeting		
By	Tim Strand	**To**	WLCR, Fortrose Group

Attendees

Janine Belleque (JB), Randy Henry (RH), Josh Mulhollem (JM): Oregon State Marine Board (OSMB)

Sam Drevo (SD), Matt Taylor (MT): We Love Clean Rivers (WLCR)

CJ Sylvester (CJS): Fortrose Group (FG)

Tim Strand (TS): Mayer/Reed (MR)

THE FOLLOWING IS A SUMMARY OF MEETING DISCUSSION AND DECISIONS. PROVIDE CORRECTIONS OR CLARIFICATIONS WITHIN 2 DAYS.

The following is a record of the meeting held at OSMB on July 2, 2019.

1. Introductions
    - Janine Belleque is the Boating Facilities Manager
    - Randy Henry is the Boating Program Manager
    - Josh Mulhollem is the Policy and Environmental Program Manager

2. Portage Trail project and Willamette Falls Riverwalk overview
    - The group reviewed the plan developed during Phase 1 of the Portage study, and TS provided an overview of the portage project to date, Phase 1 of the Riverwalk project, and the JPA for the Riverwalk project to be submitted late-Summer/early-Fall 2019 as part of the Phase 1 Riverwalk effort
        - Key elements of the Riverwalk project that were discussed include the Phase 1 overlook, and subsequent phase elements including the alcove at the Yard, the floating dock structure, and explorer trails
        - Sam noted that WLCR's main focus is river access and providing access to the Riverwalk site and downtown Oregon City for paddlers
        - TS explained that our scope includes developing designs for river access points to a 10% level for incorporation into the Riverwalk JPA
    - Access Points
        - TS noted the upstream access point E3 will be ADA-accessible, and the downstream E2 access point will be an informal access point not requiring ADA-compliant access
            - JB clarified that there are exemptions to ADA requirements associated with boating facilities, and that the access points themselves would not need to be ADA-compliant but the routes to those access points will be. An example is the exemption for gangways connecting the upland area to the floating dock structures do not need to be ADA-accessible as long as they are 80'-minimum length.

        - Sam noted the alcove access point (E2) is a big interest to WLCR but that their primary focus is the upstream (E3) access point
    - TS noted that WLCR wants the shortest portage distance and that the E3 site is preferred, however access points located further upstream may trigger structural requirements to the existing retaining wall below the UPRR railroad tracks
        - RH noted that PGE asked the OSMB a "long time ago" to provide a boat exclusion zone closer to the falls
- Debris Booms
    - TS described the existing booms and proposed paddle lane demarcation booms proposed during our Phase 1 work effort
    - SD and CJS noted that, per Metro, management at PGE had seen these plans and initially said there were no fatal flaws
    - RH indicated the debris booms require a lot of anchors

3. OSMB: Questions, Concerns and Considerations
    - MT asked what the OSMB's jurisdiction for paddlers is at the falls
        - RH explained there are no regulatory exclusions until you hit the boating deadline below the falls
    - MT asked if OSMB maintains a list of informal access points or portage routes
        - JB indicated there is not a formal list, but uses "Soggy Sneakers: A Guide to Oregon Rivers" as a guide to comment on forestry, USACOE, BLM permits, but that she would not call the case studies in that book "portage trails" and noted that there are private property owner concerns with some noted "trails"
        - JB further commented that Senate Bill 47 may open more possibilities for OSMB to insert themselves into portage and access discussions, but noted that formalizing this portage and access would be a significant, but positive, endeavor
    - Debris boom paddle lane
        - JB likes the paddle lane as it creates protection to keep people in a safe area and reduces chances of people encountering stray debris or getting distracted and paddling elsewhere, but that paddlers don't want to be confined in such a long chute
        - RH noted he doesn't like the paddle lane – if someone ends up on the edge of the falls, the paddle lane may complicate the rescue process
        - RH noted that if people miss the entrance to the paddle lane and end up in the lagoon then they may have a hard time getting back into the lane considering its length
        - Consensus among the group was reached to eliminate the debris boom demarcation from the proposal in favor of in-water markers (discussed below)
    - In-water markers
        - RH commented that a series of white makers that delineate the paddle channel may be a better option to pursue in lieu of a boom system, which could potentially restrict shoreline access if a boat breaks down, someone misses the entrance, etc.
        - JM asked what regulations would be put in place on these markers to limit motorized boaters
            - RH indicated that this would need coordination with PGE and US Coast Guard approval for anchorage of the markers. RH mentioned a couple potential options needing PGE input:
                a. Direct people to safe areas with hazard warnings;
                b. Or a more regulatory solution that prohibit boating to the left of the buoys, noting there are no restrictions currently in place
            - MT mentioned PGE doesn't own the area, but RH indicated PGE may have some legal authority to limit activities within their licensing boundary

- JB commented that stationary "dolphins" with directional signage would be a better solution as a permanent structure rather than buoys requiring annual removal / installation
- JB also noted that the new PGE boom will make it easier for them to redirect large woody debris over the falls than the current debris boom closer to the lagoon
- JM indicated he also prefers the dolphin concept over the debris boom paddle lane, but noted that passage under or past the debris booms to allow boaters to access E3 site would be required and coordinated with PGE. A simple gate through the PGE boom could be one solution.

- Safety
  - MT asked if any safety features are currently in place in the river to stop paddlers from going over the falls
    - RH noted that OSMB historically tries to keep people away from the falls, whereas this proposal encourages people to paddle closer to get to the paddle lane/access point(s), which will likely require an educational component on how to navigate the upstream area safely and staying out of the main current
    - RH also noted that it's likely that any activity occurring in PGE's licensed area will be of significant concern to PGE as it may expose them to potential liability
  - JB noted that the OSMB is concerned about inexperienced paddlers, so any navigation upstream toward the east or west side access points must be very apparent and easily understood, requiring review and discussion with PGE about how to manage a safe zone
    - MT noted that a double fail-safe system is necessary; SD clarified that this would involve signage, booms or dolphins, clearly marked access points, etc.
  - RH commented that as boaters begin to learn a new navigation strategy that there will be instances where they get in trouble and need rescue, which is something OSMB frequently deals with statewide
  - JB asked whether the group would consider seasonal closures for safety
    - Consensus was that it would be acceptable and appropriate, especially considering late season high water events or debris levels
    - Closure could be implemented with a red light linked to a river gauge upstream, or controlled by PGE; some precedents exist at the fish passage on the West Linn side. Also OSMB uses the internet to identify river access and closures.
  - RH recommended building in safeguards for user groups or waterway managers maintaining the signage; he also has concerns about potential for additional burden on local law enforcement
- Users / User Conflicts
  - JM asked SD what non-motorized activity is presently occurring in this area
    - SD indicated most paddling occurs at and around Willamette Park, with only a few people observed to paddle closer to the falls
    - SD also indicated they're interested in what access on the east side is possible, noting that most portaging has historically been along the east side
  - RH indicated the upstream access point will create a destination for non-motorized boaters
  - JM also noted concerns about congestion and conflicts between motorized and non-motorized boaters due to the attractive new destination the Riverwalk redevelopment will create
    - JM also concerned about OSMB getting requests to regulate the use of that area
  - MT asked if OSMB can designate the area upstream from the lagoon as non-motorized

        - RH and JM indicated that, yes, theoretically its possible but the 5-person board that approves it gets complaints for carving out areas of water for one user group over another, and that it's a highly political issue
    - JB noted that the tribes are interested in portage and access
    - RH commented that they are open to some regulatory solutions but not at the risk of being too exclusionary

4. Final Comments
    - RH:
        - He likes the idea
        - OSMB will want to address safety aspects for motorized and non-motorized users throughout the process
        - They're going to be focused on potential user conflicts in their review of subsequent proposals
        - They want to try to maintain this as a broad-based user experience
    - JB:
        - She's intrigued by our study
        - Portage has been an interest of OSMB for a while
        - Future considerations might be a dock upstream of E6 for motorized watercraft

5. Next Steps
    - JB and JM requested to be kept in the loop as this project develops

Cc: File

Mayer/Reed

MEETING RECORD

Project	Willamette River Portage Trails - Concept Design	**Meeting Date**	July 19, 2019
Issue Date	July 29, 2019	**Time**	9-10am
Subject	PGE Meeting		
By	Tim Strand	**To**	WLCR, Fortrose Group

Attendees

Sid Hillier (SH), Chelsea Herrera (CH): Portland General Electric (PGE)

CJ Sylvester (CJS): Fortrose Group (FG)

Andy Jansky (AJ): Flowing Solutions (FS) – on phone

Carol Mayer-Reed (CMR), Tim Strand (TS): Mayer/Reed (MR)

THE FOLLOWING IS A SUMMARY OF MEETING DISCUSSION AND DECISIONS. PROVIDE CORRECTIONS OR CLARIFICATIONS WITHIN 2 DAYS.

The following is a record of the meeting held at PGE on July 19, 2019.

1. Introductions
    - Sid Hillier and Chelsea Herrera are water resources civil engineers at PGE

2. Portage Trail project and Willamette Falls Riverwalk overview
    - CMR provided a brief overview of the portage project and the goals for the east side
    - TS provided a summary of the OSMB meeting and their input, noting their preference for a fixed signage dolphin structure in lieu of some kind of paddle lane demarcation boom system

3. PGE overview of operations and structures
    - SH indicated the boom structures at the head of the falls aren't debris booms, but boating deterrent structures recommended by FERC, noting the misalignment of the boom shown in the aerial
        - Flow control structure is 3 inflatable Bridgestone rubber dams that allow safe juvenile fish passage down the middle of the river
        - The deterrent boom structure, the signage and buoys are installed seasonally around Memorial Day
        - At the end of June / Early July, PGE installs flashboards to increase height of falls and power generation
    - The debris boom close to the lagoon was initially installed by Blue Heron, but in disrepair and replaced and maintained by PGE
        - Acts as a catcher's mitt
        - Inflatable weirs replaced the stop logs at the spillway recently
        - High flows in April 2019 overwhelmed the catcher's mitt debris boom
        - Costs $30K-40K per year to remove the debris
    - CH introduced the idea to install a shear boom connecting the dam and the existing pier to let the velocity of the water shear the debris over the boom, with some kind of

extension to prevent material from sneaking by; CH further noted some additional structure may be required to prevent the shear boom from bowing out into a catenary shape
    - Velocities along the shoreline are relatively minimal, but get stronger as you approach the dam
    - SH indicated the shear boom will be similar to a debris boom but with a~~n~~ "curtain" screen
        - North Fork debris boom "Hoover" screens everything and also shears bigger material
    - 30" diam HDPE pipe with curtain below it and guide anchoring to keep its form; North Fork has two anchors at each end with an additional anchor tied to the shore, which they may look at in configuring the Sullivan shear boom
    - AJ noted that the OSMB has an extensive debris boom system with 2 round pipes stacked on an I-Beam, and works quite well at deflecting debris, but requires piles in the river bottom
        - Janine Belleque or Jeff Smith at OSMB could provide additional information
    - PGE also working with CEATI International as regards various debris boom designs
    - Debris season goes from October thru March or April

4. Water route and safety considerations
    - SH said the tuff boom paddle lane proposal was not a bad option if you can get people over and into it, and/or possibly add a second entry in case someone misses it
        - Concerned about avoiding conflict between PGE's ability to divert debris and not have it become a nuisance for water users
        - Also concerned about having boaters inside the lagoon due to sudden releases of water through the sluiceway
    - TS proposed a hybrid system with directional / warning signage in addition to a tuff boom paddle lane system
    - CH asked about how to allow passage past the shear boom if it's anchored to shore
        - SH indicated some kind of dropped open section could be configured to allow passage
    - CMR noted that large groups of paddlers could be accessing this paddle route
    - SH indicated PGE states what their public safety obligations are and that the sheriff enforces encroachment on the dam structure
    - CH has concerns that any new booms could have impacts on the flow patterns on the surface and that issue needs study
    - SH indicated flows begin to increase in the fall around Labor Day, and signs are removed and stored along the shoreline; after Oct. 15 typically flows increase and people shouldn't be on the river
    - Existing sign at the head of the falls requires cleaning once every few seasons

5. Access ramp
    - AJ noted that the E3 access point will basically be a boat ramp, and that location could provide additional water access for PGE
        - SH indicated PGE puts in on west side of river south of the locks but that having an emergency access on the east side could have some value
    - AJ also indicated he's assuming a ramp with a dock for this location
        - SH indicated they've been following the OSMB standard ramp design at all PGE launches, 20' width, for motorized craft; but that 12' width would be sufficient

6. Summary
    - PGE does not object to the E3 access point location
    - Tuff boom paddle lane guidance system combined with signage upstream is preferred

- It would be beneficial to tie the tuff boom into the future shear boom so there is one clear point of access for paddlers
    - If done correctly, additional entries into the paddle lane upstream from the entry point do not seem necessary
- IF PGE is to benefit from the E3 access ramp, min. width should be 12'

7. Next Steps
    - M/R will share meeting notes with PGE
    - Portage trail team will keep Sid and Chelsea updated as the project develops

Cc: File