

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF APPROVING AN) RESOLUTION NO. 12-4364
APPLICATION FOR EASEMENTS FROM)
TRIMET FOR THE CONSTRUCTION OF THE) Introduced by Martha J. Bennett with the
PORTLAND-MILWAUKIE LIGHT RAIL) consent of Metro Council President Tom
PROJECT) Hughes

WHEREAS, in May 1995 regional voters approved a \$135.6 million Open Spaces, Parks and Streams Bond Measure (the “1995 Open Spaces Bond Measure”) with a stated goal of acquiring land in 14 regional natural areas and six regional trails and greenway areas (“Target Areas”), including the OMSI to Springwater Corridor Target Area;

WHEREAS, Metro purchased real property in the OMSI to Springwater Corridor Target Area with proceeds from the 1995 Open Spaces Bond Measure, including an approximate 4.19-acre parcel (the “Property”) immediately east of McLoughlin Boulevard that supports a 175-foot bike-pedestrian bridge that crosses the Union Pacific rail lines and the future Portland-Milwaukie Light Rail lines below;

WHEREAS, on November 6, 1997 the Metro Council adopted Resolution No. 97-2539B, “For the Purpose of Approving General Policies Related to the Review of Easements, Right of Ways, and Leases For Non-Park Uses Through Properties Managed by the Regional Parks and Greenspaces Department” (“Easement Policy”), which provides for formal staff review under specified criteria of all proposed easements, rights of way and leases for non-park uses, with final review and approval by the Metro Council;

WHEREAS, the Tri-County Metropolitan Transportation District of Oregon (“TriMet”) is commencing construction of the Portland-Milwaukie Light Rail project (the “Project”), and has submitted an application under the Easement Policy for two permanent easements and one temporary easement (the “Application”) to allow for construction of the Project under the bridge on the Property that spans the rail line corridor below;


WHEREAS, the easements requested consist of a 9,099 square-foot (approximately 0.21 acres) permanent easement to accommodate light rail tracks and a retaining wall, a 3,846 square-foot permanent easement (approximately 0.09 acres) for wall footings, soil nails to anchor the footings, and future maintenance, and a 41,735 square-foot (approximately 0.96 acres) temporary easement lasting approximately 24 months to stage construction of a new connection from the future light rail station at Tacoma Street to the Springwater Corridor Trail;

WHEREAS, as required by the Easement Policy, the negative impacts of the Project and the granting of the easements will be mitigated through a connection built by TriMet to a new light rail station, and TriMet has offered to pay Metro the fair market value of the easements, as determined by an independent appraisal; and

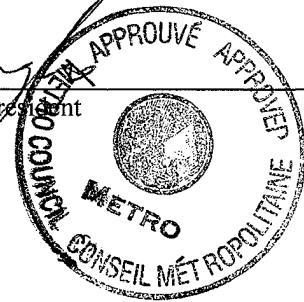
WHEREAS, the Metro Council finds, after consideration of the policies set forth in the Easement Policy, that alternatives to the Project and the granting of the easements to TriMet are not feasible, and that the impact of the Project on the Springwater Corridor Trail will be minimized to the extent possible, and that therefore the easements can be granted to TriMet in conformance with Metro’s Easement Policy; now therefore

BE IT RESOLVED that the Metro Council approves TriMet's application for easements, in the form approved by the Metro Attorney.

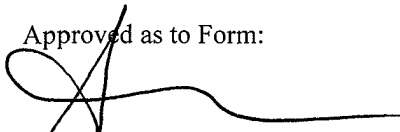
ADOPTED by the Metro Council this 16th day of August 2012.



Tom Hughes, Council President



Approved as to Form:



Alison Kean Campbell, Metro Attorney

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 12-4364 FOR THE PURPOSE OF APPROVING AN APPLICATION FOR EASEMENTS FROM TRIMET FOR THE CONSTRUCTION OF THE PORTLAND-MILWAUKIE LIGHT RAIL PROJECT

Date: August 16, 2012

Prepared by: Kathleen Brennan-Hunter
(503) 797-1948

BACKGROUND

Tri-County Metropolitan Transportation District of Oregon (“TriMet”) requests authorization from the Metro Council to approve TriMet’s Application for Easements for TriMet’s construction of the Portland-Milwaukie Light Rail project (the “Project”). The Project crosses under the eastern portion of a Metro-owned property that contains the Springwater Corridor trail (the “Property”) where the trail crosses a bridge that spans the rail line corridor below. TriMet’s request is for the purchase of two permanent easements and one temporary construction easement from Metro to allow construction of the Project.

On November 6, 1997, the Metro Council adopted Resolution No. 97-2539B, “For the Purpose of Approving General Policies Related to the Review of Easements, Right of Ways, and Leases For Non-Park Uses Through Properties Managed by the Regional Parks and Greenspaces Department” (the “Easement Policy”), which provides for formal staff review under specified criteria of all proposed easements, right of ways and leases for non-park uses, through properties purchased with funds from the 1995 Metro Open Spaces, Parks and Streams bond measure, with final review and approval by the Metro Council.

Metro purchased the Property in December 2001 from Union Pacific Rail Road. The Property is part of the Springwater Corridor trail immediately east of McLoughlin Boulevard, where a 175-foot bike-pedestrian bridge crosses Union Pacific rail lines below. Metro purchased the Property with proceeds from the 1995 Open Spaces Bond Measure. The City of Portland manages the Property for Metro pursuant to an Intergovernmental Agreement dated October 27, 2009.

The light rail line being constructed by TriMet will run under the bike-pedestrian bridge without significantly impacting the trail or bridge. The Project requires a 9,099 square-foot (approx. 0.21 acres) permanent easement to accommodate the light rail tracks and a retaining wall. A second 3,846 square-foot permanent easement (approx. 0.09 acres) is requested for wall footings, soil nails to anchor the footings, and future maintenance. Also, a 41,735 square-foot (approx. 0.96 acres) temporary easement of approximately 24 months is needed to facilitate construction of a new connection from the future light rail station at Tacoma Street to the Springwater Corridor trail. TriMet has submitted an easement request application under the Easement Policy for the above mentioned easements as set forth in Attachment 1, attached hereto, and incorporated herein (“Application”).

TriMet’s application was deemed complete and was analyzed by Metro staff according to guidelines set forth in Resolution No. 97-2539B. The Project will not significantly impact the Property and its continued use for the Springwater Corridor trail. In fact, the Project will have a positive impact because TriMet will construct a trail connection on the Property from the Springwater Corridor to the nearby light rail station, thereby increasing access to active transportation and recreation in our regional transportation system.

TriMet has offered to pay Metro the fair market value of the easements, as determined by an independent appraisal, and as required by the Easement Policy. The proposed compensation for all three easements is \$ 119,912, which includes compensation for staff time, as is required by the Easement Policy.

ANALYSIS/INFORMATION

1. Known Opposition

None.

2. Legal Antecedents

Metro Code Section 2.04.026(a) (2) requires that the Chief Operating Office obtain the authorization of the Metro Council prior to executing any contract for the sale of real property owned by Metro.

Resolution No. 97-2539B “For the Purpose of Approving General Policies Related to the Review of Easements, Right of Ways, and Leases For Non-Park Uses Through Properties Managed by the Regional Parks and Greenspaces Department.”

3. Anticipated Effects

The granting of the easements will allow for the construction of the Light Rail Project through the Metro Property with no significant impact to the Property or the Springwater Corridor trail. Pursuant to the project plans, TriMet will also construct on the Metro Property a trail connection from the Springwater Corridor trail to the future Light Rail station at Tacoma Street.

4. Budget Impacts

Metro will be paid the fair market value of the easements, as required under Metro policy and described above. These funds will be returned to the 1995 Opens Spaces Bond Measure acquisition fund for future natural area and/or trail acquisitions.

RECOMMENDED ACTION

Staff recommends the Application be approved and that the Metro Council adopt Resolution No. 12-4364.



METRO
OPEN SPACES
PEOPLE PLACES

Application for Easement / Right-of-Way / Lease
For Non-Park Uses

Applicant Name: <i>Trimet</i>	Contact person Name: <i>Jenny Lyman</i>
Address: <i>710 NE Holladay</i>	Title: <i>right-of-way engineer</i>
City, State, Zip: <i>Portland, OR 97232</i>	Phone: <i>503.962.2346</i>
Phone: <i>503.962.2346</i>	Fax:

Applicant shall fully and completely explain, describe and identify the elements of its proposed easement / right-of-way / lease, for non-park uses in accord with Metro Council Resolution No. 97-2539B, attaching additional materials if necessary, as set forth below.

Type of Request: Easement Right-of-Way Lease

Describe the purpose of your request:

The purpose of this request is to obtain easements required to facilitate construction of the Portland-Milwaukie Light Rail Transit Project.

Describe proposed terms of your requested easement/lease /right of way:

The project requires one permanent easement (parcel 1) for light rail tracks and a retaining wall and one permanent easement for wall footings, soil nails, and maintenance (parcel 2). One temporary (one year) easement is also required to facilitate construction of a new connection to the springwater corridor trail.



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Application for Easement / Right-of-Way / Lease For Non-Park Uses

Identify location of proposal on a base map of not less than 1"=500' showing topographical lines at 10' intervals and include significant natural and man-made features of the area:

See attached.

Describe the size of easement requested in both dimension and total area required:

See attached legal description.

Describe all components of your proposed use (grading, fill and removal, sub-surface elements, structures, etc.):

The proposed use will include all civil construction required to construct light rail tracks, retaining walls and other appurtenances. These may include stormwater facilities, landscaping, lighting, and a multi-use path connection to the springwater trail. See attached construction plans.

The light rail tracks will be at the same elevation as the freight railroad tracks in this location – underneath the springwater trail.

Describe the existing conditions of the site:

At this location, the springwater trail is on an elevated structure which crosses over existing freight railroad tracks. The area around the springwater trail is covered with vegetation.



Application for Easement / Right-of-Way / Lease
For Non-Park Uses

Describe the proposed modifications to the site that would be required to accommodate your request (e.g., tree removal, soil disturbance, stream crossing, etc.):

Modifications to the site include all civil construction required to construct the light rail tracks, retaining wall and appurtenances. Civil construction may include stormwater facilities, landscaping, landscape removal, lighting, and a multi-use path connection to the springwater trail. See attached construction plans.

Describe your proposed project schedule and phasing:

July 2012 thru December 2014

Explain your need for ongoing access. What is your proposal for accommodating this need?

TriMet will require on-going access to operate light rail trains over parcel 1. Trimet will also require on-going access to inspect and maintain the retaining wall. This will be accommodated through the permanent easements – parcels 1 and 2 on the attached legal description.



METRO
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Application for Easement / Right-of-Way / Lease For Non-Park Uses

Describe your ongoing maintenance requirements:

All maintenance will be performed by TriMet or its contractors. Requirements include access for vehicles, equipment and people to inspect and maintain the light rail tracks, retaining wall, and appurtenances.

Describe other reasonable alternative routes that avoid the park or natural area property but are believed to not be feasible:

Refer to the locally preferred alternative analysis in the project's FEIS.

What is the public benefit of this lease, easement or right-of-way?

Public benefits include improved connections to the springwater trail and better access to alternative modes of transportation including light rail.



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Application for Easement / Right-of-Way / Lease
For Non-Park Uses

Include any other relevant information describing and quantifying your proposal:

See attached construction plans and legal description.

By completing, executing and submitting this Application, Applicant hereby agrees to pay all Metro costs associated with processing, reviewing, analyzing, negotiating, drafting, approving, conveying and assuring compliance with the request hereunder and any easement, right-of-way or lease approved or denied hereby, in accord with Metro Council Resolution No. 97-2539B, unless waived by the Metro Council via resolution adopted at public session.

APPLICANT

METRO
Received and Accepted

By: *Meyman*
Date: 2-9-12

By: *Fritz Paulus*
Date: 2-1-12

Contact For Questions:

METRO Sustainability Center
Attn: Dan Moeller
600 NE Grand Avenue
Portland, Oregon 97232-2736
Telephone:
Fa[
E-Mail: dan.moeller@oregonmetro.gov

I HEREBY CERTIFY THAT THE FOREGOING IS A COMPUTED EXACT COPY OF THE ORIGINAL HEREOF.

BEFORE THE METRO COUNCIL

Rebecca V. Shemany
METRO COUNCIL ARCHIVIST

FOR THE PURPOSE OF APPROVING GENERAL) RESOLUTION NO. 97-2539B
POLICIES RELATED TO THE REVIEW OF)
EASEMENTS, RIGHT OF WAYS, AND LEASES)
FOR NON-PARK USES THROUGH PROPERTIES)
MANAGED BY THE REGIONAL PARKS AND) Introduced by
GREENSPACES DEPARTMENT.) Mike Burton, Executive Officer

WHEREAS, Metro currently owns and manages more than 6,000 acres of regional parks, open spaces, natural areas, and recreational facilities; and

WHEREAS, additional lands are being acquired through the Open Space, Parks, and Streams Bond Measure, approved by voters in May of 1995; and

WHEREAS, the primary management objectives for these properties are to provide opportunities for natural resource dependent recreation, protection of fish, wildlife, and native plant habitat and maintenance and/or enhancement of water quality; and

WHEREAS, Metro will be approached with proposals to utilize regional parks, open spaces, natural areas, and recreational facilities property for utility, transportation, and other non-park purposes; and

WHEREAS, Metro seeks to insure that these uses have no negative impact upon the primary management objectives of Metro Regional Parks and Greenspaces properties; and

WHEREAS, it would be in Metro's best interest to provide for the orderly evaluation and consideration of proposals to utilize portions of Metro Regional Parks and Greenspaces properties for utility, transportation and other non-park uses; NOW THEREFORE,

BE IT RESOLVED, that the Metro Council hereby adopts the policy attached as Exhibit "A" for any and all requests related to formal proposals for the use of Metro Regional Parks and Greenspaces properties for the purposes noted therein.

ADOPTED by the Metro Council this (0th) day of November, 1997.

Jon Kyistad
Jon Kyistad, Presiding Officer

ATTEST:

Cheryl [Signature]
Recording Secretary

Approved as to Form:

Daniel B. Cooper
Daniel B. Cooper, General Counsel

Exhibit "A"

METRO POLICY RELATED TO THE REVIEW OF
EASEMENTS, RIGHT OF WAYS, AND LEASES
FOR NON-PARK USES

Metro owns and manages , either on its own or in partnership with other government and private entities, several thousand acres of regional parks, open spaces, natural areas and recreational facilities. These facilities are maintained to promote and preserve natural resources and recreational opportunities for the public consistent with the Greenspaces Master Plan adopted by the Metro Council in 1992, the Open Spaces Bond Measure approved by the voters in 1995 and other restrictions limiting the uses of specific properties in existence at the time of its acquisition by the public. Nothing in this policy shall be construed to allow these facilities to be used in any manner which detracts from this primary purpose. This policy is written from the perspective of Metro as the property owner, however, in those cases in which Metro co-owns a property with other entities, all decisions concerning the use of the property in question will be fully coordinated with the other owners. In addition, all new development and all proposed work within Water Quality Resource Areas or other environmentally sensitive work will be conducted in accordance with Metro or local government policies, to include where appropriate, application for permits and completion of environmental reviews. In event that local government policies are less restrictive than the Metro Model ordinances, Metro will apply the more restrictive Metro policies.

Regarding requests for easements, right of ways, and leases for non-park uses in Metro owned or managed regional parks, natural areas or recreational facilities, it is Metro's policy to:

- 1) Provide for formal review of all proposed easements, right of ways, and leases for non-park, uses by the Regional Parks and Greenspaces Advisory Committee, the Regional Facilities Committee and the full Council. Notwithstanding satisfaction of the criteria set forth herein, the final determination of whether to approve a proposed easement, right of way, or lease is still subject to the review and approval by the full Metro Council.
- 2) Prohibit the development of utilities, transportation projects and other non-park uses within corridors or on sites which are located inside of Metro owned or managed regional parks, natural areas, and recreational facilities except as provided herein.
- 3) Reject proposals for utility easements, transportation right of ways and leases for non-park uses which would result in significant, unavoidable impacts to natural resources, cultural resources, recreational facilities, recreational opportunities or their operation and management.
- 4) Accommodate utility easements, transportation right of ways or other non-park uses when the Regional Parks and Greenspaces Department (the Department) determines that a proposed easement, right of way or non-park use can be accommodated without significant impact to

natural resources, cultural resources, recreational facilities, recreational opportunities or their operation and management; and that the impacts can be minimized and mitigated.

5) Require full mitigation and related maintenance, as determined by the Department, of all unavoidable impacts to natural resources, recreational facilities, recreational opportunities or their operation and management associated with the granting of easements, right of ways, or leases to use Metro owned or managed regional parks, natural areas or recreational facilities for non-park uses.

6) Limit rights conveyed by easements, right of ways, and leases for non-park uses to the minimum necessary to reasonably accomplish the purpose of any proposal.

7) Limit the term of easements, right of ways and leases to the minimum necessary to accomplish the objectives of any proposal.

8) Require "reversion", "non-transferable" and "removal and restoration" clauses in all easements, right of ways and leases.

9) Fully recover all direct costs (including staff time) associated with processing, reviewing, analyzing, negotiating, approving, conveying or assuring compliance with the terms of any easement, right of way, or lease for a non-park use.

10) Receive no less than fair market value compensation for all easements, right of ways, or leases for non-park uses. Compensation may include, at the discretion of the Department, periodic fees or considerations other than monetary.

11) Require full indemnification from the easement, right of way or lease holder for all costs, damages, expenses, fines or losses related to the use of the easement, right of way or lease. Metro may also require appropriate insurance coverage and/or environmental assurances if deemed necessary by the Office of General Counsel.

12) Limit the exceptions to this policy to: grave sales, utilities or transportation projects which are included in approved master/management plans for Metro regional parks, natural areas and recreational facilities; projects designed specifically for the benefit of a Metro regional park, natural area, or recreational facility; or interim use leases as noted in the Open Spaces Implementation Work Plan.

13) Provide for the timely review and analysis of proposals for non-park uses by adhering to the following process:

a) The applicant shall submit a detailed proposal to the Department which includes all relevant information including but not limited to: purpose, size, components, location, existing conditions, proposed project schedule and phasing, and an analysis of other alternatives which avoid the Metro owned or managed regional park, natural area or recreational facility which are considered infeasible by the applicant. Cost alone shall not constitute infeasibility.

b) Upon receipt of the detailed proposal, the Department shall determine if additional information or a Master Plan is required prior to further review and analysis of the proposal. For those facilities which have master plans, require that all proposed uses are consistent with the master plan. Where no master plan exists all proposed uses shall be consistent with the Greenspaces Master Plan. Deficiencies shall be conveyed to the applicant for correction.

c) Upon determination that the necessary information is complete, the Department shall review and analyze all available and relevant material and determine if alternative alignments or sites located outside of the Metro owned or managed regional park, natural area, or recreational facility are feasible.

d) If outside alternatives are not feasible, the Department shall determine if the proposal can be accommodated without significant impact to park resources, facilities or their operation and management. Proposals which cannot be accommodated without significant impacts shall be rejected. If the Department determines that a proposal could be accommodated without significant impacts, staff shall initiate negotiations with the applicant to resolve all issues related to exact location, legal requirements, terms of the agreement, mitigation requirements, fair market value, site restoration, cultural resources, and any other issue relevant to a specific proposal or park, natural area or recreational facility. The Department shall endeavor to complete negotiations in a timely and business-like fashion.

e) Upon completion of negotiations, the proposed agreement, in the appropriate format, shall be forwarded for review and approval as noted in item "1" above. In no event shall construction of a project commence prior to formal approval of a proposal.

f) Upon completion of all Metro tasks and responsibilities or at intervals determined by the Department, and regardless of Metro Council action related to a proposed easement, right of way or lease for a non-park use, the applicant shall be invoiced for all expenses or the outstanding balance on expenses incurred by Metro.

g.) Permission from Metro for an easement or right-of-way shall not preclude review under applicable federal, state or local jurisdiction requirements.

Exhibit "A"

File 3608
Metro

Parcels 1, 2, 3
1 1E 25BB 8000

Portland-Milwaukie LRT Project
Jack Carlson, Otak, Inc., 12/15/2010
Amended:

Parcel 1-Permanent Easement

A tract of land in the northwest one-quarter of Section 25, Township 1 South, Range 1 East, Willamette Meridian, Clackamas County, Oregon, to wit:

That portion of the former Portland Traction Company railroad right of way described as Exhibit A, Tract 5 in that Quitclaim Deed to Metro, recorded on December 21, 2001 as Fee No. 2001-108239, Clackamas County Deed Records, lying on the easterly (right) side of the following described line:

Beginning at a point which bears North, a distance of 732.28 feet and East, a distance of 1,190.23 feet from the westerly southwest corner of the George Wills D.L.C. No. 58; thence N.07°09'13"W., a distance of 438.86 feet to the terminus of this line.

The tract of land to which this description applies contains 9,099 square feet, more or less.

Bearings are based on the Oregon Coordinate System of 1983, north zone.

Parcel 2-Permanent Easement

A strip of land in the northwest one-quarter of Section 25, Township 1 South, Range 1 East, Willamette Meridian, Clackamas County, Oregon, to wit:

That portion of the former Portland Traction Company railroad right of way described as Exhibit A, Tract 5 in that Quitclaim Deed to Metro, recorded on December 21, 2001 as Fee No. 2001-108239, Clackamas County Deed Records, contained within a 25.00 foot wide strip of land, the easterly line of said strip being described as follows:

Beginning at a point which bears North, a distance of 732.28 feet and East, a distance of 1,190.23 feet from the westerly southwest corner of the George Wills D.L.C. No. 58; thence N.07°09'13"W., a distance of 438.86 feet to the terminus of this line.

The tract of land to which this description applies contains 3,846 square feet, more or less.

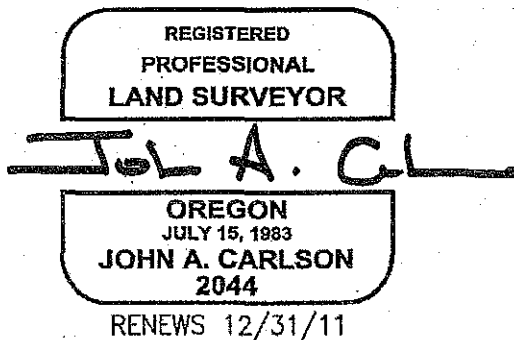
Bearings are based on the Oregon Coordinate System of 1983, north zone.

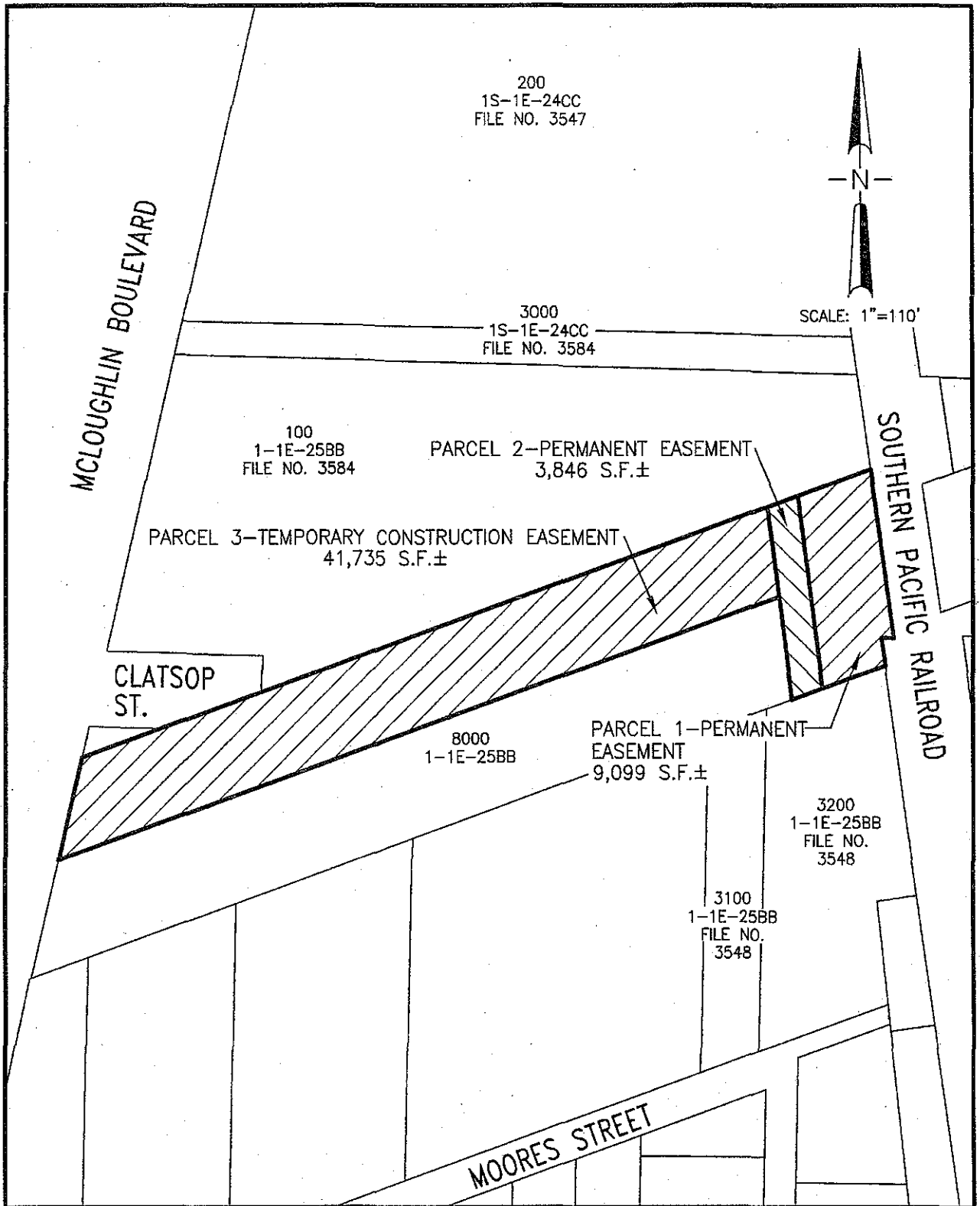
Parcel 3-Temporary Construction Easement

A strip of land, 70.00 feet wide, in the northwest one-quarter of Section 25, Township 1 South, Range 1 East, Willamette Meridian, Clackamas County, Oregon, to wit:

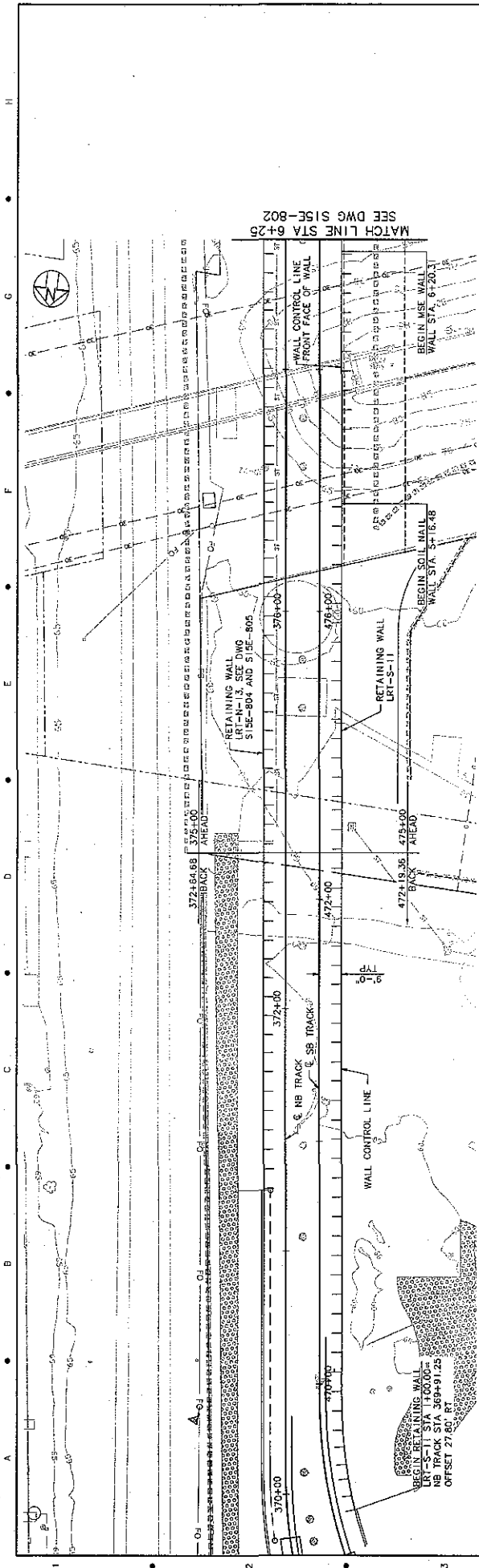
The northerly 70 feet of that portion of the former Portland Traction Company railroad right of way described as Exhibit A, Tract 5 in that Quitclaim Deed to Metro, recorded on December 21, 2001 as Fee No. 2001-108239, Clackamas County Deed Records, lying easterly of McLoughlin Boulevard and westerly of Parcel 2 as described above.

The tract of land to which this description applies contains 41,735 square feet, more or less.





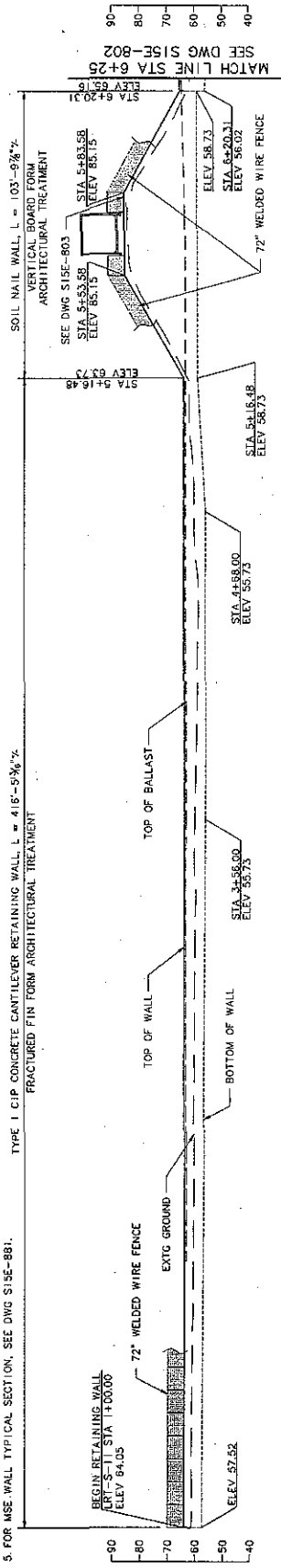
<p>TRI MET CAPITAL PROJECTS AND FACILITIES DIVISION 710 N.E. HOLLADAY STREET PORTLAND, OREGON 97232</p>	<p>ACQUISITION SKETCH PORTLAND TO MILWAUKIE LRT FILE NO. 3608</p>				<p>otak 17355 S.W. BOONES FERRY ROAD LAKE OSWEGO, OREGON 97035 (503)635-3618 FAX (503)635-5395</p>
	<p>DATE 12/14/2010</p>	<p>REVISION NO. 000</p>	<p>DRAWN BY J. CARLSON</p>	<p>CHECKED BY G. PAUL</p>	



PLAN
SCALE: 1" = 20'-0"

- GENERAL NOTES:**
1. WALL CONTROL LINE IS THE BACK FACE OF WALL AT TOP OF BALLAST, UNLESS NOTED OTHERWISE.
 2. FOR GENERAL NOTES SEE DWGS S15E-880, S15E-883, AND S15E-893.
 3. FOR CANTILEVER WALL TYPICAL SECTION, SEE DWG S15E-883.
 4. FOR SOIL NAIL WALL TYPICAL SECTION, SEE DWG S15E-893.
 5. FOR MSE WALL TYPICAL SECTION, SEE DWG S15E-881.

TYPE I CIP CONCRETE CANTILEVER RETAINING WALL, L = 416'-5 3/4%
FRACTURED FIN FORM ARCHITECTURAL TREATMENT



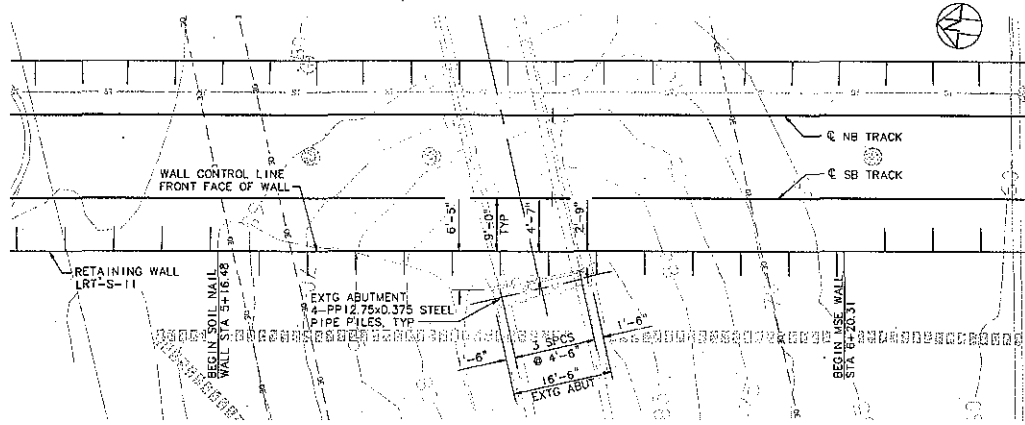
ELEVATION
SCALE: 1" = 20'-0"

NOTE:
ALL HORIZONTAL DIMENSIONS MEASURED ALONG WALL CONTROL LINE

		TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON CAPITAL PROJECTS DIVISION 710 NE HOLLADAY STREET PORTLAND, OREGON 97232		TRIMET PROJECT NO. S15E-801 SHEET NO. RH100544-B	
DATE: 5/14/12 APPROVED:		DATE: 5/14/12 APPROVED:		DATE: 5/14/12 APPROVED:	
DATE: 5/28/11 BY: JAC		DATE: 5/9/11 BY: JAC		DATE: 2/20/12 BY: JAC	
DATE: 5/14/12 BY: JAC		DATE: 5/14/12 BY: JAC		DATE: 5/14/12 BY: JAC	
ISSUED FOR CONSTRUCTION					

PORTLAND TO MILWAUKIE LRT
 EAST SEGMENT
 STRUCTURAL
 MILWAUKIE - RETAINING WALLS
 PLAN AND ELEVATION - LRT-S-11 - 1 OF 3

A B C D E F G H



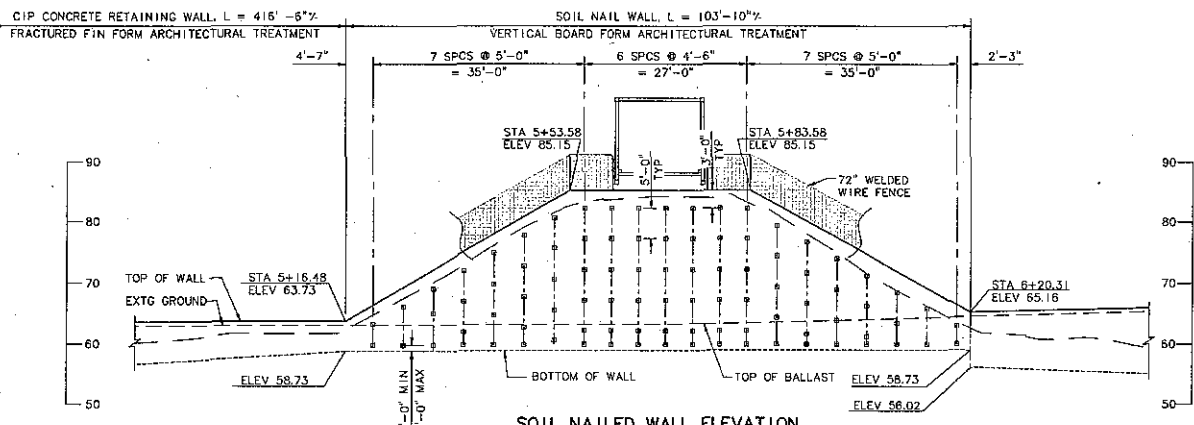
PLAN
SCALE: 1" = 10'-0"

GENERAL NOTE:
FOR GENERAL NOTES AND WALL DETAILS,
SEE DWGS S15E-893 - S15E-895.

SOIL NAIL DESIGN INFORMATION

MAX WALL WEIGHT (FEET)	BAR SIZE (GRADE 75)	ULTIMATE PULLOUT RESISTANCE (KLF)	REQUIRED BAR STRENGTH $F_y A_{bar}$ (KIPS)	NAIL LENGTH (FEET)	REQUIRED HEAD STRENGTH ² PERMANENT (KIPS)
30	#9	2.6	75	37	45
26	#8	2.6	59	32	45
20	#8	2.6	59	26	40
15	#7	2.6	45	20	25
10	#6	3.0	33	16	20
5	#6	3.0	33	12	8

¹THE NOMINAL PULLOUT RESISTANCE IS BASED ON A 4" DIAMETER DRILLHOLE.
²FACTORED LOAD



SOIL NAILED WALL ELEVATION
SCALE: 1" = 10'-0"

NOTE:
ALL HORIZONTAL DIMENSIONS MEASURED ALONG WALL CONTROL LINE

GAP DESIGNED 4/28/11 DATE JWC CHECKED 5/4/11 DATE M.J.W. CHECKED 2/20/12 DATE GAP APPROVED 5/14/12 DATE						CAPITAL PROJECTS DIVISION 710 NE HOLLADAY STREET PORTLAND, OREGON 97232	PORTLAND TO MILWAUKIE LRT EAST SEGMENT STRUCTURAL MILWAUKIE - RETAINING WALLS PLAN AND ELEVATION - LRT-S-11 - 3 OF 3
S-H-C M.J.W. GAP ISSUED FOR CONSTRUCTION DATE BY APPD. REVISIONS	SUBMITTED: [Signature] DATE: 5/14/12 APPROVED: [Signature] DATE: 5/14/12						

Attachment 1 to Staff Report to Resolution 2-4364

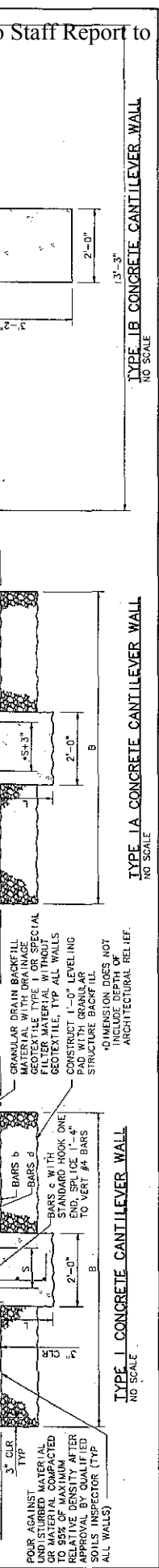
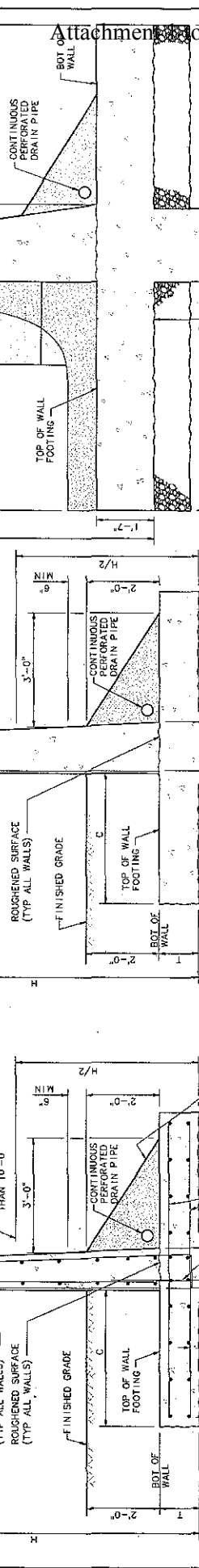
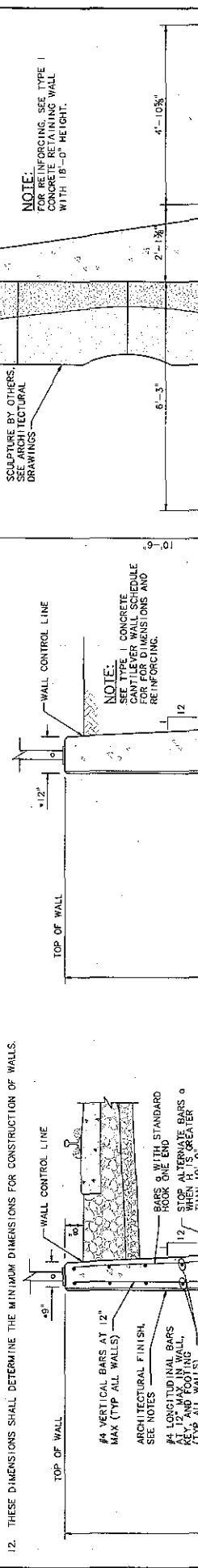
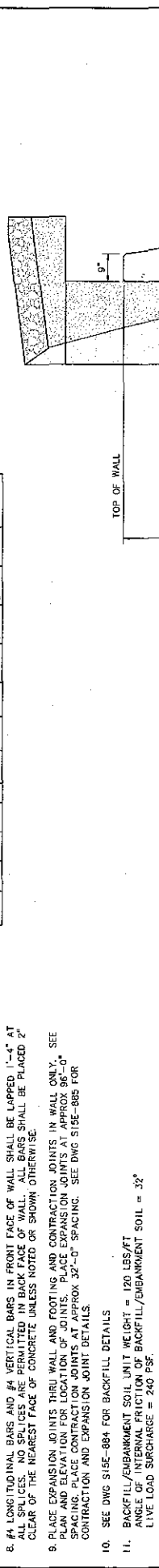
A B C D E F G H

CANTILEVER WALLS GENERAL NOTES:

- DESIGN SPECIFICATIONS: ASHITO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION, 2010, AND TRIMET DESIGN CRITERIA, JAN. 2010 WITH MAY 2010 AND MAR. 2011 UPDATES.
- APPLY ARCHITECTURAL FINISH TO CONCRETE CANTILEVER WALLS, AT LOCATIONS SHOWN ON PLAN AND ELEVATION SHEETS.
- ASSUMED SOIL FRICTION FACTOR IS 0.50.
- THE RESISTANCE FACTOR FOR OVERTURNING IS 0.65. THE RESISTANCE FACTOR FOR SLIDING IS 1.00, AND THE RESISTANCE FACTOR FOR BEARING IS 0.45.
- DO NOT BACKFILL WALL UNTIL TRENCHING THAT MAY BE NECESSARY IN FRONT OF WALL IS BACKFILLED AND COMPACTED, AND COMPACTED TIE FILL IS IN PLACE TO TOP OF SUBGRADE.
- CONCRETE SHALL BE CLASS 3300-1/2" OR 3/4".
- REINFORCING STEEL SHALL CONFORM TO ASTM A706 OR ASTM A615 (GRADE 60).
- #4 LONGITUDINAL BARS AND #4 VERTICAL BARS IN FRONT FACE OF WALL SHALL BE LAPPED 1'-4" AT ALL PLACES. ALL LAPS ARE TO BE PLACED IN BACKFACE OF WALL. ALL BARS SHALL BE PLACED 2" CLEAR OF THE NEAREST FACE OF CONCRETE UNLESS NOTED OR SHOWN OTHERWISE.
- PLACE EXPANSION JOINTS THRU WALL AND FOOTING AND CONTRACTION JOINTS IN WALL ONLY. SEE PLAN AND ELEVATION FOR LOCATION OF JOINTS. PLACE EXPANSION JOINTS AT APPROX 96'-0" SPACING. PLACE CONTRACTION JOINTS AT APPROX 32'-0" SPACING. SEE DWG S15E-885 FOR CONTRACTION AND EXPANSION JOINT DETAILS.
- SEE DWG S15E-884 FOR BACKFILL DETAILS.
- BACKFILL/EMBANKMENT SOIL UNIT WEIGHT = 120 LBS/FT³. ANGLE OF INTERNAL FRICTION OF BACKFILL/EMBANKMENT SOIL = 32°. LIVE LOAD SURCHARGE = 240 PSF.
- THESE DIMENSIONS SHALL DETERMINE THE MINIMUM DIMENSIONS FOR CONSTRUCTION OF WALLS.

TYPE I CONCRETE CANTILEVER WALL SCHEDULE

H	B	C	S	T	L	H-VARIABLES			BARS d	BARS c	BARS b	BARS a	MAX SOIL PRES.(PSF)
						FROM	TO	TO					
4'-0"	8'-9"	12'-0"	12"	12"	2'-0"	4'-0"	#5010	#406	#5010	#5010	#5010	530	
6'-0"	8'-3"	12'-6"	14"	12"	2'-7"	4'-1"	#5010	#406	#5010	#5010	#5010	835	
8'-0"	7'-0"	12'-6"	16"	12"	2'-8"	5'-1"	#5010	#406	#5010	#5010	#5010	1370	
10'-0"	6'-6"	13'-6"	17 1/2"	12"	2'-8"	8'-1"	#5010	#406	#5010	#5010	#5010	1485	
12'-0"	6'-2"	14'-2"	18 3/4"	16"	2'-8"	10'-1"	#5010	#5010	#5010	#5010	#5010	1620	
14'-0"	5'-11"	14'-7"	21 1/4"	17"	2'-8"	12'-1"	#5010	#5010	#5010	#5010	#5010	2005	
16'-0"	4'-3"	15'-3"	23 3/4"	18"	2'-8"	14'-1"	#5010	#706	#5010	#5010	#5010	2265	
18'-0"	3'-3"	16'-3"	25 3/4"	18"	3'-2"	16'-1"	#5010	#5010	#5010	#5010	#5010	2460	
20'-0"	2'-10"	16'-4"	27 3/4"	20"	3'-2"	18'-1"	#5010	#5010	#5010	#5010	#5010	2810	



TYPE I CONCRETE CANTILEVER WALL
NO SCALE

TYPE IA CONCRETE CANTILEVER WALL
NO SCALE

TYPE IB CONCRETE CANTILEVER WALL
NO SCALE

PORTLAND TO MILWAUKIE LRT EAST SEGMENT
STRUCTURAL STANDARD STRUCTURE DRAWINGS
CANTILEVER WALL SECTIONS AND TABLES

DAVID EVANS AND ASSOCIATES INC.

TRIMET

TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON

DATE: 5/14/12

APPROVED: [Signature]

DATE: 5/14/12

DATE: 5/18/11

APPROVED: [Signature]

DATE: 5/18/11

DATE: 2/20/12

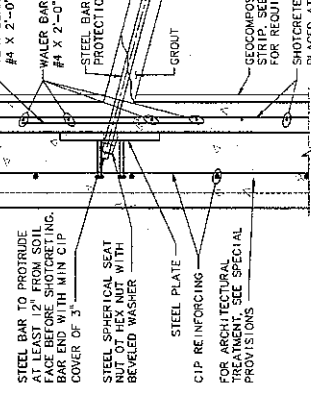
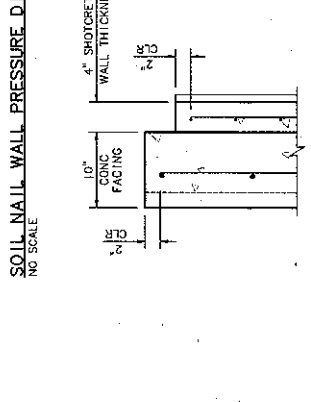
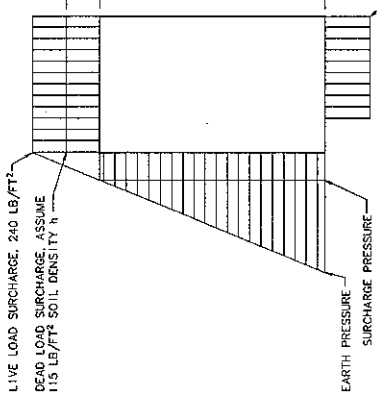
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DATE: 2/20/12

DATE: 5/14/12

APPROVED: [Signature]

DATE: 5/14/12



GENERAL NOTES:
 ALL SHOTCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF $F'_c = 4000$ PSI.
CONSTRUCTION NOTES:
 THE CONTRACTOR SHALL VERIFY LOCATIONS OF ABUTMENT PILES TO INSTALLATION OF NAILS. SEE AS-CONSTRUCTED DRAWINGS FOR ABUTMENT PILE SPACING.
 CONTRACTOR SHALL SELECT NAIL INSTALLATION METHOD THAT DOES NOT DAMAGE EXISTING ABUTMENT OR ABUTMENT PILES. ROTATE THE TOP THREE NAILS DIRECTLY UNDER THE ABUTMENT BY 5 DEGREES TO THE RIGHT TO AVOID INTERCEPTING THE NAILS IN THE ROW BELOW.
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DESIGN CRITERIA:
 UNLESS NOTED OTHERWISE, SOIL NAIL WALL DESIGN SHALL COMPLY WITH THE FOLLOWING REFERENCES:
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 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES SEVENTEENTH EDITION - 2002 AND ERRATA.
 TRI-MET LIGHT RAIL DESIGN CRITERIA, JANUARY 2010 WITH MAY 2010 AND MARCH 2011 UPDATES.
 ODOT RETAINING STRUCTURES MANUAL, MARCH 1998.
 DESIGN WALL FOR AT REST EARTH PRESSURES. SEE SOIL NAIL WALL PRESSURE DIAGRAM.
 DESIGN TO PROVIDE THE FOLLOWING MINIMUM FACTORS OF SAFETY:

GLOBAL STABILITY (LONG TERM)	1.5	NAIL BAR TENSILE STRENGTH	1.8
SOILING STABILITY (EXCAVATION)	1.2	CIP CONCRETE FACING PULLOUT RESISTANCE	1.5
BEARING CAPACITY	3.0	HEADED STUD TENSILE (A307)	2.0
PULLOUT RESISTANCE	2.0		

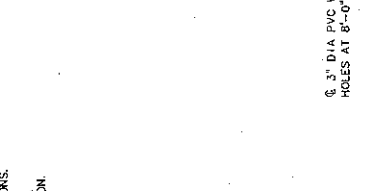
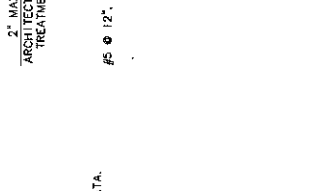
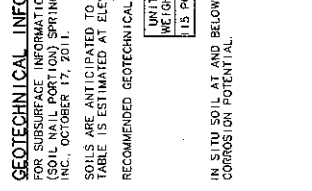
PROVIDE A MINIMUM SERVICE LIFE OF 75 YEARS FOR ALL WALL COMPONENTS.
 ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE PROJECT TECHNICAL SPECIFICATIONS.
 BOTTOM TWO ROWS OF SOIL NAILS SHALL HAVE CLASS 1 CORROSION PROTECTION AS INDICATED IN FHWA GEOTECHNICAL CIRCULAR NO 7. THE REMAINING SOIL NAILS SHALL HAVE CLASS 11 CORROSION PROTECTION.

SOIL NAIL CONSTRUCTION NOTES:
 1. WALL SHALL BE BUILT FROM THE TOP DOWN IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
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 3. INSTALL WEEP HOLES DURING CONSTRUCTION OF THE FINAL SHOTCRETE LIFT.

GEOTECHNICAL INFORMATION:
 FOR SURFACE INFORMATION SEE TRAFFIC DESIGN RECOMMENDATIONS FOR WALL LIST S-1.1 (SOIL NAIL PORTION) SPRINGWATER CORRIDOR, SEGMENT D, DEVELOPED BY SHANNON & WILSON, INC., OCTOBER 17, 2011.
 SOILS ARE ANTICIPATED TO CONSIST OF SILTY SAND AND SAND WITH FINES. THE WATER TABLE IS ESTIMATED AT ELEV 35.
 RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS ARE AS FOLLOWS:

UNIT	φ	c
WEIGHT		
15 PPT 137	0	0

IN SITU SOIL AT AND BELOW TOE OF WALL SHOULD BE CONSIDERED TO HAVE STRONG CORROSION POTENTIAL.



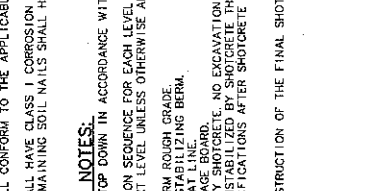
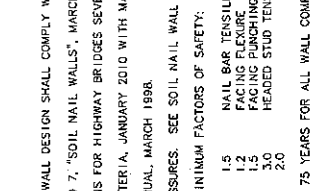
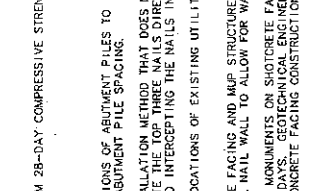
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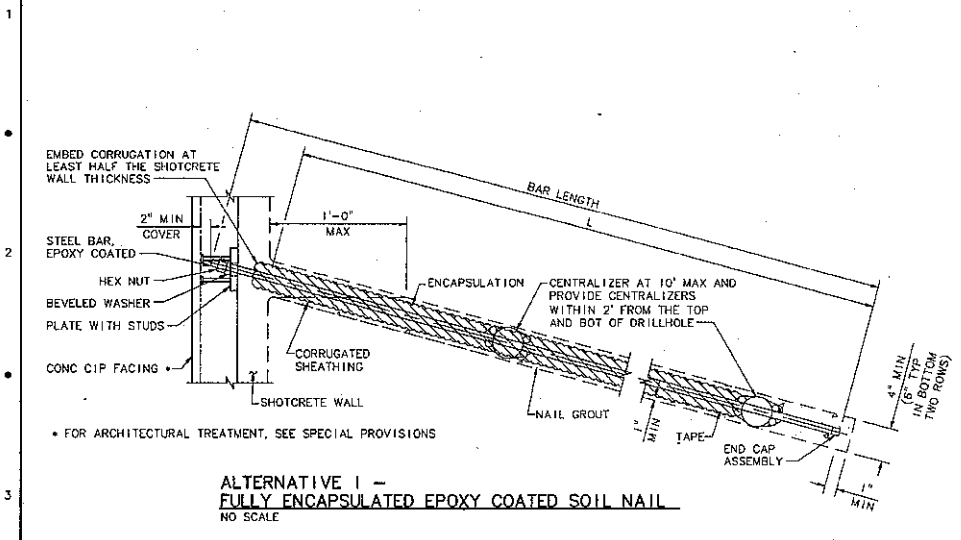
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 3. INSTALL WEEP HOLES DURING CONSTRUCTION OF THE FINAL SHOTCRETE LIFT.

FINISHED WALL SECTION
 SCALE: 1/12" = 1'-0"

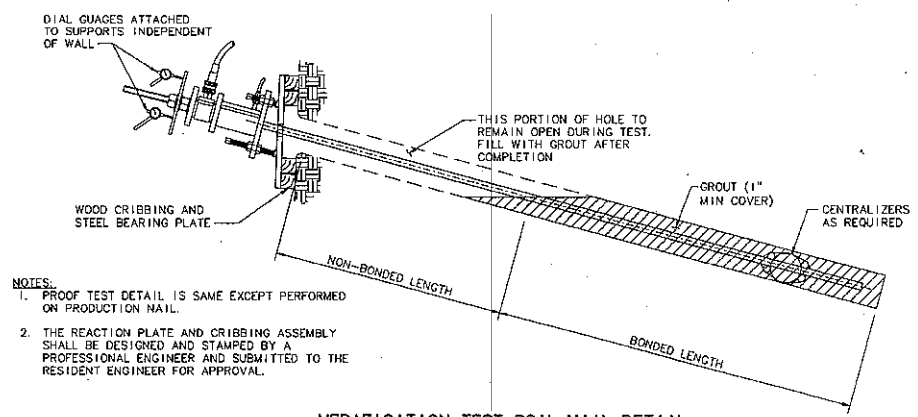
TYPICAL SOIL NAIL WALL SECTION
 SCALE: 3/4" = 1'-0"

PORTLAND TO MILWAUKIE LRT EAST SEGMENT STRUCTURAL STANDARD STRUCTURE DRAWINGS SOIL NAIL WALL DETAILS 1 OF 3		SHEET NO: R1102544UB DRAWING NO: R1102544UB SCALE: AS NOTED DATE: 5/14/12
TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON CAPITAL PROJECTS DIVISION 710 NE HOLADAY STREET PORTLAND, OREGON 97232		DATE: 5/14/12
TRI-MET DAVID EVANS AND ASSOCIATES INC.		DATE: 5/14/12
PROFESSIONAL SEAL AND SIGNATURE		DATE: 5/14/12
DATE: 5/14/12 CHECKED BY: [Signature] DATE: 5/14/12 DESIGNED BY: [Signature]	DATE: 5/14/12 CHECKED BY: [Signature] DATE: 5/14/12 DESIGNED BY: [Signature]	DATE: 5/14/12 CHECKED BY: [Signature] DATE: 5/14/12 DESIGNED BY: [Signature]

A • B • C • D • E • F • G • H

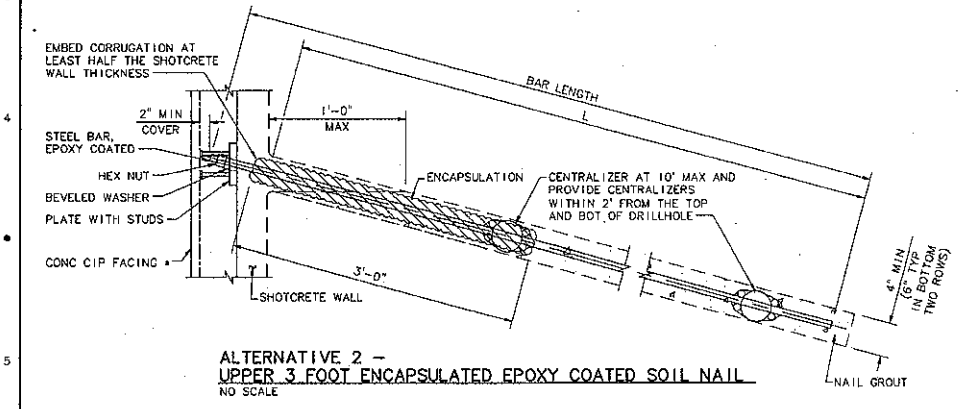


ALTERNATIVE 1 - FULLY ENCAPSULATED EPOXY COATED SOIL NAIL
NO SCALE



- NOTES:**
1. PROOF TEST DETAIL IS SAME EXCEPT PERFORMED ON PRODUCTION NAIL.
 2. THE REACTION PLATE AND CRIBBING ASSEMBLY SHALL BE DESIGNED AND STAMPED BY A PROFESSIONAL ENGINEER AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

VERIFICATION TEST SOIL NAIL DETAIL
NO SCALE



ALTERNATIVE 2 - UPPER 3 FOOT ENCAPSULATED EPOXY COATED SOIL NAIL
NO SCALE

NO.	DATE	BY	APPROV.	ISSUED FOR CONSTRUCTION
5-14-12		MJW	CAP	ISSUED FOR CONSTRUCTION

CAP DESIGNED	1/30/12	DATE
CDS DRAWN	1/31/12	DATE
MJW CHECKED	2/20/12	DATE
CAP APPROVED	5/14/12	DATE

REGISTERED PROFESSIONAL ENGINEER
DAVID EVANS AND ASSOCIATES INC.
710 NE HOLLADAY STREET
PORTLAND, OREGON 97232

DATE: 5/14/12

TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON

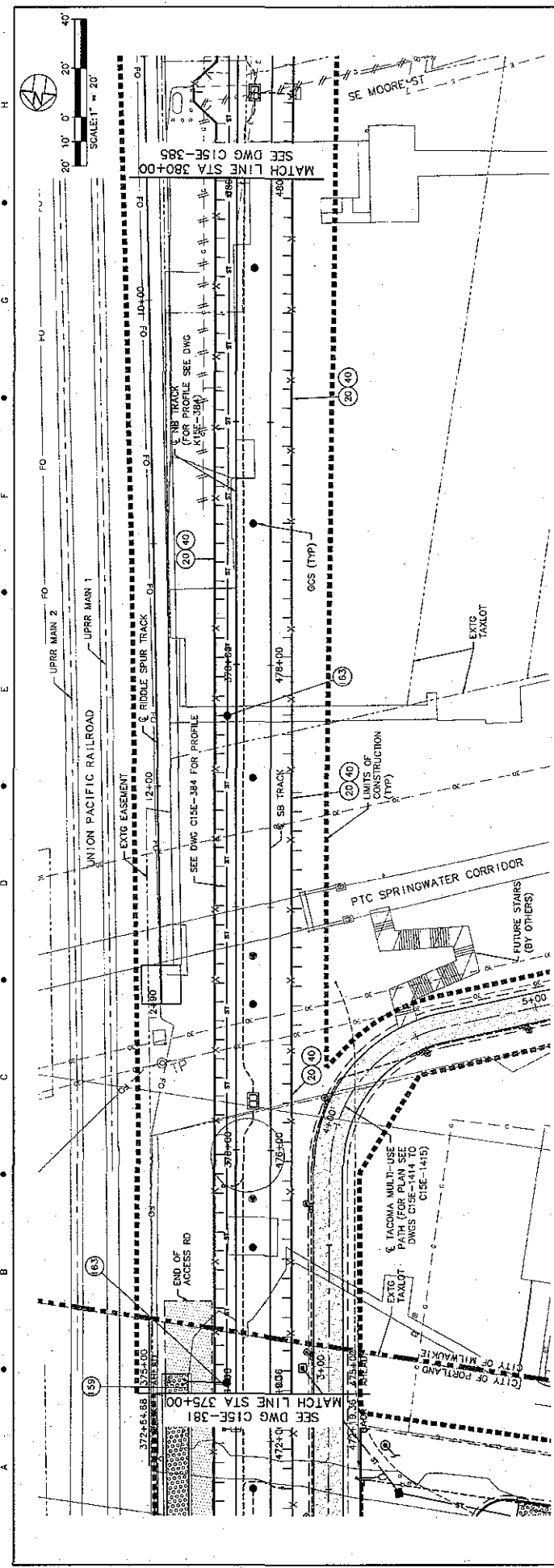
TRIOMET
CAPITAL PROJECTS DIVISION
710 NE HOLLADAY STREET
PORTLAND, OREGON 97232

DATE: 5/14/12

PORTLAND TO MILWAUKIE LRT EAST SEGMENT
STRUCTURAL STANDARD STRUCTURE DRAWINGS
SOIL NAIL WALL DETAILS 3 OF 3

SCALE: AS NOTED
DRAWING NO.: S15E-895
CONTRACT NO.: RH100544JB
SHEET NO.: 144

Attachment 1 to Staff Report to Resolution 2-4364



GENERAL NOTES

- BASE MAPS USED AS A BASIS FOR THE DESIGN WAS PROVIDED BY TRIMET. EXISTING TOPOGRAPHIC FEATURES WERE DEVELOPED BY TRIMET AND CH2M HILL FROM GIS DATA, AS-BUILT DRAWINGS, FIELD VISITS, AND AERIAL PHOTOGRAMMETRY. FEW COMPONENTS INCLUDE INFORMATION FROM THE ORIGINAL FIELD SURVEY. CONTRACTOR SHALL VERIFY TOPOGRAPHY PRIOR TO CONSTRUCTION. ALL DATA OBTAINED FROM TRIMET PROJECT SHALL BE OBTAINED FROM TRIMET PRIOR TO STARTING CONSTRUCTION.
- FOR PROPOSED RIGHT OF WAY SEE RIGHT OF WAY PLANS, VOLUME 6.
- ALL CONSTRUCTION WITHIN THE CITY OF PORTLAND SHALL BE PER CITY OF PORTLAND STANDARDS UNLESS NOTED OTHERWISE ON PLANS. ALL CONSTRUCTION WITHIN THE CITY OF MILWAUKIE SHALL BE PER CITY OF MILWAUKIE STANDARDS UNLESS NOTED OTHERWISE.
- FIELD VERIFY ALL CONNECTIONS TO EXISTING STORM STRUCTURES AND PIPE INVERT DATA PRIOR TO CONSTRUCTION.
- ADJUST PRIVATE AND PUBLIC MANHOLES, CLEANOUTS, INLETS, JUNCTION BOXES, VALVES, VALVE BOXES, AND UTILITY BOXES TO FINISH GRADE.

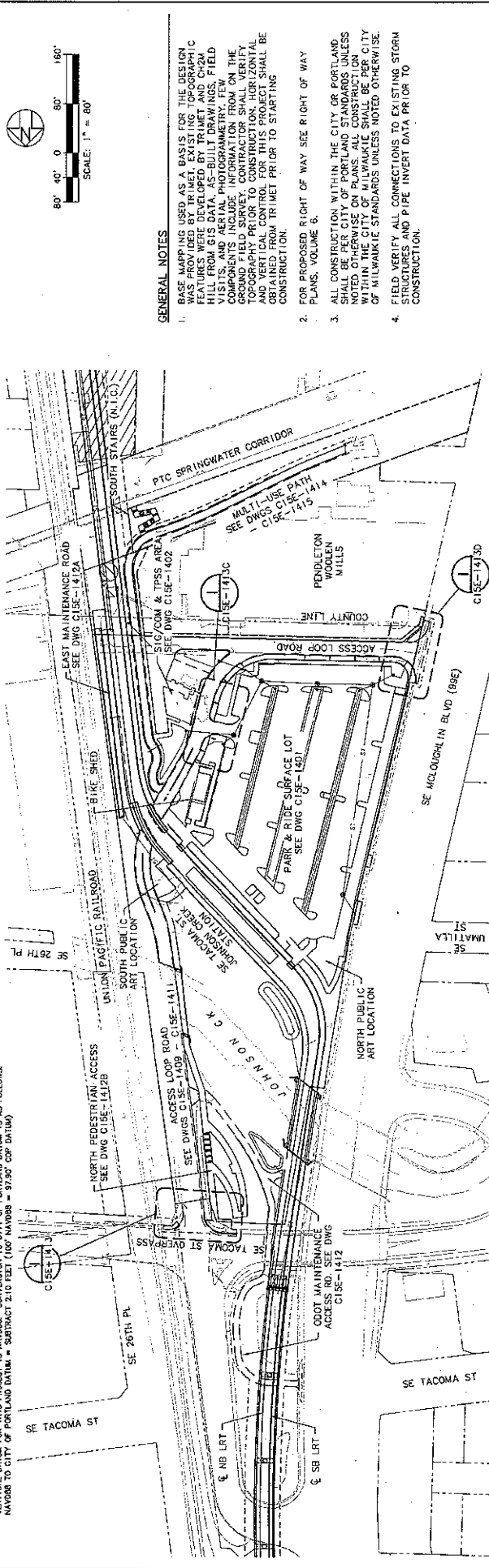
LEGEND

- RCB ROADWAY/SIDEWALK/ DRIVEWAY
- CONSTRUCTION LIMITS
- GRAVEL ACCESS ROAD
- CONSTRUCT NEW INLET
- STORMWATER FACILITY
- CONSTRUCT NEW CLEANOUT
- WORK BY OTHERS

CONSTRUCTION NOTES

- (20) CONSTRUCT RETAINING WALL (SEE STRUCTURAL DWGS FOR DETAILS - VOLUME 5)
- (40) INSTALL FENCE/RAILING (SEE ARCHITECTURAL DWGS FOR DETAILS - VOLUME 4)
- (50) CONSTRUCT RIPRAP BASIN (SEE DWG CISE-675 FOR DETAILS)
- (60) CONSTRUCT STORM LATERAL CLEANOUT (SEE TRIMET DIRECTIVE DWG CTW103)

PORTLAND TO MILWAUKIE LRT EAST SEGMENT		CAPITAL PROJECTS DIVISION 715 NE HOLLYMAN STREET PORTLAND, OREGON 97232	
TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON		TRIMET	
DAVID EVANS AND ASSOCIATES INC.		DAVID EVANS AND ASSOCIATES INC.	
DATE: 05-14-12		DATE: 05-14-12	
APPROVED: <i>[Signature]</i>		APPROVED: <i>[Signature]</i>	
SCALE: 1" = 20'		SCALE: 1" = 20'	
DRAWING NO.: CISE-383		DRAWING NO.: CISE-383	
SHEET NO.: 215		SHEET NO.: 215	



VERTICAL DATA FOR THIS PROJECT IS HANDLED. CONVERSION TO CITY OF PORTLAND DATA IS AS FOLLOWS:
 HANDED TO CITY OF PORTLAND DATA - SEE DRAWING 1510.FEEL (FOR INVOICES - 91250 COP 04/16)

GENERAL NOTES

1. BASE MAPING USED AS A BASIS FOR THE DESIGN OF THIS PROJECT. ALL METRIC FEATURES WERE DEVELOPED BY TRIMET AND CHINA HILL FROM GIS DATA. AS-BUILT DRAWINGS, FIELD VISITS, AND AERIAL PHOTOGRAMMETRY. FEW COMPONENTS INCLUDE INFORMATION FROM THE TOPOGRAPHY PRIOR TO CONSTRUCTION. HORIZONTAL AND VERTICAL CONTROL FOR THIS PROJECT SHALL BE OBTAINED FROM TRIMET PRIOR TO STARTING CONSTRUCTION.
2. FOR PROPOSED RIGHT OF WAY SEE RIGHT OF WAY PLANS, VOLUME 6.
3. ALL CONSTRUCTION WITHIN THE CITY OF PORTLAND SHALL BE PER CITY OF PORTLAND STANDARDS UNLESS NOTED OTHERWISE ON PLANS. ALL CONSTRUCTION WITHIN THE CITY OF MILWAUKIE SHALL BE PER CITY OF MILWAUKIE STANDARDS UNLESS NOTED OTHERWISE.
4. FIELD VERIFY ALL CONNECTIONS TO EXISTING STORM STRUCTURES AND PIPE INVERT DATA PRIOR TO CONSTRUCTION.

CONSTRUCTION NOTES

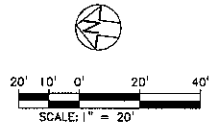
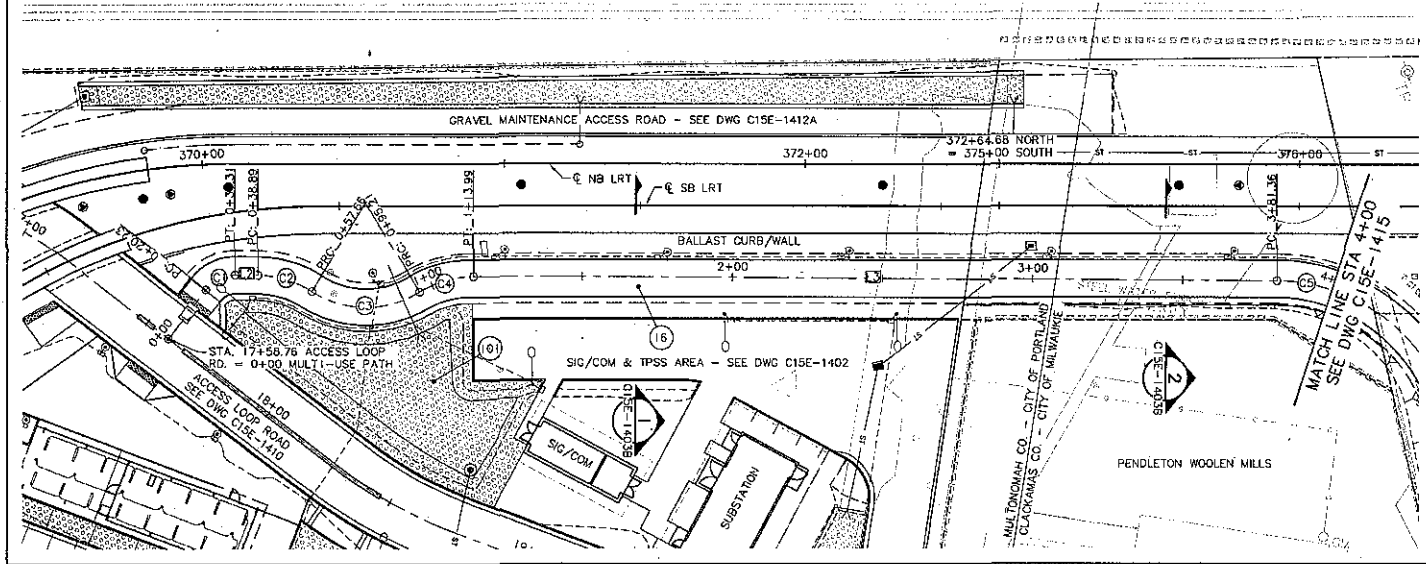
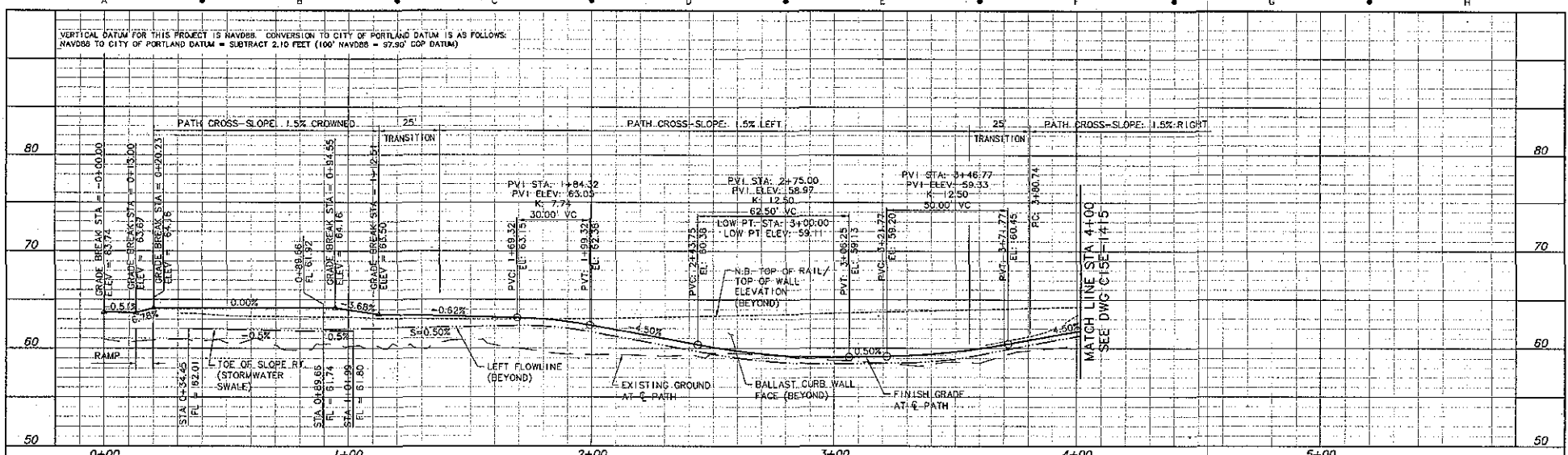
- 1 CONSTRUCT PCC STANDARD SIDEWALK (SEE ODOT STD DWG RD720)
- 1B CONSTRUCT 6" THICK PCC SIDEWALK (SECTION PER COP STD DWG P-540)
- 2 CONSTRUCT STANDARD CURB (SEE ODOT STD DWG RD700)
- 2A CONSTRUCT RIBBON CURB (SEE DWG C15E-480 AND TRIMET DIRECTIVE DWG C1M201)
- 3 CONSTRUCT CURB AND GUTTER WITH 18" GUTTER PAN (12" GUTTER PAN ADJACENT TO BIKE LANE) (SEE ODOT STD DWG RD700) E=6"
- 3K CONSTRUCT THICKENED CURB AND GUTTER WITH 18" GUTTER PAN (12" GUTTER PAN ADJACENT TO BIKE LANE) (SEE COP STD DWG P-540) E=6"
- 3D CONSTRUCT MOUNTABLE CURB AND GUTTER WITH 18" GUTTER PAN (12" GUTTER PAN ADJACENT TO BIKE LANE) (SEE ODOT STD DWG RD700) E=6"
- 4 CONSTRUCT MOUNTABLE CURB (SEE ODOT STD DWG RD700) E=6"
- 5 CONSTRUCT TYPE 11 BALLAST CURB (SEE TRACK DWGS FOR DETAILS - VOLUME 1)
- 6 CONSTRUCT CURB TRANSITION (SEE DWG C15E-480A FOR DETAILS)
- 7 CONSTRUCT PCC BUMP (SEE ODOT STD DWG RD755)

- 55 INSTALL TRIMET BUS STOP SHELTER
- 56 CONSTRUCT GRAVEL MAINTENANCE ROAD. (SEE DWGS C15E-1412 OR C15E-1412A)
- 57 INSTALL PAVEMENT MARKINGS AS NOTED ON PLAN PER DWG T15E-270. PARKING STRIPES SHALL BE PAINT.
- 58 INSTALL SIGN AS NOTED ON PLAN PER DIRECTIVE DRAWING CMT-802 OR DWG T15E-300
- 59 INSTALL 6" WHEEL STOP PER DETAIL 1, C15E-1417
- 60 ADJUST MH TO FINISHED GRADE
- 61 INSTALL TRENCH DRAIN PER MANUFACTURER'S RECOMMENDATIONS

- 8 CONSTRUCT PCC DRIVEWAY (SEE ODOT STD DWG P-538)
- 9 CONSTRUCT CONCRETE TRAFFIC SEPARATOR - TYPE C (SEE ODOT STD DWG RD705)
- 12 CONSTRUCT ACCESS ROAD (SEE DWGS C15E-1414 TO C15E-1415 FOR DETAILS)
- 15 CONSTRUCT MULTI-USE PATH (SEE DWG C15E-1414 & C15E-1415 FOR DETAILS)
- 17 CONSTRUCT PLATFORM - (SEE DWG C15E-1706 AND ARCHITECTURAL DWGS FOR DETAILS - VOLUME 4)
- 18 CONSTRUCT STAIRS (SEE STRUCTURAL DWGS FOR DETAILS - VOLUME 5)
- 20 CONSTRUCT RETAINING WALL (SEE STRUCTURAL DWGS FOR DETAILS - VOLUME 5)
- 30 MODIFY EXISTING RETAINING WALL (SEE STRUCTURAL DWGS FOR DETAILS - VOLUME 5)
- 41 INSTALL TACTILE PAVERS (TRUNCATED DOMES) (SEE TRIMET DIRECTIVE DWG B7M012)
- 42 INSTALL CONCRETE RAIL CROSSING PANELS (SEE TRACK DWGS FOR DETAILS - VOLUME 1)
- 43 INSTALL AT GRADE CROSSING BY OTHERS (SEE TRACK DWGS FOR DETAILS - VOLUME 1)
- 45A INSTALL BOLLARD, REMOVABLE TYPE (SEE DWG C15E-492 FOR DETAILS)

- 101 CONSTRUCT TRIMET STORMWATER INFILTRATION PLANTER (SEE TABLE ON DWG C15E-607 FOR PLANTER DETAILS)
- 102 CONSTRUCT TRIMET STORMWATER INFILTRATION SWALE (SEE DWG C15E-607 FOR SWALE DETAILS)
- 106 CONSTRUCT CITY OF PORTLAND TYPE G-1 INLET (SEE ODOT STD DWG RD364)
- 116 CONSTRUCT TRIMET CONCRETE FIELD INLET (SEE COP STD DWG P-211)
- 120 CONSTRUCT TRIMET CONCRETE CURB INLET (SEE DWG C15E-673 FOR DETAILS)
- 122 CONSTRUCT TRIMET CONCRETE INLET TYPE CHANNEL AND GRATE, SEE STORMWATER PLANS FOR LOCATIONS (SEE DWG C15E-674 FOR DETAILS)
- 124 CONSTRUCT TRIMET PRECAST CONCRETE MANHOLE OVER EXISTING SEWER (SEE COP STD DWG P-150)
- 131 CONSTRUCT TRIMET PIPED OUTFALL (SEE DWG C15E-675 FOR DETAILS)
- 135 CONSTRUCT TRIMET OVERFLOW (SEE DWG C15E-675 FOR DETAILS)
- 137 INSTALL 10" CULVERT PIPE - 25 LF, 18 LF
- 140 INSTALL TRENCH DRAIN, 63 LF
- 141 CONNECT WITH 6" HOPE, 26 LF
- 141 CONNECT TO EXISTING MANHOLE
- 145 REMOVE EXISTING CATCH BASIN

		TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON CAPITAL PROJECTS DIVISION 710 NE HOLLADAY STREET PORTLAND, OREGON 97232		SHEET NO. 319 CONTRACT NO. RH100544-B DRAWING NO. C15E-1400
RPH REQUIRED: 08-01-11 DATE RPH ISSUED: 08-01-11 DATE RPH CHECKED: 08-01-12 DATE RPH APPROVED: 08-14-12 DATE NAME: <i>[Signature]</i>		APPROVED: <i>[Signature]</i> DATE: 05-14-12		SCALE: 1" = 80' DATE: 05-14-12
PORTLAND TO MILWAUKIE LRT EAST SEGMENT CIVIL TACOMA PARK AND RIDE OVERALL SITE PLAN				



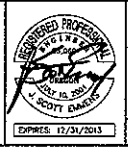
SEE DWG C15E-1400 FOR CONSTRUCTION NOTES

SEE DWG C15E-1407 FOR STORMWATER INLET DATA

SEE DWG C15E-1400B FOR ALIGNMENT DATA

NO.	DATE	BY	CHK	ISSUED FOR CONSTRUCTION

RFH DESIGNED	06-01-11	DATE
RFH DRAWN	06-01-11	DATE
DES CHECKED	04-11-12	DATE
DES APPROVED	05-14-12	DATE



TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON

DAVID EVANS AND ASSOCIATES INC.

710 NE HOLLADAY STREET
 PORTLAND, OREGON 97232

DATE: 05-14-12

TRIOMET

CAPITAL PROJECTS DIVISION

710 NE HOLLADAY STREET
 PORTLAND, OREGON 97232

DATE: 05-14-12

PORTLAND TO MILWAUKIE LRT EAST SEGMENT

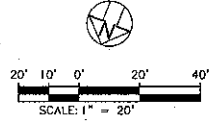
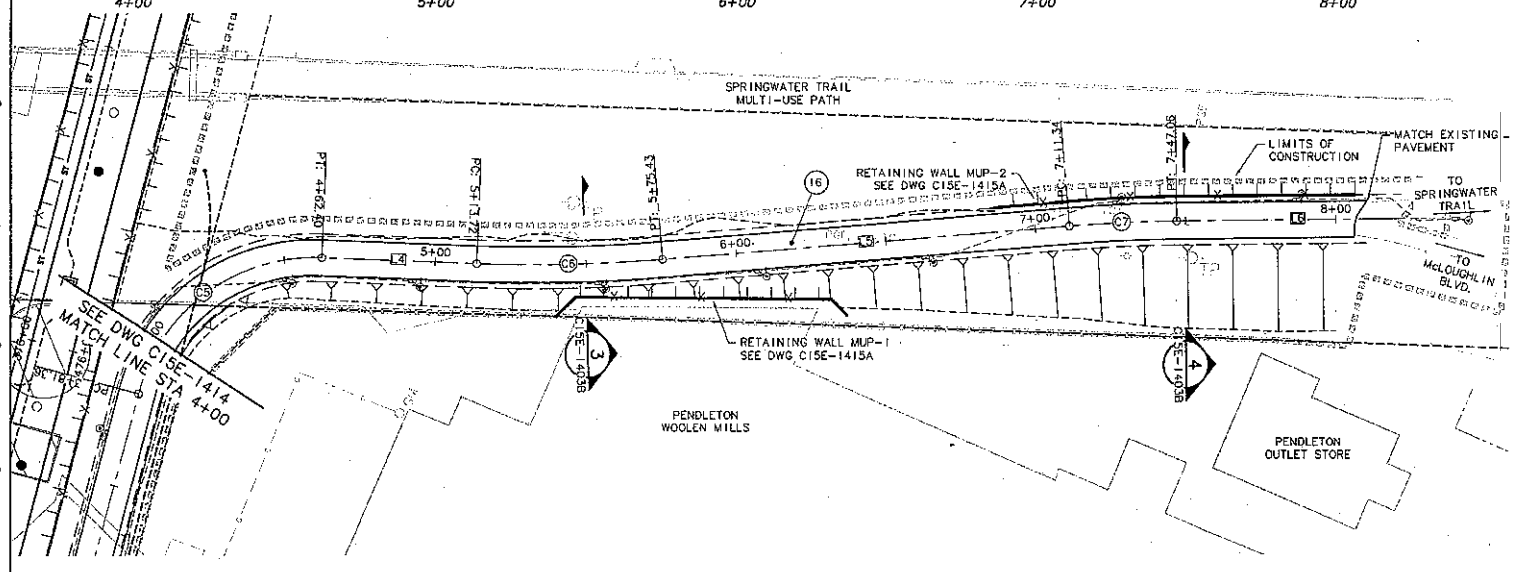
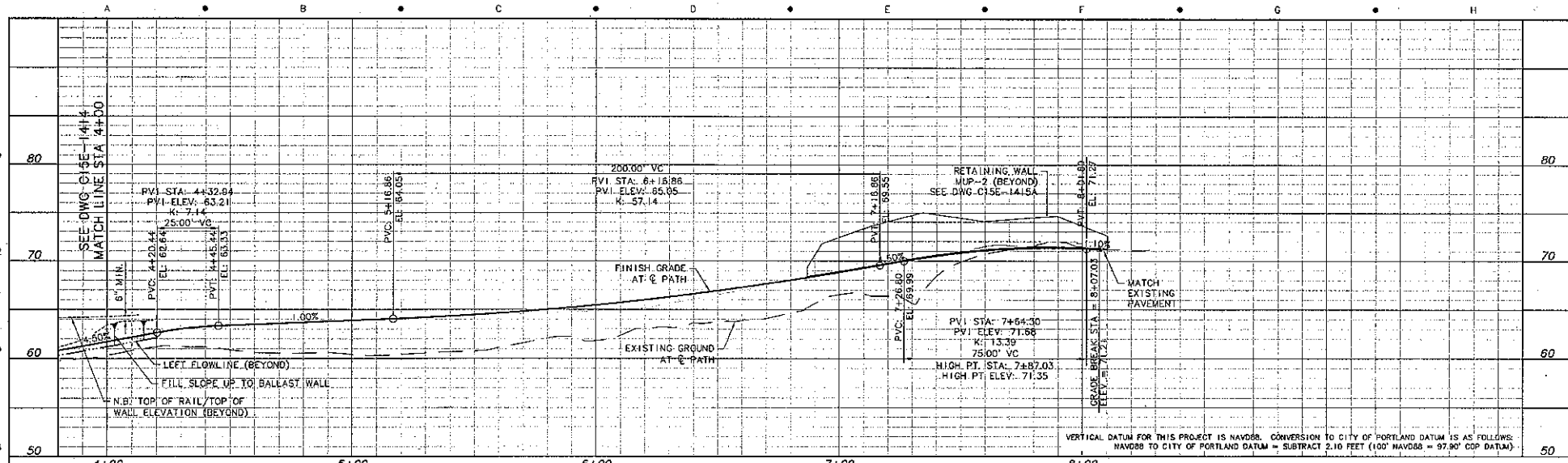
CIVIL

TACOMA PARK AND RIDE (MULTI USE PATH) PLAN AND PROFILE STA 0+00 TO STA 4+00

DRAWING NO.: C15E-1414

CONTRACT NO.: RH100544.B

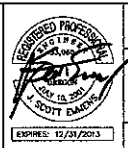
SHEET NO.: 35



(1) SEE DWG C15E-1400 FOR CONSTRUCTION NOTES
 SEE DWG C15E-1400B FOR ALIGNMENT DATA
 FOR RETAINING WALL STRUCTURAL DETAILS SEE VOLUME 5

NO.	DATE	BY	ISSUED FOR CONSTRUCTION

RFH DESIGNED	06-01-11	DATE
RFH DRAWN	06-01-11	DATE
JDES CHECKED	04-11-12	DATE
USE APPROVED	05-14-12	DATE



TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON
 CAPITAL PROJECTS DIVISION
 710 NE HOLMWAY STREET
 PORTLAND, OREGON 97232

DAVID EVANS AND ASSOCIATES, INC.
 SUBMITTED BY: [Signature] DATE: 05-14-12
 APPROVED BY: [Signature] DATE: 05-14-12

PORTLAND TO MILWAUKIE LRT EAST SEGMENT
 CIVIL
 TACOMA PARK AND RIDE (MULTI USE PATH)
 PLAN AND PROFILE STA 4+00 TO STA 8+06.52

SCALE: H: 1"=20' V: 1"=5'
 DRAWING NO.: C15E-1415
 CONTRACT NO.: RH100544.B
 SHEET NO.: 357