



AGENDA

MILWAUKIE PLANNING COMMISSION Tuesday July 10, 2012, 6:30 PM

MILWAUKIE CITY HALL
10722 SE MAIN STREET

- 1.0 Call to Order - Procedural Matters**
- 2.0 Planning Commission Minutes** – Motion Needed
 - 2.1 May 8, 2012
 - 2.2 May 22, 2012 (to be sent in supplemental packet)
- 3.0 Information Items**
- 4.0 Audience Participation** – This is an opportunity for the public to comment on any item not on the agenda
- 5.0 Worksession Items**
 - 5.1 Summary: Tacoma Station Area Plan update
Staff: Scot Siegel
- 6.0 Public Hearings** – Public hearings will follow the procedure listed on reverse
 - 6.1 Summary: Natural Resource Review for Crystal Creek (Light Rail)
Applicant/Owner: KLK Consulting/TriMet
Addresses: 2519, 2525, & 2535 SE Harrison St
File: NR-12-01
Staff: Brett Kelper
- 7.0 Planning Department Other Business/Updates**
- 8.0 Planning Commission Discussion Items** – This is an opportunity for comment or discussion for items not on the agenda.
- 9.0 Forecast for Future Meetings:**
 - July 24, 2012
 - 1. Public Hearing: NR-12-01 PMLR Crystal Creek *continued tentative*
 - 2. Public Hearing: CSU-12-07 PMLR Signal & Communications Building
 - 3. Public Hearing: NR-12-02 North Clackamas Park Restoration Project *tentative*
 - July 31, 2012
 - 1. Public Hearing: NR-12-02 North Clackamas Park Restoration Project *tentative*

Milwaukie Planning Commission Statement

The Planning Commission serves as an advisory body to, and a resource for, the City Council in land use matters. In this capacity, the mission of the Planning Commission is to articulate the Community's values and commitment to socially and environmentally responsible uses of its resources as reflected in the Comprehensive Plan

1. **PROCEDURAL MATTERS.** If you wish to speak at this meeting, please fill out a yellow card and give to planning staff. Please turn off all personal communication devices during meeting. For background information on agenda items, call the Planning Department at 503-786-7600 or email planning@ci.milwaukie.or.us. Thank You.
2. **PLANNING COMMISSION MINUTES.** Approved PC Minutes can be found on the City website at www.cityofmilwaukie.org
3. **CITY COUNCIL MINUTES** City Council Minutes can be found on the City website at www.cityofmilwaukie.org
4. **FORECAST FOR FUTURE MEETING.** These items are tentatively scheduled, but may be rescheduled prior to the meeting date. Please contact staff with any questions you may have.
5. **TIME LIMIT POLICY.** The Commission intends to end each meeting by 10:00pm. The Planning Commission will pause discussion of agenda items at 9:45pm to discuss whether to continue the agenda item to a future date or finish the agenda item.

Public Hearing Procedure

Those who wish to testify should come to the front podium, state his or her name and address for the record, and remain at the podium until the Chairperson has asked if there are any questions from the Commissioners.

1. **STAFF REPORT.** Each hearing starts with a brief review of the staff report by staff. The report lists the criteria for the land use action being considered, as well as a recommended decision with reasons for that recommendation.
2. **CORRESPONDENCE.** Staff will report any verbal or written correspondence that has been received since the Commission was presented with its meeting packet.
3. **APPLICANT'S PRESENTATION.**
4. **PUBLIC TESTIMONY IN SUPPORT.** Testimony from those in favor of the application.
5. **NEUTRAL PUBLIC TESTIMONY.** Comments or questions from interested persons who are neither in favor of nor opposed to the application.
6. **PUBLIC TESTIMONY IN OPPOSITION.** Testimony from those in opposition to the application.
7. **QUESTIONS FROM COMMISSIONERS.** The commission will have the opportunity to ask for clarification from staff, the applicant, or those who have already testified.
8. **REBUTTAL TESTIMONY FROM APPLICANT.** After all public testimony, the commission will take rebuttal testimony from the applicant.
9. **CLOSING OF PUBLIC HEARING.** The Chairperson will close the public portion of the hearing. The Commission will then enter into deliberation. From this point in the hearing the Commission will not receive any additional testimony from the audience, but may ask questions of anyone who has testified.
10. **COMMISSION DISCUSSION AND ACTION.** It is the Commission's intention to make a decision this evening on each issue on the agenda. Planning Commission decisions may be appealed to the City Council. If you wish to appeal a decision, please contact the Planning Department for information on the procedures and fees involved.
11. **MEETING CONTINUANCE.** Prior to the close of the first public hearing, *any person* may request an opportunity to present additional information at another time. If there is such a request, the Planning Commission will either continue the public hearing to a date certain, or leave the record open for at least seven days for additional written evidence, argument, or testimony. The Planning Commission may ask the applicant to consider granting an extension of the 120-day time period for making a decision if a delay in making a decision could impact the ability of the City to take final action on the application, including resolution of all local appeals.

The City of Milwaukie will make reasonable accommodation for people with disabilities. Please notify us no less than five (5) business days prior to the meeting.

Milwaukie Planning Commission:

Lisa Batey, Chair
Scott Churchill
Chris Wilson
Mark Gamba
Clare Fuchs
Shaun Lowcock

Planning Department Staff:

Scot Siegel, Interim Planning Director
Brett Kelter, Associate Planner
Ryan Marquardt, Associate Planner
Li Alligood, Associate Planner
Alicia Martin, Administrative Specialist II

CITY OF MILWAUKIE
PLANNING COMMISSION
MINUTES
Milwaukie City Hall
10722 SE Main Street
TUESDAY, May 8, 2012
6:30 PM

COMMISSIONERS PRESENT

Lisa Batey, Chair
 Nick Harris, Vice Harris
 Chris Wilson
 Mark Gamba
 Scott Churchill
 Clare Fuchs
 Shaun Lowcock

STAFF PRESENT

Katie Mangle, Planning Director
 Scot Siegel, Interim Planning Project
 Manager

1.0 Call to Order – Procedural Matters*

Chair Batey called the meeting to order at 6:30 p.m. and read the conduct of meeting format into the record.

Note: The information presented constitutes summarized minutes only. The meeting video is available by clicking the Video link at <http://www.ci.milwaukie.or.us/meetings>.

2.0 Planning Commission Minutes

2.1 March 13, 2012

Vice Hair Harris moved to approve the **March 13, 2012 Planning Commission minutes as presented. Commissioner Fuchs** seconded the motion, which passed unanimously.

3.0 Information Items

3.1 City Council's recently adopted Boards, Commissions, and Committees – Guidelines for Member Conduct

3.2 Introduction of Scot Siegel, Interim Planning Project Manager *(this item was added and taken out of order)*

Katie Mangle, Planning Director, introduced Scot Siegel who was the Interim Planning Project Manager hired on contract to work on the light rail project and Tacoma Station Area planning

44 project in Susan Shanks' absence.

45

46 **Scot Siegel, Interim Planning Project Manager**, noted his planning background and
47 experience.

48

49 **Ms. Mangle** discussed how Planning Commission Alternate Wilda Parks could participate in
50 meetings, as a member of the public, in more informal worksessions.

51

52 **4.0 Audience Participation** –This is an opportunity for the public to comment on any item
53 not on the agenda. There was none.

54

55 **5.0 Public Hearings** – None

56

57 **6.0 Worksession Items**

58 6.1 Summary: Tacoma Station Area Planning

59 Staff: Katie Mangle and Scot Siegel

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61 **Ms. Mangle and Mr. Siegel** presented the staff report via PowerPoint.

62

63 **Ms. Mangle** described the current state of the project, noting the timeline and scope of work,
64 potential zoning changes and implications, strategic public involvement, transportation capacity,
65 and redevelopment and transit-oriented development scenarios.

66

67 **Commissioners Churchill and Gamba** volunteered to participate in the project's steering
68 committee.

69

70 **7.0 Planning Department Other Business/Updates**

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72 **8.0 Planning Commission Discussion Items**

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74 **Chair Batey** noted the upcoming open house regarding the new sewer rates and that the
75 Trolley Trail was nearing completion. She inquired about the timeline for posting meetings to the
76 website.

77

78 **Ms. Mangle** verified that the new timeframe for posting would be by the end of the day Friday
79 following the meeting.

80

81 **9.0 Forecast for Future Meetings:**

82 May 22, 2012 1. Public Hearing: CPA-10-01 North Clackamas Park North Side
83 Master Plan

84 2. Worksession: Murals

85 3. Worksession: Transportation System Plan update

86 June 12, 2012 1. Public Hearing: CSU-12-03 Downtown Light Rail Station

87 2. Worksession: PSU Neighborhood Main Streets Project

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90 Meeting adjourned at approximately 7:33 p.m.

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92

93

94 Respectfully submitted,

95

96 Alicia Martin, Administrative Specialist II

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100 _____

101 Lisa Batey, Chair



MILWAUKIE

Dogwood City of the West

To: Planning Commission

From: Scot Siegel, Interim Planning Director

Date: July 2, 2012, for July 10, 2012, Worksession

Subject: Tacoma Station Area Plan – Draft Project Goals, Objectives, and Evaluation Measures

ACTION REQUESTED

No action. This is a briefing for discussion only. Planning Commission input will be incorporated and carried forward in the draft plan. The next Commission worksession on this project is tentatively scheduled for December 11, 2012.

BACKGROUND INFORMATION

A. History of Prior Actions and Discussions

May, 2012: Staff provided Planning Commission with an overview of the project and its status.

B. Overview

The project study area includes the properties around the future Tacoma light rail station. This area includes land within the cities of Milwaukie and Portland. However, the Tacoma Station Area Plan project's focus is on the industrially-zoned properties within Milwaukie to the south of the station, as this area has more redevelopment potential than the properties to the north in Portland.

The purpose of the project is to create and adopt a land use and transportation plan ("Tacoma Station Area Plan") for the Milwaukie portion of the study area that:

- Allows for optimal and feasible intensification of the project area.
- Addresses zoning code and transportation barriers to redevelopment.
- Protects the viability and continued operation of existing industrial uses.

- Maximizes the use of existing and future transportation facilities, e.g. freight rail, light rail, Highway OR 99E (McLoughlin Blvd), and Springwater Corridor regional multi-use trail.

A key objective of the project is to understand how much land use intensification and which kinds of land uses can reasonably occur without triggering auto-oriented transportation improvements, and conversely how much capacity can reasonably be achieved through transportation efficiency or non-vehicular transportation modes. The plan process will test three redevelopment scenarios, including one with the possibility of a baseball stadium in the area. The final plan may result in amendments to the City of Milwaukie Comprehensive Plan, Transportation System Plan, and Zoning Code.

The public process includes Planning Commission worksessions and outreach to a stakeholder advisory group (SAG). The SAG, which includes area property owners, business owners, neighborhood district association representatives, and a Planning Commission liaison, meets three times during the course of the project. See attached Stakeholder Interviews Summary. All SAG meetings are open to the public and meeting materials are posted on the City's project web page.

The technical advisory committee (TAC), comprised of regional and state agency representatives, reviews draft work products for technical sufficiency and advises on regulatory and policy issues.

The purpose of this briefing is to share the public input received to date, and to request Planning Commission input on the draft project goals, objectives, and evaluation measures.

ATTACHMENTS

Attachments are provided only to the Planning Commission unless noted as being attached. All material is available for viewing upon request.

1. Draft Project Goals and Objectives
2. Stakeholder Interviews Summary
3. Draft Tacoma Station Area Plan Evaluation Measures

Tacoma Station Area Plan

DRAFT Goals and Objectives

Introduction

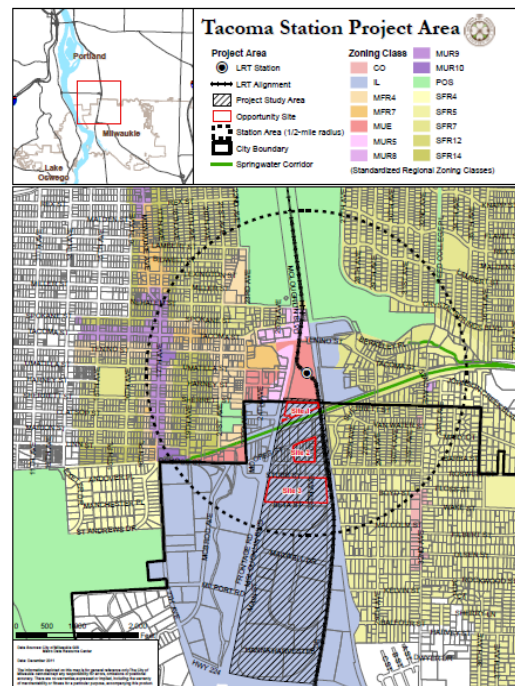
The Portland to Milwaukie Light Rail line is expected to open for service in 2015 and will include a station near the SE McLoughlin Blvd/Tacoma Street interchange. The **Tacoma Station Area Plan** (Plan) is being developed by the City of Milwaukie in coordination with others to examine



Tacoma Station Area Rendering

opportunities for redevelopment and investment in the vicinity of the new light rail station. As part of this process, team members will work with property owners and other stakeholders to identify and evaluate potential redevelopment scenarios for the area.

The Plan study area is bound by McLoughlin Boulevard (OR99E) on the west, the railroad on the east, the Tacoma Station on the north and Highway 224 on the south. The study area includes areas within the City of Portland; however, proposed changes included with the final Plan will be limited to those areas within the City of Milwaukie. Plan development will occur from summer 2012 to June 2013 and will include participation from area property owners, tenants, interested community members and affected public agencies.



Plan Study Area

One of the first steps in the planning process is to identify goals and objectives for the Station Area Plan. The goals and objectives will be used to guide the planning process and will provide a framework for the evaluation measures that will be used to assess potential redevelopment scenarios. This document includes draft goals and objectives and also provides an overview of the plan development process, including a brief description of major steps and indicates public input opportunities.

Goals & Objectives

Goal 1 – Land Use & Economy. Develop a proposed future land use scenario for the study area that promotes an active station area community and addresses barriers to redevelopment.

Goal 1 Objectives

- Plan the study area to take advantage of its proximity to the light rail station, Springwater Corridor regional multi-use trail, Highway OR 99E and heavy rail. Include land use and implementation measures to promote the area as an employment center and potential entertainment hub.
- Allow the existing industrial uses on manufacturing land to continue to operate and be viable while also considering a broader mix of uses in the future.
- Identify a preferred redevelopment scenario that is feasible from a market and transportation perspective.
- Consider how the area could redevelop to support a baseball stadium or other major redevelopment of the existing Oregon Department of Transportation maintenance facility (called Opportunity Site 3).

Goal 2 – Transportation. Develop a transportation plan for the Tacoma Station Area that provides multi-modal access to the Tacoma light rail station and enhanced connections within the study area.

Goal 2 Objectives

- Improve bicycle and pedestrian access in the study area, especially to the Tacoma light rail station and downtown.
- Limit improvements to OR 99E in the study area to those needed to enhance operations and safety.



Portland to Milwaukie Alignment

- Determine whether the station area would qualify for reduced trip generation rates by meeting requirements to be a “Multimodal Mixed-Use Area” as defined in the Oregon Transportation Planning Rule (TPR), section 0060(10).
- Use the Sustainable Transportation Analysis & Rating Systems (STARS) to develop evaluation criteria for access and mobility, safety and health, and economic benefit and consider system performance.

Goal 3 – Implementation. Develop an achievable plan that is acceptable to stakeholders and policy-makers.

Goal 3 Objectives

- Prepare a Tacoma Station Area Plan for adoption as an element of the Milwaukie Comprehensive Plan.
- Identify amendments to the City’s Comprehensive Plan, Transportation System Plan and Zoning Code to update the city’s existing Manufacturing Zone, and to implement the Tacoma Station Area Plan.
- Include land use and implementation measures that result in attractive, transit-supportive and people-oriented development.

Plan Development Process

Development of the Tacoma Station Area Plan will include the following steps:

1. **Research and outreach.** The project team will conduct research and identify opportunities and constraints to future redevelopment in the study area. The City will conduct stakeholder interviews with local property owners and others during this step.
2. **Development of scenarios.** This step will focus on development of the three land use and development scenarios for the study area.
3. **Evaluation and selection.** The three scenarios will be refined and assessed using the evaluation measures established in previous steps; City Council will select a preferred redevelopment scenario.
4. **Draft Station Area Plan.** The project team will draft the Tacoma Station Area Plan based on the results of the evaluation of scenarios and community input.
5. **Adoption.** The city will present the Tacoma Area Station Plan at a series of public work sessions and hearings before the Planning Commission and City Council for adoption into the Comprehensive Plan.

Introduction

Scot Siegel, City of Milwaukie Consultant, interviewed the following individuals for the Tacoma Station Area Plan during May 31- June 21, 2012:

- Richard Anderson and George Anderson, Anderson Die & Manufacturing
- Charles Bishop, Pendleton Woolen Mills
- Scott Churchill, Milwaukie Planning Commissioner
- Joseph Bradford, Urban Evolution (Multifamily developer in Sellwood)
- Angelene Carpenter, Ardenwald resident
- Gary Hunt, Oregon Transfer Company (Warehousing and distribution)
- Matt Rinker, Co-Chair Ardenwald-Johnson Creek Neighborhood Association
- Peter Stark, for Howard Dietrich

Comments are not attributed to individuals, except where they pertain to a specific properties or businesses. The City of Milwaukie Community Services staff extended interview invitations to Howard Dietrich and owners of the Kasch's property.

Overall Themes/Conclusions

- Improve the area around the light rail station (e.g., safety, gateway/appearance, etc.).
- Maintain an industrial base and encourage job creation.
- Support the City's pursuit of baseball.
- Allow/attract complementary commercial uses.
- Improve the transportation network for freight, cars, bikes, and pedestrians.

Summary of Comments

What would you like to see as an outcome of this planning effort?

1. Remove obstacles to commercial-industrial uses, including industrial 'incubators,' vocational schools, manufacturing-related retail (e.g., artisanal uses), and possible community service uses (e.g., Clackamas Community College branch/satellite).
2. Continue light industrial and allow commercial; allow as much flexibility as possible for changes of use and adaptive reuse of potentially historic building. (Pendleton)
3. Preserve access and parking. Note that some unimproved public rights-of-way (street ends) are currently used by businesses for parking; consider vacating stub of SE Clatsop. (Pendleton)
4. Consider off-peak/joint use of park-and-ride with redevelopment concepts.
5. Address concern about loss of parking due to light rail ROW acquisition. (Pendleton distribution center at Mailwell)
6. Address concern about safety/visibility back of building. (Pendleton)
7. Activate at night for safety; consider adding residential and commercial uses.
8. Would like to see more foot traffic in area for safety and security.

9. Can we establish a speed limit of 15 miles per hour on Moores Street? (Anderson)
10. Provide more flexible zoning for live-work lofts.
11. Do not compete with downtown for commercial uses.
12. Would like to see grocery store walkable from LRT station and neighborhoods.
13. Improve Main Street for auto, bike and pedestrian connections to downtown.
14. Improve connection(s) to Springwater Trail.
15. Improve Ochoco for cyclists; add signage for connecting to downtown.
16. Could use bicycle lanes and sidewalk improvements to 32nd (outside study area).
17. Provide connection(s) through Springwater Trail to connect north and south.
18. Trail connection through private property is a concern, as location next to auto repair and Earth's Footprint business would displace business access and parking (Anderson).
19. Consider connections between Ardenwald and study area to relieve pressure on Johnson Creek Boulevard and Tacoma Street.
20. "Connect quadrants, or do not." (Plan process should determine whether quadrants can/should be connected.)
21. Plan should "Break Down Barriers." Would like to see an urban design plan/framework for ballpark district with tunnel under or new building opening onto Springwater Trail, connecting quadrants.
22. Change zoning to allow 65 feet (5 floors) instead of 45 feet.
23. Improve Ochoco/McLoughlin intersection and/or provide overpass.
24. Improve bus stop access and safety, add buffering from traffic, and add shelter, for 31, 32 and 33.
25. Bus ends at 32nd; would like to see neighborhood shuttle connecting to LRT.
26. City should consider short-term "baby steps" as well as long-term vision.
27. Consider vacating 25th and end of Ochoco after light rail complete to compensate for loss of outdoor storage areas. (Anderson)
28. Address inadequate local streets.
29. Buildings along south edge of Ochoco currently do not have adequate loading space. This would be impacted by plan. (Anderson)
30. Railroad is a 'hard edge' for neighborhood; this is a positive, as neighborhood is concerned about park-and-ride spillover. (Ardenwald Neighborhood)
31. Neighborhood concerned about train noise and McLoughlin-Johnson Creek Blvd cut-through traffic; note that a previous proposal to replace stop signs with stoplights along JCB was opposed, because it would have encouraged higher speeds. (Ardenwald Neighborhood)

32. Keep us notified; even if we were unable to attend meetings would like to follow process and plan. (Oregon Transfer)

Why is this location working/not working for your business? Are you motivated to do anything different with your property now or in the future?

The area works well for Anderson Die because of access to highway and rail, proximity to Portland and nursery industry, and large land base for outdoor storage. Invested \$12 million recently in new equipment, and not likely to move in foreseeable future. Realigning Main Street through Anderson site or closing Stub Street for baseball stadium on game days would harm business. (Anderson)

Location works well for Oregon Transfer Company, which stores and distributes 3rd party goods (e.g., bush beans, C&H Sugar, food and beverage) and sees up to 8 railcars per week during peak periods. Company stores and distributes, but also has some customers who do their own. Buildings constructed in 60s-70s have low ceiling clearance (20'-24') and no sprinklers, "not great buildings, oldest in portfolio." Good parking and loading, taxes favorable compared to Portland, fair access, rail a plus. No issues with access presently, working around peak traffic hours. (Oregon Transfer)

If a baseball stadium is built in the study area, what kinds of businesses should be encouraged to locate near the stadium?

1. Sports-retail (e.g., restaurants, pubs, sports apparel stores, etc.).
2. More commercial but not at the expense of losing the manufacturing base; do not encroach into industrial area to the extent that it is no longer viable for manufacturing. All shared this general sentiment.
3. Provide neighborhood-serving commercial uses (e.g., bike repair shop, restaurant); attract commercial uses that do not compete with, or are not likely to locate in, downtown.
4. Would like grocery store, as options in the area are too distant or do not meet all needs.

Are there examples from elsewhere that you think Milwaukie should emulate?

Look at industrial gulch off Holgate along SE 26th as an example; study this to see what works well and what would not work for Milwaukie.

Look at Emeryville, California, for industrial area redevelopment example; consider whether a smaller-scale version of this makes sense. (Note: On December 29, 2011, the California Supreme Court issued its decision in the California Redevelopment Association vs. Matosantos case, dissolving all redevelopment agencies as of February 1, 2012.)

Look at San Francisco's [Production, Distribution and Repair \(PDR\) zone](#) as a potential model. Look at SF ballpark area housing.

Tacoma Station Area Plan **DRAFT** Evaluation Measures

The following table contains draft Evaluation Measures for the City of Milwaukie Tacoma Station Area Plan project. The consultant team will use the measures to evaluate proposed redevelopment scenarios for the plan area. The evaluation measures are intended to be consistent with the project goals and objectives, while implementing the requirements of the Transportation and Growth Management (TGM) Program Grant for the Tacoma Station Area Plan. The Evaluation Measures include a combination of quantitative and qualitative indicators, which are intended to serve as guidelines for planning in the study area.

Project Goals, Objectives and Evaluation Factors	Evaluation Measures/Metrics
<p>Land Use:</p> <ul style="list-style-type: none"> ▪ Promote the area as an employment center and potential entertainment hub. ▪ Generate jobs. ▪ Allow existing industrial uses on manufacturing land to continue to operate and be viable while also considering a broader mix of uses in the future. ▪ Provide amenities (in the form of attractors or new land uses) for the surrounding neighborhoods. 	<ul style="list-style-type: none"> ▪ The Plan allows existing industrial uses to continue with minimal disruption – e.g., preserves rail spurs and maintains or improves freight access, land use flexibility, and predictability in permitting. (Relative Ranking of Alternatives) ▪ The Plan facilitates transit-supportive development, including development intensity, land use mix, and building or site design, pedestrian-orientation and connectivity. (Relative Ranking of Alternatives) ▪ The Plan allows new employment uses at densities of 45 persons per acre, consistent with Metro Functional Plan Title 6, Sections 3.07.610 – 3.07.640. (Yes/No) ▪ The Plan results in a net increase in the number of employees at buildout, based on proposed zoning. (Relative Ranking of Alternatives) ▪ The Plan accommodates large-scale redevelopment, where applicable. (Relative Ranking of Alternatives) ▪ The Plan provides for land uses and/or other amenities that would benefit future workers and residents in the area. (Relative Ranking of Alternatives) ▪ The Plan provides for a mix of feasible uses, based on market analysis. (Relative Ranking of Alternatives) ▪ The Plan is generally supported by study area property owners. (Relative Ranking of Alternatives) ▪ Potential redevelopment costs are reasonable based on the professional opinion of a market analyst and feedback from property owners. (Relative Ranking of Alternatives)

Project Goals, Objectives and Evaluation Factors	Evaluation Measures/Metrics
<p>Transportation:</p> <ul style="list-style-type: none"> ▪ Achieve the 2030 Light Rail Station weekday ridership and mode split forecast. ▪ Comply with the State Transportation Planning Rule (TPR), in particular the requirements of OAR 660-012-0060(10). ▪ As applicable, apply the TPR provisions for Multimodal Mixed Use Areas, under OAR 660-012-0060(1), to maximize redevelopment opportunities. See also, Land Use Goals and Objectives. ▪ Improve bicycle and pedestrian access in the study area, especially to the Tacoma light rail station and downtown Milwaukie. ▪ Limit improvements to OR 99E to those needed to enhance operations and safety. ▪ Minimize the duration of congestion on Highway 99. ▪ Optimize transportation access and mobility for all modes of transportation, while addressing health and safety concerns, and maintaining transportation system performance, per the Sustainable Transportation Analysis & Rating System (STARS). 	<ul style="list-style-type: none"> ▪ The Plan improves connections to and between the station, the Springwater Trail and downtown Milwaukie. (Relative Ranking of Alternatives) ▪ At Plan buildout, projected pedestrian and bicycle mode share is significantly increased through transit-supportive development and design, safe and convenient access and supportive amenities. (Relative Ranking of Alternatives) ▪ At Plan buildout, the number of motor vehicle trips on OR 99E does not exceed the “worst case” vehicle trip projection under existing zoning and/or mitigates those increases to ensure compliance with the Oregon Transportation Planning Rule. (Yes/No) ▪ The duration of congestion on OR 99E, is lower than for other alternatives. (Relative Ranking of Alternatives) ▪ The Plan is not predicated on ODOT making motor vehicle capacity improvements to OR 99E. (Yes/No) ▪ As applicable, the Plan (or portion of Plan) potentially complies with the definition of a Multimodal Mixed Use Area, under the Transportation Planning Rule. (Yes/No/NA) ▪ The Plan includes transportation safety improvements which can reasonably be expected to mitigate the causes of accidents described in crash history data and to address Tacoma interchange queuing per TPR 0060(10). (Yes/No) ▪ The Plan provides for needed local street network improvements within the plan area. (Yes/No)

Required Evaluation Factors from Project Scope of Work

- a. Consistency with the TPR and in particular the requirements found under TPR 660-012-0600(10).
- b. Achieving compliance with Metro Title 6 (Functional Plan Sections 3.07.610 – 3.07.640) provisions for recommended employment density of 45 persons per acre and criteria for 30% generation reduction in trips;
- c. Achieving compliance with the definition of a Multimodal Mixed Use Areas in TPR 0060(1);
- d. Achieving 2030 Station weekday ridership and mode split forecast as a qualitative measure based on improved access, transit supportive land uses, etc.;
- e. Achieving objectives resulting from utilizing STARS to develop goals and objectives;

- f. Generating jobs;
- g. Providing amenities (in the form of attractors or new land uses) for the surrounding neighborhoods;
- h. Differences in VMT using the regional model;
- i. Local vehicular system impacts;
- j. Duration of congestion on OR 99E; and
- k. Potential redevelopment costs (order of magnitude).



To: Planning Commission

Through: Scot Siegel, Interim Planning Director

From: Brett Kelper, Associate Planner

Date: July 3, 2012, for July 10, 2012, Public Hearing

Subject: **File:** NR-12-01
Applicant: Leah Robbins for TriMet
Owner: TriMet
Address: 2519, 2525, and 2535 SE Harrison St
Legal Description (Map & Taxlot): 1S1E25CC – taxlots 4300, 4400, and 4500
NDA: Historic Milwaukie

ACTION REQUESTED

Approve application NR-12-01 and adopt the recommended Findings and Conditions of Approval found in Attachments 1 and 2. This action would allow for disturbance of the Crystal Creek Water Quality Resource (WQR) to construct the trackway for the Portland-Milwaukie Light Rail (PMLR), including extension of an existing culvert.

BACKGROUND INFORMATION

Portland-Milwaukie Light Rail (PMLR) is an extension of the regional rail system managed by TriMet. PMLR is a 7.3-mile line running from southwest Portland across the Willamette River and south through Milwaukie, with a station in downtown Milwaukie and terminus at SE Park Avenue. Much of the alignment parallels existing freight rails operated by either the Union Pacific Railroad (UPRR), Oregon Pacific Railroad (OPRR), or Pacific & Western Railroad (PWRR).

Where the PMLR alignment crosses Crystal Creek (just south of Highway 224 and west of SE 26th Avenue) the creek flows through a culvert and under the existing UPRR trackway. Construction of the PMLR trackway will permanently disturb the creek and an associated wetland area, and the existing culvert will be extended to maintain proper drainage. Crystal Creek and the associated wetland have a Water Quality Resource (WQR) designation, and the proposed disturbance triggers a requirement for Natural Resource review.

A. Site and Vicinity

The project area where the WQR will be disturbed extends across 3 properties—2519, 2525, and 2535 SE Harrison Street. Each property is a deep lot, and each is developed with a single-family house structure and has a substantial rear yard where the WQR is located. Primary access to the project area is from SE 26th Avenue to the east.

The immediately surrounding area is undeveloped, vegetated land adjacent to the existing trackway (see Photo 1). Adjacent properties to the south and west are primarily developed with single-family residential structures and to the east with multi-family residential structures. The existing structure at 2535 SE Harrison St is used as an office for professional medical services. An overpass for Highway 224 is approximately 400 ft to the north.

Crystal Creek flows east to west through the project area and under the UPRR trackway (see Photo 2). An existing small concrete wall, a remnant of infrastructure from the historic Crystal Lake Park (early 1900s), diverts the creek and creates a small wetland on the east side of the UPRR trackway. The project area within the WQR is vegetated with approximately two dozen trees (Douglas fir, willow, big-leaf maple) but is dominated by invasive vegetation, primarily blackberry, ivy, and clematis (see Photo 3).

Photo 1 – Vicinity map of project area

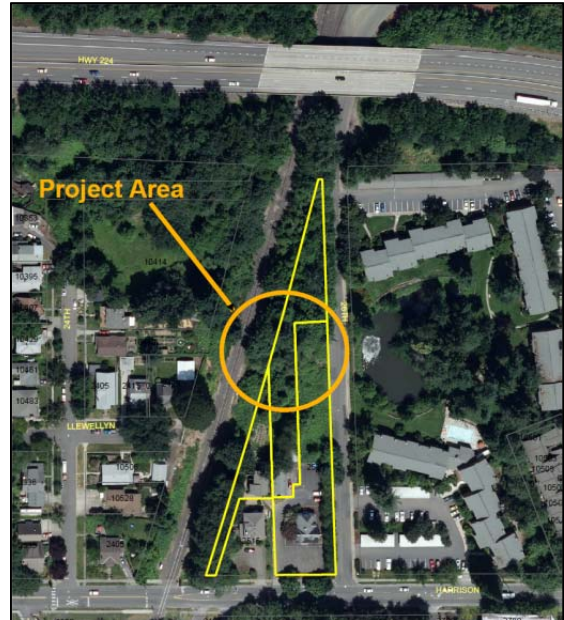


Photo 2 – Crystal Creek



Photo 3 – Nuisance plant species within WQR area



B. Zoning Designation

Residential R-2

The site includes Crystal Creek and a delineated wetland, both of which are designated as Water Quality Resource (WQR) areas.

C. Comprehensive Plan Designation

High Density (HD)

The Milwaukie Transportation System Plan (TSP) designates Harrison St as an Arterial route and 26th Ave as a Local street.

D. Land Use and Permit History

City Land Use Actions

City records indicate one previous City land use action for this site, at 2535 SE Harrison St:

- **August 1979:** C-79-11, Conditional Use approval to convert the existing two-story structure into a professional office for 6 private-practice counselors. The structure had previously been used as a beauty parlor on the first floor and residence on the second floor. The proposal included provision of 13 off-street parking spaces on the site and a condition of approval to formalize the access easement agreement with the property at 2525 SE Harrison St.

Other Land Use Actions

In addition to the above action, the entire PMLR alignment has an existing land use approval that was issued by Metro in 2008.¹ This land use final order (LUFO) was made pursuant to House Bill 3478 (1996), which provides for the review and siting of regional transportation facilities through local jurisdictions.

House Bill 3478 allows the City to review some elements of the PMLR project against the City's development standards. The City may subject the proposed disturbance of Crystal Creek to reasonable and necessary conditions of approval to ensure conformance with City standards and appropriate mitigation of local impacts. It cannot, however, condition the approval of the PMLR project in such a way as to prevent the implementation of the 2008 LUFO.

Other Permits

The appropriate federal and state agencies have reviewed the PMLR project relative to the regulations applicable to jurisdictional wetlands and waterways.

The U.S. Army Corps of Engineers (ACOE) has issued a permit based on the project's compliance with Section 404 of the Clean Water Act. A Section 401 Water Quality Certification was issued by the Oregon Department of Environmental Quality (DEQ) and attached to the ACOE permit. The Section 404 permit specifically authorizes an extension of the existing 36-in culvert under the Union Pacific Railroad (UPRR) trackway, minor realignment of the stream channel, and permanent and temporary fill in the wetland and waterway. The permit requires the overall PMLR project to provide compensatory wetland mitigation in Westmoreland Park for impacts to the Crystal Springs Creek and Crystal Creek wetlands.

The Oregon Department of State Lands (DSL) has issued a Removal-Fill Permit authorizing permanent and temporary impacts to Crystal Creek and the associated wetland. The permit requires restoration of 0.005 acres (approximately 220 sq ft) of wetland adjacent to Crystal Creek, in addition to compensatory wetland mitigation in

¹ Metro Resolution No. 08-3964, entitled 2008 South/North Land Use Final Order (LUFO) Amendment.

Westmoreland Park as required by the ACOE permit. (As per MMC 19.402.11.B.6.b, off-site mitigation is not allowed for disturbances to WQR areas, so the applicant has proposed on-site mitigation for the permanent disturbances resulting from the new trackway.)

The Oregon Department of Fish & Wildlife (ODFW) has approved a fish passage exemption for the proposed impacts to Crystal Creek. ODFW noted that there are existing barriers to fish passage both upstream and downstream from the project area and determined that there is no net benefit to providing fish passage in this location.

For more detail, see Attachment 3-c, a memo summarizing the various state and federal permits.

E. Proposal

The applicant is seeking land use approval for disturbance of the Crystal Creek Water Quality Resource (WQR) to construct the Portland-Milwaukie Light Rail (PMLR) trackway. The proposal includes the following:

1. Construct a new trackway for light rail, using mechanically stabilized earth (MSE) behind a new retaining wall. The new PMLR trackway section will be approximately 34 ft wide and adjacent to and on the east side of the existing Union Pacific Railroad (UPRR) trackway. The retaining wall will rise approximately 10 ft above grade, depending on variations in topography. The construction will permanently disturb 0.2 acres and temporarily disturb 0.06 acres of WQR area.

Construction equipment will move and operate in line with the new trackway, with no need for cranes or other machinery to take access through the WQR area. Trackway construction will result in temporary disturbance within an approximately 10-ft width along the new retaining wall.

2. Extend the existing 36-in (diameter) culvert from underneath the UPRR trackway to continue under the new PMLR trackway, for drainage of Crystal Creek and the associated wetland.
3. Repair the 36-in culvert under the UPRR trackway by inserting a new high-density polyethylene (HDPE) plastic lining within the existing culvert. The culvert outfall on the west side of the trackway will be accessed from the existing UPRR trackway, to clear the west end of the pipe and seal the new lining. The temporary disturbance area necessary for culvert repair will be restored and replanted with native vegetation.
4. Replace the existing 12-in culvert under 26th Ave, which has an outfall within the WQR area. The temporary disturbance area necessary for culvert replacement will be restored and replanted with native vegetation.
5. Remove invasive nuisance vegetation and plant native species within a 0.2-acre area of the WQR as mitigation for permanent disturbance. The mitigation includes removal of an existing concrete foundation wall in the stream channel and minimal re-grading of the area to restore a more natural stream hydrology.

The project requires approval of the following application:

1. NR-12-01, Natural Resource Review

KEY ISSUES

Summary

Staff has identified the following key issues for the Planning Commission's deliberation. Aspects of the proposal not listed below are addressed in the Findings (see Attachment 1) and generally require less analysis and discretion by the Commission.

1. Are there other practicable alternatives with less impact to the WQR than the proposed culvert extension?
2. Does the proposed development adequately minimize and mitigate unavoidable impacts to the WQR?
3. Will the proposed mitigation protect and improve the water quality functions of the WQR?

Analysis

A. Are there other practicable alternatives with less impact to the WQR than the proposed culvert extension?

Regarding its impacts on jurisdictional wetlands and waterways along the 7.3-mile alignment, the Portland-Milwaukie Light Rail (PMLR) project has been reviewed and approved by a number of federal and state agencies, including the Army Corps of Engineers (ACOE), Oregon Department of Environmental Quality (DEQ), Oregon Department of State Lands (DSL), and Oregon Department of Fish & Wildlife (ODFW). Options for bringing the alignment across wetlands and streams like Crystal Creek were explored and evaluated earlier in the project planning process, in conjunction with the issuance of a Biological Opinion. The proposed retaining wall, with a mechanically stabilized earth (MSE) base for the new trackway, proved to be the preferred alternative.

ODFW granted an exemption from the requirement that the proposed changes to Crystal Creek should establish or improve conditions for passage of native migratory fish. In doing so, the agency noted that there is no documented history of Crystal Creek being a fish-bearing stream for protected species. In addition, there are other significant barriers to fish passage in Crystal Creek, both upstream and downstream of the project area. The stream already flows through a culvert under the existing Union Pacific Railroad (UPRR) trackway. The alternative of a bridge crossing Crystal Creek would be considerably more expensive than the culvert option and is a questionable use of public funds for the PMLR project, given the existing barriers to fish passage and absence of protected fish species in Crystal Creek.

Given these considerations, in addition to the fact that the overall project has been approved by all of the relevant federal and state agencies, it is reasonable to conclude that the proposed culvert extension is in fact the most practicable, least impactful option for bringing the PMLR alignment through the Crystal Creek WQR area.

B. Does the proposed development adequately minimize and mitigate unavoidable impacts to the WQR?

As noted in Milwaukie Municipal Code (MMC) Subsection 19.402.1 the City's regulations for designated natural resource areas arise from the knowledge that many of the riparian, wildlife, and wetland resources in the community have been adversely impacted by

development over time. The standards and requirements of MMC 19.402 are intended to minimize additional negative impacts and to restore and improve natural resources where possible. Of particular concern are activities that involve stream crossings, tree removal and other disturbances of riparian or wetland vegetation, and other actions that may result in erosion or sedimentation in protected water features.

The approval criteria established in MMC 19.402.12.B outline the principal approach for proposed development within WQR areas and HCAs. Applicants must demonstrate that (1) the proposed activity **avoids** impacts to the resource where possible, (2) any proposed impacts are **minimized** to the degree possible, and (3) adverse impacts are sufficiently **mitigated**.

Along with federal, state, and regional partners, the Milwaukie City Council has approved the PMLR alignment, which has to cross Crystal Creek at some point. Some impacts to the Crystal Creek WQR are unavoidable, including permanent impacts where the new trackway will replace existing vegetation and remove 8 trees. Other temporary impacts will result from construction activities for trackway construction and culvert repair/replacement under the existing Union Pacific Railroad (UPRR) trackway and under SE 26th Avenue. Those activities will necessarily disturb additional vegetation and remove 5 more trees.

However, the linear nature of the construction process, which will use the new trackway as the primary access for additional trackway construction, minimizes natural resource impacts by eliminating the need to provide access through the WQR area for equipment or materials. Alongside the new retaining wall supporting the trackway, a working width of only approximately 10 ft is proposed. That area will be restored after the construction is completed. Disturbance areas for culvert extension and/or replacement are only as large as necessary to access the culverts and complete the work. Existing trees that are not directly in the path of the new trackway or other work areas will remain on the site.

The applicant's submittal materials reference a compensatory wetland mitigation effort of 1.08 acres in Westmoreland Park, as part of the Section 404 permit issued by the Army Corps of Engineers for the PMLR project. However, off-site mitigation is not allowed for disturbances to WQR areas in Milwaukie, as per MMC 19.402.11.B.6.b, so the applicant has proposed on-site mitigation for the permanent disturbances resulting from the new trackway. Within an area equal to that of the trackway disturbance (0.2 acres), nuisance species plants will be removed and replaced with native vegetation. In addition, an existing concrete foundation wall in the stream channel will be removed and a portion of the mitigation area will be minimally re-graded to establish a more natural stream hydrology.

Staff's conclusion is that the proposed development avoids impacts to the extent practicable, minimizes impacts that cannot be avoided, and provides sufficient mitigation on site.

C. Will the proposed mitigation protect and improve the water quality functions of the WQR?

The Crystal Creek WQR area is currently dominated by invasive nuisance vegetation, primarily blackberry, ivy, and clematis. The existing native species trees on the site are being overcome by ivy and the entire WQR is in a state of ecological decline. The proposed mitigation involves restoration of temporarily disturbed areas, by removing nuisance species plants and replacing them with native species plants. An area equal to the size of the permanent trackway disturbance (0.2 acres) will receive a similar mitigation treatment (removal of nuisance plants and replacement with native plants). In addition, an

existing concrete foundation wall within the stream channel will be removed and a portion of the mitigation area will be minimally re-graded to establish a more natural stream hydrology. (Removal of the concrete wall will require removal of 1 additional small willow tree growing out of the foundation.)

Although 14 existing trees will be removed, approximately 25 trees will remain within the WQR area, and over 45 new native species trees will be planted as mitigation. Native shrubs and ground cover will also be planted in both the wetland and upland areas. One recommended condition of approval is to require that most of the fell logs from the newly downed trees be retained on the site, to provide immediate nutrients and large woody and organic material for the WQR.

The prevalence of nuisance species plants surrounding the mitigation area will present a challenge for successfully establishing the new native plantings. However, the applicant has proposed to monitor the mitigation effort for 5 years to ensure an 80% survival rate. MMC 19.402.11.B.9 requires 80% survival only up to 2 years after planting, so staff recommends a condition of approval to use 5 years as the minimum requirement for establishing the new plantings. This establishment period includes ongoing removal and/or control of nuisance species plants within the mitigation area.

Overall, the proposed mitigation will reverse the trend of ecological decline and reset a natural course for a healthy, native plant community within the project area. The proposed development should significantly improve the water quality functions of the WQR.

CONCLUSIONS

A. Staff recommendation to the Planning Commission is as follows:

1. Approve application NR-12-01 and adopt the recommended Findings and Conditions of Approval found in Attachments 1 and 2. This action would allow for disturbance of the Crystal Creek Water Quality Resource (WQR) to construct the trackway for the Portland-Milwaukie Light Rail (PMLR), including extension of an existing culvert.
2. Adopt the attached Findings and Conditions of Approval.

B. Staff recommends the following key conditions of approval (see Attachment 2 for the full list of Conditions of Approval):

- Provide a construction management plan, showing erosion control and tree protection measures, for Planning review and approval.
- Provide a final mitigation plan with more implementation detail, including timelines for planting, watering, maintenance, and monitoring, for Planning review and approval.
- Leave fell logs from downed trees within the mitigation area to provide immediate nutrients and large woody and organic material for the WQR.

CODE AUTHORITY AND DECISION-MAKING PROCESS

The proposal is subject to the following provisions of the Milwaukie Zoning Ordinance, which is Title 19 of the Milwaukie Municipal Code (MMC).

- MMC Subsection 19.402 Natural Resource Review
- MMC 19.306 Residential Zone R-2
- MMC 19.700 Public Facility Improvements
- MMC 19.1006 Type III Review

This application is subject to Type III review, which requires the Planning Commission to consider whether the applicant has demonstrated compliance with the code sections shown above. In Type III reviews, the Commission assesses the application against review criteria and development standards and evaluates testimony and evidence received at the public hearing.

The Commission has 3 decision-making options as follows:

- A. Approve the application subject to the recommended Findings and Conditions of Approval.
- B. Approve the application with modified Findings and Conditions of Approval. Such modifications need to be read into the record.
- C. Continue the hearing. If a decision is reached at the July 24, 2012, PC meeting, there will be time for an appeal and hearing by City Council on September 4, 2012, prior to the expiration of the 120-day clock.

The final decision on these applications, which includes any appeals to the City Council, must be made by September 15, 2012, in accordance with the Oregon Revised Statutes and the Milwaukie Zoning Ordinance. The applicant can waive the time period in which the application must be decided.

COMMENTS

Notice of the proposed changes was given to the following agencies and persons: City of Milwaukie Building, Engineering, and Operations Departments; Clackamas County Fire District #1; Historic Milwaukie Neighborhood District Association (NDA); TriMet; U.S. Army Corps of Engineers; Oregon Department of State Lands; and ESA, the City's on-call natural resource consultant. The following is a summary of the comments received by the City. See Attachment 4 for further details.

- **Rob Livingston, City of Milwaukie Erosion Control Specialist:** No specific comments on this application. Will review the Erosion, Sediment, and Pollution Control Plan submitted as part of actual construction, as referenced on page 8 (third paragraph) of the applicant's WQR report.
- **Zach Weigel, City of Milwaukie Engineering Department:** The provisions of MMC 19.700 Public Facility Improvements are not applicable to the proposed development.
Staff Response: This comment has been incorporated into the Findings.
- **Jean Baker, Co-chair of Historic Milwaukie NDA:** There are no further questions at this time. *(Note: NDA members met with TriMet staff on June 18, 2012, to address questions about site access, phasing of construction and mitigation, the ODFW fish-passage exemption, and repurposing of trees removed.)*
- **Sarah Hartung and Alison Sigler, Biologists with ESA:** As the City's on-call natural resource consultant, ESA reviewed the application; assessed the existing conditions,

alternatives analysis, and proposed mitigation plan; and prepared a report summarizing the analysis.

Staff Response: *The ESA analysis has been incorporated into the Findings.*

ATTACHMENTS

Attachments are provided only to the Planning Commission unless noted as being attached. All material is available for viewing upon request.

1. Recommended Findings in Support of Approval (attached)
2. Recommended Conditions of Approval (attached)
3. Applicant's Narrative and Supporting Documentation (attached)
(This information was provided to the Planning Commission on June 20, 2012.)
 - a. Application Standards and Criteria Response
 - b. Crystal Creek Water Quality Resource (WQR) Report
Including:
 - Figure 1: Existing Conditions
 - Figure 1A: Channel Enhancement
 - Figure 2: Mitigation Area
 - Figures 3A-3B: Planting Plan
 - Appendix A: Fish Passage Waiver
 - Appendix B: PMLR Design Constraints—Crystal Creek
(4/25/11 memo from David Evans and Associates)
 - c. Memo (5/17/12, from Joe Recker of TriMet): State and Federal Environmental Permit Summary Relating to Crystal Creek Water Quality Resource review NR-12-01
 - d. Memo (5/18/12, from Jeff Joslin of KLK Consulting): Submittal of revised materials, with request to deem the application complete
 - e. Oregon Department of State Lands Wetland Delineation Concurrence – file #WD2009-0285
 - f. Memo (6/07/12, from Jeb Doran of TriMet): Supplemental information
Including:
 - Revised Figure 1: Existing Conditions
4. Comments Received (only 4-d is attached)
 - a. Rob Livingston, City of Milwaukie Erosion Control Specialist
 - b. Zach Weigel, City of Milwaukie Engineering Department
 - c. Jean Baker, Co-chair of Historic Milwaukie NDA
 - d. Alison Sigler and Sarah Hartung, Biologists with ESA – Memo: Natural Resource Review Technical Completeness Report for Crystal Creek Wetland (attached)
5. List of Record

Recommended Findings in Support of Approval

1. The applicant, TriMet (“the applicant”), is seeking land use approval to disturb a designated Water Quality Resource (WQR) as part of the Portland-Milwaukie Light Rail (PMLR) project. The process of constructing the PMLR trackway, extending and repairing an existing culvert under the new trackway, and replacing an existing culvert under SE 26th Avenue will result in temporary and permanent disturbance of the WQR that includes Crystal Creek, a small delineated wetland, and associated vegetated buffers.
2. The project area includes the rear portions of 3 residential lots at 2519, 2525, and 2535 SE Harrison Street. The properties are zoned Residential R-2. The site is located between SE 26th Avenue to the east and the Union Pacific Railroad (UPRR) right-of-way and existing trackway to the west. An overpass for Highway 224 runs east-west approximately 400 ft north of the site.

The project area is undeveloped, though each of the 3 lots is developed with a single-family house structure and has a substantial rear yard where the WQR is located. The existing structure at 2535 SE Harrison St is used as an office for professional medical services. Adjacent properties to the south and west are primarily developed with single-family residential structures and to the east with multi-family residential structures.

Crystal Creek flows east to west through the project area and under the UPRR trackway. An existing concrete foundation wall, a remnant of infrastructure from the historic Crystal Lake Park (early 1900s), diverts the creek and feeds a small wetland on the east side of the UPRR trackway. The project area is vegetated with approximately two dozen trees (Douglas fir, willow, big-leaf maple) but is dominated by invasive vegetation (primarily blackberry, ivy, and clematis).

3. The proposal is subject to the following provisions of Milwaukie Municipal Code (MMC) Title 19 Zoning:

MMC 19.306 Residential Zone R-2

MMC 19.402 Natural Resources

MMC 19.700 Public Facility Improvements

MMC 19.1006 Type III review

4. The Planning Commission reviewed the application in compliance with the Type III review process described in MMC 19.1006. As required, the applicant posted public notice at the site and the City mailed notices to surrounding property owners and residents within 300 ft of the site. The Planning Commission held a duly advertised public hearing considering the application on July 10, 2012.

5. The Planning Commission reviewed the application for compliance with the code sections listed in Finding 3.

The Planning Commission finds that code sections not addressed in these findings are not applicable to the decision.

6. MMC 19.306 Residential R-2 zone

MMC 19.306 establishes regulations for the R-2 zone. The PMLR trackway itself is part of a larger public transportation system and is allowable in all zones as a transportation facility. No other uses or structures are proposed.

The Planning Commission finds that no R-2 zone standards are applicable to the work proposed within the project area.

7. MMC 19.402 Natural Resources

MMC 19.402 establishes regulations for designated natural resource areas. The standards and requirements of MMC 19.402 are an acknowledgment that many of the riparian, wildlife, and wetland resources in the community have been adversely impacted by development over time; and they are intended to minimize additional negative impacts and to restore and improve natural resources where possible.

- A. MMC 19.402.3 establishes applicability of the Natural Resource (NR) regulations, including all properties containing Water Quality Resources (WQRs) and Habitat Conservation Areas (HCAs) as shown on the City's NR Administrative Map. Specifically, MMC 19.402.3.G requires the submittal of a construction management plan for projects that will disturb more than 150 sq ft.

The project area includes Crystal Creek and a small delineated wetland. These features, along with the associated vegetated buffer areas as defined in Table 19.402.9.A, constitute a WQR on the site. As proposed, the proposed development will disturb over 11,000 sq ft of WQR area.

The Planning Commission finds that the requirements of MMC 19.402 are applicable to the subject property, including the requirement to provide a construction management plan according to the standards of MMC 19.402.9.

- B. MMC 19.402.8 establishes that certain activities within a designated WQR, including development activities allowed in the base zone, are subject to Type III review (MMC 19.1006) and the general discretionary review criteria provided in MMC 19.402.12.

The proposed construction of the light rail trackway within a WQR is not exempt from the provisions of MMC 19.402, nor is it permitted as a Type I or Type II activity.

The Planning Commission finds that the proposed development is subject to Type III review (MMC 19.1006) and that the general discretionary review criteria of MMC 19.402.12 apply to the proposed disturbance of the WQR area.

- C. MMC 19.402.9 establishes standards for construction management plans, which are required for projects that disturb more than 150 sq ft of natural resource area. Construction management plans must provide information related to site access, staging of materials and equipment, and measures for tree protection and erosion control.

As noted in Finding 7-A, above, a construction management plan is required prior to commencement of the proposed development activity. A construction management plan was not included with the application submittal, so a condition is established to ensure that a construction management plan, with the information required by MMC 19.402.9, is provided as part of the development permit review process.

The Planning Commission finds that, as conditioned, this standard is met.

- D. MMC 19.402.11 establishes development standards for projects that impact a natural resource.

- i. MMC 19.402.11.A provides standards for protecting natural resource areas during development, including requirements to mark work areas, flag WQR and HCA areas that are to remain undeveloped, and conduct all work in accordance with an approved construction management plan.

The proposed project is subject to all relevant standards in MMC 19.402.11.A. A condition is established to ensure that all project work is performed in accordance with an approved construction management plan.

As conditioned, the Planning Commission finds that this standard is met.

- ii. MMC 19.402.11.B establishes general standards for required mitigation, including requirements related to items such as plant species, size, spacing, and diversity, as well as location of mitigation area, removal of invasive vegetation, and plant survival.

The applicant has provided a general mitigation plan for the proposed disturbance to the WQR. The plan includes information about species, size, spacing, and survival within a designated mitigation area. As proposed, existing nuisance species vegetation will be removed and the mitigation area will be planted or seeded with native species to 100% surface coverage as required. The applicant has proposed to maintain the mitigation effort for 5 years after planting. A condition is established to require a more detailed plan for implementation of the approved mitigation, including timelines for planting, maintenance, and monitoring, as well as a contingency plan.

As conditioned, the Planning Commission finds that this standard is met.

- iii. MMC 19.402.11.C establishes mitigation requirements for disturbance within WQRs. The requirements vary depending on the existing condition of the WQR, according to the categories established in MMC Table 19.402.11.C. For Class B "Marginal" WQR conditions, MMC Table 19.402.11.C requires that disturbed areas be restored and mitigated with native species from the Milwaukie Native Plant List, using a City-approved plan developed to represent the vegetative composition that would naturally occur on the site.

According to the applicant's inventory of vegetation in the WQR, the combination of trees, shrubs, and ground cover and the percentage of tree canopy are sufficient to categorize the existing condition as Class A "Good." However, the applicant has noted that most of the shrub and ground cover vegetation consists of nuisance species and that, if the nuisance species were removed, the actual condition of the WQR would be Class B "Marginal."

ESA, the City's on-call natural resource consultant, has reviewed the applicant's materials and visited the site to assess existing conditions. Within the wetland area, ESA observed a variety of native plants in addition to the nuisance species noted by the applicant. However, ESA concurs overall with the applicant's assessment of the existing condition of the WQR as Class B "Marginal" instead of Class A "Good," due to the large percentage of nuisance species.

Within the WQR, the proposed development will permanently disturb 0.2 acres and temporarily disturb 0.06 acres. As proposed, all temporary disturbance areas will be revegetated with native plants. As mitigation for permanent disturbance, the applicant has proposed to restore 0.2 acres within the WQR. The applicant proposes to remove existing nuisance species vegetation, remove an existing concrete foundation wall that impedes stream flow, minimally re-grade the area to improve drainage to the new culvert extension, and revegetate the area with native plants. According to the applicant, the proposed mitigation is intended to create a multi-canopy arrangement of plantings that, once established, will prevent the return of nuisance species and will reset the ecological conditions of the site.

ESA has assessed the proposed mitigation plan and determined that it is generally sufficient as mitigation for the proposed permanent disturbance to the WQR. ESA offered one suggestion for improving the mitigation plan: within the mitigation area, retain the fell logs from trees downed as part the project, to provide immediate

nutrients and large woody and organic material. A condition is established to incorporate this suggestion and ensure that the mitigation plan adequately compensates for detrimental impacts to the ecological functions of the WQR.

As conditioned, the Planning Commission finds that this standard is met.

The Planning Commission finds that, as conditioned, the proposed development meets the applicable standards of MMC 19.402.11.

- E. MMC 19.402.12 establishes a discretionary process for analyzing the impacts of development on WQRs and HCAs.
- i. MMC 19.402.12.A requires a report presenting an evaluation of impacts and analysis of alternatives for the proposed development. The report must be prepared and signed by a qualified natural resource professional and must include several specific elements, which are addressed below.

The submittal materials include a WQR report prepared by Vigil-Agrimis, a professional firm specializing in engineering, landscape design, and environmental science. The report includes an evaluation of impacts and analysis of alternatives sufficient to address the required elements listed below.

- a) MMC 19.402.12.A.1 requires identification of the ecological functions of riparian habitat found on the subject property.

The applicant's WQR report provides an assessment of the existing ecological functions of the Crystal Creek riparian habitat. Overall, the WQR within the project area is in a state of ecological decline. Although there is substantial canopy provided by native species trees, the shrub layer and ground cover are dominated by non-native nuisance species (primarily blackberry, ivy, and clematis) that are out-competing native plants and preventing the regeneration of trees and other native species. A concrete foundation wall, a remnant from past development at the historic Crystal Lake Park in the early 1900s, is in the stream channel, where it alters the natural stream flow and causes active erosion. (Note: The site is not on the City's list of historic properties.)

ESA reviewed the applicant's WQR report and generally concurs with the applicant's assessment of ecological functions and values of the WQR. The applicant's identification of ecological functions is sufficient to meet this requirement.

- b) MMC 19.402.12.A.2 requires an inventory of vegetation, sufficient to categorize the existing condition of the WQR per MMC Table 19.402.11.C.

The applicant's WQR report includes an inventory of existing vegetation within the project area. Tree canopy covers approximately 68% of the project area, shrubs cover approximately 91%, and ground cover and vines cover approximately 92%. The trees are mostly native species (willow, Douglas fir, big leaf maple); the shrub and groundcover layers are dominated by nuisance species (Armenian blackberry, English ivy, and clematis).

According to MMC Table 19.402.11.C, the existing condition of the WQR is Class A "Good." However, the applicant has noted that the area would be categorized as Class B "Marginal" if the most prolific nuisance plants (blackberry, ivy, and clematis) were removed and not included in the assessment. The nuisance plants are further degrading the tree canopy and preventing the growth of new trees.

ESA has reviewed the applicant's WQR report and visited the site to assess existing conditions. Overall, ESA concurs with the applicant's assessment of the existing condition of the WQR as Class B "Marginal."

- c) MMC 19.402.12.A.3 requires an assessment of the water quality impacts related to the proposed development.

The applicant's WQR report notes that direct impacts to water quality resulting from the proposed development will be minimal. Erosion control measures will be established, staging areas will be located at least 150 ft from any water body, and all temporarily disturbed areas will be restored following construction.

Thirteen (13) trees within the WQR will be removed as part of the temporary and permanent disturbance, including 8 trees within 20 ft of Crystal Creek. However, the WQR report notes that temperature and water quality in Crystal Creek are more directly affected by Crystal Lake than by tree canopy. And approximately 45 native trees will be planted as mitigation, which will eventually re-establish a comprehensive canopy.

ESA has reviewed the applicant's WQR report and generally concurs with the applicant's assessment of the proposed development's impacts on water quality. ESA has noted that the report did not sufficiently discuss the project's impacts on sediments, sediment control, or nutrients. A condition is established to ensure that a construction management plan (including provisions for sediment control) is provided as part of the development permit process. Another condition is established to ensure that the fell logs from trees removed as part of the project are retained within the mitigation area to provide immediate nutrients and large woody and organic material. As conditioned, the applicant's assessment of water quality impacts is adequate.

- d) MMC 19.402.12.A.4 requires an analysis of alternatives to the proposed development, including an explanation of the rationale behind choosing the alternative selected.

Within its approved alignment, the PMLR trackway will cross Crystal Creek and pass through the adjacent WQR area. Therefore, some intrusion into and disturbance of the WQR is inevitable for the PMLR project.

The applicant's WQR report asserts that the proposed development, which involves using mechanically stabilized earth (MSE) behind a new retaining wall to construct the PMLR trackway, is the most practicable alternative. Although the applicant's WQR report does not directly discuss other specific alternatives in detail, it does note several relevant considerations:

- *Crystal Creek already passes through a culvert under the existing Union Pacific Railroad (UPRR) trackway. The proposed development would simply extend the existing culvert under the new PMLR trackway.*
- *There is no documented history of Crystal Creek being a fish-bearing stream for protected species.*
- *Additional barriers to fish passage in Crystal Creek exist both upstream and downstream from the project area.*
- *The Oregon Department of Fish & Wildlife (ODFW) has granted the applicant an exemption to the requirements to maintain standard fish-passage conditions in Crystal Creek. The applicant is not required by ODFW to establish or maintain particular conditions for fish passage in Crystal Creek.*

Given these considerations, in addition to the fact that the overall project has been approved by all of the relevant federal and state agencies, it is reasonable to conclude that the proposed culvert extension, using MSE and a retaining wall to establish the new trackway, is in fact the most practicable, least impactful option.

- e) For alterations to existing structures within the WQR, MMC 19.402.12.A.5 requires the presentation of evidence that 1) no practicable alternative design or method of development exists that would have a lesser impact on the WQR than the one proposed and 2) mitigation is provided for impacts to the WQR.

As noted in Finding 7-E-i(d), above, the proposed development (using mechanically stabilized earth and a retaining wall for the new trackway) represents the least impactful, most practicable alternative regarding disturbance to the WQR. As noted in Finding 7-E-i(f), below, the proposed mitigation of impacts is designed to reset a healthy ecological function for the WQR.

- f) MMC 19.402.12.A.6 requires a mitigation plan, including a description of the proposed development's impacts to the WQR, a map showing where mitigation activities will occur and a schedule and timeline for implementation.

The applicant's WQR report includes a description of the proposed disturbances to the WQR. The new PMLR trackway will result in a permanent disturbance of 0.2 acres, with 0.06 acres of temporary disturbance for construction access. A map (Figure 2: Mitigation Area) shows the location of temporary and permanent disturbance areas within the WQR.

Existing trees to remain on the site will be protected, and an area equal to the permanent disturbance area will be restored with native species trees, shrubs, and ground cover. The concrete foundation wall within the stream channel will be removed to restore a more natural stream hydrology within the WQR. The nuisance species plants that currently dominate the area will be removed, reversing the trend of ecological decline and resetting a natural course for a healthy, native vegetation community within the WQR.

The mitigation plan includes some general information about how the work will be conducted within the WQR. Erosion and sediment control measures will be established prior to the commencement of work, and cleared areas will not be left unprotected for more than 24 hours. According to the planting list included in the applicant's WQR report, cleared areas will be re-seeded within 48 hours of disturbance and will be replanted with trees and shrubs as soon as practicable. Unless the Oregon Department of Fish & Wildlife (ODFW) grants an extension, in-stream work will be conducted during the ODFW-sanctioned window of July 15 through August 31.

ESA has reviewed the mitigation plan provided in the WQR report and concluded that it is generally sufficient, given the amount and type of disturbance proposed. A condition is established to require a more detailed plan for implementation of the approved mitigation, including timelines for planting, maintenance, and monitoring, as well as a contingency plan. An additional condition is established to require that fell logs from the trees downed within the project area be retained in the mitigation area.

As conditioned, the Planning Commission finds that the WQR report provided by the applicant meets the applicable standards of MMC 19.402.12.A.

- ii. MMC 19.402.12.B establishes criteria for approving disturbances to the WQR.

- a) MMC 19.402.12.B.1.a requires that the proposed development shall avoid intrusion into the WQR to the extent practicable and that it be the least impactful alternative.

The alignment of the PMLR trackway, which the Milwaukie City Council and Metro approved, crosses Crystal Creek and passes through the adjacent WQR. The approved alignment location makes intrusion into and some disturbance of the WQR inevitable.

As discussed in Finding 7-E-i(d), above, Crystal Creek already passes through a culvert under the existing Union Pacific Railroad (UPRR) trackway; the proposed development will extend the existing culvert. There is no documented history of Crystal Creek being a fish-bearing stream for protected species. Additional barriers to fish passage in Crystal Creek exist both upstream and downstream from the project area. The Oregon Department of Fish and Wildlife (ODFW) granted the applicant a waiver from the requirement to establish or maintain particular conditions for fish passage in Crystal Creek. Given these circumstances, repairing and extending the existing culvert and using mechanically stabilized earth (MSE) and a retaining wall represents the least impactful alternative for the new trackway that is practicable.

As proposed, this criterion is met.

- b) MMC 19.402.12.B.1.b requires that the proposed development shall minimize detrimental impacts to the WQR to the extent practicable.

The project proposal limits the area of WQR disturbance and the number of existing trees that will be removed to the minimum necessary, and provides protection for the WQR area and the trees that will remain. Temporary disturbance for trackway construction and for access to the project area will be limited to the minimum necessary for construction access, both along the new trackway and into the project area from SE 26th Avenue.

The proposed development is subject to all applicable development standards, including measures to protect areas within the WQR that will not be disturbed by the proposed development. A condition is established to ensure that all project work is performed in accordance with an approved construction management plan.

As conditioned, this criterion is met.

- c) MMC 19.402.12.B.1.c requires that the proposed development shall mitigate for detrimental impacts to the WQR. Mitigation shall be on site, use native plants, be done in accordance with allowable windows for in-water work, and follow a mitigation maintenance plan.

The applicant has proposed to mitigate for permanent impacts to the WQR by restoring an area equal to the permanent disturbance area (0.2 acres). Existing nuisance plant species will be removed from the mitigation area. The applicant will also remove a concrete foundation wall from the stream channel, improving stream flow and water quality. Removal of the concrete wall will require removal of 1 small willow tree that is growing out of the foundation. The mitigation area will be replanted with native species, including approximately 45 trees and 130 shrubs, and the area will be minimally re-graded to establish a more natural channel and direct water into the newly extended culvert. The proposed mitigation is designed to reset the ecological balance of the area in favor of native species and more natural stream and wetland hydrology.

ESA has assessed the proposed mitigation plan and determined that it is generally sufficient as mitigation for the proposed permanent disturbance to the WQR. ESA offered one suggestion for improving the mitigation plan: within the mitigation area, retain the fell logs from trees downed as part the project, to provide immediate nutrients and large woody and organic material. A condition is established to address this suggestion and ensure that the mitigation plan adequately compensates for detrimental impacts to the ecological functions of the WQR.

As conditioned, this criterion is met.

The Planning Commission finds that, as conditioned, the proposed development meets the approval criteria established in MMC 19.402.12.B.

The Planning Commission finds that, as conditioned, the proposed development meets the applicable standards of MMC 19.402.12.

- F. MMC 19.402.15 establishes standards for verifying the boundaries of WQRs and HCAs and for administering the City's Natural Resource (NR) Administrative Map. The locations of WQRs are determined based on the provisions of MMC Table 19.402.15. In general, for primary protected water features, the WQR includes the feature itself and a vegetated corridor that extends 50 ft from the top of bank (for streams) or delineated edge of the feature (for wetlands).

The application submittal includes a map showing the location of Crystal Creek, a primary protected water feature. The map also shows the location of the wetland associated with the creek, the delineation of which has been approved by the Oregon Department of State Lands (DSL). The vegetated corridors adjacent to both protected water features have been determined in accordance with the provisions of MMC Table 19.402.15, including an accounting for steep slopes in the project area.

ESA visited the site and reviewed the applicant's map of the WQR. ESA concurs with the applicant's presentation of the location of the primary protected water features (Crystal Creek and the associated wetland) and the adjacent vegetated corridors that comprise the WQR.

The Planning Commission finds that the WQR is accurately mapped according to the relevant provisions of MMC 19.402.15.

The Planning Commission finds that, as conditioned, the proposed development meets all the applicable standards of MMC 19.402.

8. MMC 19.700 Public Facility Improvements

The purpose of MMC 19.700 is to ensure that development provides public facilities that are safe, convenient, and adequate in rough proportion to their public facility impacts. As per MMC 19.702.3.G, public capital improvement projects are exempt from the standards of MMC 19.700.

The Portland-Milwaukie Light Rail (PMLR) project is part of a larger, regional public transportation system and represents a type of capital improvement project. The standards of MMC 19.700 are not applicable to the proposed work.

9. The City distributed the subject application to the following City departments and agencies for review and comment on May 23, 2012: City of Milwaukie Building, Engineering, and Operations Departments; Clackamas County Fire District #1; Historic Milwaukie Neighborhood District Association; TriMet; U.S. Army Corps of Engineers; Oregon Department of State Lands; and ESA, the City's on-call natural resource consultant. The

City mailed notice of the initial public hearing to property owners and current residents at all properties within 300 ft of the subject property on June 20, 2012.

The following is a summary of the comments received by the City:

- **Rob Livingston, City of Milwaukie Erosion Control Specialist:** No specific comments on this application. Will review the Erosion, Sediment, and Pollution Control Plan submitted as part of actual construction, as referenced on Page 8 (third paragraph) of the applicant's WQR report.
- **Zach Weigel, City of Milwaukie Engineering Department:** The provisions of MMC 19.700 Public Facility Improvements are not applicable to the proposed development.

Response: This comment has been incorporated into the Findings.

- **Jean Baker, co-chair of Historic Milwaukie NDA:** There are no further questions at this time. (*Note: NDA members met with TriMet staff met on June 18, 2012, to address questions site access, phasing of construction and mitigation, the ODFW fish-passage exemption, and repurposing of trees removed.*)
- **Sarah Hartung and Alison Sigler, Biologists with ESA:** As the City's on-call natural resource consultant, ESA reviewed the application; assessed the existing conditions, alternatives analysis, and proposed mitigation plan; and prepared a report summarizing the analysis.

Response: The ESA analysis has been incorporated into the Findings.

Recommended Conditions of Approval

1. Prior to issuance of any building or other permits for development on the subject property, the following shall be resolved:
 - A. Unless otherwise required by these conditions of approval, all plans submitted for development permits for the subject property shall be substantially similar to those submitted as part of the final land use application (stamped received on May 18, 2012, for most of the applicant's materials; or June 7, 2012, for the revised Figure 1 (Existing Conditions)).
 - B. Provide a construction management plan that shows the following:
 - i. Demarcation of the Water Quality Resource (WQR) and the location of disturbance areas (temporary and permanent)
 - ii. Erosion and sediment control measures
 - iii. Measures to protect trees and other vegetation located within the WQR but outside of the approved disturbance area
 - iv. Location of any site access (ingress and egress) that construction or mitigation equipment will use
 - v. Any equipment and material staging or stockpile areas
 - C. Provide a final mitigation plan that includes the following details:
 - i. Clear indication of the person responsible for the mitigation work, including primary contact, phone number, and address
 - ii. Demarcation of planting areas for mitigation of temporary and permanent disturbances to the WQR
 - iii. Locations of particular plant species within the mitigation planting area—plantings shall be appropriate for particular conditions (e.g., sun/shade, wet/dry, etc.) and shall be native, non-nuisance species from the Milwaukie Native Plant List.
 - iv. A note that fell logs from trees removed from within the WQR shall be retained within the mitigation area as practicable, to provide immediate nutrients and large woody and organic material.
 - v. Timeline for planting, with schedule for watering, maintenance, monitoring, and replacement of plants—the timeline shall note that monitoring and maintenance will continue for at least 5 years after planting, to ensure 80% survival of the mitigation plantings. Throughout this 5-year establishment period, nuisance species plants shall be removed and/or otherwise controlled within the mitigation area.
 - vi. Contingency plan for ensuring that work will be completed as proposed
2. Prior to final inspection for any development permit for the subject property, implement the final mitigation plan for disturbance to the WQR, including the following tasks:
 - A. Remove all invasive nonnative vegetation and any debris or noxious material from within designated mitigation planting areas.

- B. Install trees, shrubs, and ground cover according to the details provided in the final mitigation plan and in accordance with the standards provided in MMC 19.402.11.B. This includes standards for plant size, spacing, and survival.
 - C. Provide a signed statement from the responsible party identified in Condition 1-C-i above, stating that all mitigation plantings have been installed according to the final mitigation plan.
3. The land use approval shall expire and become void unless both of the following steps are completed:
- A. Obtain all necessary development permits and start construction within 2 years of land use approval.
 - B. Pass final inspection within 4 years of land use approval.



PORTLAND-MILWAUKIE
LIGHT RAIL PROJECT

CRYSTAL CREEK

MILWAUKIE, OREGON

APPLICATION FOR
Natural Resources/Water Quality Resource Review

KLK CONSULTING LLC
May 18, 2012

RECEIVED

MAY 18 2012

CITY OF MILWAUKIE
PLANNING DEPARTMENT



CRYSTAL CREEK
APPLICATION STANDARDS AND CRITERIA RESPONSE

Reviews Required

NATURAL RESOURCE / WATER QUALITY RESOURCE REVIEW

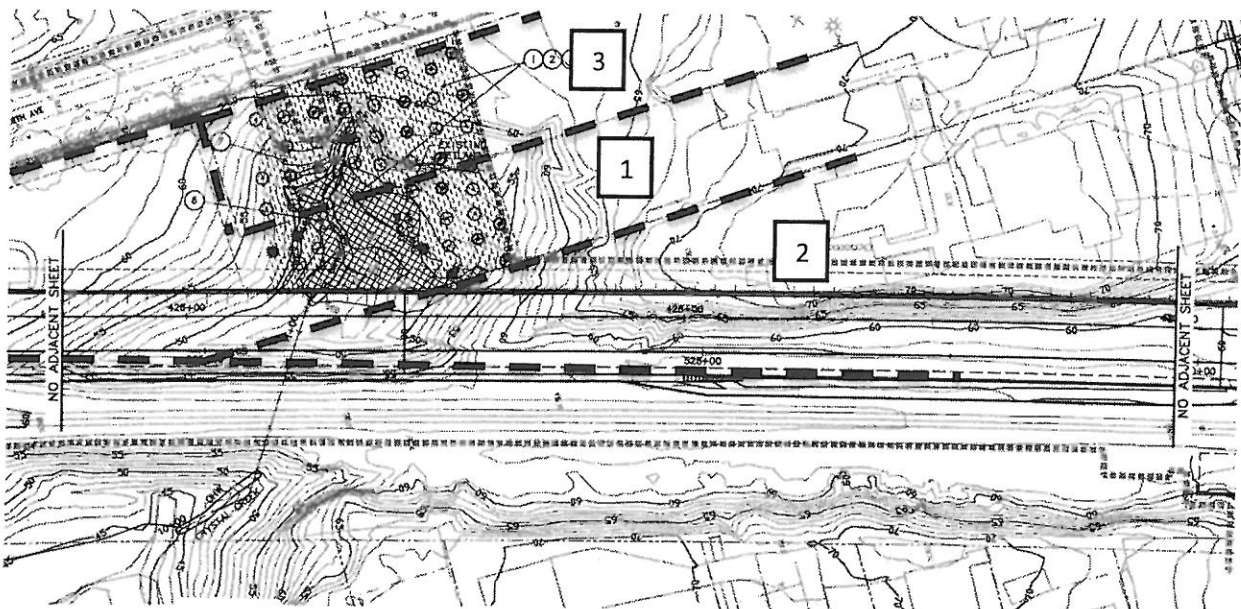
WATER QUALITY RESOURCE REVIEW

Review Extent

Portions of Project affecting areas subject to the WQR in the vicinity of Crystal Creek.

PROPERTIES WITHIN THE EXTENT OF THE REVIEW

lot #	Street	Zone	Property ID #	Assessor Reference #
1	2525 SE HARRISON ST	R2	C233002	11E25CC04300
2	2519 SE HARRISON ST	R2		11E25CC04400
3	2535 SE HARRISON ST	R2		11E25CC04500



DETAILED PROPOSAL DESCRIPTION

The Portland Milwaukie Light Rail project is a 7.3 mile extension of the TriMet regional rail system. The rail system includes a station in downtown Milwaukie, and another just south of Milwaukie at Park Avenue and McLoughlin.

Various portions and aspects of the project have gone through land use reviews, and others will come through future reviews. This review pertains specifically to the area in the vicinity of Crystal Creek

The purpose of this review is determine compliance with appropriate WQR requirements for a culvert extension at Crystal Creek, to maintain drainage under the new trackway leading to light rail station area, which serves as the downtown stop for the Portland Milwaukie Light Rail project. Separate application has been submitted for review of the platform area and associated structures, stairs, paving, retaining walls, and furnishings within the property bounds.

The preliminary worksheet of the bounds of the WQR area is attached.

Three parcels are impacted by the culvert extension work and new trackway. One site is currently a freight corridor for the UPRR. The trackwork, and culvert extension scope of work is within the UPRR right of way. Three adjacent parcels, 2525 SE Harrison (11E25CC04300), 2519 SE Harrison (11E25CC04400), and 2535 SE Harrison (11E25CC04500), to the east of the UPRR are currently residential use, although the area impacted contains no structures. Impacts to these parcels are temporary and related to the culvert extensions (culvert inlet) and mitigation planting work. The parcel to the west of UPRR is adjacent the culvert outfall, and is not impacted.

It has been demonstrated that the proposal is consistent with the applicable approval criteria. The applicable standards and approval criteria have been identified below and addressed in the attached report. The proposal is consistent with those approval criteria, and seeks an approval at this time.

APPLICABLE APPROVAL CRITERIA

Those Code sections determined to be Applicable have been identified as follows.

Residential Zone R2, 19.306

19.306.3 STANDARDS

Water Quality Resource Review, 19.402 Natural Resource Regulations

19.402.1 INTENT

19.402.3 APPLICABILITY

19.402.8 ACTIVITIES REQUIRING TYPE III REVIEW

19.402.11 DEVELOPMENT STANDARDS

19.402.12 GENERAL DISCRETIONARY REVIEW

Residential Zone R2, 19.306

The proposed activities occur within the R2 Zone, and are therefore subject to the development standards of that zone.

19.306.3 STANDARDS

There are no R2 standards applicable to the activities associated with the proposed culvert and related activities in the affected area.

Water Quality Resource Review

19.402.1 INTENT

The intent of the regulations, and associated specific chapters, are addressed in the attached report.

19.402.3 APPLICABILITY

Those chapters that are applicable are indicated and addressed.

Requirement		Findings
A. The regulations in Section 19.402 apply to all properties that contain, or are within 100 ft of a WQR and/or HCA (including any locally significant Goal 5 wetlands or habitat areas identified by the City of Milwaukie) as shown on the Milwaukie Natural Resource Administrative Map (hereafter "NR Administrative Map").		The site is within a WQR. As such, the regulations are applicable.
J. The requirements of Section 19.402 apply, as shown in Table 19.402.3, both to properties that include a WQR and/or HCA, and to properties that do not include a WQR or HCA but where an activity is proposed within 100 ft of a WQR or HCA.		The requirements of the table (below) apply. As such, a Construction Management Plan will be provided prior to permitting, and the proposal demonstrates compliance with the remainder of Section 19.402 per the submitted Report.
K. Activities that are not exempt per Subsection 19.402.4, or prohibited per Subsection 19.402.5, are subject to the Type I, II, or III review process as outlined in Table 19.402.3.K.		The required procedure has been identified as a Type III review.

Table 19.402.3 Applicability of Requirements of Section 19.402		
Situations/Activities that may Trigger Section 19.402	Prepare Construction Management Plan per Subsection 19.402.9	Comply with Remainder of Section 19.402
Activities listed as exempt per:		
• Subsection 19.402.4.A (outright exemptions for both WQRs and HCAs)	No	No
• Subsection 19.402.4.B (limited exemptions for HCAs only)	No (unless > 150 sq ft of disturbance is proposed)	No
Nonexempt activities:		
• Outside of WQR and HCA	No (unless activity is within 100' of WQR or HCA and > 150 sq ft of disturbance is proposed)	No
• Within WQR or HCA	Yes	Yes

19.402.8 ACTIVITIES REQUIRING TYPE III REVIEW

Applications for development or land disturbance on properties that contain Water Quality Resource Areas shall demonstrate compliance with the following standards:

Within either WQRs or HCAs, the following activities are subject to Type III review and approval by the Planning Commission under Section 19.1006, unless they are otherwise exempt or permitted as a Type I or II activity.

Threshold	Findings
<p>A. The activities listed below shall be subject to the general discretionary review criteria provided in Subsection 19.402.12:</p> <p>2. Within HCAs, development that is not in compliance with the nondiscretionary standards provided in Subsection 19.402.11.D.</p> <p>6. New public or private utility facility construction that cannot meet the applicable standards of Subsection 19.402.11.E.</p> <p>8. Tree removal in excess of that permitted under Subsections 19.402.4 or 19.402.6.</p> <p>9. Landscaping and maintenance of existing landscaping that would increase impervious area by more than 150 sq ft.</p>	<p>Those thresholds that result in the requirement are identified.</p> <p>A. 2 The proposed rail is not in compliance with the non-discretionary standards.</p> <p>A.6 The introduction of the new rail cannot be in compliance with the applicable standards.</p> <p>A8. Necessary tree removal in excess of that permitted is occurring.</p> <p>A9 Modifications to the landscaping constitute an area greater than 150 s.f..</p> <p>A Type III review is required.</p>

19.402.9 CONSTRUCTION MANAGEMENT PLANS

<p>B. Construction management plans shall provide the following information:</p> <ol style="list-style-type: none">1. Description of work to be done.2. Scaled site plan showing a demarcation of WQRs and HCAs and the location of excavation areas for building foundations, utilities, stormwater facilities, etc.3. Location of site access and egress that construction equipment will use.4. Equipment and material staging and stockpile areas.5. Erosion and sediment control measures.6. Measures to protect trees and other vegetation located within the potentially affected WQR and/or HCA. A root protection zone shall be established around each tree in the WQR or HCA that is adjacent to any approved work area. The root protection zone shall extend from the trunk to the outer edge of the tree's canopy, or as close to the outer edge of the canopy as is practicable for the approved project. The perimeter of the root protection zone shall be flagged, fenced, or otherwise marked and shall remain undisturbed. Material storage and construction access is prohibited within the perimeter. The root protection zone shall be maintained until construction is complete.	<p>A Construction Management Plan will be submitted prior to permitting consistent with the identified criteria.</p>
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19.402.11 DEVELOPMENT STANDARDS

The applicable development standards are addressed in detail in the provided Report.

19.402.12 GENERAL DISCRETIONARY REVIEW

The applicable provisions specifically addressing the discretionary review criteria are addressed in detail in the provided Report.

CRYSTAL CREEK WATER QUALITY RESOURCE REPORT



5/16/2012

Portland-Milwaukie Light Rail

The Portland-Milwaukie Light Rail alignment will cross over Crystal Creek. Crystal Creek is designated as a Water Quality Resource and is subject to Section 19.402 of the City of Milwaukie's Municipal Code.

Crystal Creek Water Quality Resource Report

PORTLAND-MILWAUKIE LIGHTRAIL

Prepared For:



Prepared By:

VIGIL-AGRIMIS

design professionals

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Portland, Oregon 97214
www.vigil-agrimis.com

Engineering --- Landscape Architecture --- Environmental Science

The PMLR crossing of Crystal Creek will cause 0.2 ac of disturbance to the WQR. The proposed mitigation plan compensates for the unavoidable impacts to the ecological functions of the WQR, and exceeds what is required under Section 19.402.11.C of the City of Milwaukee Municipal Code by doing the following:

- ✓ *Removes development from within the WQR*
- ✓ *Restores the degraded stream channel*
- ✓ *Removes identified nuisance plants*
- ✓ *Plants native plants to provide 100% surface coverage*

The mitigation plan improves overall water quality and ecological functions and values of the WQR.

EXECUTIVE SUMMARY

The Portland-Milwaukee Light Rail (PMLR) Project will cross Crystal Creek on an extension of an existing culvert that is under the Union Pacific Railroad (UPRR). Crystal Creek is designated as a Water Quality Resource (WQR) on the Milwaukee Natural Resource Administrative Map. Portions of the project are on private property where TriMet has secured temporary construction easements. The City has informed TriMet that the crossing of the Crystal Creek WQR requires a discretionary review.

Within the project limits, Crystal Creek flows in a general east-northeast direction until the flow is intercepted by a concrete wall. This wall is remnant from some past development. At the wall, flows split and go either along the base of the wall or over the top of the wall and into the existing culvert under the UPRR. The stream channel is extremely degraded and the concrete wall is causing active erosion. Some of the diverted flow goes into a wetland.

The habitat of the Crystal Creek WQR within the project limits is in a state of rapid decline as the trees are being climbed and overtaken by English ivy. Almost every tree has ivy climbing it. There are also a few toppled trees that are engulfed in ivy. Additionally, ivy and blackberry dominate the shrub layer and ground cover, effectively out-competing native plants from being established and actively preventing the regeneration of trees and other native species. The dominance of these nuisance plants are degrading the tree canopy that should be occurring in this habitat. If left in its current state, the trees will die and fall and ivy and blackberry would cover the entire area.

Currently Crystal Creek flows under the UPRR through a 36-inch diameter culvert. Several design alternatives were considered for the PMLR crossing of Crystal Creek, but it was determined that the least impacting and most feasible would be to extend the existing UPRR's culvert. The proposed lining of the culvert would be less disturbing to the resource than replacing the existing culvert. TriMet has minimized the impacts to Crystal Creek WQR to the extent possible by having a perpendicular crossing and using retaining walls to minimize the footprint of the tracks.

Extension of the culvert also provides the opportunity to remove a remnant concrete wall that is degrading the natural stream channel dynamics and causing active erosion of Crystal Creek. Grading is required to re-establish the creek channel after the remnant concrete wall is removed. The area to be graded has been minimized to the extent needed to reestablish a natural stream channel configuration.

A summary of proposed impacts and the mitigation to compensate for these impacts is provided in the summary table below. The mitigation will occur on-site, within the area TriMet has acquired temporary construction

easements. The mitigation area will result in 100% surface coverage by native plants within 1 year of planting. In addition, the channel will be restored to a native stream channel shape that will reduce erosion and improve water flow and channel dynamics. The mitigation plan exceeds the requirements of 19.402.11.C by doing the following:

- Removes development (remnant concrete wall) from within the WQR.
- Reduces erosion and sedimentation by removing the structure that is causing the erosion
- Putting the creek back into a natural stream channel.
- Re-establishes a native stream channel that improves water flow and channel dynamics.
- Connects the wetland and stream channel.

Summary Table. PMLR WQR Impacts and Associated Mitigation

PMLR WQR Impact	Mitigation
<p>Permanent disturbance of 0.20 acres</p>	<p>TriMet will restore 0.20 ac of WQR by removing non-native vegetation and planting with a native riparian plant community. This will increase the overall ecological value of the habitat, as described below:</p> <ul style="list-style-type: none"> • Non-native plants currently dominate and out-compete the native vegetation. This is preventing the regeneration of native species. The removal of invasive nuisance vegetation and subsequent replanting with appropriate native vegetation will reset the ecological condition of the site and establish a trajectory toward a diverse, multi-layered, Pacific Northwest riparian plant community. • Two custom native seed mixes will be used to provide rapid groundcover, prevent erosion, and compete against invasive vegetation. • Eight species of shrubs will be planted in the upland areas. These shrubs were selected to establish rapidly and thrive in a variety of microclimates. This will establish multi-storied strata habitat that will provide year round coverage and foraging for wildlife. • The proposed plant community will develop deep fibrous root systems that will provide stabilization and water infiltration. • Five species of shrubs will be planted in the wetland area to add habitat diversity and resilience to non-native plant invasion. Two aggressive native wetland species (slough sedge and small fruited bulrush) will be planted on the ground plane within the wetland. These two species are known for their ability to tolerate a wide range of environmental conditions and to compete against non-native invasive plant species.

PMLR WQR Impact	Mitigation
Temporary disturbance of 0.06 acres	The mitigation plan will restore the area temporarily disturbed to a condition better than currently exists by removal of well-established non-native vegetation that currently dominates the understory, and planting with a native plant community that will provide year round food and cover, and improve the water quality functions of the riparian habitat. Only native plants will be used. All areas that are temporarily disturbed will be revegetated to create a multi-canopy strata that will become quickly established, thus preventing ivy and blackberry from becoming established.
Removal of 11 trees	Forty-seven trees will be planted within the WQR. Trees selected include a mix of conifer and deciduous species to create a diverse tree canopy. The native plants will provide year round shading of Crystal Creek. The big leaf maple and Douglas fir trees will provide rapid canopy establishment. The western red cedar and cascara are slower growing shade tolerant trees that will maintain a diverse canopy structure for many years. This will provide long term large wood recruitment.

INTRODUCTION

The Portland-Milwaukie Light Rail (PMLR) Project is a 7.3-mile extension of TriMet's regional rail system. The new light rail extension will require the crossing of Crystal Creek. The project is located on the following tax lots 11E25CC04500, 11E25CC04300, and 11E25CC4400; and within portions of TriMet and UPRR rights-of-way. This portion of the PMLR parallels the Union Pacific Railroad (UPRR) tracks on the east side. At the project location, Crystal Creek runs east/west through this area and the PMLR tracks will run north/south.

Crystal Creek is designated as a Water Quality Resource (WQR) on the Milwaukie Natural Resource Administrative Map. Crystal Creek is identified as Primary Protected Water Feature. In addition to Crystal Creek, is a wetland. The wetland is also a Primary Protected Water Feature¹. The regulations in Section 19.402 of the Milwaukie Municipal Code (MMC) apply to all properties that contain or are within 100 feet of the resource. Vigil-Agrimis, Inc. has prepared this WQR Report to evaluate the existing condition, assess potential disturbances from the proposed development, and describe a mitigation plan that would compensate for potential impacts to water quality and habitat resources as required in Section 19.402.

Slopes adjacent to Crystal Creek and the associated wetland are < 25 feet, with the exception along the south end of the UPRR tracks where a large amount of fill has been placed creating >25% slopes. According to Table 19.402.15, the width of the Vegetated Corridor should be 50 feet, and then extends 50 feet beyond the break in slope to the south. As shown in **Photo 1** below, the Crystal Creek WQR extends beyond a physical triangular shaped area that is comprised of SE 26th Ave. on the east, UPRR tracks on the west, and development on the south. **Figure 1** shows the dimensions of the WQR boundary. The boundary represents several discussions with TriMet and the City on what the WQR boundary should be.



Photo 1. Crystal Creek WQR boundary at PMLR crossing

¹ In this report, the resources within the Crystal Creek WQR includes both Crystal Creek and the wetland.

Coordination with Other Regulations

TriMet has coordinated with several agencies throughout the project to evaluate alternatives and obtain environmental approval. Alternatives, impacts, and appropriate mitigation have been vetted through the National Environmental Protection Act and other permitting processes. TriMet has received several permits for the project, including a Removal-Fill Permit (RF-45253) from Oregon Department of State Lands (DSL) and a Section 404 of the Clean Water Act permit (NWP-2009-444) from the US Army Corps of Engineers (Corps). The crossing of Crystal Creek and impacts to the associated wetland are specifically included in these permits. Mitigation for impacts to wetlands and water bodies is being done at the West Moreland Park as directed under these permits. A summary of all the permits received for the project is provided in the Permit Summary Table submitted as part of this application.

TriMet also received a Fish Passage Exemption (E-02-0019) from the Oregon Department of Fish and Wildlife (ODFW) for the culvert crossing of Crystal Creek. This has been included in **Appendix A**.

ASSESSMENT METHODOLOGY

This WQR report has been performed with methods intended to satisfy the requirements of Section 19.402 of the MMC. This assessment involved both reviews of existing information (e.g., maps, GIS data) and field investigations specific to this project. Two site visits, on March 29, 2012, and April 5, 2012, were conducted to accurately assess existing vegetation and the overall resource conditions within the WQR. Additionally, the location of existing natural features (wetlands², additional water sources, rock outcroppings, etc.) and trees larger than 6 inches diameter at breast height (DBH) were determined in the field. Vegetation plots were established to assess the condition of the WQR, in accordance with Section 19.402.11.C. This report has been prepared by a wildlife biologist and wetland ecologist with input provided by water resource engineers (culvert and stream channel design) and landscape architects (mitigation design).

DISCRETIONARY REVIEW

The crossing of Crystal Creek will entail inserting an HDPE lining through an existing culvert that runs under the UPRR tracks. On the west side of the UPRR tracks, the work would entail sealing the lining to the culvert. This would involve workers accessing the outfall by foot. As currently understood by City staff, the proposed work constitutes routine repair and maintenance of an existing utility facility per the “utility facility” definition in MMC 19.201. Since the proposed work on the west side would not cause disturbance to the WQR and only involves repair and/or maintenance of the existing pipe, the work is exempt per MMC 19.402.4.A.10.

The City staff has informed TriMet that the culvert extension on the east side of the UPRR requires a discretionary review. The area described in this report includes portions of the Crystal Creek WQR on the east side of the UPRR that will be impacted by the stormwater swale along SE 26th Ave., the light rail track (LRT) construction, and the culvert extension.

² A Wetland Delineation was performed for the PMLR project and has been submitted as part of this permit application.

Impact Evaluation and Alternatives Analysis

Identification of the ecological functions of riparian habitat found on the property, as described in Subsection 19.402.1.C.2

The intent of Section 19.402 is to designate WQRs to protect the functions and values of riparian and wetland resources at the time of development. Section 19.402.1.C.2 lists riparian functions and values that contribute to water quality in urban streamside areas that should be protected and improved. **Table 1** lists the existing ecological functions (as required by Section 19.402.1.C.2) of the Crystal Creek WQR within the project limits.

The Crystal Creek WQR is in a rapid state of ecological decline due to the dominance of non-native, invasive species and the alteration of stream flow hydrology. Development within the WQR consists of the UPRR, SE 26th Ave, and commercial/residential development on the south. The WQR has been developed in the past, but only a remnant wall that spans the streambed of Crystal Creek remains. The development on the south is 10-70 feet beyond the WQR boundary.

The existing canopy cover is about 68% and is in a state of rapid decline as the trees are being climbed and overtaken by English ivy. Almost every tree has ivy climbing it. Multiple standing trees are deceased because they have been overwhelmed by ivy. There are also a few toppled trees that are engulfed in ivy.

Ivy and blackberry dominate the shrub layer and ground cover, effectively out-competing native plants from being established and actively preventing the regeneration of trees and other native species. The dominance of these plants are degrading the existing tree canopy that should be occurring in this habitat, and preventing the regeneration of trees.

Photo 2. Looking southeast at Crystal Creek WQR from existing culvert inlet.





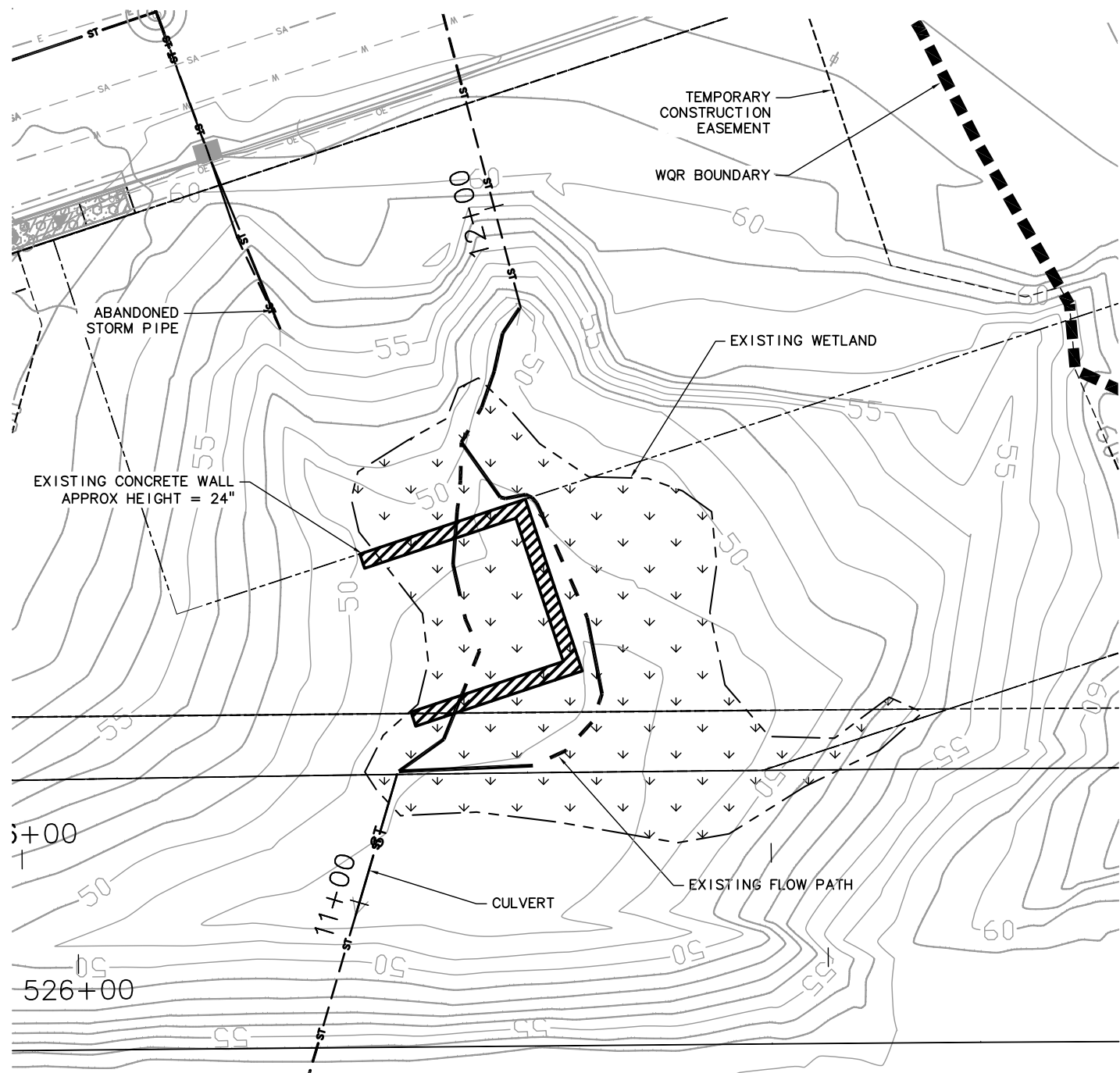
There is a concrete wall that spans Crystal Creek and intercepts and diverts flow out of the channel. This concrete wall is remnant from some past development. At the wall, flows split and go either along the base of the wall or over the top of the wall and into the existing culvert under the UPRR. This flow pattern is shown under the existing conditions on **Figure 1A**. The stream channel is extremely degraded, and the concrete wall is causing active erosion. Some of the diverted flow goes into the wetland.

Photo 3. Concrete wall that spans Crystal Creek and intercepts and diverts flow from channel.

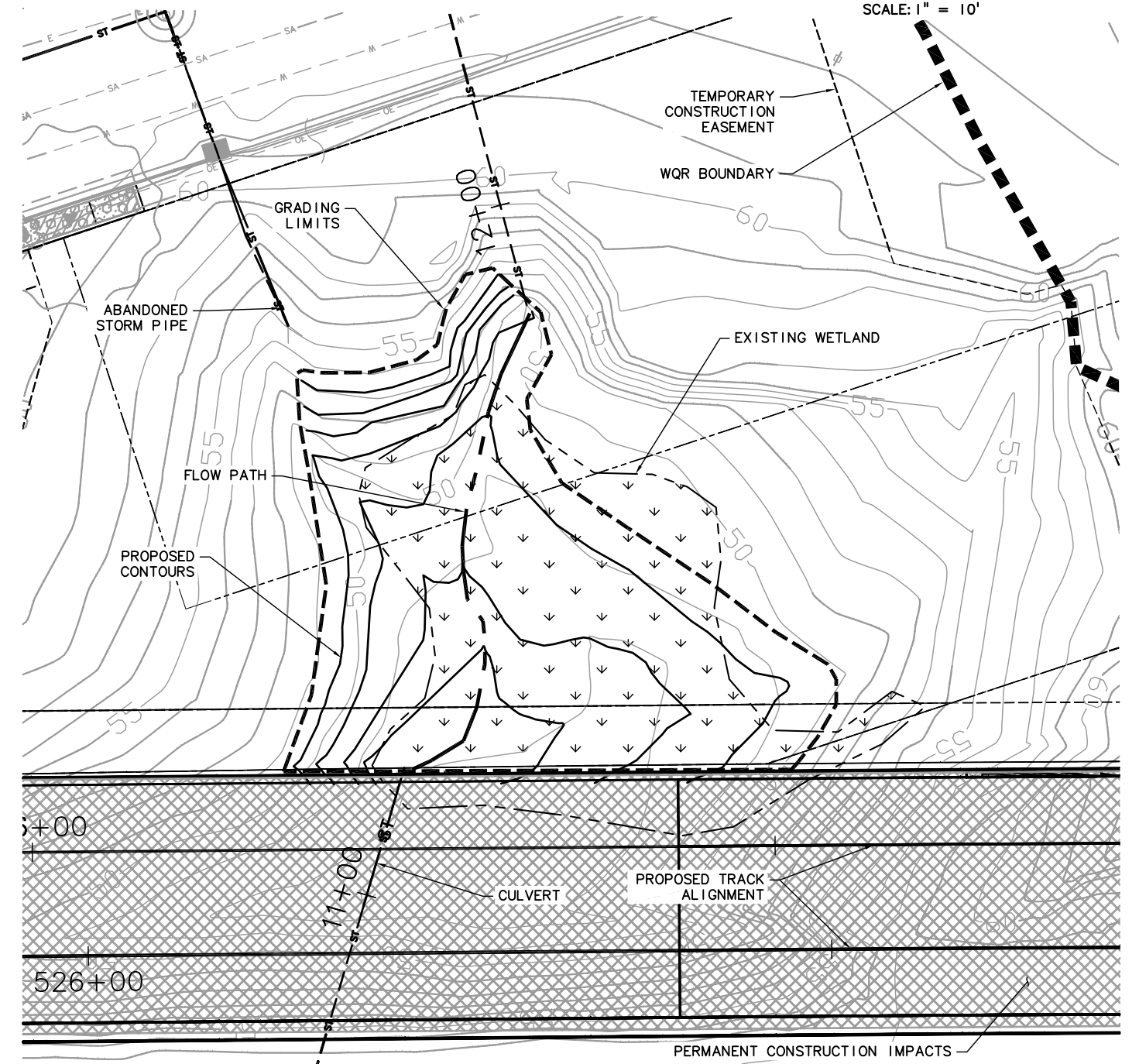


Photo 4. Non-native plants dominate the Crystal Creek WQR, out-competing native plants.

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EXISTING CONDITIONS



PROPOSED CONDITIONS

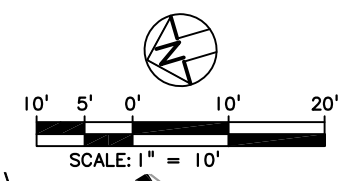


FIGURE 1A: CHANNEL ENHANCEMENT

				SAR DESIGNED 05-16-11 DATE	TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON				PORTLAND TO MILWAUKIE LRT EAST SEGMENT							
				HLW DRAWN 05-16-11 DATE					CAPITAL PROJECTS AND FACILITIES DIVISION 710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232				LAND USE PERMIT CRYSTAL CREEK WATER QUALITY RESOURCE BOUNDARY			
				EES CHECKED 11-04-11 DATE												
				APPROVED 05-14-12 DATE												
				SUBMITTED: 05-14-12				APPROVED: 05-14-12				SCALE: FIG 1A CHANNEL ENHANCEMENT				
								DRAWING NO.: RH100544JB				CONTRACT NO.: RH100544JB				
								SHEET NO.:								

Table 1. Existing Ecological Functions of the Crystal Creek WQR

19.402.1.C.2 Functions and Values	Existing Ecological Functions Of Riparian Habitat
Vegetated corridors to separate protected water features from development	The project area is bounded by the UPRR and SE 26 th Ave. The only development within the project limits of the WQR is a remnant wall that spans the streambed of Crystal Creek. The development on the south exceeds the WQR boundary by 10-70 feet.
Microclimate and shade	<p>The existing canopy cover is about 68% and is in a state of rapid decline as the trees are being climbed and overtaken by English ivy. Almost every tree has ivy climbing it. Multiple standing trees are deceased because they have been overwhelmed by ivy. There are a few toppled trees that are engulfed in ivy.</p> <p>Ivy and blackberry dominate the shrub layer and ground cover, thus reducing the variety and complexity of microclimates in the area. These plants are actively degrading the native multi-story forest canopy that should be occurring in this habitat. Ivy and blackberry are toppling trees, out-competing native shrubs, and dominating the ground plane, and preventing the regeneration of native trees, shrubs, ferns, and herbaceous plants.</p>
Stream flow moderation and water storage	<p>Concrete in the streambed effects stream flow direction. Flows are being diverted out of the stream channel and around the concrete, causing active areas of erosion. Some flow is being directed into the wetland.</p> <p>The simplifying canopy and degraded ground cover vegetation are less effective at moderating stream flow than a multi-layered native forest canopy. The development of a fluffy, absorbent duff layer is severely compromised by the English ivy layer on the ground.</p>
Water filtration, infiltration, and natural purification	The ground cover is dominated by ivy, which has shallow roots and offers poor water filtration. As a result, the area lacks the deep fibrous root systems of native vegetation. Duff has been degraded by ivy and blackberry coverage. As stated above, the canopy is single storied and rapidly declining. Concrete in the streambed and WQR prevents water infiltration.

19.402.1.C.2 Functions and Values	Existing Ecological Functions Of Riparian Habitat
Bank stabilization and sediment and pollution control	<p>English ivy and blackberry dominate the ground and shrub layer. Ivy is shallow rooted and does not provide effective bank stabilization or sediment control. Areas of erosion were visible along the creek and wetland edge. Over time, the ivy will become denser and the stream banks will be prone to increasing erosion.</p> <p>English ivy is destroying the trees. Almost every tree has ivy climbing it. Multiple standing trees are deceased because they have been overwhelmed by ivy. There are a few toppled trees that are engulfed in ivy. As this continues, there will be fewer tree roots and large wood to help stabilize banks</p> <p>The dense coverage by Armenian blackberry and ivy is preventing the regeneration of native trees and shrubs, preventing their root systems from supporting bank stability.</p> <p>Concrete in the streambed and WQR has altered stream flow direction and is causing active erosion.</p>
Large wood recruitment and retention and natural channel dynamics	<p>There is a remnant rectangular concrete structure that intercepts the creek channel. When the creek channel meets this structure, it forks. A portion of the creek's flow overtops the structure and is diverted into the wetland. The remaining water flows along the wall to the culvert. This structure has altered the natural channel stream channel and is preventing natural channel dynamics to occur.</p> <p>The WQR currently lacks large wood. There may be an increase in large wood entering the creek as the ivy-strangled trees fall. However, there is no long term or sustainable large wood recruitment occurring because the dominance of blackberry and ivy is preventing the regenerative growth of trees. The domination of ivy and blackberry is out-competing all other plant species and there is no regeneration of native trees and shrubs.</p>
Organic material resources	<p>The WQR lacks large wood. Seasonal cycles of leaf litter and decay are compromised by English ivy and Armenian blackberry domination of the ground plane and shrub layers. Deadfall, downed branches, exposed roots; leaves, seed pods, native seeds, flowers, stems, and decaying herbaceous material are not present at the levels found in a healthy native forest per the infestation of ivy and blackberry.</p>

An inventory of vegetation, sufficient to categorize the existing condition of the WQR per Table 19.402.11.C, including the percentage of ground and canopy coverage materials within the WQR.

Table 2 lists plant species and coverage within the project limits of the WQR. Based on the plant coverage, the WQR would have a Class A (“Good”) condition because the combination of trees, shrubs and ground cover has 80% coverage, with more than 50% canopy coverage.

It is important to note that the coverage by blackberry and ivy are what make the WQR have a Class A condition. Section 19.402.11.C does not take into consideration coverage by non-native species. Both of these species (and Clematis vitalba) are non-native and are on the City of Portland’s nuisance plant list. Without these species, the WQR would have a Class B (“Marginal”) condition. This condition aligns more with the existing ecological functions of the site described in Table 1 above.

Table 2. Plant Inventory of Crystal Creek WQR

Trees		% cover
<i>Pseudotsuga menziesii</i>	Douglas-fir	25
<i>Salix sp.</i>	willow	35
<i>Acer macrophyllum</i>	big leaf maple	8
Total cover		68

Shrubs		% cover
<i>Corylus cornuta</i>	beaked hazelnut	2
<i>Crataegus monogyna</i> *	English hawthorn	2
<i>Ilex aquifolium</i> *	English holly	2
<i>Rubus armeniacus</i> *	Armenian blackberry	85
Total cover		91

Groundcover and Vines		% cover
<i>Hedera helix</i> *	English ivy	75
<i>Festuca arundinacea</i>	tall fescue	2
<i>Clematis vitalba</i> *	traveler's joy	15
Total cover		92

*Plants listed with * in the table are identified as nuisance plants by the City of Milwaukie because they are on the City of Portland Nuisance Plant List.

An assessment of the water quality impacts related to the development, including sediments, temperature and nutrients, sediment control, and temperature control, or any other condition with the potential to cause the protected water feature to be listed on DEQ's 303(d) list.

Water quality impacts associated with construction of the PMLR tracks and culvert extension are expected to be minimal. To reduce effects at the construction site, erosion and sediment control measures will be put in place, all disturbed areas will be restored during post-construction site restoration, and staging areas will be located at least 150 feet from any water body. Specific measures to minimize water quality impacts are summarized in the Permit Summary Table submitted with this application.

In order to reduce sedimentation, the contractor will develop and implement an Erosion, Sediment and Pollution Control Plan. All in water work will be done during the ODFW recommended in-water window of July 15-August 31 for Crystal Creek.

The proposed project will require the disturbance of 0.26 acres (ac) within the Crystal Creek WQR. This includes 0.20 ac of permanent disturbance (for the PMLR tracks) and 0.06 ac of temporary disturbance needed for access to the culvert and the channel grading needed to establish appropriate contours after the cement wall is removed. The installation of the stormwater swale along SE 26th Ave. will permanently disturb 166 square feet (0.004 ac) of WQR.

Within the project limits, 11 trees will need to be removed³. Because of the tree heights and the topography within the WQR, only trees within 20 feet of Crystal Creek have the greatest opportunity to provide shade. The project will require the removal of 8 trees within 20 feet of Crystal Creek. Removal of trees within riparian areas can influence water temperature. However, temperature and water quality in Crystal Creek is more affected and regulated by the Crystal Lake than by riparian shade coverage. Although 8 trees will be removed, it will not reduce temperature control.

The removal of vegetation from the riparian area may temporarily reduce the input of detritus into the creek, shading, invertebrate populations, floodplain roughness, and the potential for large wood recruitment. These effects are expected to be limited to the short term in areas where riparian vegetation removal is necessary, and will be recovered after planted materials have become established.

The proposed extension of the existing UPRR culvert is the most practicable and feasible crossing. The design includes measures to limit the area to be disturbed including lining the culvert (instead of replacing it), limiting the area to be graded, and the use of MSE walls. The mitigation plan improves overall water quality and ecological functions and values of the WQR. The mitigation exceeds what is required under Section 19.402.11.C.

³ Trees to be removed are shown on **Figure 1**.

An alternatives analysis, providing an explanation of the rationale behind choosing the alternative selected, listing measures that will be taken to avoid and/or minimize adverse impacts to designated natural resources, and demonstrating that:

- a. **No practicable alternatives to the requested development exists that will not disturb the WQR.**
- b. **Development in the WQR has been limited to the area necessary to allow for the proposed use.**
- c. **If disturbed, the WQR can be restored to an equal or better condition in accordance with Table 19.402.11.C.**
- d. **Road crossings will be minimized as much as possible.**

There are no practicable alternatives that would not disturb the WQR. The PMLR alignment parallels the UPRR in this location. Within the project limits, Crystal Creek flows in a general east-east direction. The crossing will be perpendicular, minimizing the area to be disturbed as much as possible. The permanent impact footprint will be minimized by using mechanically stabilized earth (MSE) walls to contain the 34-foot wide LRT section. The placement of the MSE walls will occur from the tracks to limit the work area required.

It was decided that extending the existing culvert under the UPRR tracks was the least impacting and most feasible creek crossing. Since Crystal Creek crossed under the UPRR through a culvert, a new bridge crossing for the PMLR was not practicable. The PMLR will cross Crystal Creek by extending the existing 36-inch culvert that is under the UPRR tracks. The existing 36-inch culvert will be extended by 20 feet and lined with HDPE pipe. Flows in Crystal Creek will not change. The culvert has been sized to accommodate the existing flows. The culvert extension will be constructed during the in-water work window. The ODFW in-water work window for Crystal Creek is July 15-August 31. Flows at that time should be minimal to none.

A net benefit analysis performed by ODFW Watershed District staff showed that providing fish passage at this site [Crystal Creek] would not result in appreciable benefit to native migratory fish due to the many downstream barriers.

--Ken Loffink, ODFW

TriMet made several commitments during the project's permitting process that are intended to minimize impacts to natural resources. These commitments are contained within the Design Constraints—Crystal Creek Technical Memorandum included in **Appendix B** and summarized in the Permit Summary table submitted with this application.

The creek crossing was also discussed with ODFW. It was agreed that extension of the existing UPRR culvert was the most practicable alternative. TriMet received a Fish Passage Exemption (E-02-0019) from the ODFW for Crystal Creek. This has been included in **Appendix A**. Page 3 of the Fish of Passage Exemption concluded that since Crystal Creek has “not been documented as fish bearing and ESA-listed fish nor listed as EFH or critical habitat, project activities will have minimal, if any, effect on salmonids.” ODFW concurred that the use of MSE wall will minimize impacts to Crystal Creek, and recommended revegetation and enhancement of riparian zone. As stated in the ODFW approval letter, “Please note that if conditions change in the future to the extent that an appreciable benefit to providing passage to native migratory fish exists, this exemption can be revoked (ORS 509.585(9)(a)(C)(b) and (OAR 635-412-0025(6))), and fish passage will need to be addressed.”

Crystal Creek flows are intercepted by a concrete wall. This wall is remnant from some past development. At the wall, flows split and go either along the base of the wall or over the top of the wall and into the existing



Photo 4. The remnant concrete wall.

culvert under the UPRR. The stream channel is extremely degraded by the concrete wall, and is experiencing active erosion. Some of the diverted flow goes into the wetland.

The extension of the culvert provides the opportunity to remove the remnant concrete wall that is degrading the natural stream channel dynamics and causing active erosion. As shown on **Figure 1A**, after the wall is removed, the area will need to be graded to have natural contours. The channel will be graded to have a stream channel configuration. The channel will direct the flows to the culvert to prevent further erosion. The area to be graded has been minimized to the extent needed to remove the wall and establish natural contours for the channel.

As described in **Table 3**, water quality functions of Crystal Creek WQR will be restored to conditions that far exceed current ecological conditions. The project will result in a net benefit to the natural resource.

Table 3. Water Quality Functions of Crystal Creek WQR with Proposed Mitigation

19.402.1.C.2 Functions and Values	Future and Restored Ecological Functions Of Riparian Habitat
Vegetated corridors to separate protected water features from development	The PMLR alignment has a perpendicular crossing to the Crystal Creek WQR. This crossing minimizes impacts to the WQR. The project removes development with the WQR and re-establishes natural conditions by removing the remnant cement wall and grading the stream bed to have a natural geomorphic shape.
Microclimate and shade	The mitigation plan includes seeding and planting native herbaceous and woody vegetation that would improve upon the current simplified habitat condition. The resulting riparian habitat will have multi-storied strata that will provide year round shade and cover. Non-native vegetation will be removed that is currently out-competing and preventing regeneration of native plants.

19.402.1.C.2 Functions and Values	Future and Restored Ecological Functions Of Riparian Habitat
Stream flow moderation and water storage	The remnant concrete will be removed from the stream channel and wetland. The stream channel will be graded to have a natural stream bed shape and floodplain shelf. This will improve stream flow.
Water filtration, infiltration, and natural purification	The proposed plant community will develop deep fibrous root systems that will provide stabilization and water infiltration. Removal of the concrete within the WQR will improve water infiltration.
Bank stabilization and sediment and pollution control	The remnant concrete wall will be removed from the stream channel and wetland. The stream channel will be graded to have a natural stream bed shape and floodplain shelf. All disturbed areas will be treated with erosion control measures.
Large wood recruitment and retention and natural channel dynamics	Forty-seven trees will be planted within the WQR. The planting plan adds young trees that will be currently lacking. Removal of non-native plants will allow for natural regeneration of trees and shrubs.
Organic material resources	Seasonal cycles of leaf litter and decay will be enhanced by providing a variety of deciduous native plant species in all strata. Deadfall, downed branches, exposed roots, leaves, seed pods, native seeds, flowers, stems, and decaying herbaceous material that is currently lacking will now be present at the level found in a healthy native riparian forest. This will attract the micro and macro invertebrates needed to maintain a healthy food chain.

Evidence that the applicant has done the following, for applications proposing routine repair and maintenance, alteration, and/or total replacement of existing structures located within the WQR:

- a. Demonstrated that no practicable alternative design or method of development existing that would have a lesser impact on the WQR than the one proposed. If no such practicable alternative design or method of development existing, the project shall be conditioned to limit its disturbance and impact on the WQR to the minimum extent necessary to achieve the proposed repair/maintenance, alteration, and/or replacement.**
- b. Provided mitigation to ensure that impacts to the functions and values of the WQR will be mitigated or restored to the extent practicable.**

Crystal Creek currently flows under the UPRR through a 36-inch culvert. It was decided that extending the UPRR culvert was the least impacting and most feasible crossing. The existing 36-inch culvert under the UPRR tracks will be extended by 20 feet and lined with HDPE pipe. Flows in Crystal Creek will not change. The culvert has been sized to accommodate the flows. The culvert extension will be constructed during the in-

water work window. The ODFW in-water work window for Crystal Creek is July 15-August 31. Flows at that time should be minimal to none.

Construction of the PMLR tracks will permanently disturb 0.20 ac of WQR and remove 11 trees. A 0.06 ac area will be temporarily disturbed for access. The permanent impact footprint for the PMLR tracks will be minimized by using MSE walls to contain the 34-foot wide LRT section. The placement of the MSE walls will occur from the tracks to limit the work area required.

TriMet made several commitments during the project's permitting process that are intended to minimize impacts to natural resources. These commitments are contained within the Design Constraints—Crystal Creek Technical Memorandum included in **Appendix B** and summarized in the Permit Summary table submitted with this application. Measures that will be taken to avoid, minimize, and or mitigate adverse impacts to the WQR; in accordance with Table 19.402.11.C are listed in **Table 3**. Impacts and proposed mitigation areas are shown on **Figure 2**. All of the impacts will be mitigated. As described in **Table 3**, water quality functions of Crystal Creek WQR will be restored to conditions that far exceed current ecological conditions.

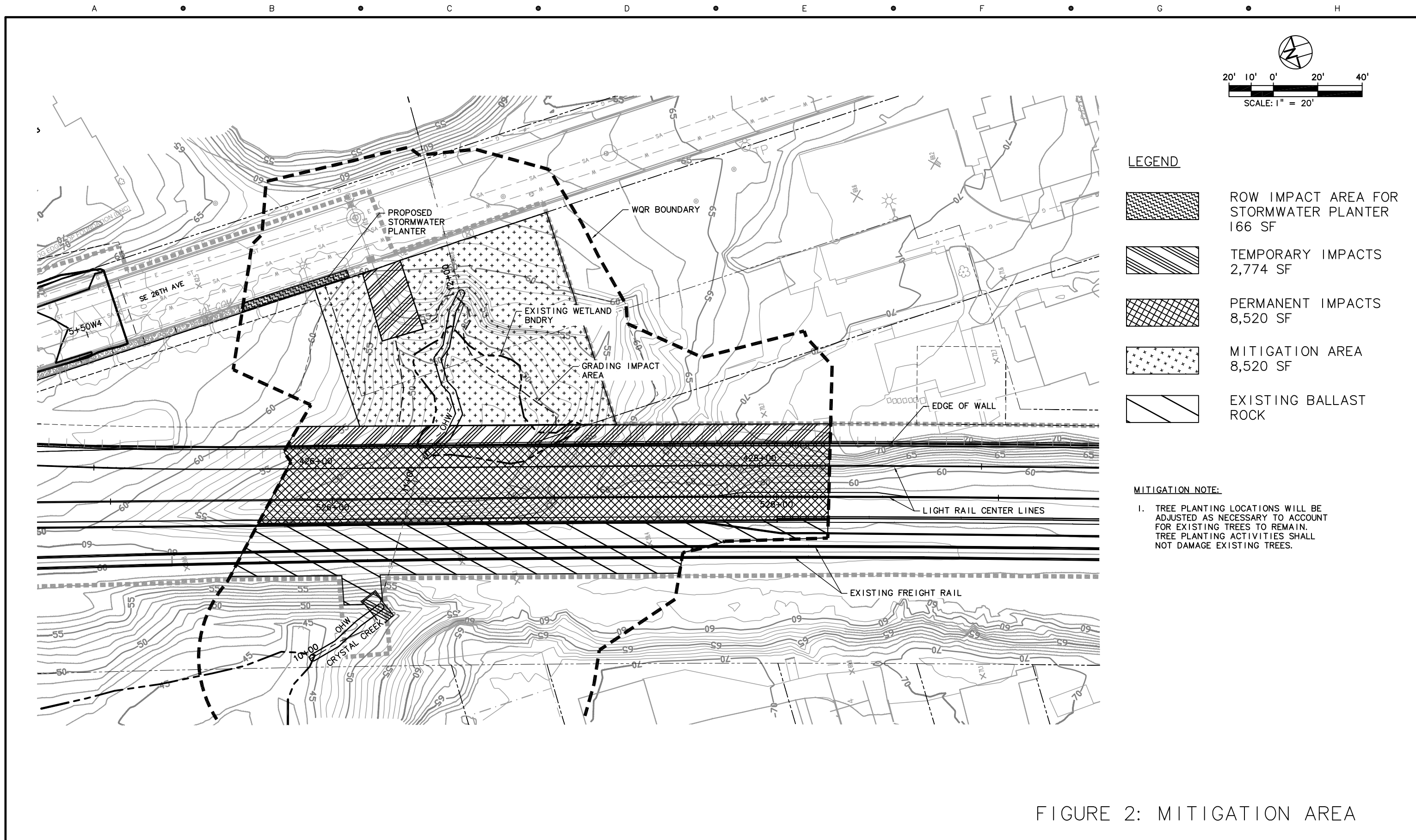
Mitigation Plan for the designated natural resources that will be caused as a result of the development.

- a. A description of adverse impacts that will be caused as a result of development.**
- b. An explanation of measures that will be taken to avoid, minimize, and or mitigate adverse impacts to the designated natural resource; in accordance with, but not limited to, Table 19.402.11.C.**
- c. Sufficient description to demonstrate how the following standards will be achieved:**
 - i. Where existing vegetation has been removed, the site shall be re-vegetated as soon as practicable.**
 - ii. Where practicable, lights shall be placed so that they do not shine directly into any WQR. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.**
 - iii. Areas of standing trees, shrubs, and natural vegetation will remain connected to contiguous; particularly along natural drainage courses, except where mitigation is approved; so as to provide a transition between the proposed development and the designated natural resource and to provide opportunity for food, water, and cover for animals located within the WQR.**
 - iv. A map showing where the specific mitigation activities will occur.**
 - v. An implementation schedule; including a timeline for construction, mitigation, mitigation maintenance, monitoring, and reporting; as well as a contingency plan. All in-stream work in fish bearing streams shall be done in accordance with the allowable windows for in-water work as designated by Oregon Department of Fish and Wildlife.**

Construction of the PMLR tracks will permanently disturb 0.20 ac of WQR and remove 11 trees. A 0.06 ac area will be temporarily disturbed for access to the culvert. TriMet made several commitments during the project's permitting process that are intended to minimize impacts to natural resources. These commitments are contained within the Design Constraints—Crystal Creek Technical Memorandum included in **Appendix B** and summarized in the Permit Summary table submitted with this application.

Although 11 trees will be removed, only trees within 20 feet of Crystal Creek have the greatest opportunity to provide shade. The project will remove 8 trees within 20 feet of Crystal Creek. Removal of trees within

Y:\DEA\008\CAD\LAND USE PERMIT\CRYSTAL CREEK\FIG2_Mitigation Area.dwg May. 15, 2012 - 3:48 PM steve roelof
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LEGEND

	ROW IMPACT AREA FOR STORMWATER PLANTER 166 SF
	TEMPORARY IMPACTS 2,774 SF
	PERMANENT IMPACTS 8,520 SF
	MITIGATION AREA 8,520 SF
	EXISTING BALLAST ROCK

MITIGATION NOTE:

- TREE PLANTING LOCATIONS WILL BE ADJUSTED AS NECESSARY TO ACCOUNT FOR EXISTING TREES TO REMAIN. TREE PLANTING ACTIVITIES SHALL NOT DAMAGE EXISTING TREES.

FIGURE 2: MITIGATION AREA

				PORTLAND TO MILWAUKIE LRT EAST SEGMENT LAND USE PERMIT CRYSTAL CREEK WATER QUALITY RESOURCE BOUNDARY			
						CAPITAL PROJECTS AND FACILITIES DIVISION 710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232	
SUBMITTED:		DATE:		APPROVED:		SCALE:	
		05-14-12				AS SHOWN	
NO. DATE BY APPD. CHECK.		ISSUED FOR CONSTRUCTION		DRAWING NO.:		CONTRACT NO.:	
				MITIGATION AREA		RH100544JB	
						SHEET NO.:	

riparian areas can influence water temperature. However, temperature and water quality in Crystal Creek is more affected and regulated by the Crystal Lake than riparian shading. Although mature trees will be removed, it will not measurably reduce stream shading (temperature control). To compensate for tree removal, 47 trees will be planted. The proposed riparian plantings should maintain or improve on-site shading of Crystal Creek WQR in the long-term. Once mature, the vegetation will help moderate stream temperatures.

Removal of vegetation within the riparian area of Crystal Creek River will cause temporary impacts by reducing invertebrate populations, reducing cover habitat at higher flows, and reducing floodplain roughness during times of coinciding high-water events. The removal of vegetation from the riparian area will reduce the input of detritus into the creek, reduce shading, and reduce the potential large wood recruitment. These effects are expected to be limited to the short term in areas where riparian impacts will be temporary.

This portion of the PMLR will not have lights.

As many trees as possible will be avoided within the WQR. Upon maturity, the proposed mitigation will provide a multi-layered forested community of native plants that will provide year round food and cover. The plant community is appropriate for the type of habitats (riparian forest, and wetland) that existing within the WQR. Mitigation will occur on-site within the temporary construction easements. The mitigation plan is shown on **Figure 2** and the planting plans are shown on **Figures 3A and 3B**.

Re-vegetation and enhancement of the [Crystal Creek] riparian zone at the crossing is proposed to increase water quality and benefit the stream.

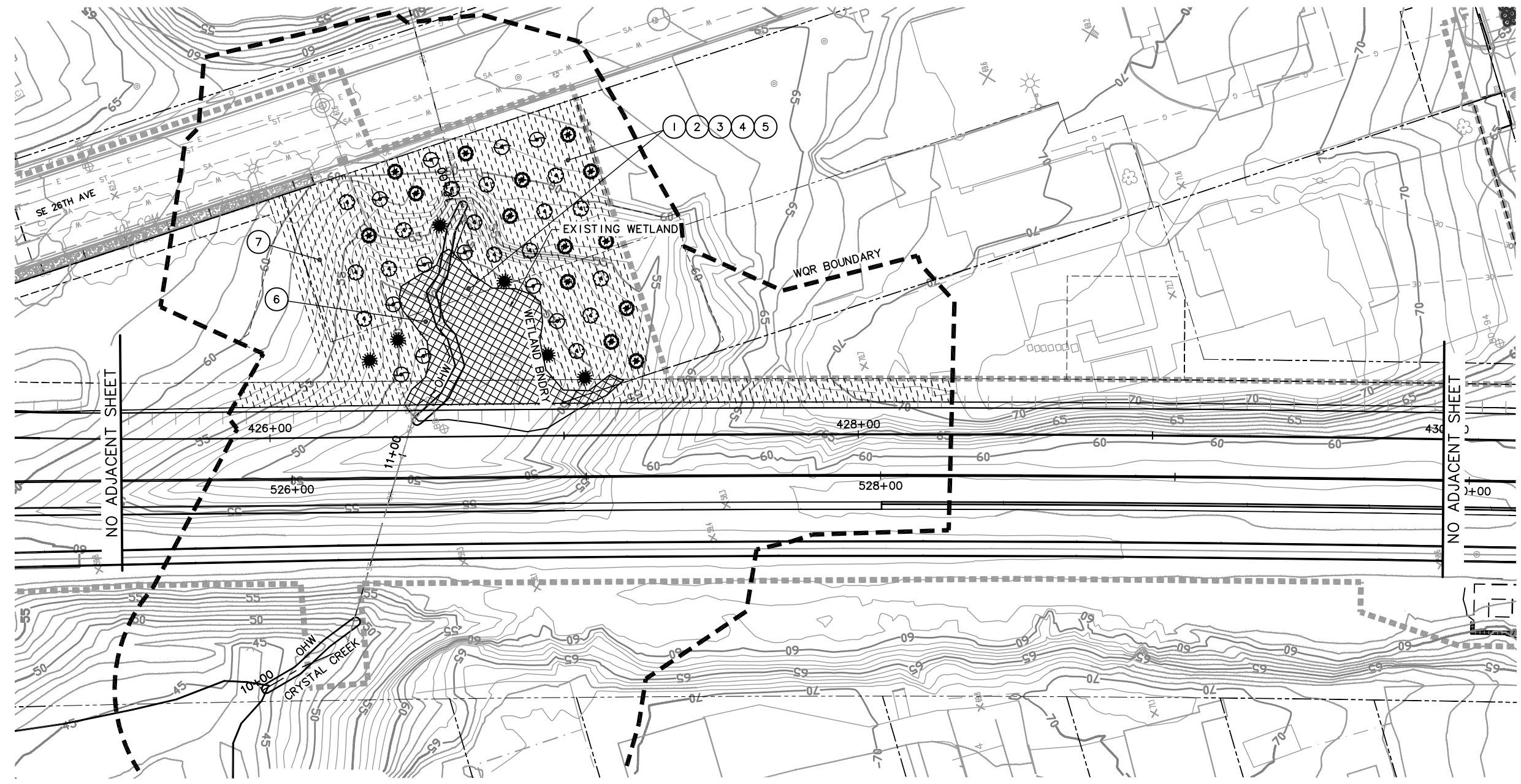
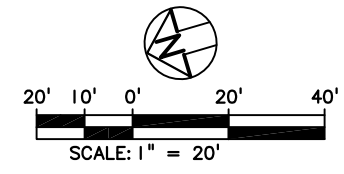
--James A. Holm, US Army Corps of Engineers
NWP-2009-444
p. 5

The remnant concrete wall that spans the stream bed of Crystal Creek will be removed. As shown on **Figure 1A**, after the wall is removed, the channel will be graded to have a natural stream channel configuration and direct the flows to the culvert to prevent further erosion. The area to be graded has been minimized to the extent needed to remove the wall and establish natural contours.

Grading and the culvert replacement will occur between July 2012 and October 2013 during the ODFW in-water work window to minimize the potential for sedimentation. Re-vegetation will occur between October 2012 and March 2013. The ODFW in-water work window for Crystal Creek is July 15-August 31.

The wetland receives some water that is diverted by the wall. With the proposed channel grading, the wetland will be connected to the channel and function as a shelf wetland. The wetland may not receive as much surface flow as it currently does, but it will continue to receive water from the surrounding springs and ground water. The wetland size will remain the same; however, the wetland would change from have several inches of standing water to a scrub/shrub/emergent wetland. This will provide more habitat interspersed and diversity. Both the wetland and the stream channel will have higher ecological function (connectivity, sinuosity, stability, water quality) after the wall is removed.

In addition to the wetland enhancement that will occur, the DSL/Corps permits included 0.01 acres of impact to the Crystal Creek wetland. Although this permanent impact will not occur, the impact area (0.01 acres) is included in the wetland mitigation that will occur at West Moreland Park.



- KEYED NOTES:**
- 1 WORK IS LOCATED ADJACENT TO A SENSITIVE NATURAL RESOURCE AREA. CONTRACTOR SHALL THOROUGHLY REVIEW ALL PERMIT CONDITIONS AND REQUIREMENTS PRIOR TO BEGINNING WORK. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL PERMIT CONDITIONS.
 - 2 ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO BEGINNING WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL METHODS AND MATERIALS. EXTENDED WET WEATHER CONDITIONS MAY REQUIRE MAINTENANCE AND/OR REPLACEMENT OF EROSION CONTROL MATERIALS.
 - 3 CLEARED AREA SHALL NOT BE LEFT UNPROTECTED FOR MORE THAN 24 HOURS UNDER ANY CIRCUMSTANCES. IF RAIN IS FORECAST, THE CLEARED AREA SHALL NOT BE LEFT UNPROTECTED FOR ANY DURATION. CONTRACTOR SHALL ADJUST, ENHANCE, OR ALTER PROTECTION MEASURES AS DIRECTED BY RESIDENT ENGINEER.
 - 4 CONTRACTOR SHALL CLEAR ALL NON-NATIVE VEGETATION FROM THE HATCHED AREA. CONTRACTOR SHALL DISPOSE OF REMOVED MATERIAL AT A LEGAL OFF-SITE LOCATION.
 - 5 WITHIN 48 HOURS AFTER CLEARING ANY AREA, THE CONTRACTOR SHALL APPLY THE SPECIFIED SEED MIX AND INSTALL JUTE FABRIC OVER ENTIRE DISTURBED AREA. REPLANT AS SOON AS PRACTICABLE WITH TREES AND SHRUBS PER PLANT SCHEDULE ON SHEET L15E-772.
 - 6 INSTALL WETLAND SHRUBS, HERBACEOUS PLANTS AND SEED MIX IN DISTURBED AREA PER PLANT SCHEDULE SHOWN ON SHEETS L15E-772.
 - 7 INSTALL TREES, SHRUBS, AND SEED MIX IN DISTURBED AREA PER PLANT SCHEDULE SHOWN ON SHEET L15E-772.

PLANTING NOTE:

1. ADJUST TREE PLANTING LOCATIONS AS NECESSARY TO ACCOUNT FOR EXISTING TREES TO REMAIN. TREE PLANTING ACTIVITIES SHALL NOT DAMAGE EXISTING TREES.

GENERAL NOTES:

1. REFER TO 1200C PERMIT DRAWINGS FOR EROSION CONTROL PERMIT REQUIREMENTS.

FIGURE 3A: PLANTING PLAN

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		SAR DESIGNED 05-16-11 DATE		TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON		PORTLAND TO MILWAUKIE LRT EAST SEGMENT		
		HLW DRAWN 05-16-11 DATE		CAPITAL PROJECTS AND FACILITIES DIVISION 710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232		ENVIRONMENTAL MITIGATION PLANTING PLAN STA 425+00 TO STA 430+00		
		EES CHECKED 11-04-11 DATE		TRI-COUNTY MET		ENVIRONMENTAL MITIGATION PLANTING PLAN		
		APPROVED 05-14-12 DATE		SUBMITTED: 05-14-12		APPROVED: 05-14-12		
NO.	DATE	BY	APPD.	ISSUED FOR CONSTRUCTION	SCALE:	DRAWING NO.:	CONTRACT NO.:	SHEET NO.:
					AS SHOWN	PLANTING PLAN	RH100544JB	

PLANT SCHEDULE: CRYSTAL CREEK WETLAND							
SYMBOL	ABBR.	QTY	BOTANICAL NAME / COMMON NAME	SIZE	CONDITION	SPACING	NOTES
SHRUBS							
LOIN	20	Lonicera involucrata— twinberry	18–24" ht	Bareroot	4' o.c., clusters of 5		
SASI	25	Salix sitchensis— Sitka willow	18–24" ht	Bareroot	4' o.c., clusters of 5		
SALA	25	Salix lasiandra— Pacific willow	18–24" ht	Bareroot	4' o.c., clusters of 5		
SPDO	40	Spiraea douglasii — Douglas spirea	18–24" ht	Bareroot	4' o.c., clusters of 5		
SYAL	20	Symphoricarpos albus — snowberry	18–24" ht	Bareroot	4' o.c., clusters of 5		
HERBACEOUS PLANTS							
CAOB	200	Carex obnupta — slough sedge	12–18" ht	Bareroot	2' o.c., single		scattered
SCMI	300	Scirpus microcarpus— smallfruited bulrush	12–18" ht	Bareroot	2' o.c., single		scattered
SEED							
		Agrostis exarata— spike bentgrass	0.23 lbs	APPLICATION RATE:			
		Beckmannia syzigachne— American sloughgrass	0.28 lbs	Pounds of Pure Live Seed (PLS) PER ACRE			
		Deschampsia elongata— slender hairgrass	0.45 lbs				
		Glyceria elata— tall mannagrass	0.22 lbs				
		Hordeum brachyantherum— meadow barley	12.30 lbs				
			13.47 lbs	Total PLS per acre			
SOIL AND MULCH							
SOIL: INSTALL 12-INCH DEPTH OF MITIGATION PLANTING SOIL PER SPECIFICATIONS.							
MULCH: INSTALL 2-FOOT DIAMETER, 3-INCH DEPTH MULCH RING AT EACH TREE AND SHRUB. APPLY STRAW MULCH AFTER SEEDING.							

PLANT SCHEDULE: CRYSTAL CREEK UPLAND							
SYMBOL	ABBR.	QTY	BOTANICAL NAME / COMMON NAME	SIZE	CONDITION	SPACING	NOTES
TREES							
ACMA	16	Acer macrophyllum — big leaf maple	1" CAL.	B&B		as shown	
PSME	14	Pseudotsuga menziesii — Douglas-fir	6' HT.	B&B		as shown	
RHPU	11	Rhamnus purshiana — cascara	1" CAL.	B&B		as shown	
THPL	6	Thuja plicata — Western redcedar	6' HT.	B&B		as shown	
SHRUBS							
ACCI	25	Acer circinatum — vine maple	18–24" HT.	Bareroot	4' o.c.		scattered
AMAL	50	Amelanchier alnifolia — serviceberry	18–24" HT.	Bareroot	4' o.c.		scattered
COCO	50	Corylus cornuta — beaked hazelnut	18–24" HT.	Bareroot	4' o.c.		scattered
MAAQ	50	Mahonia aquifolium — tall Oregon grape	18–24" HT.	Bareroot	4' o.c.		scattered
OECE	75	Oemleria cerasiformis — indian plum	18–24" HT.	Bareroot	4' o.c.		scattered
RISA	75	Ribes sanguineum — red currant	18–24" HT.	Bareroot	4' o.c.		scattered
RUPA	75	Rubus parviflorus — thimbleberry	18–24" HT.	Bareroot	4' o.c.		clusters of 5
SYAL	170	Symphoricarpos albus — common snowberry	18–24" HT.	Bareroot	4' o.c.		clusters of 5
SEED							
		Agrostis exarata— spike bentgrass	0.14 lbs	APPLICATION RATE:			
		Deschampsia elongata— slender hairgrass	0.56 lbs	Pounds of Pure Live Seed (PLS) PER ACRE			
		Glyceria elata— Western mannagrass	0.34 lbs				
			1.04 lbs	Total PLS per acre			
SOIL AND MULCH							
SOIL: INSTALL 12-INCH DEPTH OF MITIGATION PLANTING SOIL PER SPECIFICATIONS.							
MULCH: INSTALL 2-FOOT DIAMETER, 3-INCH DEPTH MULCH RING AT EACH TREE AND SHRUB. APPLY STRAW MULCH AFTER SEEDING.							

FIGURE 3B: PLANTING PLAN

Y:\DC\A\008\CAD\SHEETS\Mitigation Planting\L15E-772.dwg Apr. 17, 2012 - 3:48 PM steve roelof
Plot Date: 4/19/2012 8:12 AM steve roelof

SAR DESIGNED 05-16-11 DATE			TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON			PORTLAND TO MILWAUKIE LRT EAST SEGMENT						
HLW DRAWN 05-16-11 DATE			CAPITAL PROJECTS AND FACILITIES DIVISION			ENVIRONMENTAL MITIGATION PLANTING PLAN LEGEND & NOTES						
EES CHECKED 11-04-11 DATE						710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232						
APPROVED 05-14-12 DATE			TRI MET			SCALE: AS SHOWN						
NO.	DATE	BY	APPD.	REVISIONS	SUBMITTED:	DATE:	APPROVED:	DATE:	SCALE:	DRAWING NO.:	CONTRACT NO.:	SHEET NO.:
				ISSUED FOR CONSTRUCTION		05-14-12		05-14-12		L15E-772	RH100544JB	

TriMet will be responsible for monitoring the mitigation for 5 years following construction. Plants that die will be replaced in-kind as needed to ensure the minimum 80% survival rate. An annual report on the survival rate of all plantings will be submitted for 5 years. This monitoring and maintenance commitment exceeds the 2 years required by the code.

APPROVAL CRITERIA

Minimize

As described above, there is no practicable alternative that would avoid or have less of a disturbance to the WQR than the one proposed. TriMet has minimized the impacts to Crystal Creek WQR to the extent possible. The PMLR alignment crosses perpendicular to Crystal Creek, thus having the shorting crossing possible. Retaining walls are used to minimize the footprint of the tracks. Lining of the culvert is less disturbing the resource than replacing the existing culvert. The rail line and the culvert are allowed uses in the R2 zone. The project will follow the Development Standards listed in 19.402.11.

The area disturbed and graded has been minimized to the extent possible. Grading is required to re-establish natural contours in the area after the remnant concrete wall is removed. The channel must be re-established to guide the water into the culvert as opposed to the creek flowing directly into the new railway retaining wall, along the wall, and into the culvert.

Trees to be avoided will be flagged or staked in the field.

TriMet received a fish passage waiver from DSL and ODFW because Crystal Creek has a fish passage barrier downstream. In-water work will be done during the ODFW in-water window of July 15-August 31. TriMet made several commitments during the project's permitting process that are intended to minimize impacts to natural resources. These commitments are contained within the Design Constraints—Crystal Creek Technical Memorandum included in **Appendix B** and summarized in the Permit Summary table submitted with this application.

This section of the PMLR track does not have lighting.

Impacts

The project will have the following impacts to the WQR:

- 0.20 ac of permanent impact for LRT
- 0.004 ac of impact along SE 26th Ave. for stormwater swale
- Removal of 11 trees.
- 0.06 ac of temporary impact

The project may result in short term sedimentation and turbidity until mitigation plantings become established. The timing of the in-water work window and the proposed erosion control plan will help to minimize sedimentation and turbidity.

Mitigation

To compensate for 0.20 ac of permanent WQR disturbance, 0.20 ac of WQR will be enhanced to better than existing conditions. In addition, development within the stream bed and WQR will be removed and the

channel will be restored to a native stream channel shape that will reduce erosion and improve water flow and channel dynamics. The mitigation plan exceeds the requirements of 19.402.11.C.

The proposed mitigation plan compensates for the unavoidable impacts to the ecological functions of the WQR. The mitigation will occur on-site within the temporary construction easements TriMet has secured from private property owners. Table 4 was added at the request of the City to try and estimate the mitigation plant coverage. It is very difficult to predict plant coverage because plants grow at various rates and have variable spread (width and height). In addition, each strata is multidimensional, allowing for over 100% coverage for all strata.

The area will be over-planted in order to meet the requirements of 19.402.11.B and C. The Code requires a survival rate of 80% (19.402.11.B.9). 19.402.11C requires plant and/or seed all areas to provide 100% surface coverage. The planting plan would result in 100% surface coverage within 1 year of planting and 100% shrub and canopy cover after 10+ years.

Table 4. Proposed Mitigation Riparian Plant Community

Trees		% cover
<i>Pseudotsuga menziesii</i>	Douglas fir	34
<i>Rhamnus purshiana</i>	Cascara	30
<i>Thuja plicata</i>	Western red cedar	23
<i>Acer macrophyllum</i>	bigleaf maple	13
Total cover		100

Shrubs		% cover
<i>Acer circinatum</i>	Vine maple	6
<i>Amelanchier alnifolia</i>	Service berry	6
<i>Corylus cornuta</i>	Beaked hazelnut	6
<i>Mahonia aquifolium</i>	Tall Oregon grape	13
<i>Oemieria cerasiformis</i>	Indian plum	13
<i>Ribes sanguineum</i>	Red current	13
<i>Rubus paviflorus</i>	Thimbleberry	18
<i>Symphoricarpos</i>	Common snowberry	25
Total cover		100

Groundcover and Vines		% cover
<i>Agrostis exarata</i>	Spike bentgrass	14
<i>Deschampsia elongate</i>	Slender hairgrass	56
<i>Glyceria elata</i>	Western mannagrass	34
Total cover		100

TriMet will be responsible for monitoring the mitigation for 5 years following construction. Plants that die will be replaced in-kind as needed to ensure the minimum 80% survival rate.

The mitigation plan improves water quality and ecological functions and values of the WQR by doing the following:

- Re-establishes a native stream channel that reduces erosion and improves water flow and channel dynamics.
- The removal of invasive nuisance vegetation and subsequent replanting with appropriate native vegetation will reset the ecological condition of the site and establish a trajectory toward a diverse, multi-layered, Pacific Northwest riparian plant community.
- Removes non-native plants that are dominating and out-competing and preventing the regeneration of native species. In addition to planted trees and shrubs, two custom native seed mixes will be used on this site to provide rapid groundcover, prevent erosion, and compete against invasive vegetation.
- A wetland and upland plant community have been developed for each growing conditions and to enhance habitat diversity.
- Eight species of shrubs will be planted in the upland areas. These shrubs were selected to establish rapidly and thrive in a variety of microclimates. This will establish multi-storied strata habitat that will provide year round coverage and foraging for wildlife.
- Trees have been selected to include a mix of conifer and deciduous species to create a diverse tree canopy. The native plants will provide year round shading of Crystal Creek. The big leaf maple and Douglas fir trees that will be planted will provide rapid canopy establishment. The western red cedar and cascara are slower growing shade tolerant trees that will maintain a diverse canopy structure for many years. This will provide long term large wood recruitment.
- The proposed plant community will develop deep fibrous root systems that will provide stabilization and water infiltration.
- Five species of shrubs were selected for planting in the wetland area to add habitat diversity and resilience to non-native plant invasion. Two aggressive native wetland species (slough sedge and small fruited bulrush) are slated for planting the ground plane within the wetland. These two species are known for their ability to tolerate a wide range of environmental conditions and to compete against non-native invasive plant species.

The mitigation plan will restore the area temporarily disturbed (0.06 ac) to a better condition than currently exists by removal of well-established non-native vegetation that currently dominates the understory, and planting with a native plant community that will provide year round food and cover, and improve the water quality functions of the riparian habitat. As shown in the mitigation design (**Figure 3B**), only native plants will be used. All areas that are temporarily disturbed will be re-vegetated to create multi-canopy strata that will become quickly established, thus preventing ivy and blackberry from returning.

The mitigation plan exceeds the requirements of 19.402.11.C by doing the following:

- Removes development (remnant concrete wall) from within the WQR.
- Reduces erosion and sedimentation by removing the structure that is causing the erosion and putting the creek back into a natural stream channel.
- Connects the wetland and stream channel.
- Re-establishes a native stream channel that improves water flow and channel dynamics.

Appendix A

Fish Passage Waiver



Oregon

John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife

Fish Division
3406 Cherry Avenue NE
Salem, OR 97303
503-947-6200
Fax: 503-947-6202
www.dfw.state.or.us

July 5th, 2011

Alonzo Wertz
TriMet
710 NE Holiday St.
Portland, OR 97232

Jean Ochsner
Environmental Science and Assessment, LLC
838 SW First Avenue, Ste 410
Portland, OR 97204



Re: Crystal Creek Fish Passage Exemption Approval; E-02-0019

Dear Mr. Wertz and Ms. Ochsner,

The application (# E-02-0019; cover sheet attached) for a fish passage exemption request for your culvert replacement on Crystal Creek, a tributary of Johnson Creek, a tributary of the Willamette River located in Clackamas County has been approved by the Oregon Department of Fish and Wildlife (ODFW) pursuant to ORS 509.585(9)(a)(C) and OAR 635-412-0025(4)(c) and (10)(aA). Therefore, you do not have to provide fish passage at this site as a result of the proposed culvert extension that triggered Oregon Fish Passage Statutes. A net benefit analysis performed by ODFW Northwest Watershed District staff showed that providing fish passage at this site would not result in an appreciable benefit to native migratory fish. Please note that if conditions change in the future to the extent that an appreciable benefit to providing passage to native migratory fish exists, this exemption can be revoked (ORS 509.585(9)(a)(C)(b) and (OAR 635-412-0025(6)), and fish passage will need to be addressed.

Please keep a copy of this fish passage exemption approval letter with the attachment as a record of the fish exemption approval. Please contact me at 503-947-6256 if you have any questions regarding this fish passage exemption approval letter.

Sincerely,

Ken Loffink
Assistant Fish Passage Program Coordinator

cc: Greg Apke, ODFW

Alan Ritchey, ODFW
Liz Ruther, ODFW
Todd Alsbury, ODFW
Wallace Leake, Environmental Science and Assessment, LLC
David Unsworth, TriMet
Project File E-02-0019



OREGON DEPARTMENT OF FISH AND WILDLIFE

Fish Passage EXEMPTION Application

- Use this form if a waiver has already been granted for the artificial obstruction for which an Exemption is being requested, fish passage mitigation has already been provided for the artificial obstruction, or if there would be no appreciable benefit for native migratory fish if passage were provided at the artificial obstruction.
• Use the "Fish Passage WAIVER Application" if providing fish passage at the artificial obstruction would benefit native migratory fish.
• If you unlock and re-lock this Form, information already entered may be lost in certain versions of MS Word.

APPLICANT INFORMATION

The Applicant must be the owner or operator of the artificial obstruction for which an Exemption is sought.

ORGANIZATION/APPLICANT: TriMet
CONTACT: Alonzo Wertz TITLE:
ADDRESS: 710 NE Holladay St.
CITY: Portland STATE: OR ZIP: 97232
PHONE: 503-962-2110
FAX: 503-962-2281
E-MAIL ADDRESS: WertzA@trimet.org

SIGNATURE: [Handwritten Signature] DATE: 8/26/2010

OWNER (if different than Applicant):

CONTACT: TITLE:
ADDRESS:
CITY: STATE: ZIP:
PHONE:
FAX:
E-MAIL ADDRESS:

SIGNATURE: DATE:
Signature indicates that you understand and do not dispute this request.

APPLICATION COMPLETED BY (if different than Applicant): Jean Ochsner

TITLE: Sr. Environmental Scientist
ORGANIZATION: Environmental Science & Assessment, LLC
ADDRESS: 838 SW First Ave., Ste. 410
CITY: Portland STATE: OR ZIP: 97204
PHONE: 503-478-0424
FAX: 503-478-0422
E-MAIL ADDRESS: jeano@esapdx.com

SIGNATURE: [Handwritten Signature] DATE: 08/26/10

To Be Completed by ODFW Fish Passage Coordinator

APPLICATION #: E-02-0019 DATE RECEIVED: 8/26/10

FILE NAME: Crystal Creek Fish Passage Exemption (TriMet)

APPROVED [X] SIGNATURE: [Handwritten Signature] DATE: 7-5-11

DENIED [] TITLE: Assistant Fish Passage Coordinator



OREGON DEPARTMENT OF FISH AND WILDLIFE

Fish Passage EXEMPTION Application

- Use this form if a waiver has already been granted for the artificial obstruction for which an Exemption is being requested, fish passage mitigation has already been provided for the artificial obstruction, or if there would be no appreciable benefit for native migratory fish if passage were provided at the artificial obstruction.
• Use the "Fish Passage WAIVER Application" if providing fish passage at the artificial obstruction would benefit native migratory fish.
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APPLICANT INFORMATION

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PHONE: 503-962-2110
FAX: 503-962-2281
E-MAIL ADDRESS: WertzA@trimet.org

SIGNATURE: [Handwritten Signature] DATE: 8/26/2010

OWNER (if different than Applicant):

CONTACT: TITLE:
ADDRESS:
CITY: STATE: ZIP:
PHONE:
FAX:
E-MAIL ADDRESS:

SIGNATURE: DATE:
Signature indicates that you understand and do not dispute this request.

APPLICATION COMPLETED BY (if different than Applicant): Jean Ochsner

TITLE: Sr. Environmental Scientist
ORGANIZATION: Environmental Science & Assessment, LLC
ADDRESS: 838 SW First Ave., Ste. 410
CITY: Portland STATE: OR ZIP: 97204
PHONE: 503-478-0424
FAX: 503-478-0422
E-MAIL ADDRESS: jeano@esapdx.com

SIGNATURE: [Handwritten Signature] DATE: 08/26/10

To Be Completed by ODFW Fish Passage Coordinator
APPLICATION #: DATE RECEIVED:
FILE NAME:
APPROVED [] SIGNATURE: DATE:
DENIED [] TITLE:

ARTIFICIAL OBSTRUCTION (for which an Exemption is being requested)

- 1. TYPE OF ARTIFICIAL OBSTRUCTION:**
- | | | | |
|-------------------------------------|-------------------|-----------------|-------------------------------------|
| <input type="checkbox"/> | Dam | New | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | Culvert/Bridge | Existing | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Tidegate | Extend existing | |
| <input type="checkbox"/> | Other (describe): | | |

2. PLEASE PROVIDE A BACKGROUND AND DESCRIPTION OF THE PROPOSED ACTION TRIGGERING THE NEED TO ADDRESS FISH PASSAGE: Extend existing 36-inch culvert approximately 20 ft. (existing culvert length is approx. 90 ft.)

3. PASSAGE WILL NOT BE PROVIDED FOR THE FOLLOWING REASON(S):

- | | |
|-------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> | Already Mitigated** |
| <input type="checkbox"/> | Already Granted a Waiver** |
| <input checked="" type="checkbox"/> | No Appreciable Benefit for Native Migratory Fish |

** *Attach supporting documentation, a description of mitigation, and past ODFW approvals. The description of mitigation should include information detailed in the "Fish Passage WAIVER Application".*

4. DATE THE TRIGGER ACTION IS SCHEDULED TO BEGIN (a minimum of one month should be planned for the exemption process after ODFW receives your application; requests that require detailed ODFW review or must go before the Commission will take longer): July 15, 2011

5. LOCATION

COUNTY: Clackamas
ROAD CROSSING (if applicable): parallel UPRR tracks/west of SE 26th Ave.
RIVER/STREAM: Crystal Creek
TRIBUTARY OF: Johnson Creek
BASIN: Johnson Creek
COORDINATES^a: Longitude: -122.6367°W Latitude: 45.4475°N

^a Geographic projection using NAD_83 and formatted as decimal degrees to at least 4 places.

6. STREAM DESCRIPTION

6A. BARRIER TABLE (please provide the following information for barriers, which will help determine the benefit of providing passage at the Artificial Obstruction; *indicate measurement units if applicable*):

Locations	DOWNSTREAM			AO	UPSTREAM			example	
	3	C/N	2		1	1	2		E
Type		/		C	C	C		/	C
Length		/		750 ft	20 ft RCP	75 ft		/	80 ft
Distance				850 ft	/	100 ft			1,200 ft
Level		/		5	5	5		/	5

Type = C (culvert/bridge), D (dam), T (tide gate), N (natural; *describe below*), O (other; *describe below*)
 Length = length of the barrier in the stream (e.g., culvert's length, dam's width/footprint)
 Distance = distance from the Artificial Obstruction (to closest point of other barriers)
 Level = amount of passage at the barrier using the following codes:
 5 - barrier to all native migratory fish
 4 - barrier to some native migratory fish adults and/or species
 3 - barrier to some native migratory fish adults and/or species for only part of migration period
 2 - barrier to all native migratory fish juveniles
 1 - barrier to some native migratory fish juveniles and/or for only part of migration period

LOCATIONS:

- AO = the existing or proposed Artificial Obstruction
- 1,2 = other barriers in the same stream as the Artificial Obstruction
- 3 = downstream barrier outside the immediate stream in which the Artificial Obstruction is located (*only needed if C/N is a confluence rather than a complete natural barrier*)
- E = end of historic native migratory fish use, including all tributaries (i.e., potential range without any artificial barriers in place)
- C/N = first downstream confluence or complete natural barrier, whichever comes first

NOTE: The *example* indicates that there is culvert which is 80 feet long, is located 1,200 feet from the Artificial Obstruction in question, and is a complete fish passage barrier.

PLEASE PROVIDE ADDITIONAL DESCRIPTIONS FOR THOSE BARRIERS INCLUDED IN THE BARRIER TABLE OR FOR OTHER BARRIERS AFFECTING NATIVE MIGRATORY FISH MOVEMENT TO OR FROM THE ARTIFICIAL OBSTRUCTION: See attached

6B. SUMMARY TABLE (*please provide the following information relative to the Artificial Obstruction, which will help determine the benefit of providing passage at it*):

	DOWNSTREAM	UPSTREAM
NMF Species Present Currently	Yes - Johnson Creek	No
NMF Species Present Historically	probably	possibly
Habitat Quality	manipulated	highly manipulated
Flows	unknown	unknown
Water Quality	low to moderate	low to moderate
Water Right Availability	unknown	unknown
Land Use/Zoning	R-2 (Residential)	R-2 (Residential)
NMF = native migratory fish		

PLEASE PROVIDE ADDITIONAL DETAILS REGARDING THE INFORMATION PROVIDED IN THE SUMMARY TABLE (*such as species listed under the state or federal ESA and descriptions of the stream channel and riparian habitat*): See attached

6C. PROVIDE THE SOURCE FOR INFORMATION CONTAINED IN THE BARRIER AND SUMMARY TABLES: City of Milwaukie & field review

MAP(S)

- Please attach one or more maps indicating the Artificial Obstruction, the stream on which it is located, and other barriers in the stream. A 7.5 minute USGS quad map is sufficient.

-- Map(s) included

PHOTOS

- Please include photographs of the following (.JPG files are preferred):

- Artificial Obstruction
- up- and downstream habitat at the Artificial Obstruction
- other barriers up- and downstream of the Artificial Obstruction

Please submit this application electronically to the ODFW Fish Passage Coordinator at greg.d.apke@state.or.us and send one signed original paper copy of the application to the ODFW Fish Passage Coordinator at 3406 Cherry Avenue NE, Salem, OR 97303.

For ODFW Use Only

PRELIMINARY BENEFIT ANALYSIS

	True	False
1. The information contained in this application is accurate:	<input type="checkbox"/>	<input type="checkbox"/>
2. State or federal ESA-listed fish species can <u>NOT</u> currently access the site:	<input type="checkbox"/>	<input type="checkbox"/>
3. One or more of the following situations exist for the site (<i>check those that apply</i>):	<input type="checkbox"/>	<input type="checkbox"/>
a. a complete downstream barrier (artificial or natural) prevents access to the site <u>and</u> there are no resident native migratory fish which currently have access to the site:	<input type="checkbox"/>	
b. a complete downstream barrier (artificial or natural) prevents access to the site <u>and</u> is within 100 feet of the site:	<input type="checkbox"/>	
c. <u>total</u> distance of habitat (including tributaries) upstream of the site to another complete barrier (artificial or natural) or up to the end of historic fish use is less than 100 feet in length:	<input type="checkbox"/>	
d. <u>all</u> habitat upstream of the site will not be utilized by any native migratory fish because of its poor or degraded condition:	<input type="checkbox"/>	
4. The artificial obstruction (absent passage) will <u>NOT</u> preclude access to any "Habitat Category I" (as defined in OAR 635-415-0025(1)) habitat for native migratory fish:	<input type="checkbox"/>	<input type="checkbox"/>
5. Based on distances with which you concur in 6A. BARRIER TABLE , <u>one</u> of the following is true:	<input type="checkbox"/>	<input type="checkbox"/>
a. the distance "E" is less than 1 mile from the artificial obstruction, <u>or</u>		
b. if "C/N" is a complete natural barrier, the distance to it is less than 1 mile from the artificial obstruction		

- If all answers are "True", this suffices as the Final Benefit Analysis when filled in below.
- If any answers are "False" or you wish to provide further information, please provide a full Benefit Analysis and do not fill in below.
- Electronically return this form and a full Benefit Analysis, if needed, to the Fish Passage Coordinator when completed.

By filling in the following information, I determine that under the current conditions there is "no appreciable benefit" for native migratory fish by providing passage at this Artificial Obstruction.

NAME:

TITLE:

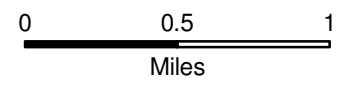
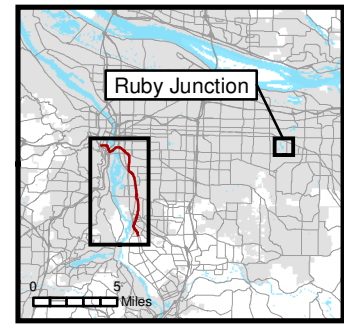
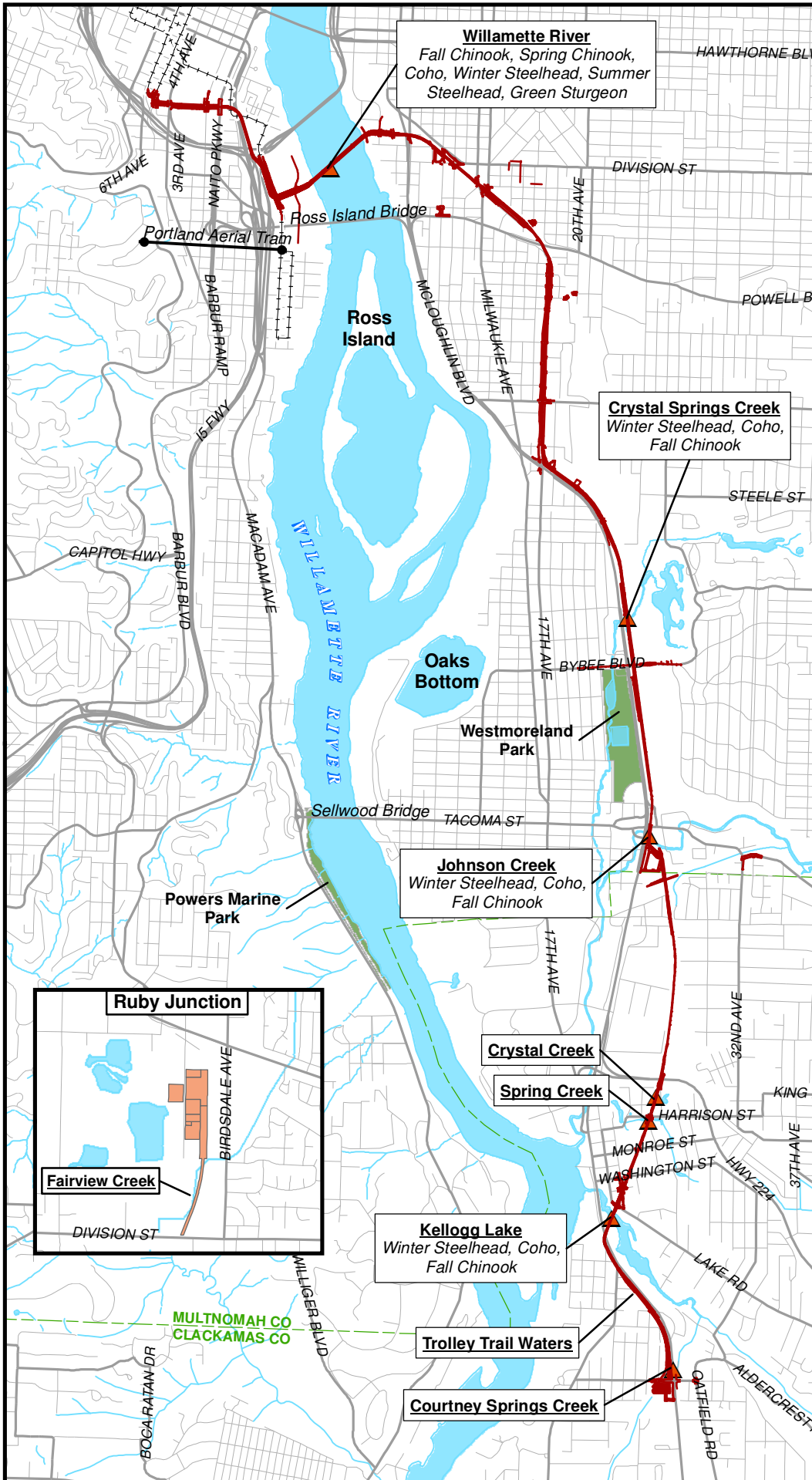
ODFW OFFICE:

DATE:

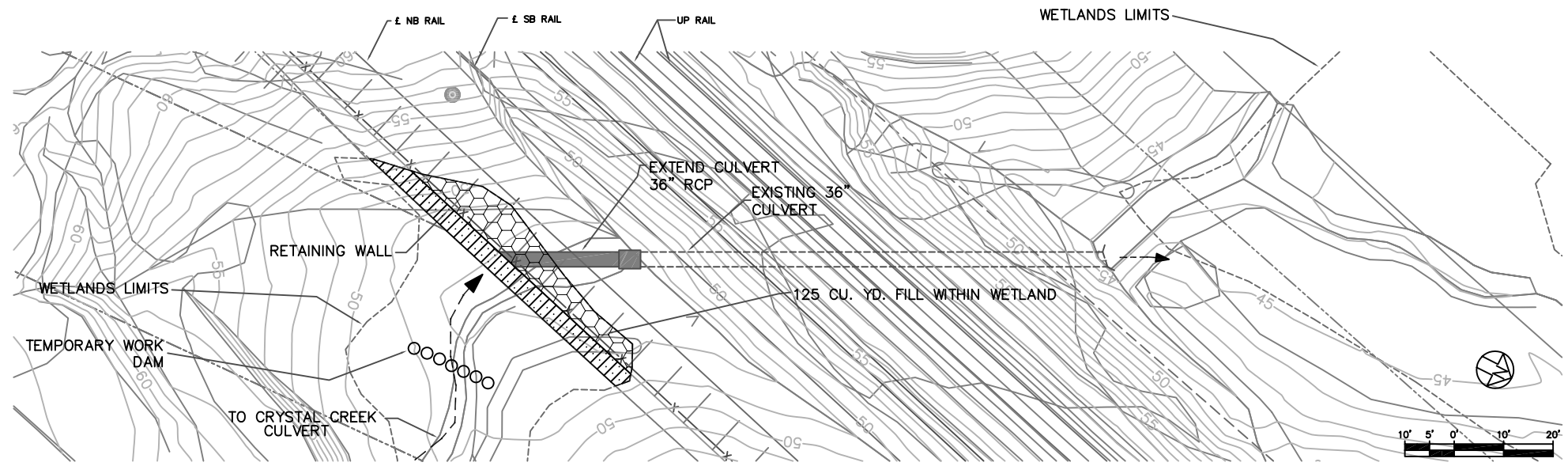
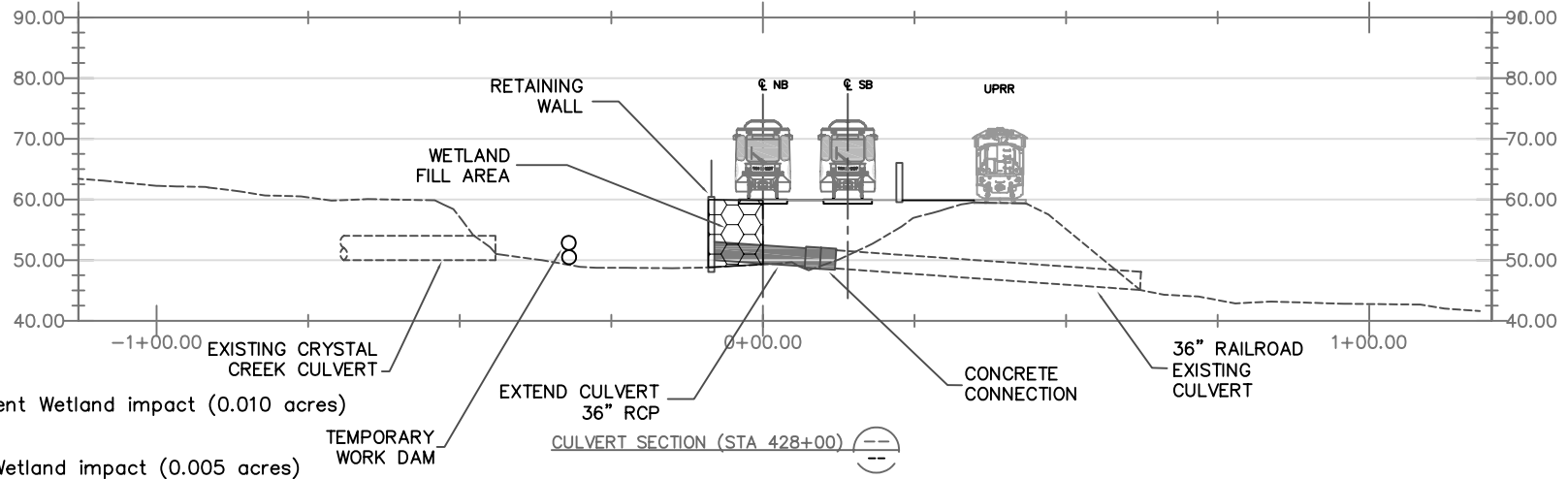
Portland-Milwaukie Light Rail Project

Stream Crossing Locations and Threatened and Endangered Fish Species

Figure 1



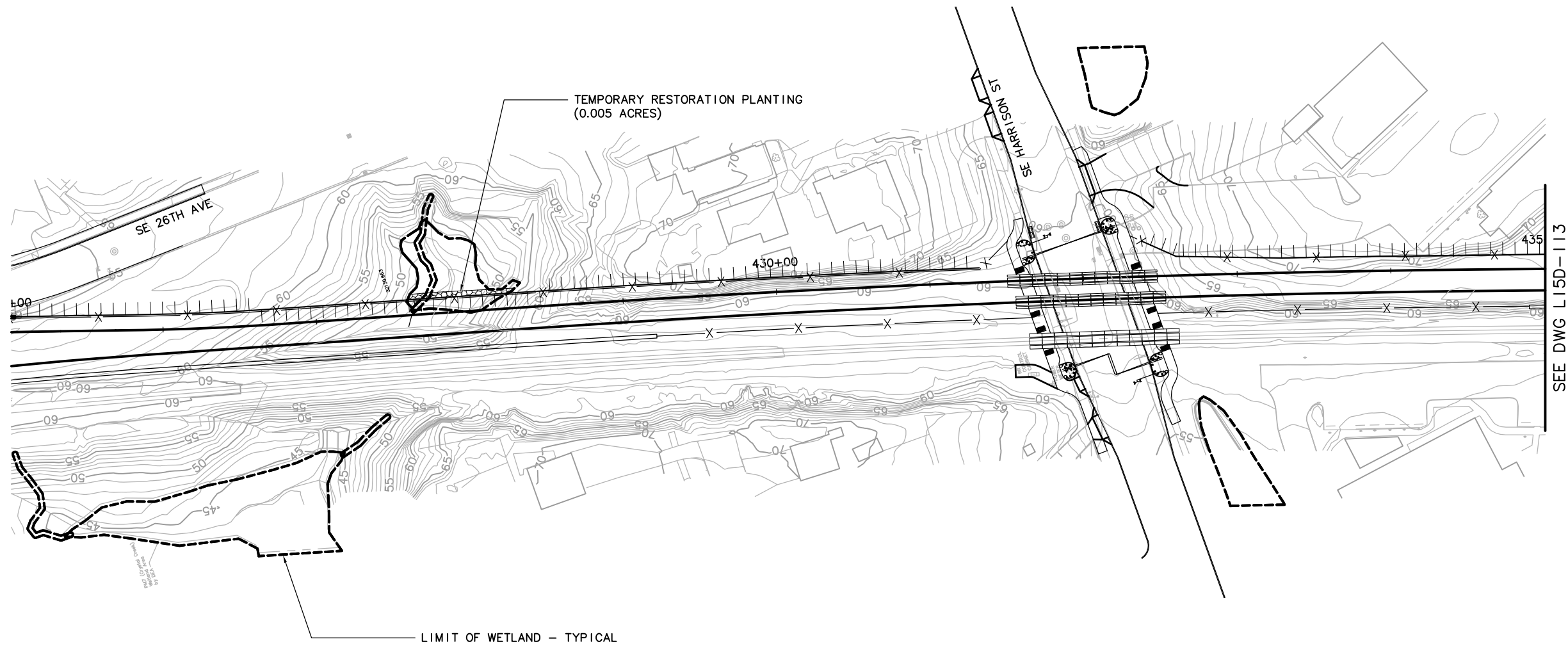
- CONTRACTOR TO ISOLATE WORK AREA AND PROVIDE BYPASS PUMPING
- BYPASS PUMPING SHALL BE CONDUCTED SUCH THAT NO SEDIMENT IS INTRODUCED TO THE DOWNSTREAM PIPE SYSTEM



				TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON				PORTLAND TO MILWAUKIE LRT CRYSTAL CREEK CULVERT			
				CAPITAL PROJECTS FACILITIES DIVISION 710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232							
				TRIOMET							
				SUBMITTED: _____ DATE: _____				SCALE: _____			
				APPROVED: _____ DATE: _____				DRAWING NO.: CLC-EXHIBIT			
				APPROVED: _____ DATE: _____				CONTRACT NO.: _____			
				NO. DATE BY APPD. REVISIONS				SHEET NO.: _____			

Figure 2


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150-ARDY
150-BASE
150-ORDY
150-WINDOWS
150-ARDY
15-WETLANDS
150-TX1-40
150-ARDY
150-BASEC
150-DWN



SEE DWG L15D-113

PLANT LEGEND - RESTORATION PLANTING

EMERGENT AREA SEEDING - HABITAT TYPES PEM

WETLAND SEED MIXCODE	BOTANICAL NAME / COMMON NAME	RATE	WETLAND INDICATOR STATUS
	WS ALOPECURIS GENICULATIS / WATER FOXTAIL	2 LBS/ACRE	FACW+
	BECKMANNIA SYZIGACHNE / AMERICAN SLOUGH GRASS	3 LBS/ACRE	OBL
	DESCHAMPSIA CESPITOSA / TUFTED HAIRGRASS	2 LBS/ACRE	FACW
	GLYCERIA OCCIDENTALIS / WESTERN MANNA GRASS	3 LBS/ACRE	OBL
	ELEOCHARIS OBTUSA / BLUNT SPIKE RUSH	3 LBS/ACRE	OBL

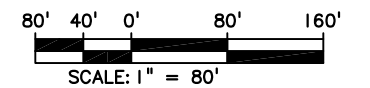





Figure 3

					 TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON		PORTLAND TO MILWAUKIE LRT SEGMENT D Crystal Creek Rehabilitation LANDSCAPE PLAN STA. 425+00 TO STA. 435+00			
					 Mayer/Reed Landscape Architecture 319 SW Washington Street Suite 820 Portland, Oregon 97204		 TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON CAPITAL PROJECTS AND FACILITIES DIVISION 710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232			
					SUBMITTED: DATE: 3/5/10		APPROVED: DATE: 3/5/10		SCALE: 1" = 80'-0"	
							DRAWING NO.: L15D-111		CONTRACT NO.: RH090207JB	
									SHEET NO.:	

Plotted: 6/15/10 at 1:35pm By: JShane
 File: M:\LA PROJECTS\MM\dwgs\Sheet\15D-111.dwg

This map was prepared for assessment purpose only.

SW1/4 SW1/4 SEC.25 T.1S. R.1E. W.M.
CLACKAMAS COUNTY

D.L.C.
LOT WHITCOMB NO 38
WILLIAM MEEK NO 50

1 IE 25CC
MILWAUKIE

1"=100'

SEE MAP 1 IE 25CB

CANCELLED
400 A1 1000 100A1 200A1 2600
500 1300 100A2 200A4
490 1500 200A2 4600M
600 201 200A3 4700 200A5

Crystal Creek

SEE MAP 1 IE 26DD

MC LOUGHLIN
PARTITION PLAT 1990-15

2100

US 99E

STREET

200
6.29 Ac.
2000
200E1
200E2

Approx
1/16 Cor

S.E. (HANNA)-HARVESTER DRIVE

2400

100
3.12 Ac.
2300

12-02

10000
PUBLIC RU

RAIL ROAD R/W

PACIFIC HIGHWAY EAST-CASCADE HIGHWAY SECTION

224

HIGHWAY
OVERPASS

SEE MAP 1 IE 25CD
10300

400
0.91 Ac.
10300
10300

PARTITION PLAT 1990-15
PARCEL 3

401
1.61 Ac.

402
0.32 Ac.

PARTITION PLAT 1990-16
PARCEL 3

403
0.81 Ac.

404
0.37 Ac.

PARTITION PLAT 1990-16
PARCEL 2

700
0.48 Ac.
10466

PARTITION PLAT 1990-16
PARCEL 1

800
0.55 Ac.

PARTITION PLAT 1990-16
PARCEL 3

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36

11200
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(VACATED)
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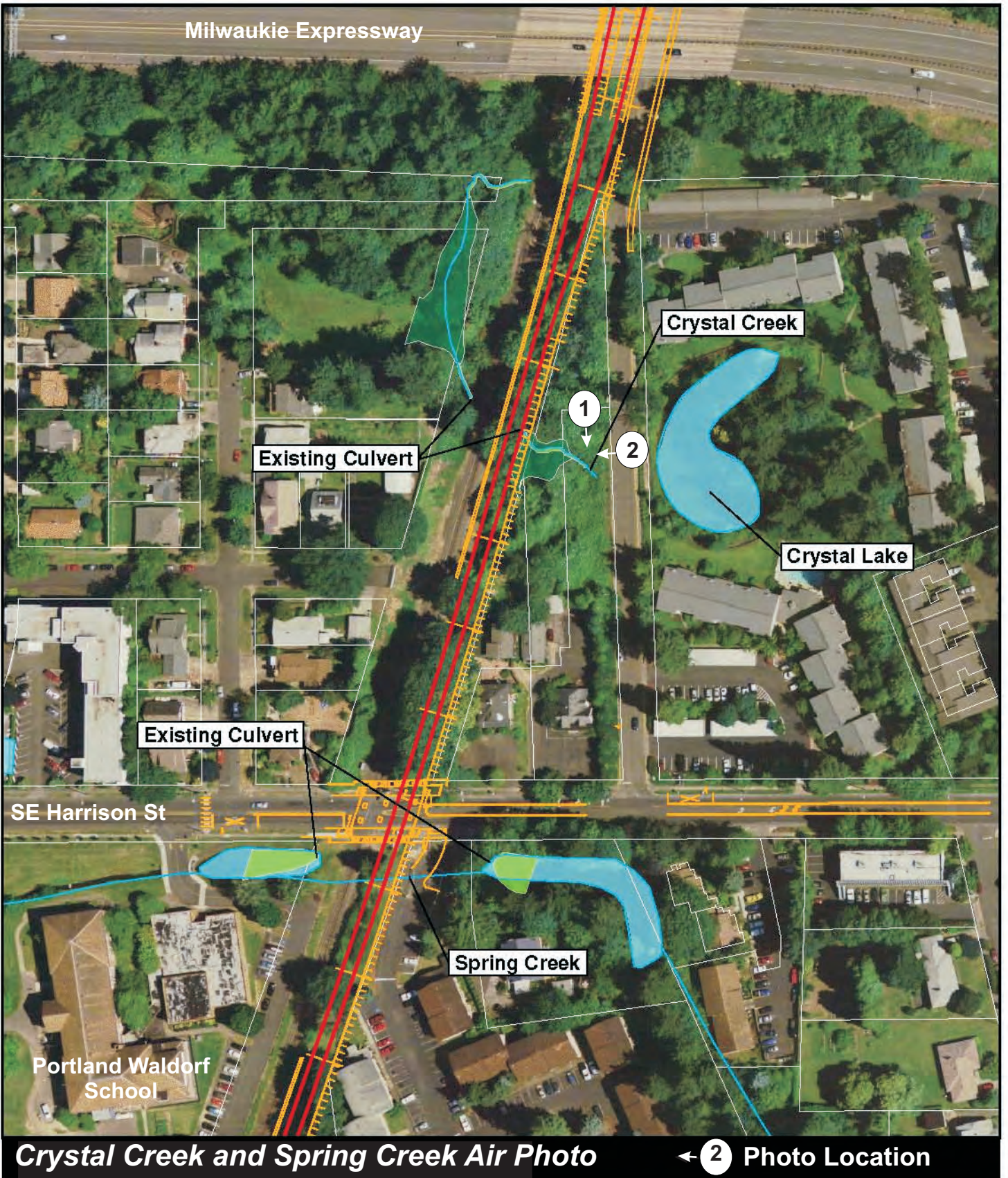
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- LRT Track Centerline
- Portland-Milwaukie LRT Footprint
- Station Platform
- Delineated Wetland
- Ordinary High Water
- Streams
- Taxlots
- FEMA 100yr Flood Plain
- Waterways

Figure 6



0 100 200 Feet



Photo 1. Crystal Creek culvert outlet. View is south.



Photo 2. Crystal Creek and adjacent wetland. View is west.

Appendix B

PMLR Design Constraints – Crystal Creek

Crystal Creek Design Constraints

Date: April 25, 2011
To: David Evans and Associates
From: Elisabeth Bowers
Subject: Federal and State Design Constraints for Crystal Creek
cc:
Project Number: 274-3012-010
Project Name: Portland-Milwaukie Light Rail - East Side Alignment

The purpose of this document is to provide a summary of design constraints for Crystal Creek (aka unnamed stream from Crystal Lake) during the eastside design of the Portland-Milwaukie Light Rail Project (PMLR). These constraints are based on commitments made during the project's permitting process and are contained within the project's Final Environmental Impact Statement (FEIS) submitted September 2010, revised Biological Assessment (BA) submitted February 2010, Biological Opinion (BO) issued June 2010, Joint Permit Application (JPA) submitted June 2010, and the Department of State Lands (DSL) permit issued November 2010.

This document should be reviewed by design leads for structures and environmental mitigation in the vicinity of Crystal Creek.

Original Plan of Action

- Spanning Crystal Creek
- Extending existing culvert
- Impacting approximately 500 sq ft of jurisdictional wetland and 50 sq ft of water

Avoidance Measures

- Minimizing fill in stream and wetland

Minimization Measures

- Erosion and sediment control measures
- Pollution control measures

Noted Mitigation Commitments

The COM will require on-site mitigation measures including revegetating the site as soon as practicable where vegetation must be removed; maintaining connected or contiguous areas of standing trees, shrubs, and natural vegetation, particularly along natural drainage courses, except where mitigation is approved; assuring a minimum width of the vegetated corridor that is 25 feet on each side of a primary protected water feature for at least 75% of the length of the water quality resource.

Additional on-site wetlands and waters mitigation may be impracticable due to the relatively small size of the impact and space constraints. Off-site mitigation for wetlands impacts may be accomplished through use of the Westmoreland Park. Mitigation for impacts to fish passage should occur on-site with the addition of riparian vegetation to help control temperature further downstream.

FEIS Commitments

"A culvert extension will be necessary at Crystal Creek. Substantial short-term impacts are not anticipated at these creeks, but minor impacts may occur during the repair/modification of these culverts (3-169)."

"No water will be diverted from Crystal Springs Creek, Johnson Creek, Crystal Creek, Spring Creek, or Courtney Springs Creek (3-175)."

"With the exception of modifications of existing culvert at Crystal Creek, repair of the culvert at Spring Creek crossings, and existing metal culvert repairs for park-and ride construction near Courtney Springs Creek, only the Willamette River and Kellogg Lake bridges would include new permanent structures located below the OHW elevation. (3-187)"

"Minor impacts of only 0.01 acre would also occur to PM 7 wetlands in the vicinity of Crystal Creek that are riverine impounding wetlands. PM 7 wetlands that would be impacted are palustrine scrub-shrub, riverine impounded wetlands."

Biological Assessment Commitments

"Revegetation and enhancement of the riparian zone at the crossing is proposed to increase water quality in an effort to provide a net benefit for the stream (2-17)."

Table 4. Crystal Creek Culvert Sizing and Work Duration (2-17, 2-18)

Structure	Depth (of Water)	Structures Installed Below OHW (#, Type, and Size)	Structure Located in Shallow Water (<20 feet deep)	Duration of Culvert Installation	Time of Year
Crystal Creek Culvert	Approximately 1 foot	Approximately 34-foot-long, 3-foot-diameter corrugated metal pipe	All	10 days	July 15 to August 31
Totals:	Approximately 1 foot	Approximately 34-foot-long, 3-foot-diameter corrugated metal pipe	All	10 days	

"At Crystal Creek, staging will occur from areas to the north near Highway 224 and the trackway alignment (2-39)."

"Approximately 0.01 acres of wetland fill will occur near Crystal Creek. Also, due to the extension of the culvert at Crystal Creek, fish passage mitigation requirements will be triggered. State and federal regulations dictate that fish passage not be hindered, or, if it is, that mitigation actions occur. Wetlands

and fish passage mitigation requirements are anticipated to be met through partial funding of the City of Portland's Westmoreland Park Restoration Project (2-44)."

"Fish passage and wetland impacts at Crystal Creek as well as wetland impacts at Crystal Springs Creek will be mitigated for through the funding of restoration efforts at Westmoreland Park along Crystal Springs Creek. Though short-term construction impacts may occur as part of these restoration activities, long-term impacts are anticipated to improve fish habitat to the extent that these activities will provide an overall net benefit to fish species and fish habitat. Short-term construction impacts to fish and fish habitat due to these construction activities will be minimized through the implementation of a TЕСP and PCP (2-46)."

"Since Crystal Creek, Spring Creek, and Courtney Springs Creek have not been documented as bearing any ESA-listed fish nor listed as EFH or critical habitat, project activities will have minimal if any effect on listed salmonids (5-1)."

"Additional shading will also occur at Crystal Creek with an extension of the existing UPRR culvert. However, no effects to fish species will occur since there are no listed fish present due to existing fish barriers (5-5)."

"No water will be diverted from Crystal Springs Creek, Johnson Creek, Crystal Creek, Spring Creek, or Courtney Springs Creek (6-4)."

Biological Opinion Commitments

"NMFS determined that the proposed project components occurring at Crystal Creek, Spring Creek, Courtney Springs Creek and Fairview Creek are NLAA ESA-listed salmon and steelhead. The proposed culverts to be repaired and extended at Crystal Creek, Courtney Springs Creek and Spring Creek are located above multiple fish barriers and the action areas have no documented presence of ESA-listed fish³ and are not designated as critical habitat...Based on the above, NMFS determined that the Crystal Creek, Courtney Springs Creek and Spring Creek culvert repairs and upgrades and the Ruby Junction maintenance facility upgrade near Fairview Creek are NLAA ESA-listed salmon and steelhead or their critical habitats and will not be discussed further in this Opinion (3)."

JPA Commitments

"The Crystal Creek crossing will require the extension of an existing 36-inch culvert under the UPRR alignment by 20 feet. Fish passage measures are not proposed at this crossing due to the presence of many barriers downstream. The impact footprint will be minimized through the use of mechanically stabilized earth (MSE) walls to contain the 34-foot-wide LRT track section. Revegetation and enhancement of the riparian zone at the crossing is proposed to increase water quality in an effort to provide a net benefit for the stream.

Impact Summary: Permanent fill in jurisdictional wetlands totals 125 cy/0.01 acres. Temporary fill in jurisdictional wetlands totals 5 cy/0.005 acres. Permanent fill in the waterway totals 10 cy/0.002 acres (v.11-14-08)."

"No water will be diverted from Crystal Springs Creek, Johnson Creek, Crystal Creek, Spring Creek, or Courtney Springs Creek (v.11-14-08)."

DSL Permit Commitments

Attachment A:

2. Wetland Impacts.

- Permanent. This permit authorizes the permanent placement of up to 3,375 cubic yards (0.98 acres) of material in wetlands (Crystal Springs Creek, Crystal Creek)

Waterway Impacts

- Permanent. This permit authorizes the permanent placement of up to 21,360 cubic yards (2.40 acres) and permanent removal of up to 43 cubic yards (0.003 acres) of material in waterways (Willamette River, Crystal Creek, Kellogg Lake)

3. Work Period in Jurisdictional Areas: Fill or removal activities below the ordinary high water elevation of the following waterways shall be conducted as such:

- c. Crystal Creek (culvert work): July 15-August 31

17. Work Area Isolation: Certain work areas (Willamette River, Crystal Creek, Spring Creek, Courtney Springs Creek) shall be isolated from the water during construction.

22. Site Restoration Required for Temporary Wetland Impacts: Site restoration for temporary impacts to 0.195 acres of wetlands adjacent to Crystal Springs Creek (0.19) and Crystal Creek (0.005 acres) shall be conducted according to the Wetland Rehabilitation Plans in the application.

RECEIVED
MAY 18 2012

 CITY OF MILWAUKIE
 PLANNING DEPARTMENT

Date: May 17, 2012
To: Brett Kelper, City of Milwaukie Associate Planner
From: Joe Recker, TriMet Environmental Permits Coordinator *JR*
Subject: State and Federal Environmental Permit Summary Relating to Crystal Creek Water Quality Resource review (NR-12-1)

The Portland-Milwaukie Light Rail Transit (PMLRT) Project has received the applicable state and federal reviews and approvals relative to jurisdictional wetlands and waterways of the United States, including those required for the proposed improvements at Crystal Creek within the City of Milwaukie. The following is a summary of the applicable permits. A copy of each permit is transmitted with this memo for City records.

Sections 401 and 404 of the Clean Water Act Permit (Corps No. NWP-2009-444)

US Army Corp of Engineers & Oregon Department of Environmental Quality (DEQ)

The Corps Section 404 permit was issued on June 17, 2011 and the DEQ Section 401 Water Quality Certification (attached to the Corps permit) was issued on May 24, 2011. The permit and certification authorize work within jurisdictional waters and wetlands of the United States, including Crystal Creek. Specially, the permit authorizes an extension of the 36-inch culvert by under the UPRR alignment by 20 feet, lining of the 66-inch culvert with HDPE pipe, and minor stream channel realignment. Additionally, the permit recognizes up to 0.01 acres of permanent fill to wetlands and up to 10 cubic yards of permanent fill in the waterway over 0.01 acres. The permit also recognizes temporary fill in wetlands totaling 20 cubic yards over 0.05 acres and 20 cubic yards of temporary fill in the waterway over 0.01 acres. The permit requires compensatory wetland mitigation (1.08 acres) to occur in Westmoreland Park in Portland, along Crystal Springs Creek, for impacts to both Crystal Springs Creek and Crystal Creek wetlands.

Removal-Fill Permit (RF-45253)

Oregon Department of State Lands (DSL)

The DSL permit was issued November 17, 2010. Permit authorizes fill and removal activities below the ordinary high water elevation, including permanent and temporary impacts to wetlands (including those at Crystal Creek) and waterways (including Crystal Creek). The permit requires site restoration of 0.005 acres of wetland adjacent to Crystal Creek and compensatory mitigation for 0.01 acres of permanent impacts there. Compensatory wetland mitigation (1.08 acres) will occur in Westmoreland Park in Portland, along Crystal Springs Creek, for impacts to both Crystal Springs Creek and Crystal Creek wetlands.

Fish Passage Exemption (E-02-0019)
Oregon Department of Fish & Wildlife (ODFW)

ODFW approved a fish passage exemption for the proposed improvements to Crystal Creek on July 5, 2011. A net benefit analysis performed by ODFW showed that providing fish passage at this site would not result in an appreciable benefit to native migratory fish. The fish passage exemption was supported by documentation of existing barriers to all native migratory fish both downstream (850 feet) and upstream (100 feet) from this site.



CONSULTING, LLC
906 NW 23RD AVENUE • PORTLAND OREGON 97210
503.227.5000

RECEIVED

MAY 18 2012

CITY OF MILWAUKIE
PLANNING DEPARTMENT

Memo

To: Brett Kolver
CC: Jeb Doran, Joseph Recker
From: Jeff Joslin
Date: May 18, 2012
Re: **NR-12-01 (Water Quality Resource/Natural Resource) Application Completeness**

Introduction

Thank you for your highly detailed incompleteness letter of May 4th. In response, we've worked through your identified completeness items and comments in order to provide you a fully responsive resubmittal.

With the incompleteness items addressed, we respectfully request that the application be deemed complete with the submission of this additional material, and look forward to moving forward with the application.



Oregon

Theodore R. Kulongoski, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregonstatelands.us.

October 28, 2009

State Land Board

Mark Turpel

Metro

600 NE Grand Avenue

Portland, OR 97232-2736

Theodore R. Kulongoski

Governor

Kate Brown

Secretary of State

Ben Westlund

State Treasurer

Re: Wetland Delineation Report for Portions of the Portland to Milwaukie Light Rail Project Corridor, Multnomah and Clackamas Counties, T1S R1E and T2S R1E, Portions of Multiple Sections and Tax Lots; WD #09-0285

Dear Mr. Turpel:

The Department of State Lands has reviewed the wetland delineation report prepared by David Evans and Associates, Inc. for the site referenced above. Based upon our review and additional information submitted upon request, we concur with their delineation and conclusions. Within the focused study area, 6 wetlands (totaling 3.12 acres) and segments of seven waterways, including the Willamette River, Johnson Creek, Crystal Springs Creek, Kellogg Creek, Crystal Creek, Spring Creek, and Courtney Springs Creek (also referred to as Linder Creek), were identified. All these wetlands and waterways are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined). However, the Willamette River, Johnson Creek, Crystal Springs Creek, and Kellogg Creek are all essential salmonid streams; and therefore, fill or removal of any amount of material below the OHWL, or within any hydrologically-connected wetlands, may require a state permit.

In addition, due to access issues, Wetland PM 5b was mapped using offsite wetland determination methods including observations from adjacent properties and interpretation of aerial photographs. Because offsite determination methods are not suitable for removal-fill permitting, it will be necessary to use onsite methods and delineate these areas prior to project construction. If the subsequent onsite wetland delineation changes the areas of wetland and wetland impact appreciably, the Department may require an addendum wetland report and a revised permit application.

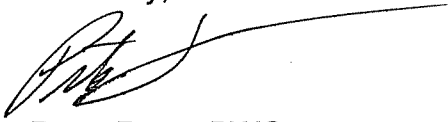
This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the



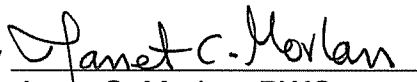
date of this letter, unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at (503) 986-5232 if you have any questions.

Sincerely,

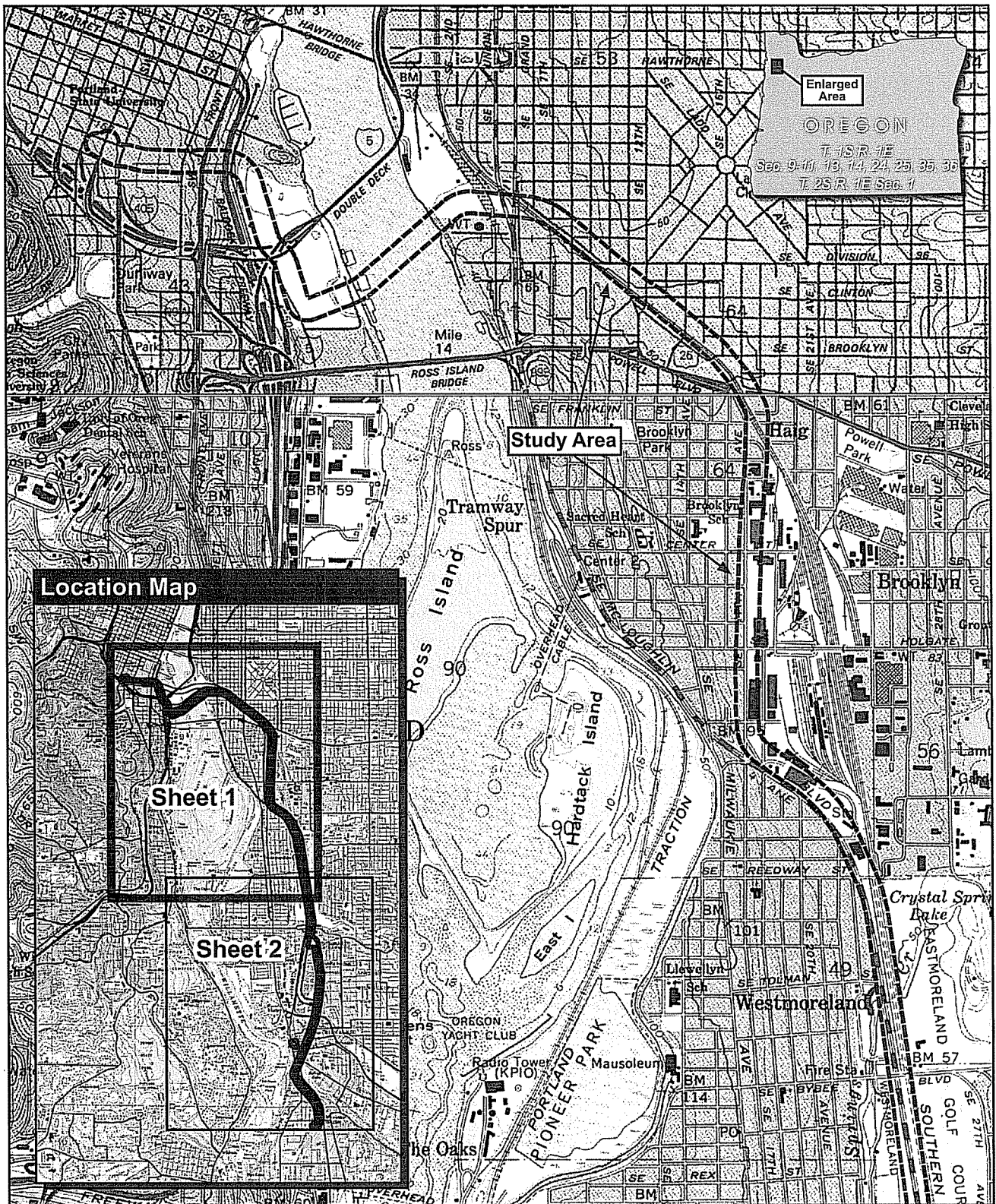


Peter Ryan, PWS
Wetland Specialist

Approved by 
Janet C. Morlan, PWS
Wetlands Program Manager

Enclosures

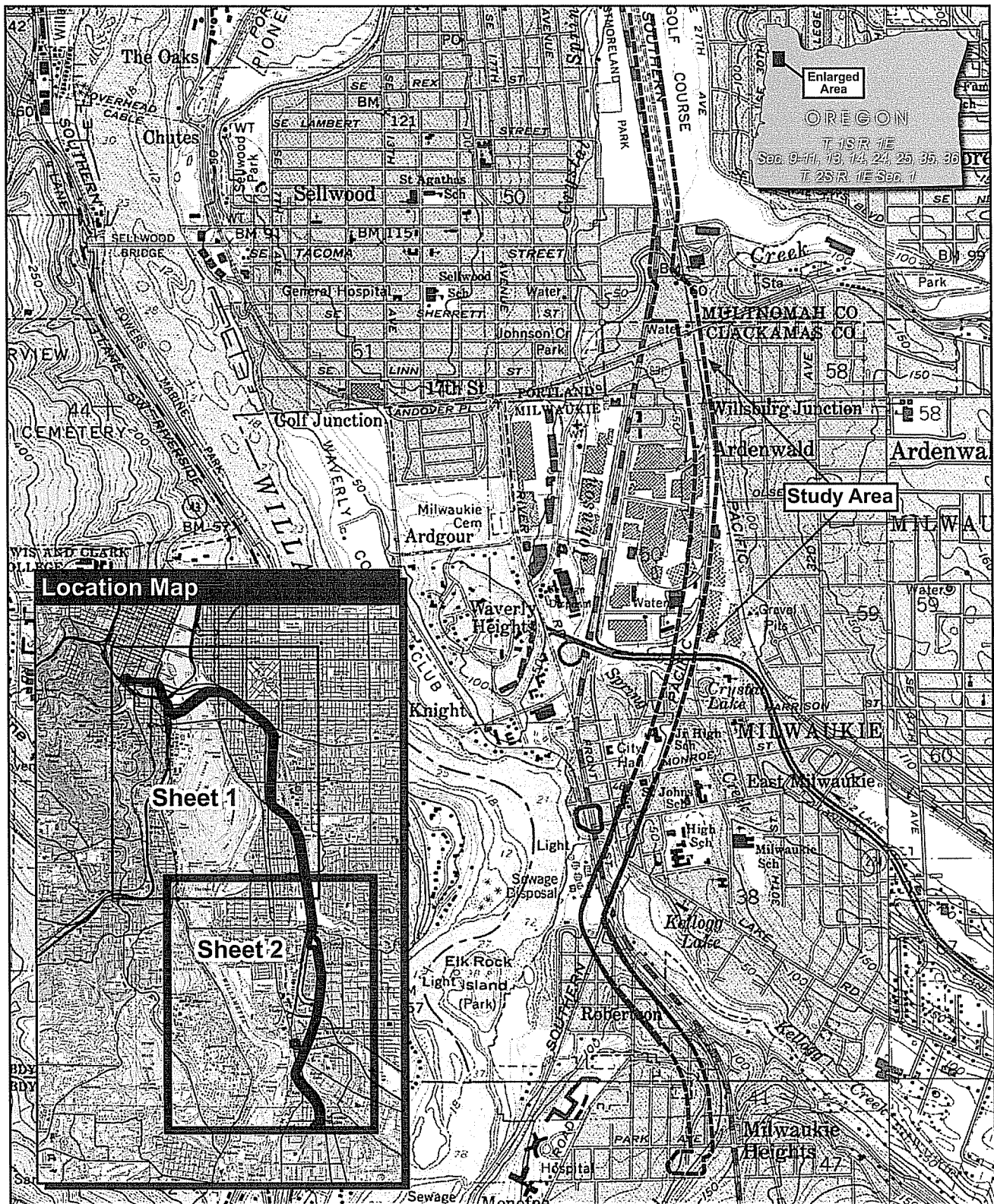
ec: Ethan Rosenthal, David Evans and Associates, Inc.
Tom Taylor, Corps of Engineers
Mike McCabe, DSL



USGS Quadrangles: Gladstone, OR 1961 (Photorevised 1984); Lake Oswego, OR 1961 (Photorevised 1984);
 Mount Tabor, OR-WA 1990; and Portland, OR-WA 1990

Figure 1
 Vicinity
 (Sheet 1 of 2)





USGS Quadrangles: Gladstone, OR 1961 (Photorevised 1984); Lake Oswego, OR 1961 (Photorevised 1984);
 Mount Tabor, OR-WA 1990; and Portland, OR-WA 1990

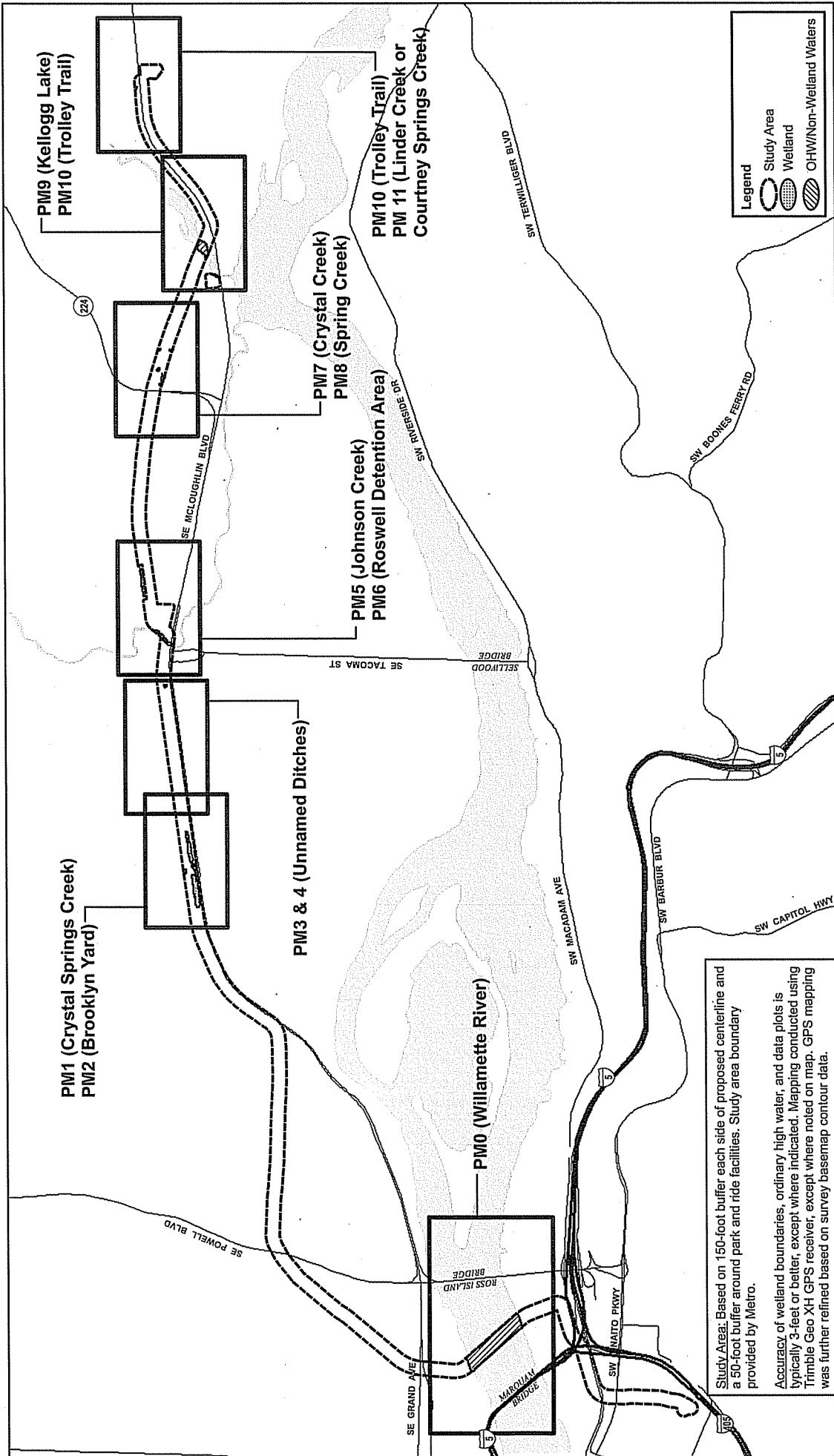
Figure 1
 Vicinity
 (Sheet 2 of 2)



Scale - 1 : 24,000



WD#09-0285



Study Area: Based on 150-foot buffer each side of proposed centerline and a 50-foot buffer around park and ride facilities. Study area boundary provided by Metro.

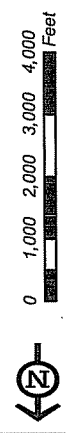
Accuracy of wetland boundaries, ordinary high water, and data plots is typically 3-feet or better, except where indicated. Mapping conducted using Trimble Geo XH GPS receiver, except where noted on map. GPS mapping was further refined based on survey basemap contour data.

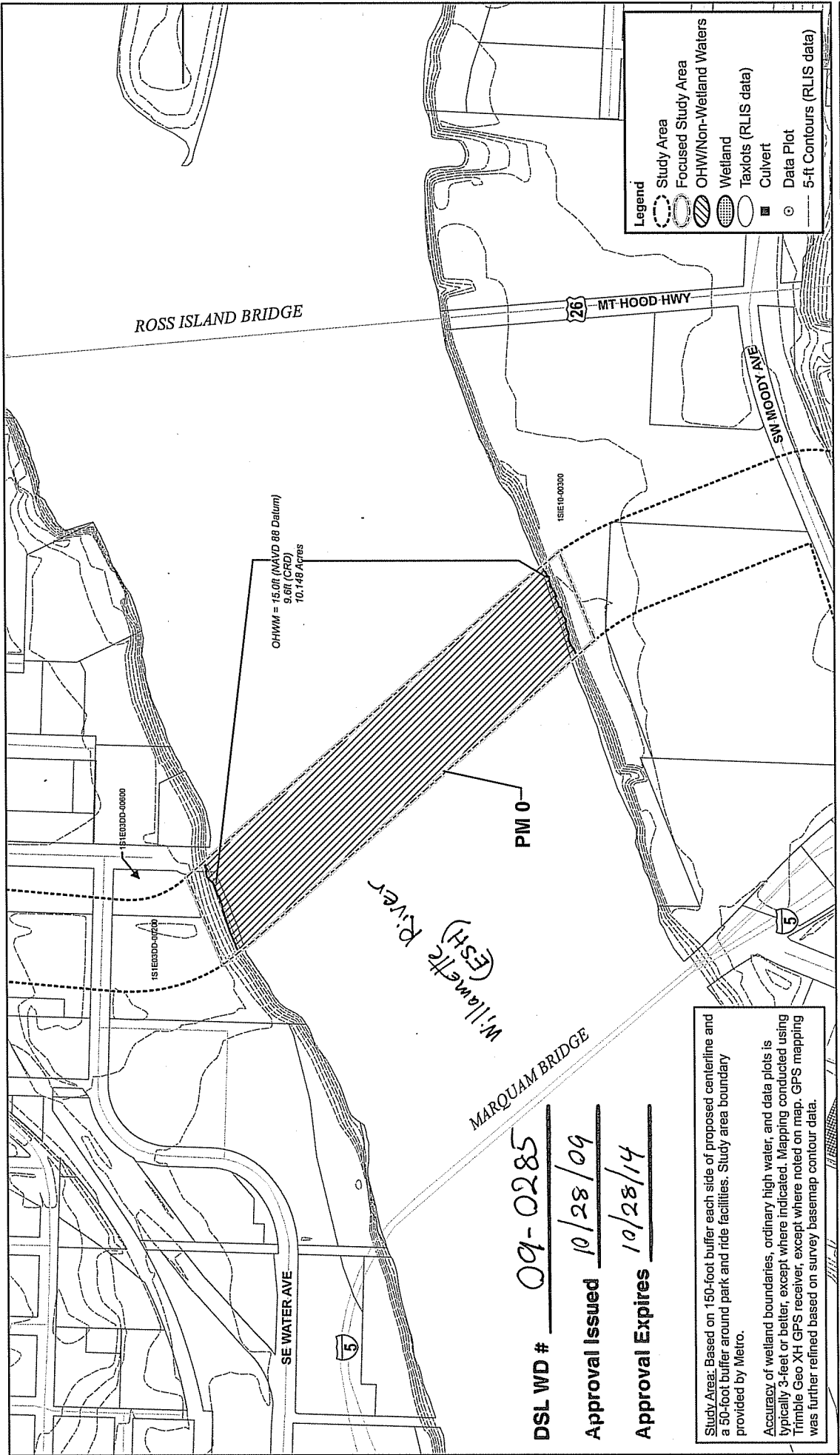


Figure 4
Wetland Delineation Index
(Sheet 1 of 8)

Portland to Milwaukie LRT

Wetland Delineation





- Legend**
- Study Area
 - Focused Study Area
 - OHW/Non-Wetland Waters
 - Wetland
 - Taxlots (RLIS data)
 - Culvert
 - Data Plot
 - 5-ft Contours (RLIS data)

OHHW = 15.0ft (NAVD 88 Datum)
9.6ft (CRD)
10.149 Acres

PM 0

Willamette River (ESH)

MARQUAM BRIDGE

ROSS ISLAND BRIDGE

26 MT HOOD HWY

SW MOODY AVE

SE WATER AVE

DSL WD # 09-0285
 Approval Issued 10/28/09
 Approval Expires 10/28/14

Study Area: Based on 150-foot buffer each side of proposed centerline and a 50-foot buffer around park and ride facilities. Study area boundary provided by Metro.
 Accuracy of wetland boundaries, ordinary high water, and data plots is typically 3-feet or better, except where indicated. Mapping conducted using Trimble Geo XH GPS receiver, except where noted on map. GPS mapping was further refined based on survey base map contour data.



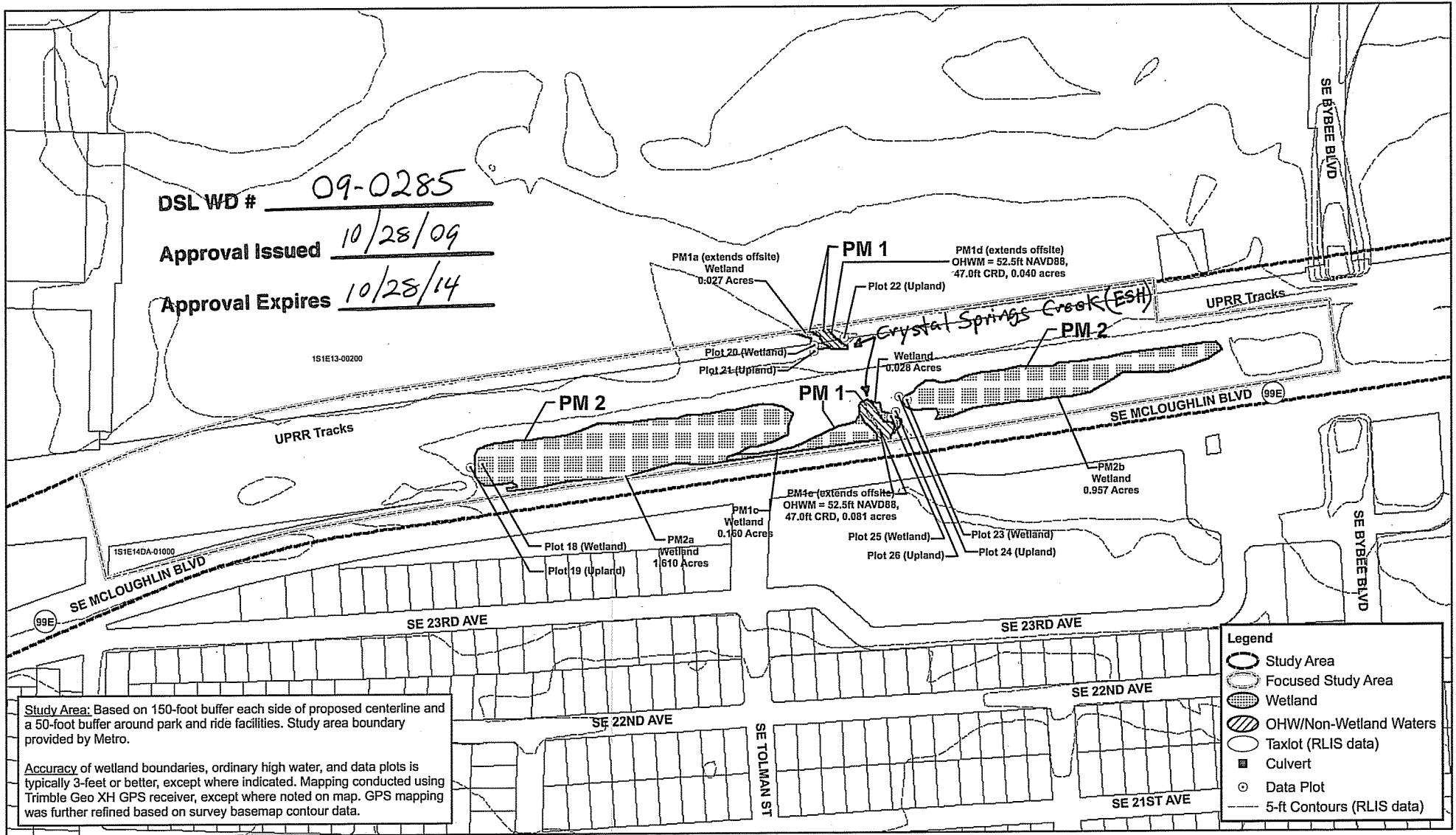
Figure 4
 PM 0 (Willamette River)
 (Sheet 2 of 8)

Portland to Milwaukie LRT
 Wetland Delineation

Source Info:
 RLIS Metro GIS Data, 2009



DSL WD # 09-0285
 Approval Issued 10/28/09
 Approval Expires 10/28/14



Study Area: Based on 150-foot buffer each side of proposed centerline and a 50-foot buffer around park and ride facilities. Study area boundary provided by Metro.

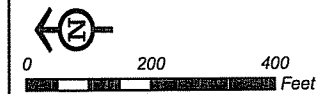
Accuracy of wetland boundaries, ordinary high water, and data plots is typically 3-feet or better, except where indicated. Mapping conducted using Trimble Geo XH GPS receiver, except where noted on map. GPS mapping was further refined based on survey basemap contour data.

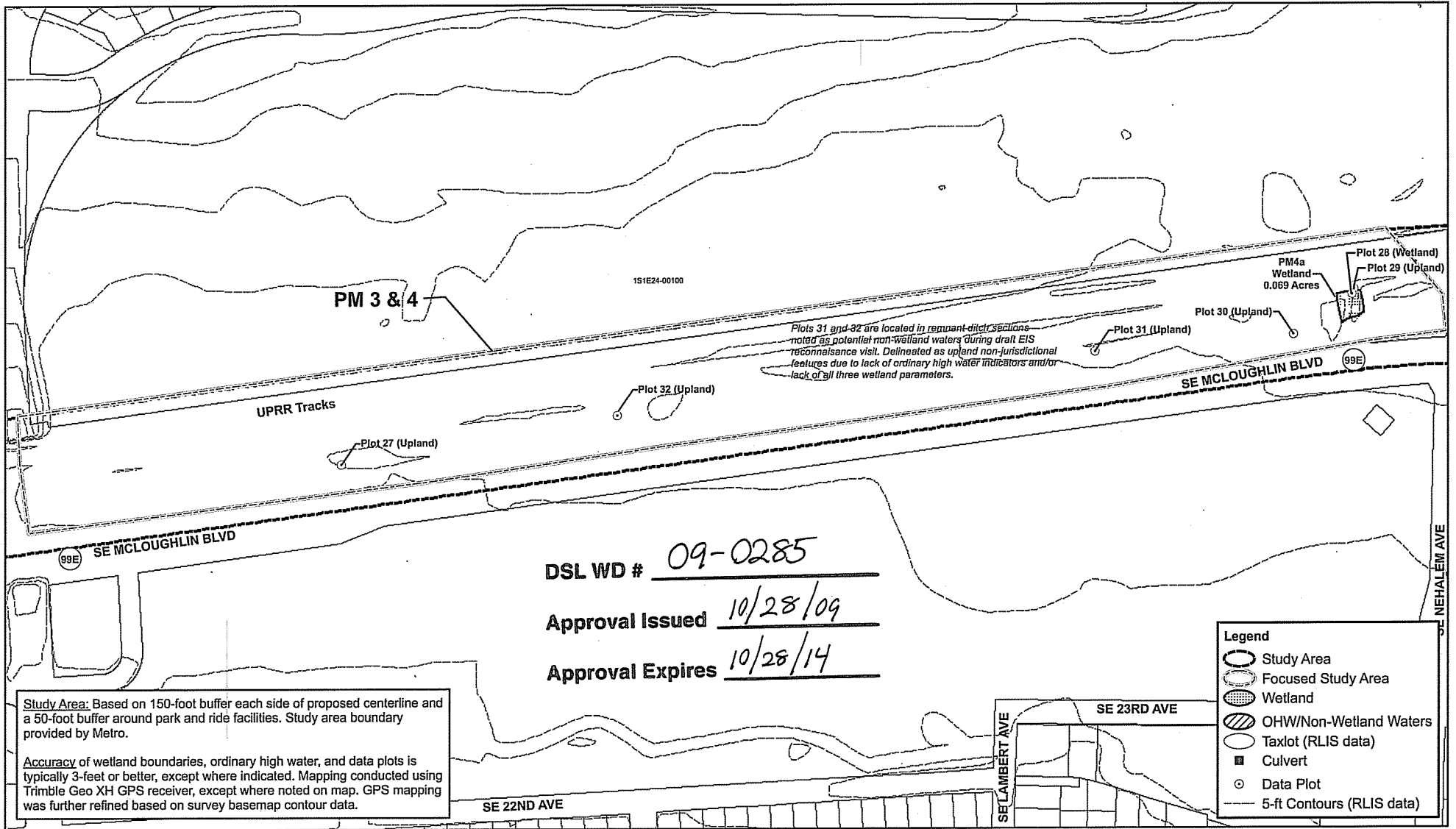
Source Info:
 RLIS Metro GIS Data, 2009

Portland to Milwaukie LRT

Wetland Delineation

Figure 4
 PM1 (Crystal Springs Creek), PM2 (Brooklyn Yard)
 (Sheet 3 of 8)

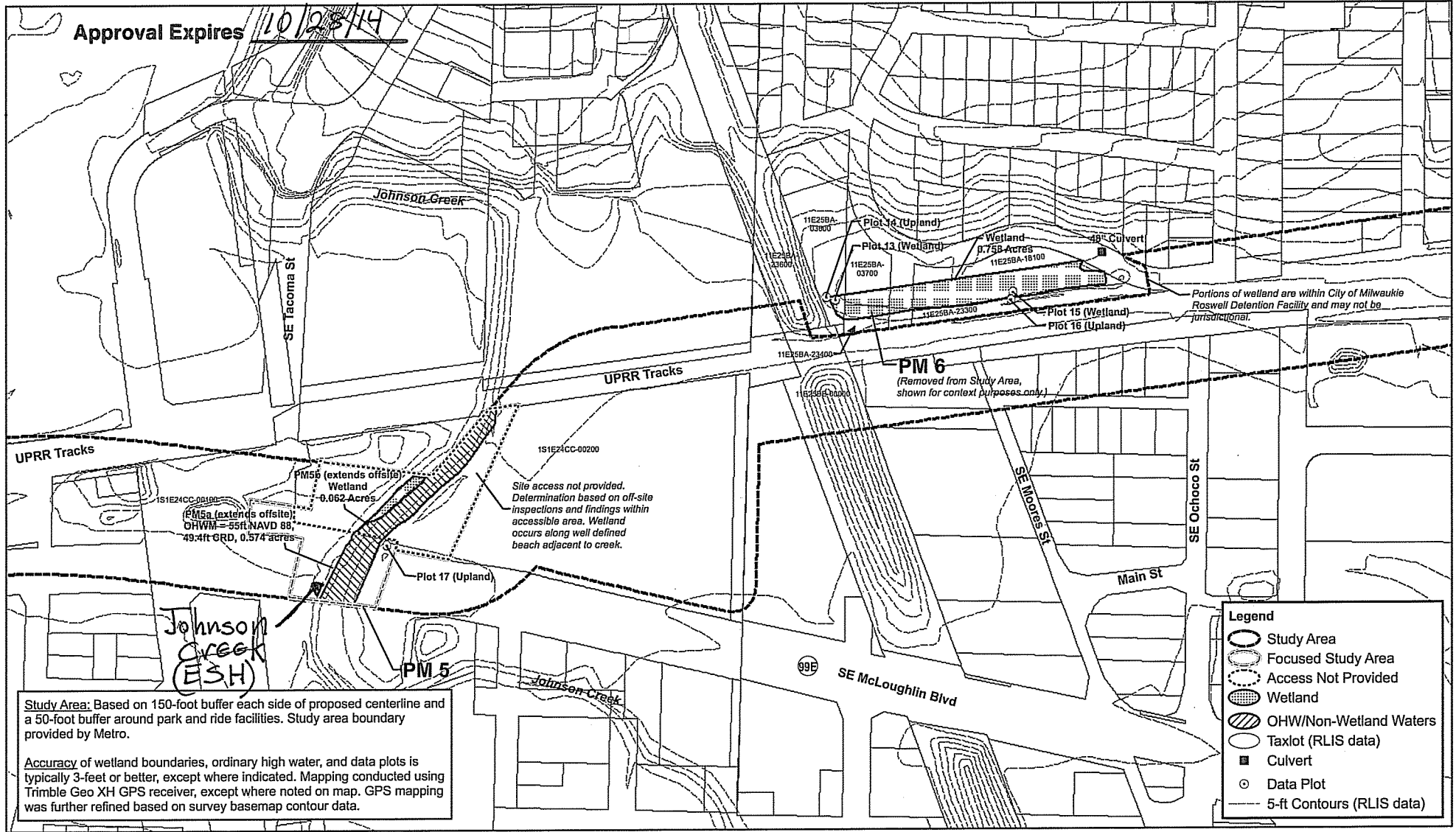




DSL WD # 09-0285

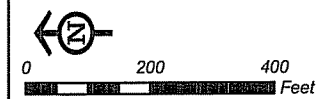
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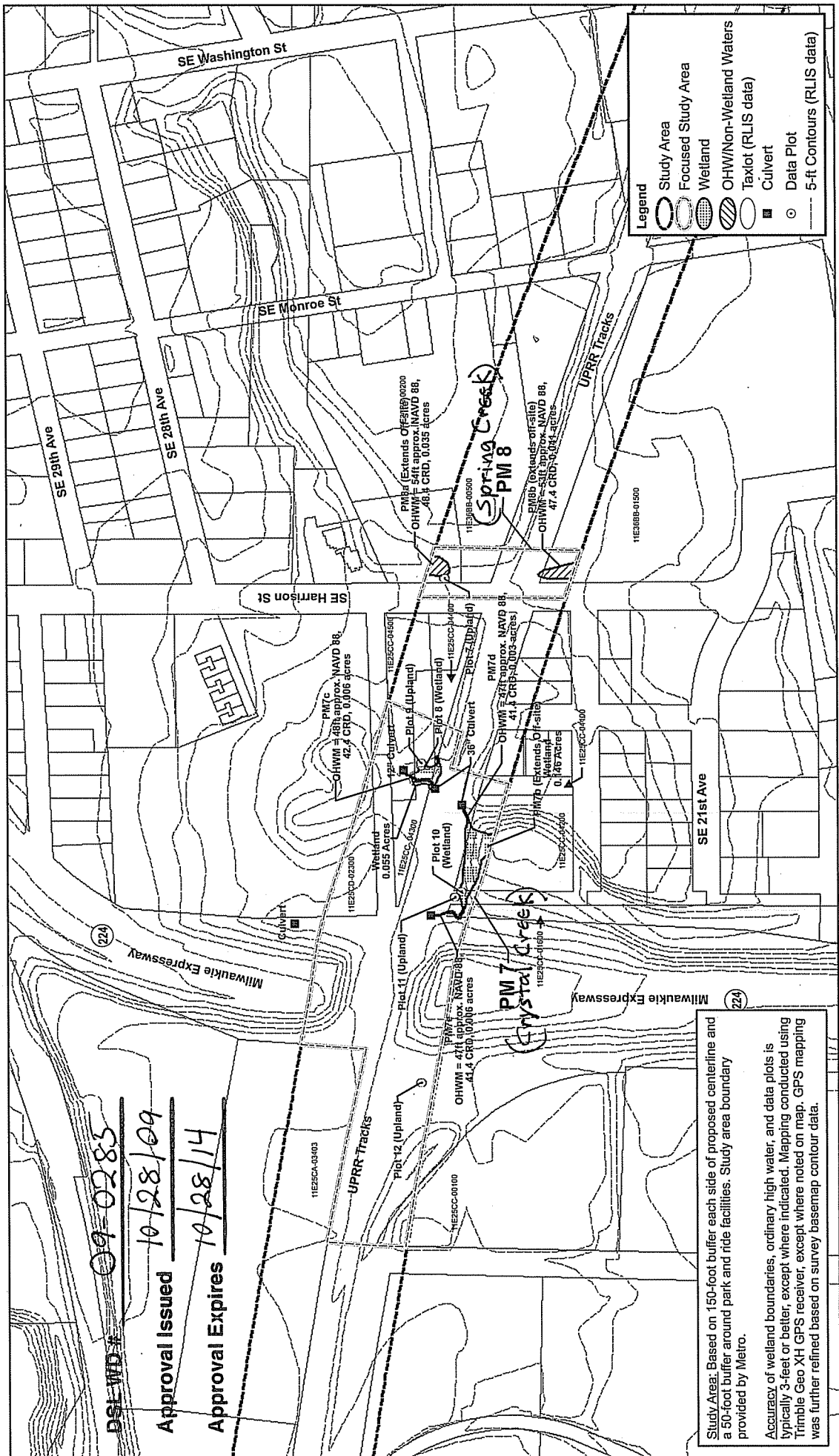


Source Info:
RLIS Metro GIS Data, 2009

Portland to Milwaukie LRT Wetland Delineation

Figure 4
PM5 (Johnson Creek) and
PM6 (Roswell Detention Area)
(Sheet 5 of 8)





DSE WD # 09-0285
 Approval Issued 10/28/09
 Approval Expires 10/28/14

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Accuracy of wetland boundaries, ordinary high water, and data plots is typically 3-feet or better, except where indicated. Mapping conducted using Trimble Geo XH GPS receiver, except where noted on map. GPS mapping was further refined based on survey basemap contour data.



Figure 4
 PM7 (Crystal Creek) and PM8 (Spring Creek)
 (Sheet 6 of 8)

Portland to Milwaukie LRT

Wetland Delineation

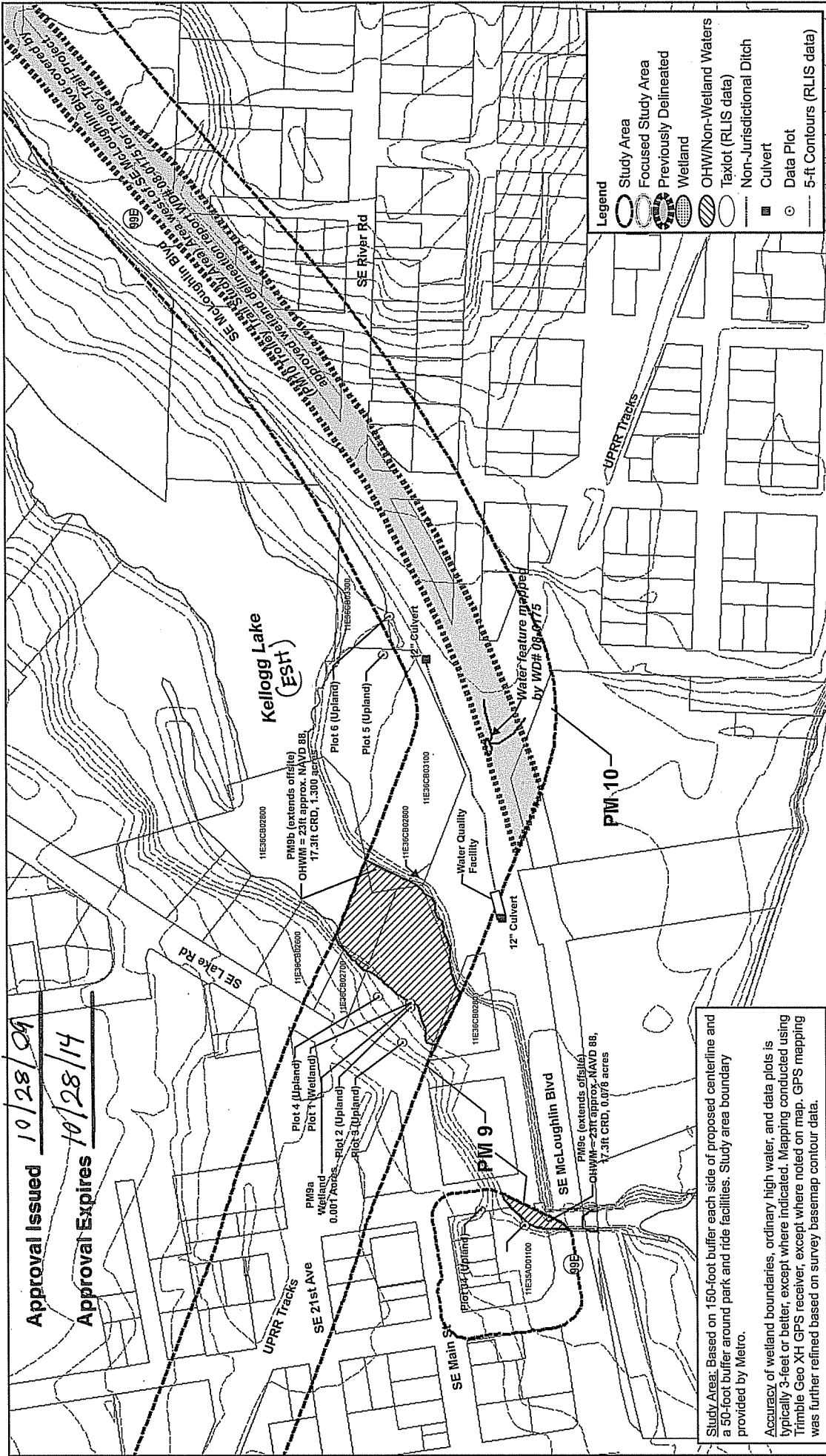
Source Info:
 RLIS Metro GIS Data, 2009



DSL WD # 09-0285

Approval Issued 10/28/09

Approval Expires 10/28/14



Legend

- Study Area
- Focused Study Area
- Previously Delineated
- Wetland
- OHW/Non-Wetland Waters
- Taxlot (RLIS data)
- Non-Jurisdictional Ditch
- Culvert
- Data Plot
- 5-ft Contours (RLIS data)

Study Area: Based on 150-foot buffer each side of proposed centerline and a 50-foot buffer around park and ride facilities. Study area boundary provided by Metro.

Accuracy of wetland boundaries, ordinary high water, and data plots is typically 3-feet or better, except where indicated. Mapping conducted using Trimble Geo XH GPS receiver, except where noted on map. GPS mapping was further refined based on survey basemap contour data.

Figure 4
PM9 (Kellogg Lake) and
PM10 (Trolley Trail Study Area)
(Sheet 7 of 8)

Portland to Milwaukie LRT
Wetland Delineation

Source Info:
RLIS Metro GIS Data, 2009

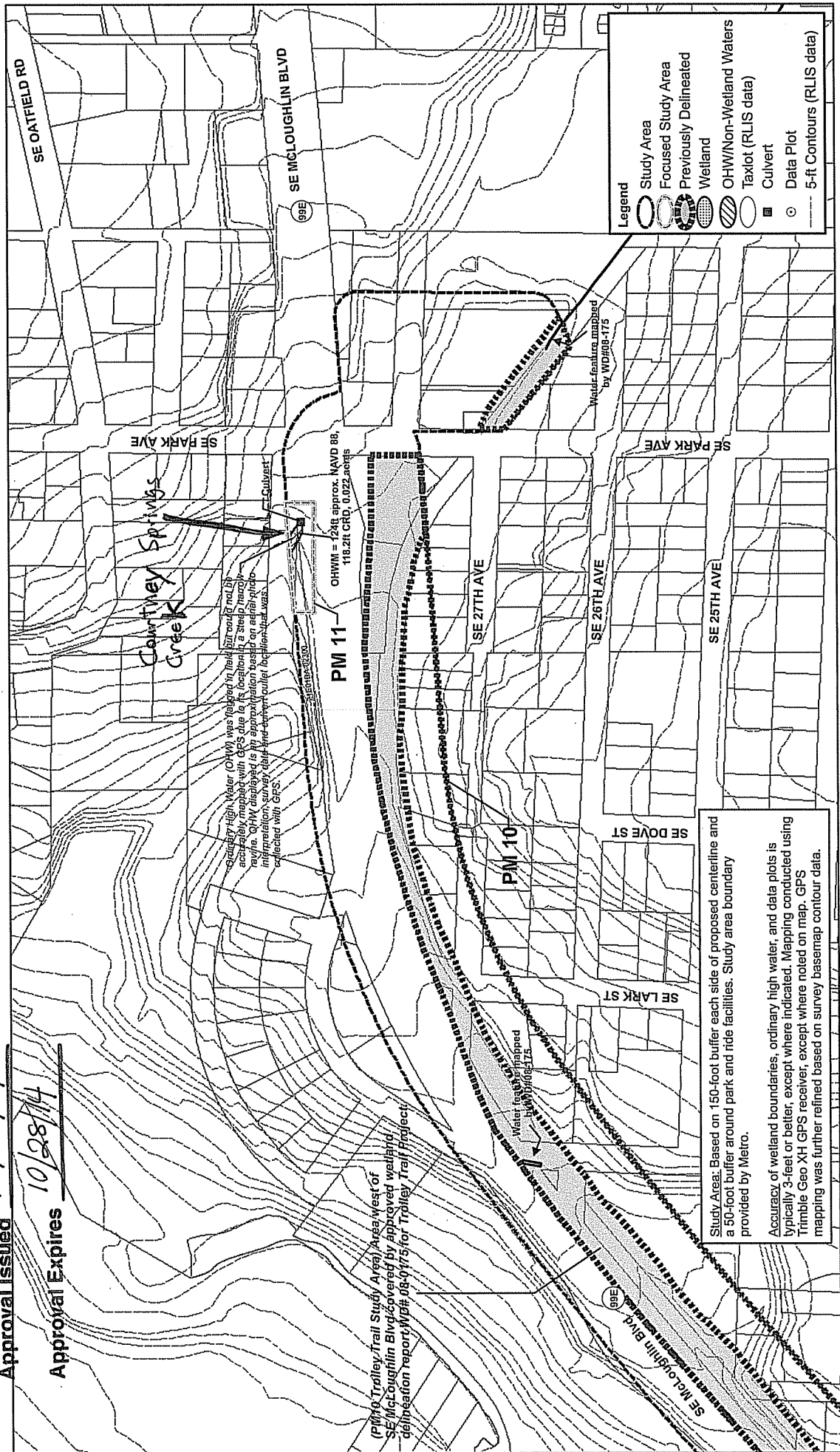
0 200 400 Feet

September 2009

DSL WD # 09-0285

Approval Issued 10/28/09

Approval Expires 10/28/14



(PM10 & Trolley Trail Study Area) Area west of SE McLoughlin Blvd covered by approved wetland delineation report WP# 08-0175 for Trolley Trail Project.

Study Area: Based on 150-foot buffer each side of proposed centerline and a 50-foot buffer around park and ride facilities. Study area boundary provided by Metro.

Accuracy of wetland boundaries, ordinary high water, and data plots is typically 3-feet or better, except where indicated. Mapping conducted using Trimble Geo XH GPS receiver, except where noted on map. GPS mapping was further refined based on survey basemap contour data.

Figure 4
 PM11 (Linder Creek or Courtney Springs Creek)
 (Sheet 8 of 8)

Portland to Milwaukie LRT
 Wetland Delineation

Source Info:
 RLIS Metro GIS Data, 2009



Date: June 7, 2012

To: Brett Kelter, Associate Planner, City of Milwaukie

Cc: Scot Siegel, Contract Planner, City of Milwaukie

From: Jeb Doran, Urban Design Lead, PMLR TriMet

Subject: Supplemental information WQR application NR 12-0,

This memo intends to address a number of questions raised during the review of the application materials. These include a request to document existing trees to remain on site within the construction limits, a description of how trees marked for removal will be repurposed, and a need for clarification regarding why a culvert extension is proposed over a bridge or other alternative.

Existing trees to remain

Enclosed you will find a revised Figure 1- *Existing Conditions*. This exhibit updates the Figure 1 provided in the Crystal Creek Water Quality report dated 5-16-12.

The figure illustrates the approximate location and species of all existing trees to remain, and be protected, during the PMLR construction and mitigation work.

In our field review, it was determined there are two additional maple trees that will be removed due to temporary work to install a storm culvert from 26th Ave. In addition, the mitigation proposes to remove an old foundation from the creek. It was discovered that one small willow tree is growing out of this foundation, and would therefore be removed during the mitigation. The figure has been revised to capture the removal of these trees. The removal of the two maples related to the storm culvert at 26th Ave, raises the total trees removed as a result of temporary and permanent impacts to 13.

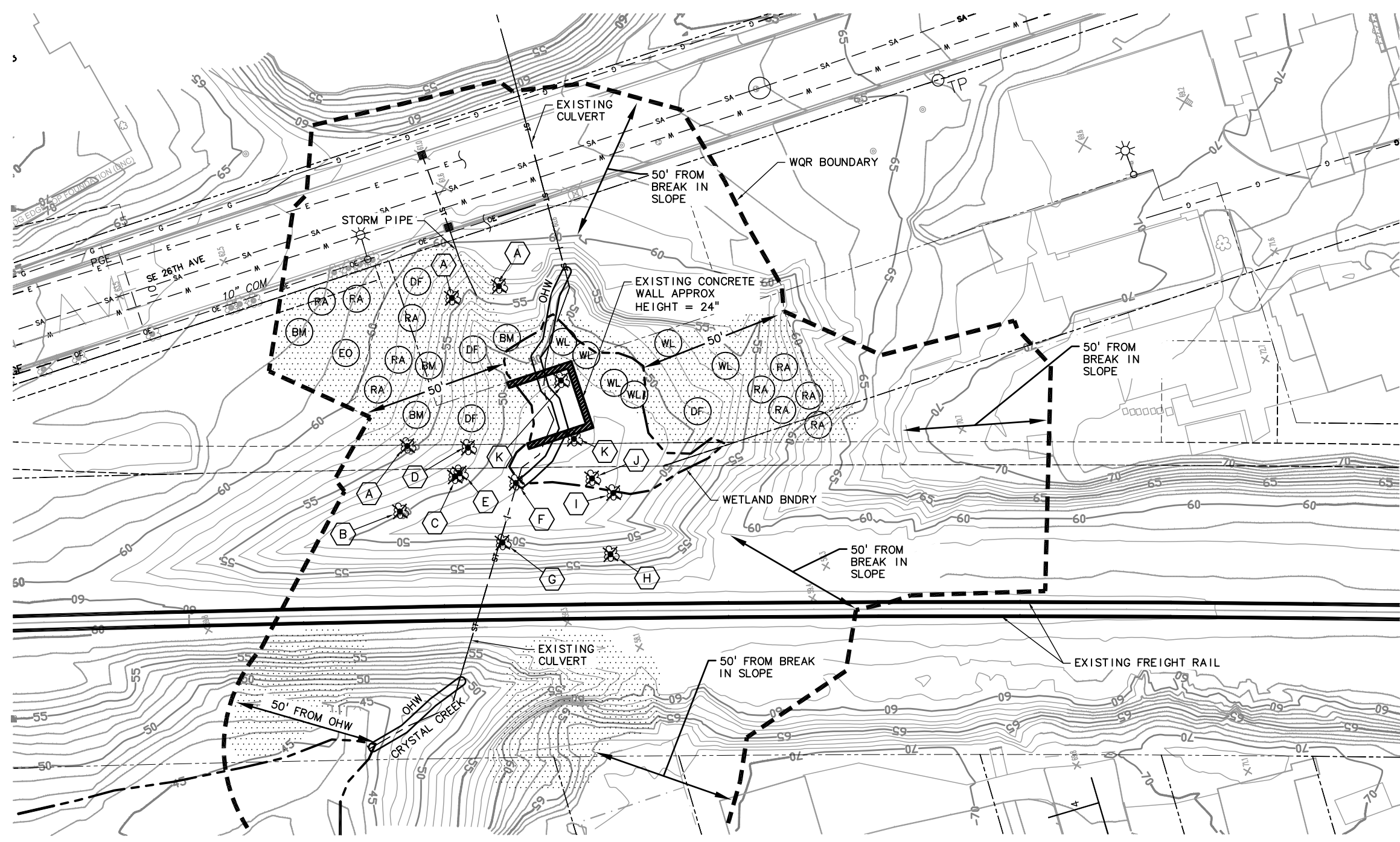
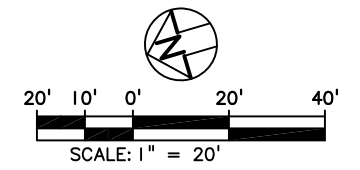
What will be done with the trees removed?

TriMet and SWI are working to repurpose all trees removed. Currently, the two Douglas fir trees slated for removal will be used as Large Woody Debris for in-water restoration projects in Johnson Creek. The maples and willow will be donated as firewood for shelters, donated as chips in restoration projects or community gardens in the area, or incorporated as art along the trolley trail.

The project continues to pursue other purposeful alternative uses for trees removed.

Are there other alternatives for the culvert extension that would be more beneficial to fish passage, such as a bridge?

The current design was selected in close consultation with federal and state agencies with jurisdiction over US waters and wetlands. The federal and state agencies who reviewed this design concluded that no other alternative would provide an appreciable benefit to native migratory fish. The primary reasons for this conclusion are that: 1) no protected fish are historically documented in this creek, 2) a culvert exists adjacent to this proposed crossing; requiring only a short extension of it, and 3) fish barriers exist both up and downstream from this section of the creek. In reaching this conclusion, the appropriate federal and state agencies also considered the useful life of existing fish barriers and the relative benefit of a considerably more costly design such as a bridge. The current design has been advanced into the current City of Milwaukie Natural Resource application because it has been found to be the most appropriate use of public funds and because all proposed disturbance to the creek and wetland are appropriately mitigated.



TREE REMOVAL TABLE		
#	BOTANICAL NAME / COMMON NAME	SIZE (DBH)
A	Acer macrophyllum - bigleaf maple	16"
B	Acer macrophyllum - bigleaf maple	24"
C	Acer macrophyllum - bigleaf maple	Multistem, 16"
D	Acer macrophyllum - bigleaf maple	6"
E	Pseudotsuga menziesii - Douglas-fir	32"
F	Pseudotsuga menziesii - Douglas-fir	20"
G	Acer macrophyllum - bigleaf maple	10"
H	Acer macrophyllum - bigleaf maple	Multistem, 20"
I	Salix sp. - willow species	Multistem, 25"
J	Salix sp. - willow species	Multistem, 25"
K	Salix sp. - willow species	8"

EXISTING TREES TO REMAIN	
BOTANICAL NAME / COMMON NAME	
BM	Acer macrophyllum - bigleaf maple
RA	Alnus rubra - red alder
DF	Pseudotsuga menziesii - Douglas-fir
EO	Quercus robur - English oak
WL	Salix sp. - willow

LEGEND

	TREE CANOPY TO REMAIN
	TREE TO BE REMOVED

FIGURE 1: EXISTING CONDITIONS

Y:\DEA\X008\CAD\LAND USE PERMIT\CRYSTAL CREEK\FIG1_Existing Conditions.dwg Jun. 06. 2012 - 9:10 AM steve roelof
 Plot Date: 6/6/2012 9:14 AM steve roelof

<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>APPD.</th> <th>REVISIONS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					NO.	DATE	BY	APPD.	REVISIONS											<table border="1"> <tr> <td>NCD DESIGNED</td> <td>05-10-12</td> </tr> <tr> <td>NCD DRAWN</td> <td>05-11-12</td> </tr> <tr> <td>SAR CHECKED</td> <td>06-06-12</td> </tr> <tr> <td>APPROVED</td> <td> </td> </tr> </table>		NCD DESIGNED	05-10-12	NCD DRAWN	05-11-12	SAR CHECKED	06-06-12	APPROVED		<p>TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON</p> <p>VIGIL AGRIMIS design professionals</p> <p>DAVID EVANS AND ASSOCIATES INC.</p>		<p>CAPITAL PROJECTS AND FACILITIES DIVISION</p> <p>710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232</p>		<p>PORTLAND TO MILWAUKIE LRT EAST SEGMENT</p> <p>LAND USE PERMIT CRYSTAL CREEK WATER QUALITY RESOURCE BOUNDARY</p>	
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APPROVED																																			
SUBMITTED:		DATE: 05-14-12		APPROVED:		DATE: 05-14-12		SCALE: FWSI SECTOR 1		DRAWING NO.: EXISTING CONDITIONS		CONTRACT NO.: RH100544JB		SHEET NO.:																					

Kelver, Brett

From: Livingston, Robert
Sent: Tuesday, May 29, 2012 10:44 AM
To: Kelter, Brett
Subject: Comments on Crystal Creek WQR report

Brett,

I don't have any specific comments except to say I will wait for the contractor's Erosion, Sediment and Pollution Control Plan referenced on page 8, third paragraph in the report.

Thanks for the opportunity to comment.

Rob Livingston
Utility Specialist
City of Milwaukie
6101 SE Johnson Cr. Blvd
Milwaukie, OR 97206
503-786-7691 office
503-572-4659 cell
503-786-7676 fax
livingstonr@ci.milwaukie.or.us

MEMORANDUM

TO: Community Development Department
THROUGH: Gary Parkin, Director of Engineering
FROM: Zach Weigel, Civil Engineer
RE: Natural Resource Review –Crystal Creek at 2519, 2525, & 2535
Harrison Street
NR-12-01
DATE: June 1, 2012

Disturbance of Crystal Creek to install light rail tracks.

1. MMC Chapter 19.700 – Public Facility Improvements
 - A. 19.702 Applicability

The Engineering Department finds that MMC Chapter 19.700 does not apply to this application.

Recommended Conditions of Approval

None

Kelver, Brett

From: Jean Baker <jeanbaker.milw@yahoo.com>
Sent: Friday, June 22, 2012 12:44 AM
To: Kelver, Brett
Subject: meeting results

Hi Bret ~

The meeting was longer than it should have been (this is new?) but our questions were answered to our satisfaction.

We have no further questions on this portion of the project. Thanks for asking.

Jean



memorandum

date June 27, 2012

to Brett Kolver

from Alison Sigler and Sarah Hartung

subject Natural Resource Review Technical Completeness Report for Crystal Creek Wetland

This memo has been prepared to satisfy the Task Order for the Natural Resource Review Technical Completeness Report for Crystal Creek Wetland (Natural Resource application File #NR-12-01). This completeness review includes responses to the following questions:

1. Assess existing conditions in a site visit and compare your findings to the summary of existing conditions and relevant figures provided in the application.
 - a. Have the WQR boundaries been accurately identified?
 - b. Are existing trees sufficiently represented on relevant site plans?
2. Review the revised final application materials to help guide the City's assessment of the proposed project's compliance with applicable standards.

Relevant materials reviewed for this report include a revised Water Quality Resource Assessment (WQRA) Report prepared by Vigil-Agrimis, a proposed mitigation plan within the narrative, Appendix A: Fish Passage Waiver, Appendix B: PMLR Design Constraints – Crystal Creek, a Supplemental Information Memo from June 7, the Pre-Application Conference Report, and a Department of State Lands wetland determination concurrence letter.

- a. In addition, has the applicant accurately identified the ecological functions of riparian habitat on the property?
- b. Has the applicant provided an accurate inventory of vegetation and properly categorized the existing condition of the WQR, in accordance with MMC Table 19.402.11.C?
- c. Has the applicant sufficiently assessed the project's impacts on the WQR?
- d. Has the applicant provided an adequate analysis of alternatives to the proposed development, including an explanation of the rationale behind choosing the alternative selected? Have any practicable alternatives to the proposed development been overlooked, including any options that would have a lesser impact on the WQR?
- e. Has the applicant made a convincing case that development in the WQR has been sufficiently limited to the area necessary to allow the proposed development? Are the conditions of approval necessary and/or appropriate to further limit WQR disturbance?

- f. Does the applicant's mitigation plan adequately ensure that the functions and values of the WQR will be mitigated or restored to the extent practicable? Will disturbed portions of the WQR be restored to an equal or better condition, in accordance with MMC Table 19.402.11.C?
- g. Is the implementation schedule for the proposed mitigation plan realistic and appropriate for the site and conditions? Does the implementation schedule need any additional clarification or revision (e.g. maintenance timeline, contingency plan, special provisions for in-water work, etc.)?

Findings

The revised application has been updated based on the comments provided on the initial review and includes most of the information required for the Natural Resource Review. However, the application requires some additional information for application approvability. The additional information is as follows:

WQR Existing Conditions

The application accurately identifies Crystal Creek and the associated wetland as primary protected water features and clearly shows these features and their boundaries on the plan figures. It is recommended that the cover page description on the bottom of the page be updated to include the wetland as a WQR.

Existing trees that will remain on-site are accurately described. The description of the existing conditions of the wetland within the WQR would benefit from more detail. The narrative refers to the wetland as part of the WQR but it is not clear what the existing characteristics of the wetland are. Wetland hydrology is discussed on page 13, but it should also be described in the beginning of the application with a brief existing conditions narrative of the wetland. Did you observe any additional hydrology such as ponding or soil saturation? Also, wetland plants are not described in this section. During a recent site visit, wetland plants observed included field horsetail, creeping buttercup, water parsley, fringe cup, lady fern, bedstraw, and Veronica species. The existing conditions of the wetland should be described in the narrative.

The inventory of vegetation as it relates to the existing condition of the Crystal Creek WQR is Class B ("Marginal"). The applicant made this same determination and acknowledges that Section 19.402.11.C of the Milwaukie Municipal Code does not take the native or nonnative plant species into consideration when determining vegetative conditions. It is sufficient that the applicant lowered the WQR condition to account only for the native plants. As it currently reads, Table 2 meets the Class C ("Poor") classification of existing conditions when only considering the native plants listed because the combination of trees, shrubs, and ground cover accounts for 72% cover.

However, during a recent site visit, other native species within the WQR were observed including field horsetail, water parsley, fringe cup, lady fern, and bedstraw. With the assumption that these native species were found in trace amounts in the WQR, the overall vegetative cover becomes at least 80%; with the addition of these native species, the existing condition of the WQR (native species only) does indeed meet Class B ("Marginal"). The Class B ("Marginal") status is obtained when a combination of the trees, shrubs, and ground cover is 80% and 25-50% tree canopy coverage is in the vegetated corridor. The canopy cover of the WQR is 68% (as shown in Table 2). Although these parameters meet Class A ("Good") condition from Table 19.402.11.C, as the applicant has stated this WQR is suffering from ivy and blackberry dominating the area, outcompeting the native species. Some of the trees are dying back or

are stunted and the ground cover is being replaced by these invasive species. Therefore, the Class B (“Marginal”) classification is more appropriate because invasive species dominate the overall plant community in this section of the WQR and the WQR is not in Class A (“Good”) condition. The site will benefit from the restoration and mitigation proposed for this project. The narrative should be updated and Table 2 should be updated to reflect at least 80% cover.

WQR Ecological Functions

The ecological functions and values of the WQR in Table 1, “vegetated corridors to separate protected water features from development” requires more detail. This section currently describes the development in and adjacent to the WQR. However, what are the vegetated corridors like and how do they separate the WQR from development? Update this section in Table 1.

Otherwise, all other ecological functions and values are sufficiently described for the Crystal Creek WQR.

Water Quality & Project Impacts

For the assessment of water quality impacts (page 8), temperature control is described sufficiently. There is a general reference to using erosion and sediment control measures but there needs to be some examples of the types of measures that will be in place in the narrative.

Similarly, on Table 3 (page 11) regarding pollution and sediment control measures, the erosion control measures reference is vague; provide some examples of what measures will be utilized to minimize sediment transport and pollution from entering the WQR. For example, will the project use erosion fencing or coir fabrics to prevent erosion? If this information is available in an Erosion and Sediment Control plan, this should be referenced in the narrative (at a minimum). Although the narrative does mention that proposed work will be done within the in-water work window for Crystal Creek, an Erosion and Sediment Control Plan is mentioned (page 8) but no Plan was provided.

Analysis of Alternatives for the Proposed Project

The alternatives analysis for this application is sufficient. This proposal is part of a larger project to extend the light rail from Portland to Milwaukie. The preferred alternative is the best option that will minimize the amount of impact to the WQR; it does not appear that another more practicable alternative is available for this project. This preferred option has demonstrated that the proposed limited amount of disturbance in the WQR area is necessary to move forward with the proposed project and is described adequately in the narrative.

The narrative briefly mentions another alternative option of using a bridge crossing for the PMLR and implies an increase of disturbance in the WQR due to the UPRR tracks. A Construction Management Plan for the proposed work is mentioned but not included in this application.

Mitigation Plan

The proposed mitigation plan could be improved by using fell logs from the 11 existing trees that will be removed from the WQR to increase the amount of large woody recruitment and organic material resources in the WQR riparian habitat (Table 3). Although the new plantings will help with future large woody debris recruitment, retaining these felled trees will provide immediate woody and organic material recruitment for the WQR, providing improved structure and habitat.

The willows proposed for planting would be well suited for the site. Common snowberry is acceptable for planting along the wetland margins and hummocks within the wetlands. Other invasive plant species that were not captured in the plant inventory, but were observed during a recent site visit include common teasel, vinca, field bindweed, and reed canarygrass and should be removed as part of the mitigation requirements for this site. These invasive species do not need to be added to the plant inventory because they will not alter the categorization of the existing condition of the WQR, in accordance with MMC Table 19.402.11.C, but should be noted for eradication. Given the extensive weeds in the project vicinity, more than two years of maintenance and monitoring will likely be needed to ensure establishment of the plants. Invasive weed control is a major problem for mitigation sites and any efforts beyond basic weed control requirements on-site will set the stage for greater long-term success.

The Permit Summary Table provided, mentions that for the DSL and Corps permits that compensatory mitigation of 1.08 acres in Westmoreland Park is required. On page 13, the narrative includes a confusing statement about this mitigation and that the 0.01 acres of permanent impact will not occur. Please clarify the intended meaning as it is not clear in the application.

A construction and mitigation reporting timeline are provided on page 13 and it is understood that Trimet is responsible for the mitigation of this site. However, the following required items are missing from this application such as an implementation timeline for:

- mitigation;
- mitigation maintenance;
- monitoring; and
- contingency plan.

A general reference to a timeline is made on pages 14 and 15 but does not provide enough detail. At a minimum, a timeline should include a month and year of when the activity will occur. A contingency plan should also be included in this application.

Completeness of Figures

Specific comments regarding the figures include:

- Erosion Control Plan and Construction Management Plans were not provided with the application.

List of Materials in the Official Record (NR-12-01 – PMLR impacts to Crystal Creek WQR)

The following documents are part of the official record for this application (NR-12-01):

A. Application Forms

(stamped "Received" April 23, 2012)

1. Natural Resource Review application form
2. Submittal Requirements Checklist

B. Applicant's Submittal Materials

(final materials stamped "Received" May 18, 2012, unless otherwise noted):

1. Narrative Addressing Code Sections
2. Preapplication Conference Report (from meeting on 4/12/12)
3. Crystal Creek Water Quality Resource Report
Including:
 - Figure 1 – Existing Conditions
 - Figure 1A – Channel Enhancement
 - Figure 2 – Mitigation Area
 - Figures 3A & 3B – Planting Plan
 - Appendix A – ODFW Fish Passage Waiver
 - Appendix B – PMLR Design Constraints – Crystal Creek
4. Memo (5/17/12, from Joe Recker of TriMet): State and Federal Environmental Permit Summary
5. Memo (5/18/12, from Jeff Joslin of KLK Consulting): Submittal of revised materials, with request to deem the application complete
6. Oregon Department of State Lands Wetland Delineation Concurrence – file #WD2009-0285 *(stamped "Received" May 23, 2012)*
7. Memo (6/07/12, from Jeb Doran of TriMet): Supplemental information *(stamped "Received" June 7, 2012)*
Including:
 - Revised Figure 1 – Existing Conditions

C. Public Notification Information

1. Application Referral form *(referrals sent May 23, 2012)*
2. Notice posted at the site
3. Sign Posting Affidavit *(received June 27, 2012)*
4. Notice mailed to properties within 300' radius w/ site map *(mailed June 20, 2012)*
5. Certification of Legal Notice Mailing, with Mailing List for properties within 300 ft
6. Application Materials form *(sent June 20, 2012, to PC and City Attorney)*
7. List of Interested Persons for NR-12-01 *(none to date)*
 - a. Interested Persons w/ Standing
 - b. Other Interested Persons
8. Notice of Decision *(sent July xx, 2012)*

D. Public Comments Received

1. *(none to date)*

E. Agency Responses

1. Tom Larsen, City of Milwaukie Building Official – No specific comments on this application.
2. Rob Livingston, City of Milwaukie Erosion Control Specialist – No specific comments on this application.
3. Zach Weigel, City of Milwaukie Engineering Department – The requirements related to public facility improvements are not applicable to this application.
4. Mike Boumann, Clackamas County Fire District #1: No comments.
5. Jean Baker, Co-chair of Historic Milwaukie NDA – No further questions at this time [following a meeting on June 18, 2012, with TriMet staff to address specific questions about the project].
6. Wendy Hemmen, City of Milwaukie Light Rail Design Coordinator: No comments.
7. Sarah Hartung and Alison Sigler, Biologists with ESA (the City's on-call natural resource consultant) – Review and analysis of applicant's materials, including existing conditions, alternatives analysis, and mitigation plan. (Record Item J-7)

F. Public Testimony Received at Public Hearing

July 10, 2012 (Planning Commission)

1. Xxx = in favor
2. Xxx = neutral
3. Xxx = in opposition

G. Other Interested Persons (w/ Standing)

1. Xxx (address) = signed Interested Persons list at July 10 PC hearing

H. Materials Received/Presented at Public Hearing

July 10, 2012 (Planning Commission)

1. Staff Presentation (PowerPoint file)

I. Staff Reports

1. Staff Report for July 10, 2012 (Planning Commission hearing)
Attachments:
 - a. Recommended Findings in Support of Approval
 - b. Recommended Conditions of Approval
 - c. Record Items B-1 through B-7 (Applicant's Submittal Materials)
 - d. Record Items E-1 through E-7 (Agency Responses)
 - e. Record Item J-7 (ESA technical report)
 - f. List of Record (working draft)

J. Background Materials/Other

1. Scoping letter to ESA for completeness review of application (dated April 23, 2012)
2. Memo (5/01/12, from Sarah Hartung and Alison Sigler of ESA): Initial completeness review (stamped "Received" May 2, 2012)
3. Letter to Applicant addressing incompleteness items (dated May 4, 2012)
4. Scoping letter to ESA for full review of application (dated May 16, 2012)
5. Completeness determination letter to Applicant (dated May 23, 2012)
6. Invoice from ESA for completeness & technical review of application (received June 21, 2012)
7. Memo (6/27/12, from Alison Sigler and Sarah Hartung of ESA): Report on full review and analysis of application (stamped "Received" June 27, 2012)