Wasco County Planning Department
"Service, Sustainability & Solutions"

2705 East Second St. • The Dalles, OR 97058
(541) 506-2560 • wcplanning@co.wasco.or.us
www.co.wasco.or.us/planning

WASCO COUNTY PLANNING COMMISSION AGENDA PACKET

FOR

Hearing Date: September 6, 2016

Hearing Time: 3:00 pm
Hearing Location: Columbia Gorge Discovery Center, Theater/Auditorium
5000 Discovery Drive
The Dalles, Oregon 97058

Action Item(s):

QUASI JUDICIAL HEARING:

PLASAR-15-01-0004

Request by Union Pacific Railroad and their land use consultants, CH2M Hill, to expand an existing railroad siding on either side of Mosier, Oregon for 4.02 miles of new second mainline track and realigned existing track; place five new equipment shelters; install drainage structures, a retaining wall, new lighting and signage, and wireless communication poles; modify existing utilities, temporary landing zones for construction; construct temporary and permanent access roads; and a property line adjustment. The request also includes off-site wetland mitigation east of the primary project site.

VOLUME #2

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MEMORANDUM TABLE OF CONTENTS Volume 2

Date: August 30, 2016

To: Wasco County Planning Commission

From: Wasco County Planning Office

Subject: Submittal for Hearing dated September 6, 2016

QUASI JUDICIAL HEARING:

PLASAR-15-01-0004

Request by Union Pacific Railroad and their land use consultants, CH2M Hill, to expand an existing railroad siding on either side of Mosier, Oregon for 4.02 miles of new second mainline track and realigned existing track; place five new equipment shelters; install drainage structures, a retaining wall, new lighting and signage, and wireless communication poles; modify existing utilities, temporary landing zones for construction; construct temporary and permanent access roads; and a property line adjustment. The request also includes off-site wetland mitigation east of the primary project site.

Volume 2 of 8

Item	Page
Supplemental Application Materials	
Application Appendix A	PC 1 2-242
Application Appendix B	PC 1 2-304
Application Appendix C	PC 1 2-321
Application Appendix D	PC 1 2-534
Attachment 1	PC 1 2-540
Application Appendix E	PC 1 2-544
Application Appendix F	PC 1 2-614
Application Appendix G	PC 1 2-621
Application Appendix H	PC 1 2-627
Application Appendix I	PC 1 2-647
Deeds of Record	PC 1 2-659

PLASAR-15-01-0004 UPRR

Application Materials

Please Note:

All *sensitive natural and cultural resource information, including correspondence that include confidential resource protection information, has been withheld to ensure ongoing resource protection. Please contact staff with any questions.*

Appendix A
Figures

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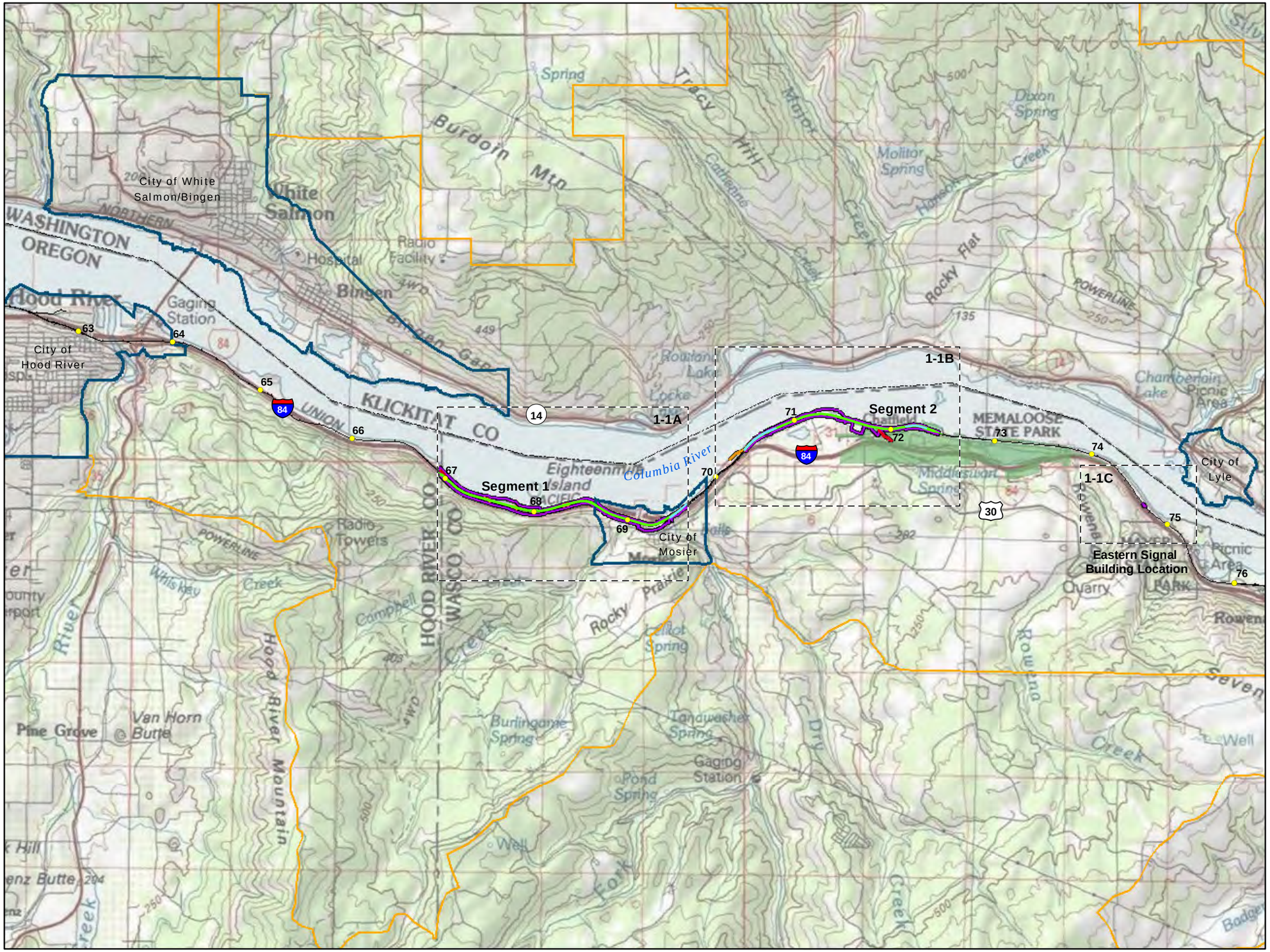

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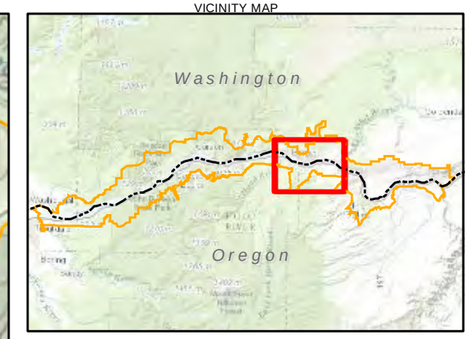

LEGEND

- Project Area Boundary
- Track Milepost
- Existing Mainline Track
- Proposed Second Mainline Track
- Proposed Realigned Mainline Track
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 1
Miles

Figure 1-1
Project Overview
Second Mainline Track Project
Union Pacific Railroad

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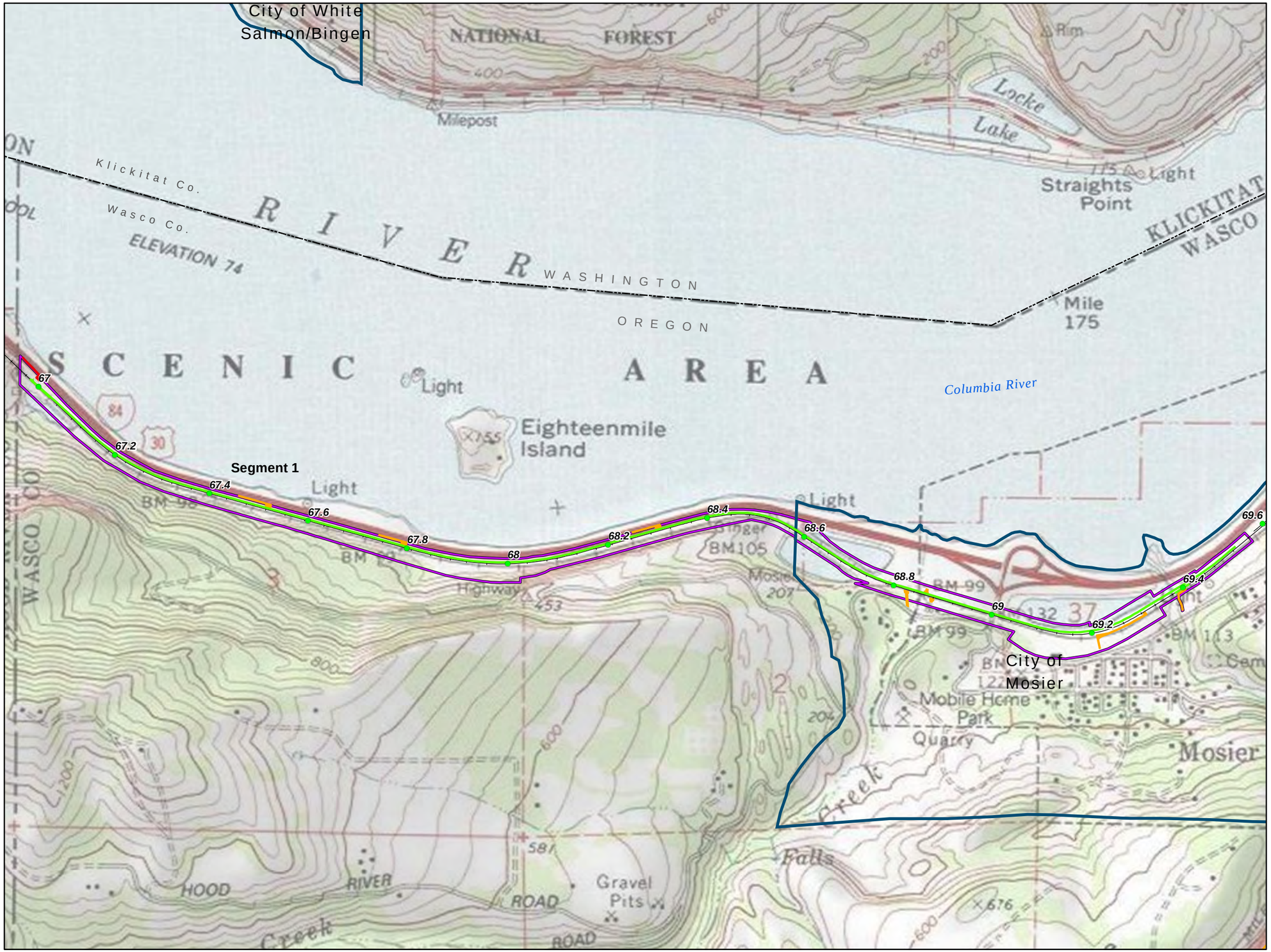
CH2MHILL



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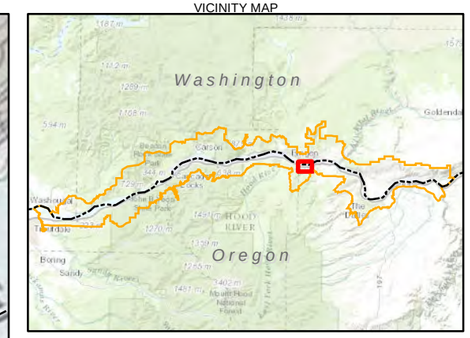

LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Second Mainline Track
- Proposed Temporary Construction AccessRoad
- Proposed Permanent Maintenance Access Road
- Track Milepost
- National Scenic Area Boundary
- Designated Urban Area Boundary

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 1,000
Feet

Figure 1-1a
Project Overview - Segment 1
Second Mainline Track Project
Union Pacific Railroad

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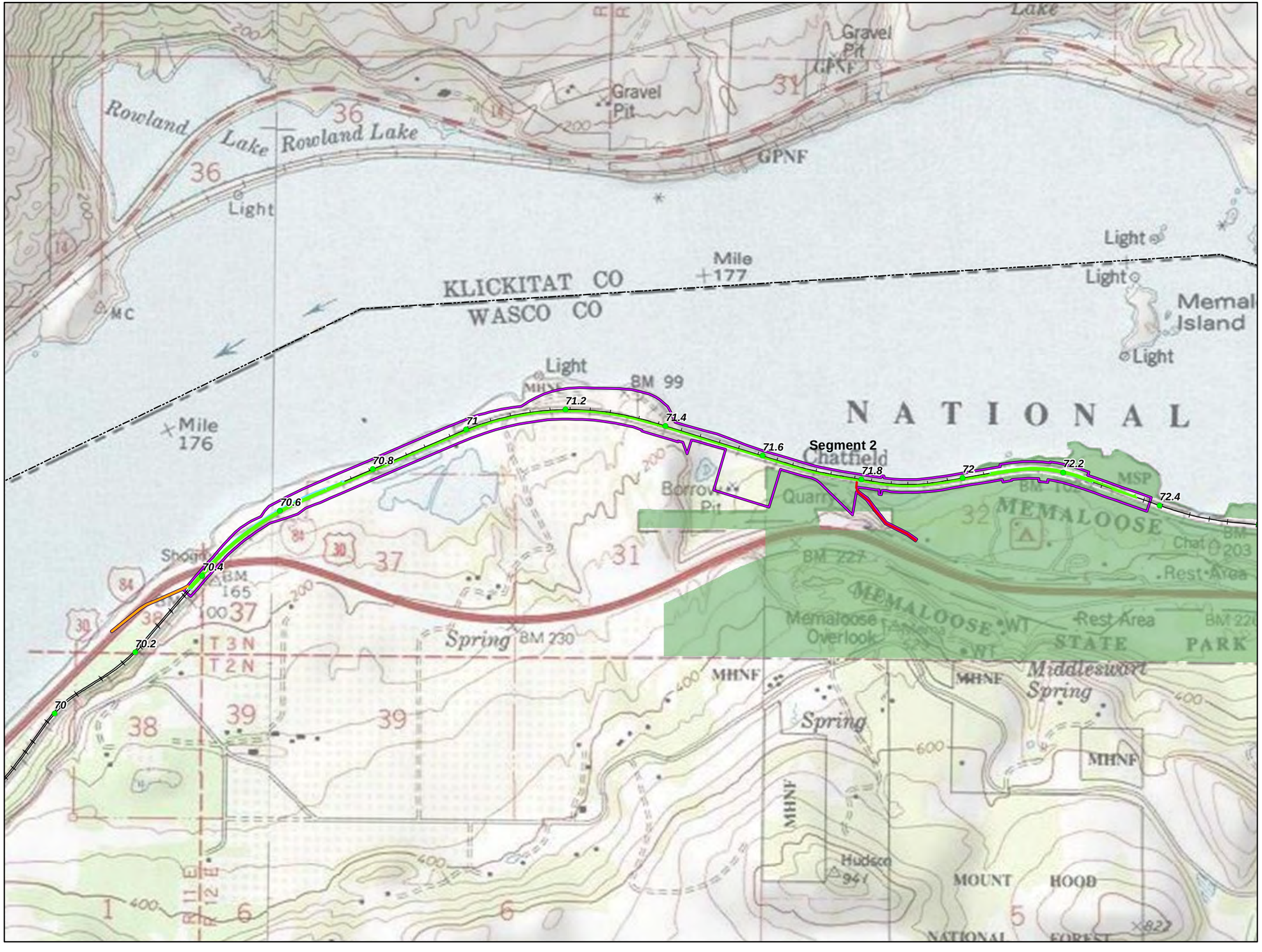

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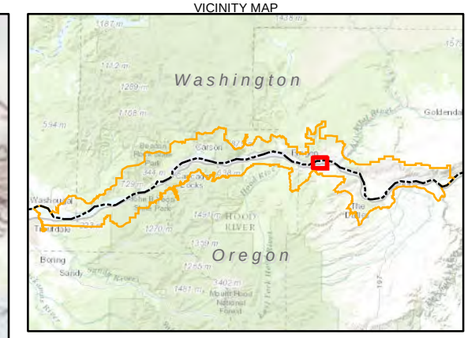

LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Second Mainline Track
- Proposed Realigned Mainline Track
- Proposed Temporary Construction AccessRoad
- Proposed Permanent Maintenance Access Road
- Track Milepost
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

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0 1,000
Feet

Figure 1-1b
Project Overview - Segment 2
Second Mainline Track Project
Union Pacific Railroad

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CH2MHILL

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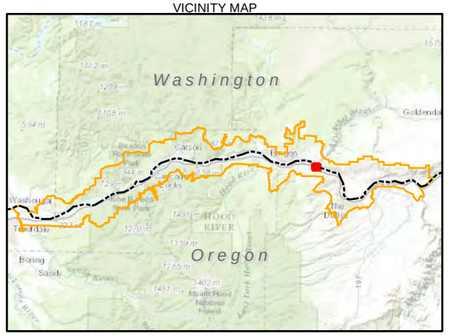

LEGEND

- Project Area Boundary
- Existing Mainline Track
- Track Milepost
- National Scenic Area Boundary
- Designated Urban Area Boundary

Sources: Columbia River Gorge Commission (2010; 2013)

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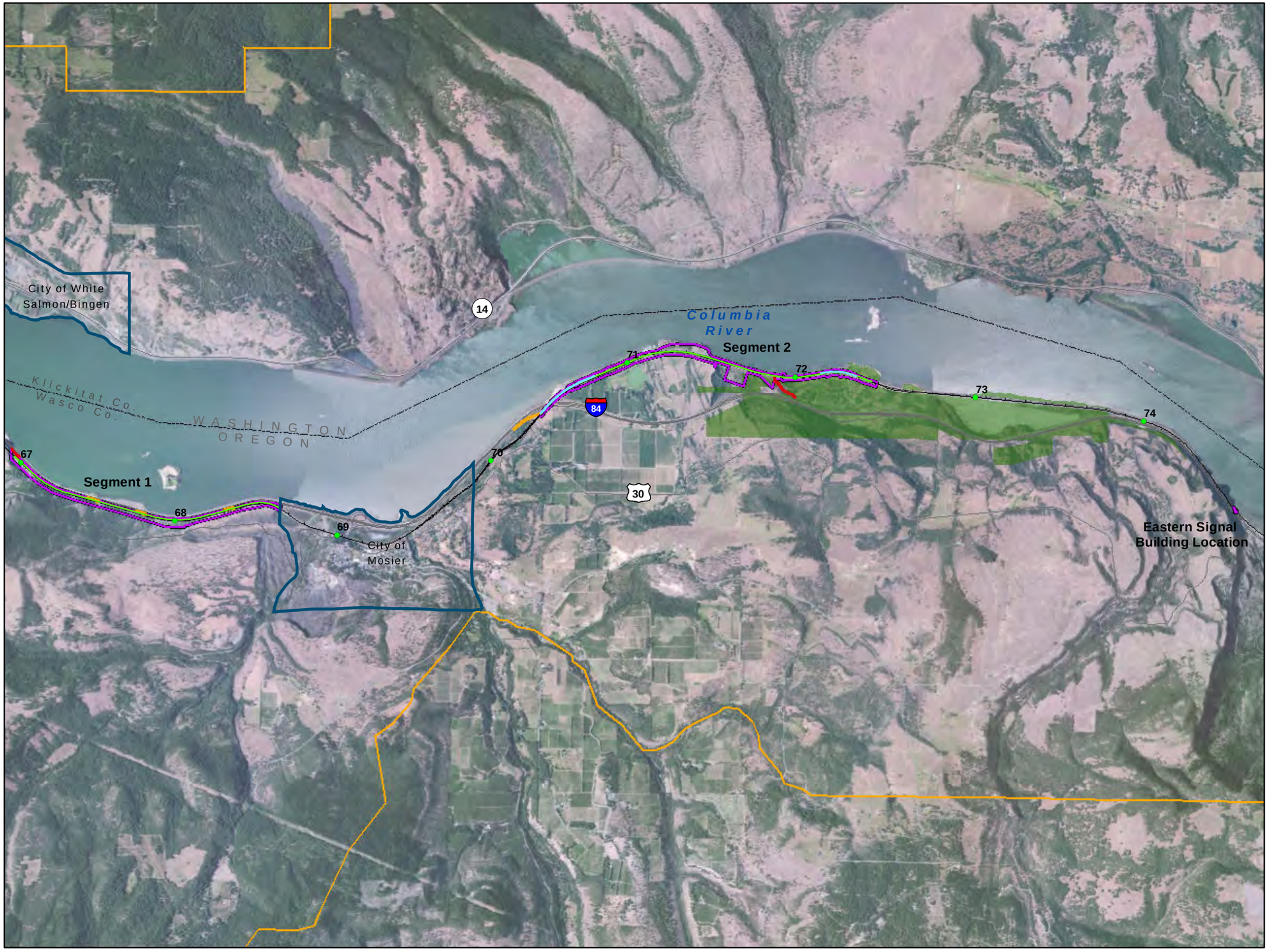
Feet

Figure 1-1c
Project Overview -
Eastern Signal Building Location
Second Mainline Track Project
Union Pacific Railroad



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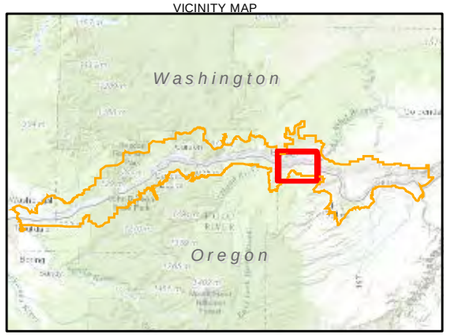

LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Second Mainline Track
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- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 0.5
Miles

Figure 1-2
Project Area Within the NSA
Second Mainline Track Project
Union Pacific Railroad

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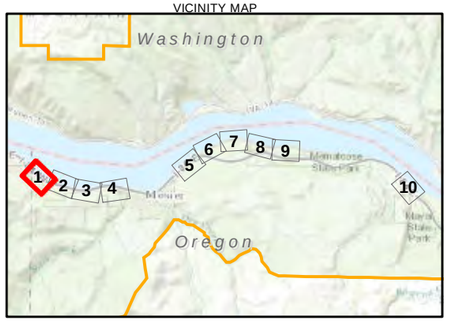

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
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- Existing UPRR ROW
- Proposed ROW Enhancement
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- Project Area - Grading Limits
- Memaloose State Park

Zoning Classifications

- (GMA) A-1(40)
- (GMA) A-2(40)
- (GMA) A-2(80)
- (GMA) F-1
- (GMA) Open Space
- (GMA) Urban Areas
- (GMA) Water
- (SMA) AG
- (SMA) Open Space
- (SMA) Public Rec
- Ag Special

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Feet

Figure 1-2, Page 1
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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CH2MHILL

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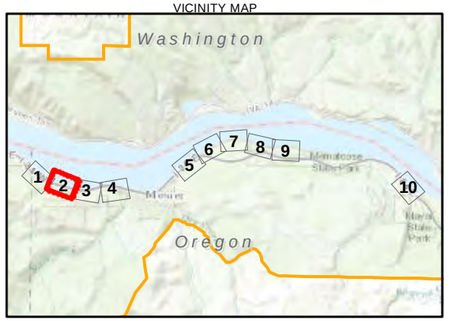

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Figure 1-2, Page 2
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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CH2MHILL

(SMA) AG

(GMA) Water

Columbia River

68.3

68.2

68.1

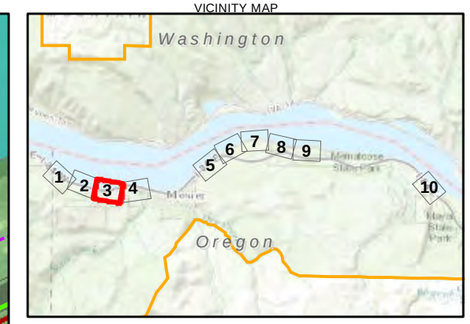
68

67.9

(GMA) Open Space

(GMA) A-2(80)

VICINITY MAP



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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Figure 1-2, Page 3
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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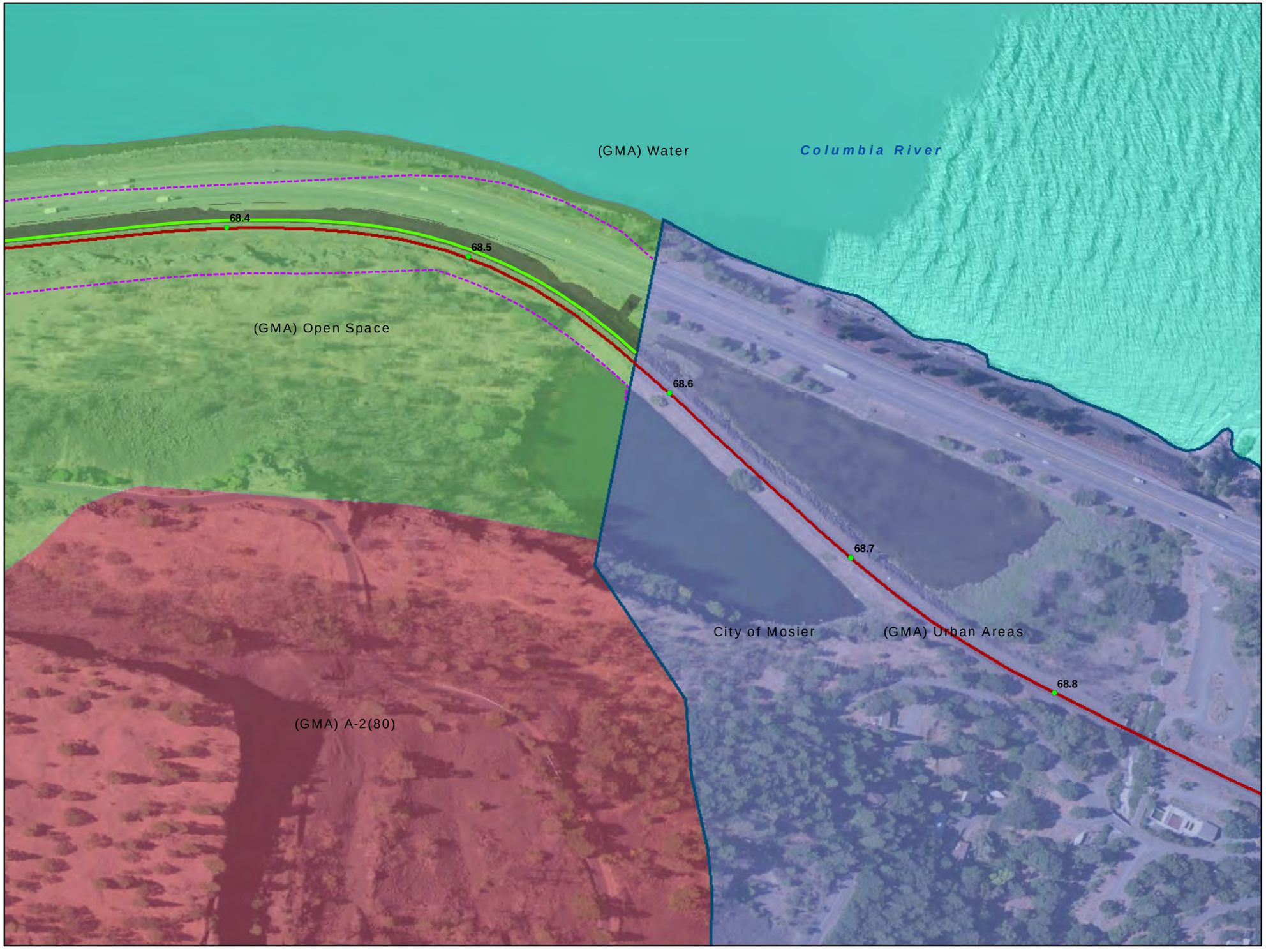

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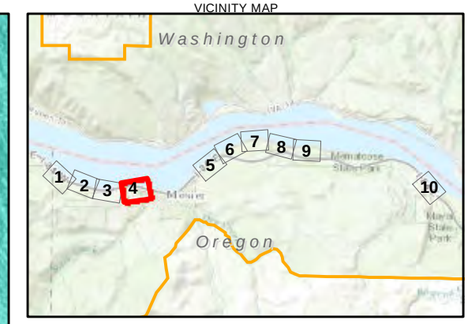

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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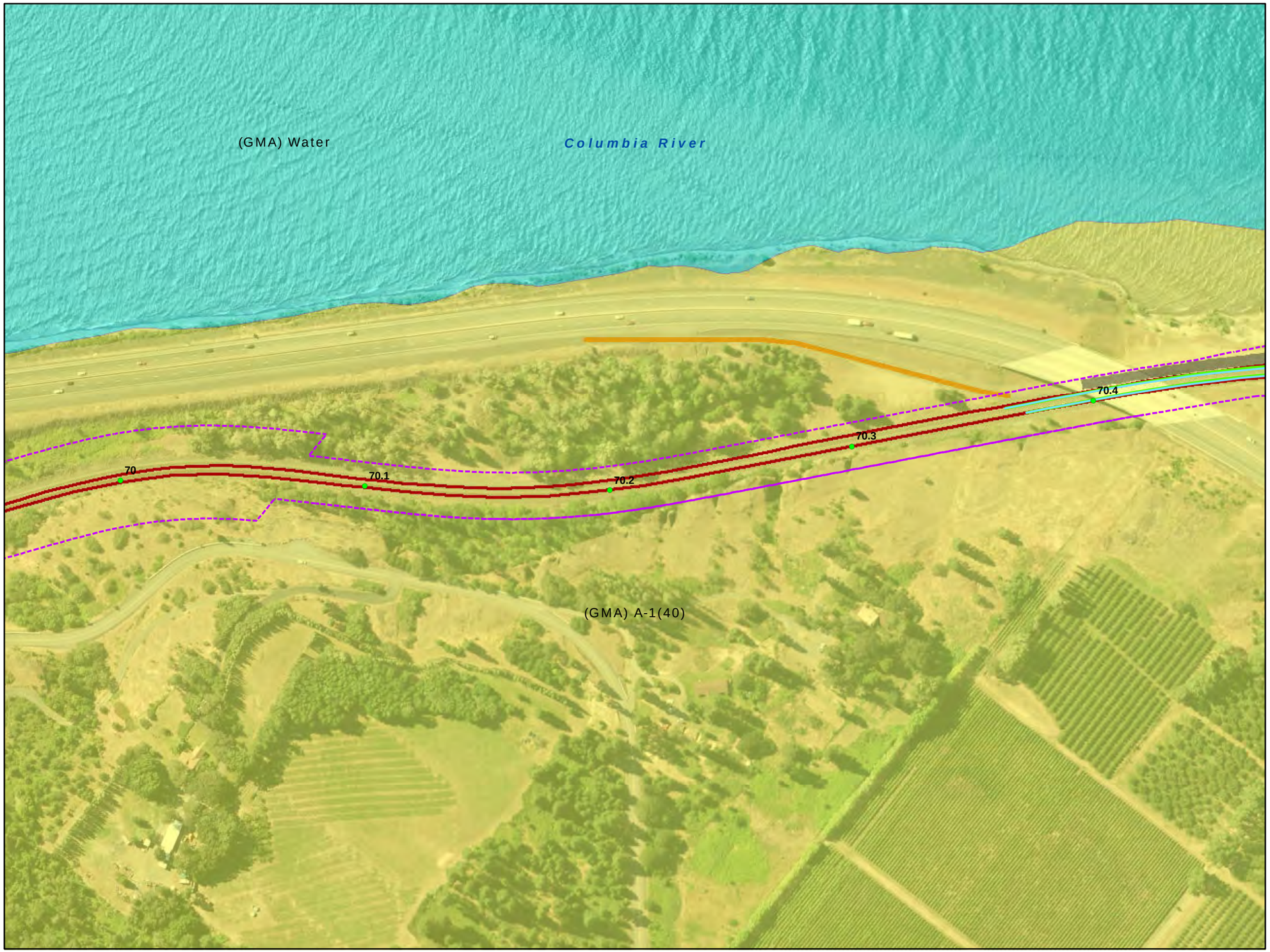
Figure 1-2, Page 4
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad



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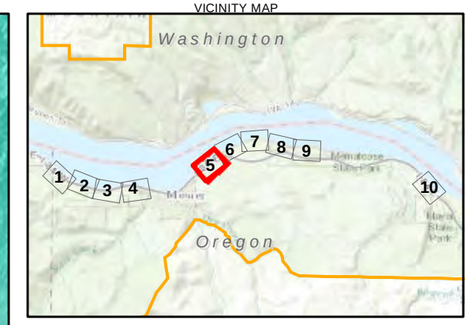

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Figure 1-2, Page 5
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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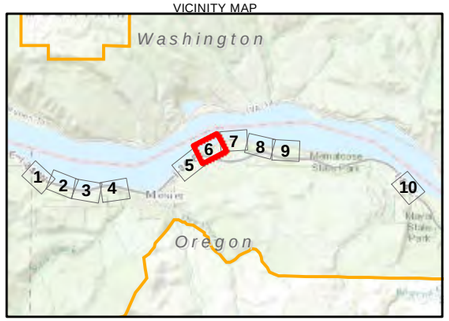

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Figure 1-2, Page 6
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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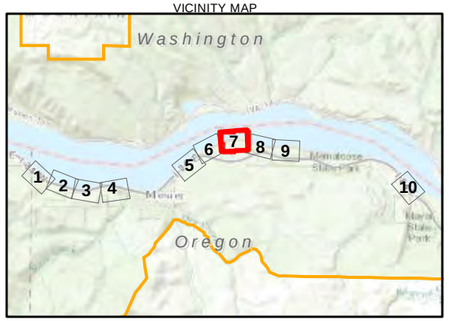

LEGEND

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Figure 1-2, Page 7
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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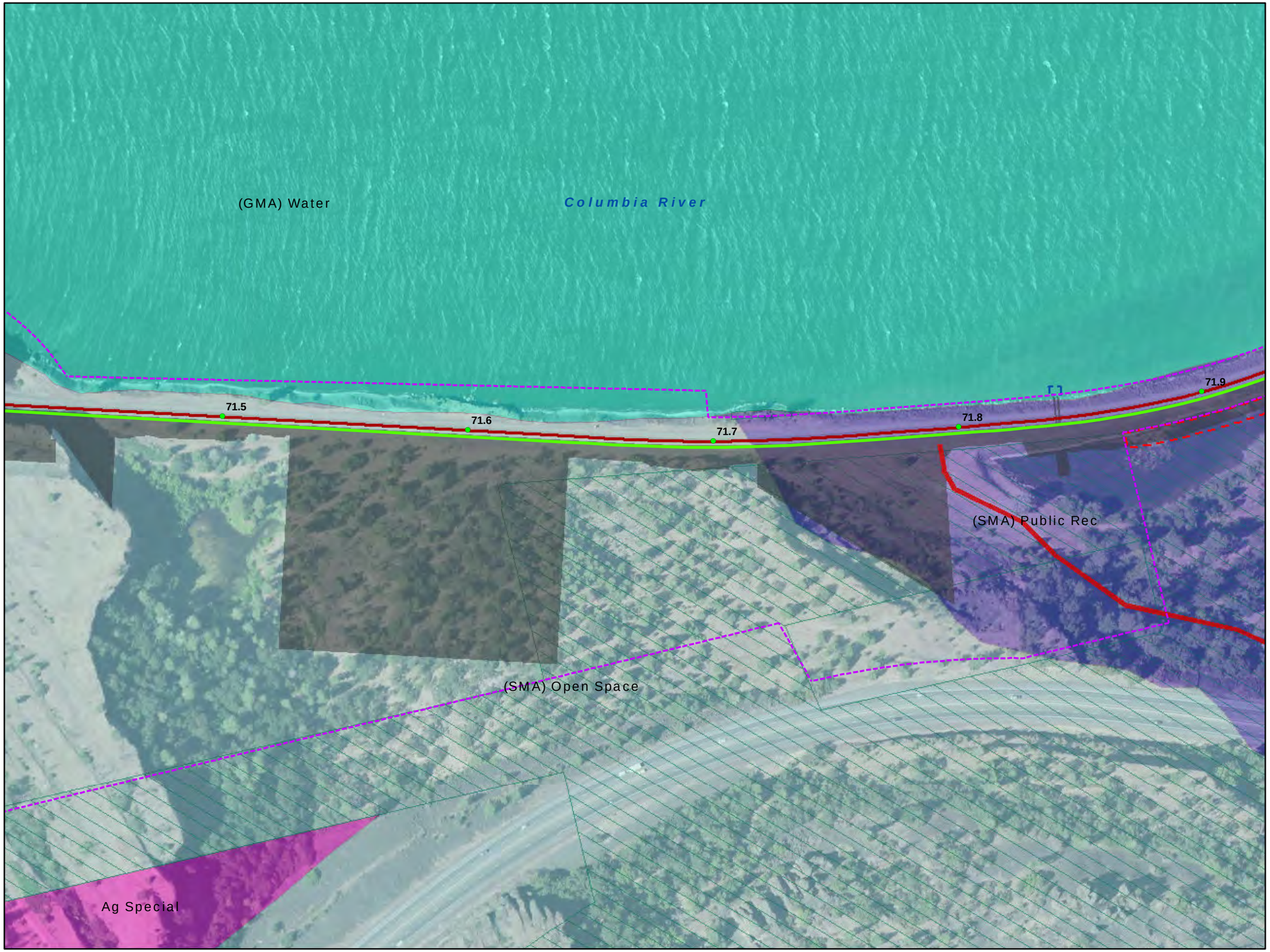

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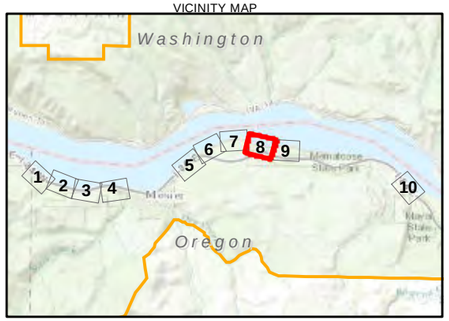

LEGEND

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

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Figure 1-2, Page 8
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

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CH2MHILL

Columbia River

(GMA) Water

71.9

72

72.1

72.2

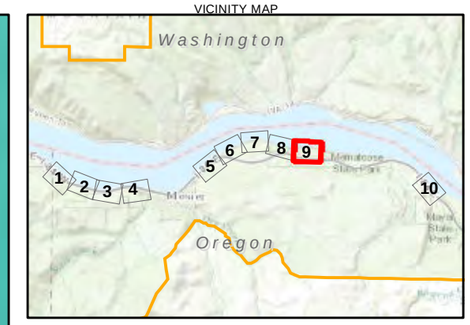
72.3

72.4

(SMA) Public Rec

(SMA) Open Space

VICINITY MAP



LEGEND

- Existing Mainline Track
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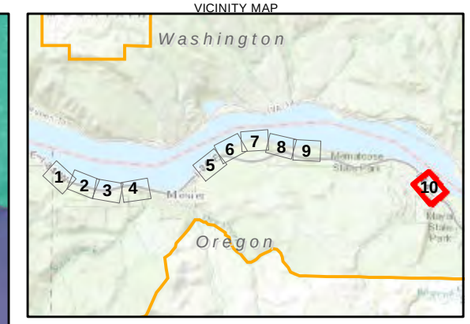
Figure 1-2, Page 9
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Project Area - Grading Limits
- Memaloose State Park

Zoning Classifications

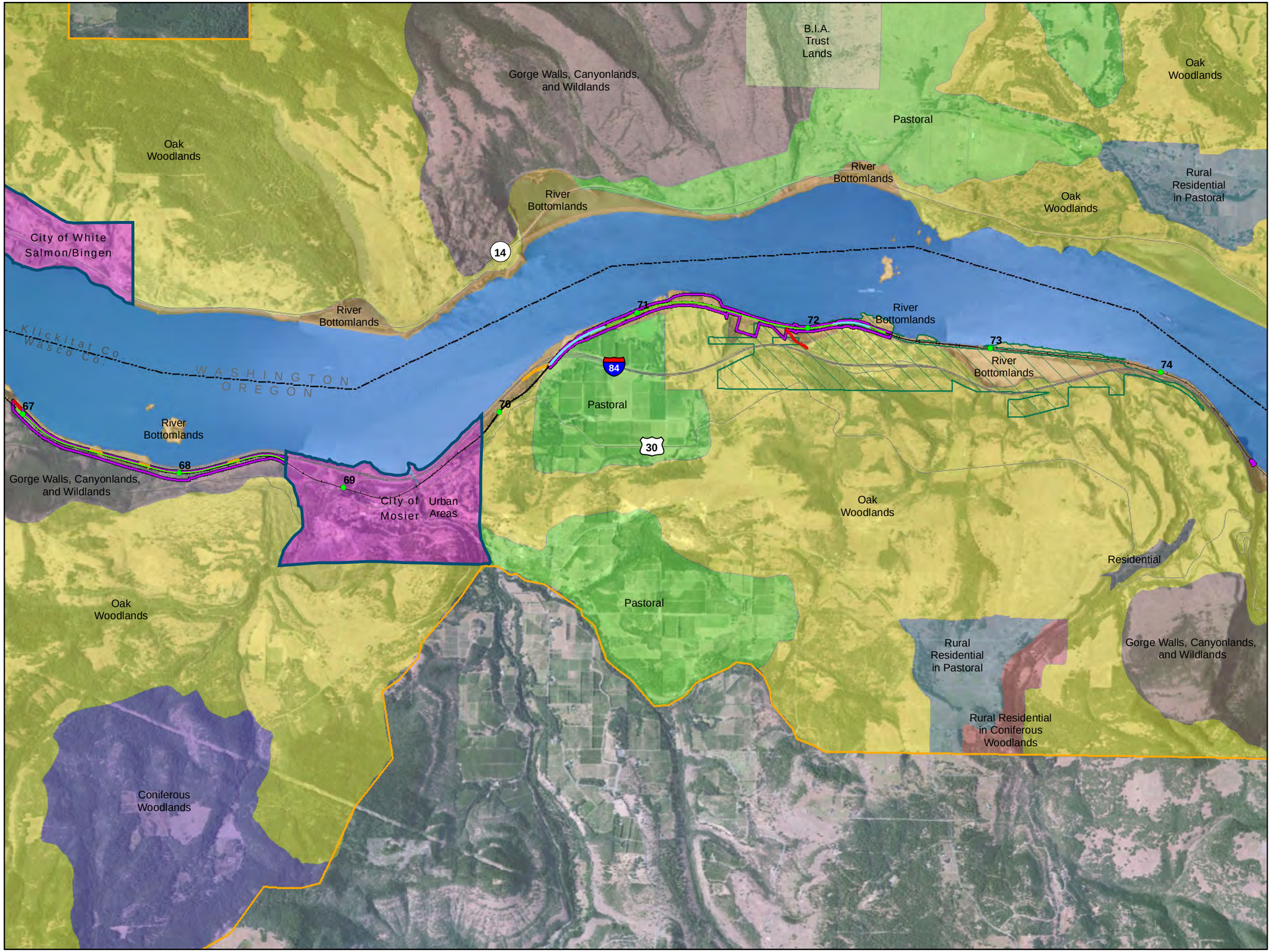
- (GMA) A-1(40)
- (GMA) A-2(40)
- (GMA) A-2(80)
- (GMA) F-1
- (GMA) Open Space
- (GMA) Urban Areas
- (GMA) Water
- (SMA) AG
- (SMA) Open Space
- (SMA) Public Rec
- Ag Special

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 1-2, Page 10
NSA Zoning Districts
Second Mainline Track Project
Union Pacific Railroad



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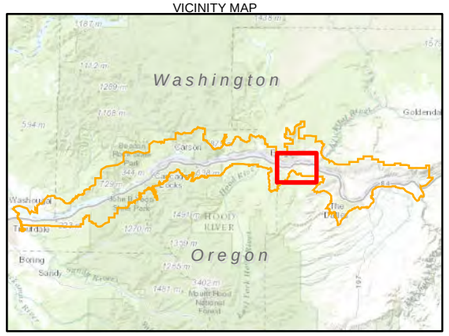


LEGEND

- Existing Mainline Track
- Proposed Second Mainline Track
- Proposed Realigned Mainline Track
- Project Area Boundary
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area
- Memaloose State Park

Landscape Settings

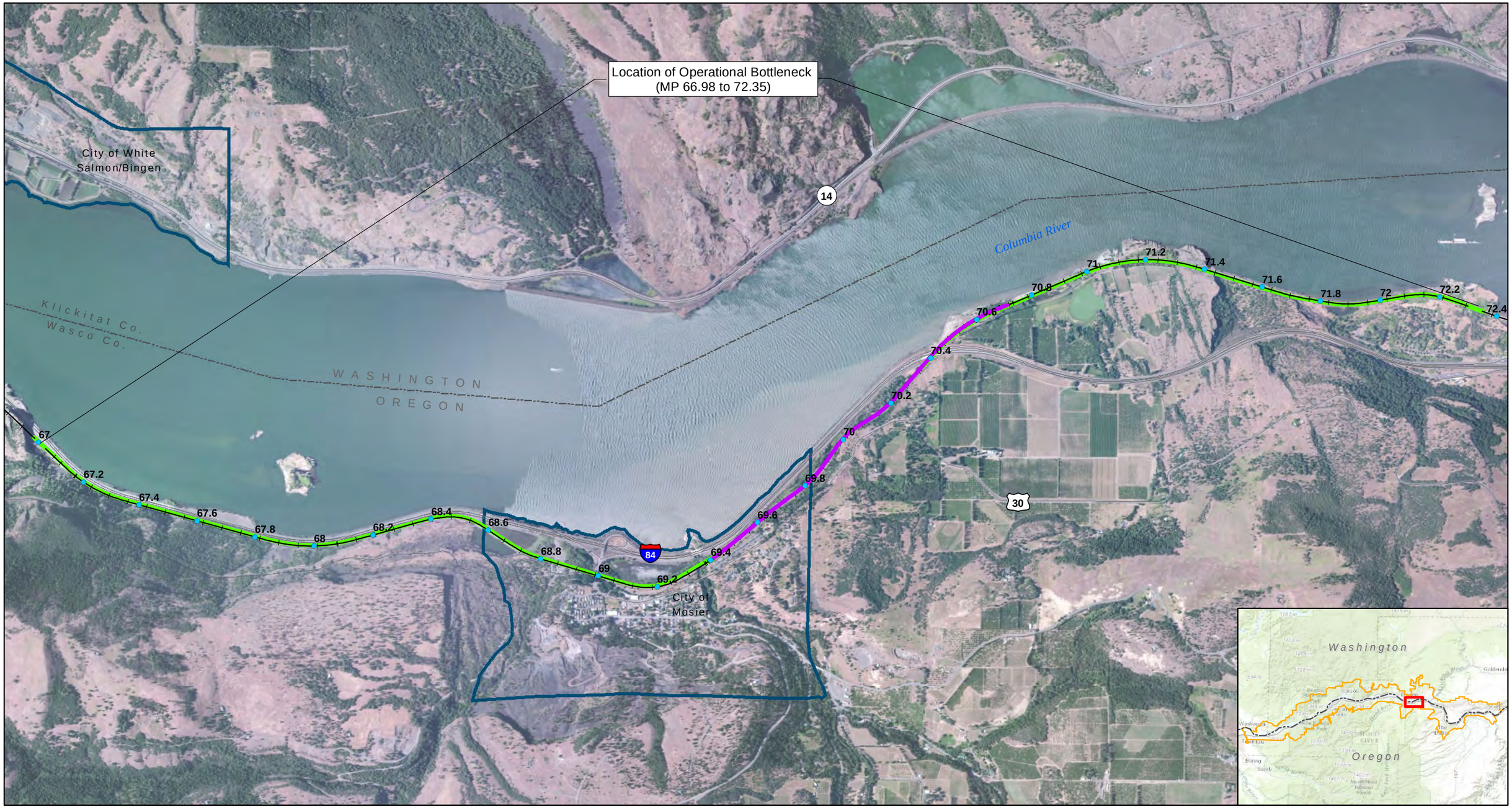
- B.I.A. Trust Lands
- Columbia River
- Coniferous Woodlands
- Gorge Walls, Canyonlands, and Wildlands
- Oak Woodlands
- Pastoral
- Residential
- River Bottomlands
- Rural Residential in Coniferous Woodlands
- Rural Residential in Pastoral
- Urban Areas

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013

N

0 0.5
Miles

Figure 1-4
NSA Landscape Settings
Second Mainline Track Project
Union Pacific Railroad



LEGEND

- Existing Mainline
- Proposed Second Mainline
- Existing Mosier Siding
- Track Mileposts
- Designated Urban Area
- National Scenic Area Boundary

N

0 0.25 0.5 0.75 1
Miles

Sources: Columbia River Gorge Commission (2013)

Figure 2-1
Existing Mosier Siding and Operational Bottleneck Location
Second Mainline Track Project
Union Pacific Railroad

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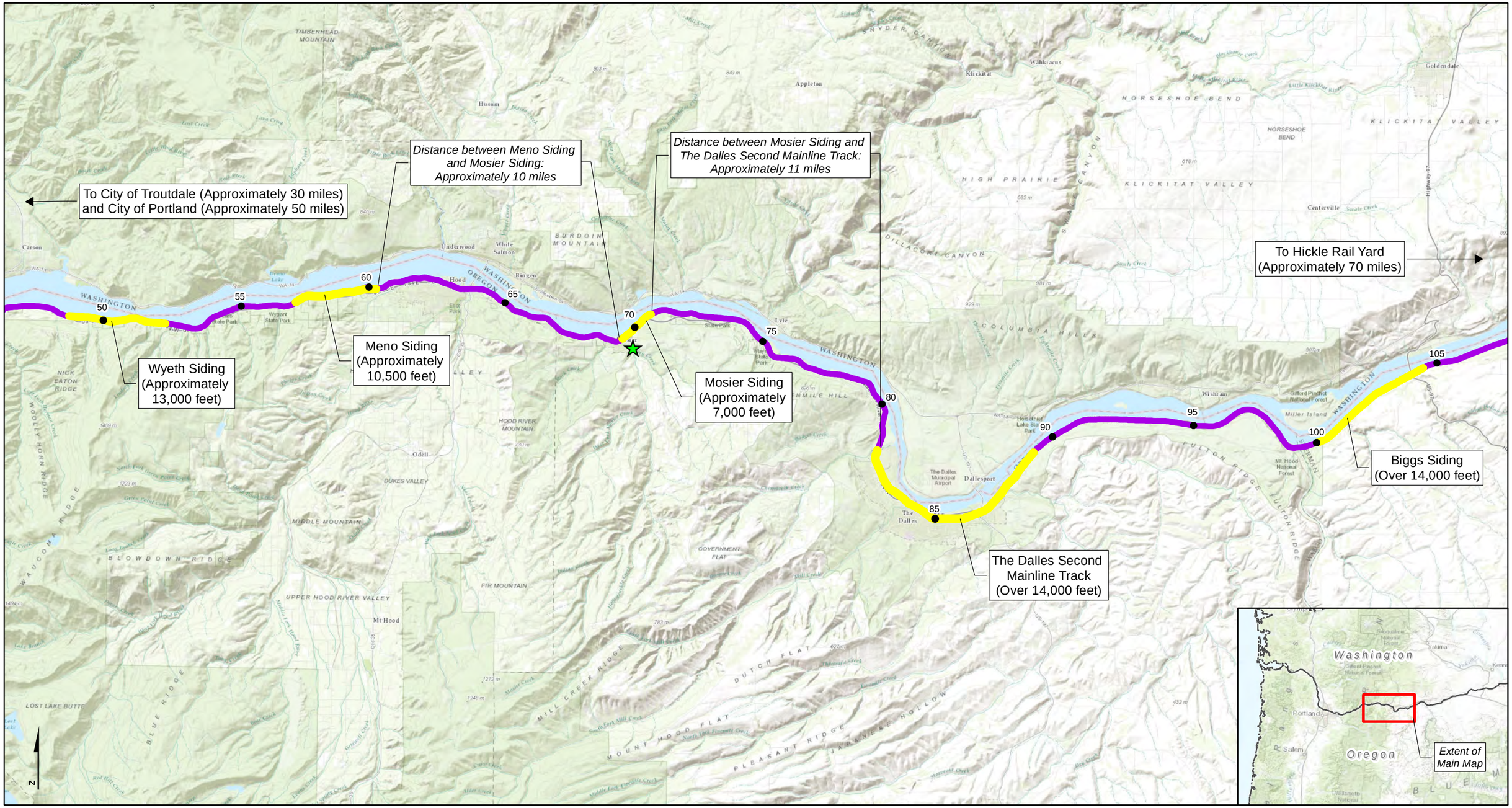

LEGEND

- Proposed Project Area
- UPRR Mileposts
- Existing Single Mainline Track
- Existing Passing Location (Siding or Second Mainline Track)

Note: Siding and Second Mainline Track Locations are Approximate

Figure 2-2
Existing Siding and Second Mainline Track Locations Near Mosier Siding
Second Mainline Track Project
Union Pacific Railroad

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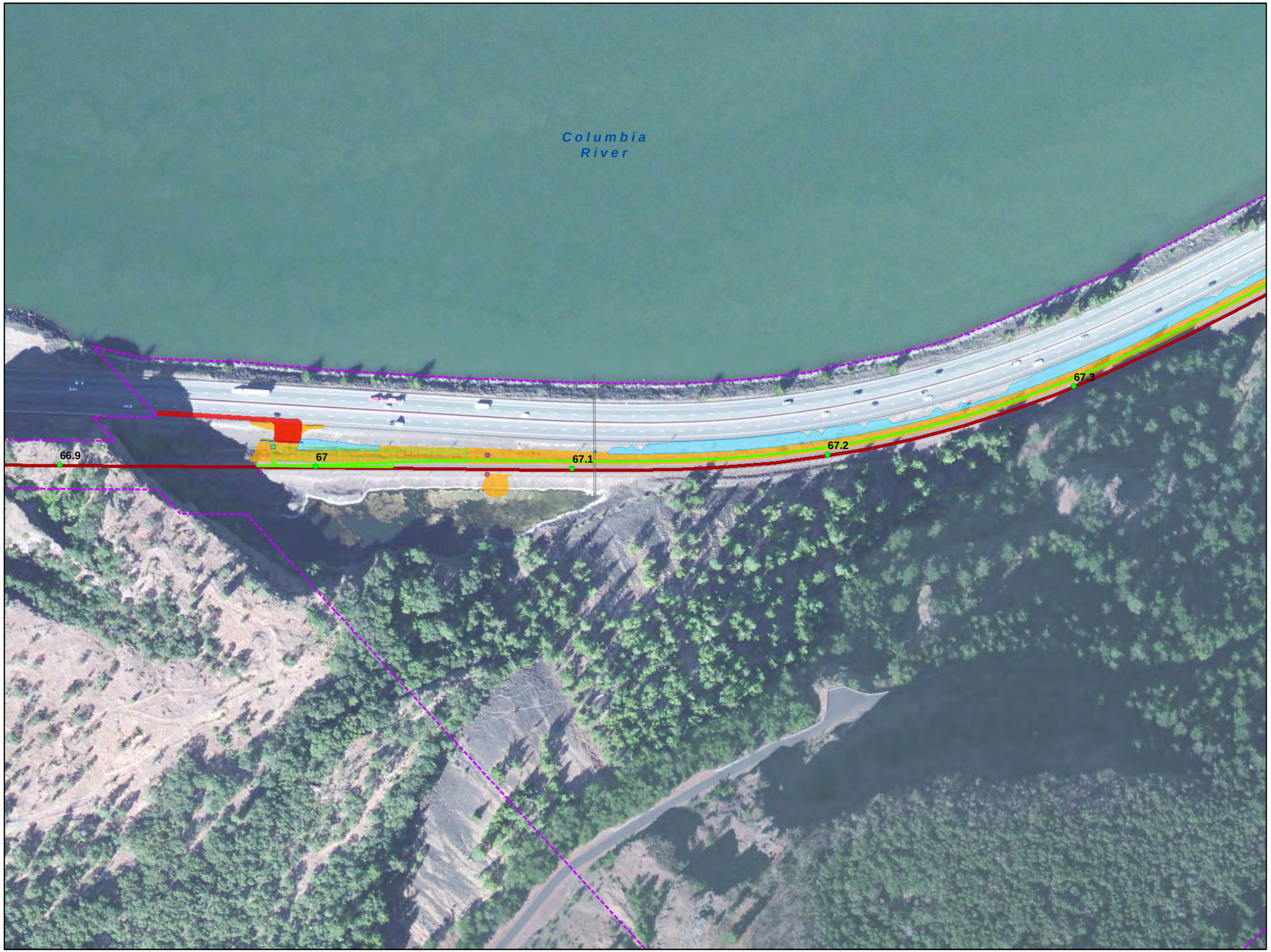

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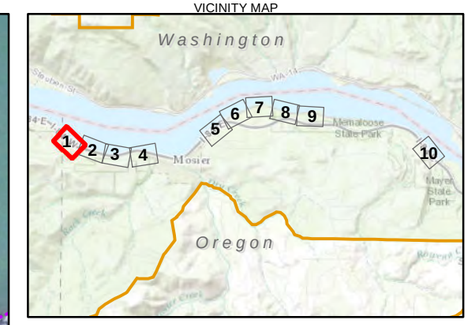

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
- Track Mileposts

Project Features

- Signal Building
- Signal Light
- Retaining Wall
- Guardrail
- Staging Areas
- Drainage Structures
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- Rock Excavations
- Trackside Ditches
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- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 1
Project Features
Second Mainline Track Project
Union Pacific Railroad

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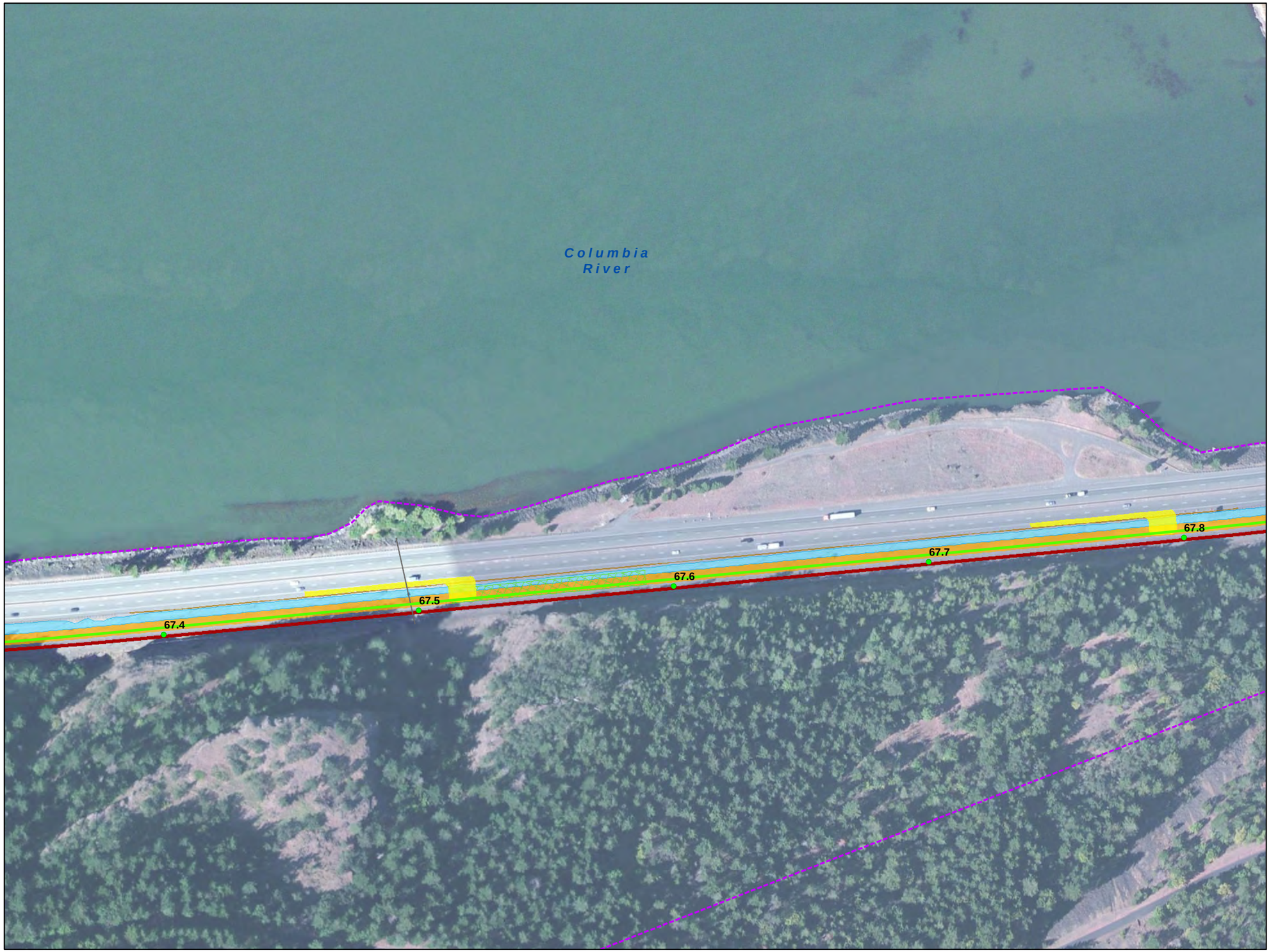

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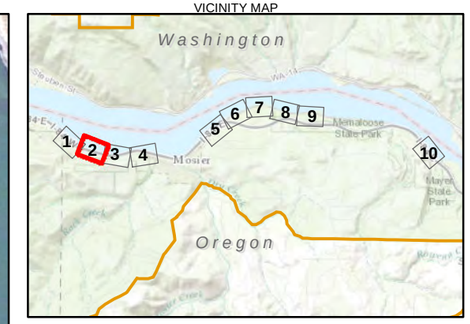

LEGEND

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- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
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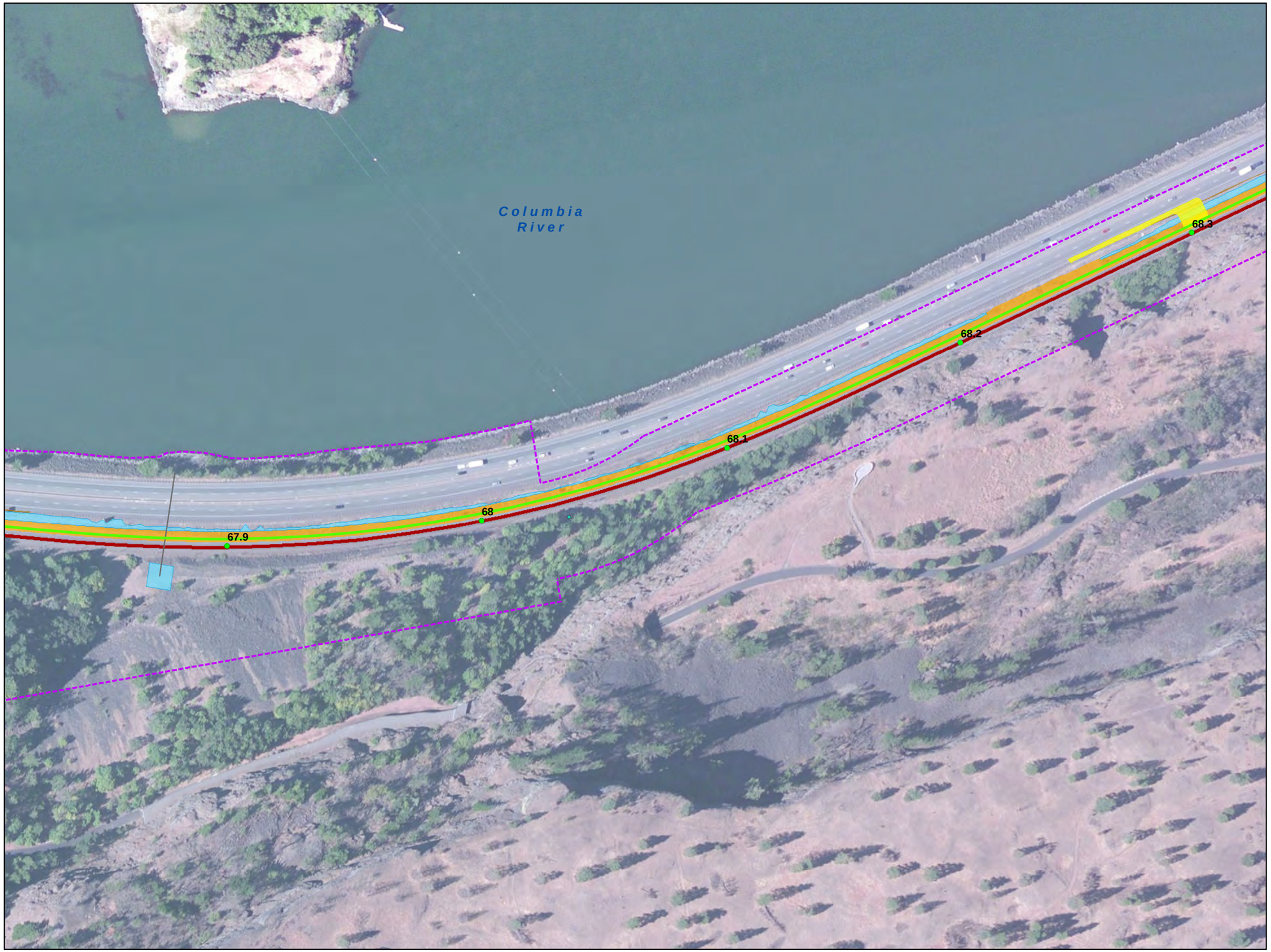
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 2
Project Features
Second Mainline Track Project
Union Pacific Railroad



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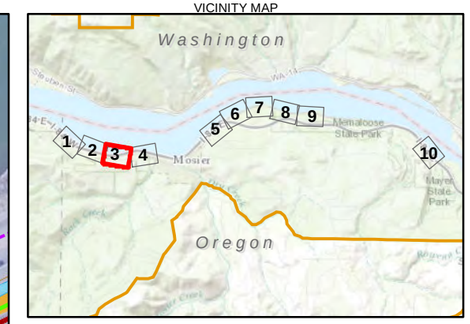

LEGEND

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- Proposed Mainline Track
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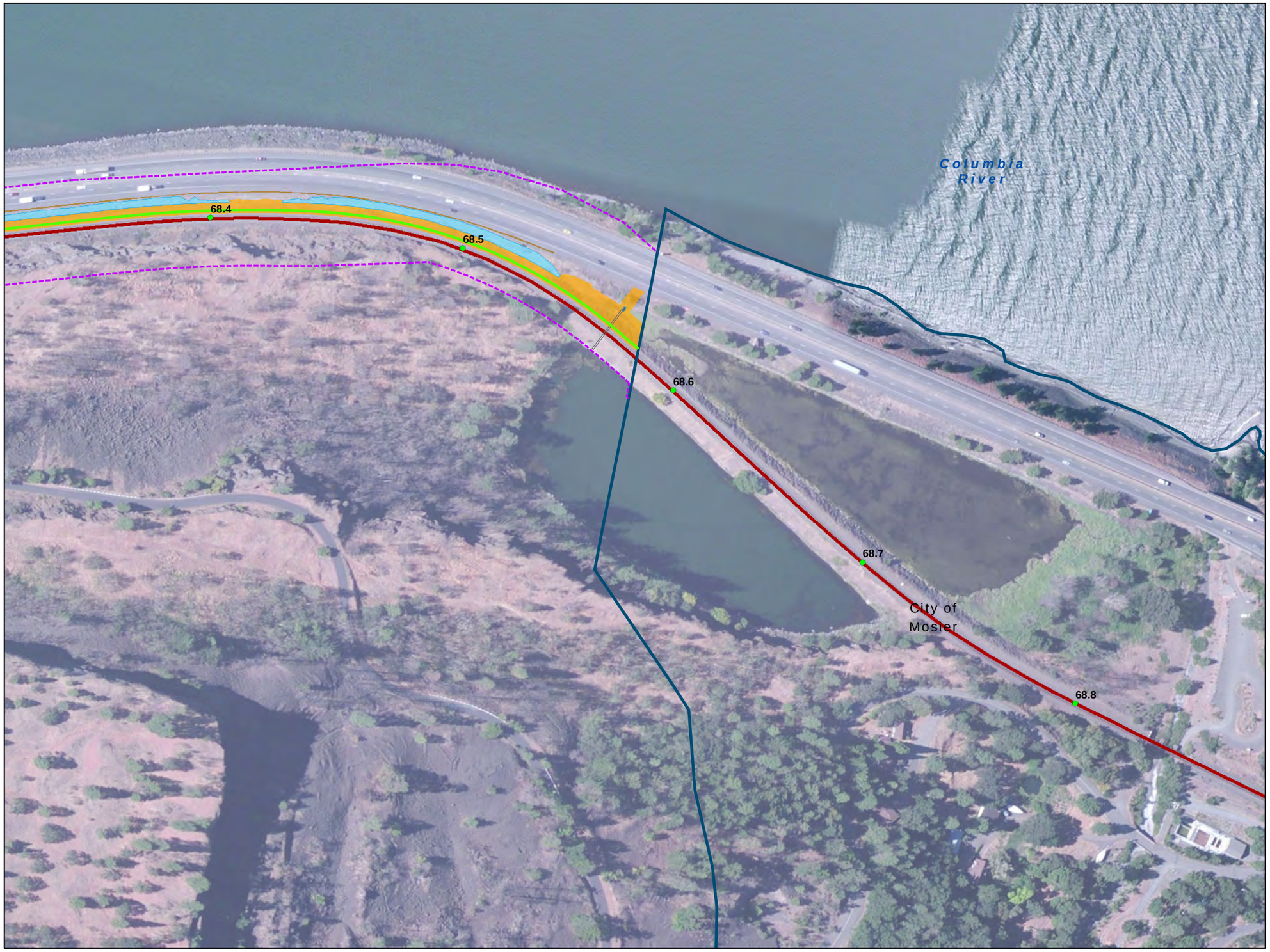
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 3
Project Features
Second Mainline Track Project
Union Pacific Railroad



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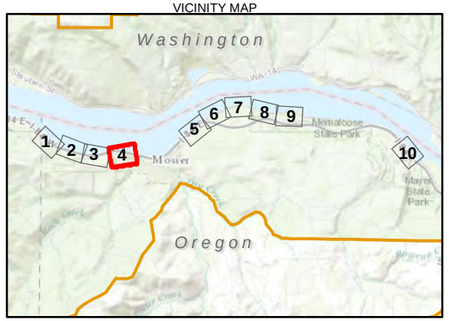

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
- Track Mileposts

Project Features

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- Retaining Wall
- Guardrail
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- Drainage Structures
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- Rock Excavations
- Trackside Ditches
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

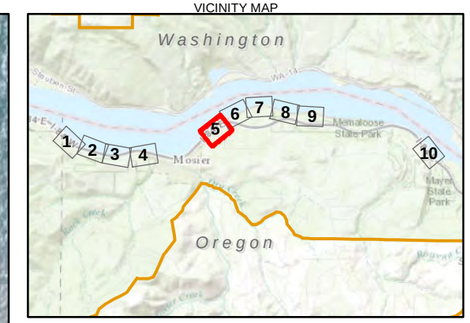
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 4
Project Features
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
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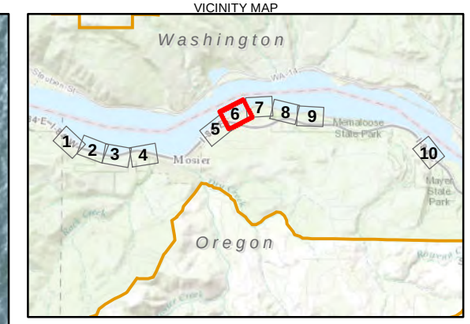
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 5
Project Features
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
- Track Mileposts

Project Features

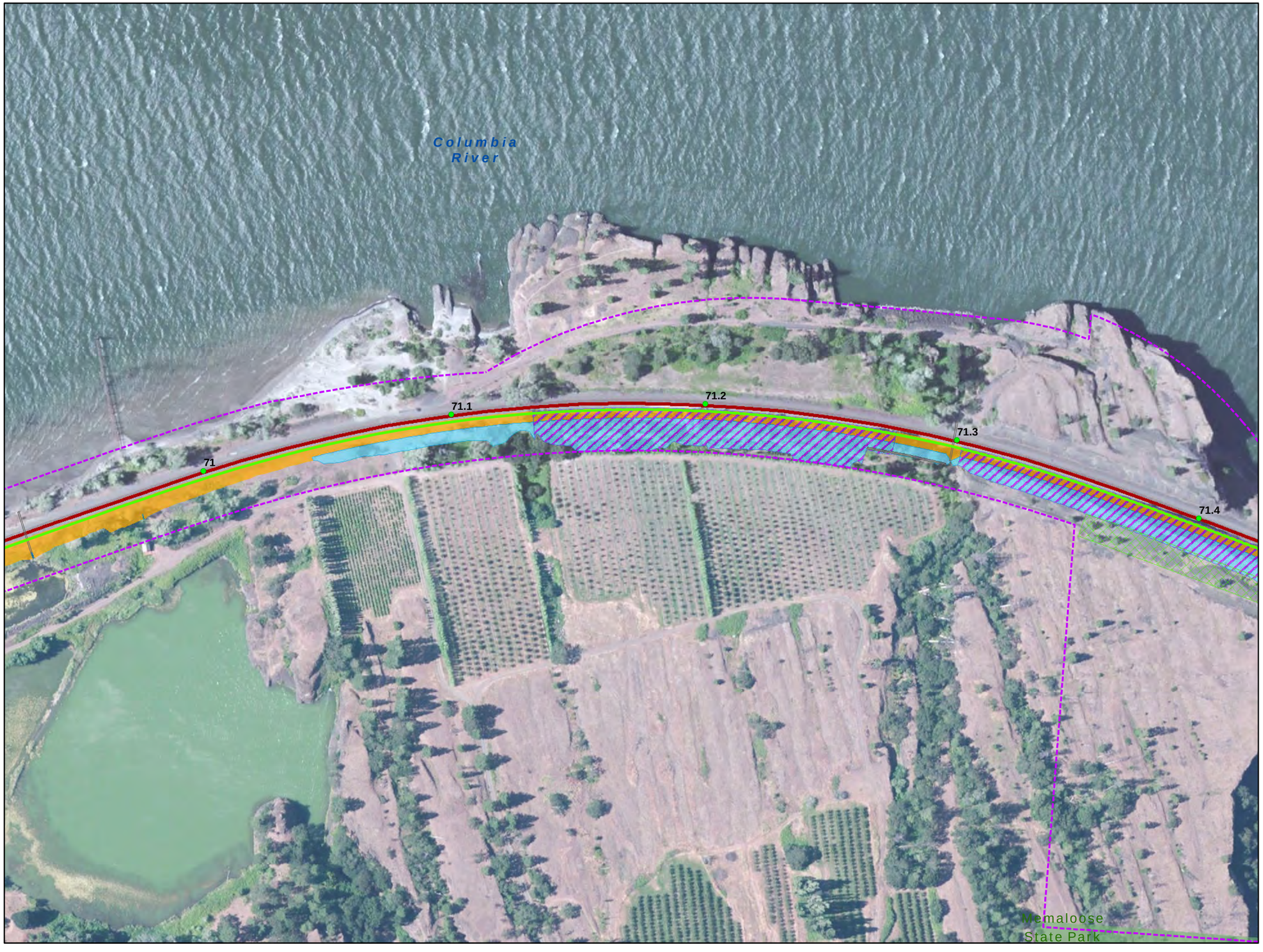
- Signal Building
- Signal Light
- Retaining Wall
- Guardrail
- Staging Areas
- Drainage Structures
- Track Embankment
- Rock Excavations
- Trackside Ditches
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 6
Project Features
Second Mainline Track Project
Union Pacific Railroad



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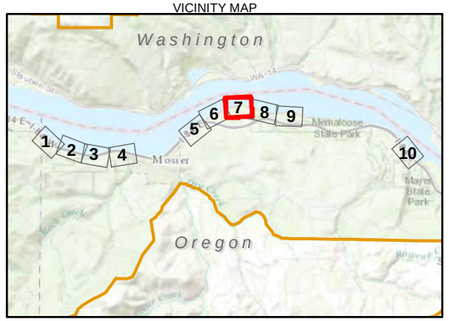

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
- Track Mileposts

Project Features

- Signal Building
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- Retaining Wall
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- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

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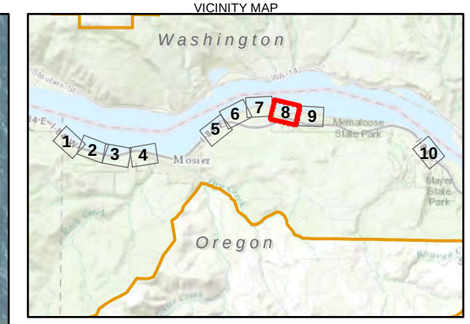
Feet

Figure 4-1, Page 7
Project Features
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
- Track Mileposts

Project Features

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- Rock Excavations
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- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 8
Project Features
Second Mainline Track Project
Union Pacific Railroad

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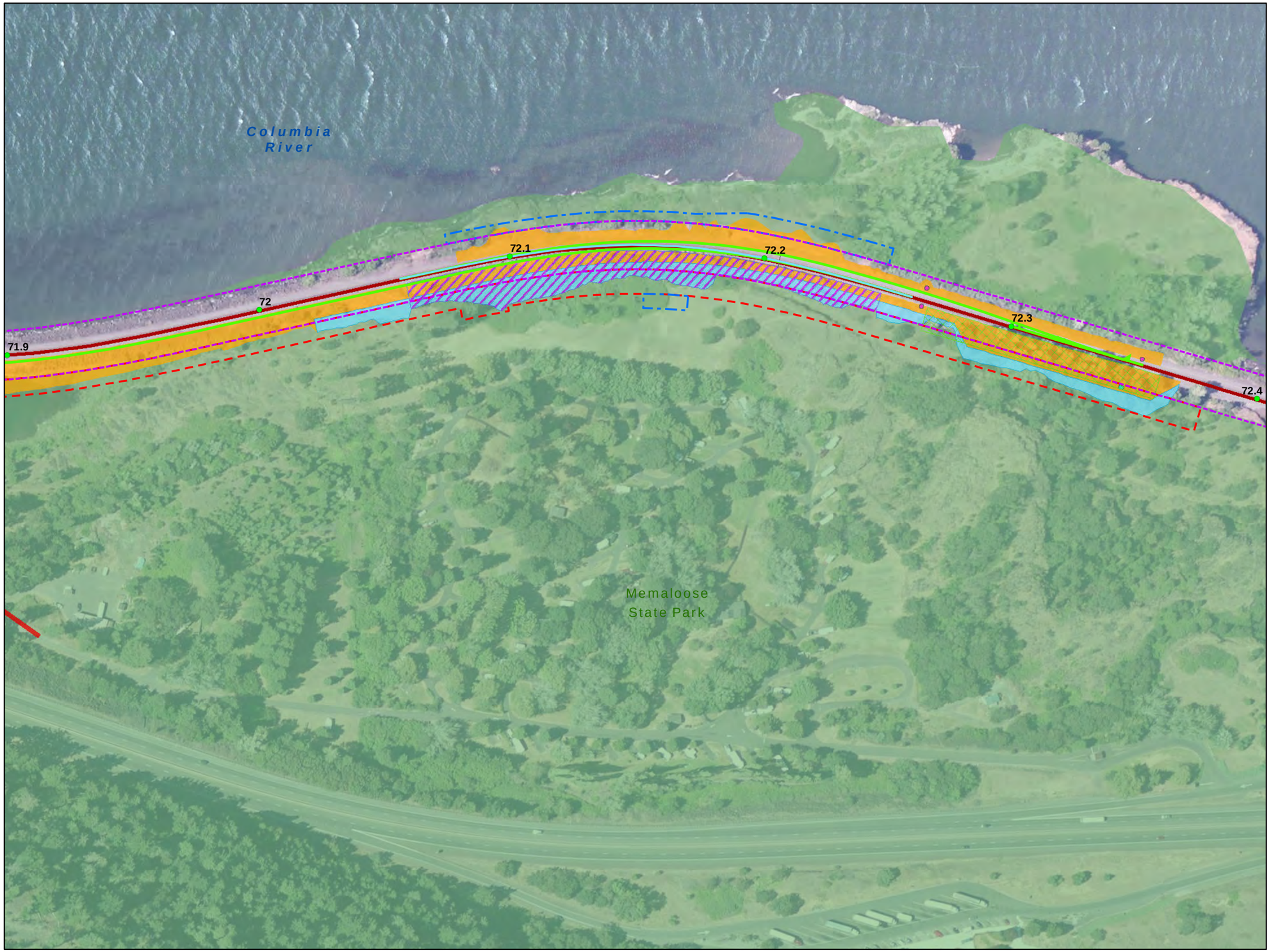

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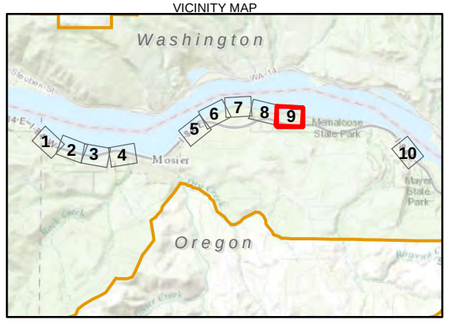

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
- Proposed ROW Enhancement
- Proposed Temporary Construction Easement
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Project Features

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- Rock Excavations
- Trackside Ditches
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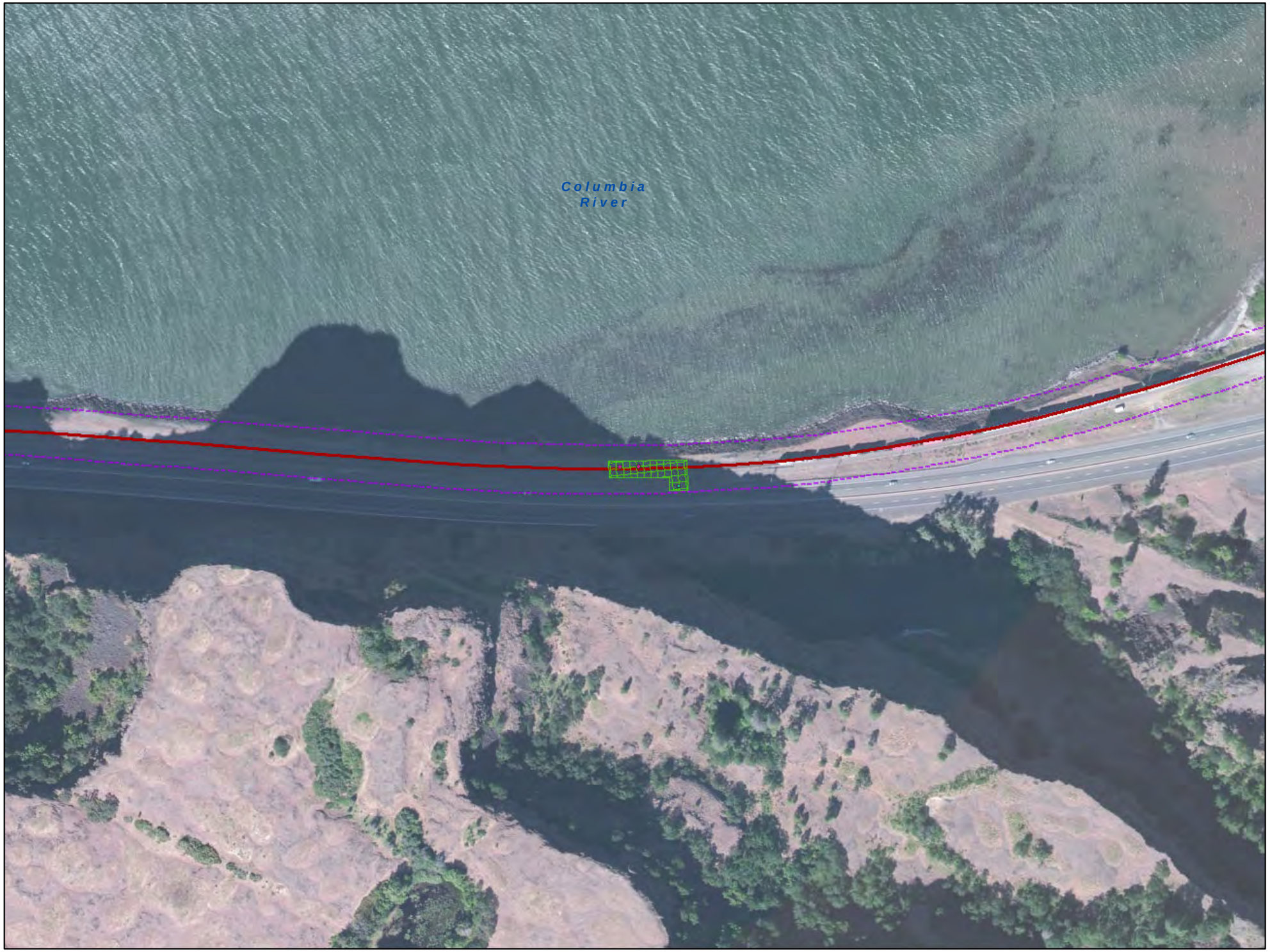
- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 9
Project Features
Second Mainline Track Project
Union Pacific Railroad



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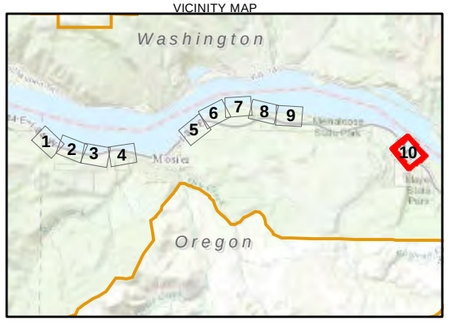

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Existing Culvert
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- Proposed Permanent Maintenance/ Construction Access Road
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

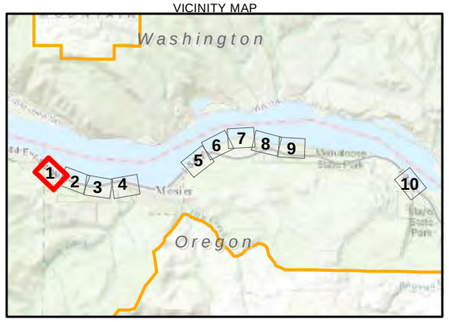
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013)

N

0 200
Feet

Figure 4-1, Page 10
Project Features
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- Taxlot Boundary
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

0 200
Feet

Figure 4-2, Page 1
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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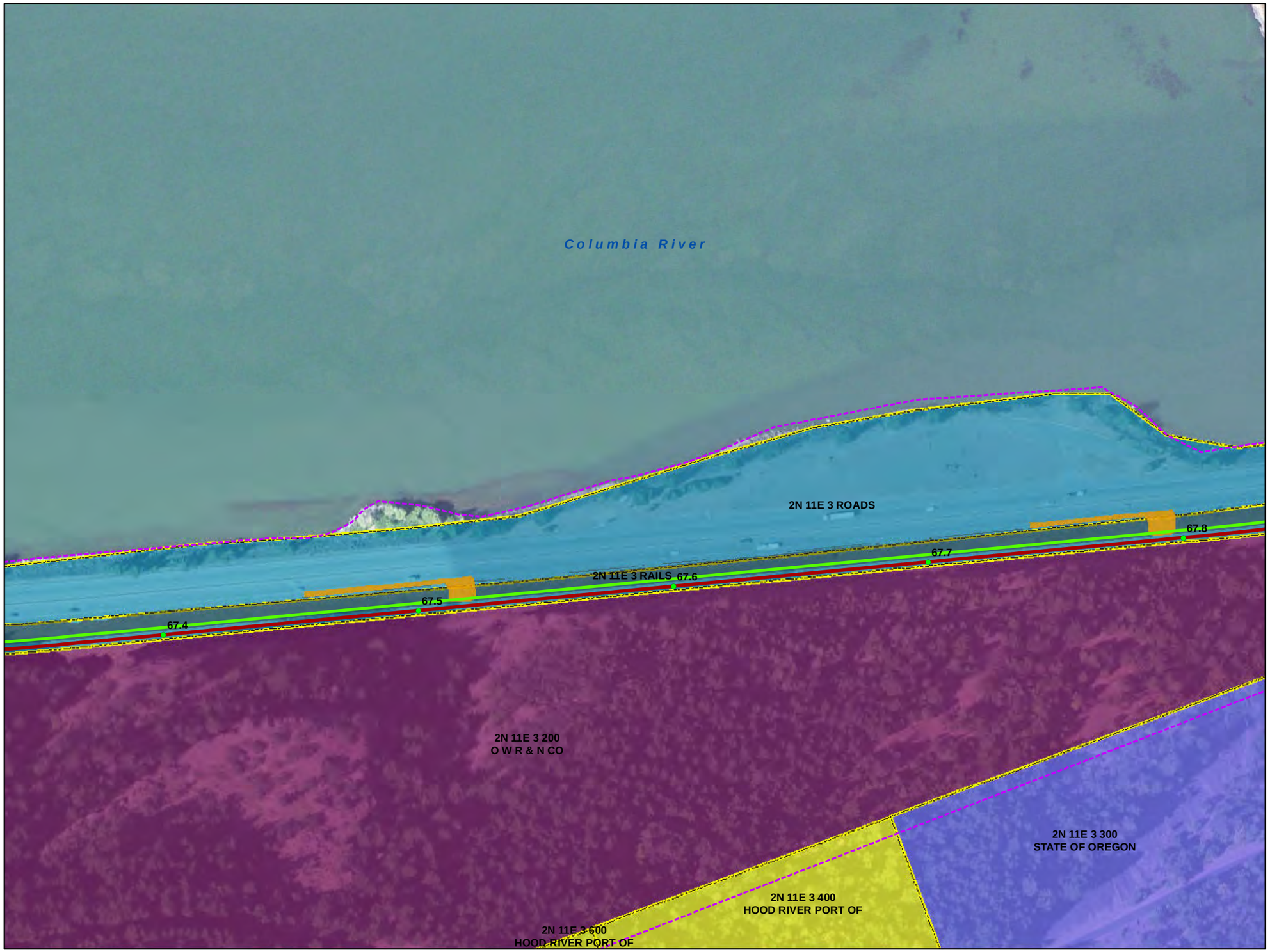

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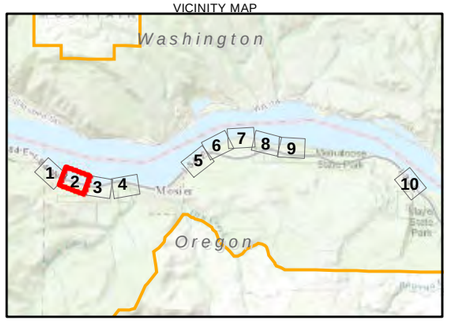

LEGEND

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Land Ownership

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Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

0 200
Feet

Figure 4-2, Page 2
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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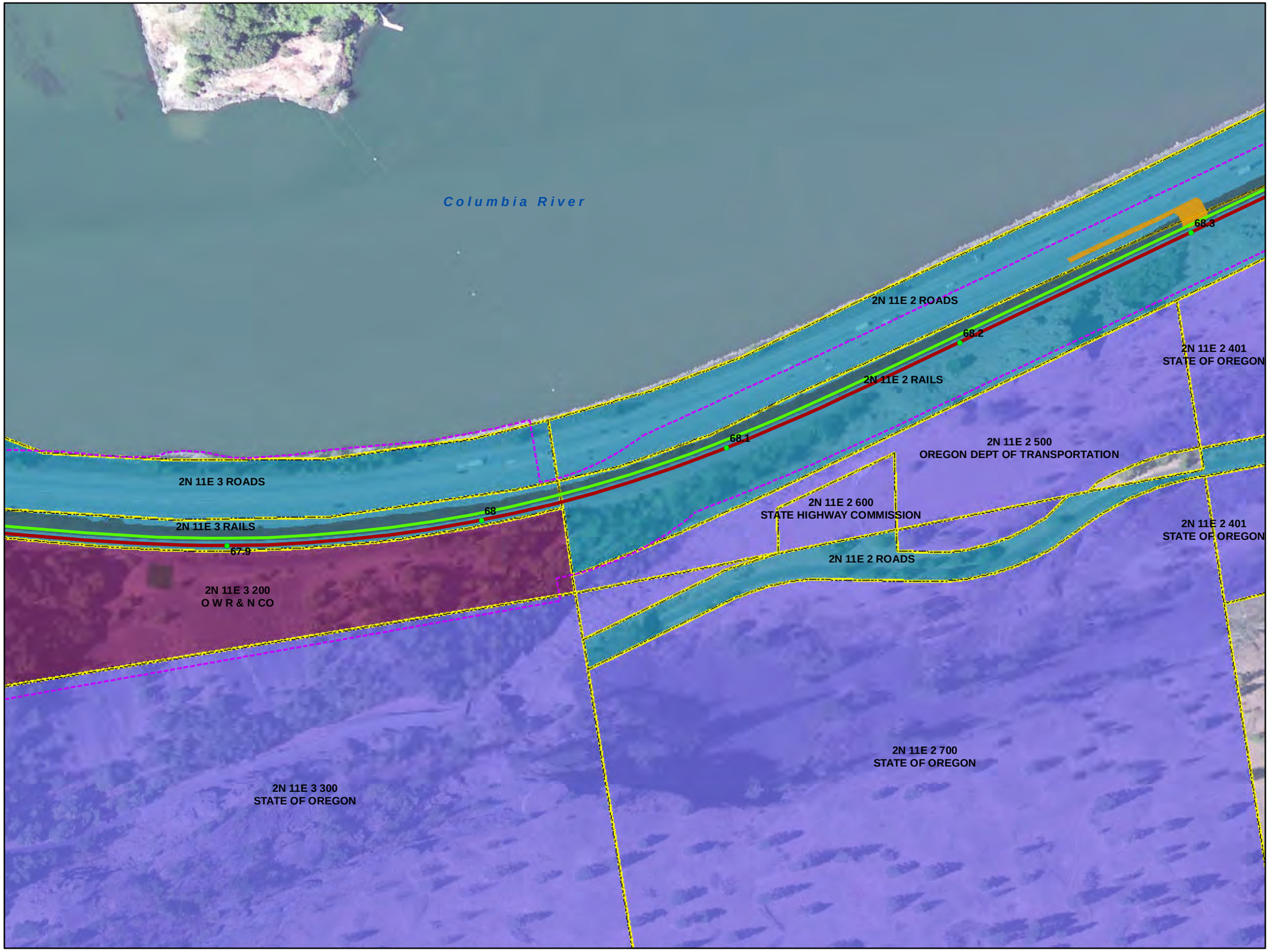

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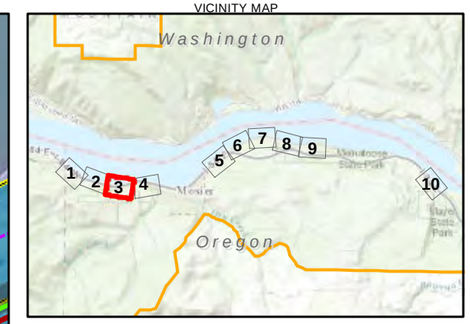

LEGEND

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- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

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0 200
Feet

Figure 4-2, Page 3
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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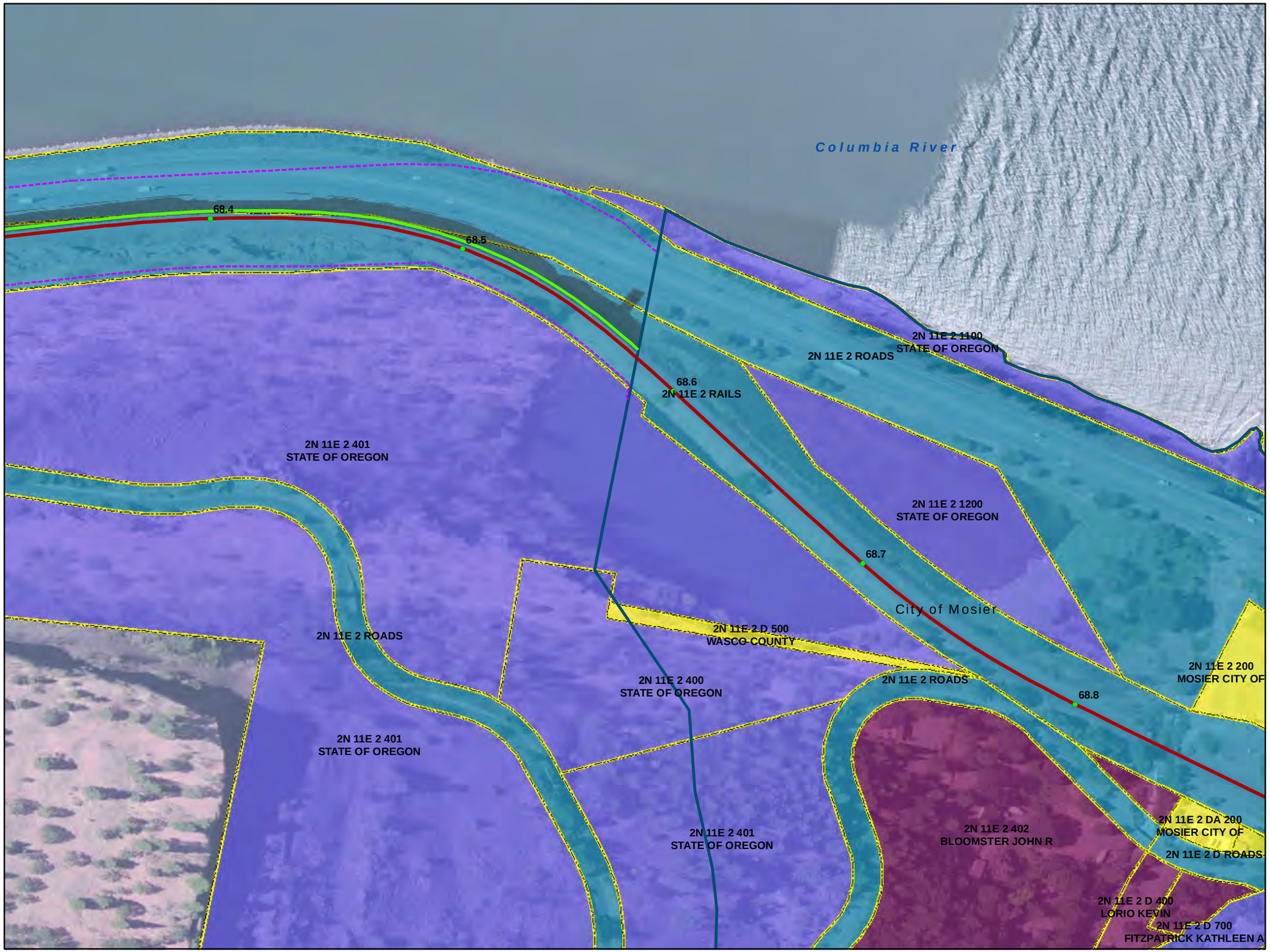

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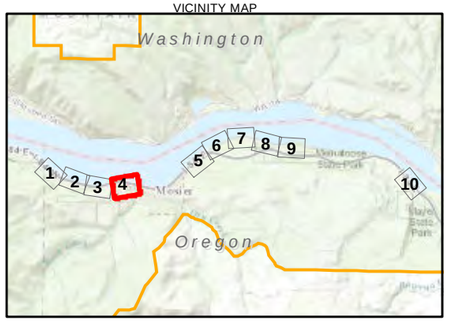

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- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

0 200
Feet

Figure 4-2, Page 4
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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CH2MHILL

Columbia River

3N 12E 31 WATER

3N 12E 31 400
ORCHARD VIEW LLC

2N 11E 1 ROADS

3N 12E 31 ROADS

70.4

70.3

2N 12E 6 ROADS

70

2N 11E 1 RAILS

70.1

70.2

2N 11E 1 300
O W R & N CO

2N 11E 1 200
WILSON GRANT E & DONITA M

2N 11E 1 ROADS

2N 11E 1 100
STRANZ JEFFREY & MARY RUTH

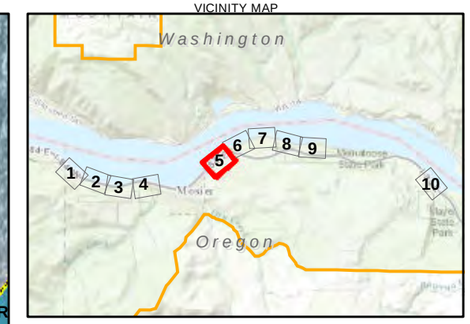
2N 11E 1 500
FRIENDS OF THE COL GORGE LAND TRUST

2N 11E 1 200
WILSON GRANT E & DONITA M

2N 12E 6 700
ORCHARD VIEW LLC

2N 11E 1 100
STRANZ JEFFREY & MARY RUTH

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- Taxlot Boundary
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

0 200
Feet

Figure 4-2, Page 5
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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CH2MHILL

Columbia River

3N 12E 31 WATER

3N 12E 31 400
ORCHARD VIEW LLC

3N 12E 31 300
ORCHARD VIEW LLC

70.5

70.6

70.7

70.8

70.9

3N 12E 31 ROADS

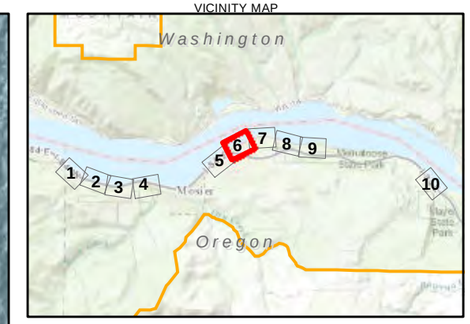
2N 12E 6 ROADS

3N 12E 31 500
ORCHARD VIEW LLC

2N 12E 6 700
ORCHARD VIEW LLC

3N 12E 31 700
ORCHARD VIEW LLC

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
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- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

0 200
Feet

Figure 4-2, Page 6
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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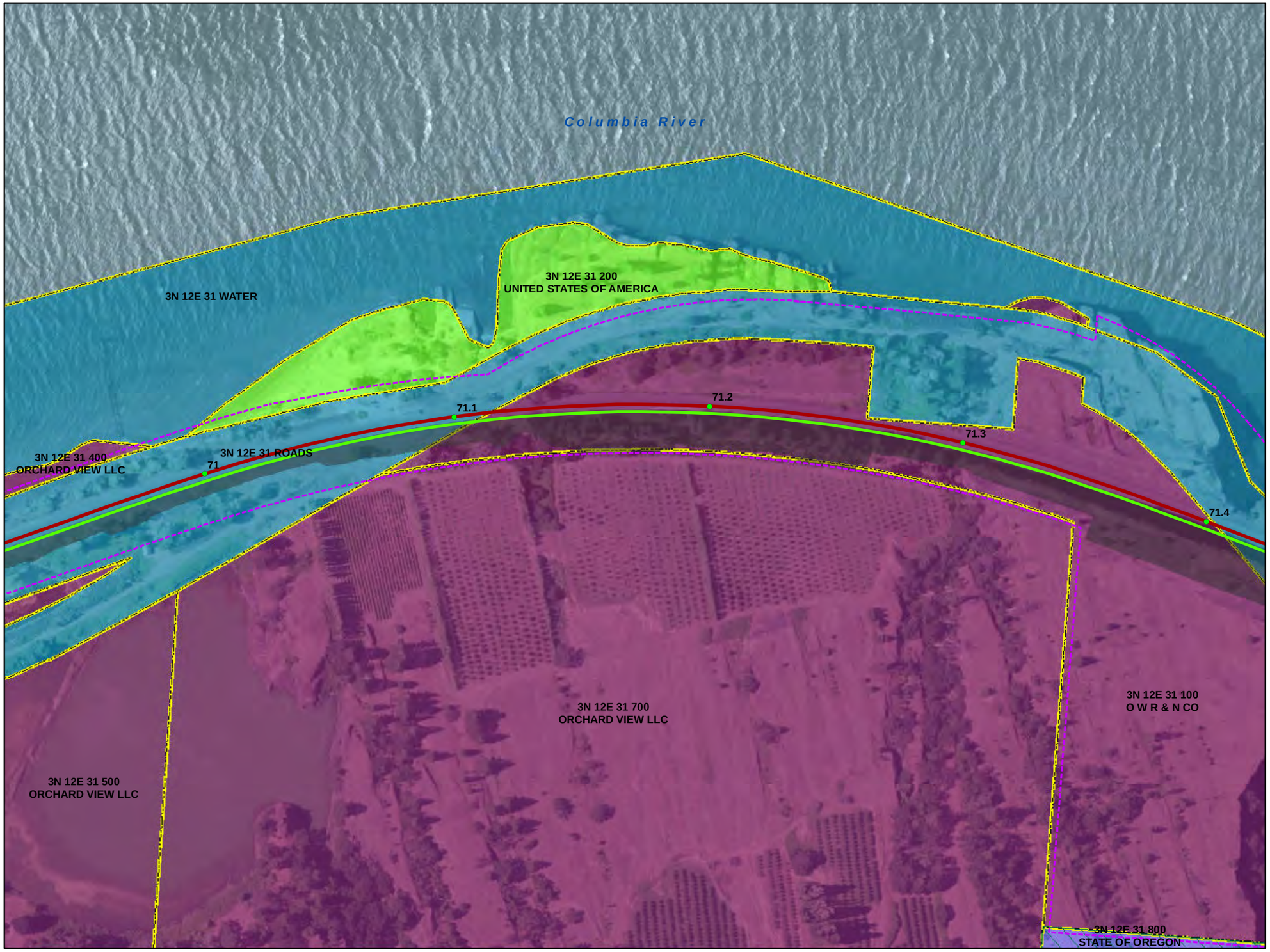

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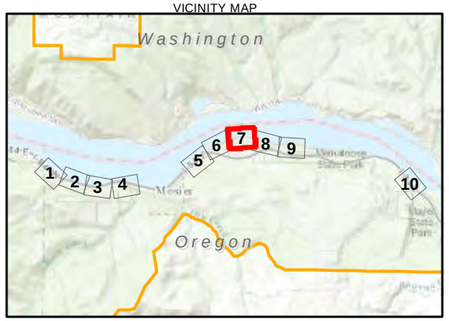

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
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- Designated Urban Area Boundary
- Memaloose State Park
- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

0 200
Feet

Figure 4-2, Page 7
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

Columbia River

3N 12E 0 WATER

3N 12E 31 WATER

3N 12E 0 RAILS

71.5

71.6

71.7

71.8

71.9

3N 12E 31 ROADS

3N 12E 0 100
STATE OF OREGON

3N 12E 31 800
STATE OF OREGON

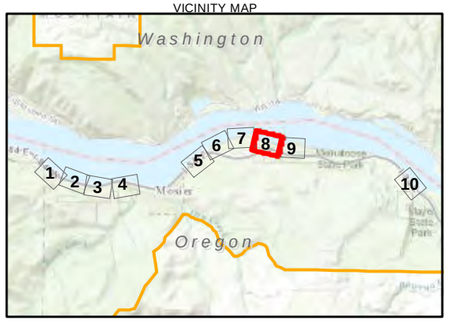
3N 12E 31 100
O W R & N CO

3N 12E 31 ROADS

3N 12E 31 700
ORCHARD VIEW LLC

2N 12E 6 ROADS

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
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- Track Mileposts
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- Designated Urban Area Boundary
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- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

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Feet

Figure 4-2, Page 8
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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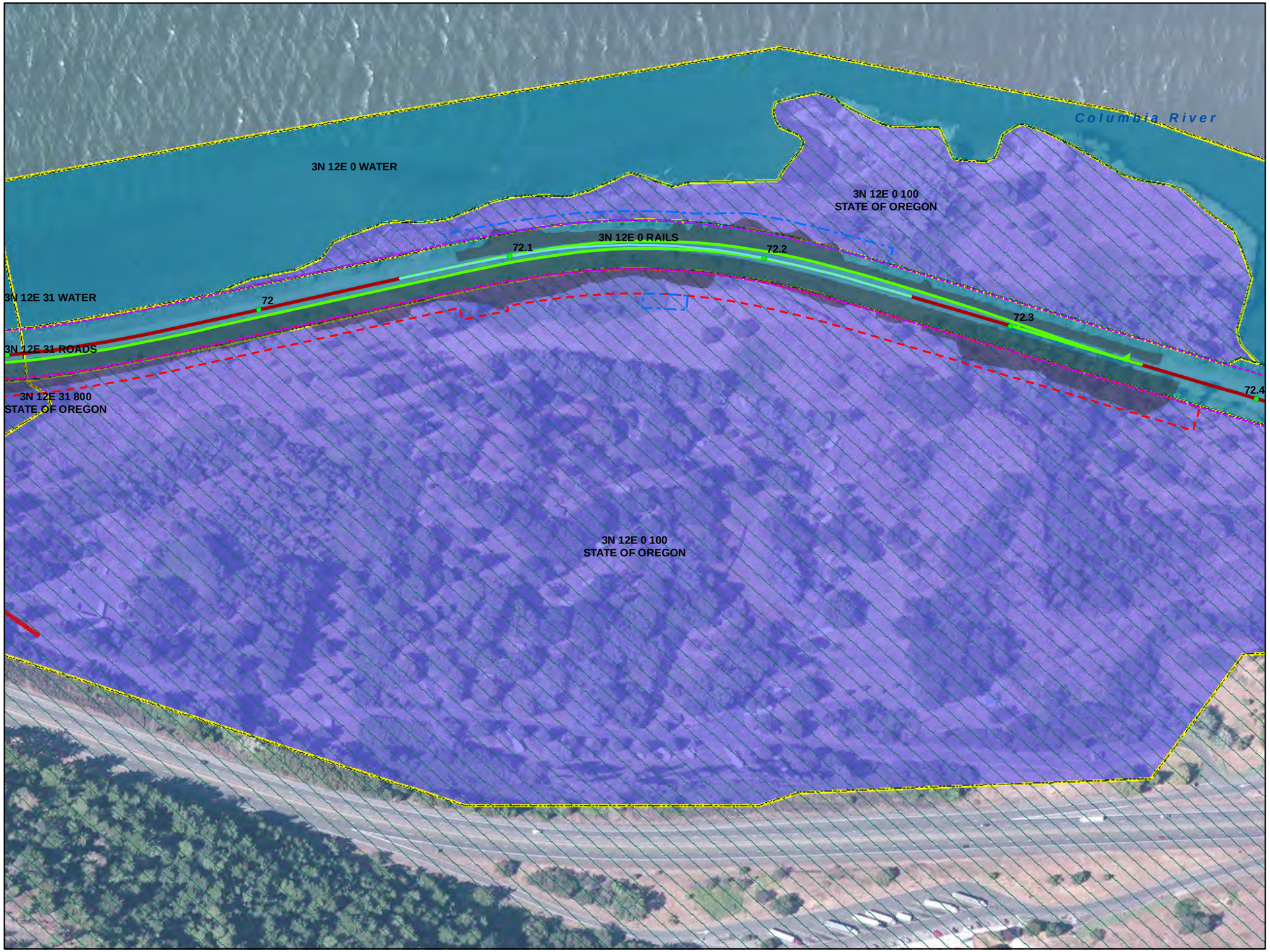

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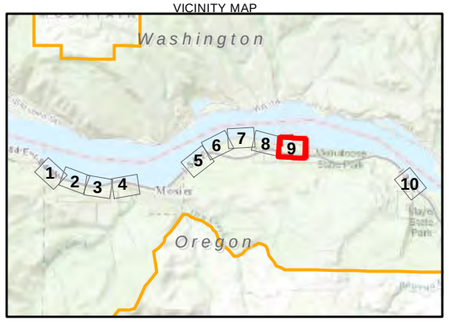

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
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- Track Mileposts
- Taxlot Boundary
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Grading Limits

Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

0 200
Feet

Figure 4-2, Page 9
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

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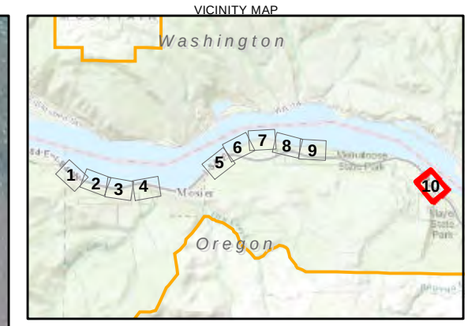

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
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- National Scenic Area Boundary
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Land Ownership

- Right-of-Way
- Private
- County/Local
- State
- Federal

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); Wasco County (2014)

N

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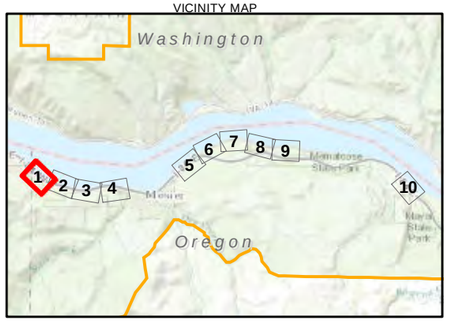
Feet

Figure 4-2, Page 10
Land Ownership
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Project Area - Grading Limits
- GMA Wetlands
- GMA Waterbody
- SMA Wetlands
- SMA Waterbody
- GMA 100' Wetland/Waterbody Buffer - Shrub Community
- SMA 200' Wetland/Waterbody Buffer
- GMA Water
- Columbia River GMA Buffer Zone - 100'
- Columbia River SMA Buffer Zone - 200'

Labeling Note: W= Wetland; L=Lake/Waterbody

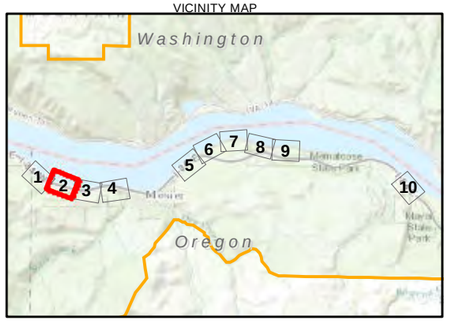
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 1
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
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- GMA Waterbody
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- SMA Waterbody
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- GMA Water
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Labeling Note: W= Wetland; L=Lake/Waterbody

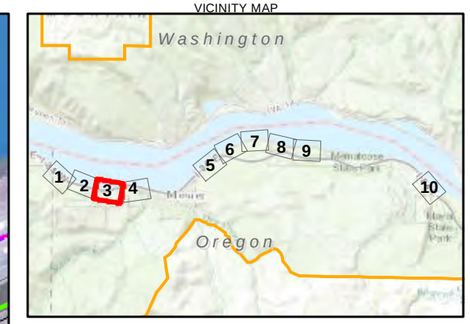
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 2
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Project Area - Grading Limits
- GMA Wetlands
- GMA Waterbody
- SMA Wetlands
- SMA Waterbody
- GMA 100' Wetland/Waterbody Buffer - Shrub Community
- SMA 200' Wetland/Waterbody Buffer
- GMA Water
- Columbia River GMA Buffer Zone - 100'
- Columbia River SMA Buffer Zone - 200'

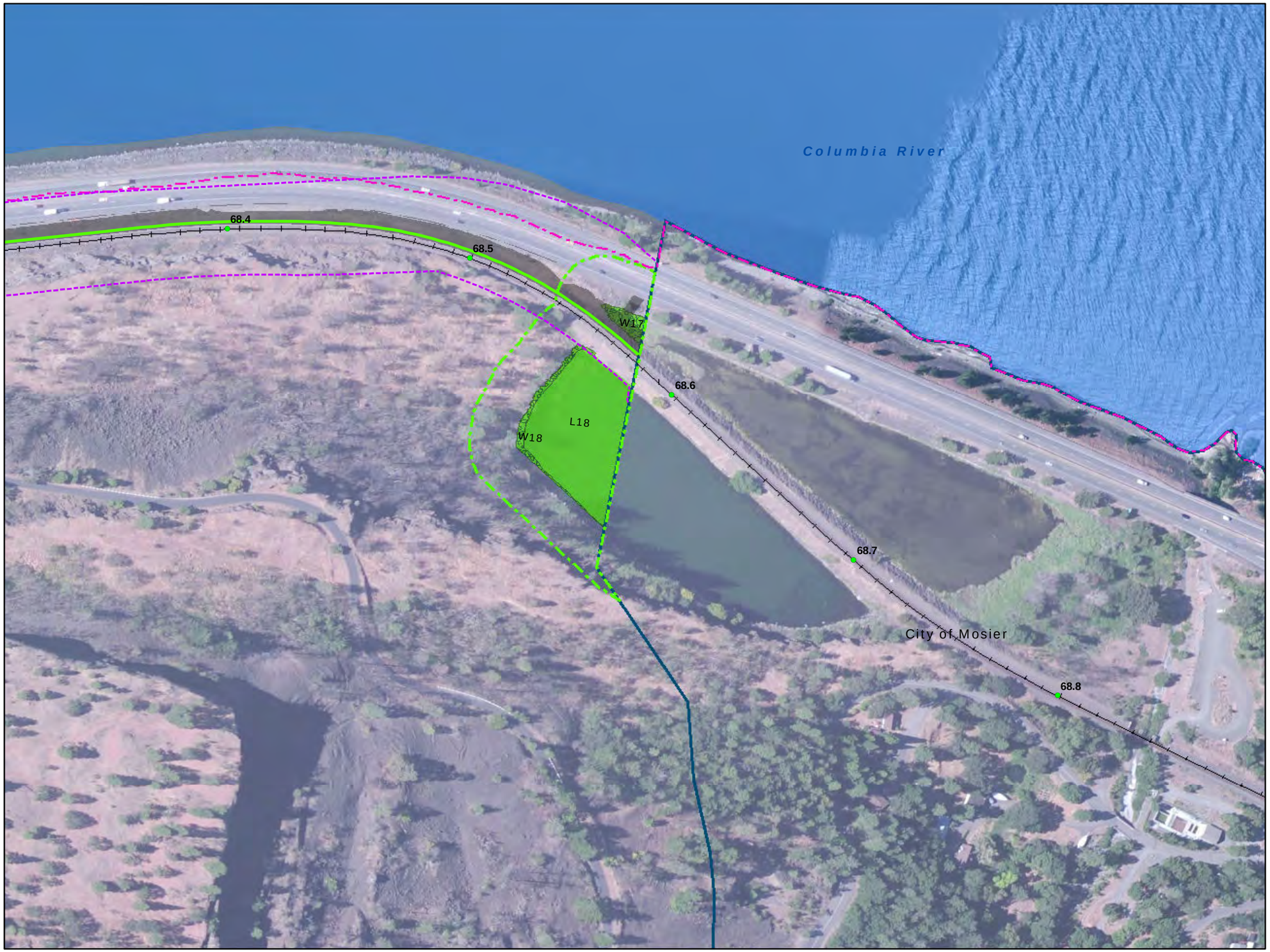
Labeling Note: W= Wetland; L=Lake/Waterbody

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 3
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad



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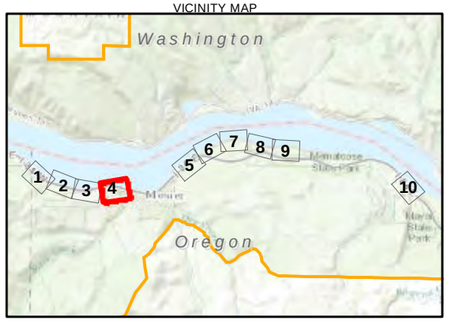


LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Project Area - Grading Limits
- GMA Wetlands
- GMA Waterbody
- SMA Wetlands
- SMA Waterbody
- GMA 100' Wetland/Waterbody Buffer - Shrub Community
- SMA 200' Wetland/Waterbody Buffer
- GMA Water
- Columbia River GMA Buffer Zone - 100'
- Columbia River SMA Buffer Zone - 200'

Labeling Note: W= Wetland; L=Lake/Waterbody

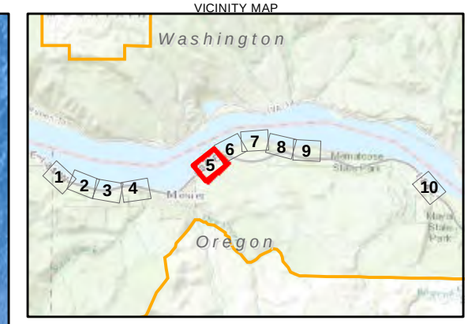
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 4
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
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- Project Area - Grading Limits
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- SMA Waterbody
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Labeling Note: W= Wetland; L=Lake/Waterbody

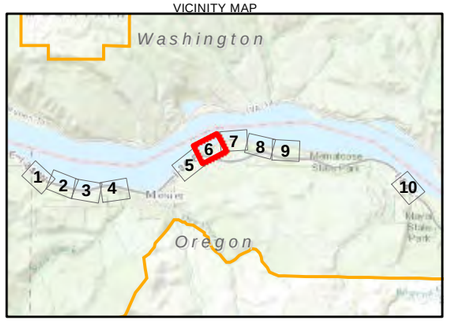
Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 5
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
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- SMA Waterbody
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- SMA 200' Wetland/Waterbody Buffer
- GMA Water
- Columbia River GMA Buffer Zone - 100'
- Columbia River SMA Buffer Zone - 200'

Labeling Note: W= Wetland; L=Lake/Waterbody

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

0 200
Feet

Figure 4-3, Page 6
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad

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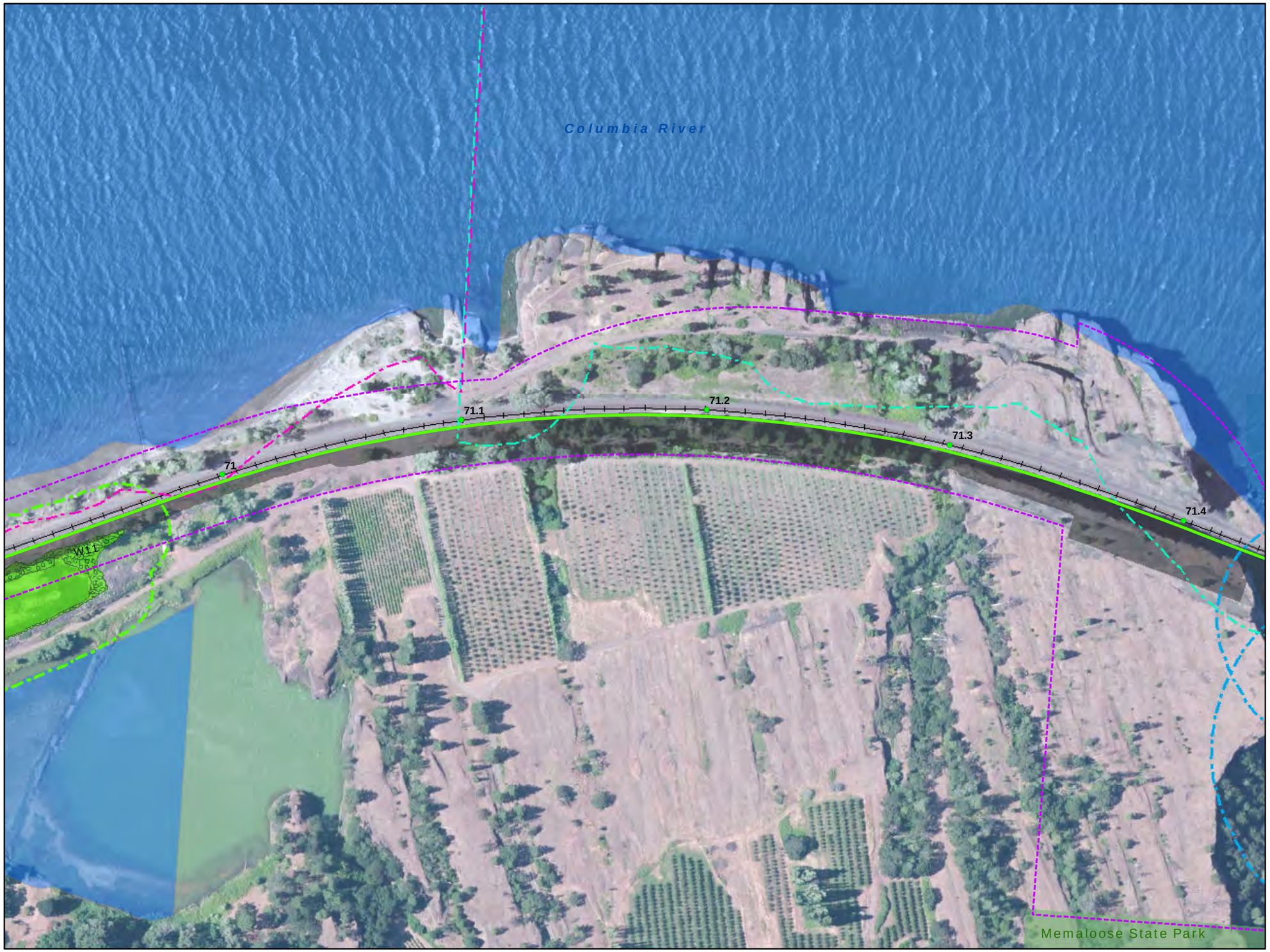
CH2MHILL



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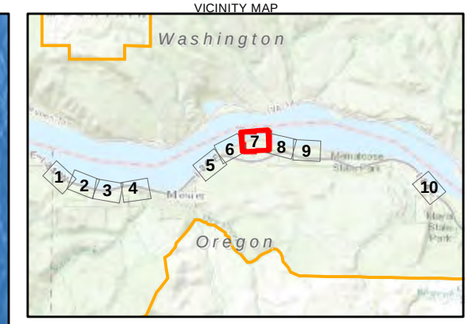

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
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- SMA Waterbody
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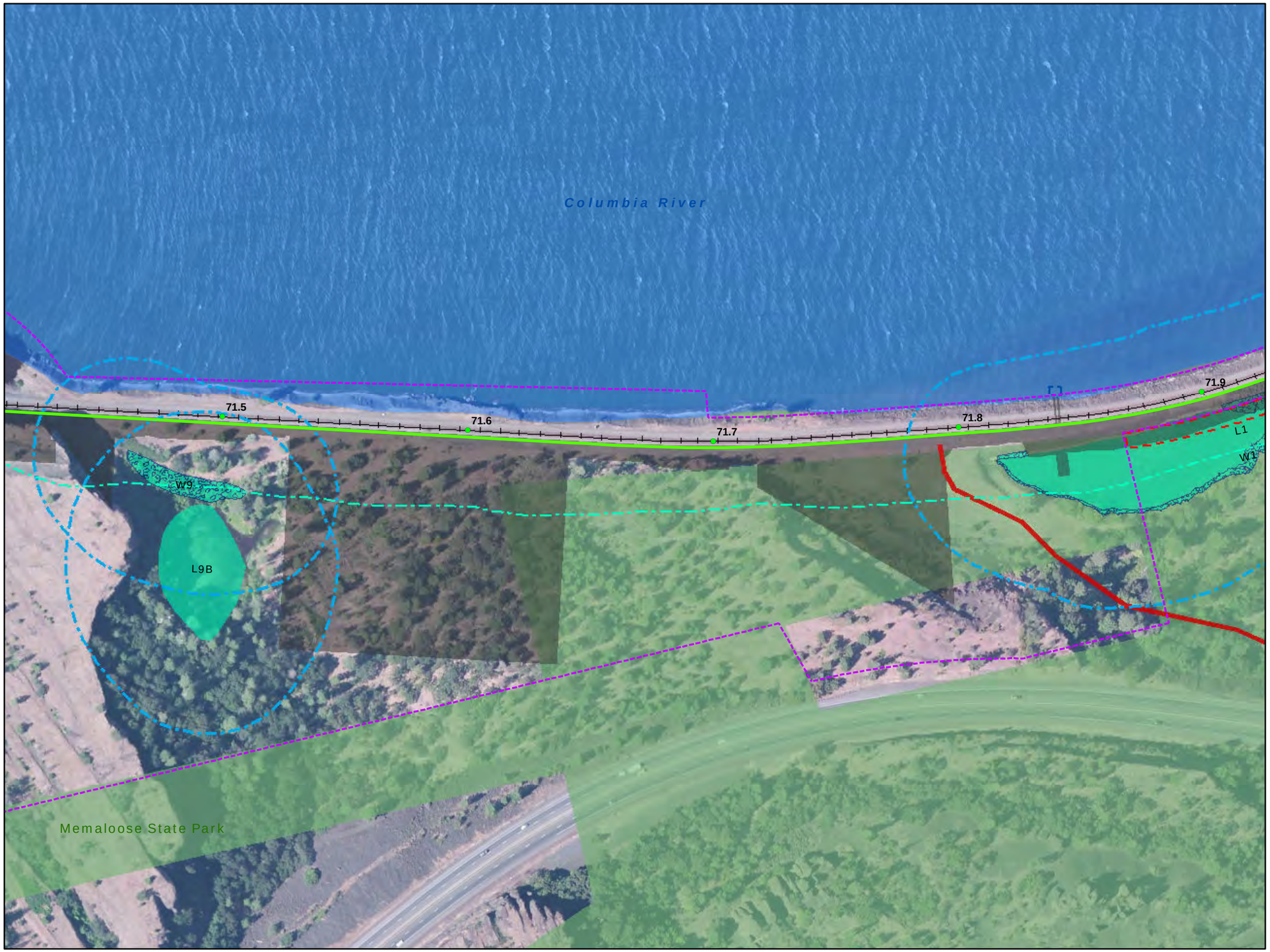
Labeling Note: W= Wetland; L=Lake/Waterbody

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 7
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad



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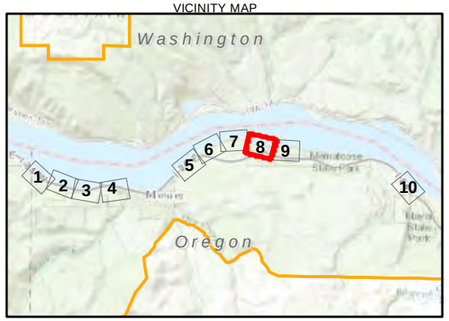

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
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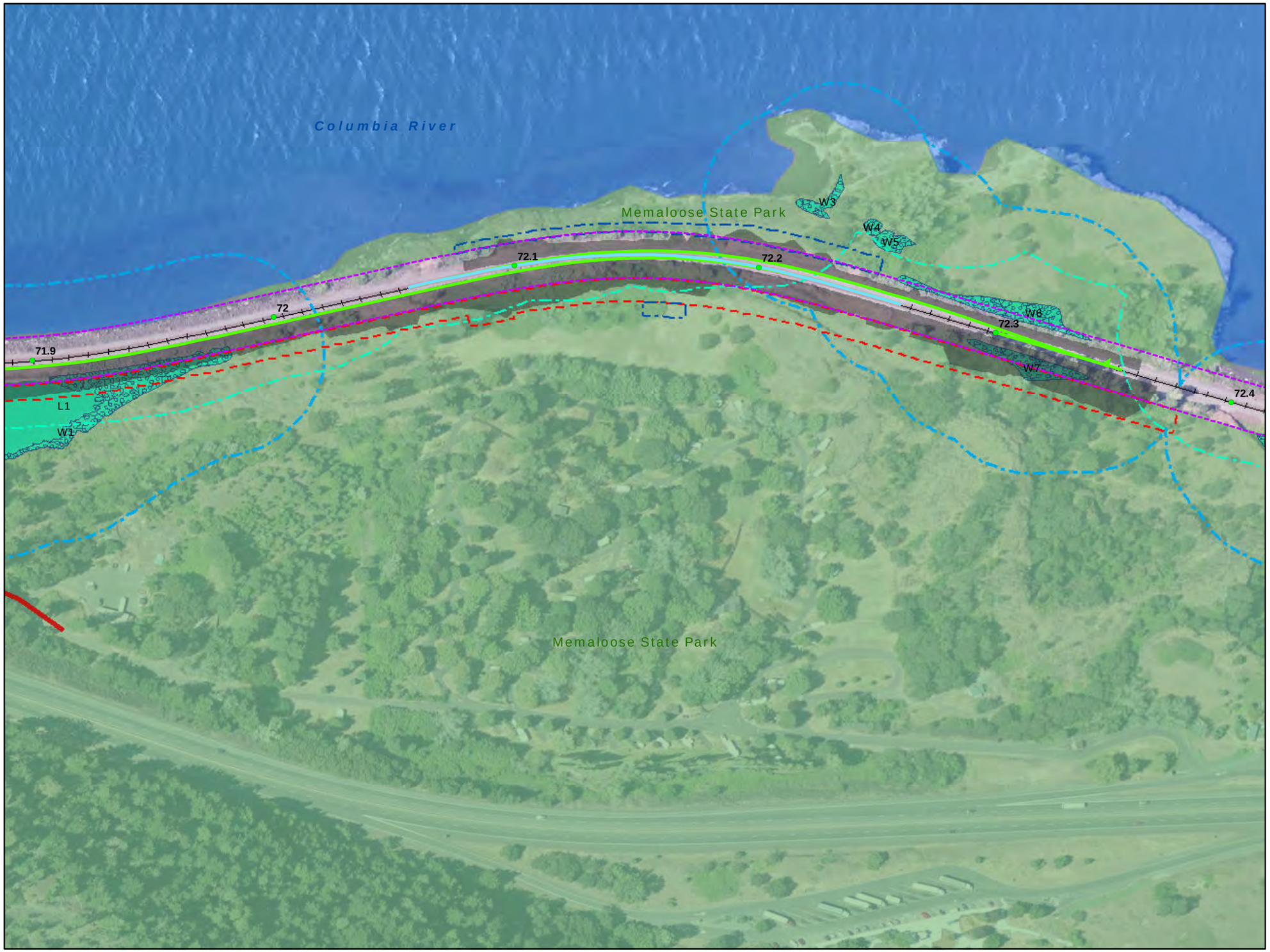
Labeling Note: W= Wetland; L=Lake/Waterbody

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 8
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad



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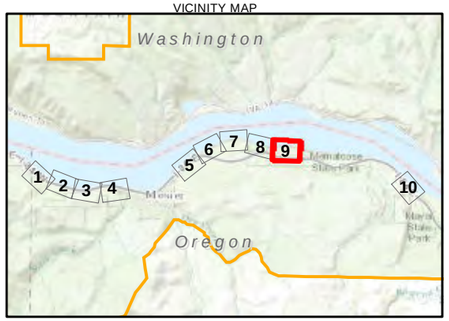

LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
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- GMA Water
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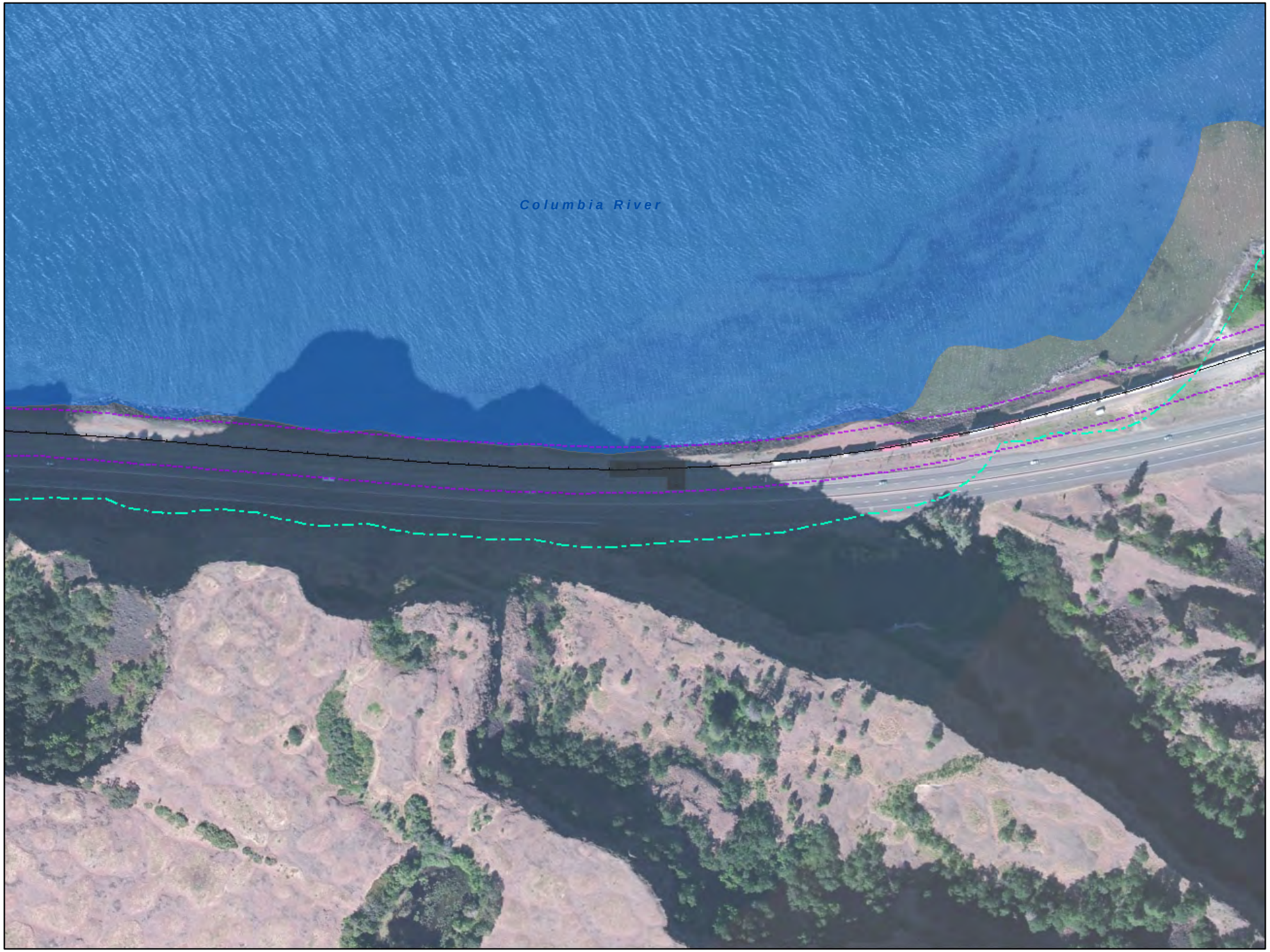
Labeling Note: W= Wetland; L=Lake/Waterbody

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

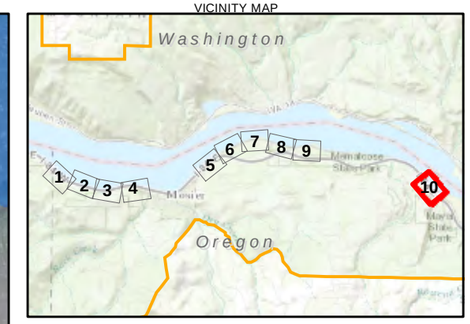
N

0 200
Feet

Figure 4-3, Page 9
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad



VICINITY MAP



LEGEND

- Existing Mainline Track
- Proposed Mainline Track
- Proposed Realigned Mainline Track
- Existing UPRR ROW
- Proposed ROW Enhancement
- Proposed Temporary Construction Area
- Proposed Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park
- Project Area - Grading Limits
- GMA Wetlands
- GMA Waterbody
- SMA Wetlands
- SMA Waterbody
- GMA 100' Wetland/Waterbody Buffer - Shrub Community
- SMA 200' Wetland/Waterbody Buffer
- GMA Water
- Columbia River GMA Buffer Zone - 100'
- Columbia River SMA Buffer Zone - 200'

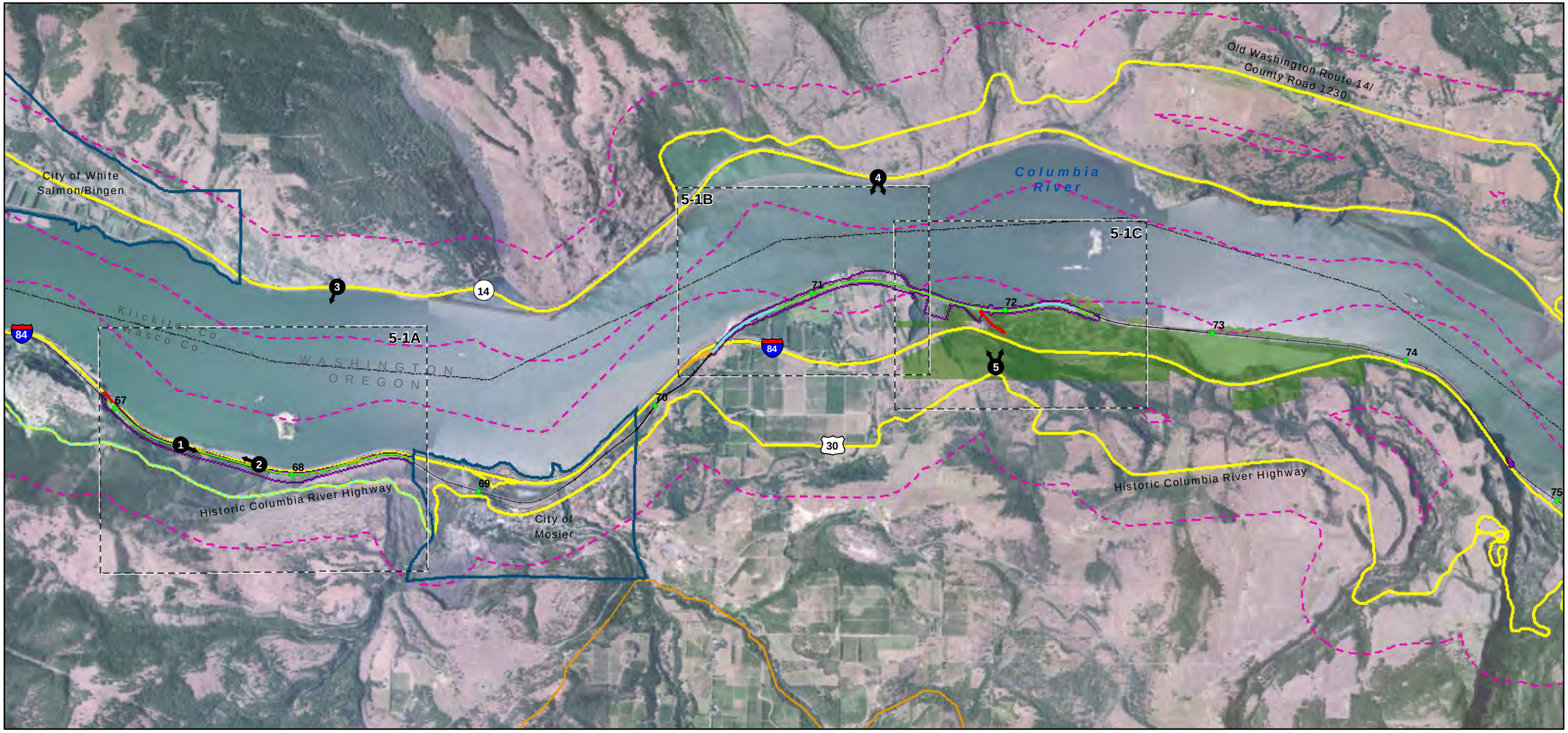
Labeling Note: W= Wetland; L=Lake/Waterbody

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); CDM Smith (2013); U.S. Fish and Wildlife Service (2014)

N

0 200
Feet

Figure 4-3, Page 10
Wetlands and Waterbodies in the Project Vicinity
Second Mainline Track Project
Union Pacific Railroad



LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Realigned Mainline Track
- Proposed Mainline Track
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Milepost
- National Scenic Area Boundary
- Designated Urban Area
- Memaloose State Park
- Photo View Point
- Key Viewing Area Trails
- Key Viewing Area Roads
- Scenic Travel Corridor Foreground (1/4 Mile)

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013; 2014)

N

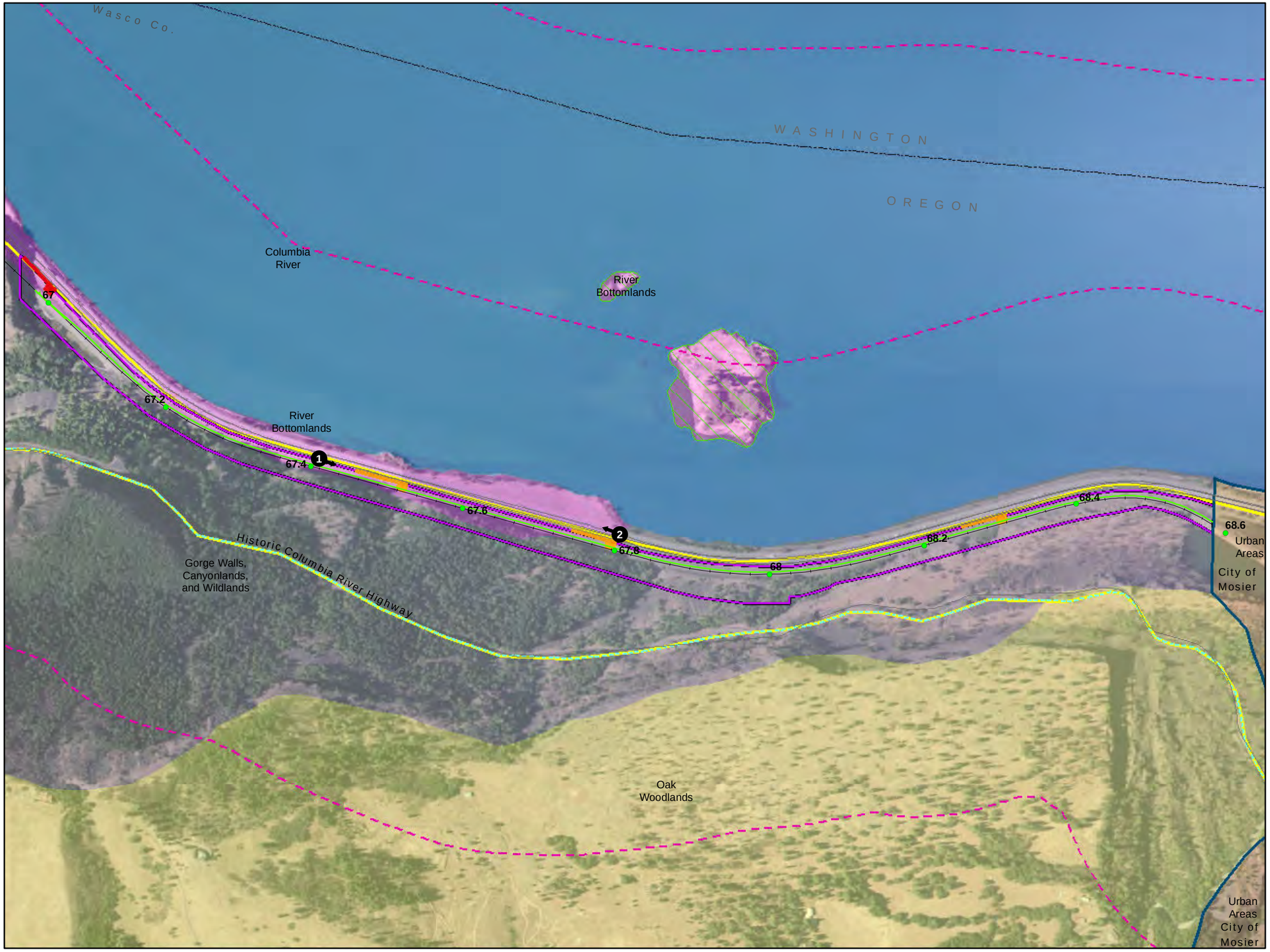
0 0.1 0.2 0.3 0.4 0.5 1
Miles

Figure 5-1
Visual Resources Overview Map
Second Mainline Track Project
Union Pacific Railroad

VICINITY MAP

C:\USERS\JGOLMAN\ARCGIS\UPRR_MOSIER\CRITIGEN\MAPFILES\MOSIER_MAPFILES\MOSIER_VISUALRESOVERVIEW_120814.MXD JGOLMAN 12/16/2014 3:06:52 PM

CH2MHILL



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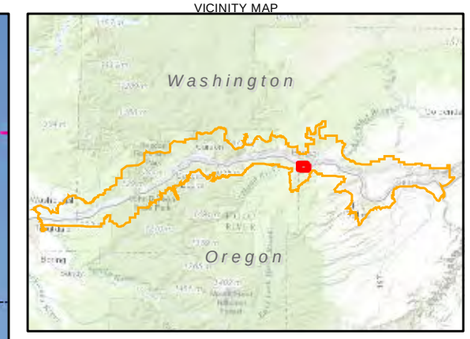


LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Realigned Mainline Track
- Proposed Mainline Track
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Mileposts
- National Scenic Area Boundary
- Designated Urban Area
- Photo View Point
- Key Viewing Area Trails
- Key Viewing Area Roads
- Scenic Travel Corridor Foreground (1/4 Mile)
- Special Management Areas
- Memaloose State Park

Landscape Settings

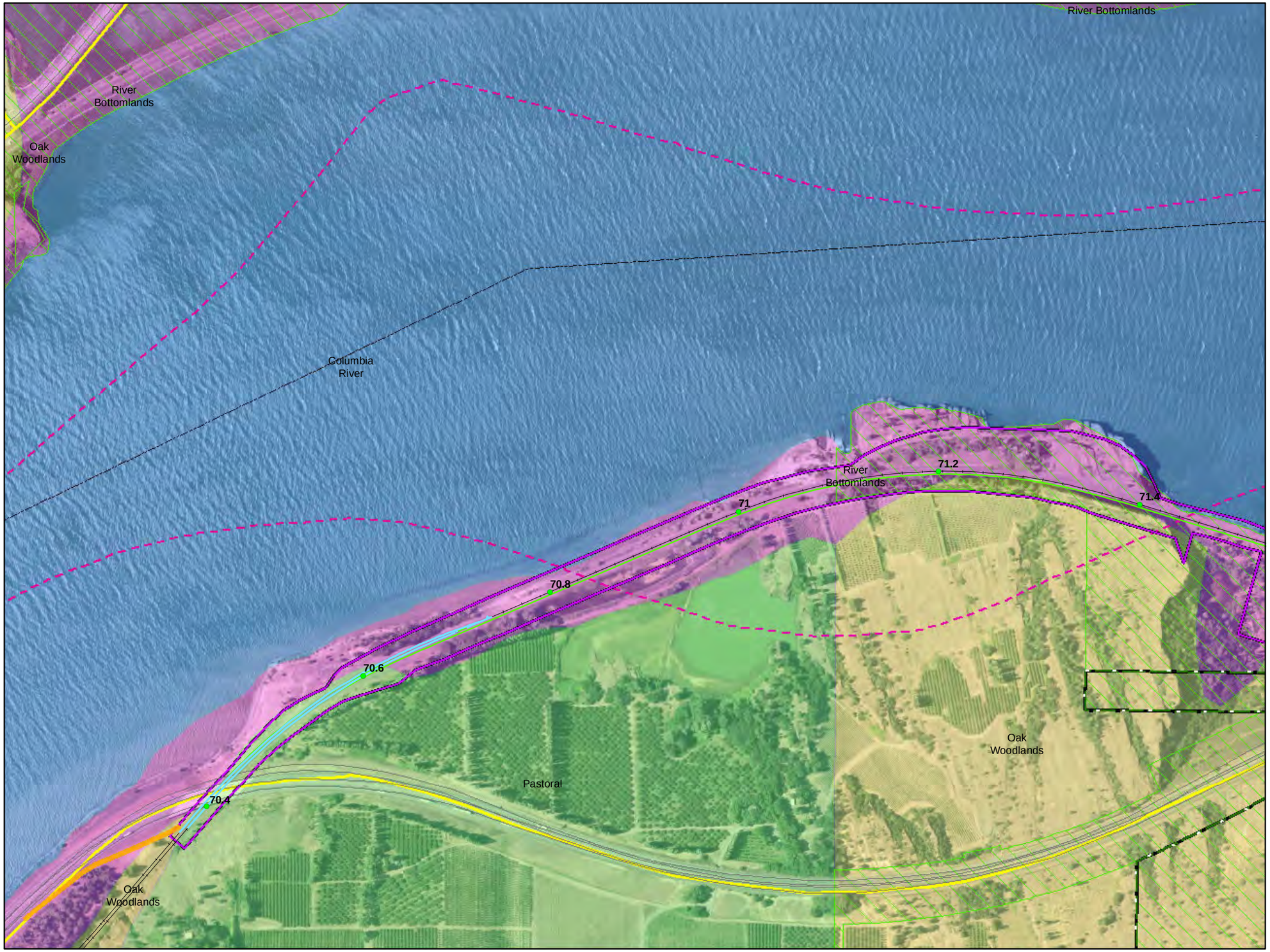
- Columbia River
- Gorge Walls, Canyonlands, and Wildlands
- Oak Woodlands
- River Bottomlands
- Urban Areas

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013; 2014)

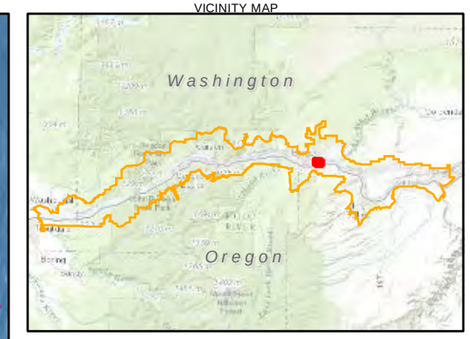
N

0 500 1,000
Feet

Figure 5-1A
Visual Resources-
Segment 1 Landscape Area
Second Mainline Track Project
Union Pacific Railroad



VICINITY MAP



LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Realigned Mainline Track
- Proposed Mainline Track
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Mileposts
- National Scenic Area Boundary
- Designated Urban Area
- Photo View Point
- Key Viewing Area Trails
- Key Viewing Area Roads
- Scenic Travel Corridor Foreground (1/4 Mile)
- Special Management Areas
- Memaloose State Park

Landscape Settings

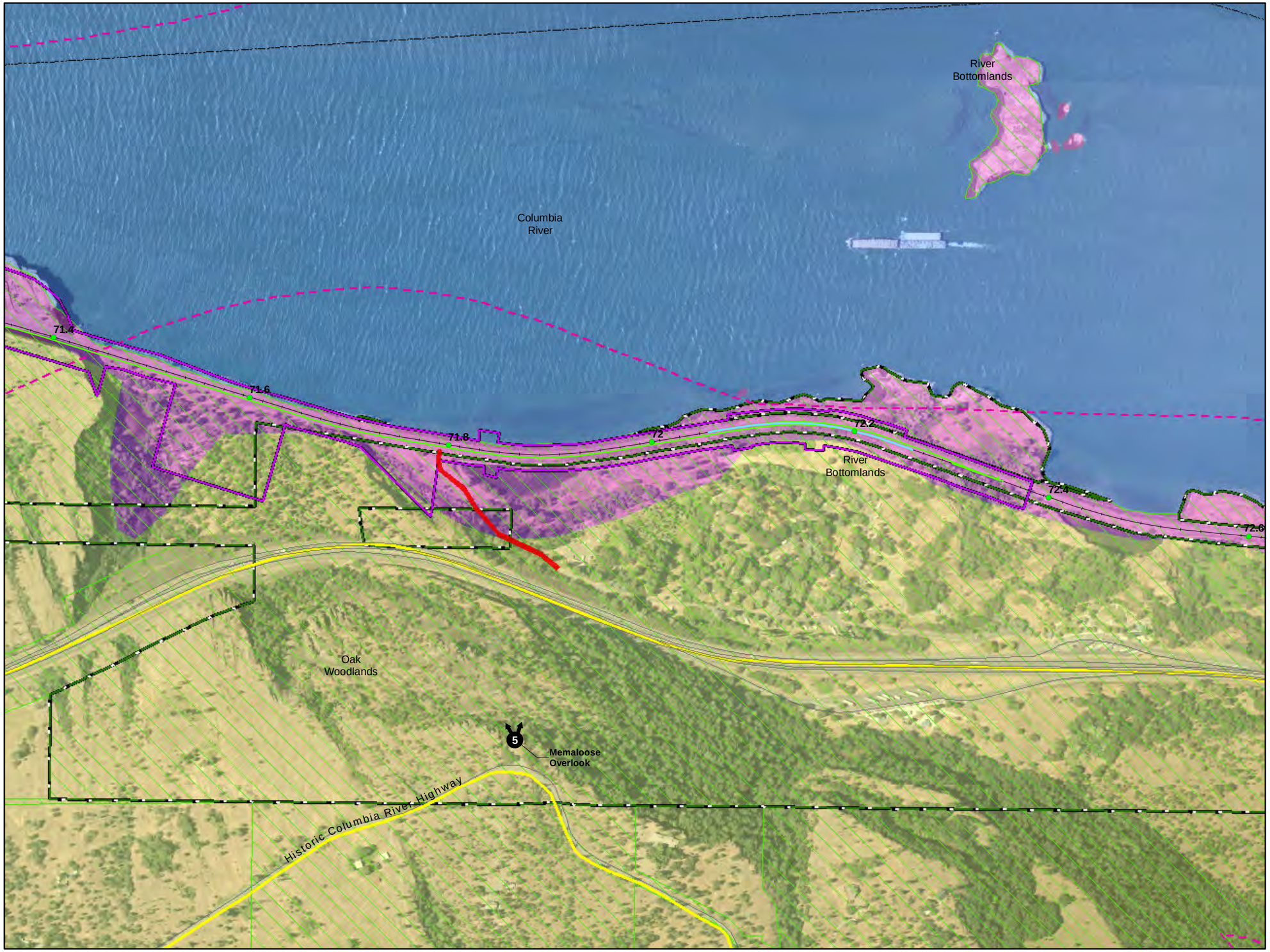
- Columbia River
- Oak Woodlands
- Pastoral
- River Bottomlands

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013; 2014)

N

0 500 1,000
Feet

Figure 5-1B
Visual Resources-
Segment 2 West Landscape Area
Second Mainline Track Project
Union Pacific Railroad



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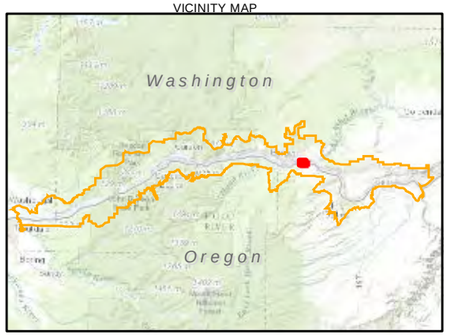


LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Realigned Mainline Track
- Proposed Mainline Track
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Mileposts
- National Scenic Area Boundary
- Designated Urban Area
- Photo View Point
- Key Viewing Area Trails
- Key Viewing Area Roads
- Scenic Travel Corridor Foreground (1/4 Mile)
- Special Management Areas
- Memaloose State Park

Landscape Settings

- Columbia River
- Oak Woodlands
- River Bottomlands

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013; 2014)

N

0 500 1,000
Feet

Figure 5-1C
Visual Resources-
Segment 2 East Landscape Area
Second Mainline Track Project
Union Pacific Railroad

View from I-84 Eastbound from VP 1 near I-84 MP 68.2. The new ballasted rail bed and new tracks will be installed in the area between the existing rail bed visible in this view, and the grassed area along the edge of the I-84 pavement.

FIGURE 5-2
Viewpoint 1 – Eastbound View Along I-84 in Segment 1
UPRR Second Mainline Track Project

View from I-84 westbound from VP 2 near I-84 MP 68.6. From this side of the interstate, views toward the UPRR right-of-way are blocked by the safety barrier in the median of the roadway. The additional set of tracks proposed by the Project would not be visible to drivers and passengers of automobiles traveling in the westbound lanes in this area.

FIGURE 5-3
Viewpoint 2 – Westbound View Along I-84 in Segment 1
UPRR Second Mainline Track Project

View from Washington SR 14 at Viewpoint 3 on the bank of the Columbia, one half mile north of the UPRR right-of-way. In this view, the existing rail line is not visible because it is hidden behind the barrier in the I-84 median. The additional set of rails the Project proposes will not be visible in this view, and any vertical appurtenances will appear small in scale at this distance will be visually absorbed into the backdrop.

FIGURE 5-4
Viewpoint 3 – View from Washington State Route 14 Toward Segment 1
UPRR Second Mainline Track Project

View from Washington SR 14 at Viewpoint 4 on the bank of the Columbia, one half mile north of the UPRR right-of-way. In this view, the embankment of the existing rail line is visible along the river in area to the right of the center of the photograph. The additional set of rails the Project proposes will not be visible in this view because they will be located on the far side of the existing rail bed, which will screen them from view. Any vertical appurtenances will appear small in scale at this distance and will be visually absorbed into the backdrop.

FIGURE 5-5
Viewpoint 4 – View from Washington State Route 14 Toward Segment 2 West
UPRR Second Mainline Track Project

View from Washington SR 14 at Viewpoint 4 on the bank of the Columbia, one half mile north of the UPRR right-of-way. In this view, the rock mesa in which there is a cut through which the UPRR passes is visible on the right side of the photo. To the left of the outcrop, the embankment of the existing rail line is visible along the river's bank. The additional set of rails the Project proposes will not be visible in this view because they will be located inside the cut in the rock mesa, and in the areas outside the cut, they will be located on the far side of the existing rail bed, which will screen them from view. Any vertical appurtenances will appear small in scale at this distance and will be visually absorbed into the backdrop. The widening of the cut through the rock that will be required to accommodate the additional rail line could lead to a small increase in the area of exposed rock now visible at the top of the cut and removal of some of the trees located near it.

FIGURE 5-6

Viewpoint 4 – View from Washington State Route 14 Toward Segment 2 West and Segment 2 East

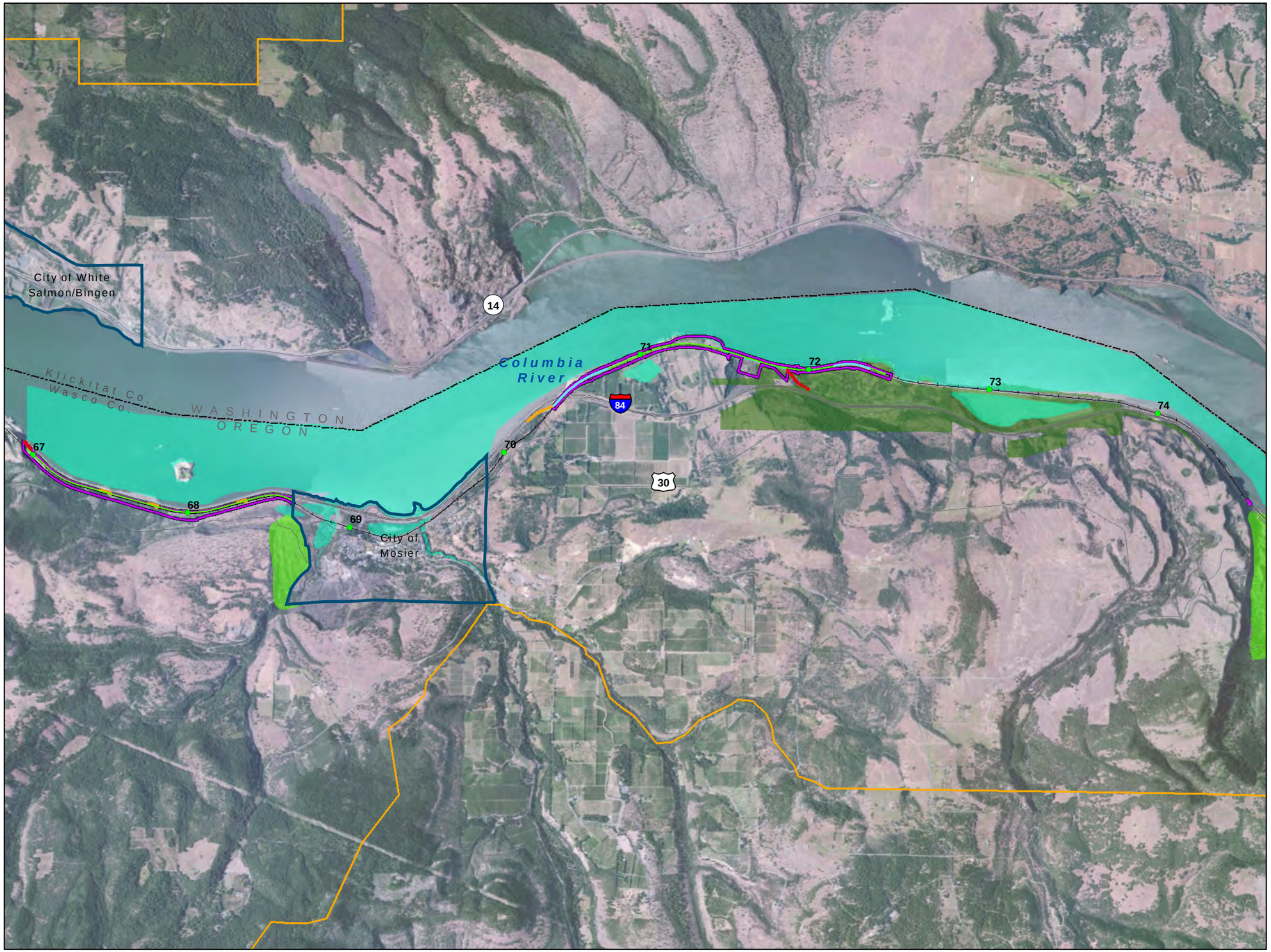
UPRR Second Mainline Track Project

View from the Memaloose Overlook Along the Historic Columbia River Highway looking northwest toward the rock mesa in which the UPRR cut is located. The eastern end of the rail cut through the rock is visible near the far right side of the photo. A tree line visible on the top of the rock mesa follows along the top of the cut's edge. Widening of the cut to accommodate the additional rail line could result in a slight widening of the cut's eastern opening and removal of some of the vegetation in the tree line along the cut's top edge.

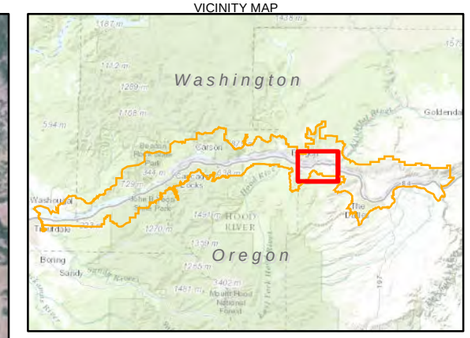
FIGURE 5-7
Viewpoint 5 – View from Memaloose Overlook Along the Historic Columbia River Highway Toward Segment 2 West
UPRR Second Mainline Track Project

View from the Memaloose Overlook Along the Historic Columbia River Highway looking north toward the existing UPRR tracks located along the river at the base of the escarpment. In this view, the proposed Project would be seen as an additional ballasted rail bed and tracks installed on the south side of the existing rail bed, which will require some widening of the embankment on which the existing rail line is located . The resulting visual change would be subtle and would not necessarily attract the attention of the casual observer.

FIGURE 5-8
Viewpoint 5 – View from Memaloose Overlook Along the Historic Columbia River Highway Toward Segment 2 East
UPRR Second Mainline Track Project



VICINITY MAP



LEGEND

- Project Area Boundary
- Existing Mainline Track
- Proposed Realigned Mainline Track
- Proposed Mainline Track
- Proposed Temporary Construction Access Road
- Proposed Permanent Maintenance/ Construction Access Road
- Track Mileposts
- National Scenic Area Boundary
- Designated Urban Area Boundary
- Memaloose State Park

Wasco County Hazard Data

- Geologic Hazard Area
- 100-Year Flood Zone

Sources: Oregon Parks and Recreation Department (2010); Columbia River Gorge Commission (2010; 2013); USDA Forest Service (1998); FEMA (1984)

N

0 0.5
Miles

Figure 5-9
Hazard Overlay Zones
Second Mainline Track Project
Union Pacific Railroad

Appendix B
Typical Structure Photographs

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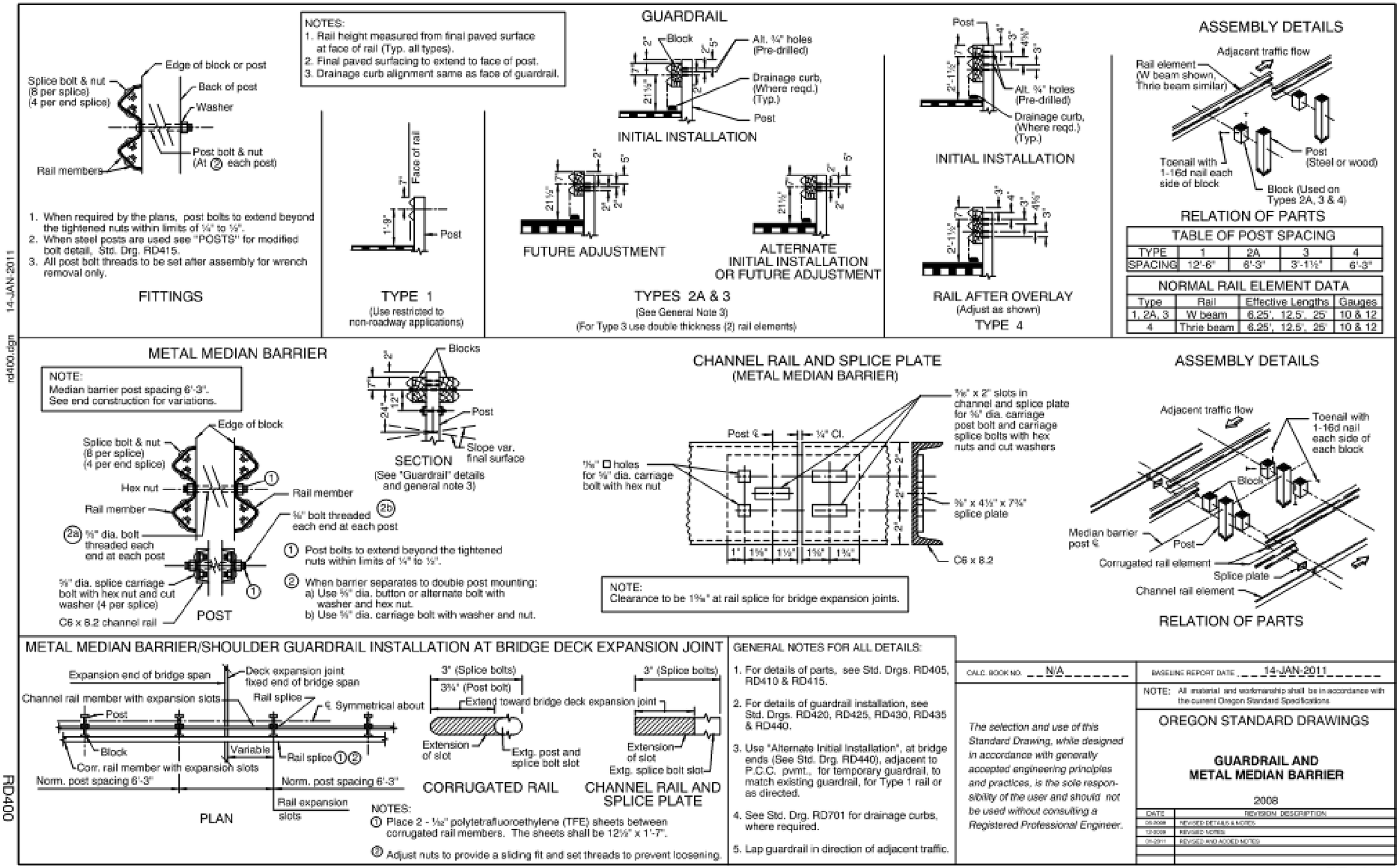
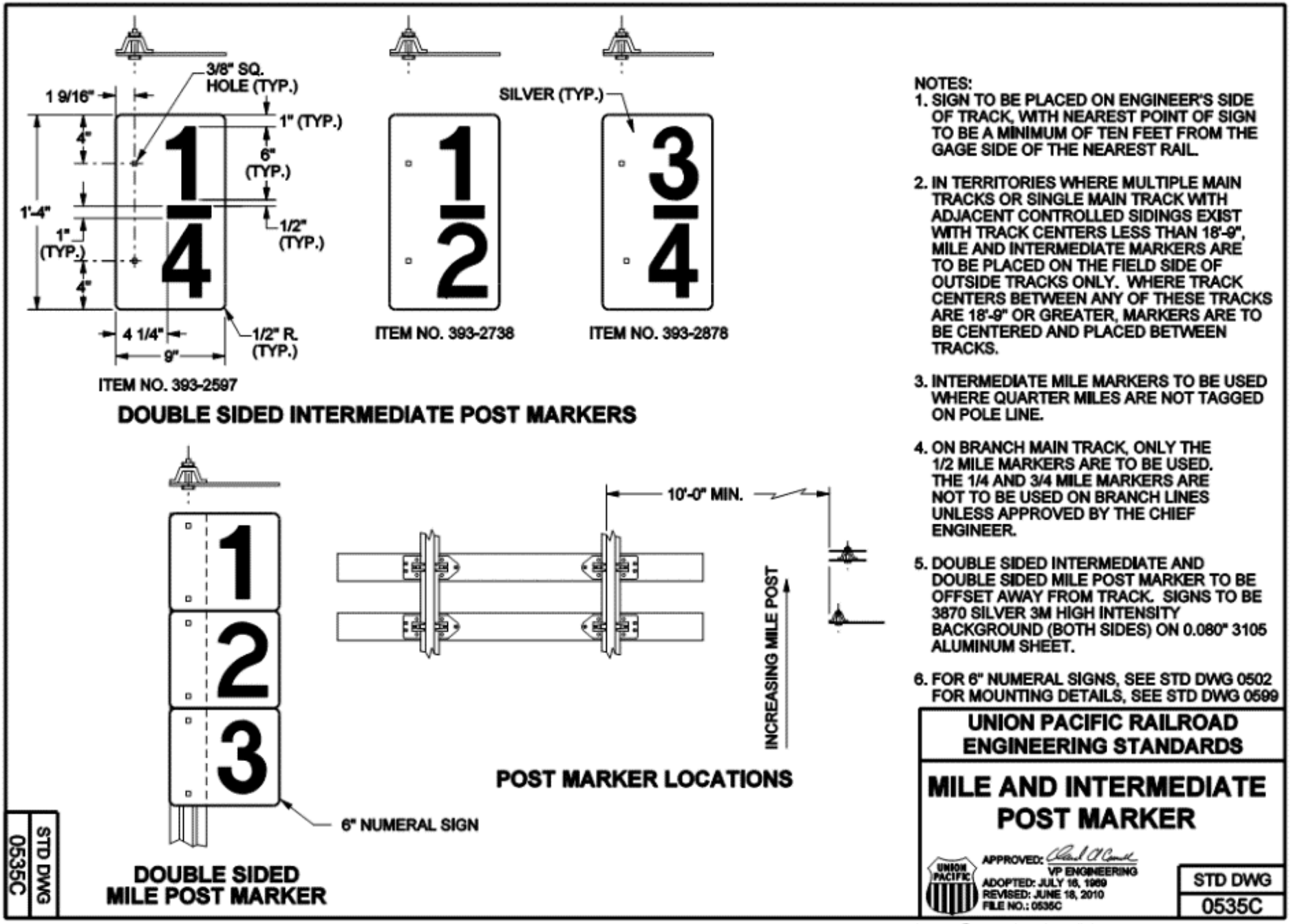
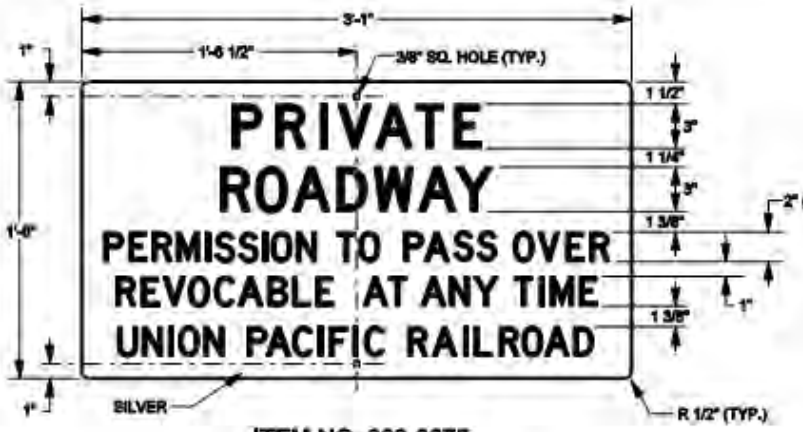


Effective Date: December 1, 2013 - May 31, 2014 RD400

Detail 1. Typical Oregon Department of Transportation Guardrail Detail.



Detail 2. Typical Railroad Mile Post Signage Detail.



ITEM NO. 393-3675

ITEM NO. 393-3229

ITEM NO. 393-3651

NOTES:
SIGNS TO BE 3290 SILVER 3M ENGINEER GRADE BACKGROUND, ON 0.080" 3105 SHEET ALUMINUM.

ITEM NO. 393-3675 TO BE POSTED WHERE AUTHORIZED PASSAGE IS PERMITTED, BUT ROADWAY IS NOT PERMITTED FOR PUBLIC USE.

ITEM NO. 393-3651 TO BE POSTED WHEN IT IS DESIRED TO ABSOLUTELY PREVENT PASSAGE.

ITEM NO. 393-3229 TO BE POSTED WHERE REQUIRED.

FOR MOUNTING DETAILS, SEE STD DWG 0599
FOR LETTERING, SEE STD DWG 0501

UNION PACIFIC RAILROAD
ENGINEERING STANDARDS

PRIVATE PROPERTY AND
NO DUMPING SIGNS

ADOPTED: JAN. 11, 1989
REVISED: JAN. 15, 2009
FILE NO.: 0538B

STD DWG
0538B

STD DWG
0538B

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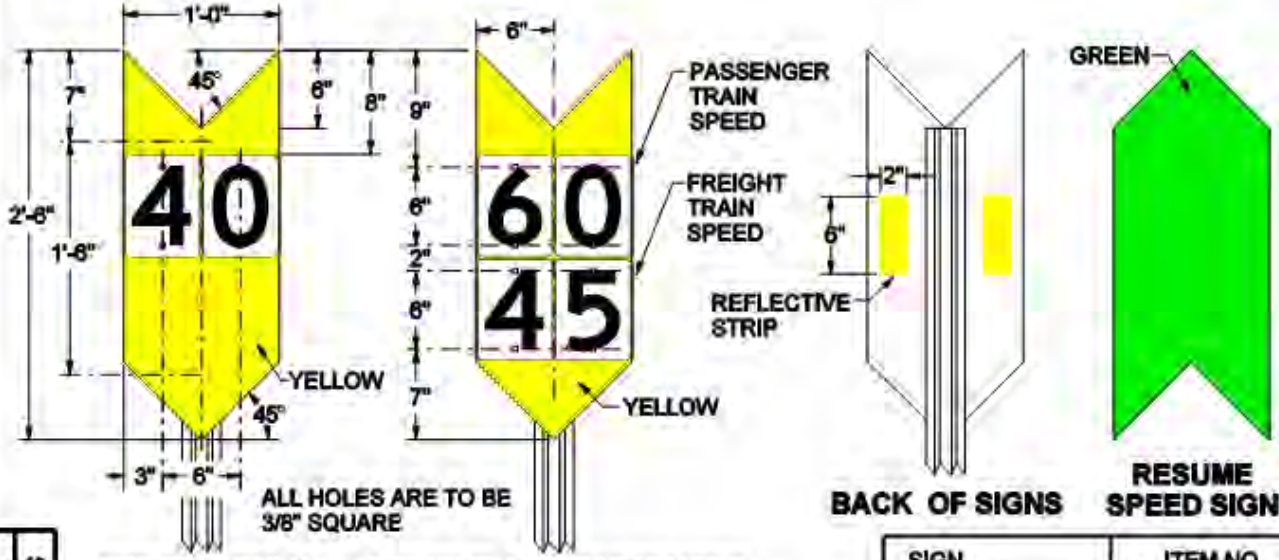
Detail 3. Typical Railroad Private Property Signage Detail.

REDUCE SPEED SIGNS

TYPICAL SIGN PLACEMENT
60 M.P.H. SUBDIVISION TIME TABLE SPEED

NOTES:
1. SEE RULE 5.5 GENERAL CODE OF OPERATING RULES.
2. REDUCE SPEED SIGNS WILL BE LOCATED 2500 FEET IN ADVANCE OF THE RESTRICTED TERRITORY AND WILL INDICATE THE MAXIMUM SPEED PERMITTED AS SHOWN IN THE CURRENT TIME TABLE. WHERE TWO SPEEDS ARE SHOWN, THE HIGHER SPEED APPLIES TO PASSENGER TRAINS AND THE LOWER SPEED TO FREIGHT TRAINS. WHERE ONE SPEED IS SHOWN, IT APPLIES TO ALL TRAINS.
3. A REDUCED SPEED SIGN WILL NOT BE PLACED WITHIN THE LIMITS OF A LOWER SPEED RESTRICTION BUT WILL BE PLACED AT THE END OF THE LOWER SPEED RESTRICTION LIMITS IN LIEU OF A RESUME SPEED SIGN.

NOTES (CONTINUED):
4. IN MULTIPLE MAIN TRACK, C.T.C. TERRITORY, SPEED RESTRICTION, RESUME SPEED AND/OR STOP SIGNS WILL BE PLACED ADJACENT TO EACH TRACK EFFECTED.
5. RESUME SPEED SIGN WILL BE PLACED TO INDICATE THE END OF THE RESTRICTED TERRITORY. THIS SIGN SHALL NOT BE PLACED WHERE THERE IS LESS THAN ONE HALF MILE BETWEEN THE END OF ONE SPEED RESTRICTION AND THE BEGINNING OF ANOTHER SPEED RESTRICTION.
6. REDUCE SPEED SIGNS TO BE 3871 YELLOW 3M HIGH INTENSITY BACKGROUND ON 0.080" 3105 SHEET ALUMINUM.
7. RESUME SPEED SIGN TO BE 3877 GREEN 3M HIGH INTENSITY BACKGROUND ON 0.080" 3105 SHEET ALUMINUM.
8. BACK SIDE OF SIGNS TO HAVE A 2" X 6" VERTICAL STRIP ON BOTH SIDES OF THE MOUNTING POST. STRIP WILL BE THE SAME 3M MATERIAL AS UTILIZED ON THE FRONT OF THE SIGN.
9. SINGLE SIDED SINGLE DIGIT SIGNS PER STD DWG 0502 ARE TO BE USED DURING FIELD INSTALLATION TO INDICATE MAXIMUM AUTHORIZED SPEED THROUGH RESTRICTIONS.



ALL HOLES ARE TO BE 3/8" SQUARE

FREIGHT ONLY SUBDIVISIONS

FREIGHT AND PASSENGER SUBDIVISIONS

BACK OF SIGNS

RESUME SPEED SIGN

SIGN	ITEM NO.
REDUCE SPEED	393-3428
RESUME SPEED	393-3861

FOR MOUNTING DETAILS, SEE STD DWG 0599
FOR NUMERALS, SEE STD DWG 0502
REF. PREVIOUS U.P. STD PAGE 539-A

UNION PACIFIC RAILROAD
ENGINEERING STANDARDS

PERMANENT SPEED RESTRICTION SIGNS

APPROVED: VP ENGINEERING
ADOPTED: JAN. 2, 1989
REVISED: JULY 8, 2010
FILE NO.: 0539A

STD DWG 0539A

STD DWG 0539A

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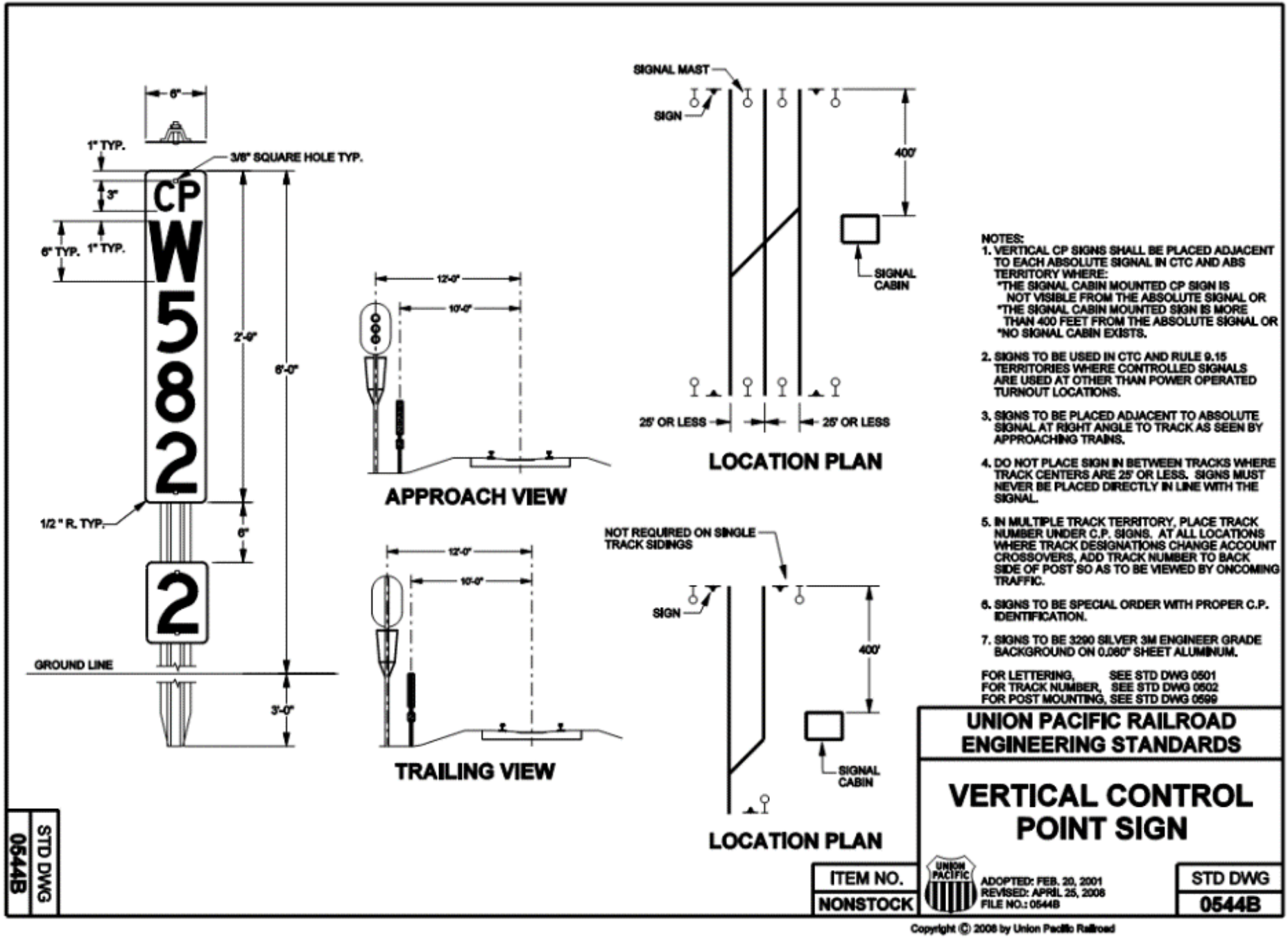
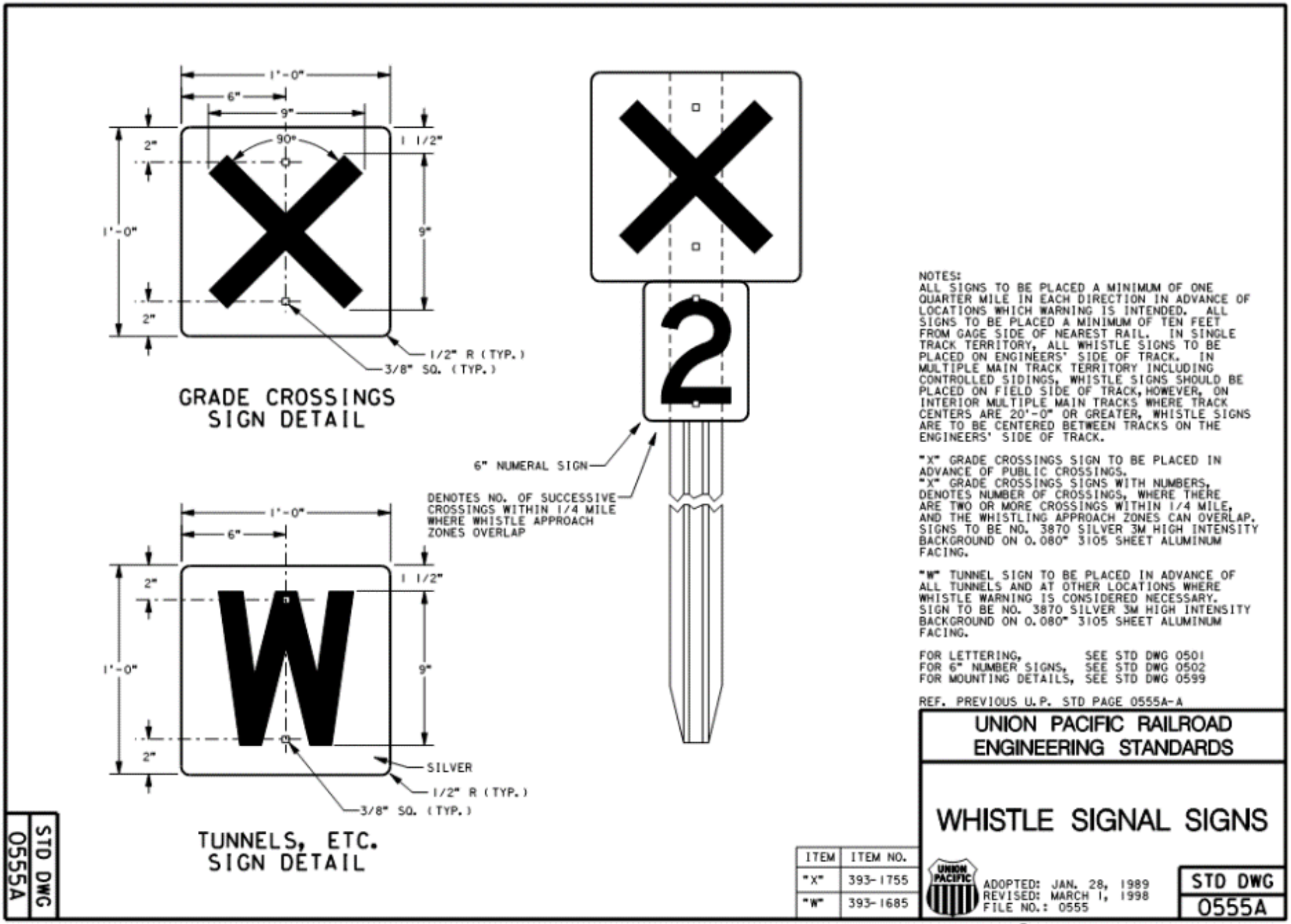
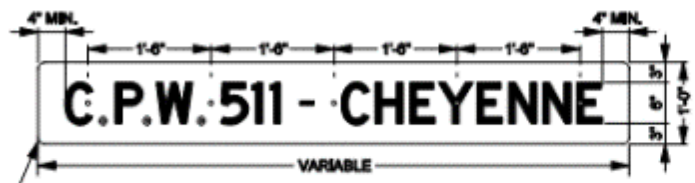
Detail 4. Typical Railroad Permanent Speed Restriction Signage Detail.



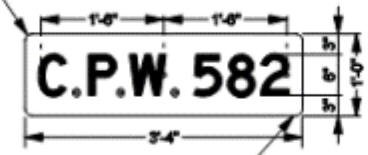
Detail 5. Typical Railroad Vertical Control Point Signage Detail.



Detail 6. Typical Railroad Whistle Signal Signage Detail.

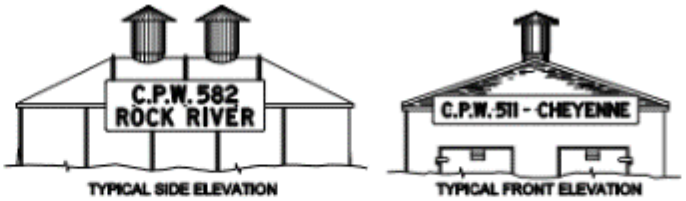


TYPE "A"

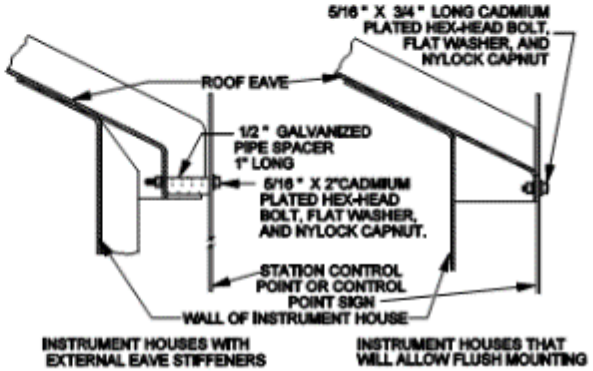


TYPE "B"

TYPE "C"



MOUNTING ARRANGEMENTS



TYPICAL MOUNTING DETAILS

NOTES:

1. REQUISITIONS FOR STATION CONTROL AND CONTROL POINT SIGNS SHOULD SPECIFY THE TYPE OF SIGN, LETTERING AND MOUNTING HARDWARE REQUIRED THE TYPICAL MOUNTING DETAILS WILL SHOW THE HARDWARE REQUIRED DEPENDING ON THE STYLE OF INSTRUMENT HOUSE ON WHICH THE SIGNS WILL BE MOUNTED.
2. IN HEAVY SNOW AREAS, WHERE CANTILEVERS OR BRIDGE SIGNALS ARE LOCATED, SIGN CAN BE MOUNTED ON CANTILEVER OR BRIDGE STRUCTURE WHERE THEY WILL BE IN PLAIN VIEW FROM AN APPROACHING TRAIN AND SIGNS DO NOT OBSTRUCT THE VIEW OF THE SIGNALS INVOLVED.

LOCATION:
ALL SIGNS WILL BE ON THE APPROACH SIDE AT EACH C.T.C. CONTROL POINT AND INSTALLED ON THE EAVE OF THE INSTRUMENT HOUSE IN PLAIN VIEW FROM APPROACHING TRAINS.
TYPE "A" STATION CONTROL POINT SIGN TO BE USED AT LOCATIONS WHERE STATION NAME HAS BEEN ASSIGNED.
TYPE "B" CONTROL POINT SIGN TO BE USED AT LOCATIONS WHERE A STATION NAME HAS NOT BEEN ASSIGNED.
TYPE "C" STATION CONTROL POINT SIGN IS TO BE USED AS AN ALTERNATIVE TO THE TYPE "A" SIGN WHEN LENGTH BECOMES PROHIBITIVE.

SPECIFICATIONS:
SIGN TO BE PREDRILLED .080" 6061-T6 SHEET ALUMINUM, SURFACED ON ONE SIDE WITH WHITE BAKED ENAMEL BACKGROUND AND 6" BLACK P.R.A. CUT-OUT LETTERS AND NUMBERS.
TO MINIMIZE SIGN LENGTH, STATION NAME ABBREVIATIONS THAT MAKE THE MEANING CLEAR MAY BE USED.
SIGNS PREDRILLED WITH 3/8" DIA. HOLES ON 1'-6" CENTERS BALANCED ALONG THE LENGTH OF THE SIGN. NUMBER OF HOLES REQUIRED DEPENDS ON THE LENGTH OF THE SIGN.

UNION PACIFIC RAILROAD ENGINEERING STANDARDS

STATION AND CONTROL POINT SIGN FOR CTC

APPROVED: VP ENGINEERING
ADOPTED: FEB. 19, 2009
REVISED:
FILE NO.: 0596

STD DWG 0596

STD DWG 0596

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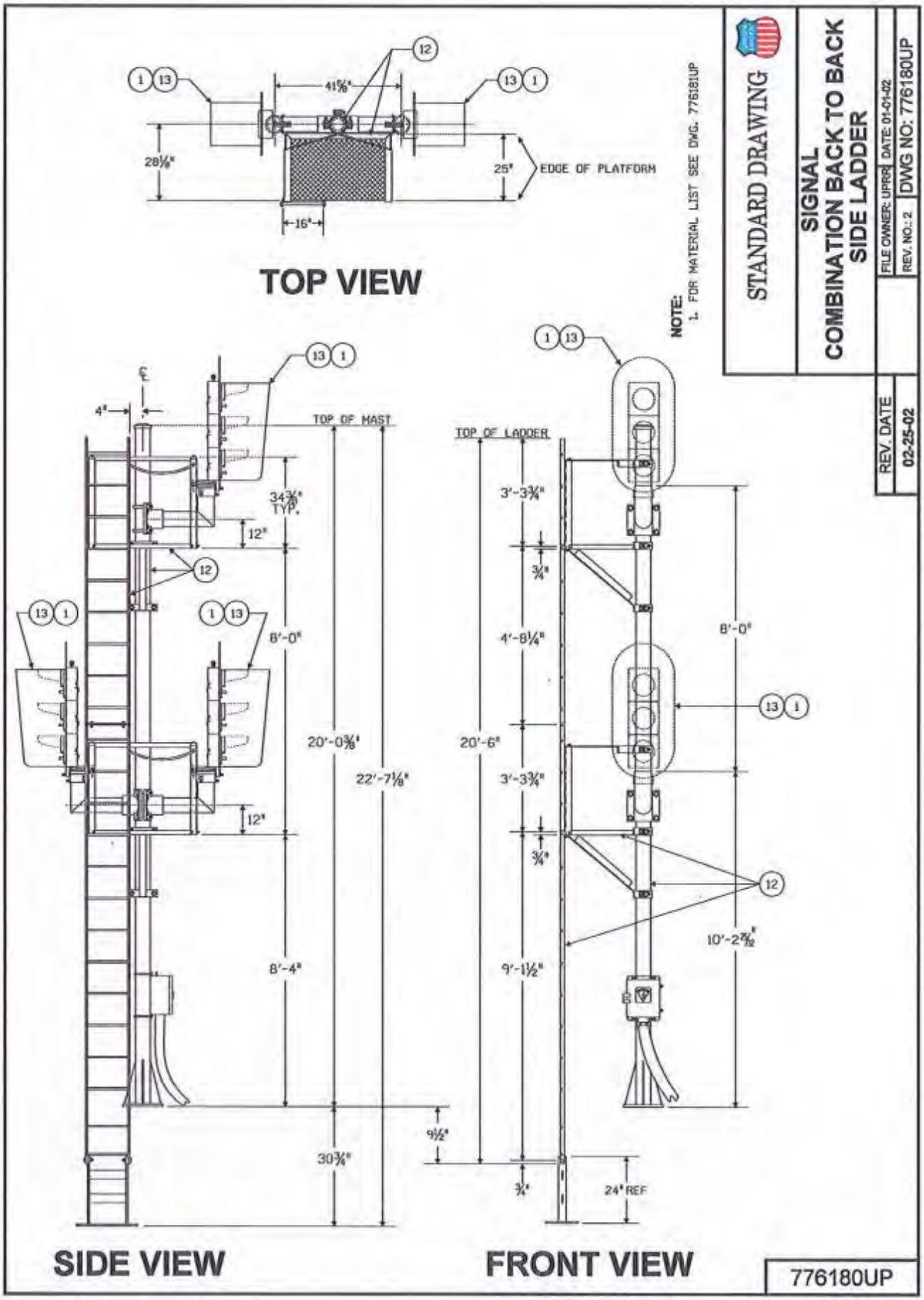
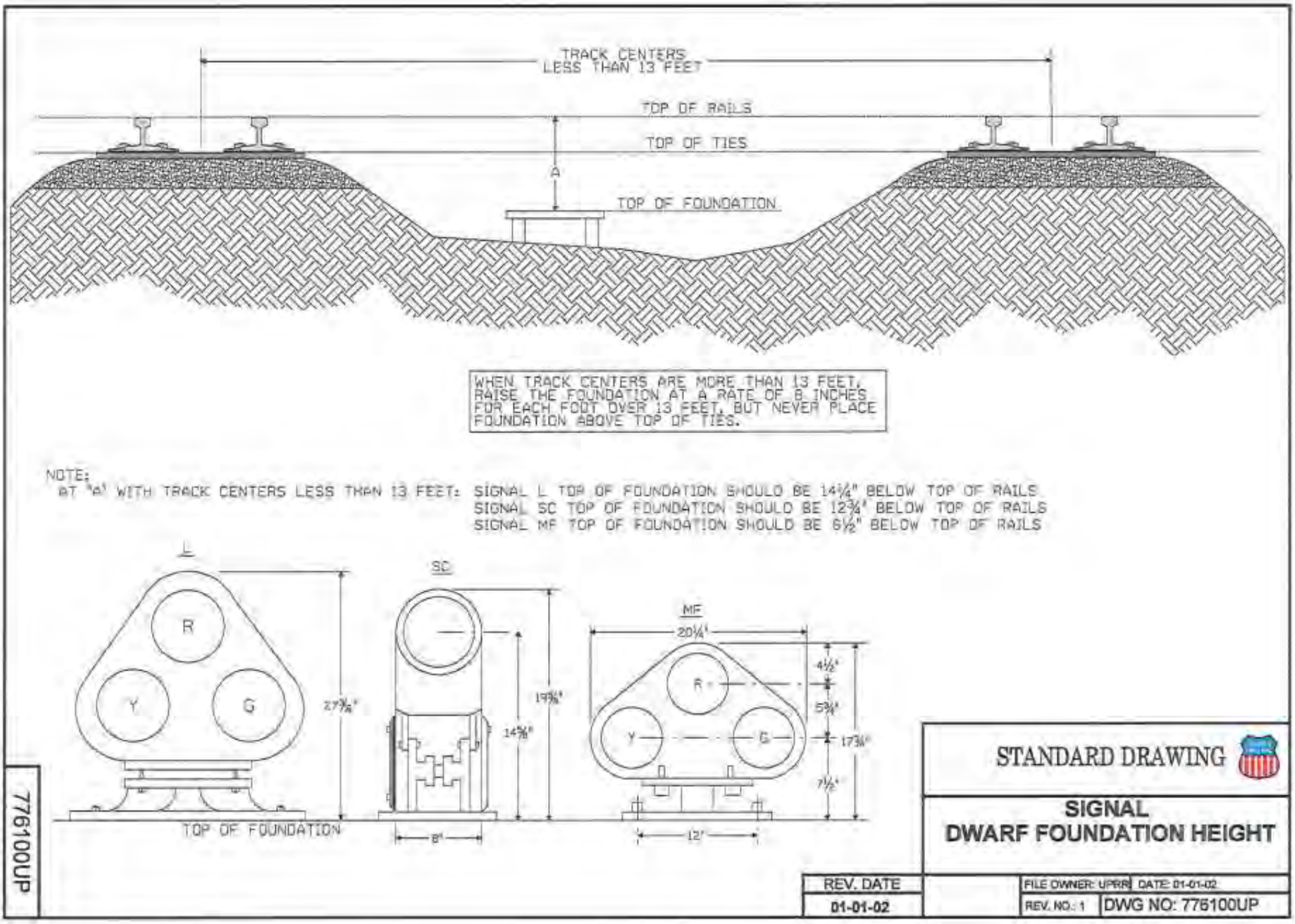
Detail 7. Typical Railroad Station & Control Point Signage Detail.



Detail 8. Typical Signal Lights (Back to Back).



Detail 9. Typical Dwarf Signal Lights.

Photograph 1. Typical signal lights.

Photograph 2. Alternate view of typical signal lights.

Photograph 3. View of typical signal lights from roadway.

Photograph 4. Typical signal building structure that will be installed and painted a dark earth-toned color to match the surrounding landscape (shown in mid-ground right of the highway and left of the existing double track).

Photograph 5. Close-up view of typical signal building structure (shown in foreground right of the highway and left of the existing double track).

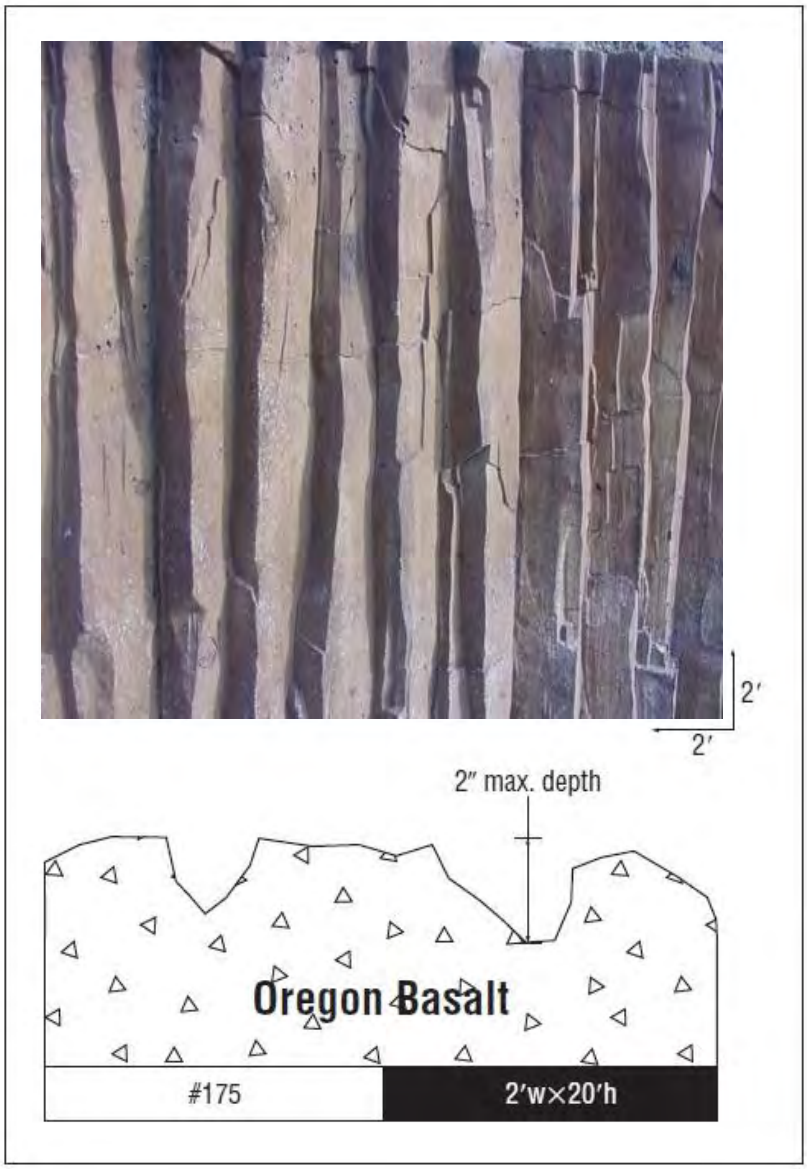
Photograph 6. Alternate view of typical signal building structure (shown in mid-ground left of the highway).

Photograph 7. View of typical guardrail from roadway.

Photograph 8. View of typical wooden pole and wireless signaling appurtenances from roadway (shown directly right of the signal building structure in mid-ground right of the highway and left of the existing double track).

Detail 10. This detail shows the paint color that will be used for the new signal buildings proposed for the project; this color is equivalent to that used on typical existing signal building structures in the Wasco County National Scenic Area. The paint brand is Tiger Drylac and the paint color code is RAL 8012 49/66090 38/60012.

Scott System #175
Oregon Basalt



Detail 11. This detail shows an example of the Oregon Basalt rock wall covering that will be used for the retaining wall proposed for construction at MP 71.27. The exposed concrete surface covering is manufactured by Scott System, Inc., and the specification code is Oregon Basalt #175.

Appendix C
Engineering Drawings – 60% Design

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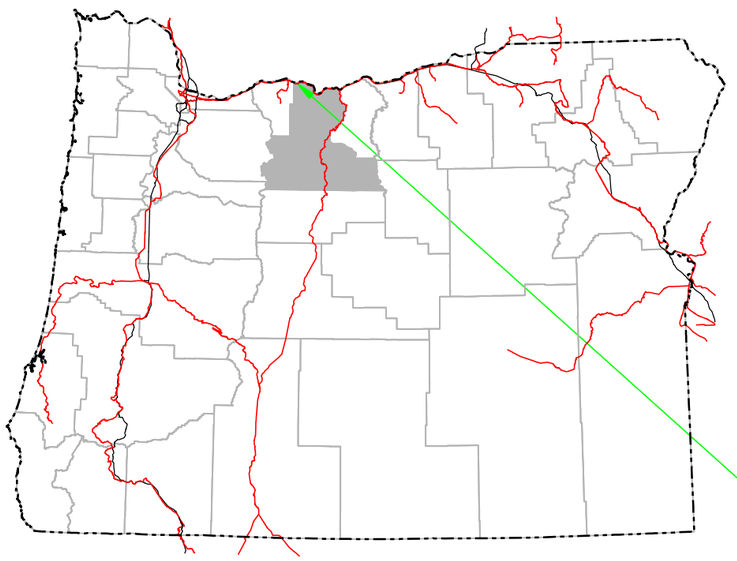
ENGINEERING DESIGN/CONSTRUCTION



State of Oregon

Project Location

Project Location Map

OLSSON ASSOCIATES
2111 South 67th Street, Suite 200
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MOSIER, OREGON
PORTLAND SUBDIVISION
MILE POST 66.98 TO 72.35
CONSTRUCT SECOND MAINLINE

60% PLANS
NOT FOR CONSTRUCTION

WORK ORDER:
PROJECT NUMBER:
BUDGET REFERENCE:

LAST REVISED
10/20/2014

PROJECT INDEX

PROJECT DESIGN	DESCRIPTION
G001	COVER SHEET WITH VICINITY MAP
G002	PROJECT INDEX & REVISIONS
G003	GENERAL NOTES & PROJECT CONTACTS
G004	ABBREVIATIONS & LEGEND
G005	CONTROL POINTS & GEOMETRY
P001 to P022	PLAN & PROFILE
T001 to T009	TYPICAL SECTIONS
D001 to D010	ACCESS DETAIL
D011 to D013	GUARDRAIL DETAIL
D014	FENCE DETAIL
C001 to C007	CULVERT DETAILS
W001	RETAINING WALL DETAIL
X001 to X139	CROSS SECTIONS

STANDARDS	DESCRIPTION
RD400	OREGON DOT - GUARDRAIL AND METAL MEDIAN BARRIER
RD405	OREGON DOT - GUARDRAIL AND METAL MEDIAN BARRIER PARTS
RD415	OREGON DOT - GUARDRAIL AND METAL MEDIAN BARRIER PARTS
RD420	OREGON DOT - ENERGY ABSORBING TERMINAL
RD425	OREGON DOT - NON ENERGY-ABSORBING TERMINAL 3' OR 4' FLARE
RD430	OREGON DOT - GUARDRAIL INSTALLATION WIDE FLARE TERMINAL (EMBANKMENT)
RD450	OREGON DOT - GUARDRAIL ANCHORS (STEEL)
RD810	OREGON DOT - BARBED AND WOVEN WIRE FENCES
RD820	OREGON DOT - FENCE GATES

STRUCTURES DESIGN	DESCRIPTION

PROJECT INDEX (CONTINUED)

MECHANICAL DESIGN	DESCRIPTION

ELECTRICAL DESIGN	DESCRIPTION

PROJECT REVISIONS

REV. #	BY	DATE:	SHEET:	DESCRIPTION

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: G002 of 005

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PROJECT INDEX & REVISIONS

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10/20/2014

GENERAL NOTES

1. Contractors shall notify Service Alert, (800) 642-2444 and UPRR Fiber Optics Hotline (800) 336-9193, 48 hours prior to any excavation. The USA Authorization Numbers shall be kept at the job site.
2. No work whatsoever shall be commenced without first notifying the UPRR Engineer.
3. The Contractor shall comply with all Federal, State, County, and City Laws and Ordinances and Regulations of the Department of Industrial Relations, OSHA, NPDES and Industrial Accident Commission related to the safety and character of the work, equipment and labor personnel.
4. Contractor shall be responsible for coordinating with all Utility agencies.
5. Contractor shall protect in place (by any means necessary) all existing utilities to remain unless otherwise specified herein, contractor shall be responsible for the complete repair at his expense, for any damage to existing utilities, structures, or other site features, as a result of his work.
6. Prior to placing curbs, pavements, base, subbase, track, etc., all underground utilities shall be installed, backfill completed, and the Engineer notified by each of the utility companies having facilities within the work area, that the utility installation has satisfactorily passed acceptance tests.
7. All existing underground utilities, that are not to be re-used shall be abandoned in place. All existing pipelines to be abandoned in place shall be cement slurry filled and capped at least 3'-0" below top of proposed subgrade.
8. Contractor shall verify locations and elevations of existing utilities whether known or unknown prior to beginning construction.
9. Any underground structures such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, and pipelines not located prior to construction shall be brought to the attention of the engineer for determiniation of appropriate action such as removal or treatment in a manner judged suitable to the engineer.
10. Contractor shall coordinate location of all proposed utilities with UPRR to assure accuracy of utility connections and compliance with local codes.
11. Any existing conditions found to be a variance with these drawings must be immediately reported to the Engineer.
12. Contractor shall maintain and clean to the satisfaction of the Engineer, all access and service roads used during construction.
13. Contractor shall perform all construction in such a manner as to protect adjacent existing buildings, and other site elements which are to remain in service.
14. Contractor shall provide As-built Drawings for all improvements.
15. No field changes will be permitted without direct written authorization from the UPRR Engineer or his representative.
16. Contractor shall coordinate work which affects adjacent property owners. Any questions or agreements between adjacent property owners and contractor shall be made in writing. A copy of such agreement shall be provided to the UPRR Engineer or his representative.
17. The contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP) to comply with State regulations. General specifications and typical erosion control details are included in the plan set.
18. Right-of-way lines shown on the plans were taken from existing UPRR right-of-way map and are approximate.
19. Match lines for sheets are based on the existing Main Line stationing unless otherwise specified.
20. Track laying, ballasting, and installation of road crossing panels will be done by UPRR unless otherwise stated.
21. Where existing culverts are to be extended, the contractor shall expose existing drainage structures and field verify size and type before ordering.
22. The contractor is responsible for the removal of all pavement markings that will be in conflict with the proposed work.
23. Contractor shall comply with all OREGON and WASCO COUNTY standard specifications for construction of public improvements requirements. WASCO COUNTY standard specifications shall prevail.
24. Contractor shall maintain at least one access to all affected business. If necessary, multiphase construction shall be utilized.

DESIGN CRITERIA

1. UPRR standard plans and trackworks
2. WASCO COUNTY Public Works Engineering Division
3. OREGON Department of Transportation Roadway Standards

SURVEY NOTES

1. Railroad stationing for project profiles and alignments is based on stations established for chord definition spiraled curves at the centerline of the existing UPRR Main Line unless otherwise noted.
2. The contractor is responsible for the preservation of all survey control monuments. In the event monuments are damaged or destroyed by the contractor, the Engineer will replace the monument solely at the contractor's expense.

	DATUM
HORIZONTAL	MODIFIED STATE PLANE
VERTICAL	NAVD 88

TRAFFIC NOTES

1. All barricades, warning signs, lights, devices, etc. for the guidance of vehicle traffic and pedestrians must conform to the installation shown in the Manual on Uniform Traffic Control Devices (MUTCD), current edition.
2. Contractor shall make twice daily inspections of barricades and flashing lights to ensure proper placement and functioning of warning devices.
3. Grade crossings closed to traffic during construction shall be barricaded in accordance with the MUTCD.
4. At all grade crossings, all grade crossing warning signs (crossbuck) shall temporarily be relocated during construction and reset after the grade crossings construction is completed to a point adjacent to the roadway and 15 feet from the centerline of the near track as stated in the MUTCD except where automatic grade crossing warning signals/gates exisit. All automatic warning devices are the responsibility of UPRR. At no time shall a crossing be left open without proper warning signs in place.
5. Contractor shall submit traffic control plans to WASCO COUNTY PUBLIC WORKS Department for approval at least 2 weeks prior to each road closure. Plans shall be 11" x 17" engineered drawings, sealed by a professional engineer from the STATE OF OREGON.
6. The contractor is responsible for the prompt replacememt and/or repair of all traffic control devices and appurtenances damaged or disturbed due to construction.

PROJECT CONTACTS

CONTACT	PHONE NUMBER	UPRR
		Civil Construction Project Manager
Erin Cully	402.320.8547	Civil Construction Field Manager
Curt Maddex	209.546.7260	Track Construction Project Manager
Mark Wangberg	402.544.3527	Project Design Manager
Ryan Kosola	402.938.2417	Project Design Sr. Project Designer
Mike Bruckner	402.544.7164	Structures Design Sr. Manager
Travis Schafer	402.938.2447	Structures Design Manager
Michael Heald	402.544.3719	Information Technology - Fiber
John Van Gelder	402.544.8532	Real Estate - Utilities
Stephanie Tingley	402.544.5453	Real Estate - Acquisitions

CONTACT	PHONE NUMBER	FIBER

CONTACT	PHONE NUMBER	UTILITIES

CONTACT	PHONE NUMBER	FEDERAL AND LOCAL GOVERMENT AGENCY

PHONE NUMBER	GENERAL
(800) 336-9193	UPRR CALL BEFORE YOU DIG
(888) 258-0808	CALL BEFORE YOU DIG (NATIONAL DIRECTORY)
(888) 877-7267	UPRR Response Management Communications Center (RMCC)

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UNION PACIFIC RAILROAD
Office of Assistant Vice President
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SHEET TITLE:
GENERAL NOTES & PROJECT CONTACTS

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ABBREVIATIONS

MISCELLANEOUS

Ac.	Acres
Ave.	Avenue
Blvd.	Boulevard
Bldg.	Building
BNSF	BNSF Railway
C.Y.	Cubic Yards
Conc.	Concrete
°	Degree (s)
Dia.	Diameter
Dr.	Drive
Dwg.	Drawing
E	East
Elev.	Elevation
Exist.	Existing
'	Foot, Feet or Minute (s)
F.S.	Finished Surface
Horiz.	Horizontal
"	Inch, Inches or Second (s)
Inv.	Invert
Lt.	Left
L	Length
L.F.	Lineal Feet
Max.	Maximum
Min.	Minimum
N	North
NTS	Not to Scale
No.	Number
OH	Overhead
Prop.	Proposed
RR	Railroad
Rwy	Railway
R/W	Right of Way
Rt.	Right
S	South
S.F.	Square Feet
Sta.	Station
Std.	Standard
St.	Street
Twp.	Township
Typ.	Typical
UG	Underground
UPRR	Union Pacific Railroad
V	Velocity
Wt.	Weight
W	West
X-ing	Crossing

SIGNAL

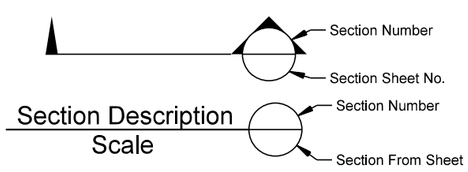
ABS	Automatic Block Signal
ATC	Automatic Train Control
CTC	Centralized Traffic Control
DED	Dragging Equipment Detector
DTC	Direct Traffic Control
ELTO	Electric Lock Turnout
HBD	Hot Box Detector
HTTO	Hand Throw Turnout
HWD	High Wide Dectector
POTO	Power Operated Turnout
TWC	Track Warrant Control
WILD	Wheel Impact Load Dectector

STRUCTURES

Bldg.	Building
Br.	Bridge
CB	Catch Basin
CPT	Concrete Pile Trestle - Ballast Deck
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
Culv.	Culvert
DI	Drop Inlet
DPGBD	Deck Plate Girder - Ballast Deck
DPGOD	Deck Plate Girder - Open Deck
EBW	East Backwall
F.L.	Flowline
F.F.	Finished Floor
GIP	Galvanized Iron Pipe
Hdwl	Headwall
NBW	North Backwall
PSCT	Prestressed Concrete Trestle
RCA	Reinforced Concrete Arch
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
SBW	South Backwall
SSP	Smooth Steel Pipe
SPTBD	Steel Pile Trestle - Ballast Deck
SPTOD	Steel Pile Trestle - Open Deck
SPP	Structural Plate Pipe
TPGBD	Through Plate Girder - Ballast Deck
TPGOD	Through Plate Girder - Open Deck
TPTBD	Timber Pile Trestle - Ballast Deck
TPTOD	Timber Pile Trestle - Open Deck
TTBD	Through Truss - Ballast Deck
TTOD	Through Truss - Open Deck
TWB	Treated Wood Box
VCP	Vitrified Clay Pipe
Viad.	Viaduct
WBW	West Backwall
WIP	Wrought Iron Pipe

TRACK

ATR	Above Top of Rail
Align.	Alignment
BBR	Below Base of Rail
Cntrs.	Centers
CWR	Continuous Welded Rail
DSPD	Double Switch Point Derail
EOT	End of Track
HH	Head Hardened
Jtd.	Jointed Rail
LH	Left Hand
ML	Main Line
MM	Mile Marker
MP	Mile Post
NSC	Not Sufficient Clearance
OTM	Other Track Material
PCC	Point of Compound Curve
PC	Point of Curve
PCS	Point of Curve to Spiral
POC	Point on Curve
PF	1/2" Point of Frog
PI	Point of Intersection
PITO	Point of Intersection of Turnout
PS	Point of Spiral
PSC	Point of Spiral to Curve
POS	Point on Spiral
PT	Point of Tangent
POT	Point on Tangent
Pt. Sw.	Point of Switch
PVC	Point of Vertical Curve
PVI	Point of Vertical Intersection
PVT	Point of Vertical Tangent
RH	Right Hand
SH	Second Hand
SSPD	Single Switch Point Derail
TC	Track Centers
T.F.	Track Feet
Trk.	Track
UXO	Universal Cross-Over
X-Over	Cross-Over



UTILITIES

- AIR — Compressed Air
- F/O — Fiber Optic Cable
- G — Gas Pipeline
- OHP — Overhead Power Line
- SS — Sanitary Sewer
- Overhead Signal Line
- UGS — Underground Signal Line
- Steam Line
- S — Storm Sewer
- T — Telephone
- UGE — Underground Electric
- W — Water Main
- Underground Wire
- Under Drain
- V. — Valve
- M.H. — Manhole
- C.B. — Catch Basin
- F.H. — Fire Hydrant
- Junction Box
- Electric Meter
- Gas Meter
- Water Meter
- M.W. — Monitoring Well
- PUMP — Pump

TRACK

- Existing Mainline
- Existing Siding or Spur
- Proposed
- Remove
- Shift
- Relay
- Future
- Foreign Railroad or Industry
- In Buildings or Under Structures
- Turnout
- Wheel Stop
- Bumping Post
- Earthen Bumper
- 56' — Inert Retarder
- 52' — Dowty Retarder
- Derail
- Switch Point Derail or Double Switch Point Derail

PROPERTY

- Section Line
- Center Section Line
- Parcel or Easement Line
- Right of Way
- Former Right of Way
- Right of Way to be Acquired
- Foreign Right of Way
- Temp. Const. Easement

SYMBOLS

ROAD CROSSING WARNING DEVICES

- Crossbuck Sign
- Flashing Light Warning Device
- Flashing Light Warning Device with Gate
- Cantilever Flashing Light Warning Device
- Cantilever Flashing Light Signal with Gate

SIGNAL

- Absolute Signal
- Signal Bridge
- Cantilever Signal
- ACS or CTC Signal
- Dwarf Signal
- Begin CTC
- Microwave Tower
- AEI — AEI
- BB — Battery Box
- Dragging Equipment Detector
- GEN. — Generator
- Hot Box Detector

STRUCTURES

- Culvert
- Culvert with Headwalls
- Double Culvert
- Railroad Bridge
- Highway Overpass
- Highway Underpass
- Tunnel
- Building
- FP — Flag Pole

LIGHTING

- Light Pole
- Light Tower

SIGNS

- Stop
- Yard Limit
- 1 Mile to Yard Limit
- W — Whistle Post
- Flanger
- Station
- Reduce Speed
- Resume Speed
- General Purpose

FENCES

- Barbed Wire
- Chain Link
- Snow / Sand
- Cattle Guard

ROADS

- Paved Road
- Unimproved Road
- 80 — Interstate Highway
- 20 — Federal Highway
- 58 — State Highway
- C3 — County Highway

OTHER

- Wetlands
- River or Lake
- Ordinary High Water Mark
- Embankment
- Flow Line
- Milepost
- MM — Milemarker
- 15 — Control Point
- 1 — Revision Number
- Revision Cloud

CONSTRUCTION

- Note — Note (Work by Contractor)
- Note — Note (Work by Others)
- Cut Lines
- Fill Lines

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
ABBREVIATIONS & LEGEND

PC 1 2-326

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Control Points					
Point No.	Project Track	Offset	Northing	Easting	Elevation
1	1565+99.66	694.79 LT	737710.672	7972746.41	102.858
2	1465+14.38	51.61 LT	739043.708	7963067.99	103.387
3	1538+97.75	41.93 LT	738128.801	7970088.805	108.412
4	1487+00.73	43.74 LT	738192.81	7965024.796	101.483
5	1498+84.69	42.74 LT	737875.108	7966165.335	103.723
6	1744+57.90	507.48 RT	741146.766	7988058.146	220.078
7	1456+00.55	19.06 LT	739647.696	7962381.518	99.286
8	1478+89.33	20.51 LT	738387.492	7964236.761	101.015
9	1493+32.56	37.29 LT	738017.565	7965631.872	102.167
10	1508+18.99	51.57 LT	737678.766	7967069.122	106.739
11	1516+53.94	51.22 LT	737716.362	7967884.966	106.071
12	1522+94.02	44.11 LT	737868.104	7968502.646	100.053
13	1536+13.19	37.58 LT	738162.904	7969795.559	98.432
14	1547+56.43	18.54 LT	737677.643	7970829.14	101.562
15	1555+13.97	21.56 LT	737375.488	7971513.688	101.285
16	1562+68.75	19.41 LT	737157.903	7972236.432	101.423
17	1575+37.07	18.92 RT	736884.136	7973467.352	102.027
18	1582+67.79	19.30 LT	737226.892	7974111.591	101.842
20	1556+40.00	197.33 RT	737129.726	7971571.969	102.477
21	1479+60.97	39.50 LT	738386.627	7964310.867	101.247
22	1582+97.26	230.19 LT	737422.648	7974027.786	111.562
23	1590+56.18	21.45 RT	737635.34	7974787.085	101.519
24	1598+46.72	18.49 RT	738144.83	7975391.319	101.690
25	1630+01.40	36.42 LT	740298.083	7977656.809	96.343
26	1637+67.88	14.65 RT	740844.582	7978196.538	102.106
27	1646+01.85	47.83 LT	741463.276	7978763.333	104.340
28	1652+79.61	29.85 RT	741723.773	7979395.311	100.344
29	1665+43.16	19.68 LT	742267.601	7980536.643	99.793
30	1673+00.46	19.07 LT	742543.783	7981243.743	101.597
31	1685+95.74	19.35 RT	742579.818	7982528.028	102.033
32	1694+03.60	14.37 RT	742374.062	7983306.238	101.534
33	1700+84.98	54.88 RT	742135.655	7983945.84	101.014
34	1701+47.14	32.47 LT	742200.956	7984030.859	100.835
35	1707+96.66	25.49 LT	742016.399	7984651.011	102.643
36	1720+24.73	11.48 LT	741897.659	7985860.545	100.593
37	1728+05.41	22.60 LT	742034.17	7986629.865	103.046
38	1735+80.71	10.20 RT	741907.519	7987390.43	102.683
39	1743+73.91	22.48 LT	741675.851	7988149.664	101.670
40	1751+06.57	18.41 LT	741497.105	7988854.096	102.545
41	1563+91.65	100.00 RT	737008.37	7972320.114	135.610
200	1448+90.76	13.06 LT	740131.565	7961862.739	99.993
201	1564+44.85	12.12 LT	737100.633	7972403.115	101.325
202	1640+85.55	13.09 RT	741080.114	7978408.412	102.757
3571	1584+62.11	50.67 RT	737267.456	7974314.105	98.497

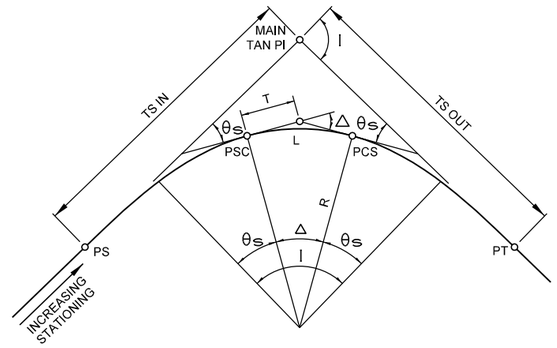

FIGURE A
CIRCULAR CURVES WITH SPIRAL TRANSITION

I - TOTAL INTERSECTION ANGLE

θ_S - SPIRAL ANGLE = $\frac{A L^2}{2}$

Δ - CENTRAL ANGLE OF CIRCULAR CURVE = $I - 2\theta_S$

Dc - DEGREE OF CURVE

A - RATE OF CHANGE OF DEGREE OF CURVE PER 100-ft. OF LENGTH = $\frac{Dc}{L}$

R - RADIUS OF CIRCULAR CURVE

T - TANGENT LENGTH OF CIRCULAR CURVE = R TAN $\frac{\Delta}{2}$

L - LENGTH OF CIRCULAR CURVE = $\frac{\Delta}{Dc}$ x 100

PS - TANGENT TO SPIRAL

PSC - SPIRAL TO CURVE

PCS - CURVE TO SPIRAL

PT - SPIRAL TO TANGENT

MAIN TAN PI - POINT OF INTERSECTION OF MAIN TANGENTS

(TS IN)
(TS OUT) - TANGENT LENGTH OF COMPLETE CURVE = (R+o) TAN $\frac{I}{2}$ + t

(WHEN SPIRALS OF EQUAL LENGTH ARE USED ON BOTH SIDES OF CIRCULAR CURVE, SEE FIGURE C. FOR o AND t).

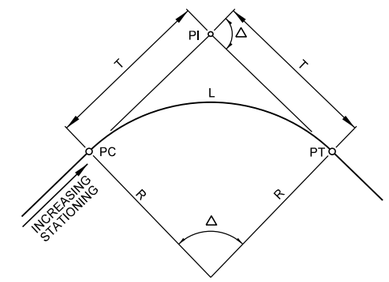

FIGURE B
SIMPLE CIRCULAR CURVE

R = RADIUS OF CIRCULAR CURVE

Δ = CENTRAL ANGLE OF CIRCULAR CURVE

T = R TAN $\frac{\Delta}{2}$

L = $\frac{\Delta}{Dc}$ x 100

Dc = 2 SIN^{-1} (50/R) = DEGREE OF CURVE (CHORD DEFINITION)

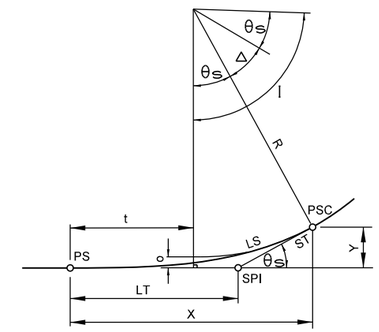

FIGURE C
SPIRAL TRANSITION CURVE

SPIRAL TRANSITION CURVE DATA:
THE SPIRAL USED IS DEFINED BY THE TALBOT SPIRAL.

LS = LENGTH OF SPIRAL (TS TO PSC)

$\theta_S = \frac{A L^2}{2}$

$X = 100 L_1 - 0.000762 A^2 L_1^5$

$Y = 0.291 A L_1^3 - 0.00000158 A^3 L_1^7$

$o = 0.0727 A L_1^3$

$t = 50 L_1 - 0.000127 A^2 L_1^5$

$ST = \frac{Y}{SIN\ \theta_S}$

$LT = X - \frac{Y}{TAN\ \theta_S}$

Dc = 2 SIN^{-1} (50/R) = DEGREE OF CURVE (CHORD DEFINITION)

L_1 - TOTAL NO. OF STATIONS IN SPIRAL

SPI - SPIRAL POINT OF INTERSECTION

NOTE: Dc, θ_S, Δ, AND I ARE IN DEGREES.
ALL OTHERS DIMENSIONS ARE FEET.

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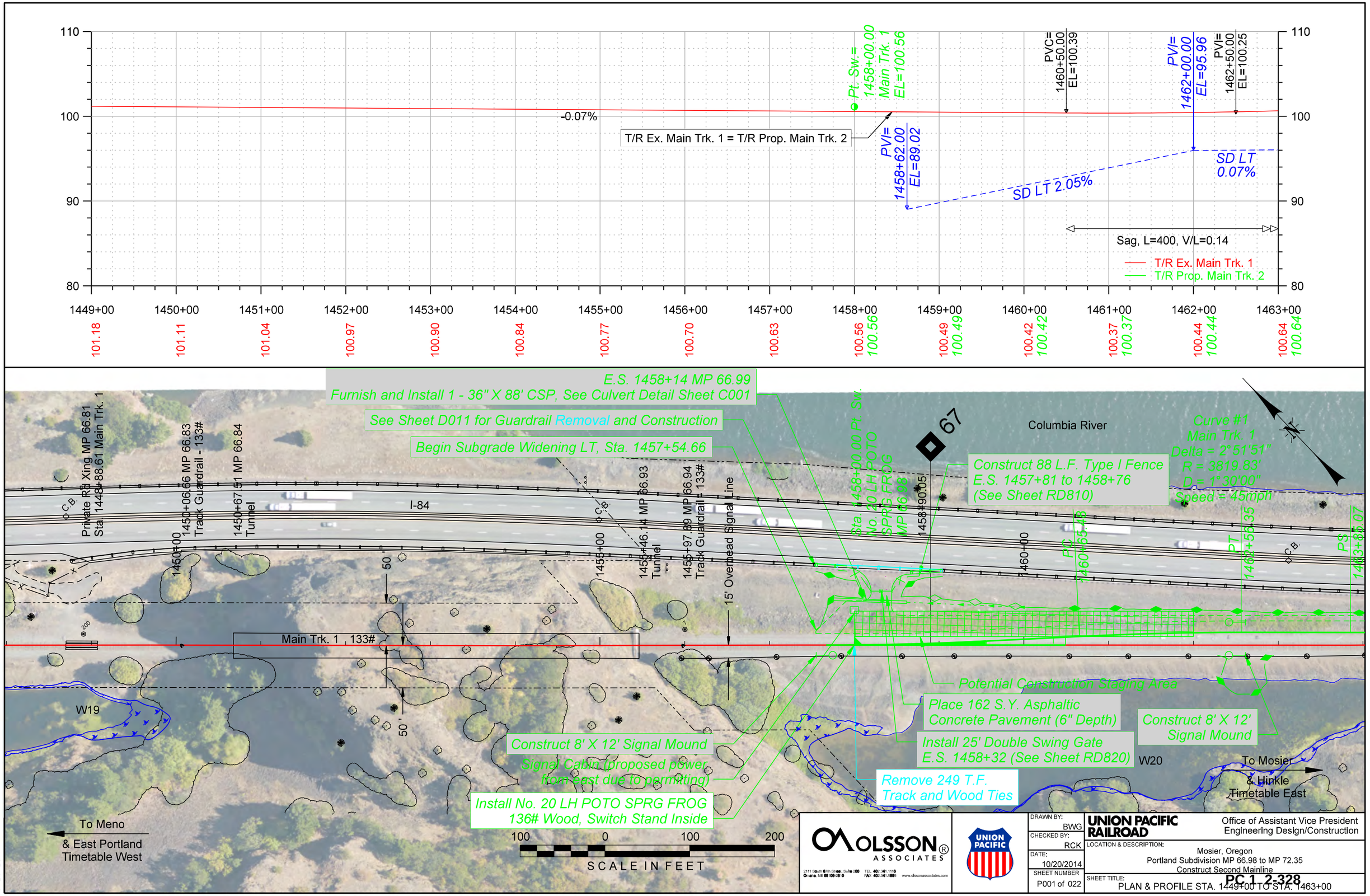
10/20/2014



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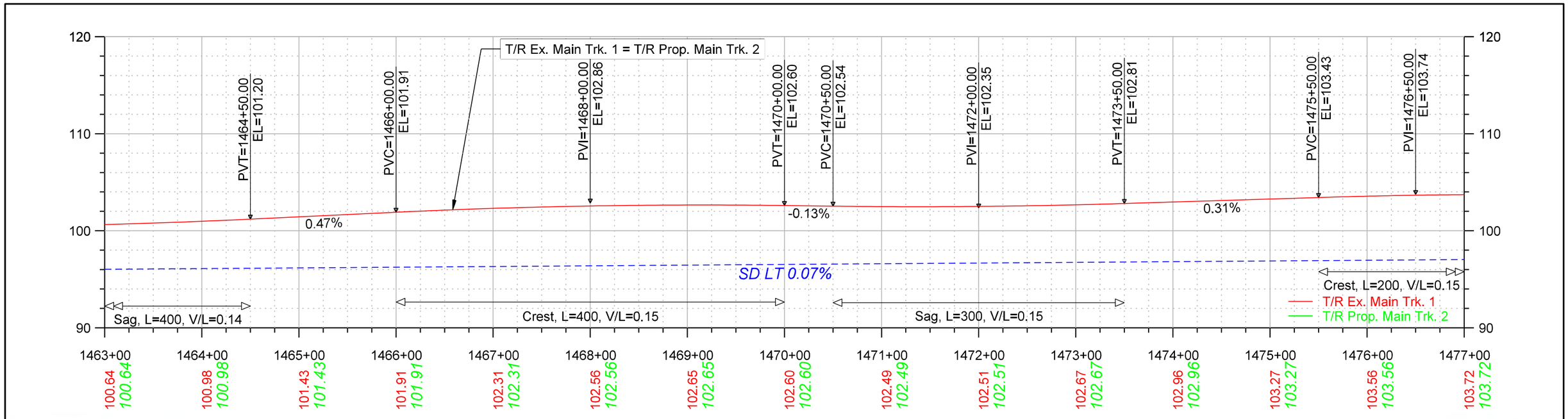
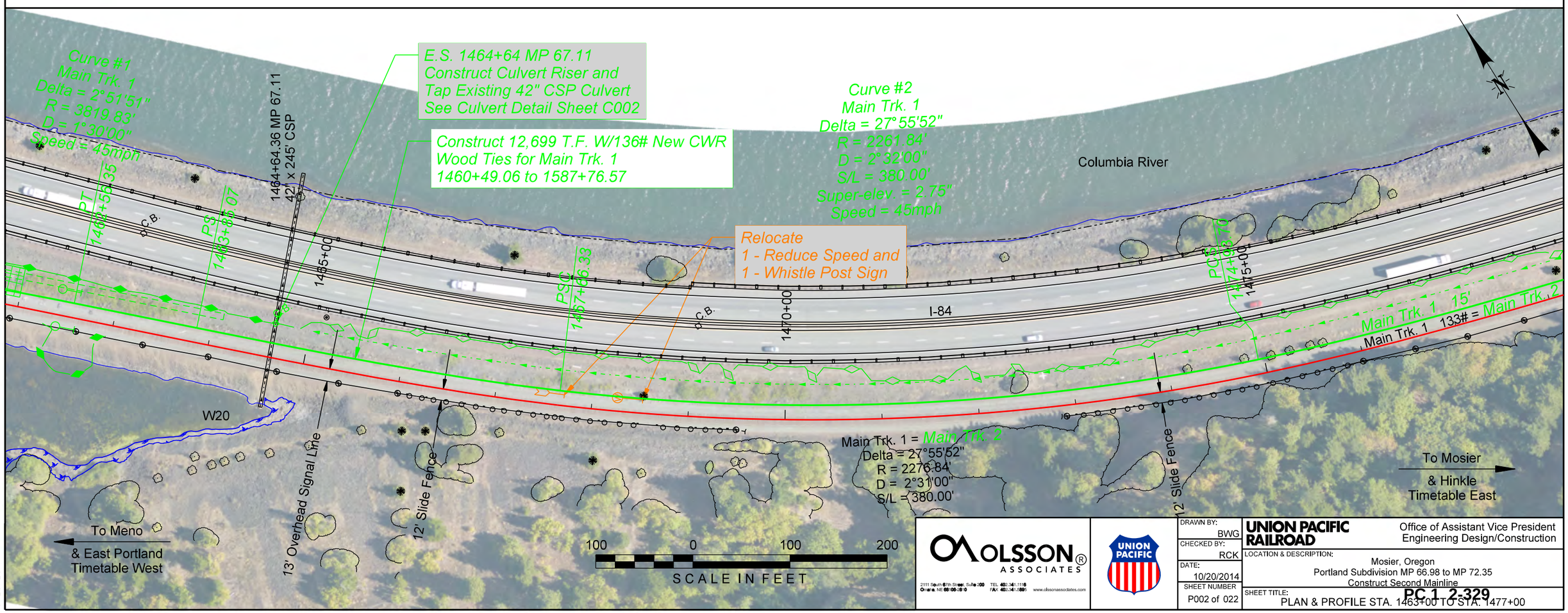
10/20/2014





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CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	P002 of 022

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1463+00 TO STA. 1477+00

PC 1 2-329

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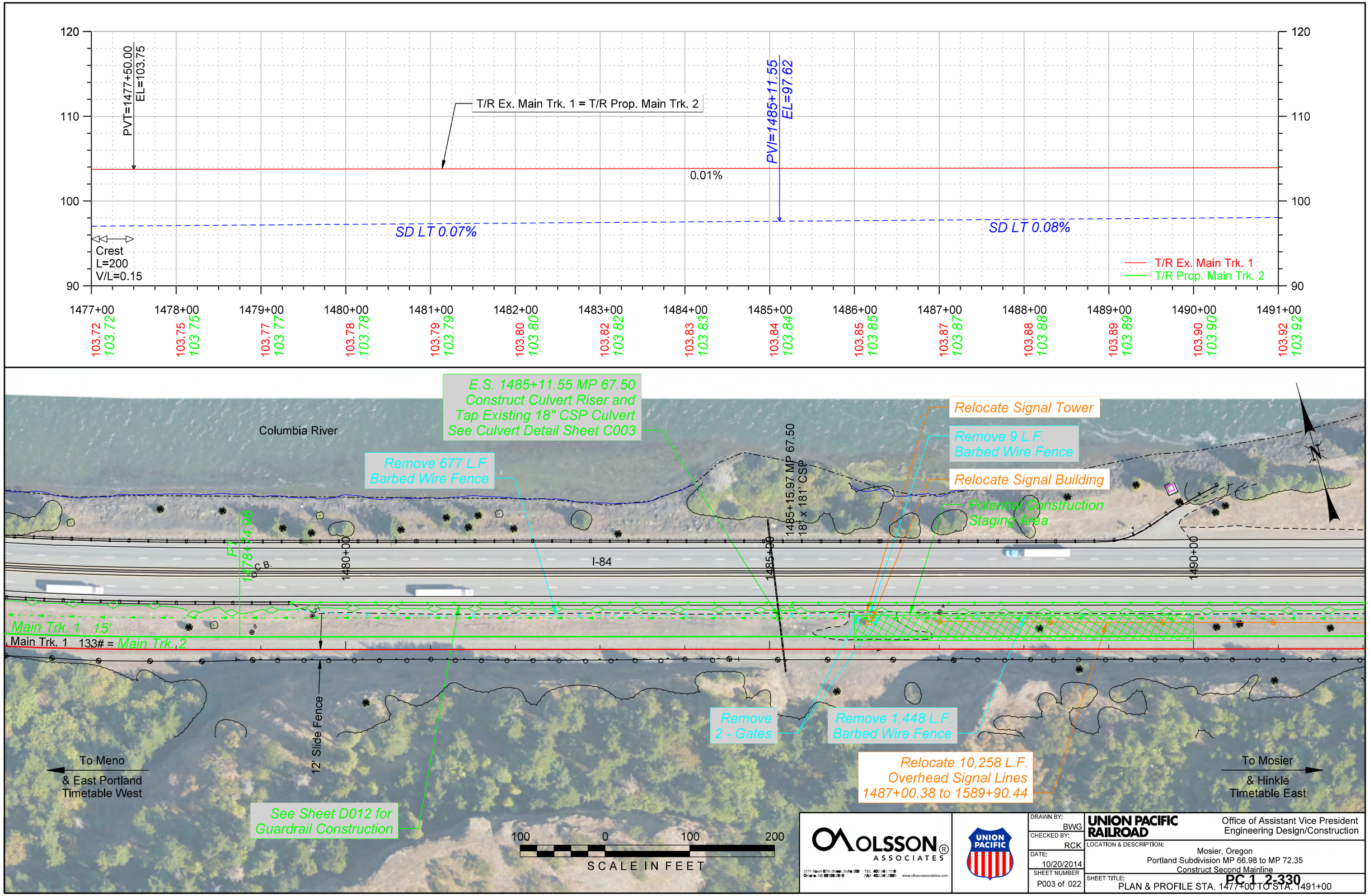
10/20/2014



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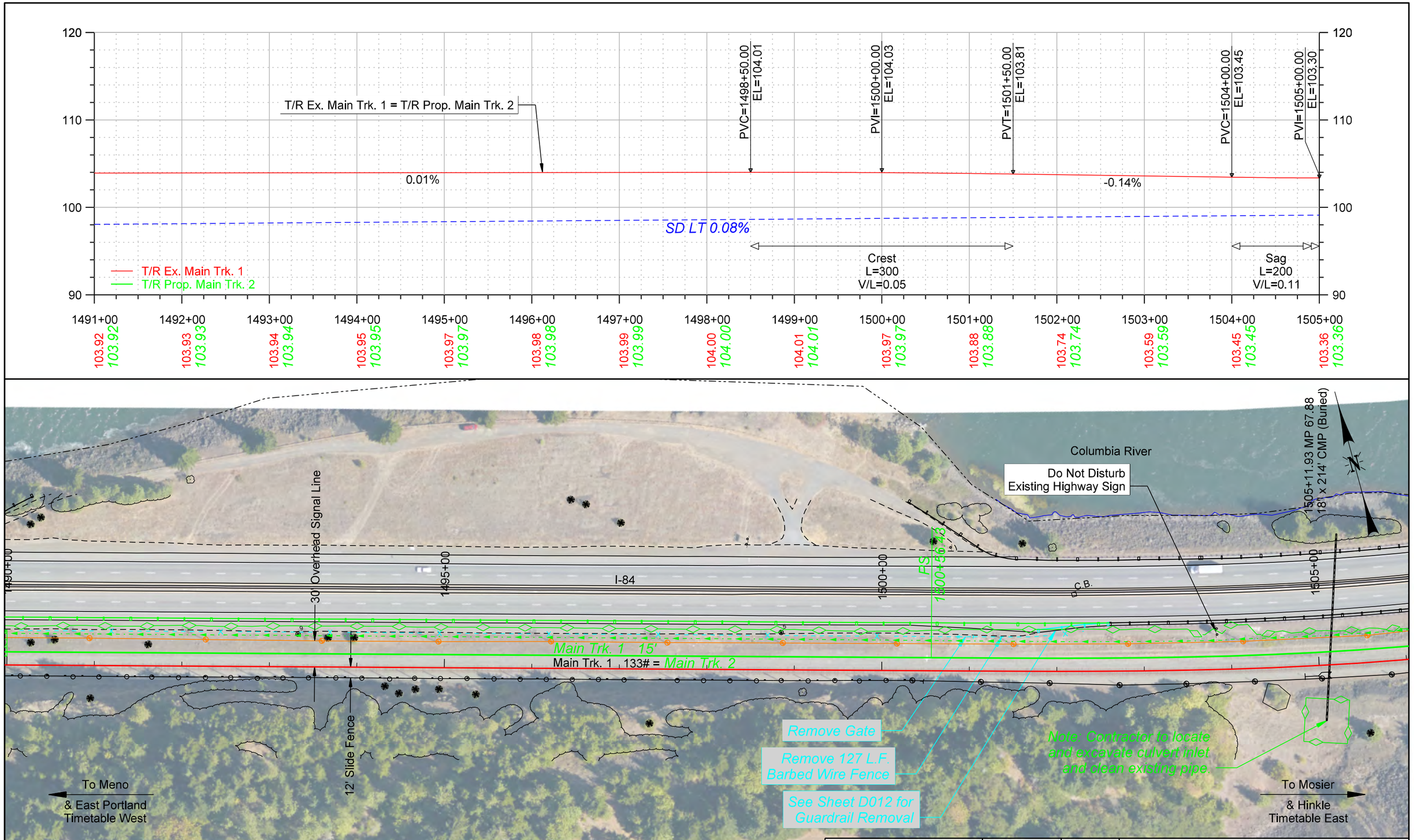
10/20/2014



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DATE:	10/20/2014
SHEET NUMBER	P004 of 022

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1491+00 TO STA. 1505+00

PC 1 2-331

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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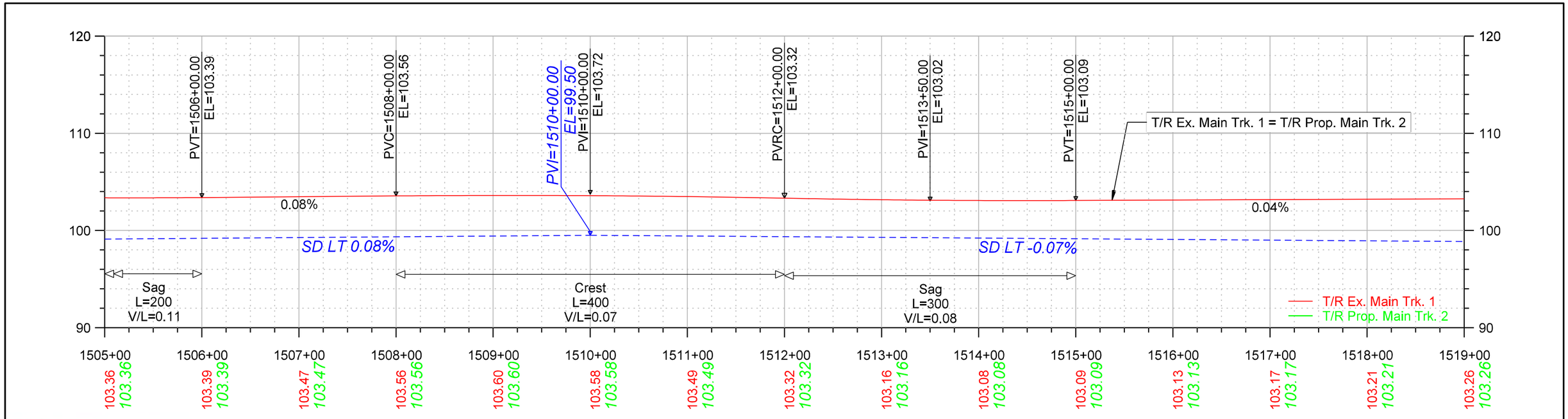
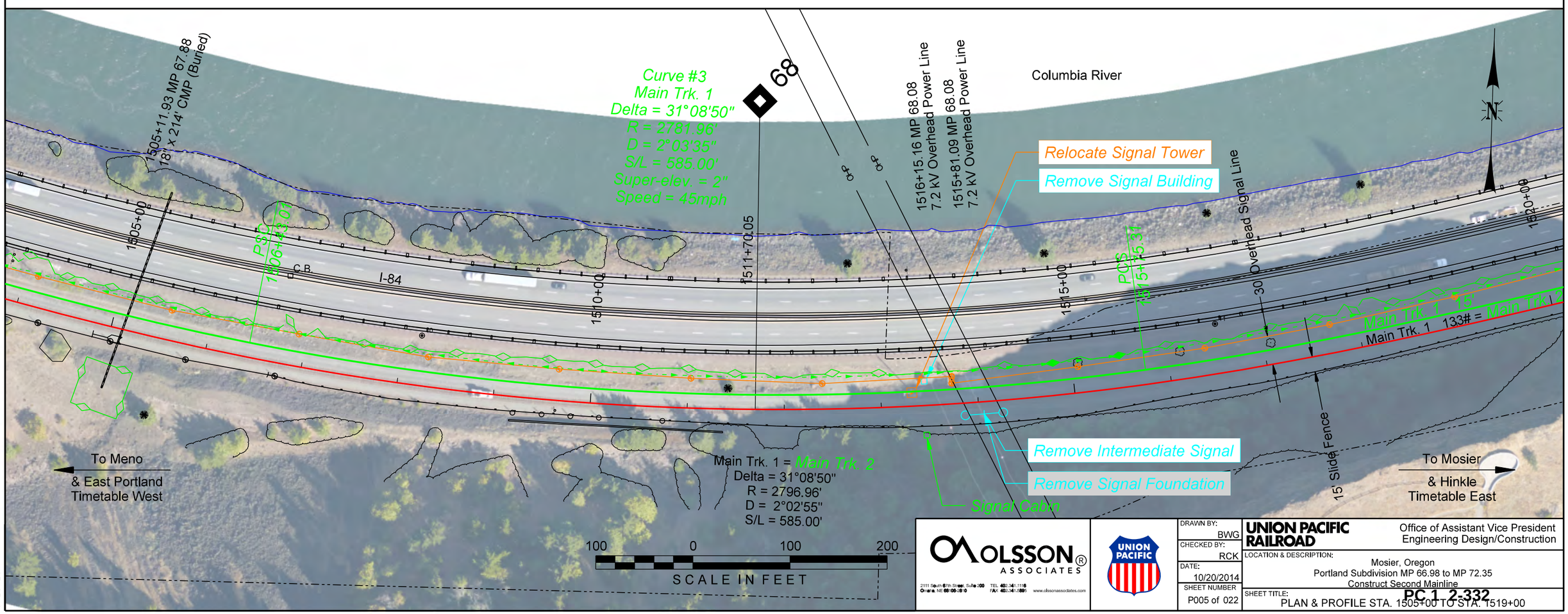
Default
10/20/2014





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SHEET NUMBER	P005 of 022

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1505+00 TO STA. 1519+00

PC 1-2-332

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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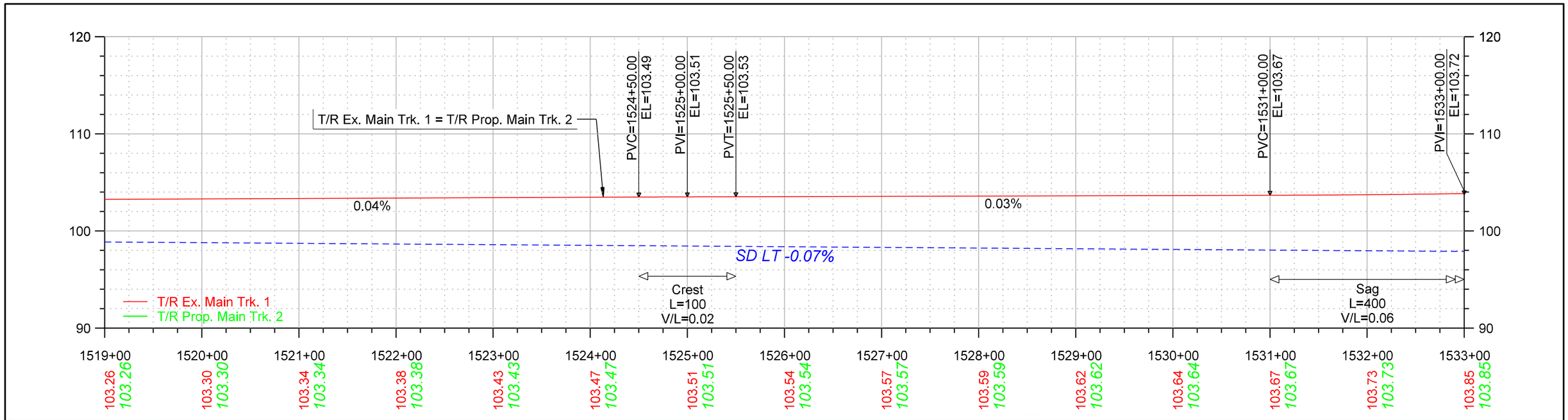
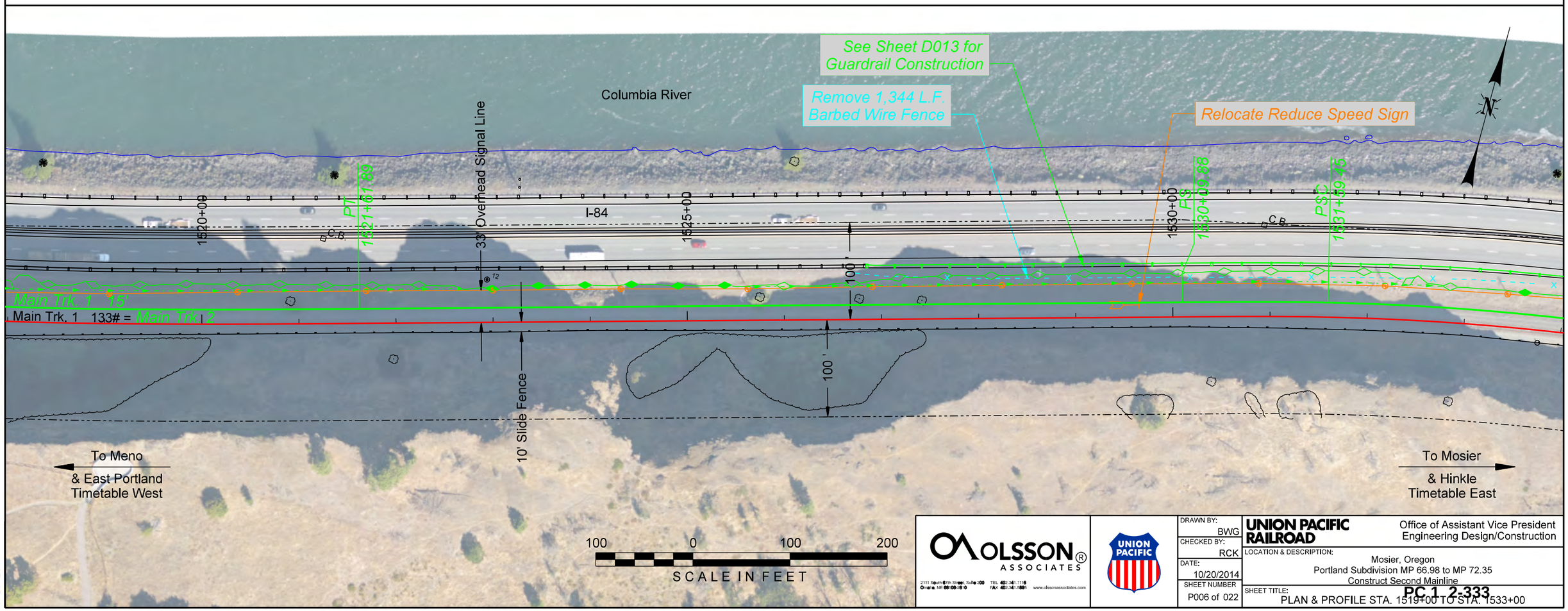
10/20/2014





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DATE:	10/20/2014
SHEET NUMBER	P006 of 022

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1519+00 TO STA. 1533+00

PC 1-2-333

Color table:F:\PROJECTS\011-1345\color\UPRR.tbl
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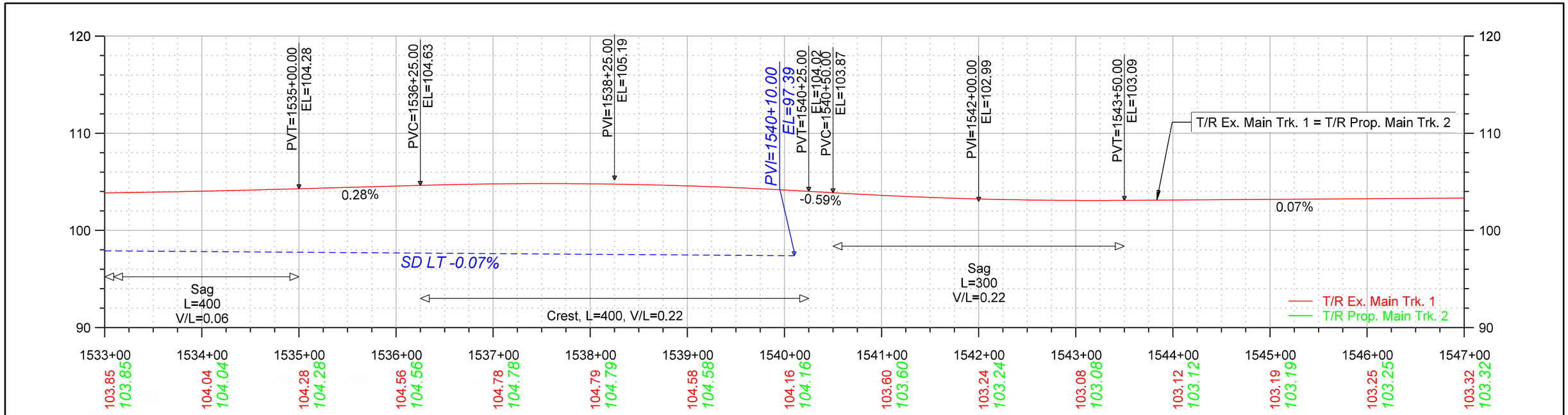

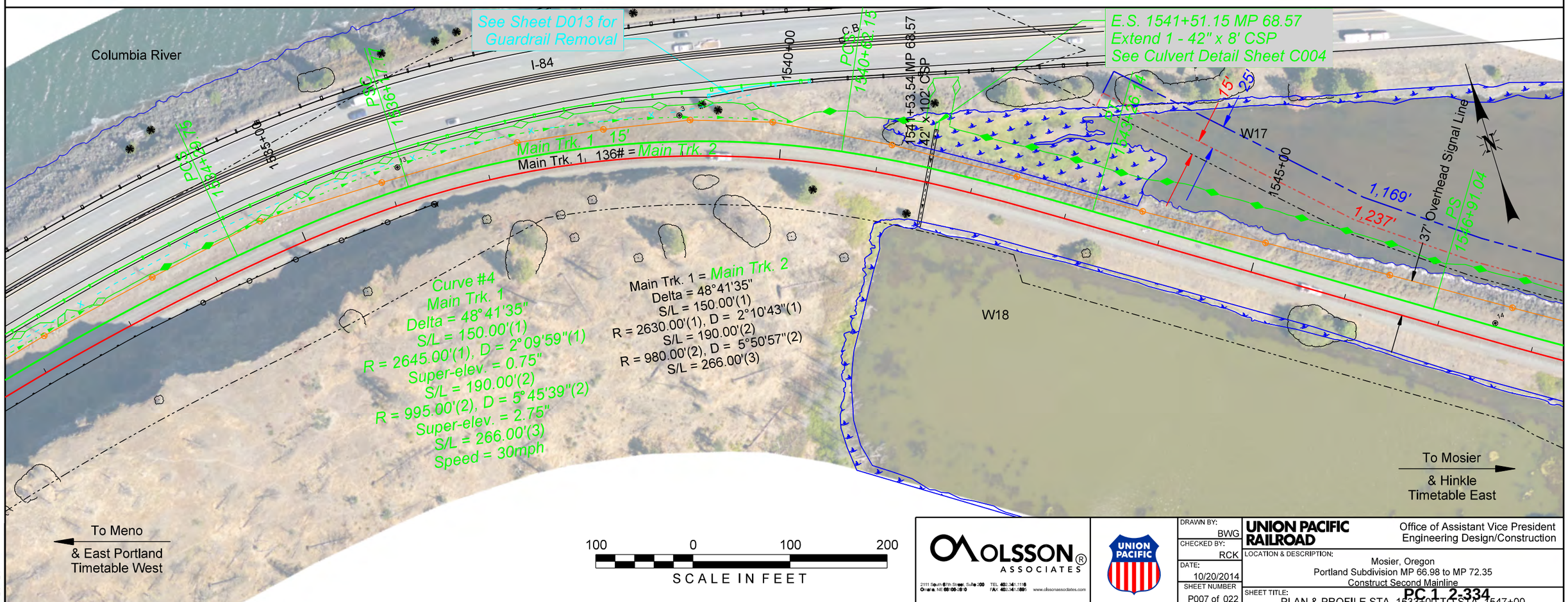

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DATE:	10/20/2014
SHEET NUMBER	P007 of 022

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1533+00 TO STA. 1547+00

PC 1 2-334

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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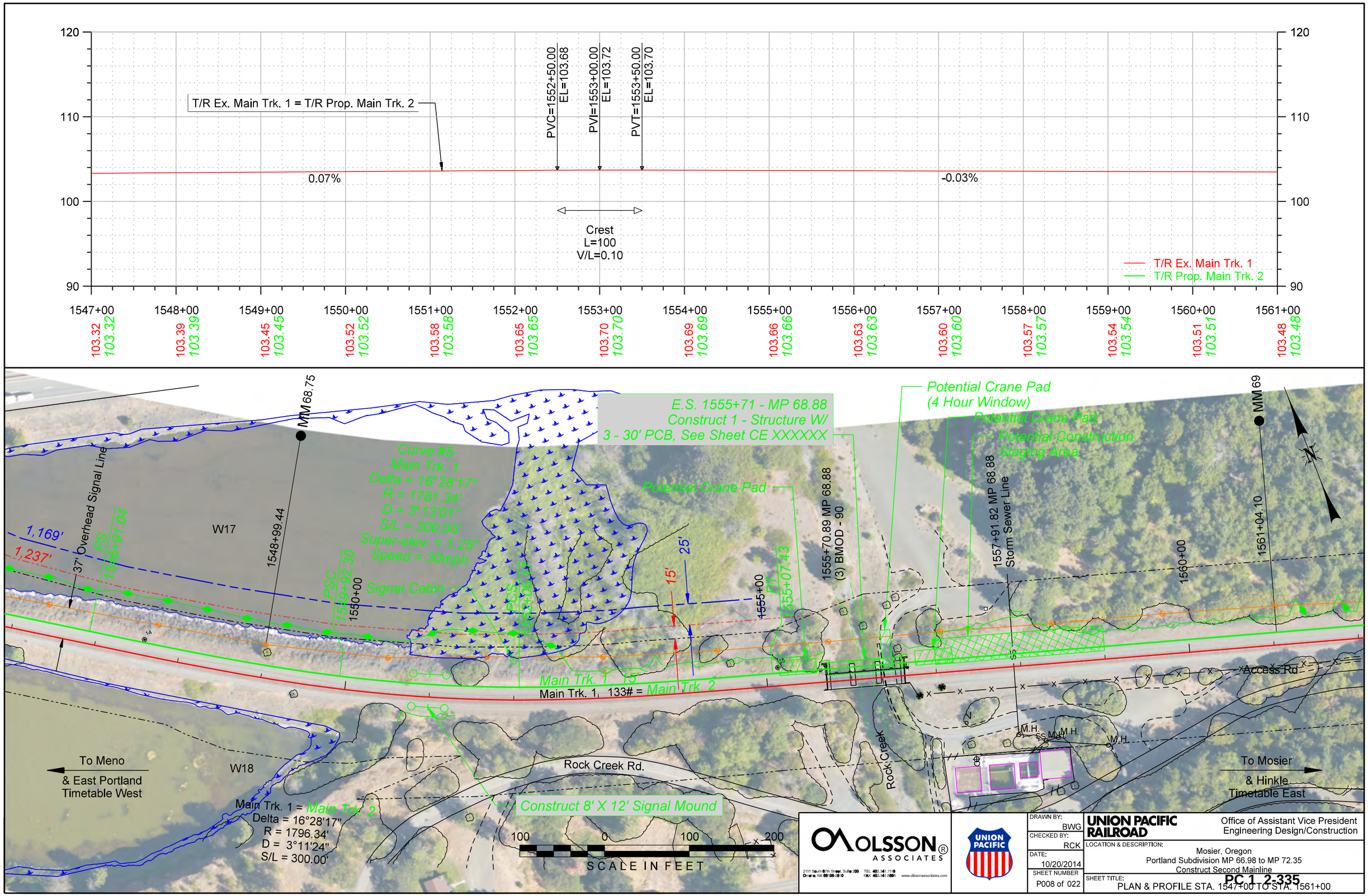
10/20/2014



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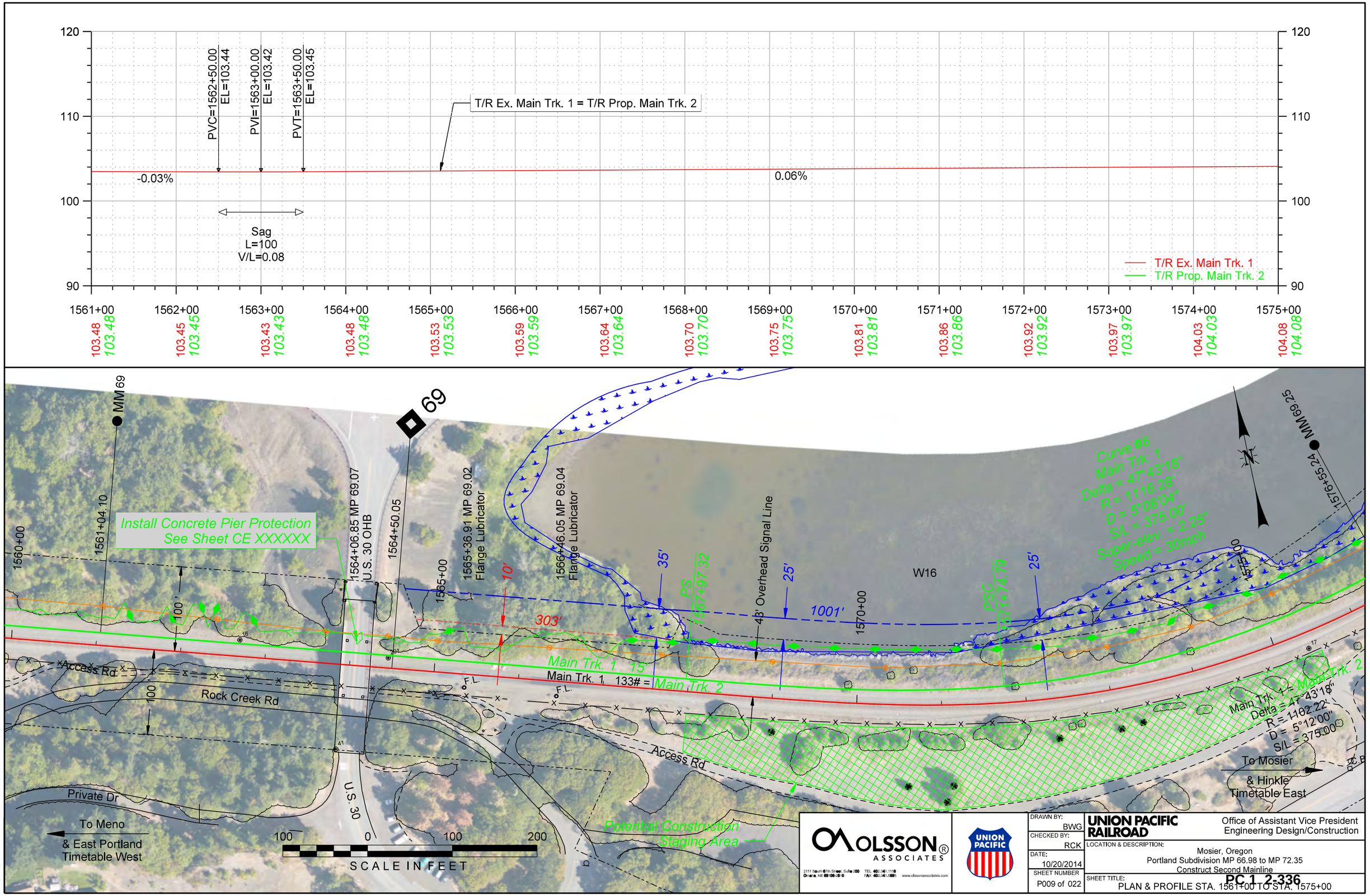
10/20/2014



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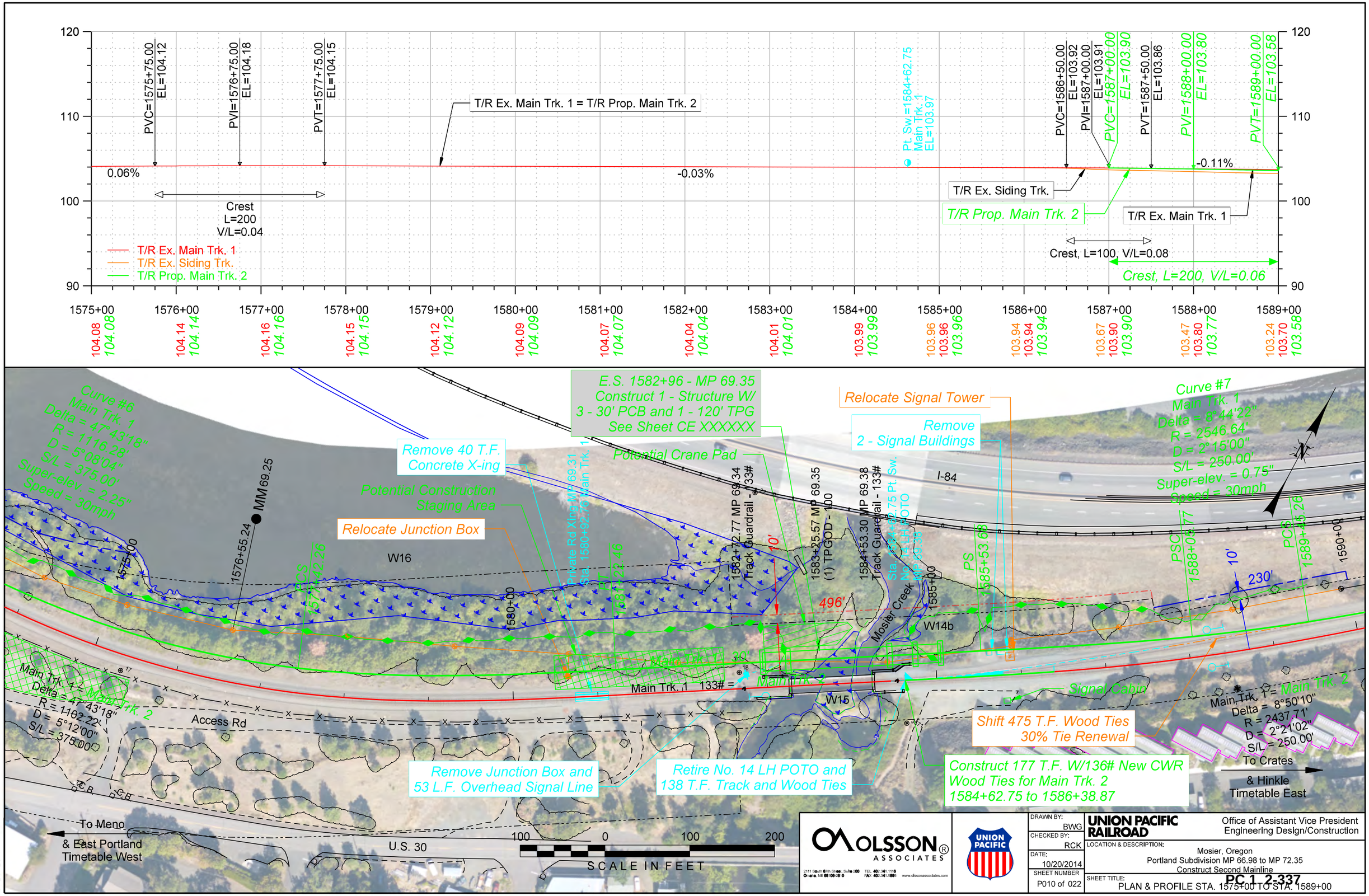
10/20/2014



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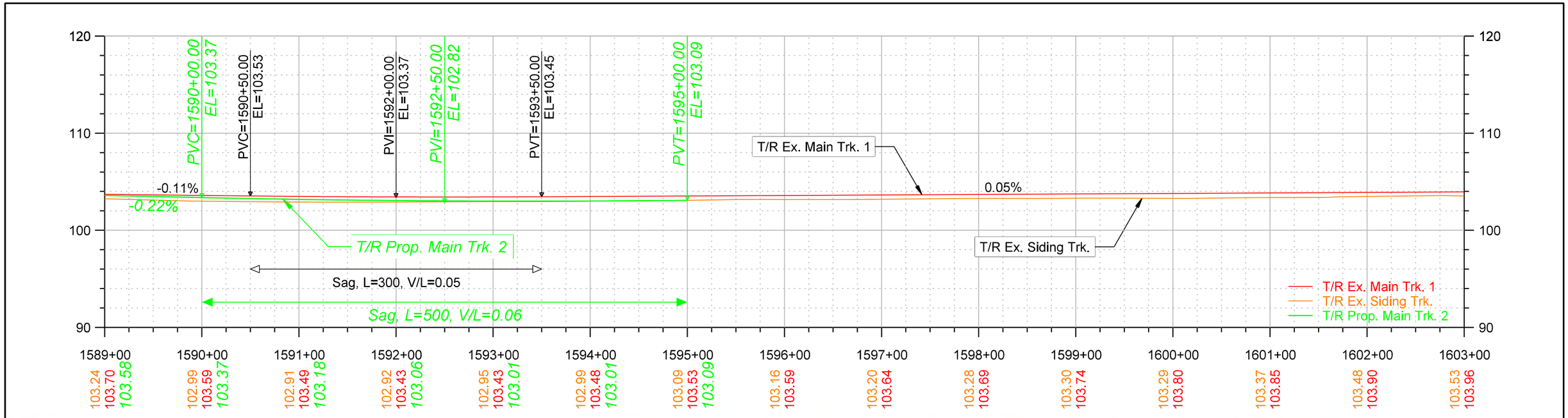
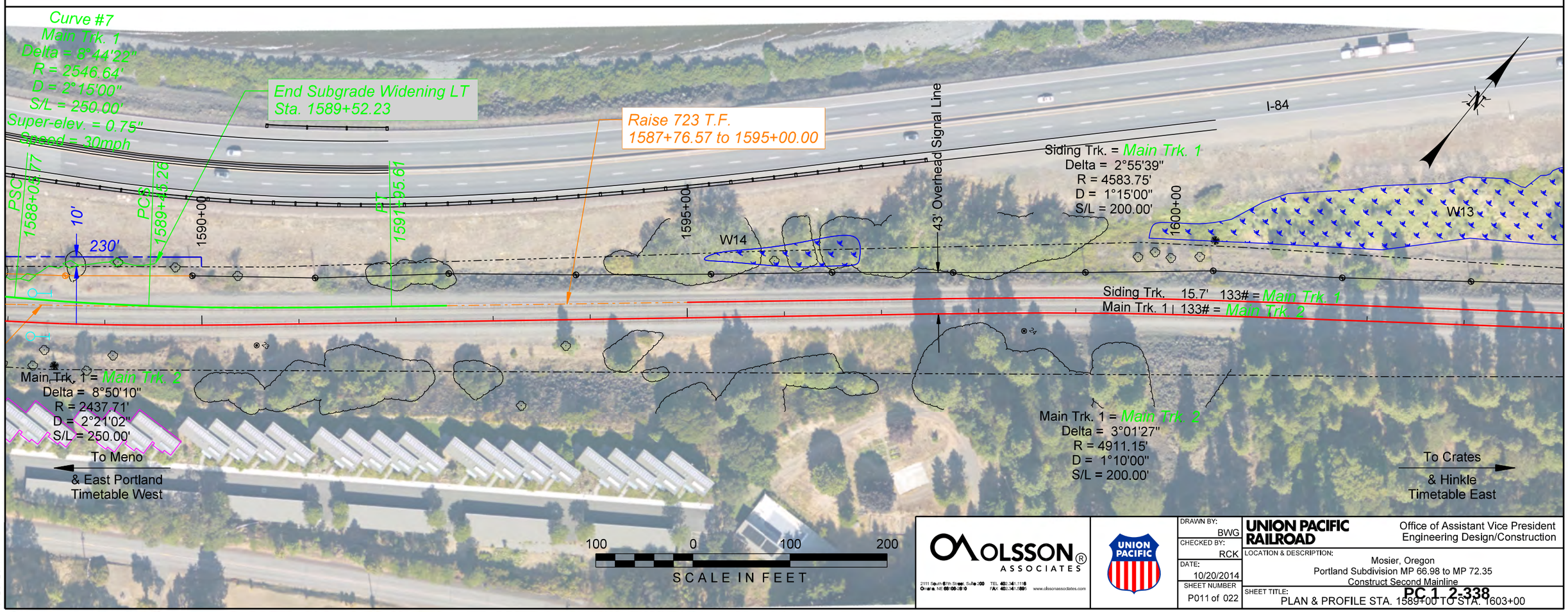
10/20/2014





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SHEET NUMBER	P011 of 022

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1589+00 TO STA. 1603+00

PC 1 2-338

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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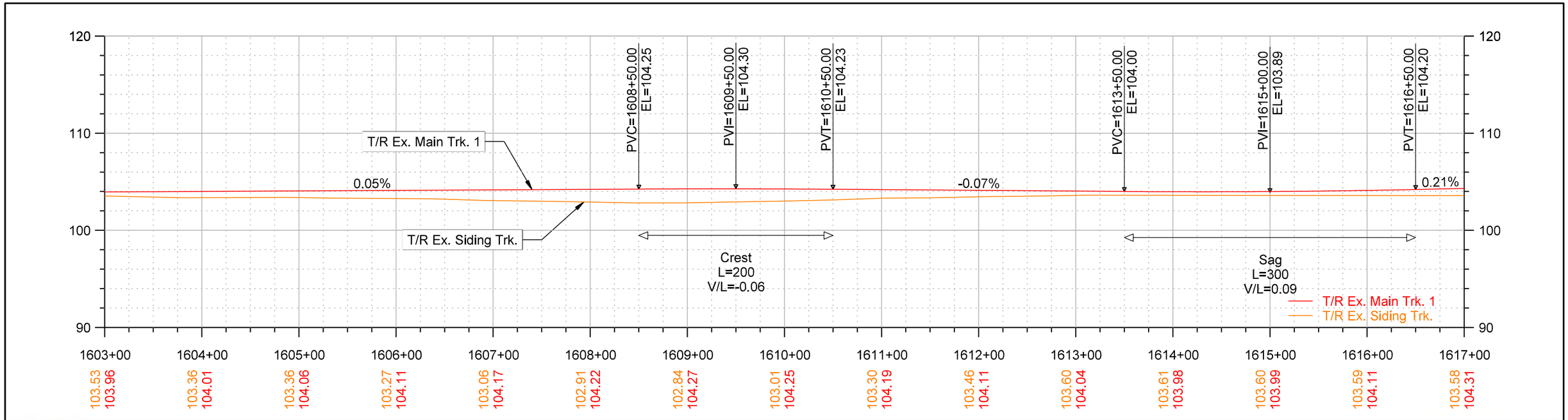
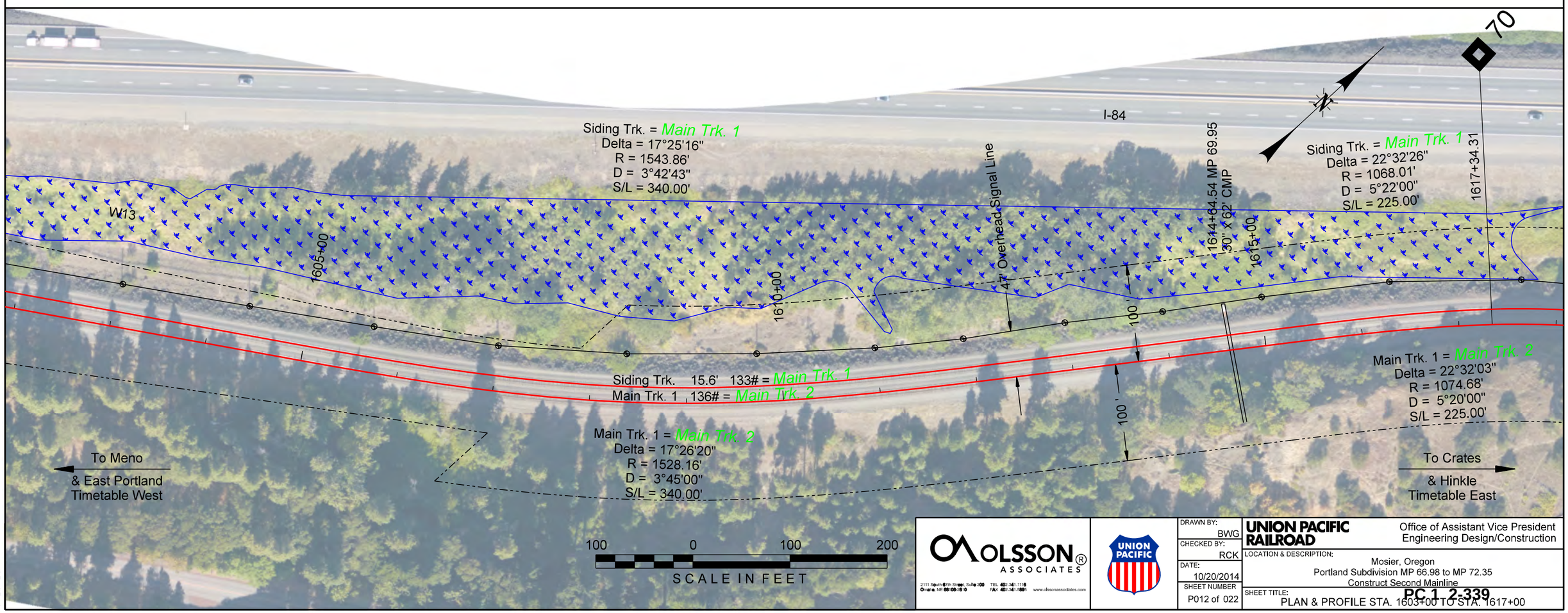
10/20/2014





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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1603+00 TO STA. 1617+00

PC 1 2-339

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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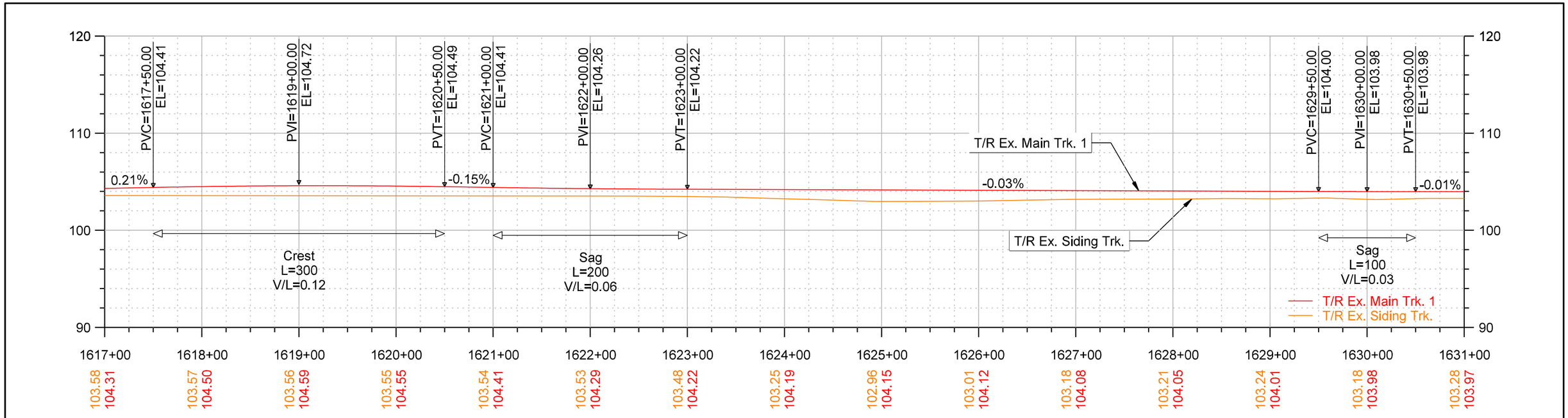
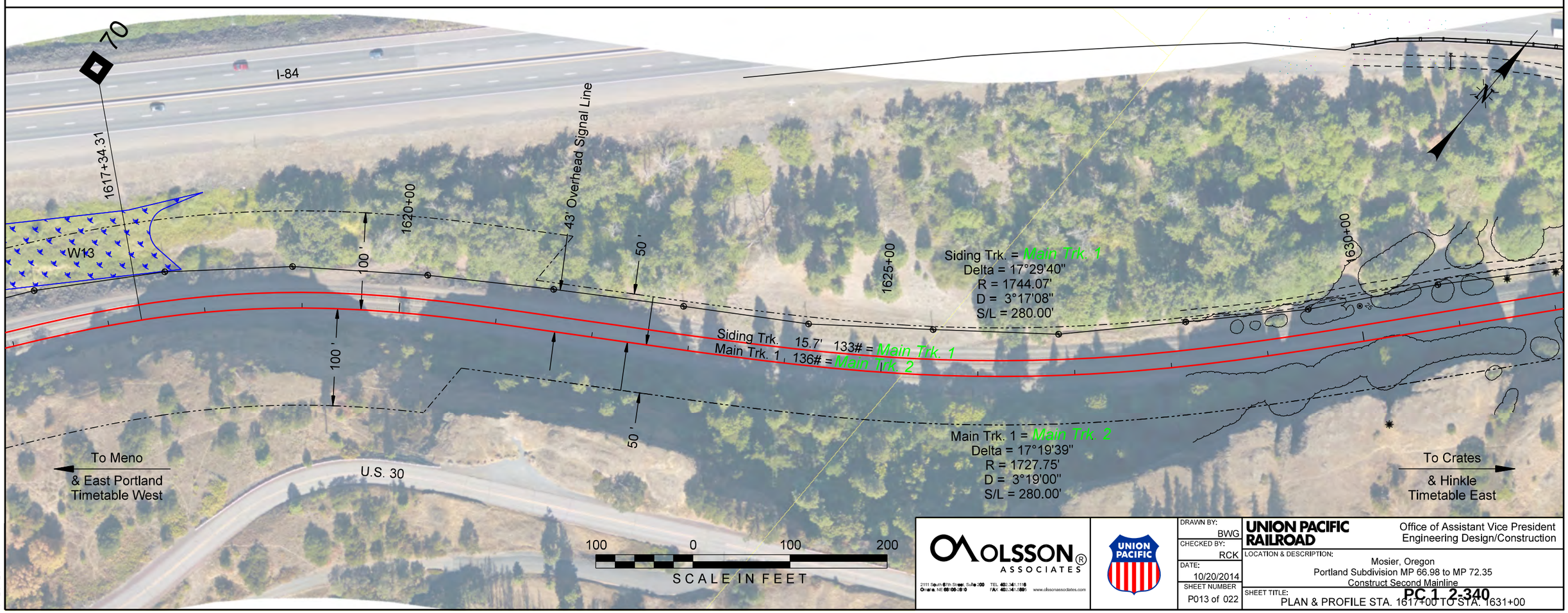
10/20/2014





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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1617+00 TO STA. 1631+00

PC 1-2-340

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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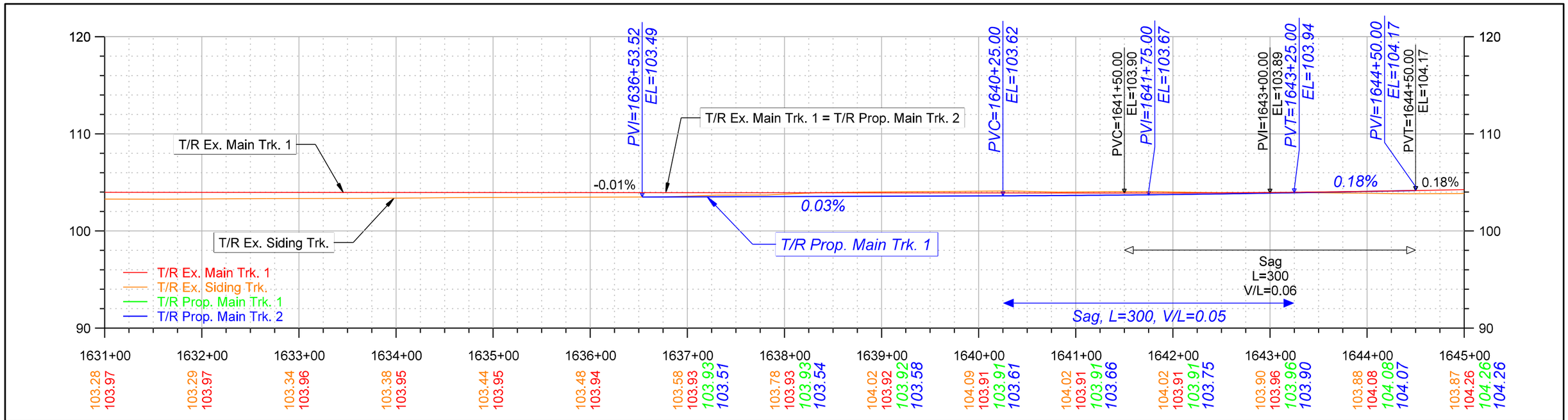
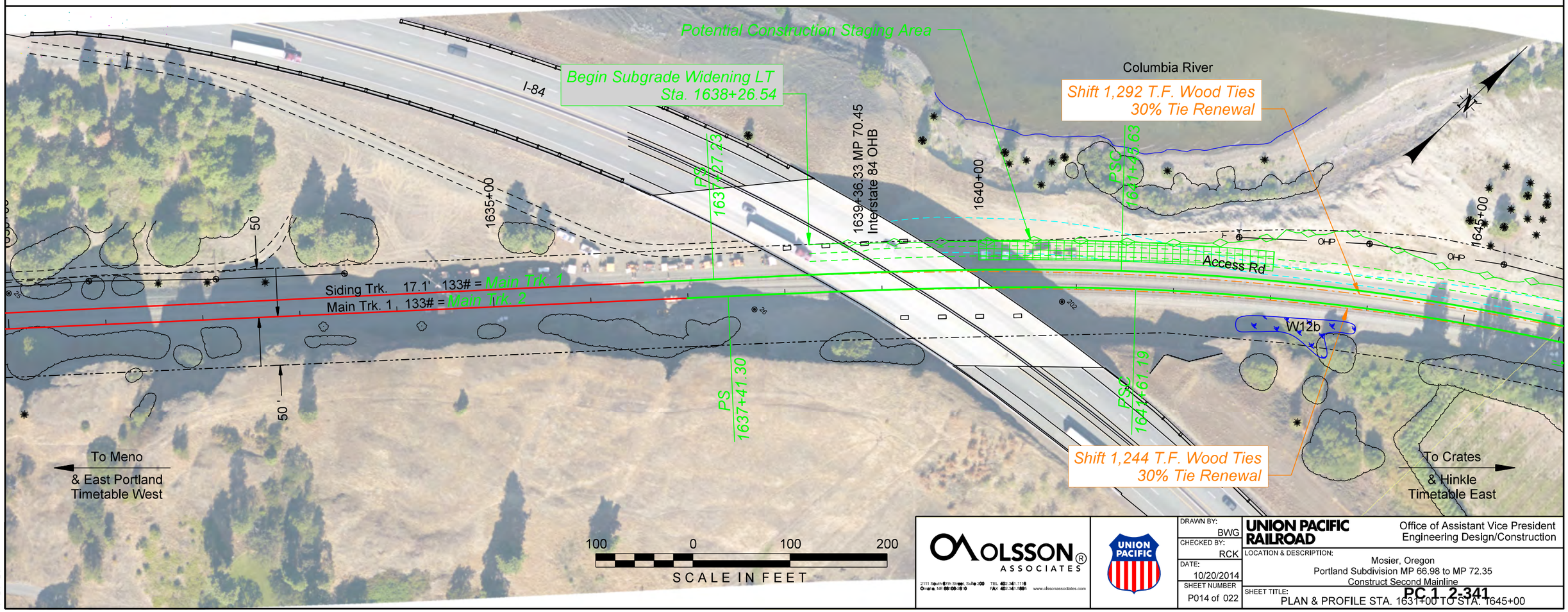
10/20/2014





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DATE:	10/20/2014
SHEET NUMBER	P014 of 022

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1631+00 TO STA. 1645+00

PC 1 2-341

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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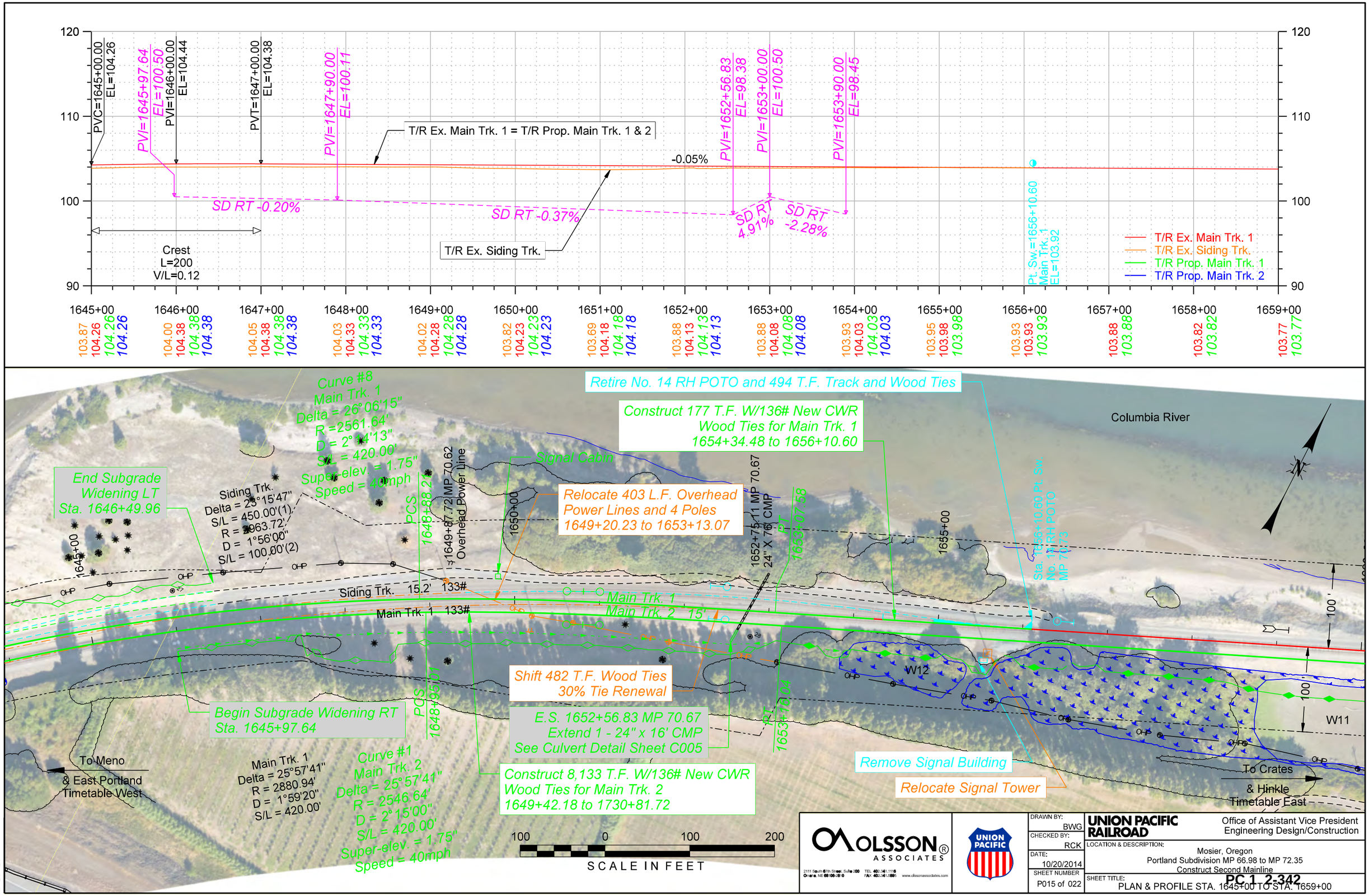
Default
10/20/2014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PVI=1645+97.64 EL=100.50
PVI=1646+00.00 EL=104.44
PVT=1647+00.00 EL=104.38
PVI=1647+90.00 EL=100.11
T/R Ex. Main Trk. 1 = T/R Prop. Main Trk. 1 & 2
-0.05%
PVI=1652+56.83 EL=98.38
PVI=1653+00.00 EL=100.50
PVI=1653+90.00 EL=98.45
SD RT -0.20%
SD RT -0.37%
SD RT 4.91%
SD RT -2.28%
Crest
L=200
V/L=0.12
T/R Ex. Siding Trk.
Pt. Sw.=1656+10.60
Main Trk. 1
EL=103.92
T/R Ex. Main Trk. 1
T/R Ex. Siding Trk.
T/R Prop. Main Trk. 1
T/R Prop. Main Trk. 2
1645+00 1646+00 1647+00 1648+00 1649+00 1650+00 1651+00 1652+00 1653+00 1654+00 1655+00 1656+00 1657+00 1658+00 1659+00
Curve #8
Main Trk. 1
Delta = 26°06'15"
R = 2561.64'
D = 2°14'13"
S/L = 420.00'
Super-elev. = 1.75"
Speed = 40mph
End Subgrade Widening LT
Sta. 1646+49.96
Siding Trk.
Delta = 23°15'47"
S/L = 450.00'(1)
R = 2963.72'
D = 1°56'00"
S/L = 100.00'(2)
PCS 1648+88.24
1649+87.72 MP 70.62 Overhead Power Line
1650+00
Signal Cabin
Relocate 403 L.F. Overhead Power Lines and 4 Poles
1649+20.23 to 1653+13.07
1652+75.11 MP 70.67
24" X 76' CMP
PT 1653+07.58
1655+00
Retire No. 14 RH POTO and 494 T.F. Track and Wood Ties
Construct 177 T.F. W/136# New CWR Wood Ties for Main Trk. 1
1654+34.48 to 1656+10.60
Columbia River
Sta. 1656+10.60 Pt. Sw. No. 14 RH POTO MP 70.73
Siding Trk. 15.2' 133#
Main Trk. 1 133#
Main Trk. 1
Main Trk. 2 15'
Shift 482 T.F. Wood Ties 30% Tie Renewal
W12
W11
100'
Begin Subgrade Widening RT
Sta. 1645+97.64
PCS 1648+95.01
E.S. 1652+56.83 MP 70.67
Extend 1 - 24" x 16' CMP
See Culvert Detail Sheet C005
PT 1653+18.04
Remove Signal Building
Relocate Signal Tower
To Meno & East Portland Timetable West
Main Trk. 1
Delta = 25°57'41"
R = 2880.94'
D = 1°59'20"
S/L = 420.00'
Curve #1
Main Trk. 2
Delta = 25°57'41"
R = 2546.64'
D = 2°15'00"
S/L = 420.00'
Super-elev. = 1.75"
Speed = 40mph
Construct 8,133 T.F. W/136# New CWR Wood Ties for Main Trk. 2
1649+42.18 to 1730+81.72
To Crates & Hinkle Timetable East
100 0 100 200
SCALE IN FEET
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UNION PACIFIC
DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER P015 of 022
UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline
SHEET TITLE:
PLAN & PROFILE STA. 1645+00 TO STA. 1659+00
PC 1 2-342
Color table:F:\PROJECTS\011-1345\color\UPRR.tbl
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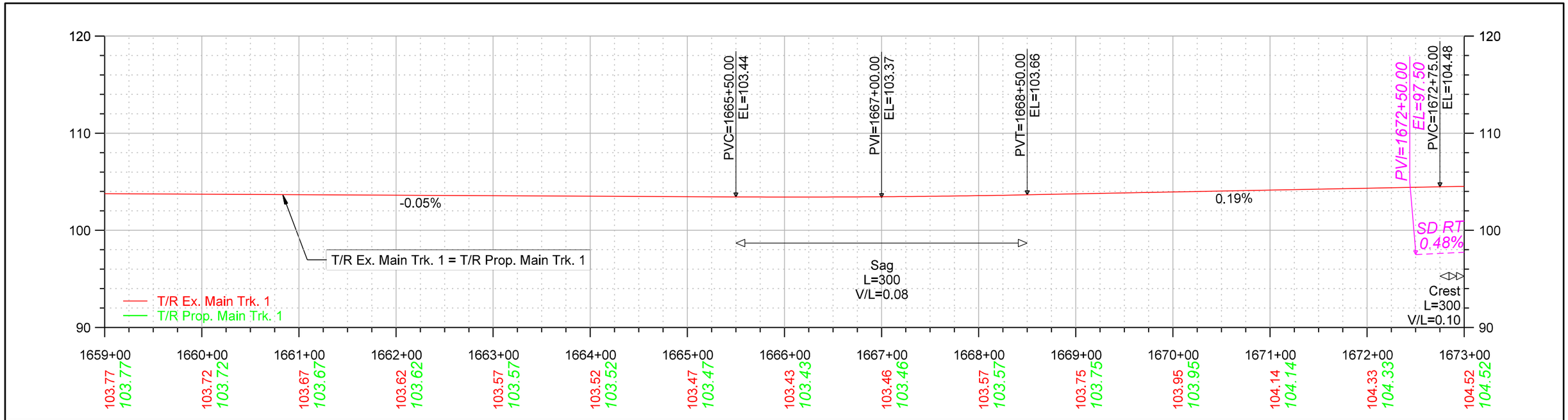
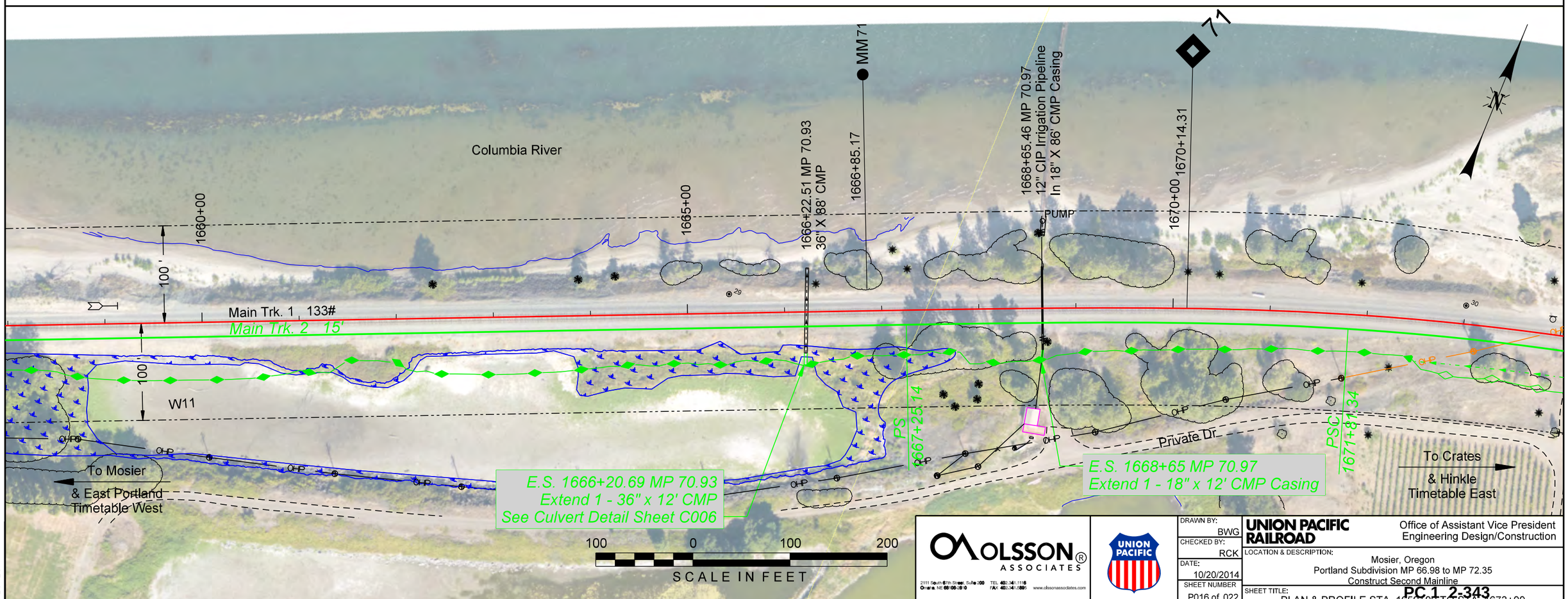
10/20/2014





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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1659+00 TO STA. 1673+00

PC 1 2-343

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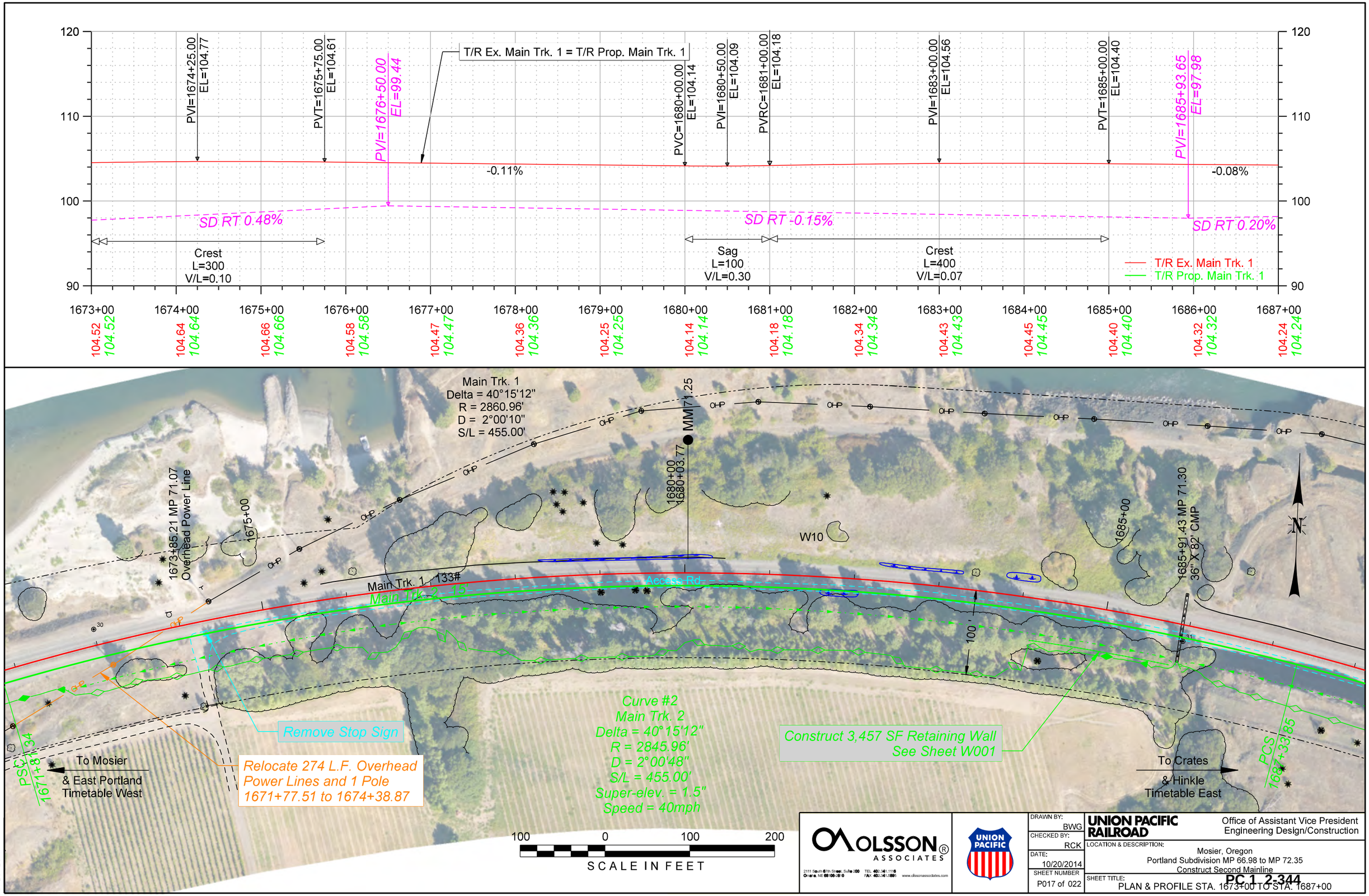
10/20/2014



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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1673+00 TO STA. 1687+00

PC 1 2-344

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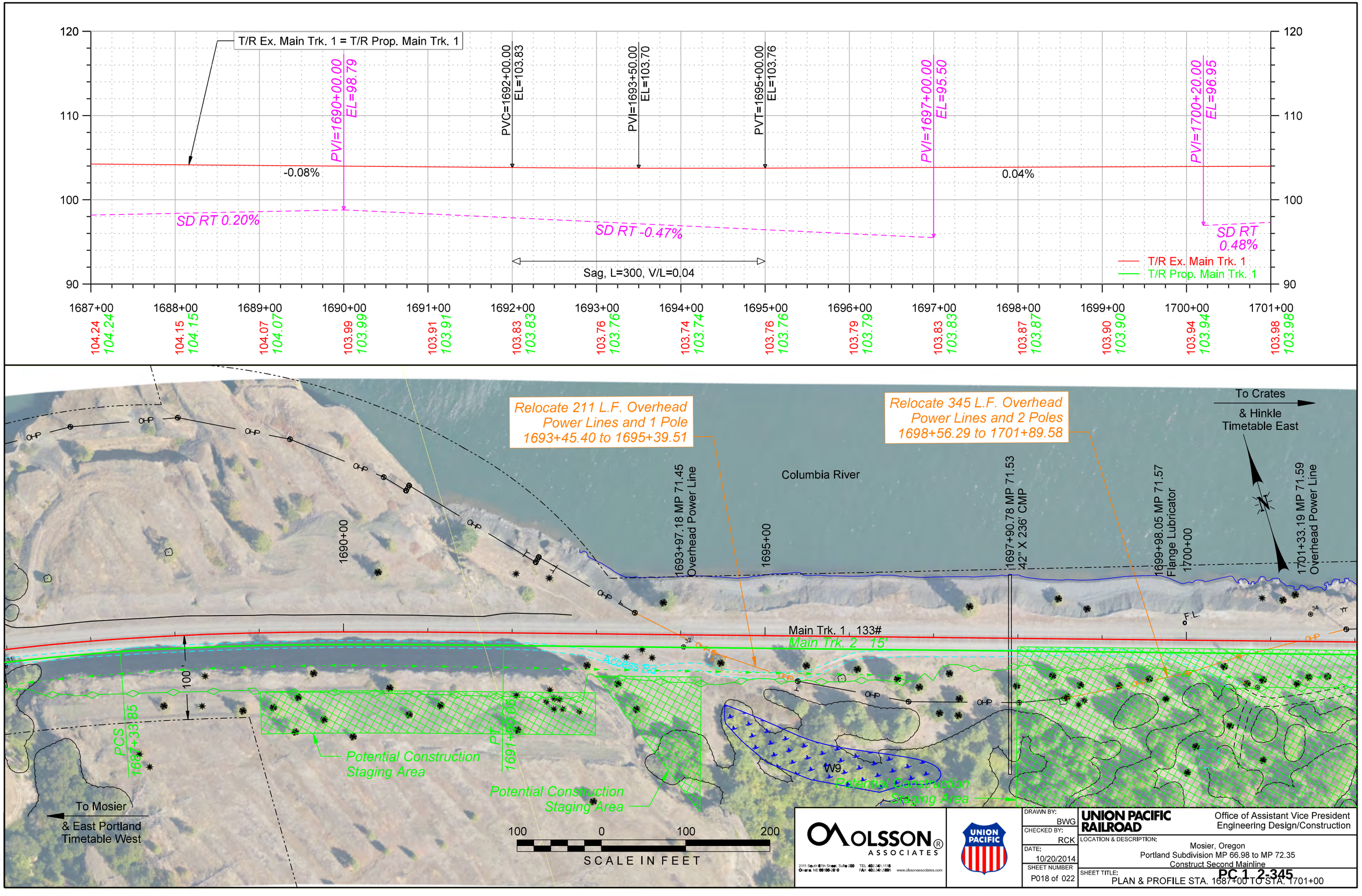
T/R Ex. Main Trk. 1 = T/R Prop. Main Trk. 1
PVI=1690+00.00
EL=98.79
PVC=1692+00.00
EL=103.83
PVI=1693+50.00
EL=103.70
PVT=1695+00.00
EL=103.76
PVI=1697+00.00
EL=95.50
PVI=1700+20.00
EL=96.95
-0.08%
0.04%
SD RT 0.20%
SD RT -0.47%
SD RT 0.48%
Sag, L=300, V/L=0.04
T/R Ex. Main Trk. 1
T/R Prop. Main Trk. 1
120
110
100
90
1687+00 104.24 104.24
1688+00 104.15 104.15
1689+00 104.07 104.07
1690+00 103.99 103.99
1691+00 103.91 103.91
1692+00 103.83 103.83
1693+00 103.76 103.76
1694+00 103.74 103.74
1695+00 103.76 103.76
1696+00 103.79 103.79
1697+00 103.83 103.83
1698+00 103.87 103.87
1699+00 103.90 103.90
1700+00 103.94 103.94
1701+00 103.98 103.98
Relocate 211 L.F. Overhead Power Lines and 1 Pole 1693+45.40 to 1695+39.51
Relocate 345 L.F. Overhead Power Lines and 2 Poles 1698+56.29 to 1701+89.58
To Crates & Hinkle Timetable East
Columbia River
1690+00
1693+97.18 MP 71.45 Overhead Power Line
1695+00
1697+90.78 MP 71.53 42" X 236' CMP
1699+98.05 MP 71.57 Flange Lubricator
1700+00
1701+33.19 MP 71.59 Overhead Power Line
Main Trk. 1 133#
Main Trk. 2 15'
Access Rd
100'
PCS 1687+33.85
PCS 1691+99.05
Potential Construction Staging Area
Potential Construction Staging Area
Potential Construction Staging Area
W9
To Mosier & East Portland Timetable West
100 0 100 200
SCALE IN FEET
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LOCATION & DESCRIPTION:
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Construct Second Mainline
SHEET TITLE:
PLAN & PROFILE STA. 1687+00 TO STA. 1701+00
PC 1-2-345
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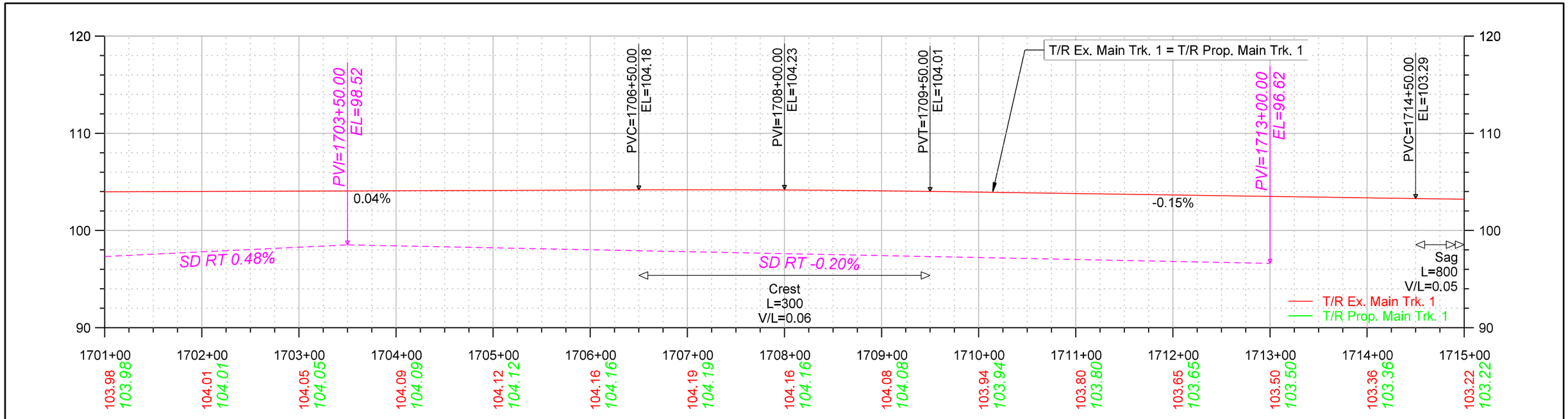
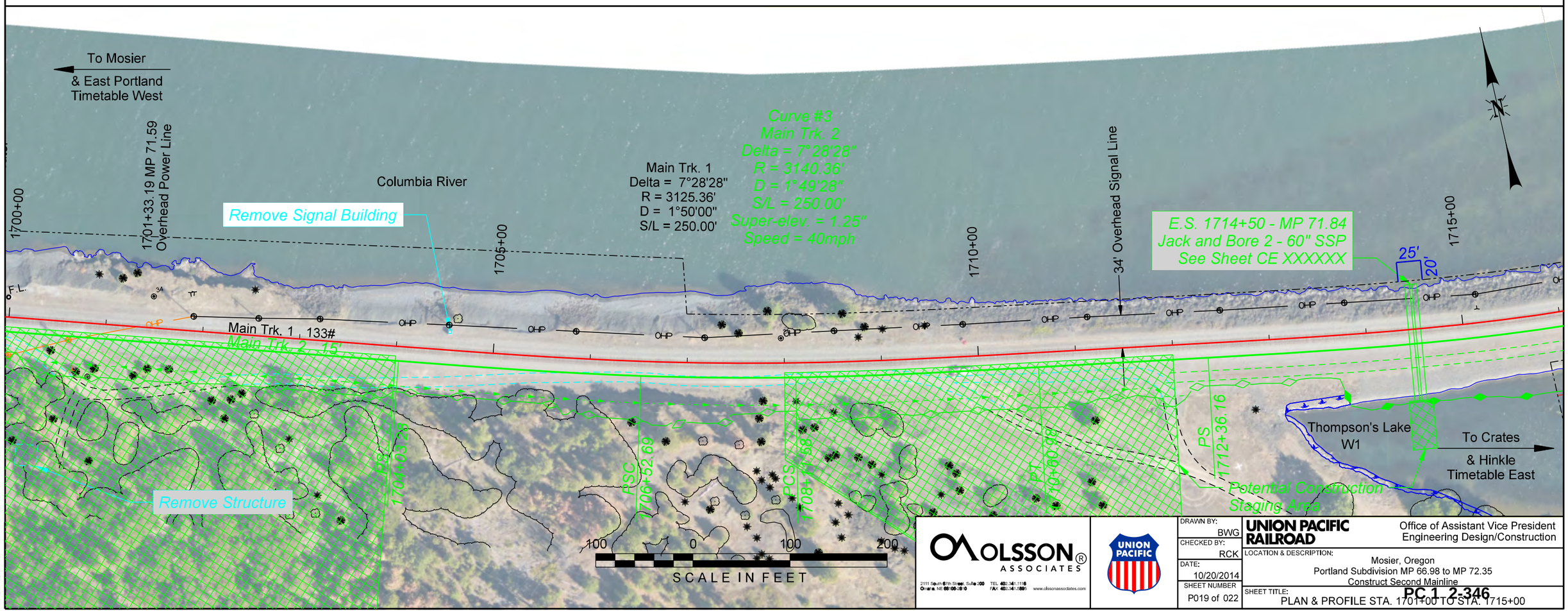
10/20/2014





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LOCATION & DESCRIPTION:
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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1701+00 TO STA. 1715+00

PC 1 2-346

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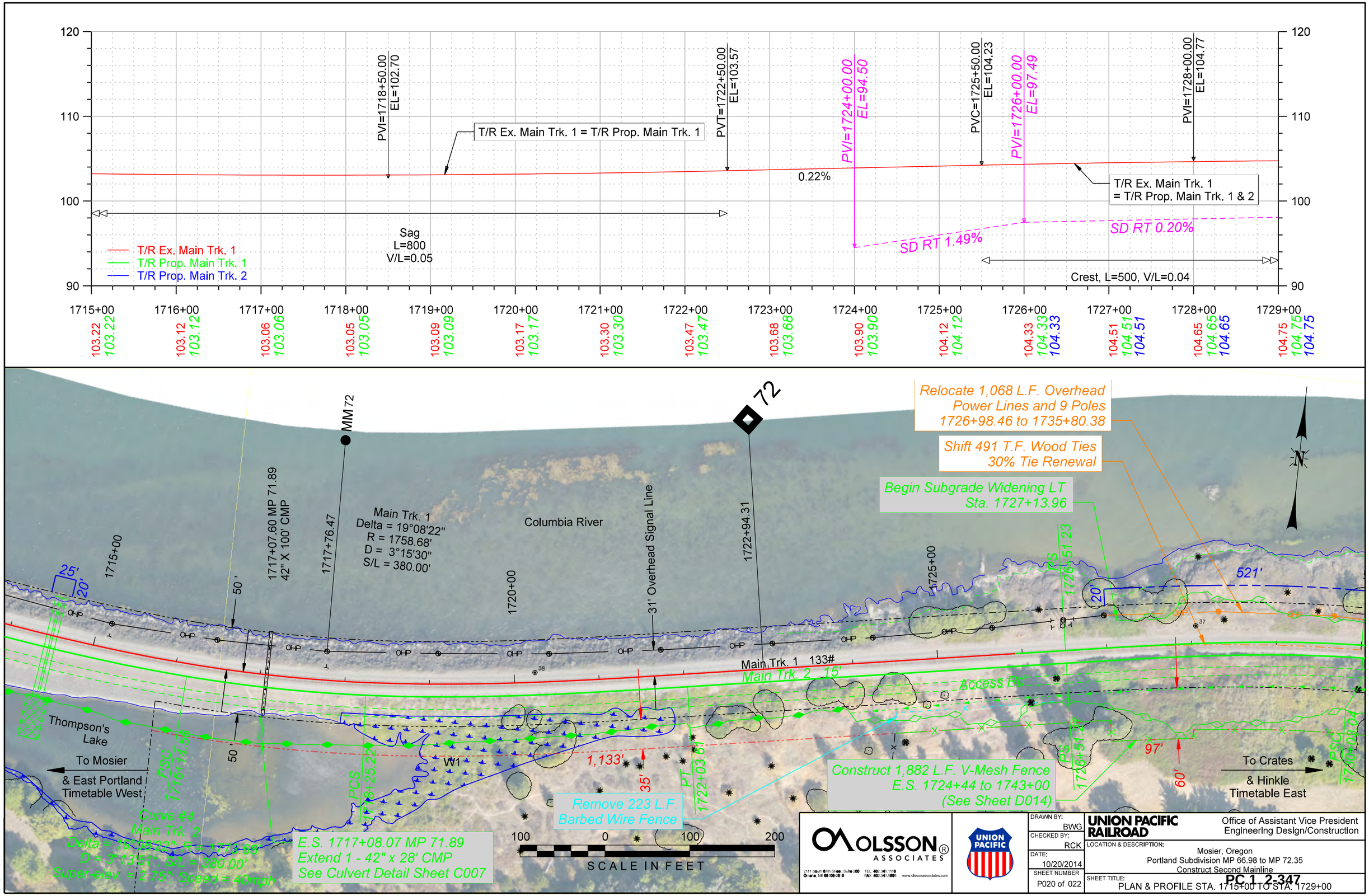
10/20/2014



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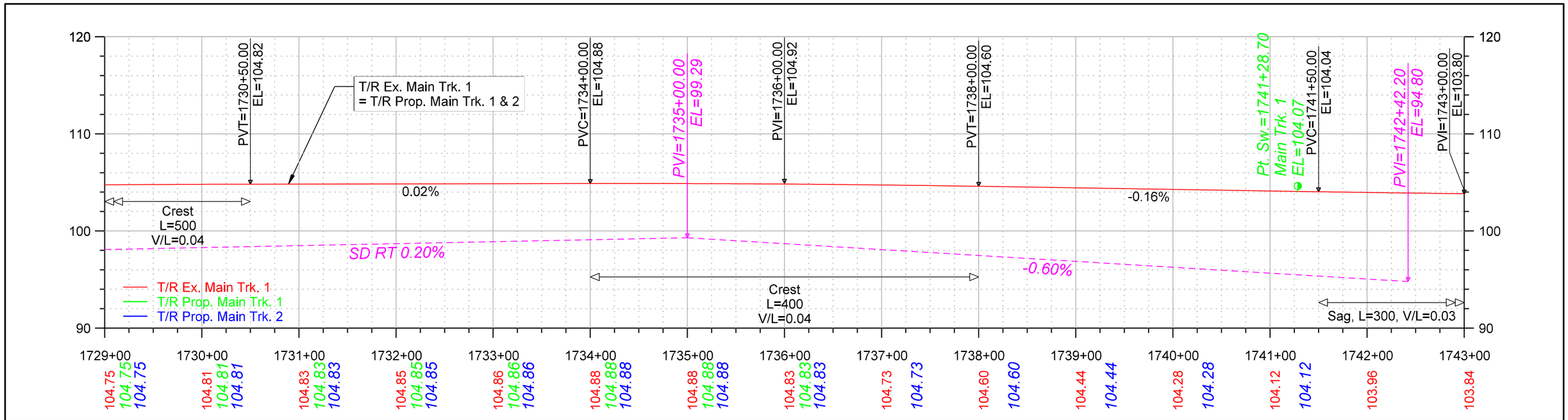

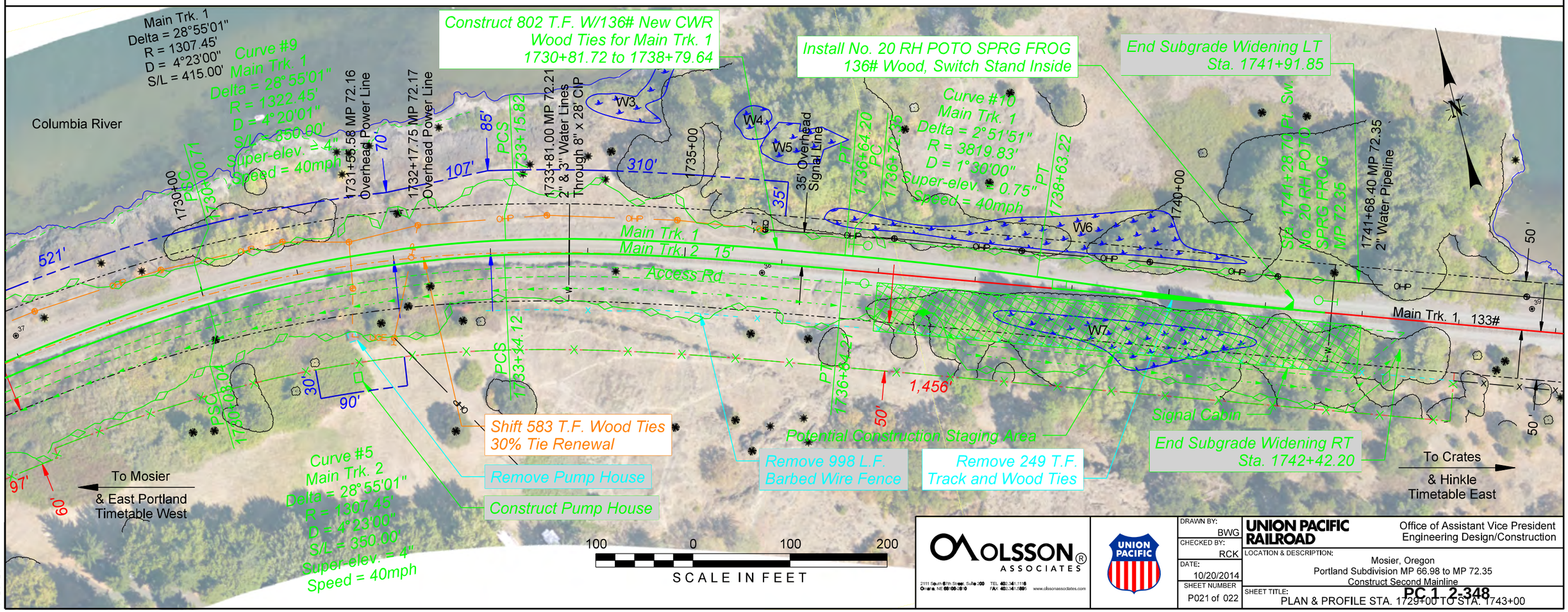

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LOCATION & DESCRIPTION:
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Construct Second Mainline

SHEET TITLE:
PLAN & PROFILE STA. 1729+00 TO STA. 1743+00

PC 1-2-348

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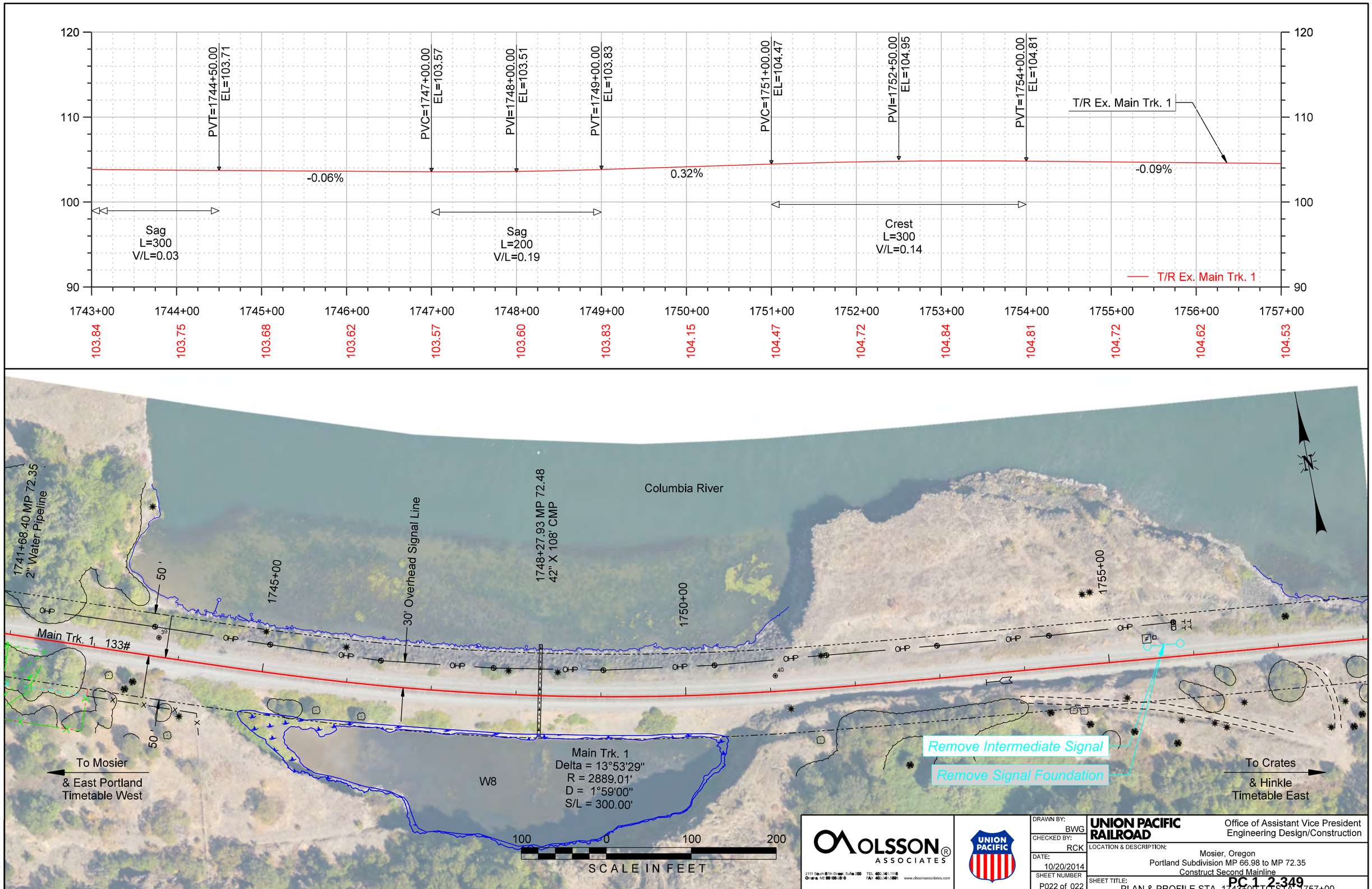

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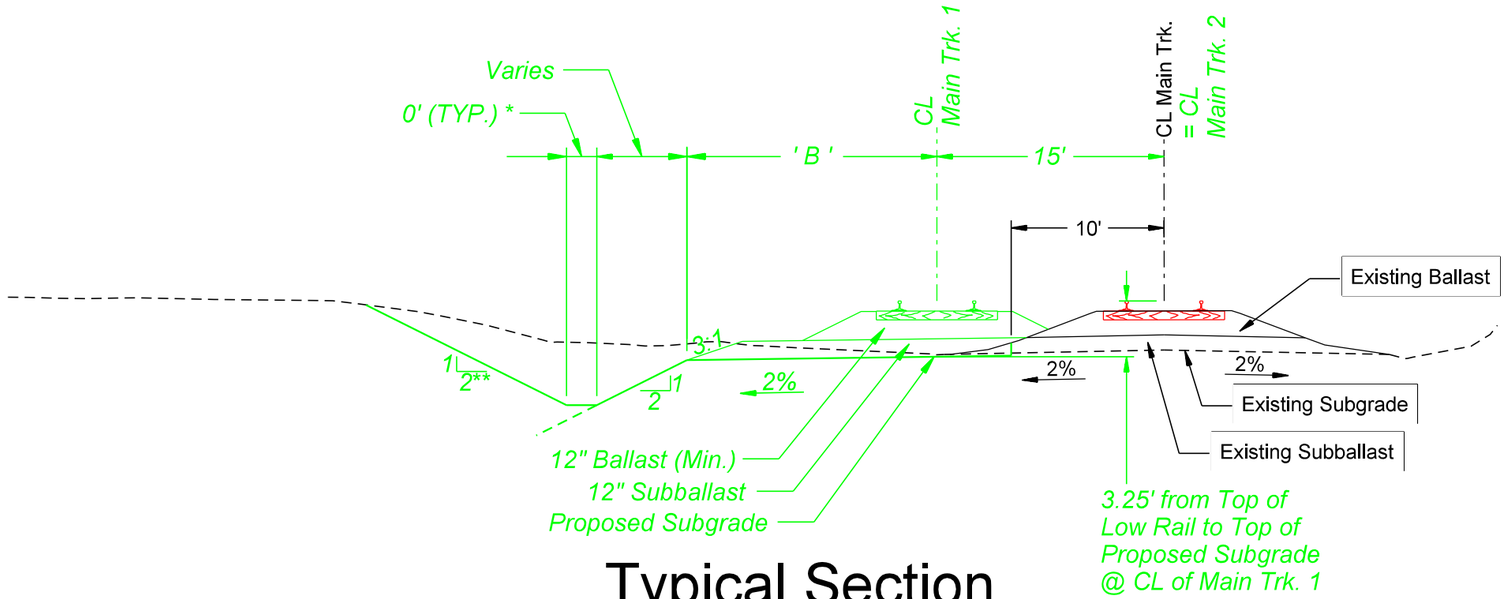
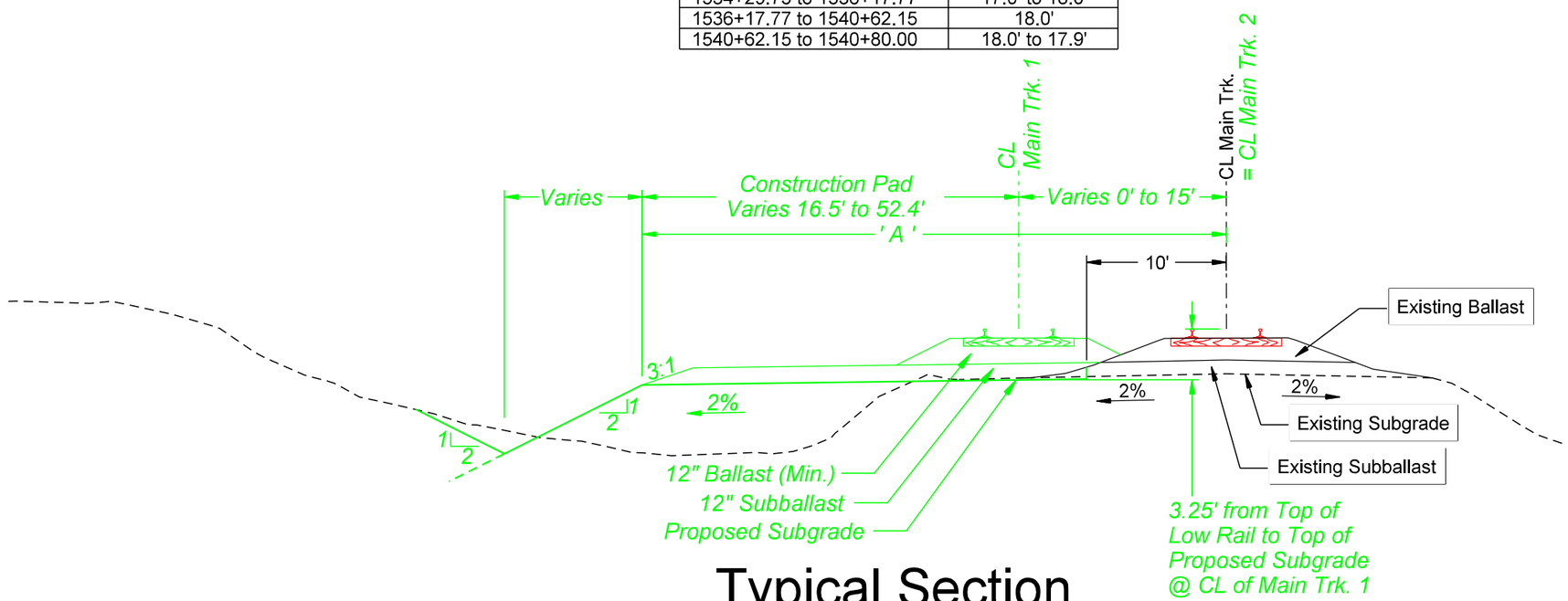


Typical Section

STA. TO STA.	' B '
1464+13.50 to 1530+09.88	16.5'
1530+09.88 to 1531+59.45	16.5' to 17.0'
1531+59.45 to 1534+29.75	17.0'
1534+29.75 to 1536+17.77	17.0' to 18.0'
1536+17.77 to 1540+62.15	18.0'
1540+62.15 to 1540+80.00	18.0' to 17.9'

* 2' Flat Bottom Ditch from Sta. 1504+00.00 to Sta. 1523+00.00
** Slope Varies Over the Following Station Ranges:
Sta. 1466+33.40 to Sta. 1468+91.54
Sta. 1474+79.43 to Sta. 1477+73.47
Sta. 1501+63.21 to Sta. 1502+28.14
Sta. 1535+76.26 to Sta. 1537+83.40
See Cross Sections for Slope.



Typical Section

STA. TO STA.	' A '
1457+54.66 to 1457+91.00	16.5' to 52.4'
1457+91.00 to 1458+44.00	52.4'
1458+44.00 to 1464+10.00	35.0'
1464+10.00 to 1464+13.50	35.0' to 31.5'

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Construct Second Mainline

SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-350

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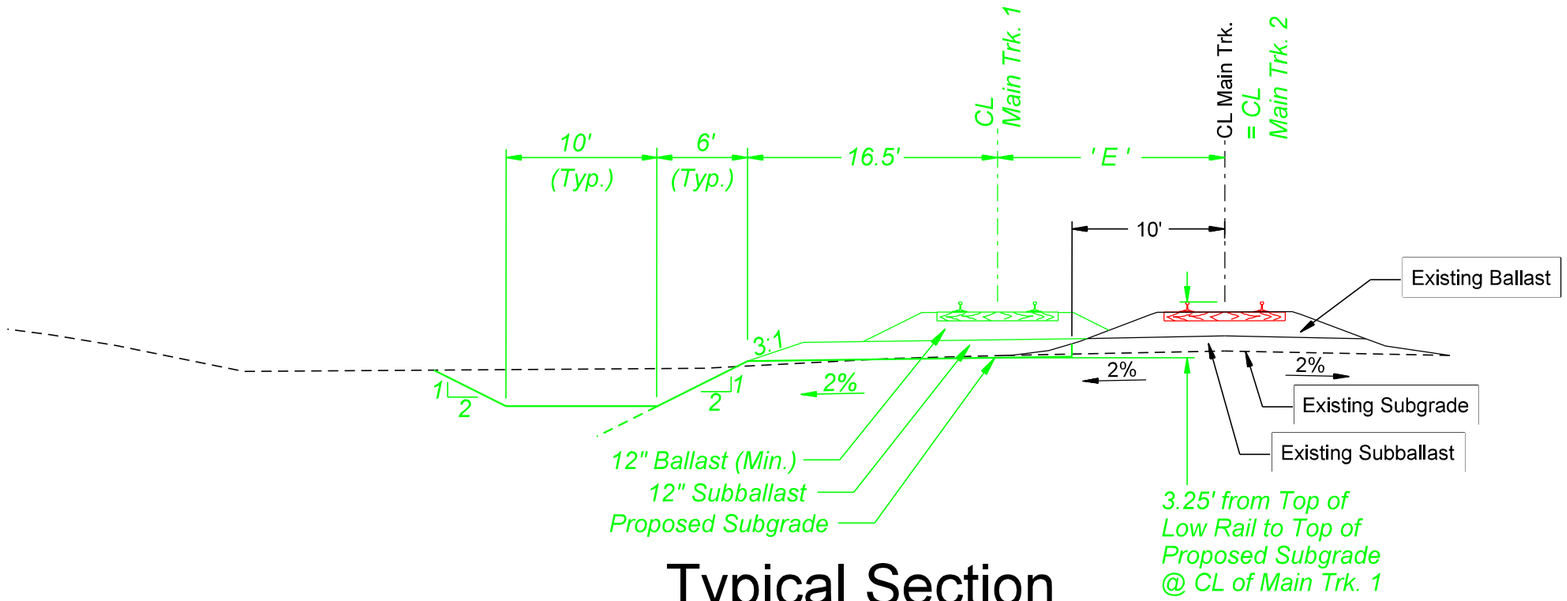
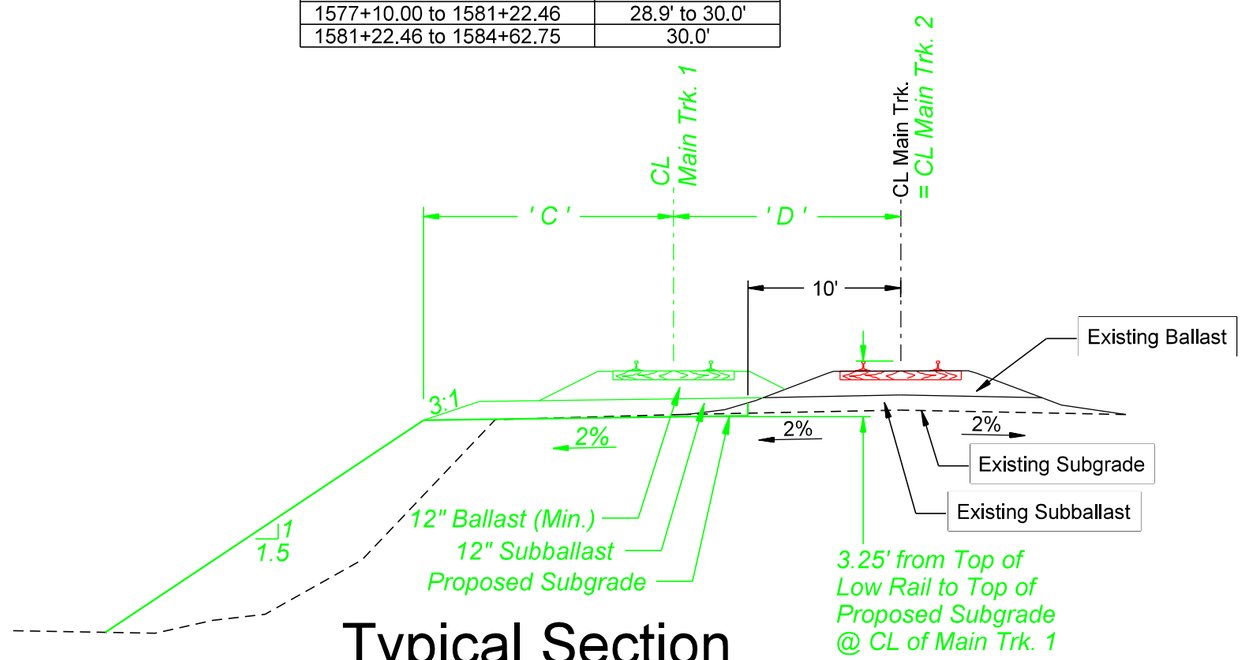


Typical Section

STA. TO STA.	' E '
1552+60.00 to 1563+00.00	15.0'
1564+80.00 to 1565+30.00	15.0'
1572+50.00 to 1575+00.00	21.5' to 26.4'
1577+10.00 to 1581+22.46	28.9' to 30.0'
1581+22.46 to 1584+62.75	30.0'



Typical Section

STA. TO STA.	' C '	' D '
1540+80.00 to 1543+26.14	17.9' to 16.5'	15.0'
1543+26.14 to 1552+60.00	16.5'	15.0'
1567+10.00 to 1567+97.32	16.5'	15.0'
1567+97.32 to 1572+50.00	16.5'	15.0' to 21.5'
1575+00.00 to 1577+10.00	16.5'	26.4' to 28.9'

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Construct Second Mainline

SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-351

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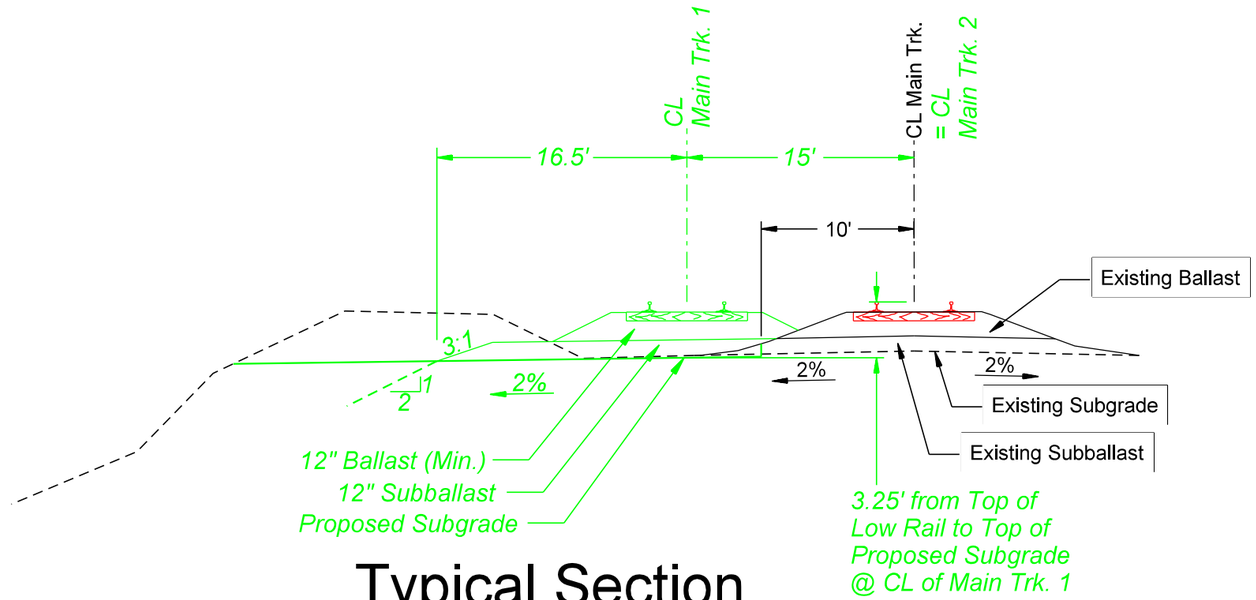
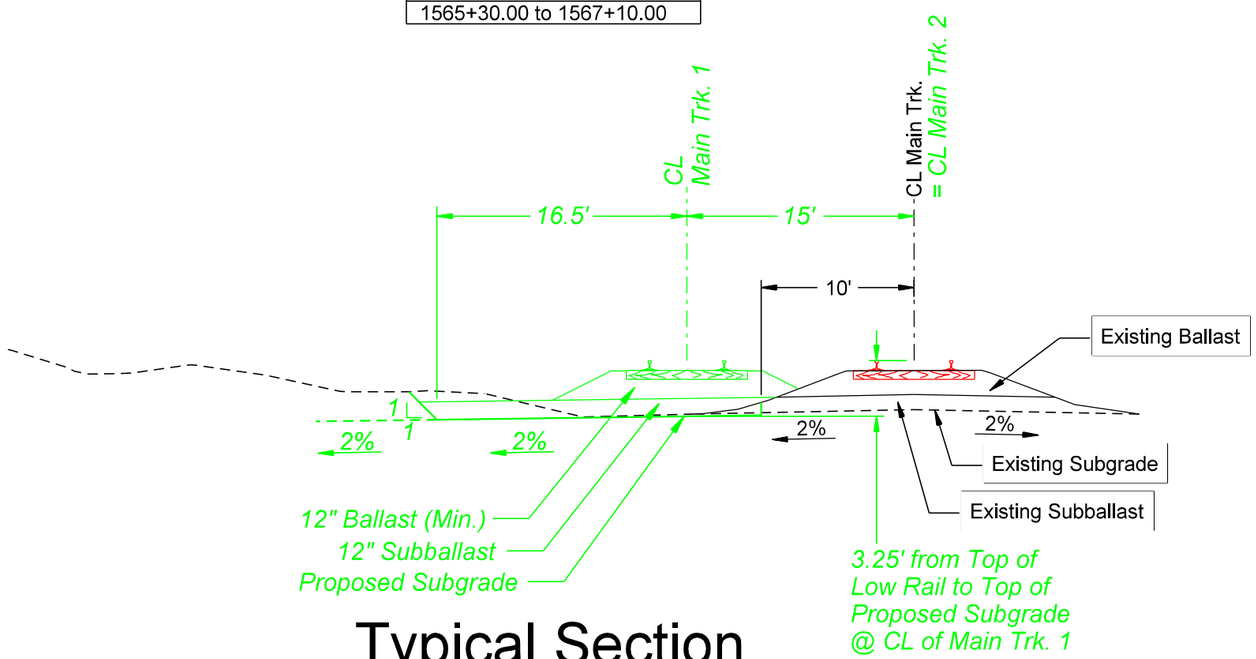


Typical Section

STA. TO STA.
1552+60.00 to 1563+00.00
1565+30.00 to 1567+10.00



Typical Section

Sta. 1563+00.00 to Sta. 1564+80.00

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SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-352

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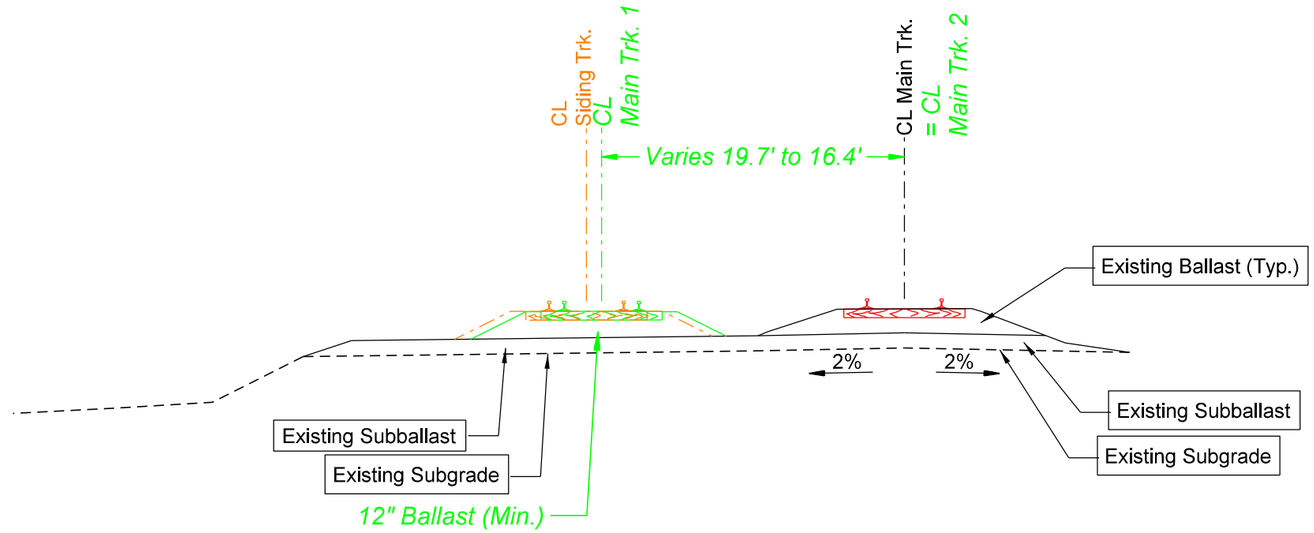
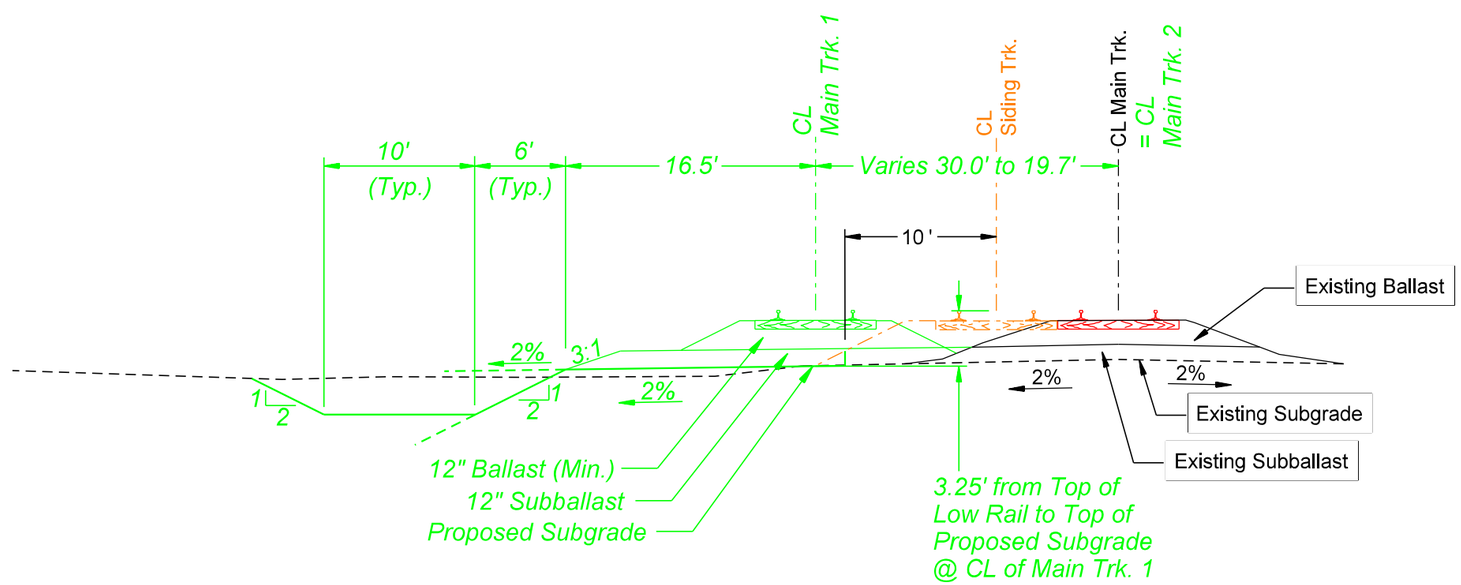


Typical Section

Sta. 1589+52.23 to Sta. 1592+52.72



Typical Section

Sta. 1584+62.75 to Sta. 1589+52.23

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Construct Second Mainline

SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-353

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10/20/2014

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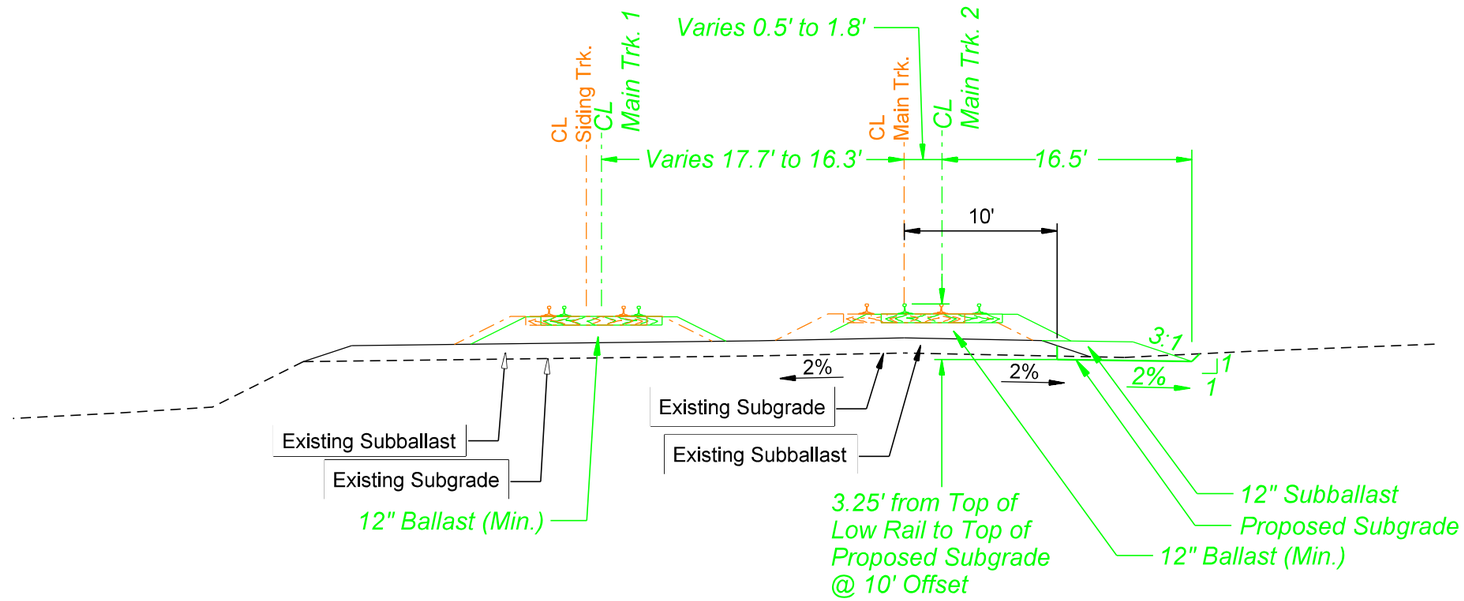
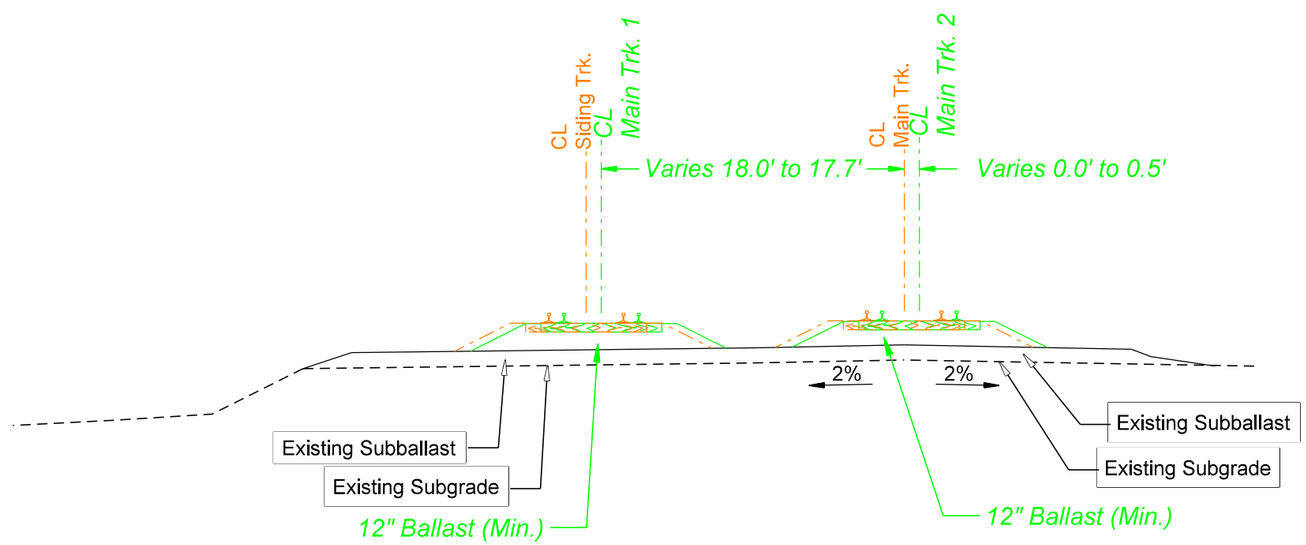


Typical Section

Sta. 1638+84.85 to Sta. 1640+50.00



Typical Section

Sta. 1636+53.52 to Sta. 1638+84.85

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Construct Second Mainline

SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-354

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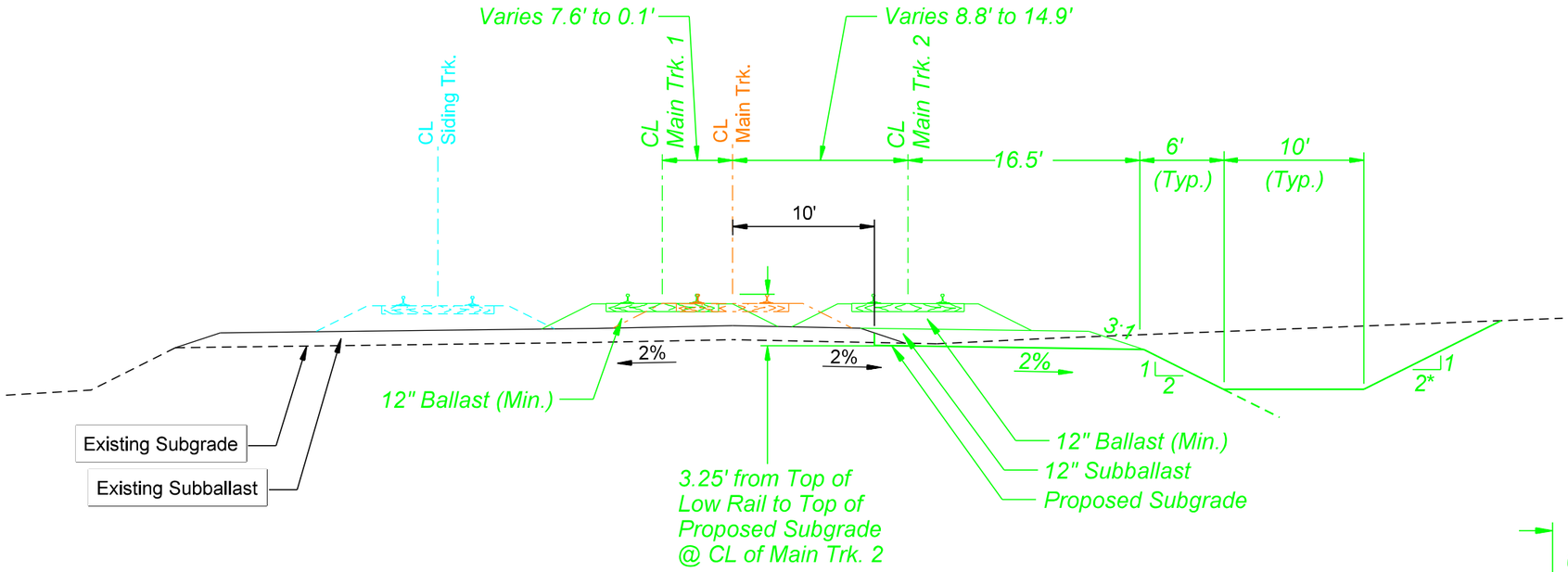
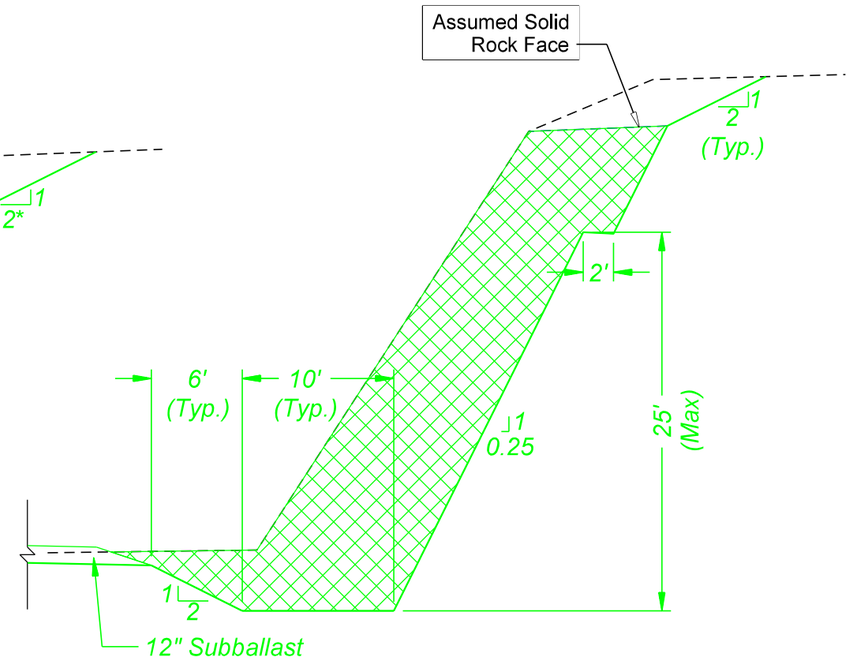


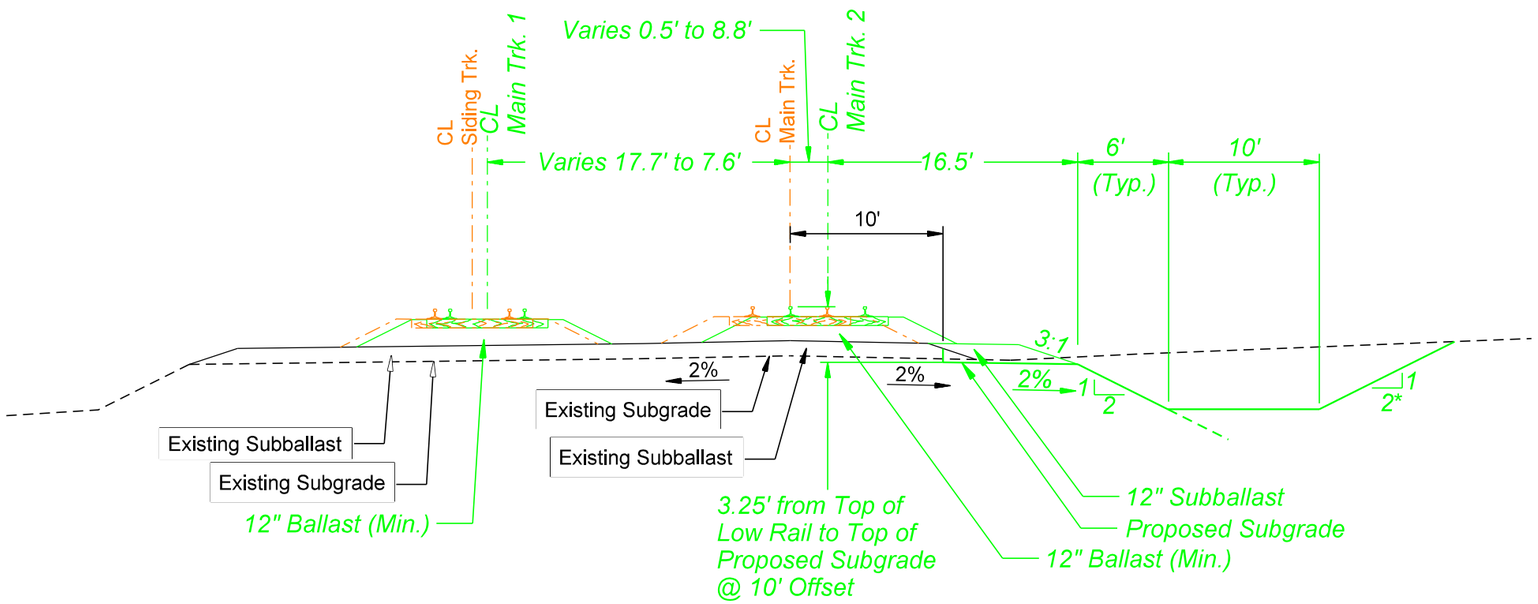
Typical Section

Sta. 1646+76.80 to Sta. 1654+00.00



Rock Excavation

STA. TO STA.
1643+70.00 to 1647+50.00
1677+10.00 to 1684+70.00
1686+10.00 to 1692+95.00
1704+00.00 to 1708+11.58
1726+00.00 to 1736+00.00



Typical Section

Sta. 1640+50.00 to Sta. 1646+76.80

* See Rock Excavation Detail This Sheet

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-355

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10/20/2014

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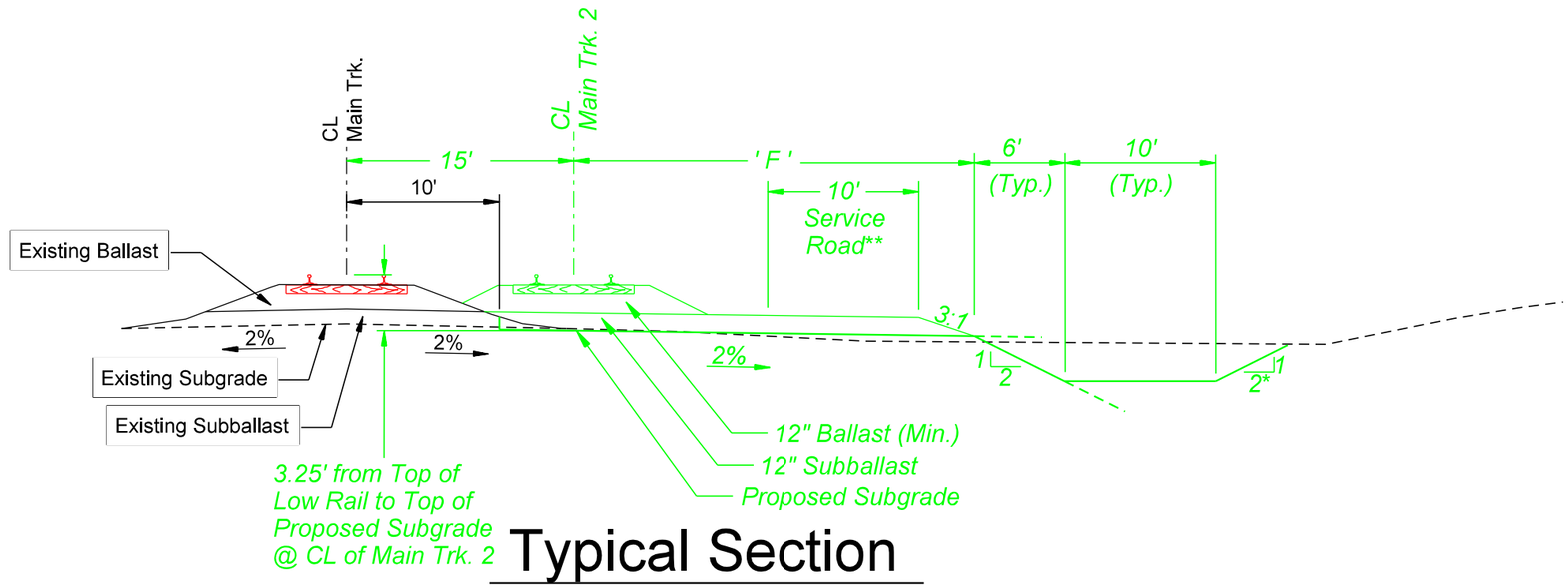
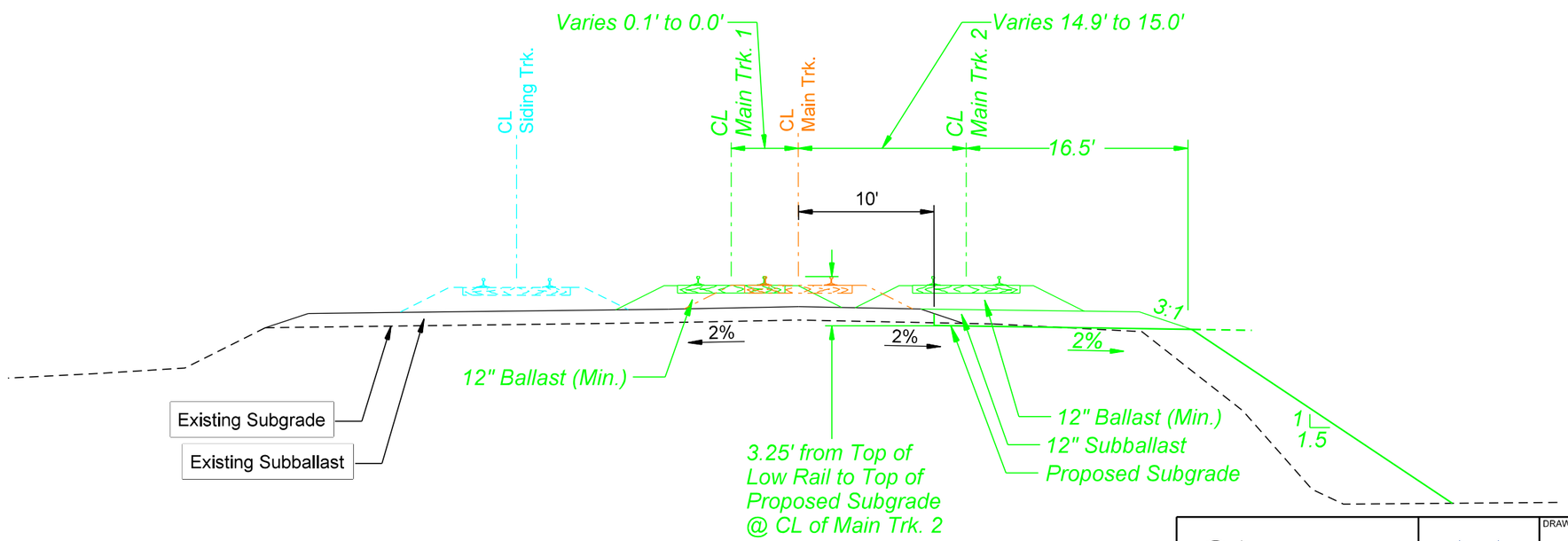


Typical Section

STA. TO STA.	' F '
1667+80.00 to 1704+03.28	16.5'
1704+03.28 to 1706+52.69	16.5' to 17.5'
1706+52.69 to 1708+11.58	17.5'
1708+11.58 to 1710+60.98	17.5' to 16.5'
1710+60.98 to 1711+80.00	16.5'
1711+80.00 to 1711+90.00	16.5' to 26.5'
1711+90.00 to 1712+36.16	26.5'
1712+36.16 to 1713+60.00	26.5' to 27.0'
1722+03.61 to 1725+91.23	26.5'



Typical Section

Sta. 1654+00.00 to Sta. 1656+10.60

* See Rock Excavation Detail on Sheet T006
** Service Road from Sta. 1711+90.00 to 1725+91.23 only

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UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
TYPICAL SECTIONS

PC 1 2-356

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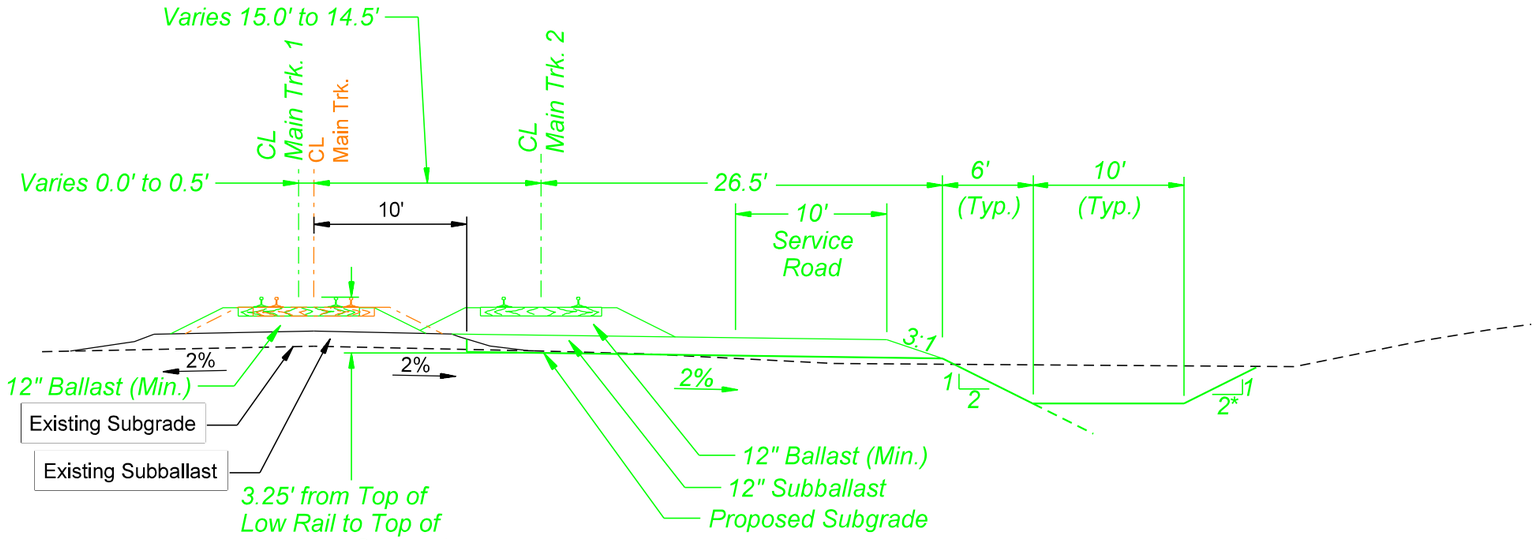
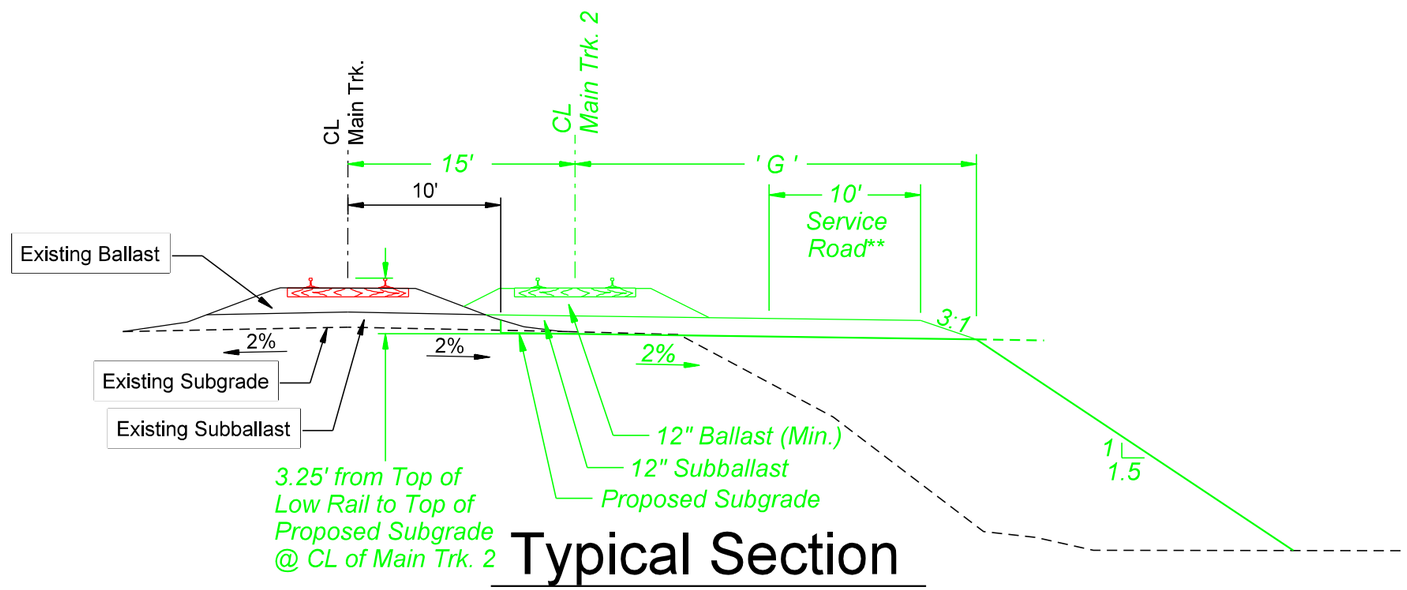


Typical Section

Sta. 1725+91.23 to Sta. 1727+13.96



Typical Section

STA. TO STA.	' G '
1656+10.60 to 1667+80.00	16.5'
1713+60.00 to 1716+14.56	27.0' to 28.0'
1716+14.56 to 1718+25.22	28.0'
1718+25.22 to 1722+03.61	28.0' to 26.5'

* See Rock Excavation Detail on Sheet T006
** Service Road from Sta. 1711+90.00 to 1725+91.23 only

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LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: TYPICAL SECTIONS

PC 1 2-357

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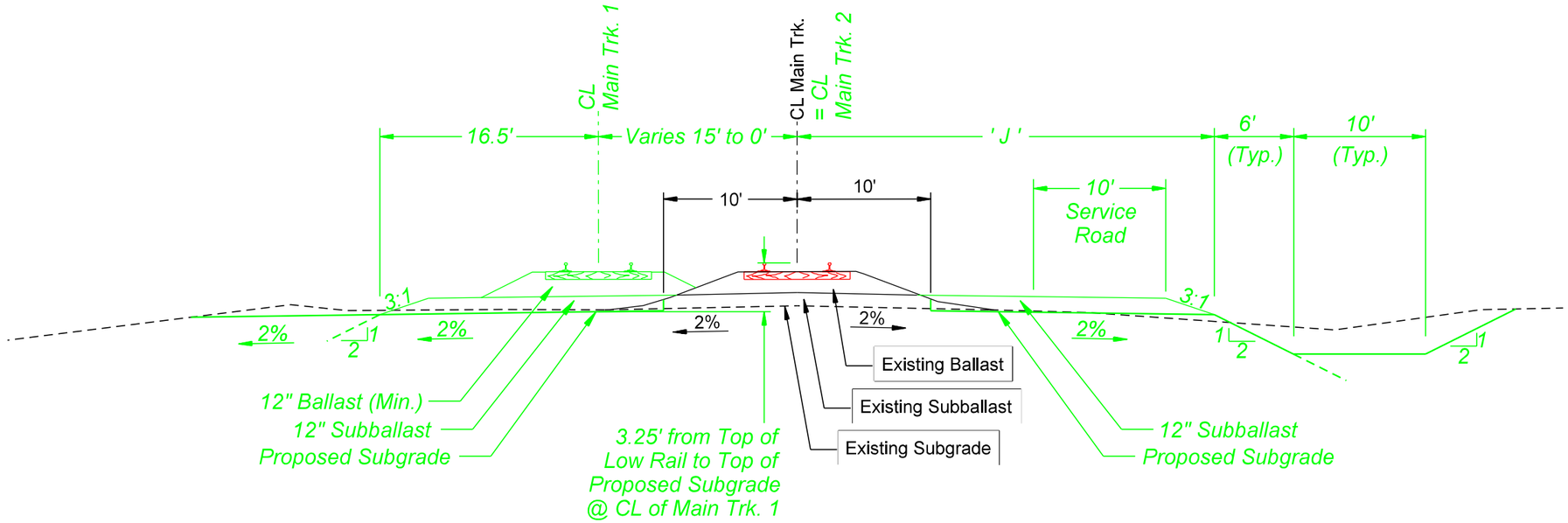
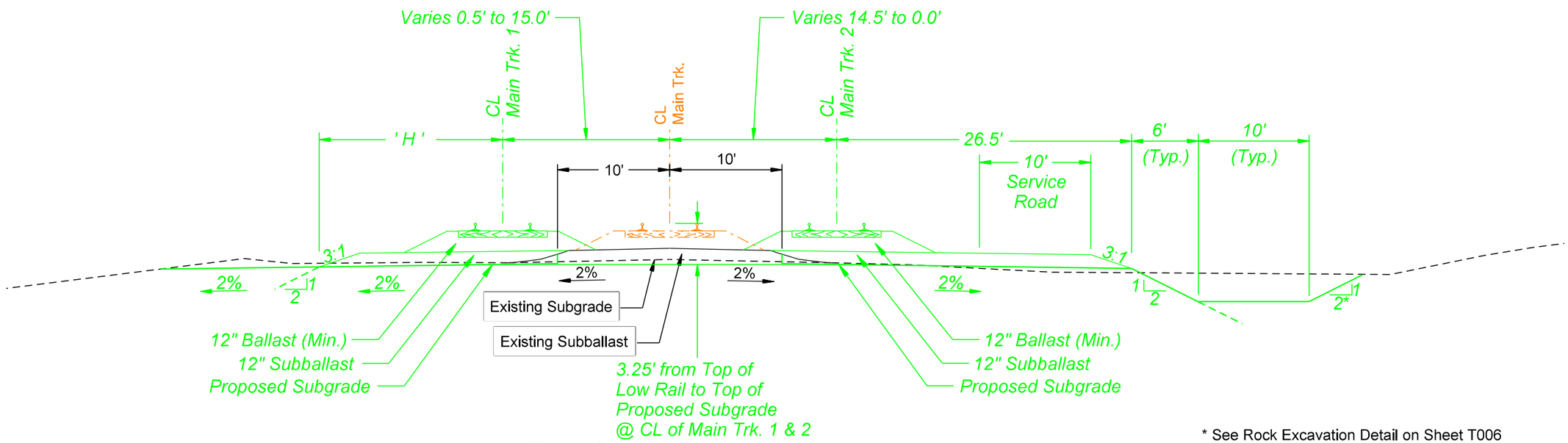


Typical Section

STA. TO STA.	' J '
1736+64.21 to 1737+61.50	26.5'
1737+61.50 to 1738+00.00	26.5' to 65.0'
1738+00.00 to 1741+93.70	65.0'
1741+93.70 to 1742+42.21	65.0' to 16.5'



* See Rock Excavation Detail on Sheet T006

Typical Section

STA. TO STA.	' H '
1727+13.96 to 1730+00.71	16.9' to 18.5'
1730+00.71 to 1733+15.82	18.5'
1733+15.82 to 1736+64.21	18.5' to 16.5'

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LOCATION & DESCRIPTION:
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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: TYPICAL SECTIONS

PC 1 2-358

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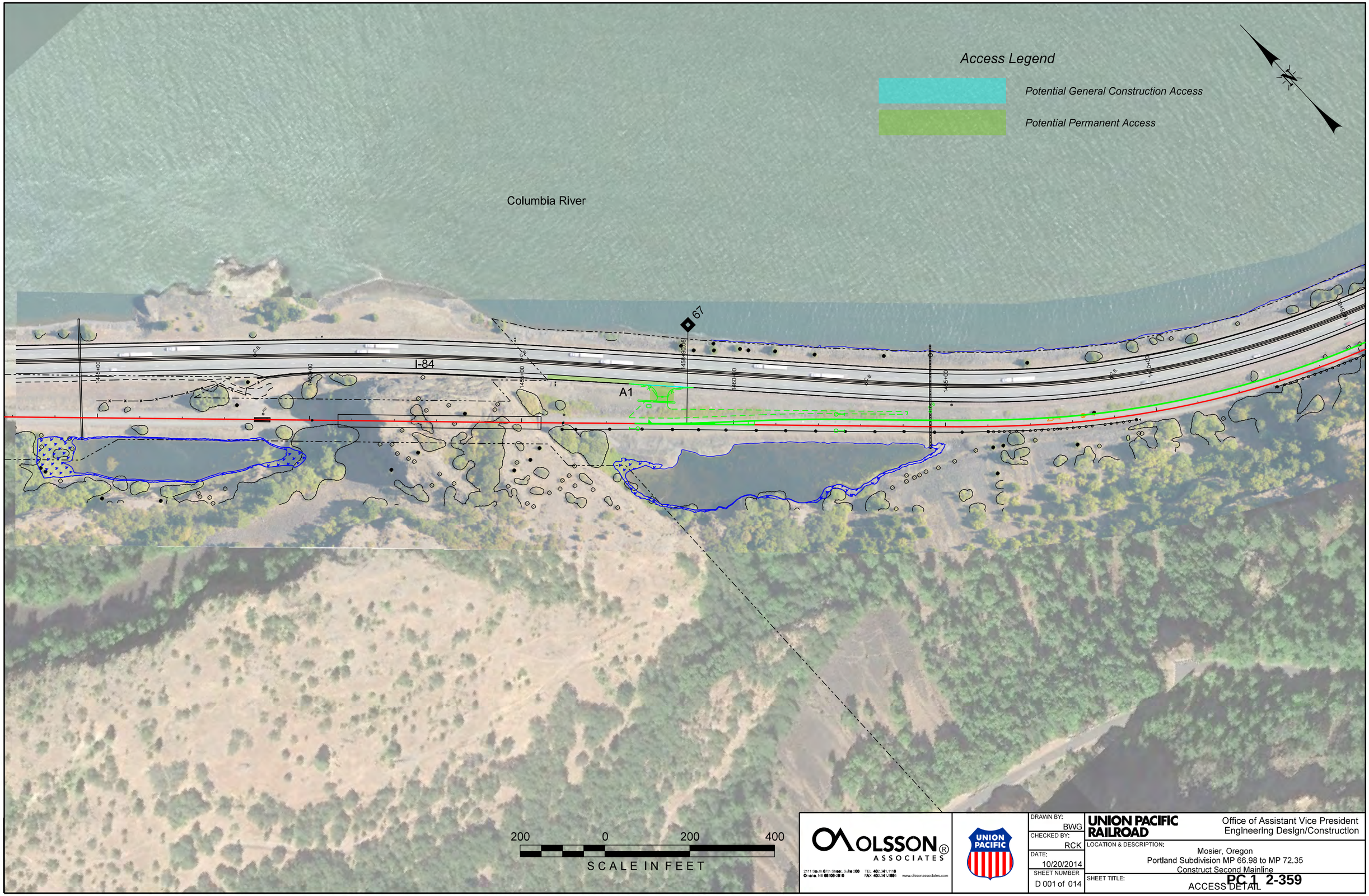

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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
ACCESS DETAIL

PC 1 2-359

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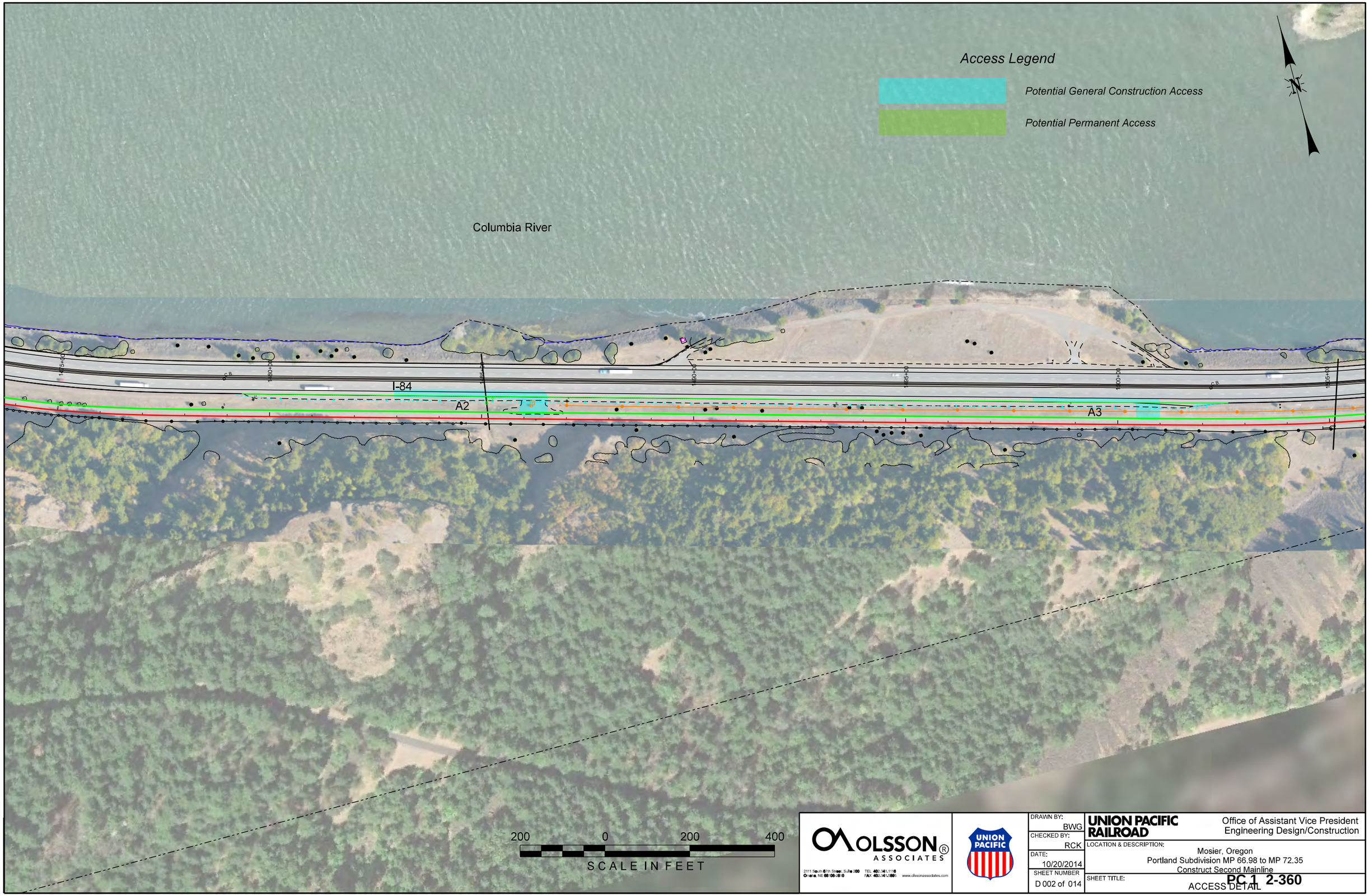

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SHEET TITLE:
ACCESS DETAIL

PC 1 2-360

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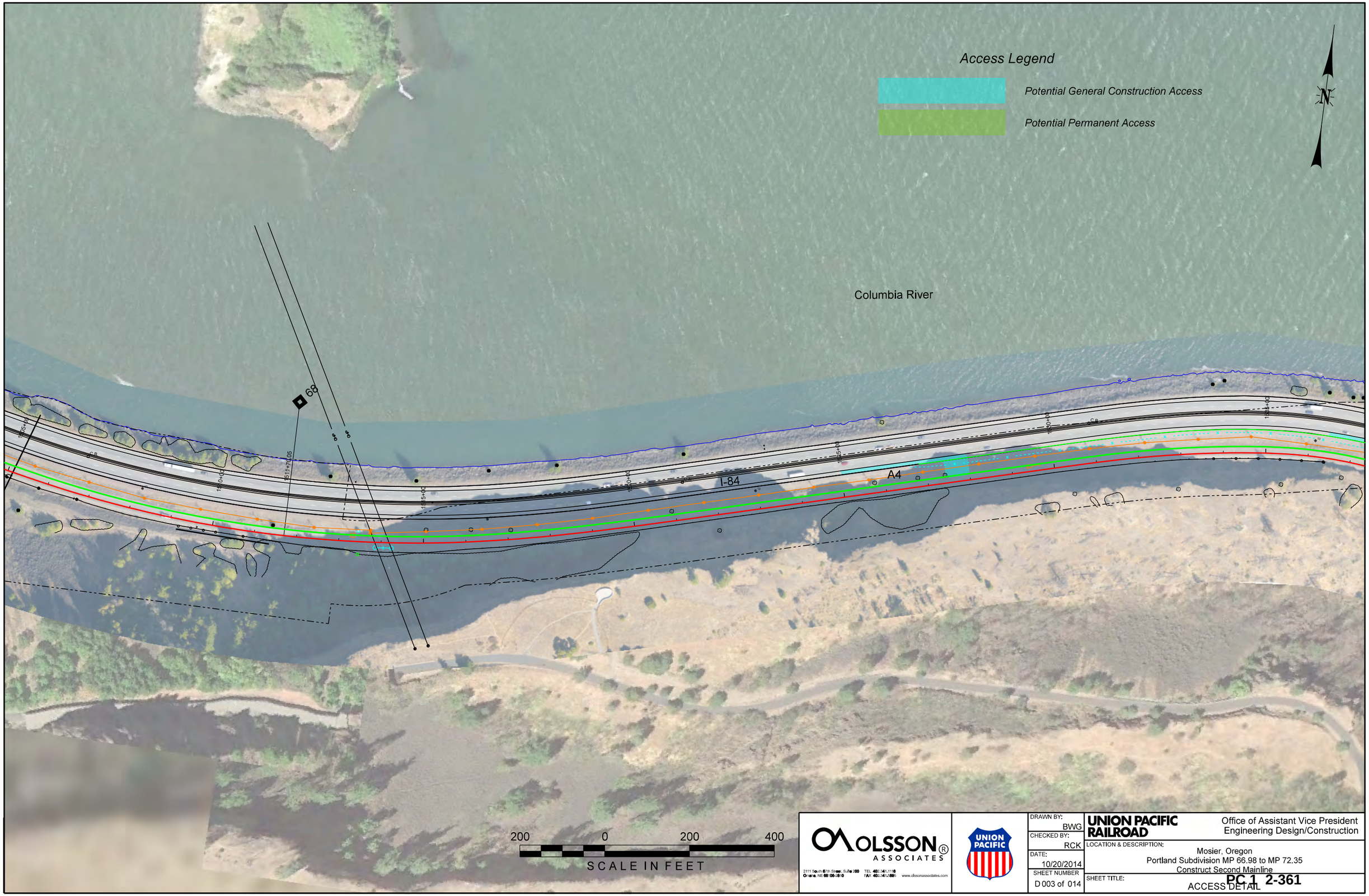

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SHEET TITLE:
ACCESS DETAIL

PC 1 2-361

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SHEET TITLE:
ACCESS DETAIL

PC 1 2-362

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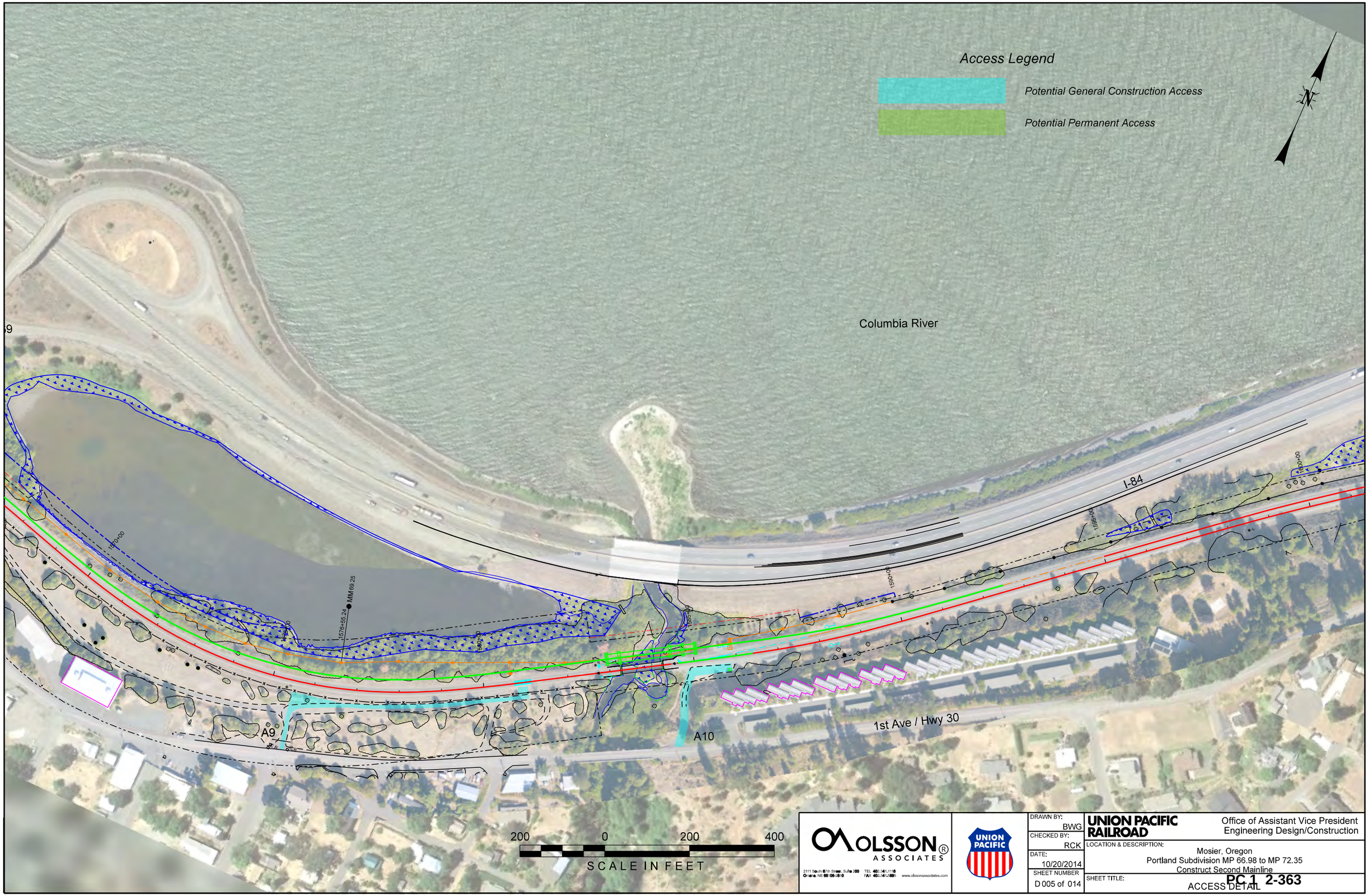

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SHEET TITLE:
ACCESS DETAIL

PC 1 2-363

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UNION PACIFIC RAILROAD
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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
ACCESS DETAIL

PC 1 2-364

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Columbia River

A11

I-84

1630+00
1640+00
1645+00
1650+00
1655+00
1660+00
1665+00

Access Legend

Potential General Construction Access

Potential Permanent Access

200 0 200 400

SCALE IN FEET

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UNION PACIFIC RAILROAD

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Engineering Design/Construction

LOCATION & DESCRIPTION:
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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
ACCESS DETAIL

PC 1 2-365

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10/20/2014

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Columbia River

71

MM71

1665+88.17

1670+00+14.31

PUMP

1675+00

1680+00

1680+43.77

1685+00

1690+00

1695+00

1665+00

N

Access Legend

Potential General Construction Access

Potential Permanent Access

200 0 200 400

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UNION PACIFIC RAILROAD

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LOCATION & DESCRIPTION:

Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:

ACCESS DETAIL

PC 1 2-366

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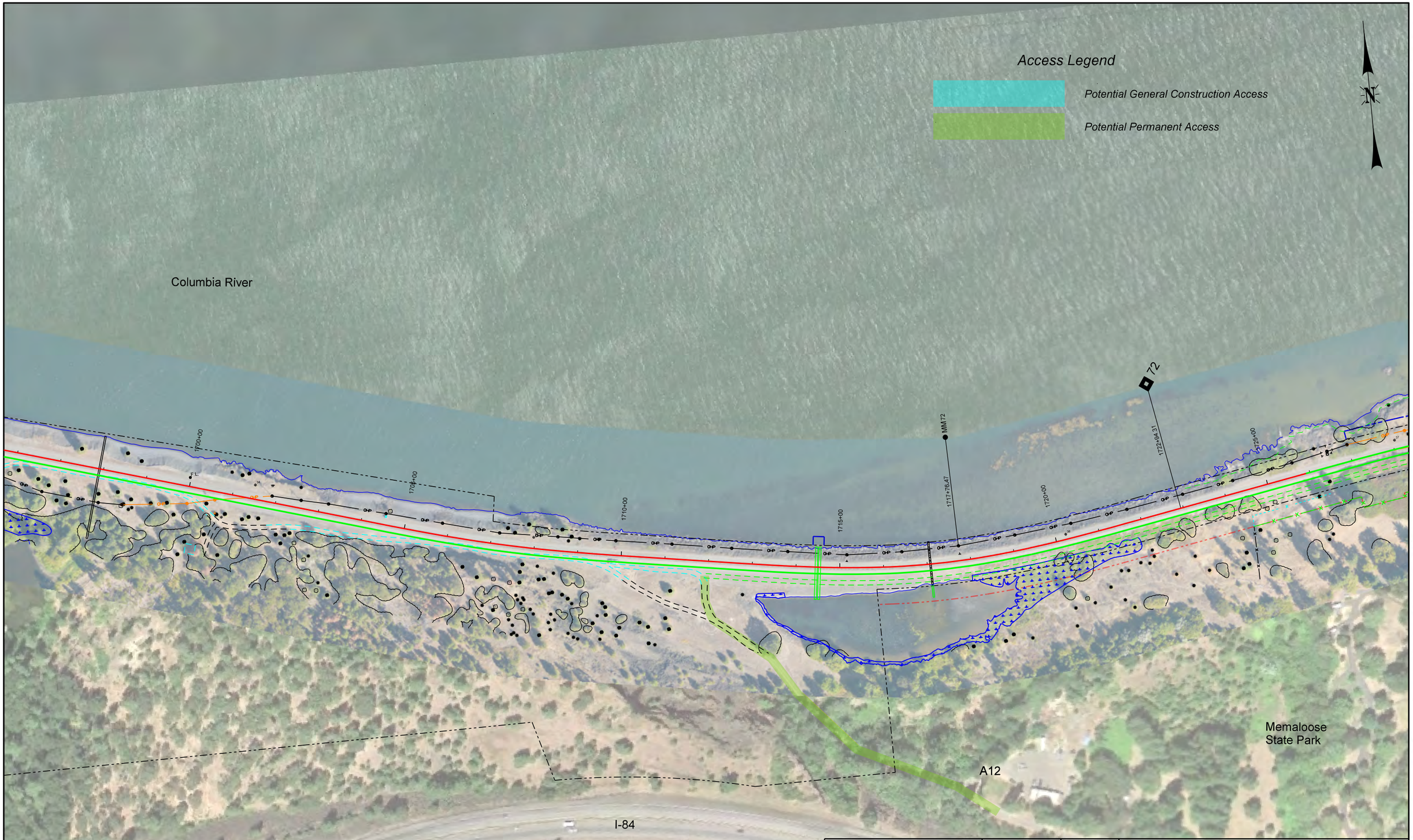

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
ACCESS DETAIL

PC 1 2-367

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UNION PACIFIC RAILROAD

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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
ACCESS DETAIL

PC 1 2-368

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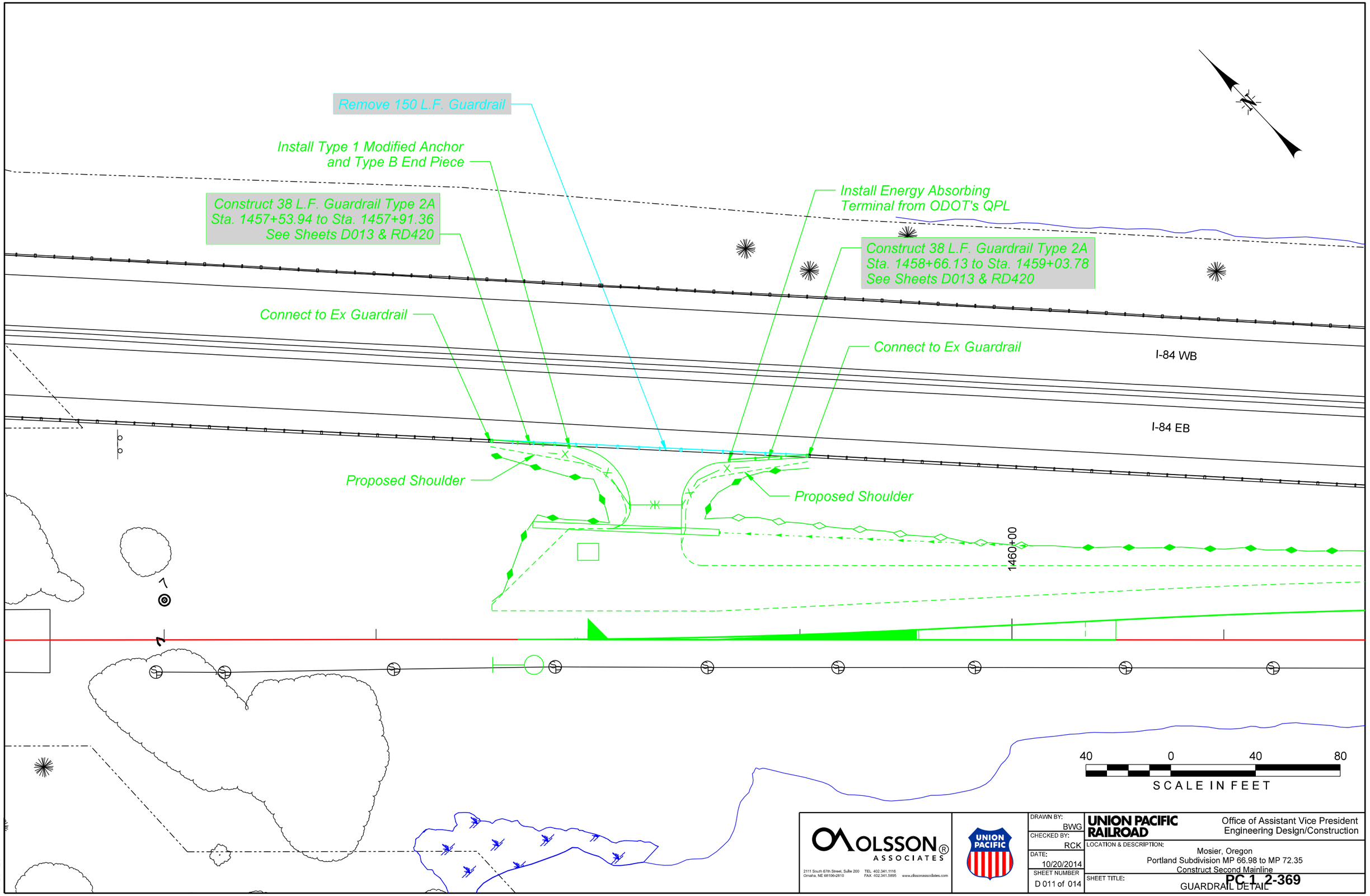

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
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LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
GUARDRAIL DETAIL

PC 1 2-369

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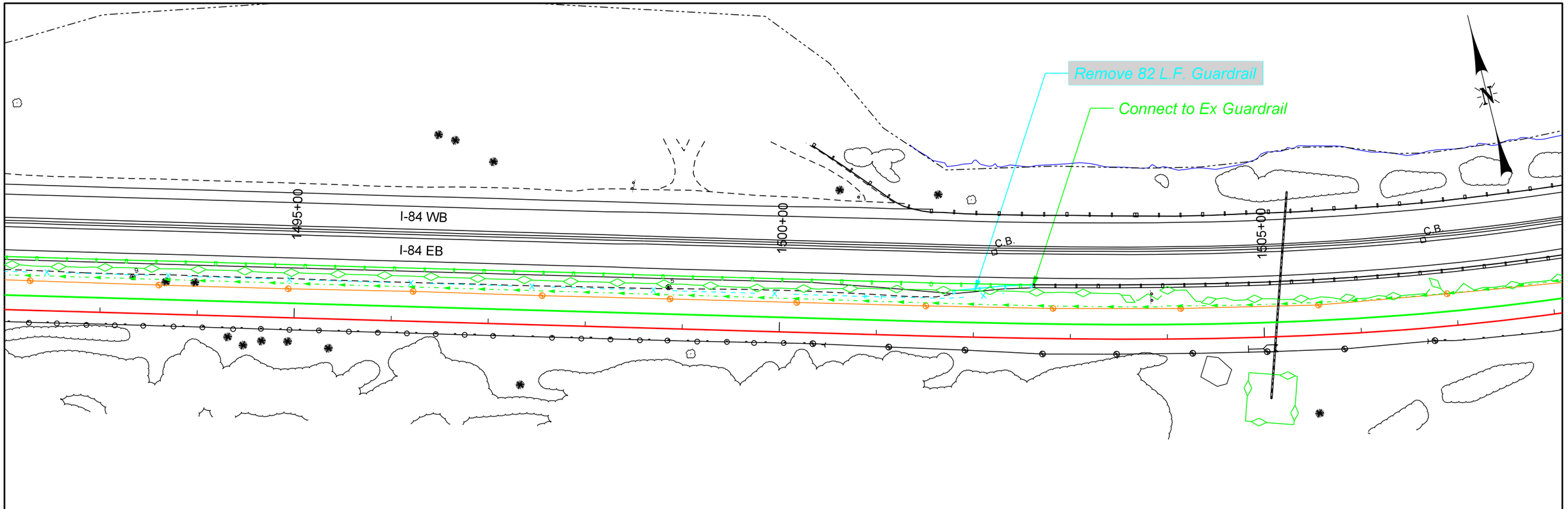

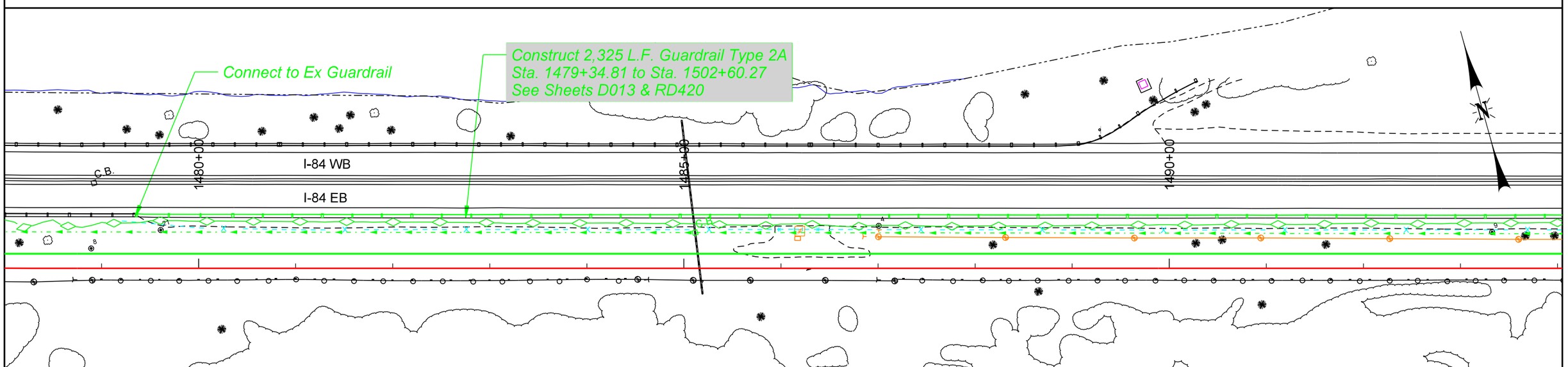

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UNION PACIFIC RAILROAD

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LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
GUARDRAIL DETAIL

PC 1 2-370

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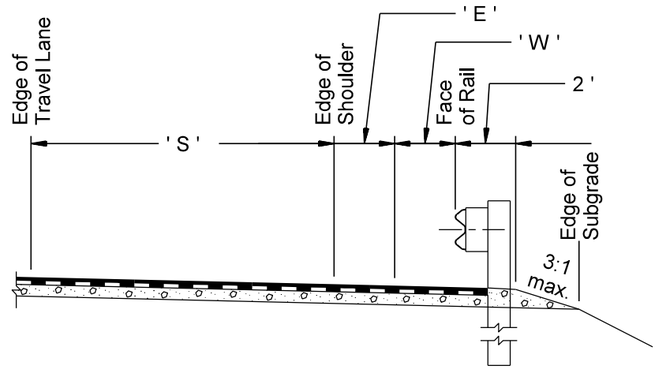
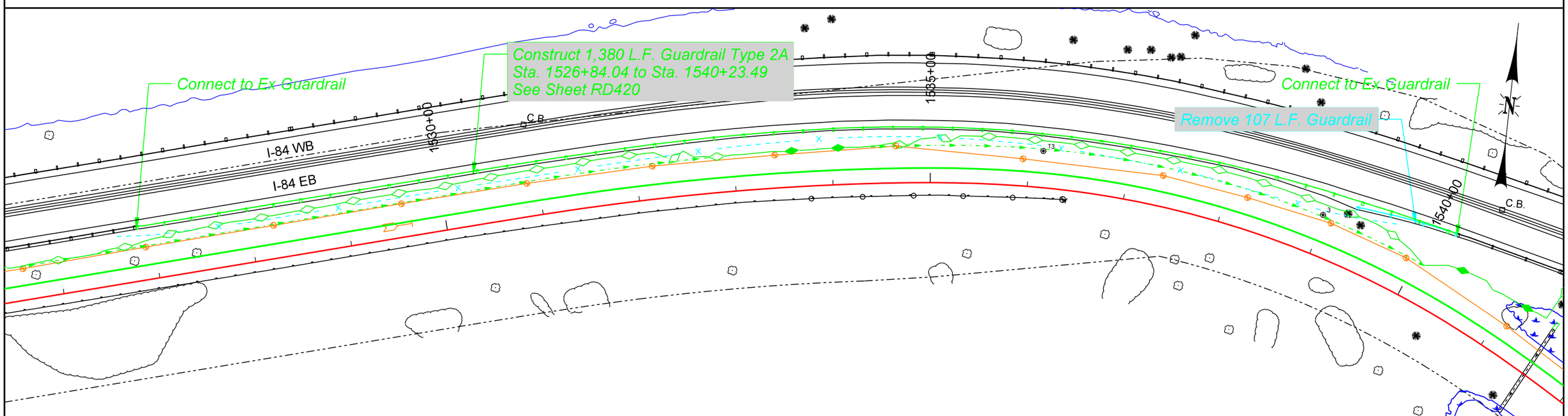


Guardrail Typical Section

STA. TO STA.	' S '	' E '	' W '
1457+54.06 to 1457+91.36	9.84' to 10.0'	0.0'	0.0' to 1.0'
1458+66.13 to 1459+03.78	10.0' to 9.84'	0.0'	4.0' to 0.0'
1479+34.81 to 1479+44.80	9.84' to 10.0'	0.0'	0.0'
1479+44.80 to 1502+60.27	10.0'	0.0'	0.0'
1526+84.04 to 1526+94.02	9.84' to 10.0'	0.0'	0.0'
1526+94.02 to 1540+23.49	10.0'	0.0'	0.0'



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UNION PACIFIC

DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: D013 of 014

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
GUARDRAIL DETAIL

PC 1 2-371

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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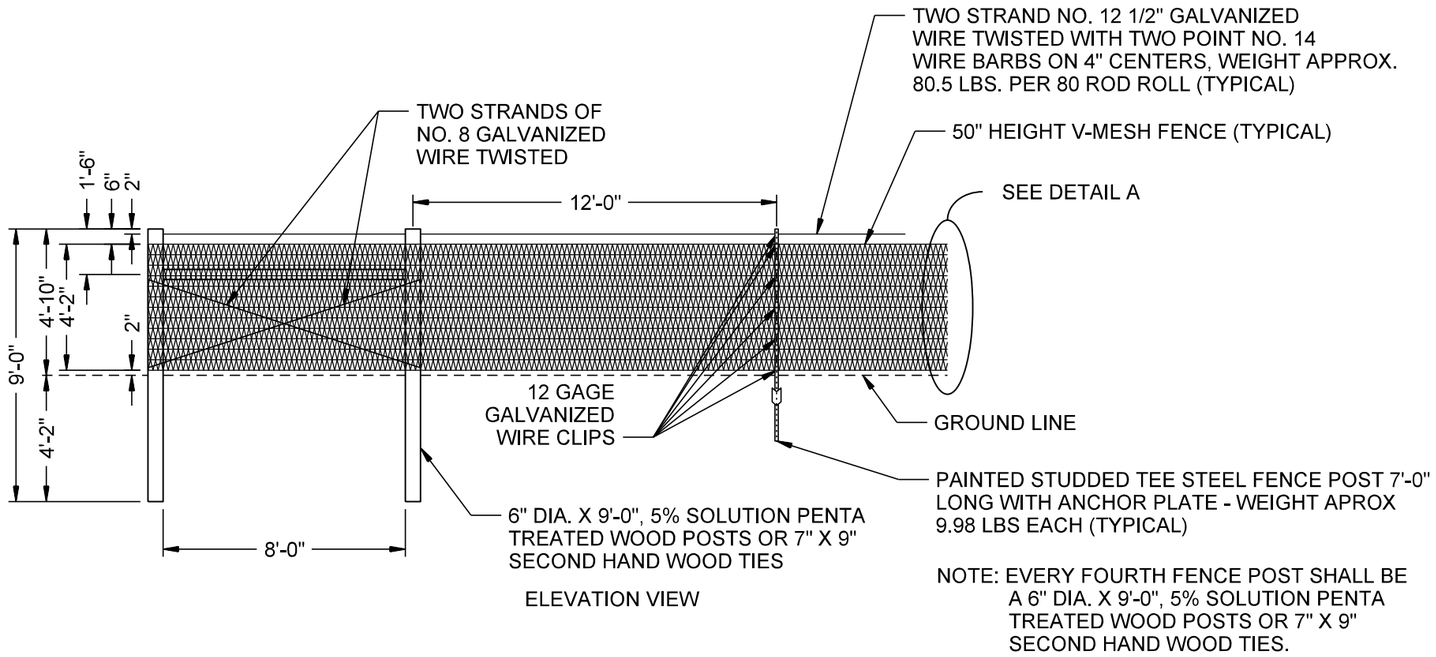
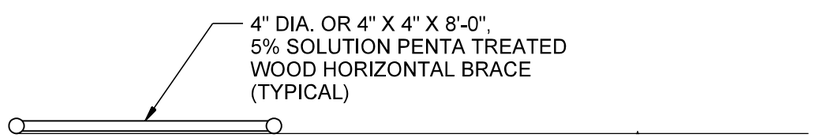
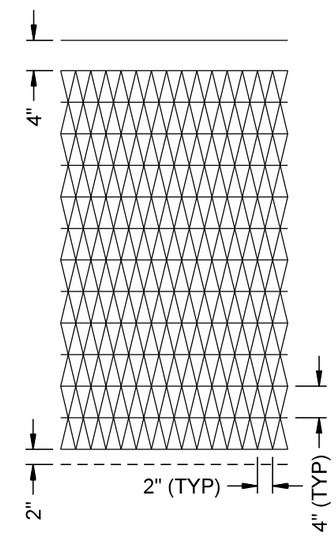
10/20/2014



NOTE: EVERY FOURTH FENCE POST SHALL BE A 6" DIA. X 9'-0", 5% SOLUTION PENTA TREATED WOOD POSTS OR 7" X 9" SECOND HAND WOOD TIES.



PLAN VIEW



DETAIL A

V-MESH FENCE

NOTE: REFER TO UPRR STANDARD DRAWING 0075 FOR GENERAL ARRANGEMENT INFORMATION AND ADDITIONAL NOTES.

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SHEET NUMBER	D 014 of 014

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
La Grande, Oregon - Milam to Gibbon
La Grande Subdivision MP 233.42 To MP 237.49
Construct Second Mainline Track

SHEET TITLE: FENCE DETAIL

PC 1 2-372

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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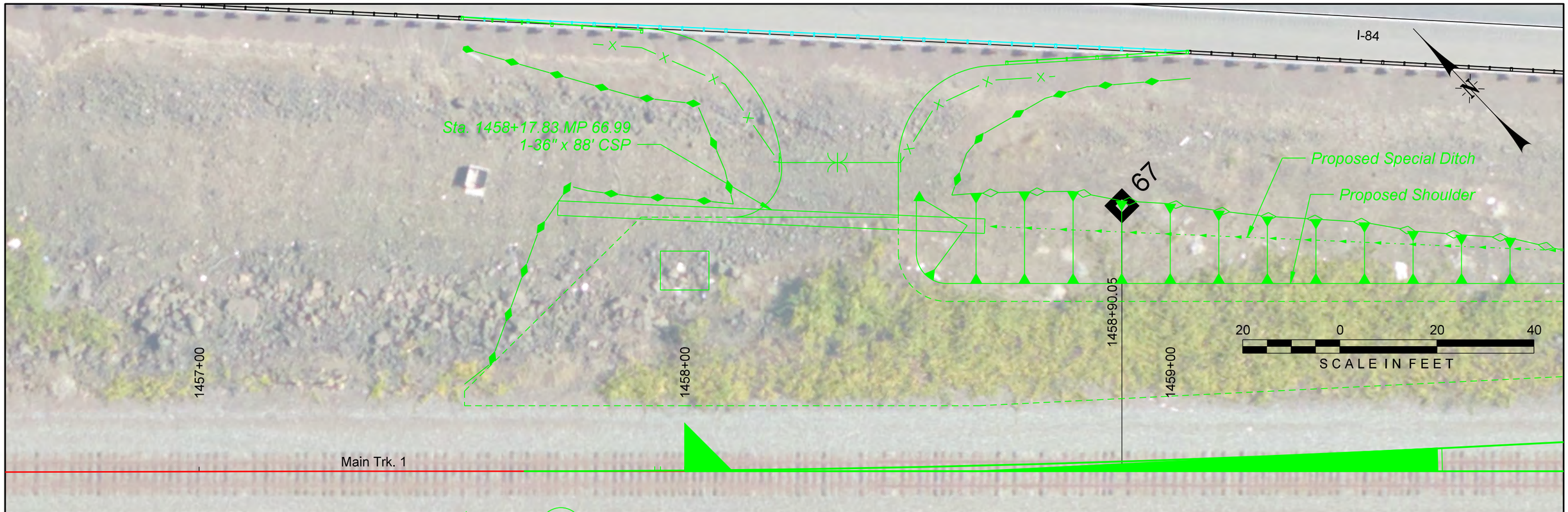
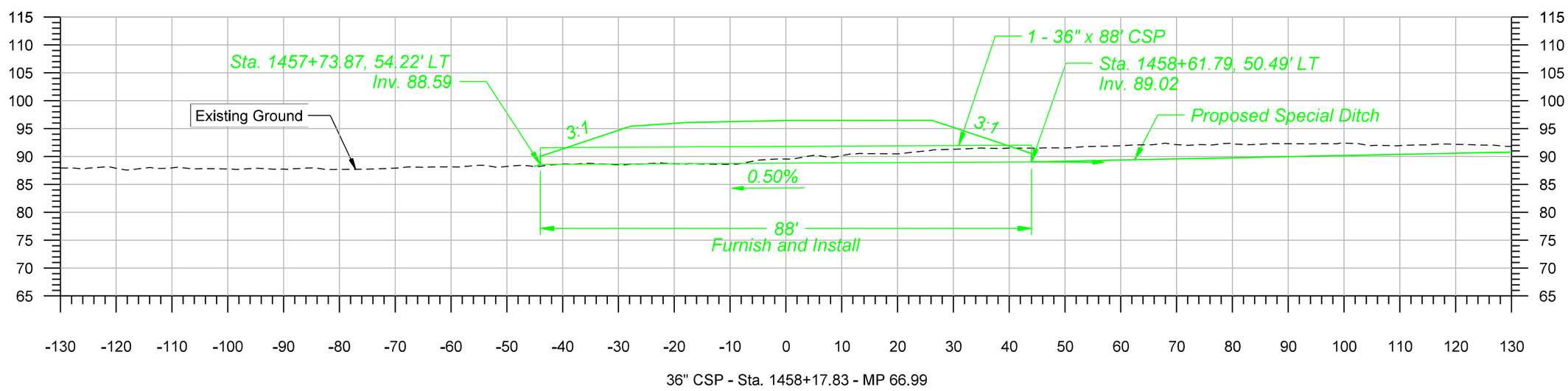
10/20/2014





36" CSP - Sta. 1458+17.83 - MP 66.99

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SHEET NUMBER	C001 of 007

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1458+17.83 - 36" CSP

PC 1, 2-373

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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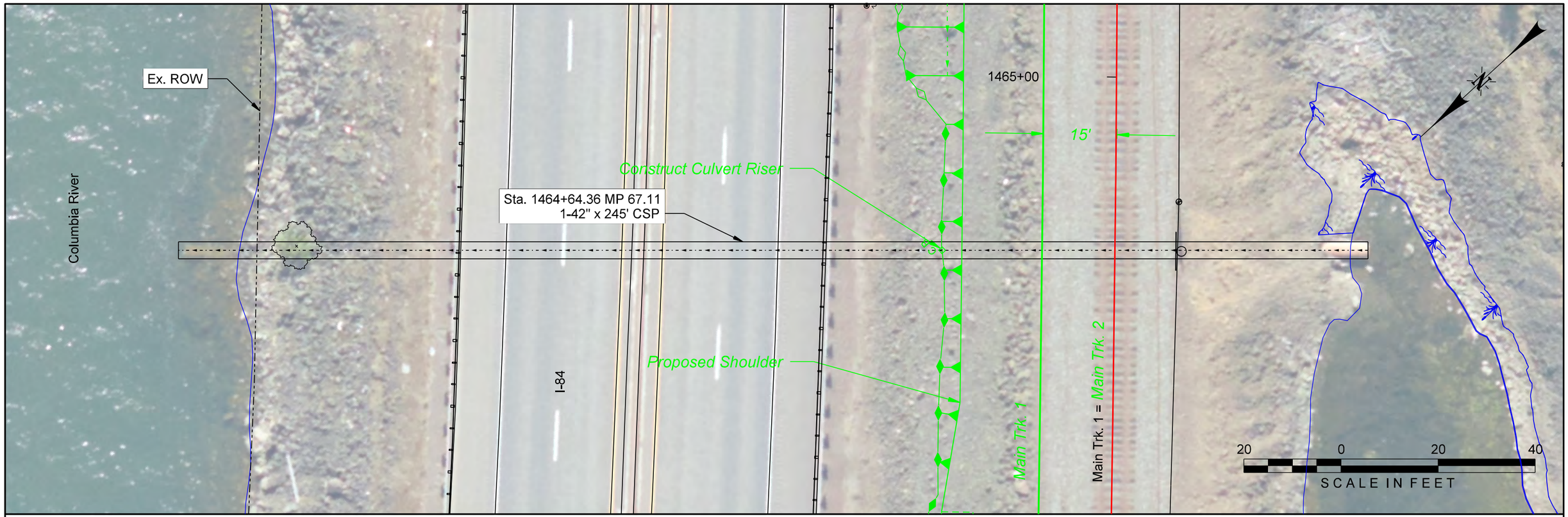
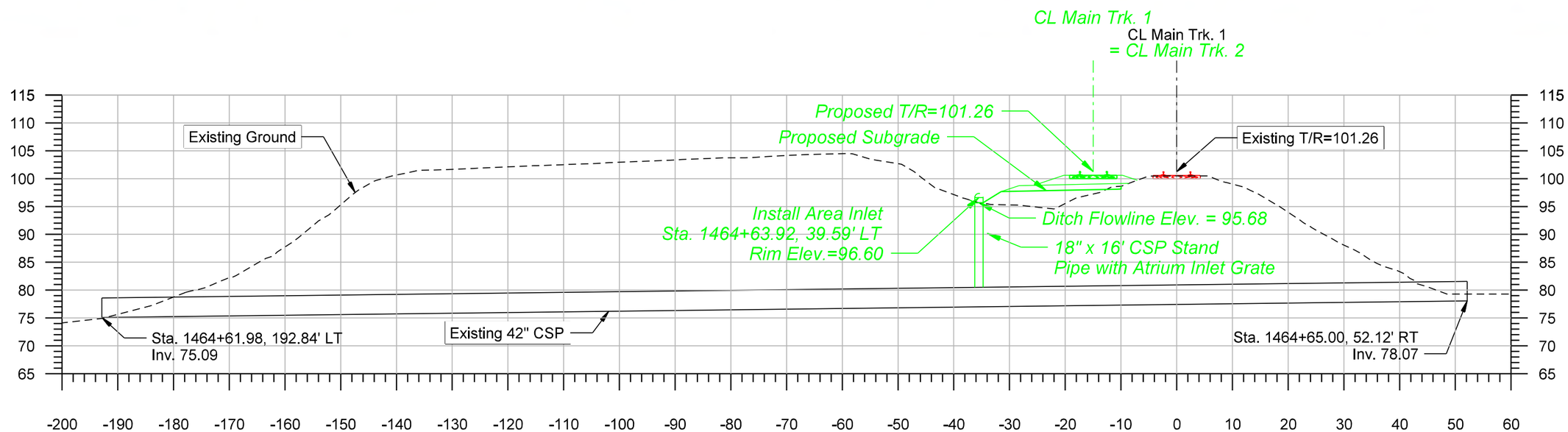
10/20/2014





42" CMP - Sta. 1464+64 - MP 67.11

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DATE:	10/20/2014
SHEET NUMBER	C002 of 007

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1464+64 - CONSTRUCT CULVERT RISER

PC 1 2-374

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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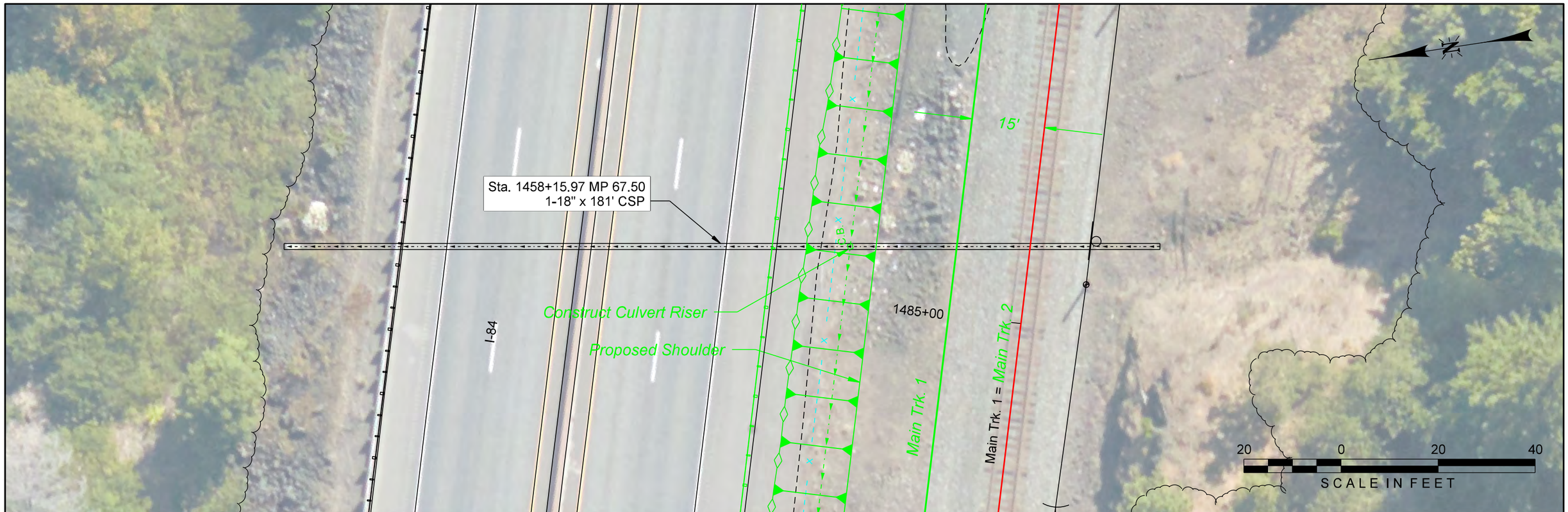

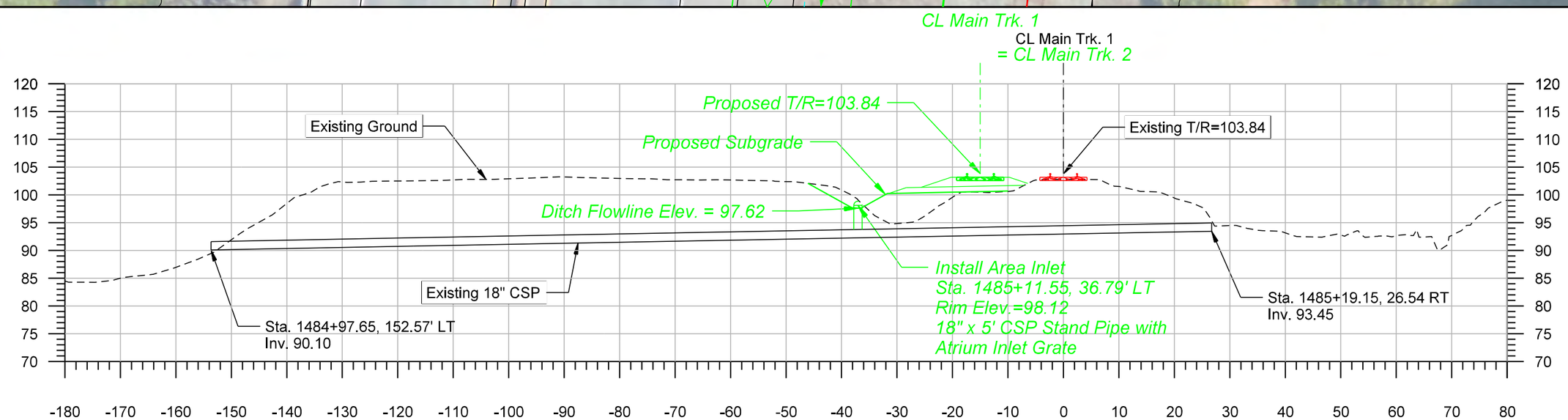

18" CSP - Sta. 1485+19 - MP 67.50

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UNION PACIFIC

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SHEET NUMBER	C003 of 007

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1485+19 - CONSTRUCT CULVERT RISER

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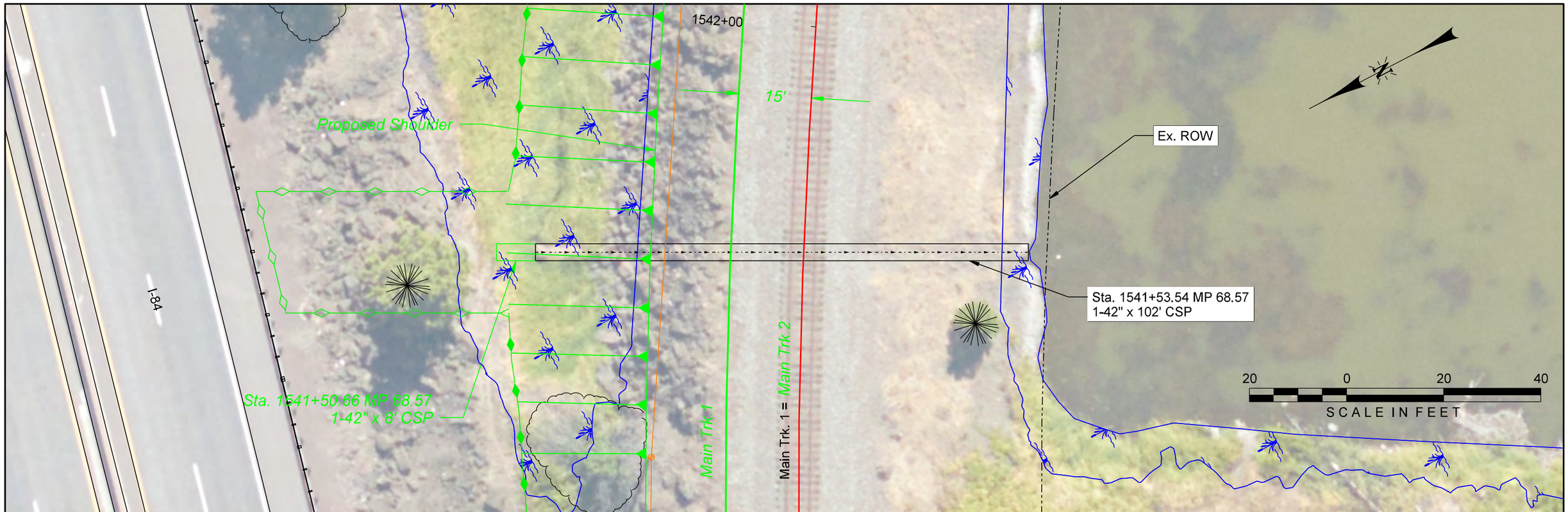
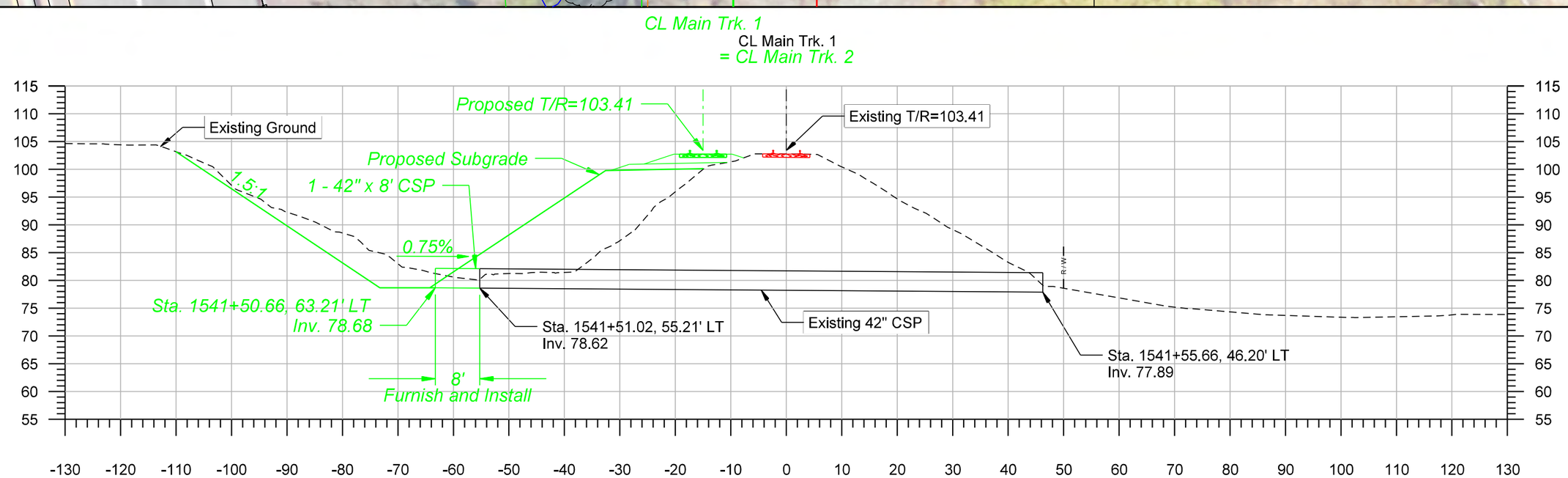
10/20/2014





42" CSP - Sta. 1541+53.54 - MP 68.57

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SHEET NUMBER	C004 of 007

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1541+54 - EXTEND 42" CSP

PC-1 2-376

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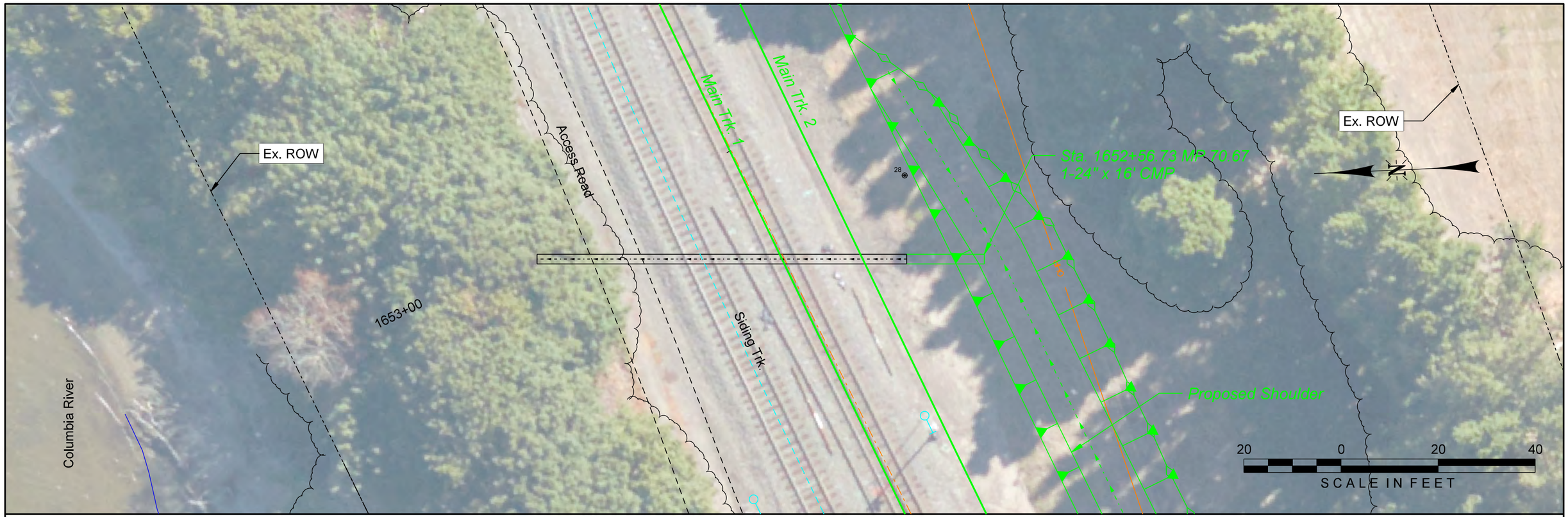
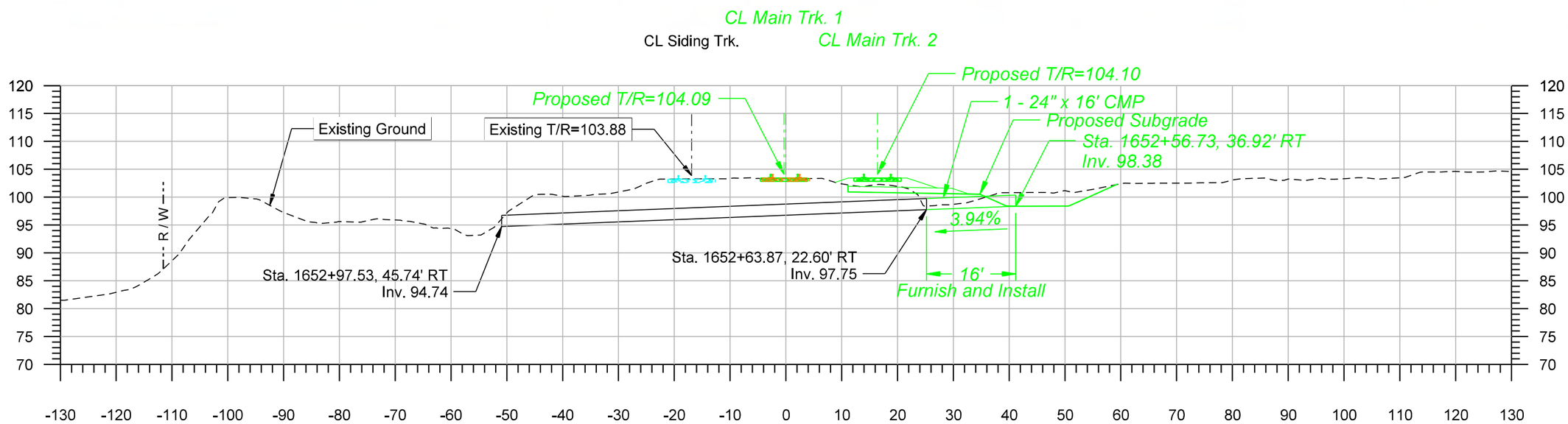
10/20/2014





Extend 24" CMP - Sta. 1652+75 - MP 70.67

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1652+75.11 - EXTEND EXISTING 24" CMP

PC 1 2-377

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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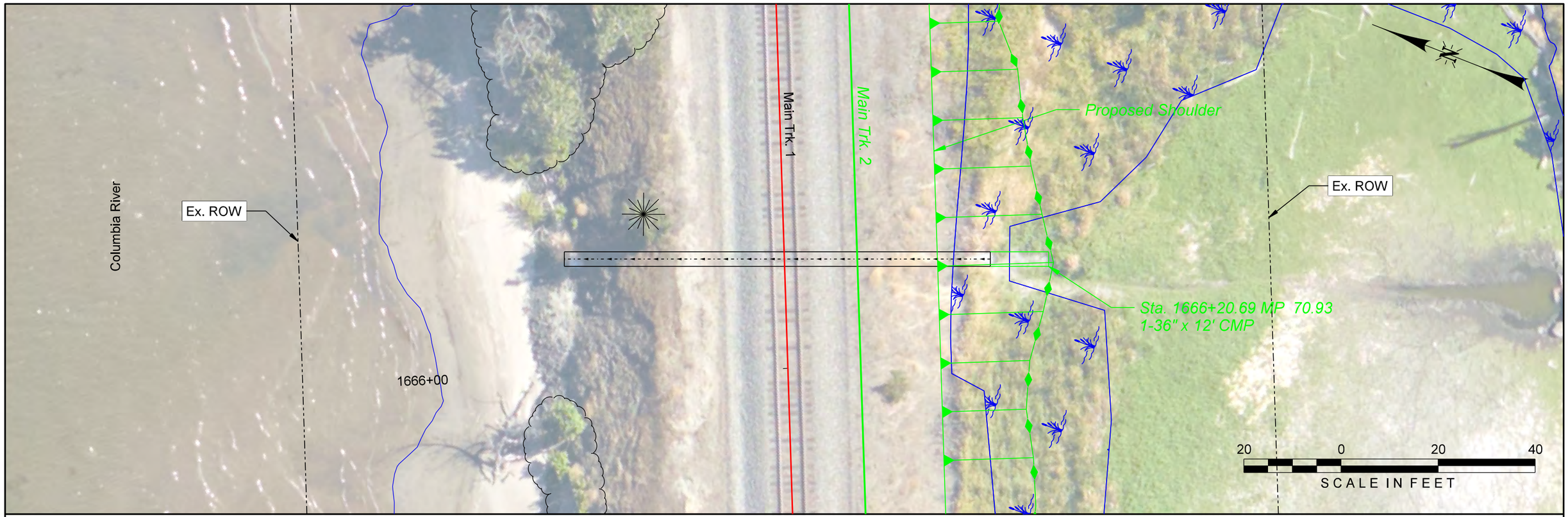
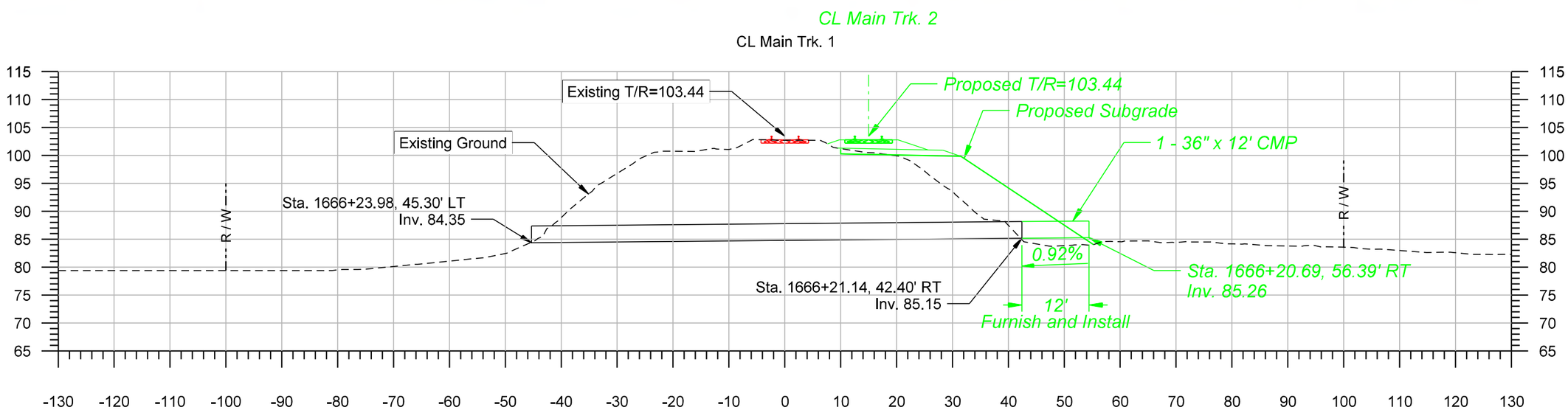
10/20/2014





Extend 36" CMP - Sta. 1666+23 - MP 70.93

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SHEET NUMBER	C006 of 007

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1666+22.51 - EXTEND EXISTING 36" CMP

PC 1 2-378

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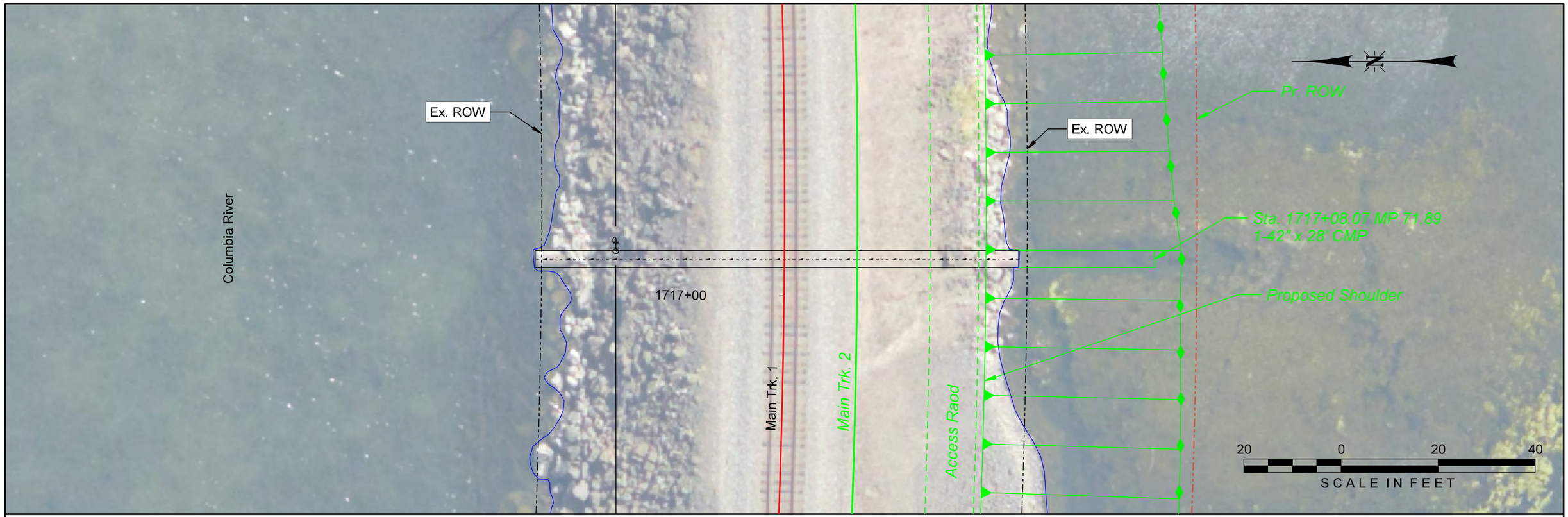
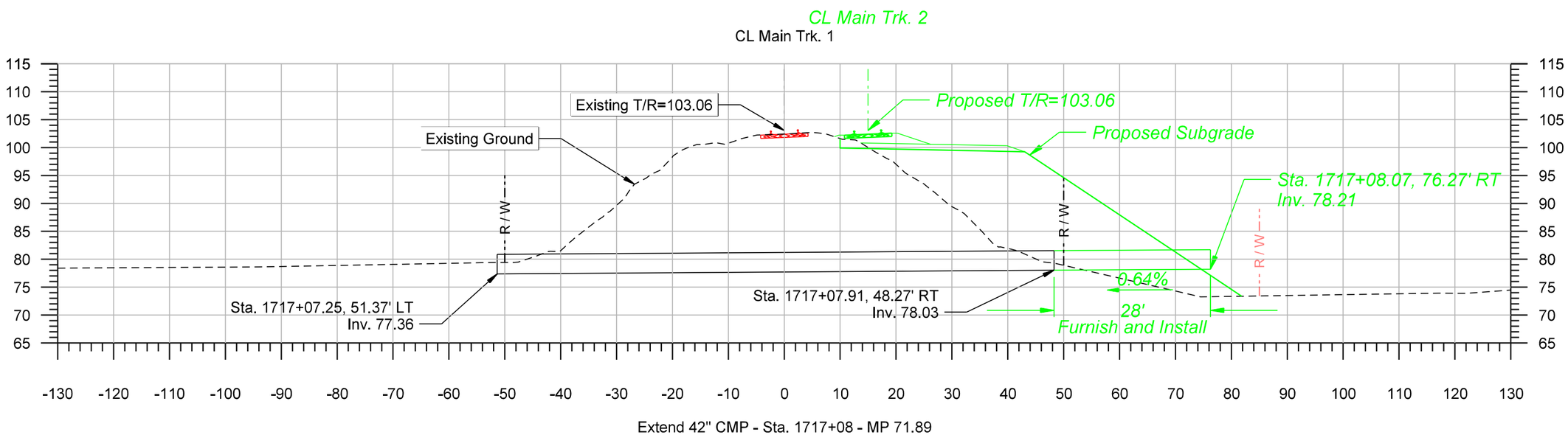
10/20/2014





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UNION PACIFIC

DRAWN BY:	BWG
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DATE:	10/20/2014
SHEET NUMBER	C007 of 007

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CULVERT STA. 1717+08 - EXTEND 42" CMP

PC 1 2-379

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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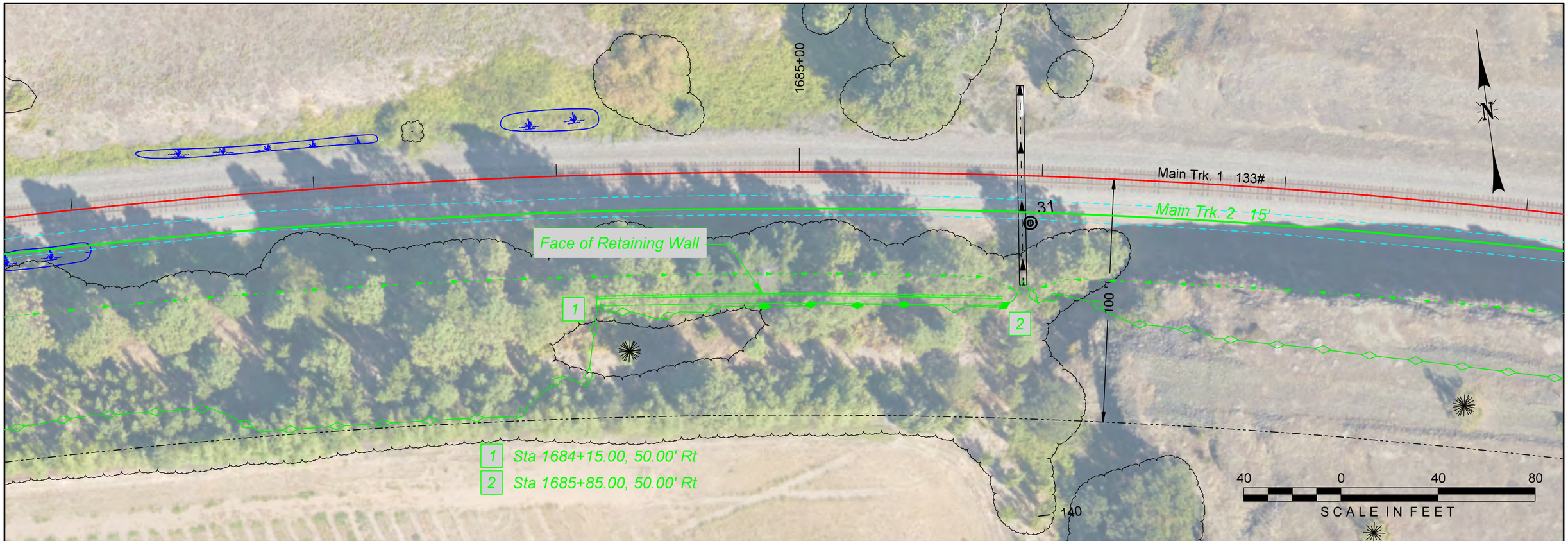
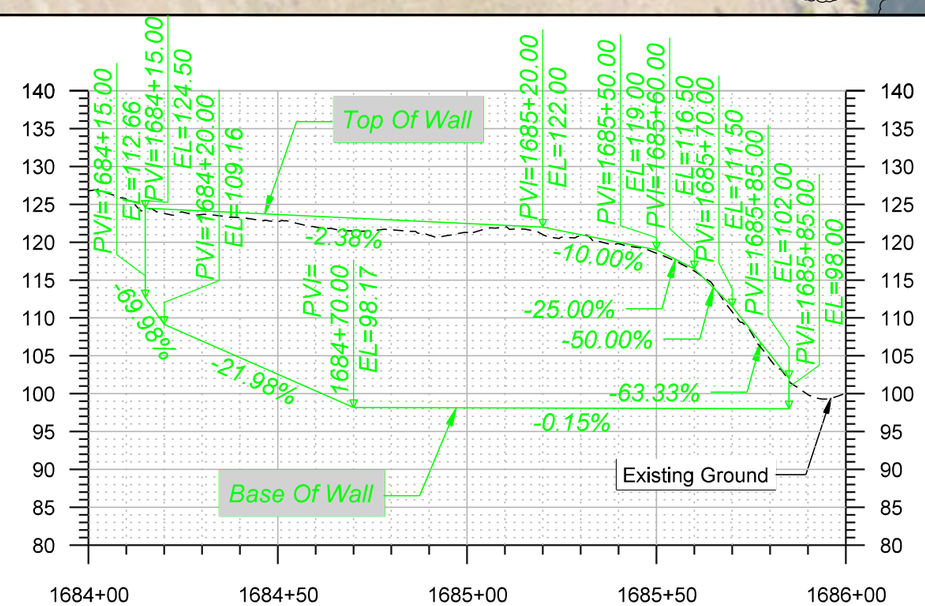
Default
10/20/2014





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UNION PACIFIC

DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	W001 of 001

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
RETAINING WALL STA. 1684+15 TO STA. 1685+85

PC 1 2-380

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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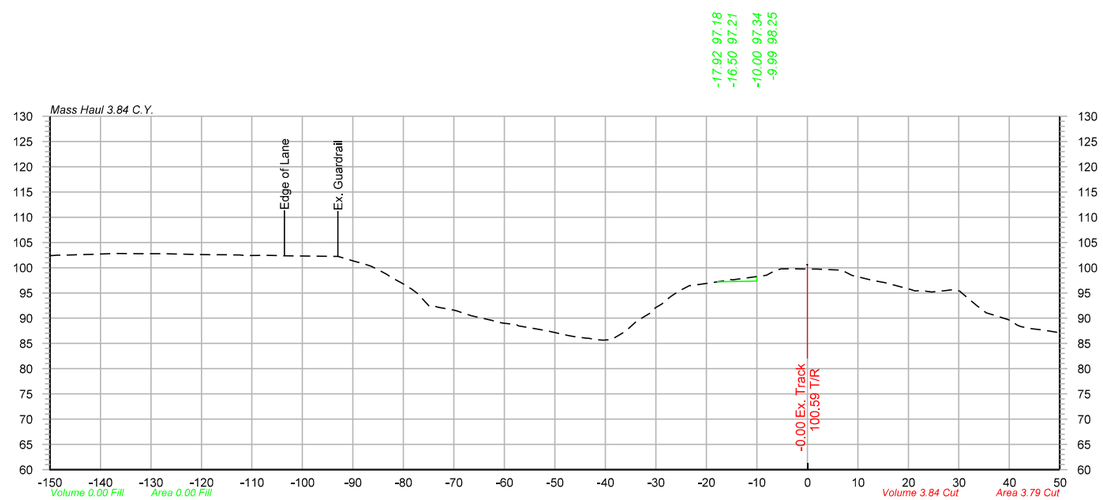
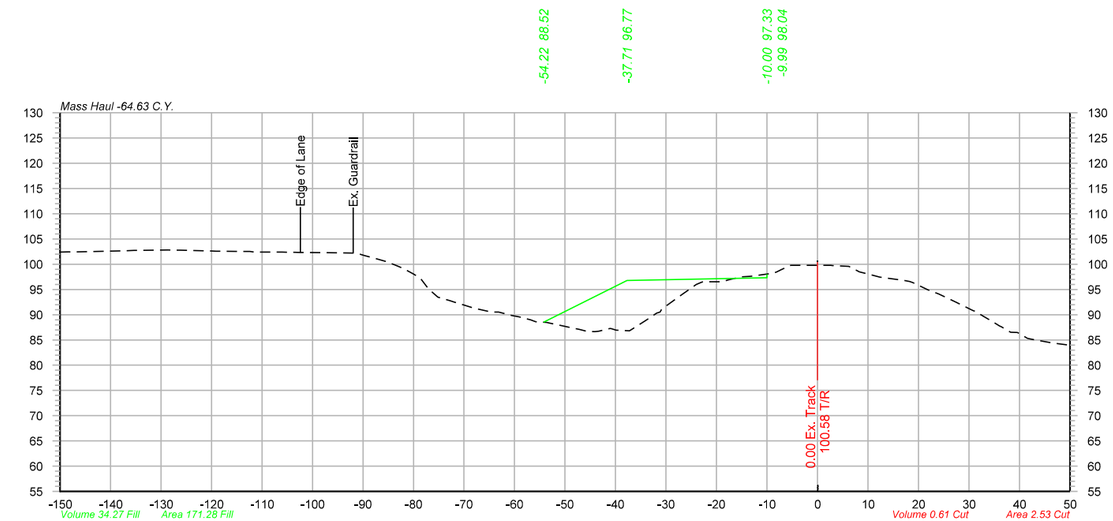
Default
10/20/2014



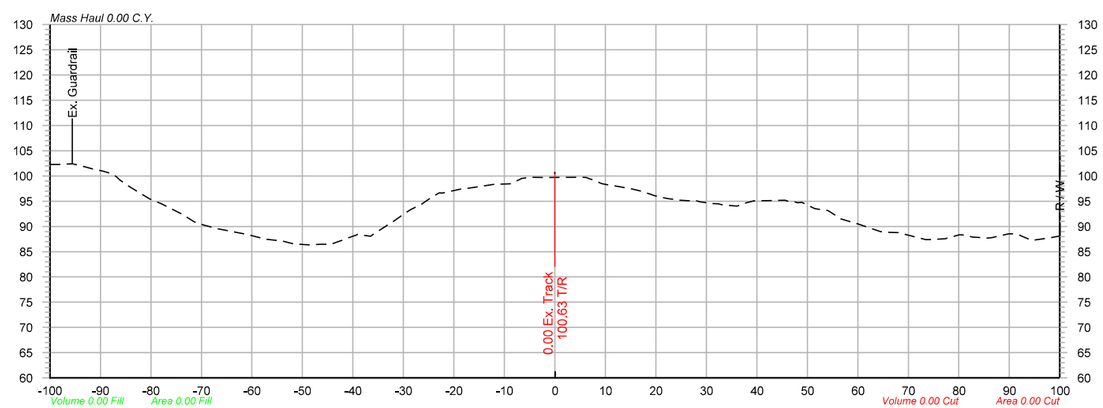
1457+55

-150.00	102.38
-145.65	102.53
-141.53	102.65
-138.23	102.78
-132.62	102.77
-128.76	102.76
-120.27	102.61
-115.96	102.57
-112.41	102.51
-107.76	102.45
-104.68	102.38
-93.16	102.25
-89.42	101.18
-86.33	100.26
-83.31	98.68
-80.05	96.83
-75.00	92.50
-69.82	91.56
-66.50	90.50
-62.63	89.59
-58.75	88.84
-53.77	87.89
-47.72	86.63
-43.97	86.08
-40.48	85.62
-35.96	87.43
-31.12	91.03
-27.46	93.96
-23.30	96.48
-17.03	97.31
-8.24	98.49
-5.12	99.78
0.10	99.73
3.44	99.64
6.82	99.51
10.08	98.19
15.45	97.00
20.62	95.65
24.61	95.19
28.36	95.60
33.53	92.51
37.41	90.47
40.48	89.50
43.94	87.97
47.04	87.58



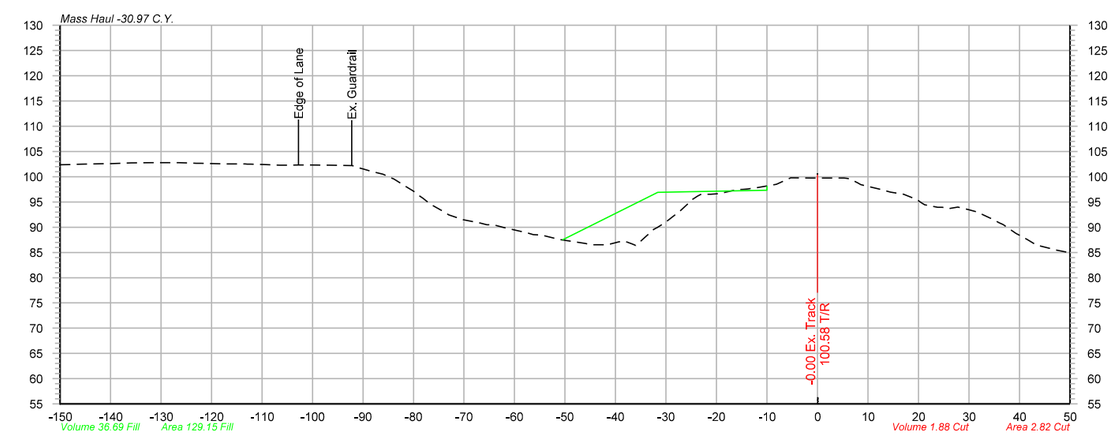
1457+76

-150.00	102.41
-146.53	102.44
-142.76	102.53
-137.20	102.67
-128.64	102.81
-119.86	102.60
-114.50	102.51
-108.20	102.42
-104.85	102.37
-101.22	102.32
-96.87	102.28
-93.80	102.24
-89.66	101.69
-85.29	100.48
-81.94	99.11
-78.63	97.24
-75.19	93.50
-71.89	92.50
-68.09	91.33
-64.74	90.59
-60.59	89.87
-56.80	88.98
-53.72	88.49
-50.41	87.79
-47.23	87.11
-44.11	86.65
-41.06	87.27
-37.26	86.81
-34.01	88.87
-30.83	91.13
-26.69	94.10
-22.91	96.45
-18.96	96.54
-15.17	97.50
-8.68	98.22
-5.30	99.76
-2.01	99.76
2.71	99.76
6.19	99.56
10.46	97.94
17.22	96.76
20.71	95.50
24.00	94.13
27.35	92.54
30.81	90.81
34.86	88.53
38.27	86.52
41.59	85.31
46.29	84.43
49.48	84.02



1457+00

-100.00	102.29
-95.51	102.40
-91.43	101.37
-87.91	100.47
-84.39	97.98
-80.23	95.44
-77.08	94.09
-73.82	92.43
-70.29	90.49
-66.75	89.53
-61.51	88.52
-58.42	87.77
-53.94	87.11
-50.08	86.44
-45.98	86.49
-42.10	87.25
-39.00	88.44
-35.93	88.49
-32.68	90.64
-28.61	93.31
-25.10	95.33
-18.84	97.34
-15.17	97.87
-11.94	98.37
-8.82	98.44
-4.80	99.72
5.45	99.73
9.25	98.49
15.18	97.45
19.02	96.36
22.29	95.54
26.19	95.09
31.36	94.52
36.09	94.02
39.37	95.06
45.62	95.17
48.89	94.75
54.06	93.17
59.87	90.53
64.46	88.97
68.11	88.79
73.42	87.40
77.32	87.57
80.78	88.30
85.30	87.75
89.83	88.51
94.38	87.26
97.70	87.71



1457+70

-150.00	102.38
-145.50	102.50
-141.49	102.58
-135.83	102.74
-131.82	102.79
-127.65	102.79
-123.82	102.69
-117.17	102.53
-113.34	102.51
-109.50	102.39
-105.76	102.26
-101.38	102.33
-96.43	102.29
-92.11	102.21
-88.40	101.07
-84.71	99.89
-81.07	97.79
-76.61	94.54
-73.01	92.43
-66.77	90.82
-62.16	89.92
-57.57	88.89
-54.55	88.43
-51.11	87.56
-47.83	87.05
-43.62	86.50
-39.29	87.11
-36.24	88.49
-32.41	89.55
-27.13	93.29
-23.76	96.14
-19.40	96.63
-16.28	97.35
-13.25	97.64
-8.16	98.47
-1.23	99.75
5.30	99.75
8.56	98.46
12.50	97.49
17.06	96.51
20.54	94.86
23.80	93.96
27.81	93.99
31.25	93.11
34.98	91.45
39.30	88.77
43.40	86.46
46.97	85.58
50.00	84.94

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DATE: 10/20/2014
SHEET NUMBER: X 001 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1457+00 TO STA.1457+76

PC 1 2-381

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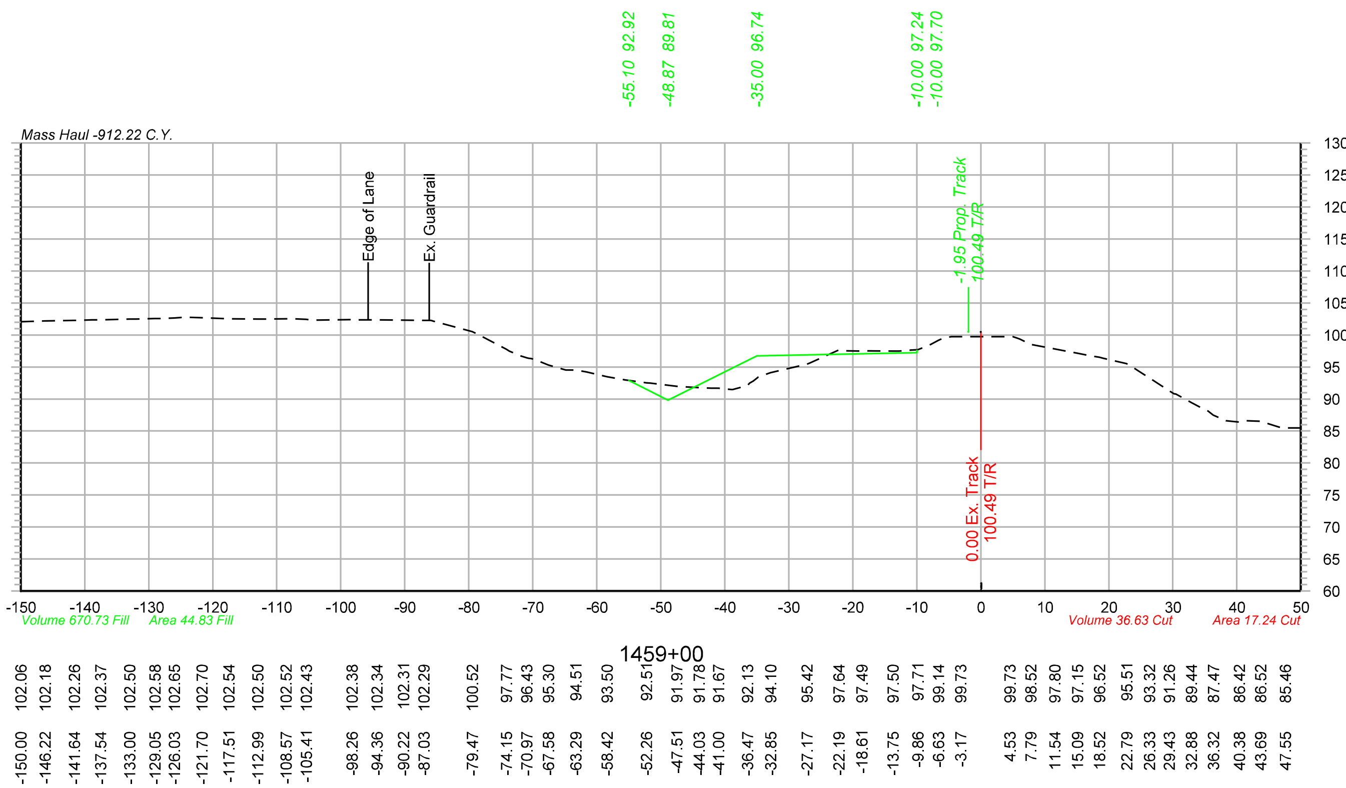
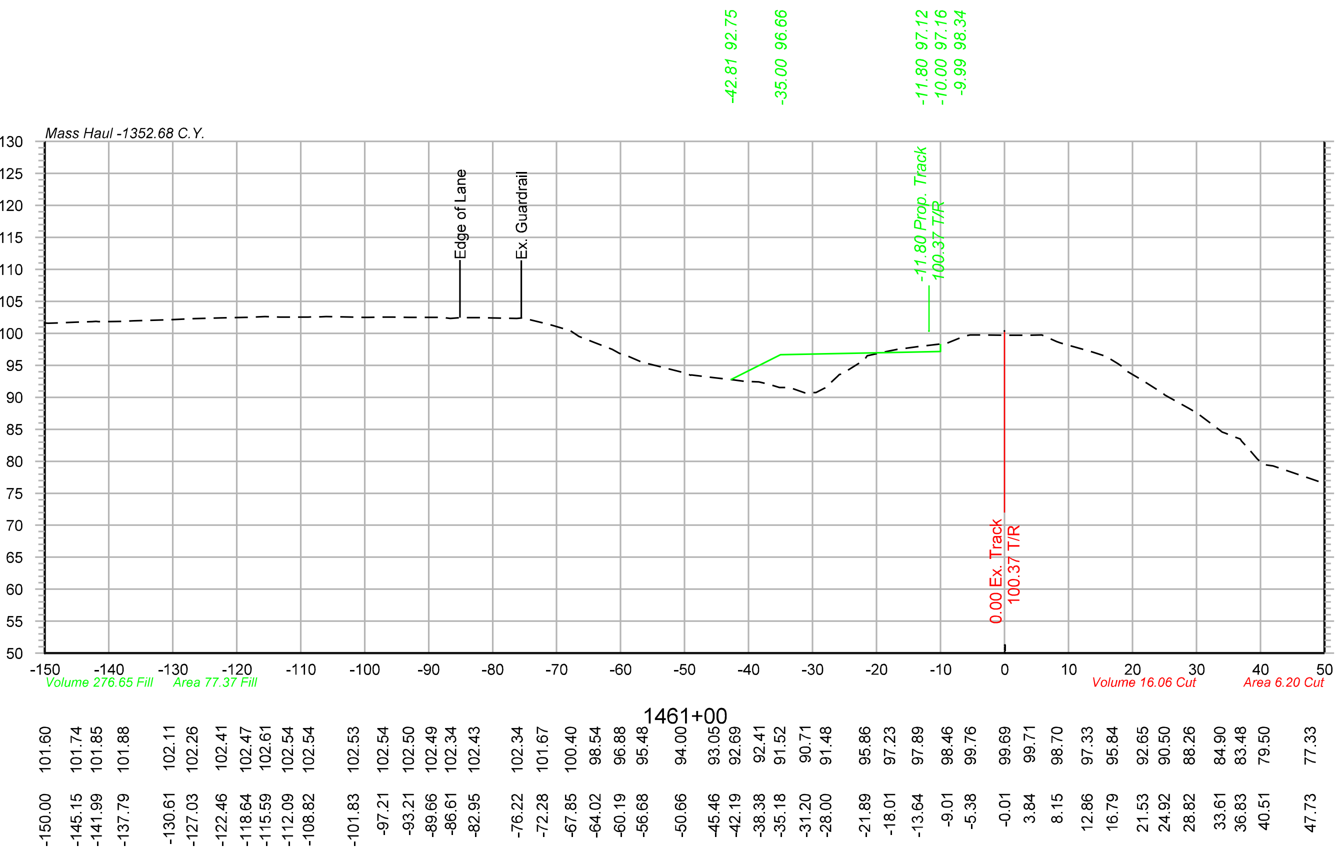
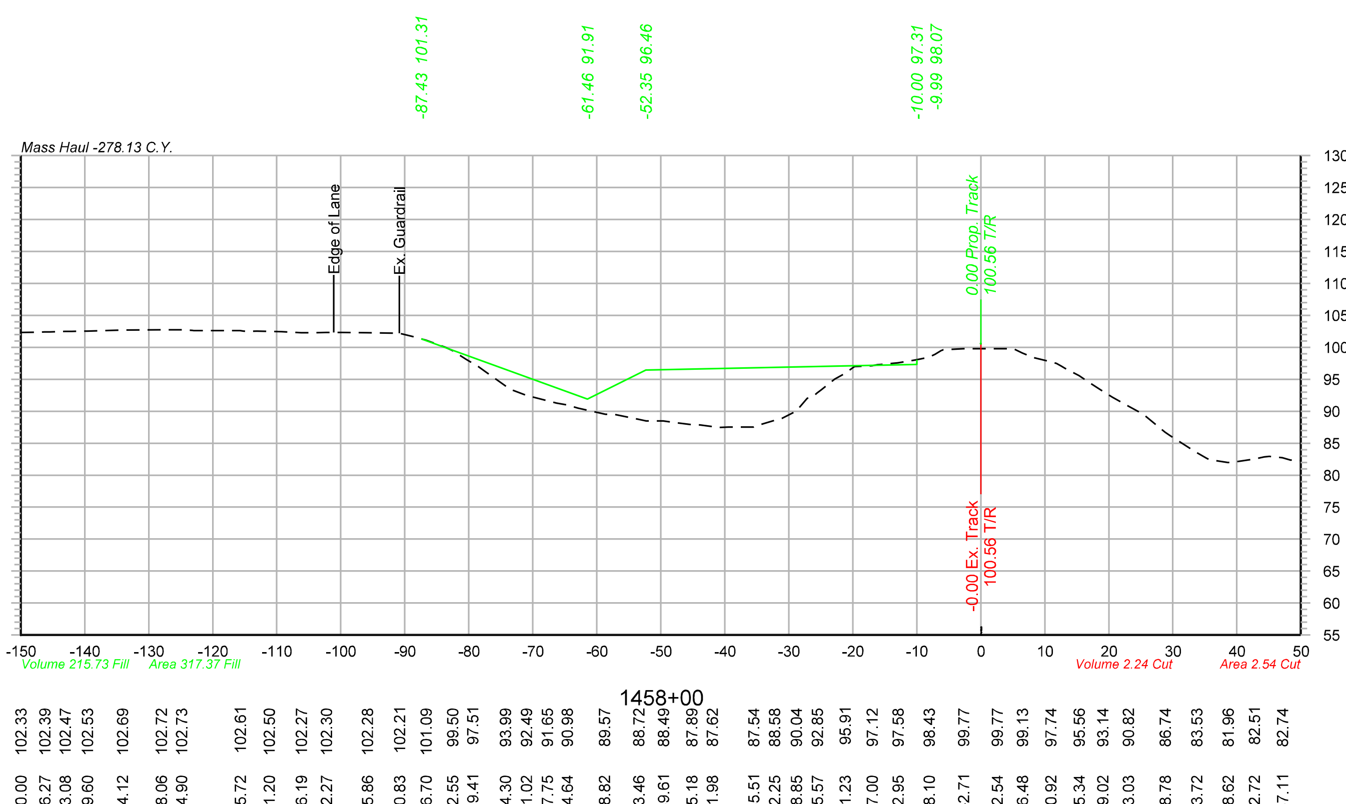
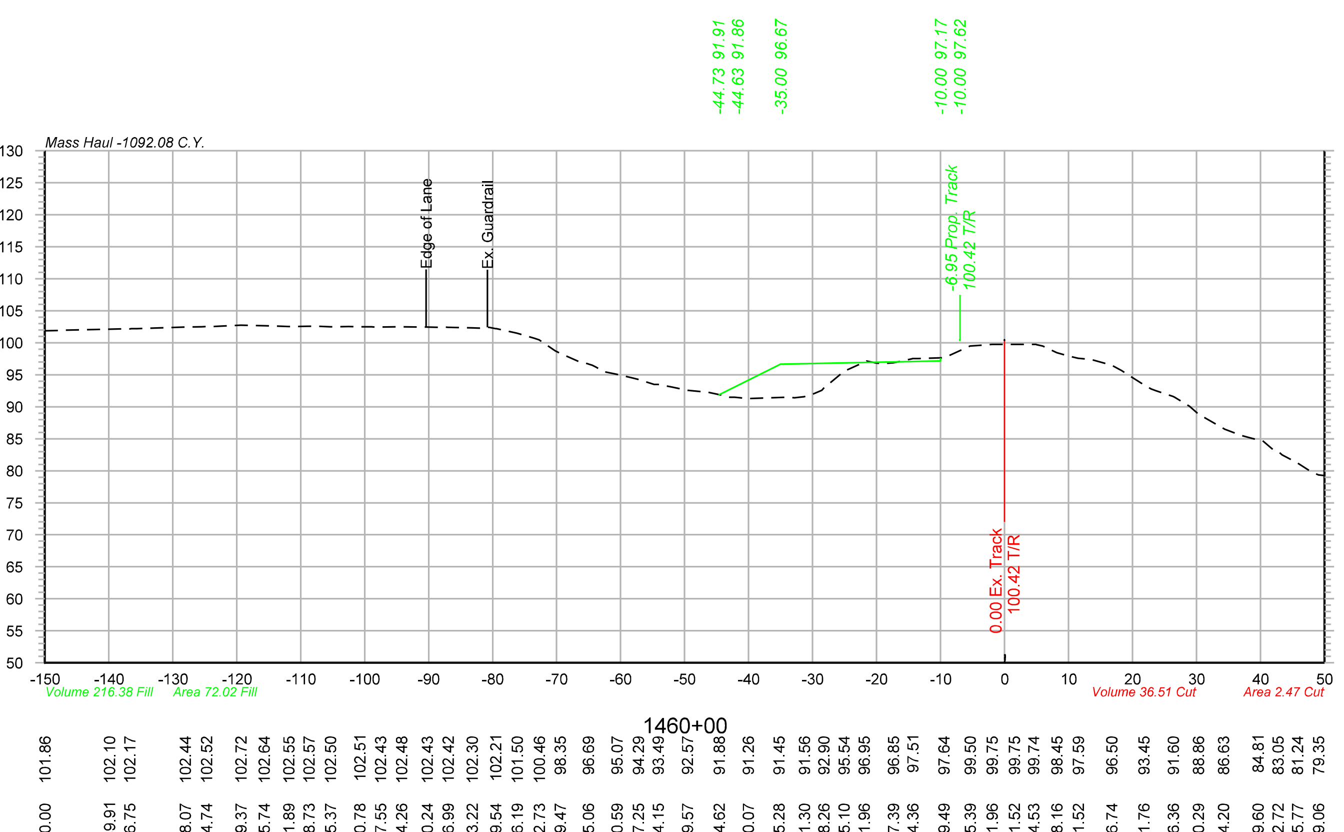
10/20/2014









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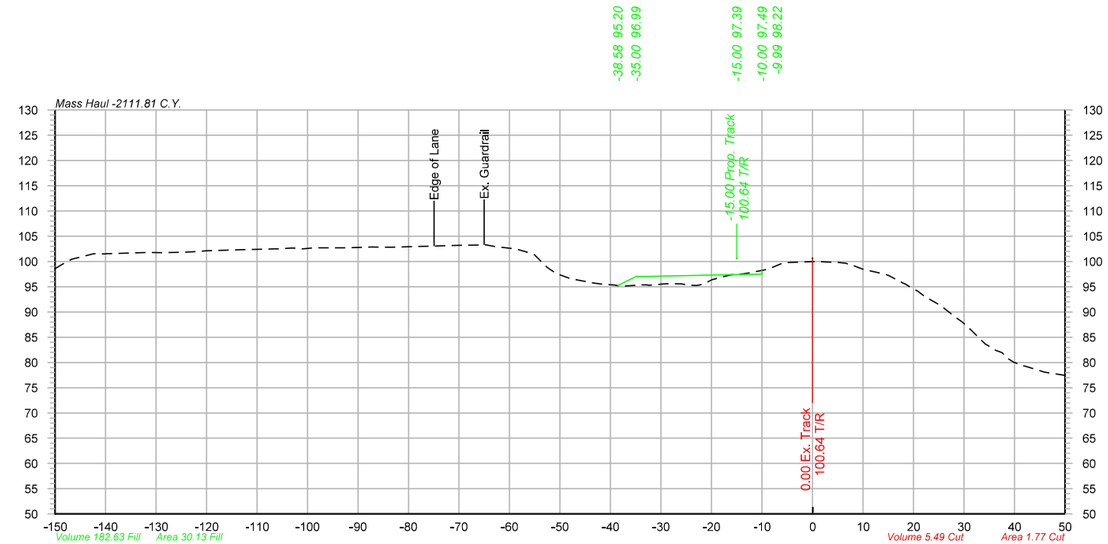
UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1458+00 TO STA.1461+00

PC 1 2-382



1463+00

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-142.50	101.49
-136.89	101.61
-131.69	101.78
-124.43	101.83
-119.96	102.10
-115.72	102.25
-107.74	102.44
-103.16	102.64
-99.58	102.62
-94.33	102.70
-90.94	102.74
-87.21	102.87
-83.20	102.83
-77.36	102.98
-74.24	103.06
-69.83	103.18
-66.56	103.26
-62.87	102.94
-58.84	102.47
-55.18	101.45
-51.92	98.40
-48.09	96.67
-43.42	95.72
-39.13	95.32
-33.91	95.36
-29.15	95.58
-26.02	95.56
-22.98	95.26
-19.74	96.44
-15.54	97.50
-12.49	97.75
-8.90	98.43
-5.77	99.75
0.61	99.99
5.32	99.77
9.70	98.57
13.38	97.70
17.95	95.71
21.69	93.48
25.41	91.25
29.46	88.15
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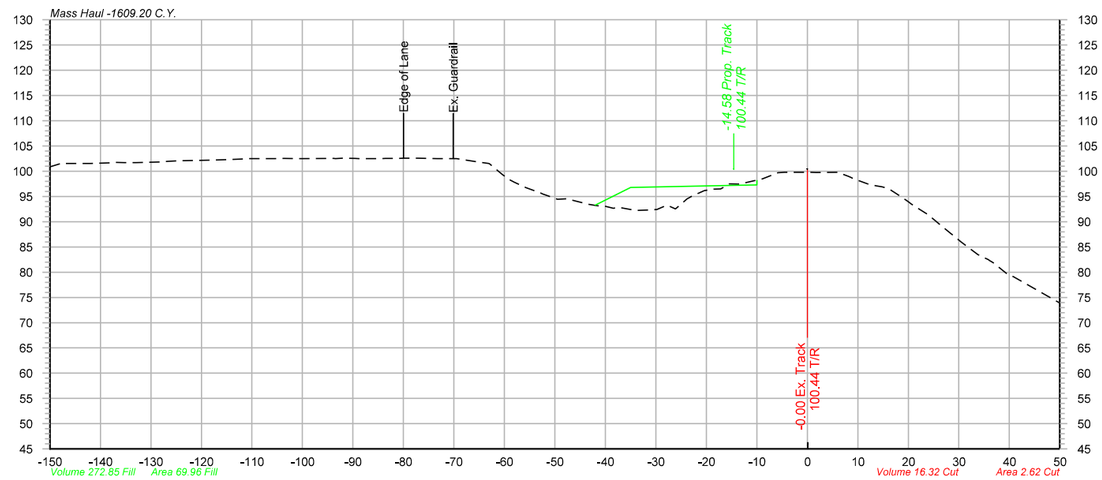
37.56	81.96
40.72	79.72
44.25	78.60
50.00	77.46



1462+00

-150.00	100.87
-141.97	101.54
-137.93	101.67
-134.64	101.70
-128.34	101.82
-125.14	102.04
-117.81	102.22
-113.06	102.38
-106.99	102.50
-103.63	102.53
-99.96	102.50
-93.75	102.53
-89.62	102.52
-84.31	102.50
-80.97	102.53
-77.54	102.58
-73.34	102.50
-69.48	102.50
-65.20	101.83
-60.36	99.31
-55.73	96.73
-52.41	95.50
-49.37	94.46
-43.34	93.44
-40.10	93.06
-34.48	92.32
-30.27	92.37
-26.14	92.54
-22.92	95.01
-18.52	96.46
-15.44	97.47
-9.43	98.36
-5.81	98.69
-0.47	99.78
6.21	99.76
9.78	98.30
13.57	97.12
17.16	95.86
20.60	93.50
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28.31	87.72
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39.79	79.50
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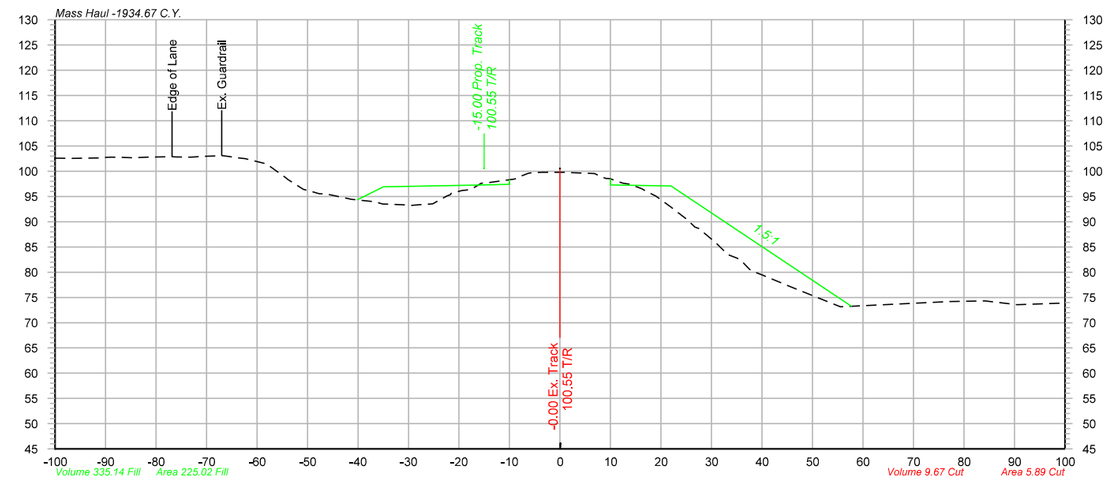

1462+61

-100.00	102.59
-91.92	102.63
-86.90	102.74
-81.68	102.77
-77.27	102.86
-73.08	102.79
-67.77	103.03
-64.18	102.71
-59.50	101.79
-55.39	99.49
-50.81	96.42
-47.65	95.54
-41.37	94.45
-36.67	93.95
-31.34	93.34
-27.85	93.37
-22.35	95.12
-19.33	96.18
-15.60	97.62
-8.97	98.47
-5.94	99.68
0.90	99.79
6.87	99.52
12.11	97.74
16.22	96.54
22.06	92.80
25.15	90.45
29.83	86.70
33.25	83.50
37.45	80.65
40.47	79.28
44.90	77.43
55.55	73.13
77.16	74.19
84.18	74.33
90.55	73.57
100.00	73.90

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SHEET NUMBER	X 003 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1462+00 TO STA.1463+00

PC 1 2-383

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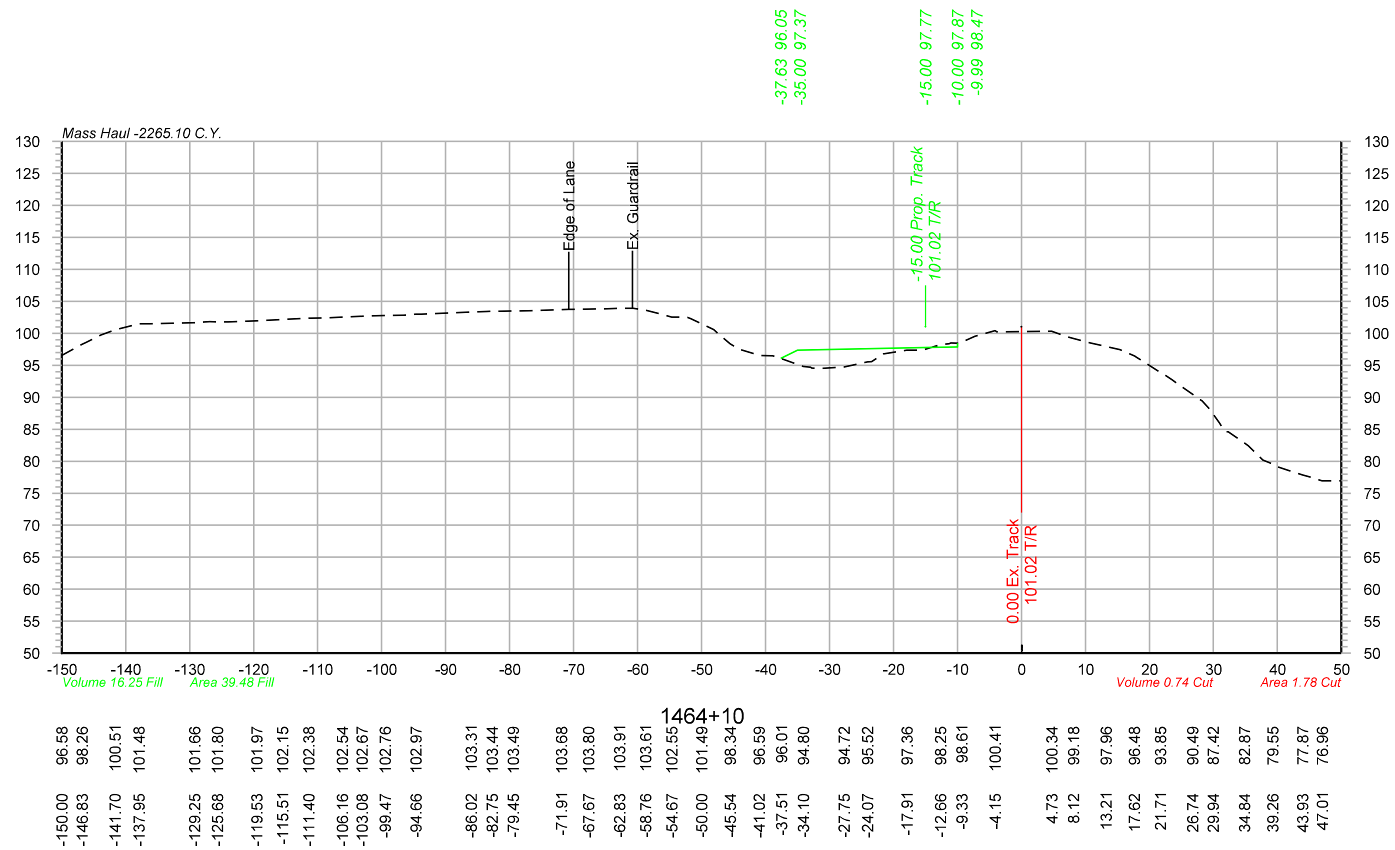
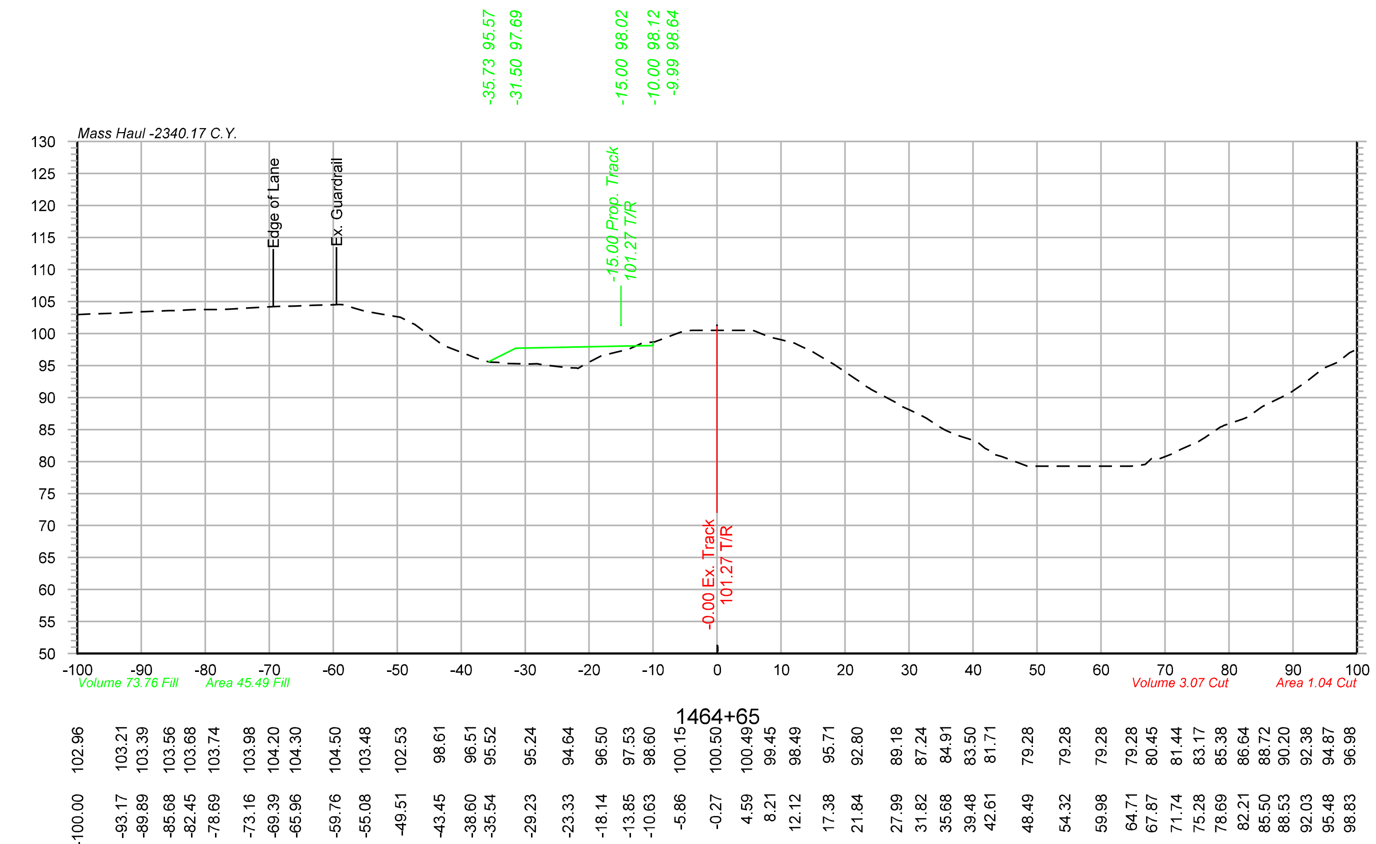
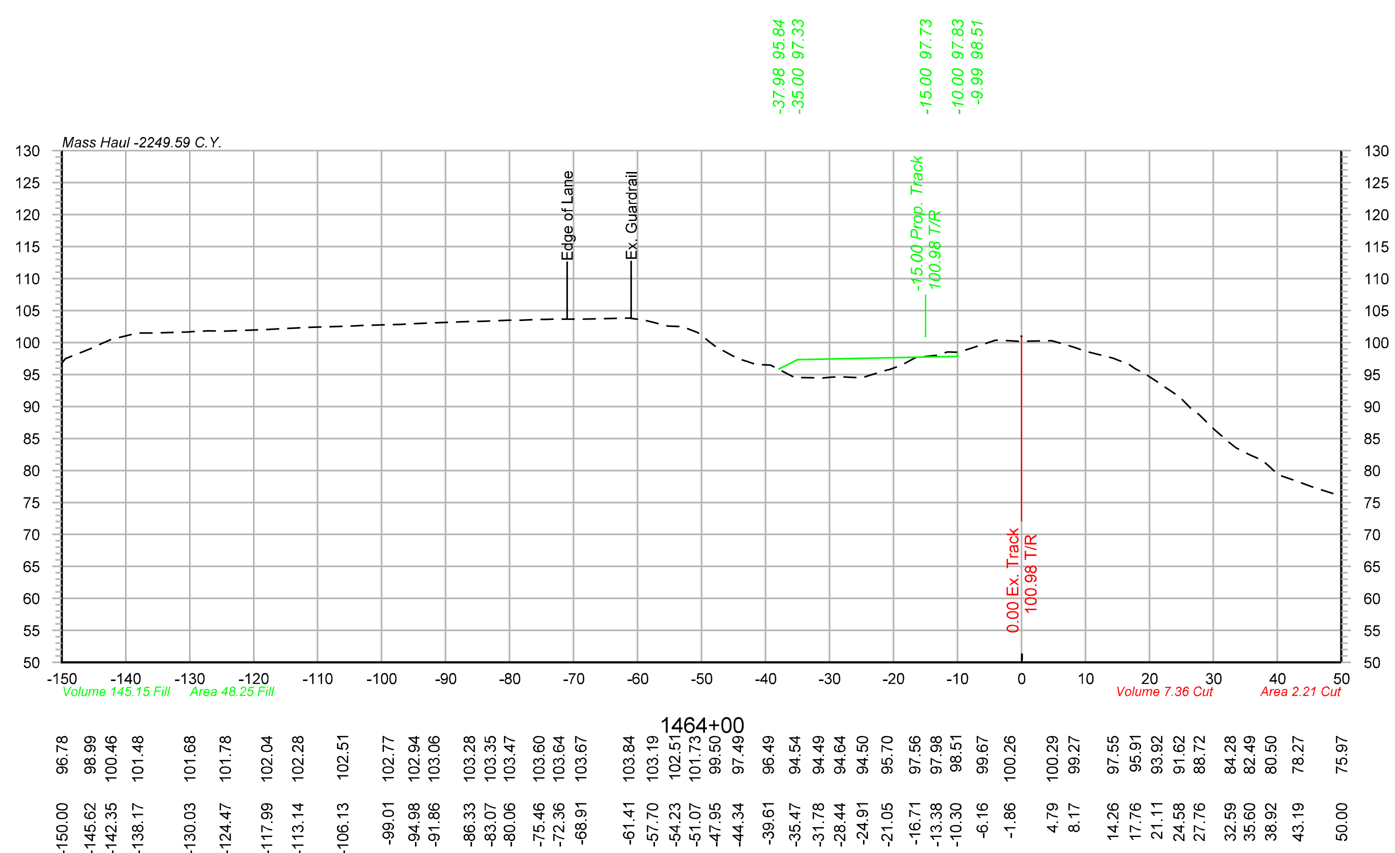
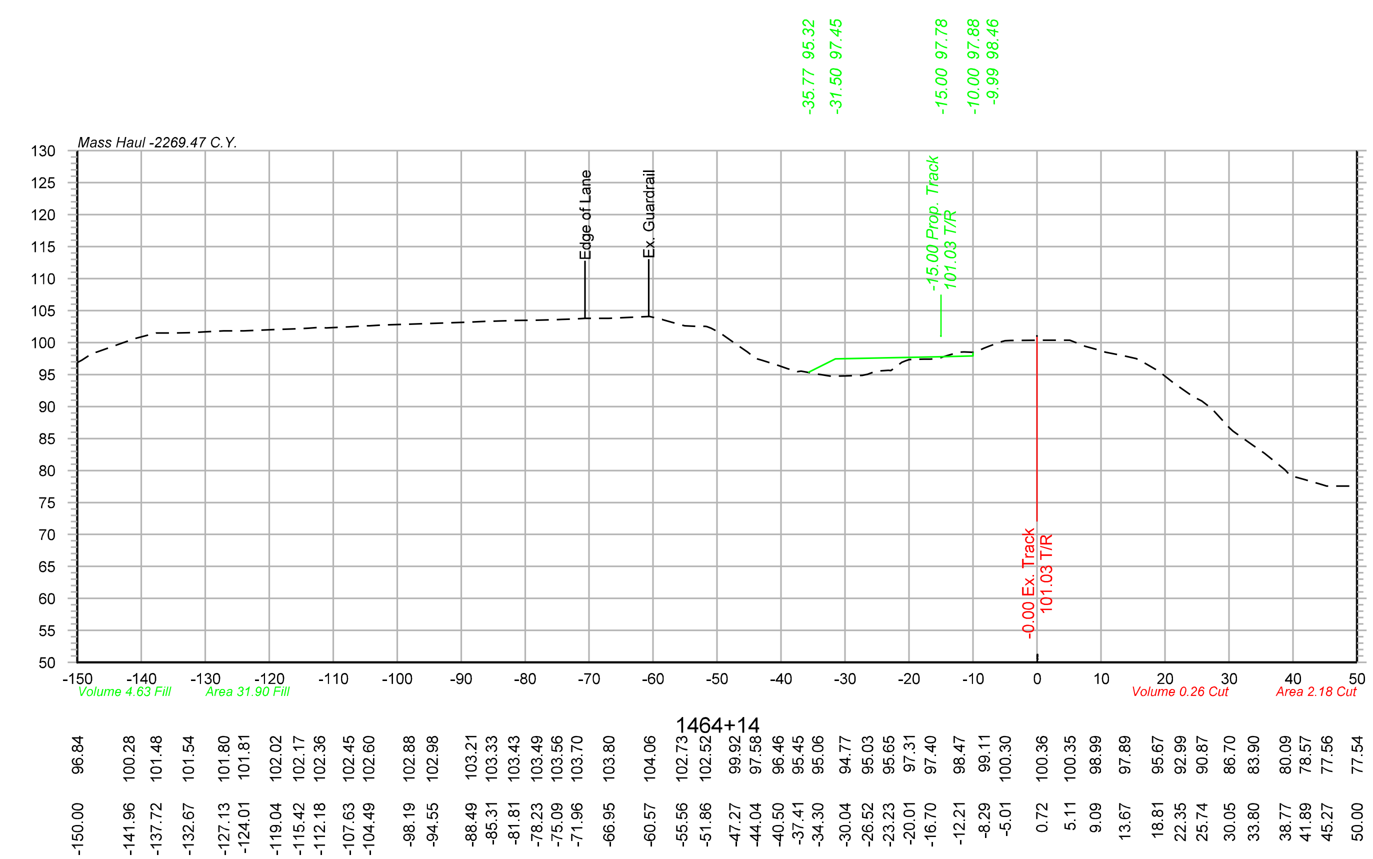
10/20/2014









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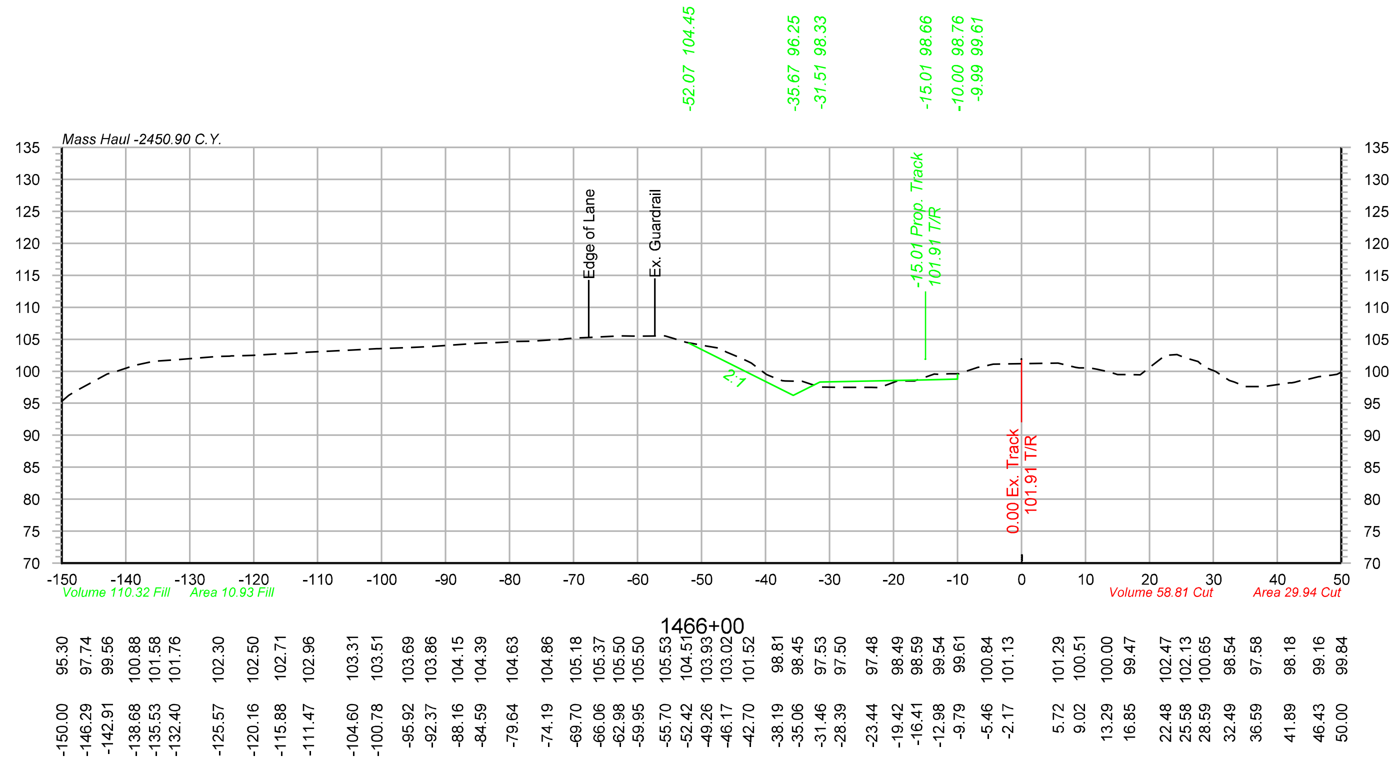
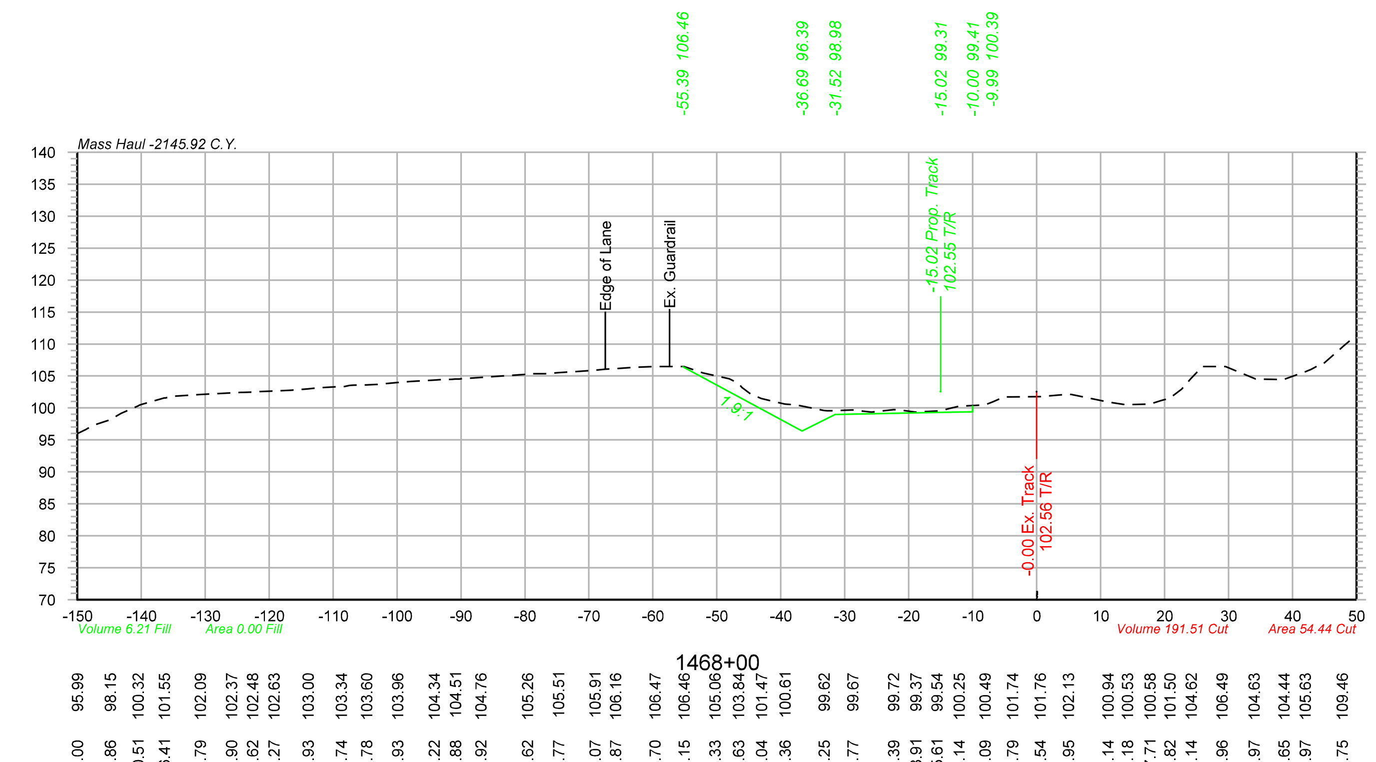
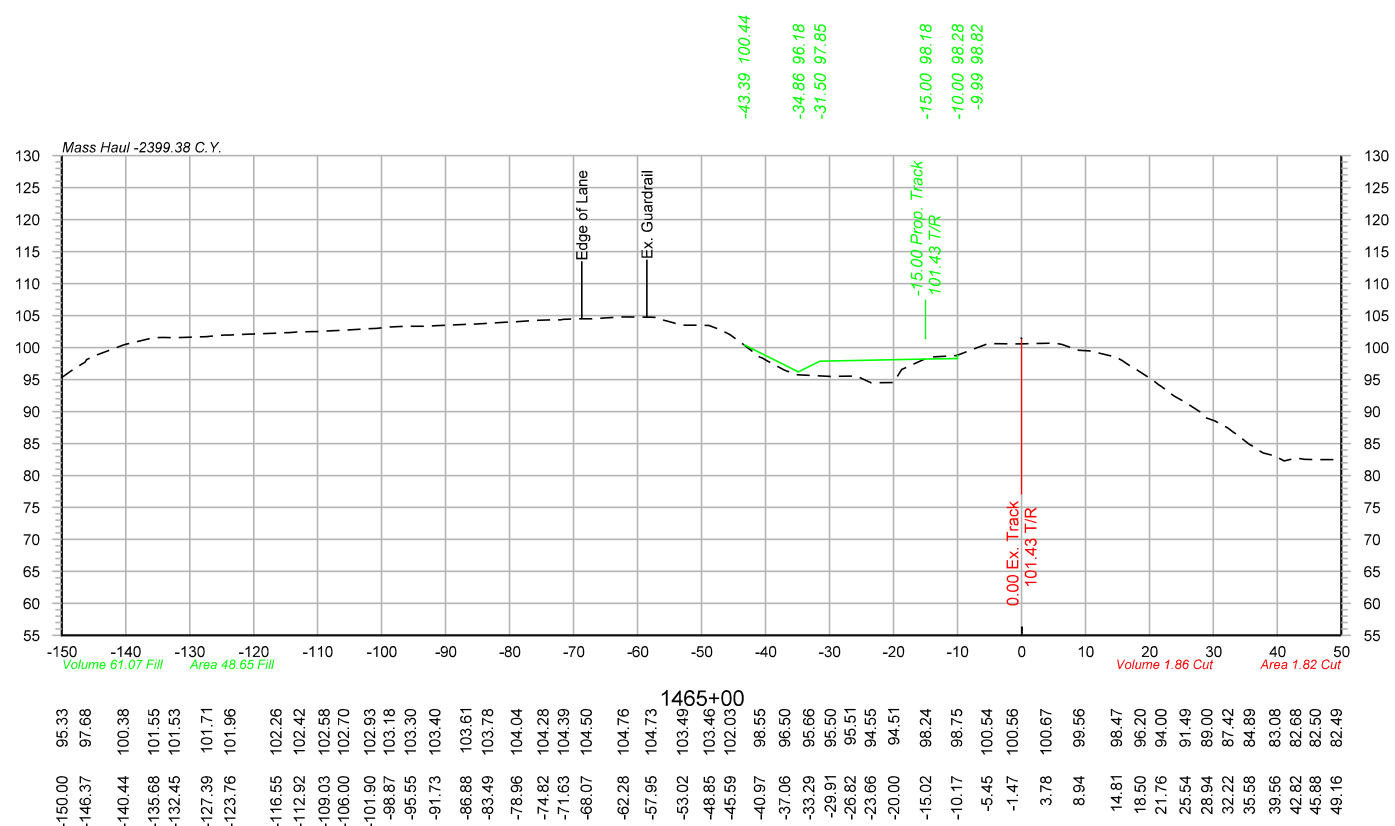
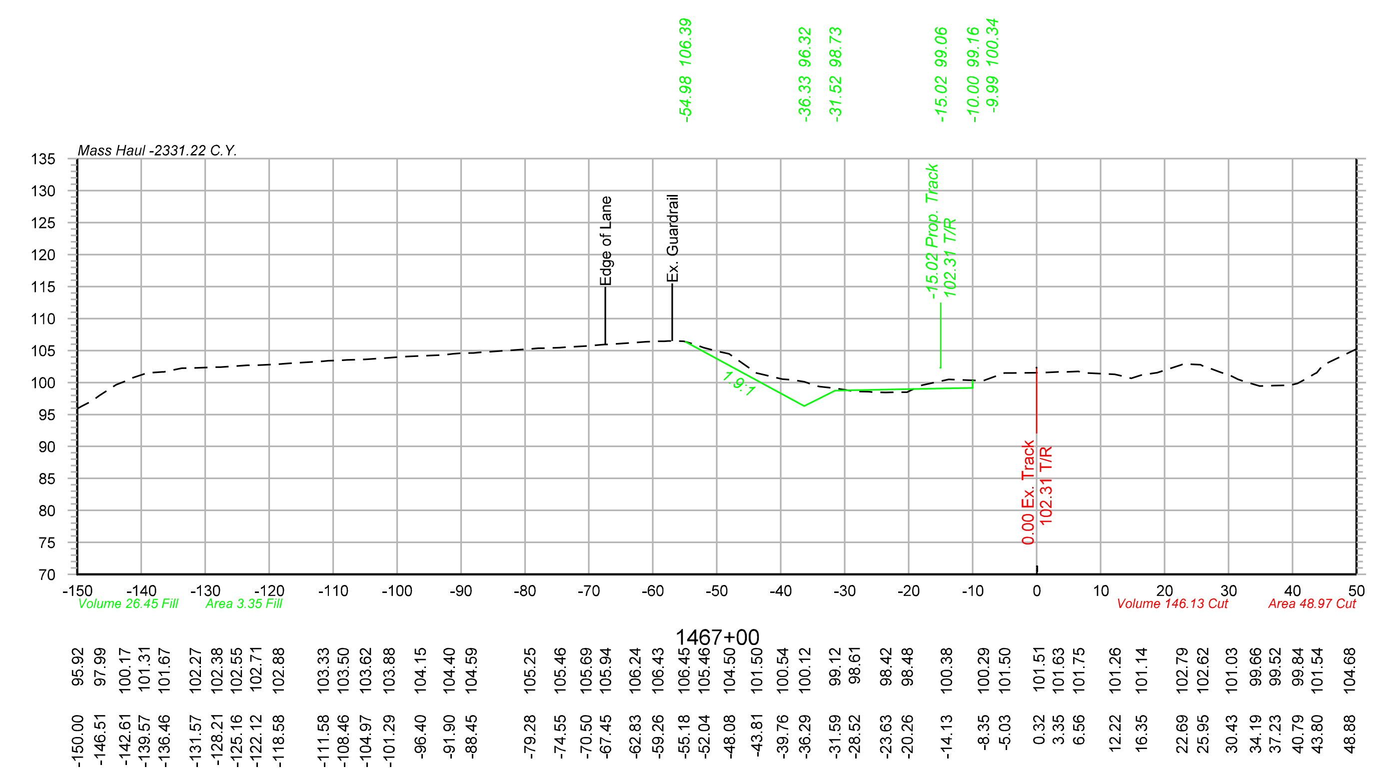
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline	
DATE: 10/20/2014		
SHEET NUMBER X 004 of 139	SHEET TITLE: CROSS SECTIONS STA.1464+00 TO STA.1464+65	PC 1 2-384









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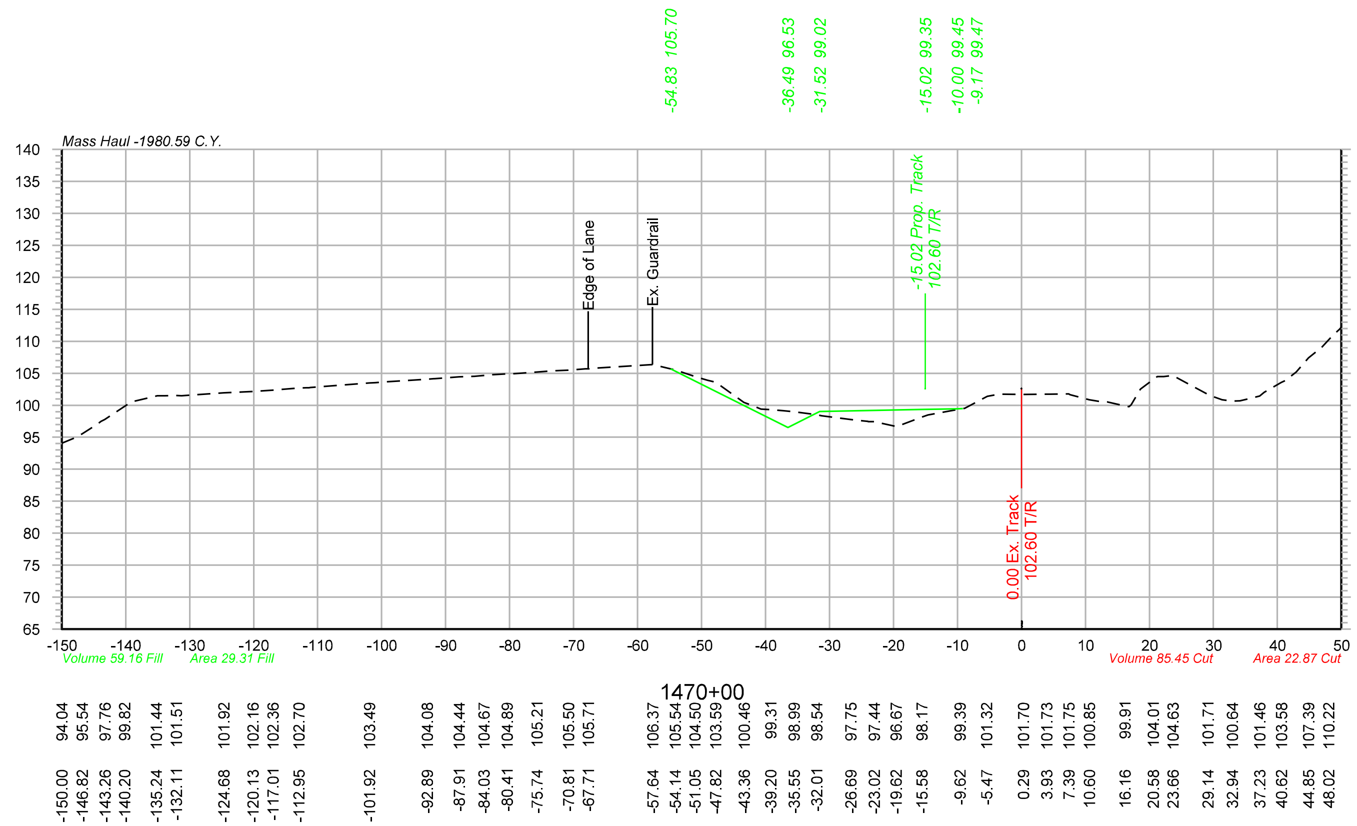
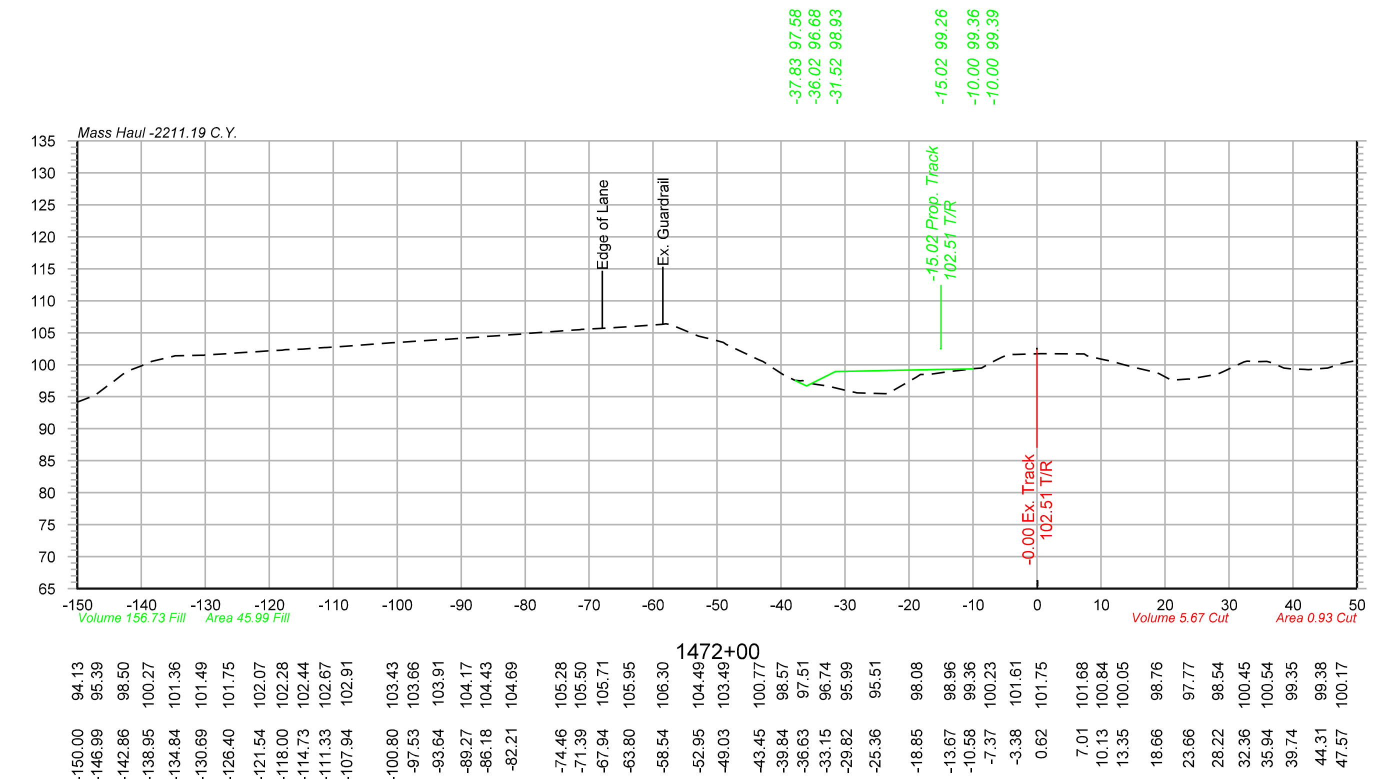
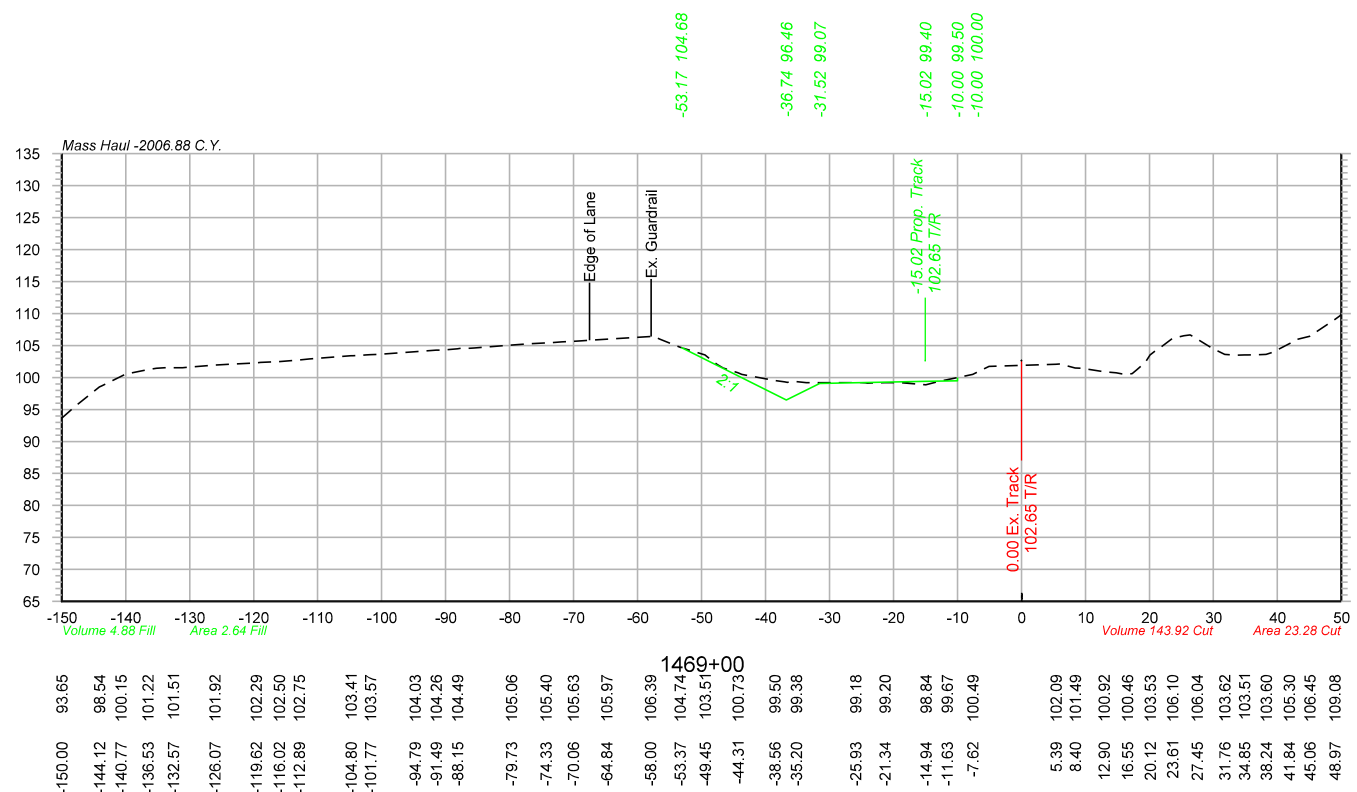
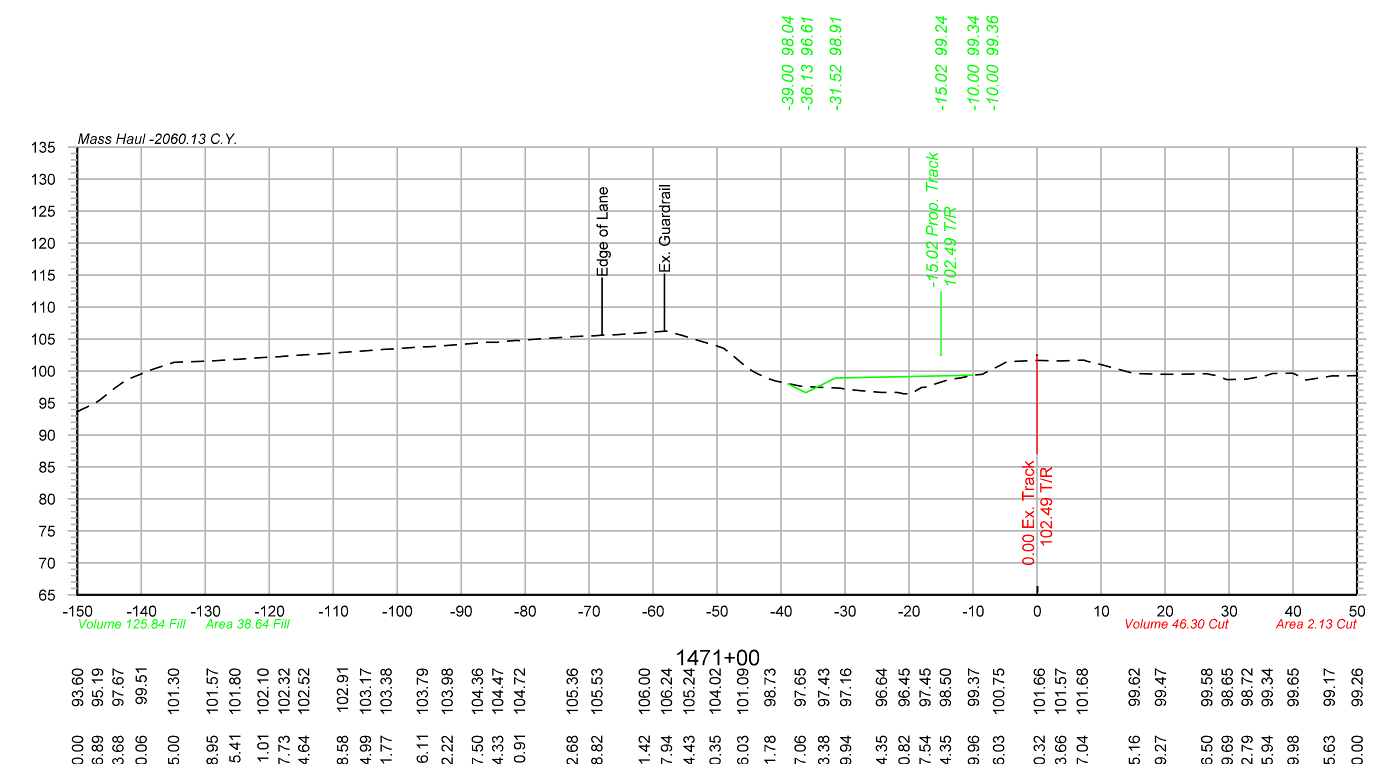
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline	
DATE: 10/20/2014		
SHEET NUMBER X 005 of 139	SHEET TITLE: CROSS SECTIONS STA.1465+00 TO STA.1468+00	PC 1 2-385









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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-386
CROSS SECTIONS STA.1469+00 TO STA.1472+00

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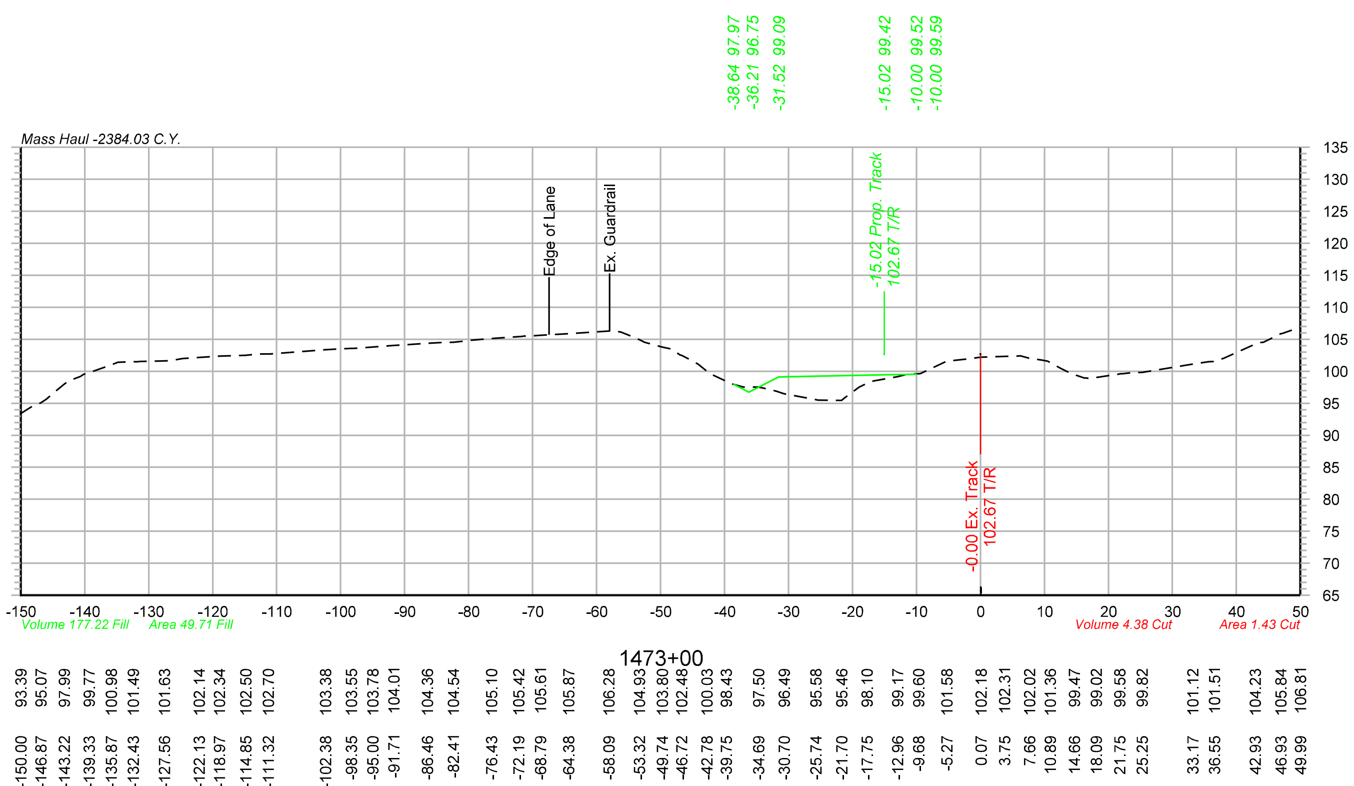

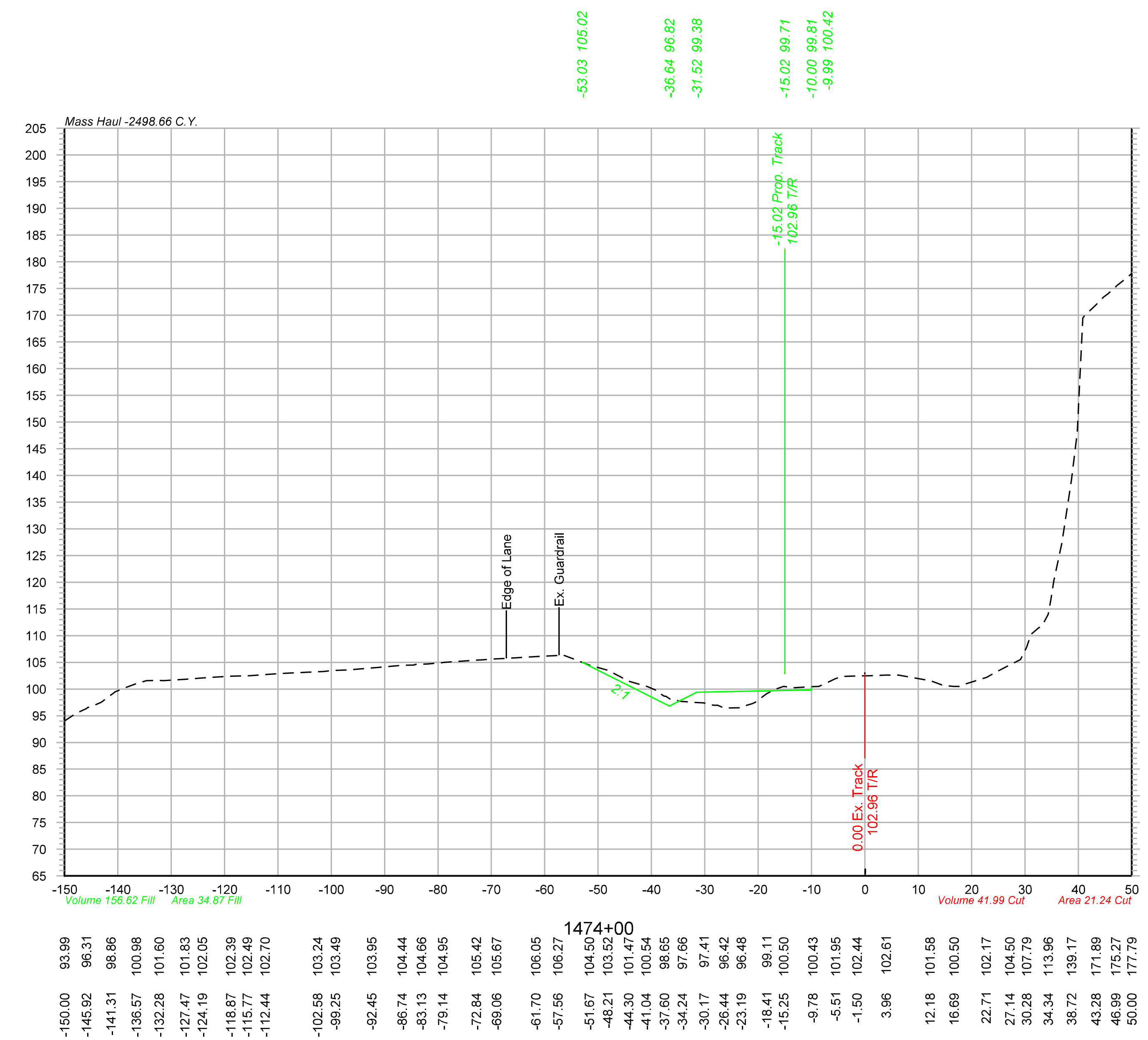

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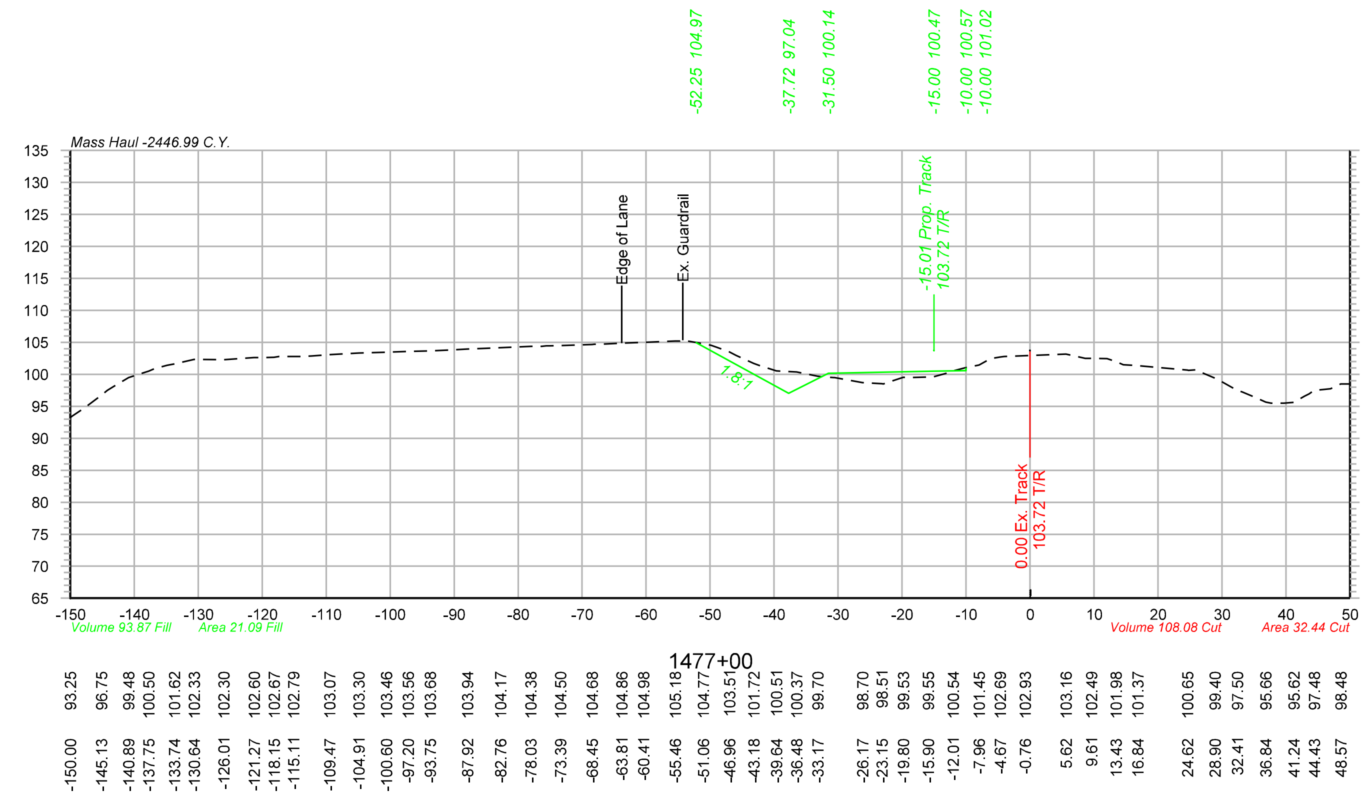
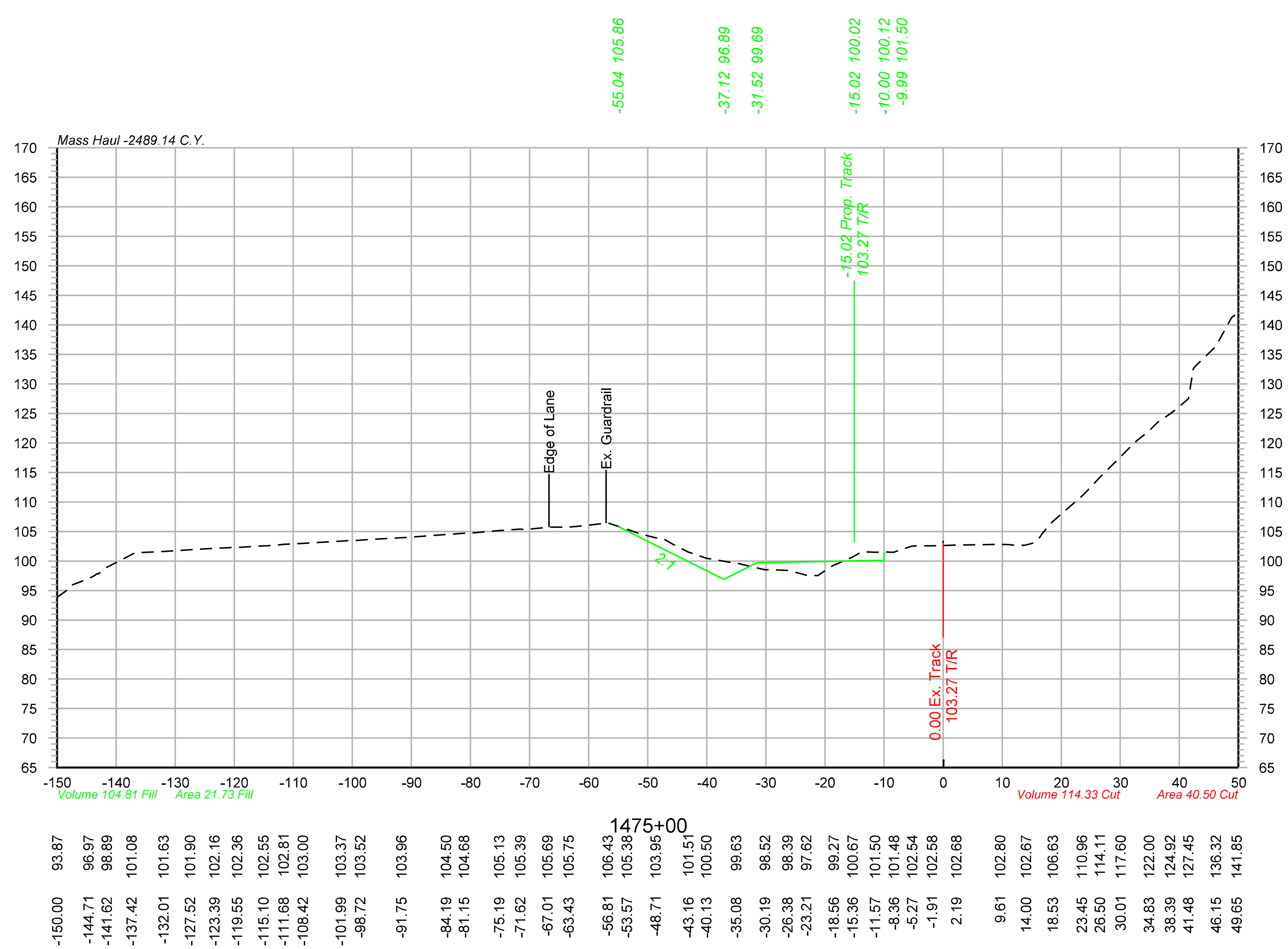
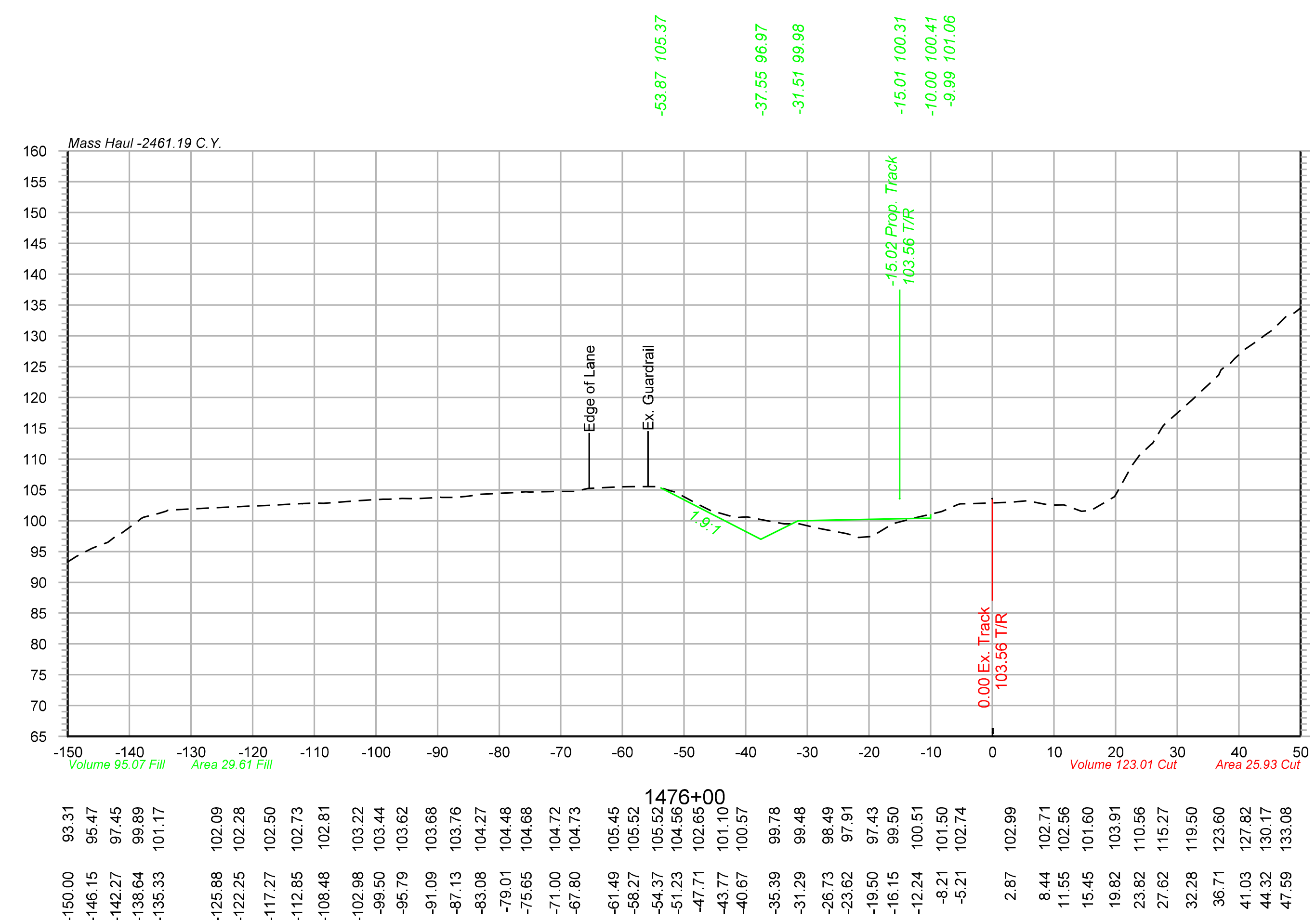
SHEET NUMBER X 007 of 139	SHEET TITLE: CROSS SECTIONS STA.1473+00 TO STA.1474+00

PC 1 2-387







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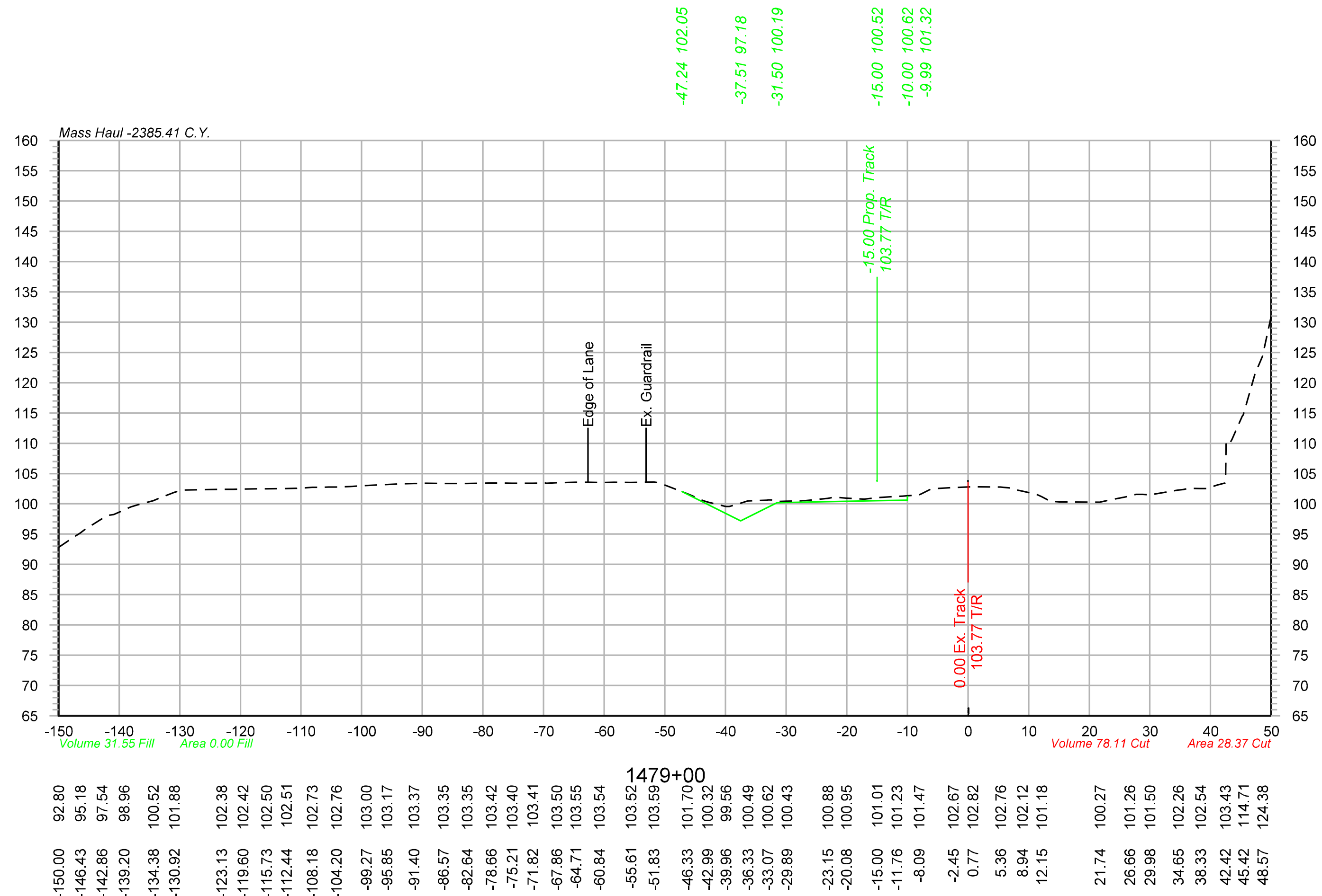
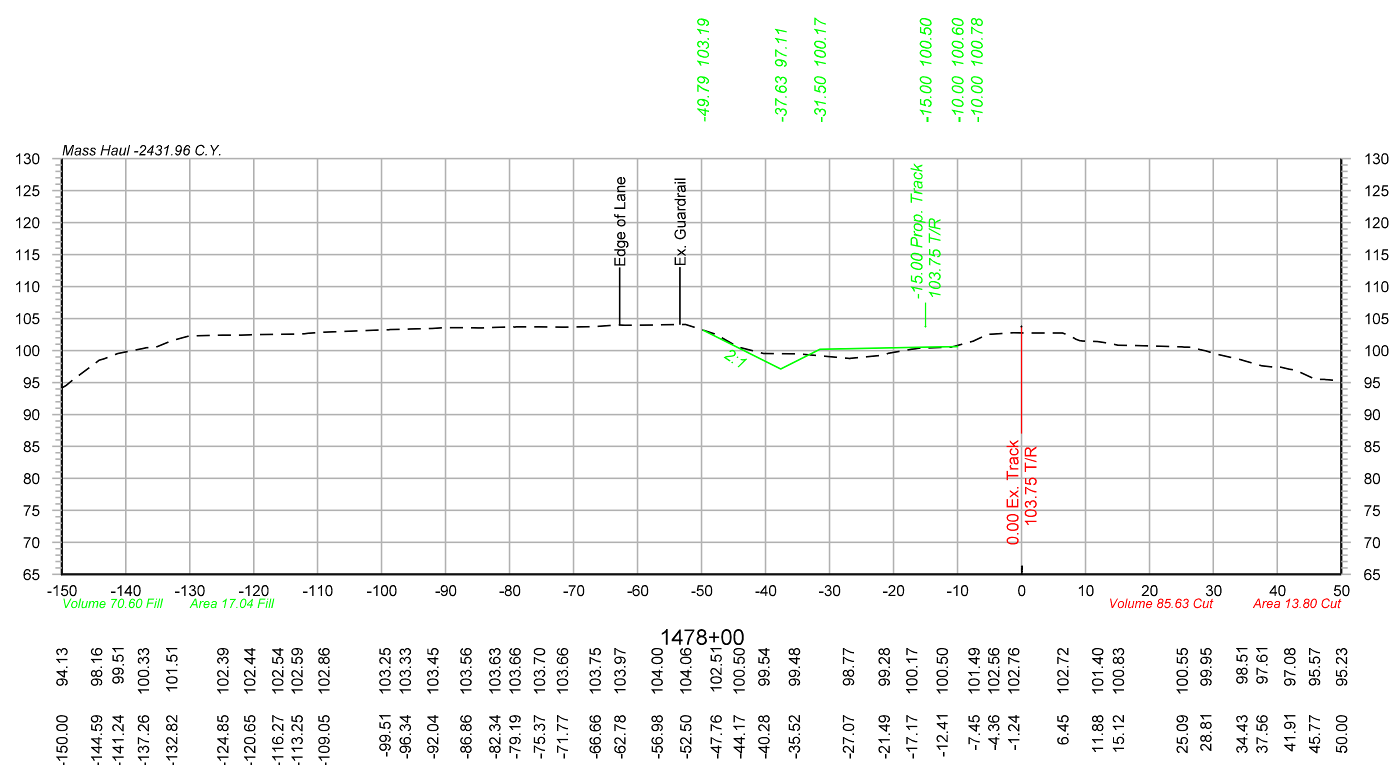
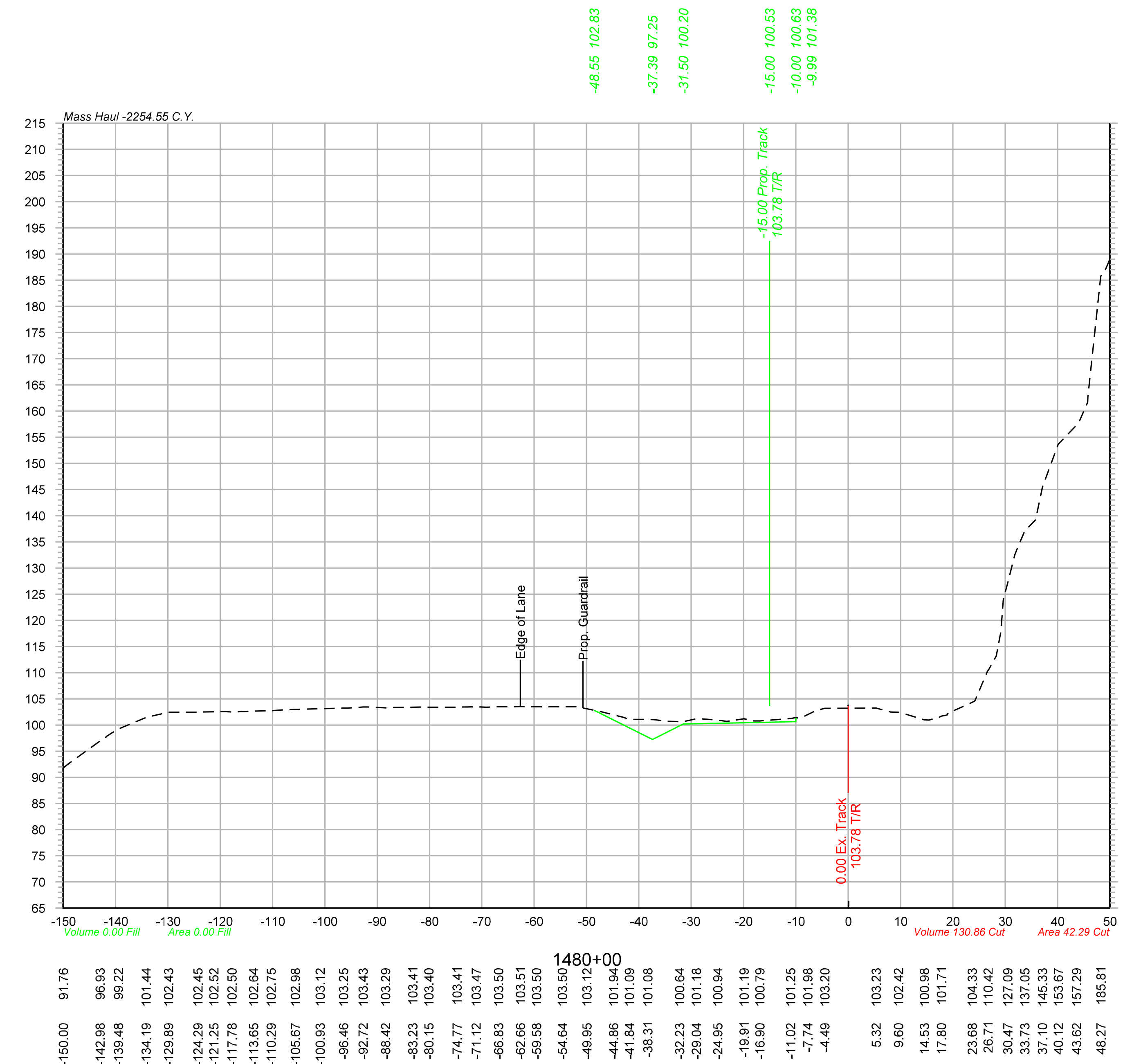
DATE: 10/20/2014	
SHEET NUMBER X 008 of 139	SHEET TITLE: CROSS SECTIONS STA.1475+00 TO STA.1477+00 PC 1 2-388







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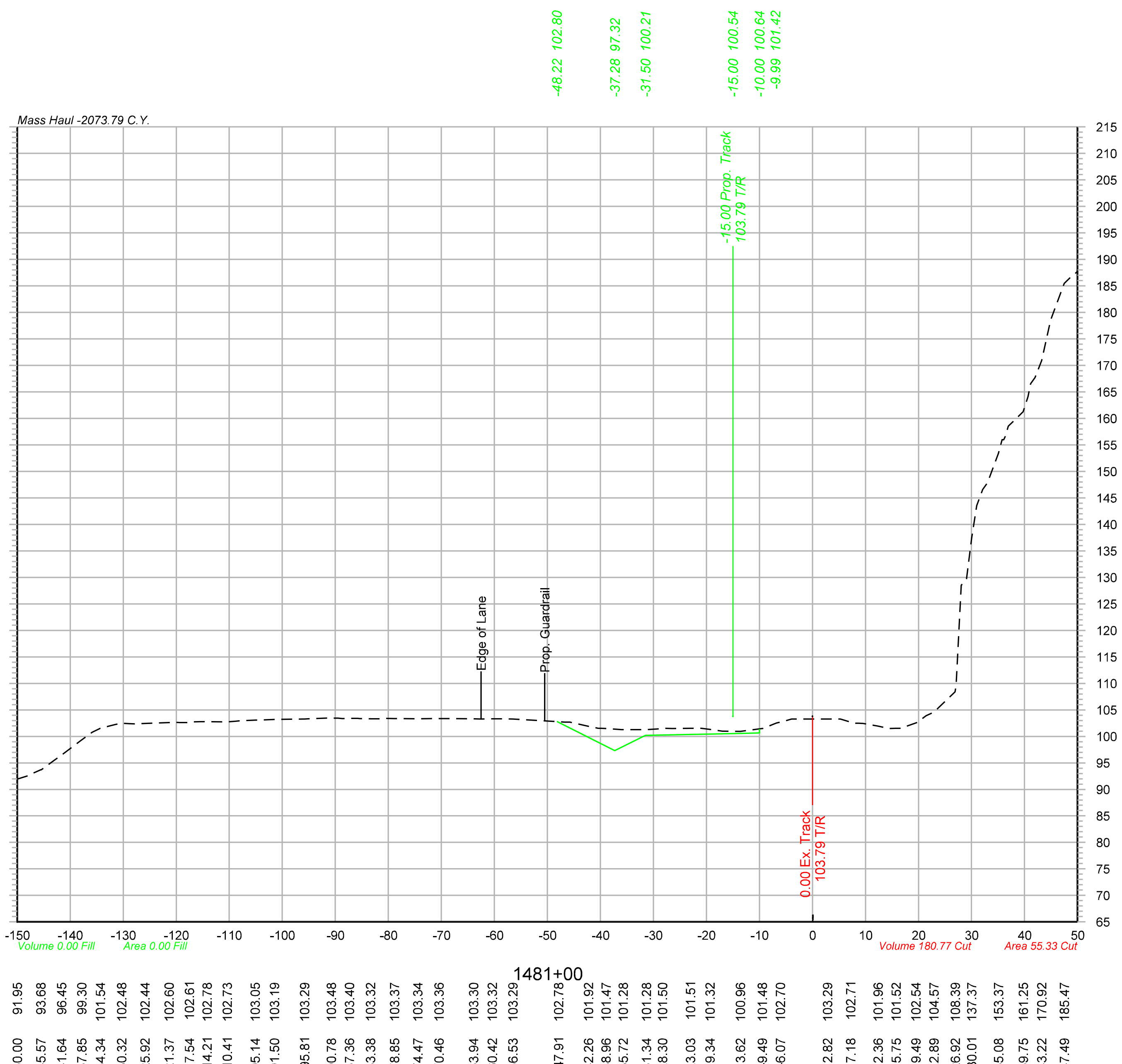
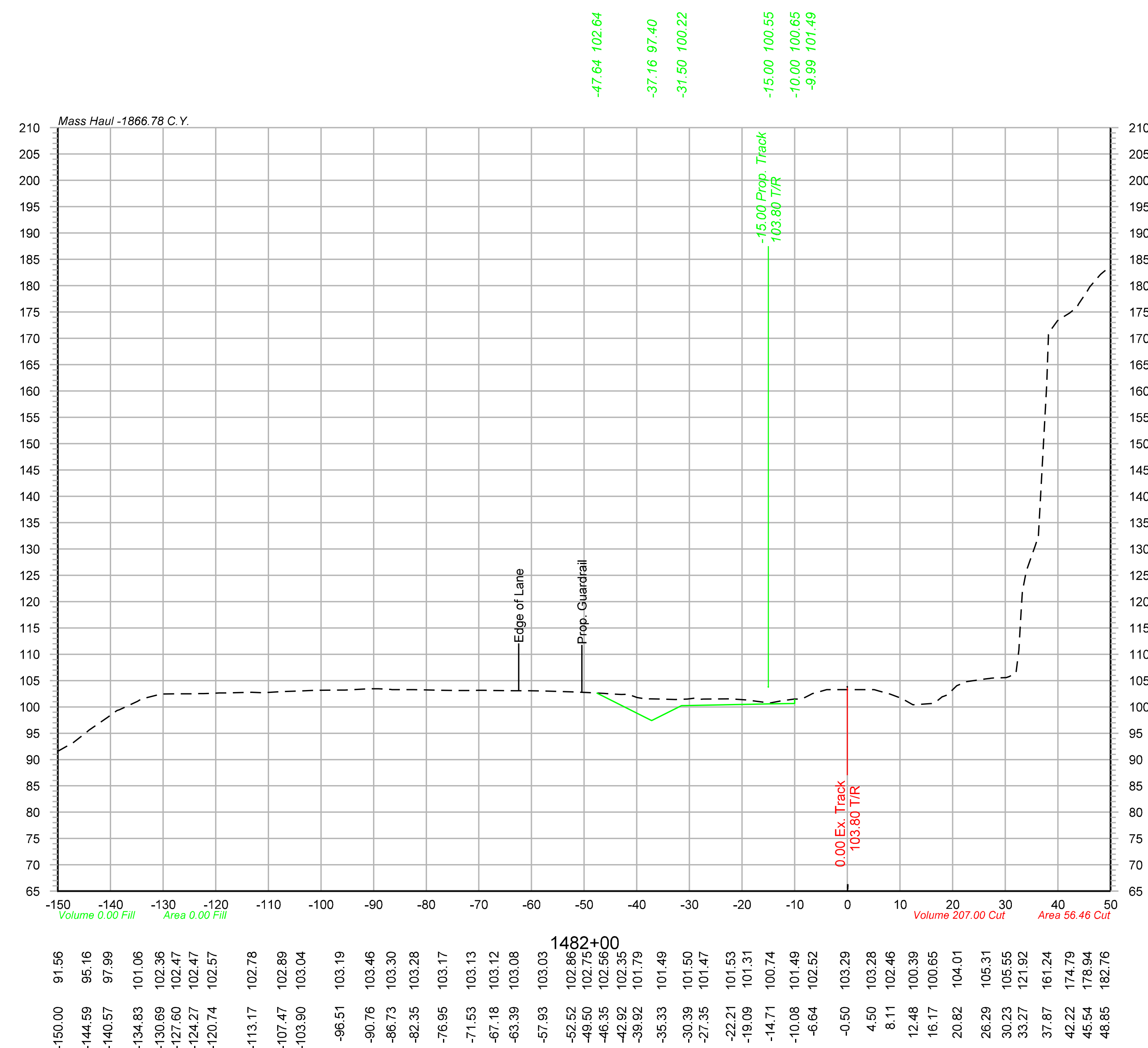
UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1478+00 TO STA.1480+00

PC 1 2-389





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UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-390
CROSS SECTIONS STA.1481+00 TO STA.1482+00

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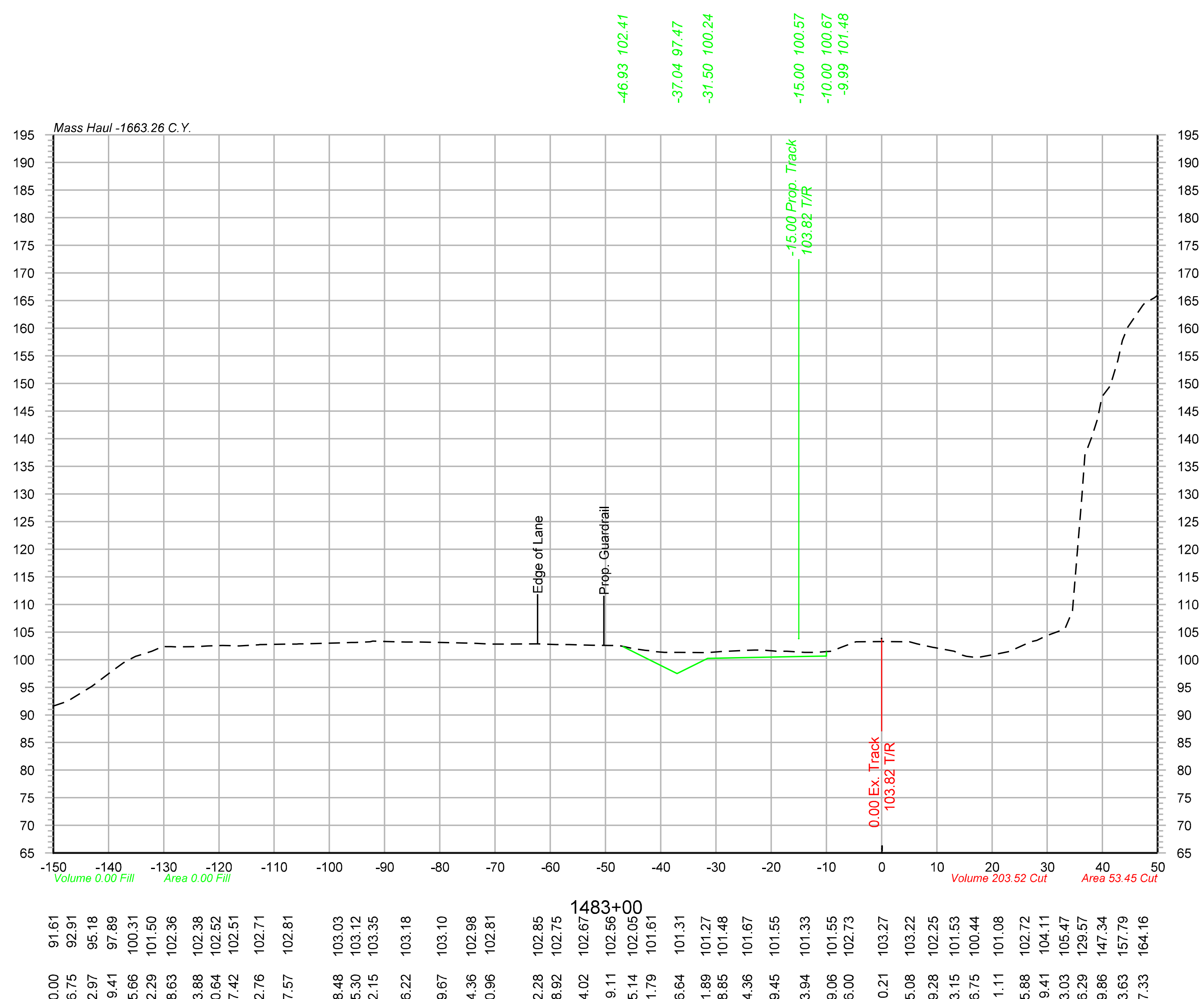

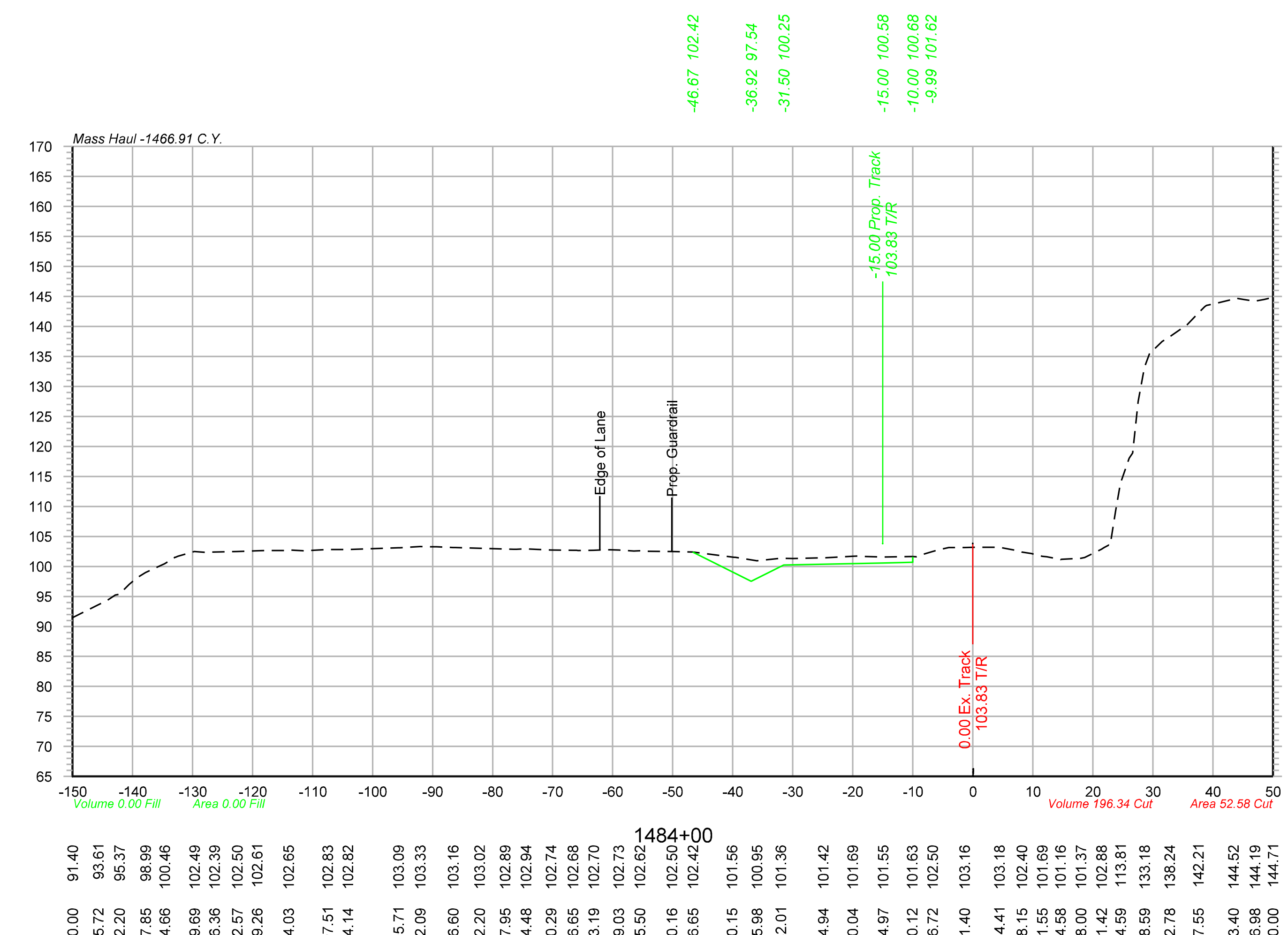

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UNION PACIFIC

DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 011 of 139	SHEET TITLE: PC 1 2-391 CROSS SECTIONS STA.1483+00 TO STA.1484+00

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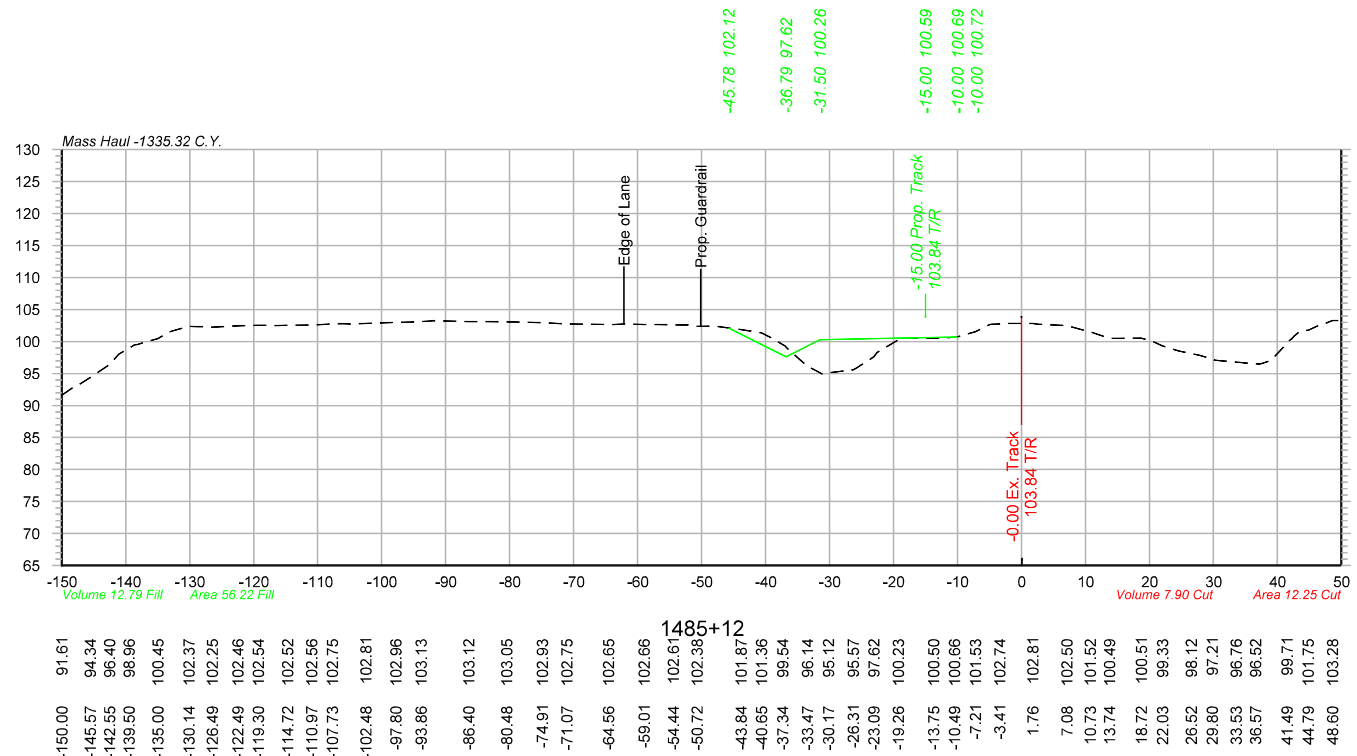
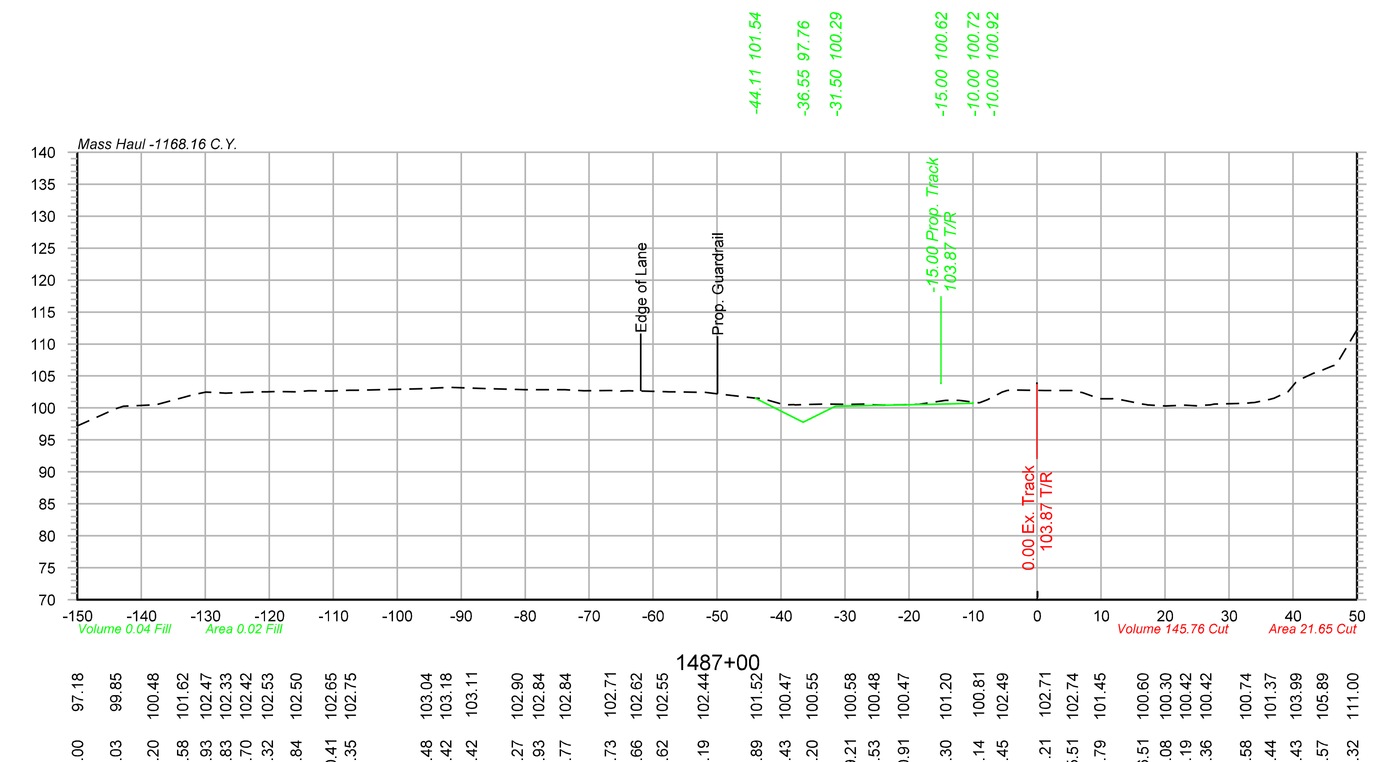
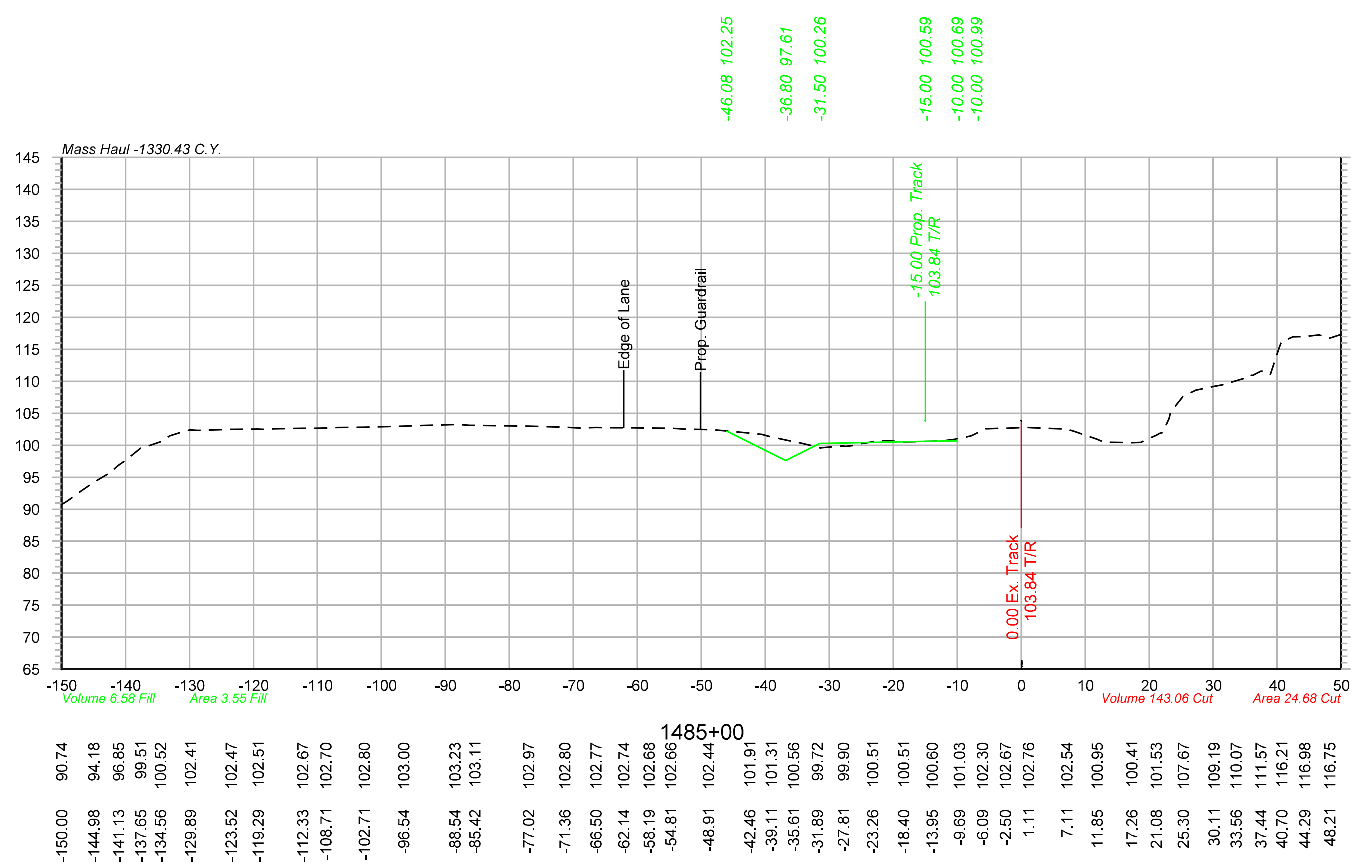
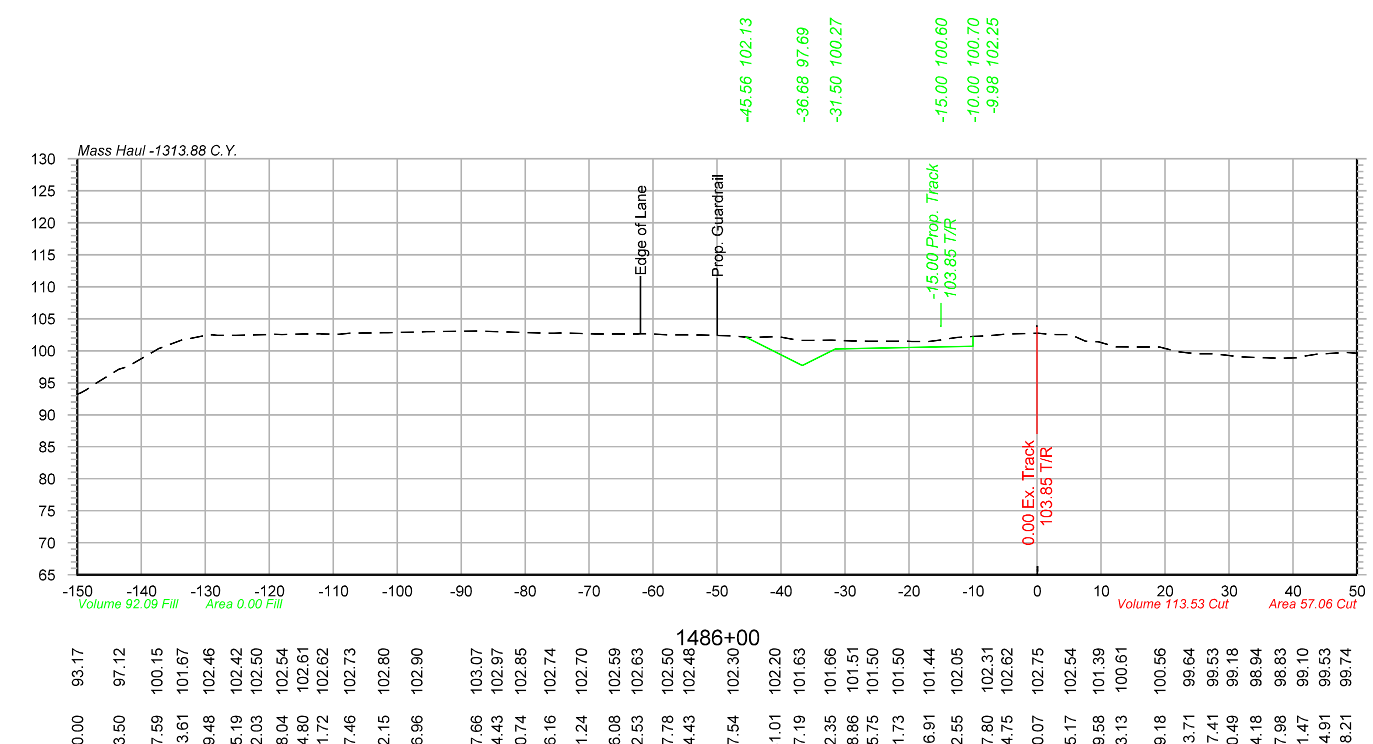
10/20/2014









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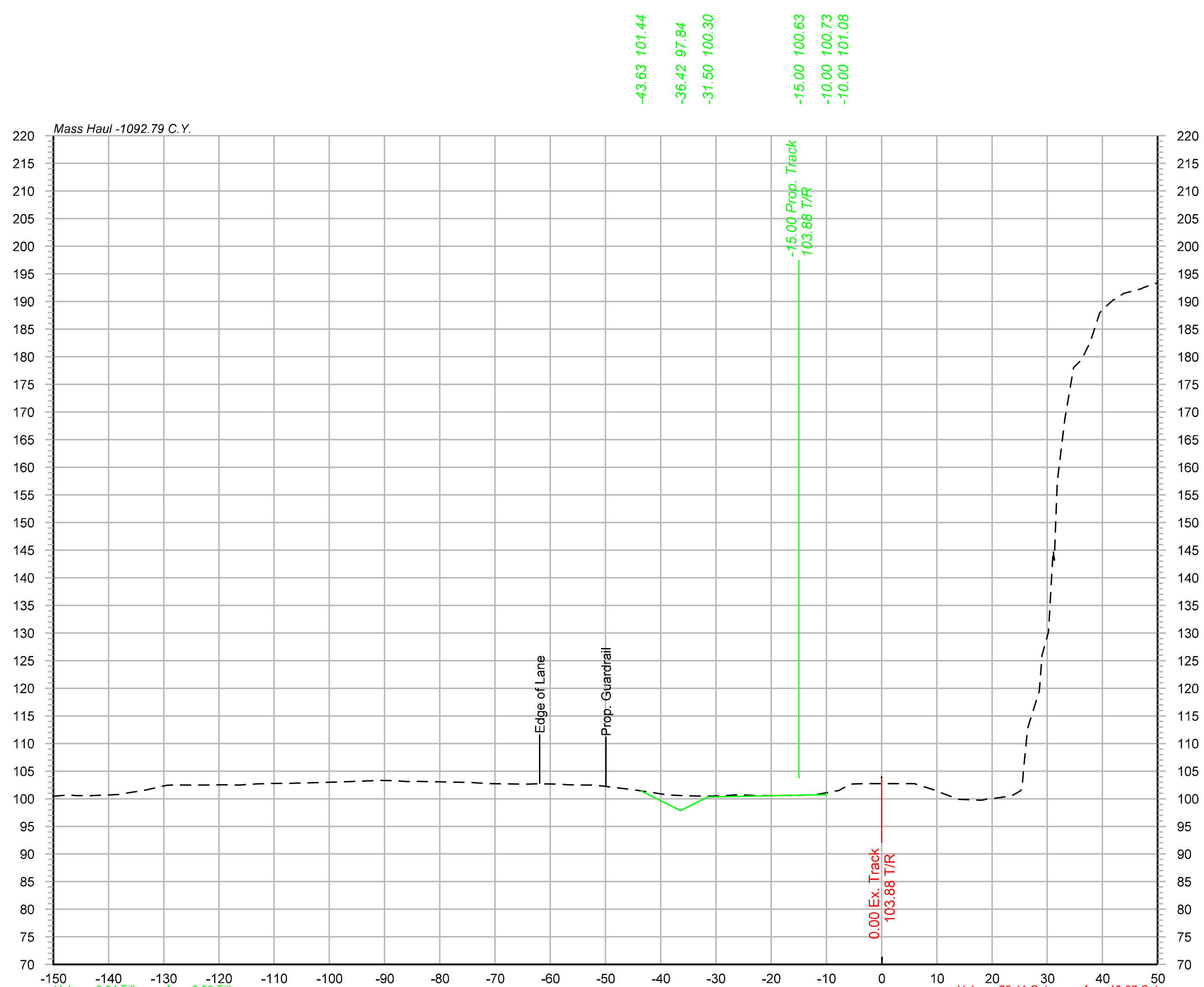
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 012 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1485+00 TO STA.1487+00

PC 1 2-392



1488+00

Offset	Elevation
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-145.90	100.57
-140.96	100.65
-136.23	101.11
-129.42	102.45
-123.29	102.49
-119.68	102.51
-116.11	102.48
-113.00	102.69
-109.83	102.77
-106.28	102.80
-101.41	102.94
-96.19	103.12
-92.87	103.25
-88.49	103.27
-84.45	103.17
-74.24	102.93
-70.77	102.74
-65.36	102.65
-61.91	102.71
-58.82	102.64
-53.70	102.50
-45.85	101.73
-40.89	101.01
-36.06	100.58
-30.55	100.50
-25.81	100.72
-22.81	100.58
-16.12	100.62
-12.26	100.69
-8.05	101.42
-3.31	102.74
-0.21	102.74
5.04	102.74
9.87	101.49
13.97	99.92
17.97	99.75
23.55	100.54
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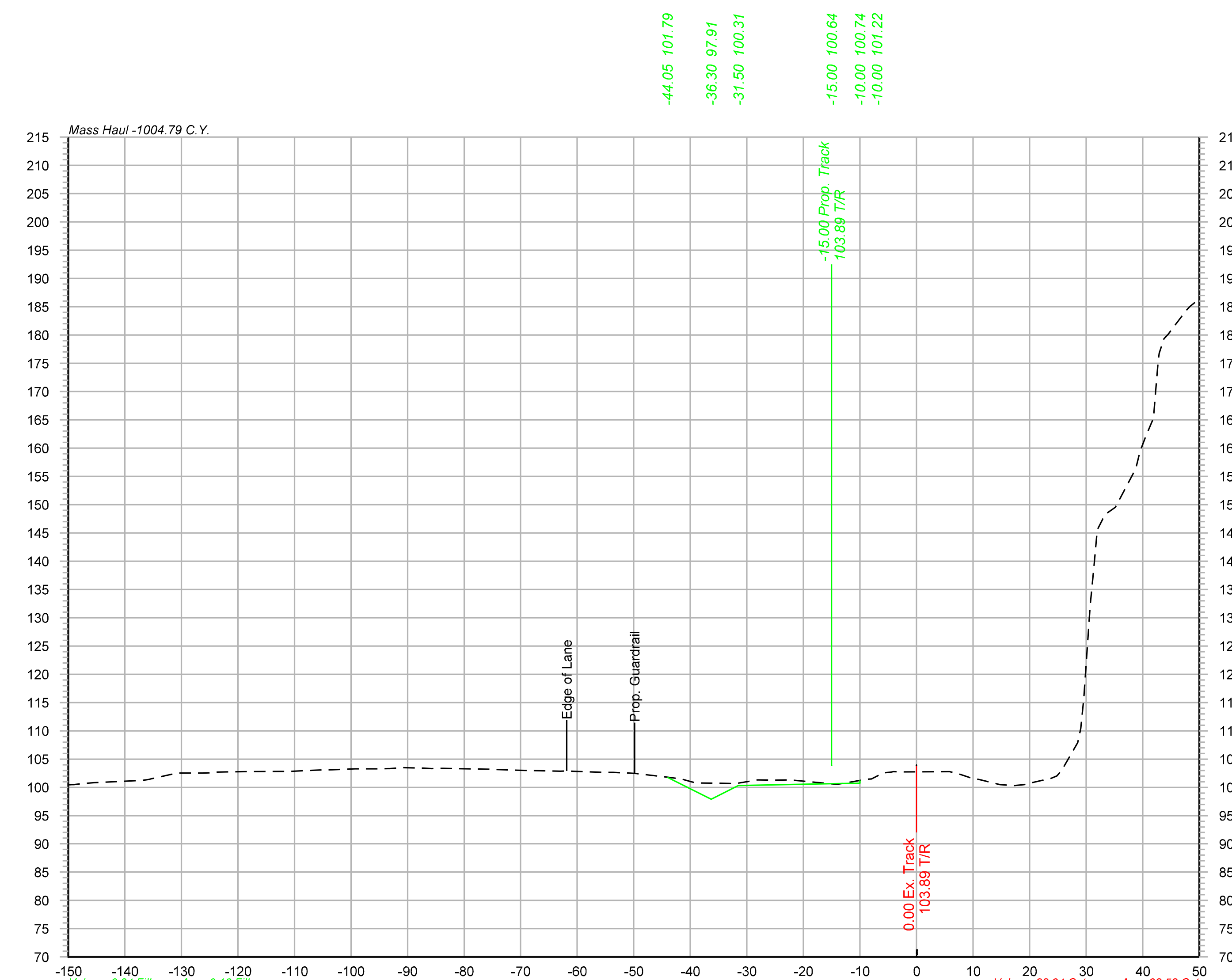
34.79	178.04
39.49	187.88
43.60	191.30
47.02	192.32



1489+00

Offset	Elevation
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-121.95	102.74
-112.67	102.80
-107.55	102.97
-103.33	103.13
-99.26	103.26
-95.50	103.28
-90.89	103.48
-87.25	103.40
-84.21	103.35
-74.78	103.19
-70.53	103.04
-66.84	102.94
-62.96	102.87
-55.32	102.65
-52.01	102.58
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-31.59	100.74
-28.07	101.31
-24.75	101.27
-14.40	100.57
-8.75	101.44
-4.48	102.68
5.65	102.79
9.78	101.59
14.74	100.49
18.68	100.45
23.84	101.61
28.50	107.90
31.96	145.52
35.04	149.43
38.32	155.47
41.54	164.46
47.61	184.22

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DATE: 10/20/2014
SHEET NUMBER X 013 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: PC 1 2-393
CROSS SECTIONS STA.1488+00 TO STA.1489+00

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10/20/2014

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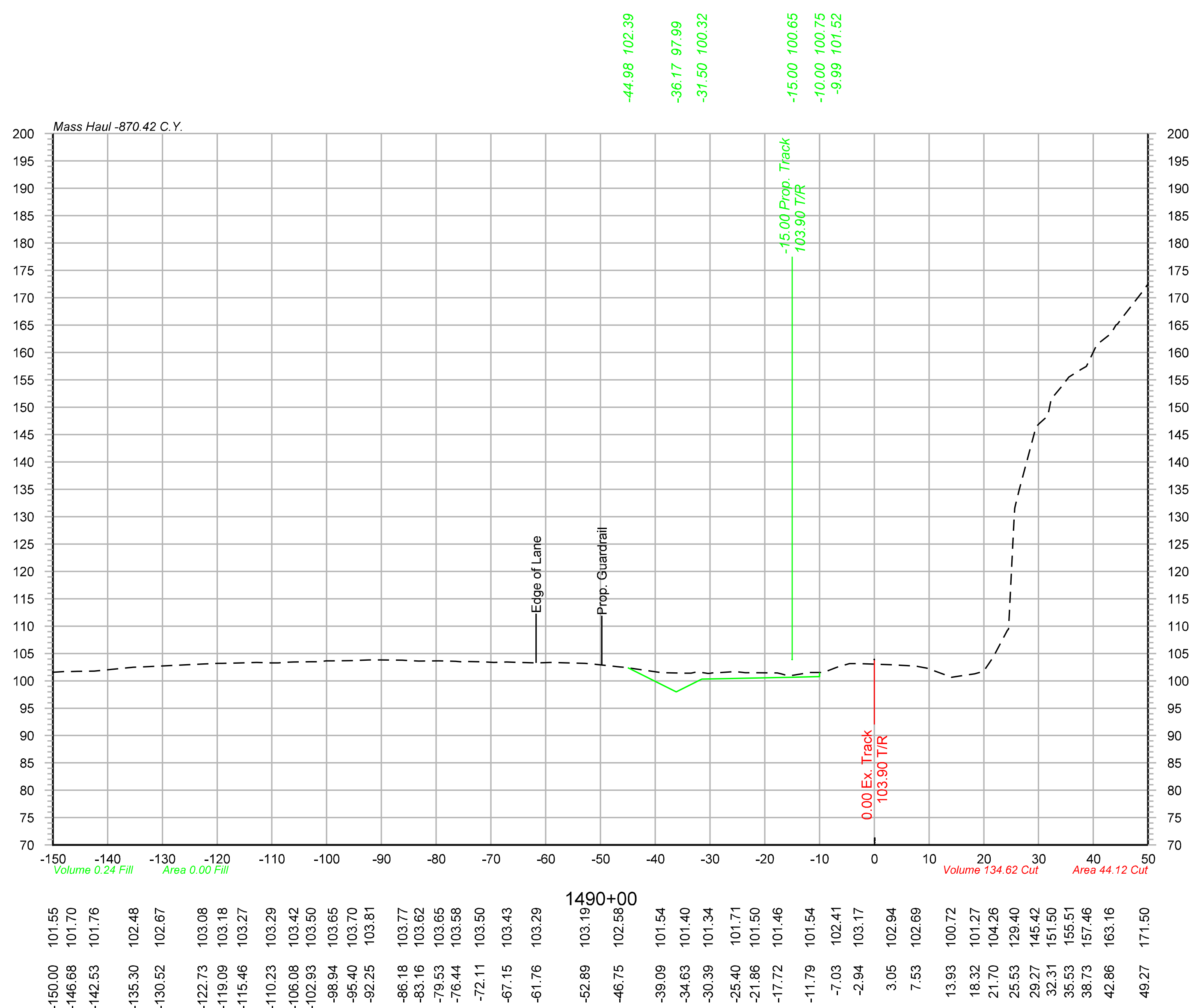

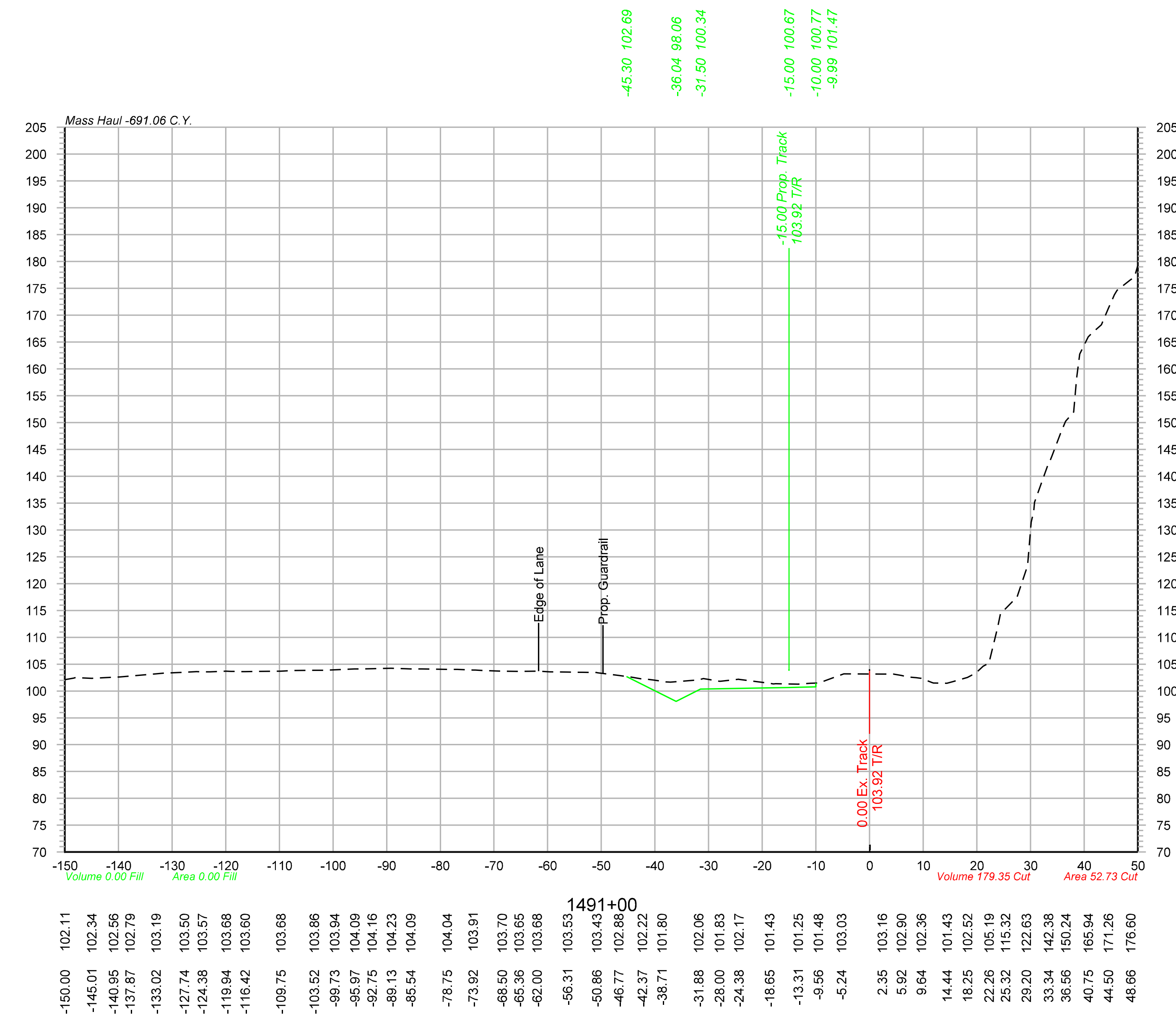

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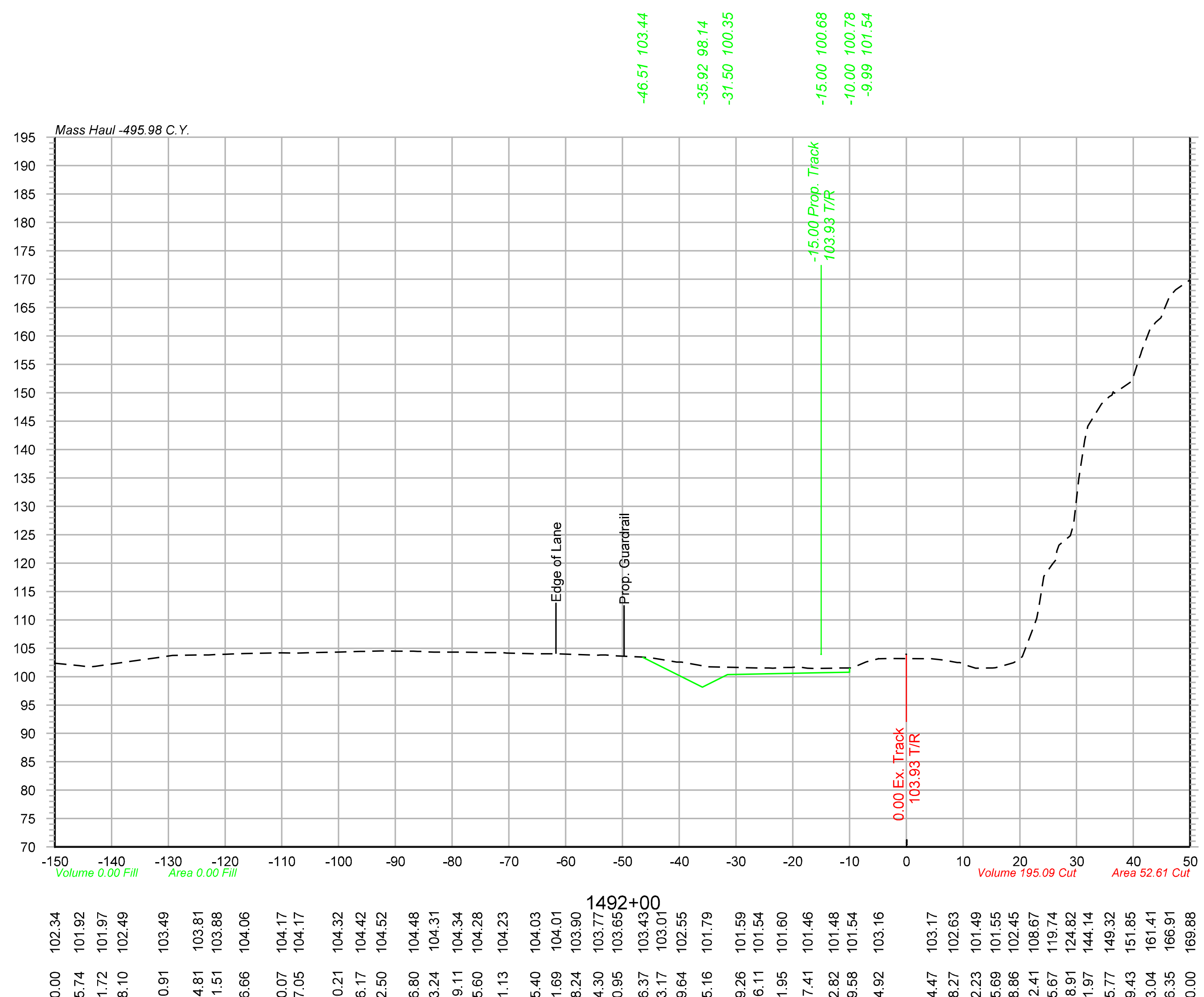
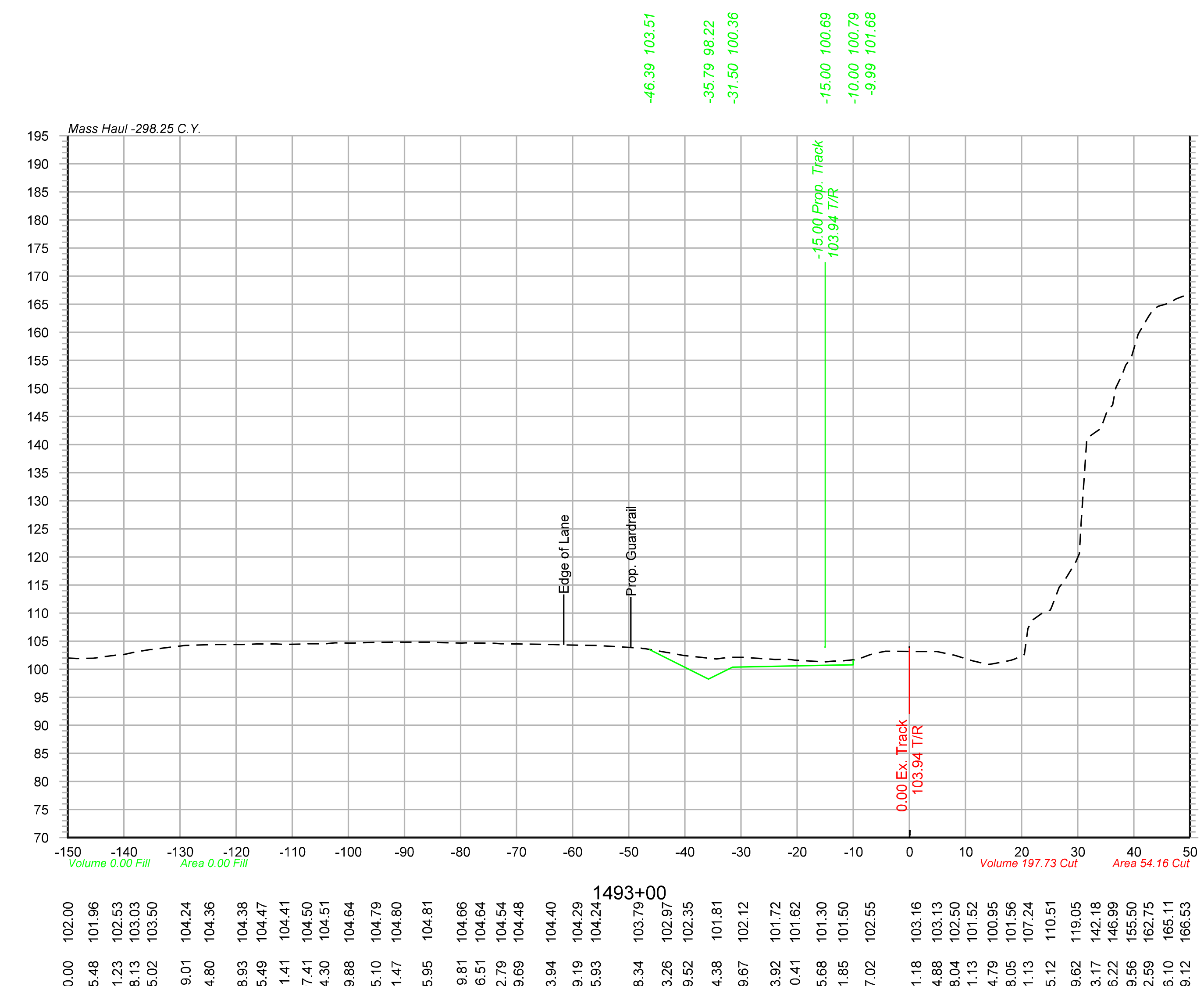
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 014 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-394
CROSS SECTIONS STA.1490+00 TO STA.1491+00





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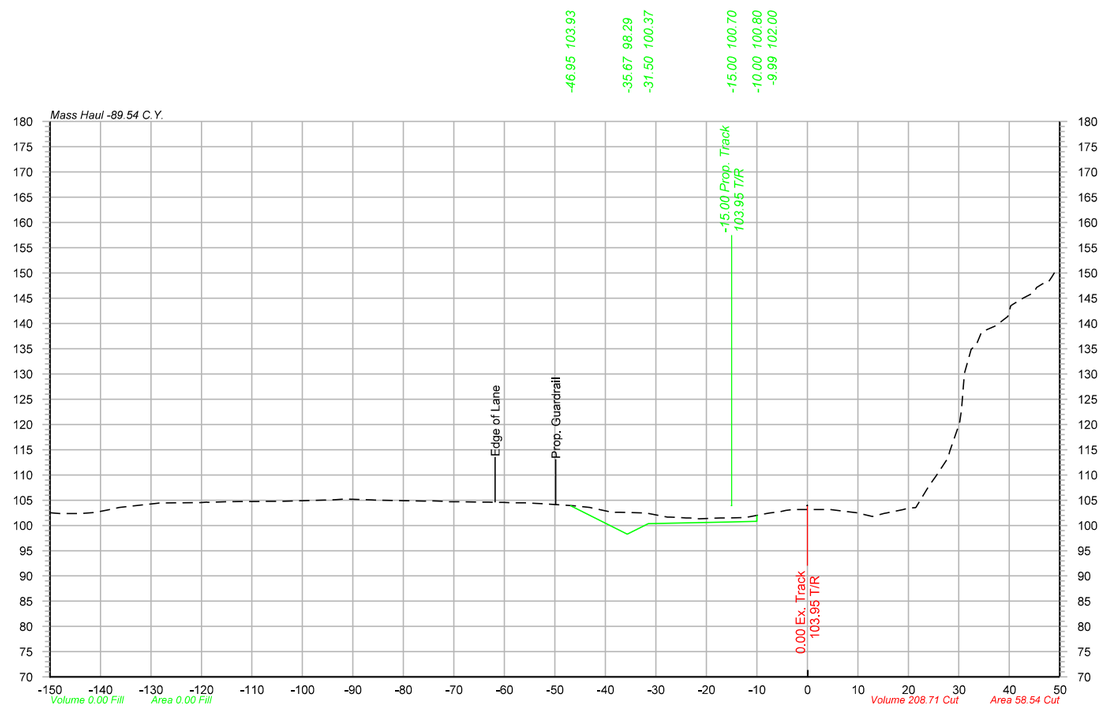
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 015 of 139	SHEET TITLE: PC 1 2-395 CROSS SECTIONS STA.1492+00 TO STA.1493+00



1494+00

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-136.22	103.55	
-128.66	104.41	
-125.32	104.50	
-120.45	104.51	
-115.20	104.67	
-112.10	104.73	
-107.11	104.76	
-95.70	105.02	
-92.15	105.19	
-86.33	105.05	
-79.87	104.89	
-75.85	104.83	
-71.87	104.75	
-68.73	104.68	
-64.26	104.63	
-60.28	104.55	
-56.02	104.49	
-52.64	104.32	
-46.28	103.89	
-43.06	103.58	
-38.66	102.60	
-35.50	102.56	
-31.83	102.43	
-27.71	101.67	
-24.03	101.50	
-18.34	101.45	
-12.42	101.58	
-8.34	102.31	
-4.22	102.96	
1.74	103.16	
7.20	102.82	
11.46	102.10	
14.46	102.18	
18.82	103.12	
24.09	107.85	
27.70	113.13	
31.09	130.12	
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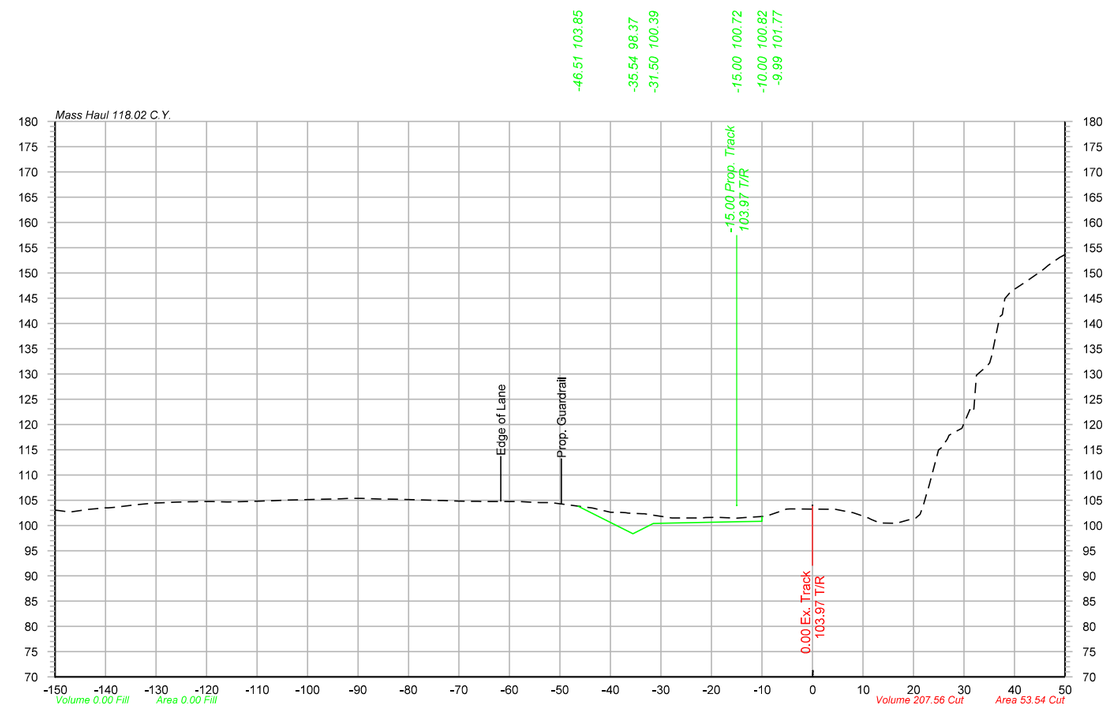

1495+00

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-140.11	103.48	
-133.85	104.10	
-130.26	104.46	
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-118.77	104.74	
-115.51	104.67	
-109.27	104.81	
-104.07	105.01	
-98.92	105.17	
-94.91	105.22	
-91.84	105.35	
-85.67	105.22	
-82.34	105.19	
-74.81	104.99	
-70.15	104.83	
-66.21	104.78	
-63.12	104.75	
-58.86	104.73	
-55.23	104.56	
-52.08	104.53	
-45.08	103.67	
-39.95	102.62	
-36.95	102.54	
-33.68	102.31	
-27.83	101.46	
-24.36	101.50	
-21.23	101.56	
-15.01	101.45	
-9.22	101.81	
-5.46	103.13	
4.58	103.18	
8.06	102.50	
11.18	101.46	
15.88	100.43	
18.88	101.05	
21.90	103.72	
24.98	114.95	
28.02	118.41	
31.16	122.94	
34.54	131.52	
37.58	141.75	
42.29	148.29	
45.49	150.48	
48.97	153.07	

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DATE: 10/20/2014
SHEET NUMBER: X 016 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1494+00 TO STA.1495+00

PC 1 2-396

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10/20/2014

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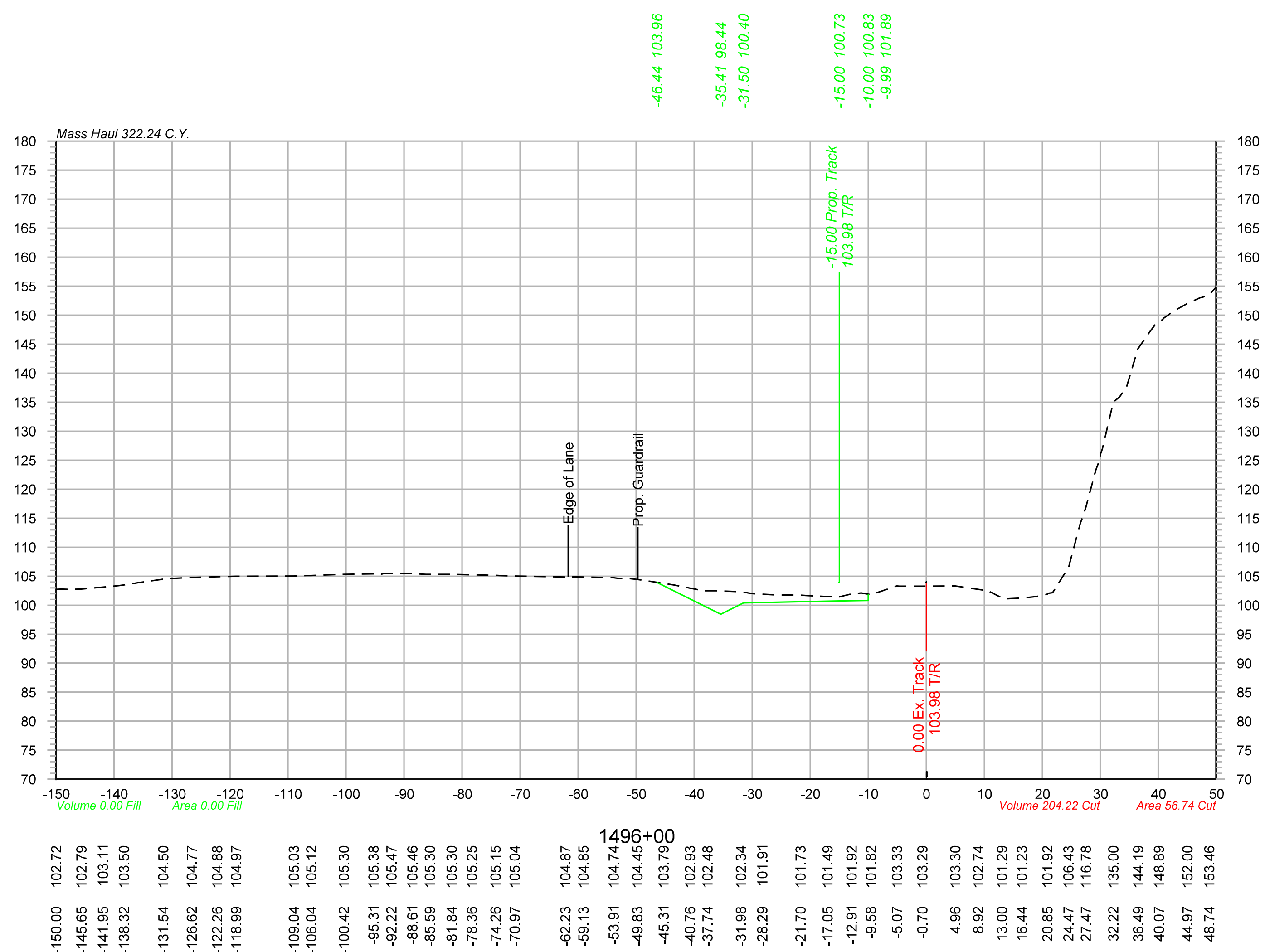

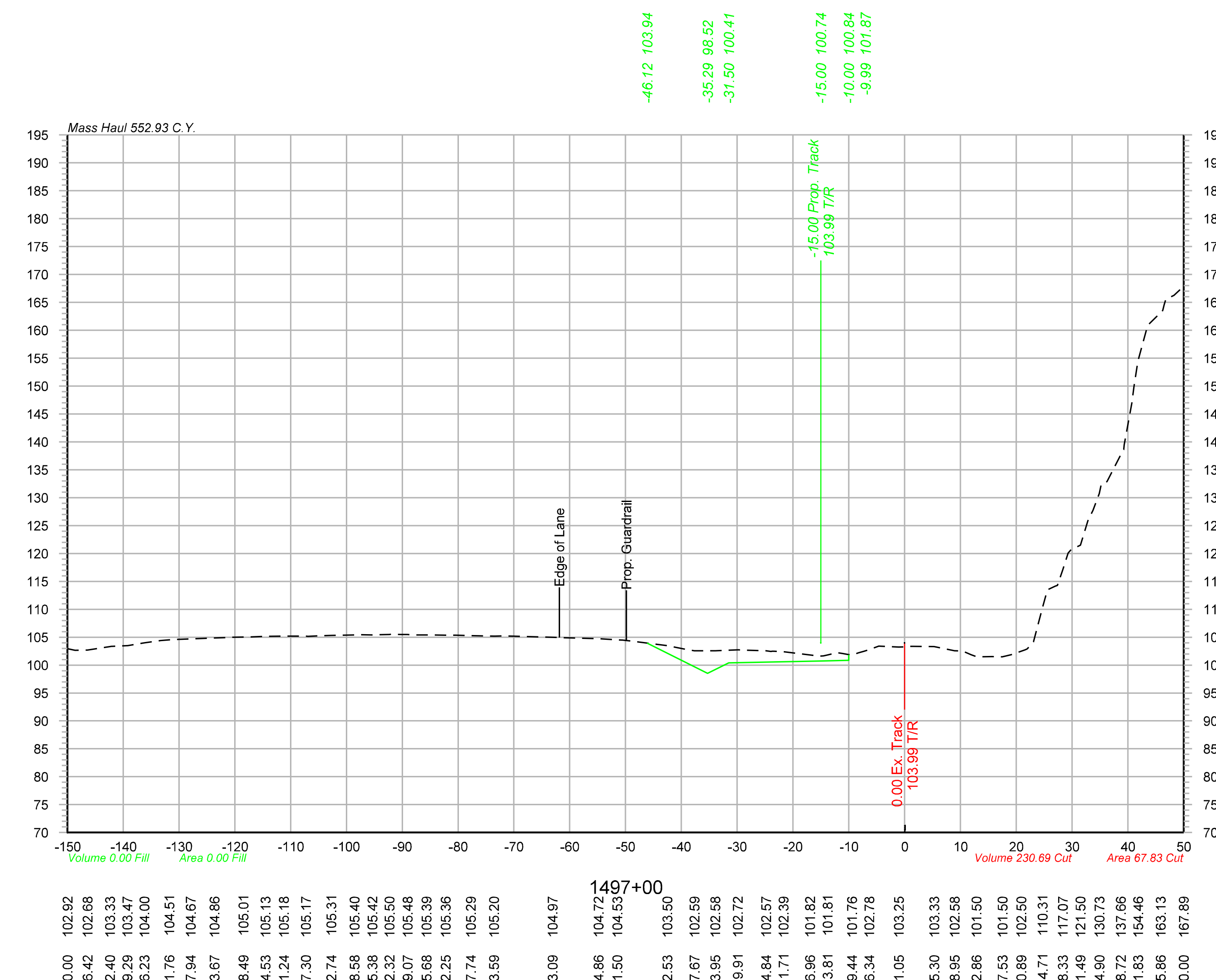

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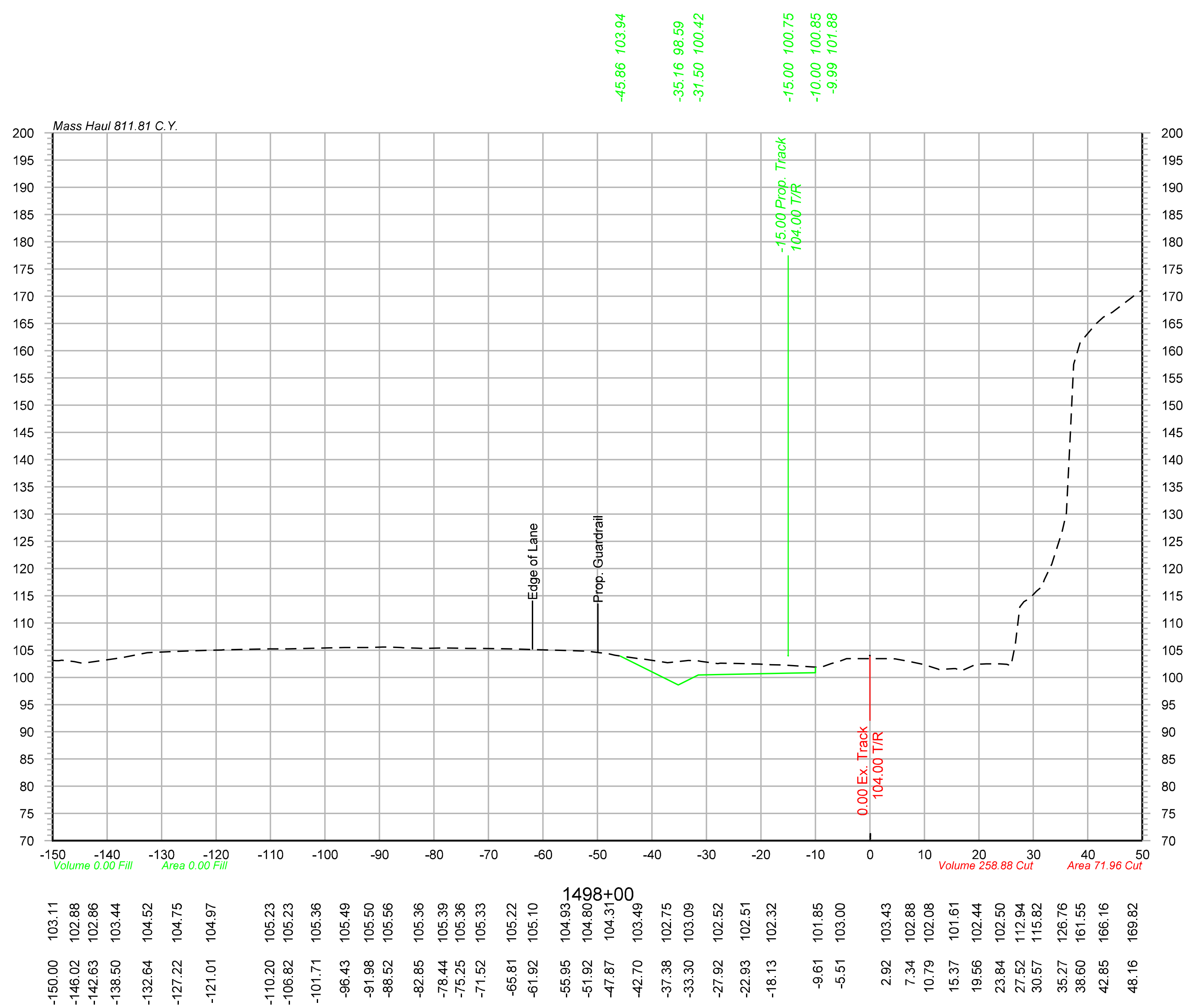
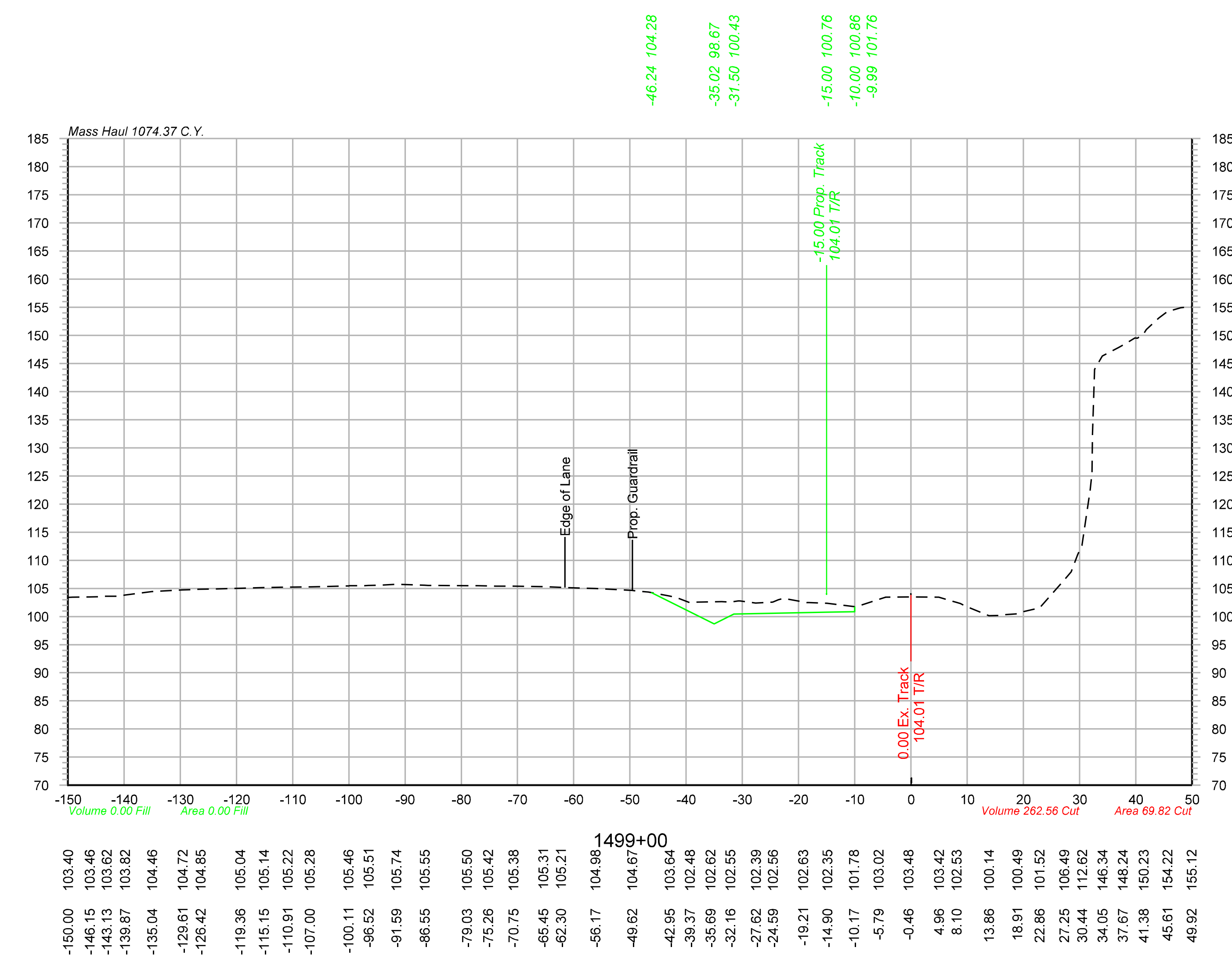
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline	
DATE: 10/20/2014		
SHEET NUMBER X 017 of 139	SHEET TITLE: PC 1 2-397 CROSS SECTIONS STA.1496+00 TO STA.1497+00	





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DATE: 10/20/2014
SHEET NUMBER X 018 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: PC 1 2-398
CROSS SECTIONS STA.1498+00 TO STA.1499+00

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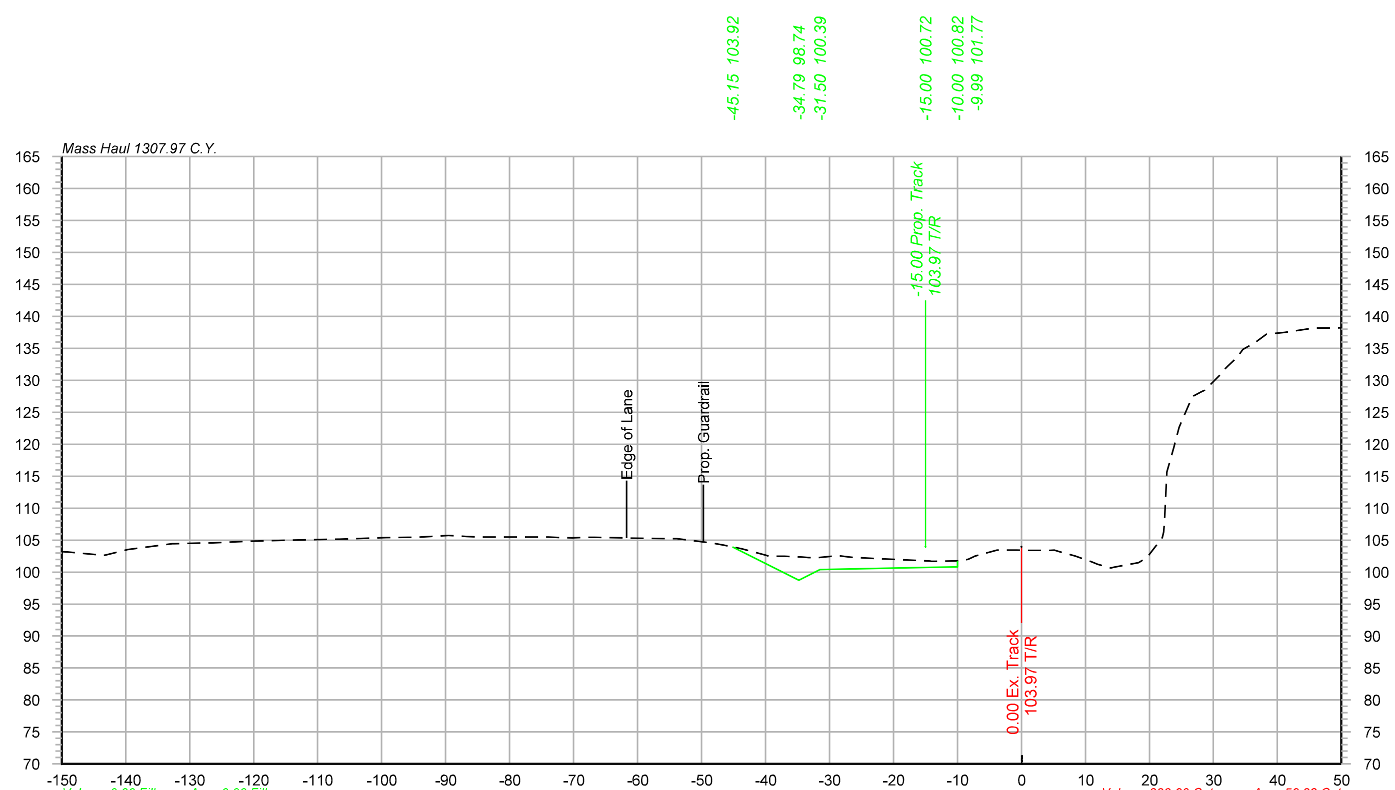

1500+00

Offset	Elevation
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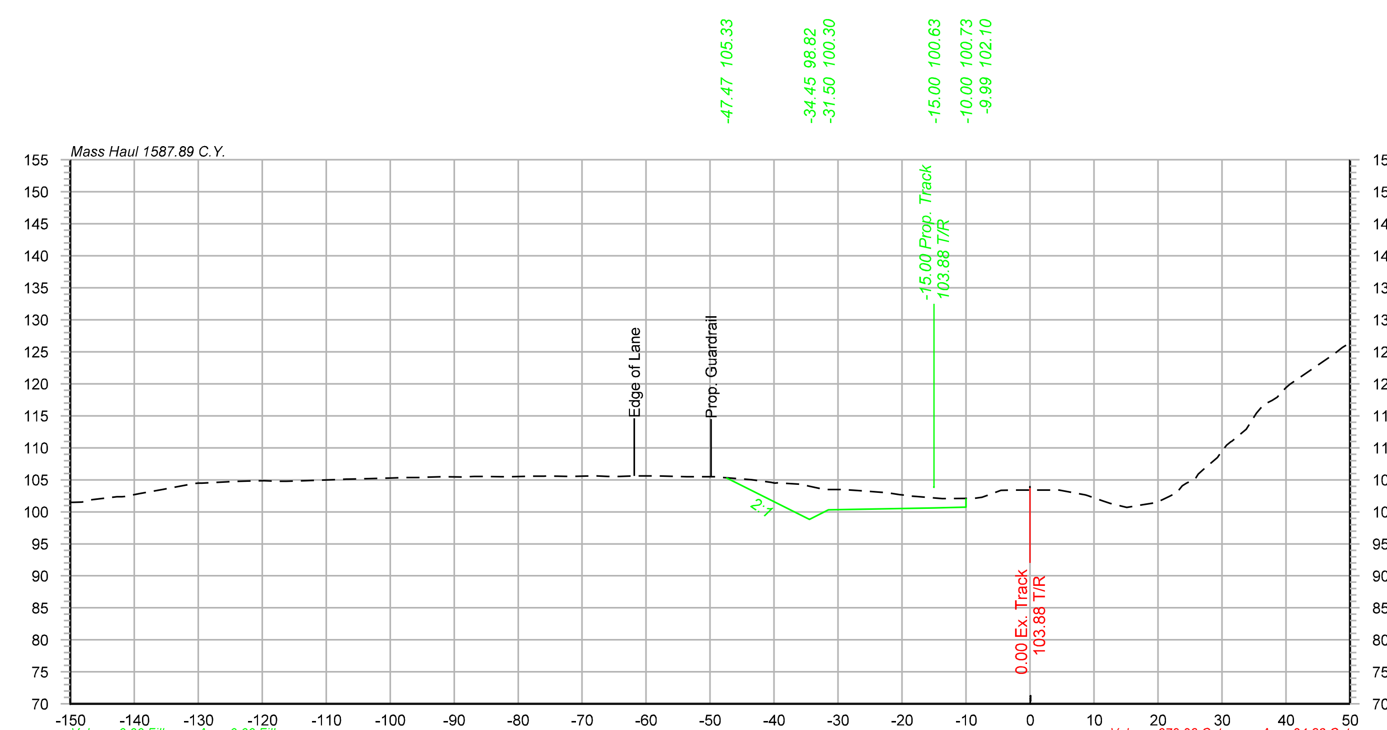
-140.05	103.46
-132.76	104.44
-127.42	104.57
-121.08	104.81
-109.47	105.09
-99.30	105.40
-95.91	105.44
-91.71	105.62
-88.67	105.70
-84.62	105.49
-77.18	105.50
-73.92	105.46
-70.16	105.38
-66.73	105.43
-62.19	105.34
-54.66	105.25
-48.21	104.52
-43.71	103.63
-39.96	102.64
-34.30	102.36
-30.03	102.43
-26.88	102.36
-23.34	102.15
-14.28	101.73
-9.23	101.79
-3.81	103.46
-0.73	103.45
4.43	103.39
8.41	102.53
11.88	101.22
18.33	101.49
22.02	105.39
26.70	127.41
31.01	130.84
34.62	134.82
38.28	137.22
45.61	138.14
50.00	138.21



1501+00

Offset	Elevation
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-139.14	102.86
-135.61	103.50
-131.40	104.27
-125.37	104.69
-121.98	104.80
-118.61	104.82
-113.38	104.86
-108.67	105.04
-104.68	105.15
-100.12	105.28
-95.59	105.37
-91.81	105.50
-88.81	105.46
-85.55	105.51
-81.24	105.50
-77.75	105.57
-74.11	105.55
-68.56	105.59
-64.65	105.51
-61.28	105.60
-58.22	105.59
-53.63	105.50
-49.11	105.46
-43.59	105.01
-40.45	104.61
-35.92	104.32
-32.08	103.50
-26.75	103.30
-22.31	102.98
-18.99	102.47
-13.70	102.08
-8.71	102.11
-4.52	103.36
1.00	103.40
4.55	103.38
8.65	102.63
12.57	101.33
16.88	100.99
20.79	101.94
23.80	104.07
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37.84	117.40
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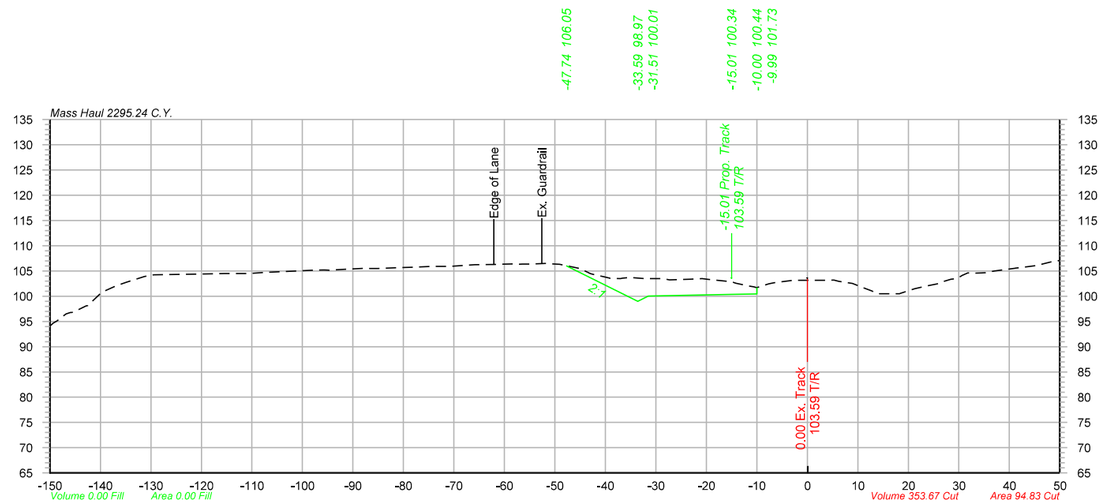
DATE: 10/20/2014
SHEET NUMBER X 019 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-399
CROSS SECTIONS STA.1500+00 TO STA.1501+00



1503+00

-150.00	94.17
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-139.75	100.80
-134.82	102.79
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-127.04	104.28
-121.69	104.37
-115.43	104.50
-110.90	104.49
-107.11	104.75
-101.32	104.99
-97.85	105.14
-94.74	105.17
-87.64	105.51
-80.98	105.65
-74.39	105.92
-70.21	105.96
-65.89	106.23
-62.65	106.28
-57.82	106.41
-51.89	106.50
-46.47	105.79
-42.99	104.50
-39.12	103.55
-34.90	103.73
-28.84	103.50
-23.25	103.37
-19.93	103.35
-14.99	102.85
-11.41	101.97
-7.66	102.43
-2.77	103.14
3.84	103.17
8.92	102.52
12.83	101.04
18.03	100.50
21.26	101.50
25.73	102.46
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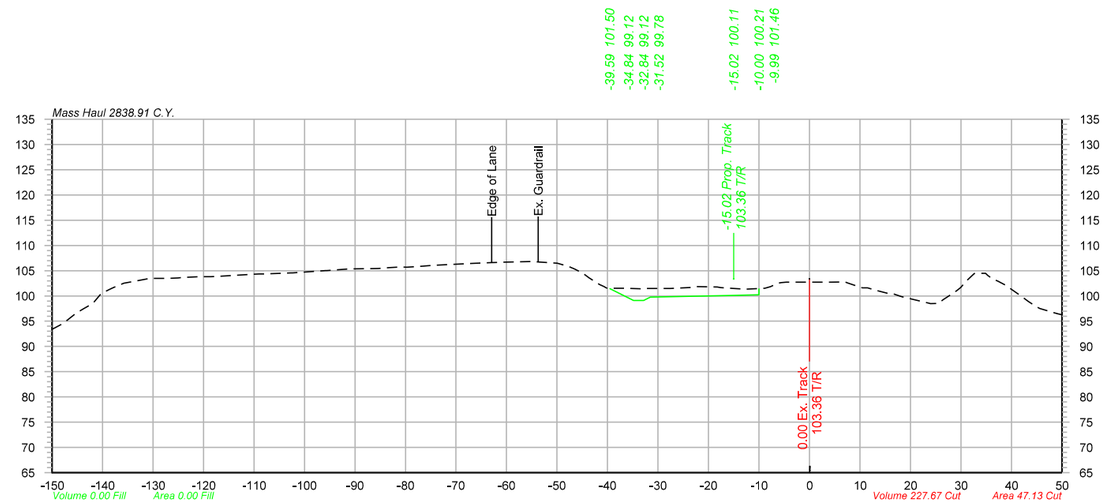

1505+00

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-87.95	105.38
-83.28	105.60
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-76.56	105.92
-70.27	106.29
-62.94	106.61
-55.13	106.81
-49.91	106.49
-46.57	105.37
-41.60	102.27
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-23.23	101.69
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15.79	100.44
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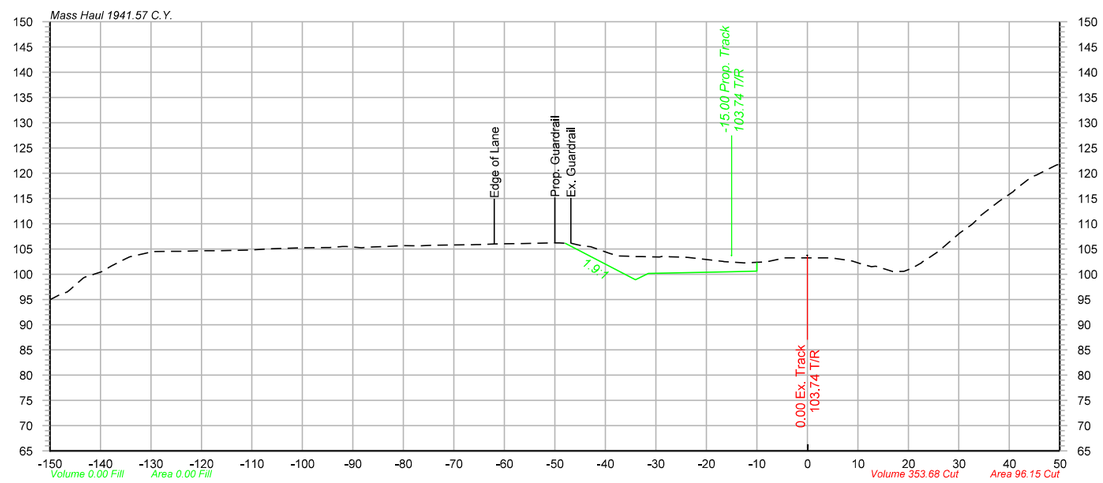

1502+00

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-119.55	104.66
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-110.40	104.76
-107.15	104.97
-103.79	105.10
-99.50	105.23
-95.43	105.28
-92.07	105.47
-88.36	105.24
-83.41	105.50
-79.81	105.65
-76.71	105.62
-67.97	105.82
-61.99	105.97
-56.31	106.07
-50.67	106.18
-46.89	106.13
-42.90	105.43
-39.14	104.12
-35.62	103.55
-29.27	103.40
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16.93	100.53
20.73	101.19
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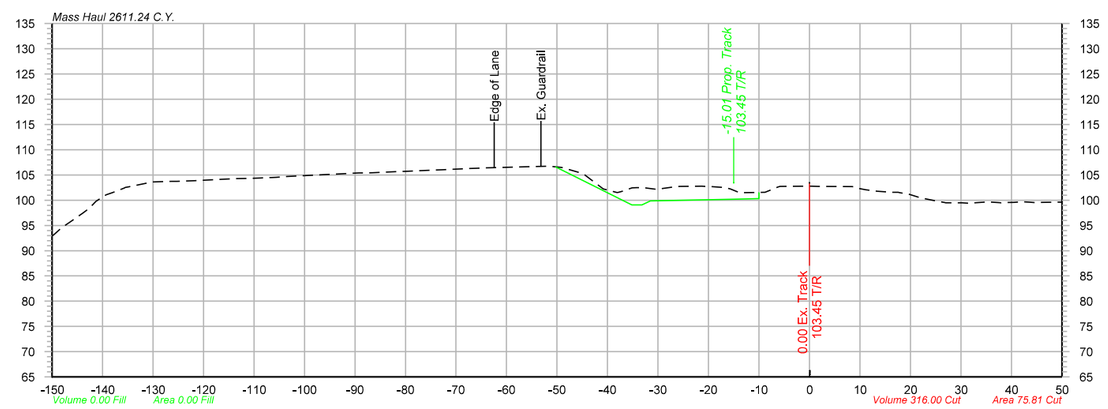

1504+00

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-117.77	104.08
-113.39	104.29
-108.63	104.41
-105.61	104.52
-100.06	104.87
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-89.24	105.41
-81.91	105.63
-76.83	105.85
-72.73	106.03
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DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 020 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1502+00 TO STA.1505+00

PC 1 2-400

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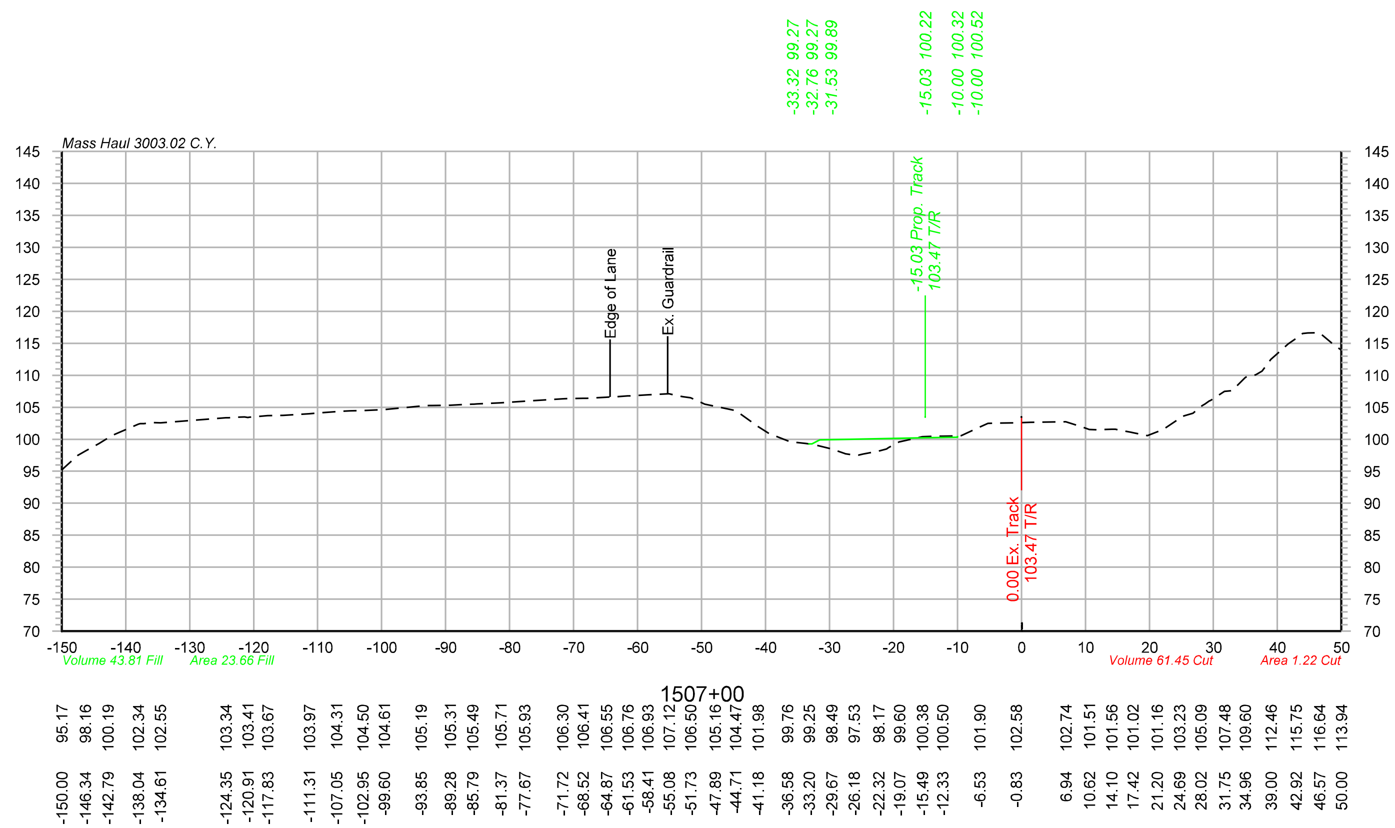
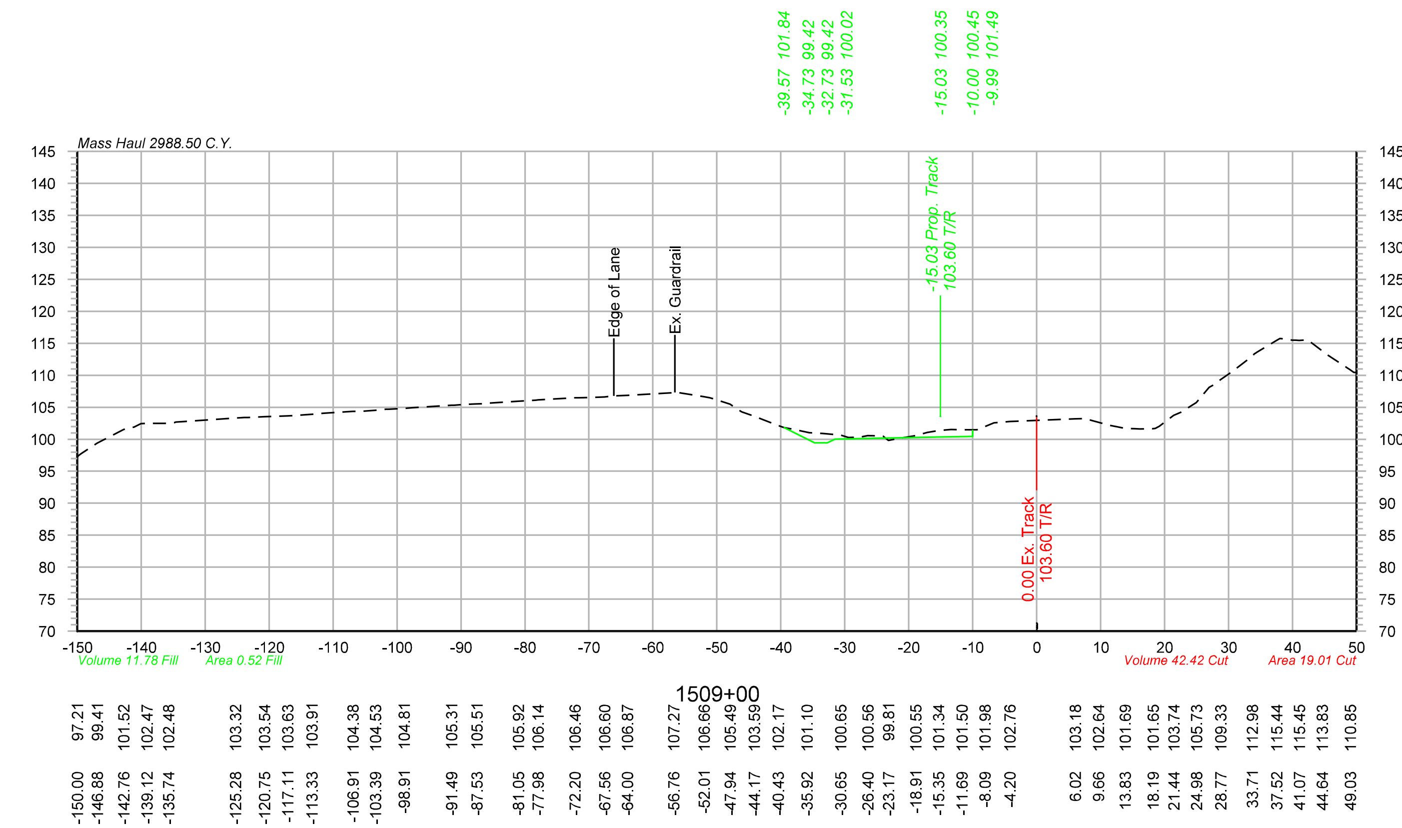
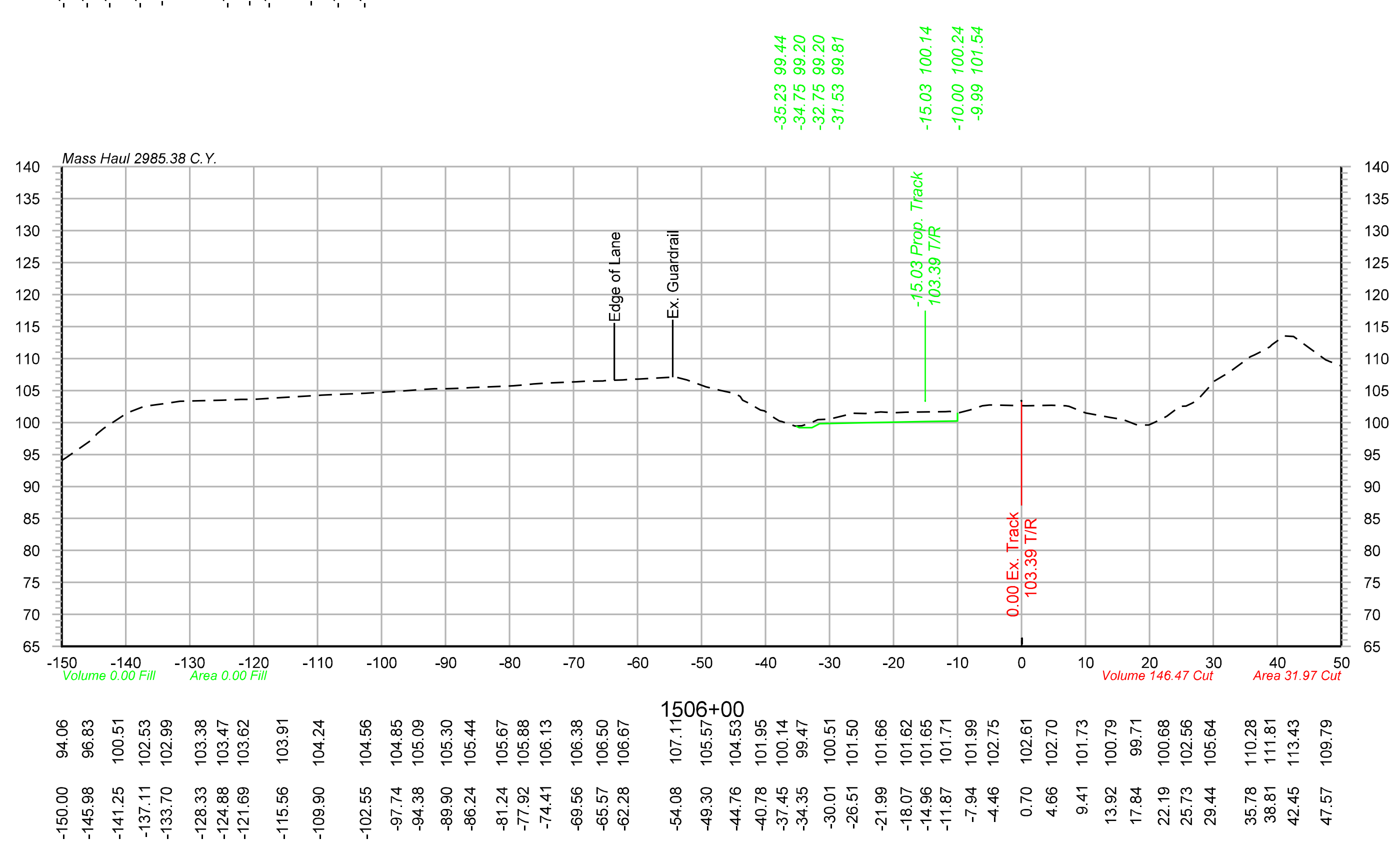
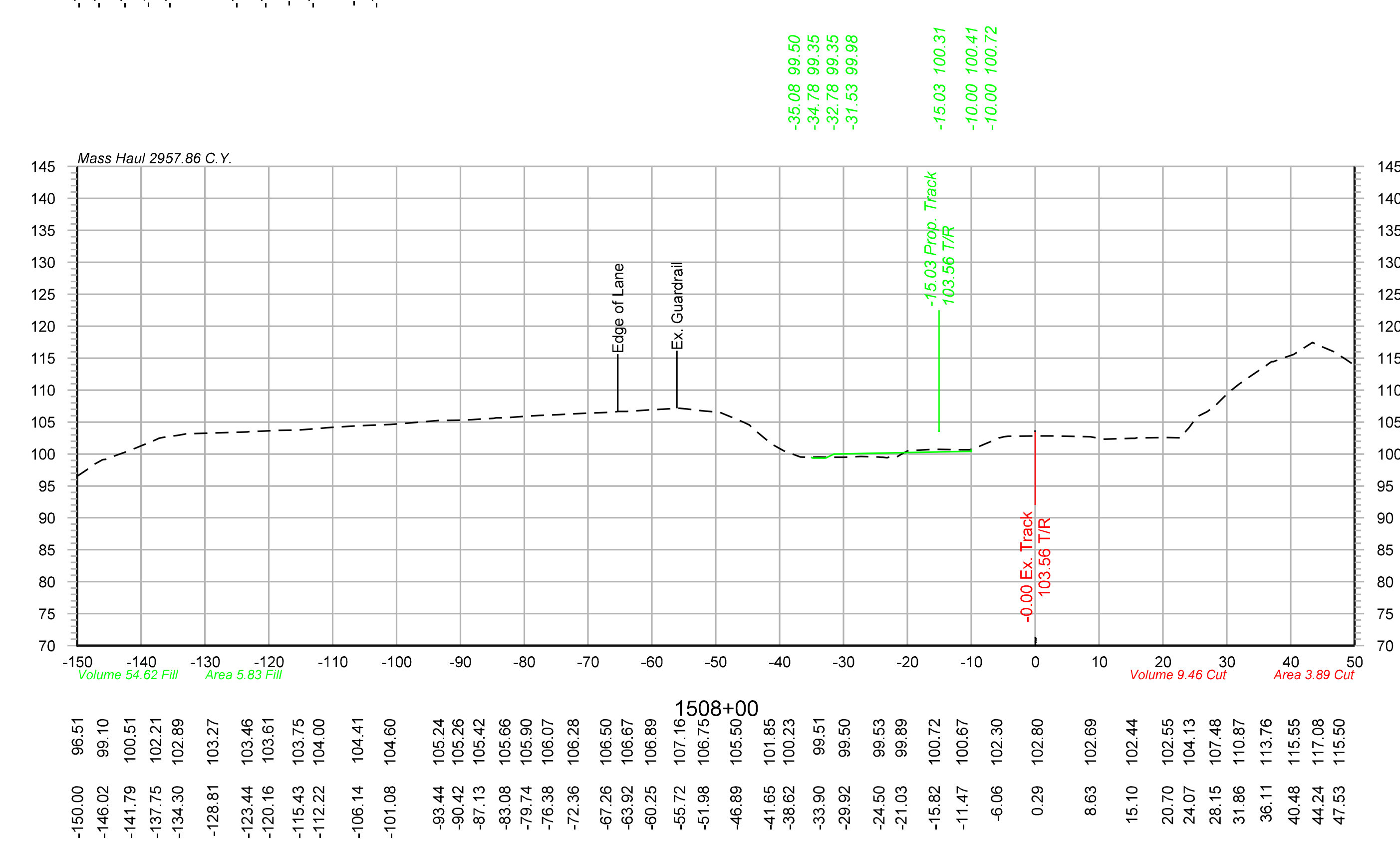
10/20/2014









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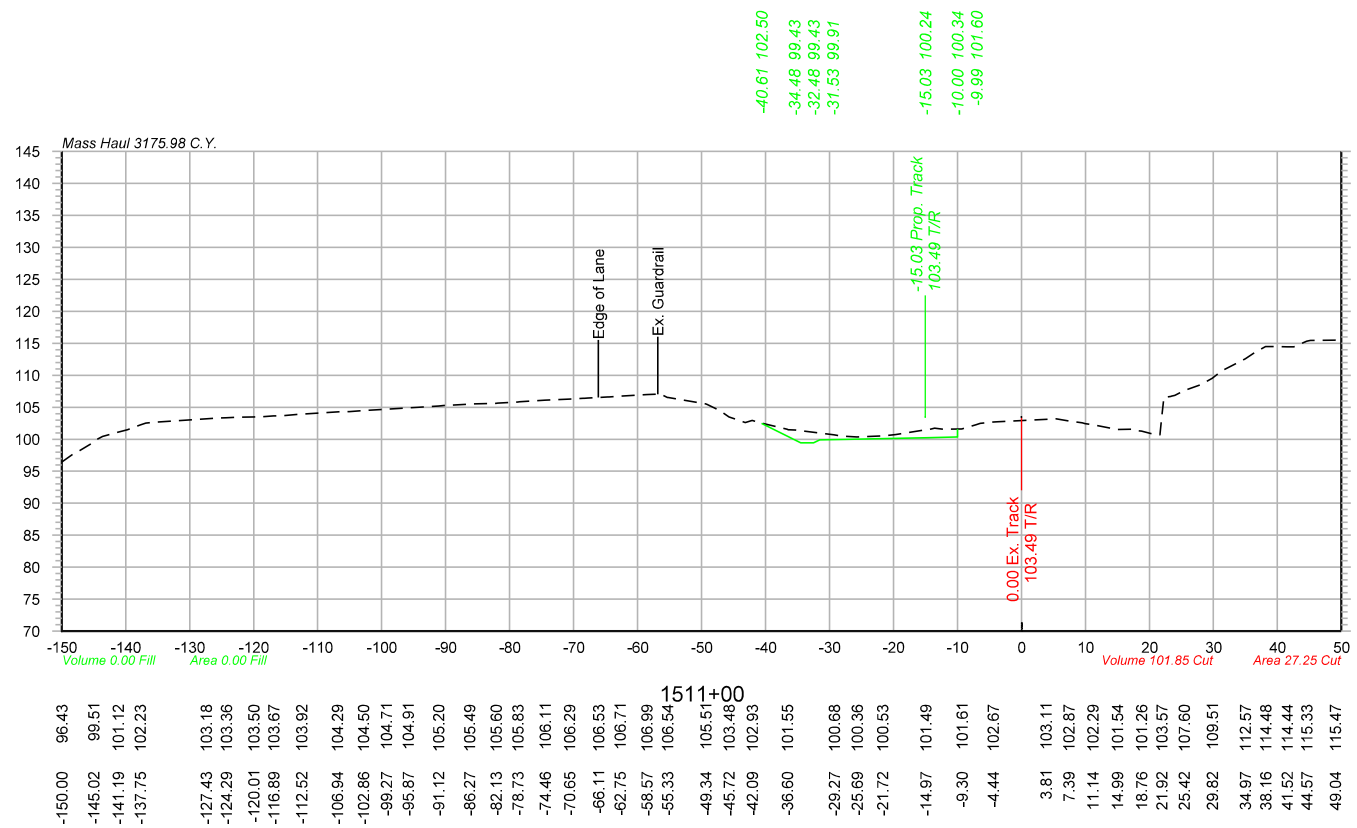
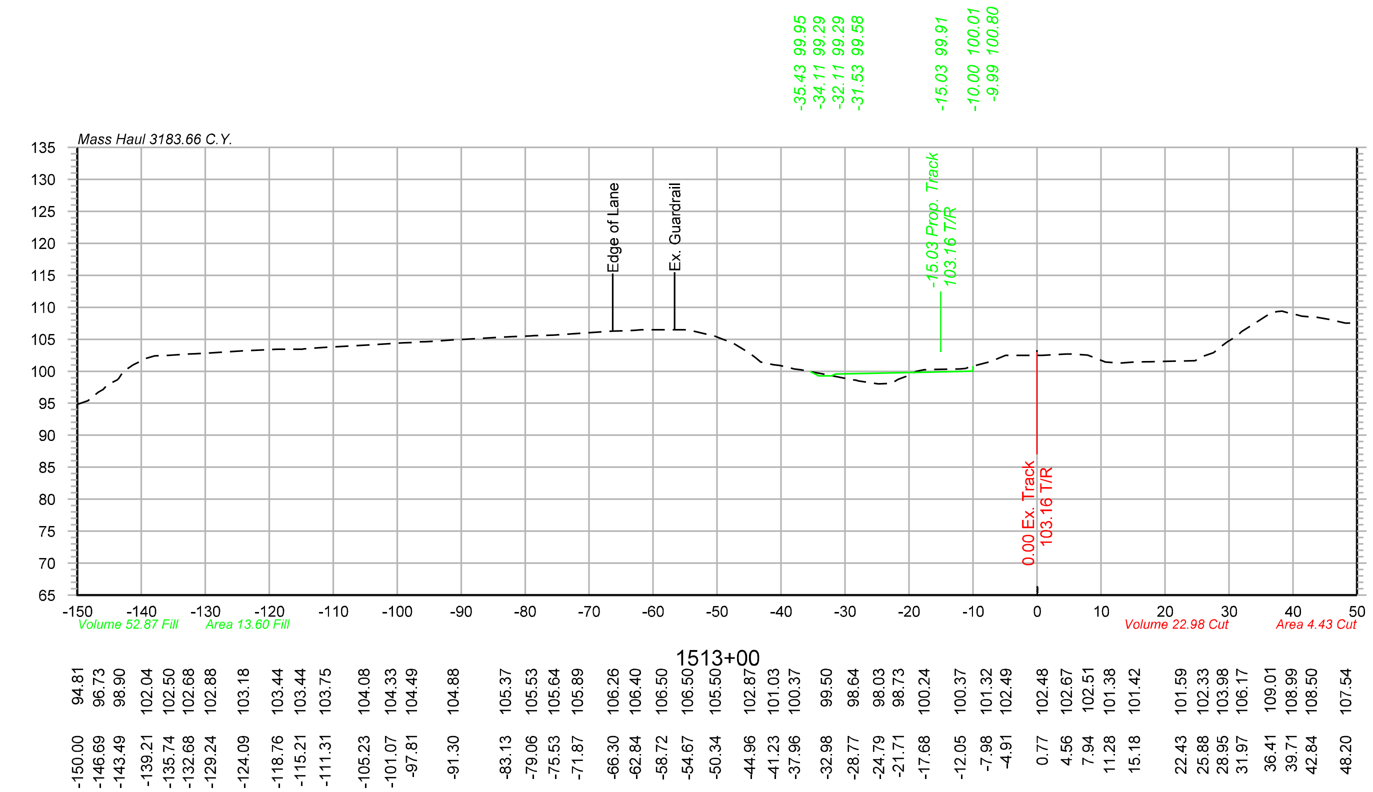
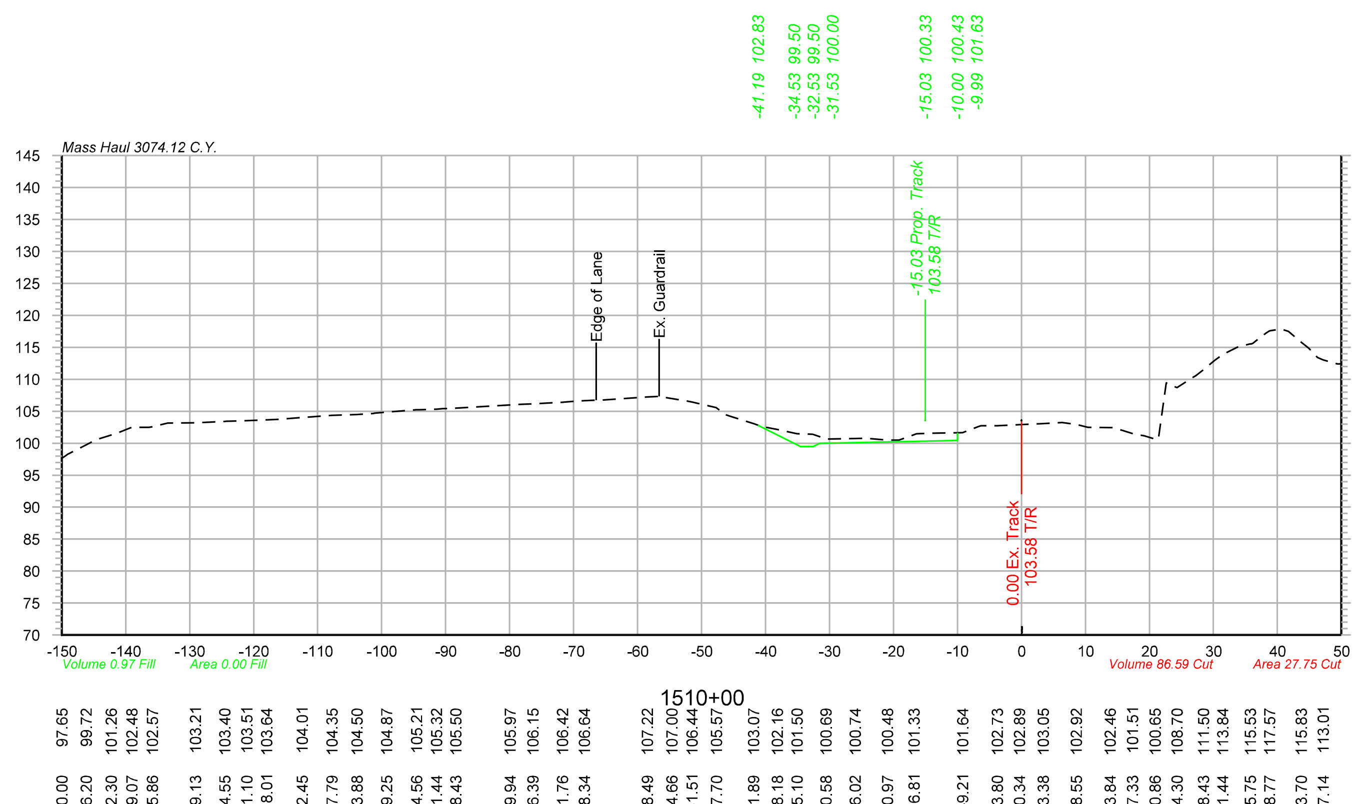
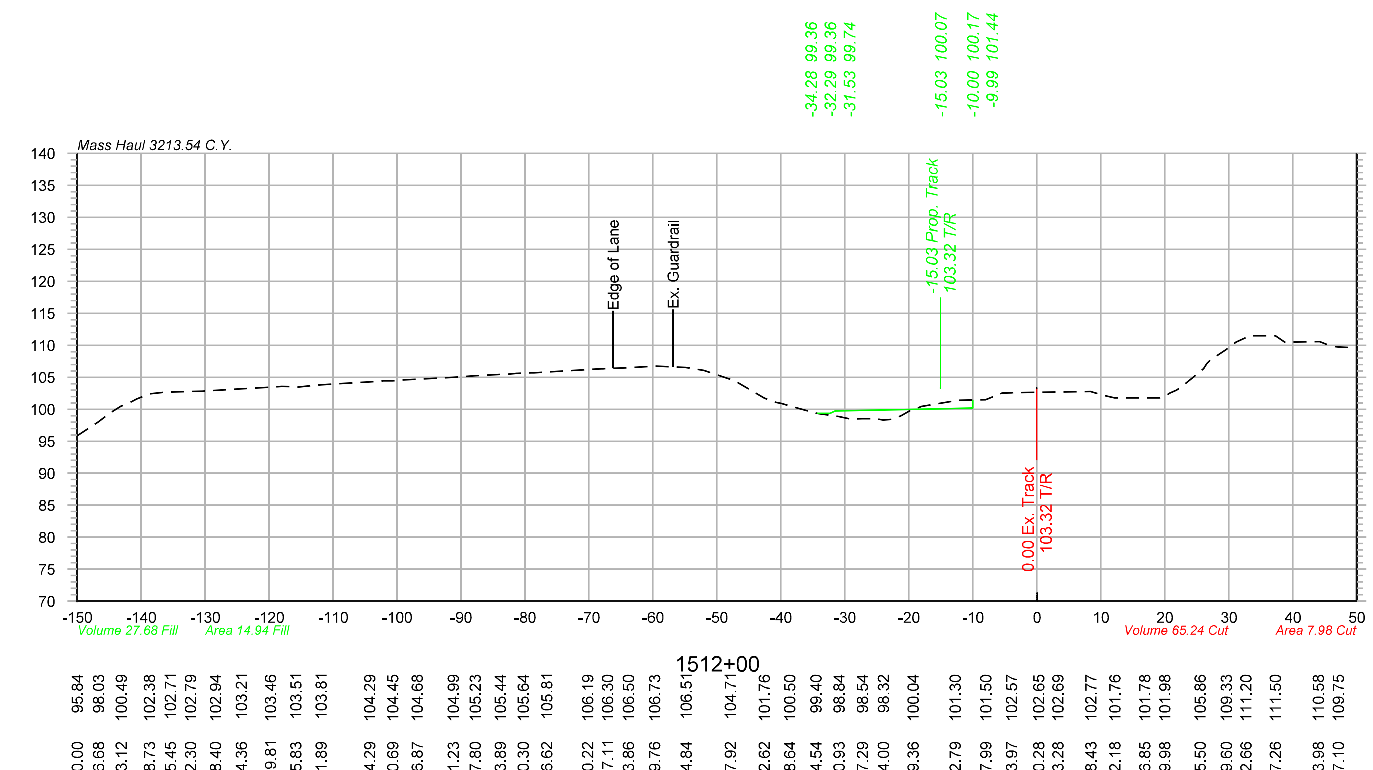
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 021 of 139	SHEET TITLE: PC 1_2-401 CROSS SECTIONS STA.1506+00 TO STA.1509+00









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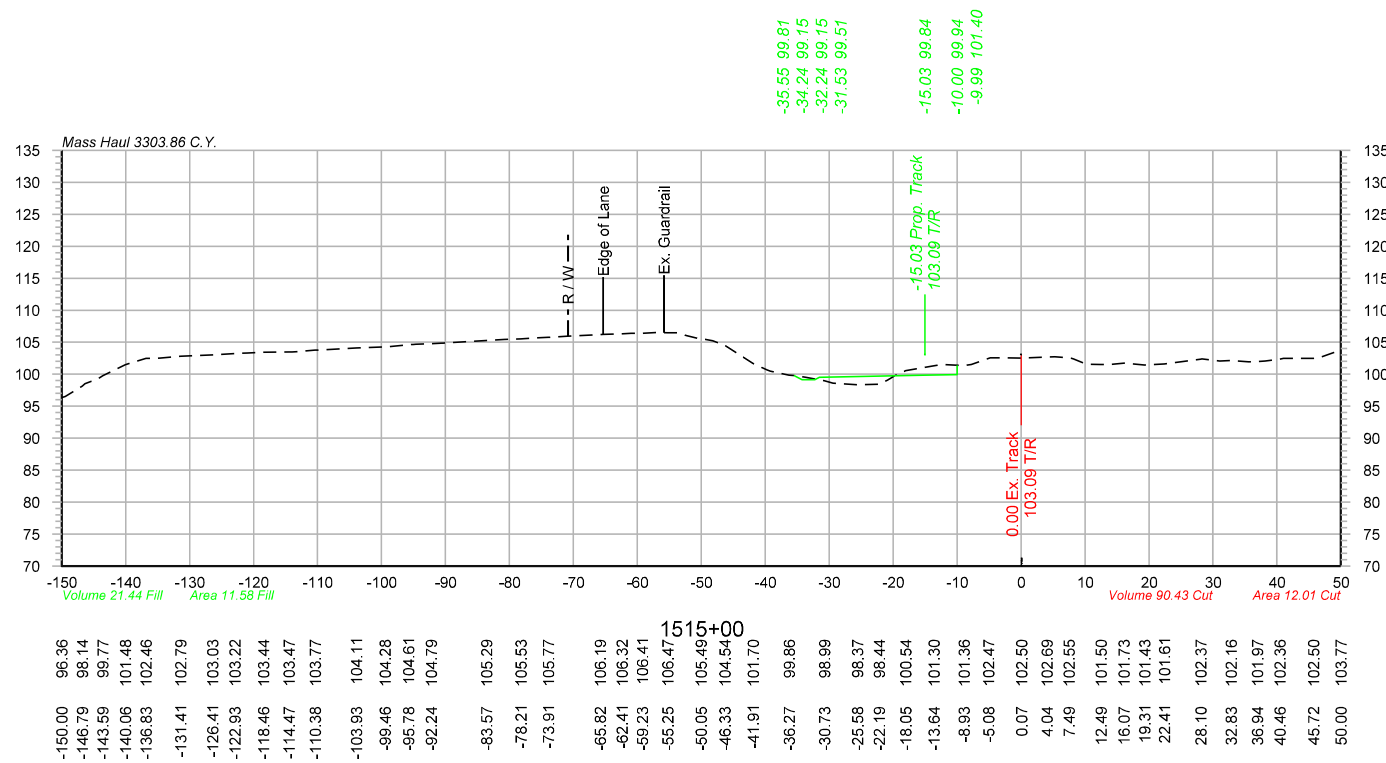
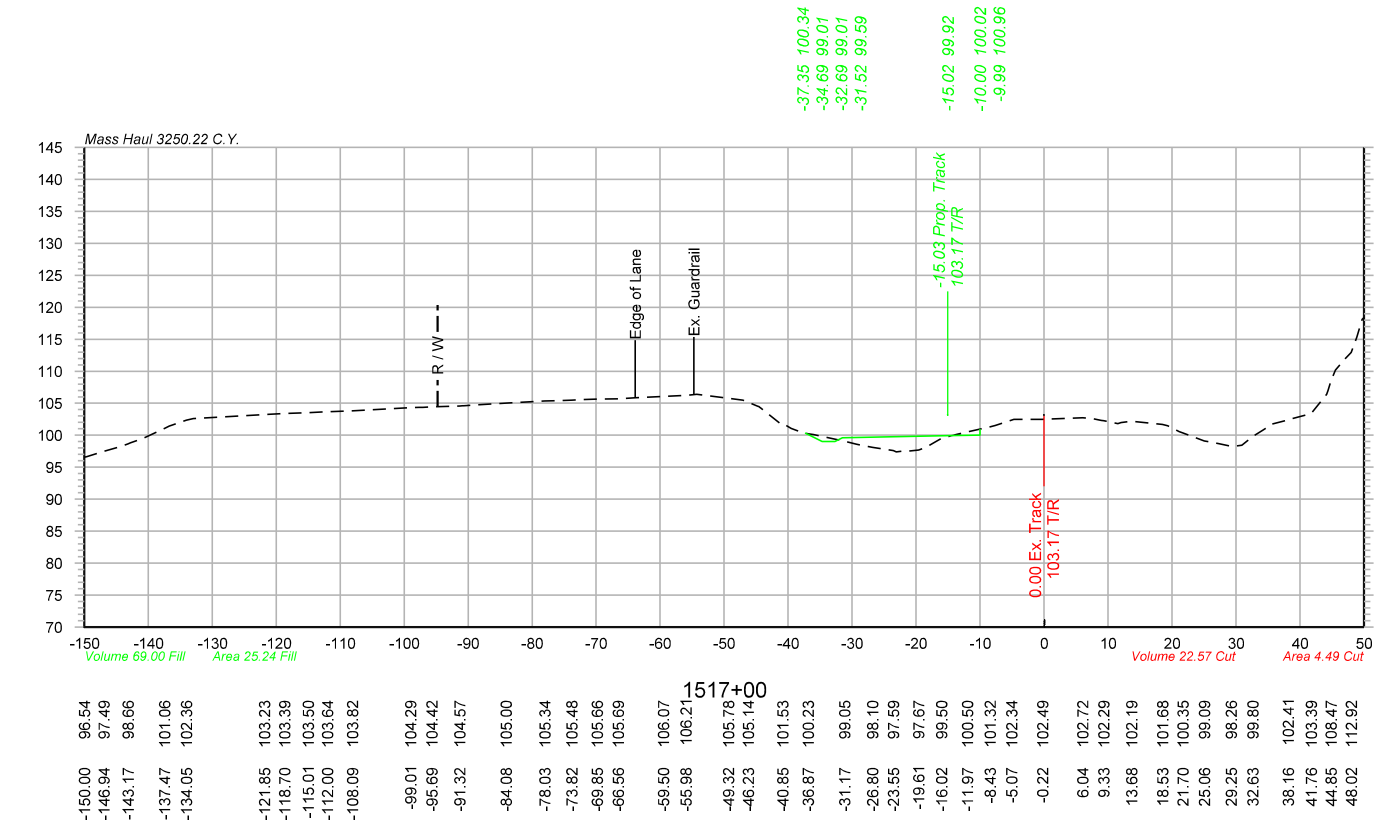
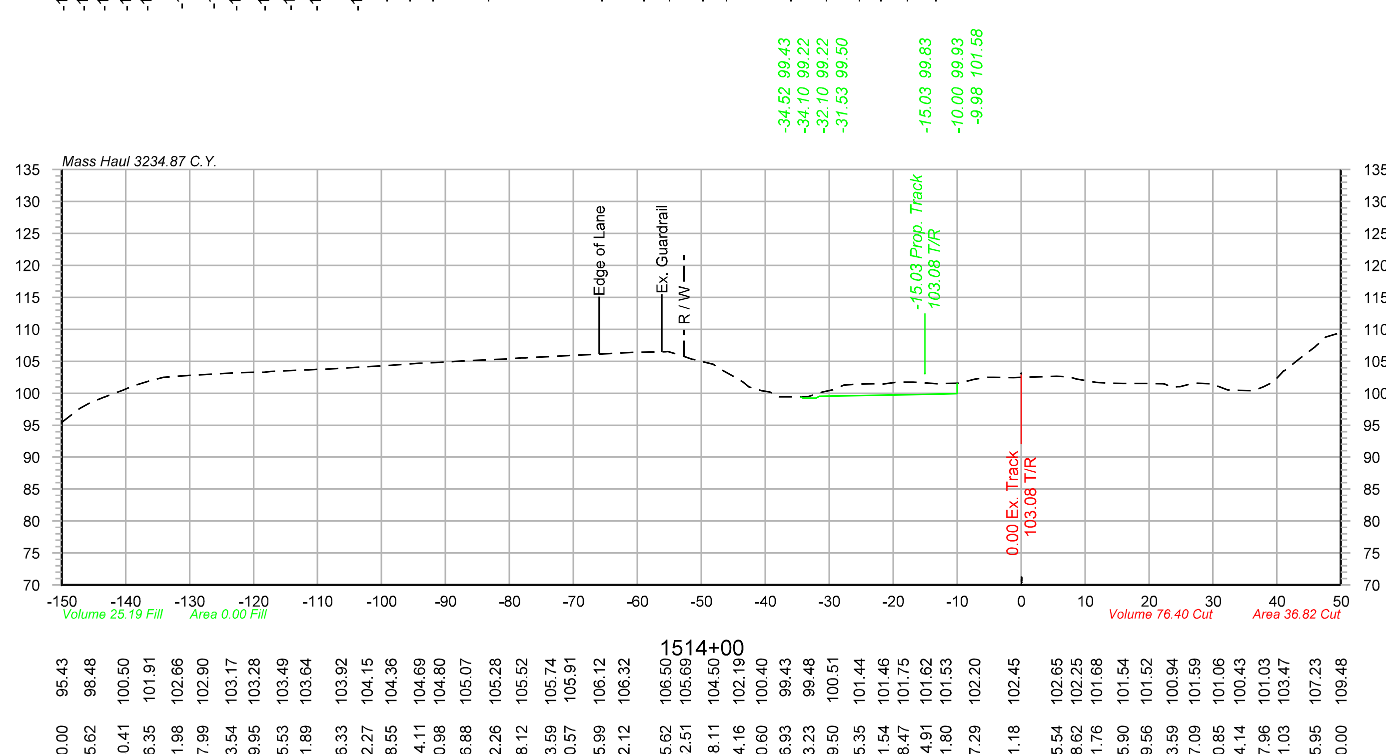
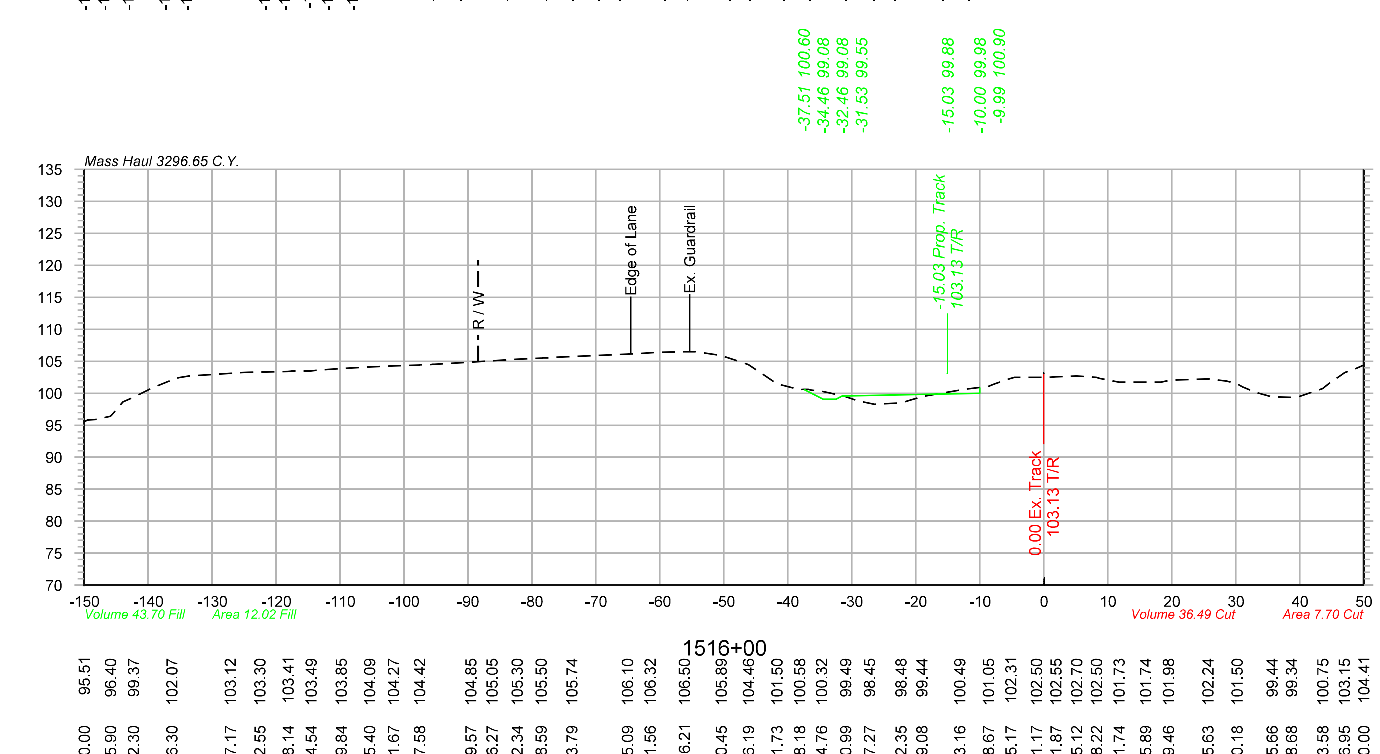
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 022 of 139	SHEET TITLE: PC 1 2-402 CROSS SECTIONS STA.1510+00 TO STA.1513+00









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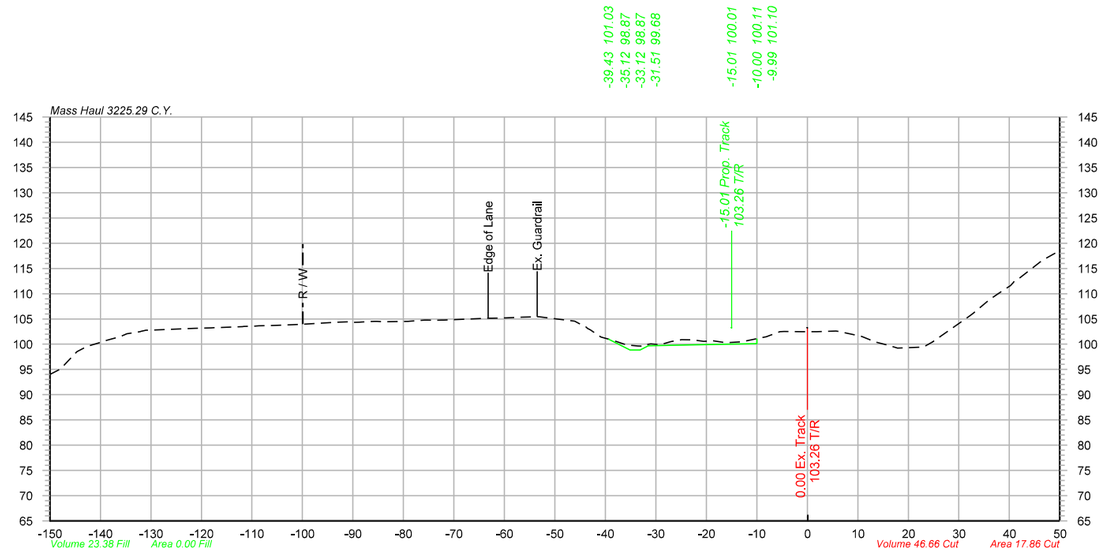
DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 023 of 139	SHEET TITLE: PC 1 2-403 CROSS SECTIONS STA.1514+00 TO STA.1517+00



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-111.83	103.50
-108.64	103.64
-105.21	103.72
-102.05	103.85
-96.67	104.13
-93.14	104.37
-88.80	104.37
-85.70	104.52
-79.05	104.53
-75.80	104.75
-72.47	104.77
-63.23	105.13
-56.42	105.34
-53.15	105.44
-49.52	104.98
-46.08	104.55
-43.00	102.85
-38.66	100.82
-33.60	99.65
-29.14	99.89
-24.92	100.90
-20.55	100.54
-16.81	100.39
-12.95	100.49
-9.58	101.19
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-1.17	102.49
1.89	102.49
5.69	102.60
10.66	101.54
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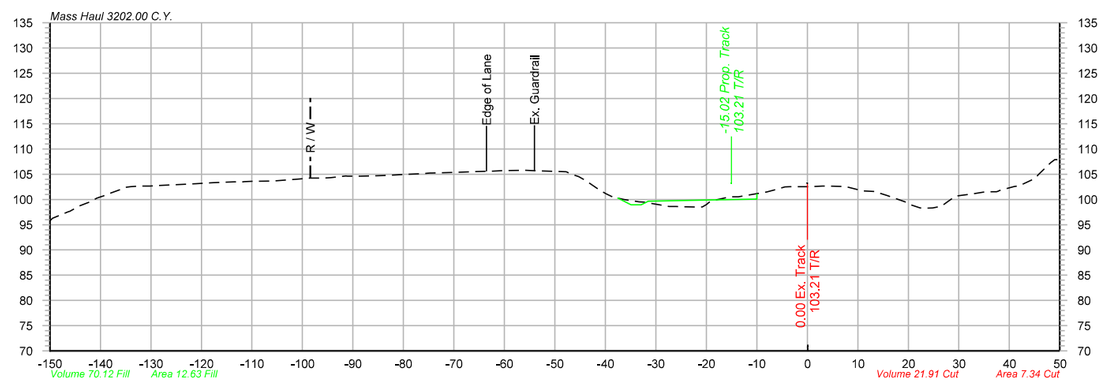

1518+00

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-117.73	103.31
-113.61	103.46
-109.69	103.59
-105.79	103.67
-100.88	104.03
-96.74	104.25
-91.41	104.63
-85.28	104.70
-82.19	104.82
-76.08	105.11
-72.83	105.29
-65.33	105.51
-62.19	105.62
-58.74	105.75
-54.09	105.68
-48.98	105.52
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-41.07	101.80
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-32.45	99.48
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-4.44	102.49
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4.15	102.65
7.16	102.55
10.79	101.74
14.12	101.33
19.36	99.51
22.36	98.33
26.50	98.66
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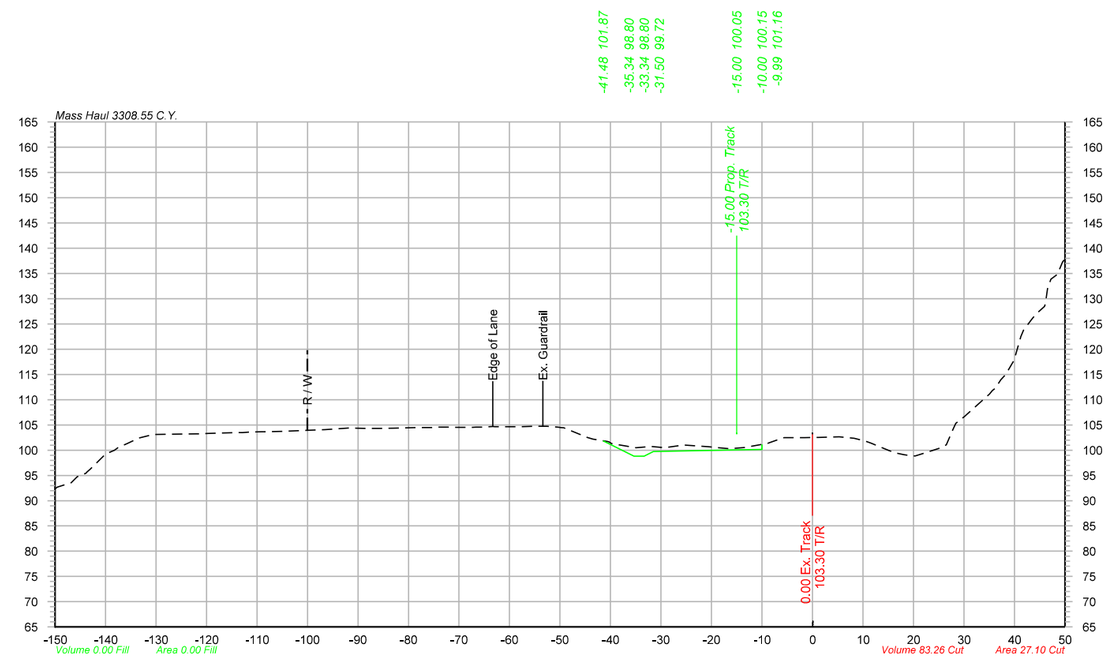

1520+00

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-116.98	103.42
-112.87	103.50
-109.13	103.66
-104.91	103.75
-97.81	104.02
-91.17	104.44
-88.04	104.33
-83.02	104.38
-78.34	104.50
-74.40	104.55
-70.54	104.51
-67.26	104.53
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-57.77	104.67
-52.59	104.75
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-45.80	103.04
-40.63	101.73
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5.30	102.67
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15.12	99.95
18.12	99.12
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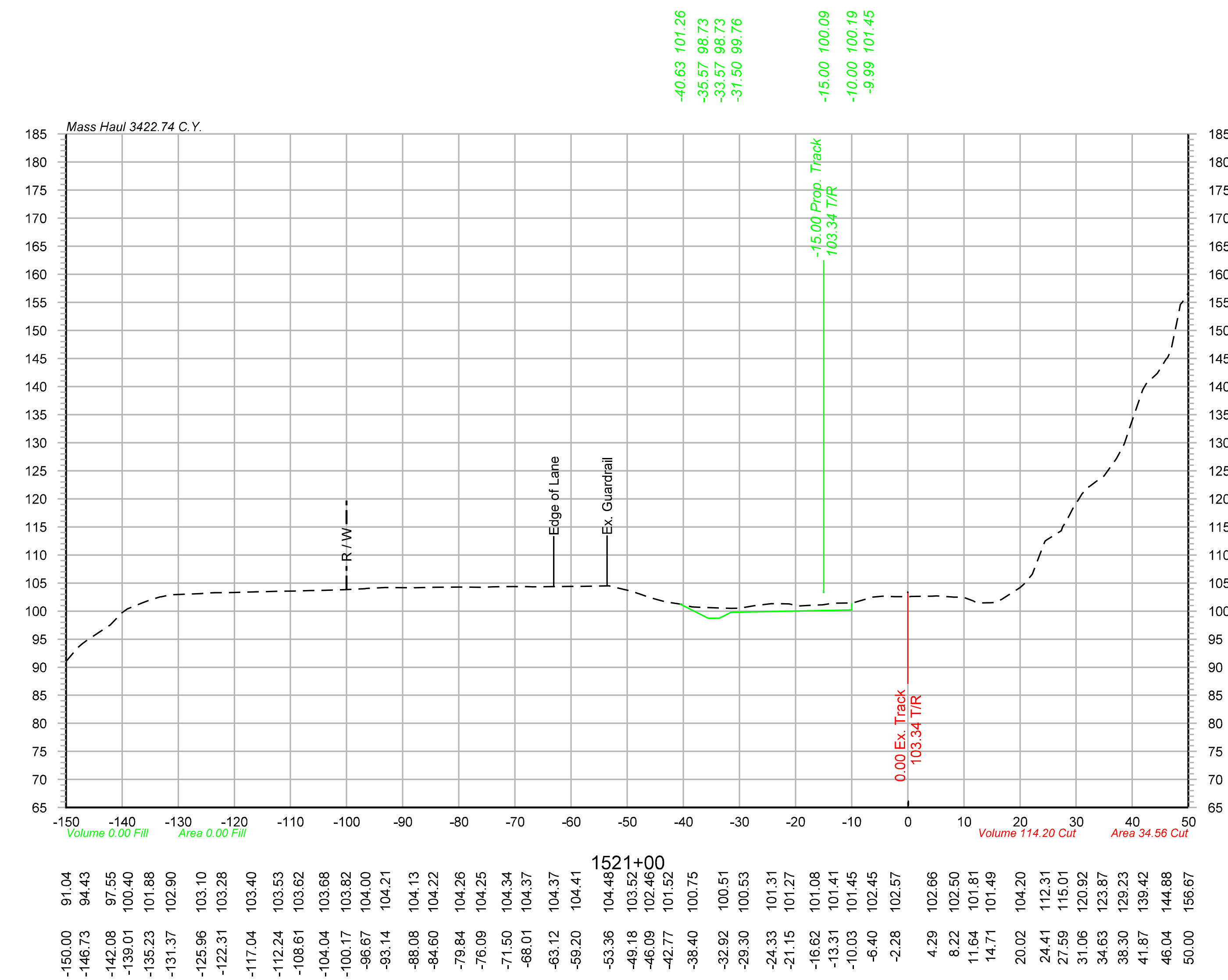
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 024 of 139

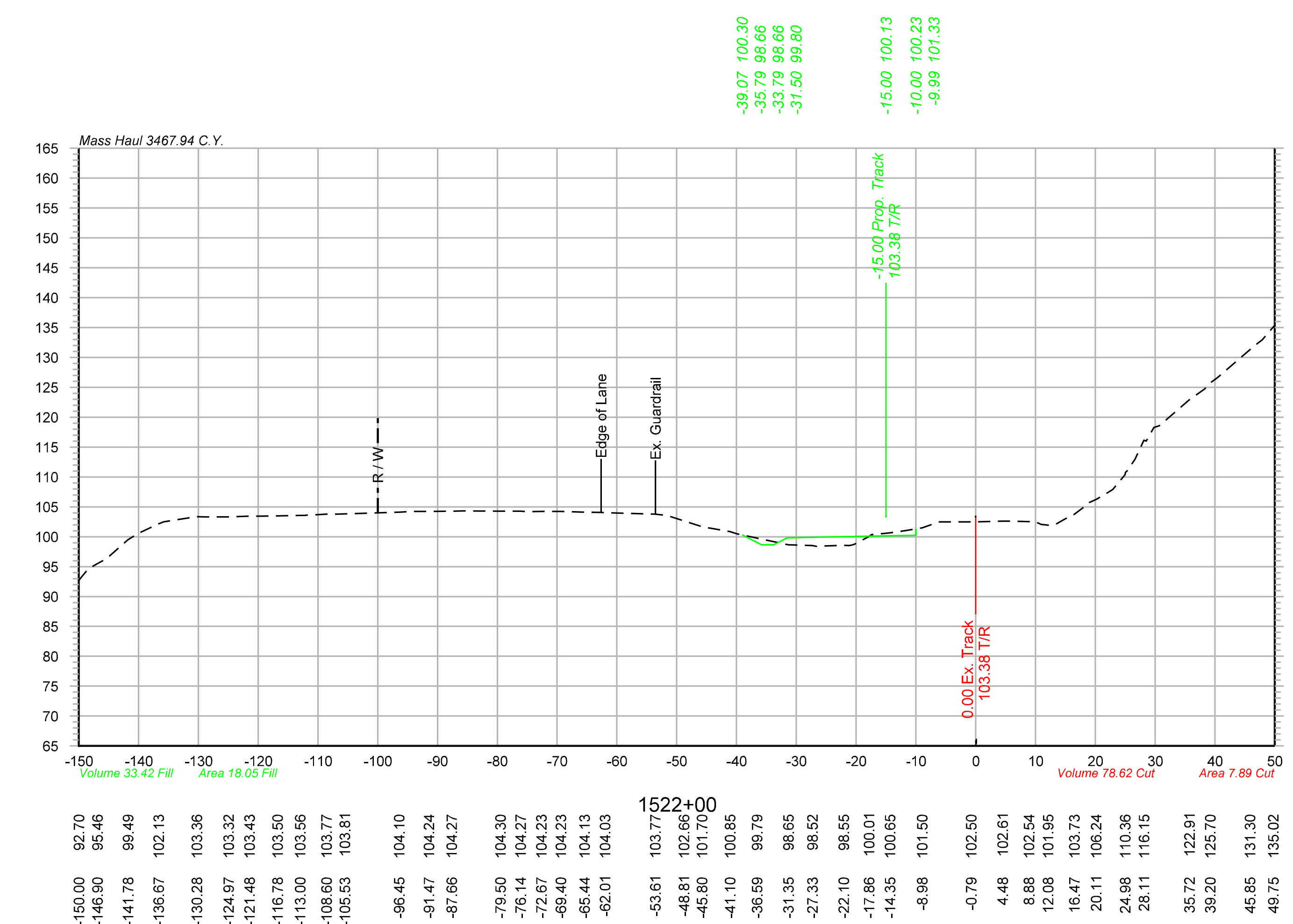
UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1518+00 TO STA.1520+00

PC 1 2-404





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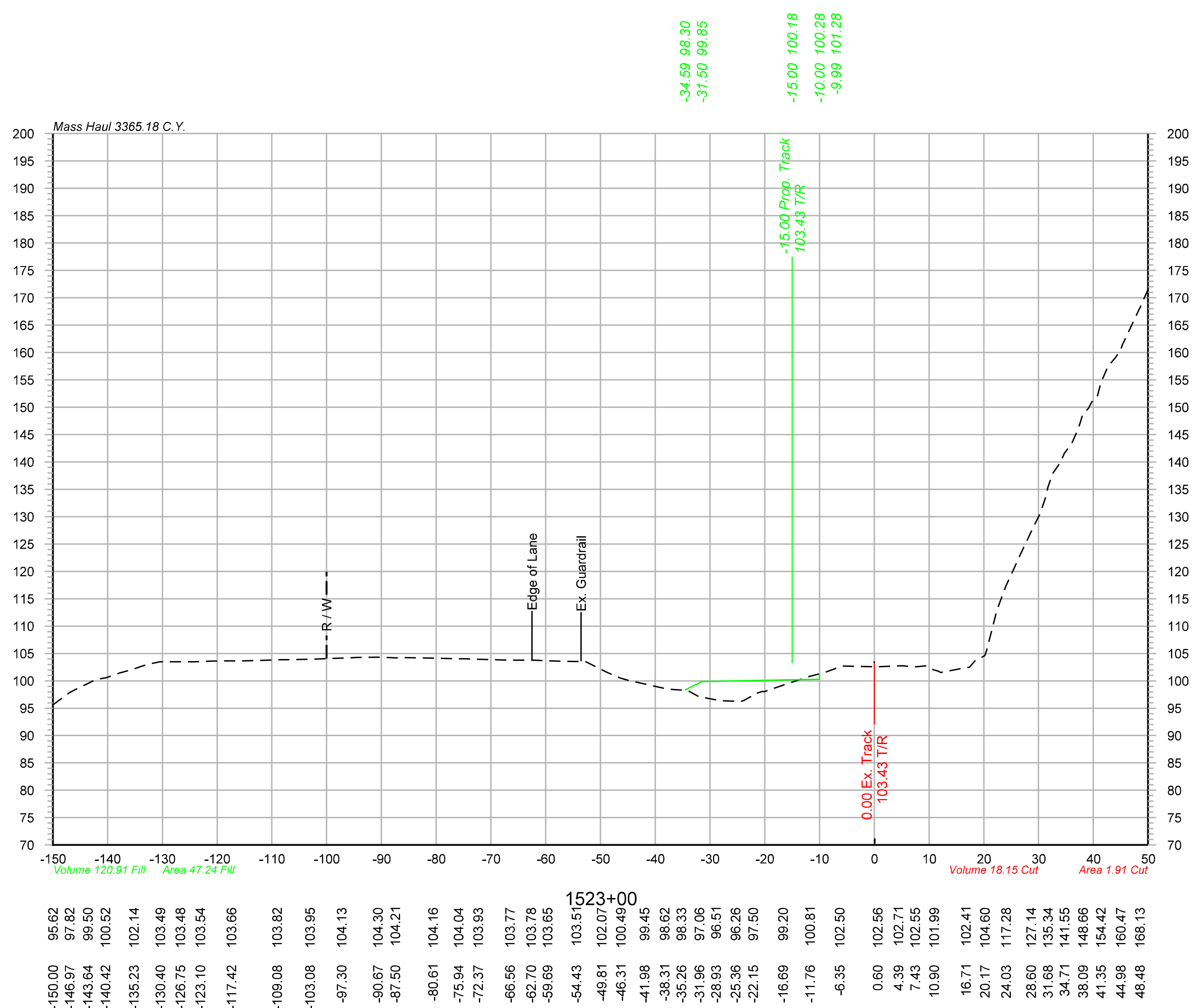
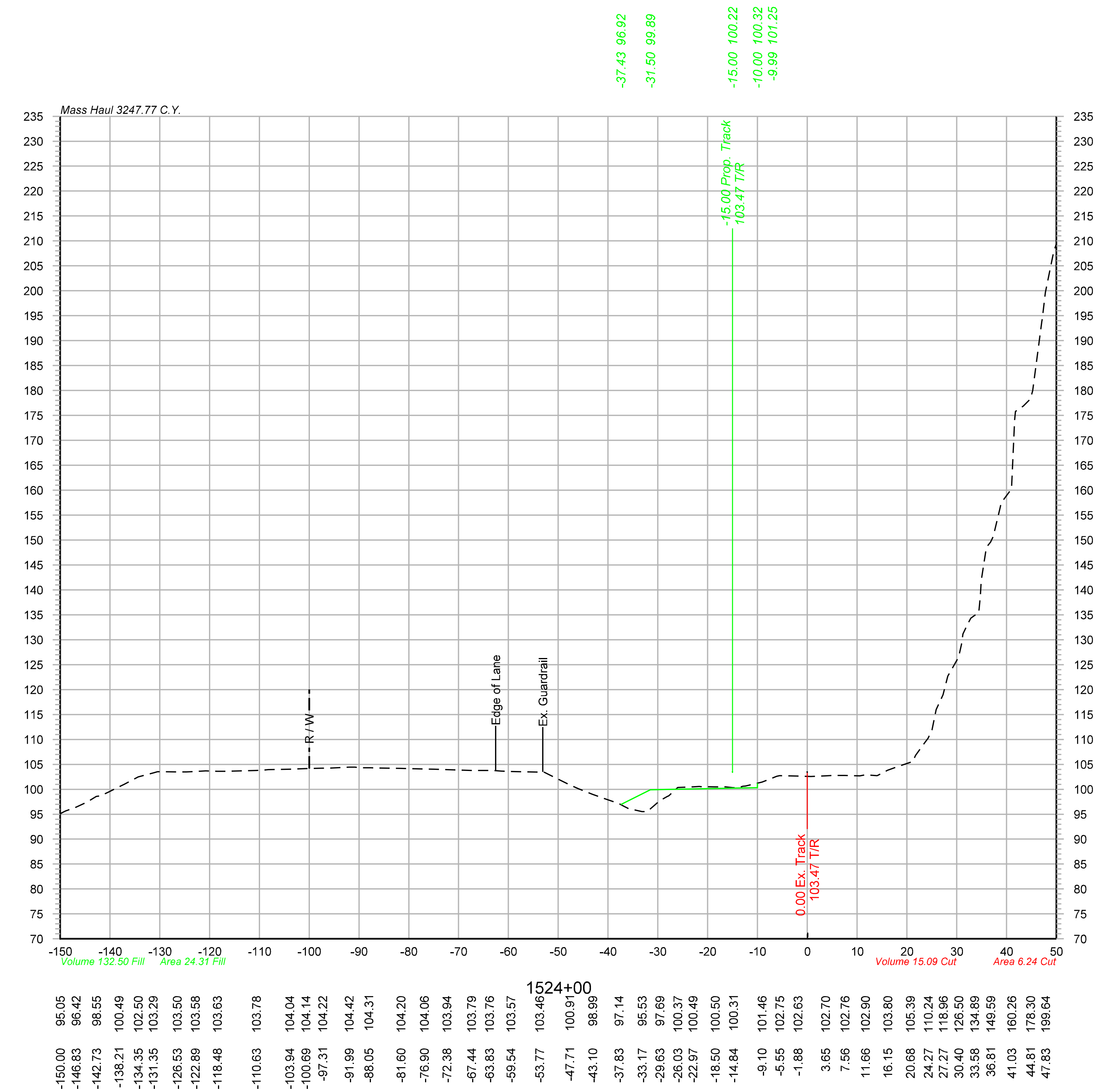
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 025 of 139	SHEET TITLE: PC 1 2-405 CROSS SECTIONS STA.1521+00 TO STA.1522+00





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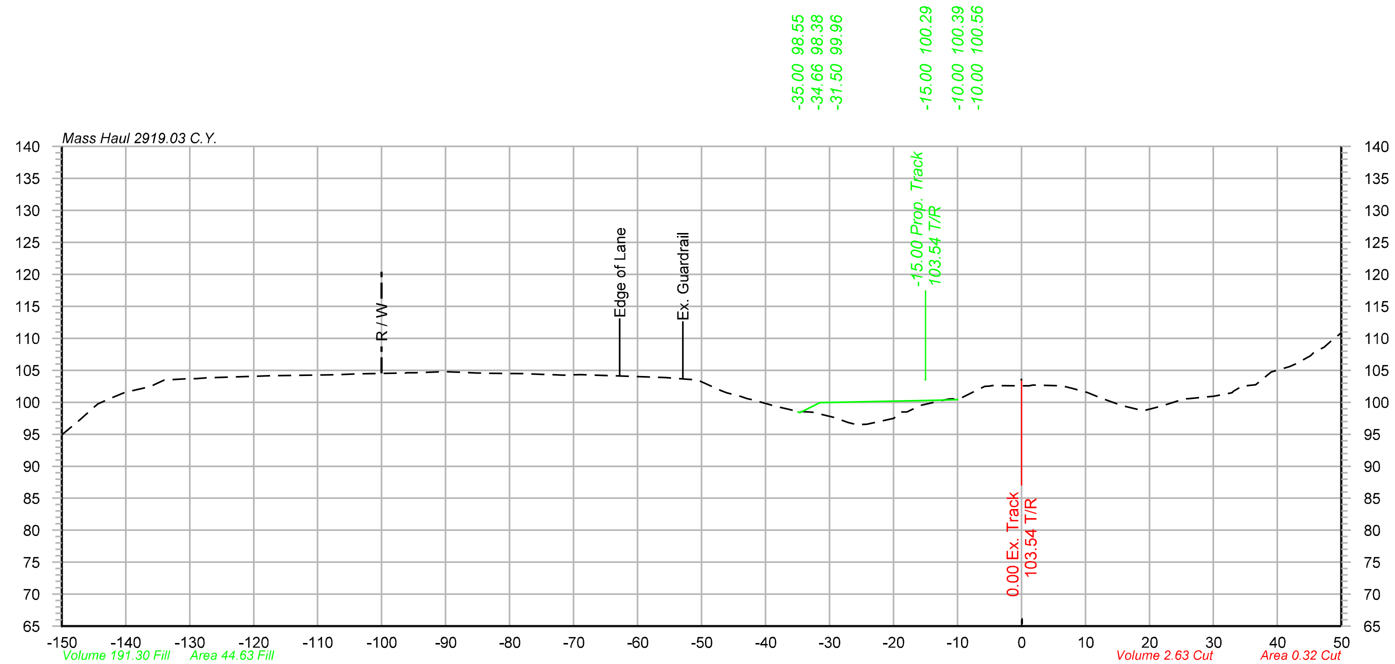
DRAWN BY: BWG	**UNION PACIFIC RAILROAD** — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 026 of 139	SHEET TITLE: CROSS SECTIONS STA.1523+00 TO STA.1524+00 **PC 1 2-406**



1526+00

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-133.02	103.52
-128.94	103.71
-120.94	104.04
-117.23	104.13
-113.94	104.21
-108.44	104.27
-103.69	104.46
-96.78	104.58
-91.39	104.73
-87.78	104.68
-84.58	104.58
-78.93	104.50
-75.05	104.37
-71.61	104.23
-66.61	104.25
-62.78	104.11
-55.64	103.86
-52.44	103.61
-47.03	101.88
-43.85	100.90
-38.56	99.40
-35.01	98.55
-31.77	98.25
-27.16	96.86
-24.14	96.58
-20.53	97.34
-17.14	98.85
-12.46	100.27
-7.62	101.56
-4.56	102.61
-0.25	102.57
6.34	102.56
10.30	101.52
14.17	100.03
17.92	98.94
22.02	99.45
25.39	100.53
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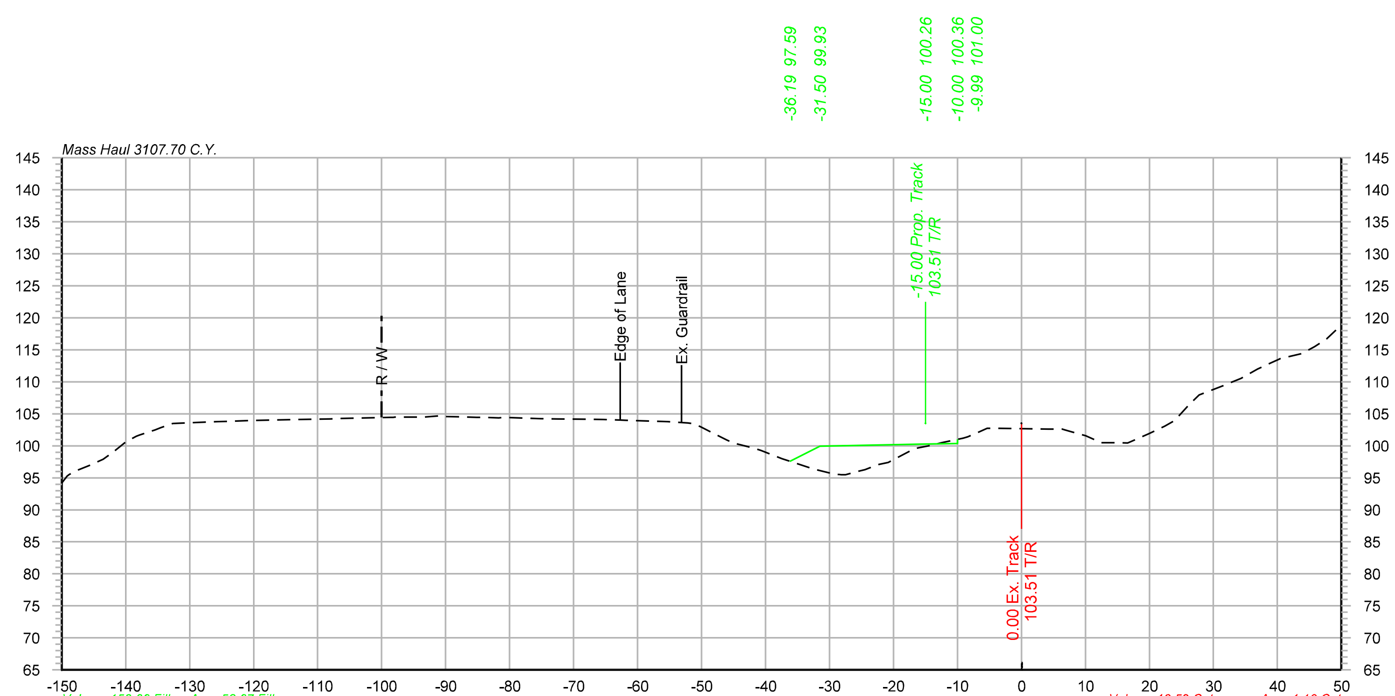

1525+00

Offset	Elevation
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-125.68	103.76
-120.73	103.93
-117.09	104.03
-113.09	104.13
-108.23	104.20
-98.60	104.45
-94.22	104.50
-90.81	104.70
-87.73	104.52
-83.92	104.43
-77.46	104.33
-72.55	104.21
-67.89	104.15
-62.74	104.03
-55.31	103.76
-52.15	103.56
-48.37	102.08
-45.28	100.55
-41.76	99.60
-37.40	98.00
-32.82	96.49
-29.03	95.51
-25.51	96.01
-22.42	97.05
-18.37	98.70
-13.94	100.10
-9.12	101.18
-5.37	102.72
-0.78	102.67
4.21	102.61
7.82	102.20
12.00	100.71
15.12	100.49
19.94	101.92
23.95	103.94
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31.56	109.40
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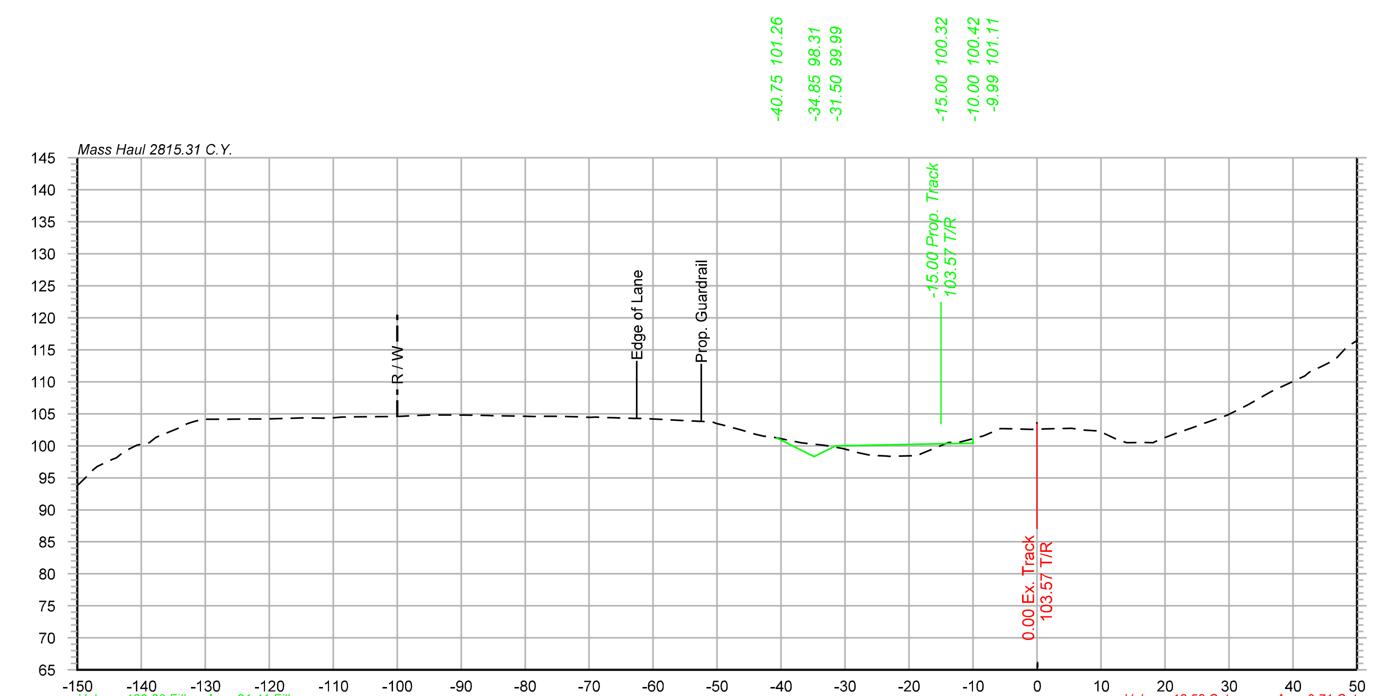
40.26	113.52
43.82	114.39
47.70	116.71



1527+00

Offset	Elevation
-150.00	93.79
-146.88	96.77
-142.67	99.10
-138.74	100.49
-133.71	102.93
-130.37	104.15
-126.63	104.16
-123.18	104.17
-115.98	104.33
-111.48	104.31
-107.21	104.51
-101.36	104.57
-96.98	104.73
-93.53	104.83
-87.55	104.79
-81.34	104.64
-78.24	104.59
-74.65	104.60
-71.54	104.54
-67.43	104.40
-62.80	104.29
-55.18	103.96
-50.77	103.72
-46.27	102.49
-42.63	101.50
-37.11	100.52
-33.12	100.08
-27.84	98.91
-24.31	98.44
-19.71	98.46
-14.22	100.36
-11.14	100.80
-5.71	102.68
-0.93	102.58
5.40	102.75
9.65	102.33
13.99	100.48
18.12	100.47
22.27	102.14
26.02	103.45
29.72	104.79
32.97	106.42
36.54	108.43
41.85	110.92
46.56	113.43
49.96	116.40

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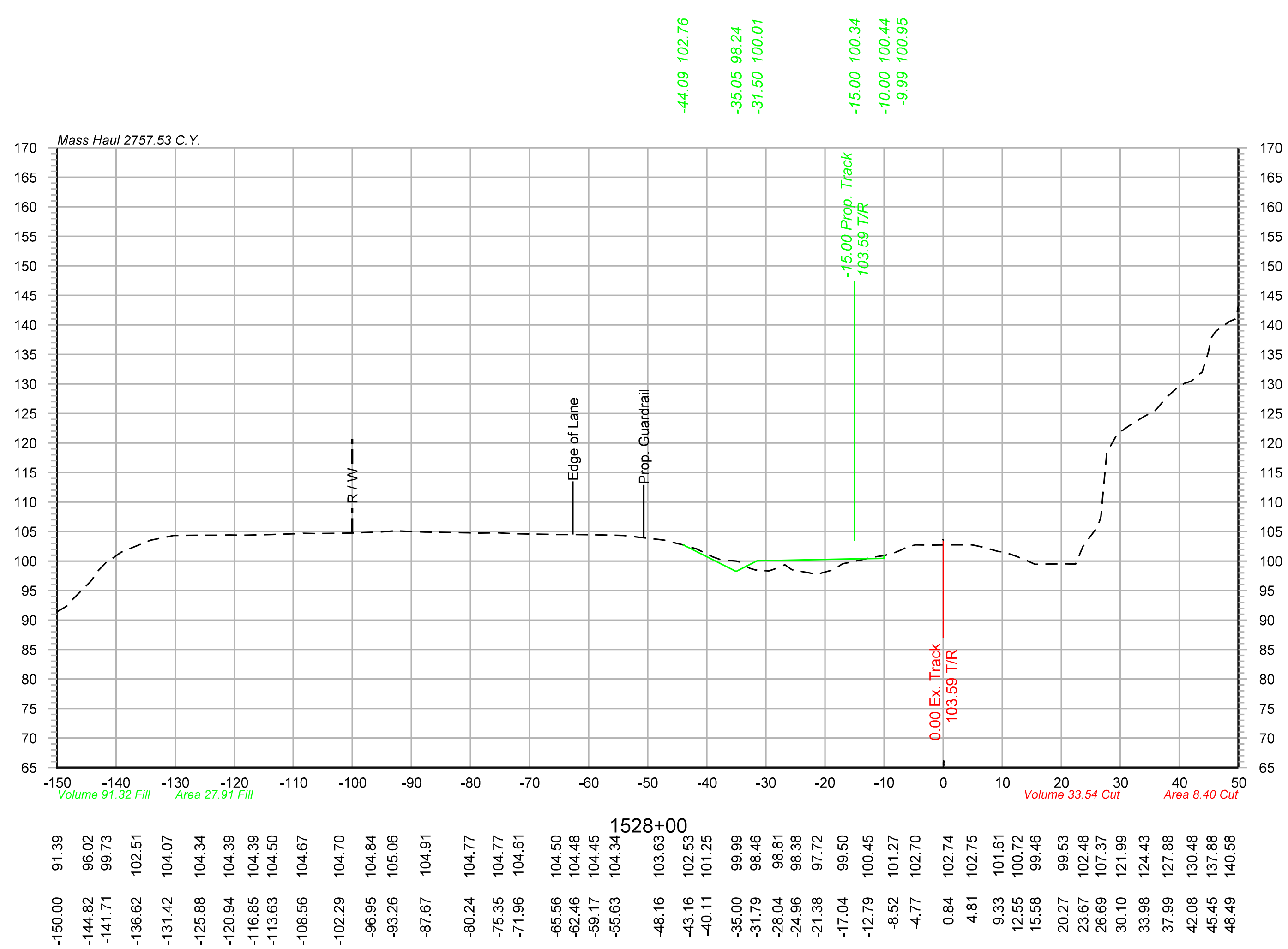
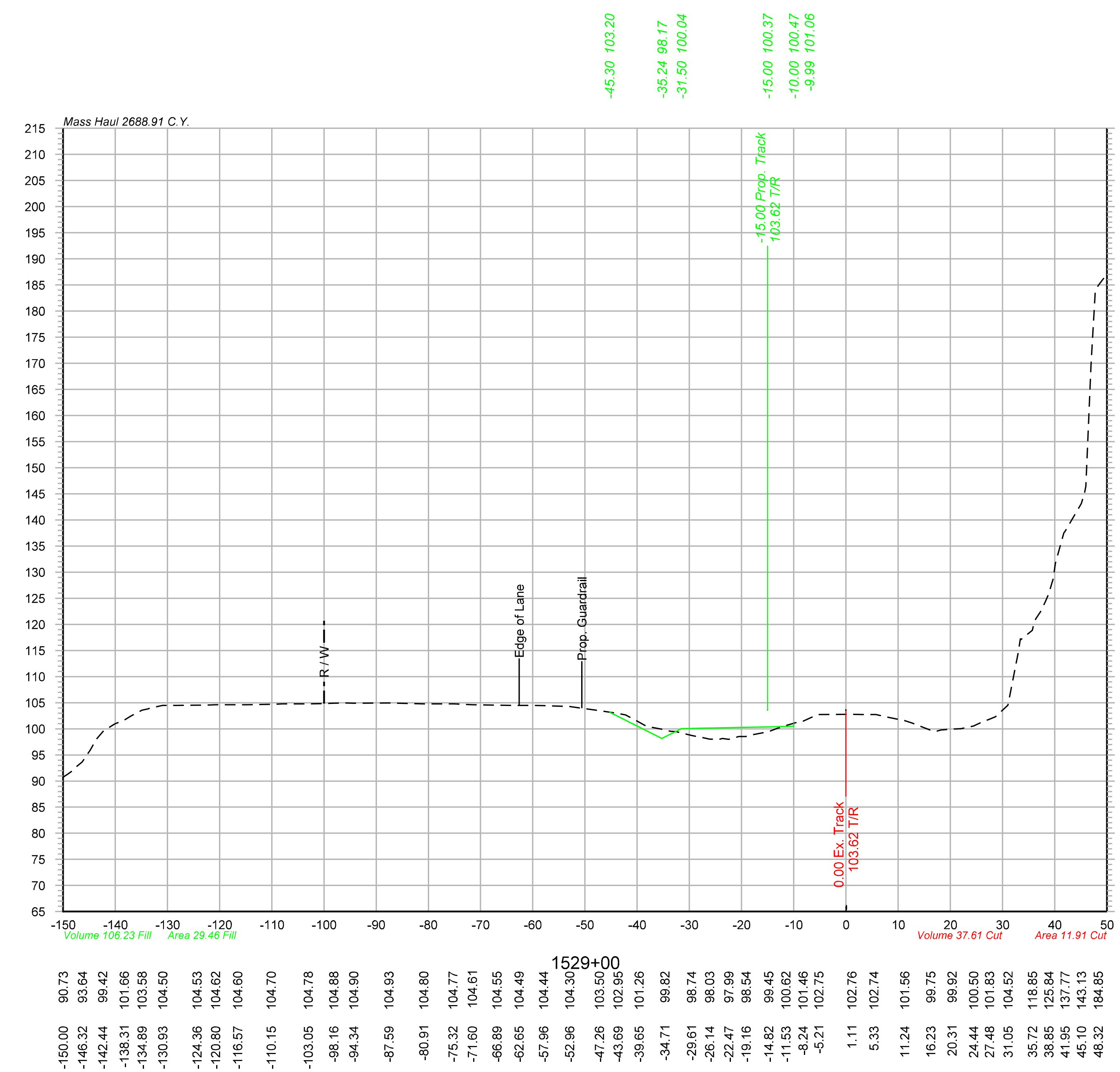
SHEET NUMBER X 027 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-407
CROSS SECTIONS STA.1525+00 TO STA.1527+00





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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 028 of 139	SHEET TITLE: PC 1 2-408 CROSS SECTIONS STA.1528+00 TO STA.1529+00

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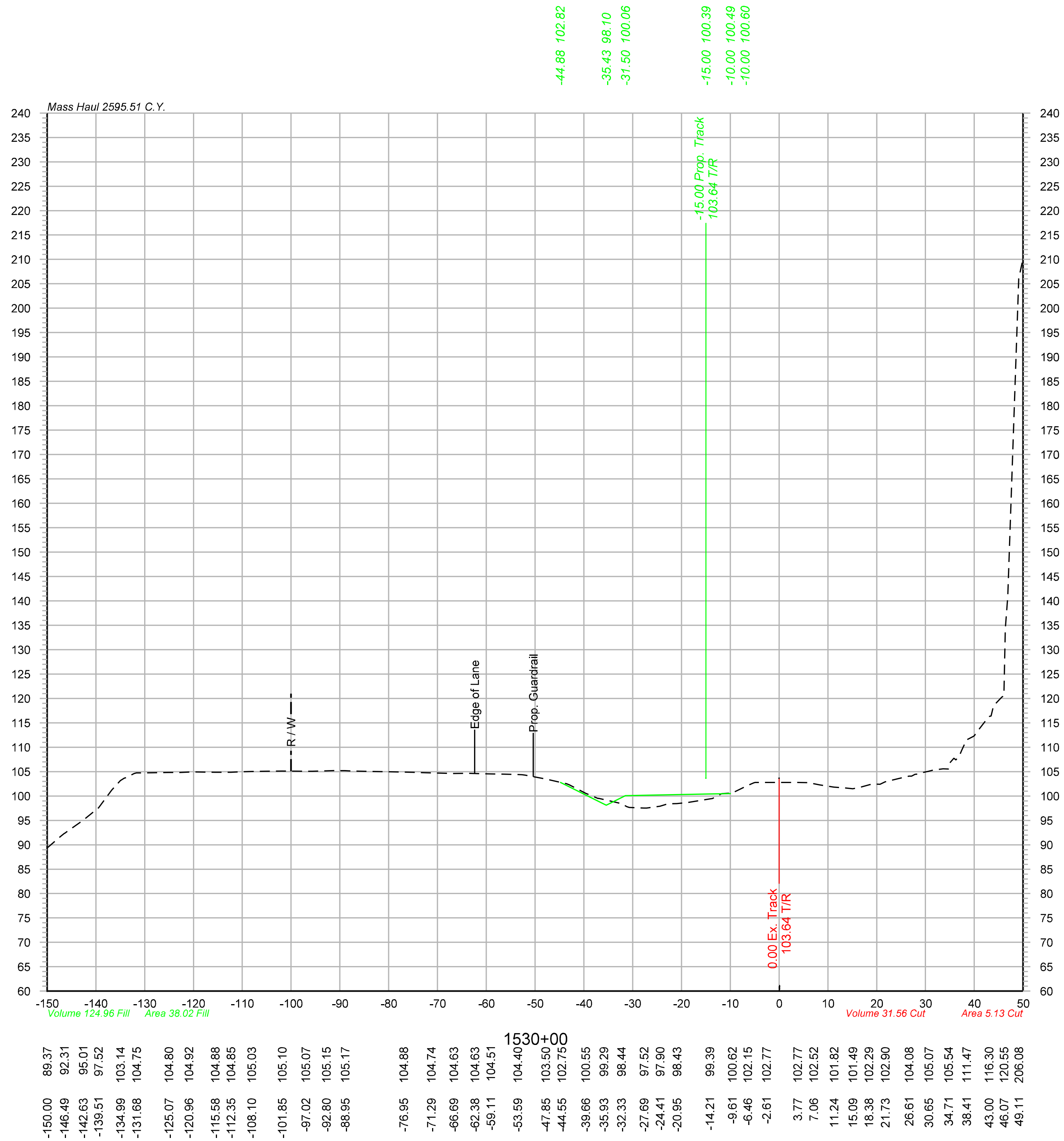
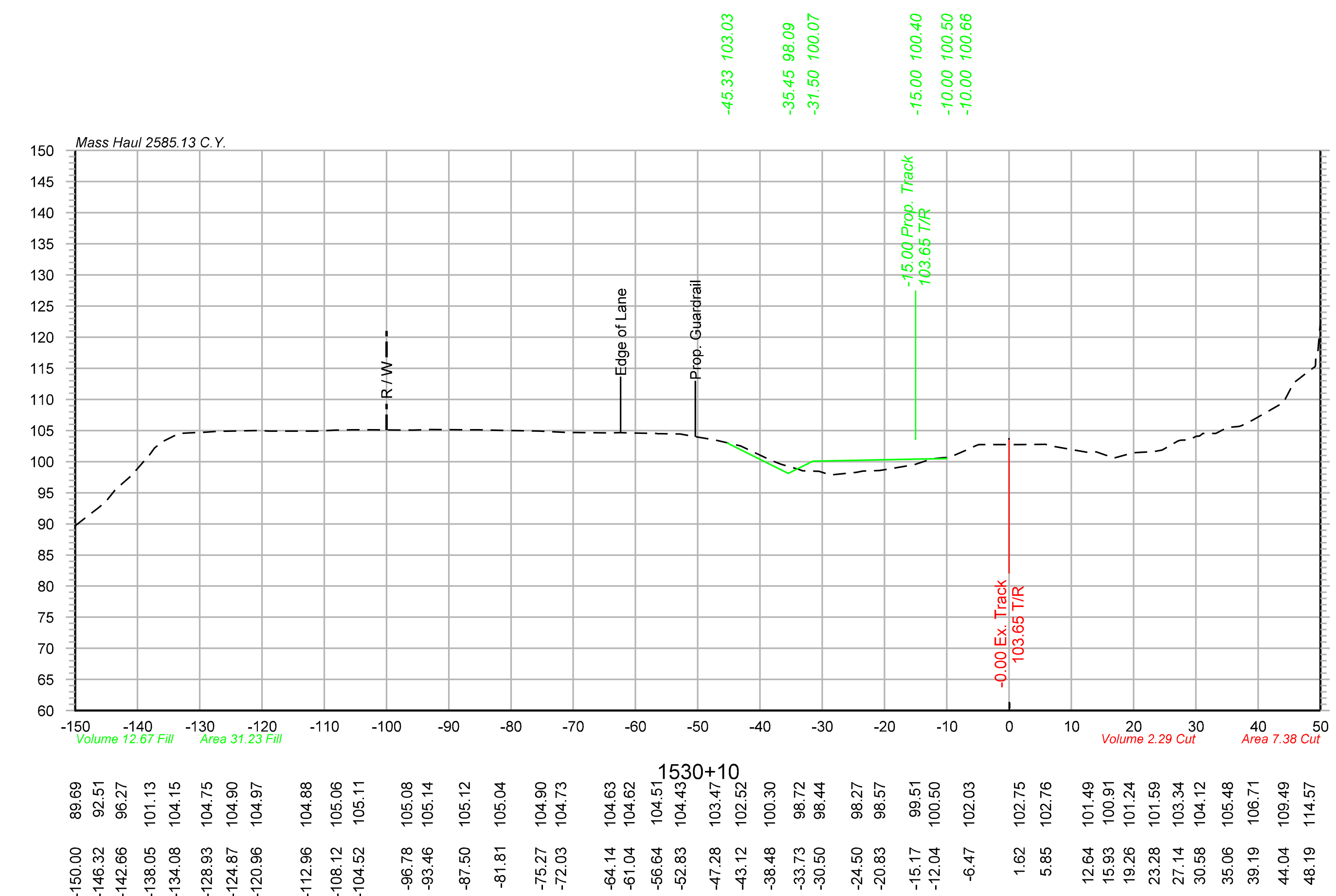
10/20/2014





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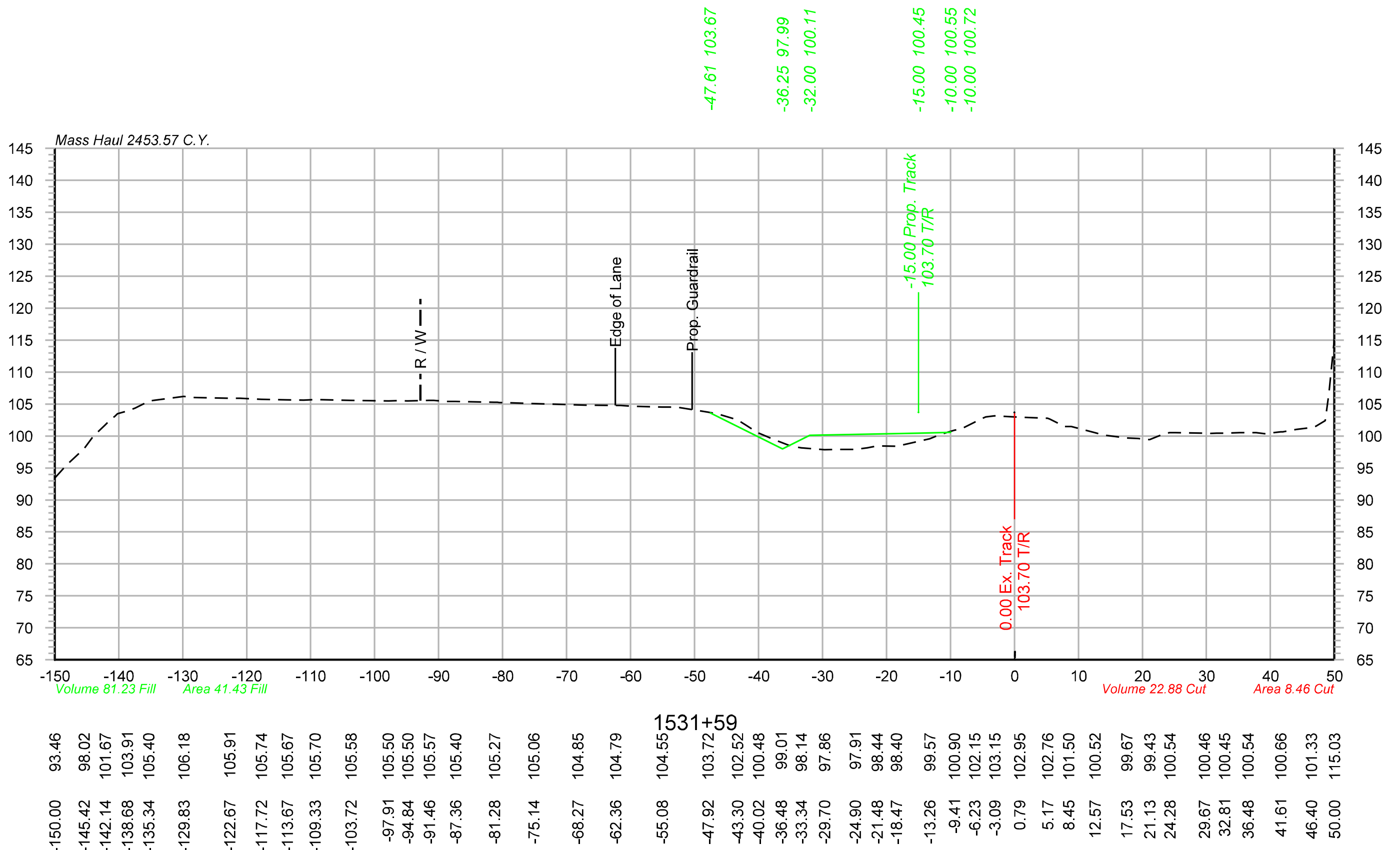
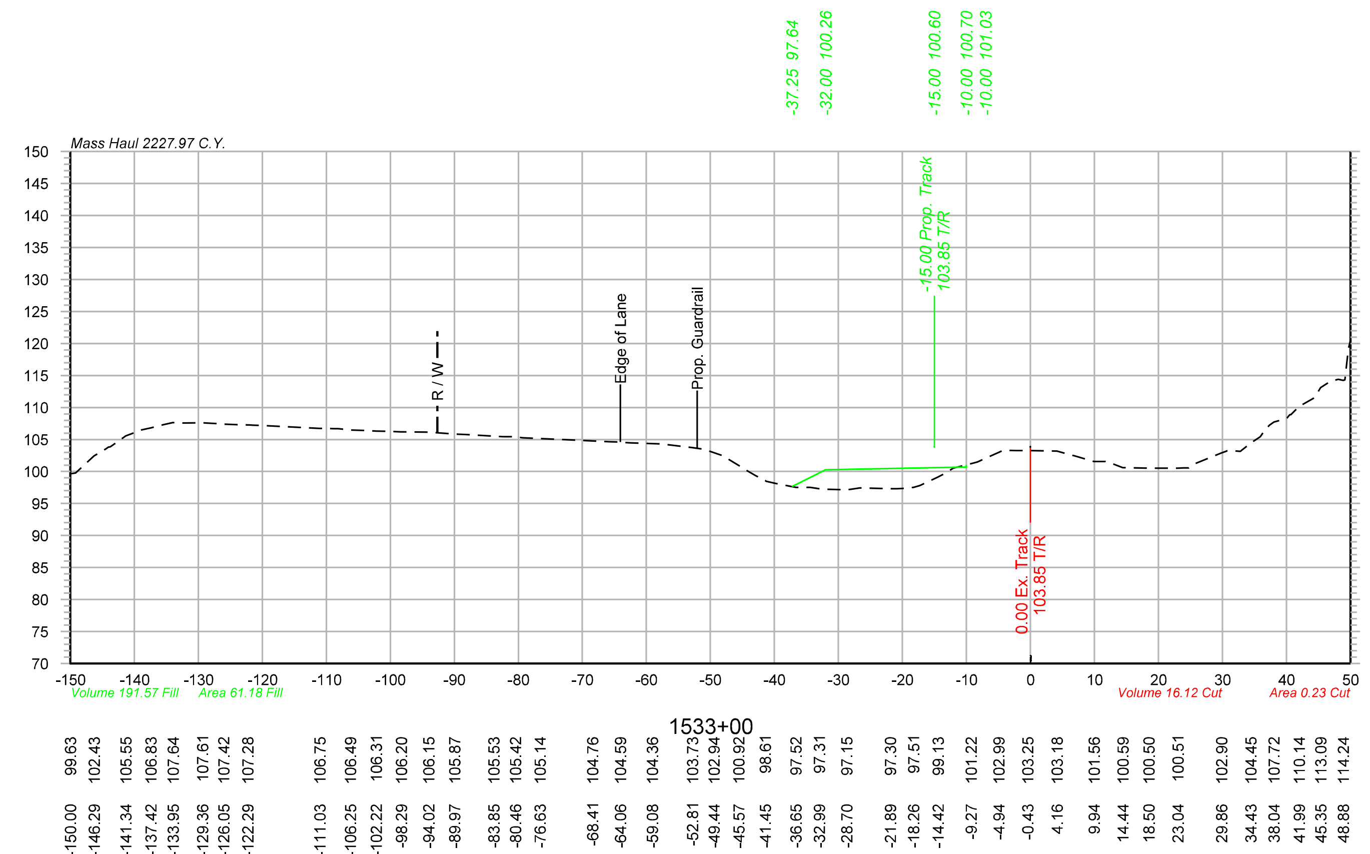
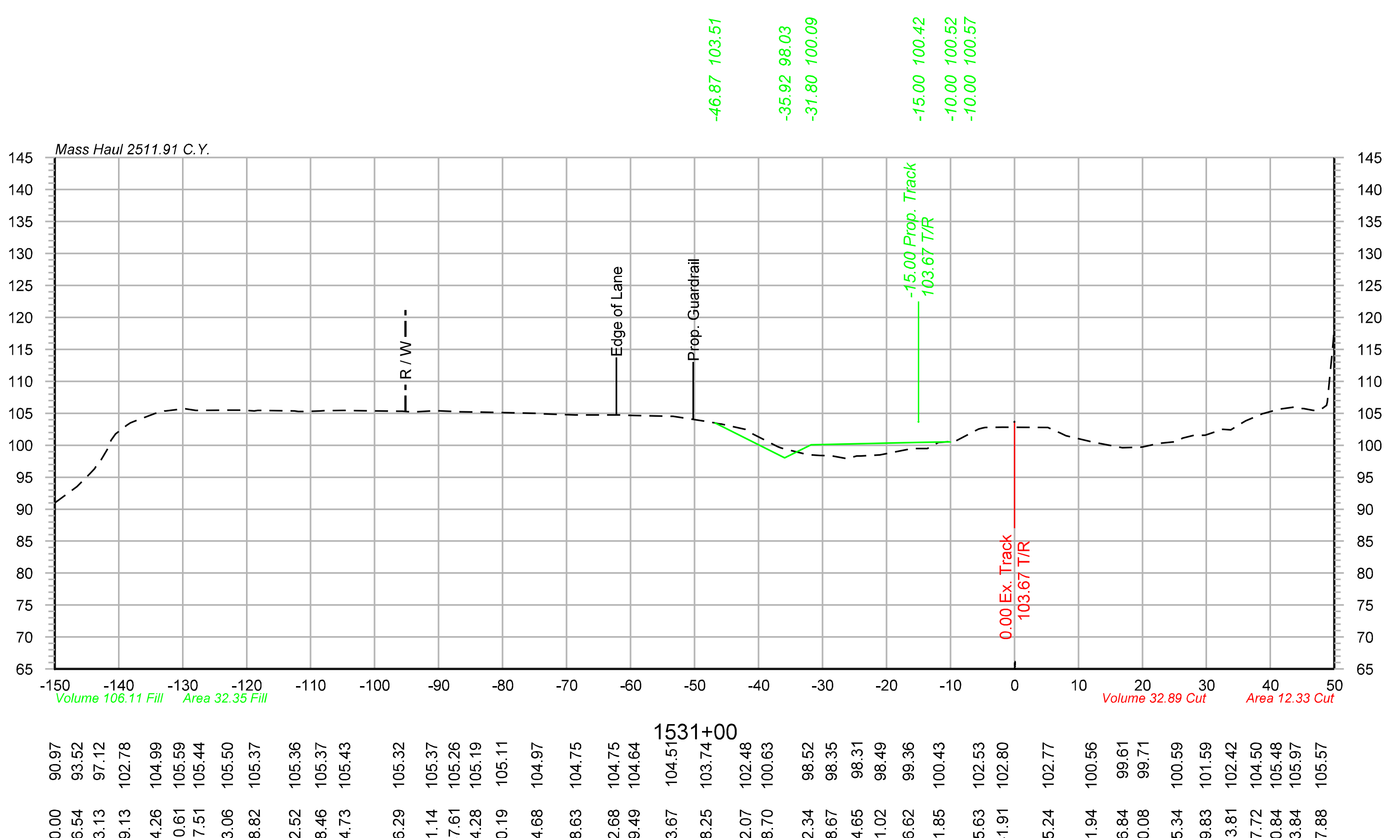
UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

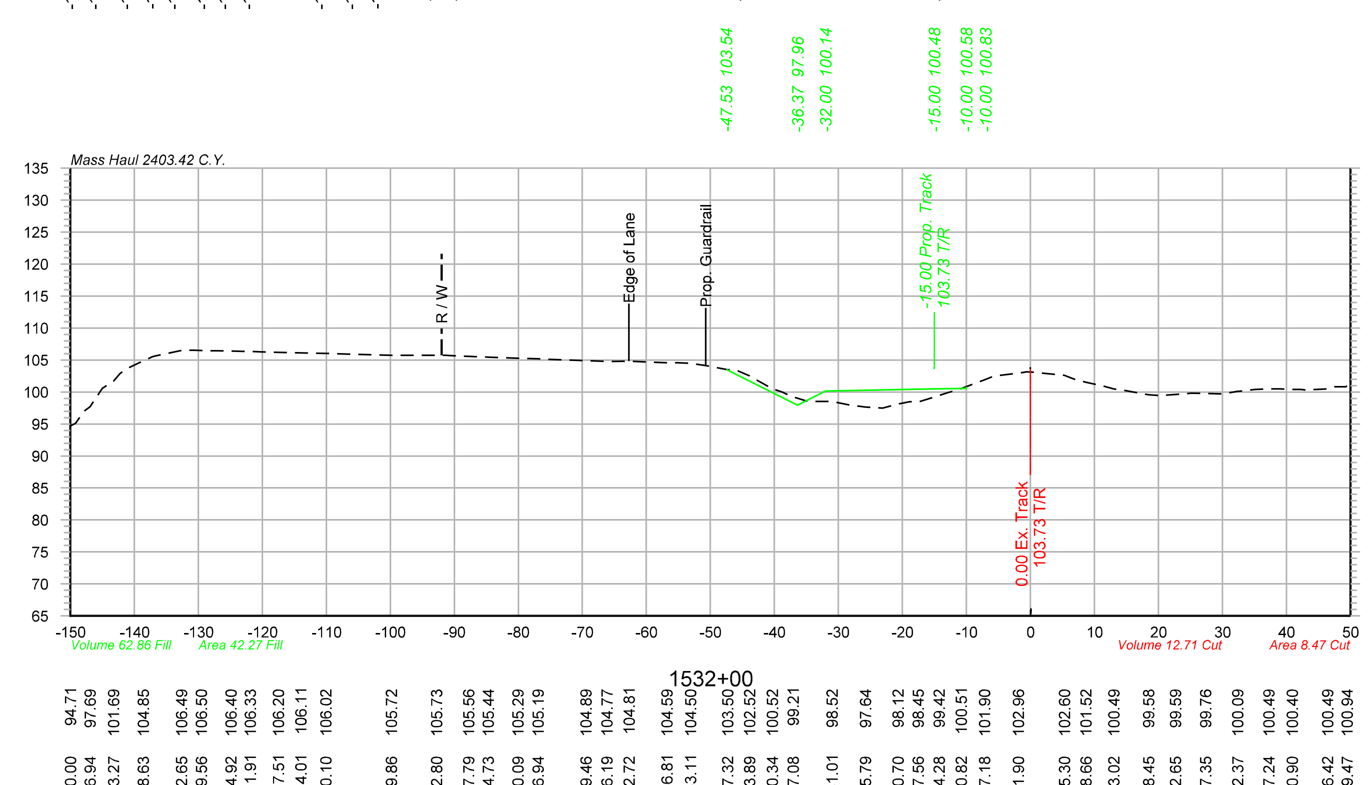
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-409
CROSS SECTIONS STA.1530+00 TO STA.1530+10









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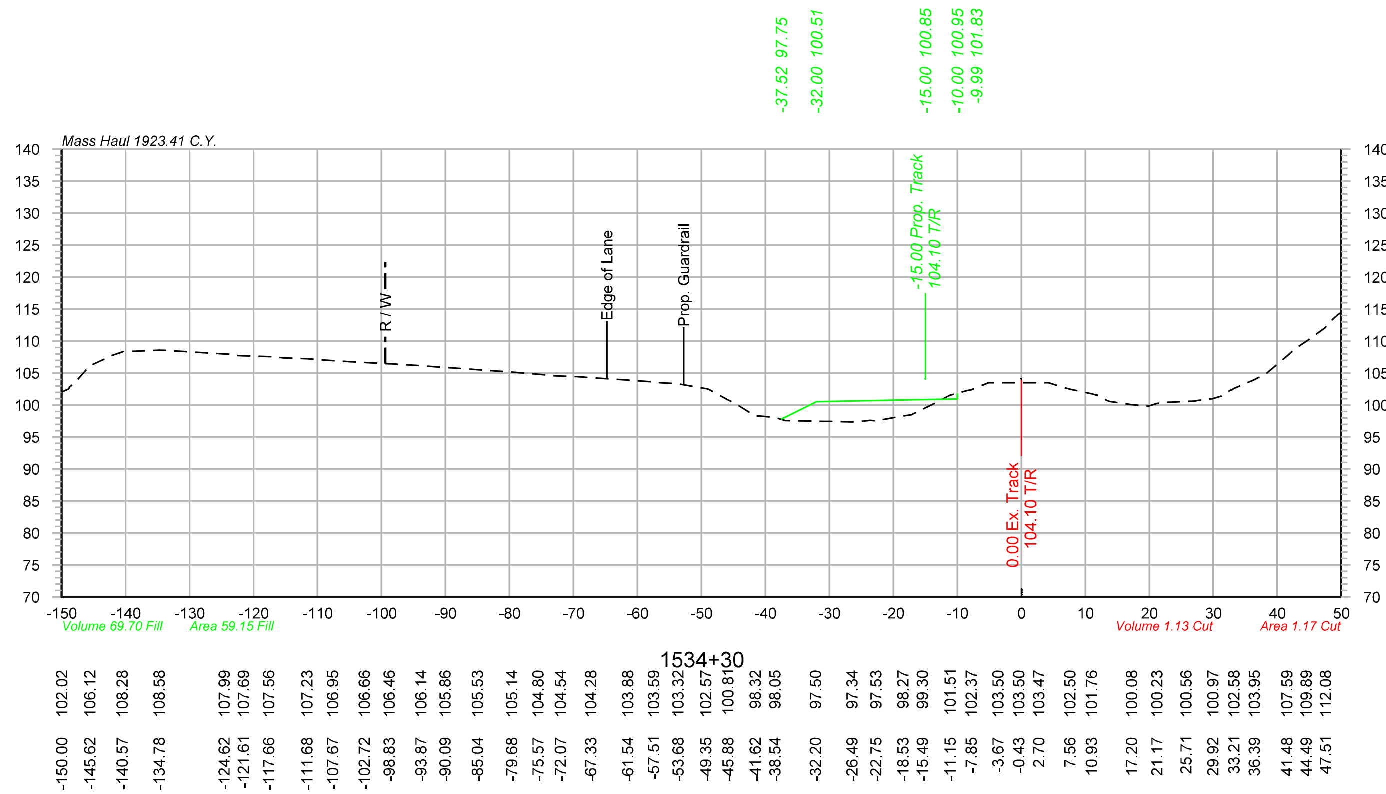
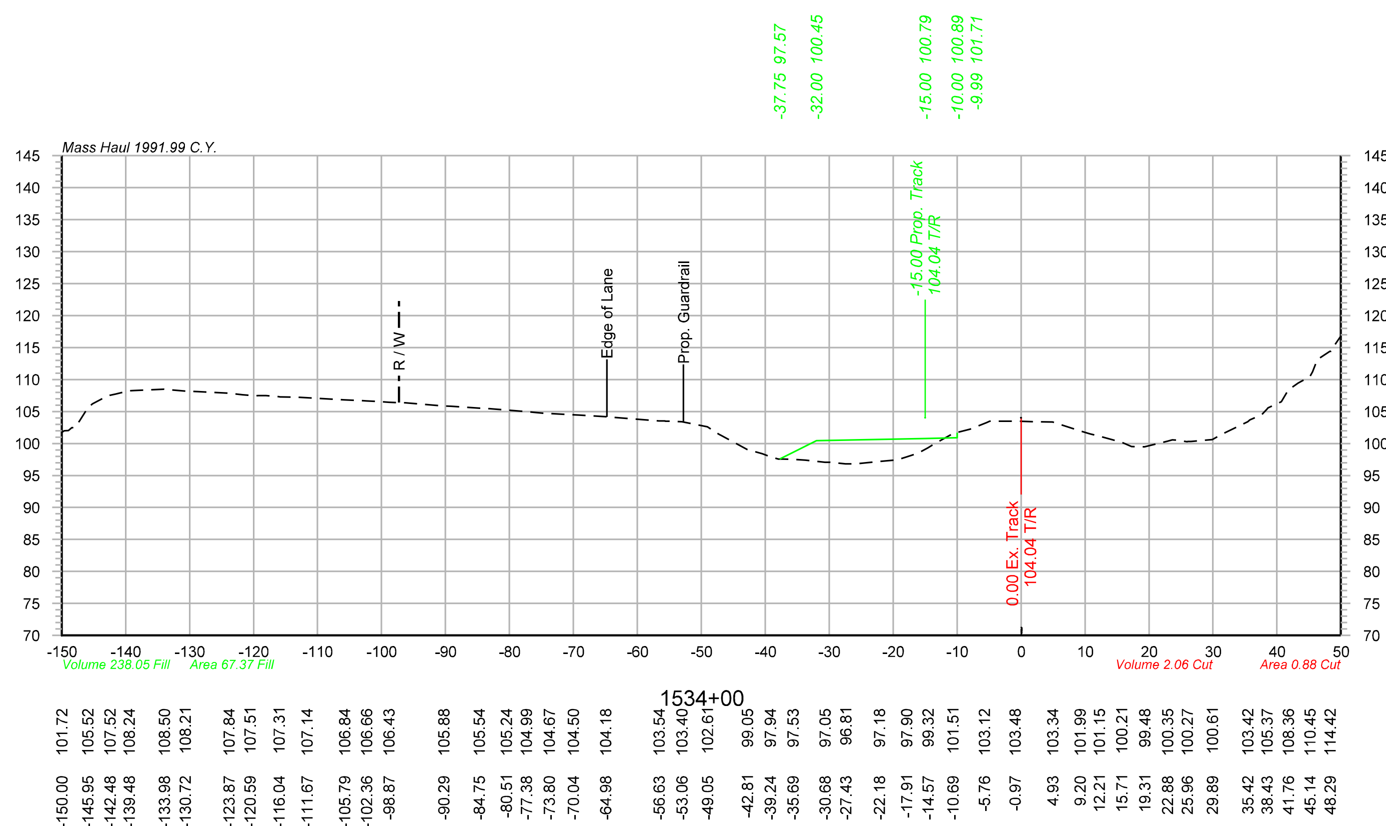
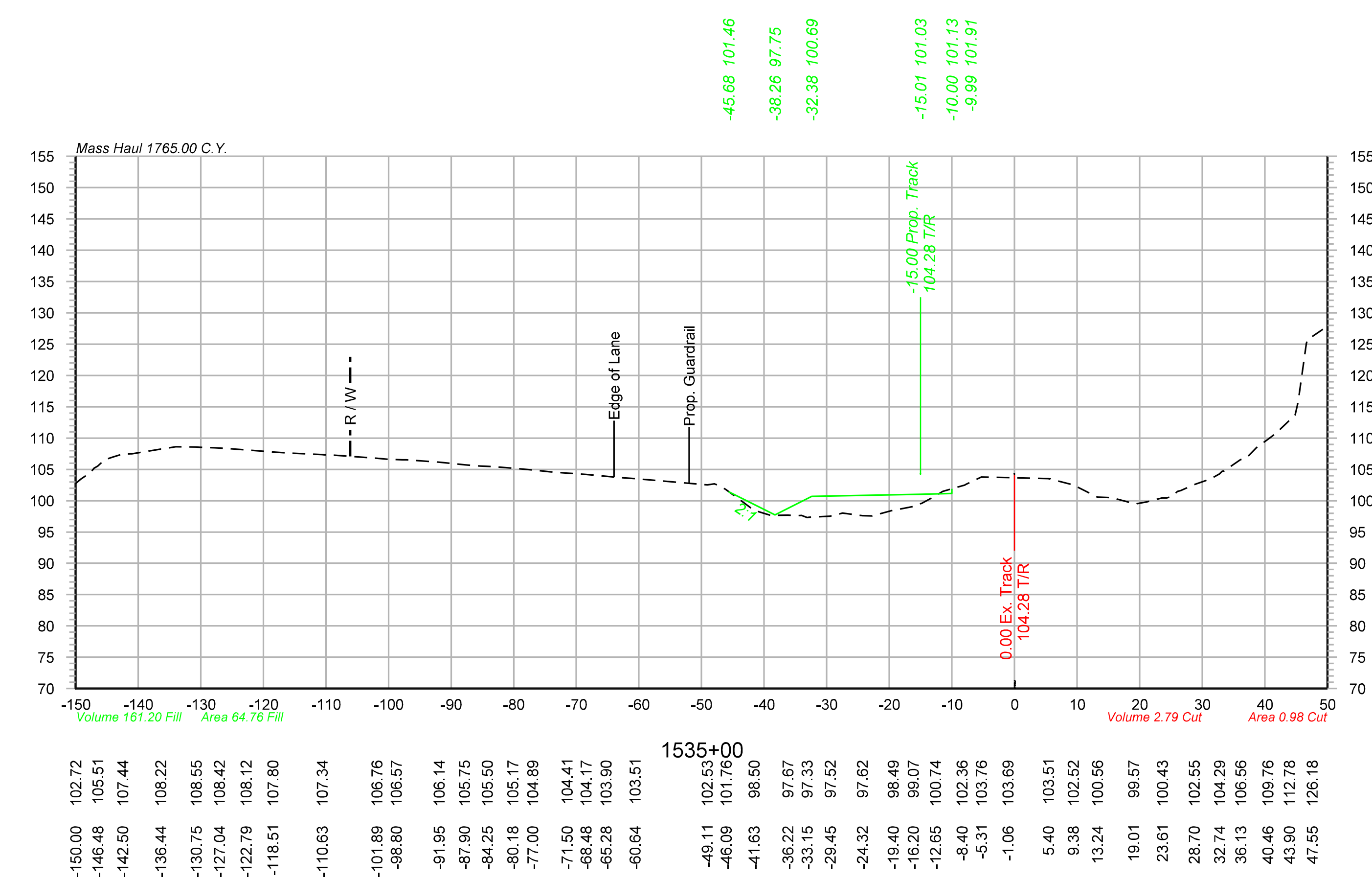
Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-410
CROSS SECTIONS STA.1531+00 TO STA.1533+00







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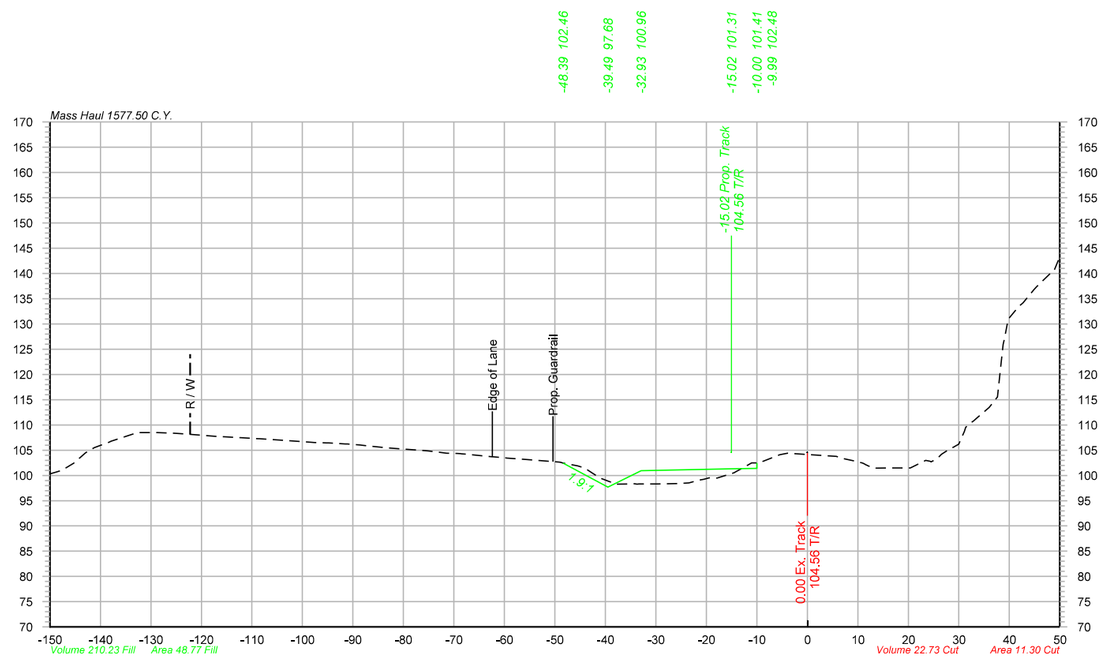
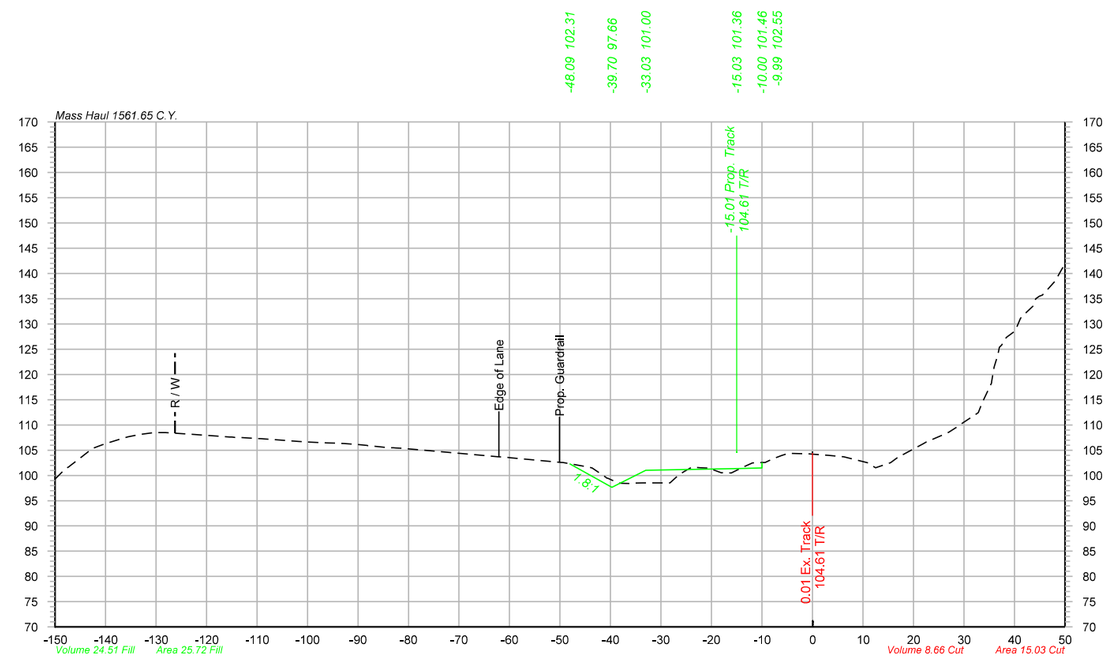
DATE: 10/20/2014	
SHEET NUMBER X 031 of 139	SHEET TITLE: **PC 1 2-411** CROSS SECTIONS STA.1534+00 TO STA.1535+00



1536+00

-150.00	100.31
-145.40	102.35
-141.32	105.43
-137.91	106.77
-133.58	108.21
-128.68	108.50
-125.44	108.36
-121.33	108.07
-116.57	107.70
-112.50	107.50
-108.82	107.27
-103.54	106.95
-98.23	106.57
-94.76	106.45
-91.53	106.25
-88.49	106.02
-83.37	105.49
-76.62	104.99
-73.43	104.64
-69.37	104.35
-64.10	103.87
-59.80	103.50
-55.54	103.17
-49.22	102.65
-45.51	101.90
-41.04	99.50
-37.90	98.28
-34.23	98.35
-30.14	98.31
-25.49	98.39
-21.47	99.04
-17.88	99.50
-14.54	100.51
-11.04	102.48
-5.46	104.10
5.76	103.78
9.72	102.78
13.08	101.44
16.10	101.49
19.13	101.49
23.45	103.00
26.56	104.18
29.96	106.18
33.67	111.42
37.55	115.46
41.85	133.45
44.90	136.81
48.12	139.98



1536+18

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-145.31	103.25
-142.19	105.48
-139.11	106.58
-135.83	107.57
-130.42	108.50
-122.32	108.11
-117.68	107.78
-114.37	107.53
-110.77	107.36
-106.79	107.11
-103.43	106.86
-99.71	106.63
-96.20	106.45
-92.72	106.32
-88.18	105.92
-83.90	105.50
-76.73	105.00
-72.54	104.62
-62.17	103.71
-49.69	102.57
-44.31	101.64
-40.92	99.63
-37.66	98.43
-33.62	98.50
-30.08	98.54
-26.30	100.27
-22.21	101.51
-18.06	100.53
-13.90	101.55
-9.68	102.57
-6.13	103.93
-0.73	104.27
3.13	103.97
6.23	103.68
10.86	102.52
15.48	102.51
18.67	104.52
22.09	106.34
26.60	108.35
32.29	112.09
35.46	118.34
40.16	128.63
43.66	133.53
48.11	138.52

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1536+00 TO STA.1536+18

PC 1 2-412

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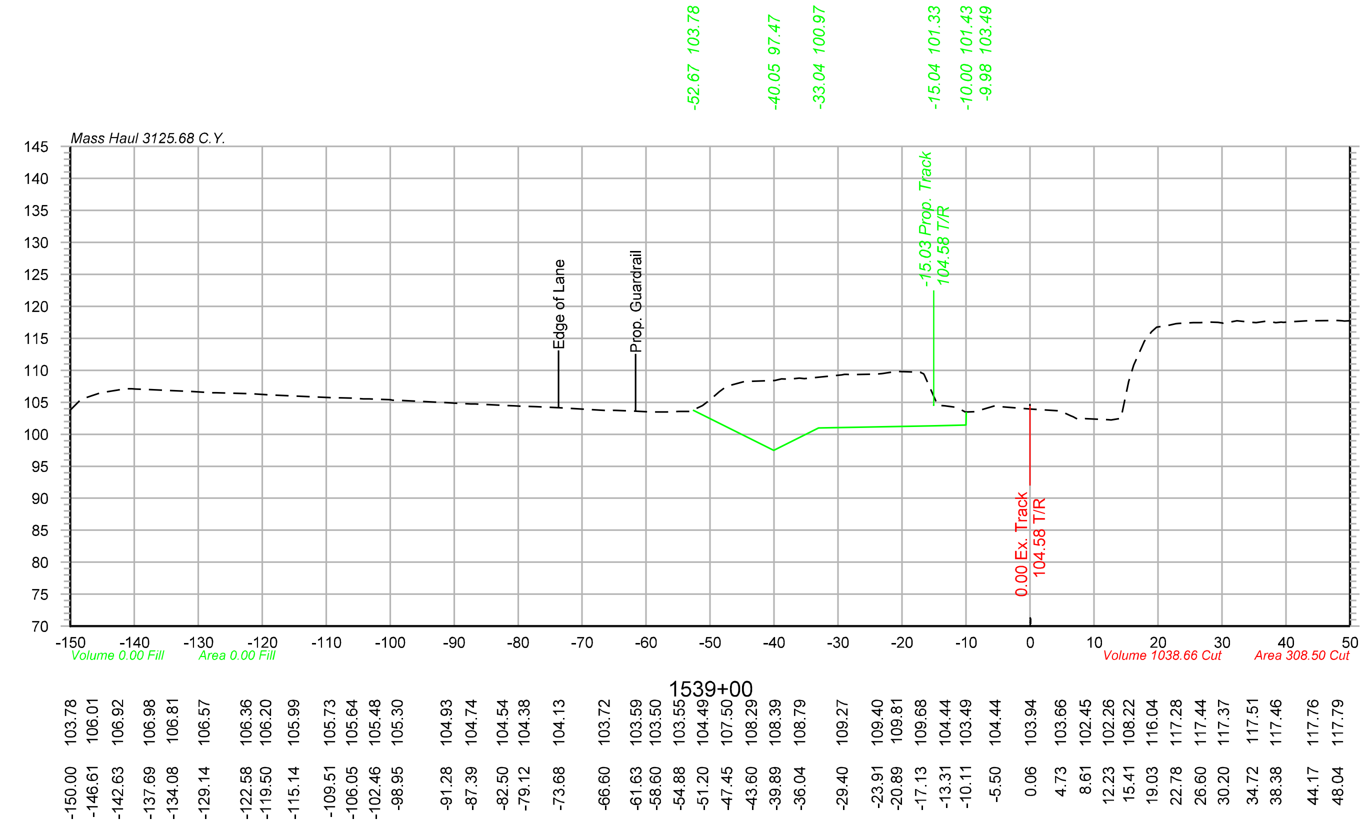
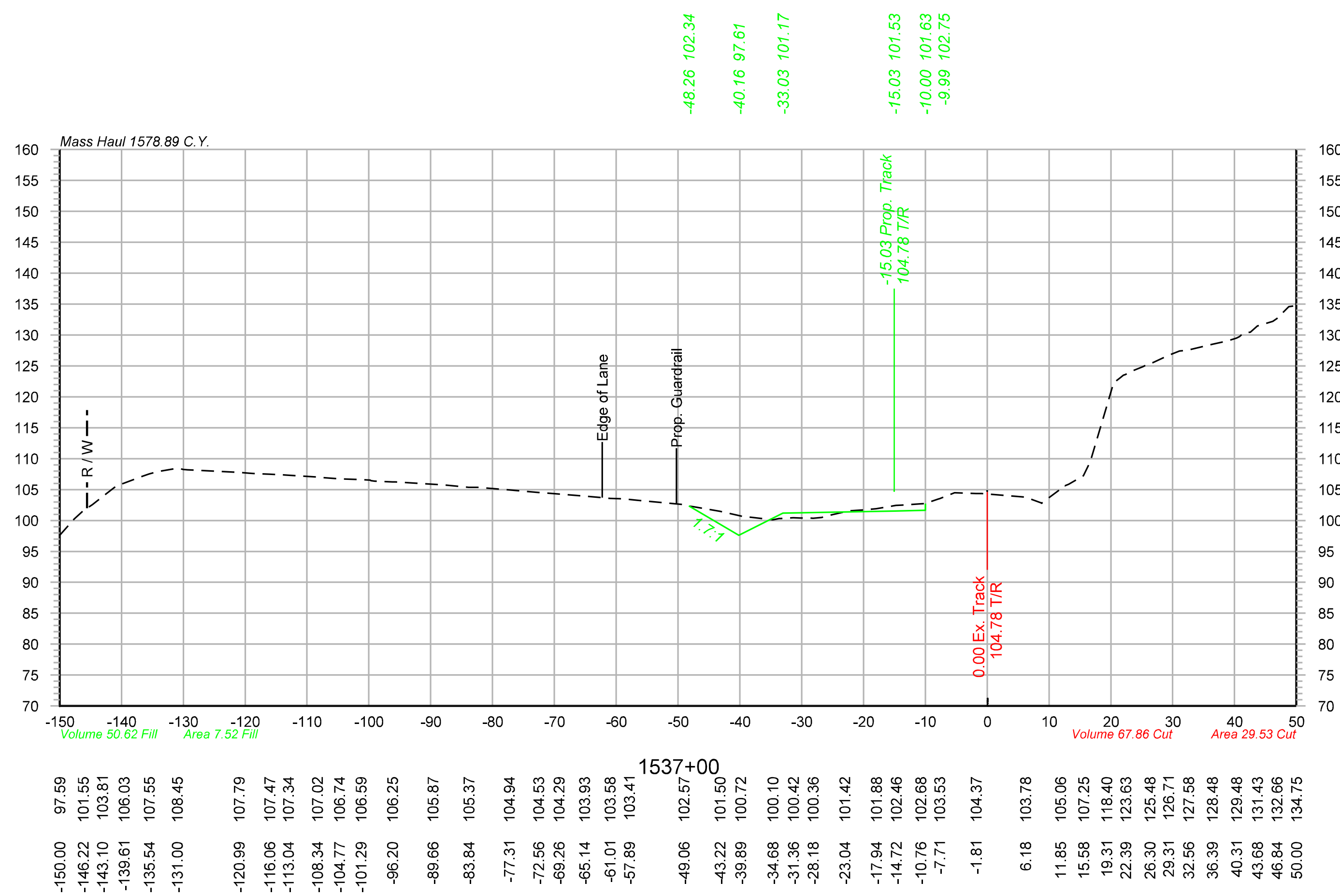
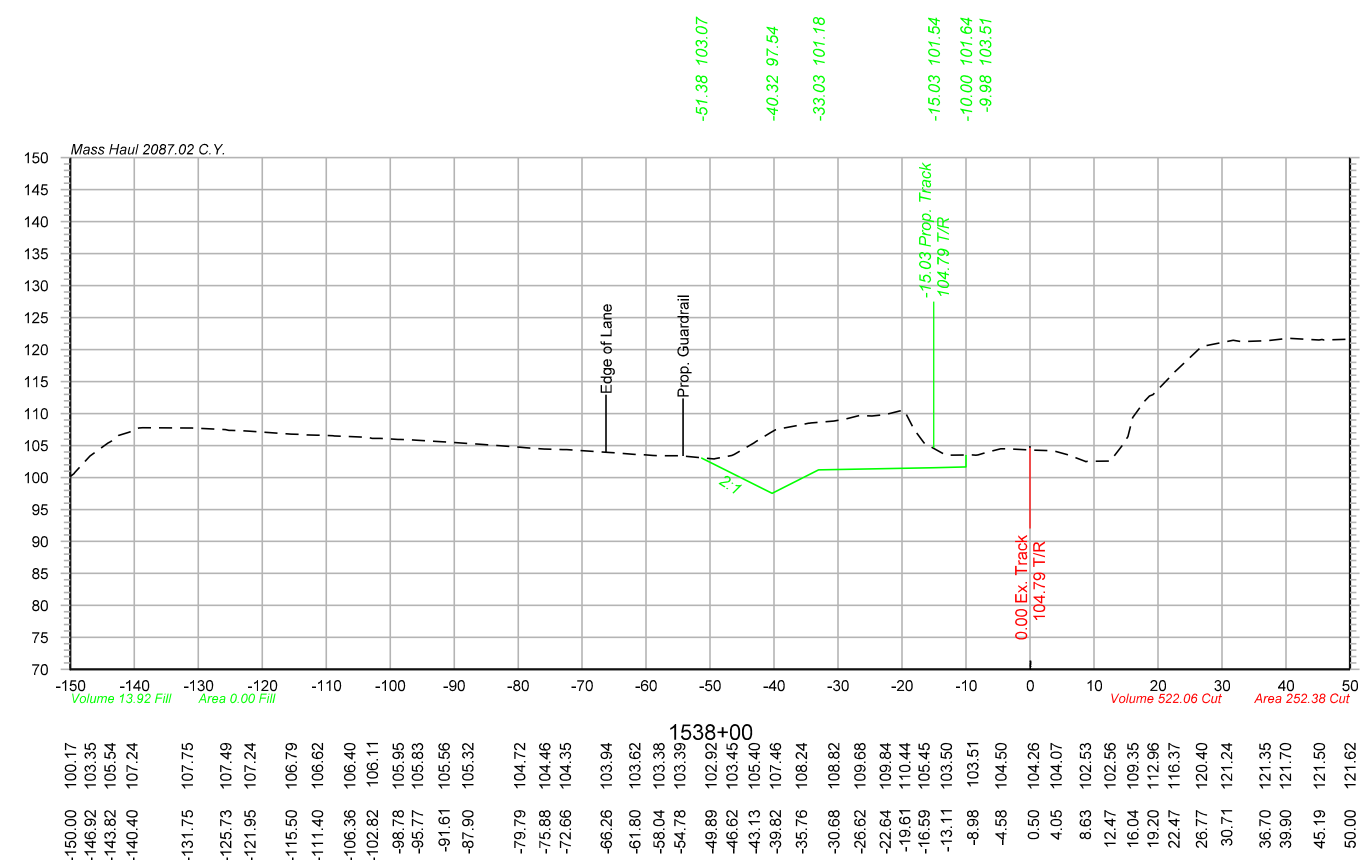
10/20/2014







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UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-413
CROSS SECTIONS STA.1537+00 TO STA.1539+00

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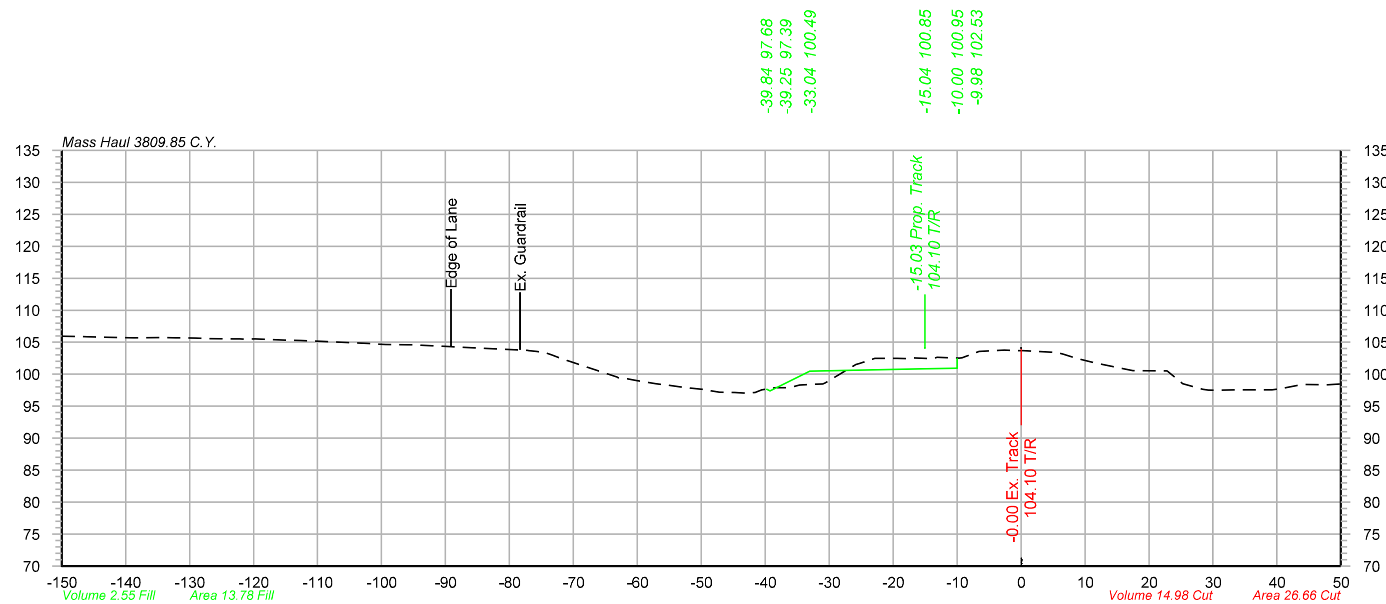

1540+10

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-146.99	105.89
-142.88	105.77
-138.69	105.70
-134.72	105.75
-131.28	105.67
-127.02	105.58
-123.20	105.51
-119.78	105.51
-114.73	105.31
-109.47	105.14
-102.16	104.81
-95.98	104.60
-89.13	104.31
-81.66	103.95
-77.19	103.74
-73.37	103.00
-67.33	100.92
-63.17	99.55
-57.11	98.51
-52.70	97.94
-48.92	97.50
-44.75	97.12
-41.60	97.12
-38.40	97.90
-34.61	98.29
-30.98	98.49
-25.85	101.51
-19.35	102.49
-14.06	102.42
-10.00	102.53
-6.59	103.57
-2.60	103.75
4.11	103.49
8.68	102.49
11.87	101.68
16.46	100.77
22.78	100.53
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31.52	97.50
35.55	97.57
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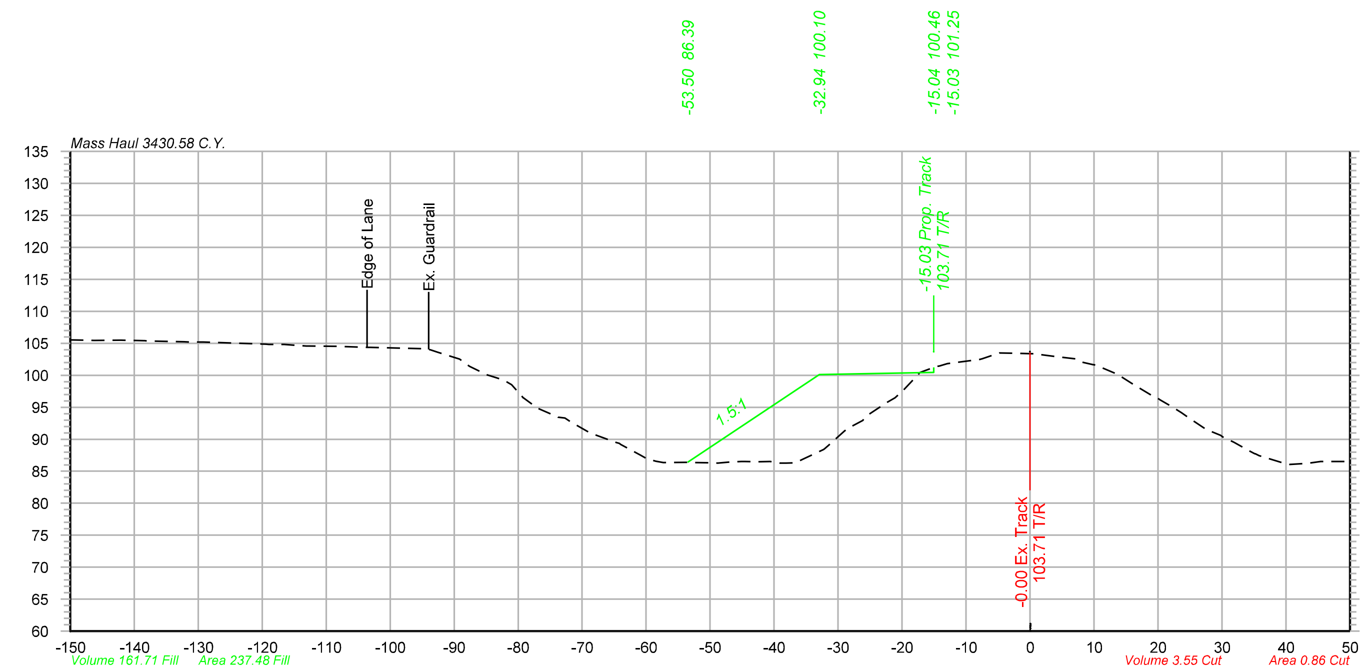
43.93	98.39
47.95	98.36



1540+80

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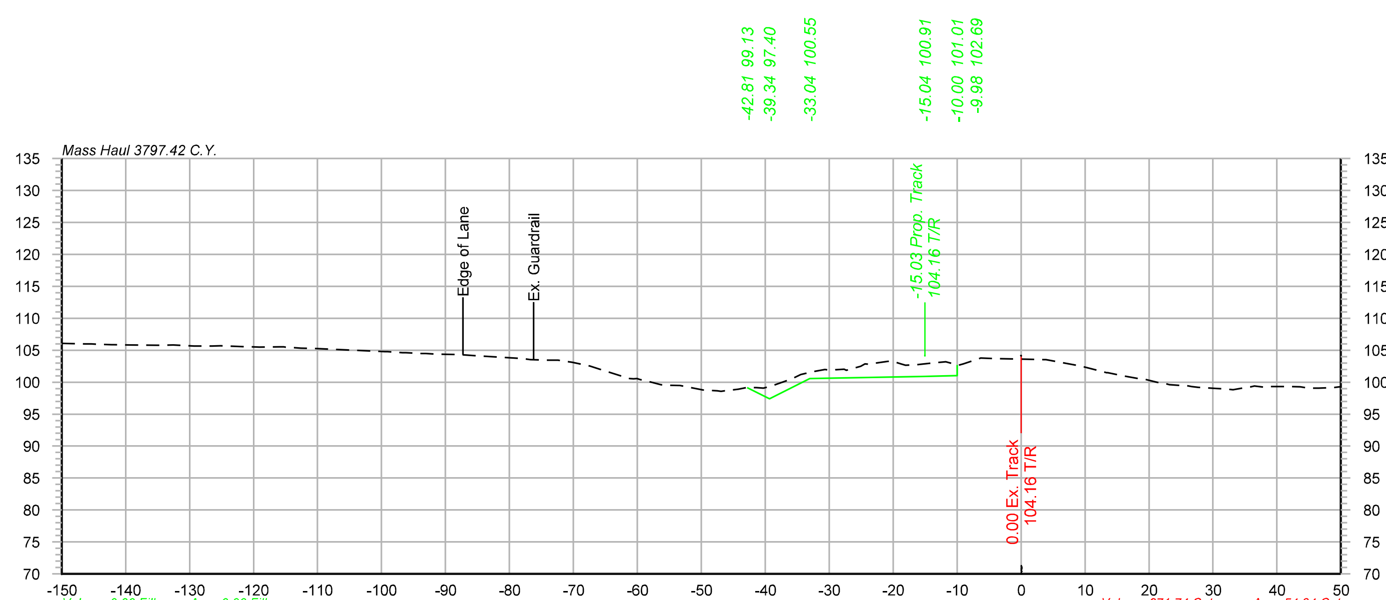
-146.28	105.44
-142.08	105.47
-138.42	105.39
-132.20	105.24
-119.41	104.84
-114.93	104.69
-108.42	104.51
-104.86	104.42
-94.96	104.15
-89.14	102.51
-85.83	100.52
-82.63	99.35
-79.33	96.59
-73.81	93.49
-68.88	91.07
-64.63	89.49
-60.88	87.51
-57.31	86.37
-53.01	86.39
-49.61	86.29
-46.06	86.49
-42.51	86.50
-39.10	86.26
-35.55	86.85
-32.25	88.39
-28.97	91.29
-25.67	93.55
-22.43	95.71
-17.17	100.45
-12.92	101.80
-7.81	102.47
-4.78	103.50
0.61	103.34
3.84	102.95
7.08	102.56
10.34	101.51
13.68	100.17
17.12	97.97
20.34	96.15
23.67	94.15
27.19	91.79
31.88	89.52
35.14	87.72
39.77	86.21
43.33	86.23
46.86	86.51
50.00	86.58



1540+00

-150.00	106.07
-146.45	106.00
-142.19	105.86
-135.17	105.76
-129.33	105.66
-125.15	105.69
-120.85	105.53
-115.97	105.51
-112.61	105.32
-99.48	104.79
-96.19	104.60
-93.05	104.48
-87.68	104.30
-77.92	103.71
-73.96	103.45
-70.16	103.09
-66.01	102.06
-61.91	100.79
-58.70	100.21
-53.39	99.50
-49.72	98.78
-46.33	98.64
-42.94	99.13
-39.17	99.35
-35.81	100.52
-32.48	101.63
-29.22	101.90
-25.08	102.47
-21.01	103.21
-16.26	102.71
-12.21	103.15
-9.01	102.86
-4.24	103.71
0.02	103.61
3.48	103.54
8.38	102.71
13.06	101.57
18.30	100.55
21.61	99.88
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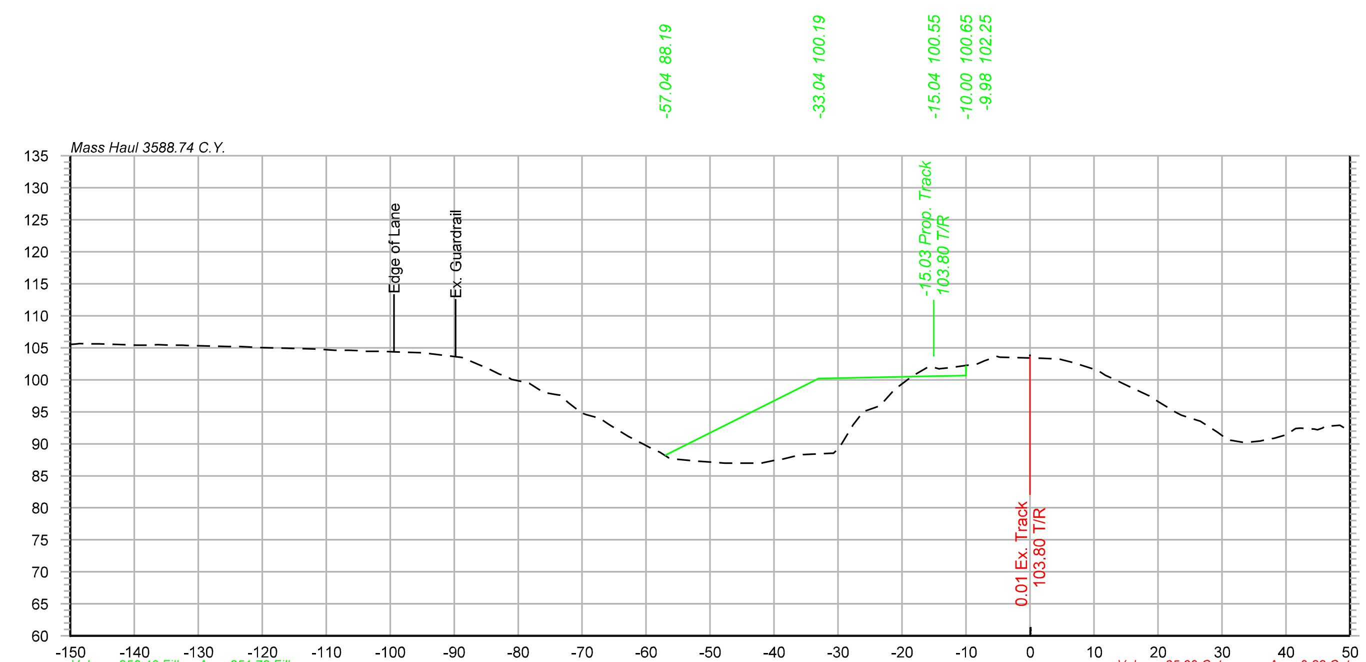

1540+62

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-146.43	105.62
-141.70	105.50
-137.93	105.40
-134.34	105.40
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-120.18	105.02
-112.03	104.81
-108.64	104.63
-104.28	104.54
-100.32	104.41
-96.77	104.29
-88.76	103.50
-84.55	101.67
-81.05	100.08
-76.01	98.02
-72.22	96.50
-67.23	93.99
-62.75	91.15
-59.56	89.49
-56.46	87.83
-51.85	87.29
-47.66	86.97
-42.02	86.96
-36.63	88.10
-31.08	88.51
-27.61	93.00
-23.67	95.85
-19.68	99.60
-15.87	102.01
-12.41	101.90
-8.22	102.50
-5.18	103.64
1.83	103.35
6.69	102.69
10.01	101.67
15.25	99.09
18.55	97.54
22.68	94.99
26.62	93.52
30.57	90.89
33.92	90.26
37.24	90.71
41.28	92.22
44.39	92.31
48.43	92.88

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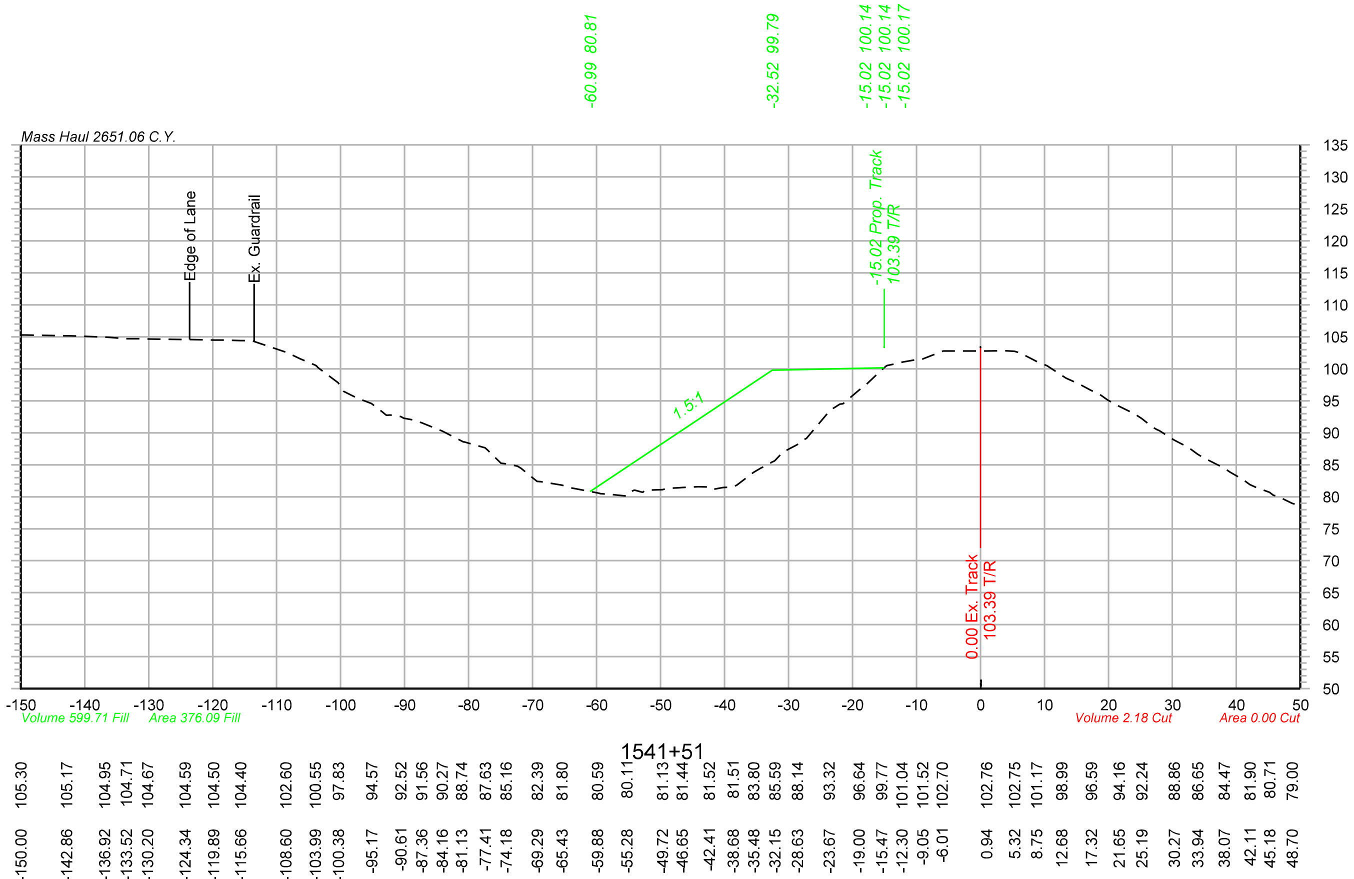
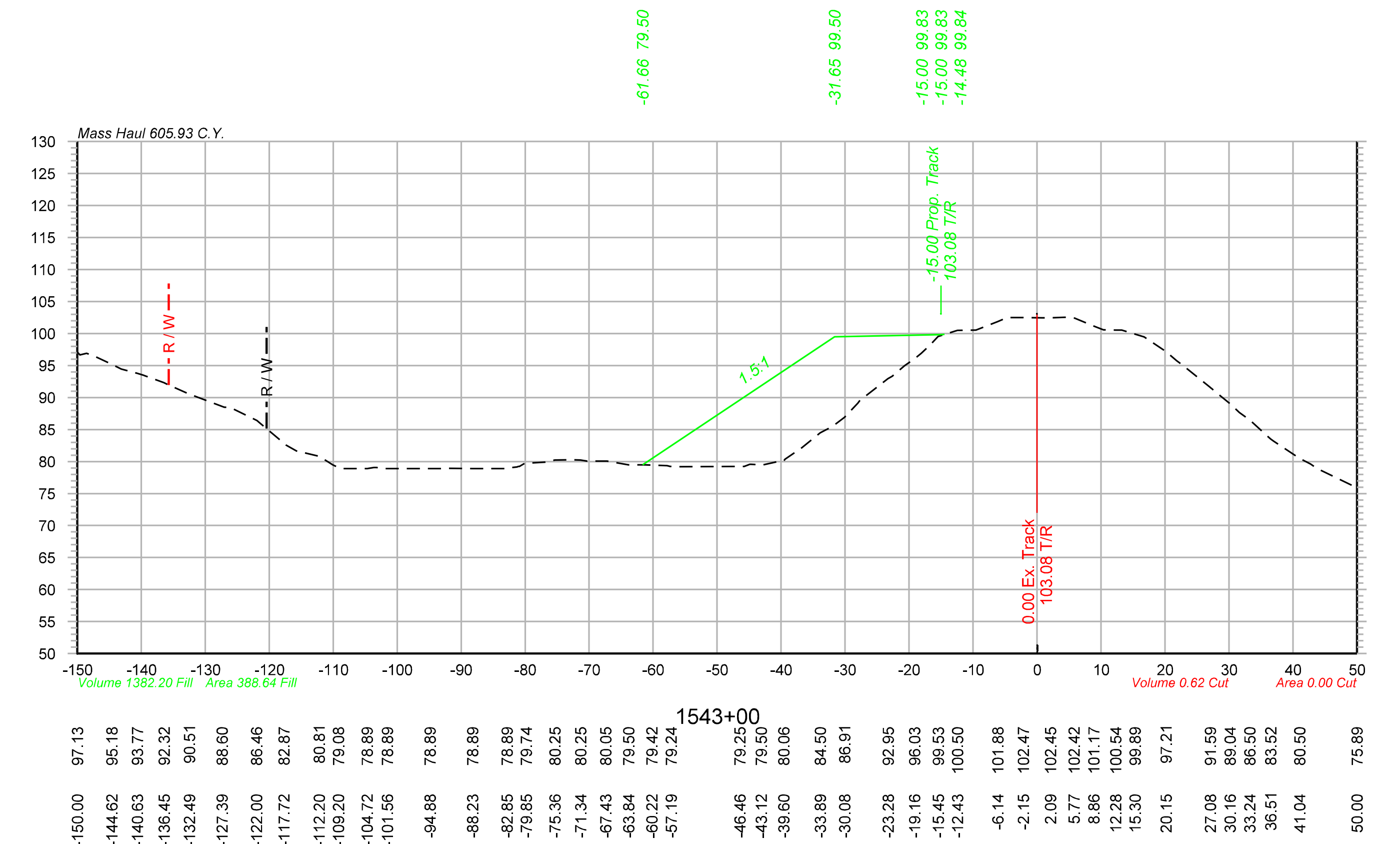
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 034 of 139

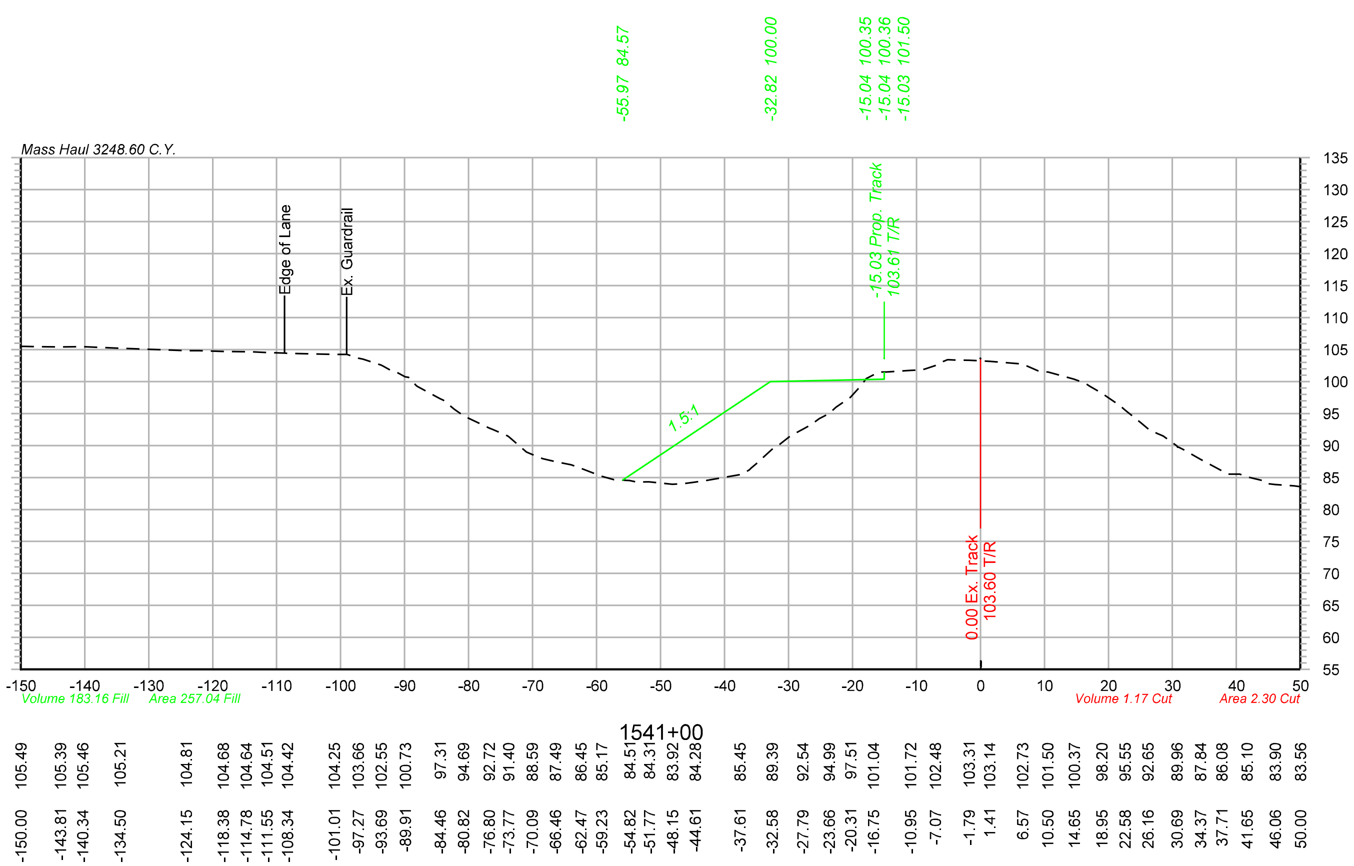
UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

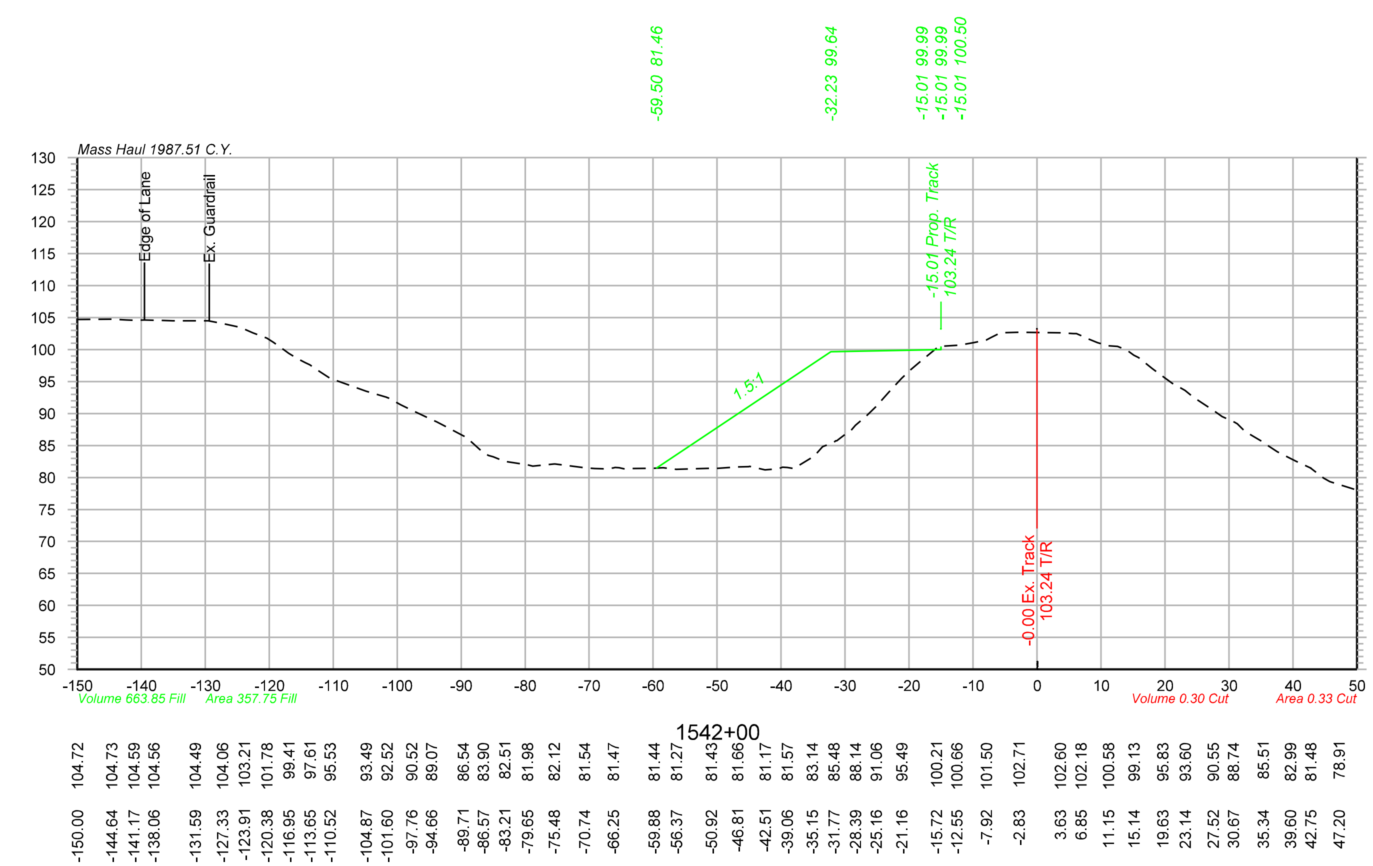
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-414
CROSS SECTIONS STA.1540+00 TO STA.1540+80









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UNION PACIFIC

DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 035 of 139	SHEET TITLE: PC 1 2-415 CROSS SECTIONS STA.1541+00 TO STA.1543+00

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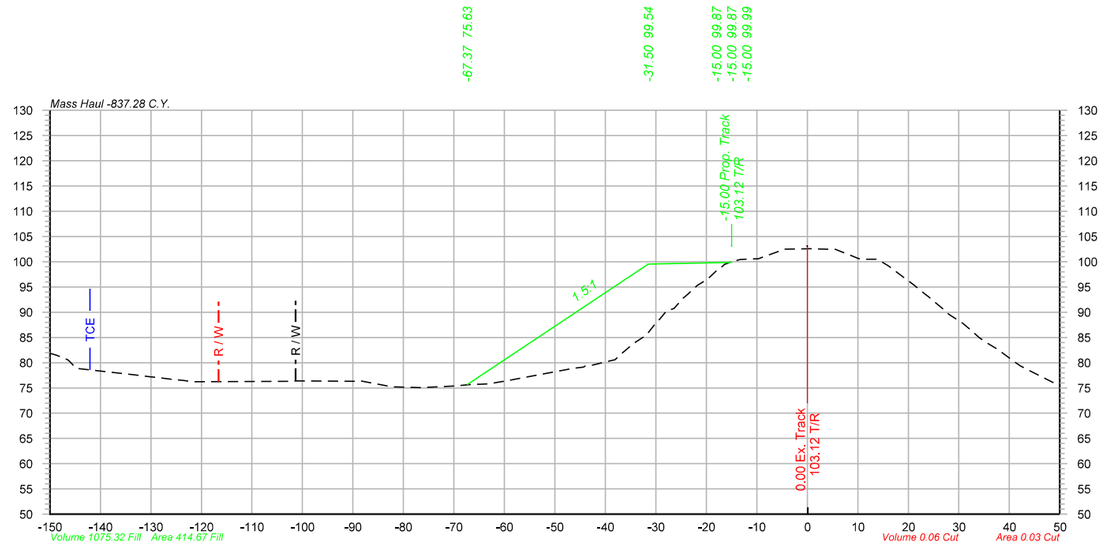
10/20/2014



1544+00

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-129.97	77.20
-125.68	76.71
-122.31	76.33
-101.93	76.32
-89.33	76.33
-82.31	75.21
-76.61	75.08
-69.62	75.40
-65.79	75.79
-61.17	76.15
-46.30	78.89
-43.06	79.42
-38.43	80.50
-34.41	83.82
-29.83	88.07
-26.42	90.72
-21.83	95.27
-17.65	98.53
-13.23	100.44
-9.73	100.59
-5.34	102.16
-1.51	102.54
4.96	102.46
8.00	101.50
11.22	100.54
14.64	100.02
19.22	96.79
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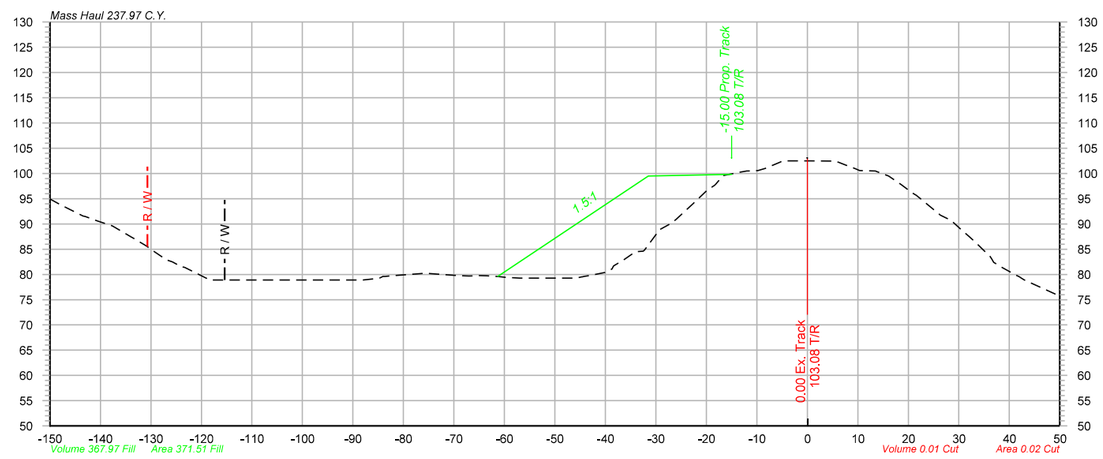
48.69	76.06



1543+26

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-130.98	85.71
-126.94	82.90
-123.94	81.53
-118.88	79.21
-110.42	78.89
-106.16	78.89
-99.89	78.89
-90.14	78.89
-85.29	79.20
-77.36	80.10
-72.19	79.96
-69.18	79.77
-65.52	79.72
-60.97	79.55
-56.97	79.28
-46.01	79.26
-40.05	80.40
-36.43	82.84
-32.51	84.63
-29.49	88.73
-25.98	90.88
-22.66	94.00
-18.37	97.64
-13.43	100.23
-9.80	100.57
-5.50	102.20
0.46	102.50
5.44	102.43
9.39	101.00
13.35	100.49
18.58	97.76
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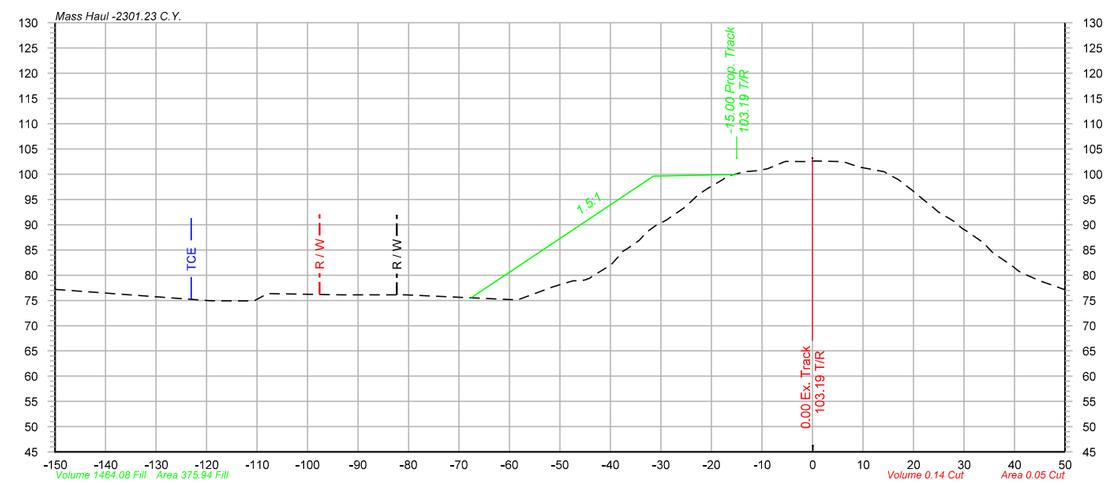

1545+00

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-119.19	74.95
-110.62	74.91
-93.23	76.12
-80.56	76.10
-58.41	75.12
-51.39	77.68
-47.34	78.89
-44.18	79.37
-39.91	82.08
-36.76	85.17
-32.85	88.53
-29.02	90.85
-25.26	93.46
-21.80	96.48
-17.66	99.00
-13.43	100.47
-8.91	101.08
-5.87	102.33
-0.65	102.50
5.70	102.51
9.09	101.44
14.21	100.51
19.19	97.22
22.72	94.36
28.05	90.66
33.78	86.46
38.43	82.63
42.63	79.96
47.26	78.09

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 036 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1543+26 TO STA.1545+00

PC 1 2-416

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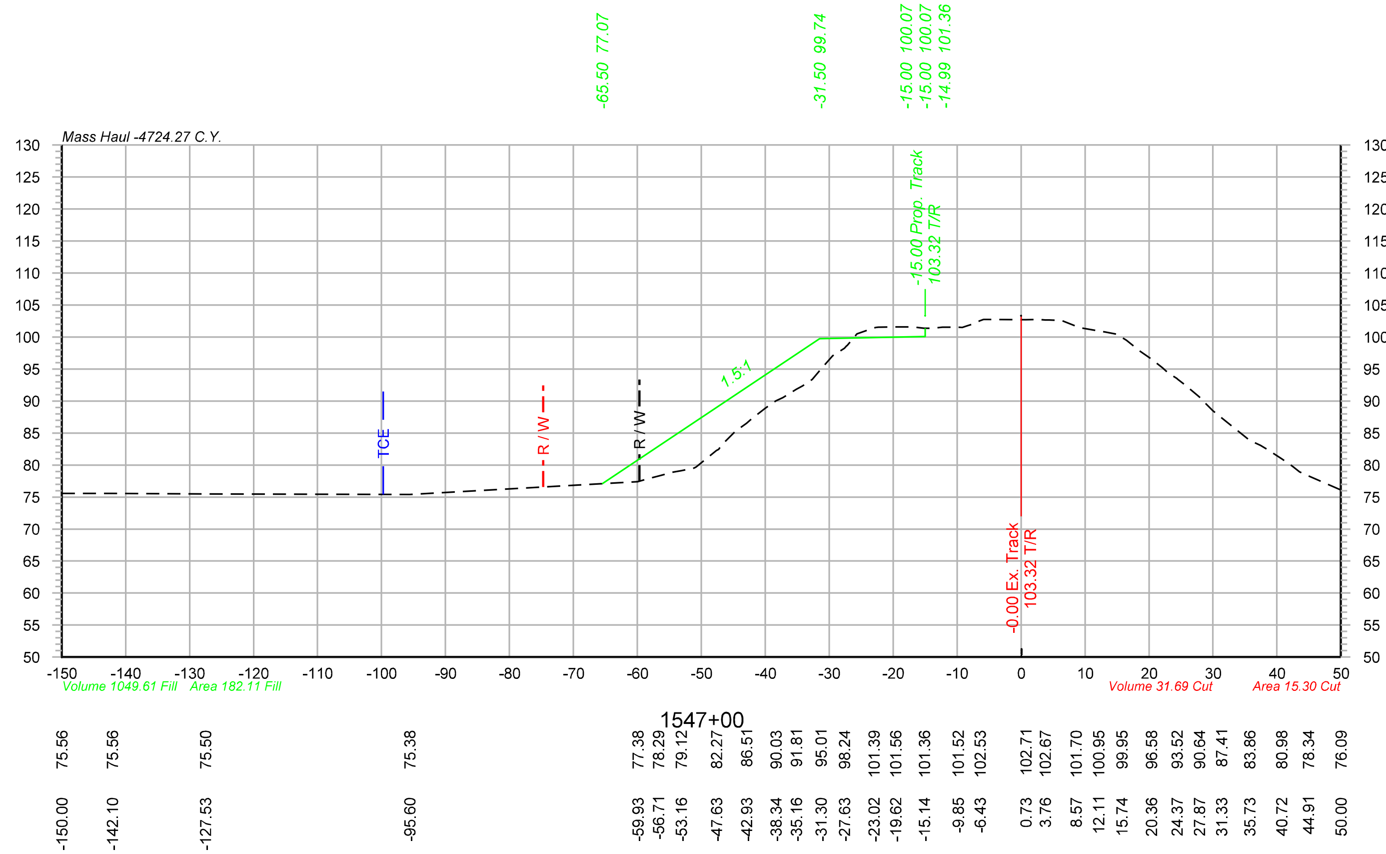
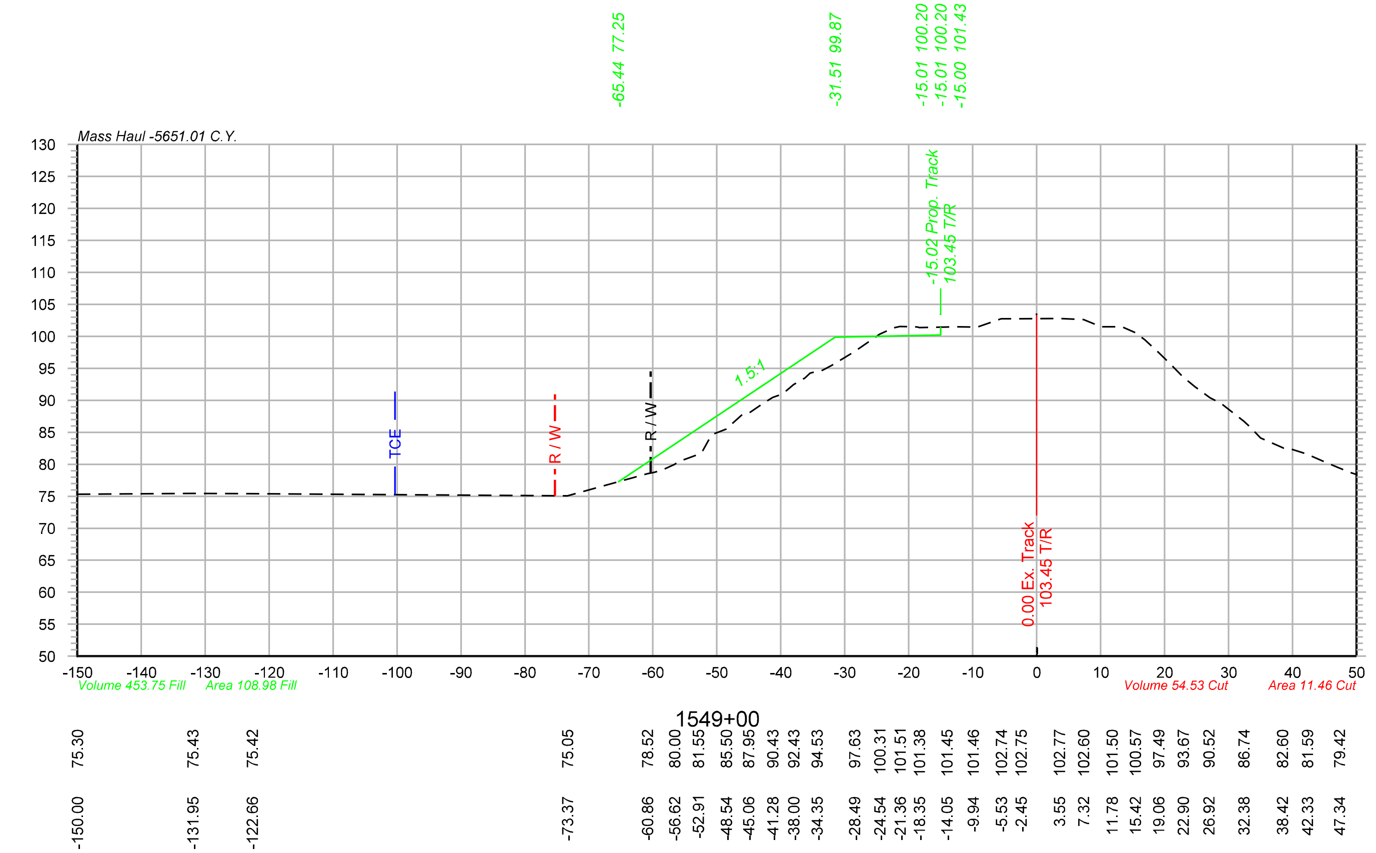
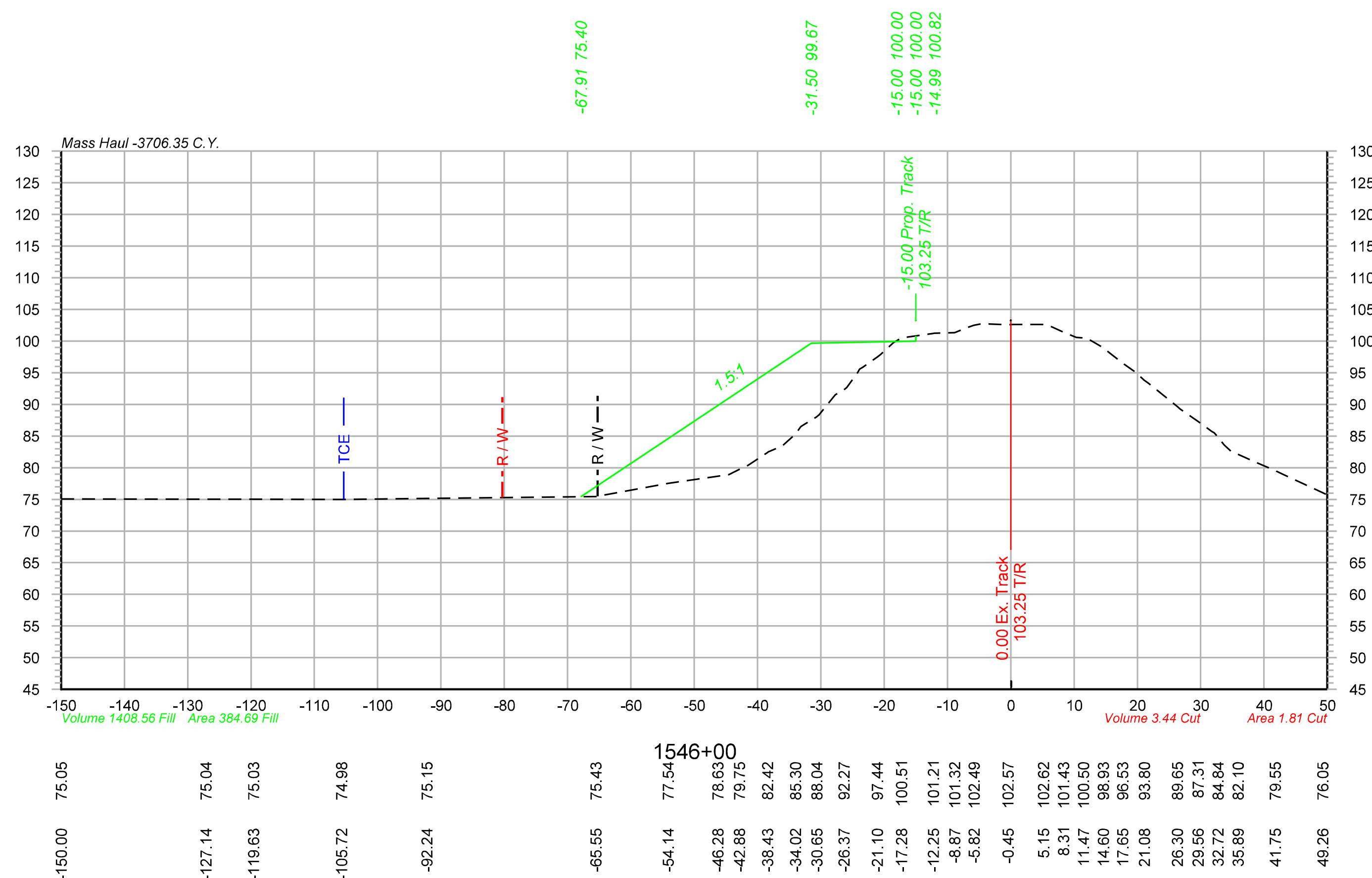
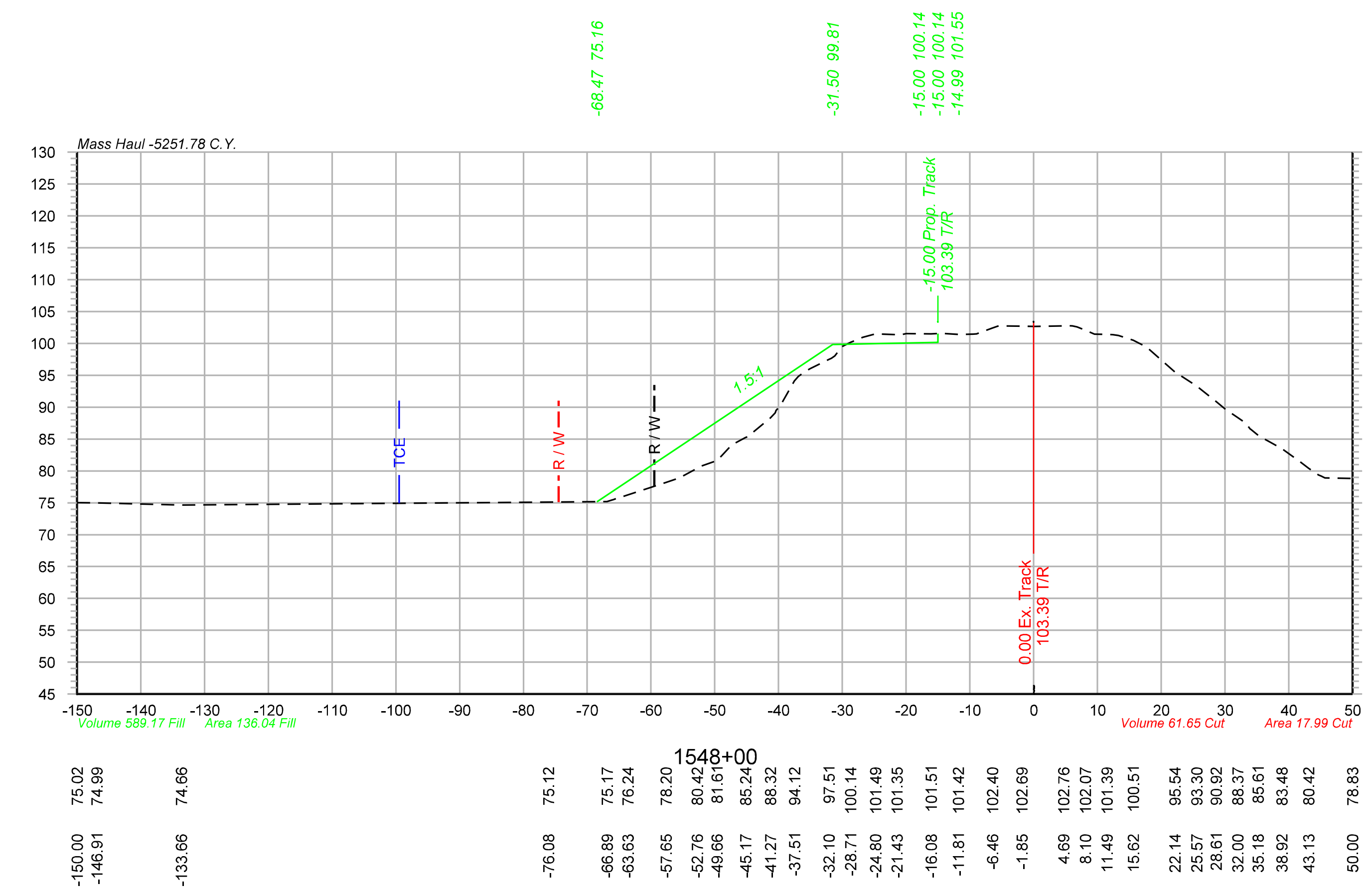
10/20/2014









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10/20/2014

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DATE:	10/20/2014
SHEET NUMBER	X 037 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1546+00 TO STA.1549+00

PC 1 2-417

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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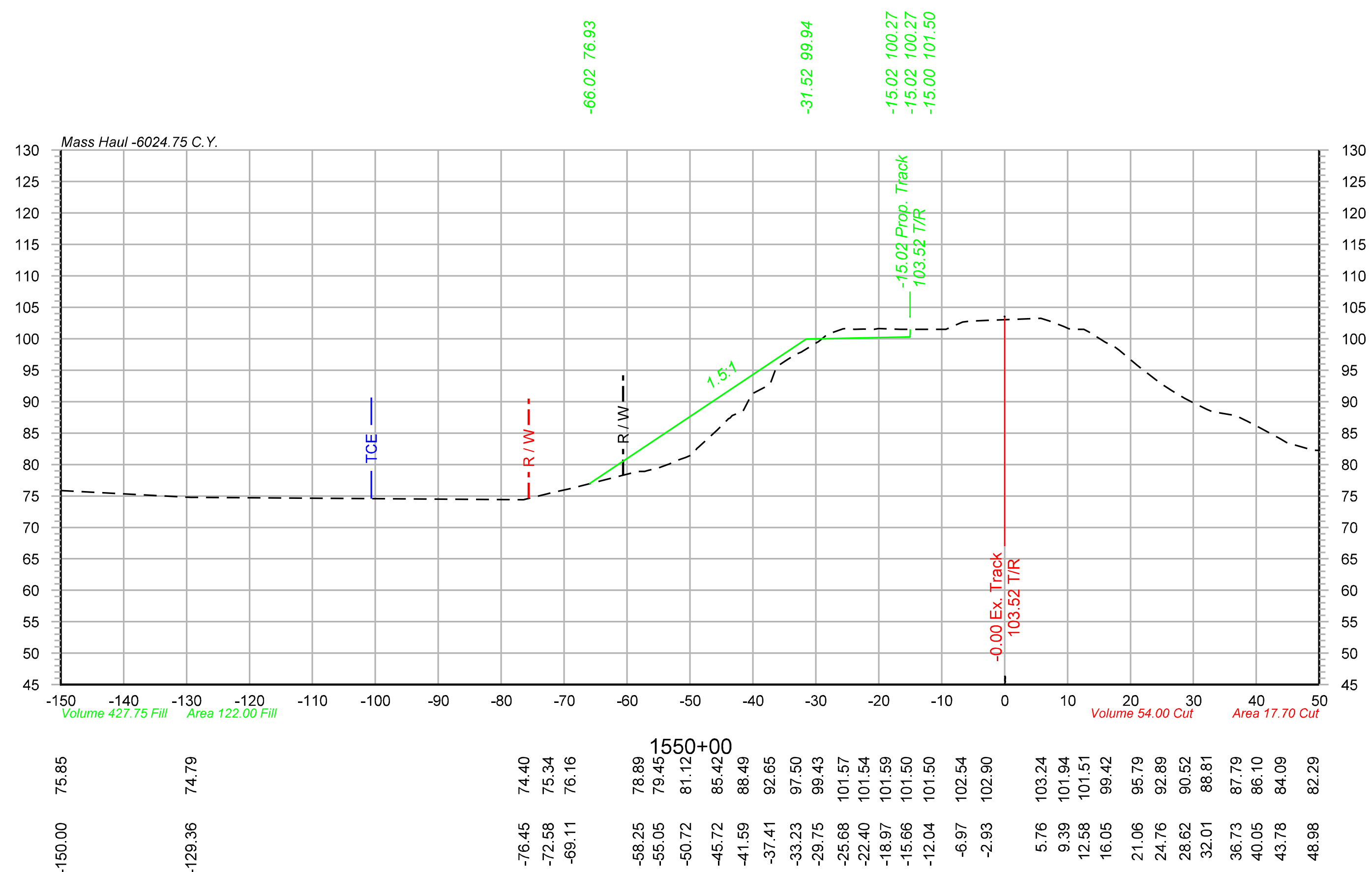
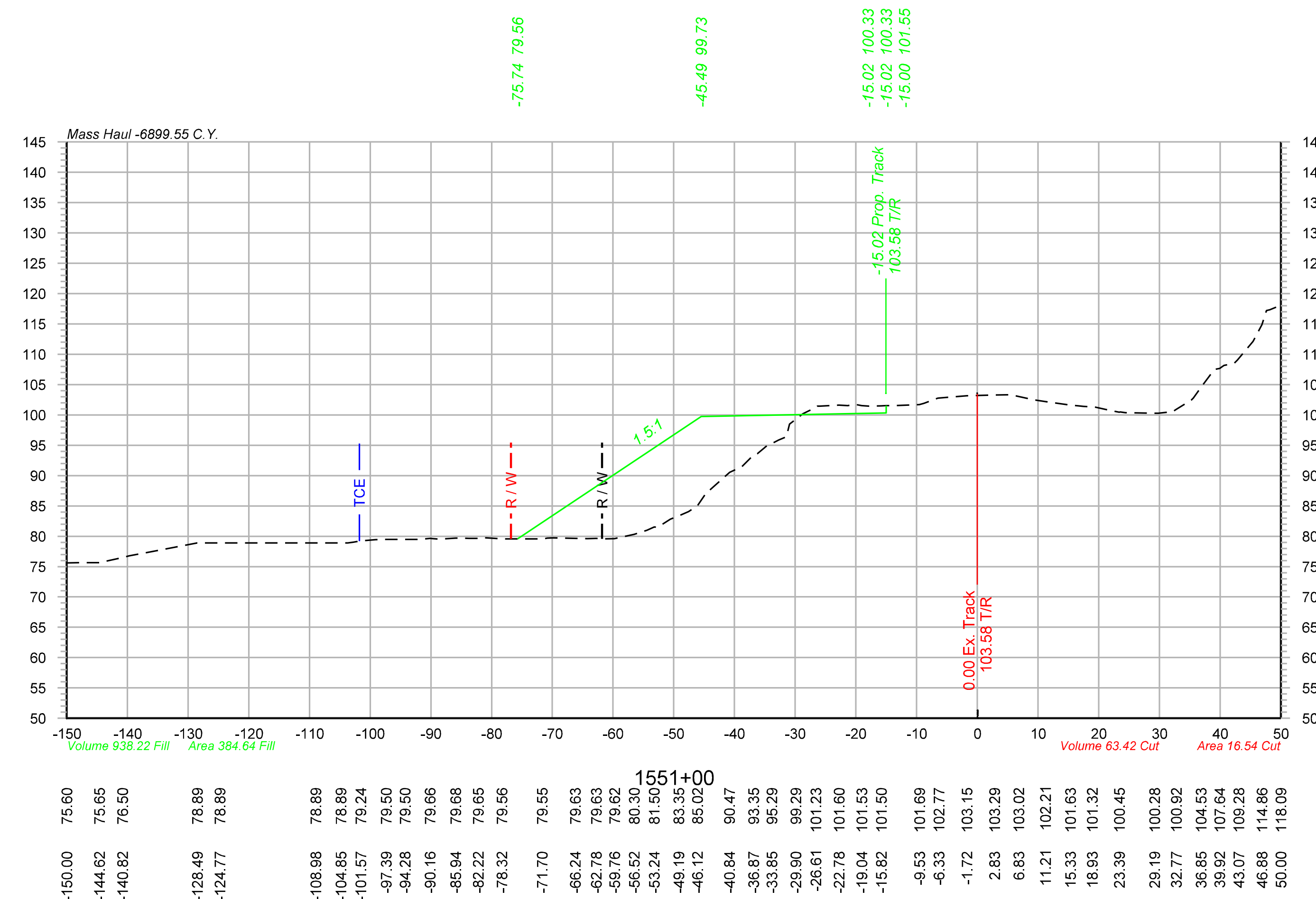
10/20/2014





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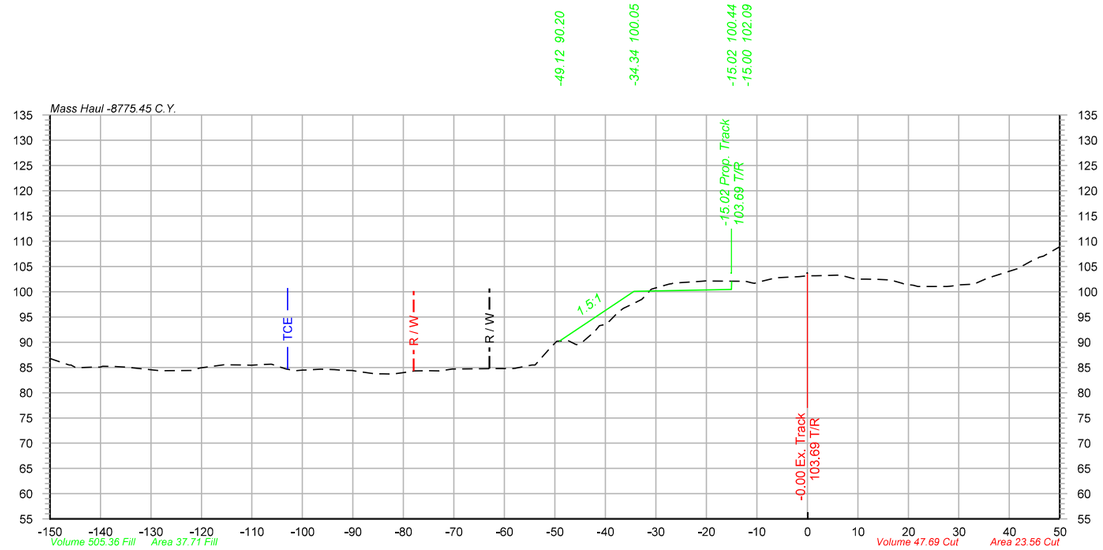
DATE: 10/20/2014
SHEET NUMBER X 038 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-418
CROSS SECTIONS STA.1550+00 TO STA.1551+00



1552+60

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-141.53	85.06
-137.23	85.17
-128.25	84.35
-121.84	84.38
-115.55	85.53
-111.39	85.50
-107.28	85.60
-103.22	84.71
-99.86	84.47
-96.38	84.66
-92.15	84.44
-85.61	83.73
-82.14	83.68
-77.71	84.32
-72.95	84.33
-69.33	84.67
-61.64	84.79
-58.53	84.78
-54.55	85.49
-51.33	88.38
-47.31	90.26
-42.14	92.10
-37.62	95.76
-34.56	97.58
-30.93	100.48
-27.30	101.55
-20.86	102.07
-13.50	102.08
-10.49	101.66
-6.96	102.58
-1.56	103.01
1.63	103.16
6.14	103.27
9.45	102.52
13.42	102.45
16.50	102.30
20.96	101.28
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32.88	101.49
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45.56	106.58
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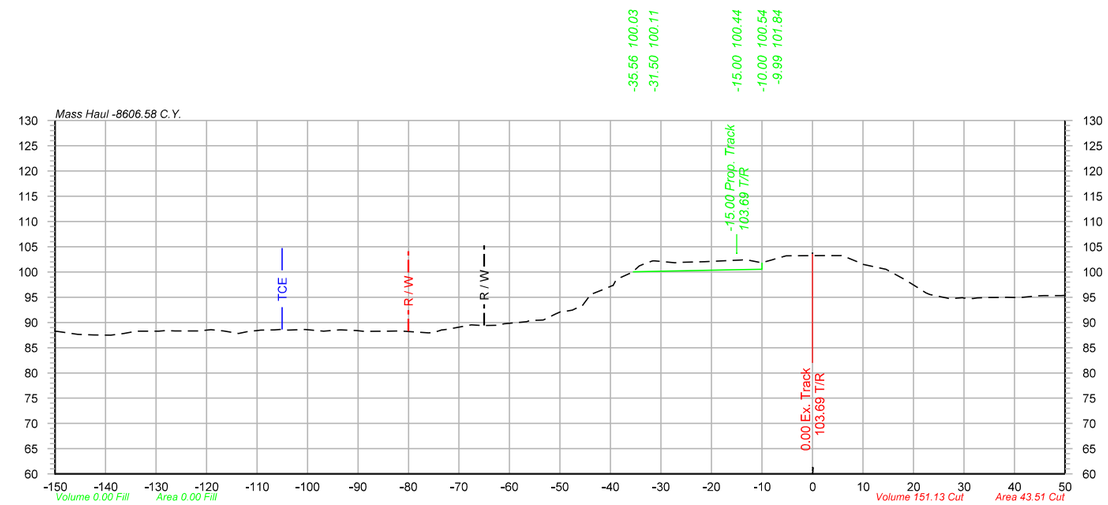

1554+00

-150.00	88.23
-145.56	87.63
-142.33	87.51
-139.01	87.47
-133.88	88.29
-129.45	88.28
-126.26	88.32
-121.60	88.33
-116.61	88.32
-111.66	88.24
-106.52	88.52
-100.47	88.61
-96.84	88.29
-93.72	88.51
-90.34	88.38
-84.06	88.28
-76.05	87.95
-72.27	88.65
-67.55	89.51
-62.43	89.44
-56.60	90.14
-53.31	90.47
-49.87	92.12
-45.98	93.19
-41.45	96.54
-35.66	99.93
-32.33	101.94
-27.24	101.84
-21.37	102.04
-16.08	102.30
-11.55	102.09
-7.95	102.41
1.57	103.23
5.58	103.26
8.97	102.00
13.74	100.71
18.30	98.50
22.46	95.86
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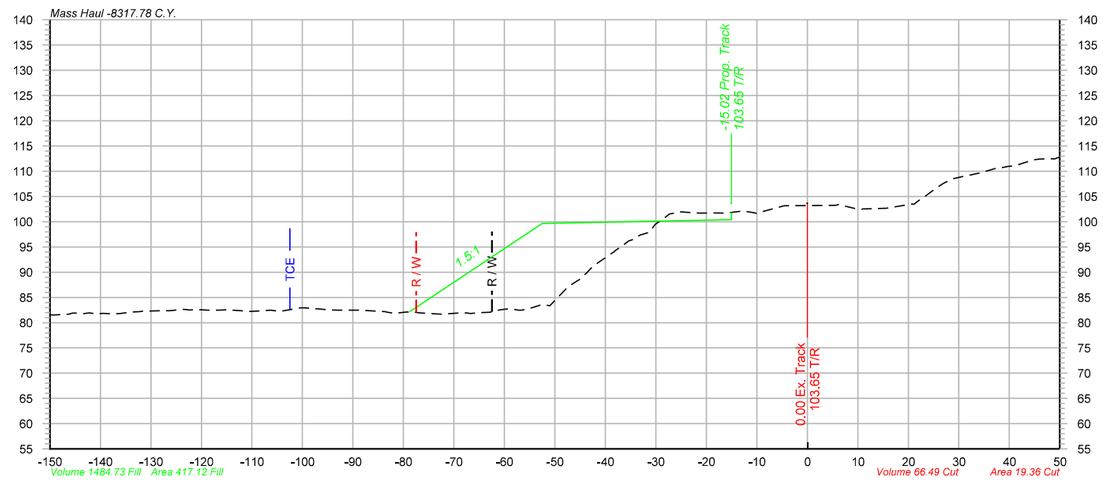
48.42	95.34



1552+00

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-137.48	81.74
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-123.99	82.65
-120.32	82.58
-116.44	82.50
-110.85	82.26
-106.28	82.48
-100.39	82.94
-94.43	82.52
-88.69	82.49
-85.13	82.28
-81.78	81.86
-77.73	82.16
-73.32	81.73
-69.29	81.89
-65.12	81.96
-61.35	82.46
-57.20	82.48
-52.49	83.59
-47.75	86.74
-43.70	89.85
-38.25	94.05
-34.50	96.49
-31.31	97.91
-27.29	101.53
-23.29	101.81
-18.78	101.72
-13.19	102.05
-10.06	101.67
-4.57	103.15
0.50	103.20
4.75	103.23
9.22	102.67
12.97	102.57
16.09	102.74
20.66	103.50
25.86	106.89
30.78	108.97
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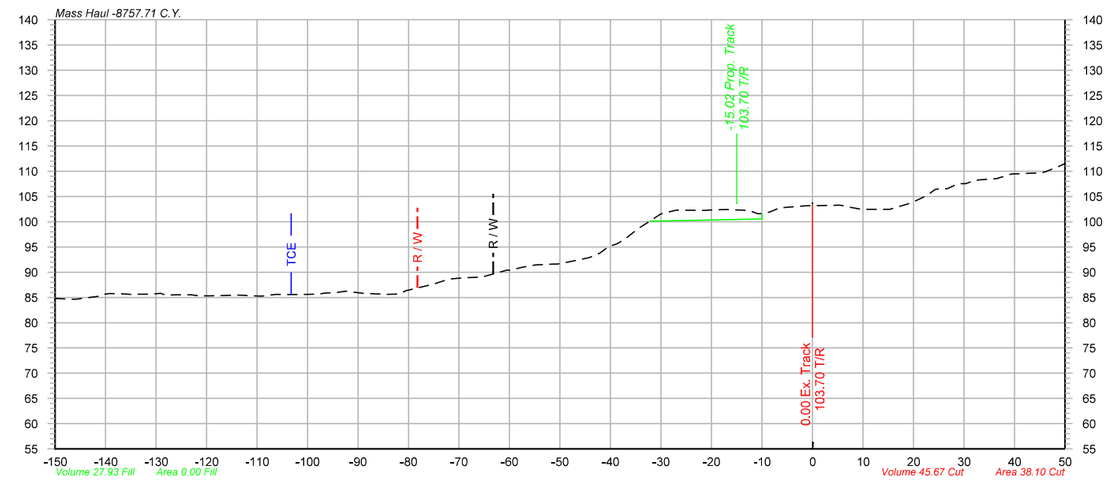

1553+00

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-146.17	84.63
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-137.64	85.75
-131.94	85.65
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-122.99	85.54
-119.46	85.31
-114.56	85.43
-109.67	85.25
-106.16	85.61
-99.95	85.62
-96.72	85.85
-92.40	86.22
-88.62	85.76
-84.08	85.61
-80.47	86.35
-75.51	87.52
-72.31	88.52
-68.75	88.88
-65.21	89.10
-62.03	89.99
-57.44	90.99
-51.21	91.60
-45.90	92.51
-42.10	93.79
-38.98	95.51
-35.61	97.77
-30.32	101.37
-26.92	102.29
-21.37	102.23
-17.60	102.42
-13.73	102.27
-9.66	101.62
-6.52	102.74
-1.25	103.14
2.42	103.19
6.26	103.12
9.70	102.44
15.01	102.45
18.38	103.36
22.65	105.13
25.67	106.52
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31.98	108.13
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41.96	109.53
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UNION PACIFIC

DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 039 of 139

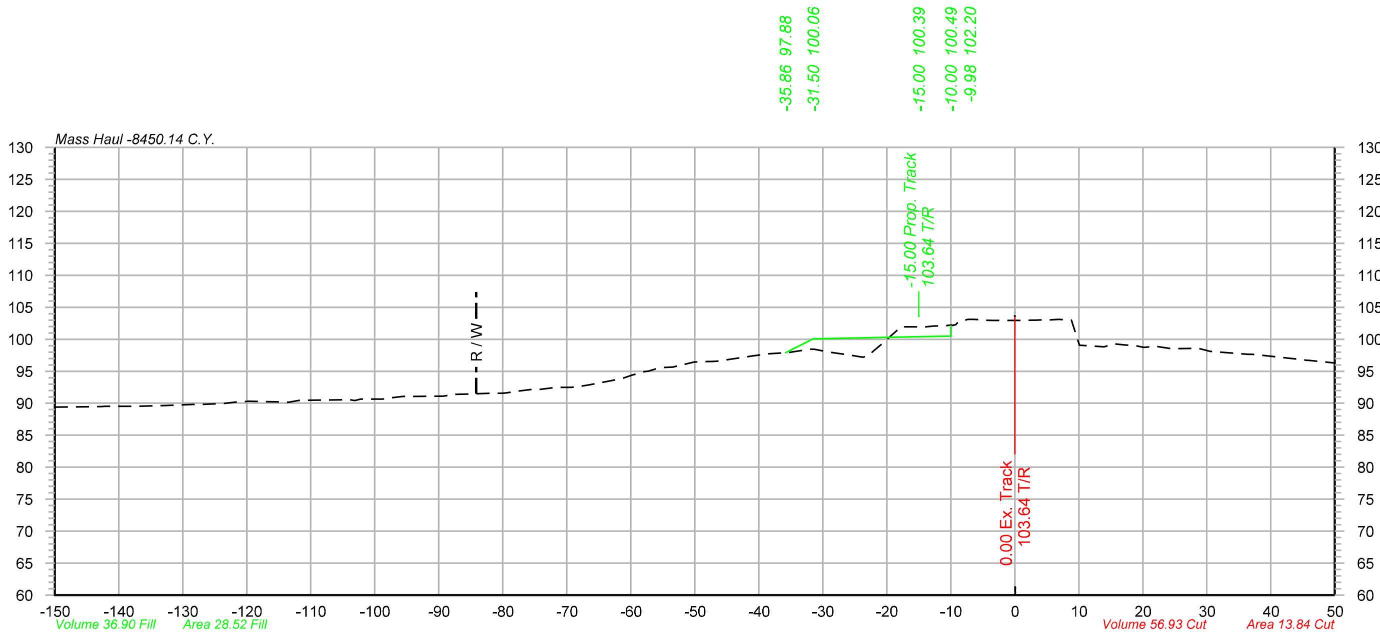
UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

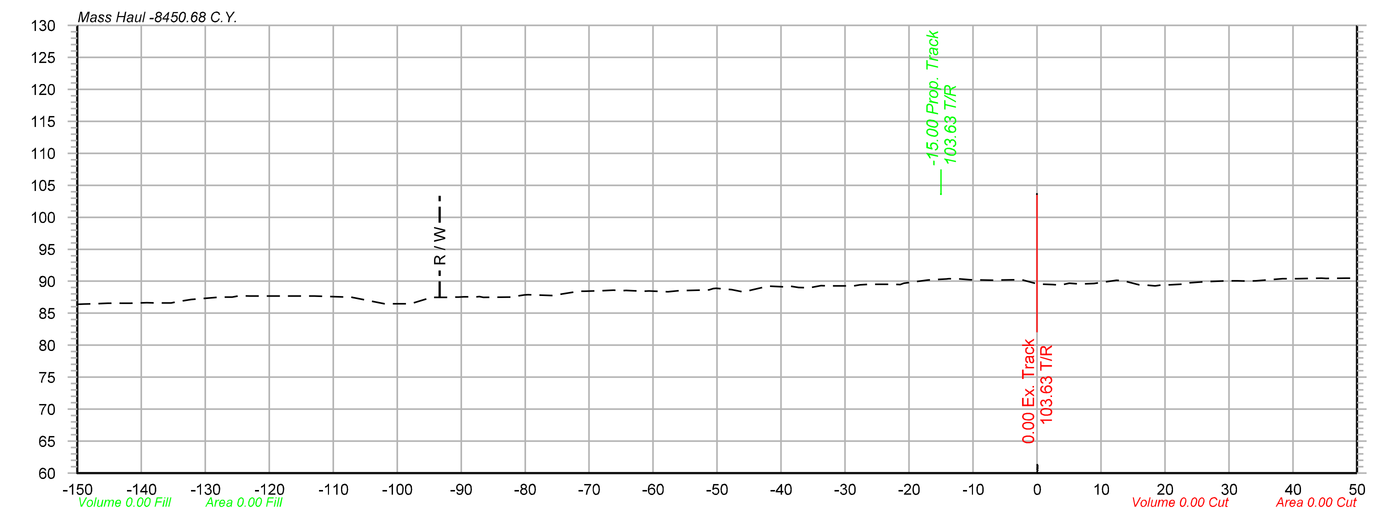
SHEET TITLE:
CROSS SECTIONS STA.1552+00 TO STA.1554+00

PC 1 2-419



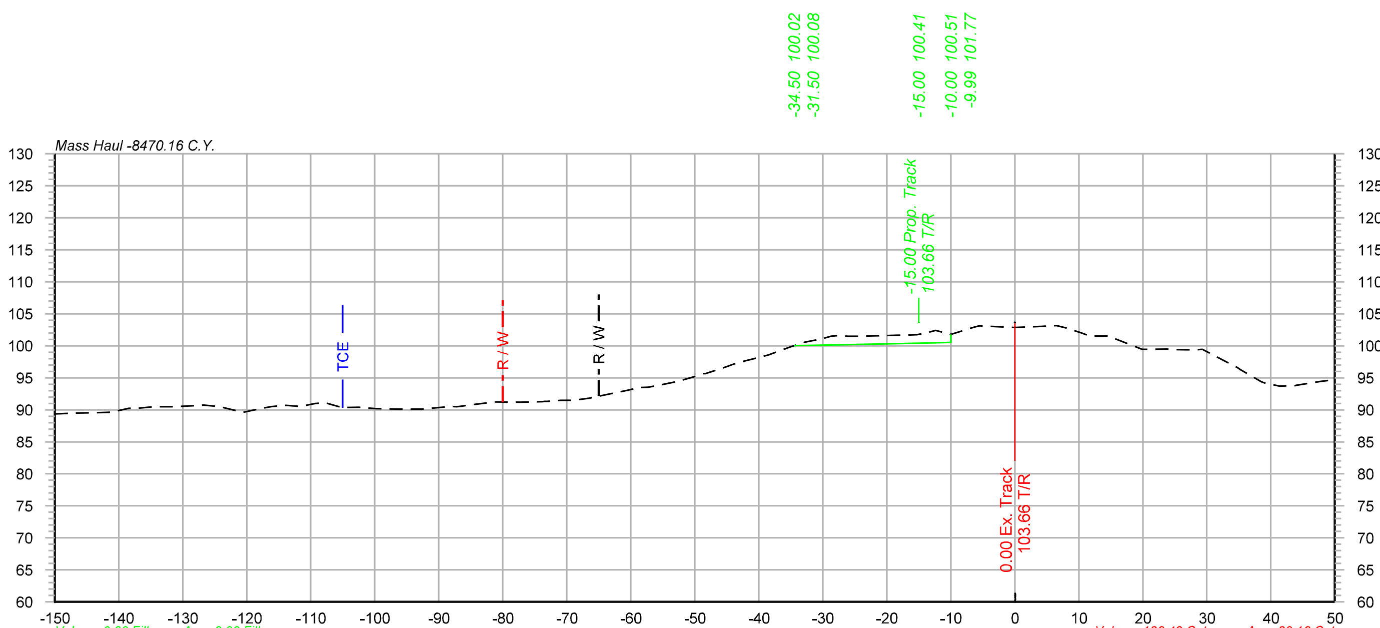
1555+70

89.39	89.43	89.47	89.53	89.63	89.82	89.93	90.24	90.23	90.42	90.50	90.66	90.64	91.06	91.11	91.46	91.58	91.95	92.47	92.63	93.52	94.40	95.54	96.43	96.58	97.21	97.88	98.44	97.93	97.21	99.37	102.00	101.92	102.09	103.06	102.95	102.94	103.04	103.01	98.93	99.29	99.01	98.92	98.56	97.63	96.81	96.30
-150.00	-145.97	-142.74	-138.08	-132.64	-128.41	-124.02	-120.63	-115.99	-111.86	-105.91	-102.21	-98.78	-95.64	-89.31	-85.15	-81.77	-77.24	-71.67	-67.90	-63.10	-59.80	-55.46	-50.10	-46.55	-42.05	-35.75	-31.98	-28.65	-23.75	-20.65	-17.62	-14.23	-10.88	-7.50	-3.48	0.40	4.22	8.00	12.16	15.62	18.73	22.04	27.55	36.39	44.87	49.75



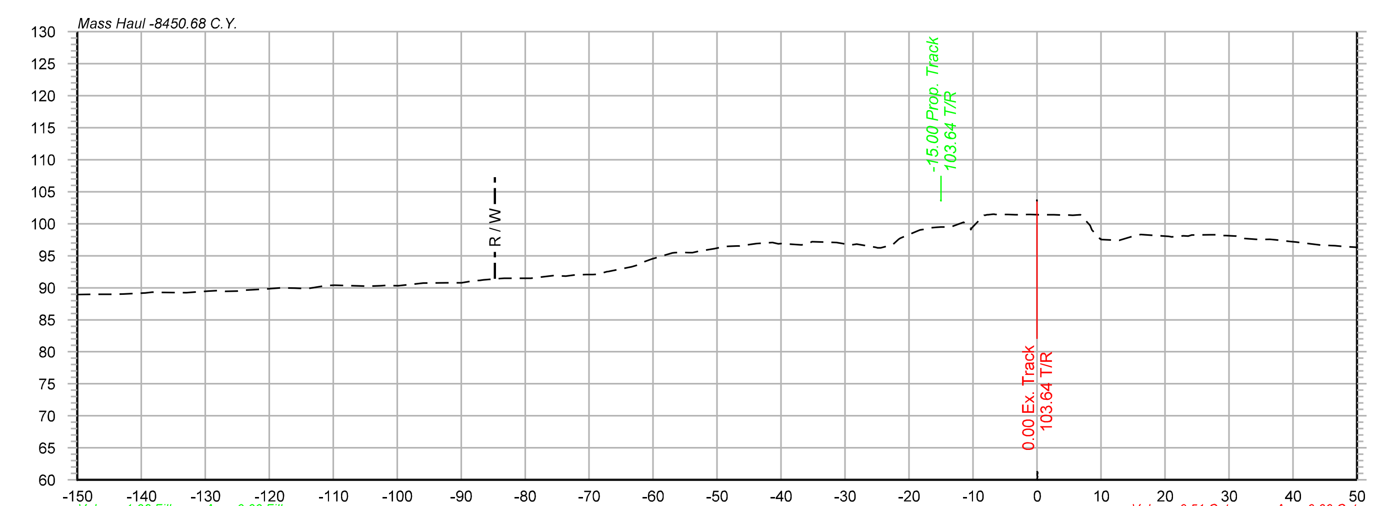
1556+00

86.40	86.56	86.58	86.61	86.79	87.51	87.71	87.70	87.70	87.50	86.49	86.49	87.47	87.50	87.55	87.50	87.76	88.45	88.50	88.53	88.45	88.36	88.66	88.71	89.17	89.11	88.99	89.28	89.25	89.53	89.67	90.17	90.38	90.21	90.14	90.24	89.57	89.40	89.55	90.14	89.54	89.42	89.58	89.96	90.05	90.02	90.40	90.46	90.50
-150.00	-145.20	-141.68	-137.77	-134.29	-127.67	-124.64	-119.36	-115.27	-107.79	-101.97	-97.89	-94.40	-91.38	-87.56	-82.44	-75.98	-71.55	-67.96	-64.92	-61.53	-57.69	-51.29	-47.71	-42.21	-39.12	-35.57	-32.50	-28.90	-24.06	-20.80	-17.04	-13.73	-10.47	-6.34	-3.18	0.11	3.68	6.75	12.42	15.63	19.62	23.08	26.55	29.70	32.83	38.39	44.33	48.29



1555+00

89.37	89.48	89.55	90.24	90.49	90.49	90.71	90.47	89.61	90.46	90.54	91.12	90.38	90.20	90.12	90.12	90.51	90.79	91.21	91.20	91.26	91.49	92.54	93.45	93.90	95.15	96.50	97.92	99.83	101.07	101.50	101.56	101.64	102.07	101.77	102.89	102.98	103.01	102.81	101.55	99.78	99.50	99.38	97.07	94.40	93.74	94.44
-150.00	-146.97	-142.91	-138.43	-134.52	-131.40	-127.26	-124.06	-120.55	-116.25	-111.66	-107.75	-104.58	-99.95	-96.45	-92.67	-88.09	-84.97	-81.20	-77.36	-73.77	-69.03	-63.07	-58.88	-55.29	-50.18	-45.74	-41.06	-35.07	-30.20	-25.97	-21.15	-18.09	-13.62	-9.97	-6.36	-2.81	4.16	7.87	11.67	19.08	23.71	28.09	33.87	38.49	42.31	47.84



1555+72

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-150.00	-144.57	-139.36	-132.96	-129.47	-125.00	-120.98	-116.01	-111.04	-105.36	-101.99	-97.44	-92.28	-87.95	-83.92	-79.29	-75.62	-72.39	-68.64	-63.34	-60.24	-56.98	-53.83	-50.40	-46.83	-43.83	-40.44	-36.79	-31.41	-28.17	-24.92	-21.65	-18.29	-15.01	-11.45	-8.30	-4.54	-1.52	2.28	5.60	9.87	14.92	20.58	23.62	27.13	31.14	34.75	39.45	44.45	47.95

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UNION PACIFIC

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DATE:	10/20/2014
SHEET NUMBER	X 040 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-420
CROSS SECTIONS STA.1555+00 TO STA.1556+00

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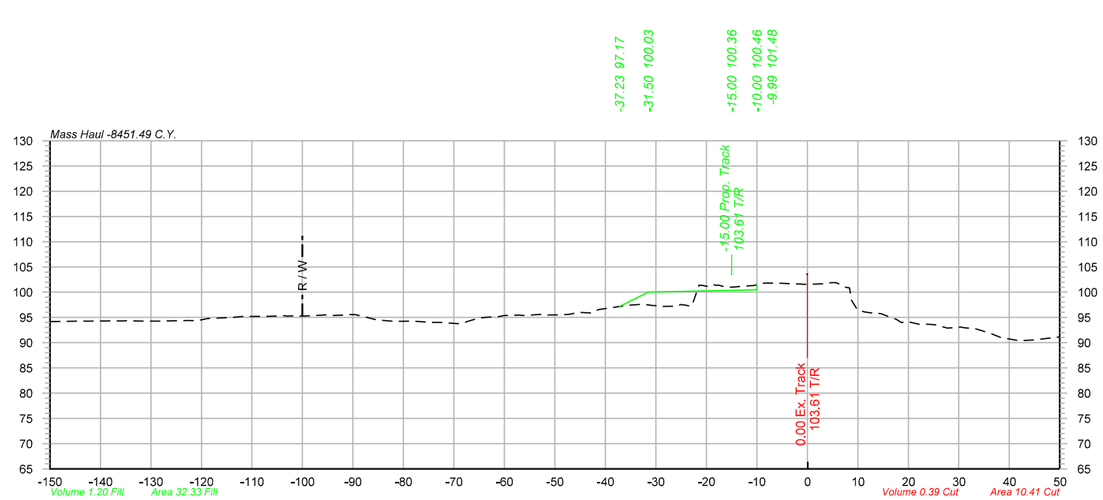
10/20/2014



1556+63

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-134.92	94.37
-131.43	94.28
-126.88	94.29
-122.49	94.38
-119.19	94.69
-114.16	94.99
-106.45	95.23
-103.11	95.28
-99.92	95.28
-95.66	95.50
-91.84	95.47
-88.06	95.21
-83.78	94.39
-78.02	94.25
-74.41	94.00
-69.13	93.78
-65.06	94.88
-61.41	95.11
-56.94	95.46
-52.83	95.58
-48.70	95.51
-45.57	96.00
-42.49	95.99
-36.52	97.27
-32.77	97.60
-28.86	97.19
-25.64	97.21
-21.43	101.38
-18.35	101.44
-14.54	101.01
-11.50	101.28
-7.93	101.82
-3.43	101.68
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4.76	101.91
8.36	100.85
12.31	95.94
15.33	95.46
18.63	93.99
22.17	93.63
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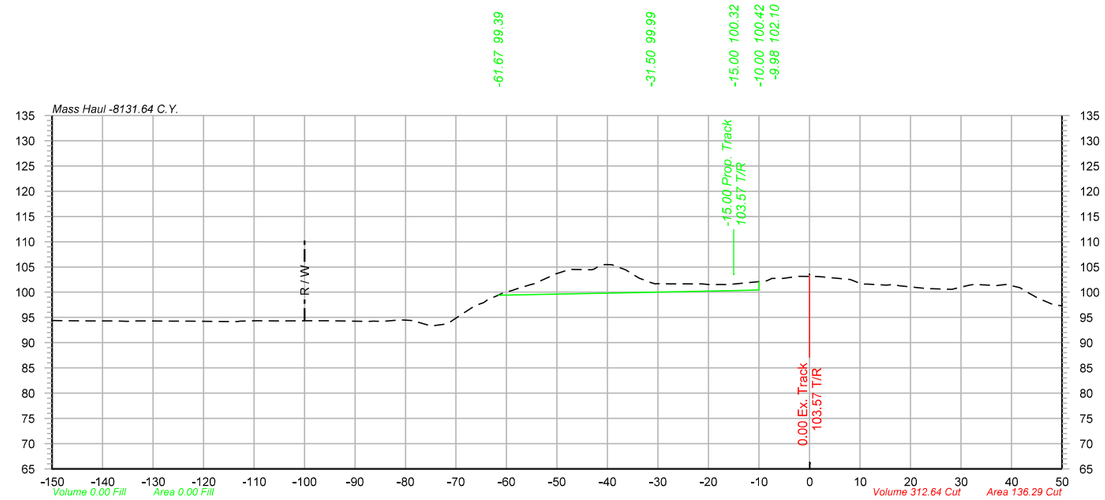

1558+00

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-139.04	94.31
-134.98	94.22
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-126.76	94.28
-123.18	94.26
-114.87	94.17
-109.45	94.35
-105.28	94.33
-98.03	94.35
-93.05	94.30
-88.15	94.22
-84.88	94.22
-80.97	94.51
-77.87	94.07
-71.75	93.75
-66.15	97.38
-61.93	99.26
-58.44	100.50
-55.04	101.58
-51.66	102.96
-47.48	104.52
-43.12	104.46
-39.14	105.44
-36.03	104.17
-32.44	102.32
-27.46	101.64
-24.43	101.65
-21.23	101.63
-16.86	101.50
-13.81	101.73
-8.53	102.24
-5.17	102.74
1.75	103.12
7.99	102.53
11.46	101.59
15.23	101.40
18.61	101.18
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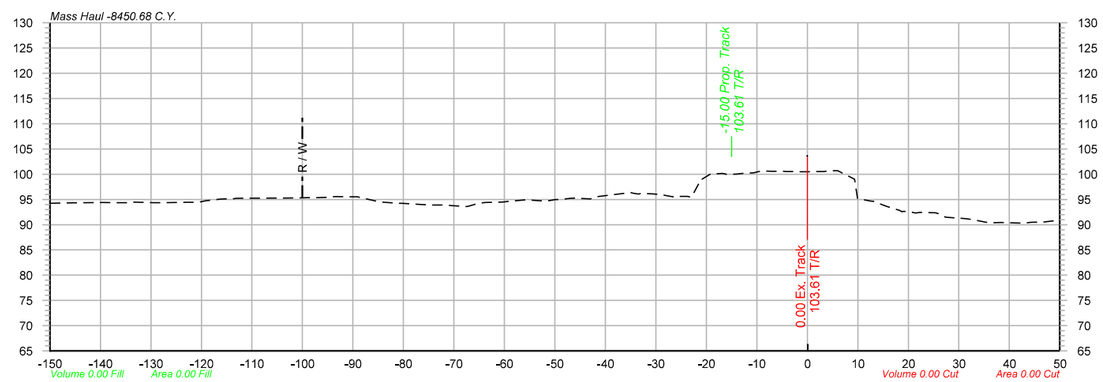
48.28	97.49



1556+61

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-143.97	94.35
-139.49	94.39
-134.83	94.35
-129.41	94.36
-122.76	94.44
-119.19	94.74
-114.23	95.14
-104.58	95.27
-100.75	95.31
-94.69	95.45
-90.96	95.54
-85.29	94.63
-81.06	94.25
-74.84	93.88
-69.04	93.67
-65.13	94.22
-60.44	94.47
-55.57	94.92
-52.05	94.77
-46.82	95.22
-42.97	95.10
-36.73	96.14
-33.47	96.09
-28.78	95.94
-25.46	95.62
-21.47	98.25
-18.45	100.07
-13.95	100.04
-10.62	100.26
-6.88	100.57
-2.37	100.53
1.34	100.50
6.00	100.69
9.31	99.04
12.73	94.66
18.33	92.82
21.46	92.29
25.35	92.36
29.15	91.37
32.51	91.01
36.89	90.42
42.32	90.31
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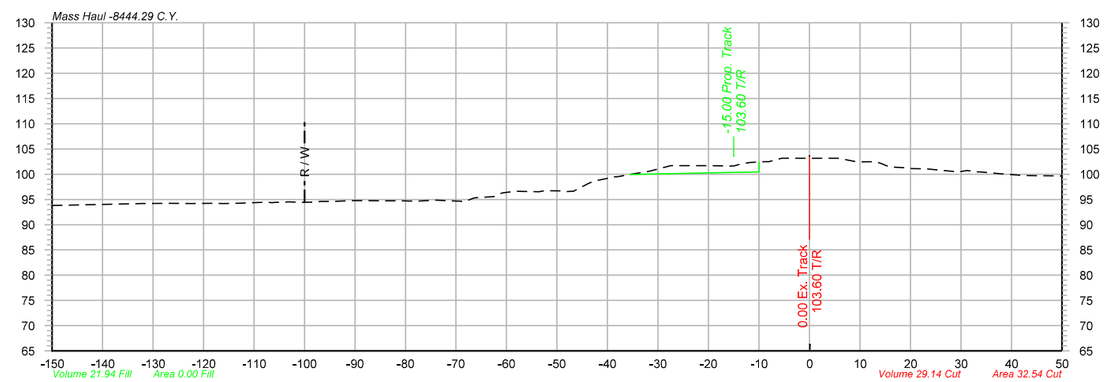

1557+00

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-126.81	94.22
-122.37	94.19
-118.65	94.22
-113.47	94.23
-108.04	94.43
-104.13	94.42
-100.62	94.44
-96.80	94.60
-90.21	94.78
-83.82	94.74
-78.00	94.66
-74.08	94.84
-69.11	94.64
-62.49	95.55
-58.24	96.61
-53.57	96.54
-49.12	96.69
-43.87	98.10
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-32.07	100.52
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-11.86	102.33
-7.99	102.50
5.59	103.16
8.76	102.56
13.12	102.50
17.34	101.37
23.07	101.06
28.28	100.55
31.79	100.63
39.48	99.93
42.56	99.74
46.82	99.69
50.00	99.65

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DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 041 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1556+61 TO STA.1558+00

PC 1 2-421

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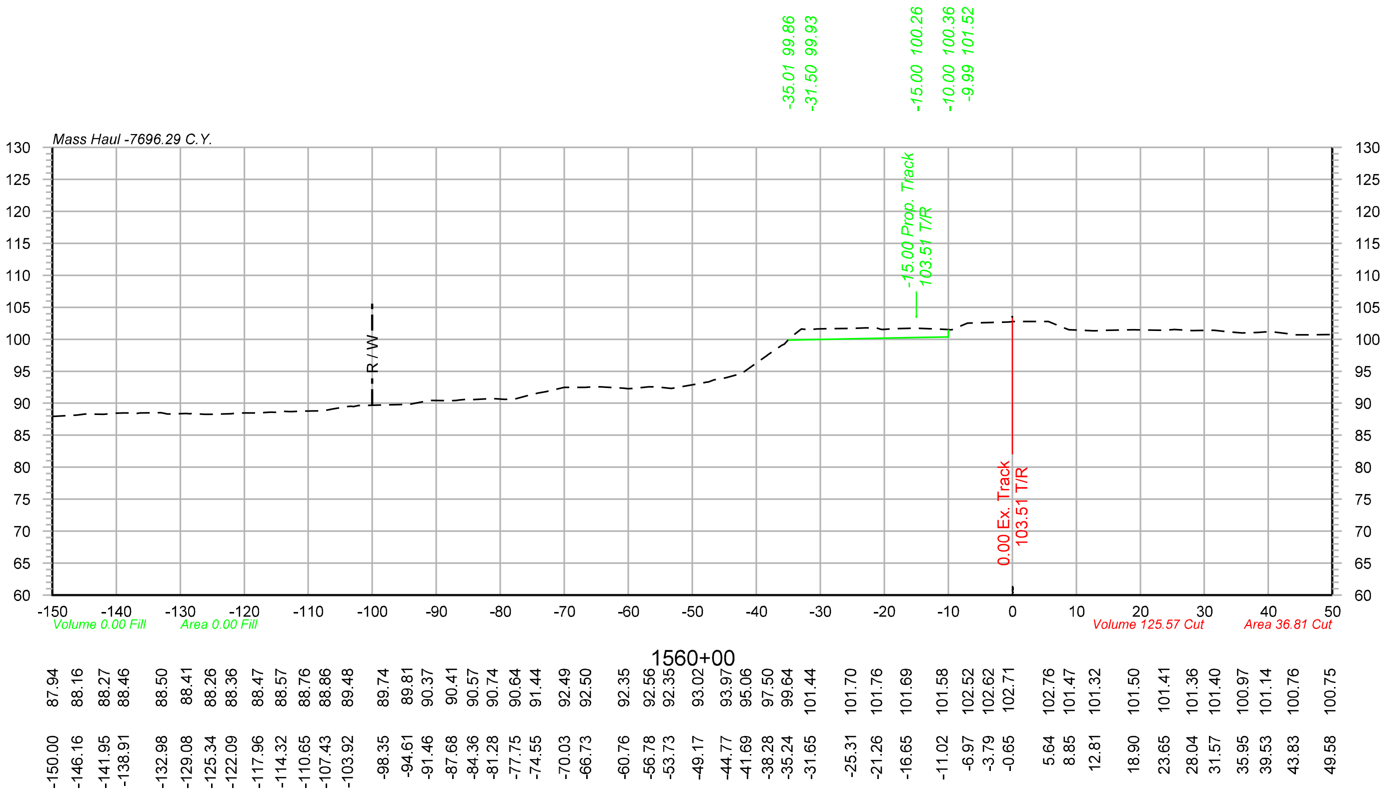
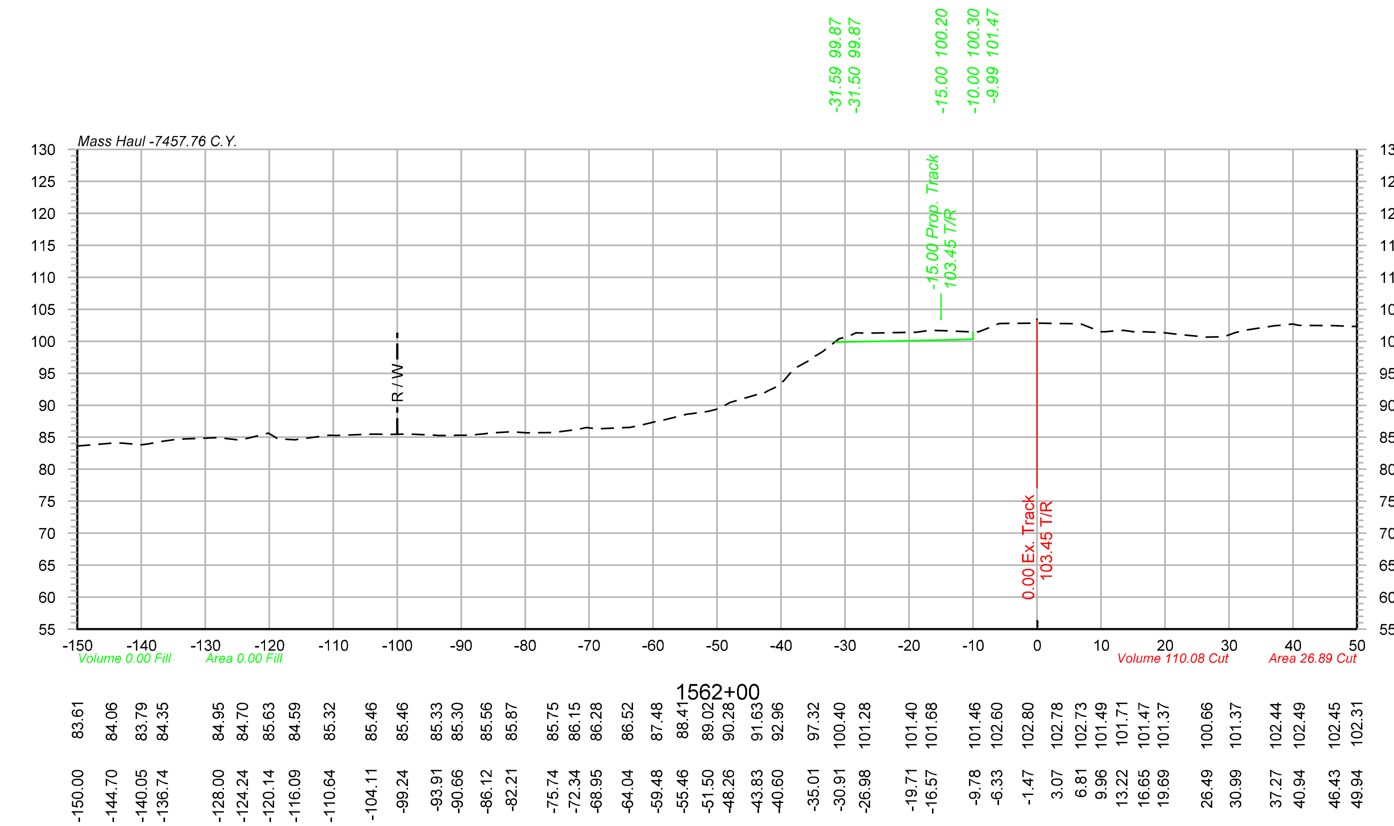
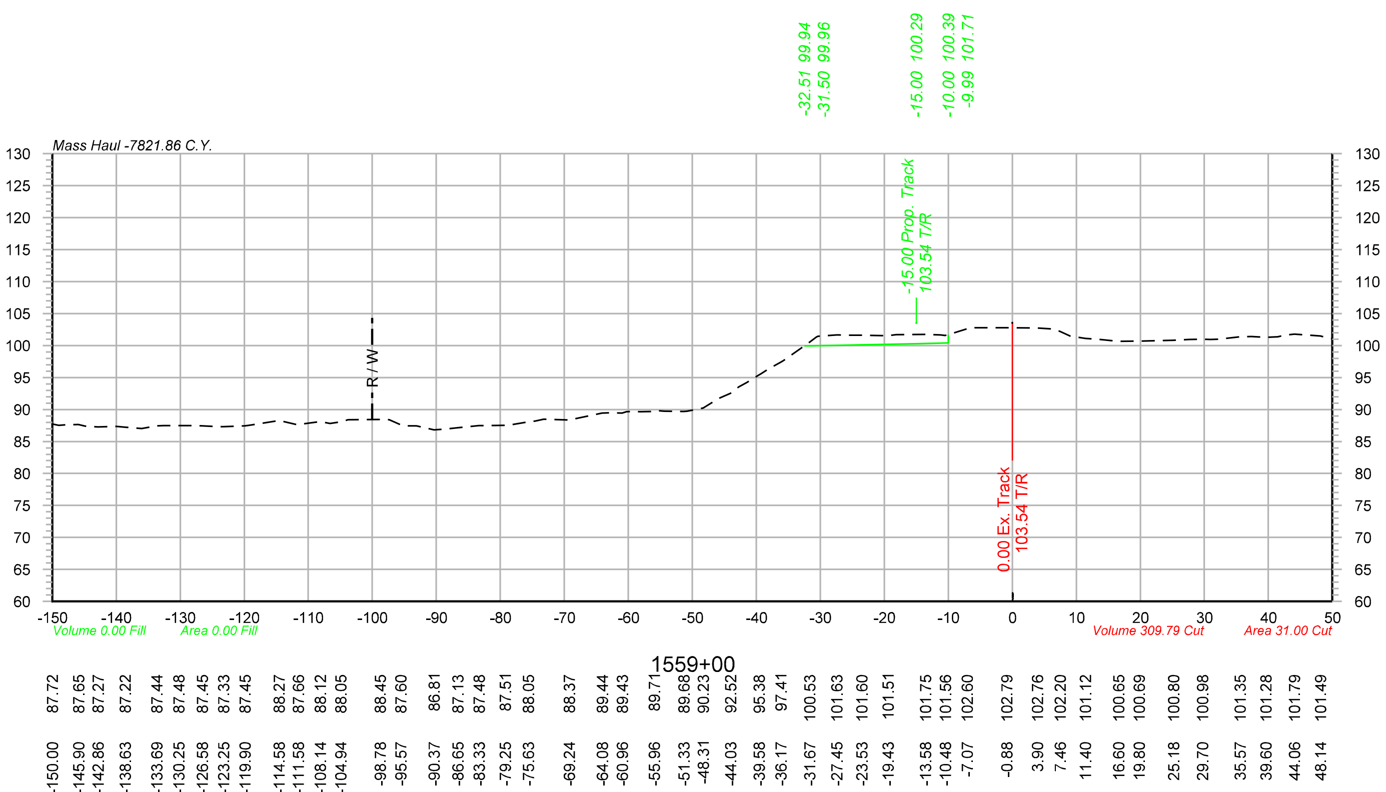
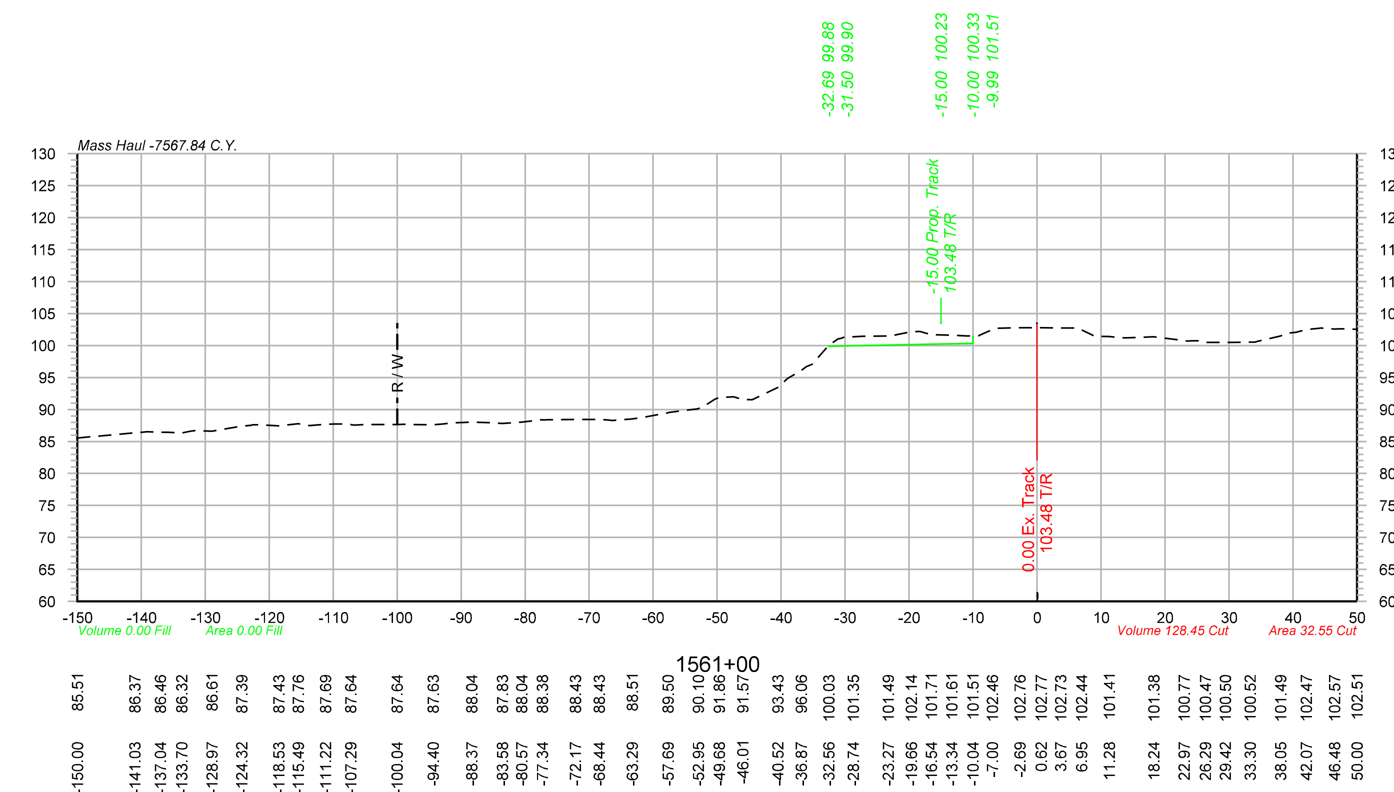
10/20/2014









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10/20/2014

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UNION PACIFIC

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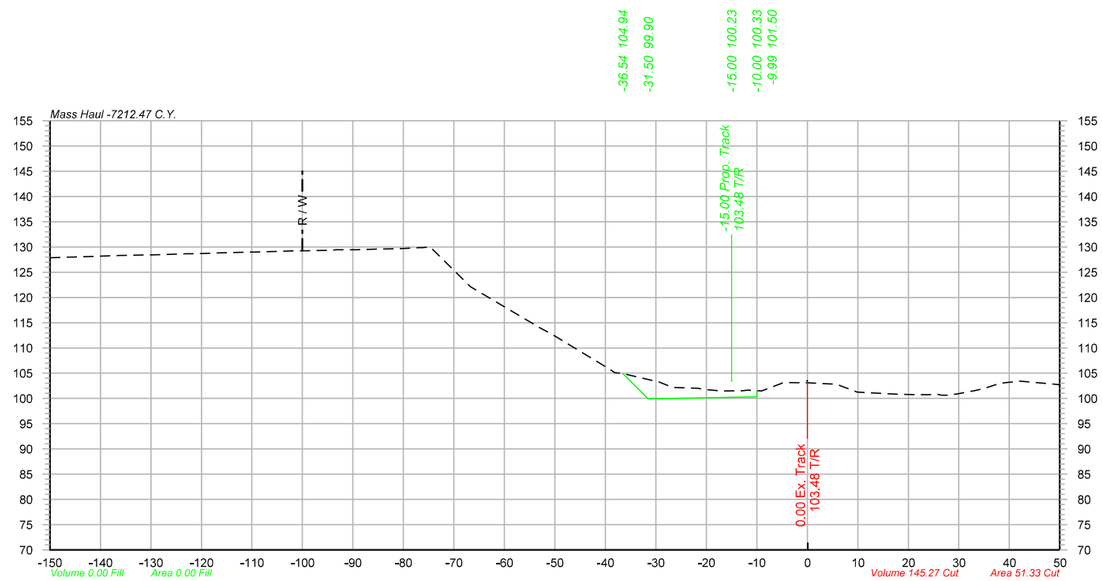
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 042 of 139	SHEET TITLE: PC 1 2-422 CROSS SECTIONS STA.1559+00 TO STA.1562+00



1564+00

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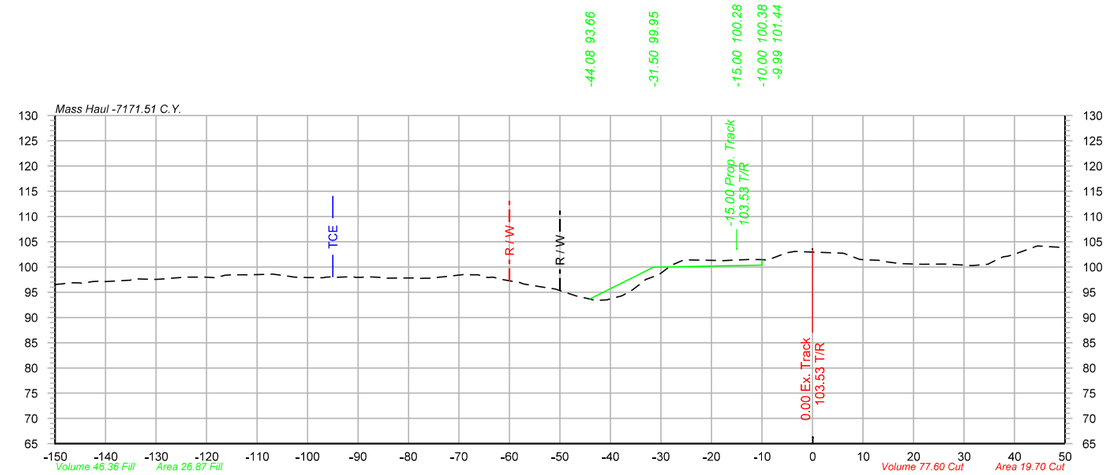
-143.23	128.08
-138.36	128.26
-131.88	128.40
-127.64	128.50
-122.93	128.63
-117.35	128.78
-113.99	128.87
-110.13	128.97
-106.63	129.08
-101.42	129.22
-95.27	129.30
-92.06	129.43
-88.27	129.49
-83.04	129.62
-79.92	129.71
-76.85	129.84
-68.05	123.44
-56.33	115.98
-50.54	112.68
-39.65	106.11
-29.30	103.23
-24.38	102.11
-20.65	101.80
-17.03	101.47
-13.60	101.53
-10.03	101.50
-5.02	103.04
-0.58	103.10
5.72	102.81
9.62	101.33
16.62	100.90
22.25	100.73
25.66	100.84
29.89	100.94
33.20	101.58
38.23	103.02
41.84	103.43
50.00	102.75



1565+00

-150.00	96.51
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-122.59	97.97
-118.21	97.85
-114.92	98.43
-111.63	98.44
-107.12	98.57
-103.72	98.14
-100.03	97.89
-96.97	97.86
-91.12	98.09
-85.84	97.93
-81.27	97.83
-77.71	97.73
-71.73	98.20
-68.66	98.46
-64.47	97.93
-59.45	97.14
-52.53	95.86
-46.86	94.29
-43.09	93.37
-37.75	94.26
-33.55	97.08
-30.26	98.54
-25.46	101.40
-18.40	101.27
-12.33	101.50
-9.04	101.36
-5.88	102.49
5.78	102.73
9.37	101.48
13.07	101.33
17.14	100.70
21.77	100.51
25.42	100.59
31.53	100.26
34.71	100.51
37.86	102.05
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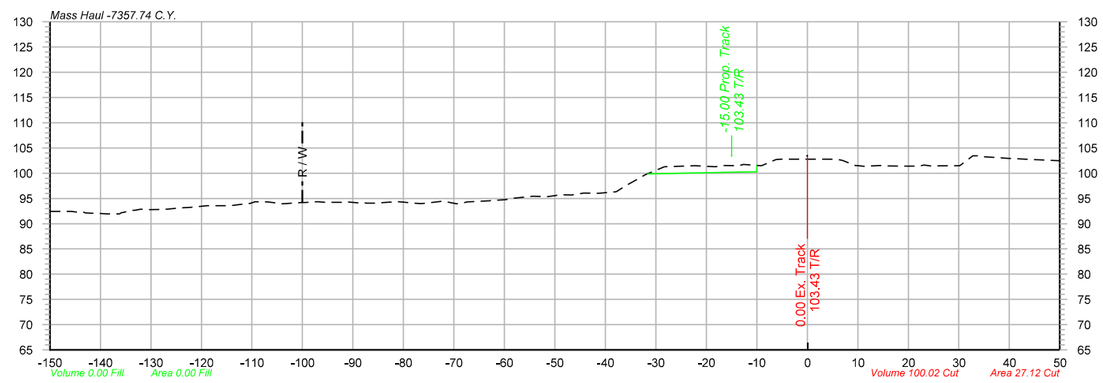
47.42	103.97



1563+00

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-135.43	92.22
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-128.29	92.79
-124.43	93.12
-119.26	93.51
-114.24	93.57
-110.32	94.04
-106.90	94.30
-103.84	93.92
-100.73	94.13
-96.98	94.35
-92.33	94.25
-88.73	94.09
-85.71	94.08
-82.63	94.26
-79.17	94.17
-75.51	94.08
-72.33	94.44
-67.87	94.20
-63.23	94.52
-60.15	94.74
-55.94	95.26
-51.47	95.35
-47.07	95.69
-41.31	96.03
-37.92	96.32
-32.74	99.31
-28.42	101.24
-24.54	101.42
-18.18	101.28
-13.58	101.48
-9.81	101.52
-6.63	102.54
-0.10	102.79
4.60	102.78
8.97	101.72
14.41	101.54
18.72	101.42
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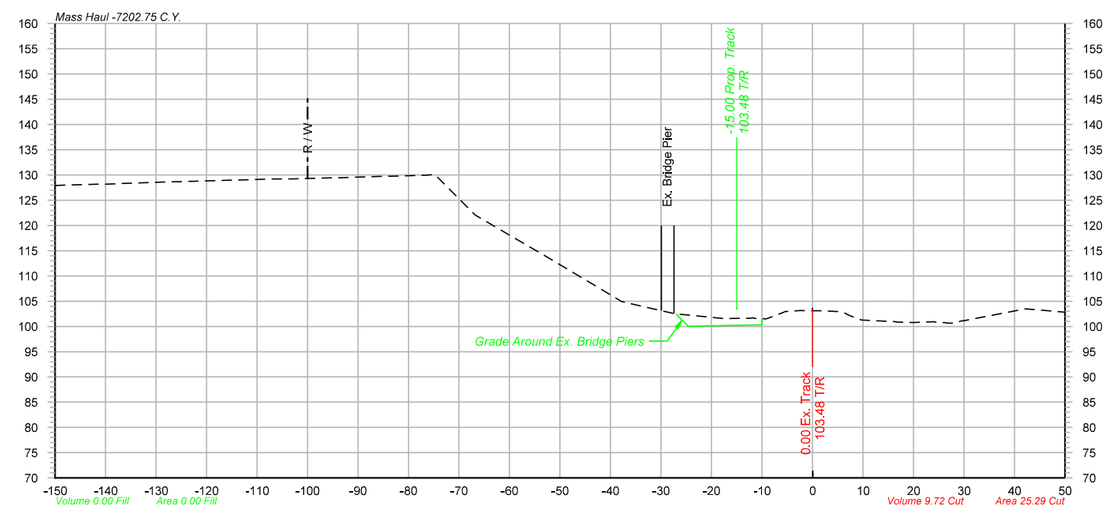

1564+07

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-124.42	128.70
-120.87	128.81
-117.51	128.90
-113.88	129.00
-109.66	129.10
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-78.03	129.91
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-12.42	101.59
-9.20	101.49
-5.66	102.83
-2.42	103.14
1.71	103.11
5.15	102.93
9.23	101.45
13.85	101.06
16.93	100.85
24.10	100.92
27.63	100.65
41.98	103.44
47.66	103.02

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DATE: 10/20/2014
SHEET NUMBER: X 043 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1563+00 TO STA.1565+00

PC 1 2-423

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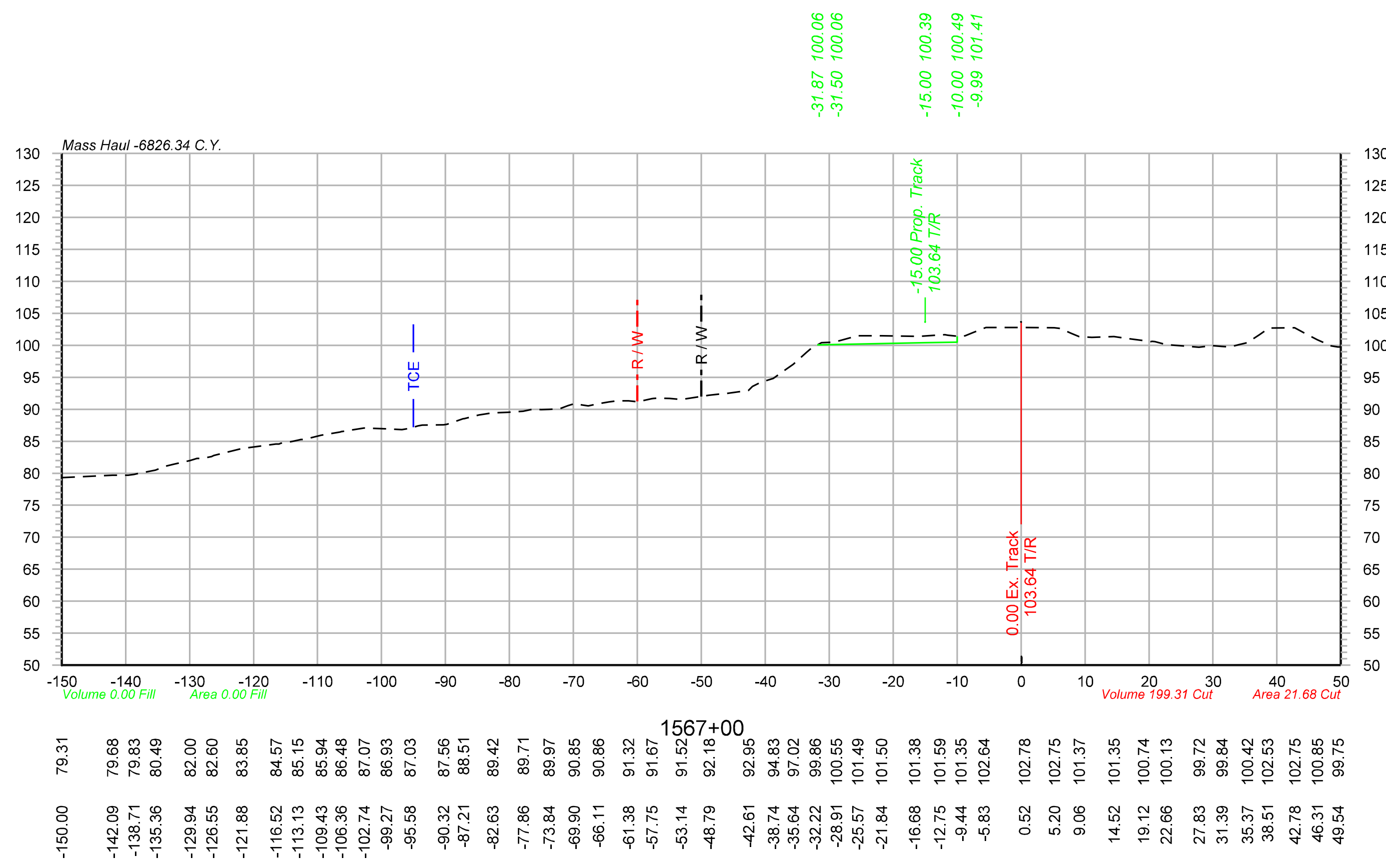
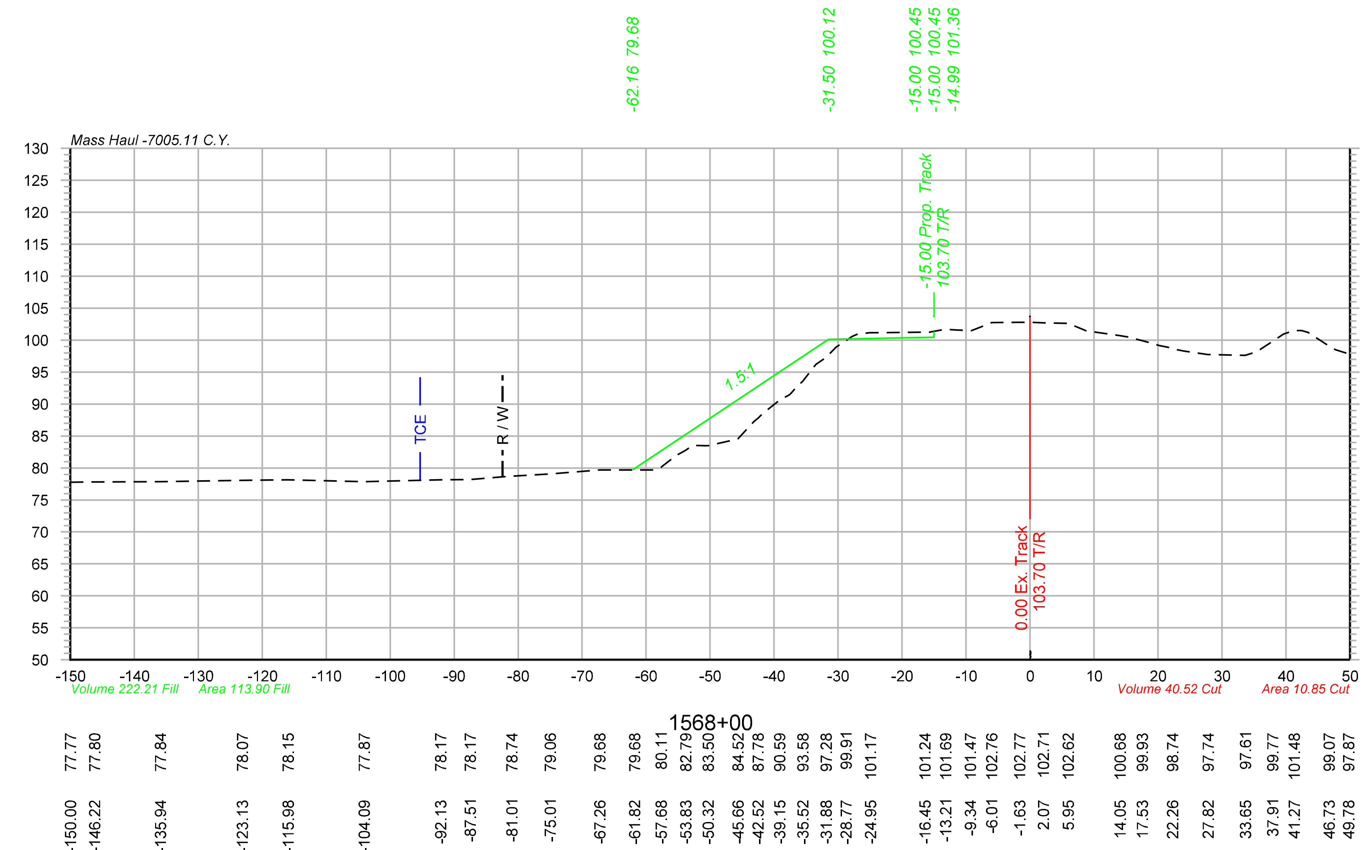
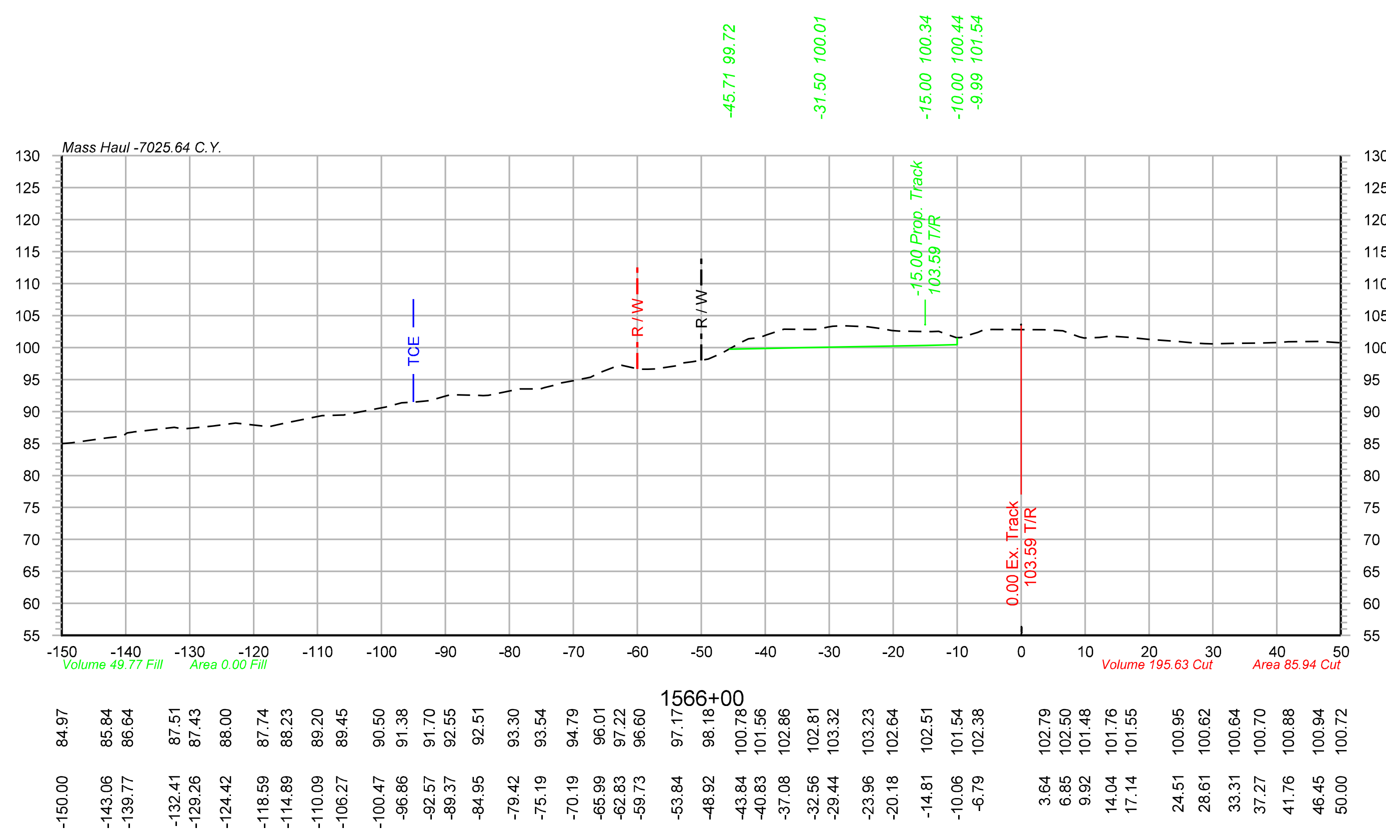
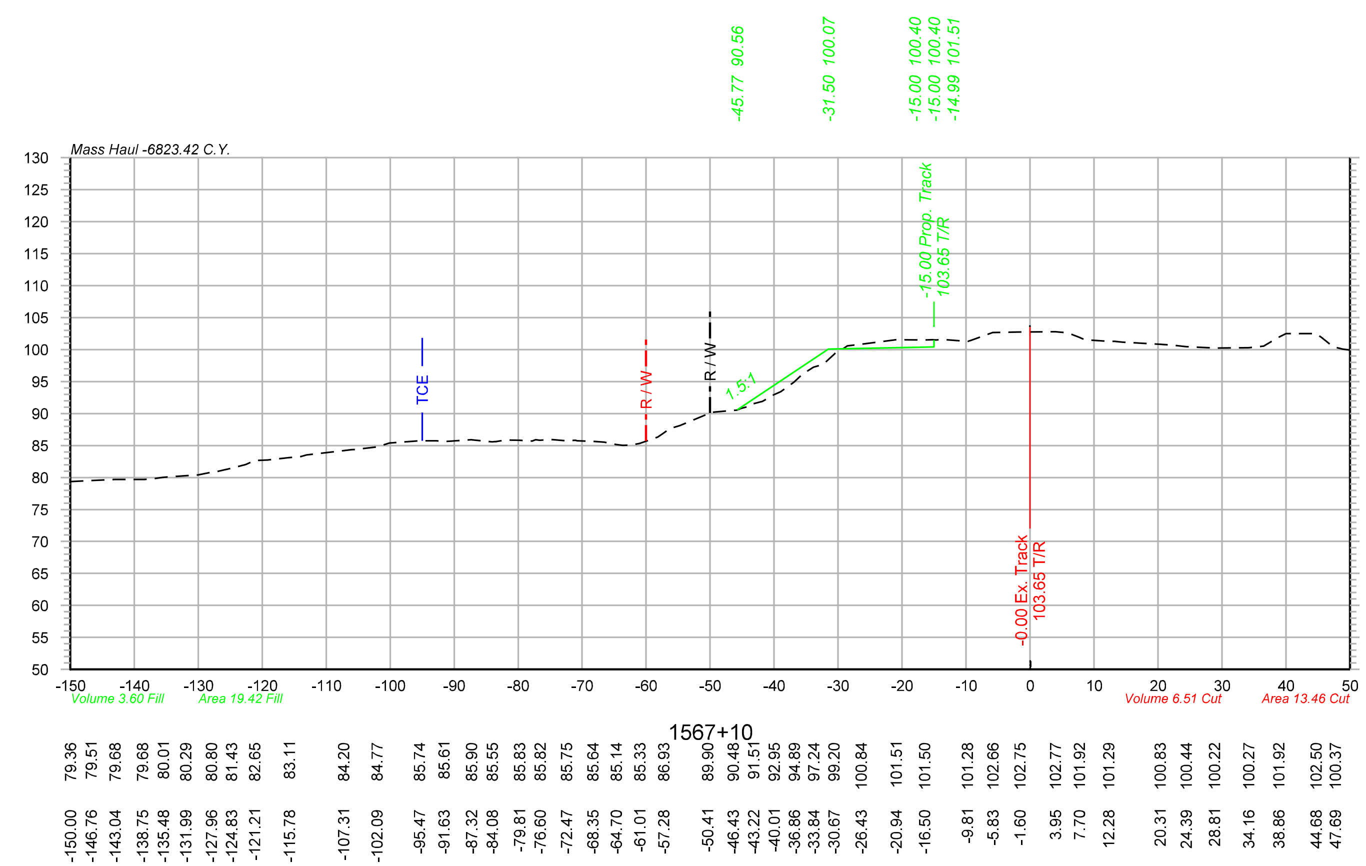
10/20/2014









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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 044 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-424
CROSS SECTIONS STA.1566+00 TO STA.1568+00

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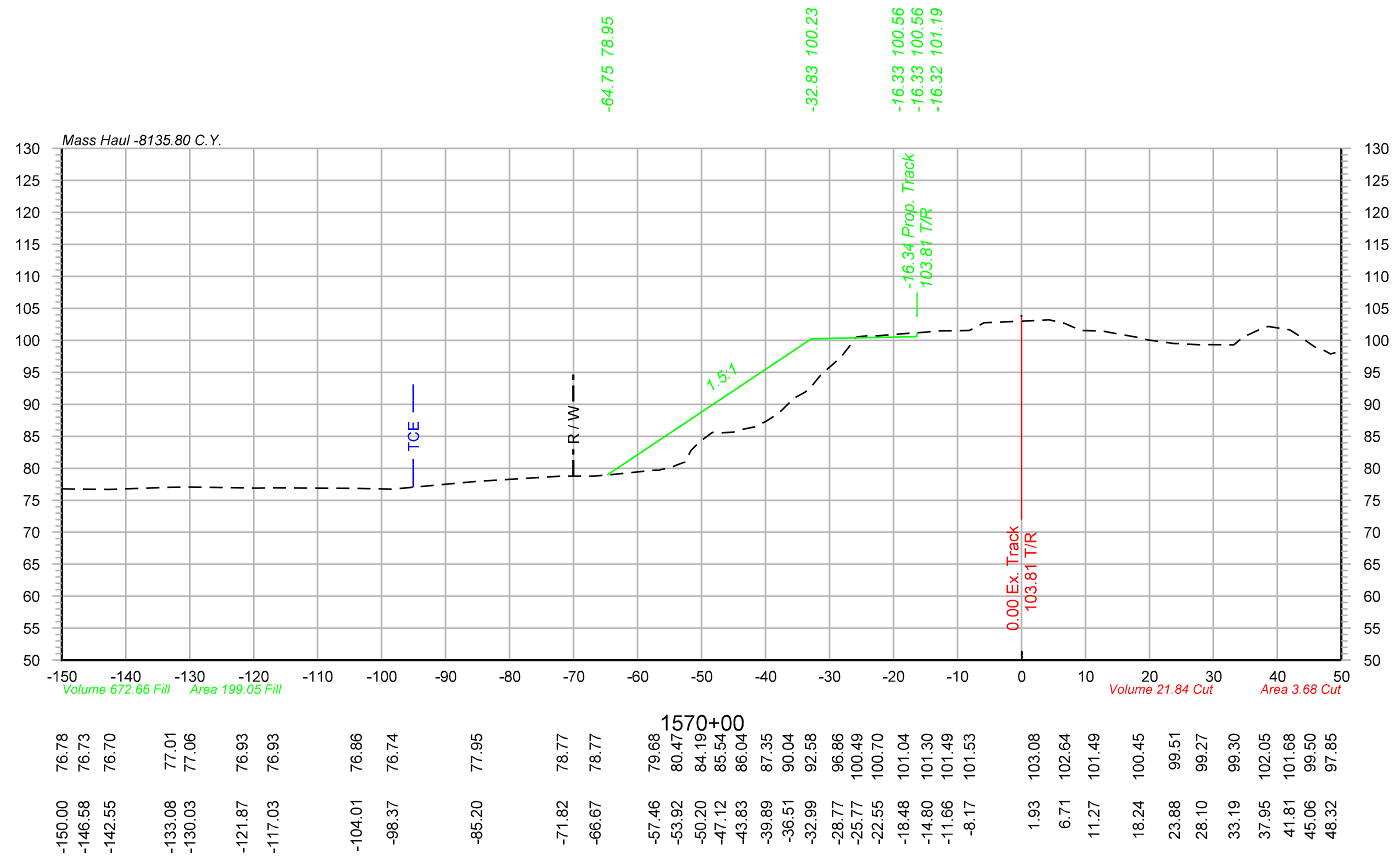
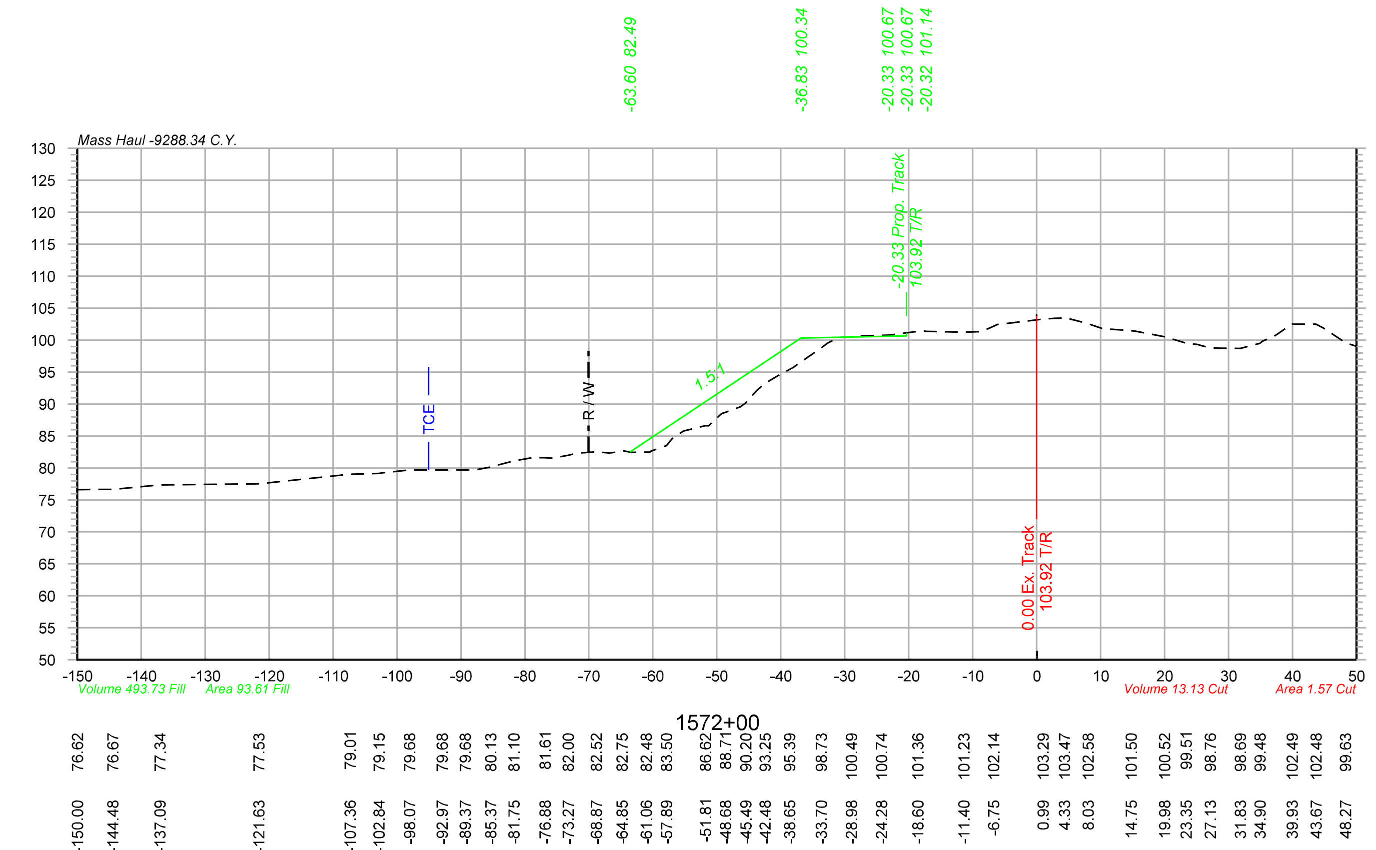
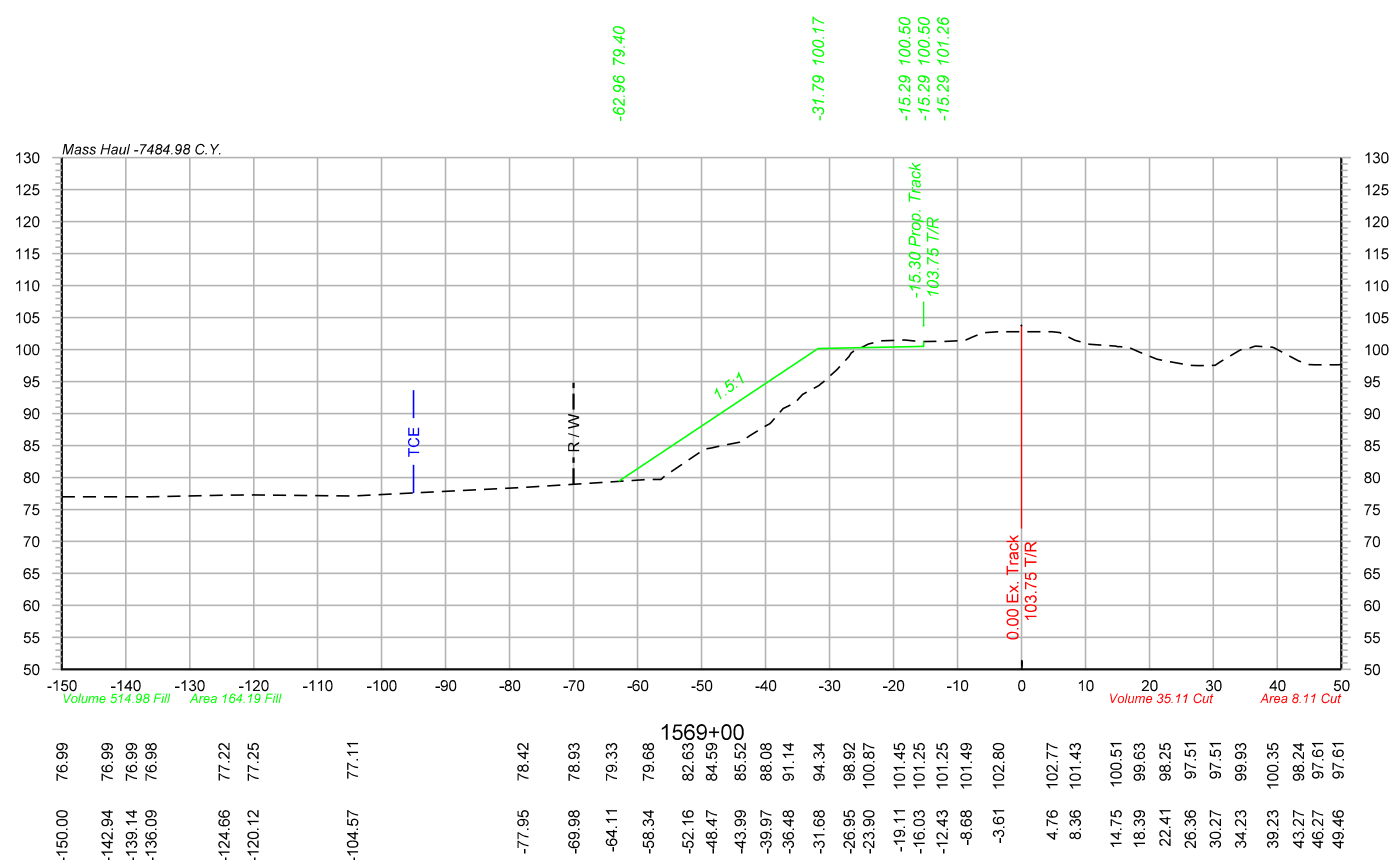
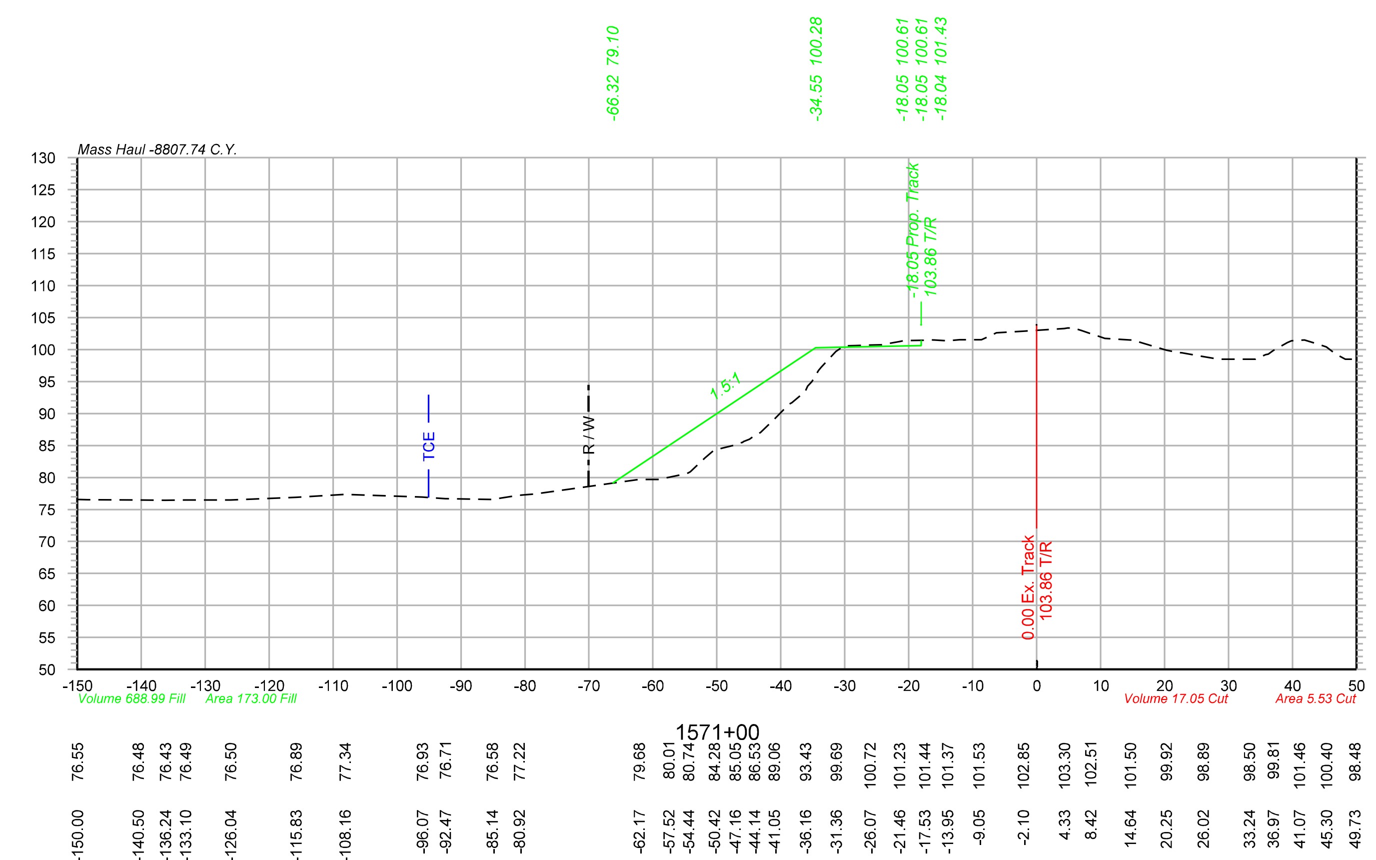
10/20/2014









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10/20/2014

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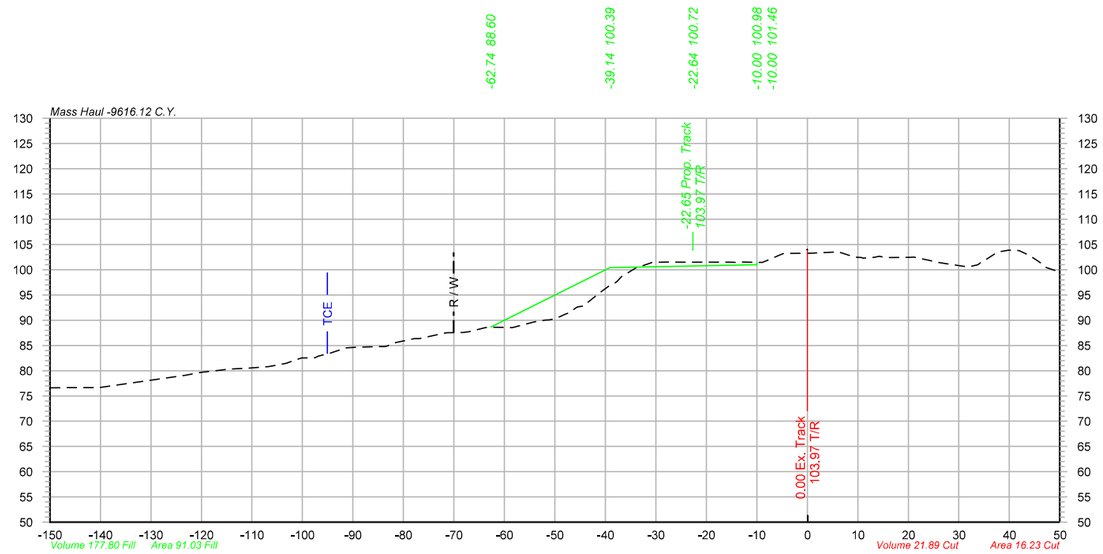
DATE:	10/20/2014
SHEET NUMBER	X 045 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1569+00 TO STA.1572+00

PC 1 2-425



1573+00

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-140.32	76.64
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-119.96	79.68
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-111.09	80.50
-107.75	80.73
-103.11	81.50
-100.01	82.56
-96.79	82.90
-91.49	84.50
-84.65	84.79
-81.36	85.62
-77.81	86.36
-71.83	87.44
-68.11	87.57
-63.78	88.51
-59.34	88.56
-56.22	89.11
-51.92	90.03
-47.84	91.25
-44.10	92.87
-41.02	95.52
-37.91	97.47
-33.74	100.50
-30.70	101.45
-27.04	101.55
-22.28	101.49
-18.09	101.47
-14.22	101.45
-9.52	101.45
-5.27	102.98
1.23	103.29
6.14	103.53
9.26	102.50
13.22	102.46
20.11	102.43
24.29	101.80
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37.66	103.51
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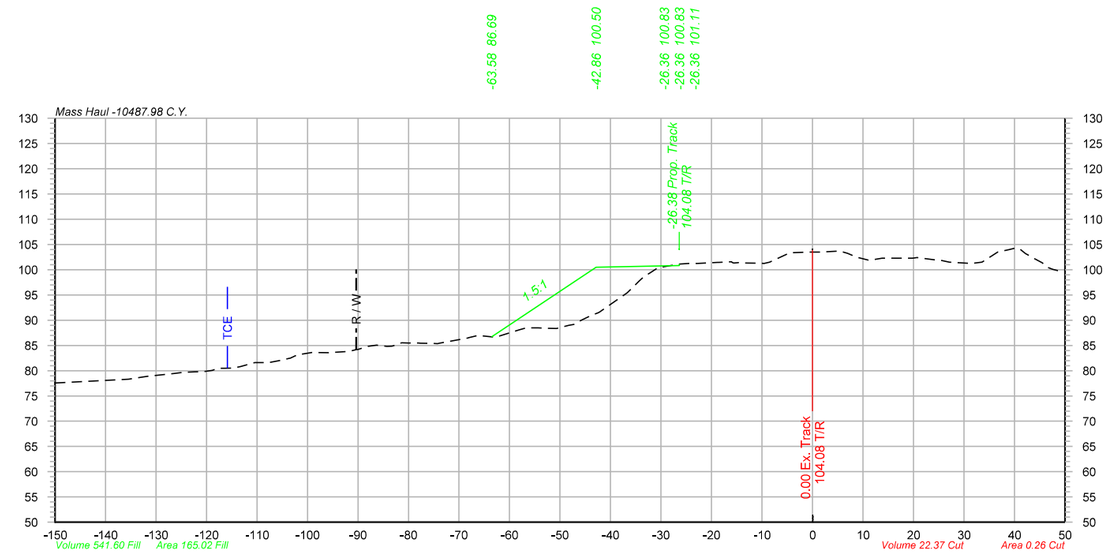

1575+00

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-126.49	79.46
-122.40	79.77
-118.88	80.08
-114.71	80.53
-110.46	81.59
-105.23	82.08
-101.84	83.23
-95.87	83.58
-91.91	83.82
-88.06	84.82
-84.28	84.81
-80.10	85.50
-75.15	85.40
-68.20	86.50
-63.03	86.64
-58.04	88.09
-54.31	88.47
-50.69	88.37
-47.08	89.18
-43.63	91.02
-39.83	93.24
-36.72	95.41
-33.33	98.65
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-26.38	101.11
-22.78	101.24
-18.80	101.45
-15.57	101.32
-10.16	101.26
-4.62	103.30
-0.83	103.49
5.44	103.70
8.73	102.48
11.80	101.96
15.45	102.27
19.83	102.26
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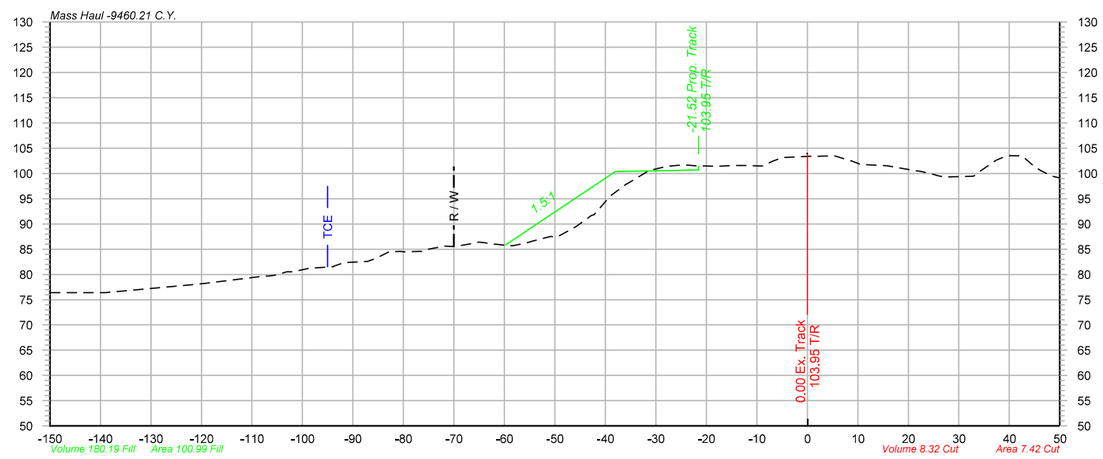

1572+50

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-139.04	76.40
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-98.62	81.23
-93.90	81.53
-88.15	82.54
-83.09	84.38
-76.35	84.57
-71.84	85.59
-66.93	86.02
-62.76	86.13
-59.16	85.70
-55.50	86.27
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-45.77	89.49
-42.75	91.67
-39.55	94.93
-36.28	97.58
-31.51	100.49
-27.82	101.39
-23.89	101.65
-20.49	101.50
-15.67	101.52
-11.76	101.57
-6.72	102.48
-2.66	103.26
0.51	103.39
5.38	103.50
8.63	102.51
15.78	101.52
21.69	100.48
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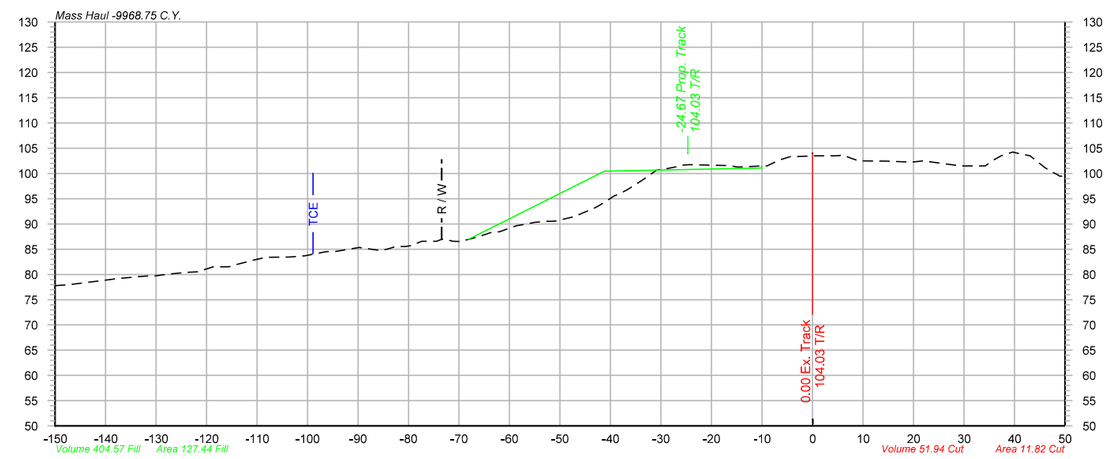

1574+00

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-128.25	79.97
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-115.54	81.53
-110.44	82.91
-103.72	83.45
-100.53	83.69
-96.24	84.51
-90.40	85.23
-85.47	84.72
-80.71	85.53
-77.68	86.44
-74.42	86.58
-71.19	86.55
-66.21	87.45
-61.96	88.45
-58.58	89.63
-55.02	90.30
-51.82	90.51
-47.73	91.34
-43.16	93.15
-40.06	95.01
-36.67	96.79
-32.51	99.51
-28.88	100.97
-25.60	101.66
-19.23	101.60
-14.97	101.28
-9.91	101.49
-6.29	102.73
0.63	103.50
4.49	103.50
7.59	103.05
13.85	102.46
19.59	102.25
25.02	102.07
29.32	101.50
34.24	101.51
37.34	103.48
40.53	104.02
45.97	101.22
50.00	99.40

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DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 046 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1572+50 TO STA.1575+00

PC 1 2-426

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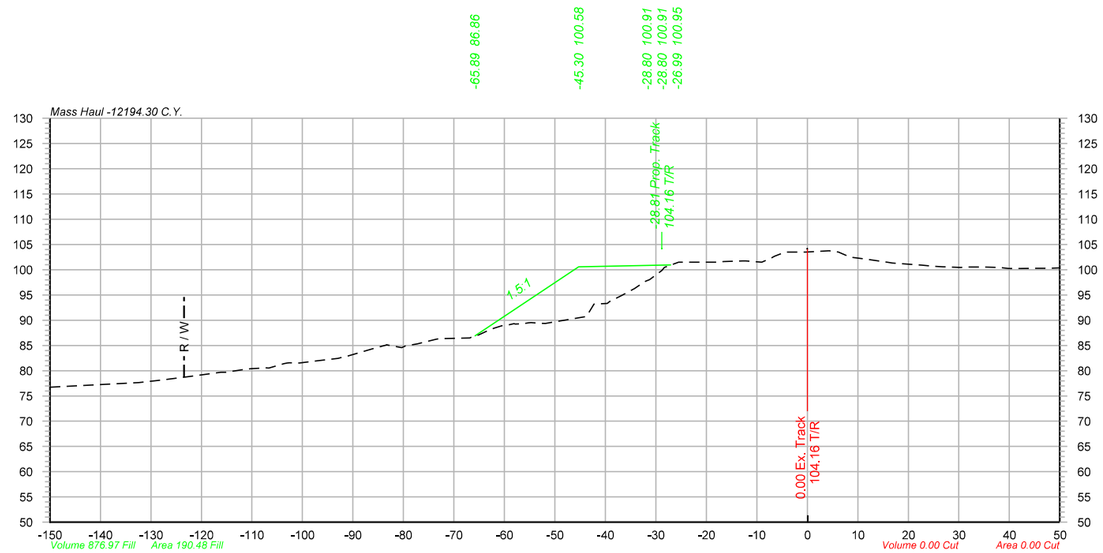
10/20/2014



1577+00

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-127.89	78.13
-122.64	78.80
-116.14	79.68
-111.92	80.19
-107.29	80.57
-103.64	81.40
-100.58	81.52
-96.88	81.96
-92.93	82.43
-89.19	83.45
-85.78	84.45
-80.34	84.55
-77.24	85.31
-73.51	86.22
-66.85	86.50
-63.25	87.95
-59.46	89.06
-56.20	89.31
-53.18	89.41
-44.00	90.68
-39.61	93.31
-34.21	96.28
-28.78	99.87
-25.49	101.49
-22.37	101.50
-18.17	101.49
-12.79	101.75
-9.05	101.51
-4.51	103.45
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8.46	102.47
11.49	102.10
16.04	101.47
22.63	100.89
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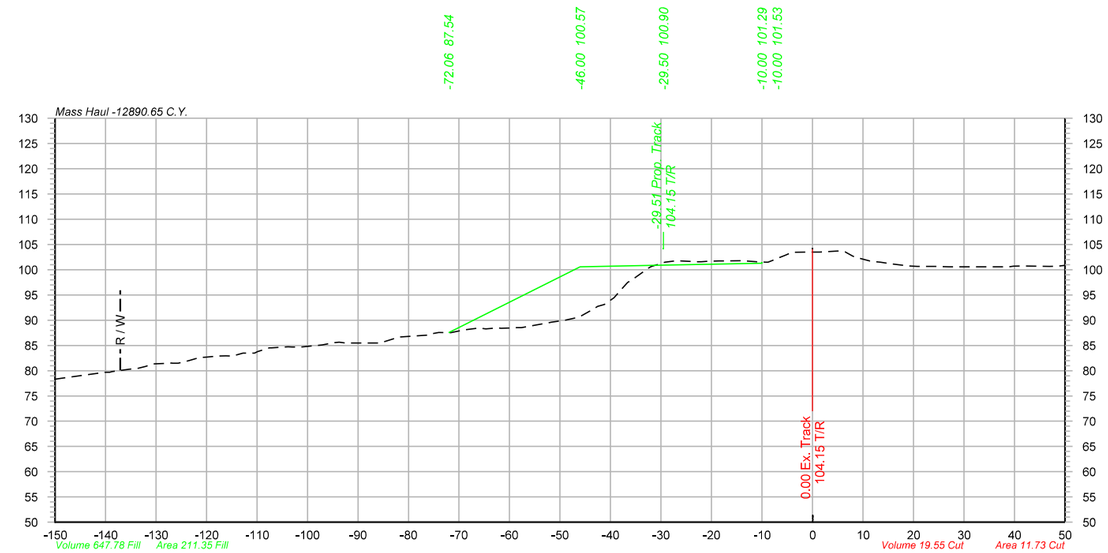

1578+00

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-127.23	81.47
-123.55	81.99
-120.01	82.68
-116.16	82.95
-112.80	83.48
-107.70	84.50
-103.85	84.75
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-75.92	87.06
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-62.35	88.50
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-52.55	89.45
-49.06	89.97
-43.18	92.33
-39.29	94.44
-35.79	97.95
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-29.23	101.50
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-18.53	101.74
-13.96	101.77
-10.96	101.56
-7.01	102.21
-1.06	103.47
4.99	103.69
8.04	102.65
11.62	101.66
15.65	101.17
19.04	100.72
22.28	100.65
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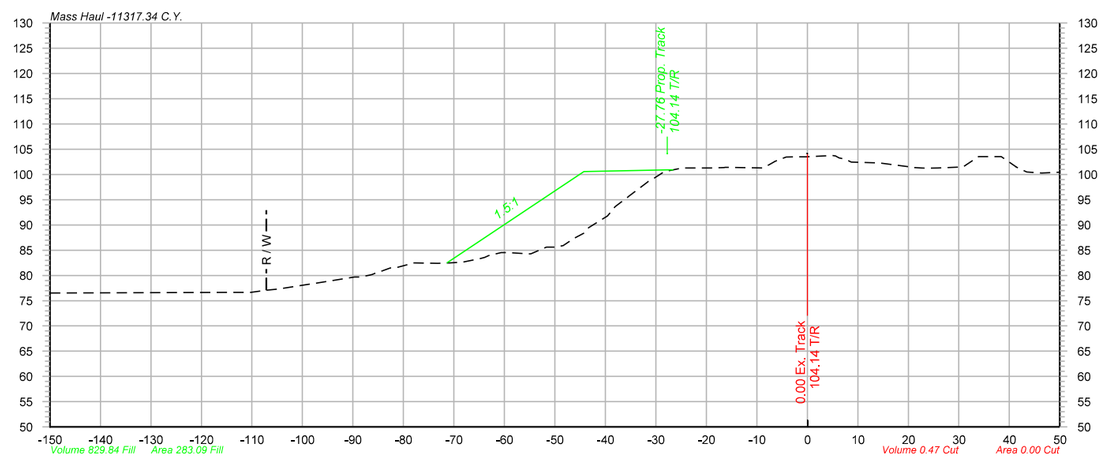

1576+00

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-137.04	76.57
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-107.21	77.05
-98.88	78.22
-89.69	79.68
-86.17	80.17
-82.60	81.49
-77.89	82.47
-73.16	82.40
-69.40	82.56
-64.71	83.37
-60.65	84.53
-55.16	84.27
-51.66	85.60
-48.37	85.91
-44.14	88.45
-39.60	91.78
-35.84	95.31
-31.71	98.44
-28.35	100.53
-24.80	101.28
-19.27	101.27
-16.20	101.39
-8.80	101.26
-4.19	103.45
-0.32	103.50
3.08	103.64
6.27	103.29
14.21	102.29
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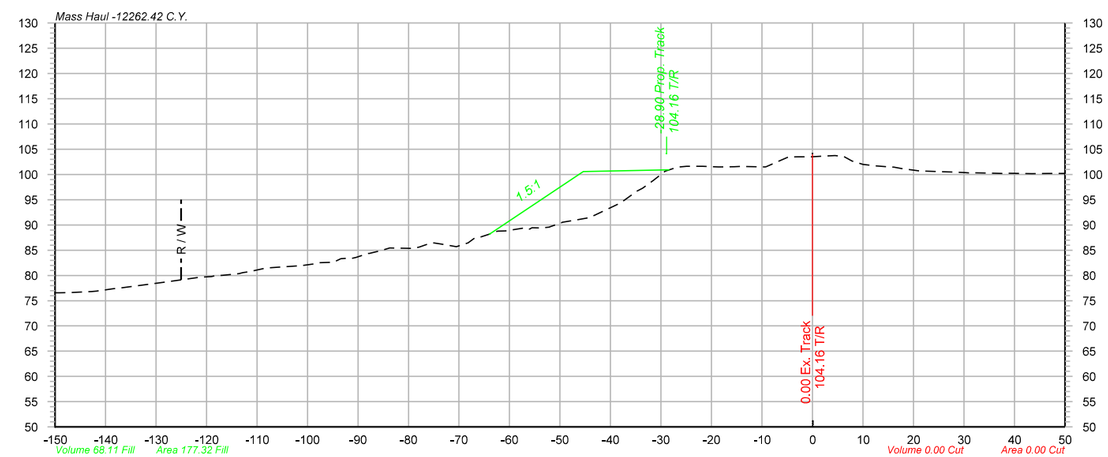

1577+10

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-101.23	81.95
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-94.88	82.61
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-87.98	84.38
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-79.54	85.37
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-71.93	85.96
-68.24	86.46
-63.92	88.18
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-57.35	89.36
-53.79	89.42
-49.68	90.46
-46.54	91.05
-38.16	94.29
-34.74	96.72
-31.51	98.81
-26.76	101.46
-21.74	101.61
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4.45	103.75
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12.53	101.70
16.13	101.45
21.18	100.68
25.87	100.55
30.21	100.35
34.33	100.28
37.61	100.19
43.47	100.16
46.67	100.21
49.79	100.21

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DATE: 10/20/2014
SHEET NUMBER: X 047 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1576+00 TO STA.1578+00

PC 1 2-427

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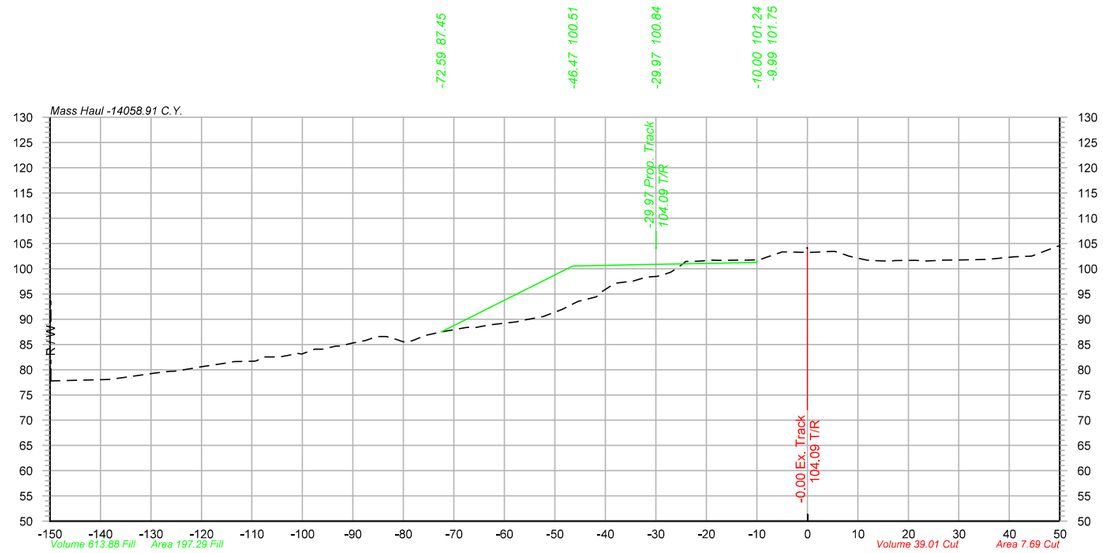
10/20/2014



1580+00

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-133.68	78.70
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-126.14	79.68
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-114.26	81.45
-110.86	81.65
-107.49	82.52
-104.45	82.54
-100.84	83.22
-97.54	84.06
-94.04	84.54
-90.09	85.28
-85.83	86.38
-81.33	85.97
-77.93	85.84
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-41.77	94.46
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-6.31	102.86
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5.33	103.44
10.64	101.96
15.25	101.55
21.35	101.64
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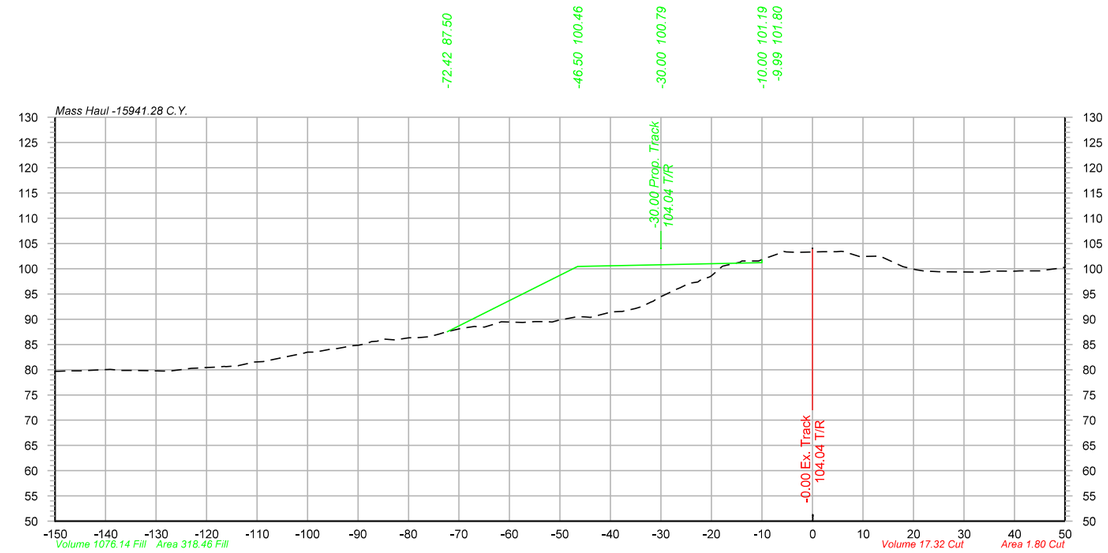

1582+00

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-113.78	80.77
-110.49	81.52
-103.57	82.70
-99.99	83.48
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-91.85	84.69
-88.26	85.20
-82.67	85.92
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-66.19	88.47
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-57.37	89.36
-52.68	89.53
-46.42	90.53
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-31.96	93.41
-26.79	95.97
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-14.39	101.30
-10.65	101.54
-6.92	102.89
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2.14	103.36
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13.09	102.50
17.91	100.40
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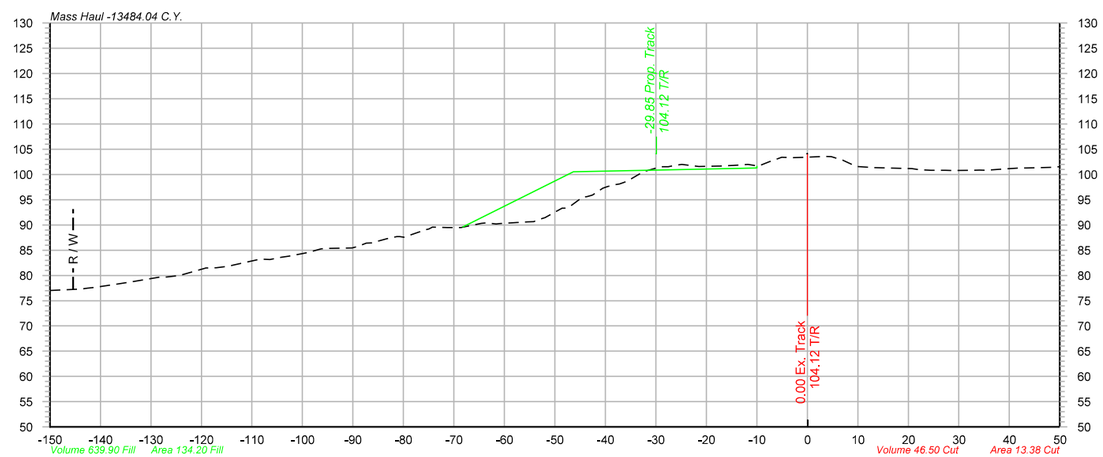

1579+00

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-114.43	81.87
-110.79	82.70
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-102.68	83.83
-98.98	84.51
-94.70	85.35
-90.18	85.45
-86.31	86.43
-83.26	87.29
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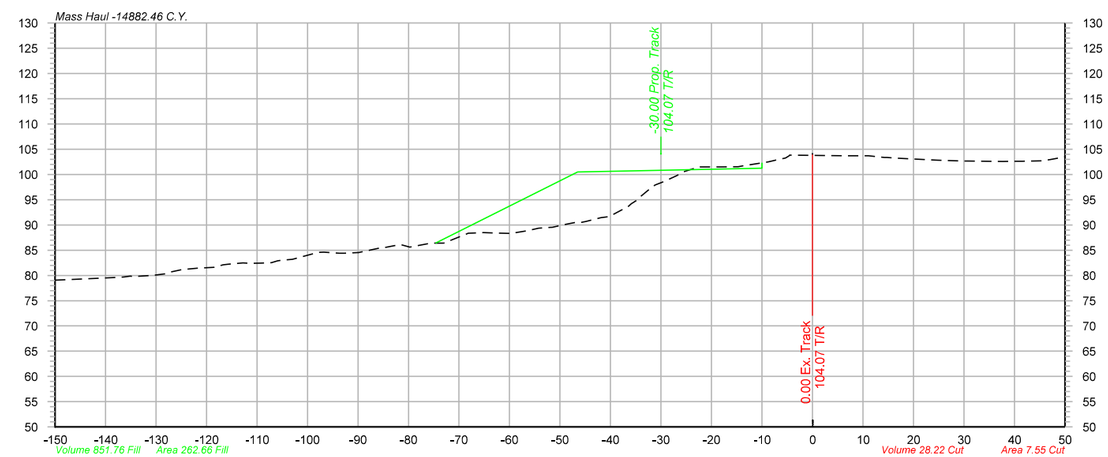

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-118.53	81.61
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-109.33	82.45
-105.89	82.89
-98.36	84.45
-93.69	84.39
-90.12	84.53
-85.85	85.41
-81.92	86.08
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-73.30	86.40
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-65.15	88.50
-59.70	88.32
-56.44	88.85
-53.01	89.43
-49.14	90.06
-45.89	90.47
-41.91	91.42
-37.67	93.03
-34.01	95.66
-29.48	98.55
-25.65	100.50
-20.95	101.48
-14.73	101.52
-8.76	102.50
-5.36	103.25
-0.43	103.77
6.59	103.69
11.07	103.68
14.24	103.38
24.74	102.81
29.98	102.67
37.67	102.57
41.59	102.62
45.40	102.69
50.00	103.48

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SHEET NUMBER	X 048 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1579+00 TO STA.1582+00

PC 1 2-428

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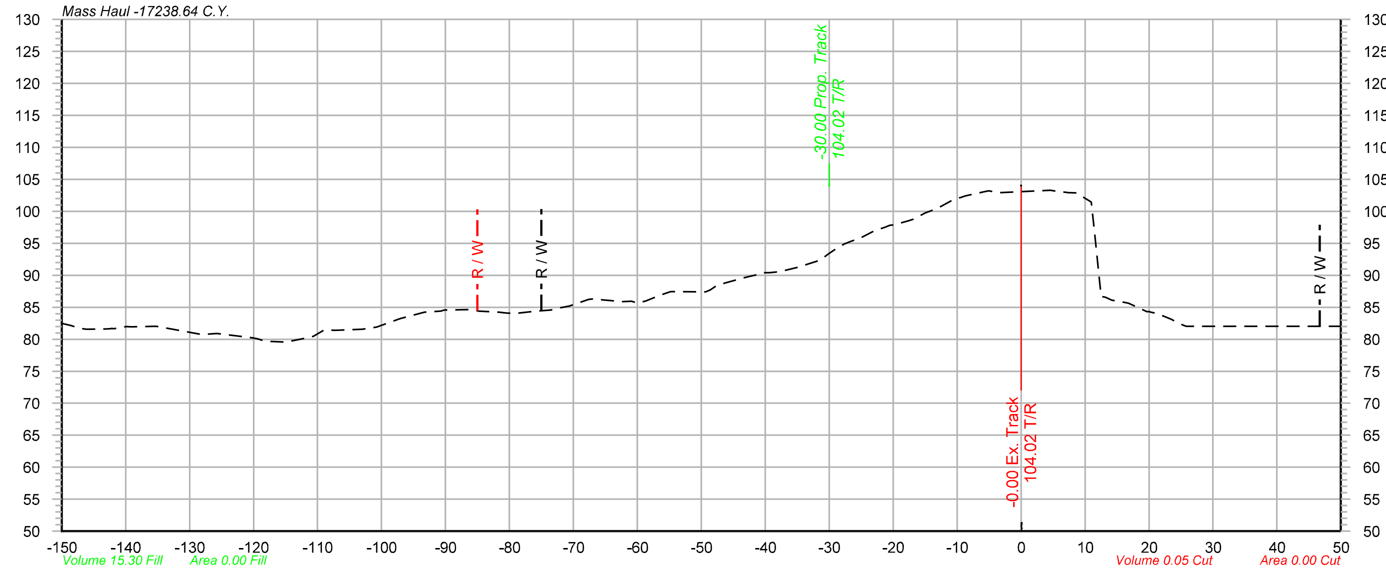
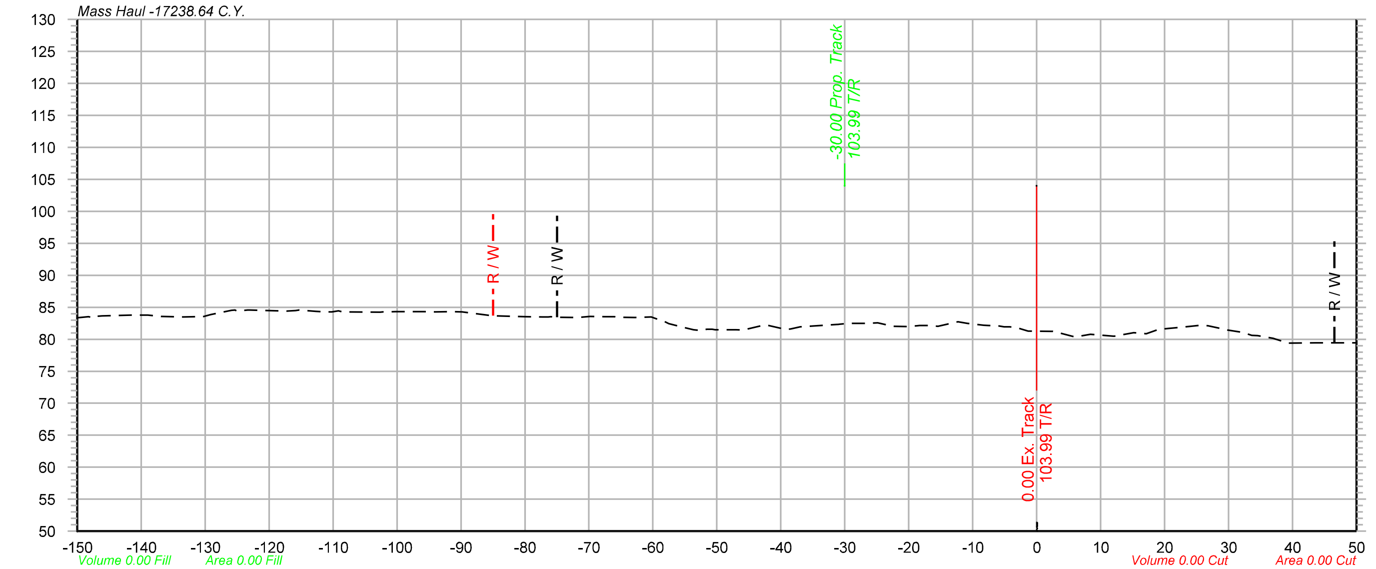
10/20/2014



1582+97

Offset	Elevation
-150.00	82.46
-146.13	81.55
-143.04	81.60
-139.90	81.97
-135.31	82.03
-128.52	80.83
-120.23	80.21
-117.14	79.65
-114.07	79.74
-110.97	80.39
-107.20	81.41
-102.98	81.55
-97.20	83.18
-93.45	84.18
-90.17	84.55
-85.71	84.63
-81.66	84.23
-75.79	84.42
-70.65	85.18
-67.60	86.25
-63.98	86.04
-60.94	85.94
-56.50	86.87
-49.36	87.39
-46.35	88.78
-43.32	89.61
-39.33	90.40
-34.97	91.24
-31.39	92.36
-27.62	94.90
-22.96	96.94
-18.47	98.30
-14.99	99.73
-11.18	101.50
-5.68	103.07
4.48	103.29
7.80	102.90
10.98	101.43
14.20	86.11
19.30	84.49
23.54	83.12
27.36	82.03
32.49	82.03
35.76	82.03
40.40	82.03
43.86	82.03
48.28	82.03



1584+00

Offset	Elevation
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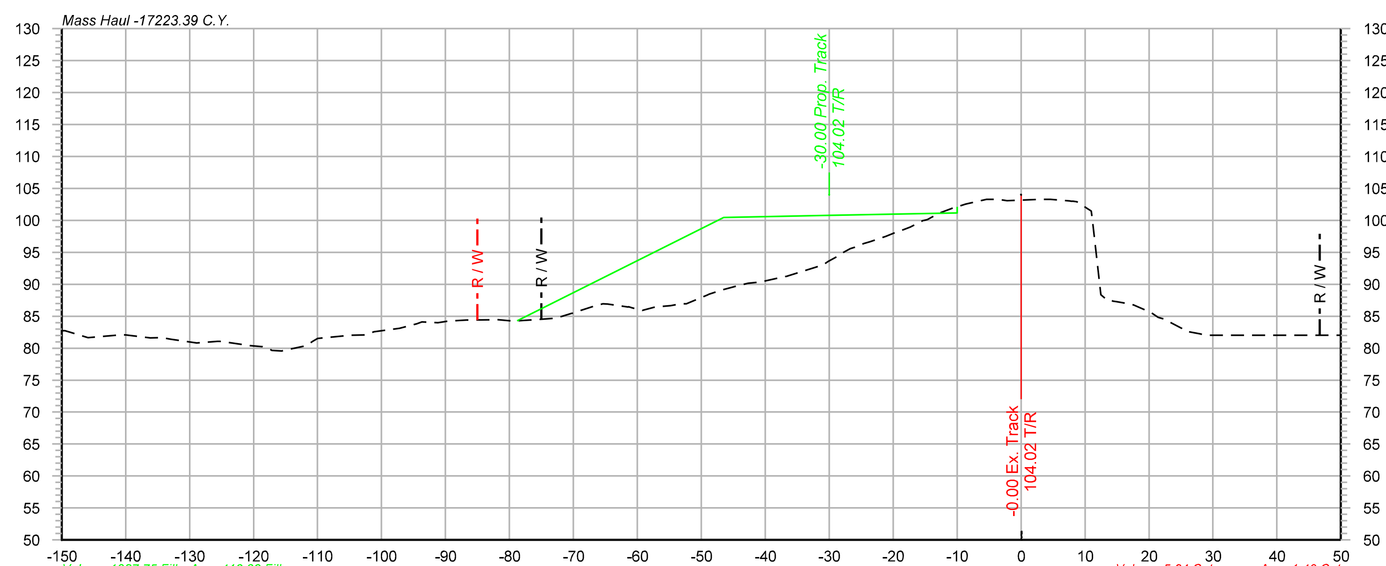
-141.55	83.78
-136.91	83.58
-133.44	83.48
-129.13	83.84
-125.89	84.54
-117.28	84.40
-112.66	84.37
-109.14	84.43
-102.66	84.24
-95.73	84.32
-91.49	84.31
-85.26	83.71
-79.99	83.55
-76.36	83.50
-72.00	83.39
-67.56	83.53
-62.77	83.40
-58.00	82.68
-53.64	81.48
-50.28	81.50
-46.97	81.47
-42.72	82.19
-39.18	81.54
-31.17	82.32
-26.56	82.49
-22.46	82.01
-18.68	82.12
-15.40	82.03
-12.28	82.72
-8.31	82.19
-5.07	81.95
-1.34	81.26
2.56	81.22
5.85	80.40
11.97	80.47
15.16	81.02
19.27	81.61
24.10	82.02
29.52	81.51
33.64	80.61
36.96	80.16
43.70	79.44
49.85	79.43

-78.80 84.29
-46.50 100.44
-30.00 100.77
-10.00 101.17
-9.99 102.12



1582+95

Offset	Elevation
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-140.98	82.06
-136.14	81.62
-132.93	81.39
-128.89	80.80
-125.67	81.05
-120.55	80.38
-117.40	79.79
-111.75	80.39
-104.79	82.02
-101.17	82.55
-97.19	83.10
-93.68	84.12
-89.59	84.22
-86.36	84.39
-82.46	84.42
-79.32	84.24
-76.18	84.46
-72.74	84.69
-69.39	85.72
-65.38	86.96
-61.47	86.46
-57.23	86.46
-53.21	86.94
-49.06	88.31
-44.41	89.74
-40.70	90.34
-36.99	91.21
-30.95	93.02
-27.68	95.02
-24.63	96.37
-21.16	97.48
-17.34	98.95
-12.82	101.10
-8.68	102.54
-5.42	103.26
-2.18	103.05
2.92	103.29
6.63	103.12
10.52	101.73
13.58	87.45
16.61	86.98
20.28	85.62
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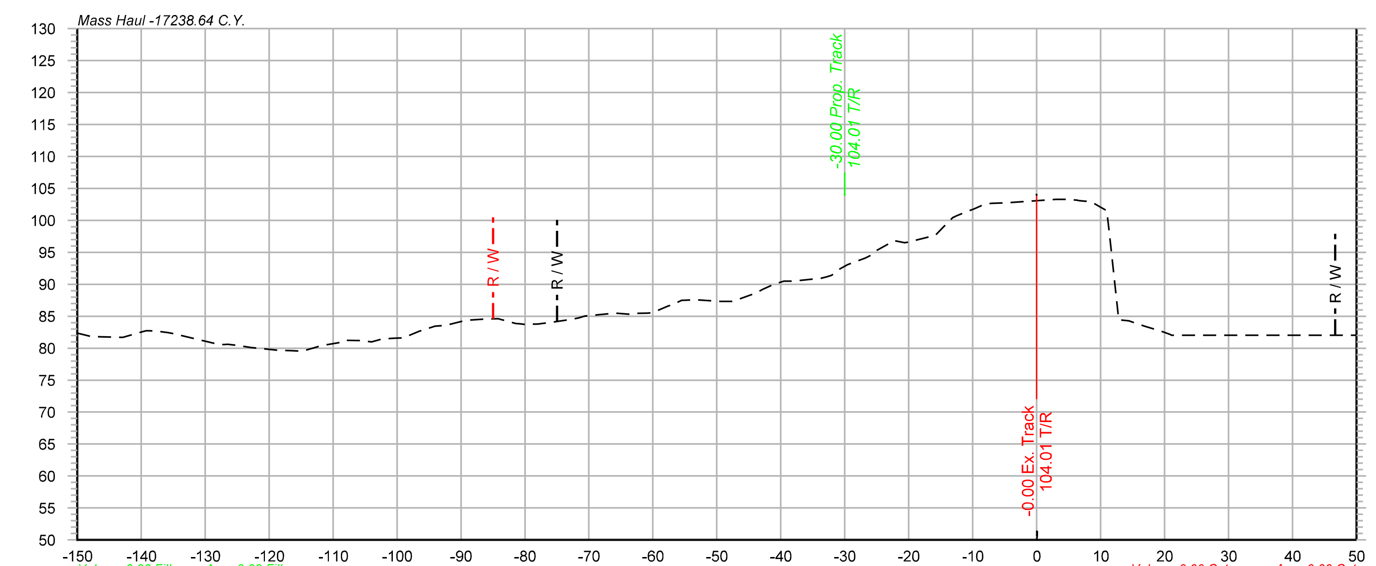

1583+00

Offset	Elevation
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-142.87	81.71
-139.56	82.66
-136.15	82.50
-127.94	80.62
-124.72	80.40
-118.78	79.69
-114.81	79.54
-109.14	80.86
-105.61	81.18
-102.30	81.43
-99.04	81.59
-94.08	83.44
-89.22	84.38
-86.06	84.57
-81.45	83.84
-77.99	83.78
-72.66	84.51
-66.33	85.43
-62.92	85.45
-57.69	86.55
-53.23	87.55
-49.47	87.32
-43.95	88.63
-39.49	90.47
-33.69	90.94
-29.55	93.06
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-18.67	96.93
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3.02	103.26
6.28	103.16
10.35	101.88
14.47	84.26
18.24	83.04
24.13	82.03
28.17	82.03
31.97	82.03
35.18	82.03
38.18	82.03
43.63	82.03
47.15	82.03

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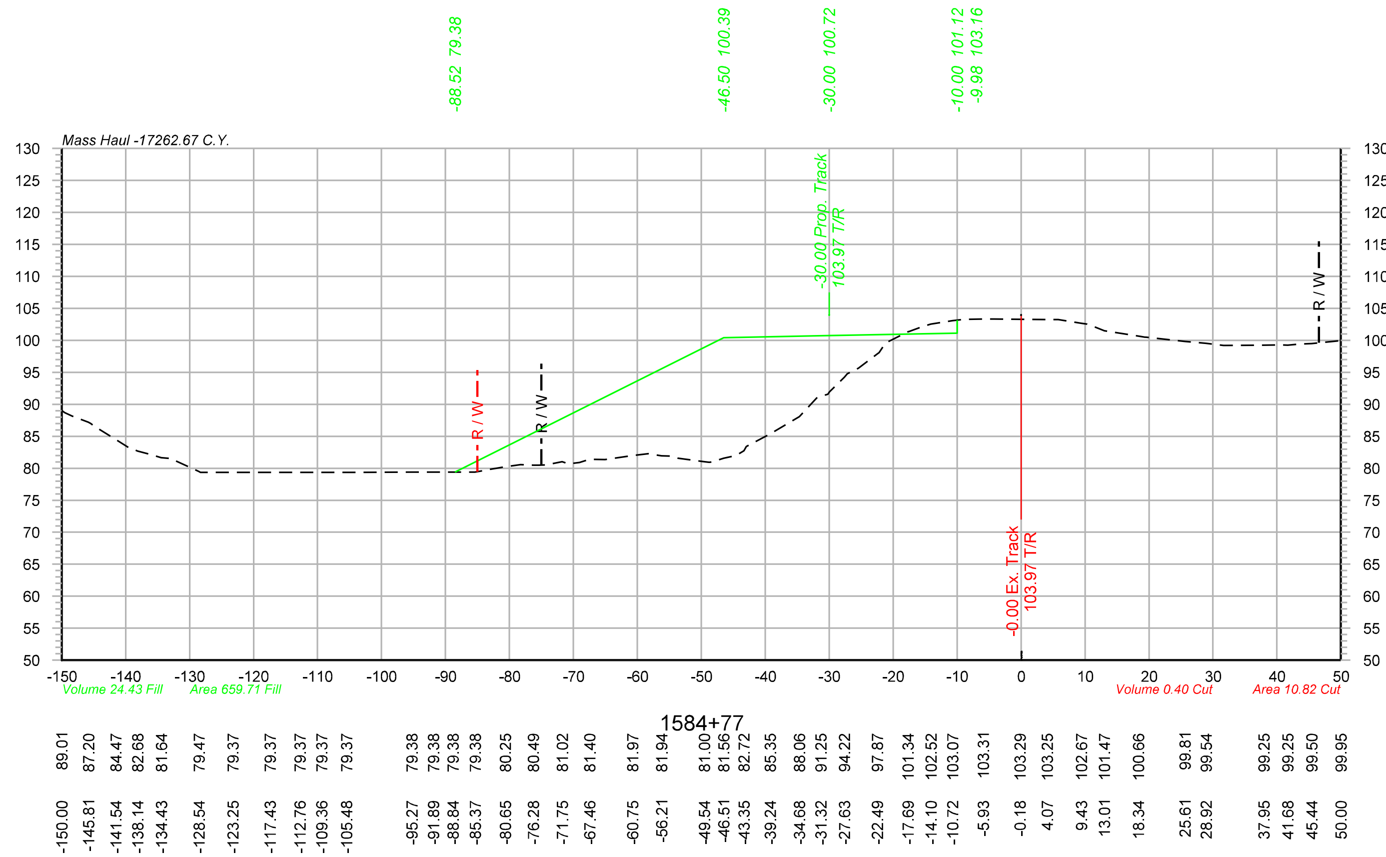
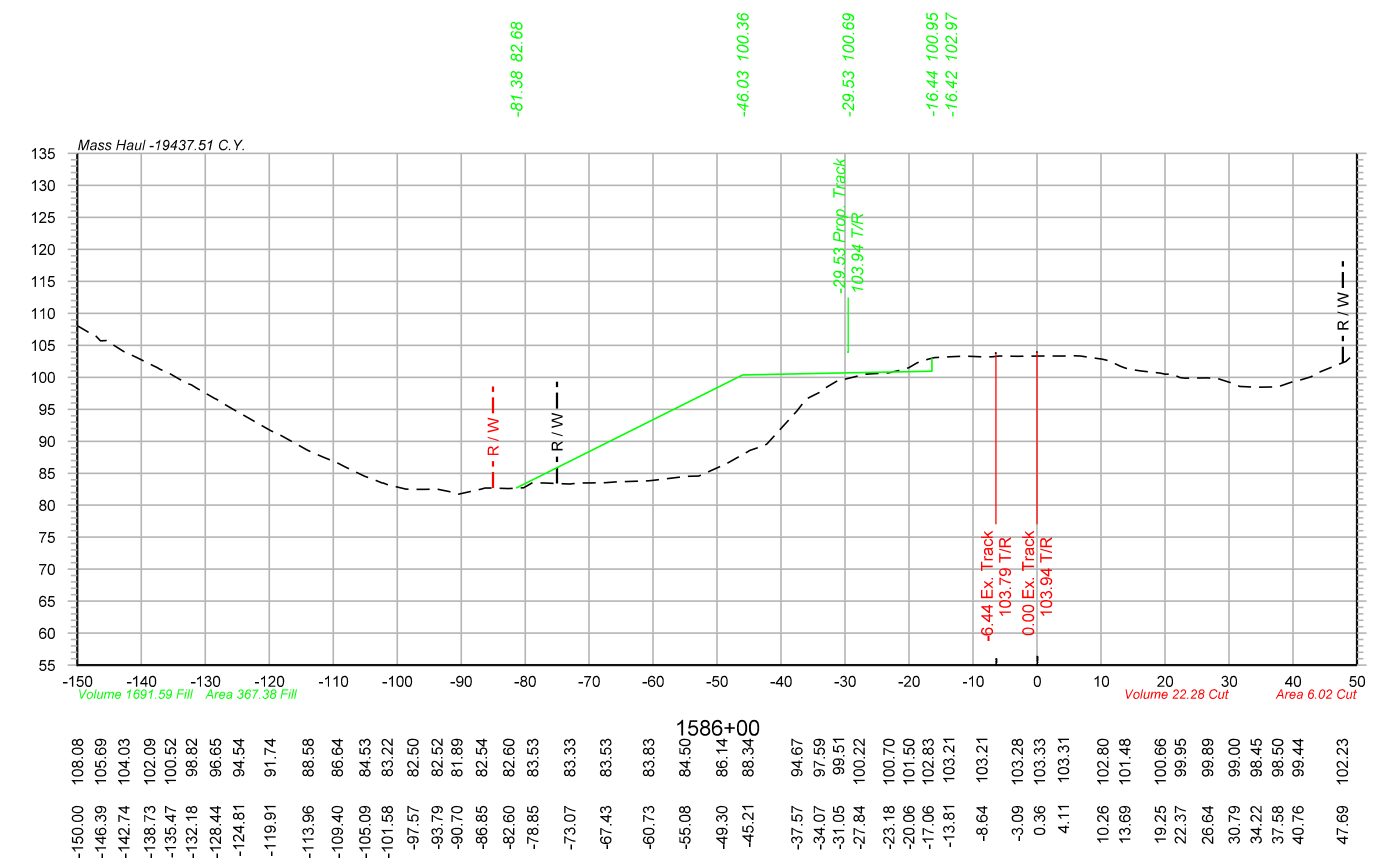
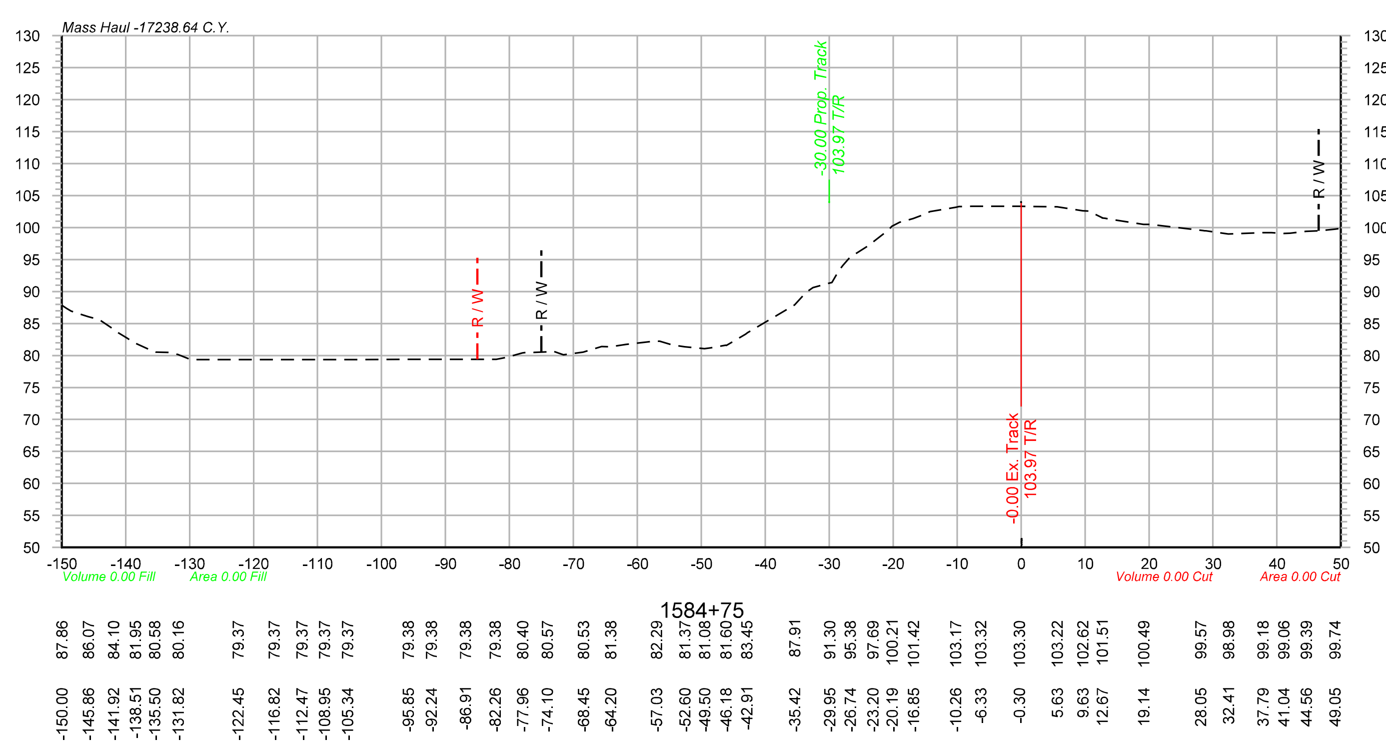
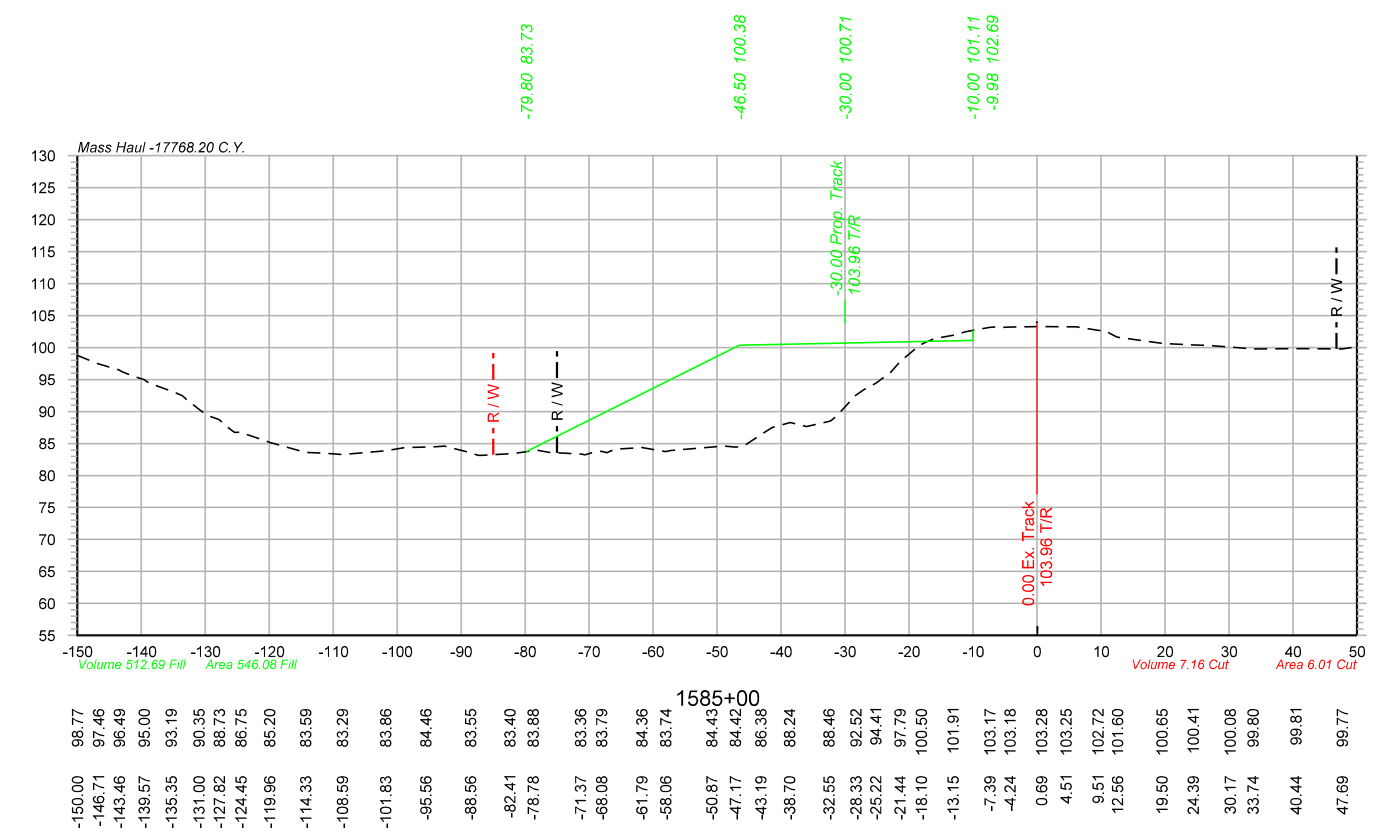
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER: X 049 of 139	SHEET TITLE: PC 1 2-429 CROSS SECTIONS STA.1582+95 TO STA.1584+00









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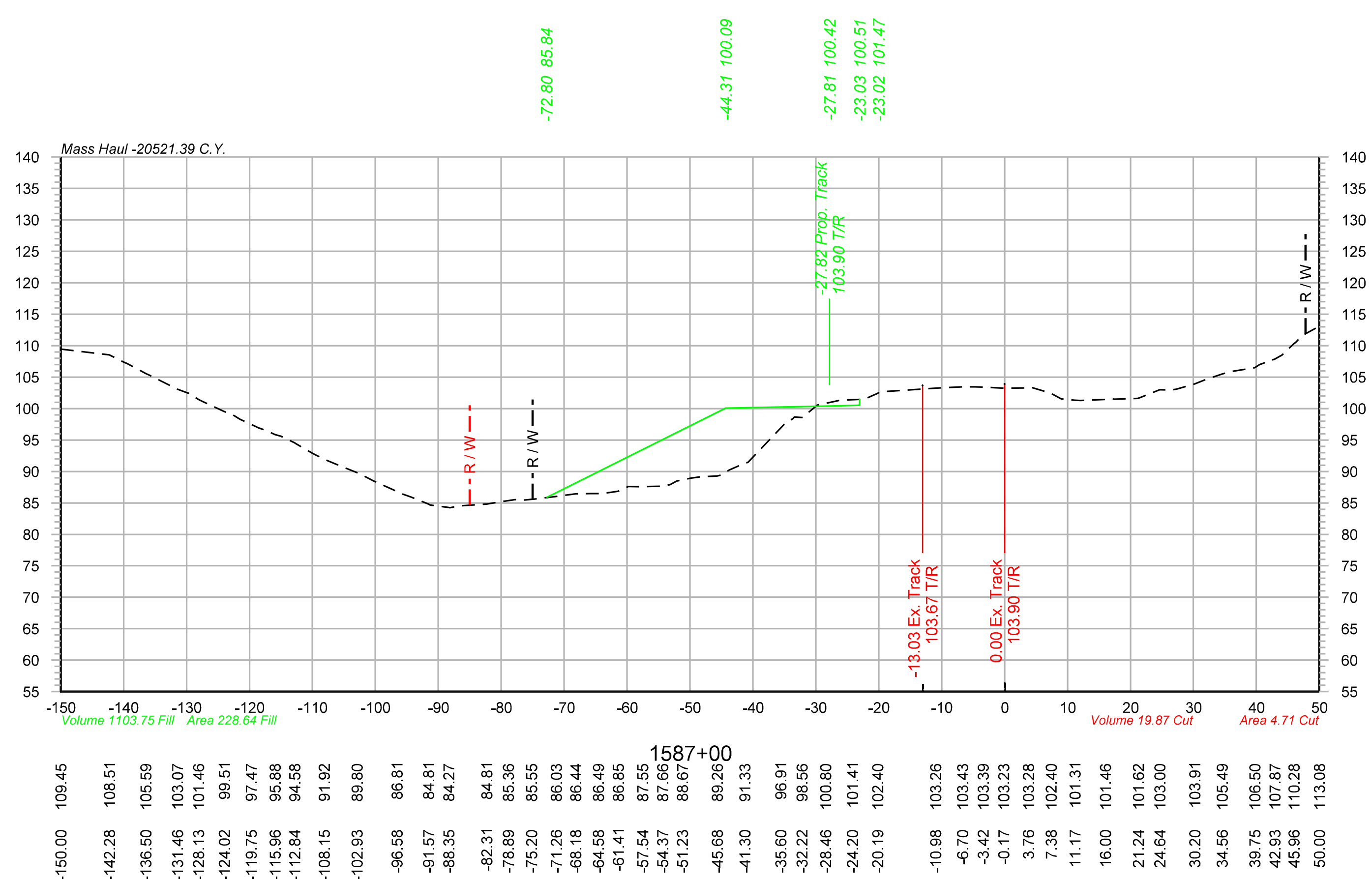
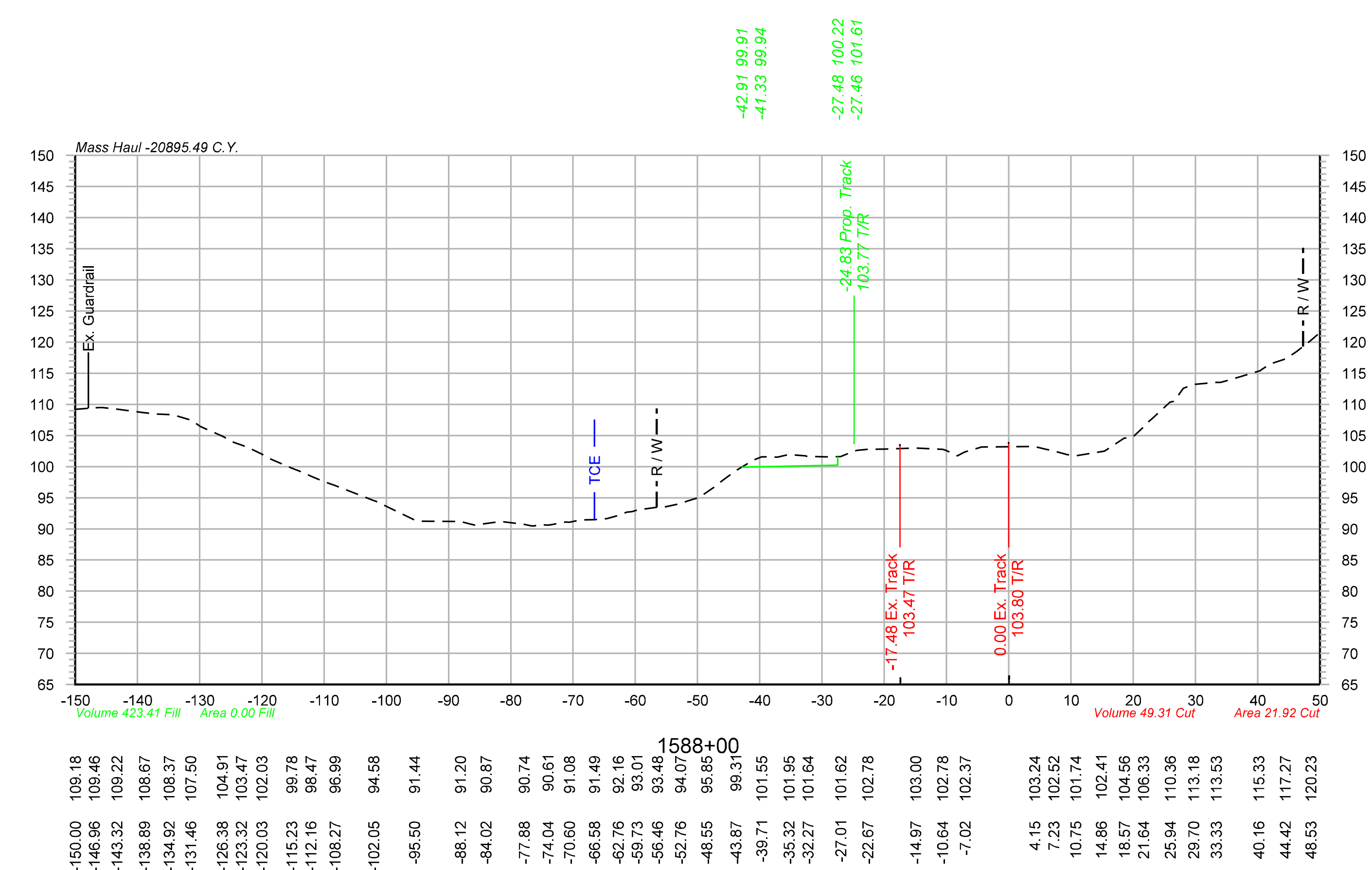
CHECKED BY: RCK	LOCATION & DESCRIPTION:	Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014		
SHEET NUMBER X 050 of 139	SHEET TITLE: PC 1 2-430	CROSS SECTIONS STA.1584+75 TO STA.1586+00





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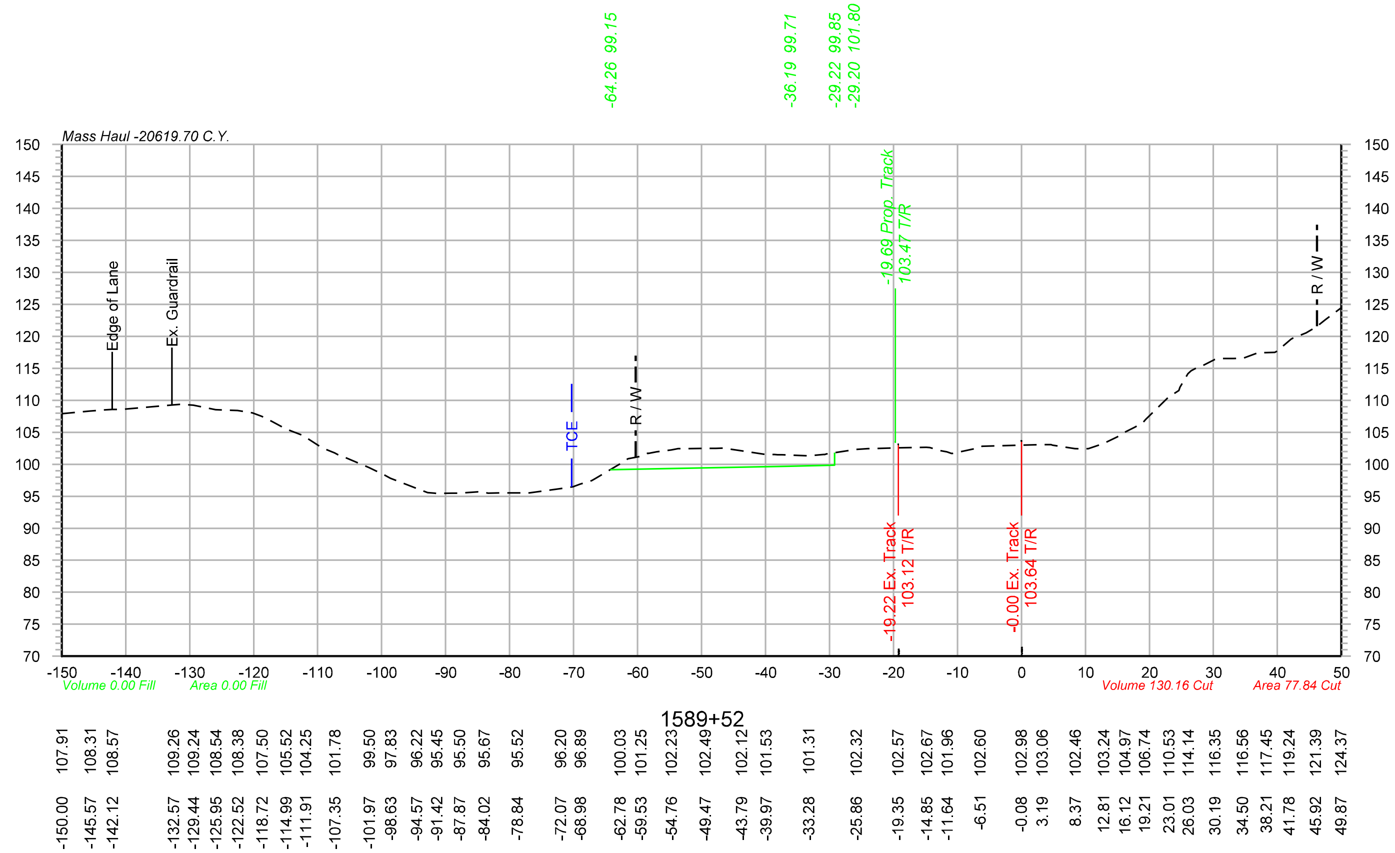
SHEET NUMBER	X 051 of 139

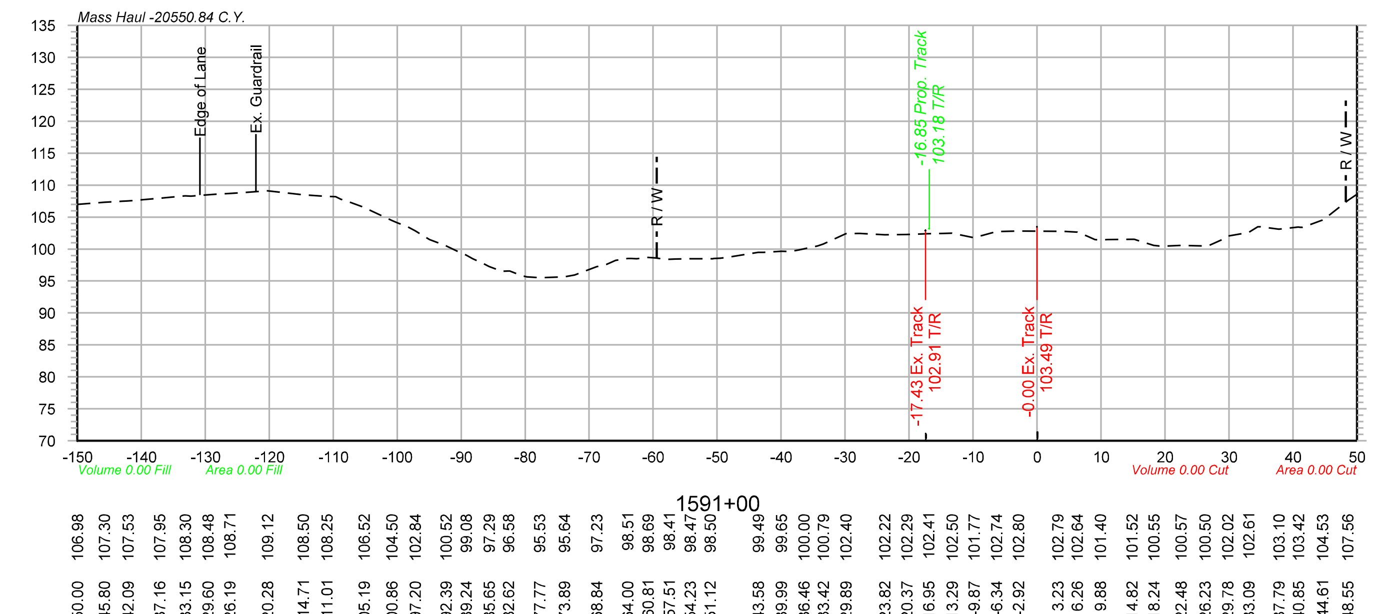
UNION PACIFIC RAILROAD

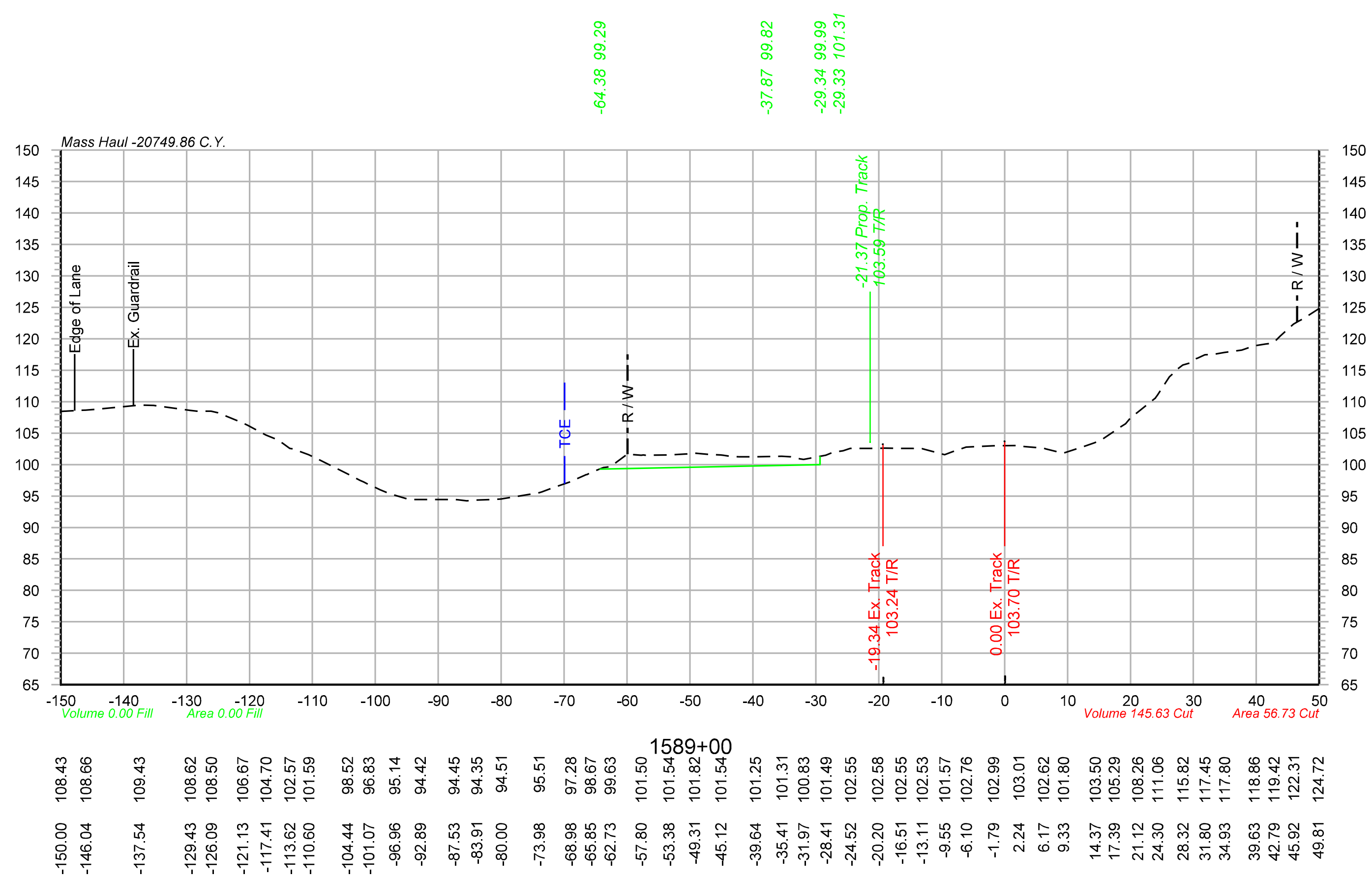
Office of Assistant Vice President
Engineering Design/Construction

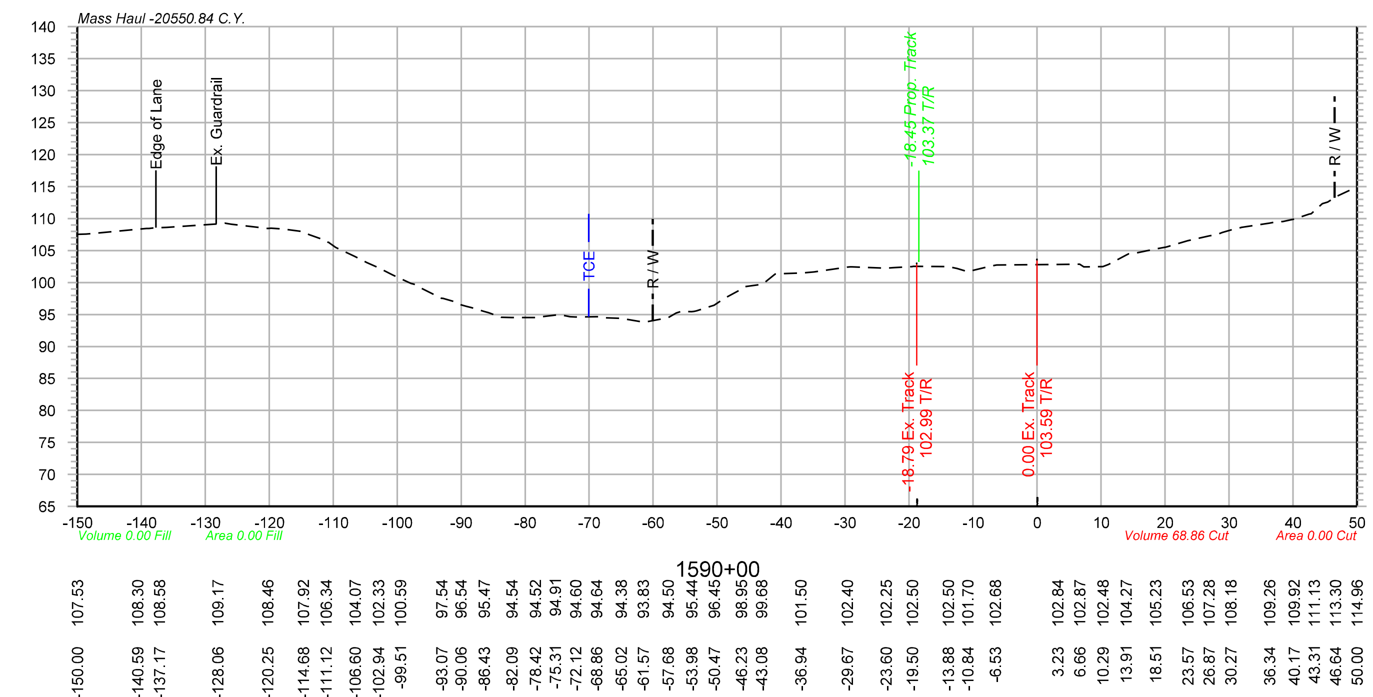
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-431
CROSS SECTIONS STA.1587+00 TO STA.1588+00









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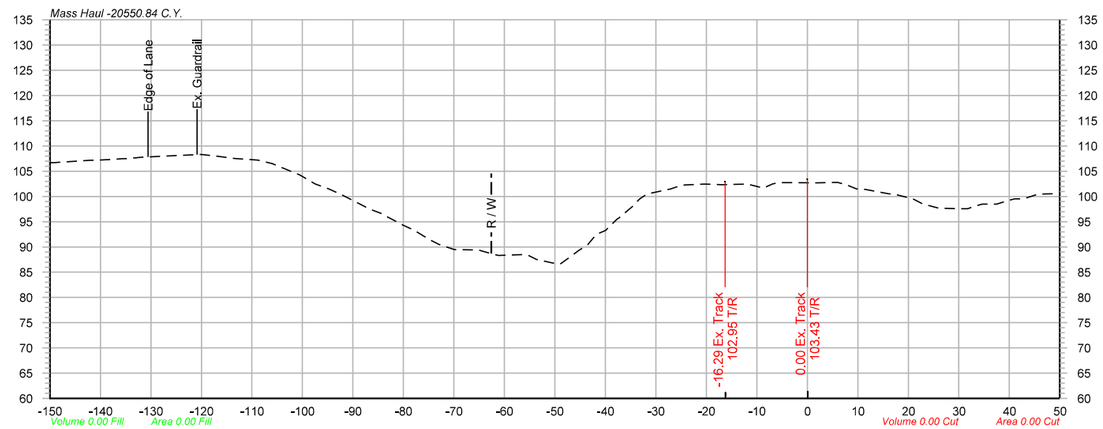
SHEET NUMBER	X 052 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-432
CROSS SECTIONS STA.1589+00 TO STA.1591+00



1593+00

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-135.46	107.48
-131.61	107.77
-128.21	107.93
-120.08	108.30
-117.02	107.99
-113.51	107.52
-109.35	107.24
-105.89	106.50
-101.68	104.75
-98.49	103.07
-94.75	101.47
-88.41	98.39
-84.08	96.54
-80.42	94.49
-74.99	91.54
-69.91	89.50
-65.14	89.38
-61.16	88.32
-56.61	88.48
-50.59	86.86
-47.03	88.00
-43.79	90.28
-39.97	93.28
-36.70	96.26
-33.26	99.50
-30.22	100.82
-27.08	101.48
-21.48	102.40
-16.60	102.34
-12.08	102.42
-8.64	101.67
-3.30	102.72
1.95	102.70
5.32	102.78
9.76	101.48
16.11	100.52
20.70	99.58
26.00	97.70
30.03	97.58
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37.05	98.50
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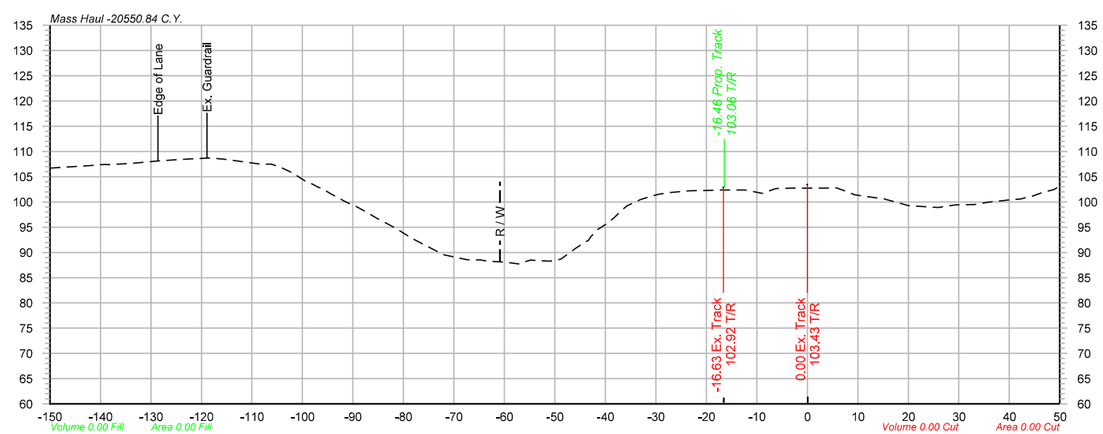

1592+00

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-139.02	107.45
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-124.92	108.35
-121.21	108.57
-117.67	108.73
-112.91	108.10
-108.33	107.51
-104.39	106.92
-101.33	105.37
-98.02	103.54
-94.30	101.57
-90.48	99.55
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-83.10	95.67
-78.20	92.73
-74.02	90.56
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-59.67	88.06
-56.57	87.93
-52.71	88.37
-48.77	88.70
-43.83	92.14
-40.13	95.43
-36.72	98.40
-32.98	100.48
-29.63	101.49
-23.55	102.20
-20.17	102.28
-17.03	102.35
-12.28	102.37
-9.13	101.75
-2.93	102.74
3.25	102.75
7.44	102.21
13.91	100.78
18.58	99.69
25.82	98.90
29.20	99.40
33.07	99.50
40.36	100.46
44.38	101.06
48.80	102.42

See Sheet X139 For Earthwork Quantities

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SHEET NUMBER: X 053 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1592+00 TO STA.1593+00

PC 1 2-433

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10/20/2014

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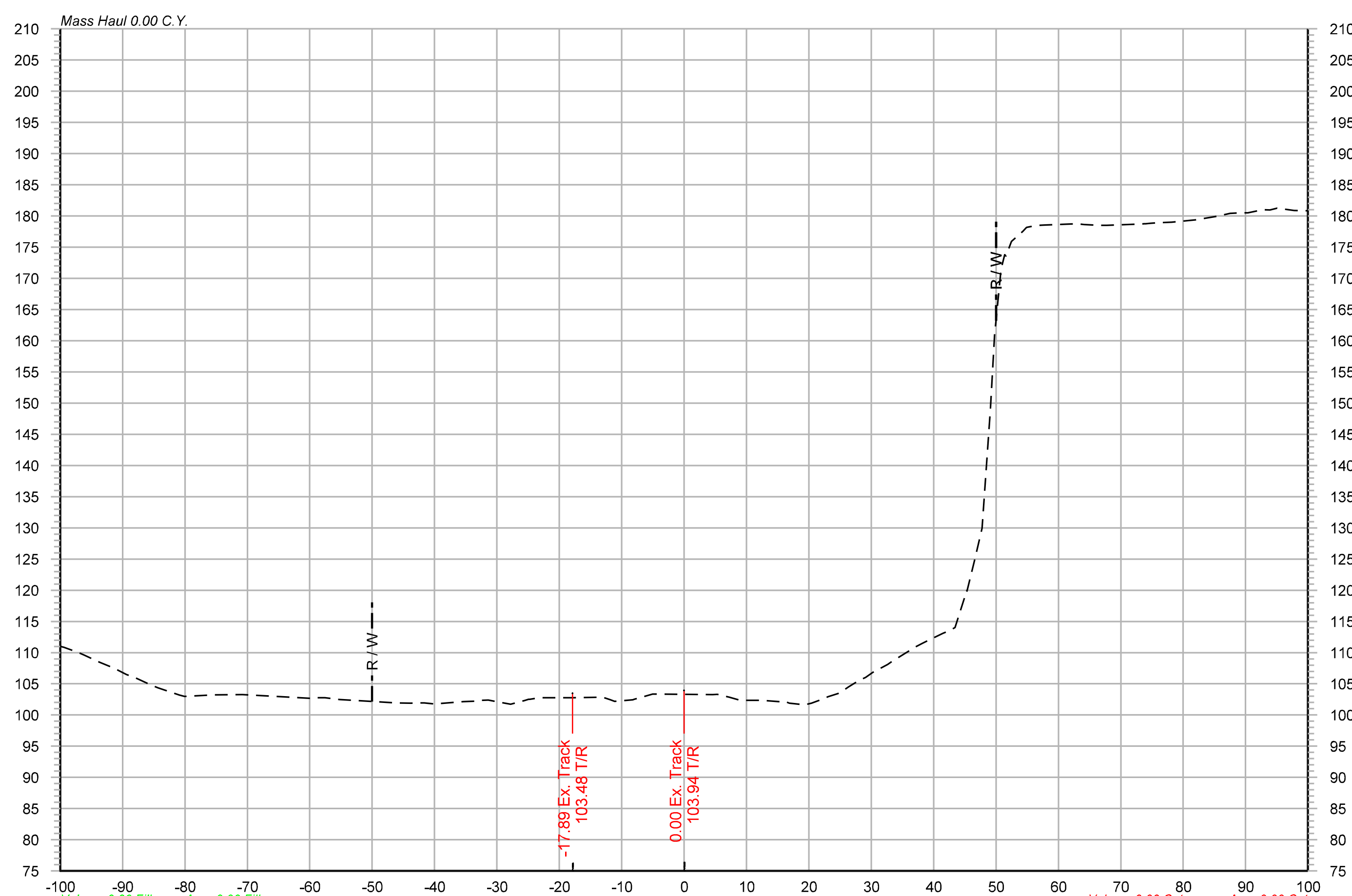

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-91.40	107.51
-88.08	106.03
-85.01	104.63
-80.88	103.20
-75.36	103.22
-70.97	103.26
-65.40	102.99
-59.38	102.66
-55.22	102.49
-49.53	102.13
-46.20	101.92
-42.95	101.94
-35.37	102.13
-31.40	102.41
-27.82	101.75
-24.70	102.52
-17.83	102.79
-13.13	102.84
-8.20	102.44
-5.04	103.34
4.58	103.26
9.00	102.37
12.45	102.37
15.93	102.26
19.20	101.66
23.10	102.94
26.40	104.53
30.20	106.81
33.43	108.66
37.12	110.93
41.51	113.11
44.95	118.74
49.10	148.98
52.47	175.90
55.51	178.31
62.96	178.75
66.46	178.48
73.22	178.69
78.14	179.00
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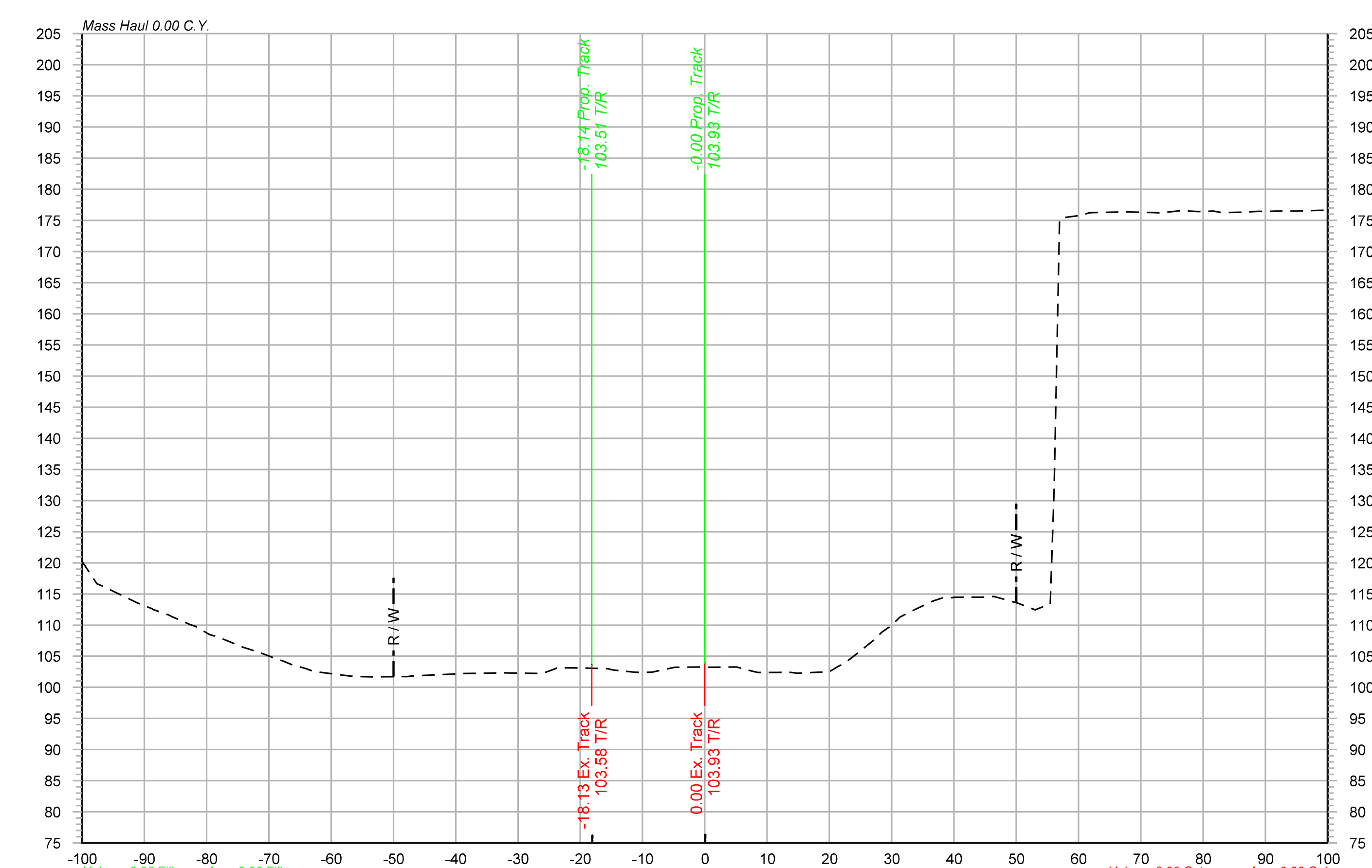

Offset	Elevation
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-93.69	114.83
-88.80	112.63
-85.67	111.41
-81.85	109.83
-78.19	108.10
-74.32	106.52
-69.42	104.82
-66.10	103.56
-62.85	102.56
-56.94	101.82
-53.48	101.68
-47.68	101.74
-40.16	102.14
-35.26	102.29
-31.72	102.32
-26.22	102.22
-19.24	103.09
-15.40	102.96
-11.29	102.44
-6.76	102.81
-0.21	103.25
5.11	103.26
8.50	102.39
11.68	102.41
14.82	102.29
18.36	102.46
21.44	103.39
27.16	107.61
31.32	111.26
34.65	112.93
38.12	114.35
44.33	114.50
50.24	113.52
55.23	113.33
60.58	175.82
65.75	176.35
72.32	176.26
76.21	176.54
79.23	176.40
83.03	176.27
86.84	176.35
90.35	176.47
95.04	176.49
99.03	176.62

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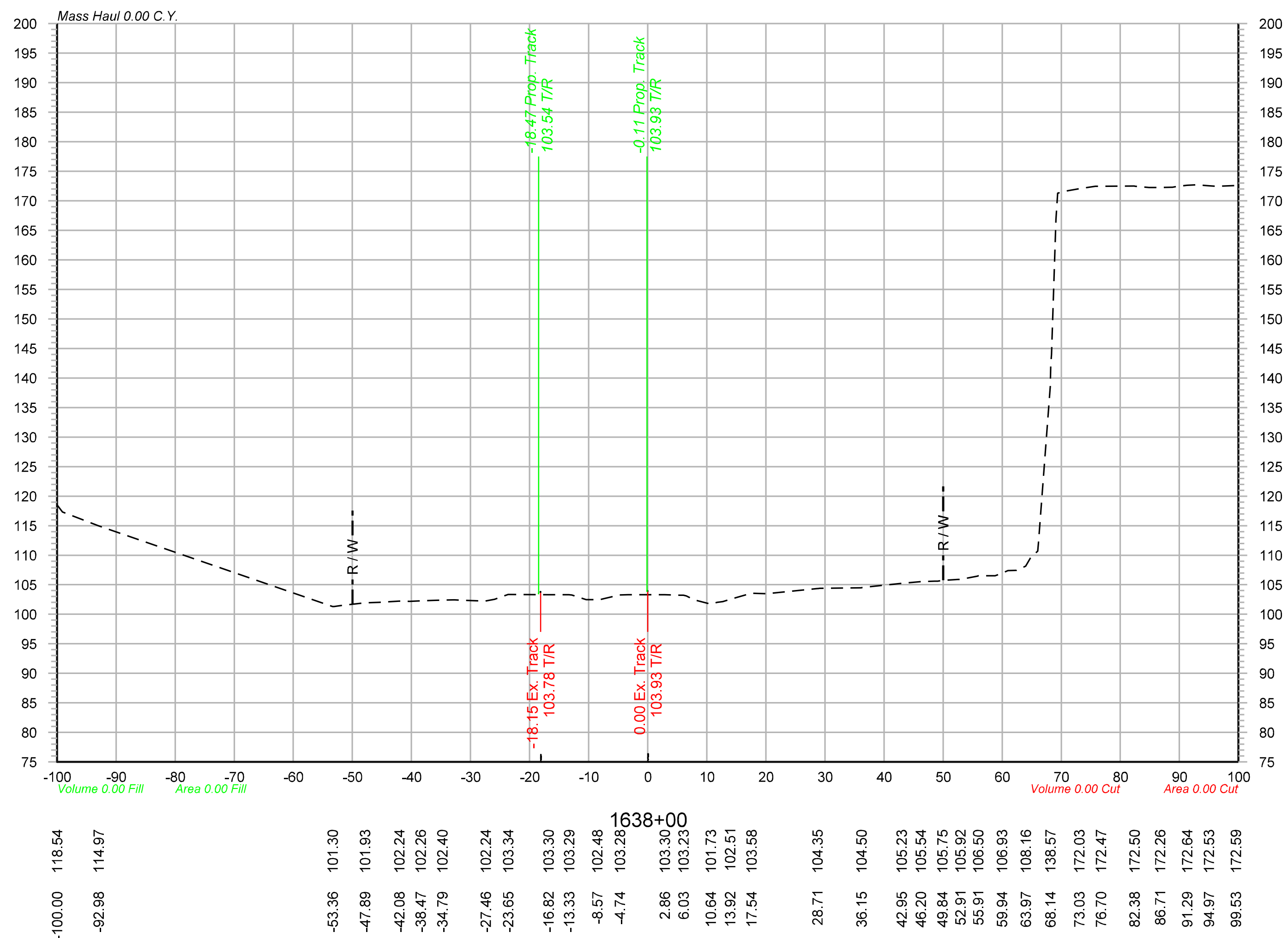
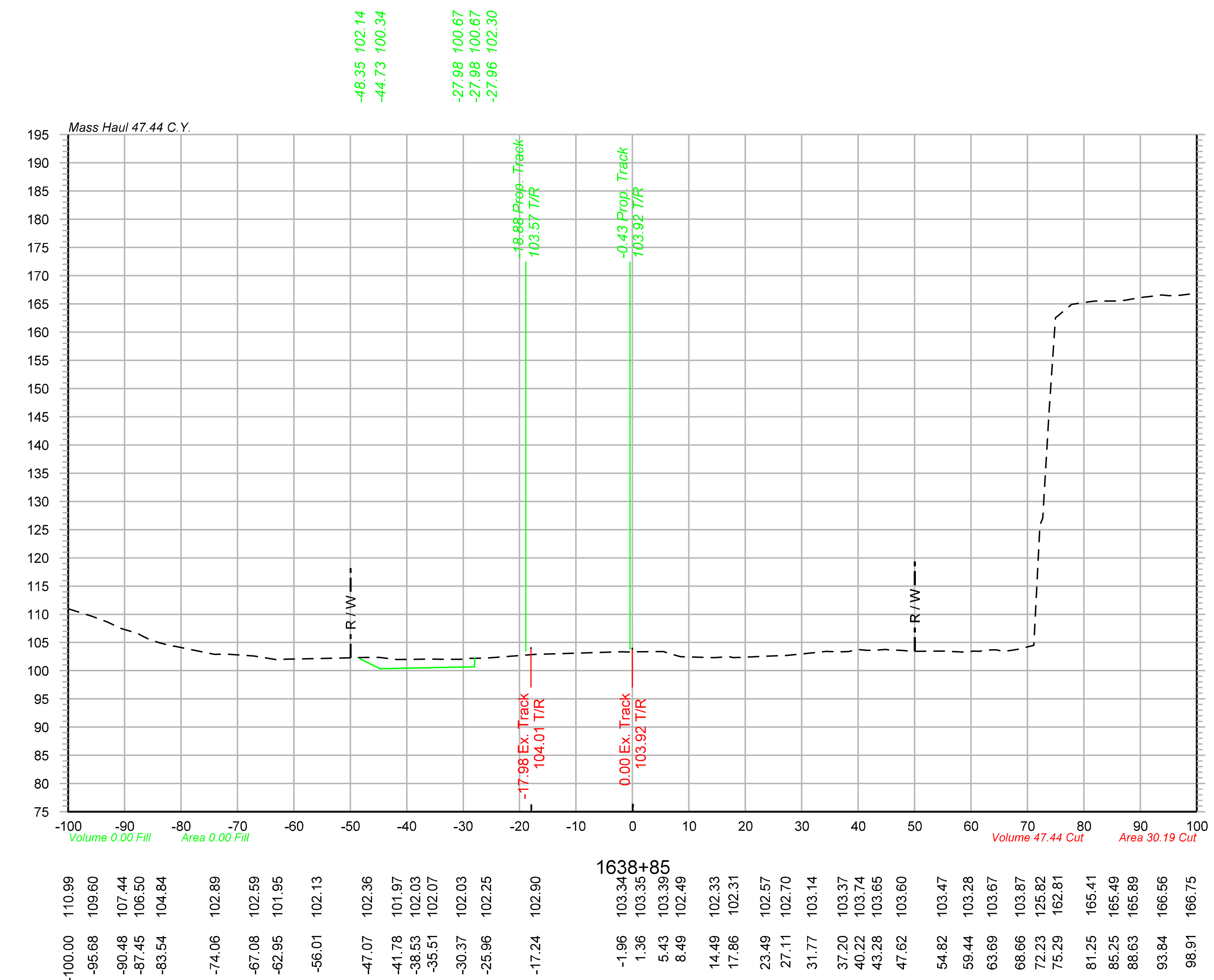
DATE: 10/20/2014
SHEET NUMBER X 054 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: PC 1 2-434
CROSS SECTIONS STA.1636+00 TO STA.1637+00





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UNION PACIFIC

DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 055 of 139	SHEET TITLE: PC 1 2-435 CROSS SECTIONS STA.1638+00 TO STA.1638+85

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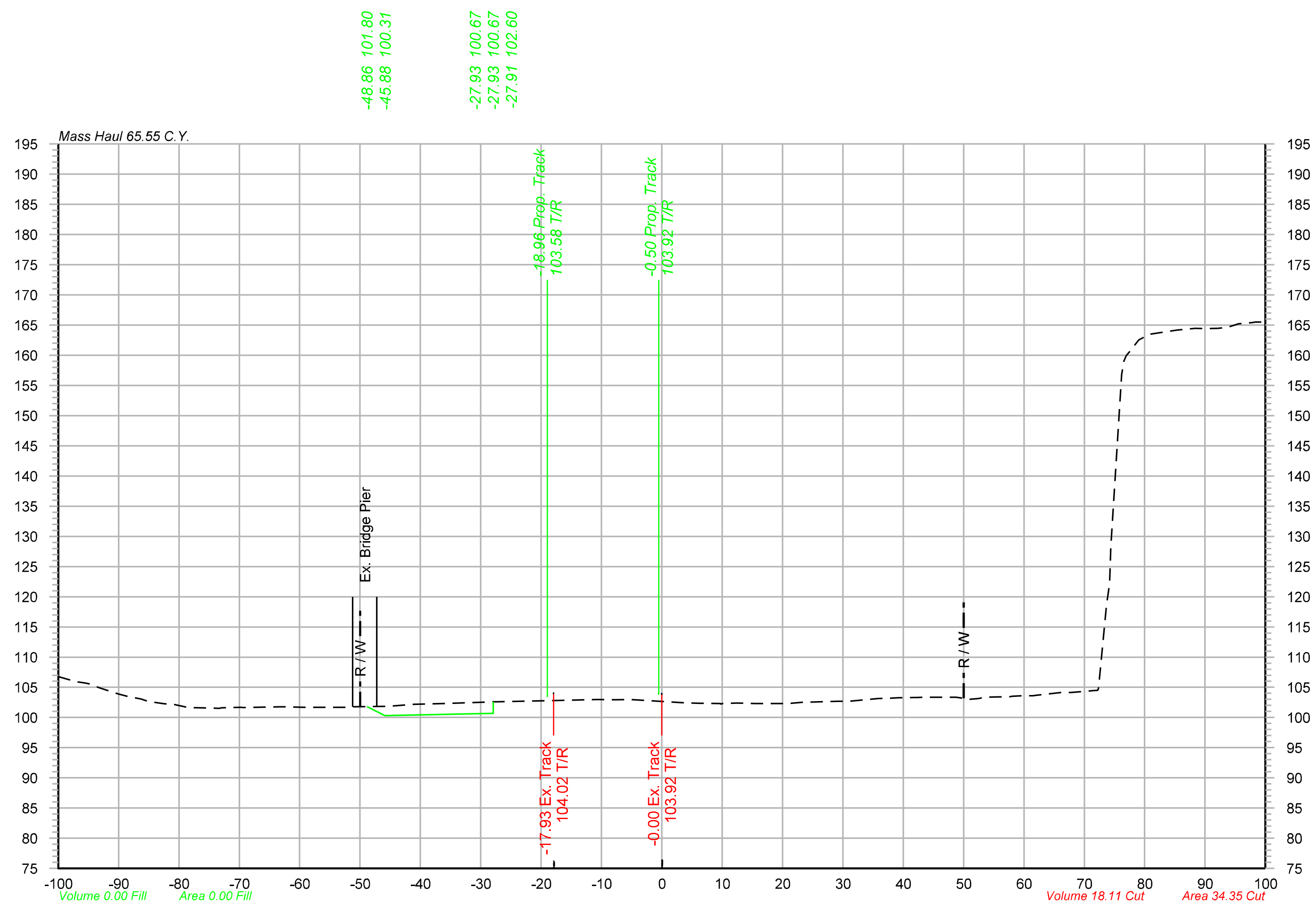
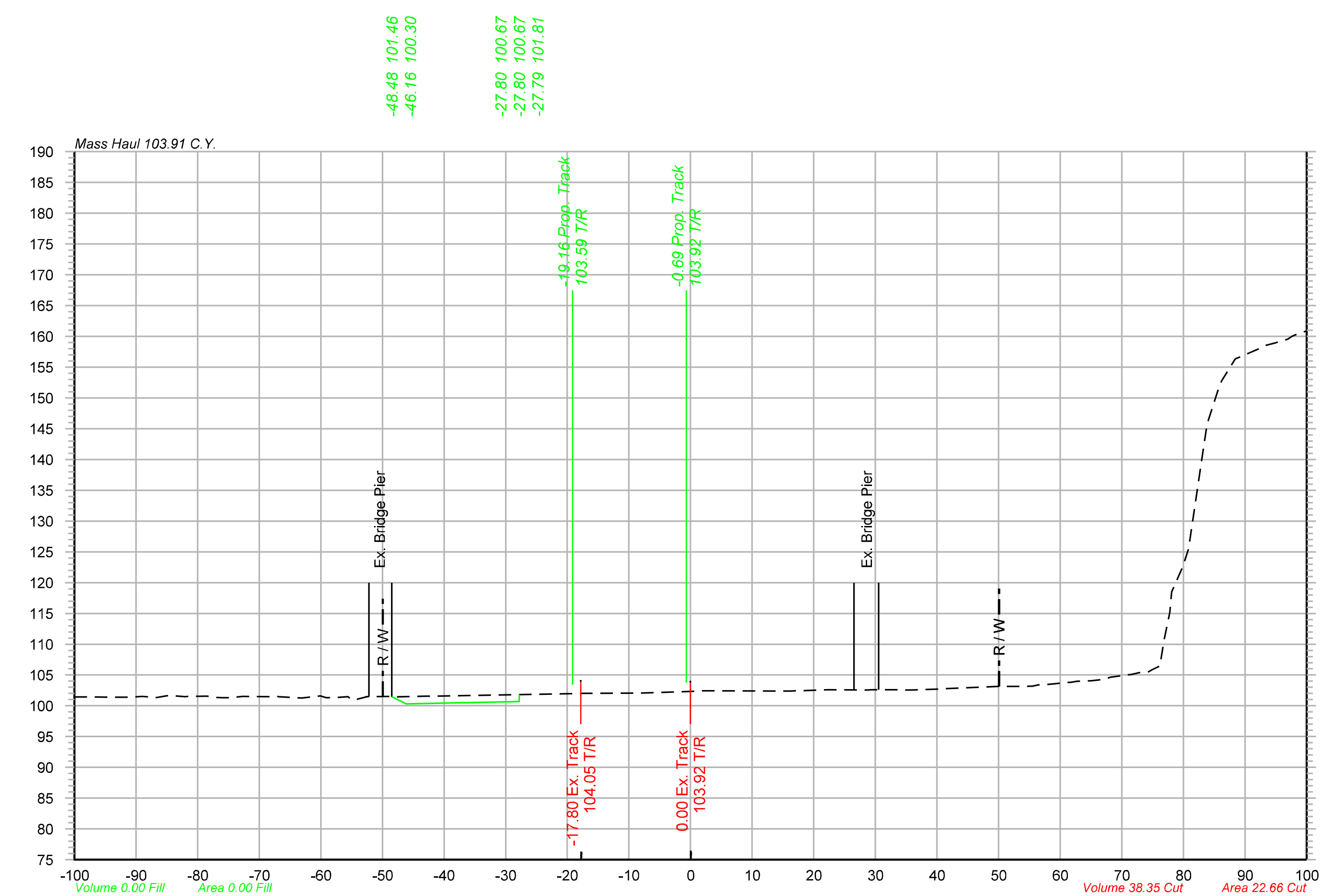
10/20/2014



1639+00

-100.00	106.77
-96.76	105.90
-93.13	104.91
-90.01	103.91
-86.27	103.05
-82.42	102.25
-78.43	101.66
-74.38	101.57
-69.85	101.69
-63.27	101.77
-59.27	101.70
-52.21	101.69
-45.30	101.86
-41.04	102.18
-36.08	102.33
-28.67	102.54
-17.55	102.81
-10.70	102.96
-7.67	102.93
3.66	102.46
6.73	102.36
9.75	102.24
15.44	102.32
20.64	102.32
29.14	102.70
35.88	103.14
39.21	103.26
42.28	103.30
48.77	103.35
52.49	103.13
57.58	103.43
61.54	103.62
66.20	104.13
71.75	104.49
76.19	156.83
79.88	162.99
85.33	164.18
88.37	164.46
92.09	164.46
95.54	165.22
99.23	165.49



1639+36

-100.00	101.43
-94.07	101.40
-90.90	101.39
-87.04	101.37
-81.99	101.46
-78.57	101.56
-74.79	101.32
-68.44	101.46
-63.26	101.26
-60.08	101.60
-55.62	101.46
-48.72	101.51
-42.94	101.56
-18.75	101.97
-8.23	102.05
-1.77	102.27
2.16	102.43
13.65	102.39
17.02	102.42
22.31	102.62
28.76	102.57
34.49	102.62
40.63	102.73
49.91	103.15
54.00	103.15
57.51	103.44
60.57	103.78
65.06	104.05
68.16	104.64
71.65	105.10
75.00	105.89
78.09	118.49
83.09	140.72
86.23	152.80
92.99	158.30
96.95	159.55
100.00	160.87

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DATE: 10/20/2014
SHEET NUMBER: X 056 of 139

UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION: Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: PC 1 2-436
CROSS SECTIONS STA.1639+00 TO STA.1639+36

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10/20/2014

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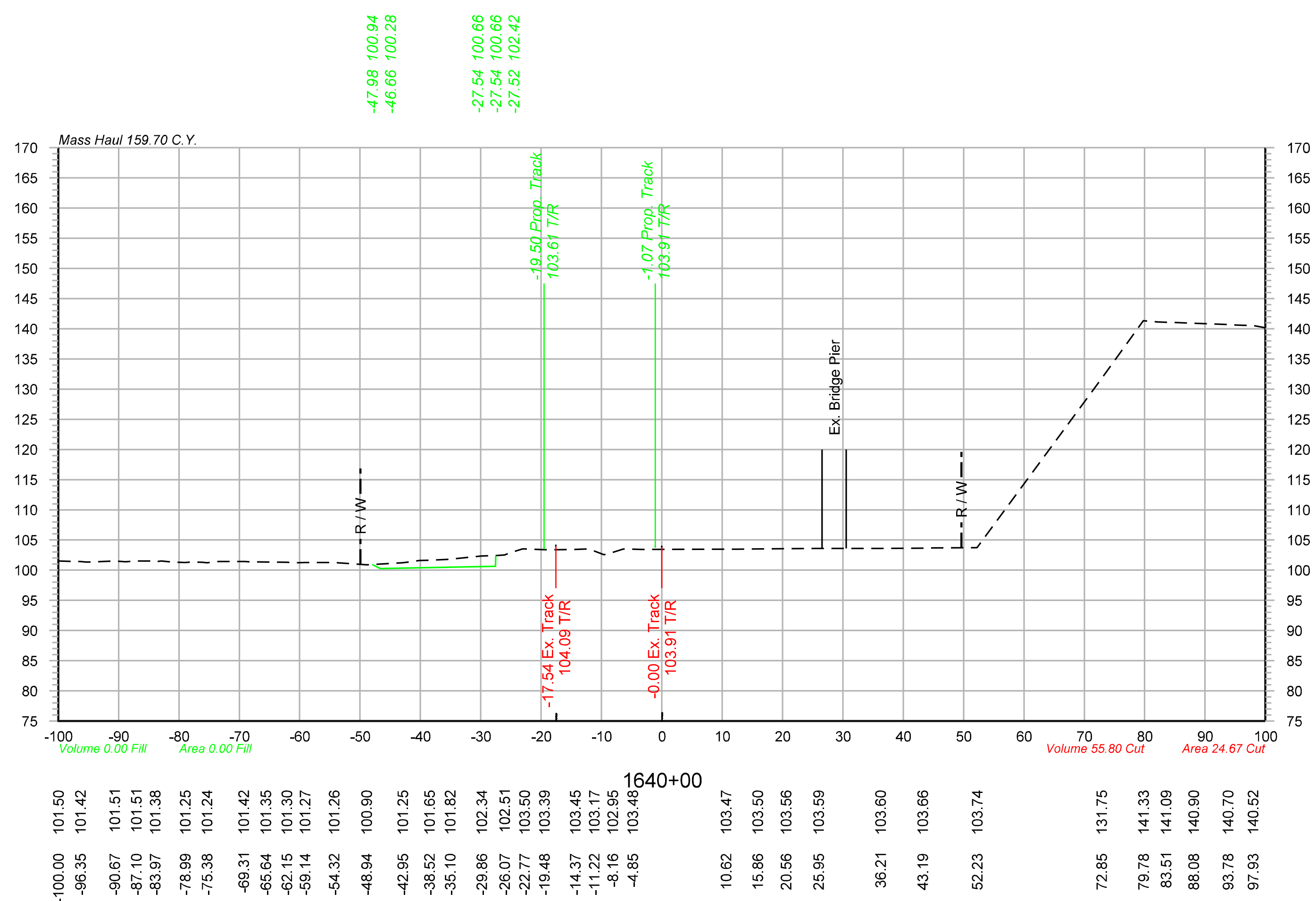
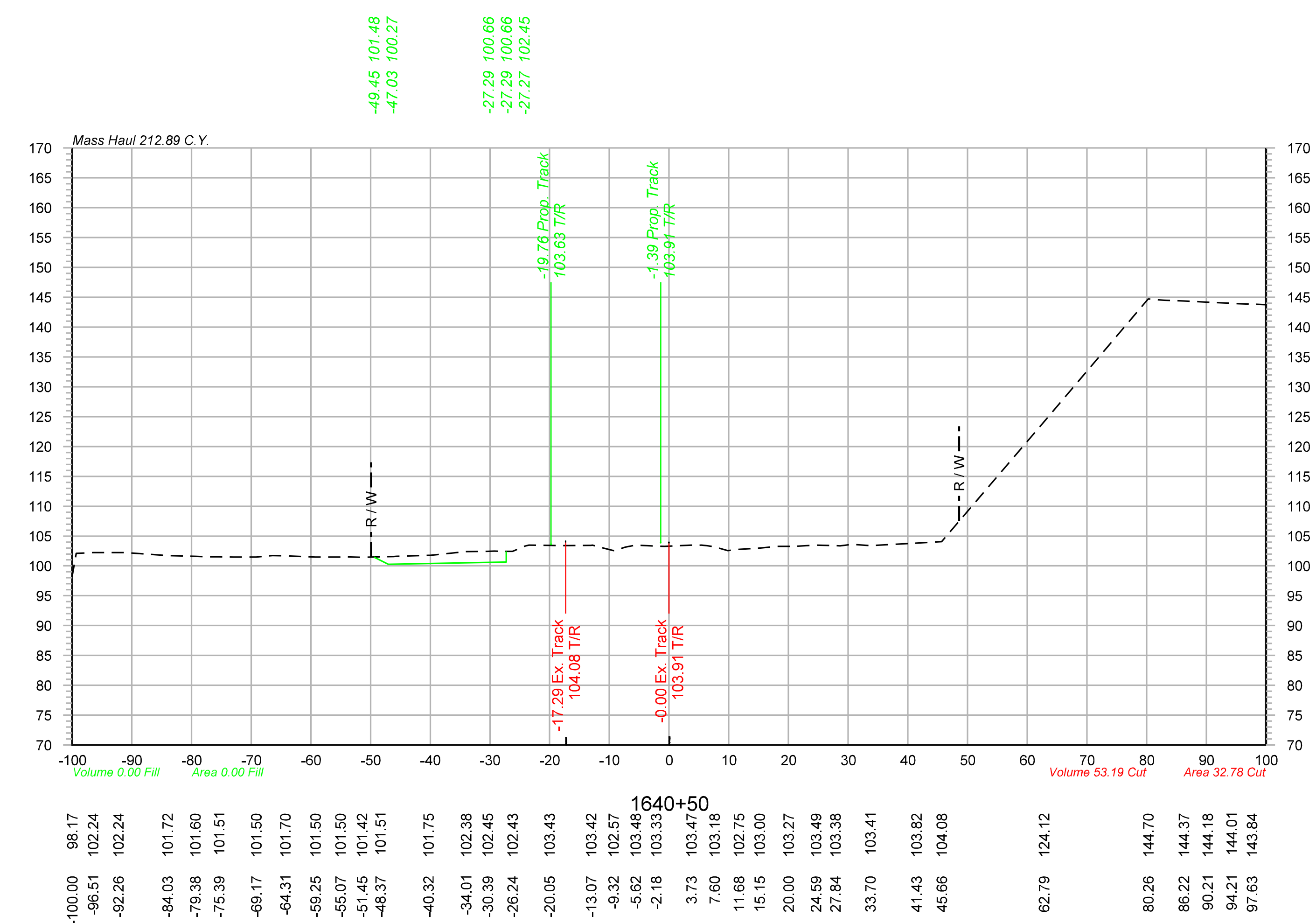
10/20/2014





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UNION PACIFIC

DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 057 of 139	SHEET TITLE: PC 1 2-437 CROSS SECTIONS STA.1640+00 TO STA.1640+50

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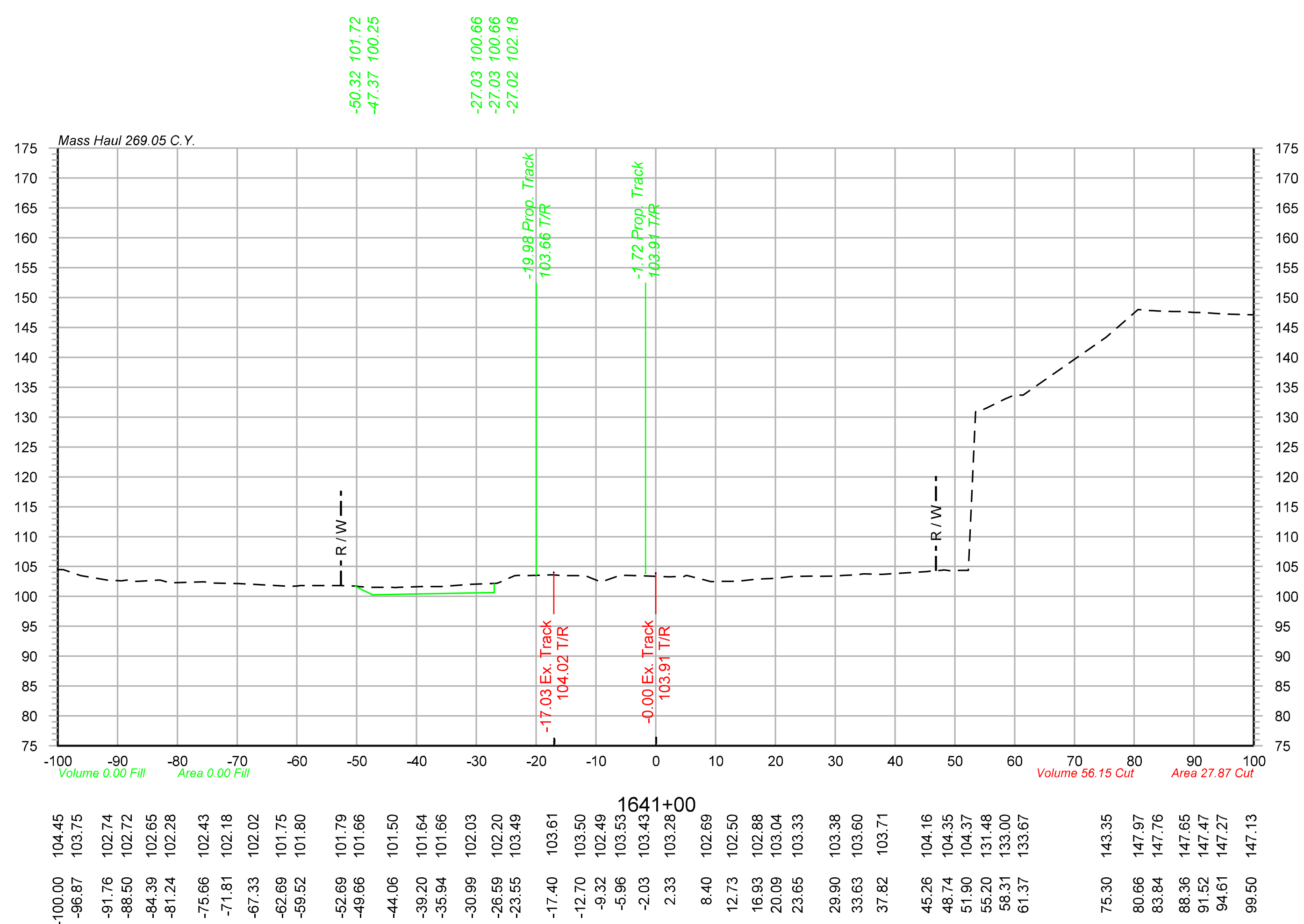
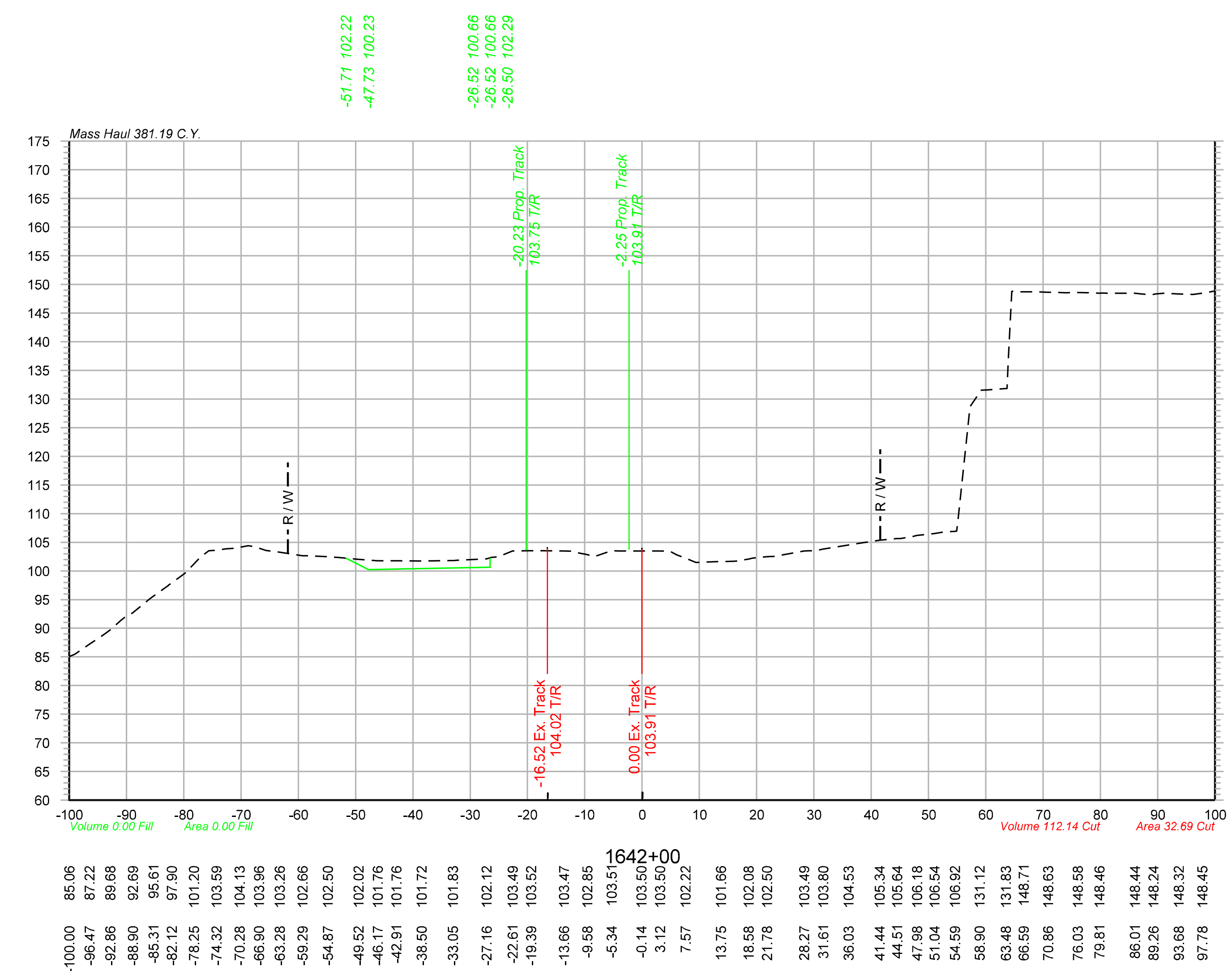
10/20/2014





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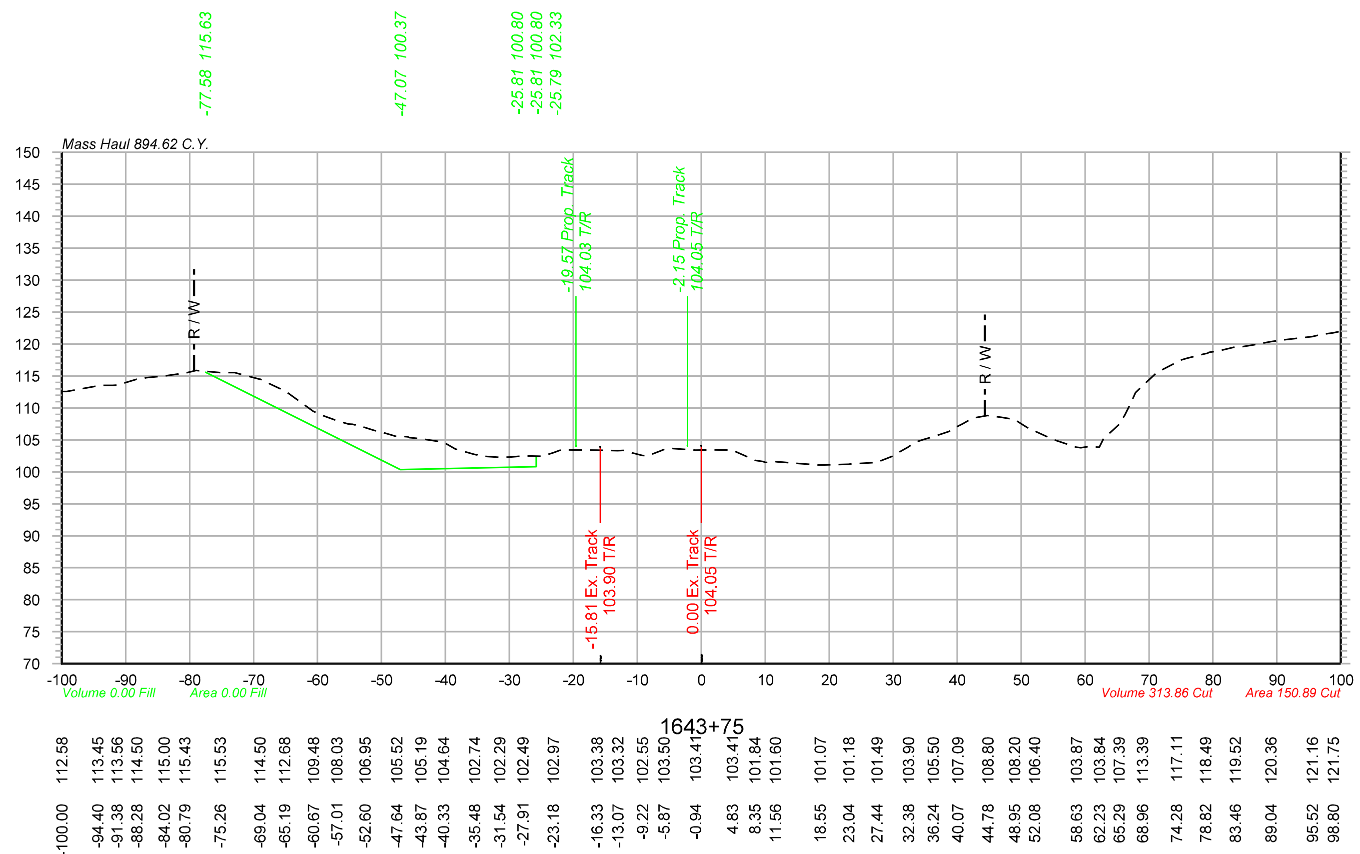
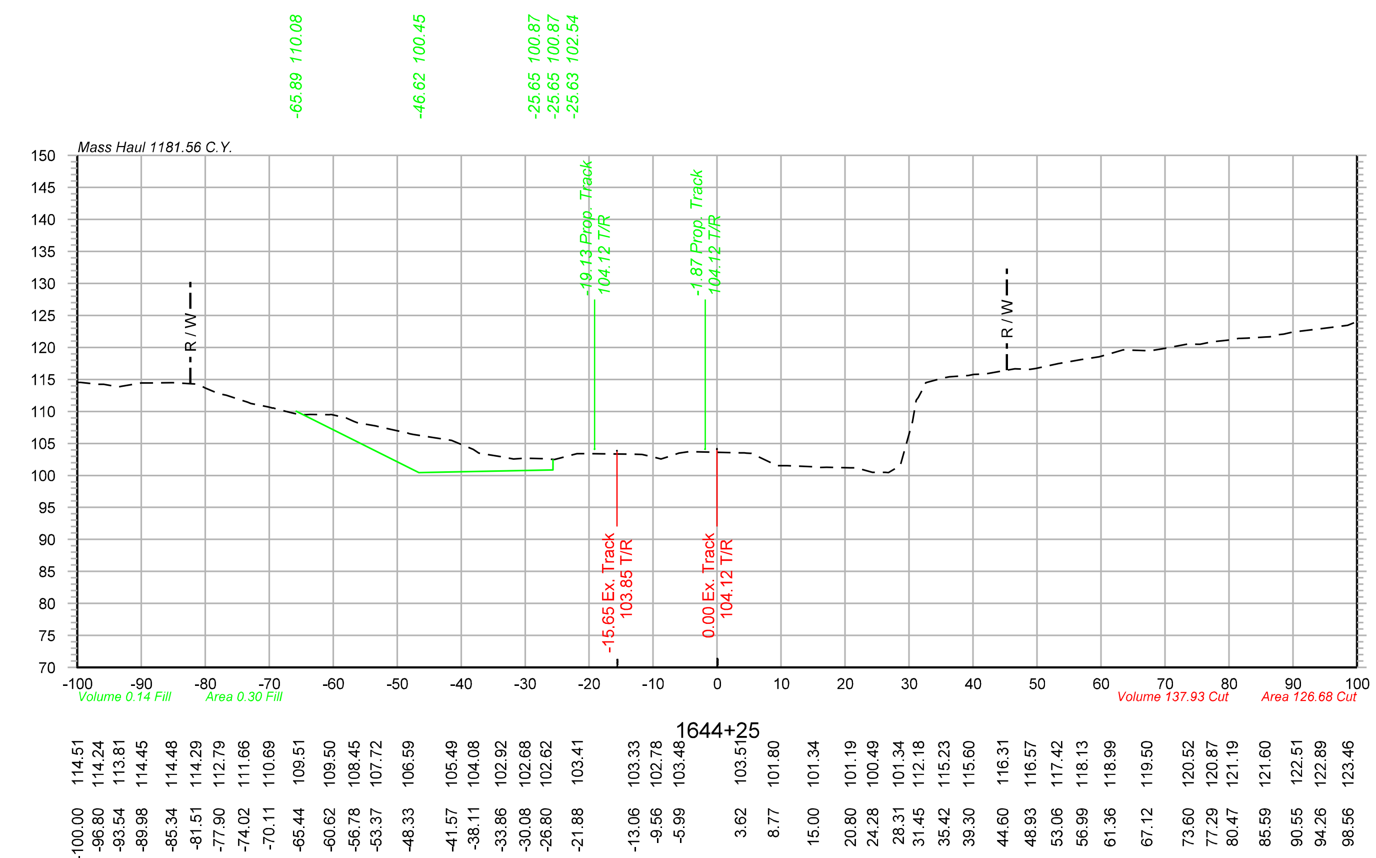
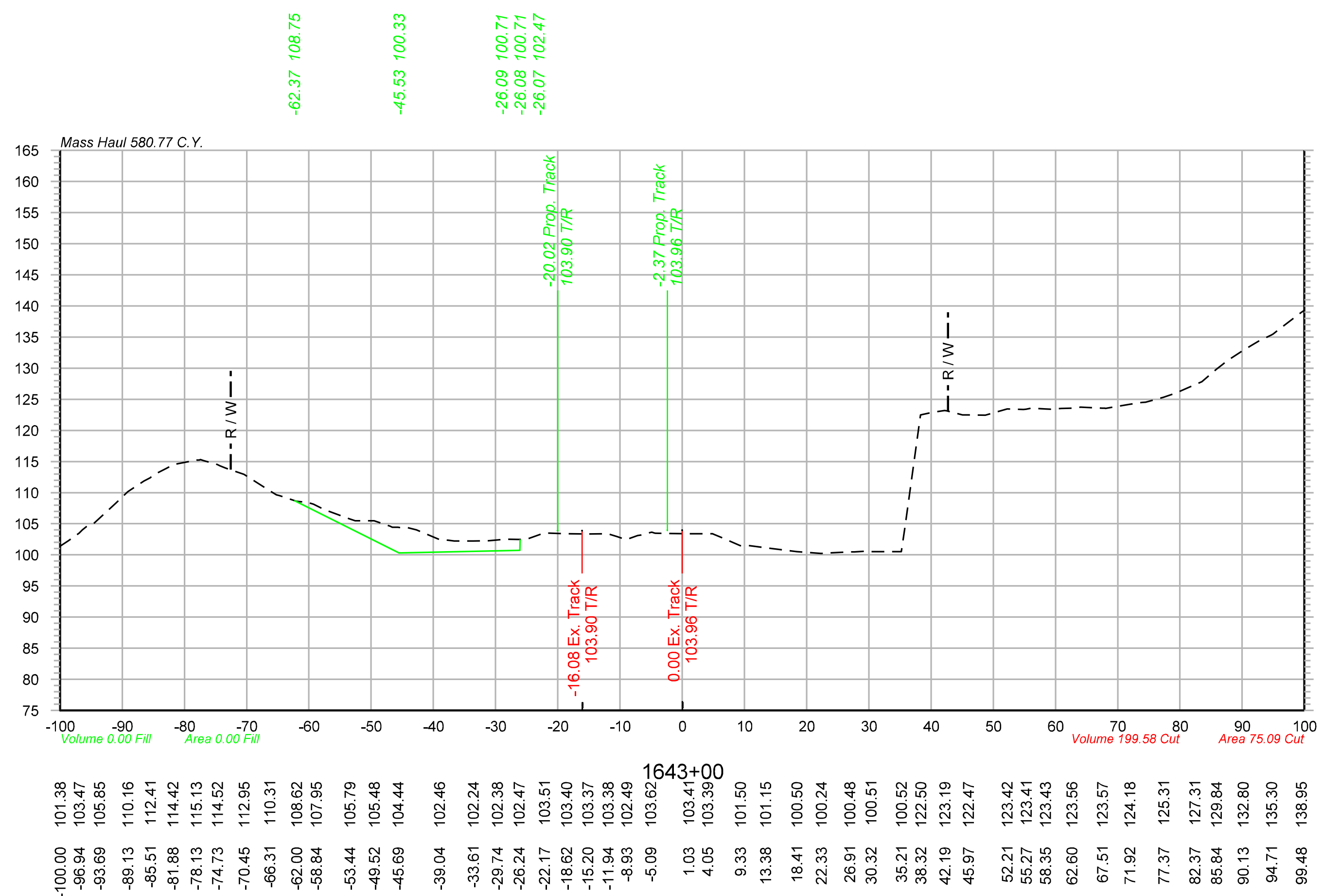
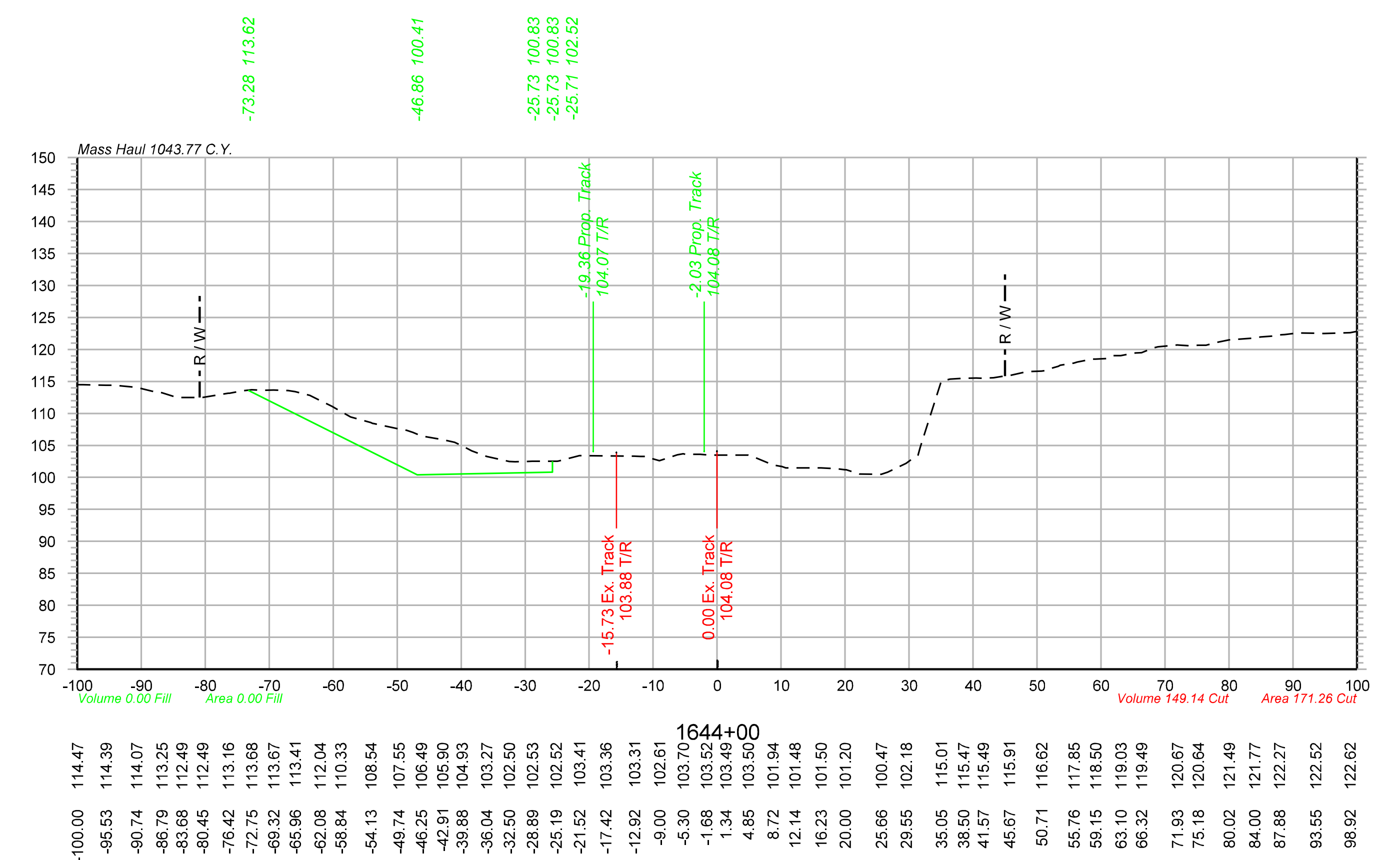
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 058 of 139	SHEET TITLE: PC 1 2-438 CROSS SECTIONS STA.1641+00 TO STA.1642+00









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DATE: 10/20/2014
SHEET NUMBER X 059 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1643+00 TO STA.1644+25

PC 1 2-439

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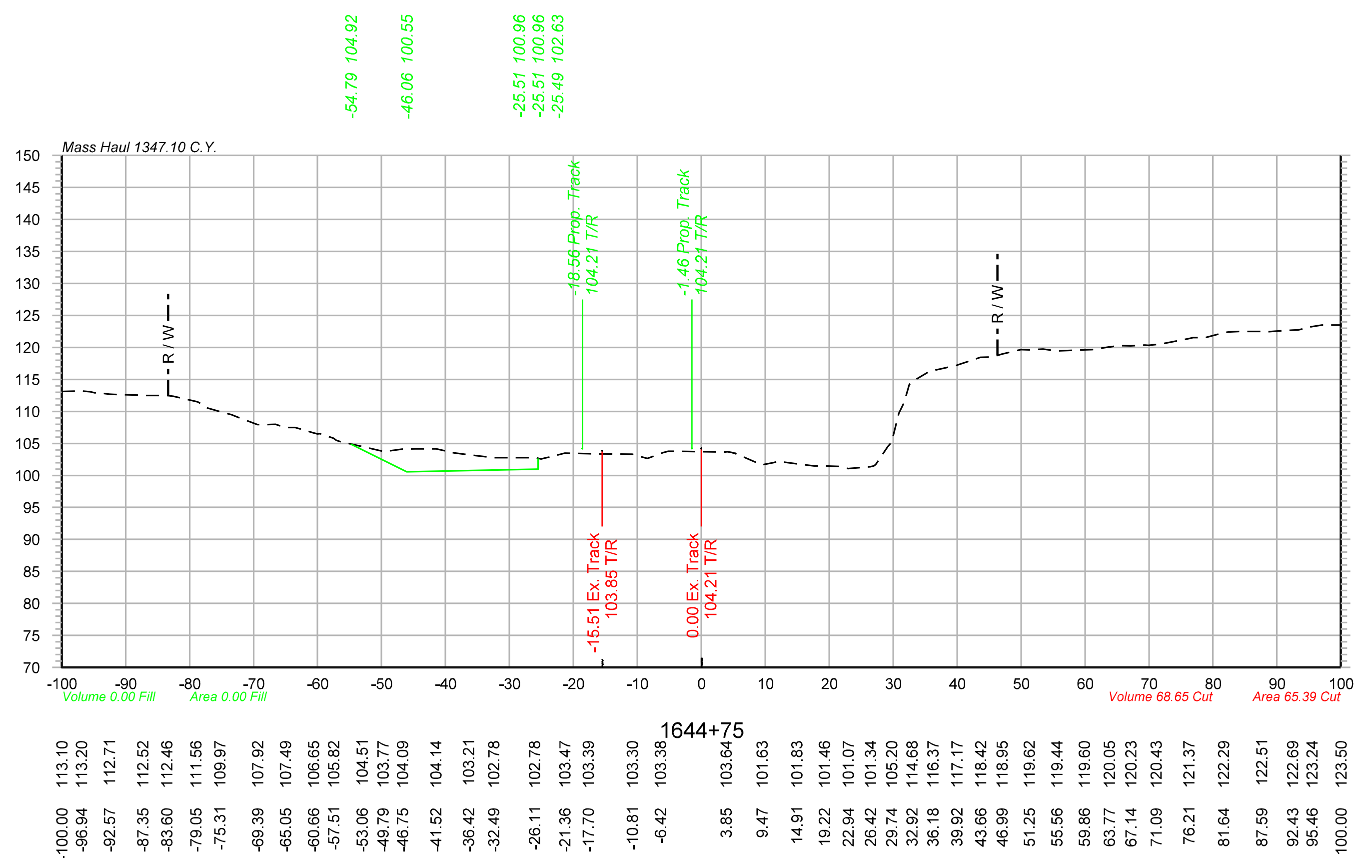

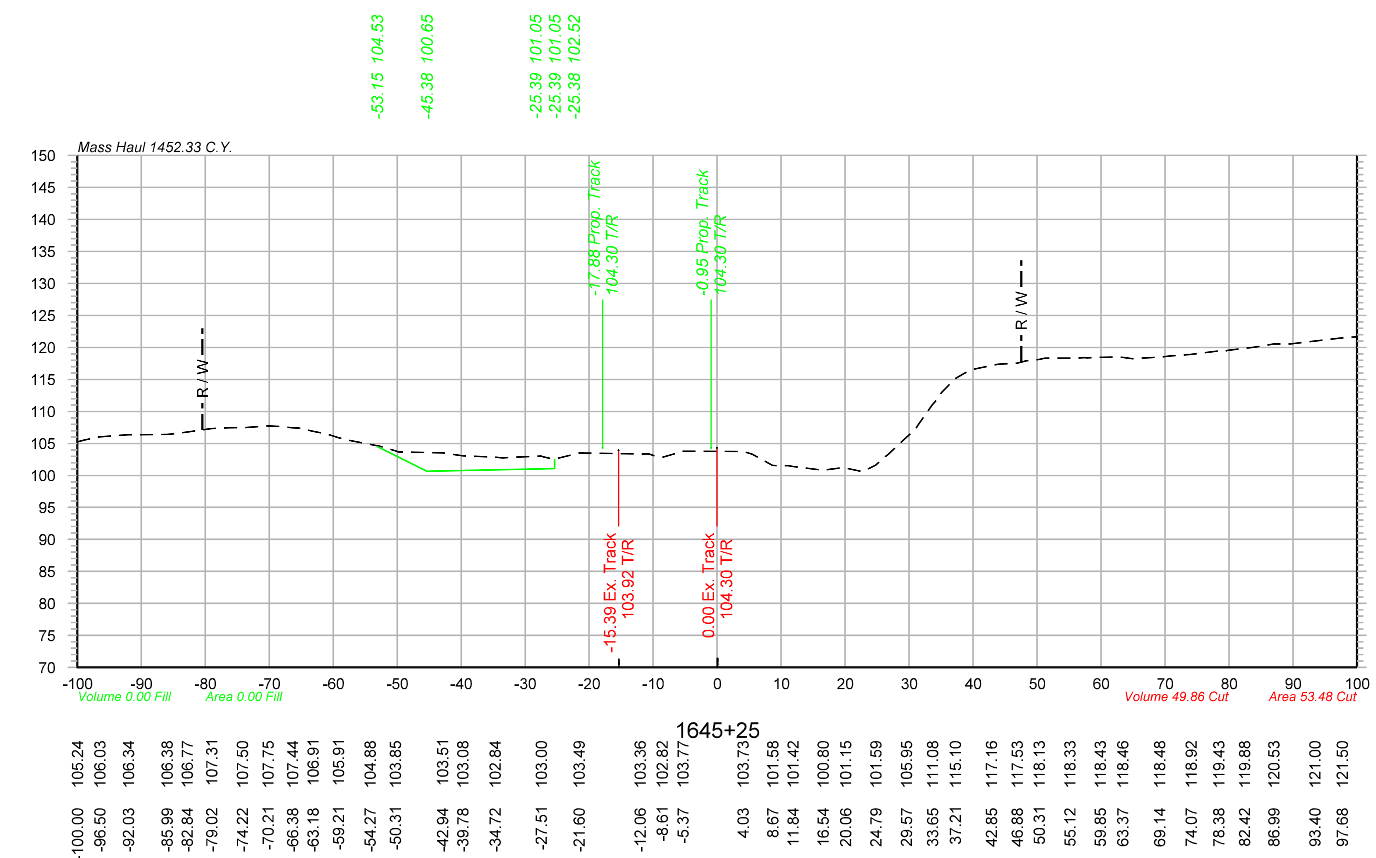

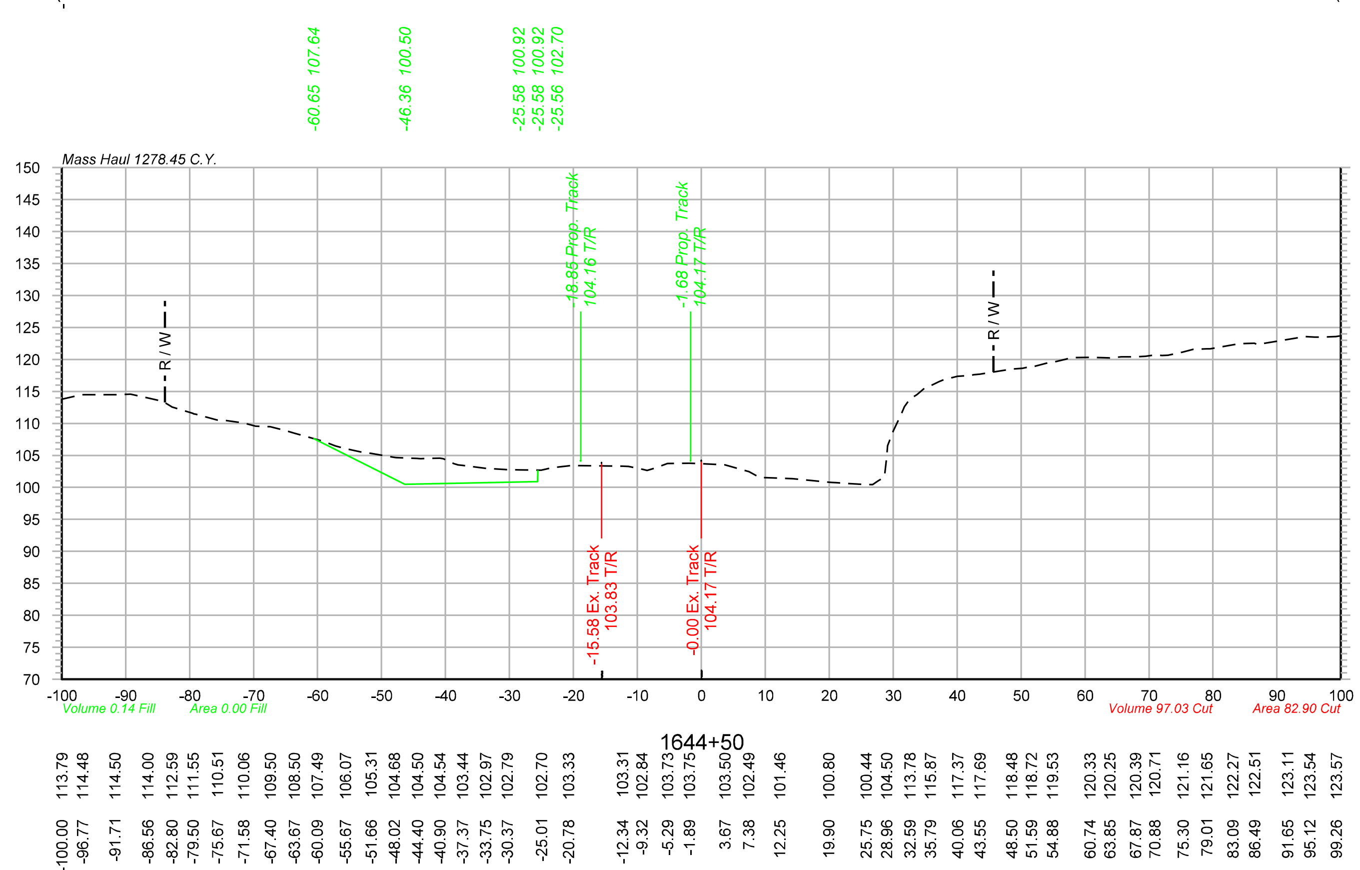

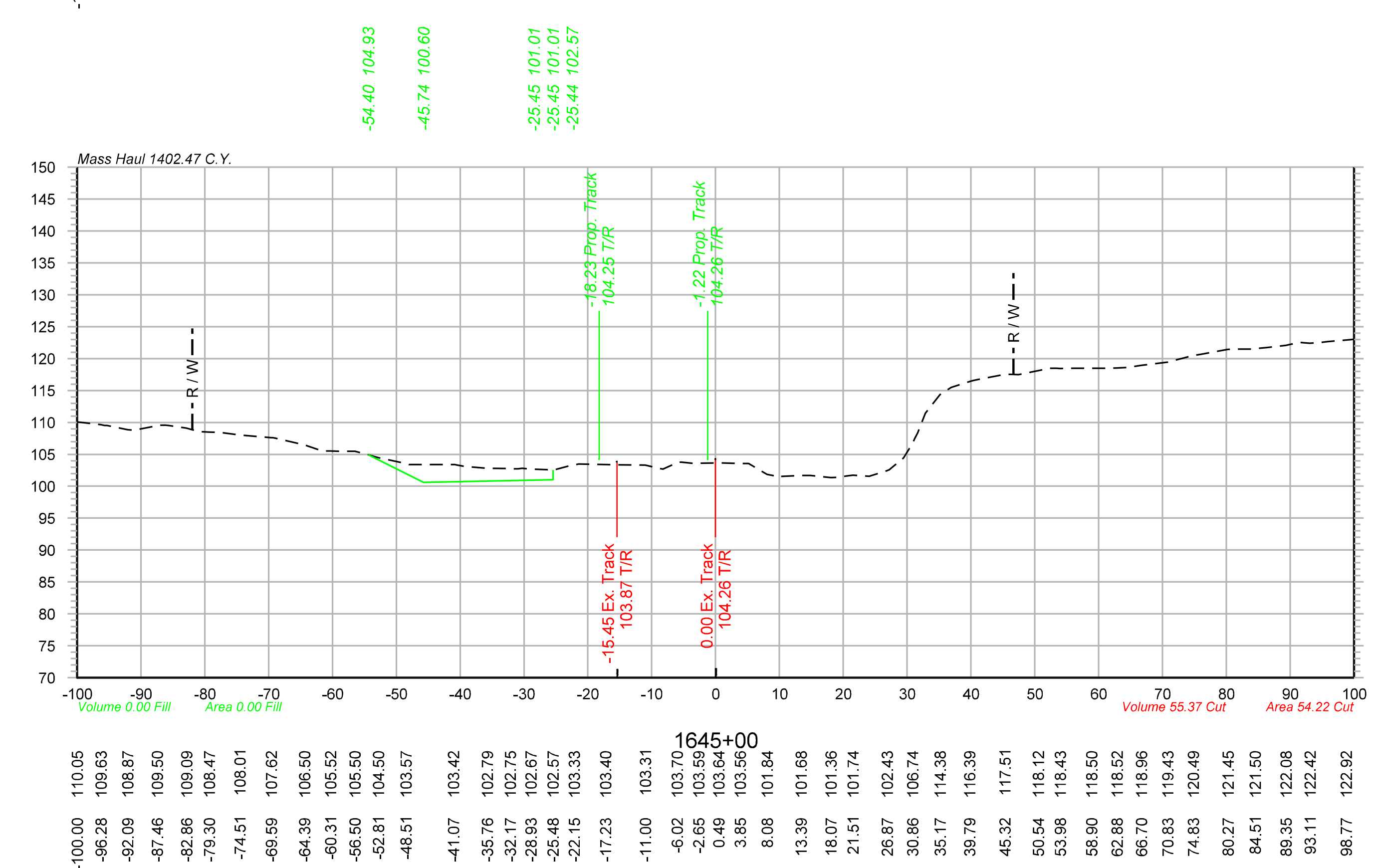

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 060 of 139	SHEET TITLE: PC 1 2-440 CROSS SECTIONS STA.1644+50 TO STA.1645+25

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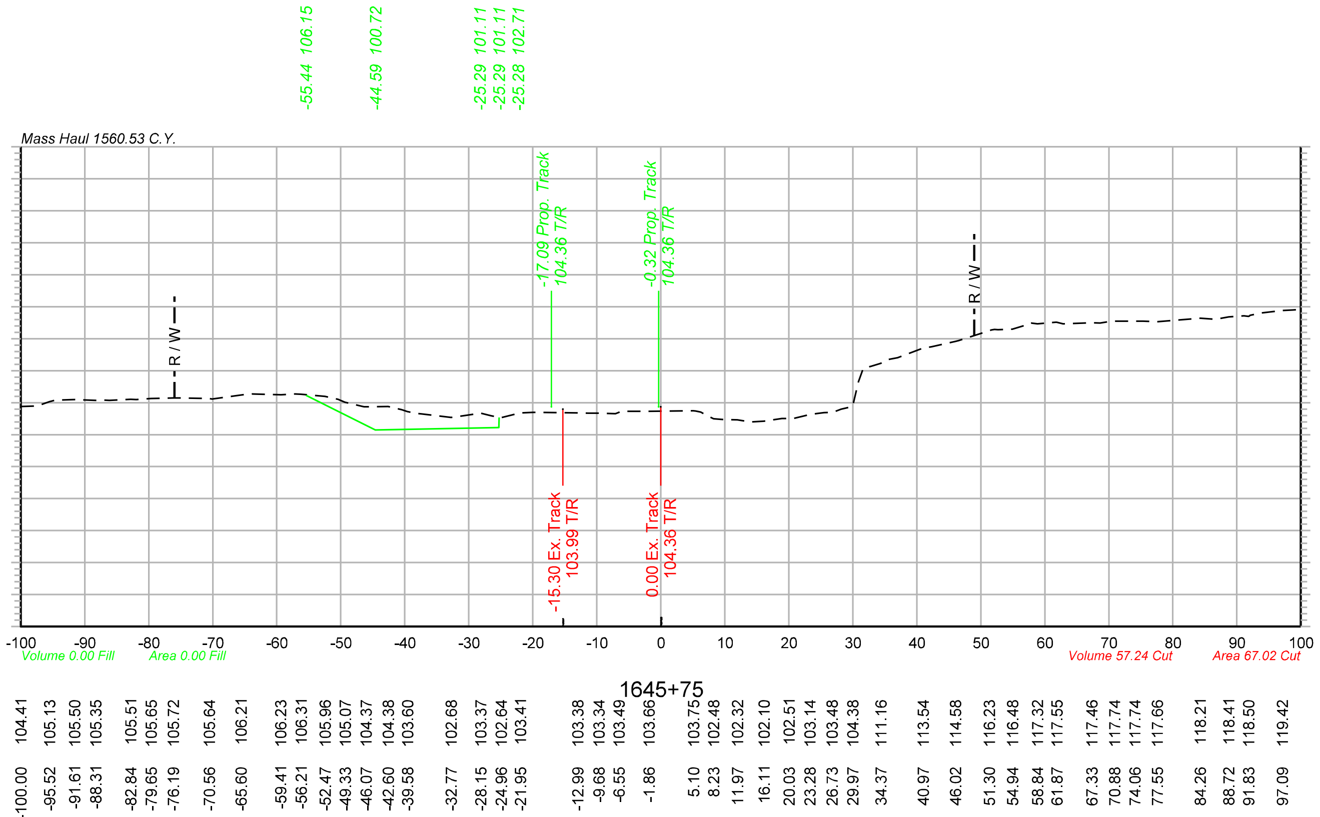
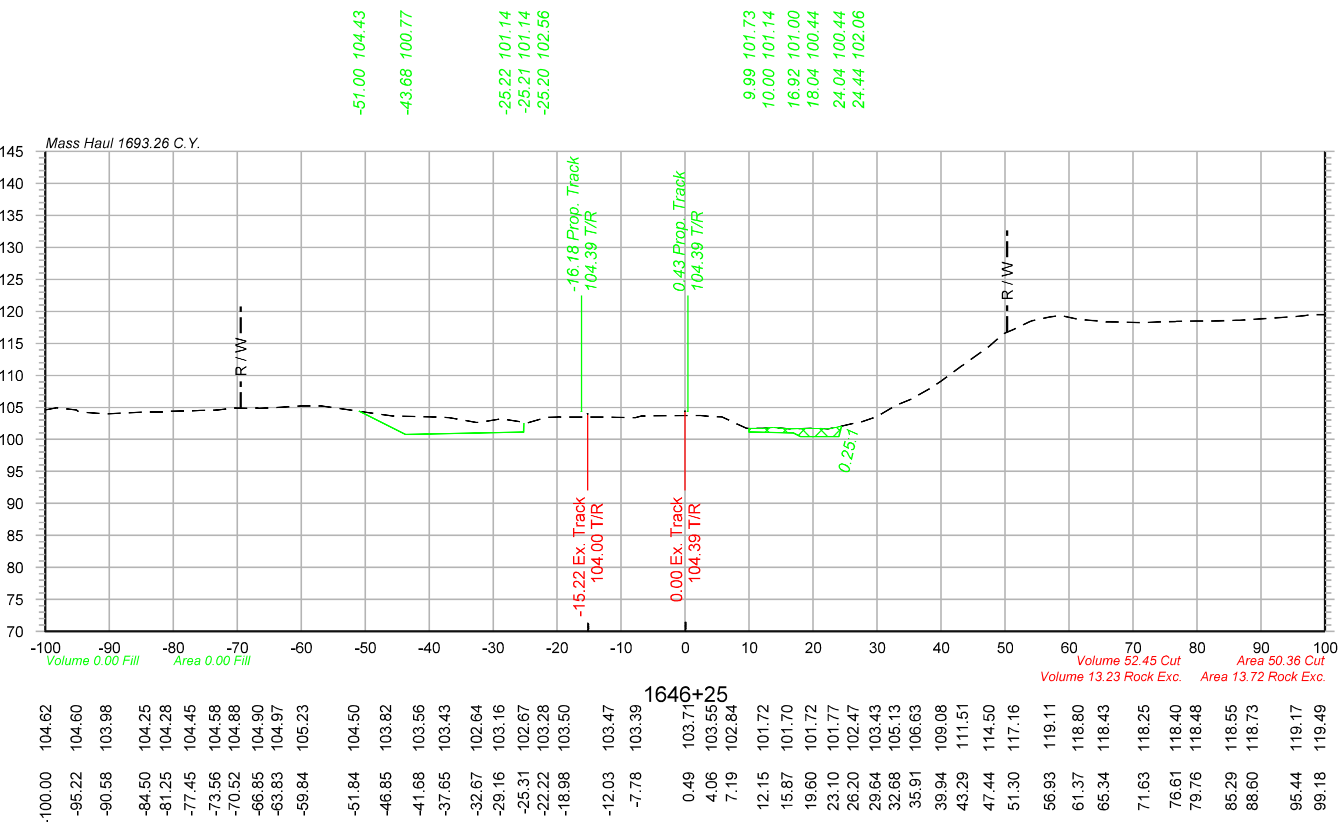
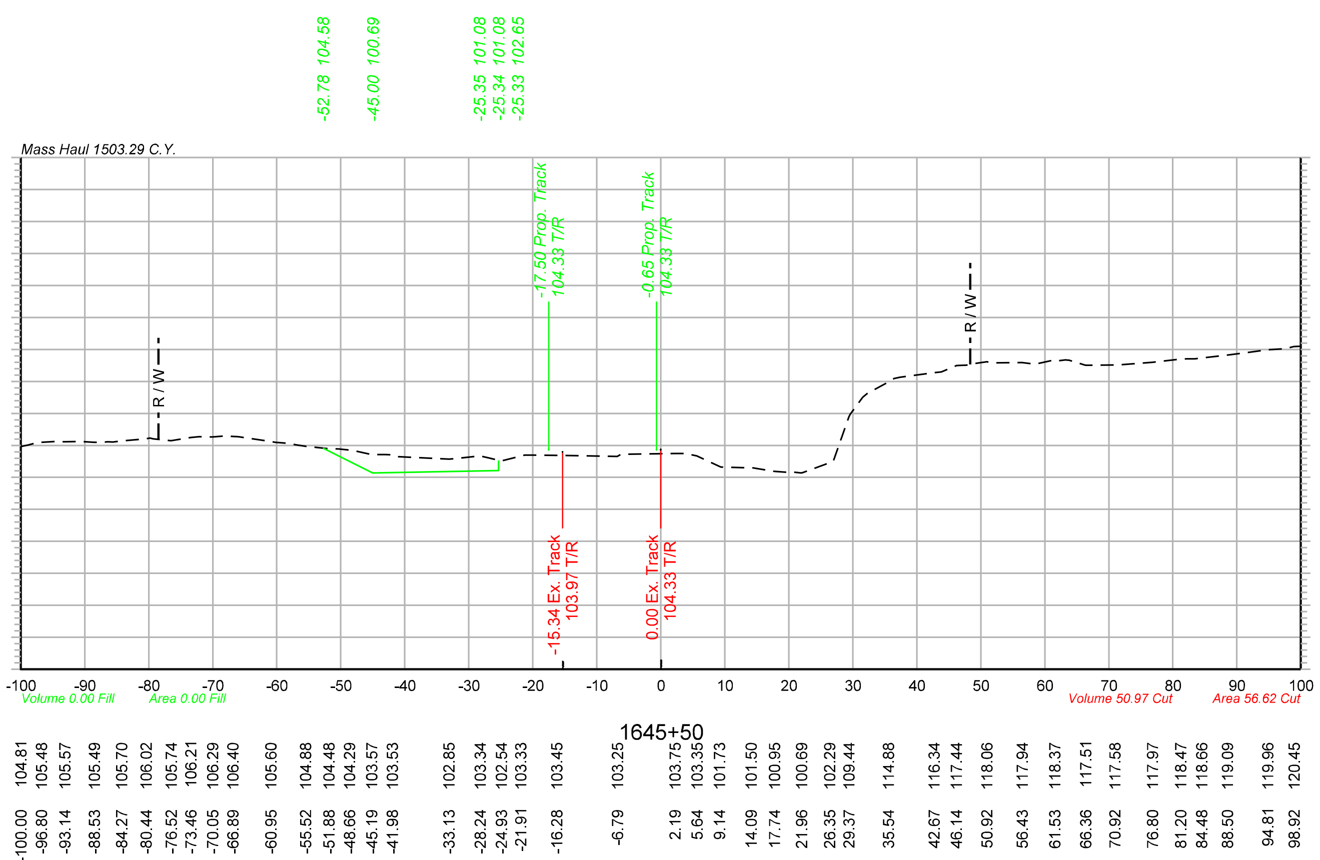
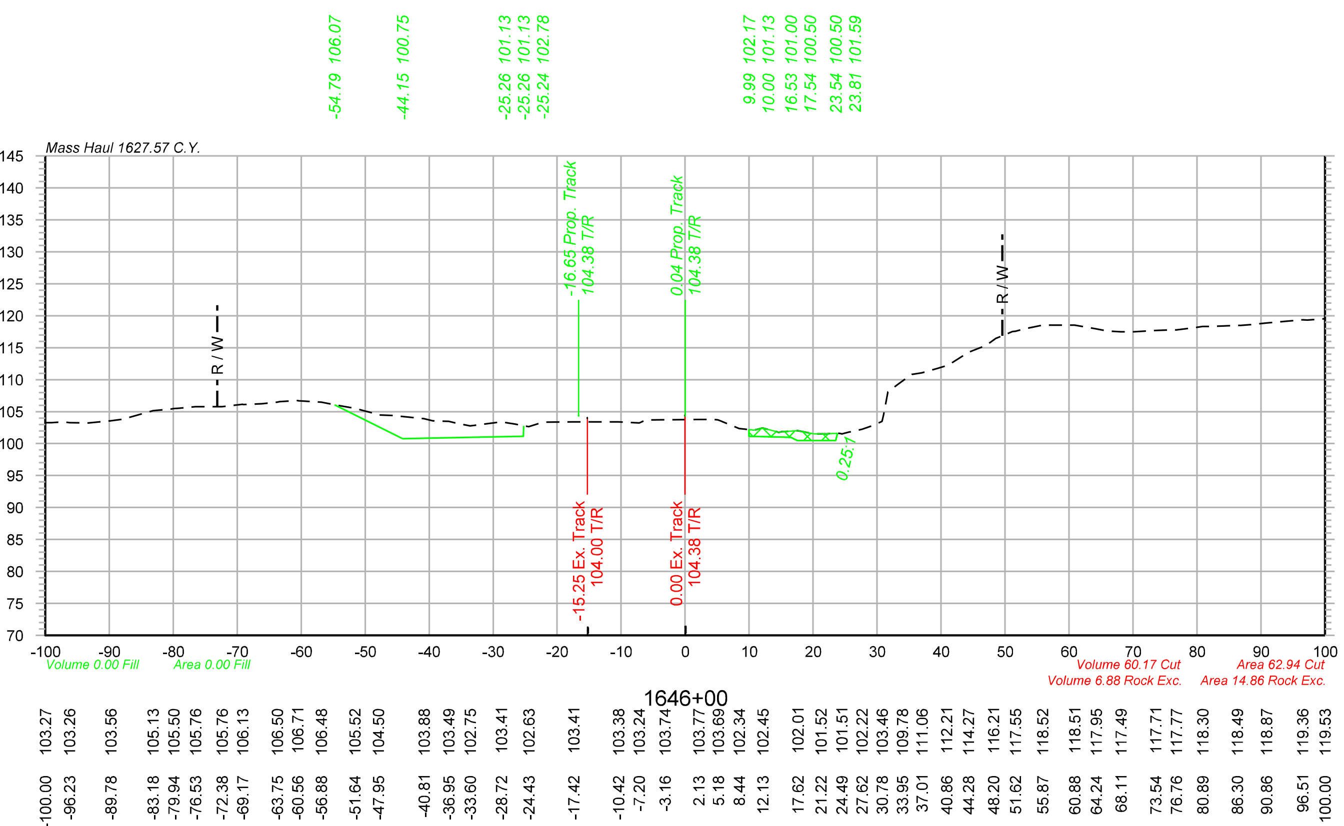
10/20/2014









Legend

Assumed Rock Excavation

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 061 of 139	SHEET TITLE: PC 1 2-441 CROSS SECTIONS STA.1645+50 TO STA.1646+25

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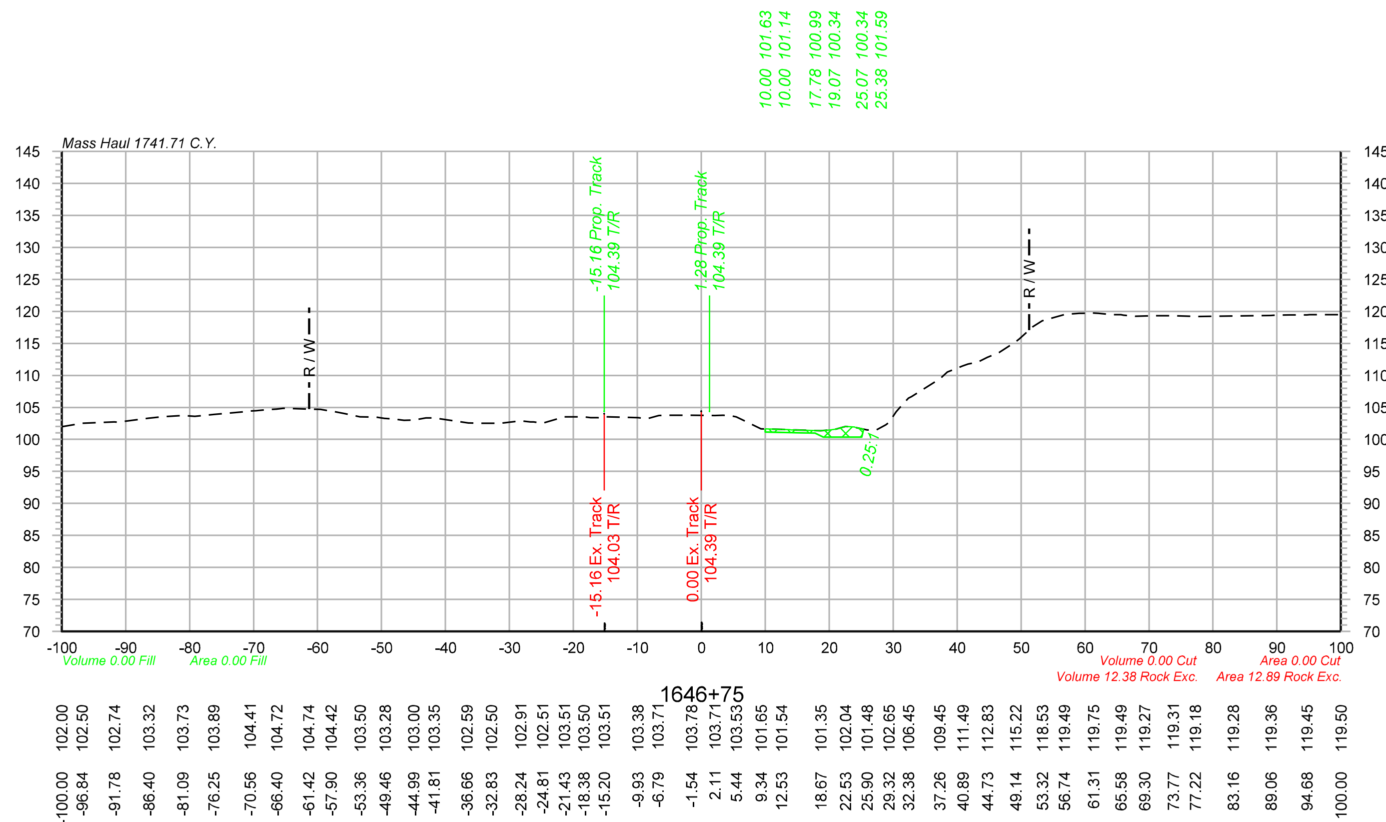
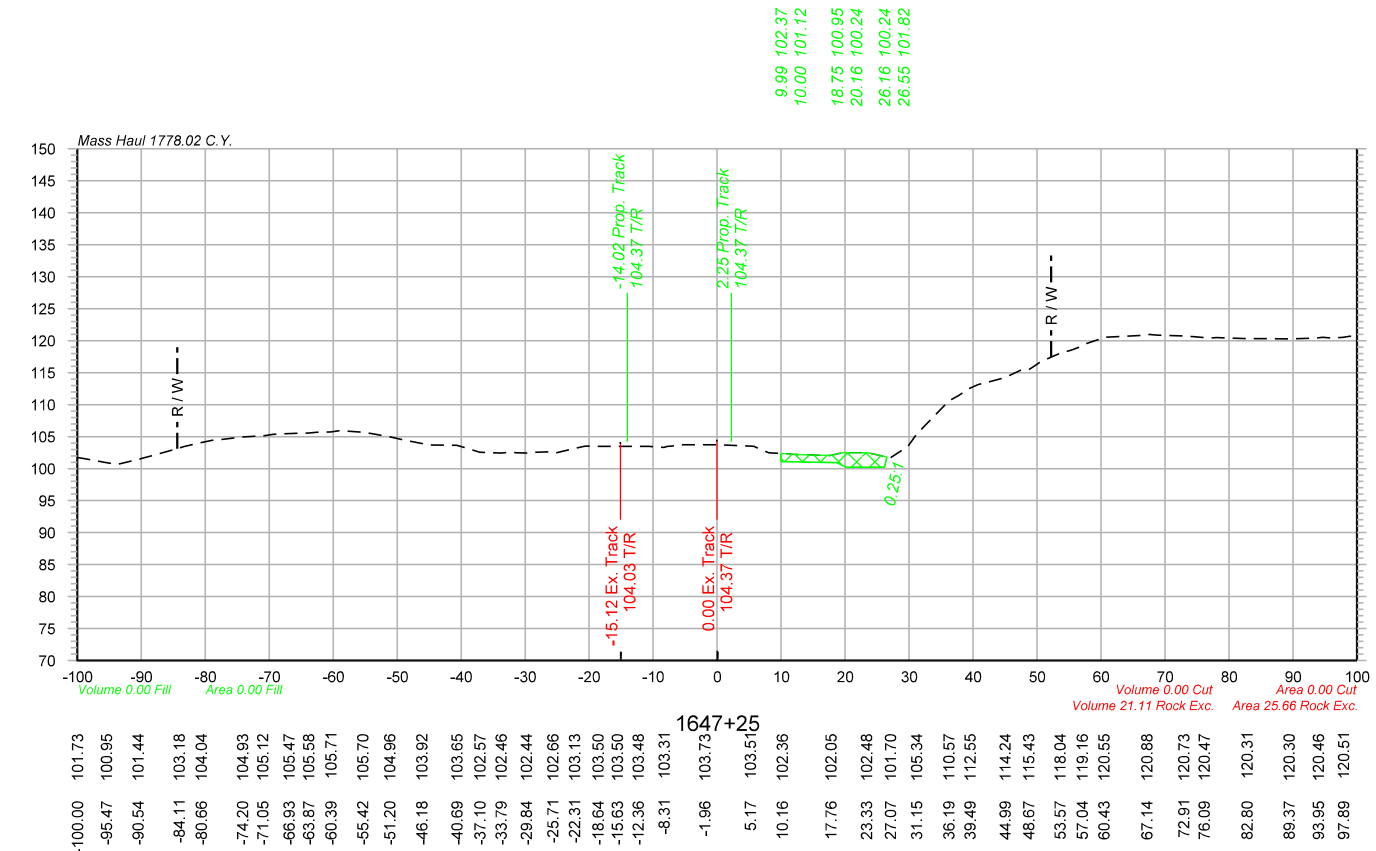
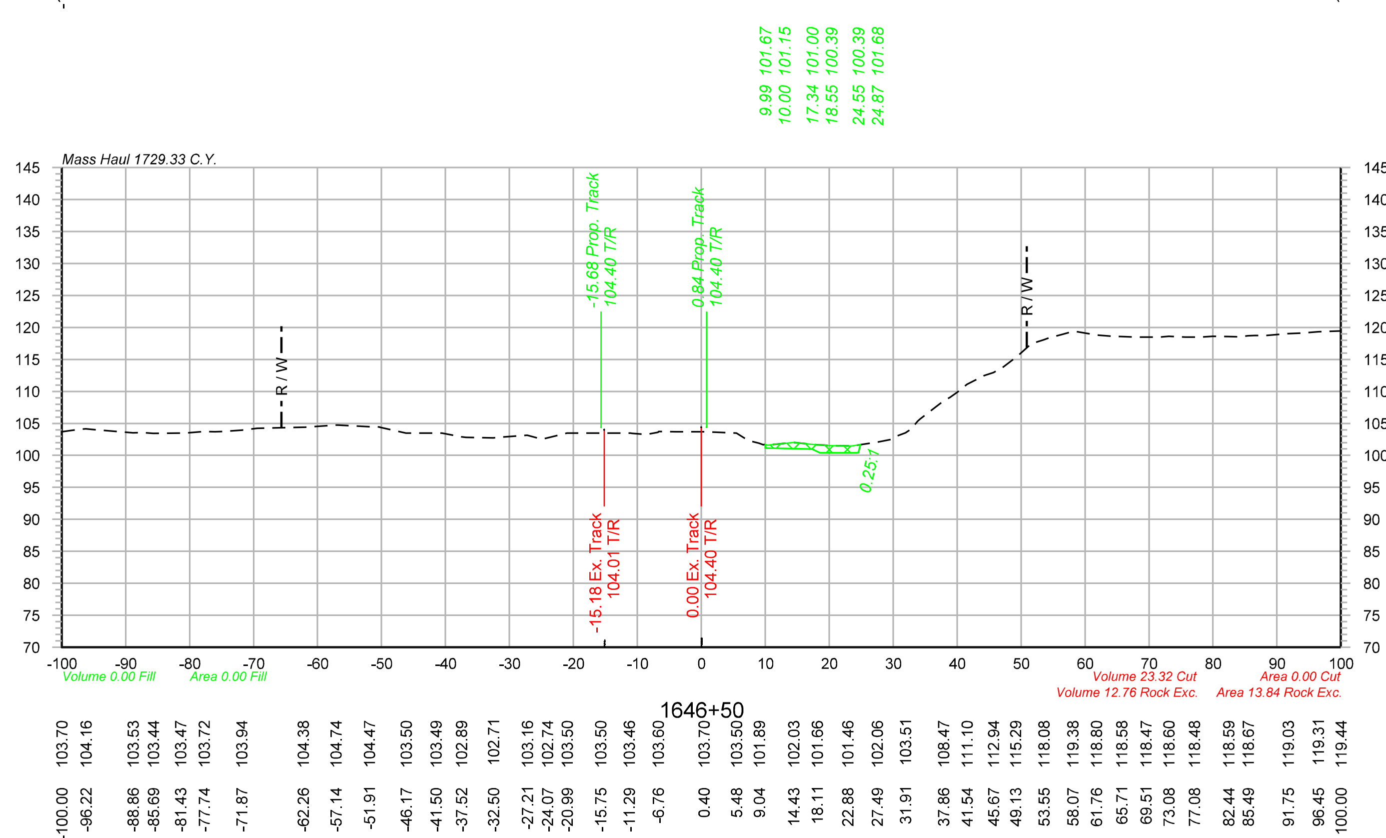
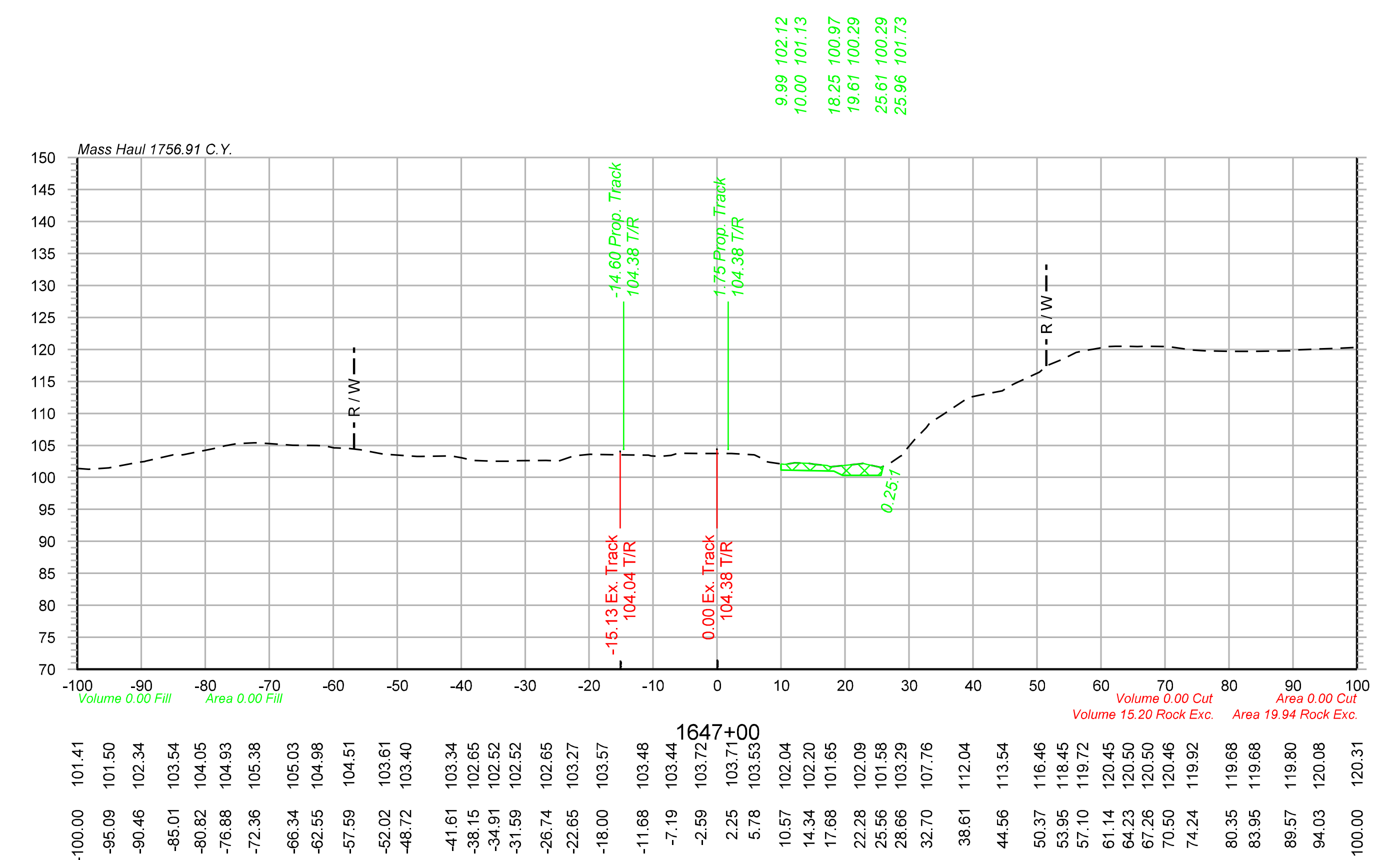
10/20/2014









Legend

Assumed Rock Excavation

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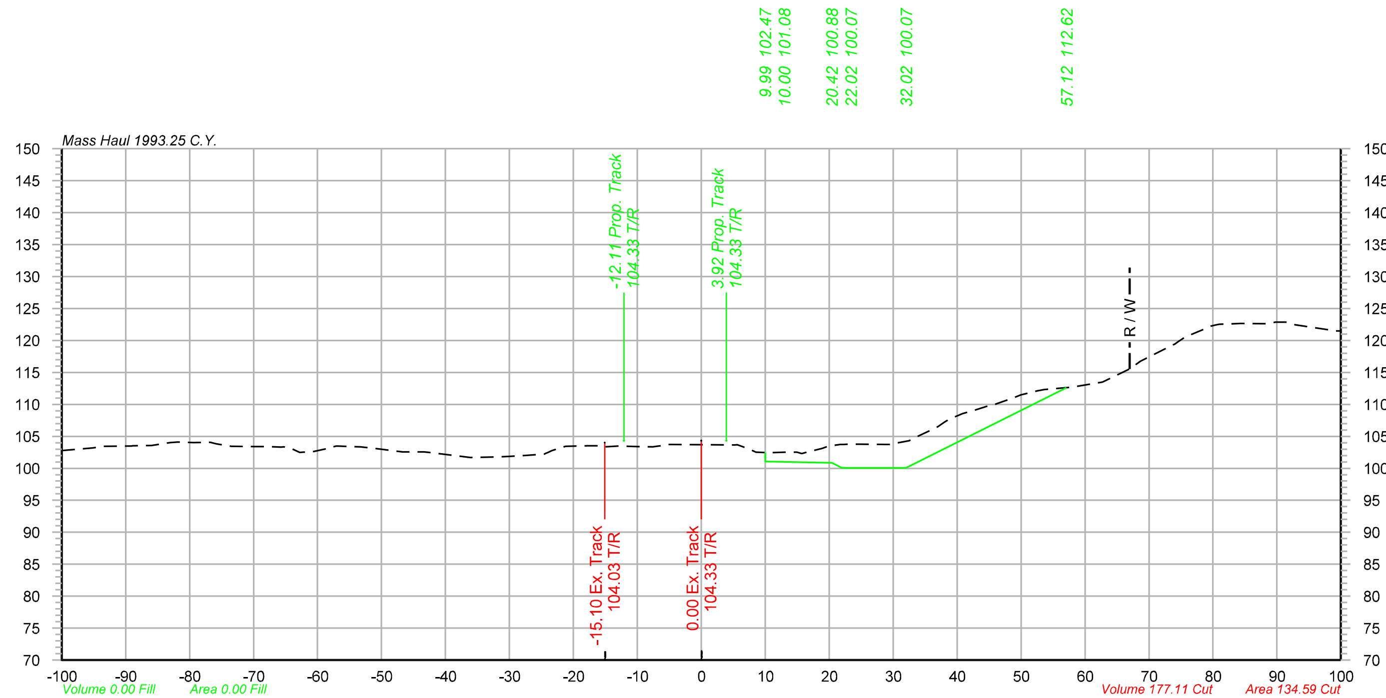
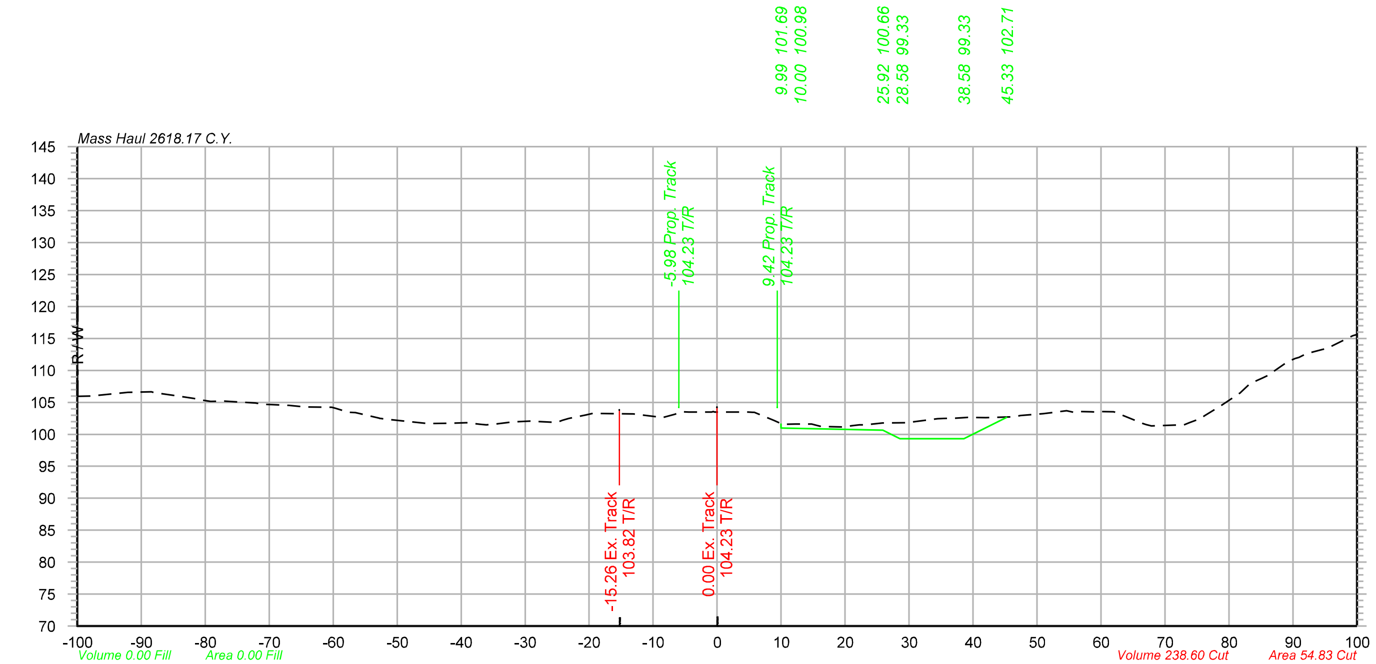
DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER: X 062 of 139	SHEET TITLE: PC 1 2-442 CROSS SECTIONS STA.1646+50 TO STA.1647+25



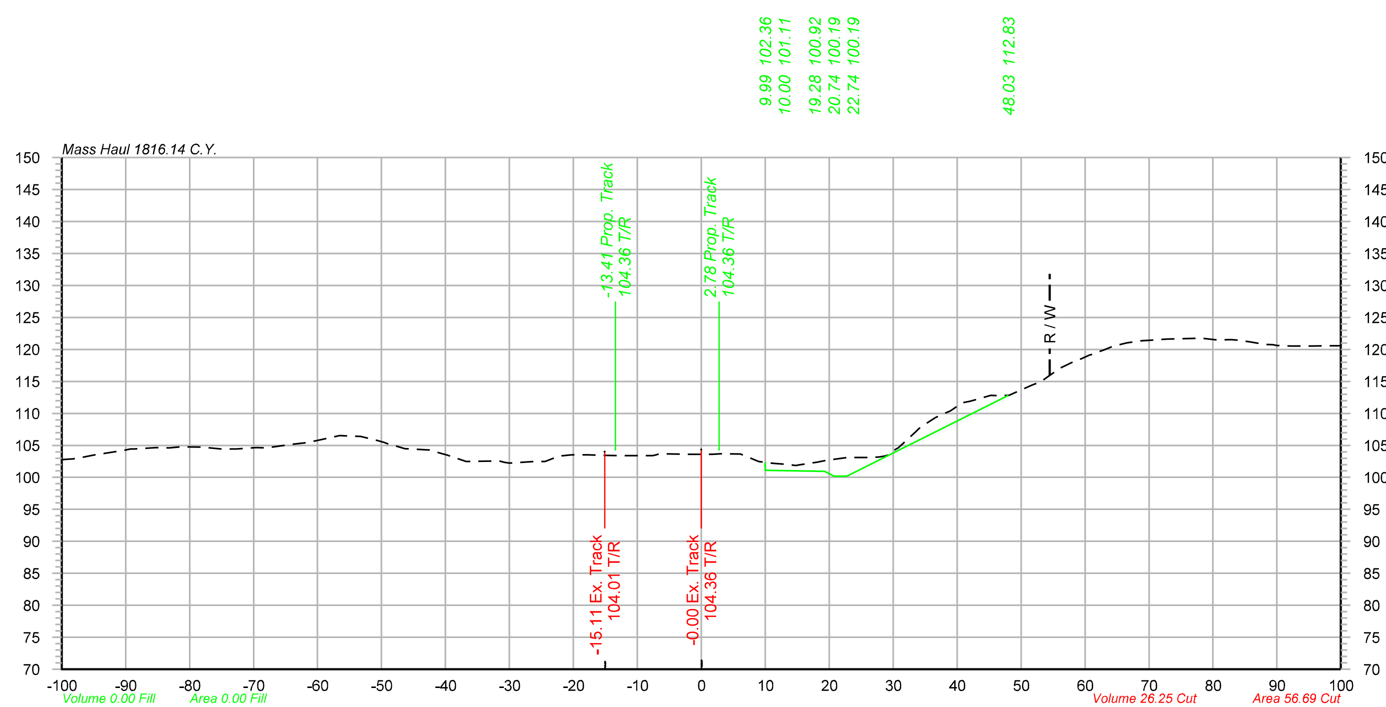
1648+00

Offset	Elevation
-100.00	102.76
-95.10	103.20
-89.28	103.50
-86.16	103.58
-83.03	104.02
-79.41	104.01
-75.77	103.83
-69.93	103.40
-65.67	103.33
-62.30	102.53
-58.03	103.20
-53.43	103.35
-46.71	102.55
-43.34	102.55
-36.10	101.69
-32.11	101.77
-27.29	102.03
-23.97	102.50
-17.73	103.52
-12.90	103.50
-7.59	103.36
0.13	103.70
5.21	103.66
8.53	102.52
13.24	102.51
16.49	102.51
19.92	103.49
22.98	103.76
28.85	103.72
32.49	104.31
36.37	106.20
40.88	108.56
45.01	109.81
48.80	111.02
52.50	112.11
57.98	112.69
62.72	113.49
66.87	115.47
73.20	119.05
78.86	121.88
81.96	122.55
88.41	122.60
92.87	122.43
97.84	121.68



1650+00

Offset	Elevation
-100.00	105.94
-92.07	106.57
-88.43	106.66
-84.81	106.06
-81.74	105.62
-77.01	105.18
-72.18	104.88
-66.85	104.52
-60.26	104.25
-56.51	103.39
-52.78	102.50
-45.30	101.68
-41.70	101.74
-37.00	101.57
-31.96	101.93
-25.07	101.86
-20.54	103.04
-16.33	103.23
-13.10	103.19
-9.68	102.78
-6.56	103.16
-0.85	103.48
3.97	103.50
8.95	102.15
12.22	101.60
15.57	101.39
19.63	101.13
23.18	101.47
29.57	101.83
34.46	102.45
39.22	102.66
46.15	102.74
51.00	103.22
54.63	103.70
58.46	103.54
61.95	103.52
66.56	101.70
71.45	101.43
75.59	102.49
78.74	104.50
81.77	106.48
85.19	108.76
89.19	111.38
94.49	113.23
99.32	115.39



1647+50

Offset	Elevation
-100.00	102.76
-96.92	103.12
-90.26	104.23
-85.23	104.66
-81.41	104.75
-78.19	104.75
-75.12	104.42
-69.69	104.65
-63.81	105.17
-57.91	106.24
-53.25	106.38
-49.62	105.50
-46.36	104.50
-42.49	104.26
-38.98	103.25
-34.43	102.54
-30.81	102.36
-26.74	102.45
-23.45	102.86
-20.27	103.54
-15.15	103.44
-8.43	103.42
-1.81	103.62
1.67	103.59
6.13	103.66
11.30	102.21
14.85	101.87
18.23	102.39
22.51	103.08
26.33	103.12
29.77	104.02
33.54	107.16
36.65	109.36
40.72	111.60
45.27	112.80
51.56	114.35
56.18	117.10
59.40	118.51
62.82	119.86
66.55	121.05
69.77	121.42
77.67	121.73
80.84	121.50
83.86	121.44
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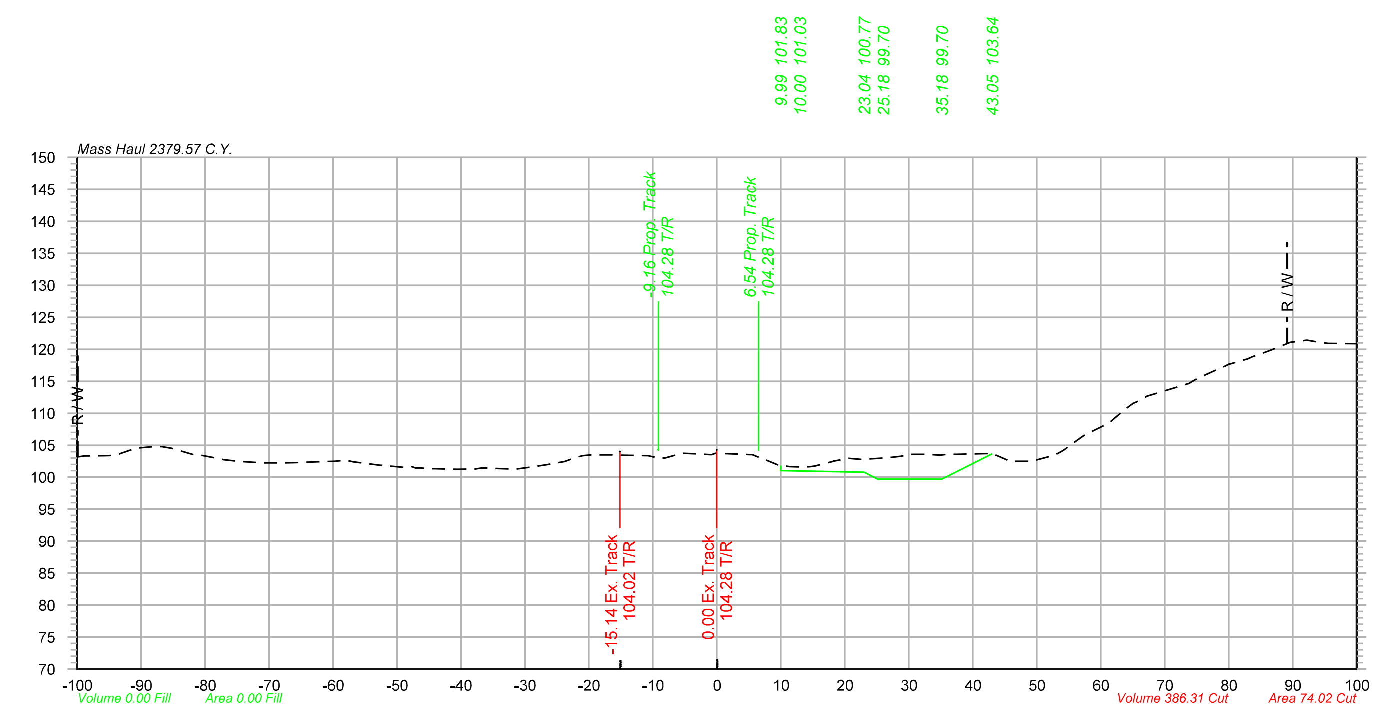

1649+00

Offset	Elevation
-100.00	103.13
-95.60	103.35
-91.67	104.22
-88.50	104.72
-85.30	104.51
-81.83	103.52
-77.39	102.81
-71.70	102.26
-67.53	102.25
-62.51	102.39
-58.45	102.58
-52.62	101.86
-48.82	101.52
-45.48	101.36
-40.62	101.21
-36.72	101.44
-32.10	101.29
-28.80	101.61
-23.79	102.45
-19.58	103.50
-16.33	103.46
-10.73	103.34
-5.60	103.67
-1.13	103.53
5.13	103.51
8.15	102.48
11.35	101.63
14.68	101.64
18.22	102.50
22.57	102.77
26.64	103.04
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52.45	103.35
55.93	105.50
61.27	108.44
65.05	111.51
73.11	114.45
79.11	117.21
82.95	118.49
86.73	119.89
91.83	121.35
95.55	120.92
100.00	120.87

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UNION PACIFIC

DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 063 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-443
CROSS SECTIONS STA.1647+50 TO STA.1650+00

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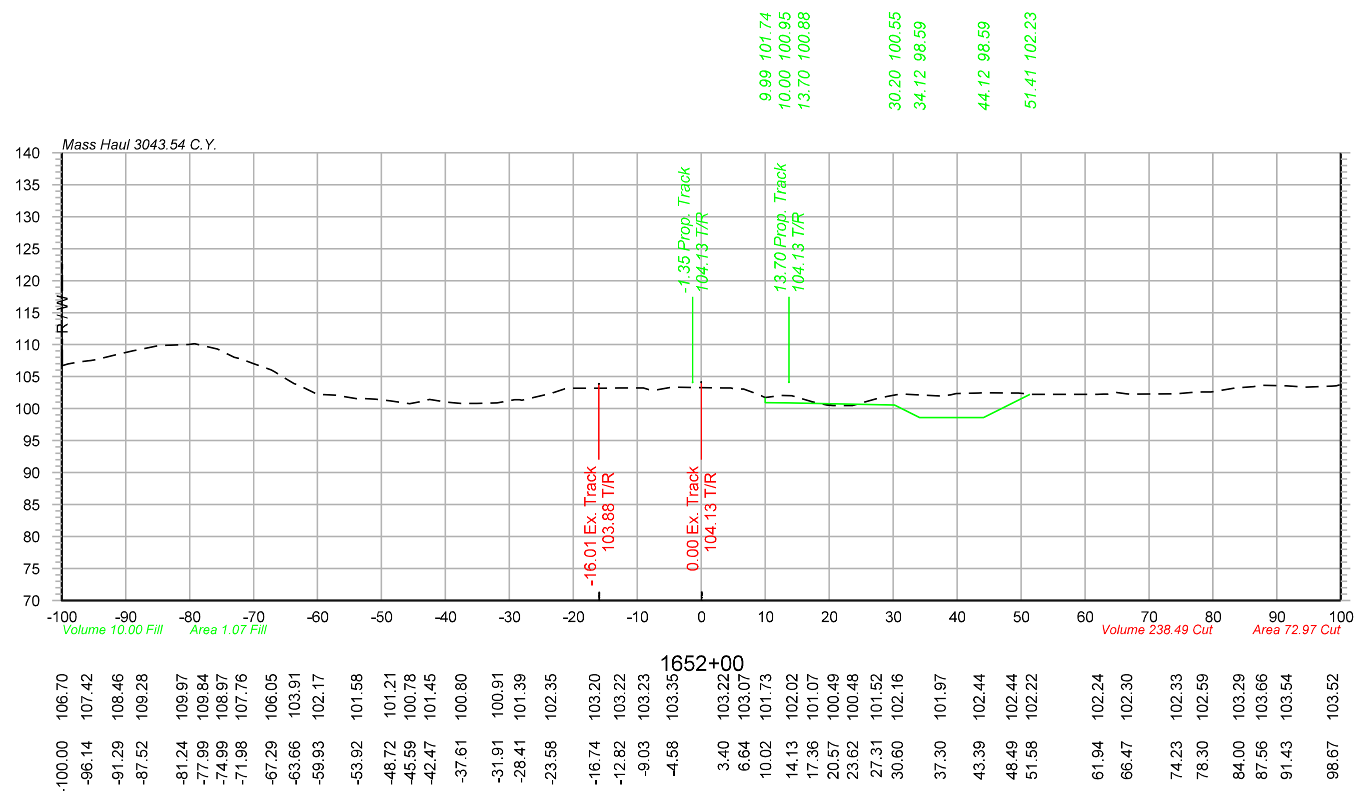

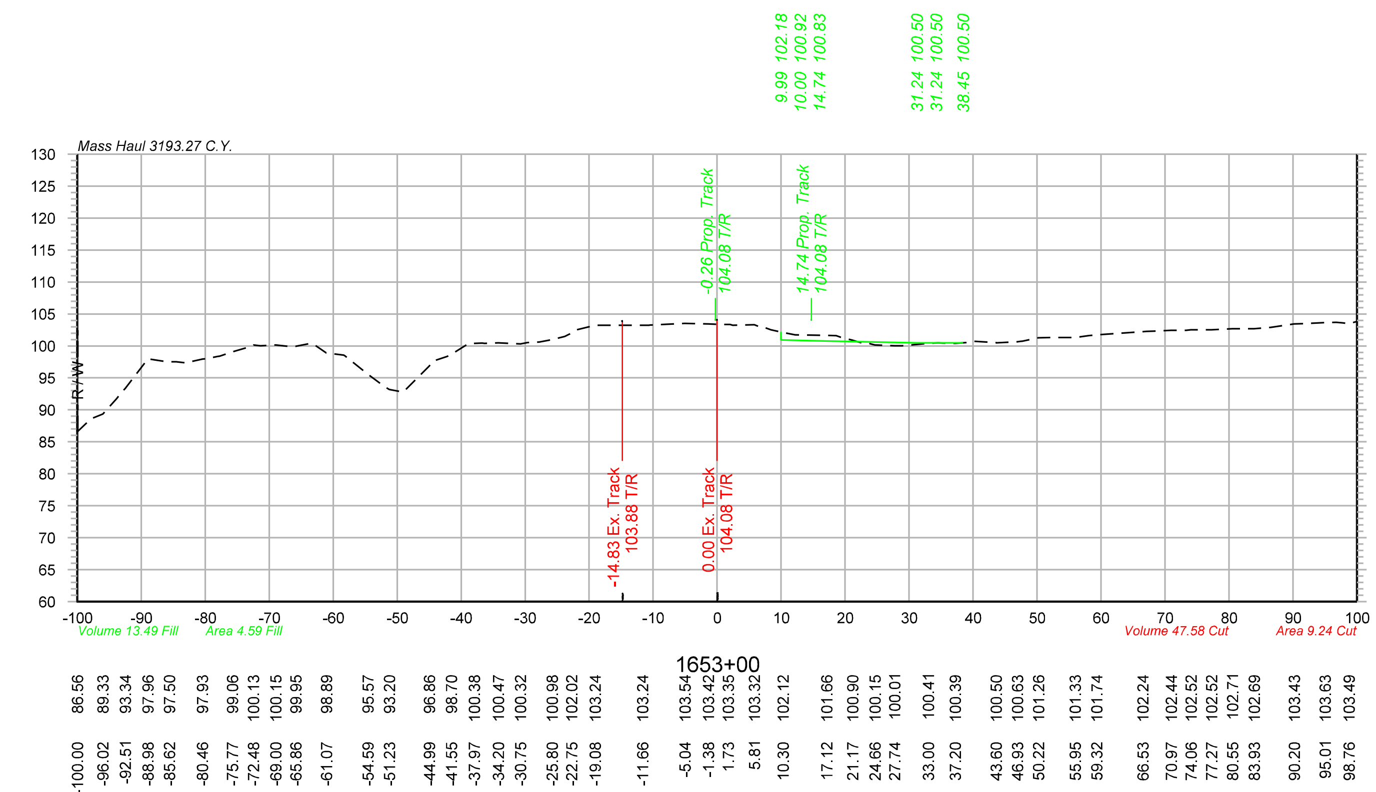

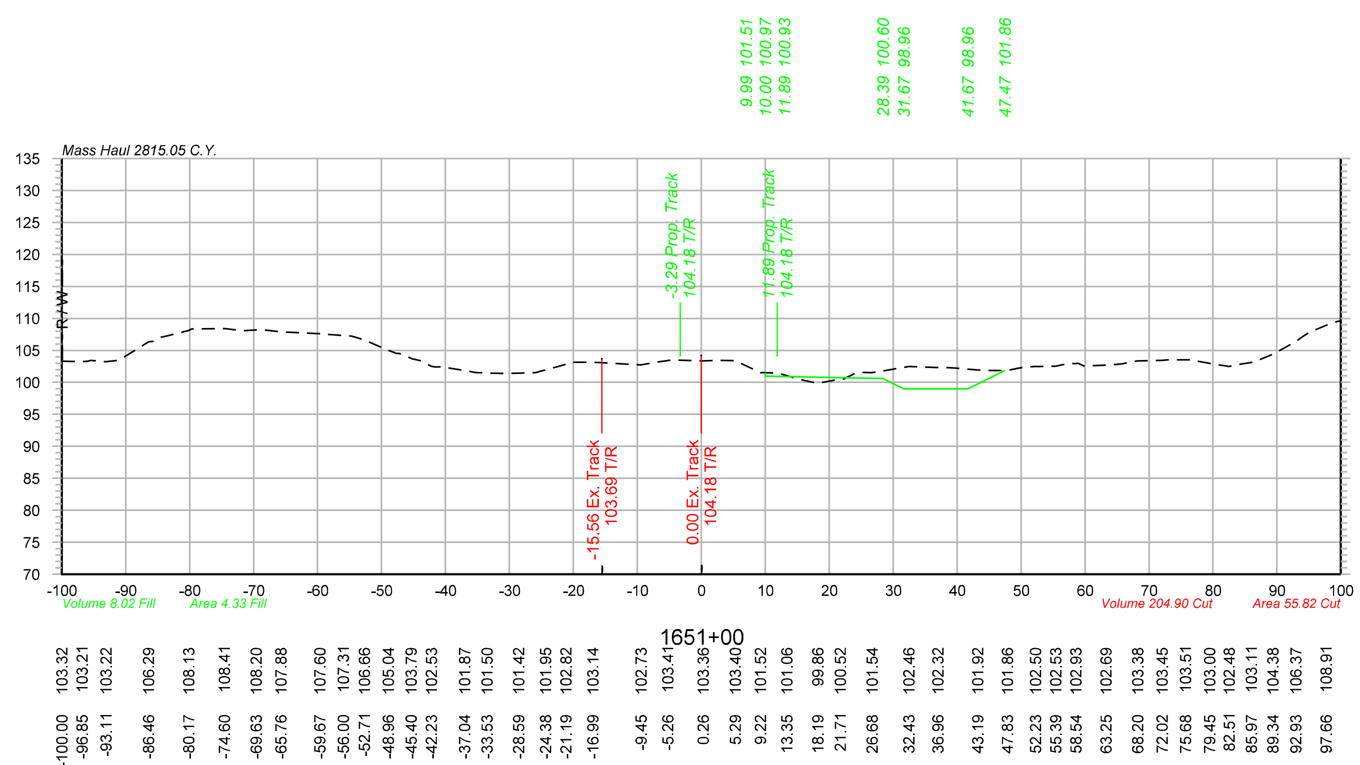

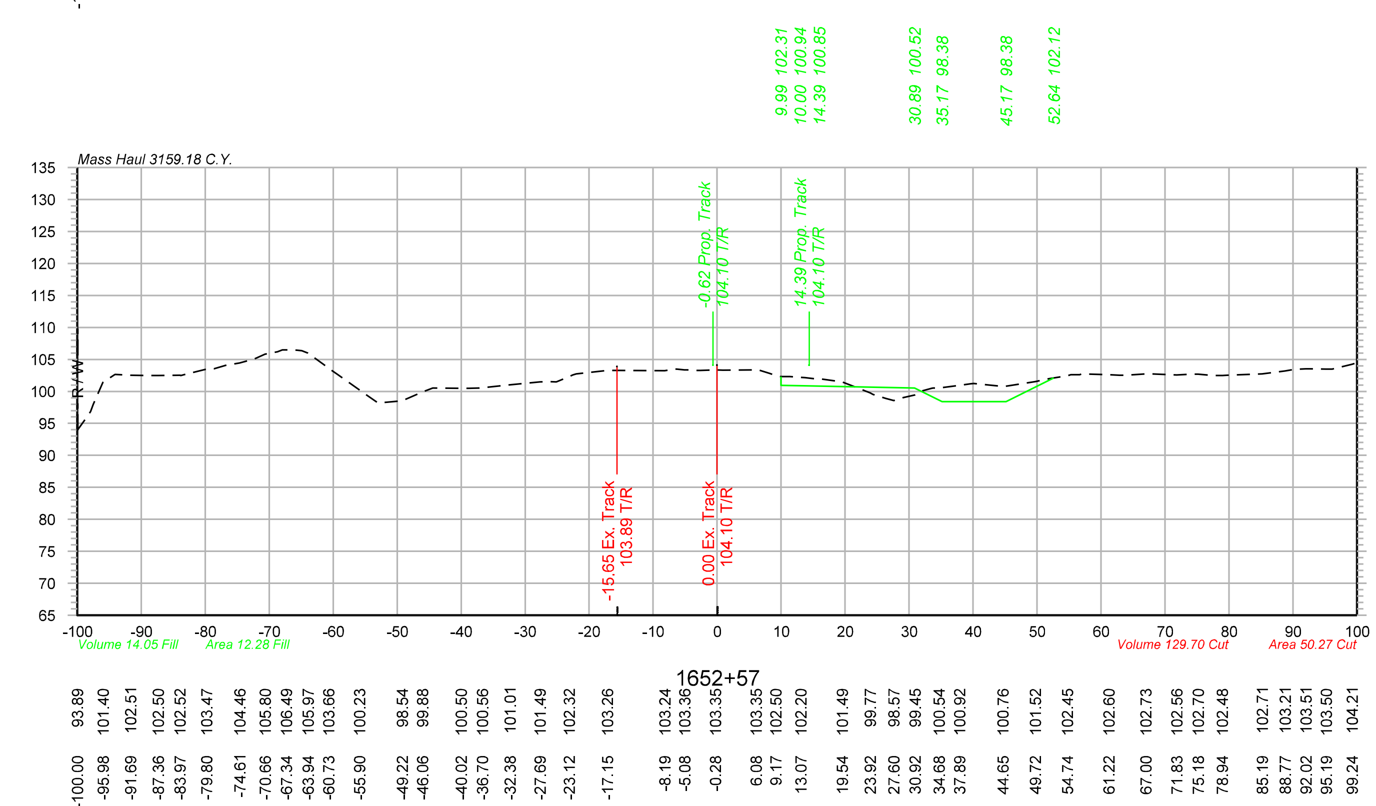

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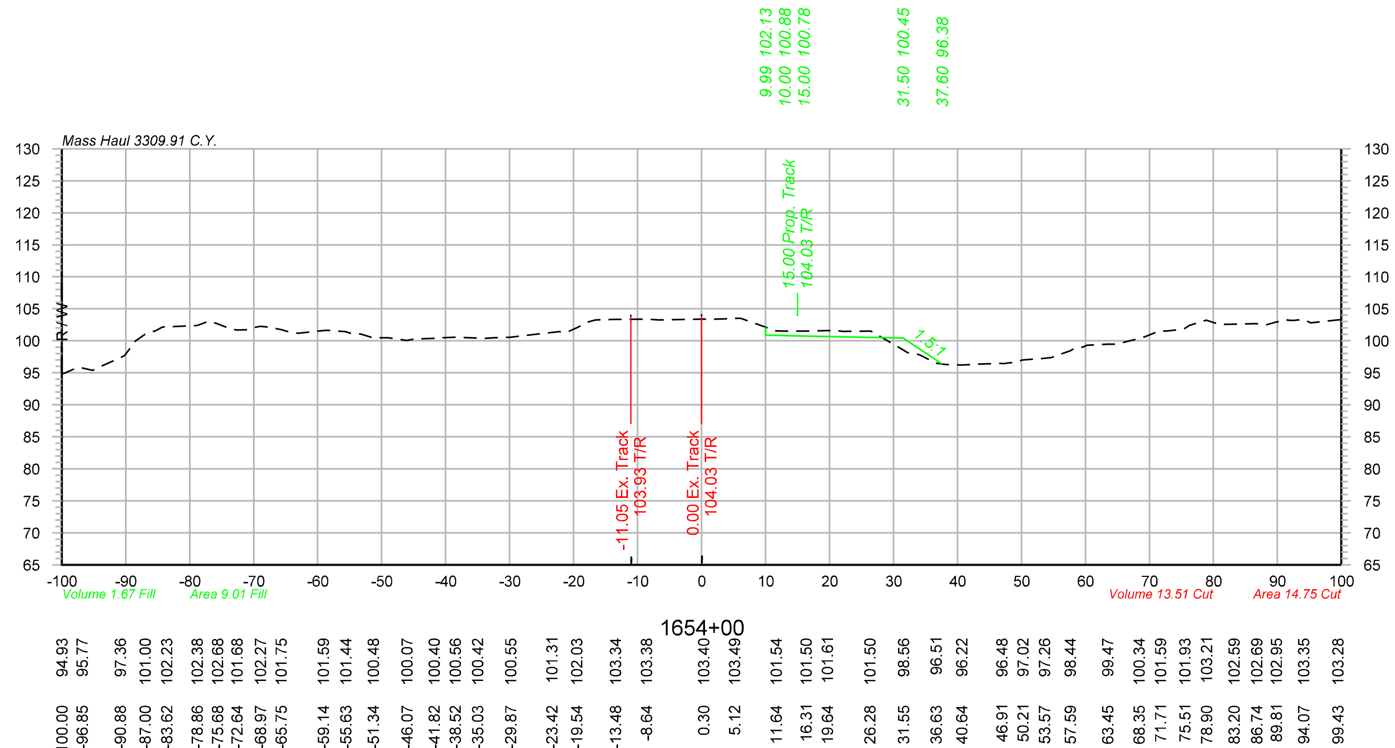
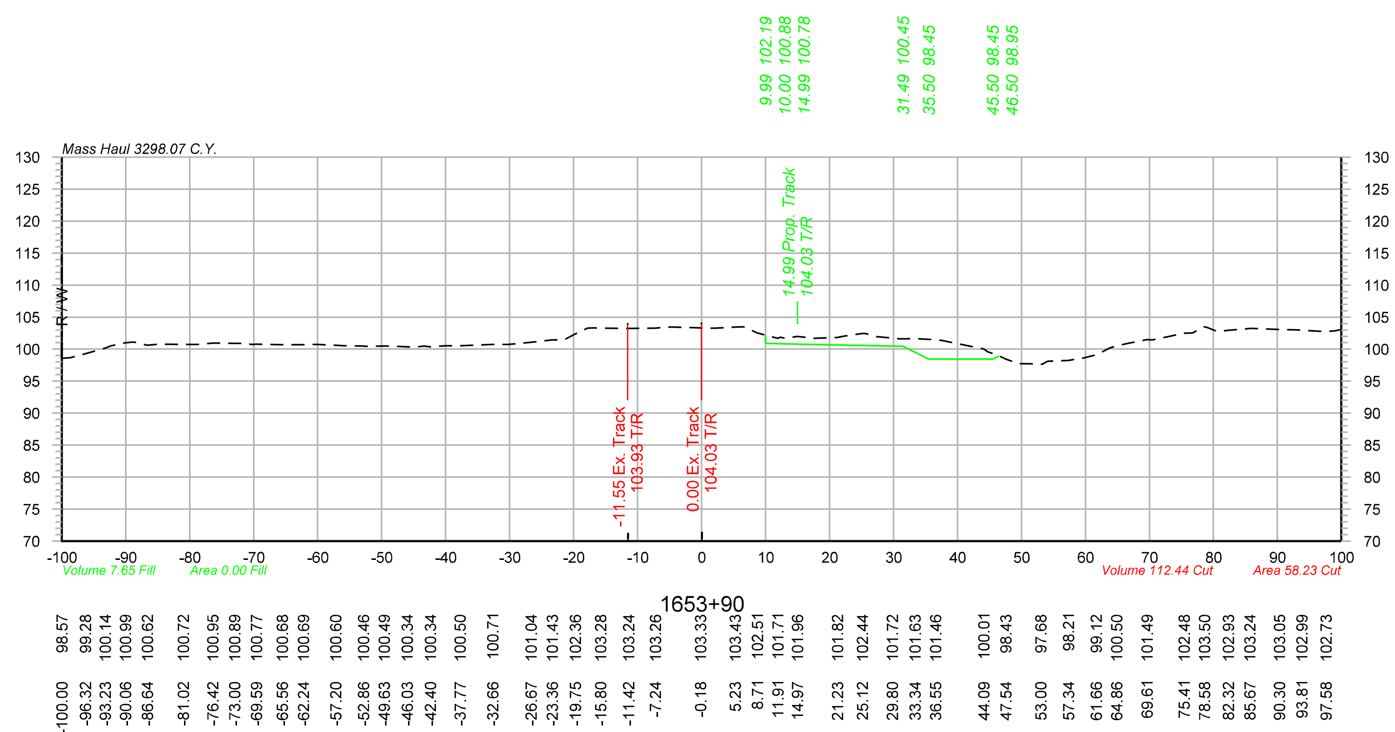
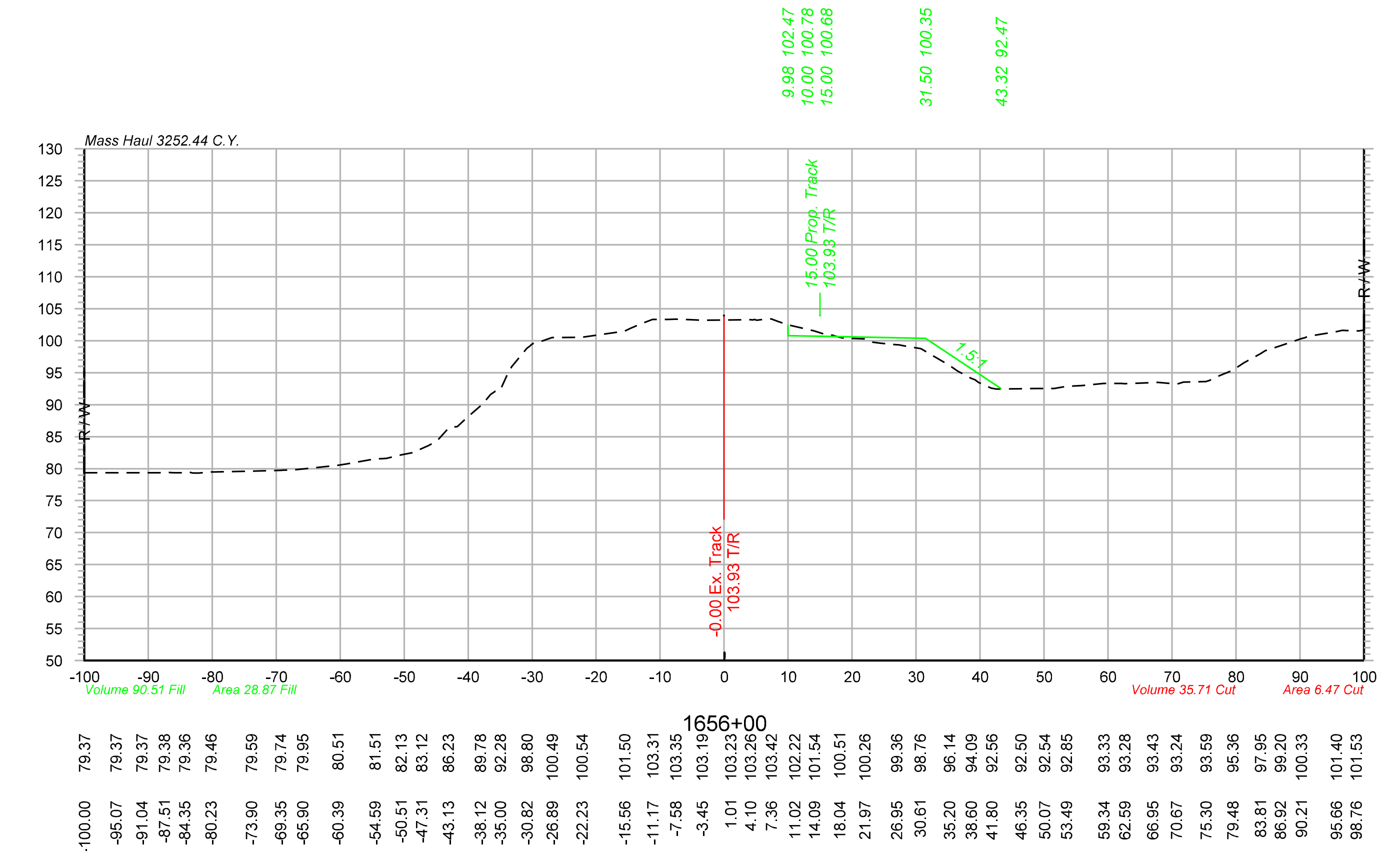
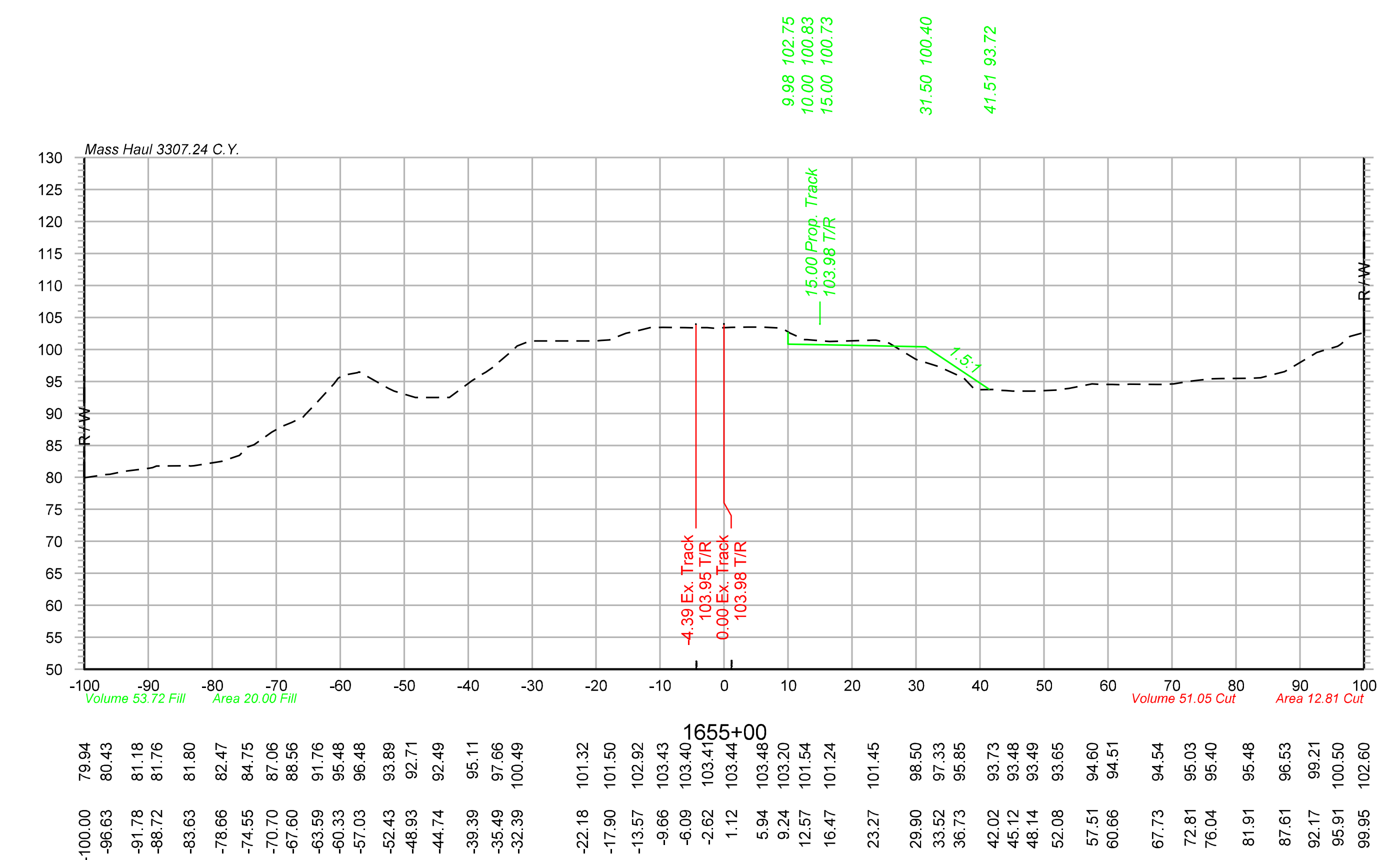
DRAWN BY: BWG	**UNION PACIFIC RAILROAD** — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 064 of 139	SHEET TITLE: CROSS SECTIONS STA.1651+00 TO STA.1653+00 — PC 1 2-444









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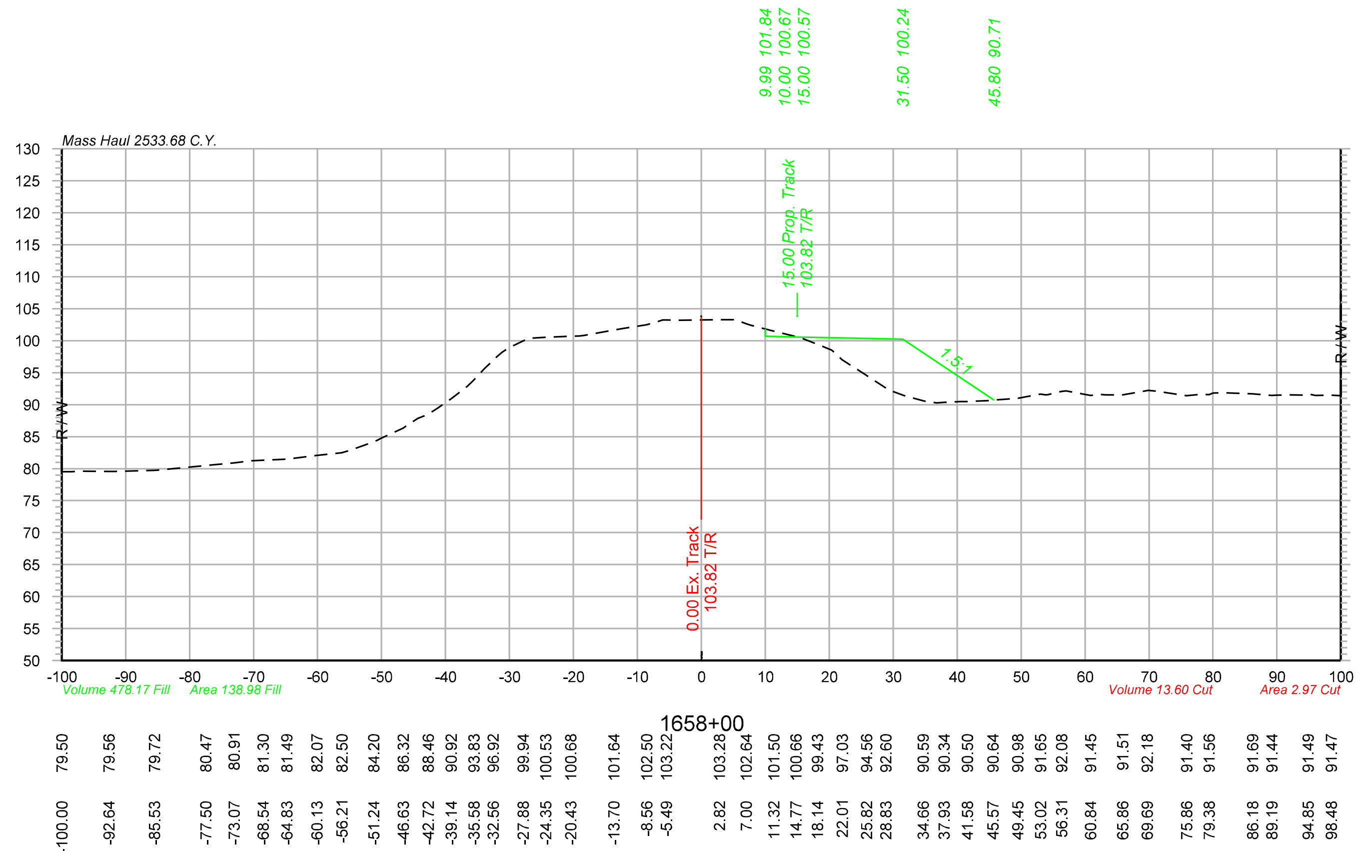
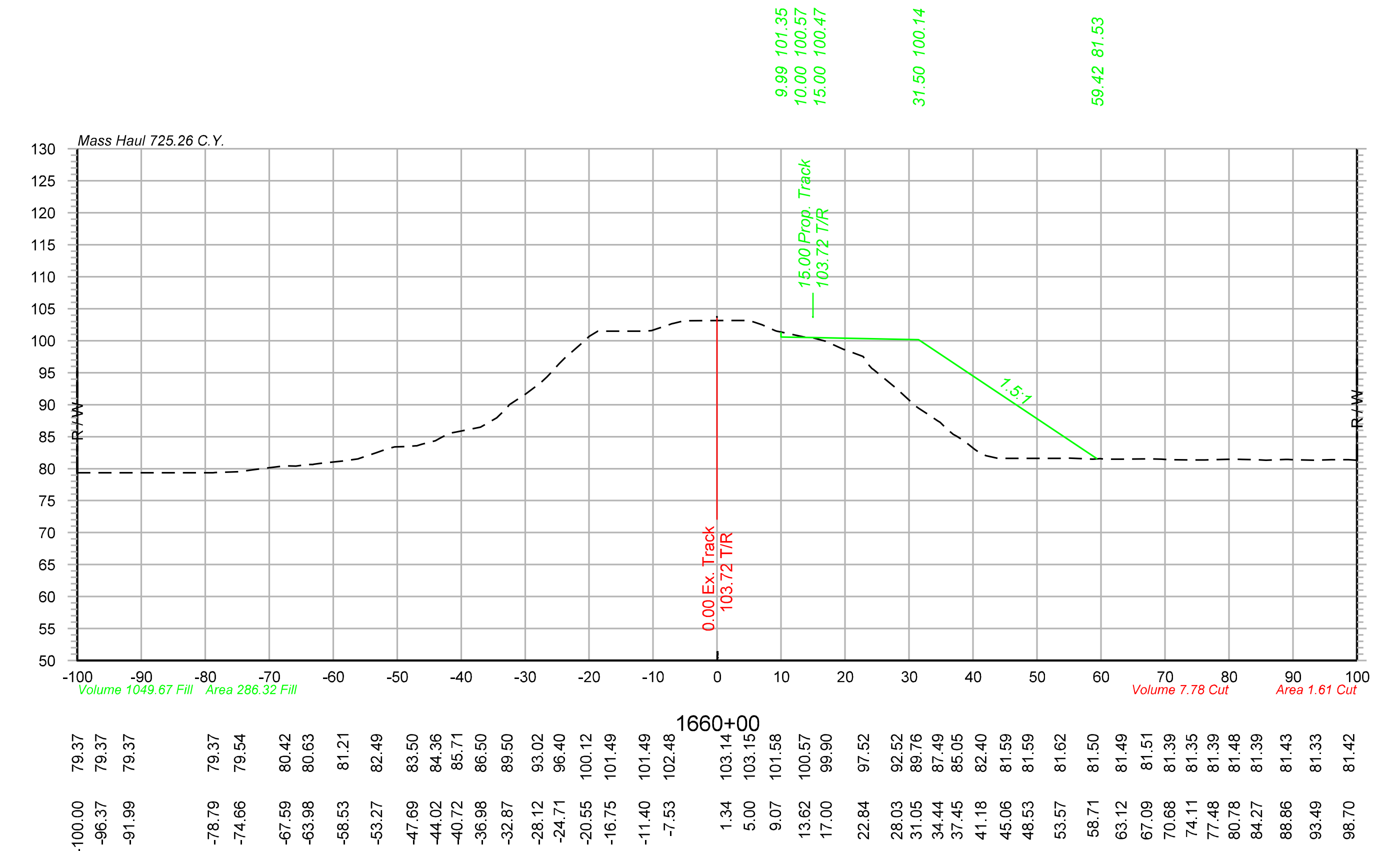
DATE: 10/20/2014
SHEET NUMBER X 065 of 139

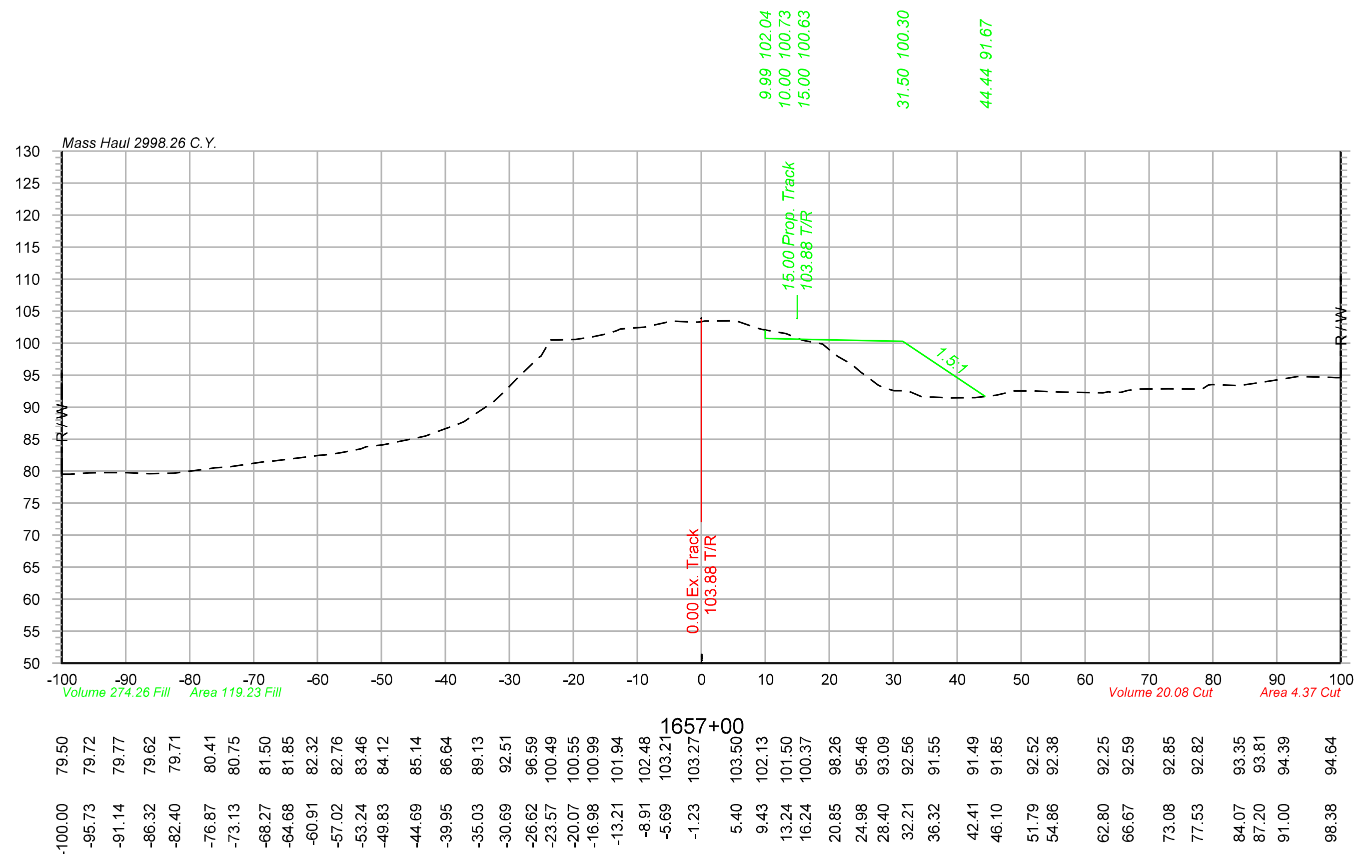
UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

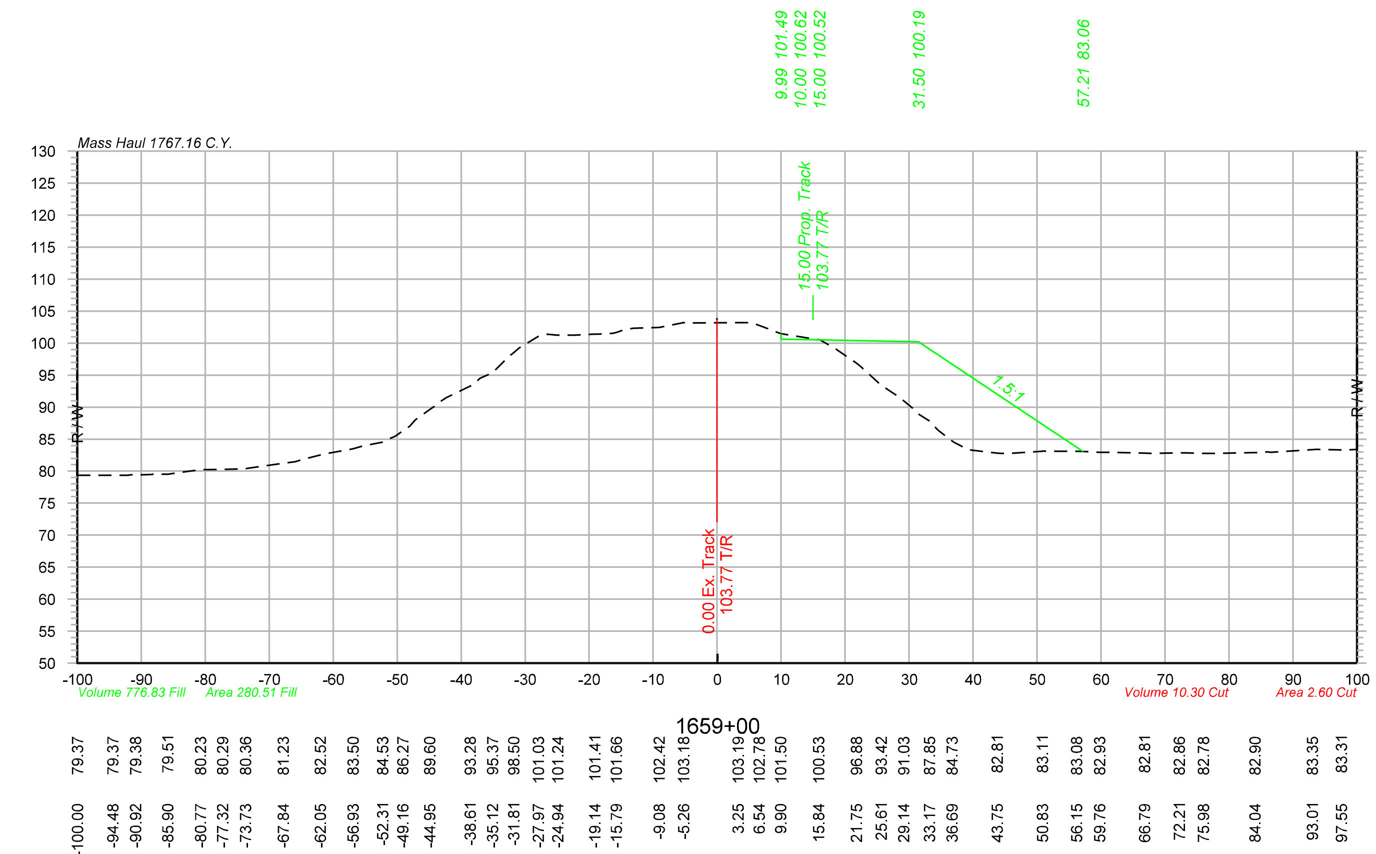
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: CROSS SECTIONS STA.1653+90 TO STA.1656+00
PC 1 2-445









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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline	
DATE: 10/20/2014		
SHEET NUMBER X 066 of 139	SHEET TITLE: CROSS SECTIONS STA.1657+00 TO STA.1660+00	PC 1 2-446

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15.00 100.37
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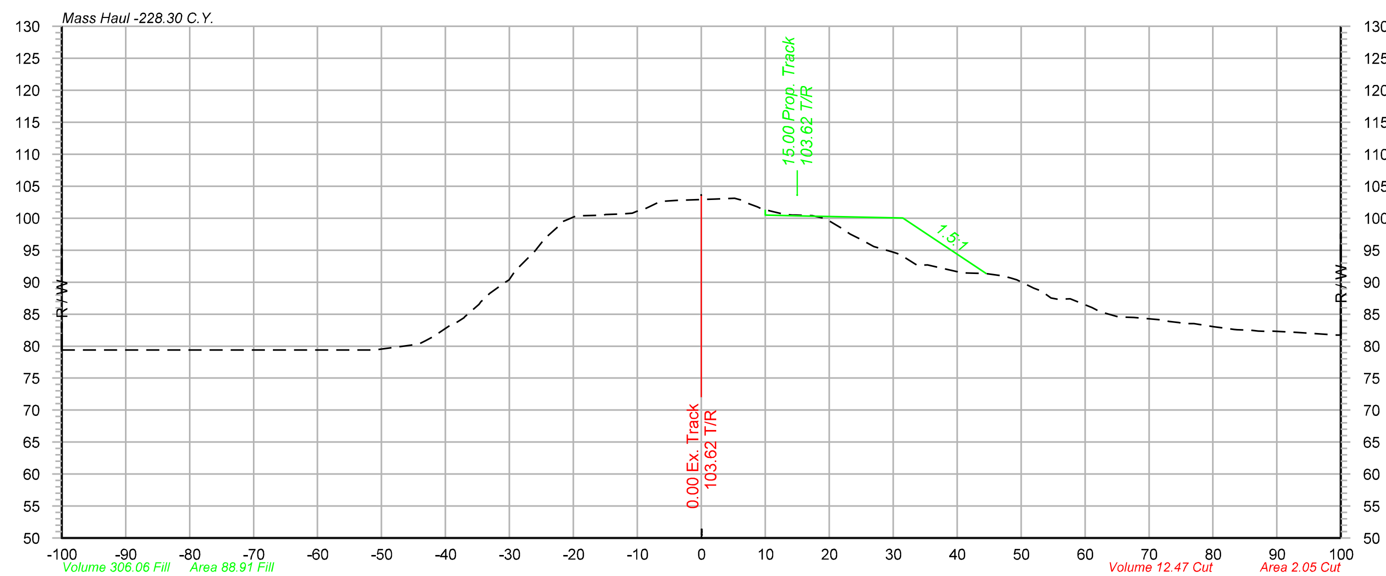
44.58 91.32



1662+00

79.38	-100.00
79.38	-52.11
80.16	-45.45
81.52	-41.87
83.38	-38.79
86.51	-34.77
90.02	-30.60
94.85	-26.00
98.97	-22.06
100.43	-16.17
100.66	-12.55
101.49	-8.73
102.76	-3.88
102.97	2.15
103.10	5.21
101.79	8.73
100.65	12.77
100.41	17.22
98.35	22.06
95.57	26.96
94.46	30.62
92.60	33.80
91.48	40.69
91.36	44.12
90.66	48.41
89.08	51.98
87.32	55.79
86.04	61.10
84.57	65.24
84.11	71.92
83.50	75.78
83.02	80.18
82.59	83.33
82.35	87.06
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15.00 100.27
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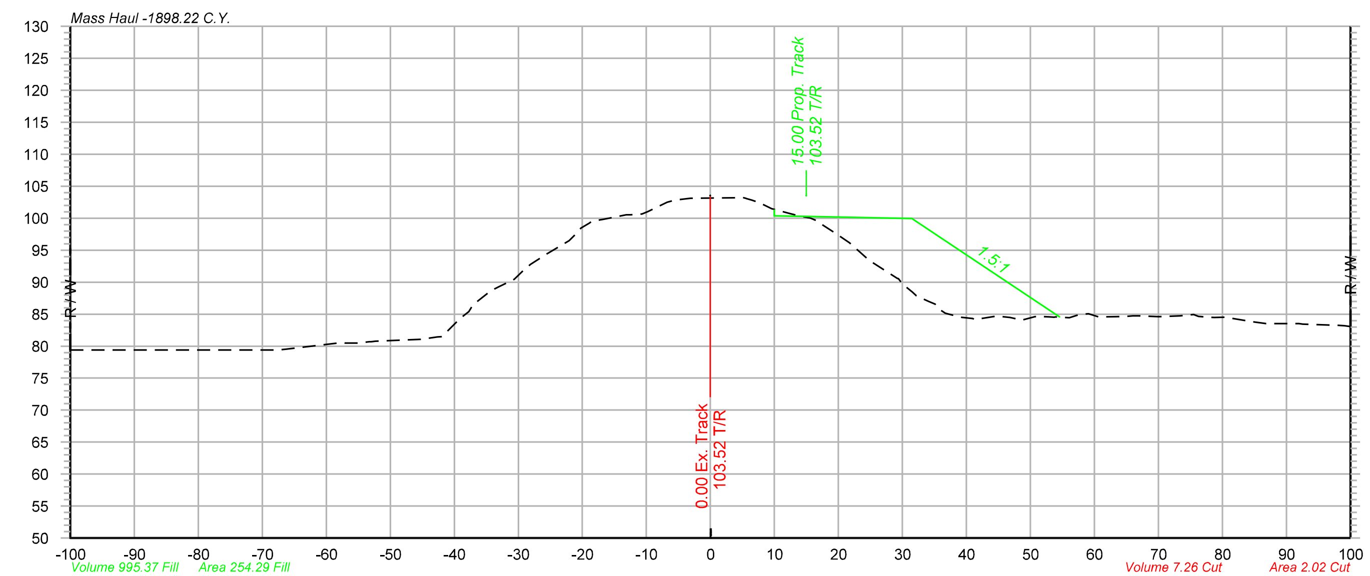

1664+00

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79.38	-70.96
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80.68	-53.29
81.07	-45.27
81.48	-41.94
85.39	-37.74
88.60	-34.35
90.41	-30.73
94.47	-25.42
96.49	-22.06
99.23	-18.91
100.51	-13.16
101.03	-9.75
102.82	-5.57
103.18	4.56
102.42	7.70
100.68	12.52
100.02	15.60
97.55	19.67
93.73	24.44
90.58	29.24
87.42	33.11
85.16	36.71
84.30	40.98
84.66	44.43
84.07	48.65
84.57	53.09
84.94	57.68
84.60	63.34
84.72	66.98
84.60	70.03
84.74	73.38
84.50	77.80
83.83	84.66
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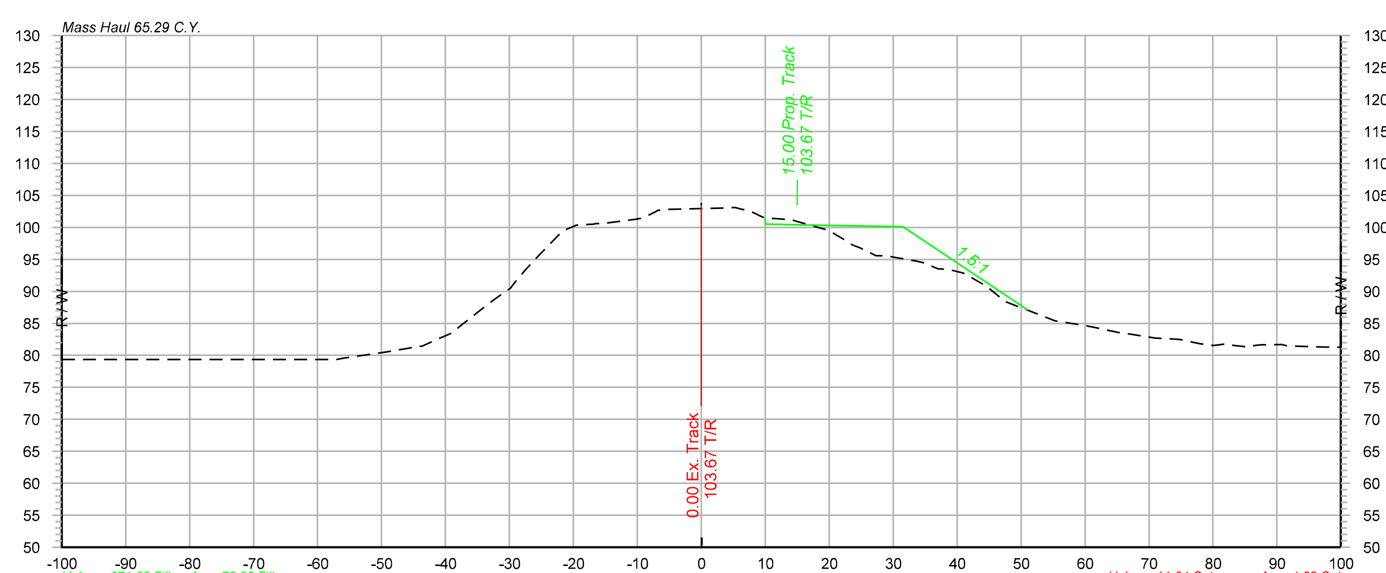
51.00 87.09



1661+00

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81.32	-44.65
82.50	-41.34
84.74	-37.51
87.90	-33.48
90.48	-29.85
94.55	-26.37
99.17	-21.96
100.50	-17.28
101.27	-10.21
102.53	-6.98
103.04	3.57
102.61	7.44
101.37	11.82
100.95	14.93
99.52	19.91
97.29	23.61
95.57	27.33
94.76	33.43
93.54	37.00
92.86	40.96
90.77	44.65
87.53	49.77
85.40	55.30
84.64	60.07
83.55	65.28
82.71	71.05
82.49	74.84
81.57	79.74
81.54	83.17
81.59	87.07
81.67	90.73
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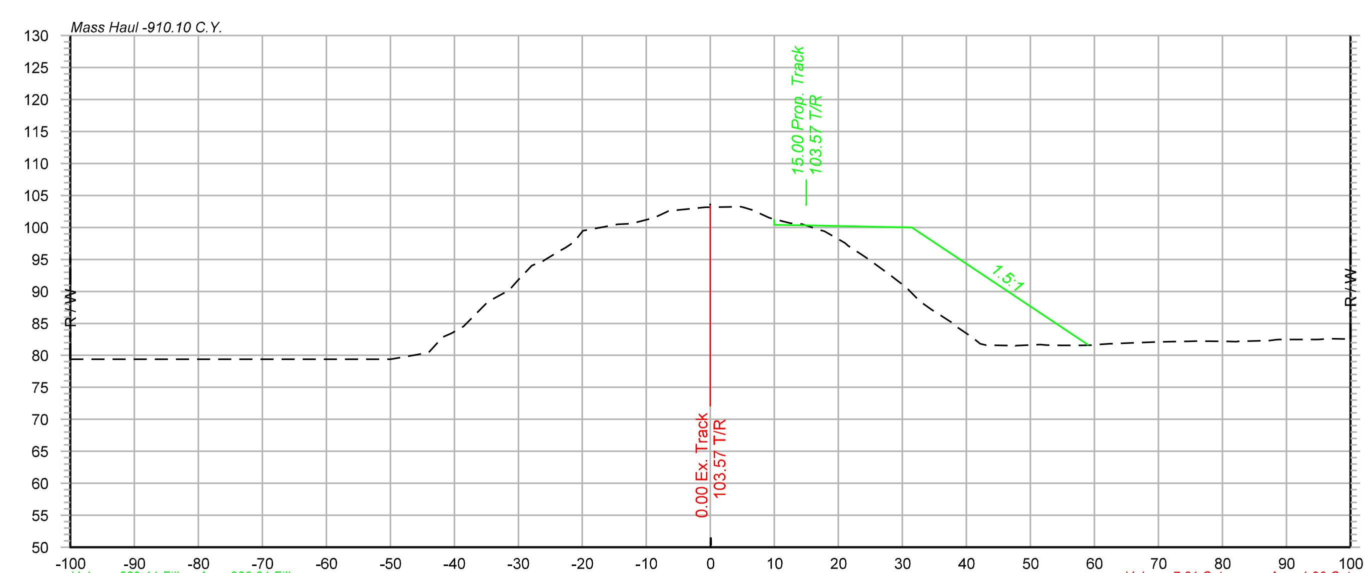

1663+00

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84.53	-38.55
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90.19	-31.46
94.04	-27.90
96.30	-23.55
99.49	-19.90
100.07	-16.69
100.58	-12.67
101.35	-9.36
103.14	-0.75
103.20	2.70
102.69	6.66
100.94	11.36
99.50	17.49
97.55	21.05
95.15	24.53
92.56	28.07
88.44	32.75
84.99	37.97
81.83	42.15
81.50	47.45
81.68	51.54
81.55	54.92
81.62	59.79
82.10	69.97
82.20	74.57
82.17	80.65
82.32	87.37
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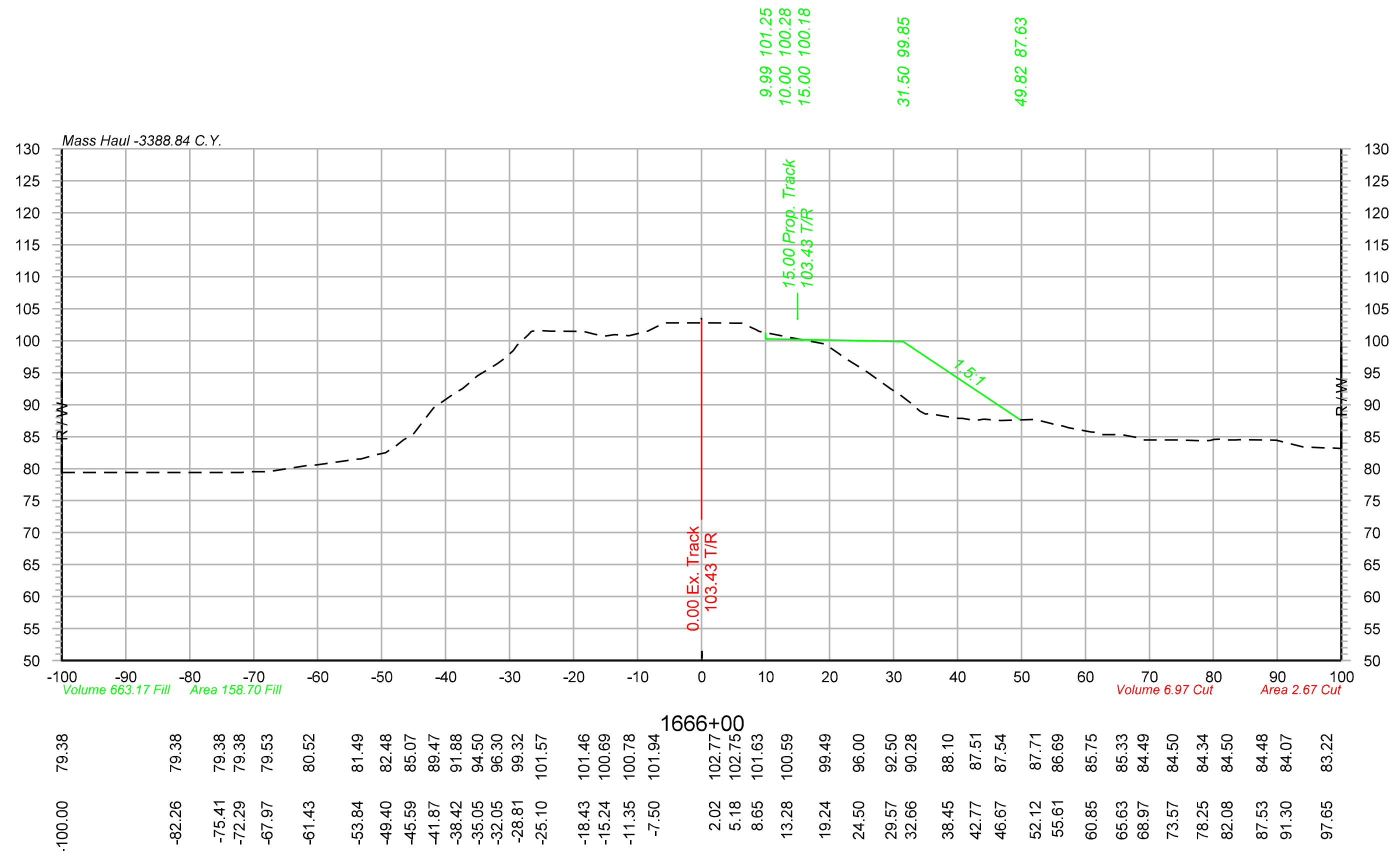
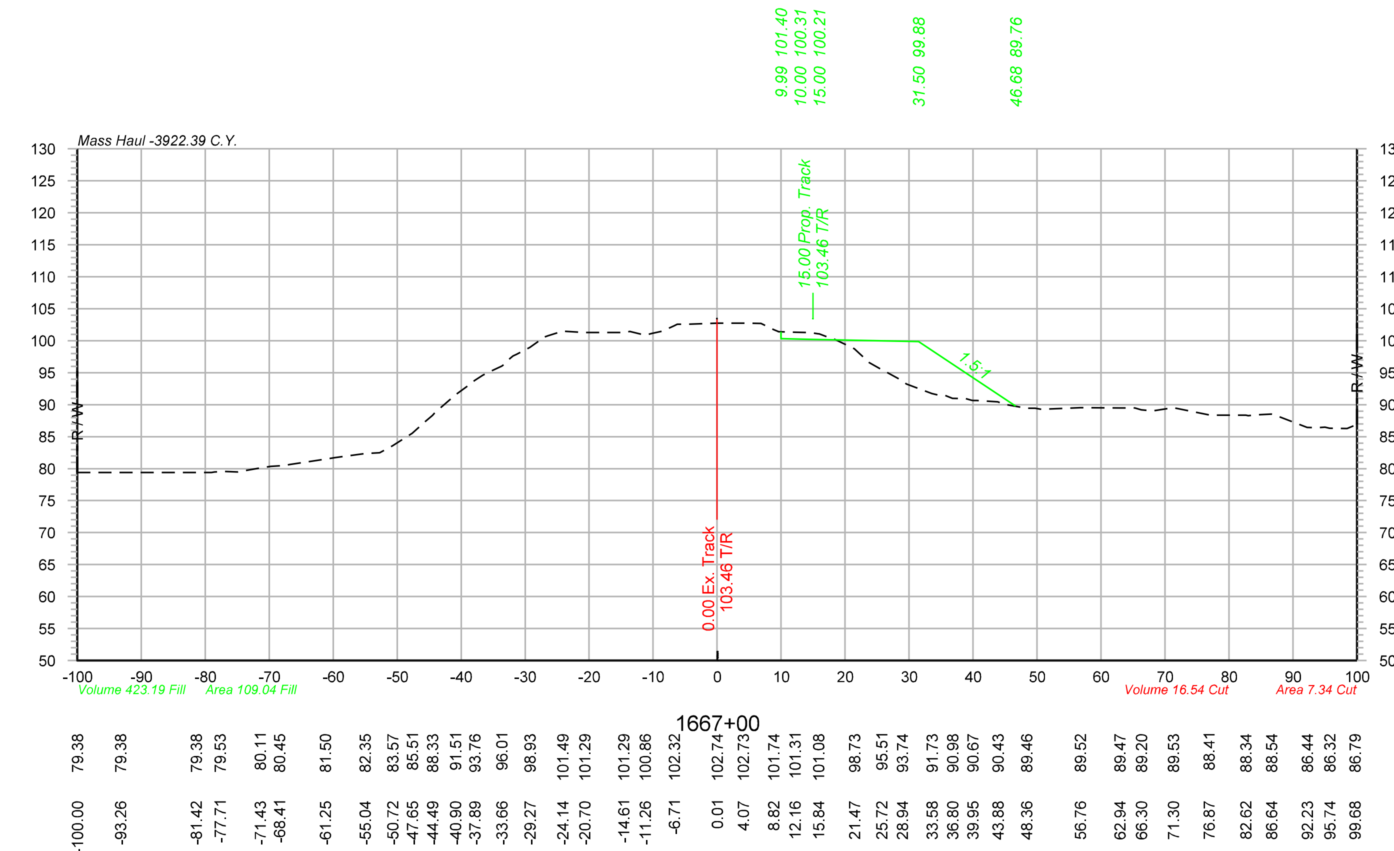
SHEET NUMBER: X 067 of 139

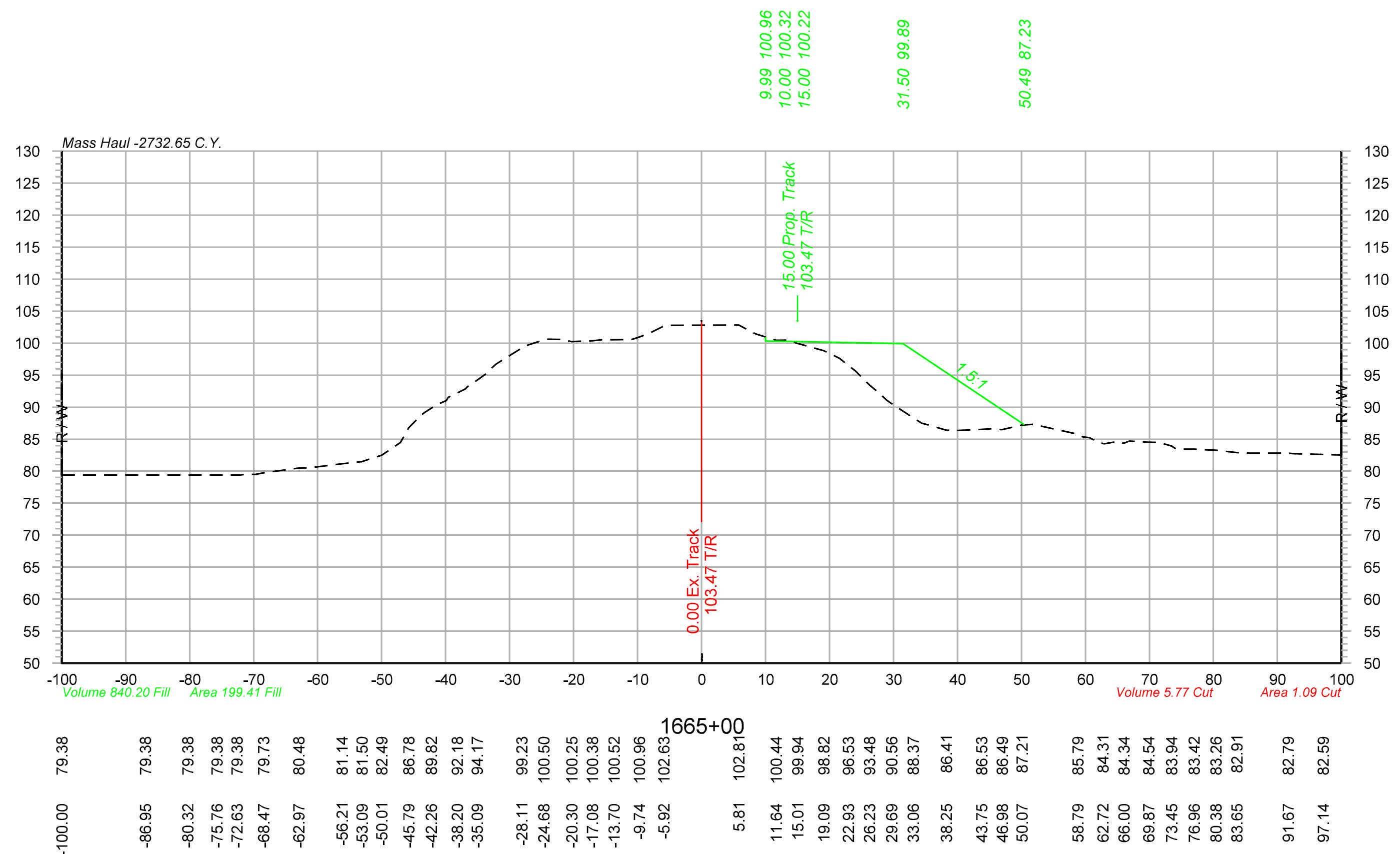
UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

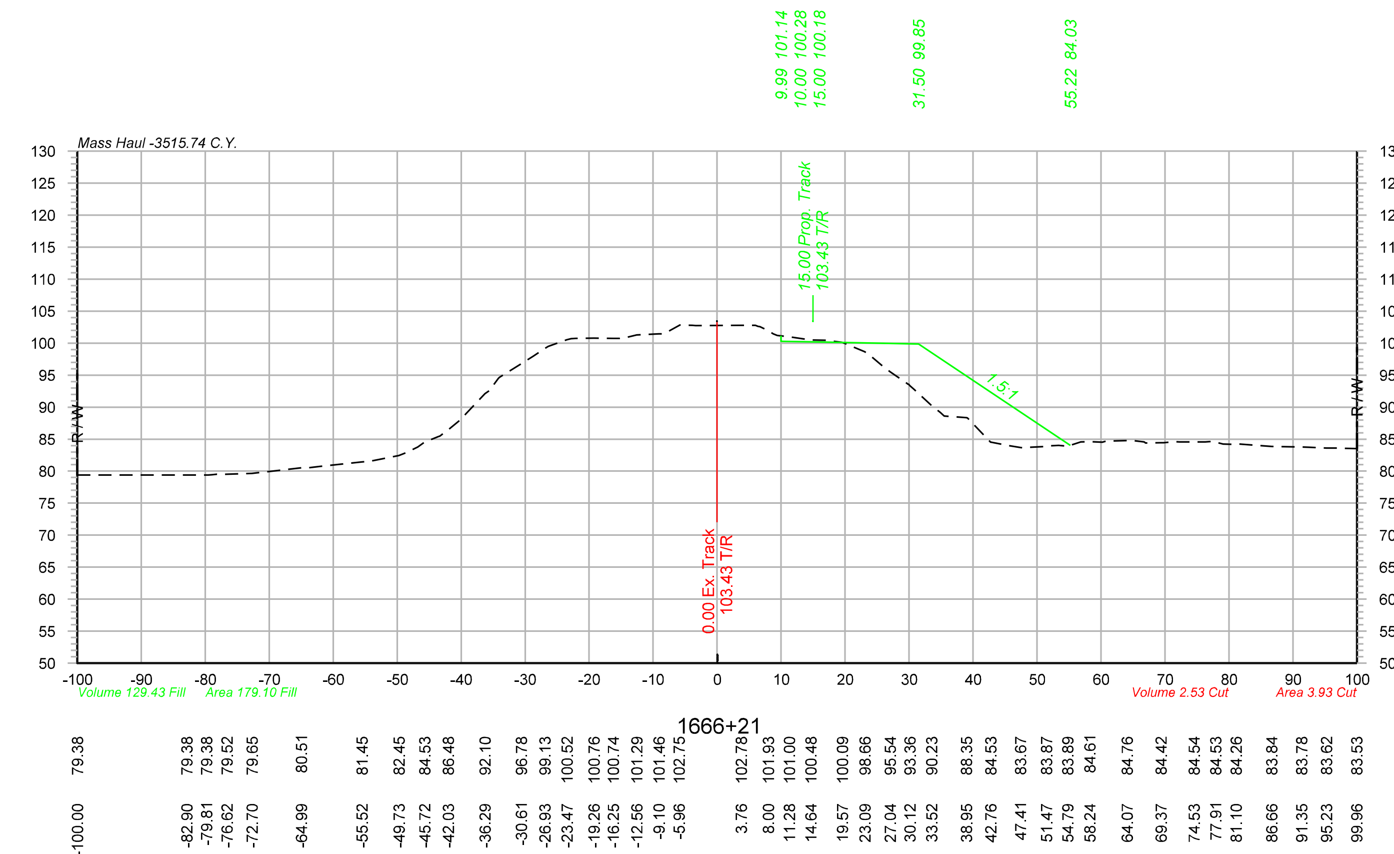
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-447
CROSS SECTIONS STA.1661+00 TO STA.1664+00









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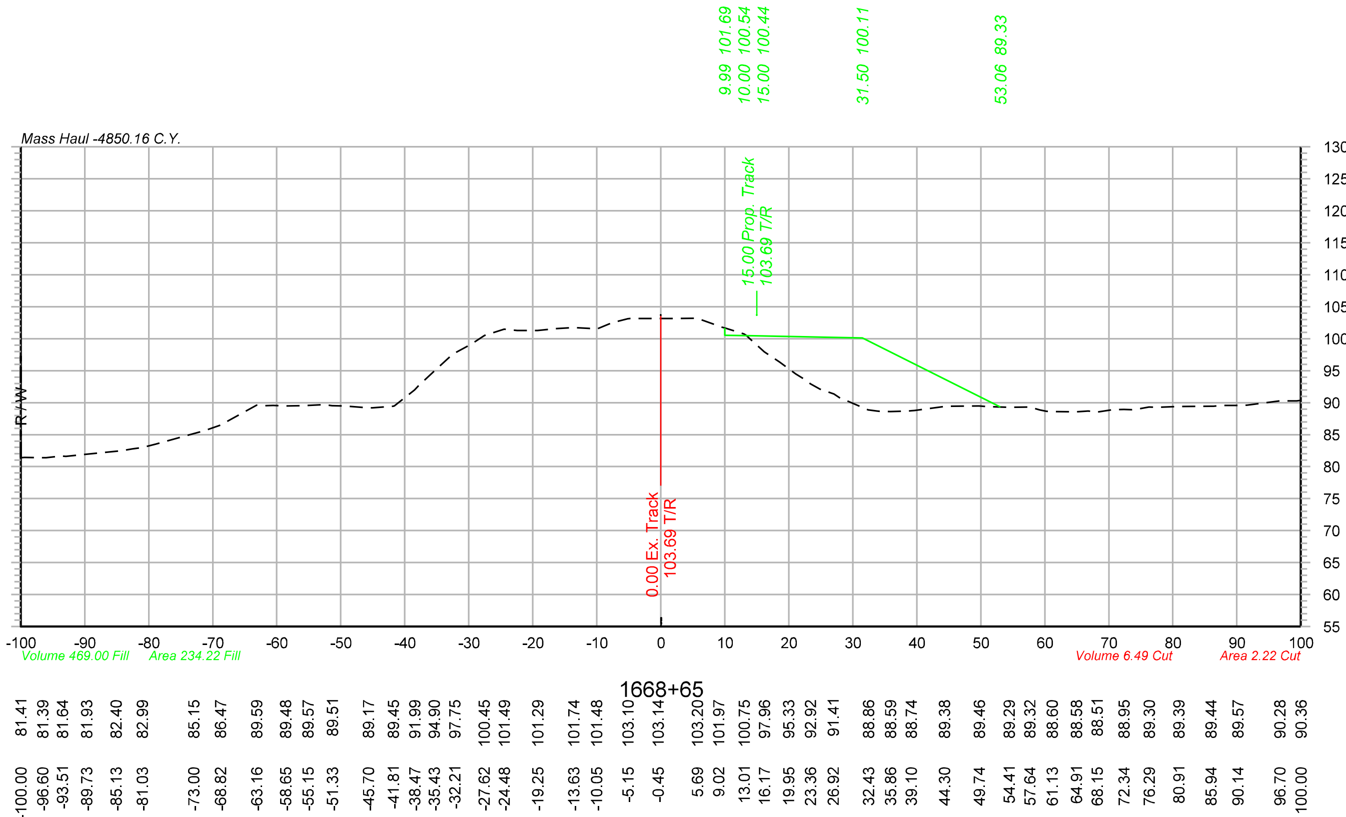
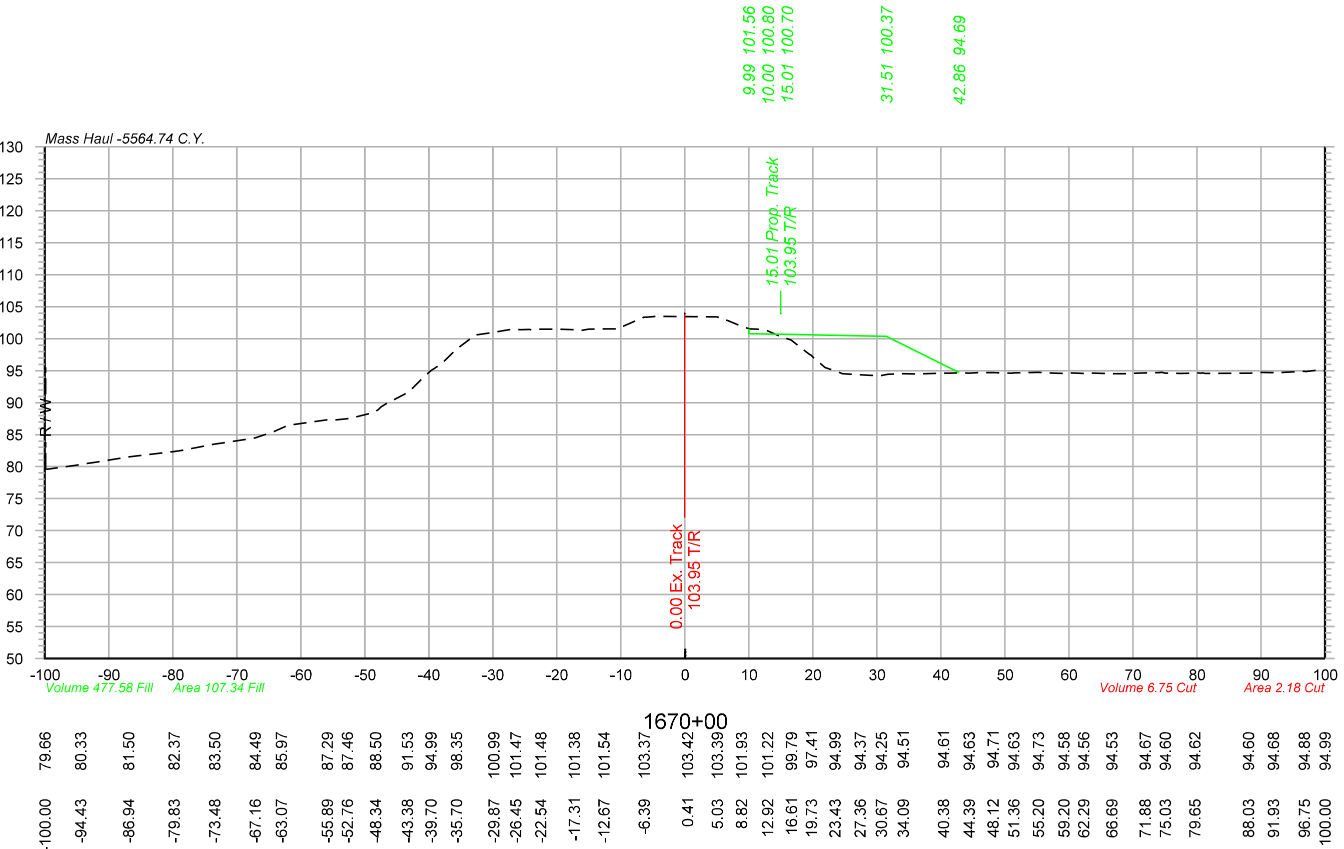
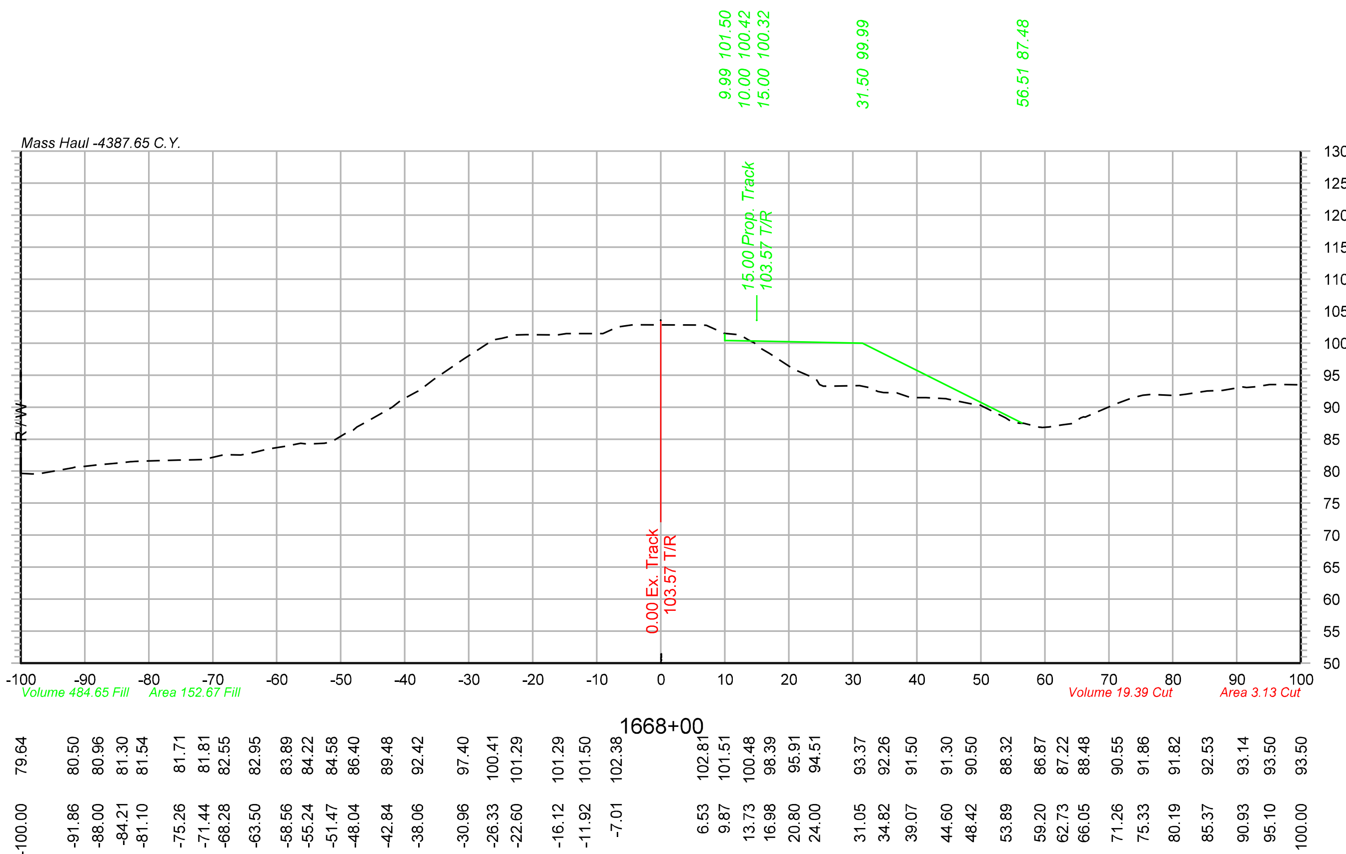
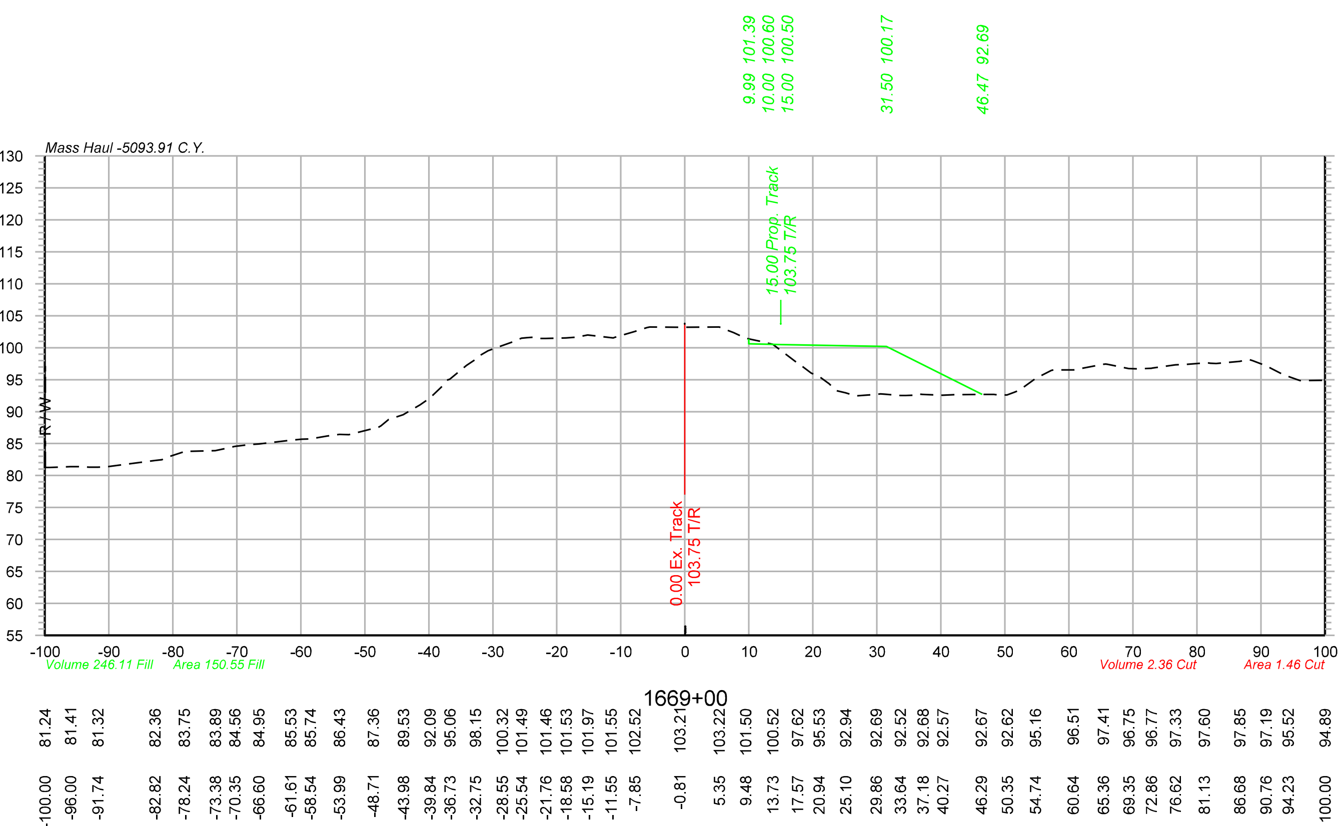
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 068 of 139	SHEET TITLE: PC 1 2-448 CROSS SECTIONS STA.1665+00 TO STA.1667+00









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SHEET NUMBER: X 069 of 139

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Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: CROSS SECTIONS STA.1668+00 TO STA.1670+00
PC 1 2-449

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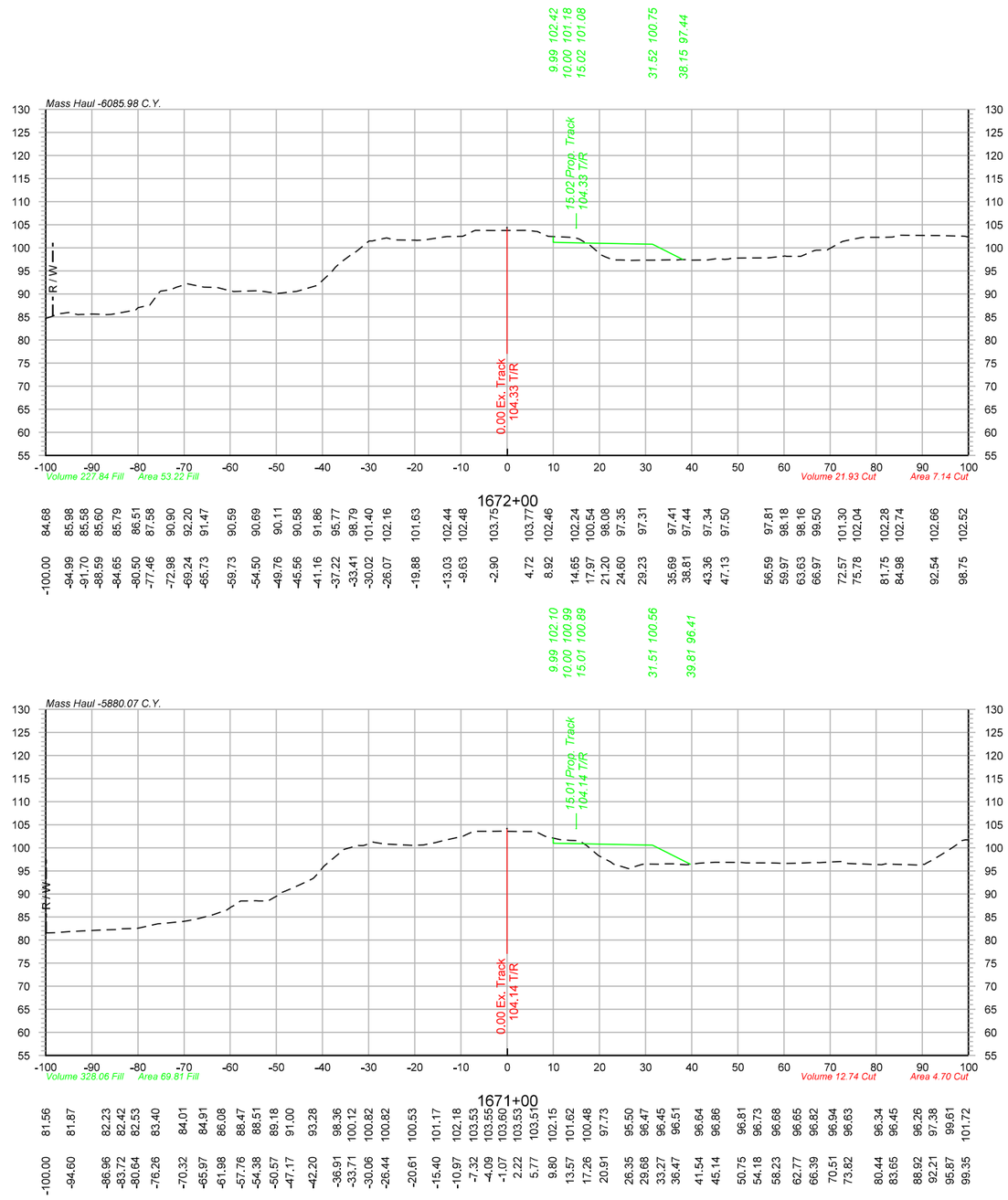

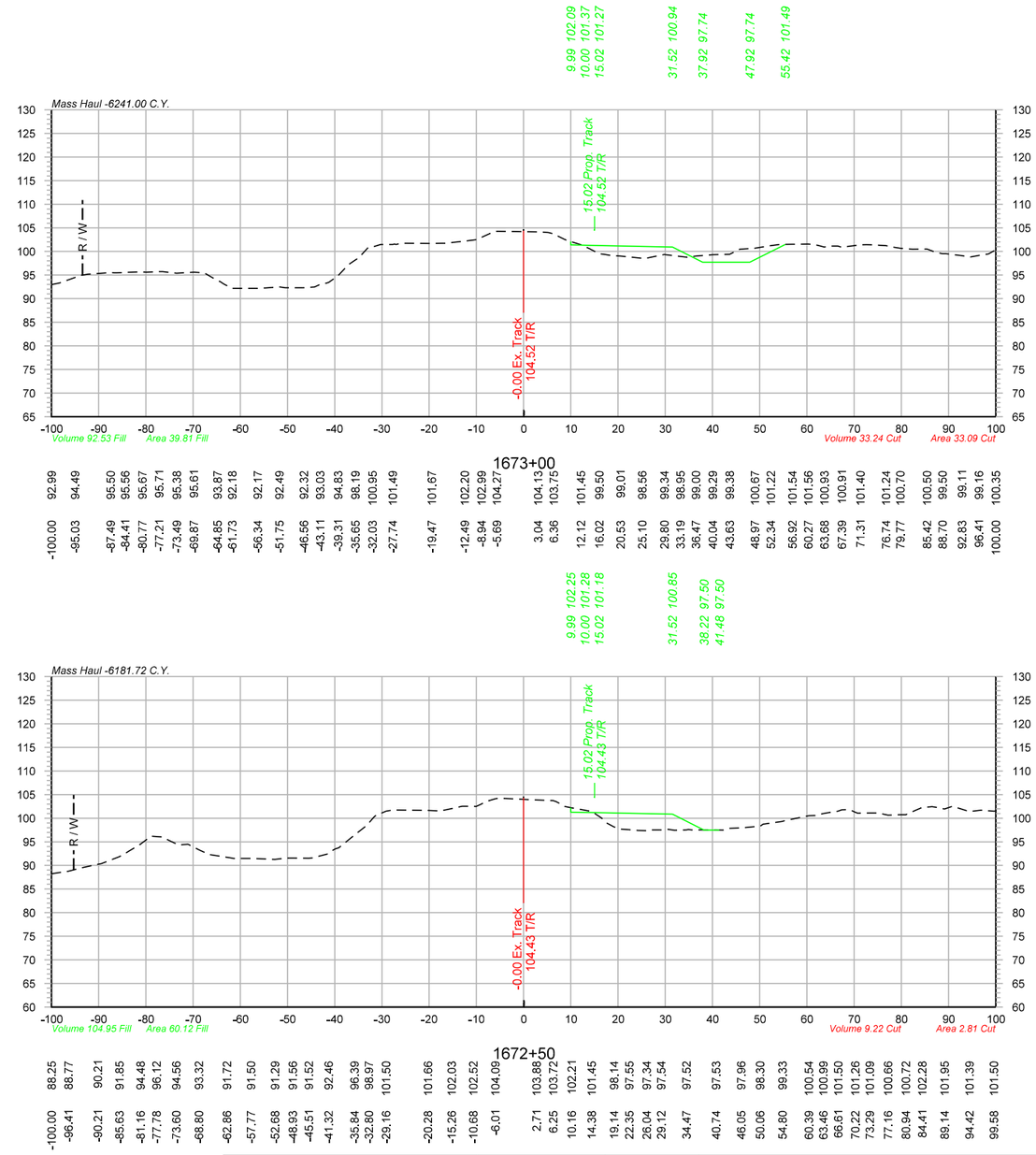

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DATE:	10/20/2014
SHEET NUMBER	X 070 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1671+00 TO STA.1673+00

PC 1 2-450

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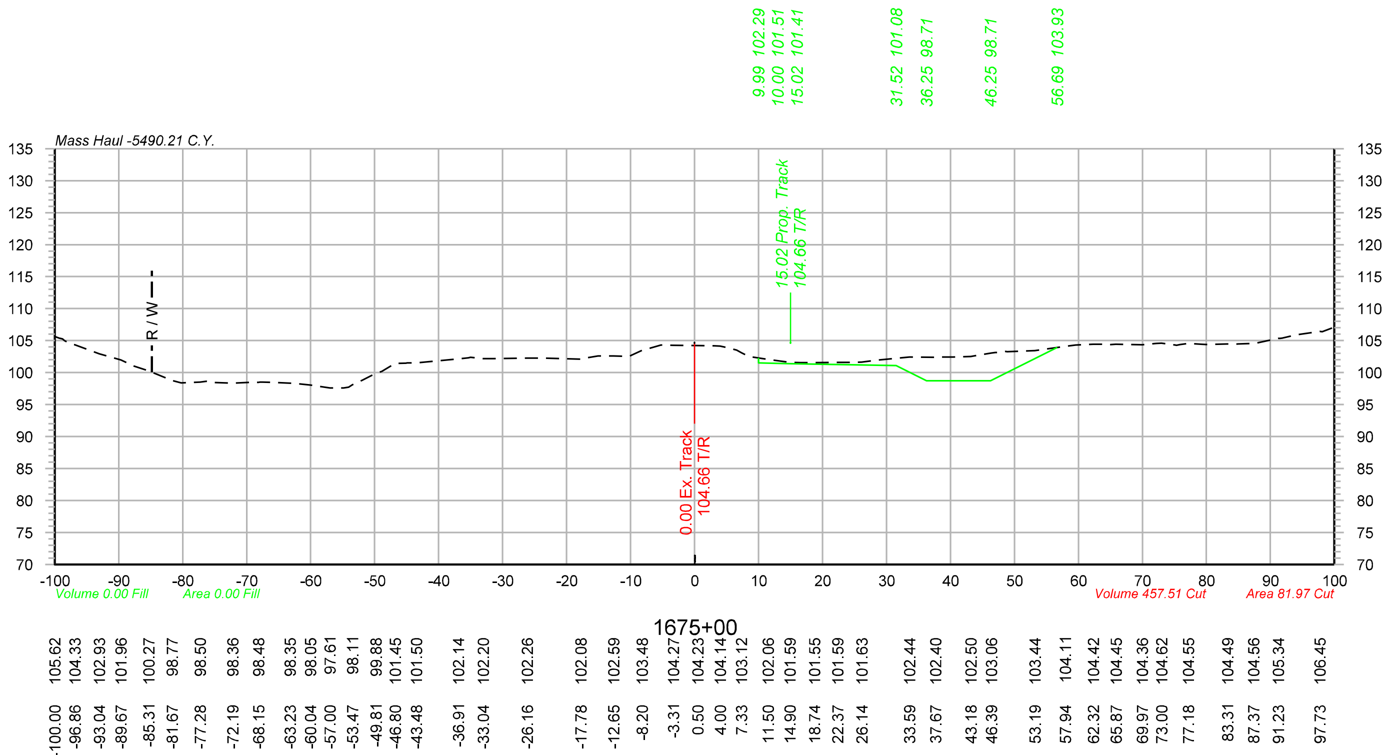

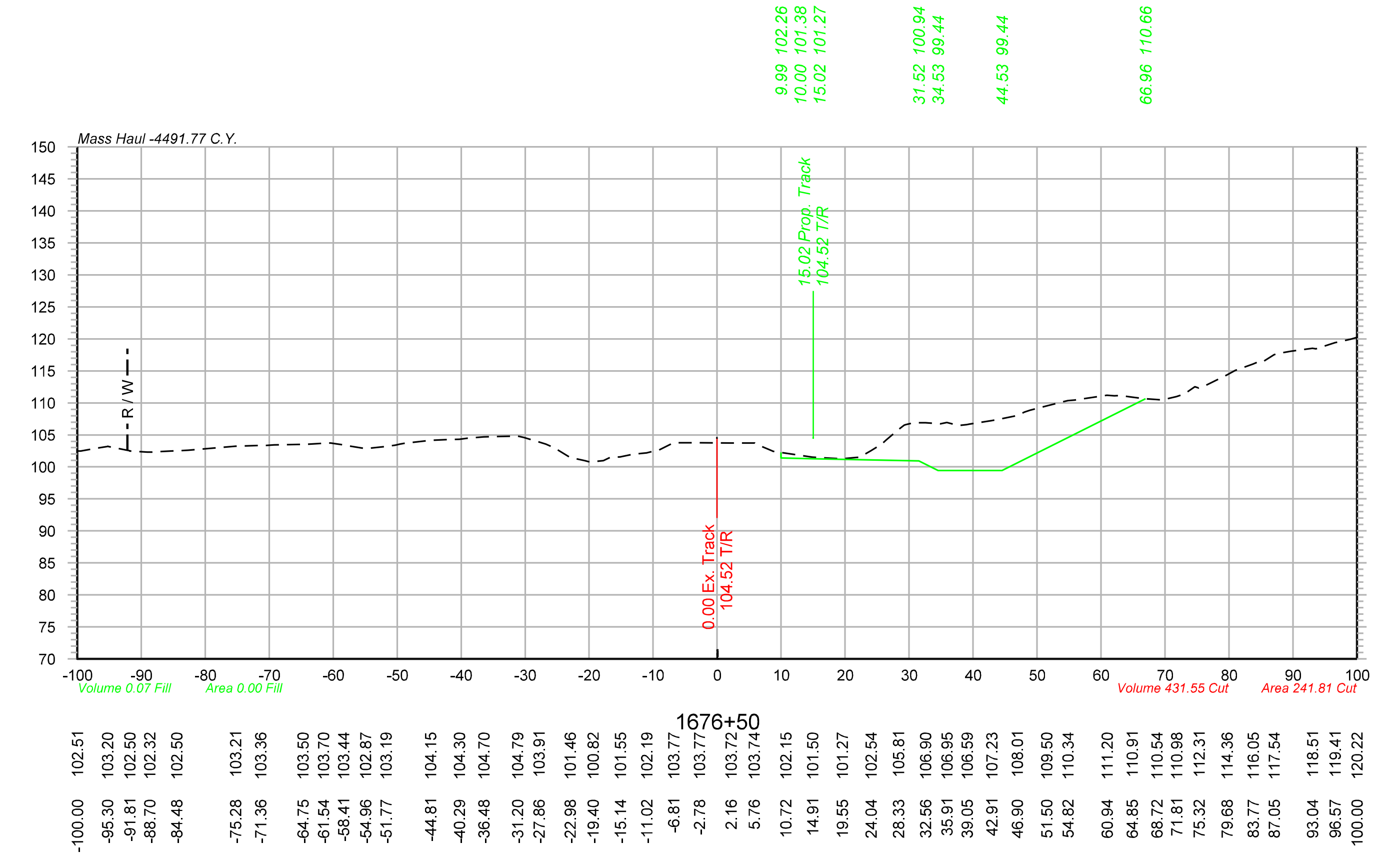

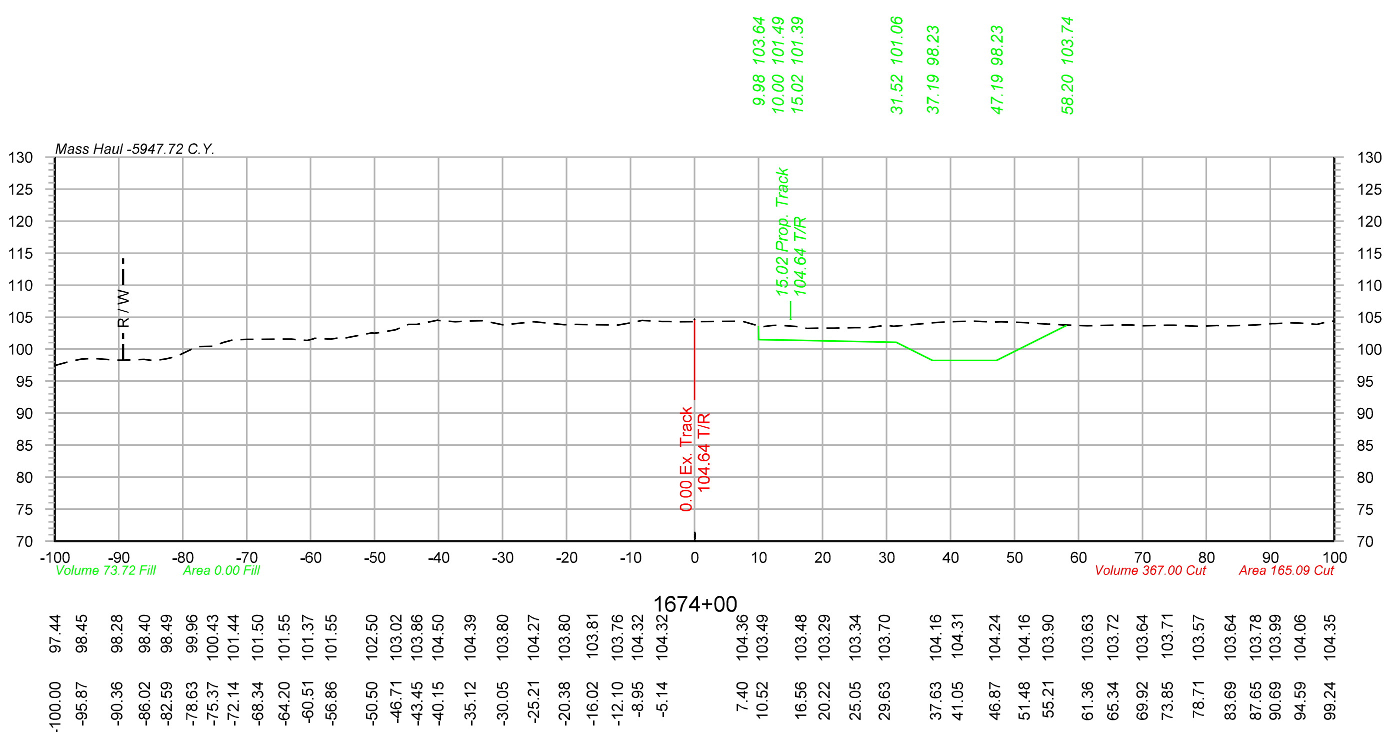

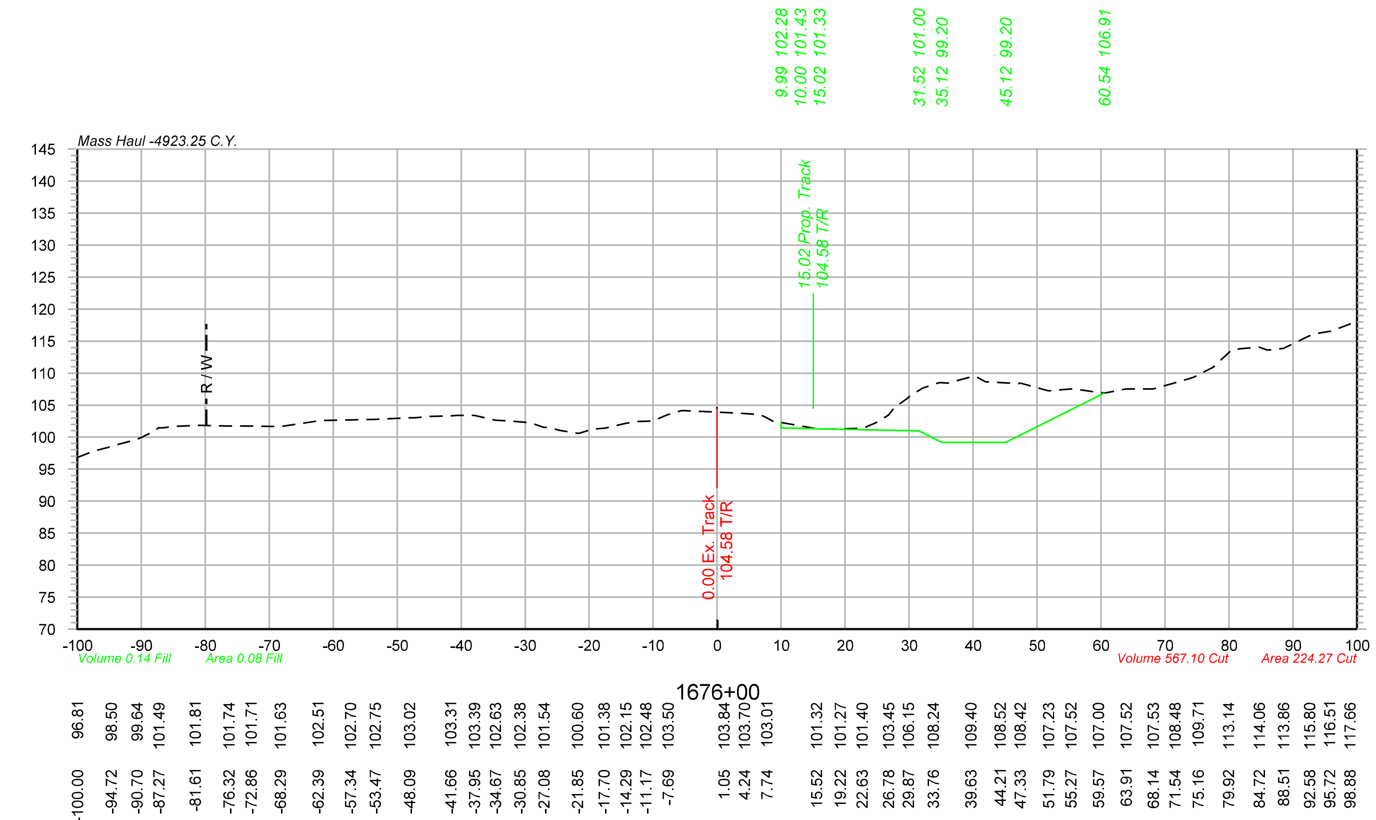

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UNION PACIFIC

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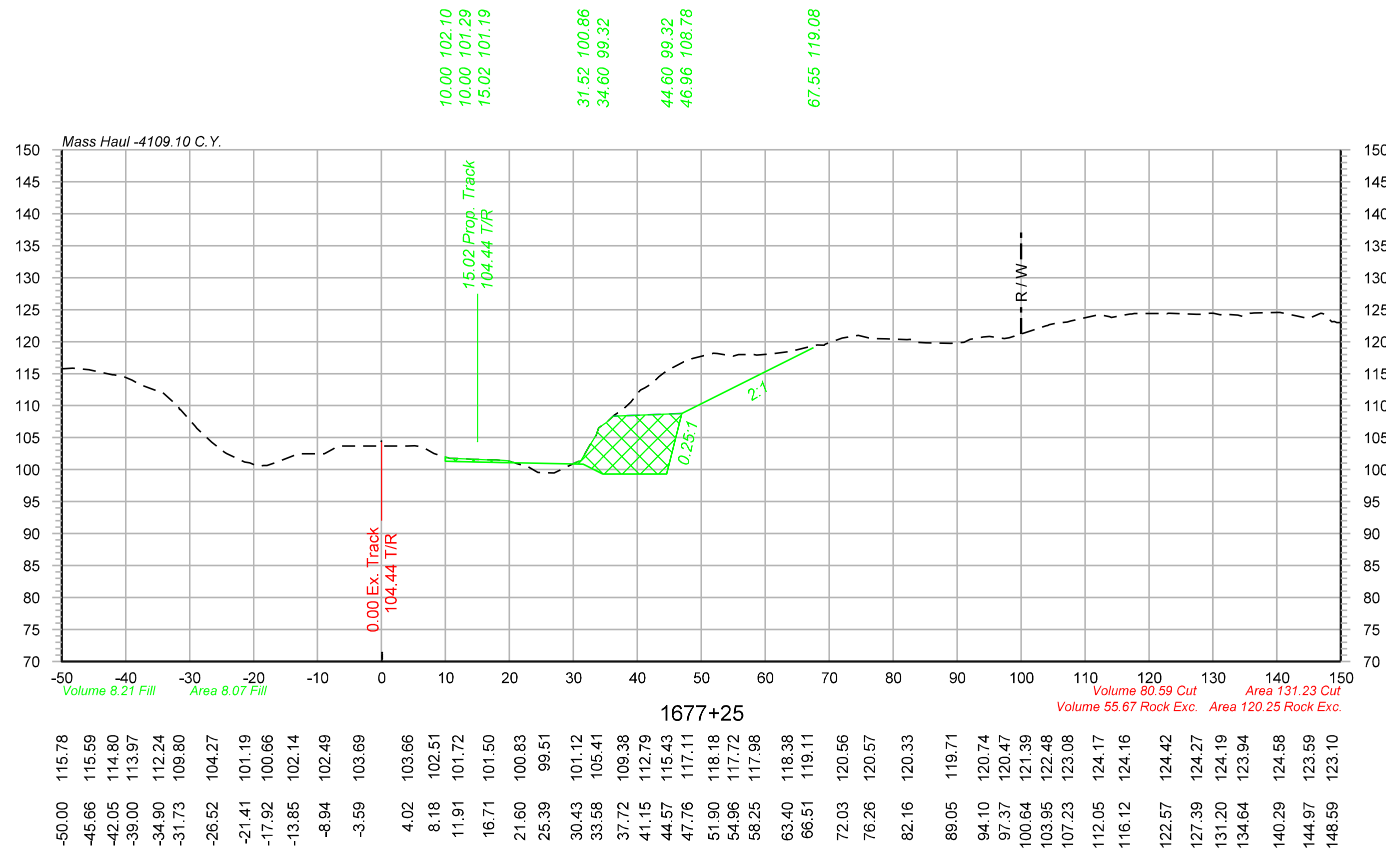
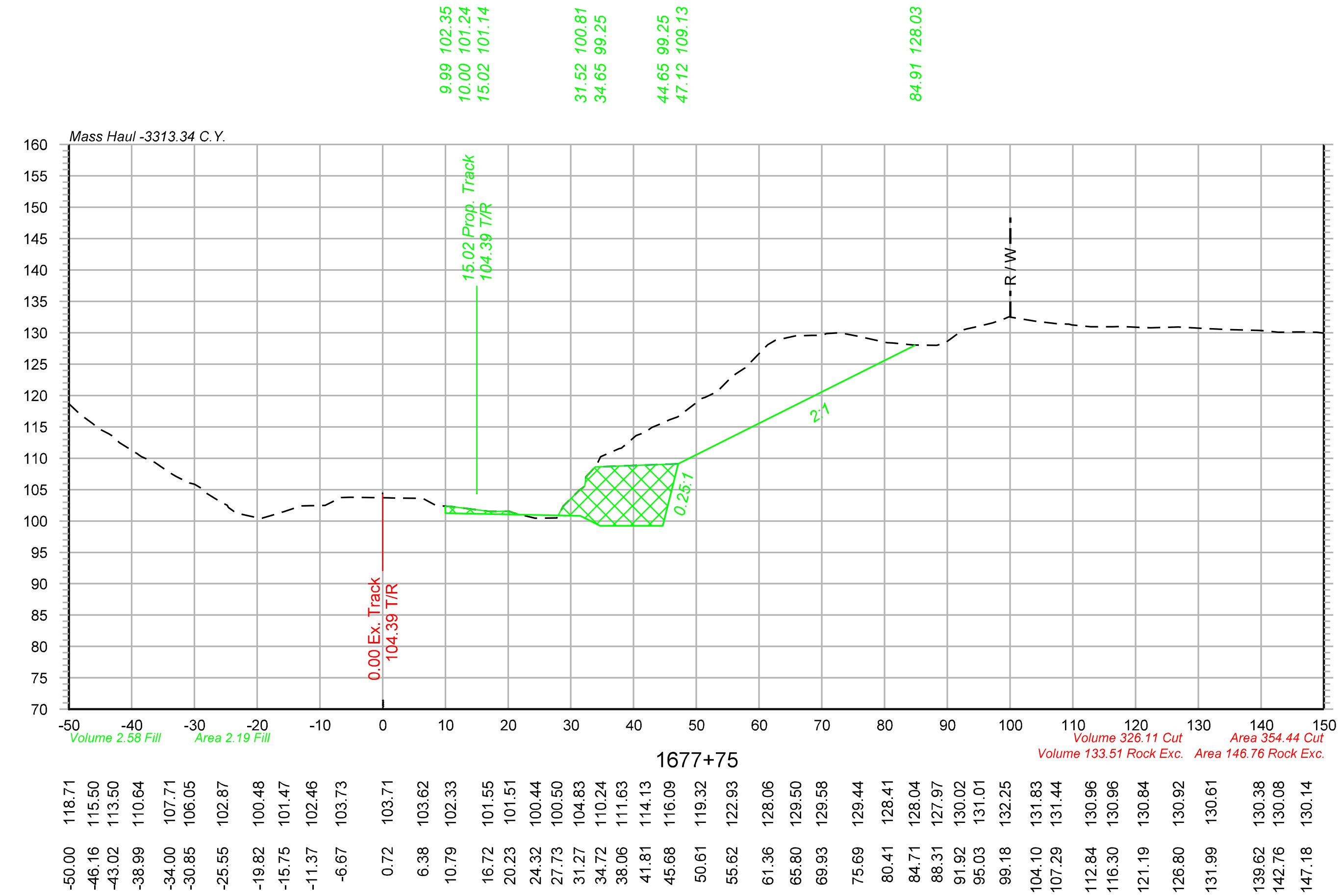
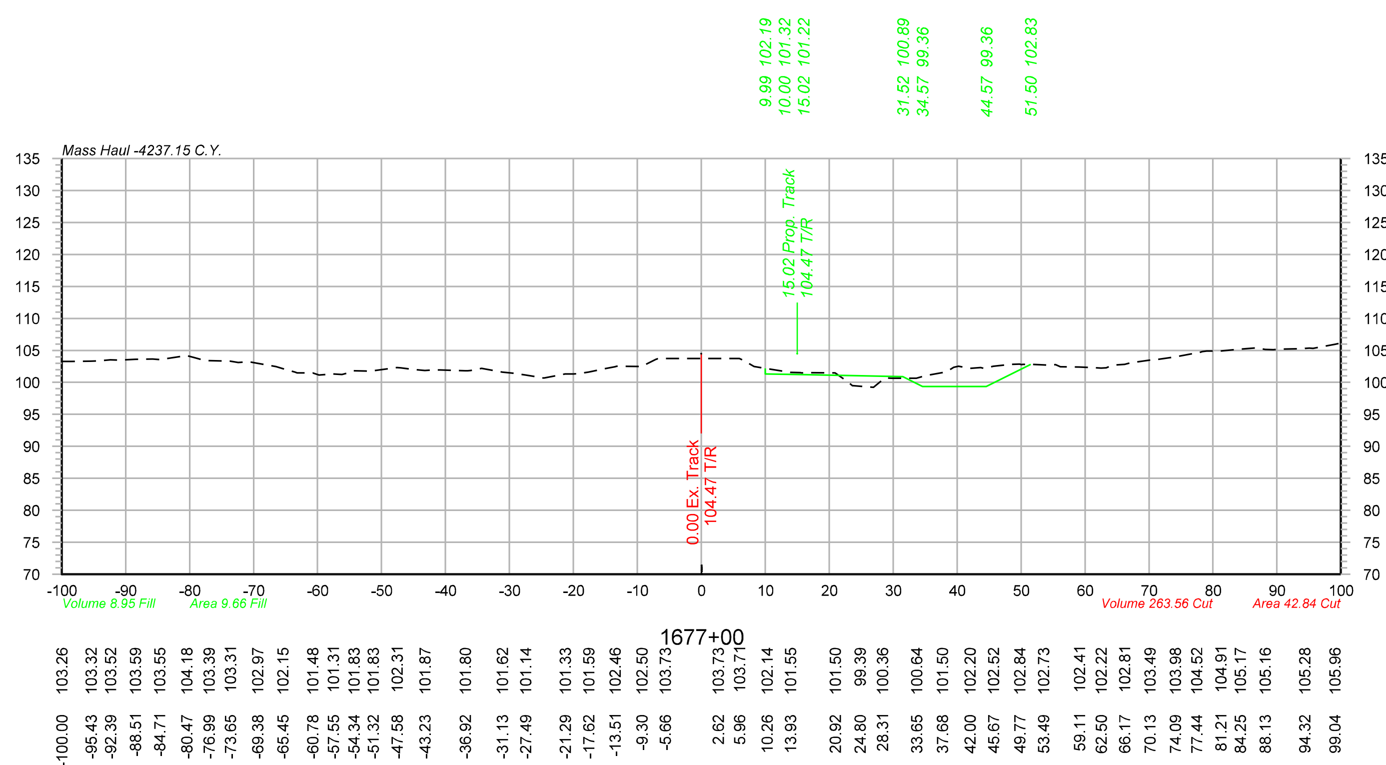
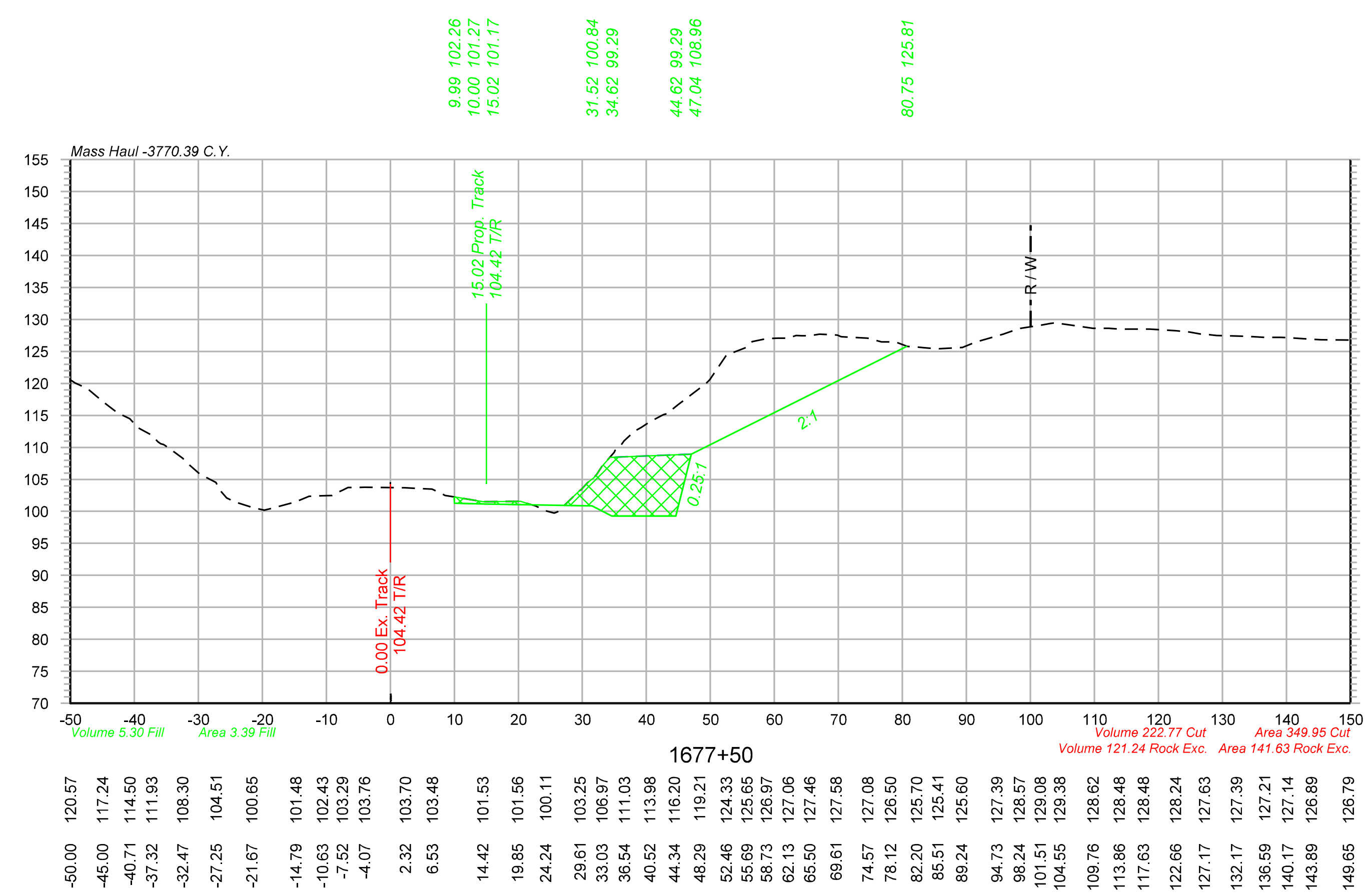
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 071 of 139	SHEET TITLE: **PC 1 2-451** CROSS SECTIONS STA.1674+00 TO STA.1676+50









Legend

Assumed Rock Excavation

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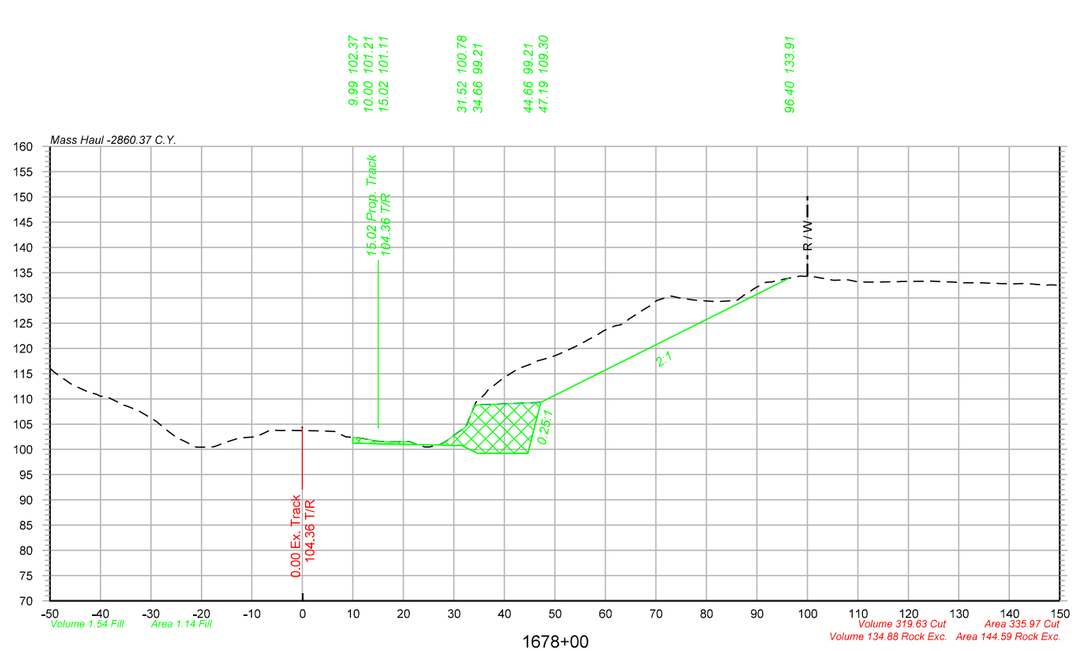
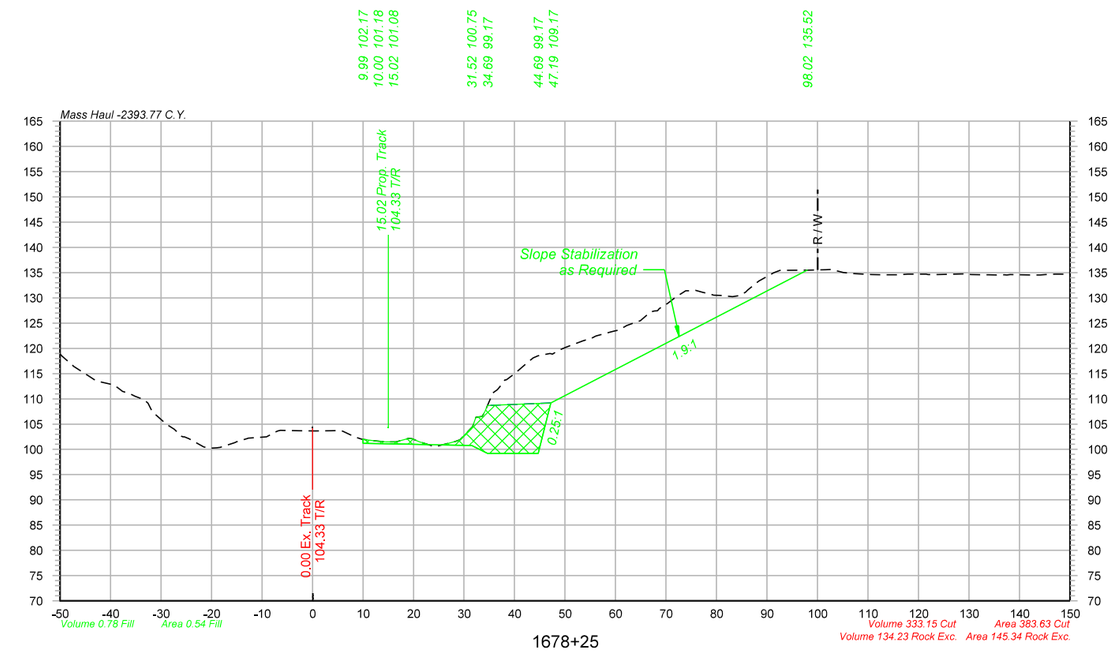
DATE: 10/20/2014	
SHEET NUMBER X 072 of 139	SHEET TITLE: CROSS SECTIONS STA.1677+00 TO STA.1677+75 — PC 1 2-452





Station	Elevation
-50.00	116.02
-46.00	113.08
-42.80	111.53
-38.92	110.49
-35.31	108.73
-32.25	107.53
-28.91	105.51
-24.41	101.97
-21.20	100.52
-17.92	100.48
-14.50	101.60
-9.16	102.50
-4.12	103.73
3.97	103.65
8.62	102.47
13.31	101.93
16.59	101.50
21.27	101.51
25.21	100.46
28.22	101.45
32.36	104.47
36.16	110.92
39.65	114.01
42.75	115.99
46.58	117.51
50.49	118.74
54.43	120.51
58.39	122.67
61.99	124.50
65.29	126.22
68.78	128.41
72.99	130.35
77.20	129.59
81.47	129.29
85.82	129.48
89.03	131.53
92.97	133.15
98.54	134.31
105.14	133.50
109.07	133.38
113.44	133.13
117.08	133.21
122.58	133.30
129.18	133.10
134.35	132.98
138.30	132.82
142.21	132.81
146.89	132.53
150.00	132.45

Station	Elevation
-50.00	118.88
-44.24	114.48
-39.59	112.81
-36.24	111.05
-32.88	109.40
-29.02	105.04
-25.93	102.62
-21.53	100.49
-18.30	100.39
-14.98	101.50
-9.12	102.50
-2.75	103.70
0.51	103.64
3.72	103.68
7.55	102.83
11.97	101.71
15.11	101.49
18.65	102.08
23.25	100.84
28.26	101.54
31.59	104.40
35.71	111.20
40.08	115.01
43.69	118.13
47.01	118.97
50.11	120.18
53.66	121.51
59.14	123.27
62.23	124.55
66.90	127.20
70.31	128.90
73.91	131.39
77.35	131.06
80.81	130.51
84.48	130.46
88.36	133.34
91.38	134.99
98.04	135.50
101.70	135.58
105.08	135.03
110.72	134.61
116.08	134.58
121.54	134.71
128.69	134.76
132.65	134.56
137.02	134.57
142.35	134.54
147.11	134.68

Legend

Assumed Rock Excavation

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 073 of 139

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Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1678+00 TO STA.1678+25

PC 1 2-453

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10/20/2014

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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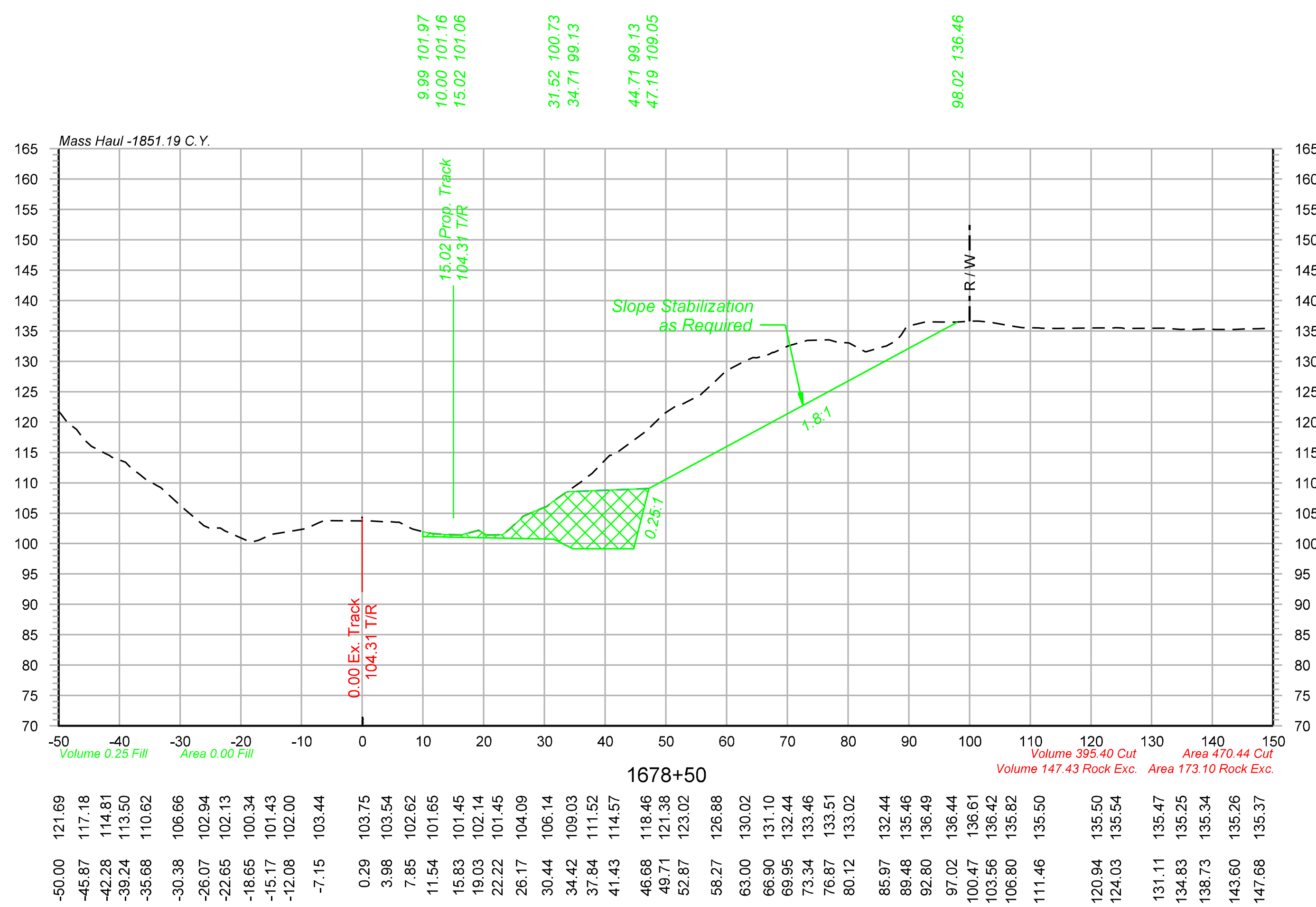
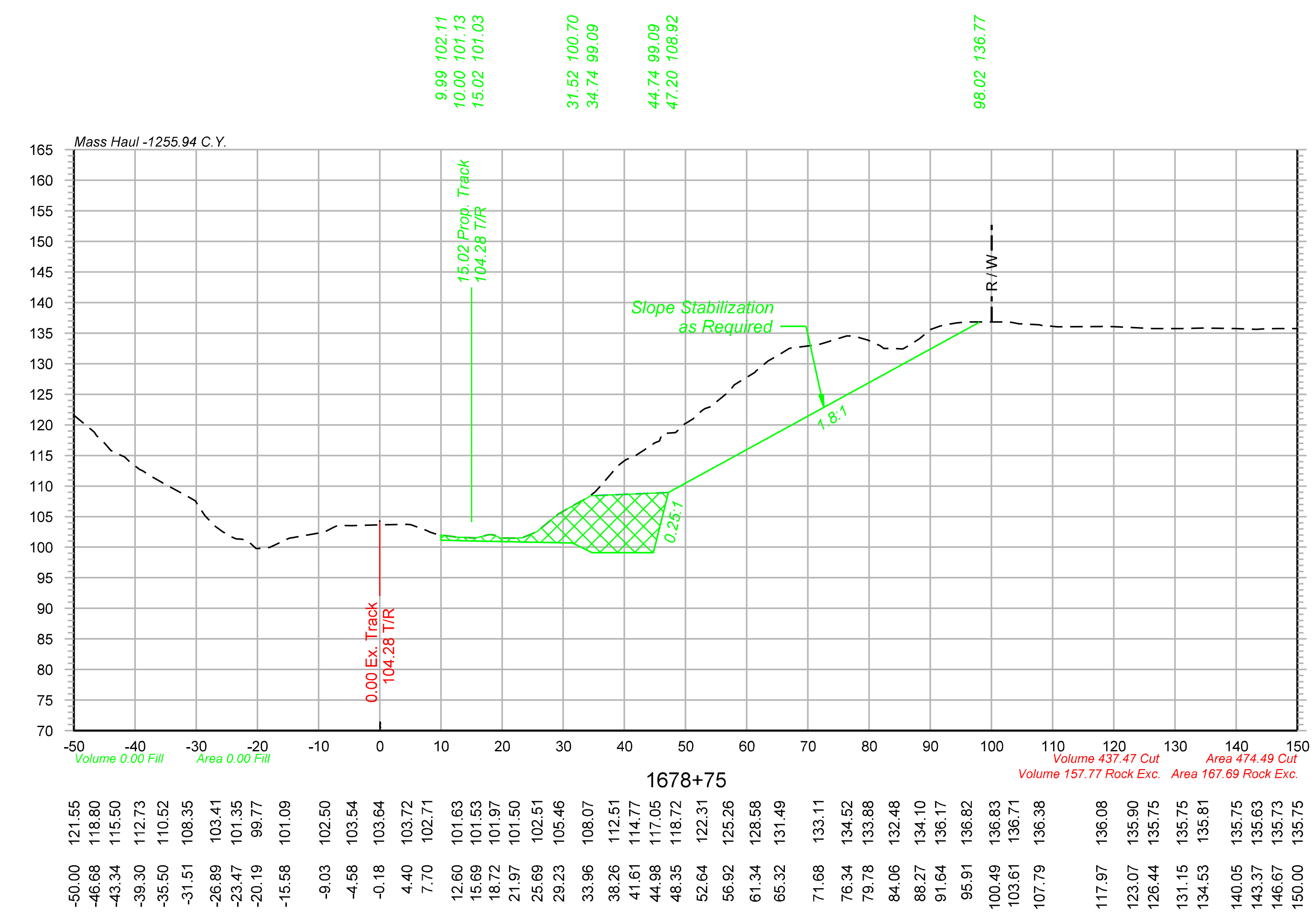
10/20/2014





Legend

Assumed Rock Excavation

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UNION PACIFIC

DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 074 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1678+50 TO STA.1678+75
PC 1 2-454

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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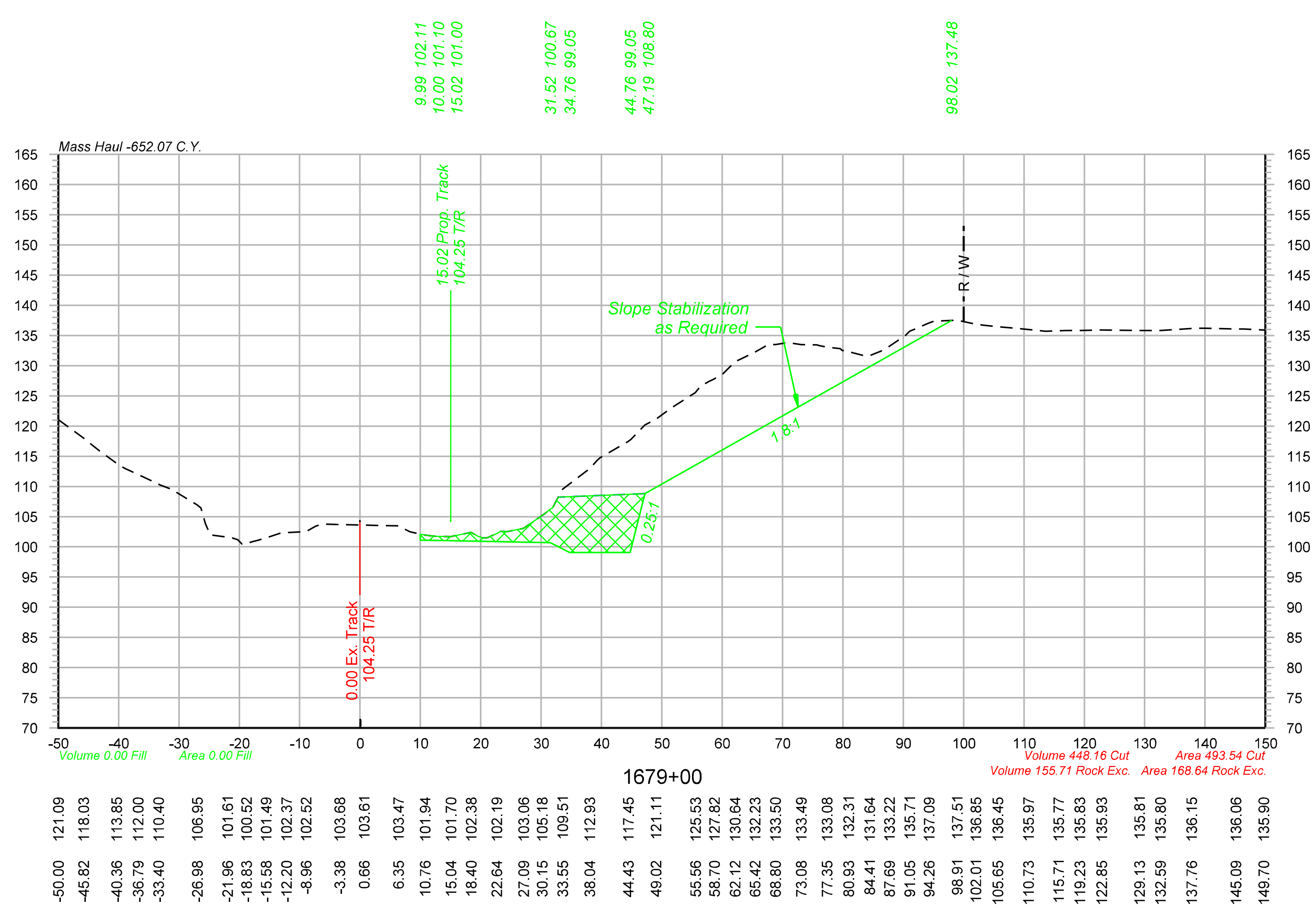
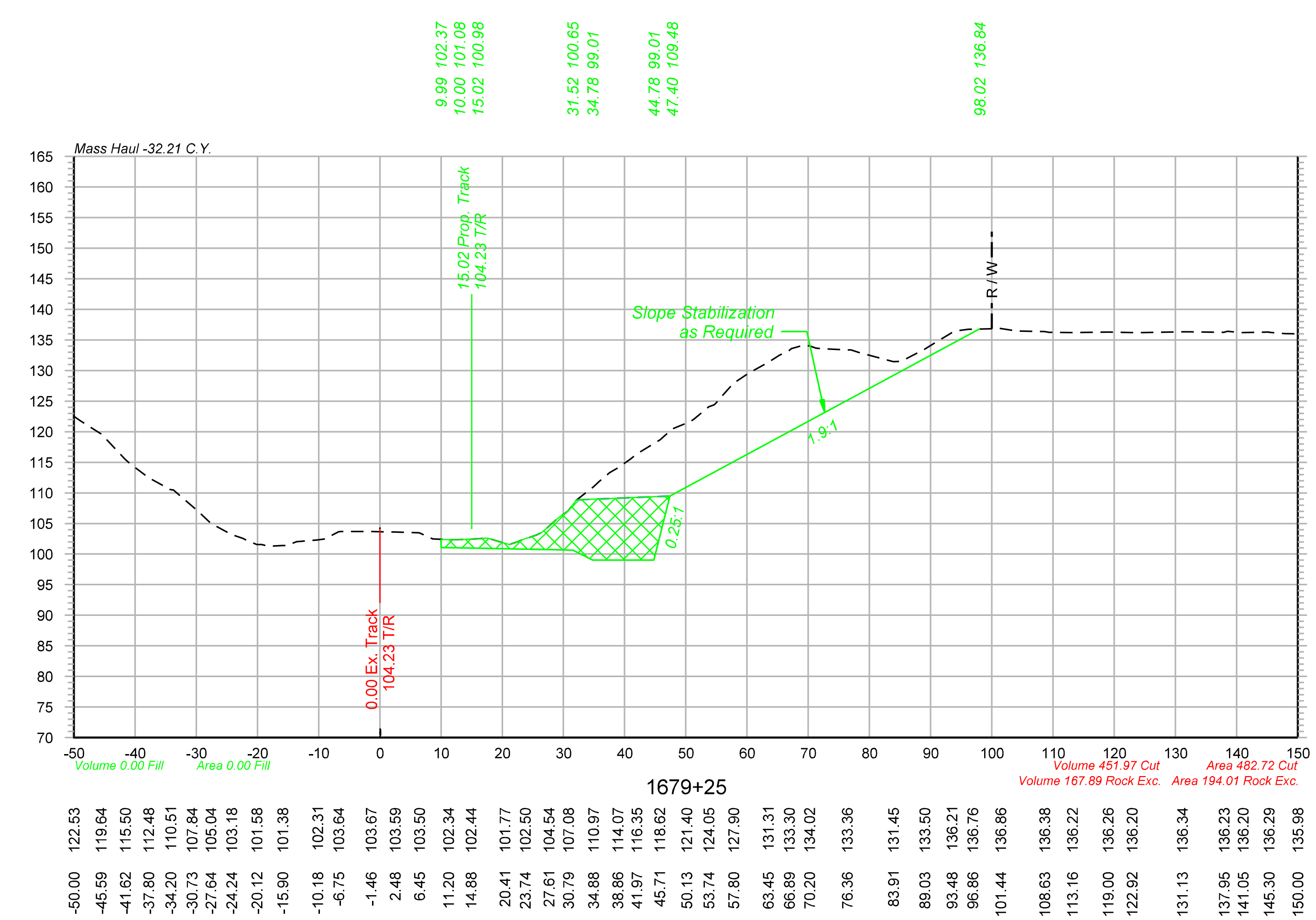
10/20/2014





Legend

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 075 of 139	SHEET TITLE: PC 1 2-455 CROSS SECTIONS STA.1679+00 TO STA.1679+25

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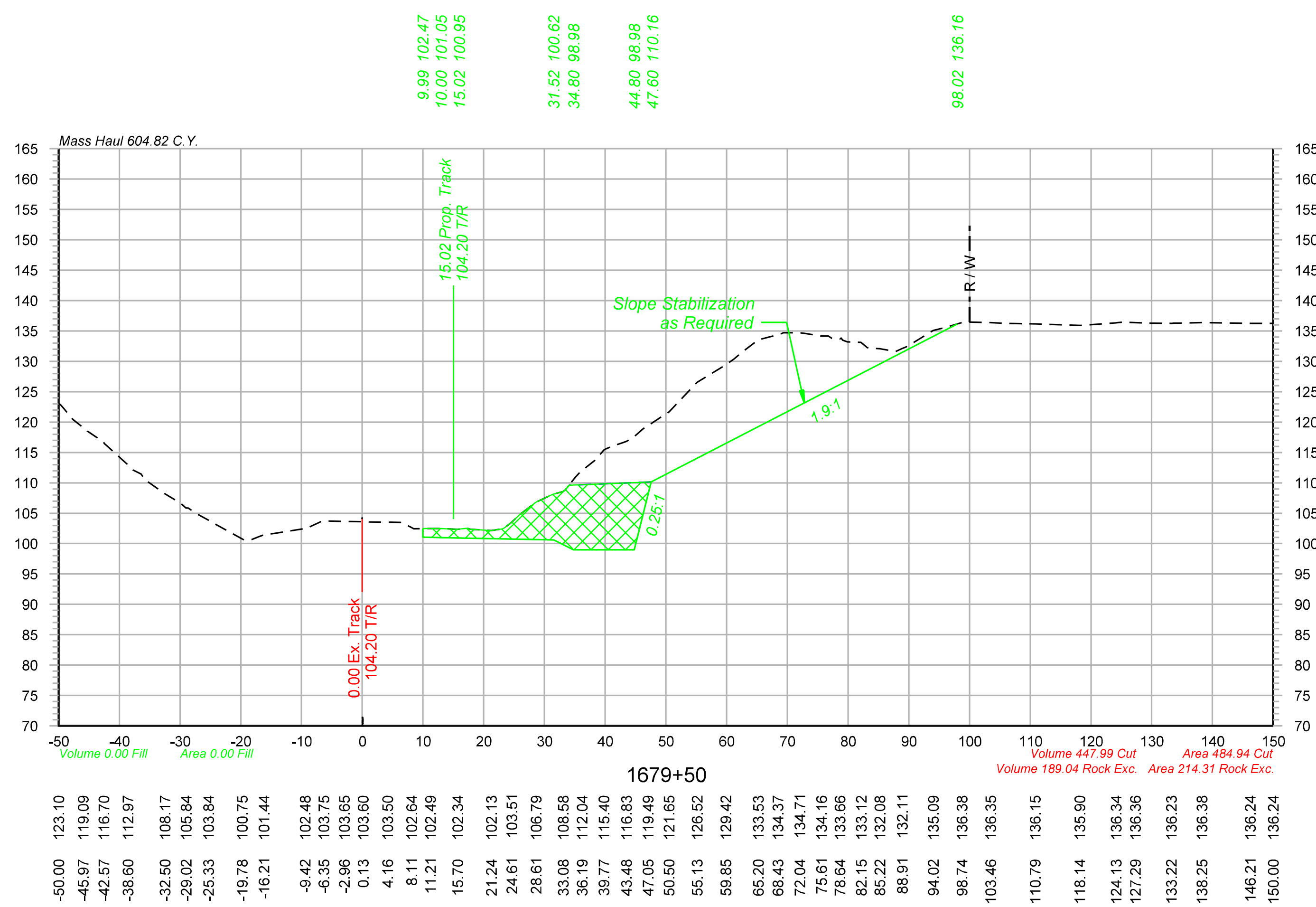

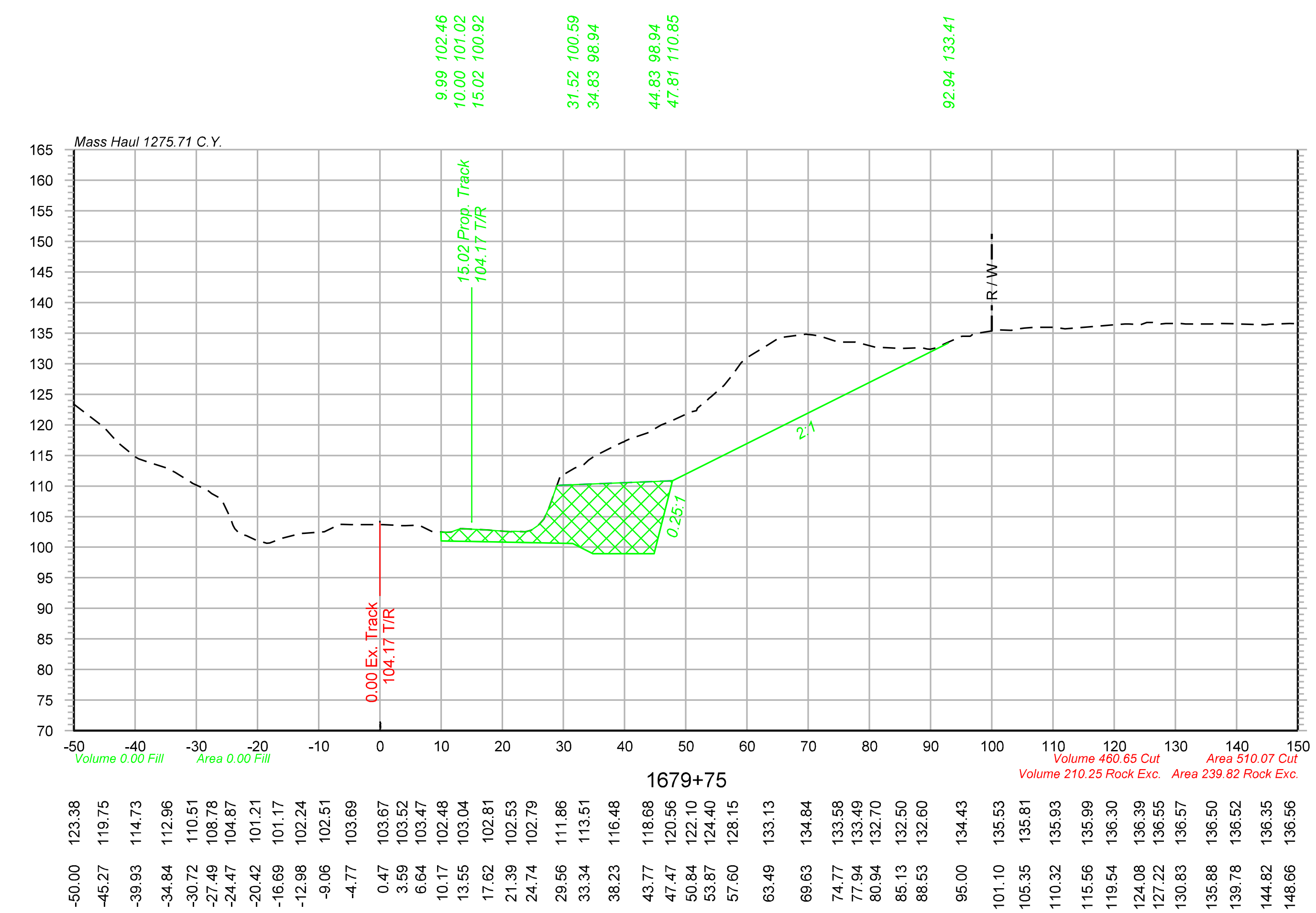

Legend

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 076 of 139	SHEET TITLE: CROSS SECTIONS STA.1679+50 TO STA.1679+75

PC 1 2-456

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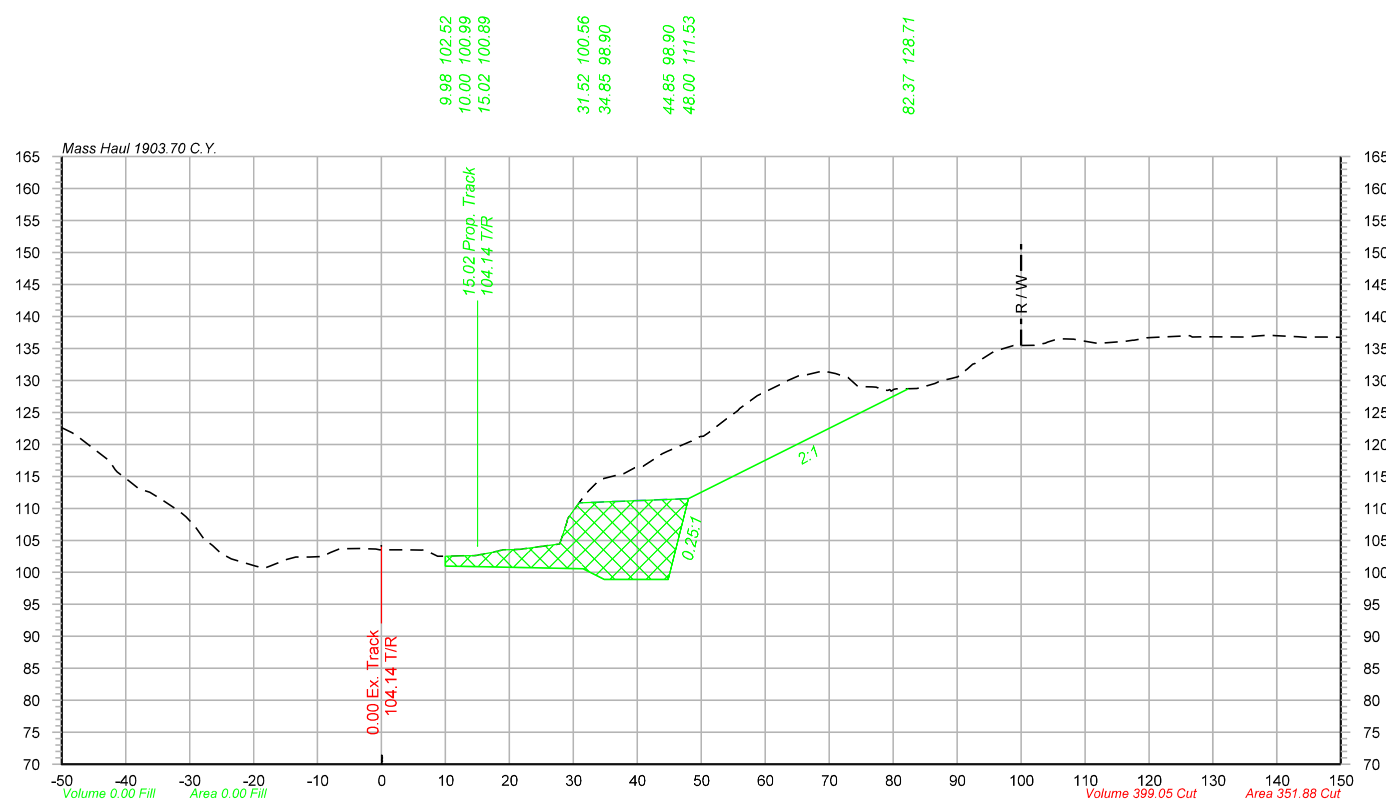
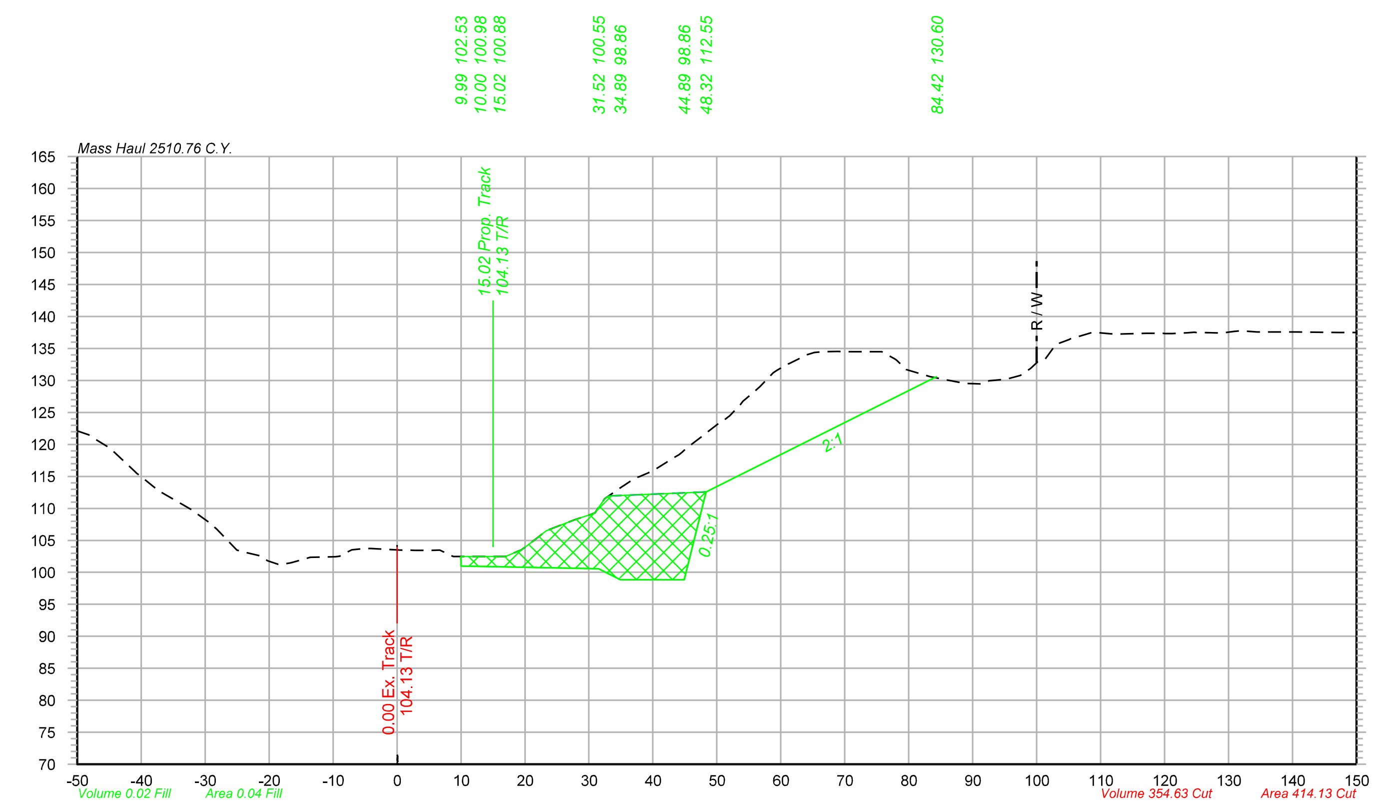


1680+00

Offset	Elevation
-50.00	122.56
-42.63	117.48
-38.99	113.90
-34.54	111.49
-30.57	108.69
-26.39	104.21
-21.66	101.57
-18.34	100.63
-14.80	102.04
-11.28	102.41
-7.97	103.11
-3.33	103.72
-0.29	103.54
3.83	103.52
6.88	103.42
13.23	102.60
17.44	103.16
20.84	103.56
27.54	104.39
31.72	112.01
36.95	115.22
40.20	116.63
43.86	118.51
48.39	120.50
54.41	124.35
58.75	127.60
62.26	129.33
65.50	130.68
69.05	131.47
72.47	130.57
76.73	128.99
80.12	128.59
83.74	128.75
87.33	129.90
90.95	131.32
95.78	134.53
98.82	135.44
102.07	135.48
105.77	136.49
109.30	136.24
116.32	136.10
119.59	136.67
126.41	136.97
135.06	136.77
138.66	137.07
143.36	136.84
147.57	136.79



1680+25

Offset	Elevation
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-45.02	119.49
-41.03	115.80
-37.00	112.53
-31.95	109.71
-28.88	107.46
-25.21	103.66
-21.31	102.55
-18.22	101.24
-14.69	102.02
-9.71	102.42
-5.09	103.73
0.49	103.49
4.38	103.45
8.61	102.56
12.89	102.50
16.96	102.49
20.82	104.54
24.24	106.85
27.70	108.17
30.99	109.33
35.19	113.39
40.00	115.84
43.52	118.06
47.97	121.50
51.88	124.37
55.92	128.27
59.34	131.52
64.15	134.01
68.96	134.54
72.54	134.51
75.79	134.48
79.64	131.69
83.41	130.57
88.81	129.53
92.56	129.96
97.44	130.79
101.32	133.32
105.11	136.42
108.66	137.47
112.64	137.26
117.13	137.38
121.22	137.33
124.67	137.53
128.97	137.42
132.35	137.75
135.66	137.58
140.48	137.56
147.30	137.50

Legend

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DATE:	10/20/2014
SHEET NUMBER	X 077 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1680+00 TO STA.1680+25

PC 1 2-457

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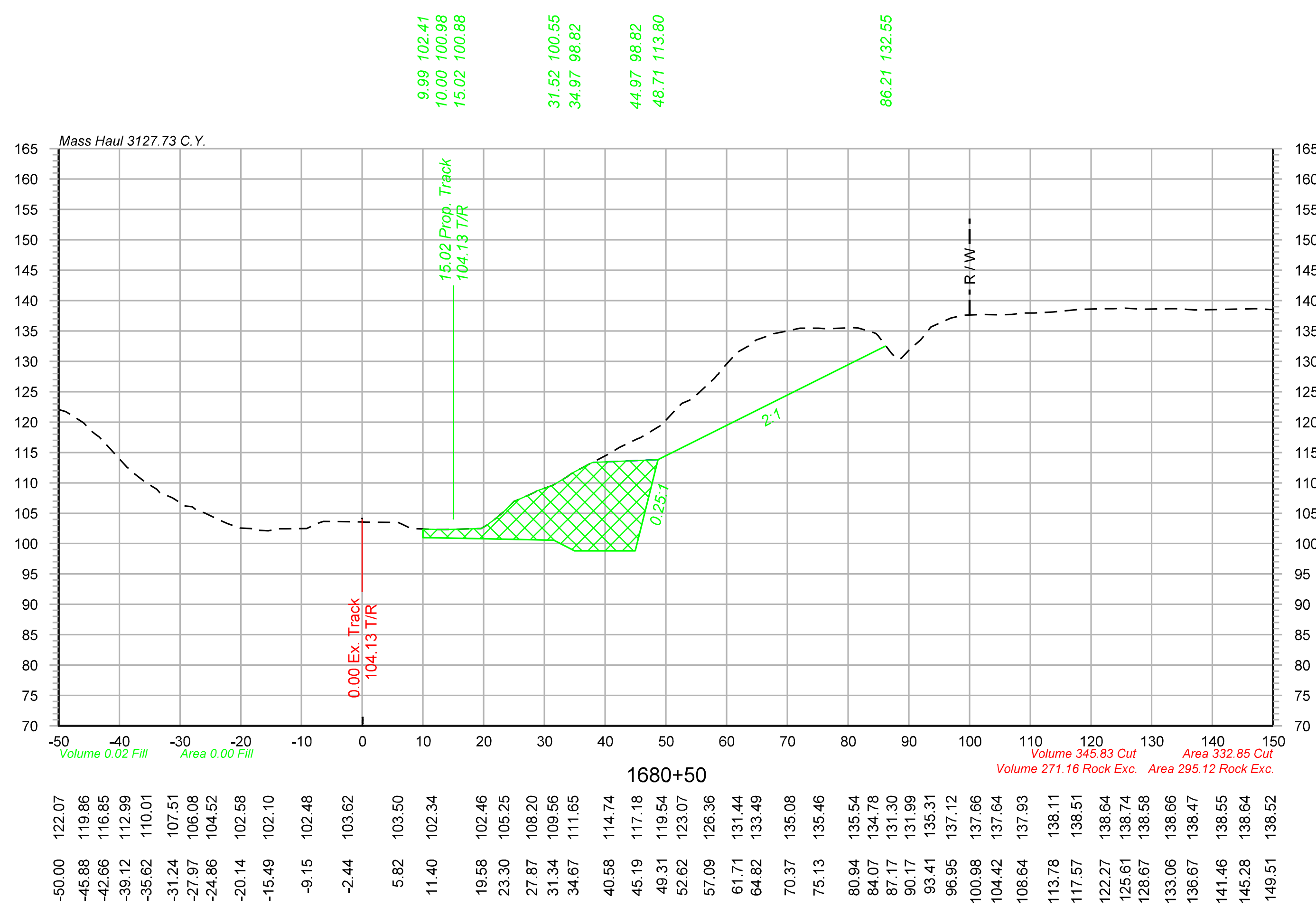

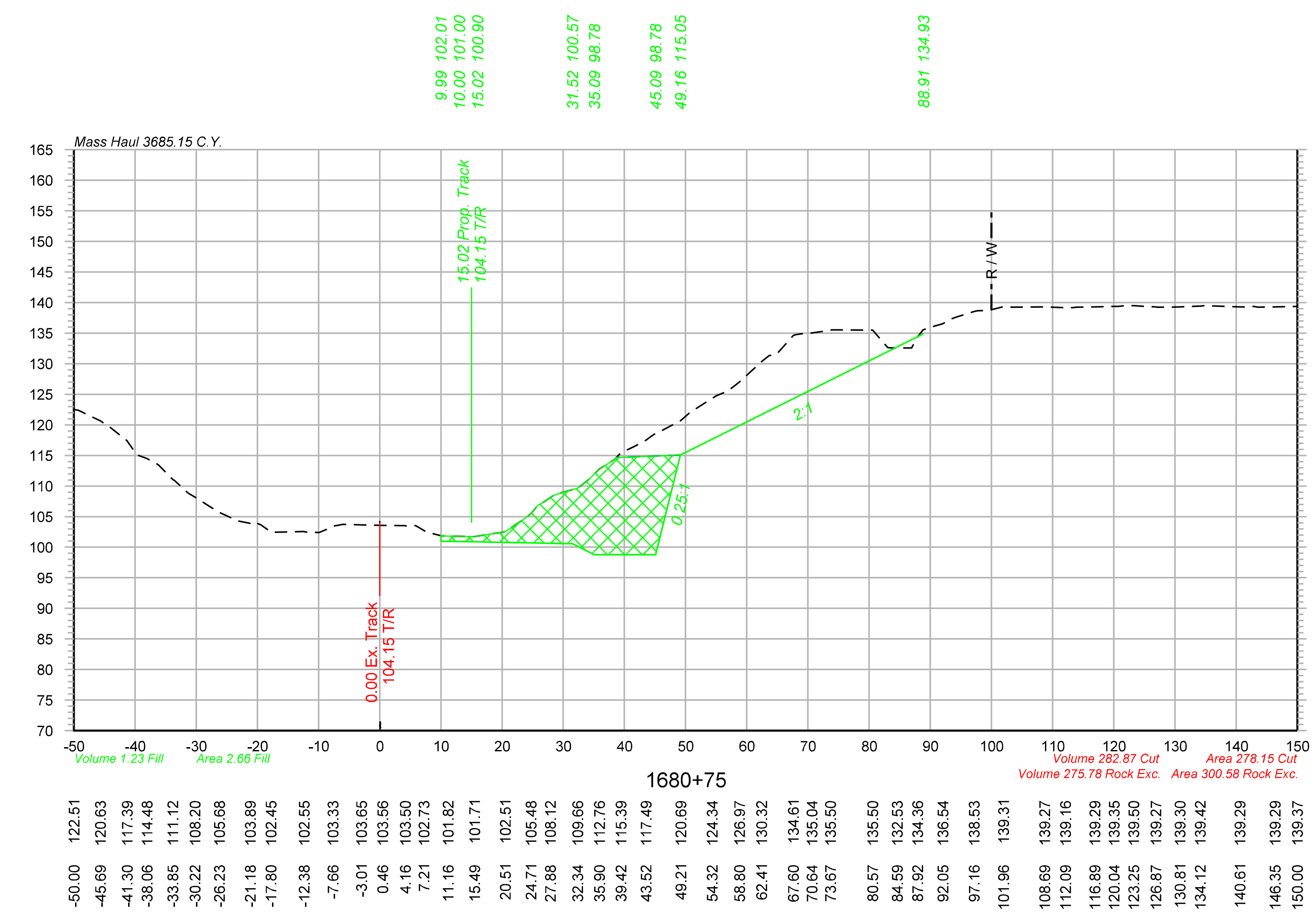

Legend

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DATE:	10/20/2014
SHEET NUMBER	X 078 of 139

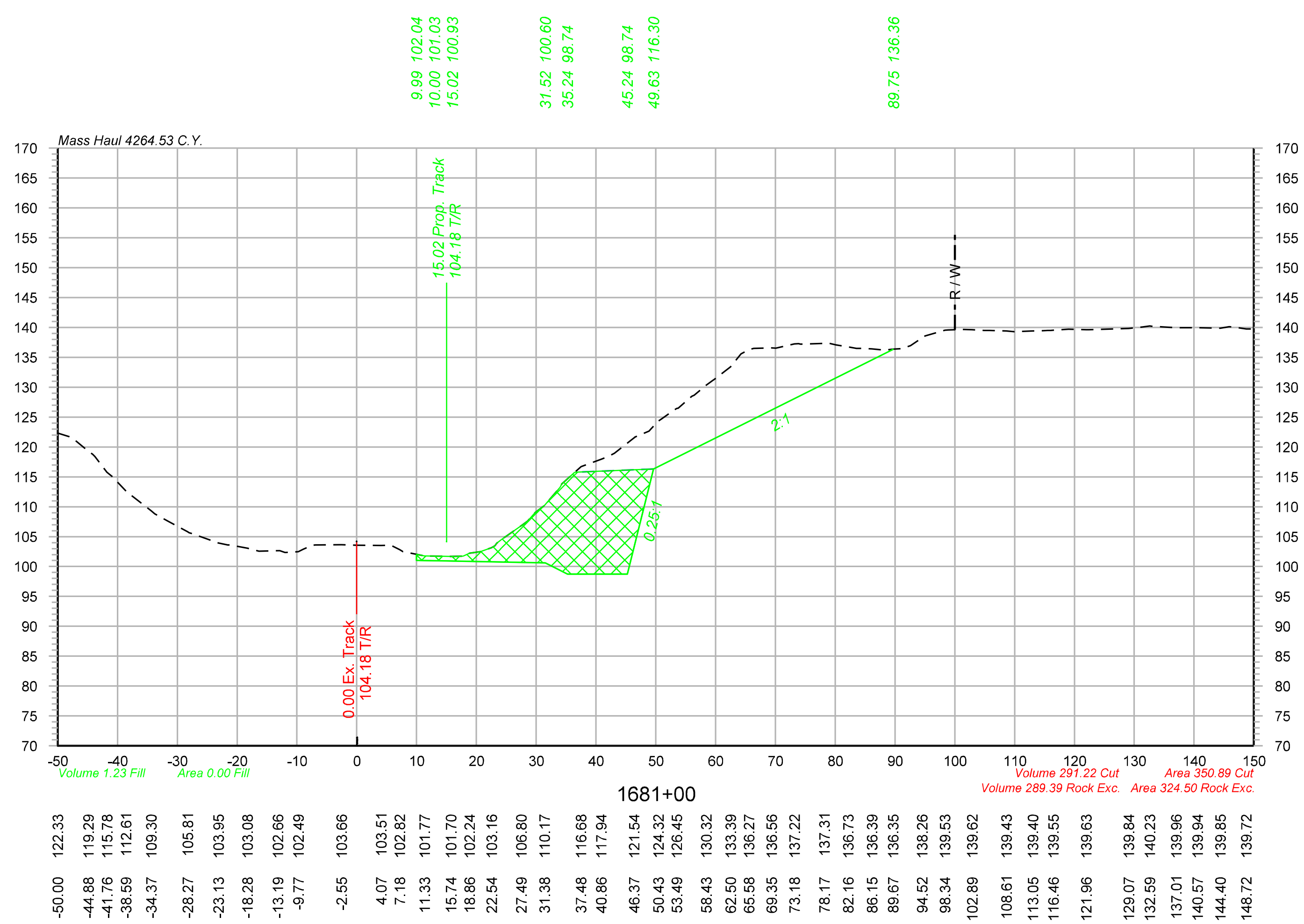
UNION PACIFIC RAILROAD

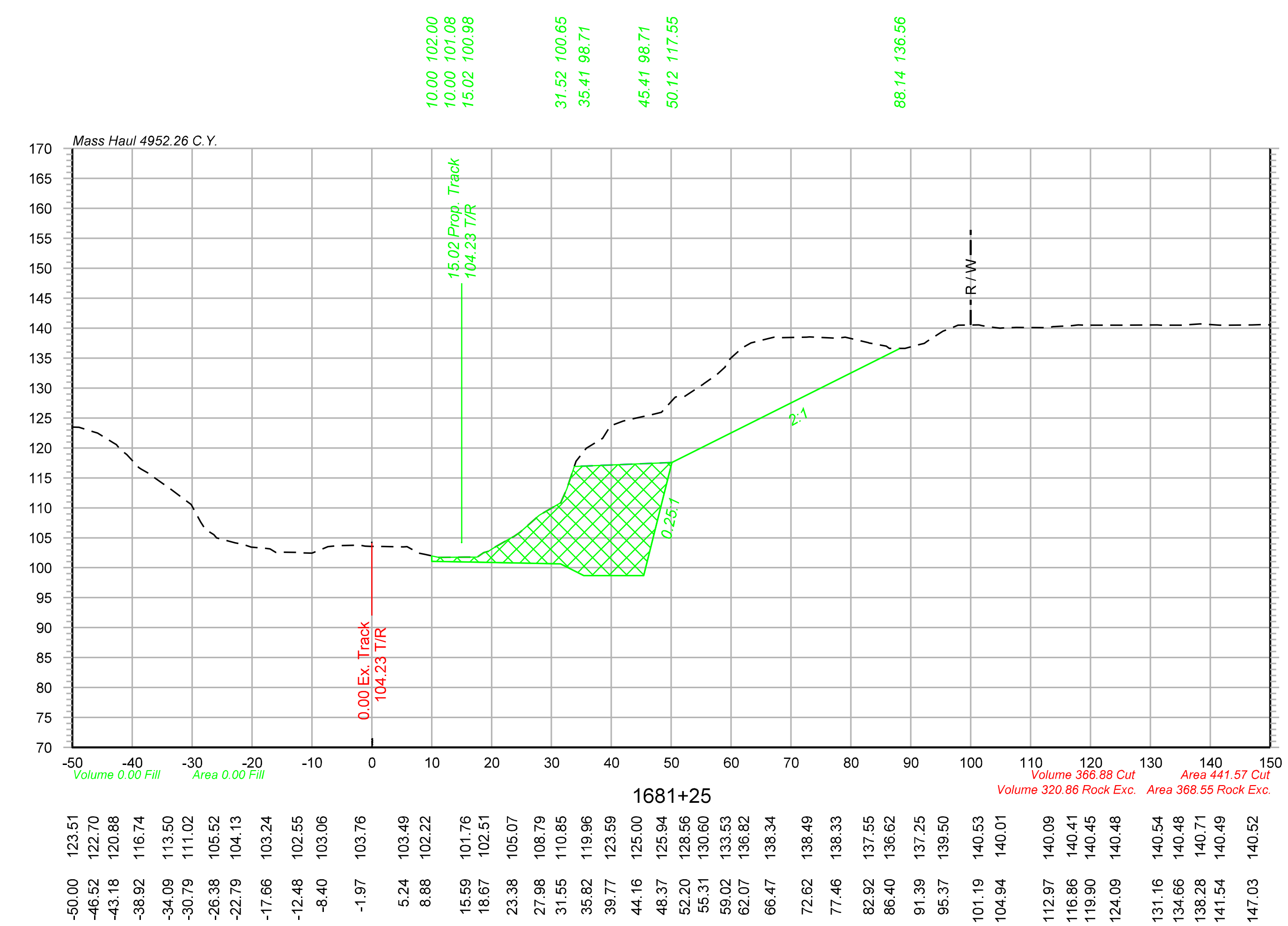
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1680+50 TO STA.1680+75

PC 1 2-458





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DATE: 10/20/2014	
SHEET NUMBER X 079 of 139	SHEET TITLE: PC 1 2-459 CROSS SECTIONS STA.1681+00 TO STA.1681+25

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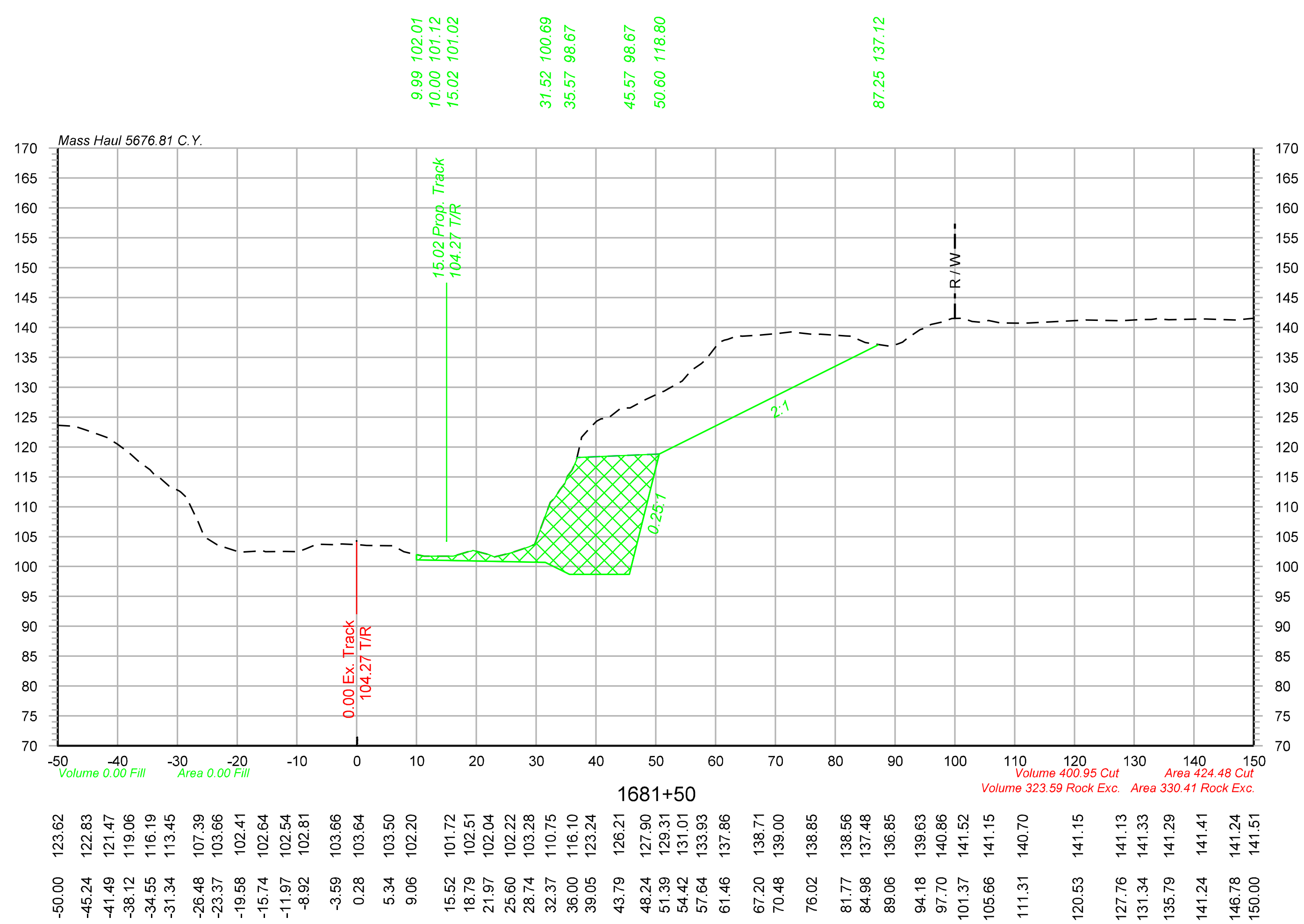
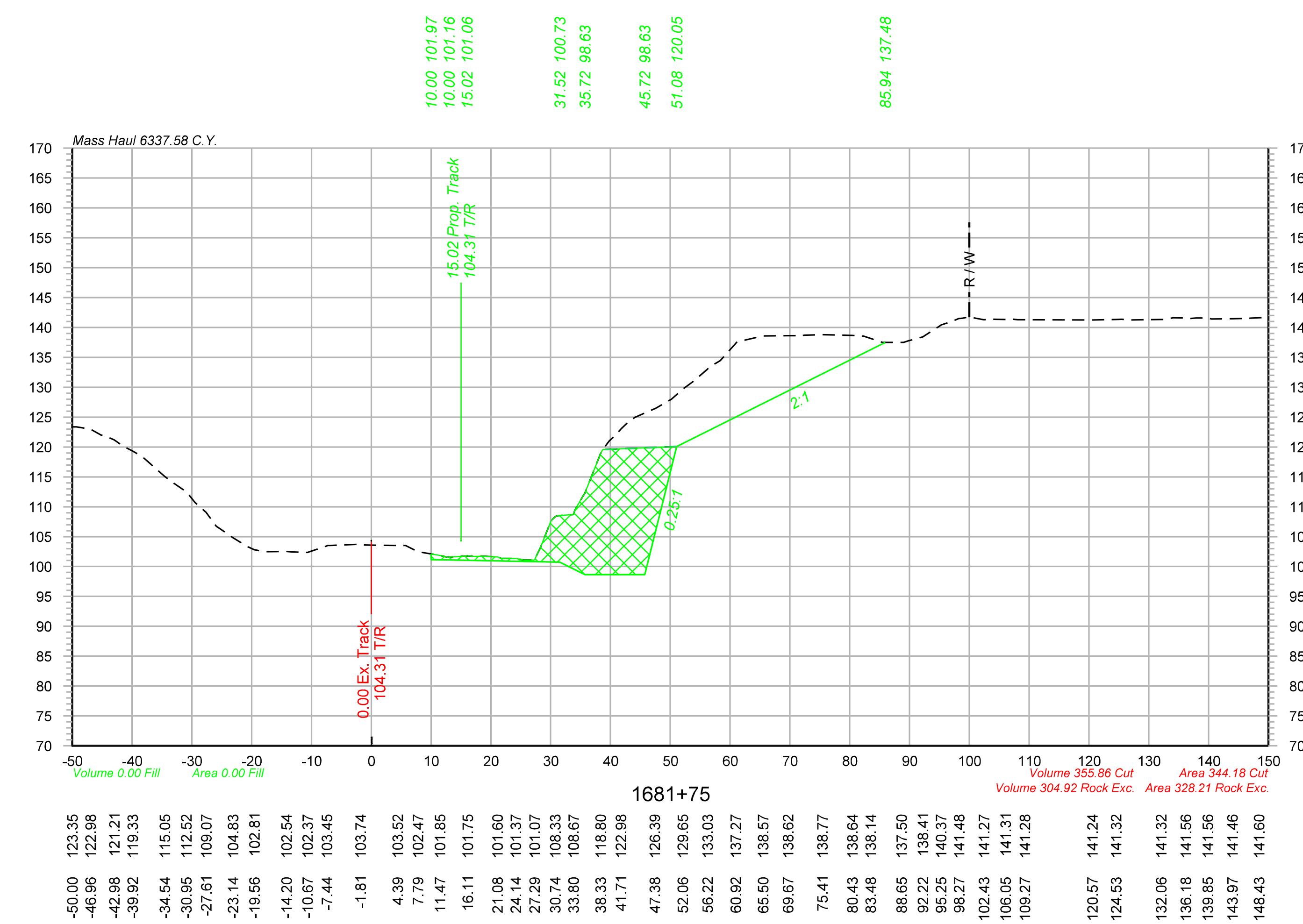
10/20/2014





Legend

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DATE: 10/20/2014	
SHEET NUMBER X 080 of 139	SHEET TITLE: CROSS SECTIONS STA.1681+50 TO STA.1681+75 **PC 1 2-460**

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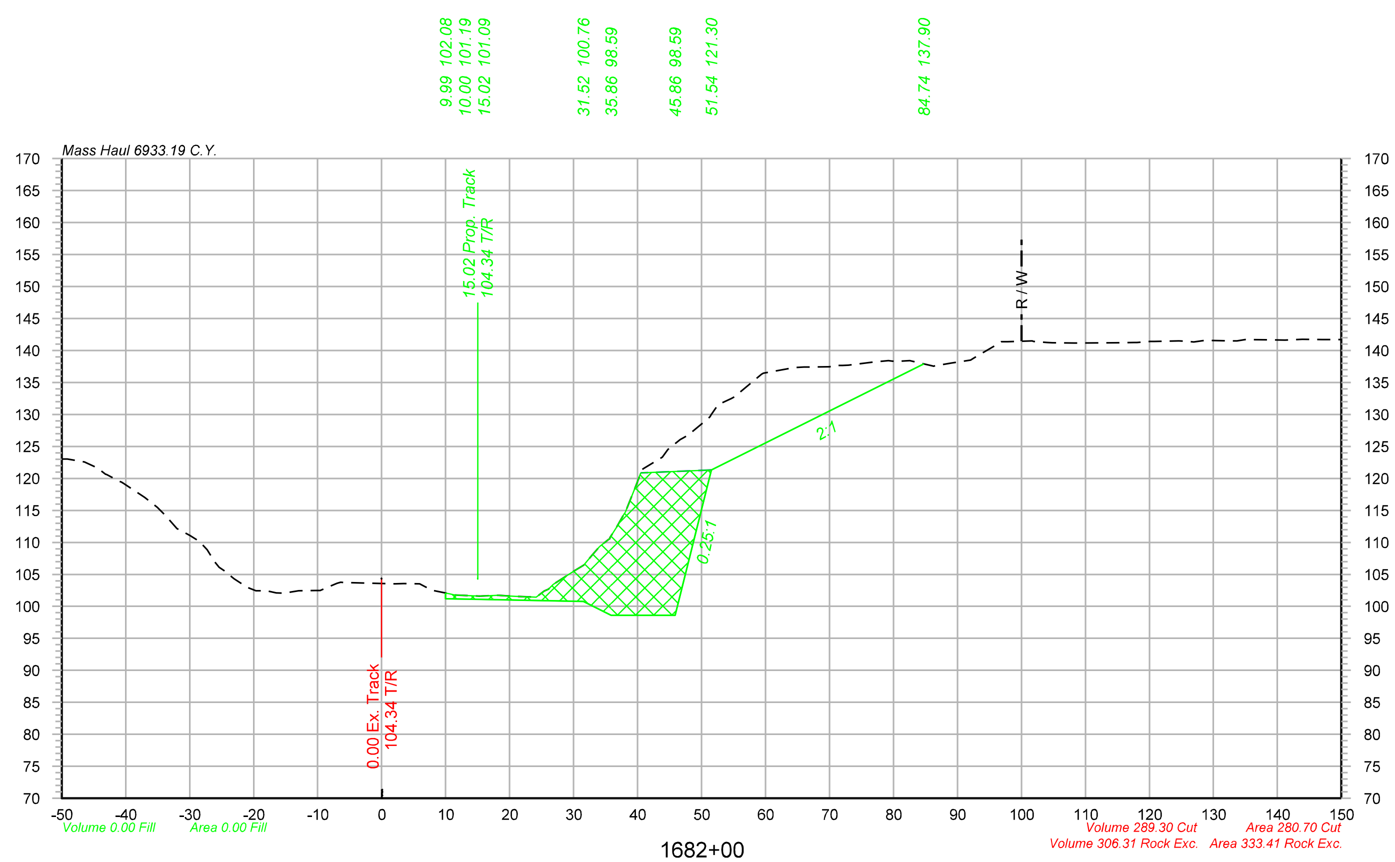
10/20/2014



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-37.04	117.04
-33.81	114.25
-29.96	111.06
-26.10	106.98
-23.08	104.31
-19.65	102.45
-16.49	102.10
-13.00	102.45
-9.59	102.49
-6.39	103.76
0.46	103.55
5.94	103.51
10.51	101.98
15.25	101.62
19.51	101.65
23.13	101.46
26.81	103.42
30.19	105.60
34.09	109.38
37.87	114.41
40.93	121.54
44.75	124.52
47.89	126.76
51.05	129.36
54.68	132.50
59.37	136.28
64.50	137.33
70.04	137.46
76.98	138.21
81.09	138.32
86.15	137.57
92.04	138.49
96.12	140.93
101.67	141.50
104.79	141.18
108.30	141.17
114.92	141.19
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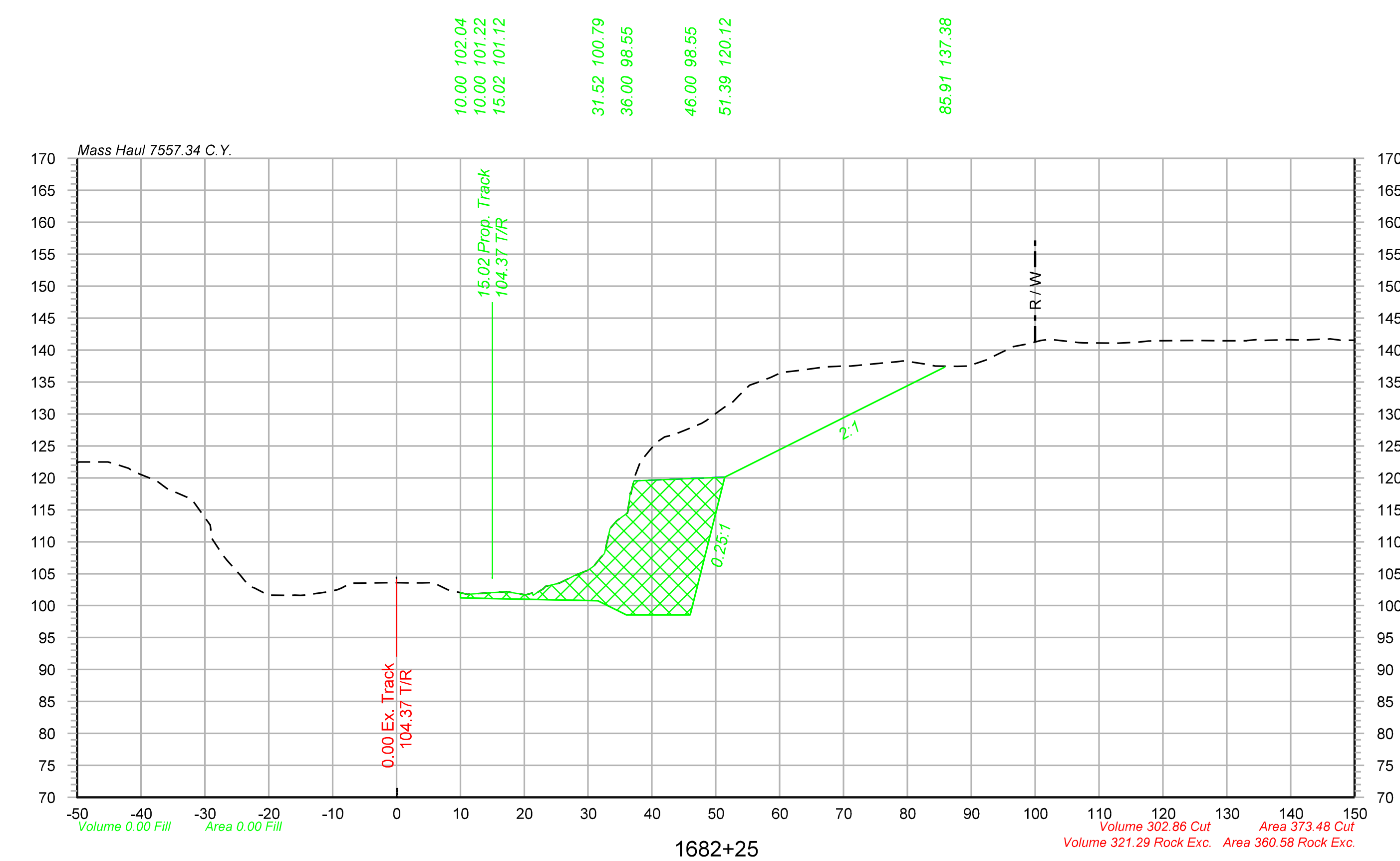

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-37.55	119.52
-32.17	116.67
-28.92	110.55
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-20.09	101.64
-16.63	101.60
-11.11	102.12
-7.14	103.52
-0.43	103.61
4.05	103.56
8.05	102.46
11.10	101.78
17.20	102.20
20.24	101.70
23.36	103.03
27.42	104.49
30.93	106.25
34.49	113.29
38.19	122.54
41.98	126.39
45.14	127.46
48.47	128.95
52.09	131.59
55.28	134.49
58.64	135.76
62.86	136.77
67.17	137.37
70.90	137.50
76.37	138.00
79.48	138.30
83.15	137.72
87.82	137.44
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106.89	141.14
113.02	141.09
116.18	141.23
125.10	141.49
128.88	141.46
132.89	141.45
136.54	141.52
139.81	141.63
144.87	141.69
148.51	141.53

Legend

Assumed Rock Excavation

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 081 of 139	SHEET TITLE: **PC 1 2-461** CROSS SECTIONS STA.1682+00 TO STA.1682+25

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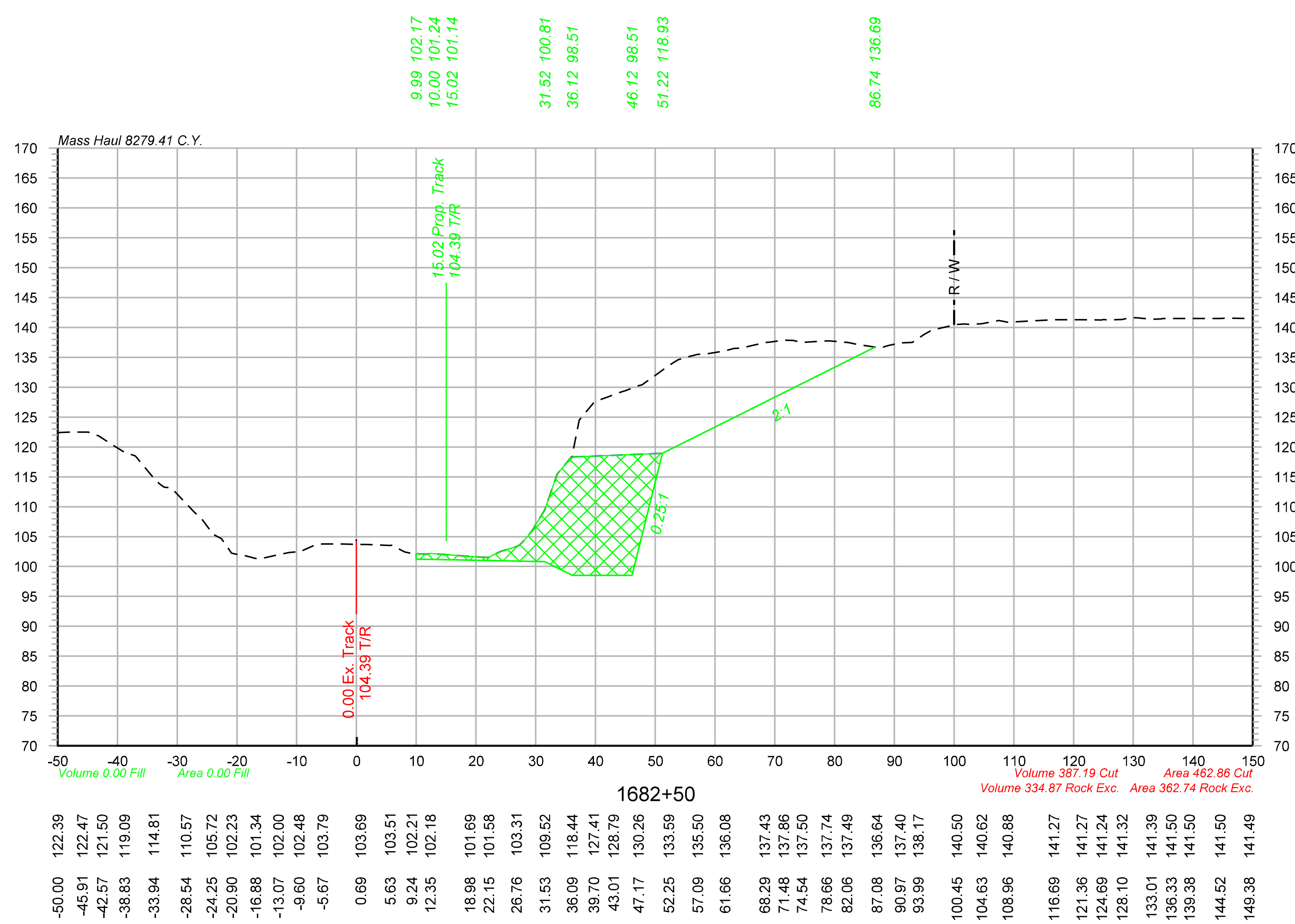
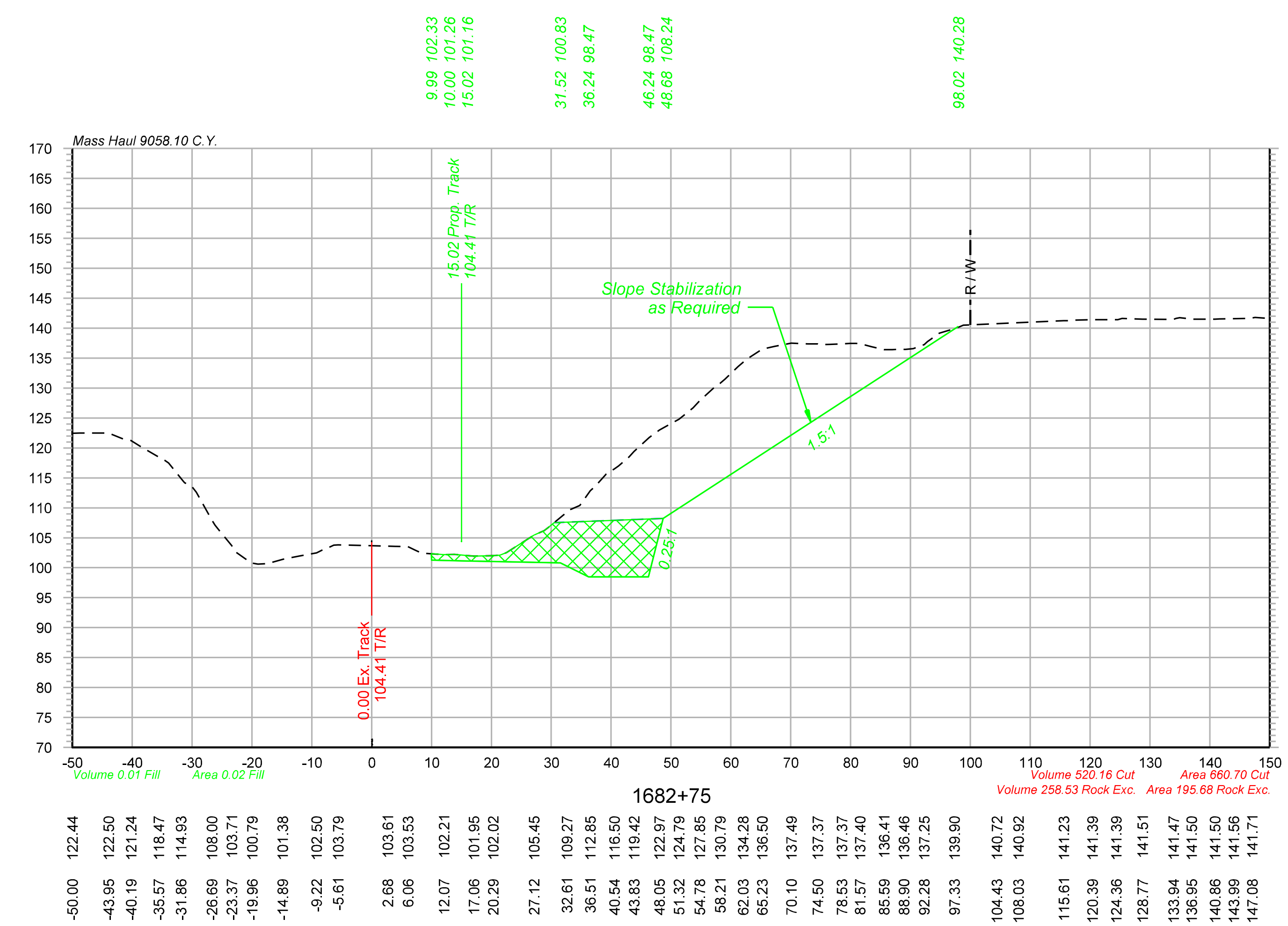
10/20/2014





Legend

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UNION PACIFIC

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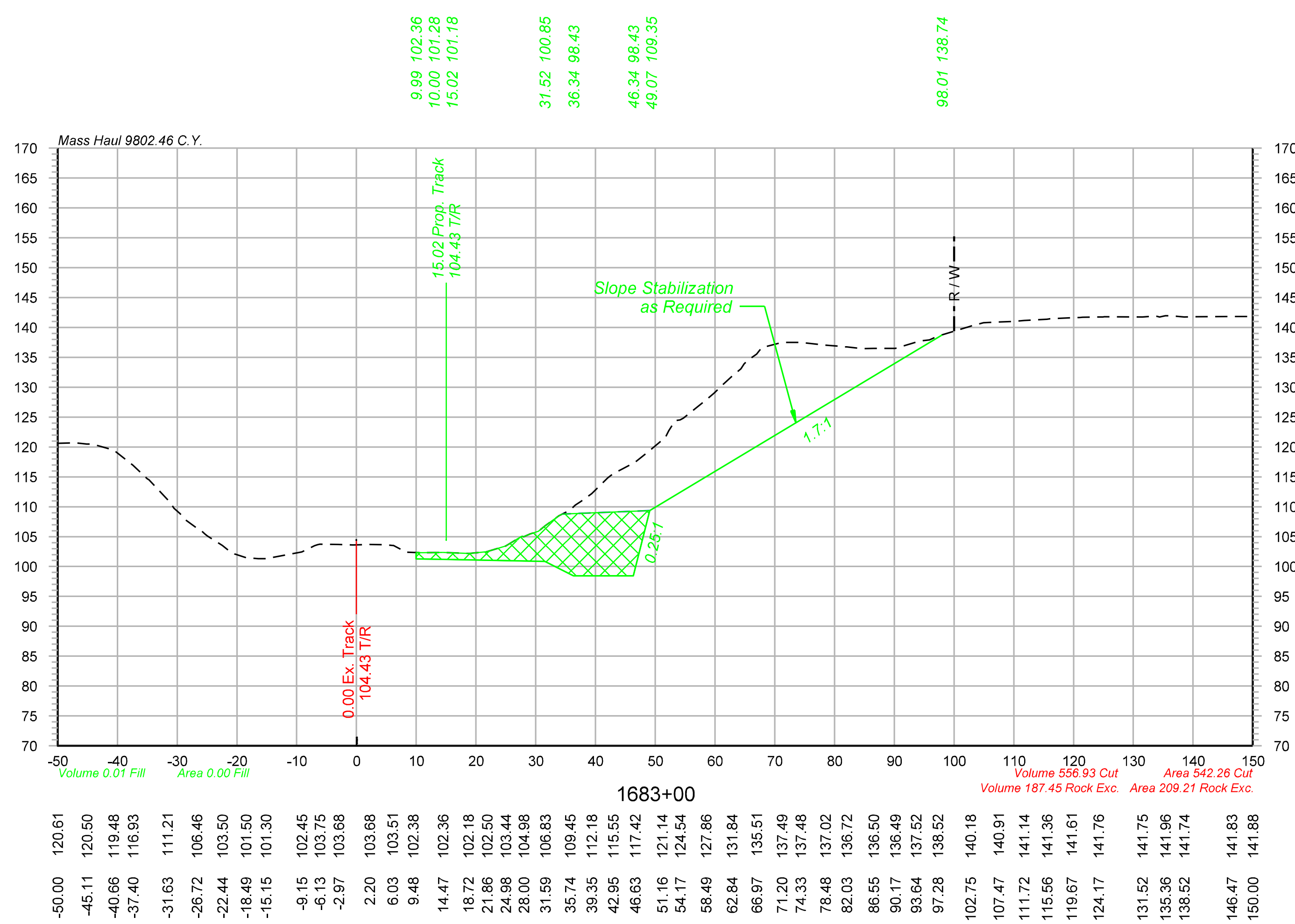
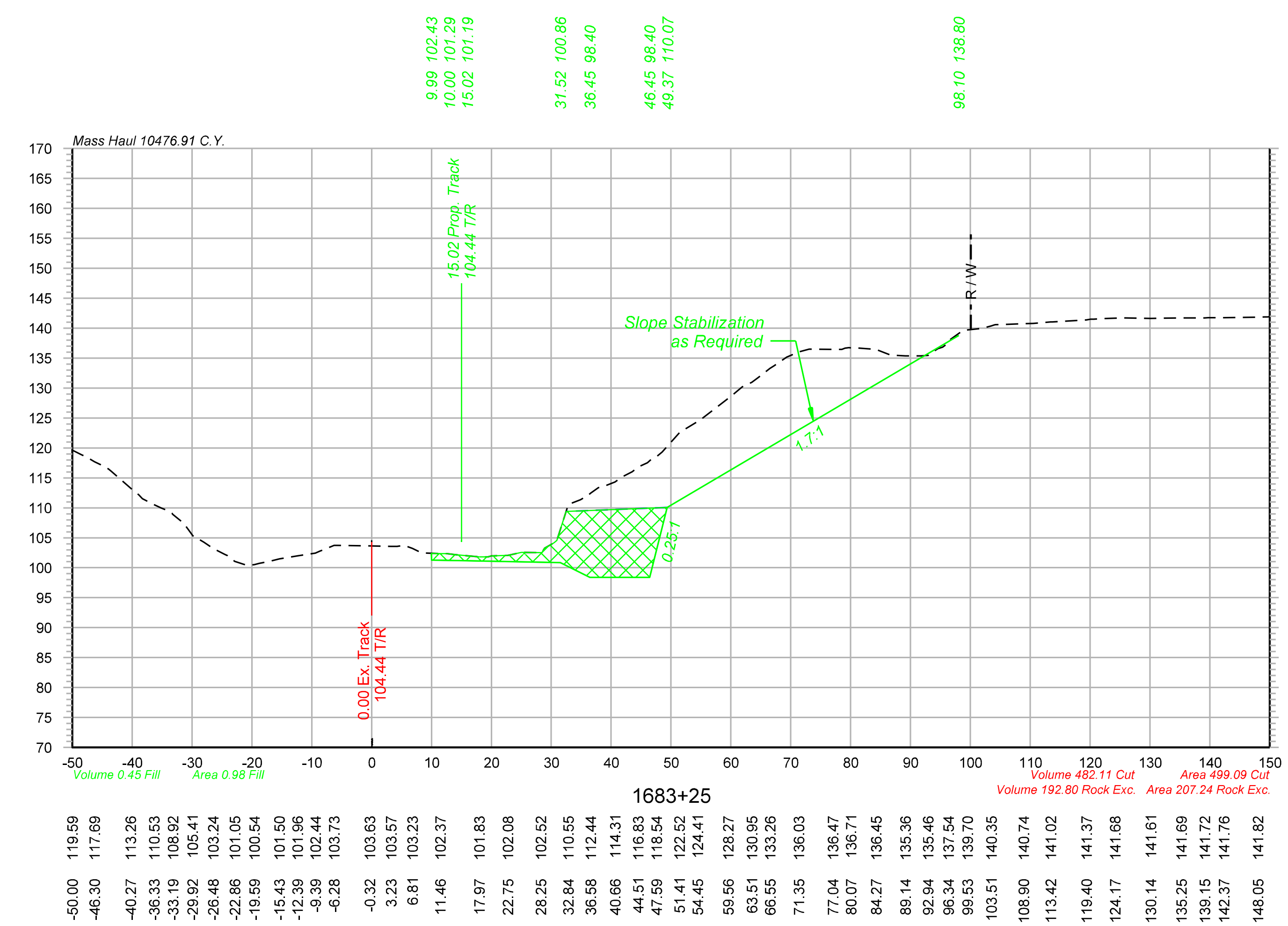
DATE: 10/20/2014	
SHEET NUMBER: X 082 of 139	SHEET TITLE: CROSS SECTIONS STA.1682+50 TO STA.1682+75 — PC 1 2-462





Legend

Assumed Rock Excavation

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UNION PACIFIC

DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 083 of 139	SHEET TITLE: CROSS SECTIONS STA.1683+00 TO STA.1683+25 PC 1 2-463

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10/20/2014

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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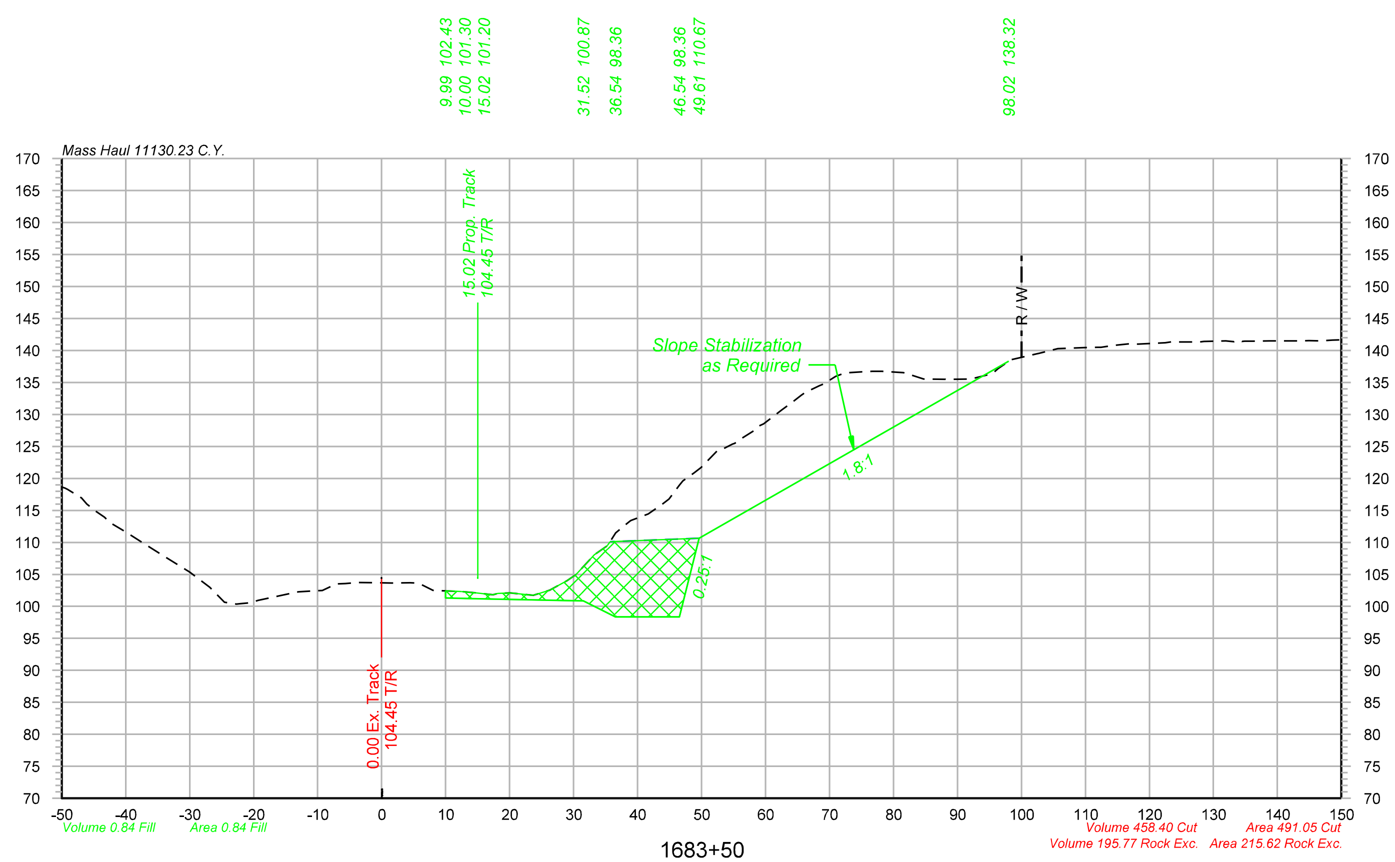
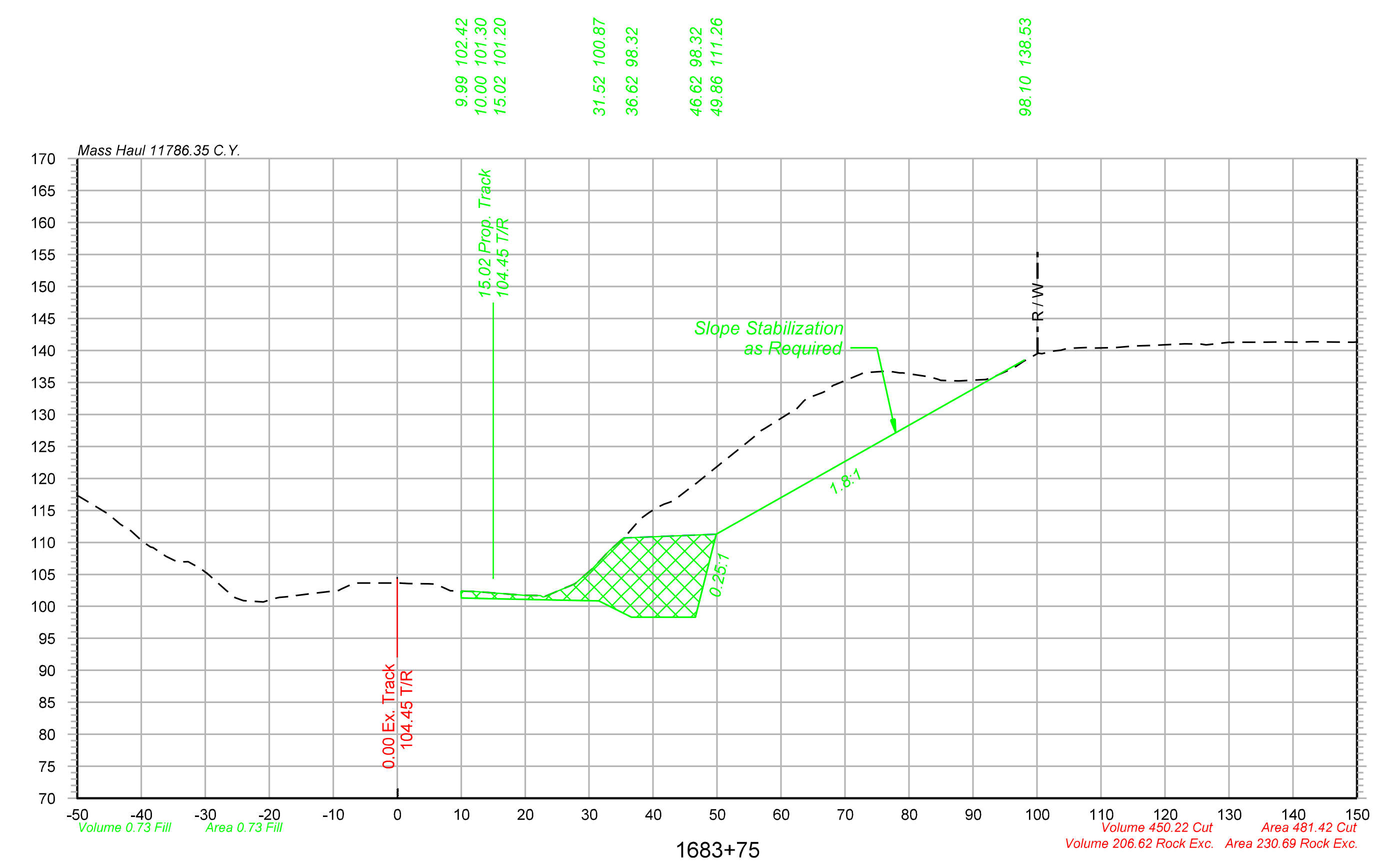


1683+50

Offset	Elevation
-50.00	118.64
-46.89	116.95
-43.32	113.96
-39.82	111.53
-36.78	109.55
-30.38	105.59
-26.86	102.96
-22.68	100.34
-19.30	100.93
-14.64	101.95
-10.32	102.43
-7.09	103.50
-3.74	103.74
-0.54	103.71
4.44	103.67
7.67	102.68
12.51	102.33
17.39	101.81
23.72	101.71
28.99	104.03
33.24	108.08
36.57	111.50
41.68	114.44
44.91	116.80
48.84	120.88
52.45	124.32
55.59	125.80
58.70	128.07
62.59	130.74
65.65	133.03
69.35	134.87
72.40	136.50
75.50	136.66
81.56	136.52
84.72	135.52
88.12	135.48
92.09	135.55
95.28	136.32
98.30	138.52
101.93	139.37
105.67	140.26
110.06	140.43
114.39	140.77
118.24	140.99
122.48	141.21
127.84	141.31
131.95	141.50
136.29	141.43
139.31	141.50
143.61	141.50
146.69	141.51
150.00	141.65



1683+75

Offset	Elevation
-50.00	117.35
-45.16	114.43
-41.64	111.81
-38.52	109.26
-34.31	106.94
-30.60	105.83
-26.69	102.49
-20.90	100.70
-17.05	101.51
-13.20	102.04
-9.95	102.41
-6.79	103.62
0.28	103.63
4.91	103.53
8.31	102.45
12.44	102.32
18.82	101.81
22.40	101.67
27.75	103.51
33.03	108.58
36.25	111.62
39.36	114.63
43.15	116.50
46.88	119.32
50.30	122.10
54.48	125.46
57.48	127.83
61.29	130.21
65.13	132.91
68.21	134.58
72.42	136.30
76.15	136.73
83.27	135.89
87.62	135.22
91.89	135.44
96.34	137.23
100.20	139.58
103.72	140.02
107.68	140.46
110.69	140.43
115.21	140.69
123.03	141.03
126.41	140.88
130.10	141.28
134.81	141.28
138.55	141.34
143.12	141.37
149.45	141.30

Legend

Assumed Rock Excavation

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DATE: 10/20/2014
SHEET NUMBER X 084 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

PC 1 2-464

SHEET TITLE:
CROSS SECTIONS STA.1683+50 TO STA.1683+75

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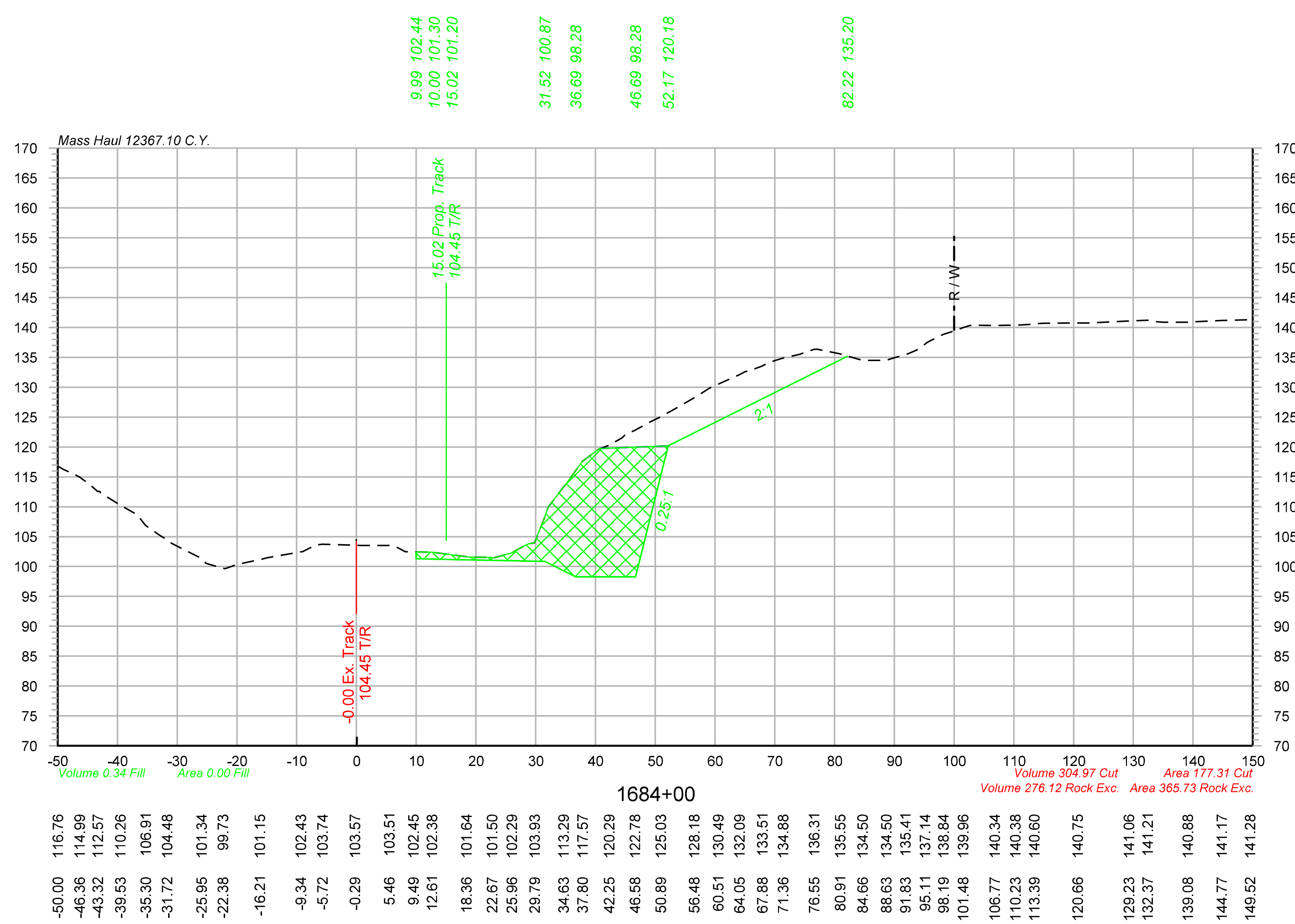
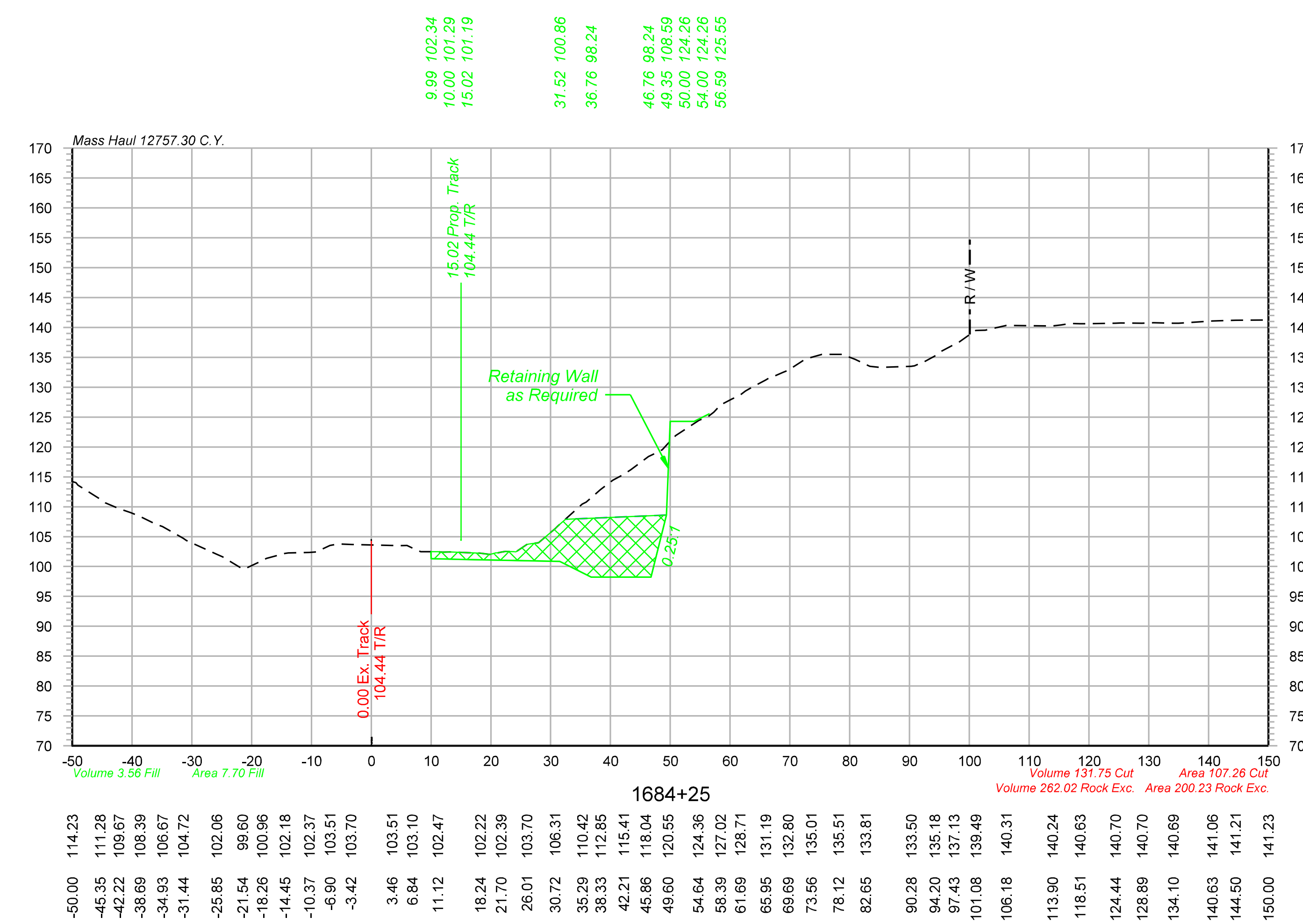
10/20/2014





Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 085 of 139

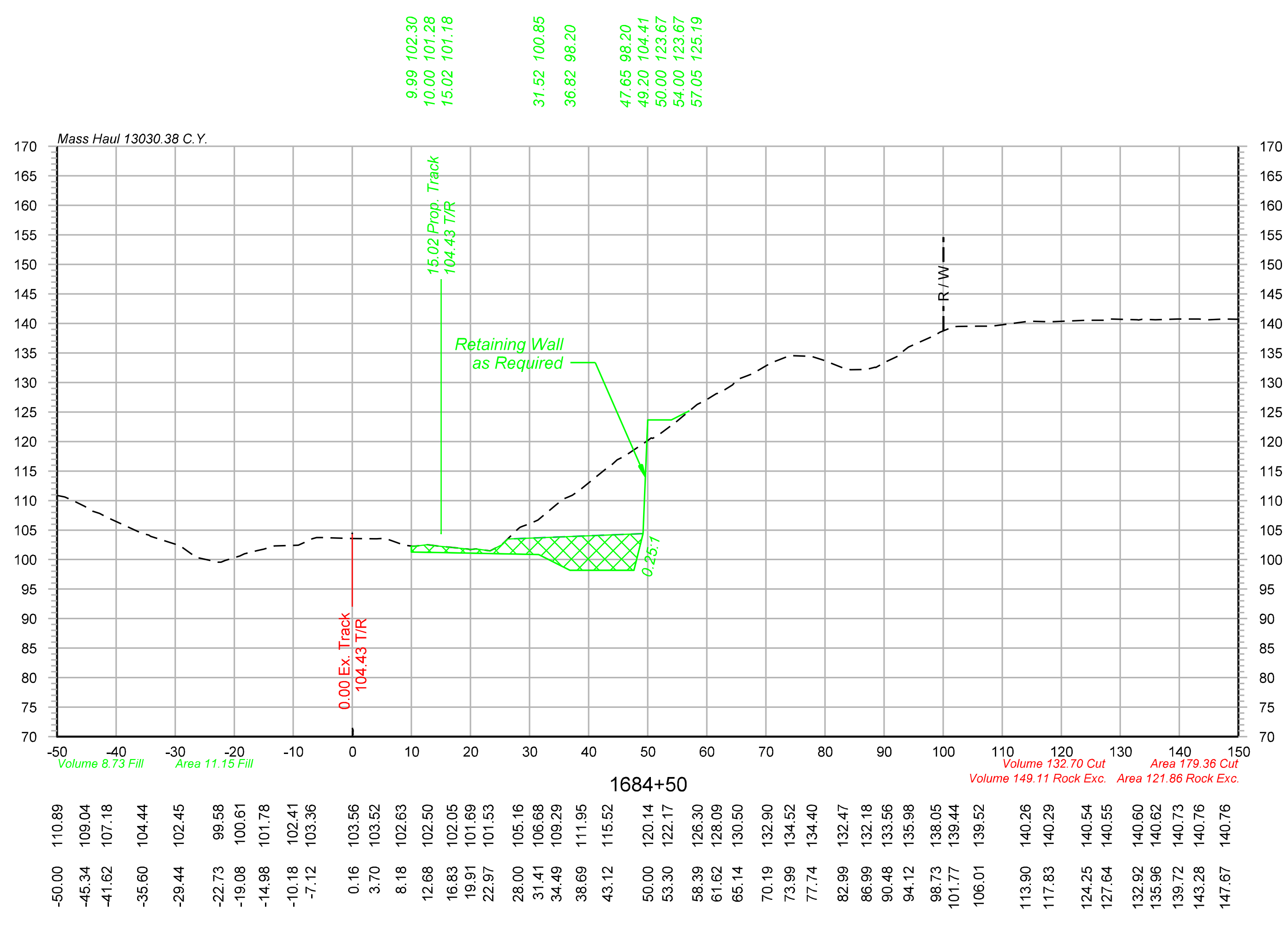
UNION PACIFIC RAILROAD

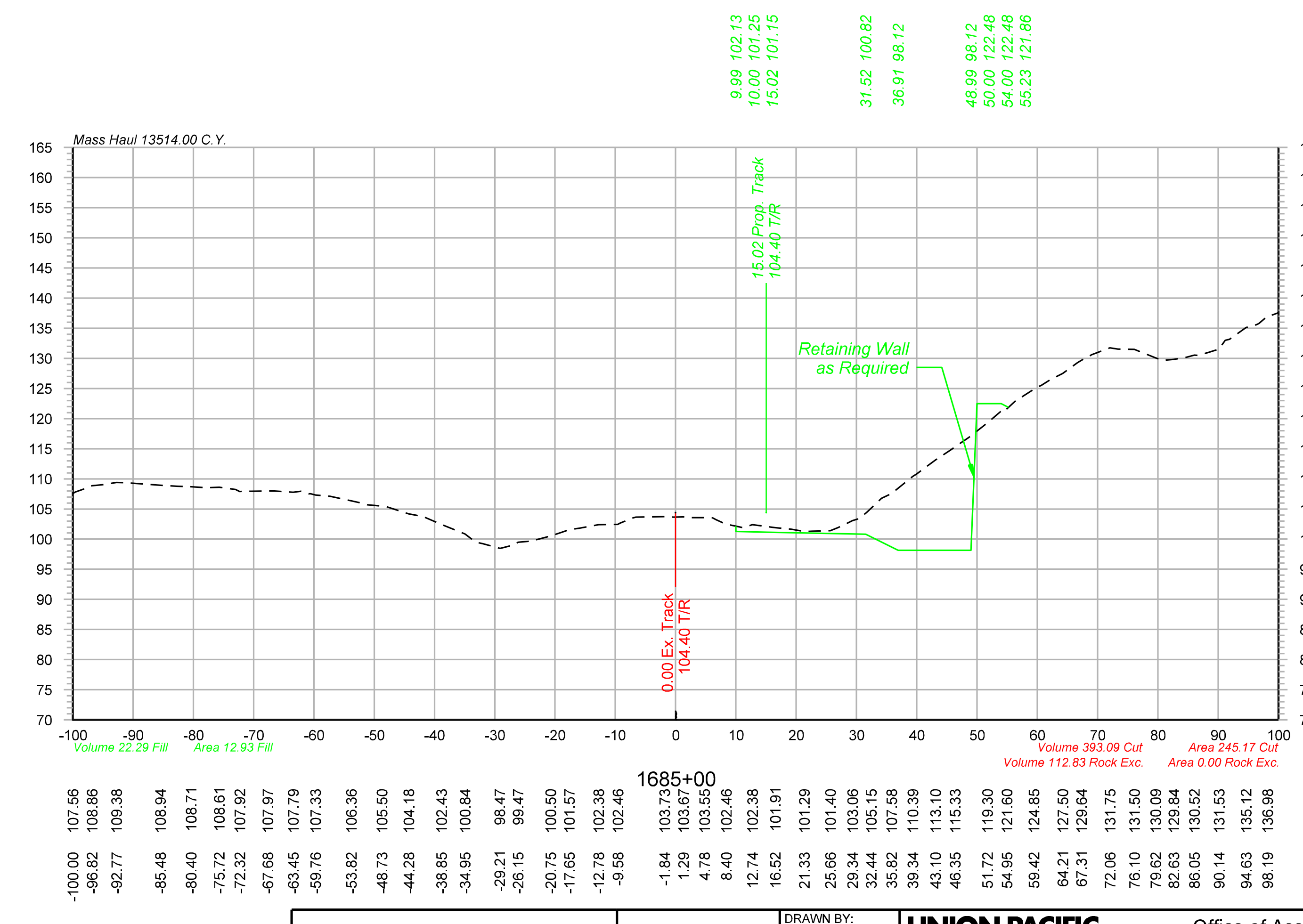
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1684+00 TO STA.1684+25

PC 1 2-465





Legend

Assumed Rock Excavation

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UNION PACIFIC

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 086 of 139	SHEET TITLE: CROSS SECTIONS STA.1684+50 TO STA.1685+00 **PC 1 2-466**

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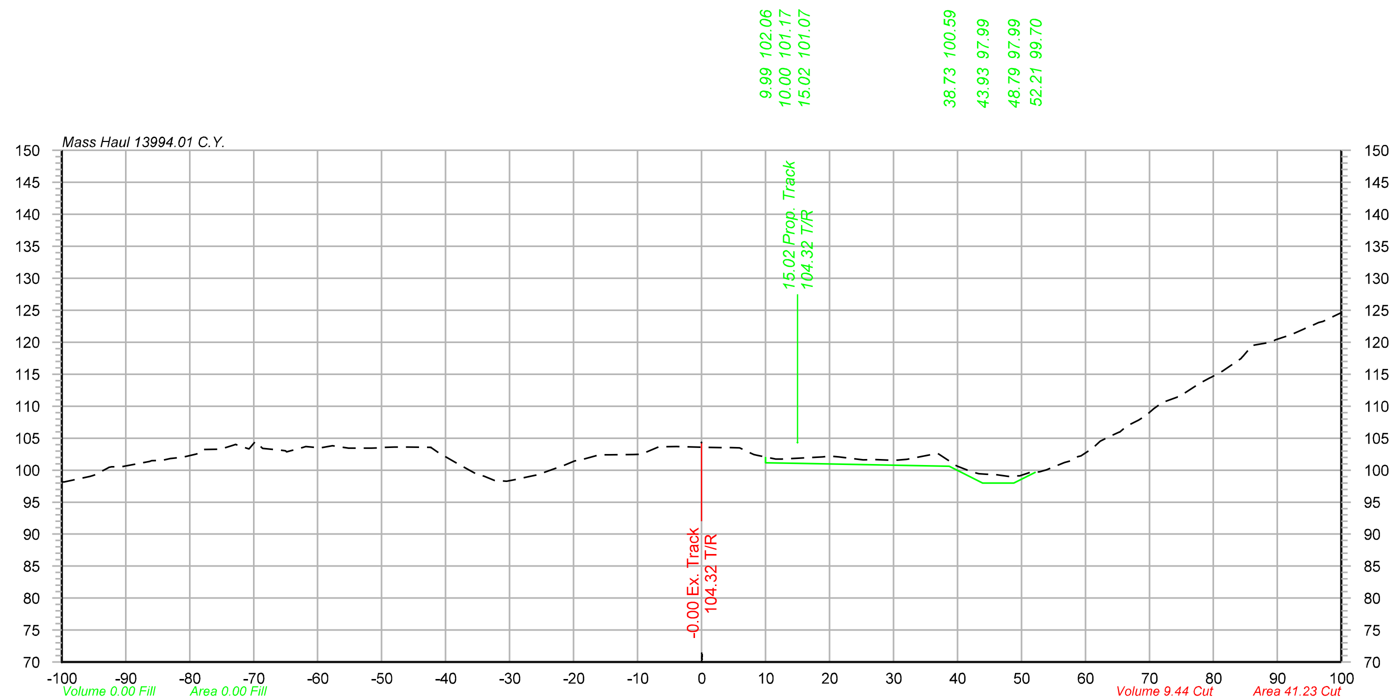
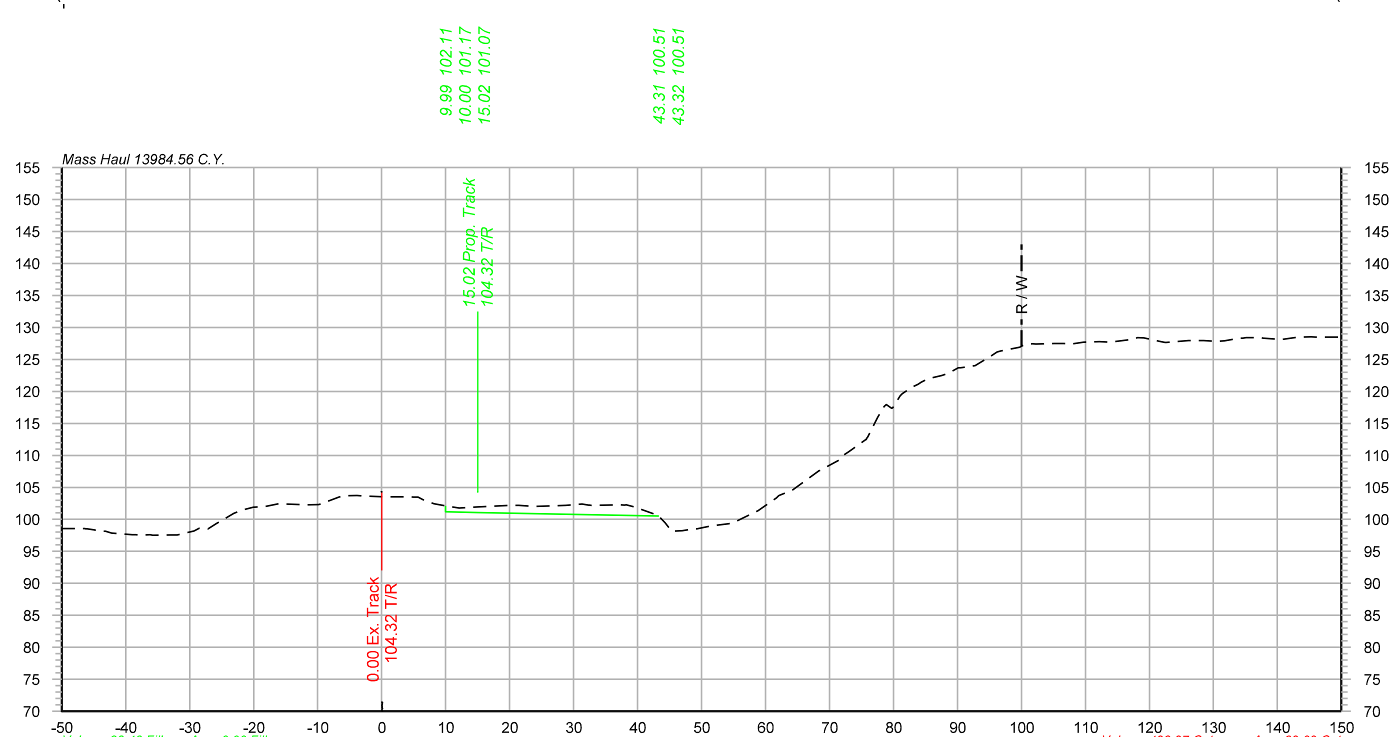
10/20/2014



1686+00

Offset	Elevation
-100.00	98.17
-95.57	99.04
-92.18	100.54
-86.30	101.37
-83.03	101.80
-79.13	102.47
-75.21	103.25
-70.72	103.30
-65.66	103.10
-62.39	103.54
-57.70	103.82
-54.39	103.45
-50.30	103.47
-45.90	103.61
-42.37	103.56
-38.50	101.24
-35.05	99.31
-30.56	98.29
-26.62	99.07
-22.49	100.41
-18.82	101.61
-14.25	102.41
-10.65	102.46
-6.68	103.66
0.66	103.57
4.56	103.51
7.73	102.65
11.58	101.73
18.86	102.08
25.25	101.62
29.22	101.56
36.60	102.57
40.02	100.59
43.35	99.43
47.96	99.03
51.34	99.65
54.35	100.21
57.64	101.43
61.15	103.43
65.25	105.95
68.31	107.83
72.02	110.55
75.34	111.94
79.47	114.43
84.31	117.45
89.14	120.04
94.29	122.11
100.00	124.63



1685+94

Offset	Elevation
-50.00	98.52
-46.37	98.56
-43.16	98.16
-38.99	97.62
-35.78	97.53
-31.96	97.58
-28.51	98.61
-25.16	99.72
-21.84	101.45
-18.16	102.01
-11.64	102.28
-8.55	102.76
-3.83	103.74
0.49	103.53
4.31	103.51
8.21	102.46
12.13	101.76
20.03	102.17
23.88	102.00
28.78	102.19
32.33	102.22
37.28	102.28
40.35	101.64
43.50	100.30
46.99	98.23
51.49	98.96
55.02	99.46
58.82	101.37
62.06	103.68
68.24	107.50
71.68	109.35
75.63	112.42
78.88	117.95
82.51	120.42
87.55	122.47
90.81	123.75
95.30	125.55
99.72	126.90
103.74	127.44
107.67	127.44
112.21	127.78
117.48	128.17
121.62	127.83
126.11	127.95
130.49	127.81
134.08	128.32
137.39	128.40
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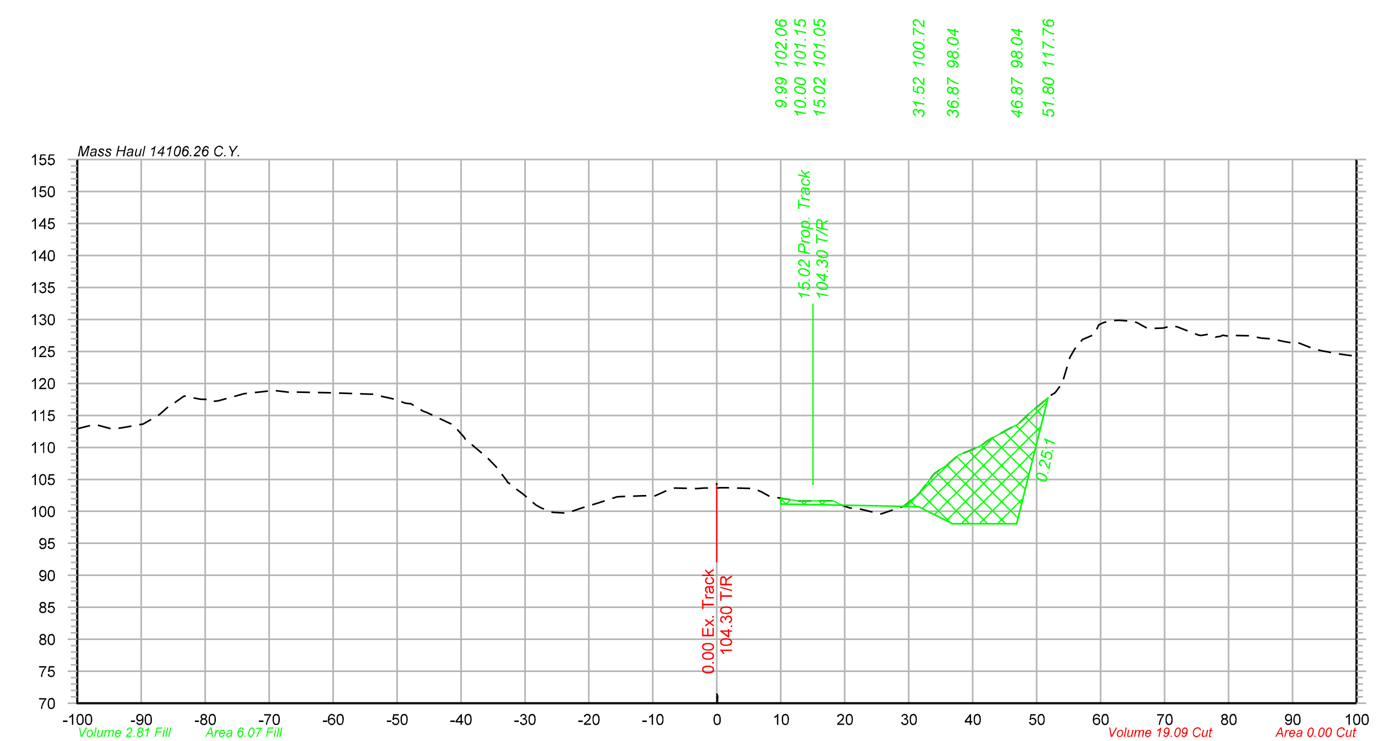
143.69	128.49
148.74	128.49



1686+25

Offset	Elevation
-100.00	112.91
-96.84	113.48
-92.77	113.12
-89.71	113.65
-85.61	116.49
-80.76	117.55
-73.85	118.42
-69.30	118.91
-66.03	118.64
-60.13	118.53
-54.26	118.31
-50.73	117.60
-45.90	115.66
-42.32	114.01
-38.83	110.88
-34.56	107.04
-31.36	103.49
-28.27	100.98
-23.67	99.71
-18.82	101.23
-15.60	102.28
-11.33	102.43
-7.29	103.52
-3.09	103.58
0.57	103.68
5.89	103.55
12.89	101.60
16.16	101.64
19.35	101.04
24.67	99.79
29.23	100.82
34.00	105.89
37.75	108.77
40.80	110.02
46.40	113.30
49.41	115.81
52.88	118.51
55.91	125.31
59.04	127.65
62.98	129.86
67.37	128.56
70.93	128.97
75.25	127.59
78.76	127.36
83.20	127.45
86.39	126.98
90.00	126.34
93.12	125.46
97.25	124.59

Legend

Assumed Rock Excavation

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UNION PACIFIC

DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 087 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-467
CROSS SECTIONS STA.1685+94 TO STA.1686+25

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10/20/2014

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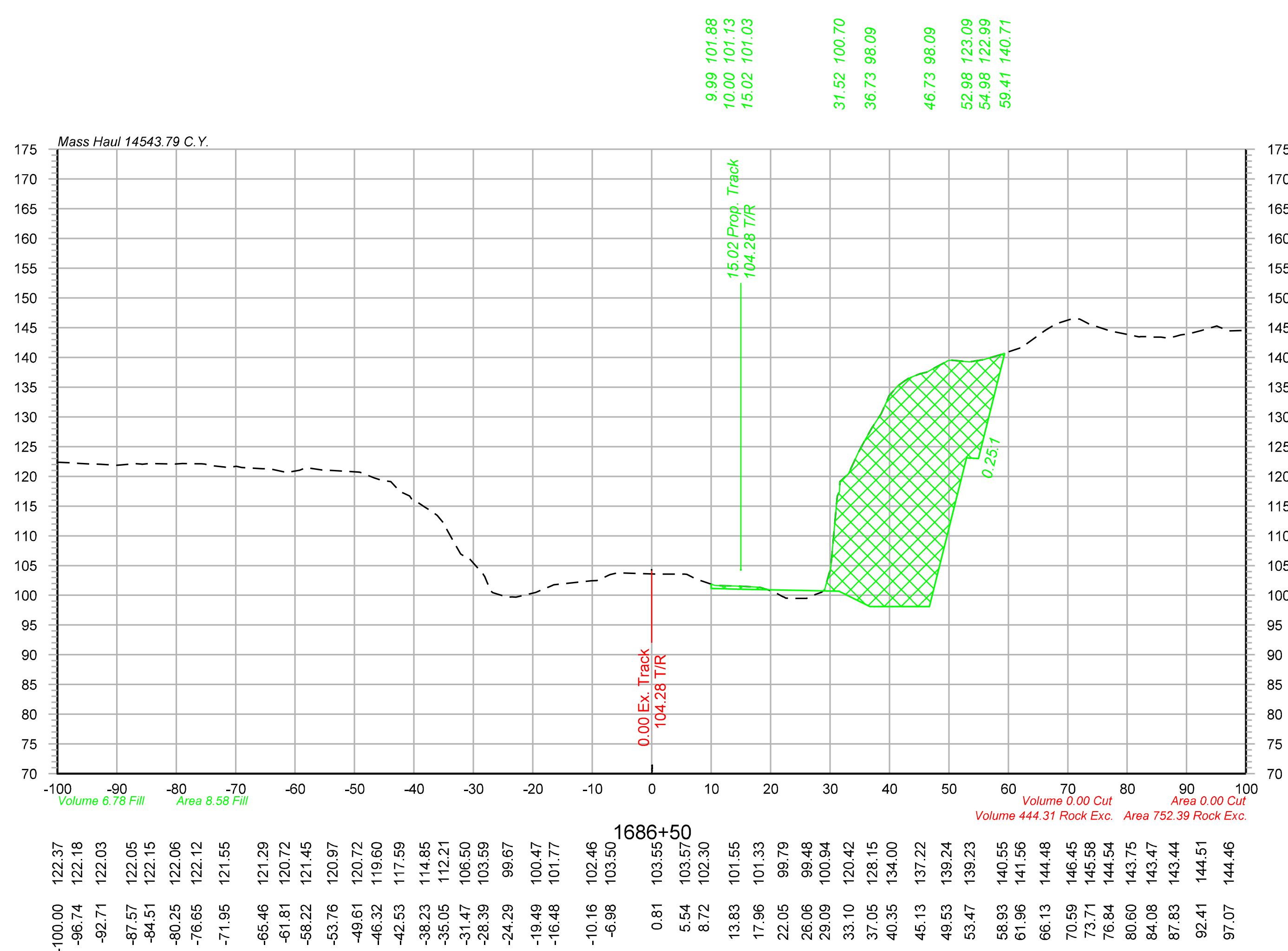
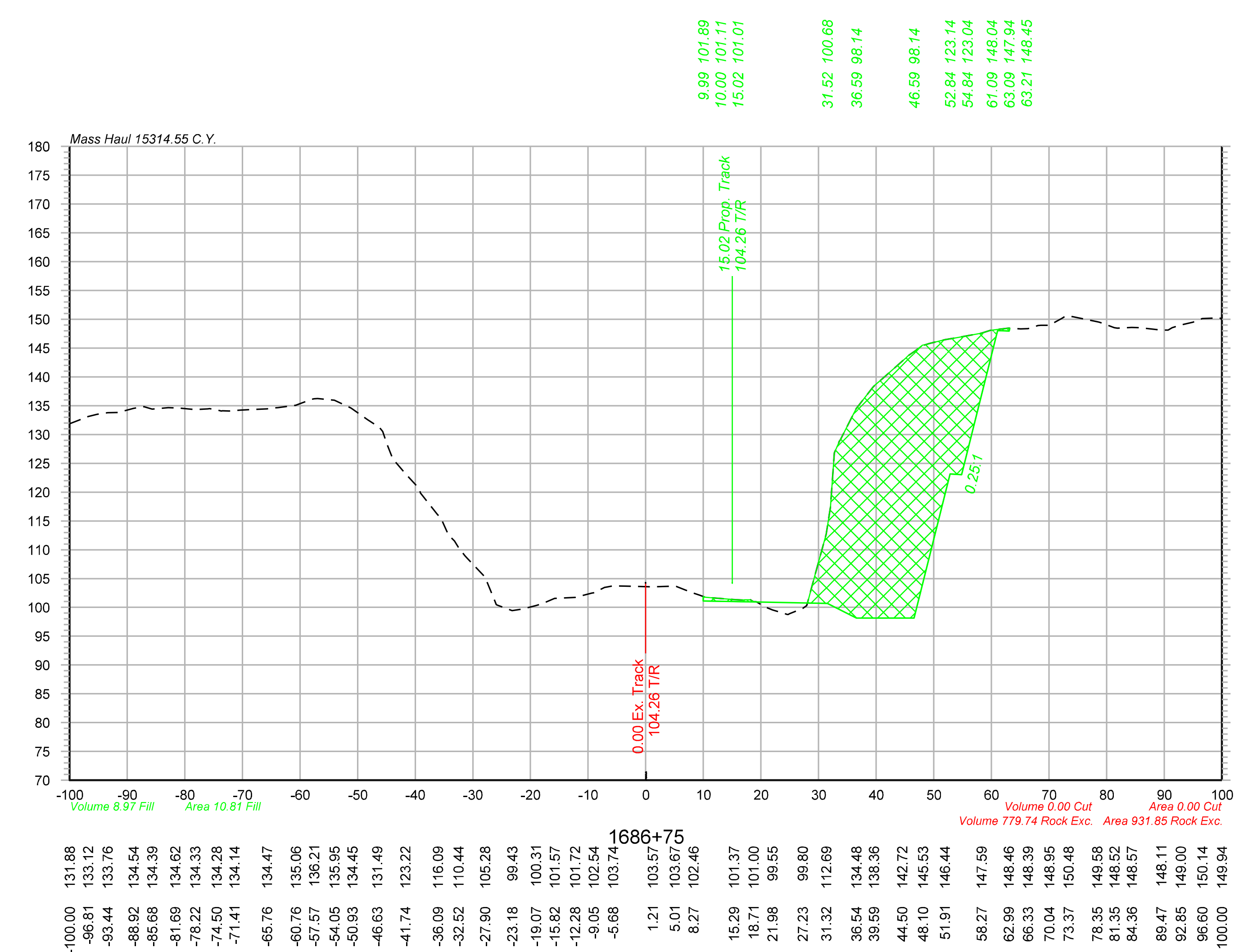
10/20/2014





Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 088 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1686+50 TO STA.1686+75

PC 1 2-468

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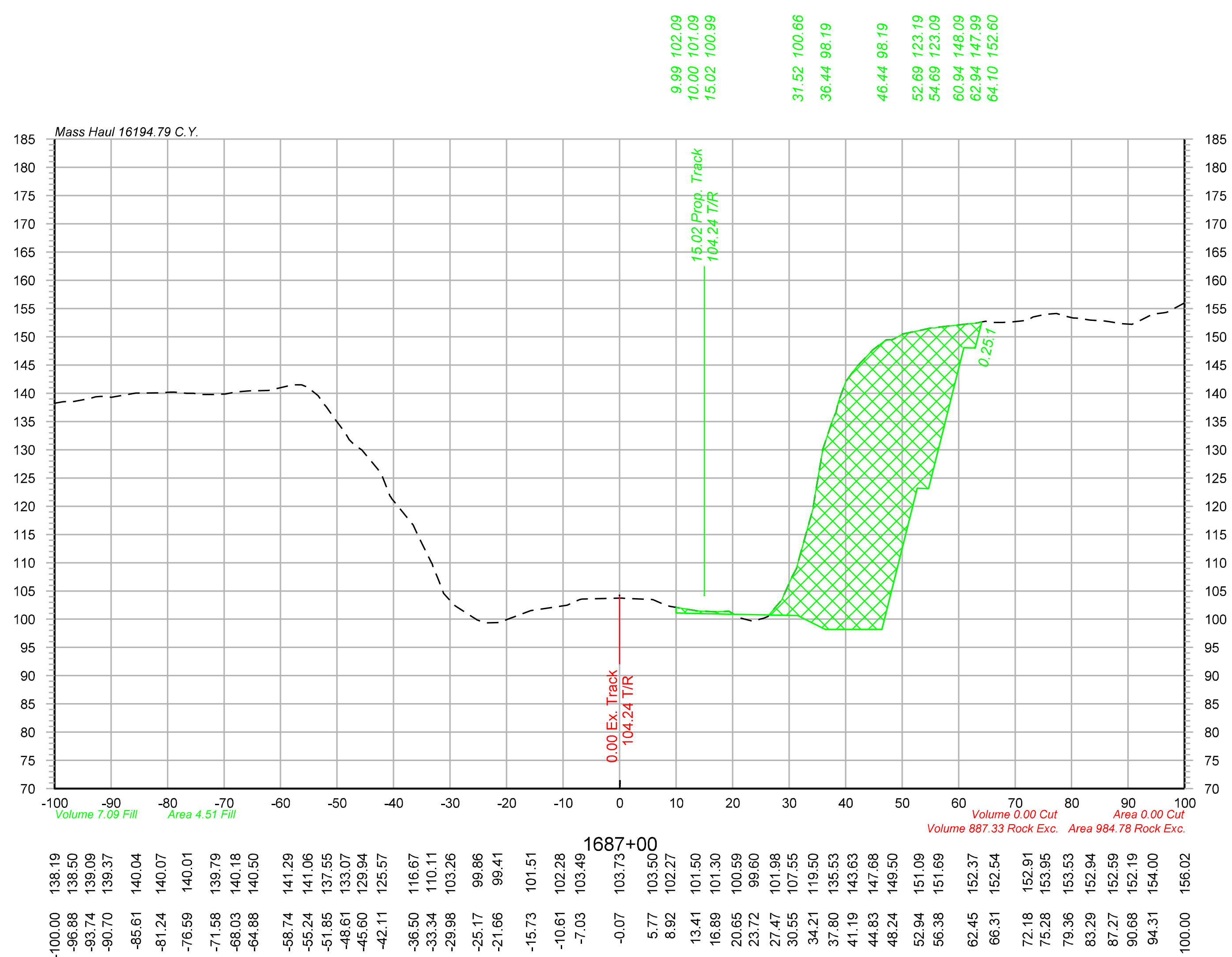
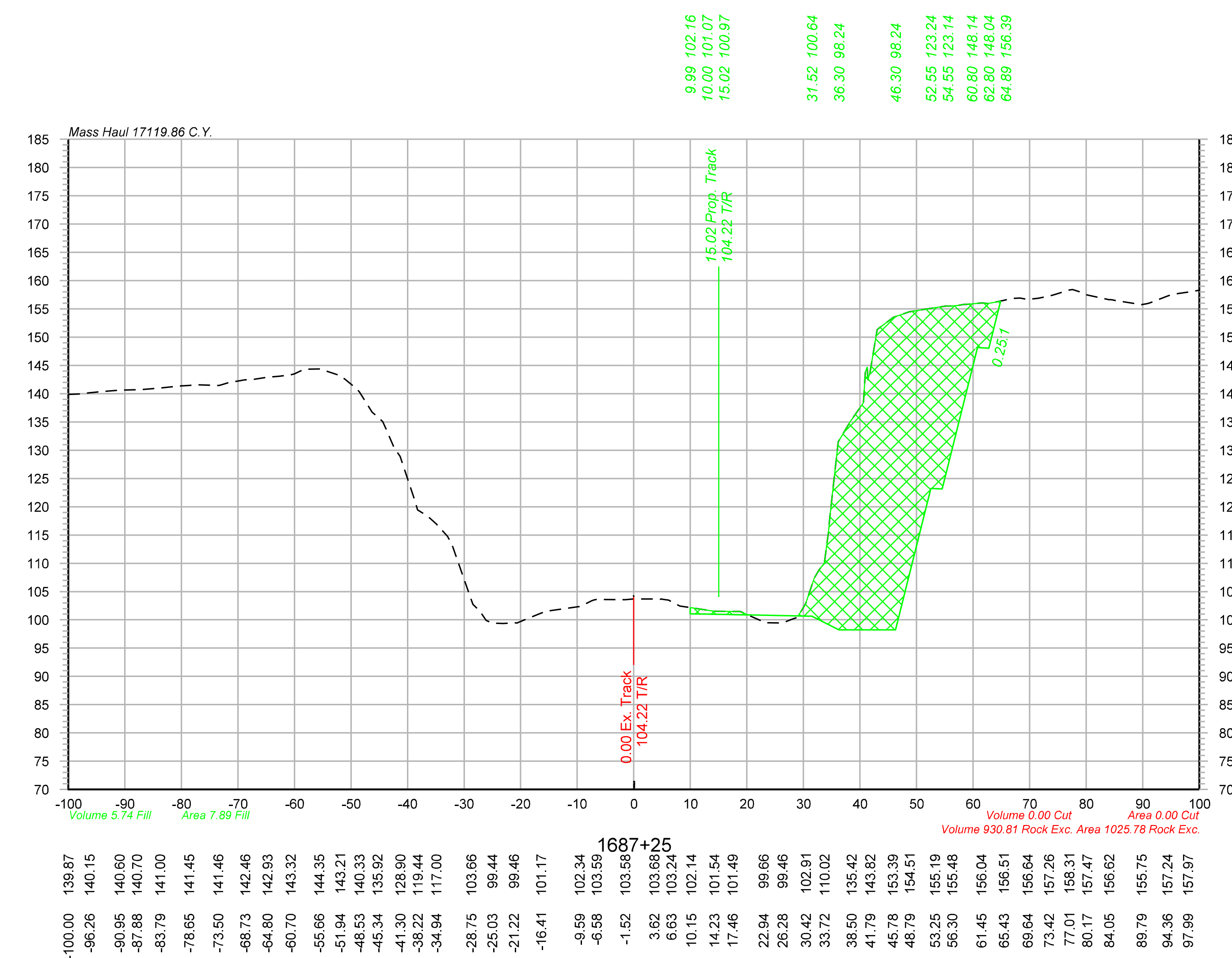
10/20/2014





Legend

Assumed Rock Excavation

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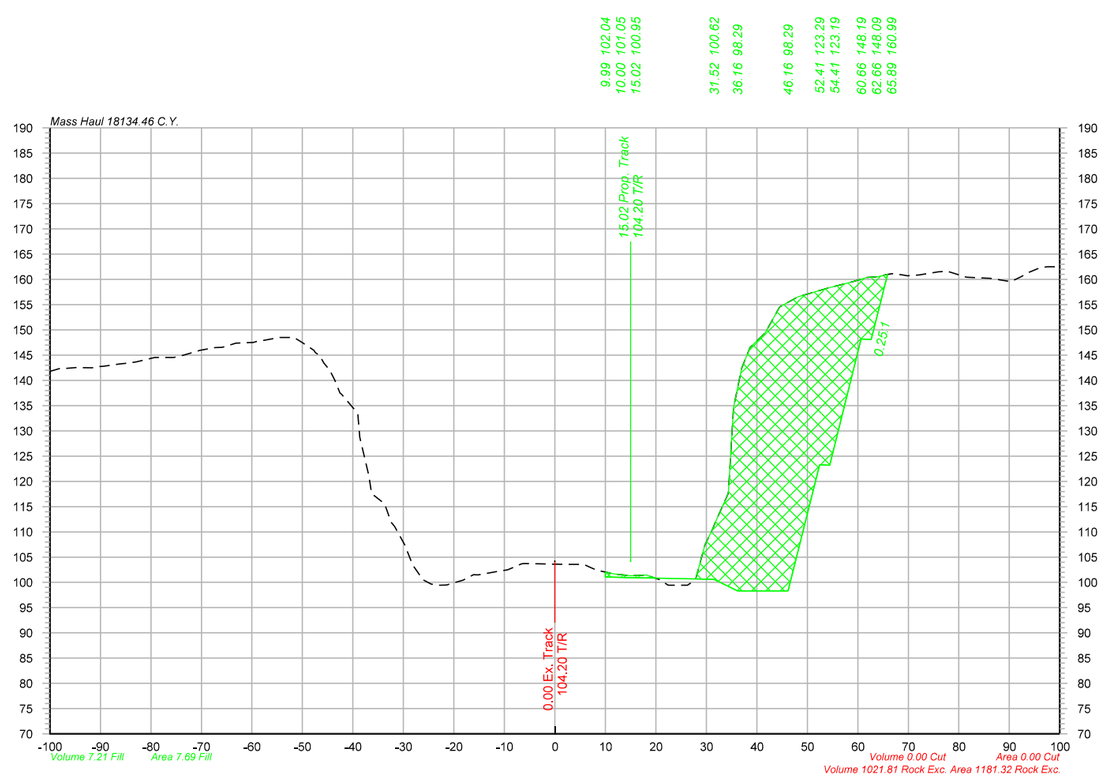
DATE:	10/20/2014
SHEET NUMBER	X 089 of 139

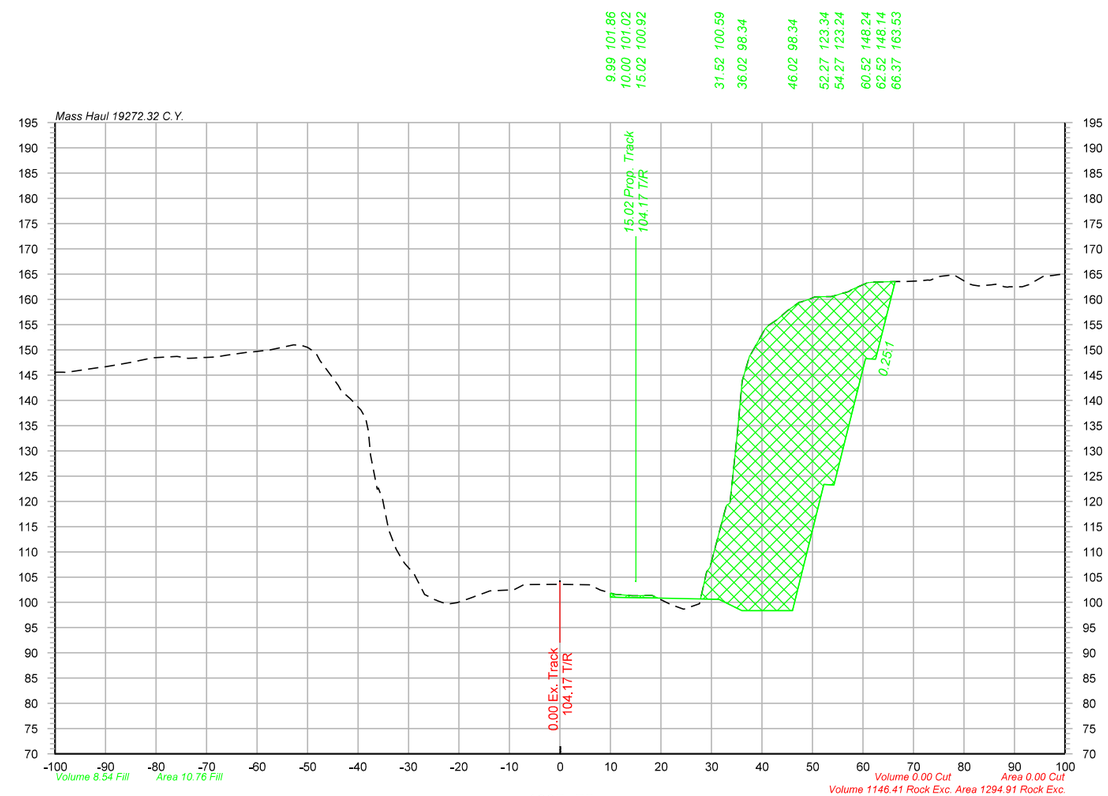
UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-469
CROSS SECTIONS STA.1687+00 TO STA.1687+25





Legend

Assumed Rock Excavation

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1687+50 TO STA.1687+75

PC 1 2-470

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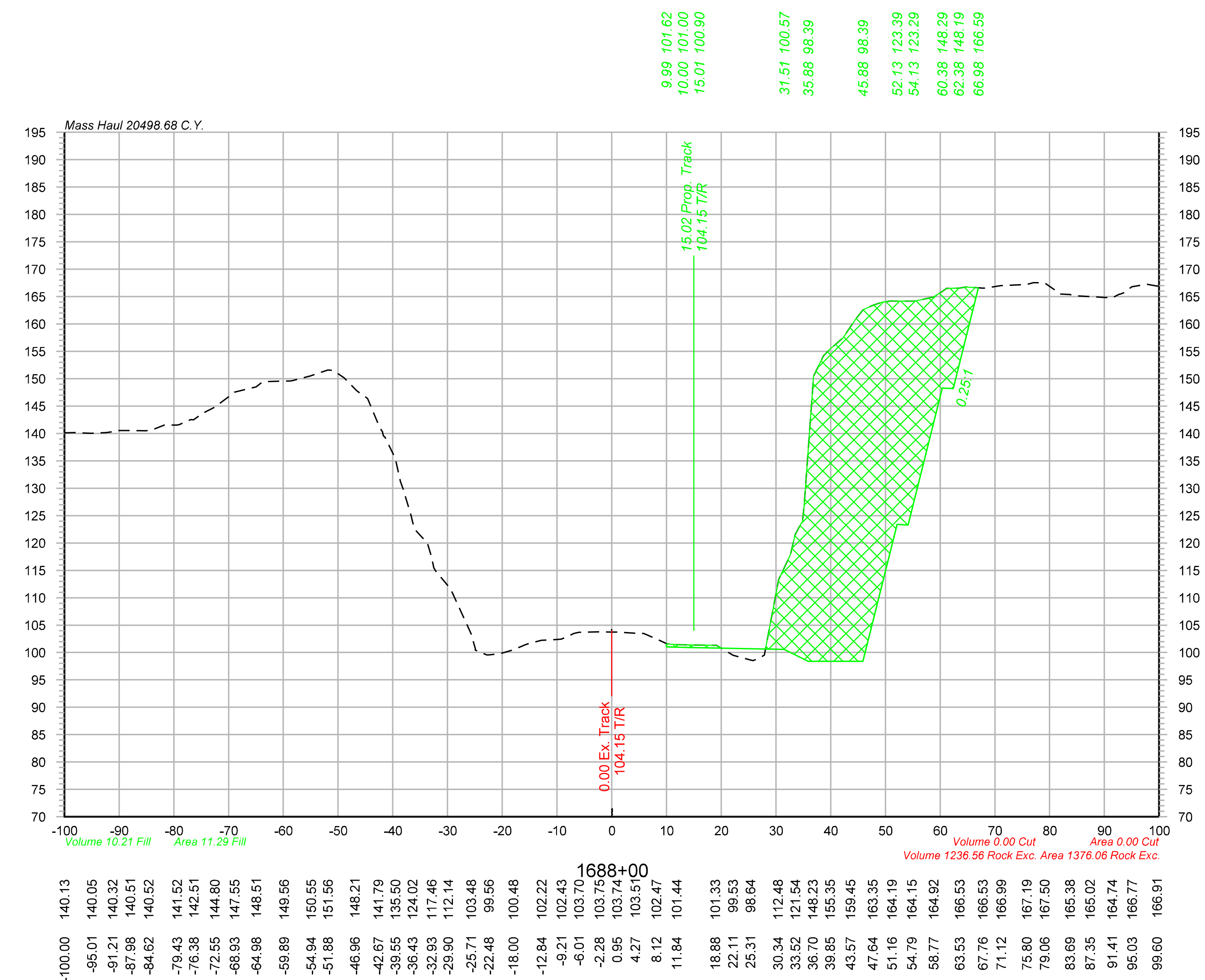

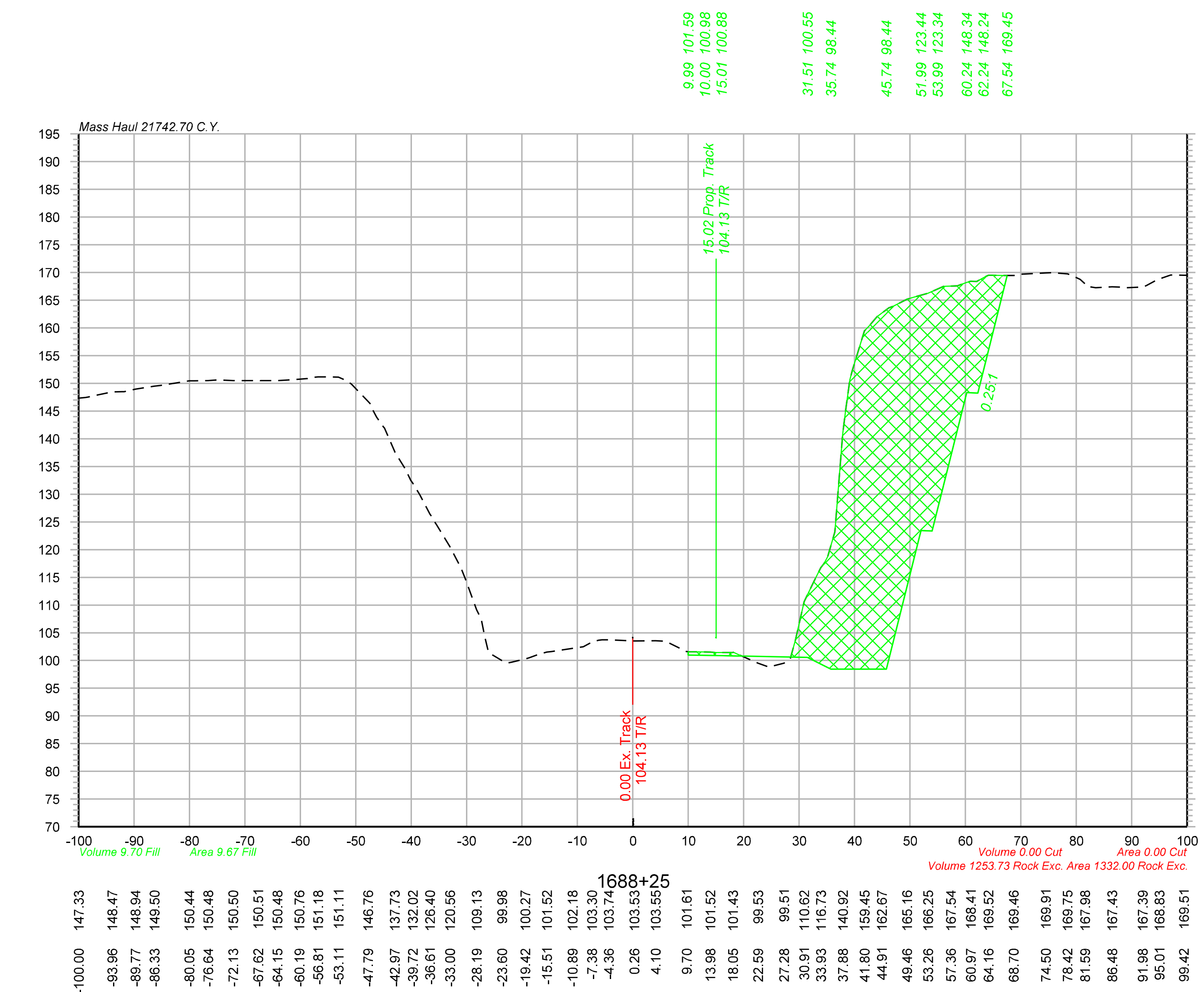

Legend

Assumed Rock Excavation

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UNION PACIFIC

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 091 of 139	SHEET TITLE: PC 1 2-471 CROSS SECTIONS STA.1688+00 TO STA.1688+25

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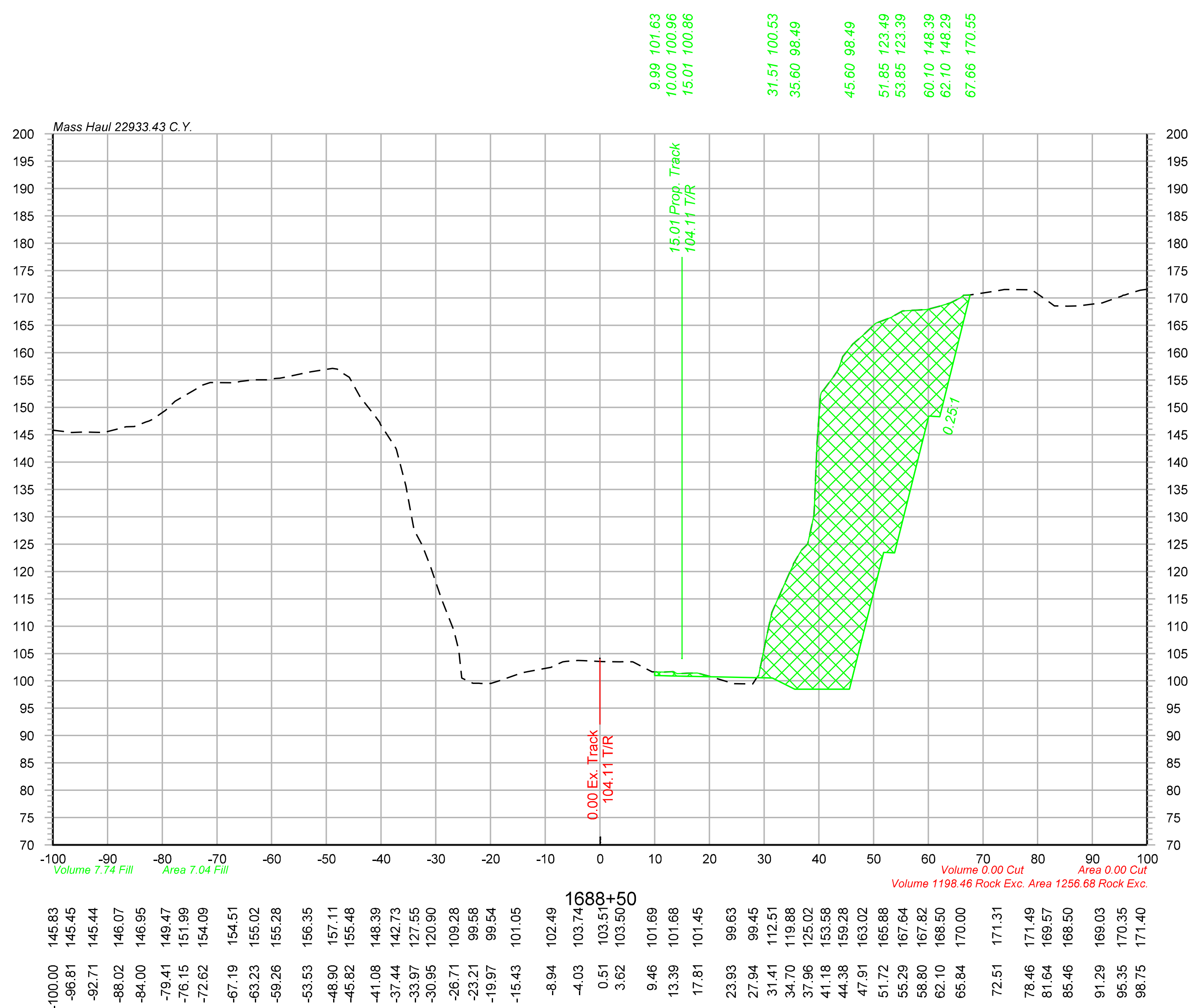
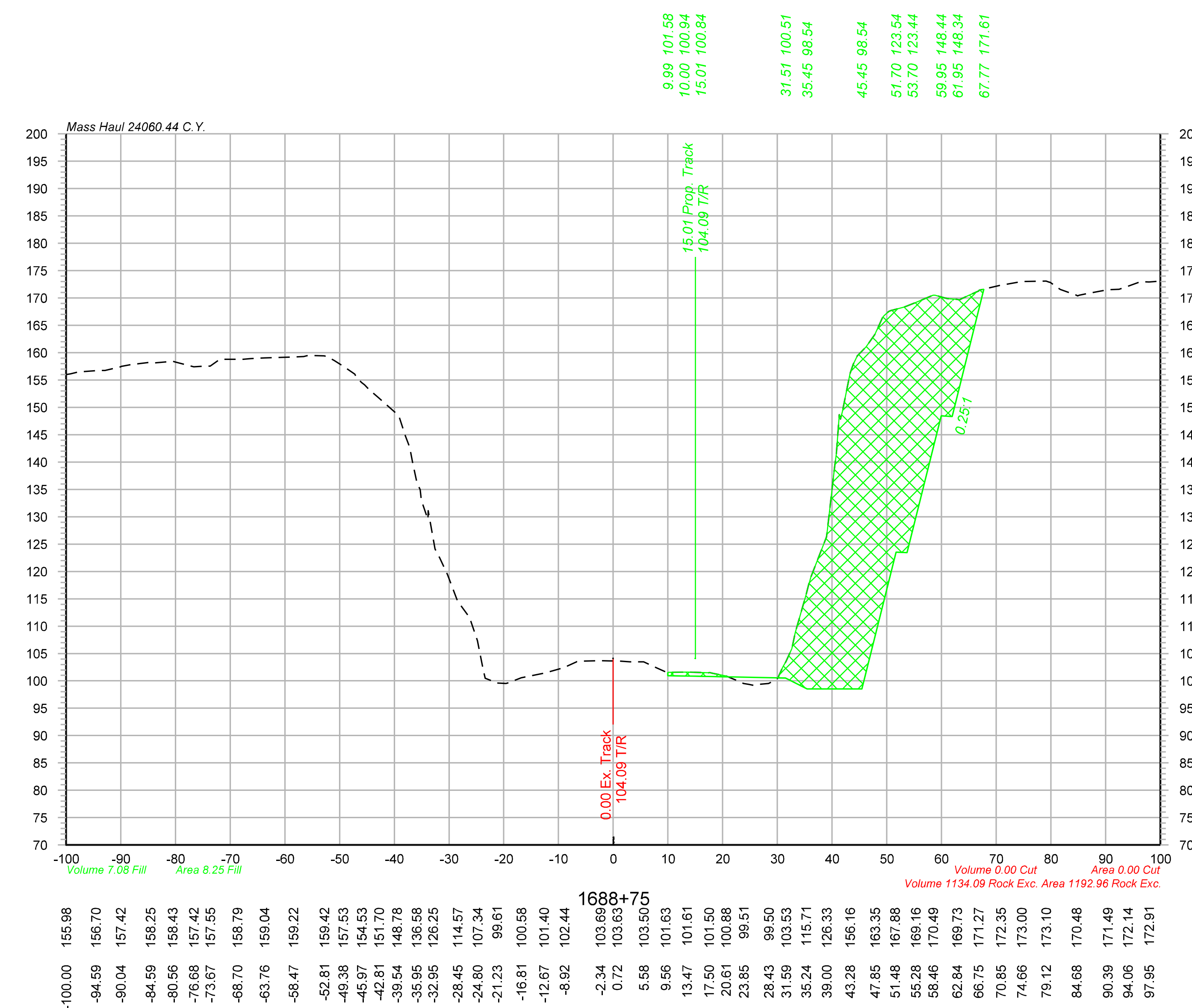
10/20/2014





Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 092 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1_2-472
CROSS SECTIONS STA.1688+50 TO STA.1688+75

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10/20/2014

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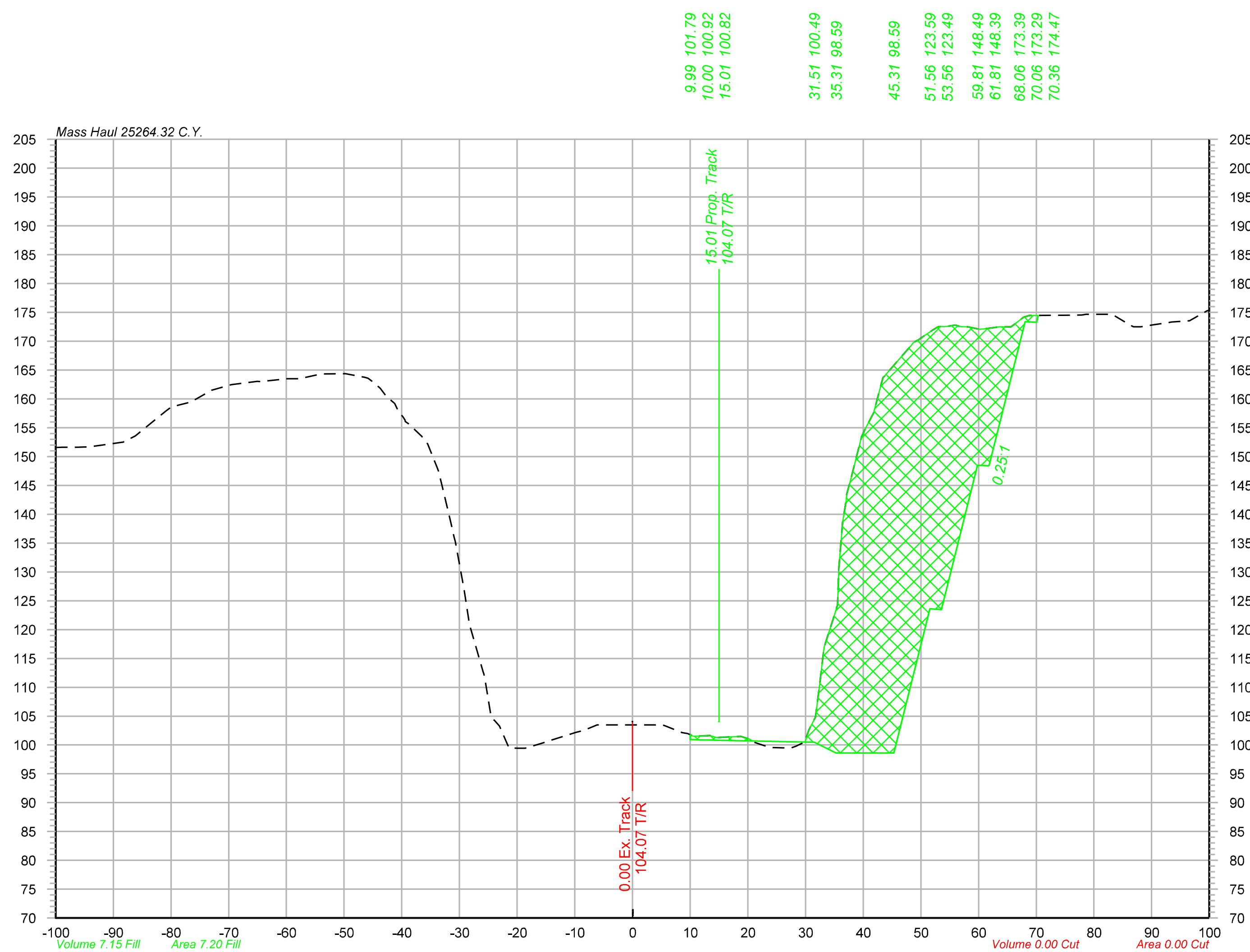
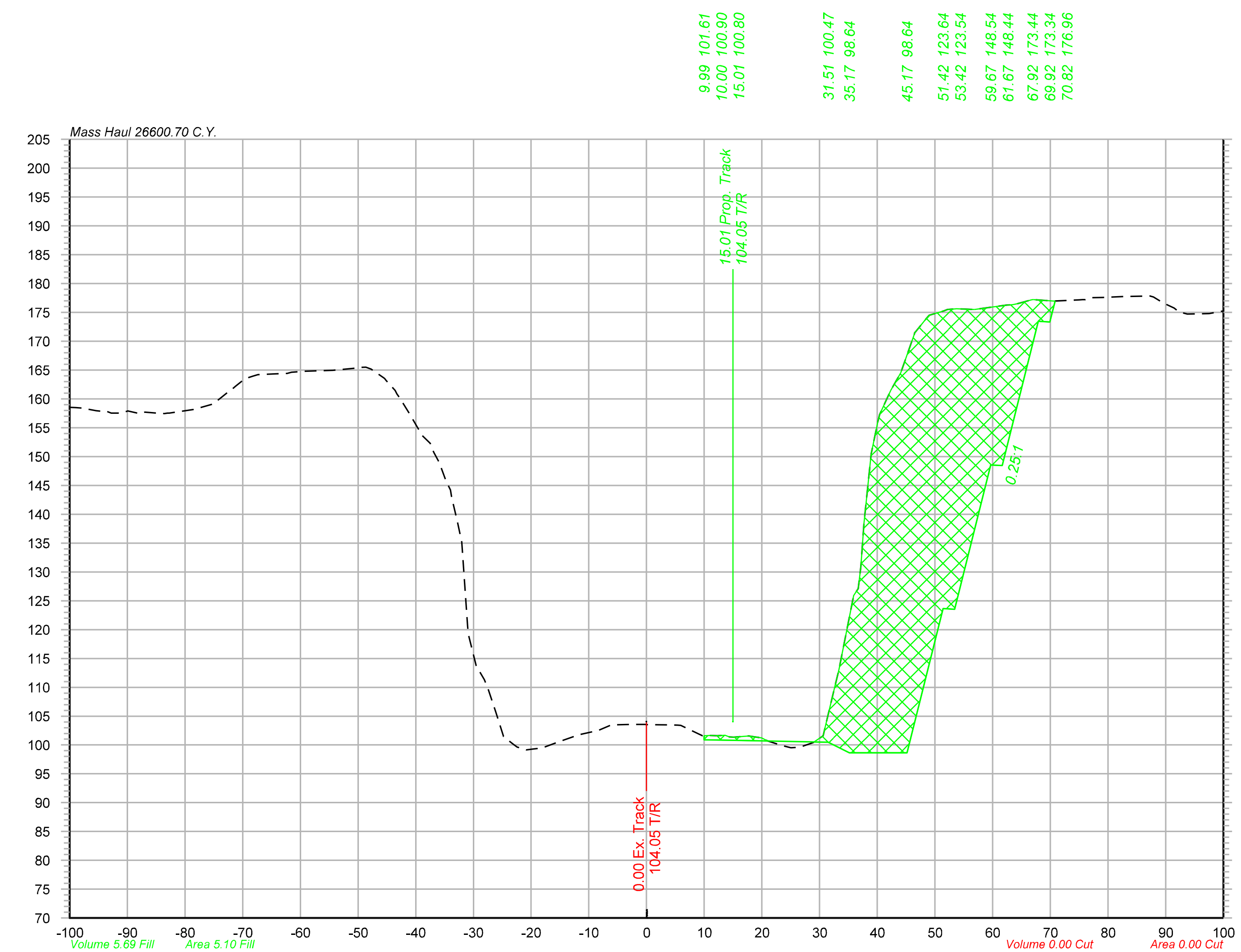
10/20/2014



1689+00

Offset	Elevation
-100.00	151.58
-96.24	151.62
-88.38	152.50
-82.36	156.70
-78.73	158.93
-73.47	161.22
-69.63	162.45
-65.07	163.04
-59.82	163.50
-53.95	164.33
-49.76	164.38
-46.43	163.76
-42.69	160.47
-39.45	156.31
-35.52	152.21
-31.52	138.65
-28.27	120.91
-24.60	105.40
-21.44	99.53
-17.99	99.62
-14.96	100.54
-9.79	102.20
-6.15	103.49
-0.95	103.50
2.68	103.50
5.79	103.26
9.60	101.97
12.96	101.59
18.79	101.48
22.68	99.96
26.97	99.48
30.59	102.64
35.04	122.63
39.73	153.45
43.16	162.81
46.76	167.49
49.94	170.51
53.12	172.55
56.81	172.56
60.14	172.07
63.69	172.49
67.81	174.17
73.27	174.50
77.90	174.55
83.06	174.66
86.36	172.76
90.48	172.90
96.59	173.53
99.63	175.30



1689+25

Offset	Elevation
-100.00	158.53
-95.41	157.95
-91.74	157.53
-88.10	157.50
-84.93	157.53
-78.55	158.16
-75.12	159.14
-71.93	161.61
-68.21	163.96
-63.63	164.37
-60.40	164.70
-54.35	164.94
-49.99	165.39
-45.68	163.75
-41.15	157.53
-37.50	152.27
-33.98	144.22
-30.89	119.23
-27.38	109.52
-23.06	100.12
-19.56	99.30
-15.53	100.43
-11.72	101.76
-8.36	102.53
-2.66	103.54
0.40	103.53
4.16	103.50
9.07	101.91
12.28	101.60
17.74	101.55
21.04	100.68
25.03	99.51
28.96	100.45
32.76	110.53
35.92	125.90
38.97	150.48
42.33	161.47
46.45	171.28
51.54	175.24
56.74	175.51
62.30	176.25
66.72	177.15
70.65	176.95
74.99	177.17
79.10	177.60
82.74	177.75
87.32	177.83
91.47	175.76
97.58	174.79

Legend

Assumed Rock Excavation

OLSSON ASSOCIATES
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DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 093 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-473
CROSS SECTIONS STA.1689+00 TO STA.1689+25

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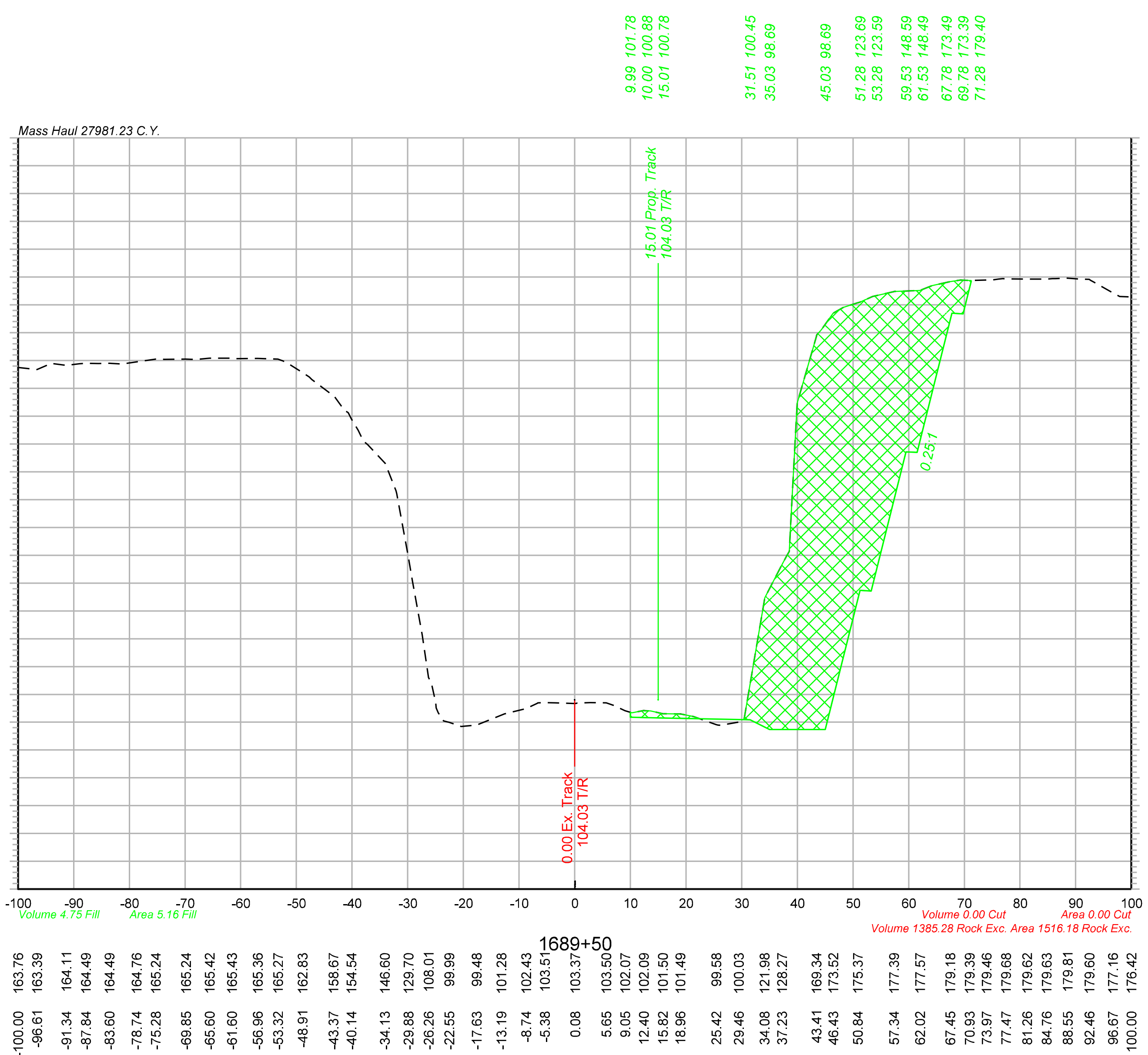
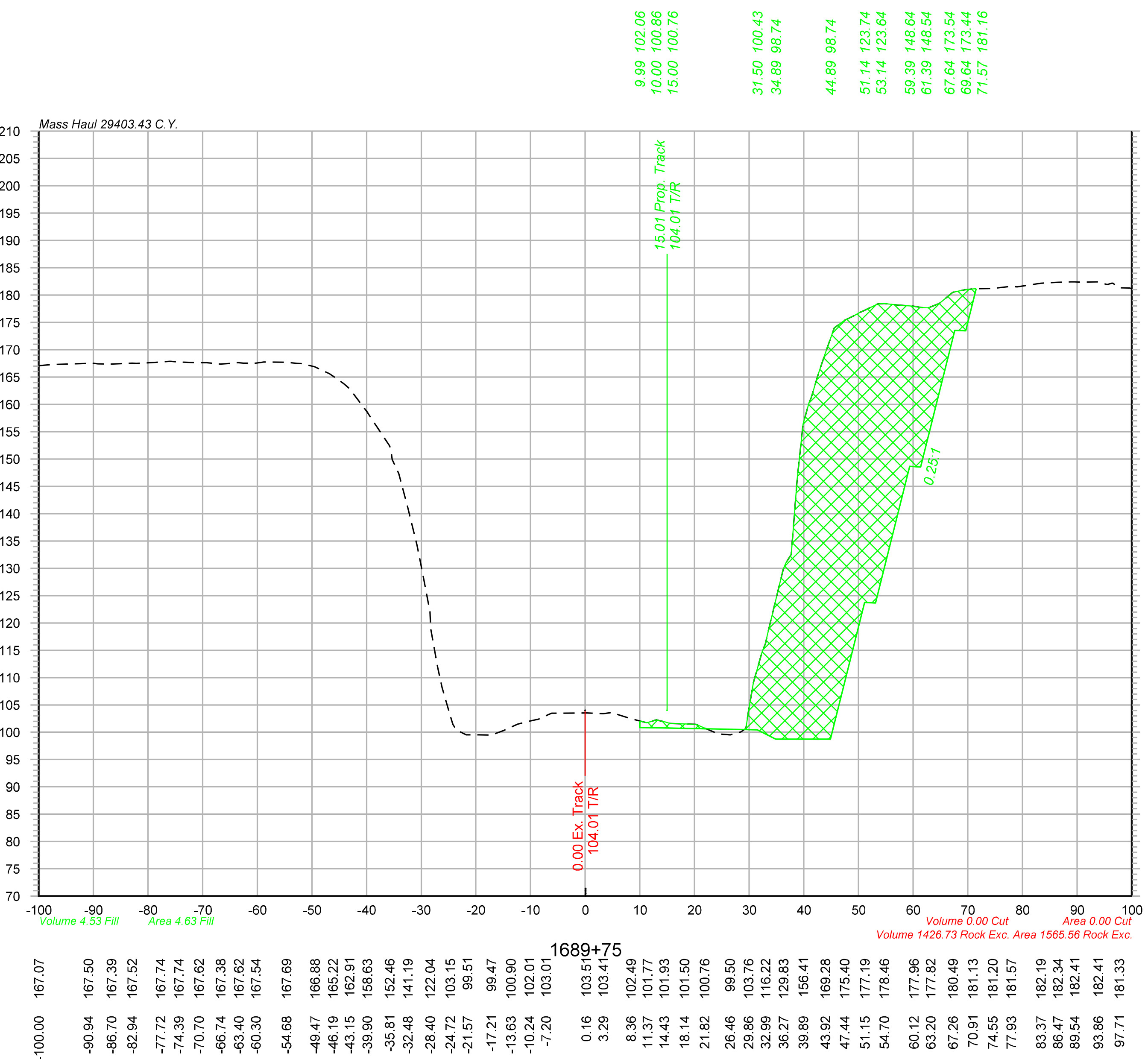
10/20/2014





Legend

Assumed Rock Excavation

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 094 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1689+50 TO STA.1689+75

PC 1 2-474

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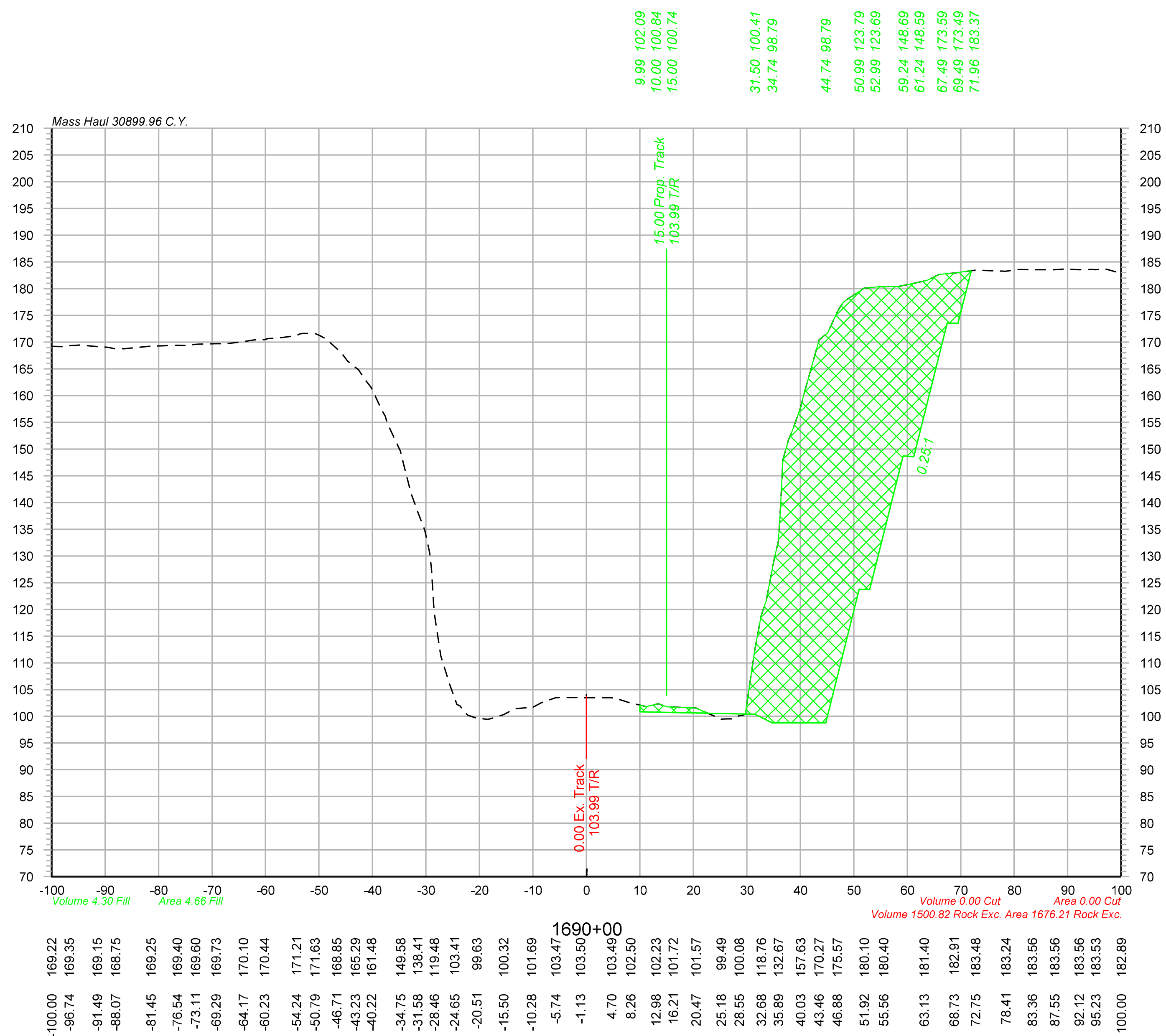
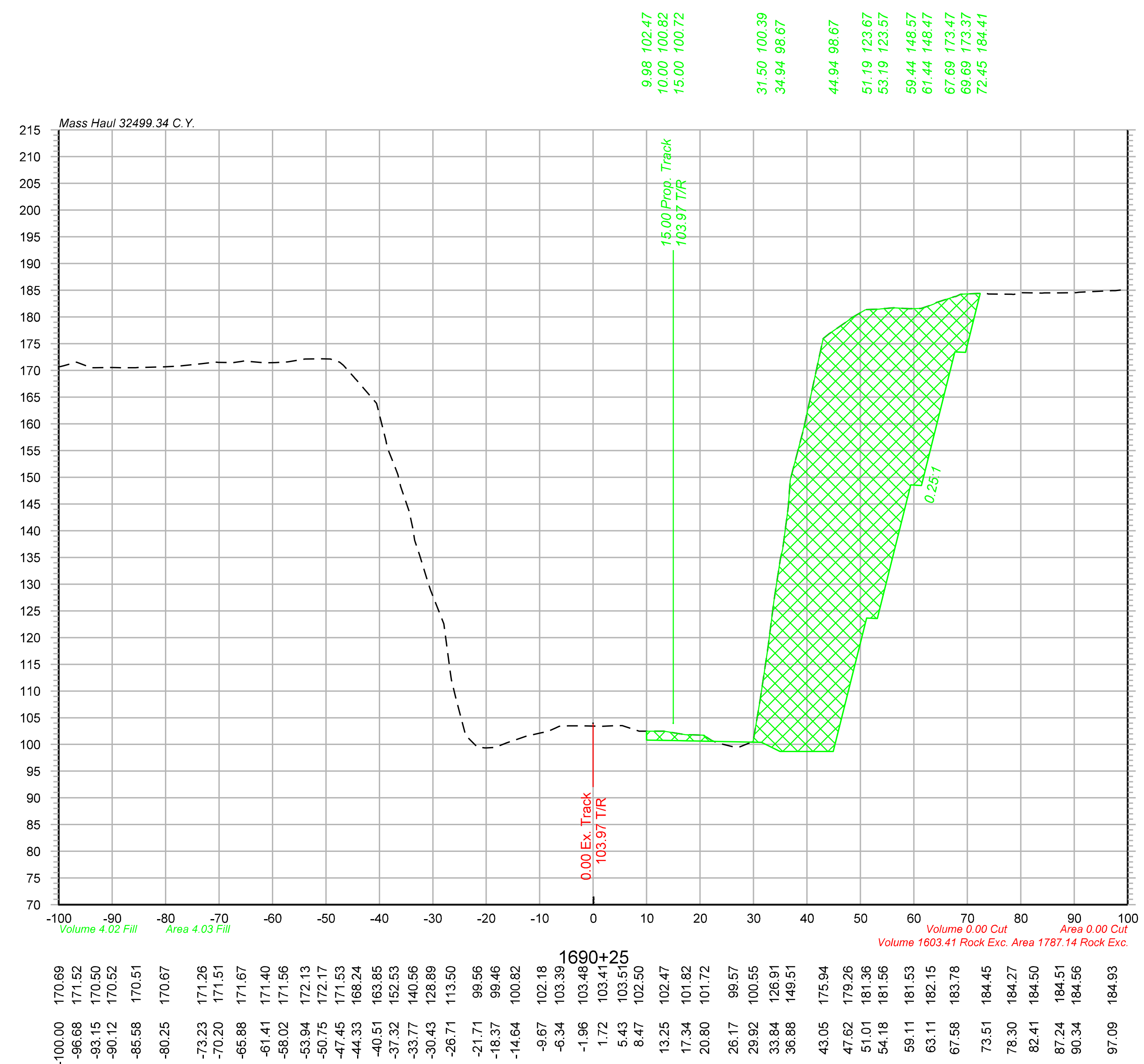
10/20/2014





Legend

Assumed Rock Excavation

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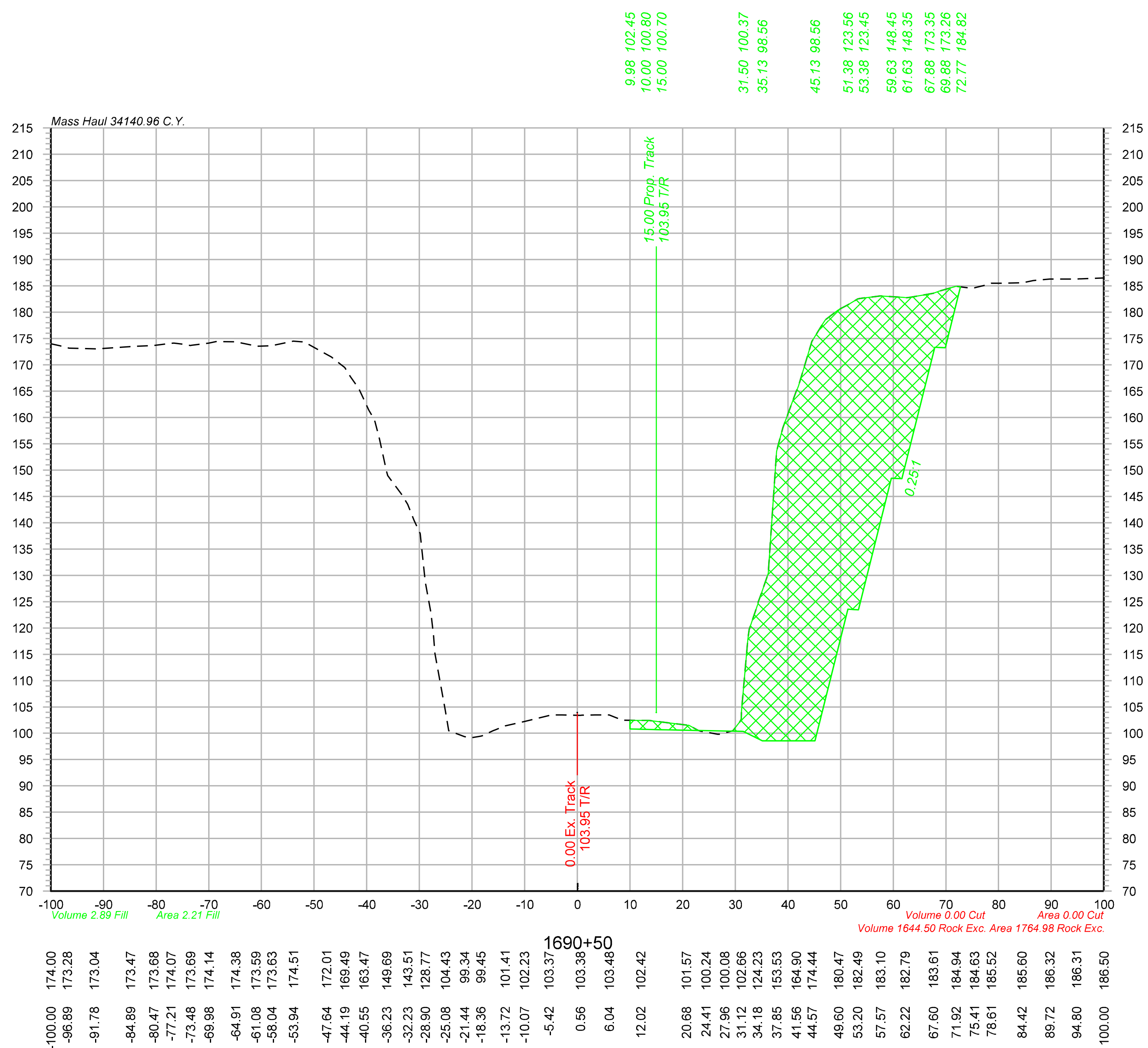
DATE:	10/20/2014
SHEET NUMBER	X 095 of 139

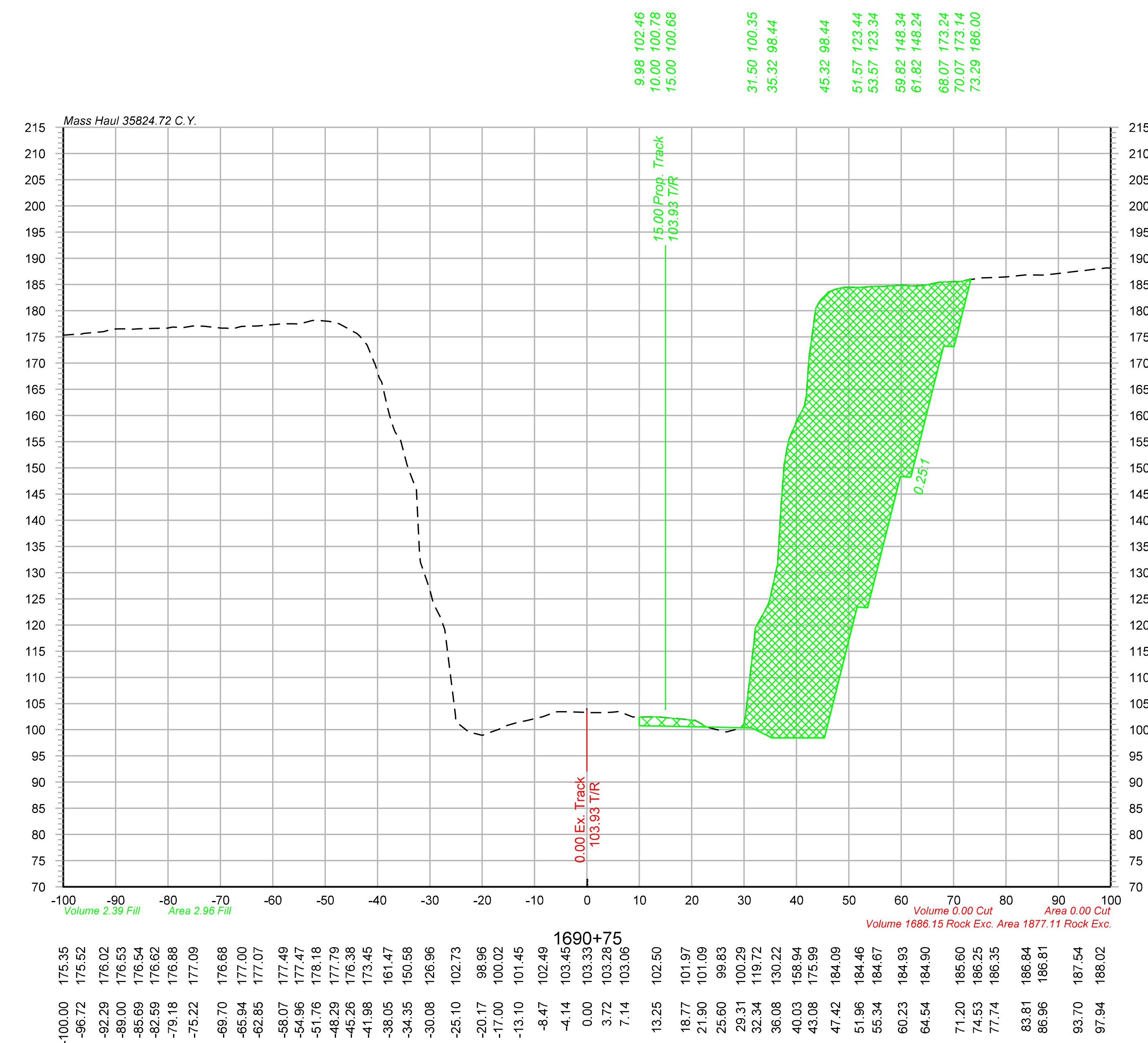
UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-475
CROSS SECTIONS STA.1690+00 TO STA.1690+25





Legend

Assumed Rock Excavation

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon Portland Subdivision MP 66.98 to MP 72.35 Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 096 of 139	SHEET TITLE: CROSS SECTIONS STA.1690+50 TO STA.1690+75 PC 1 2-476

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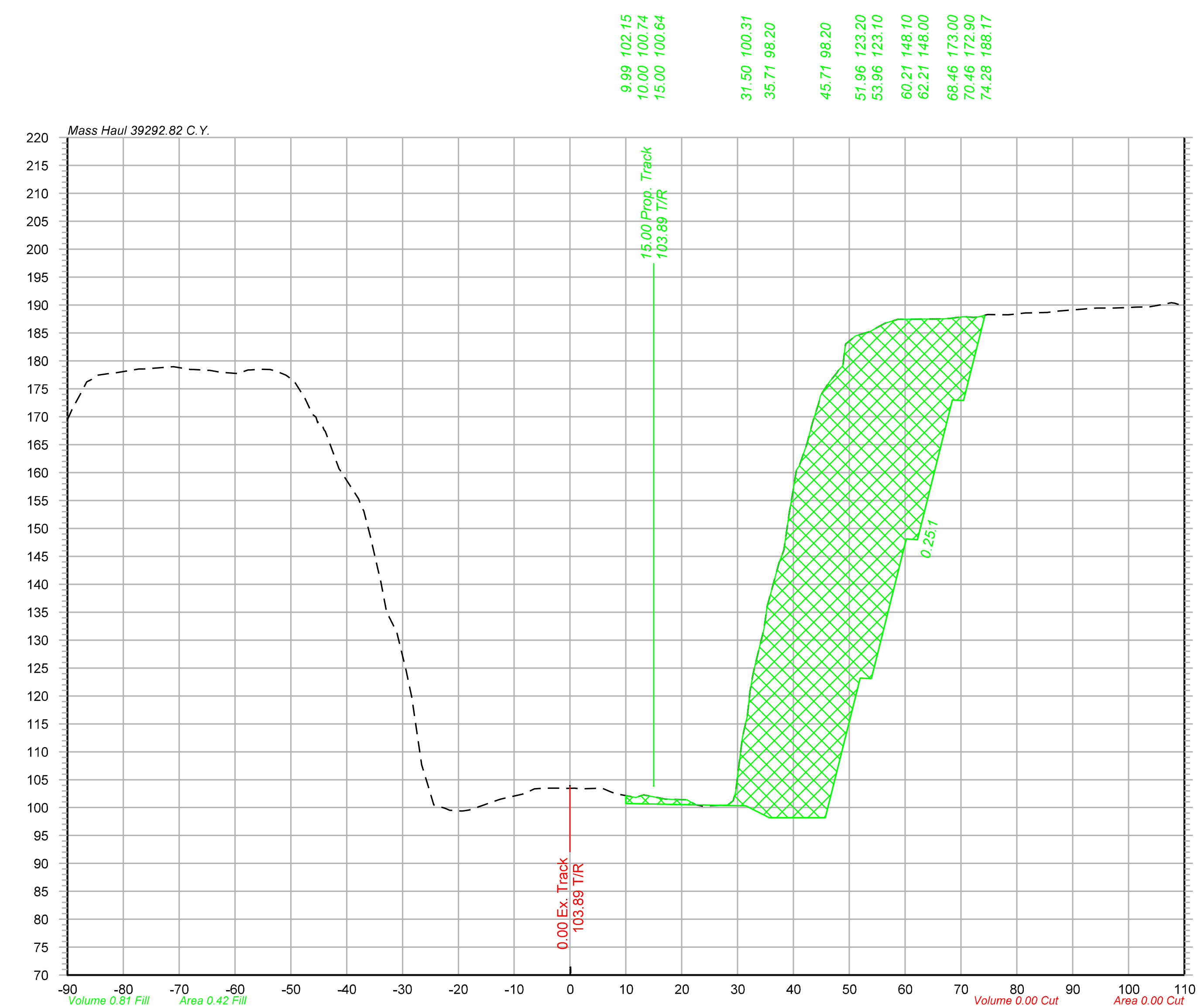
Default
10/20/2014

1691+00

Offset	Elevation
-100.00	171.70
-95.82	174.74
-92.52	175.87
-87.69	176.56
-84.33	177.13
-81.30	177.49
-76.35	177.49
-67.62	178.43
-63.35	178.30
-58.18	178.24
-53.47	178.49
-50.36	177.51
-47.03	175.92
-43.36	171.03
-38.74	162.23
-35.39	153.49
-32.14	148.43
-27.30	113.81
-23.32	101.73
-19.69	99.06
-13.60	101.25
-9.34	102.20
-5.77	103.42
0.42	103.45
5.38	103.49
8.61	102.43
13.22	102.46
18.17	101.68
22.02	100.99
25.03	100.13
29.00	100.47
32.86	121.82
36.98	137.18
40.39	157.71
43.61	168.54
46.92	179.38
51.51	183.90
54.97	184.45
60.70	185.83
64.31	186.51
67.47	186.86
70.94	187.17
74.65	187.37
77.78	187.81
81.27	187.63
85.13	187.89
89.91	188.42
94.10	188.79
99.30	188.79



1691+25

Offset	Elevation
-90.00	169.45
-86.54	176.24
-82.71	177.71
-77.24	178.53
-71.03	178.97
-67.98	178.48
-64.46	178.31
-59.76	177.75
-55.55	178.51
-52.54	178.13
-49.34	176.27
-46.09	170.43
-41.38	160.67
-37.88	155.29
-33.88	140.47
-29.36	124.57
-25.44	103.97
-21.58	99.54
-18.04	99.57
-12.69	101.45
-8.42	102.43
-4.36	103.47
-0.60	103.44
5.75	103.49
11.57	101.84
15.82	101.76
20.96	101.41
24.69	100.30
28.29	100.49
31.75	116.40
35.28	135.99
38.30	146.11
42.37	165.02
46.34	176.10
49.35	183.00
53.72	185.24
57.42	187.06
64.90	187.50
68.24	187.63
72.23	187.81
78.35	188.26
81.52	188.59
85.47	188.68
93.68	189.44
97.34	189.48
101.37	189.63
104.69	189.85
107.72	190.43

Legend

Assumed Rock Excavation

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DATE: 10/20/2014
SHEET NUMBER X 097 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: PC 1 2-477
CROSS SECTIONS STA.1691+00 TO STA.1691+25

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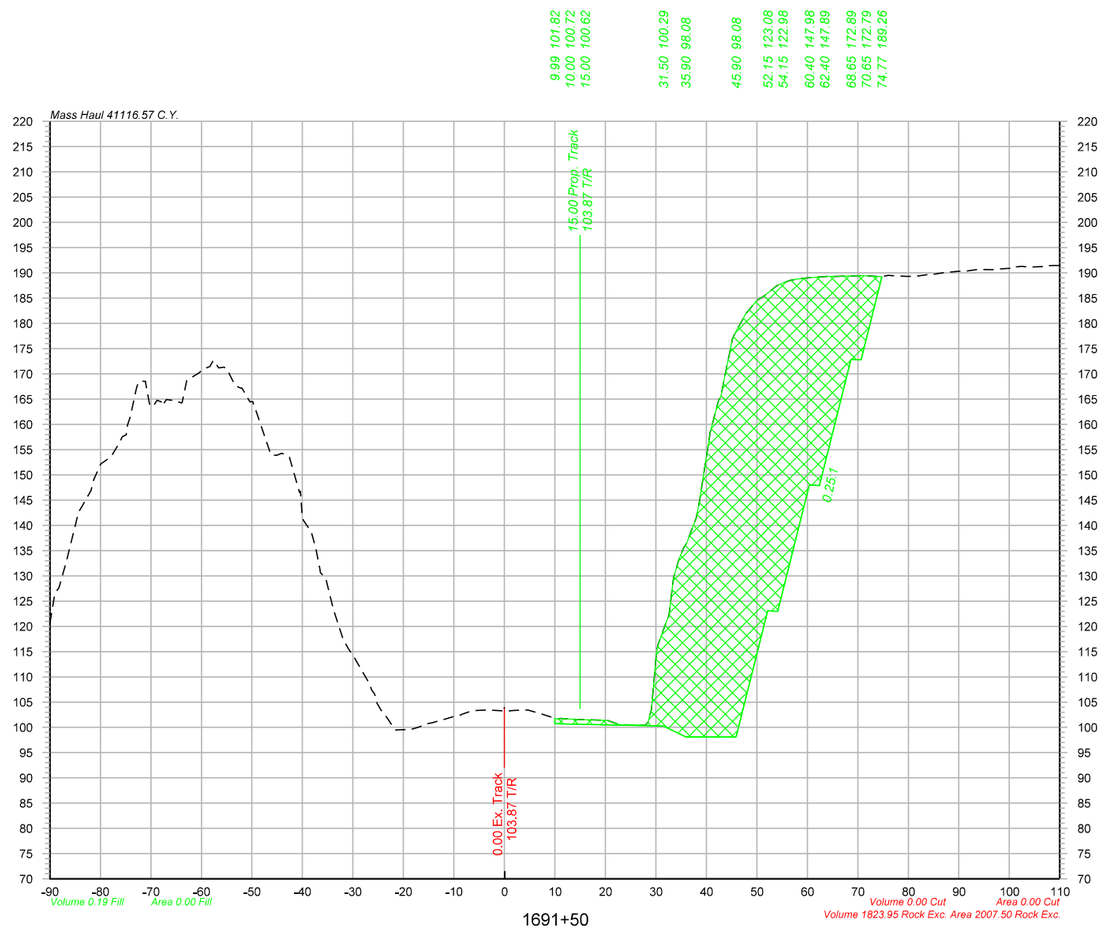
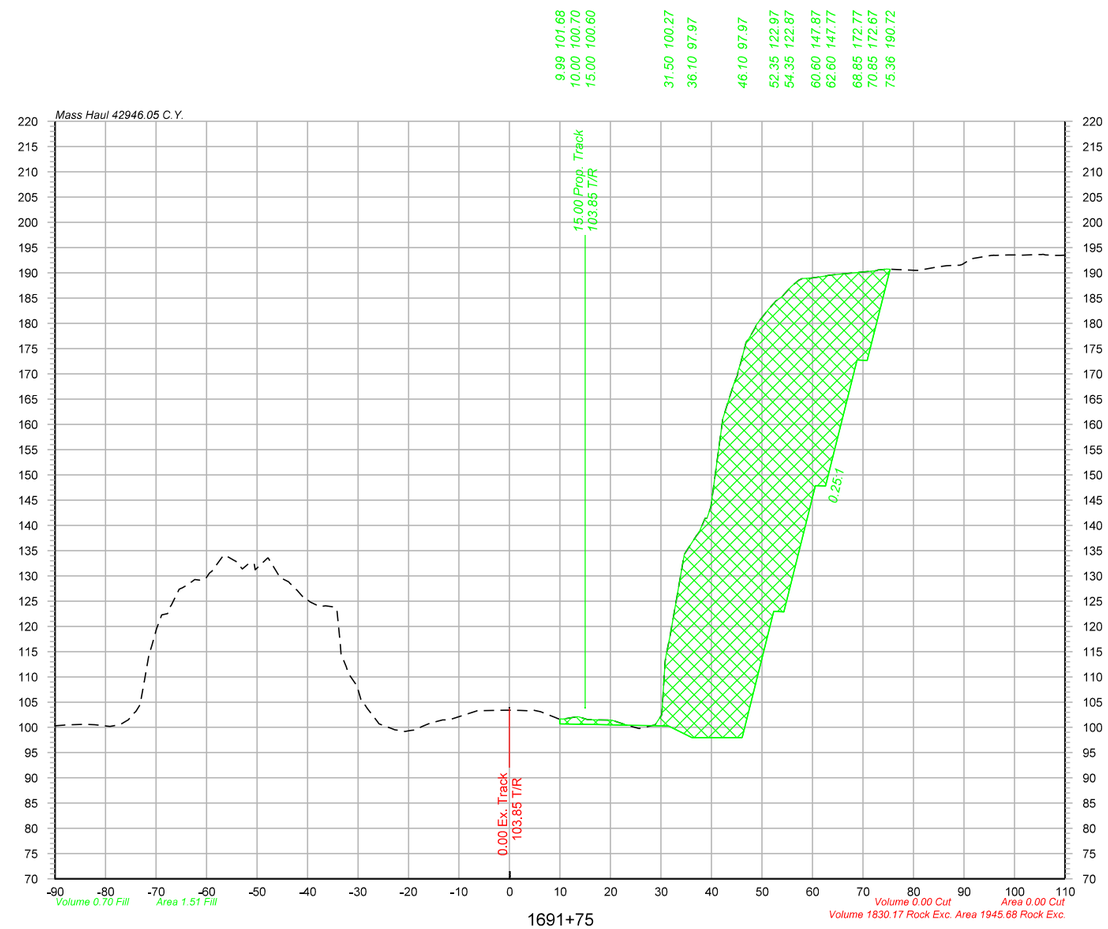
10/20/2014





1691+50		1691+75	
-90.00	120.63	-90.00	100.33
-86.74	132.87	-86.68	100.50
-83.65	143.72	-82.13	100.51
-79.92	152.20	-79.12	100.18
-76.32	156.19	-75.45	101.52
-72.96	166.85	-72.34	109.08
-69.38	163.88	-68.88	122.30
-65.01	164.68	-65.41	127.37
-60.52	170.15	-62.31	129.27
-56.56	171.15	-58.93	130.91
-53.31	167.68	-54.71	133.17
-49.82	164.49	-51.51	132.59
-46.24	153.94	-47.93	133.52
-42.56	153.49	-43.74	128.82
-38.22	138.67	-40.51	125.39
-33.91	123.45	-36.44	124.08
-30.90	115.55	-33.36	114.52
-26.71	108.64	-30.20	108.19
-23.09	101.71	-26.69	101.87
-19.15	99.55	-23.24	99.74
-15.45	100.70	-19.57	99.40
-12.15	101.51	-15.78	100.82
-8.58	102.50	-12.04	101.49
-5.36	103.33	-6.44	103.29
-0.29	103.28	-0.94	103.38
4.67	103.43	2.15	103.36
7.91	102.50	6.16	103.09
11.12	101.77	9.70	101.71
15.01	101.54	13.40	102.10
18.85	101.44	17.50	101.50
22.88	100.51	23.11	100.50
26.60	100.44	28.82	100.47
30.08	114.52	31.82	118.24
33.51	129.70	35.12	135.04
37.32	139.68	38.74	141.42
40.71	158.11	42.00	159.28
44.65	174.29	45.15	169.75
47.83	181.98	48.30	178.52
51.29	185.36	52.73	184.44
54.98	187.92	55.74	187.27
60.04	189.02	59.77	188.95
63.85	189.28	63.19	189.51
70.99	189.46	72.65	190.42
74.34	189.25	76.41	190.69
79.77	189.29	80.30	190.50
83.88	189.66	84.52	191.12
89.72	190.31	88.59	191.49
93.11	190.59	95.48	193.47
96.68	190.63	98.82	193.55
101.22	190.95	104.73	193.61
106.88	191.24	108.16	193.47
110.00	191.46		

Legend

Assumed Rock Excavation

OLSSON ASSOCIATES
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Omaha, NE 68106-2010
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UNION PACIFIC

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DATE: 10/20/2014
SHEET NUMBER: X 098 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1691+50 TO STA.1691+75

PC 1 2-478

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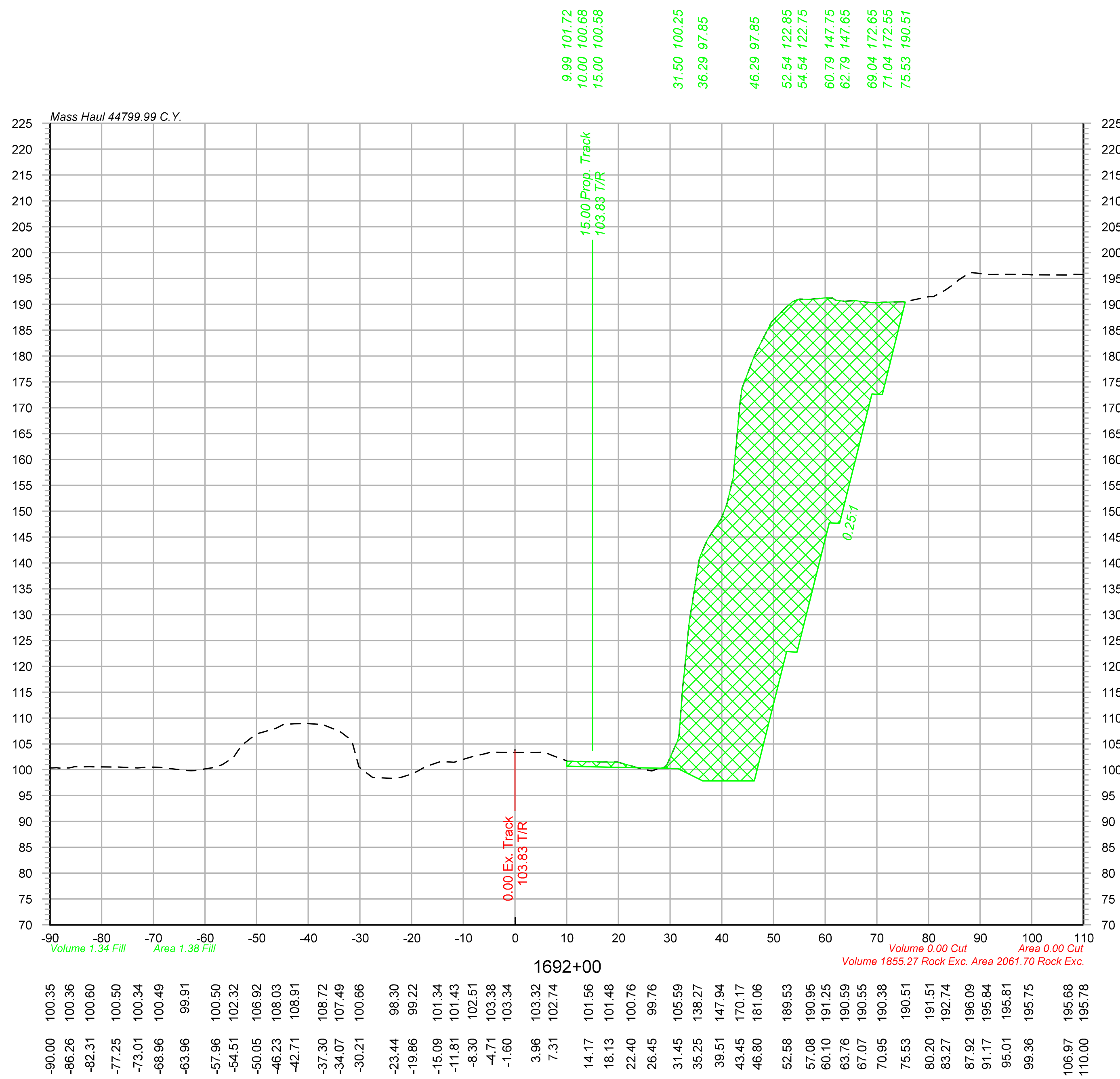
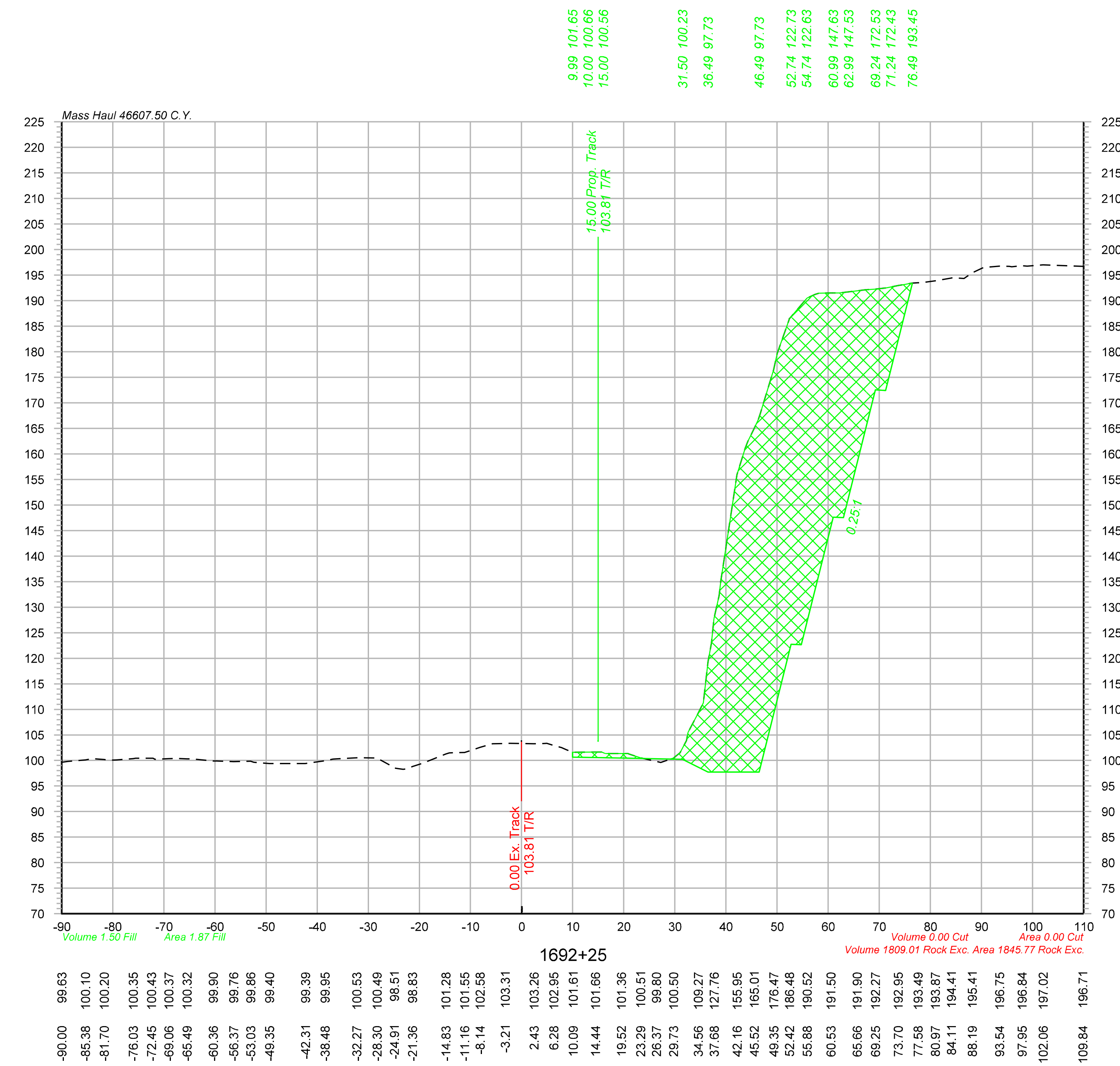
10/20/2014





Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 099 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1692+00 TO STA.1692+25

PC 1 2-479

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10/20/2014

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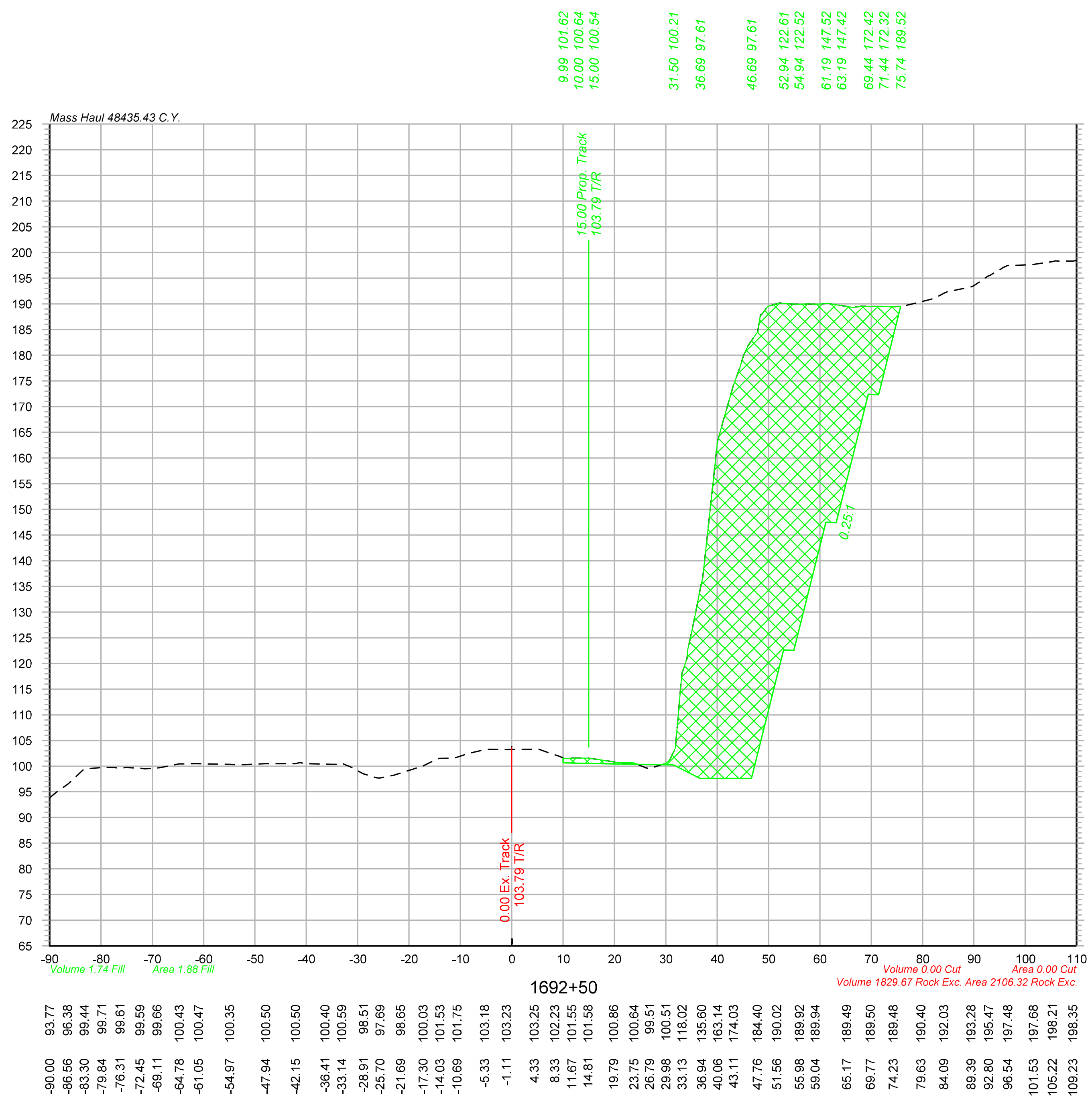
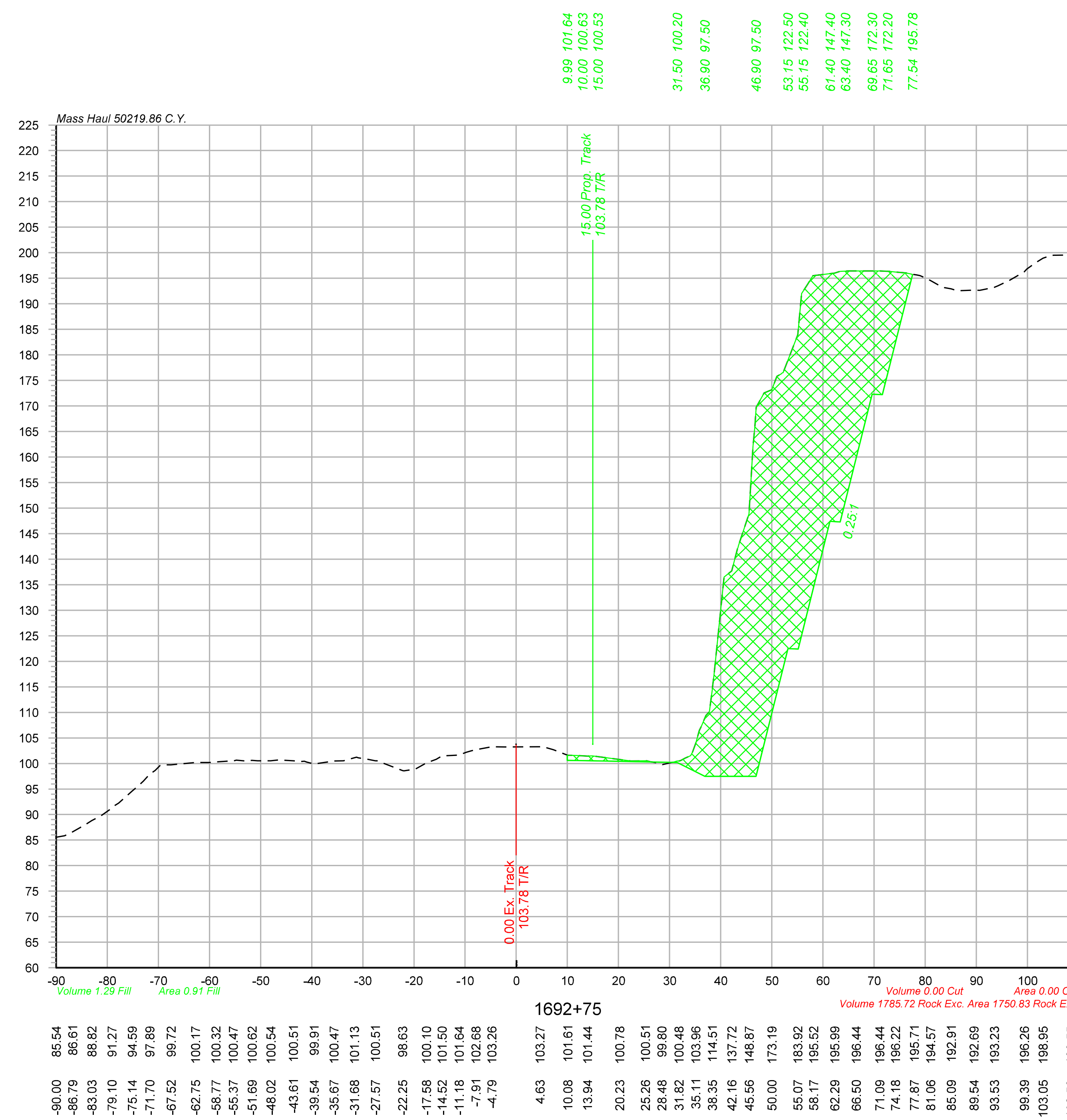
10/20/2014





Legend

Assumed Rock Excavation

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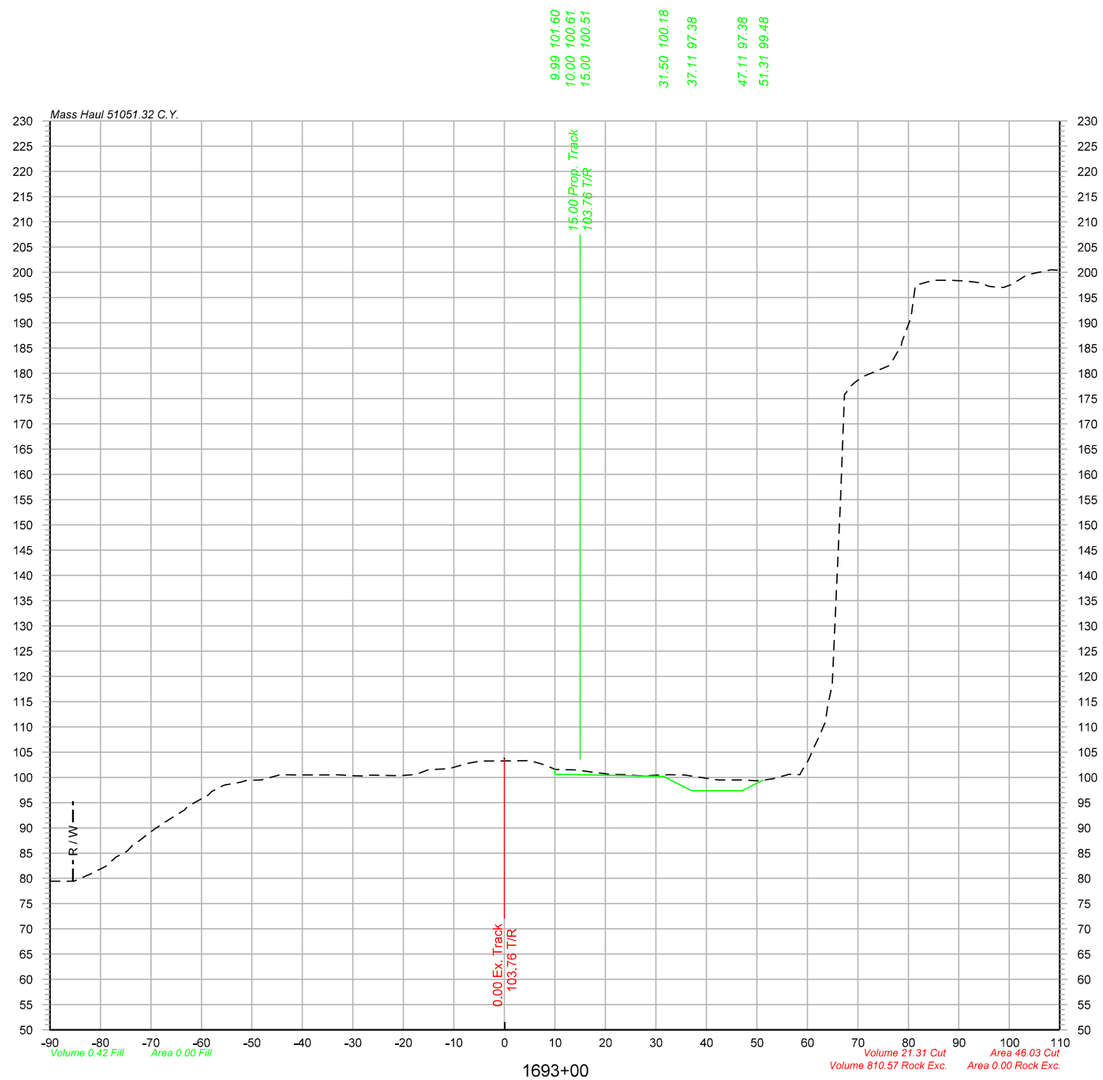
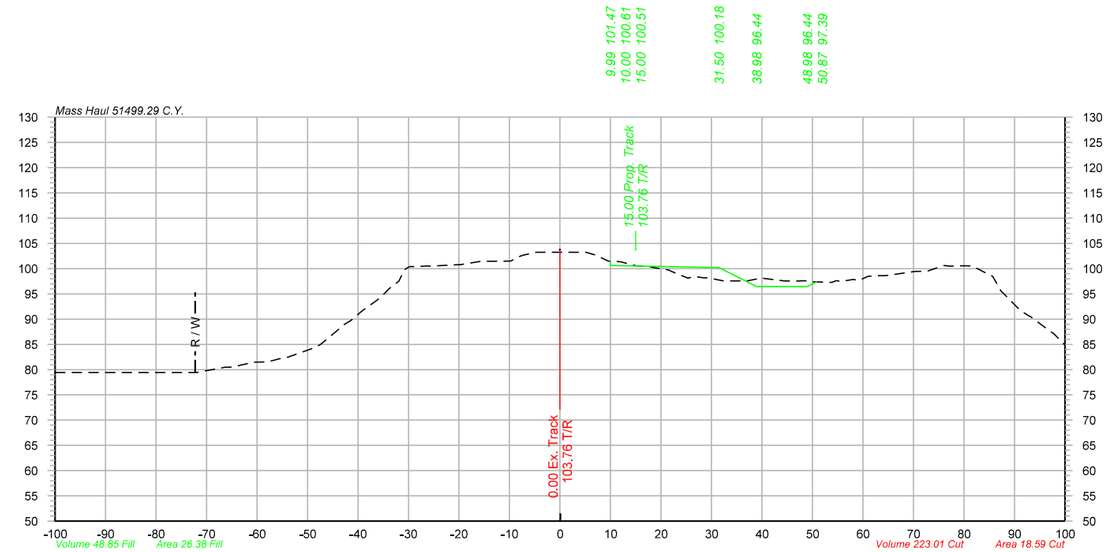
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER: X 100 of 139	SHEET TITLE: CROSS SECTIONS STA.1692+50 TO STA.1692+75 — **PC 1 2-480**



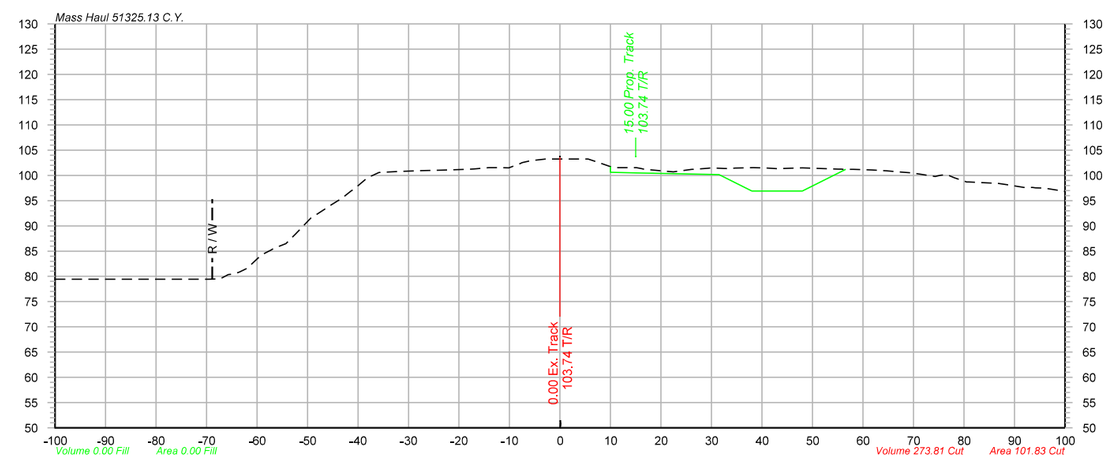
1693+00

-90.00	79.42
-86.36	79.42
-82.60	80.59
-79.17	82.29
-75.04	85.18
-71.11	88.41
-67.18	91.16
-63.73	93.33
-58.64	96.48
-55.35	98.49
-52.31	99.03
-48.37	98.47
-45.31	100.29
-41.74	100.48
-34.75	100.50
-29.77	100.32
-26.40	100.44
-22.39	100.36
-18.64	100.50
-15.00	101.52
-11.38	101.69
-7.22	102.78
-0.94	103.25
5.00	103.30
8.11	102.41
11.46	101.53
20.56	100.66
24.29	100.53
27.39	100.27
31.61	100.50
35.48	100.50
42.01	99.53
46.02	99.47
50.02	99.33
53.26	99.75
56.39	100.61
60.21	103.45
63.55	110.94
67.37	175.77
70.63	179.11
76.07	181.48
80.52	191.07
85.01	198.44
88.33	198.43
91.37	198.29
94.38	197.92
98.85	197.01
103.01	199.24
107.91	200.43



1695+00

-100.00	79.42
-93.08	79.42
-72.14	79.42
-66.27	80.47
-60.60	81.47
-54.78	82.36
-48.25	84.50
-44.30	87.55
-39.60	91.27
-36.33	93.70
-31.91	97.52
-28.20	100.41
-20.22	100.77
-15.68	101.45
-10.33	101.48
-7.12	102.69
-2.09	103.24
5.16	103.25
8.36	102.09
12.00	101.36
15.19	100.53
18.40	100.25
21.54	99.75
24.58	98.44
28.60	98.17
32.16	97.59
35.59	97.58
39.14	97.99
44.35	97.58
48.59	97.62
53.57	97.28
58.08	97.85
63.34	98.59
66.55	98.92
70.28	99.44
75.65	100.47
80.12	100.56
83.80	99.39
87.13	95.94
91.19	91.70
96.73	87.84
100.00	84.85



1694+00

-100.00	79.42
-69.67	79.42
-65.71	80.36
-62.28	81.43
-59.22	84.19
-54.29	86.46
-49.42	91.47
-46.30	93.52
-42.92	95.70
-38.20	99.49
-32.63	100.73
-27.32	100.95
-23.59	101.01
-18.64	101.19
-14.10	101.52
-10.14	101.50
-6.92	102.64
-2.85	103.22
1.39	103.24
5.59	103.24
10.57	101.53
15.17	101.54
22.43	100.69
26.12	101.18
29.25	101.40
32.53	101.38
38.24	101.51
43.06	101.31
46.37	101.44
54.01	101.29
58.08	101.18
61.74	101.07
67.56	100.67
71.09	100.28
74.32	99.78
78.08	99.53
84.29	98.52
88.82	98.11
91.88	97.63
95.89	97.46
100.00	96.83

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DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 101 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1693+00 TO STA.1695+00

PC 1 2-481

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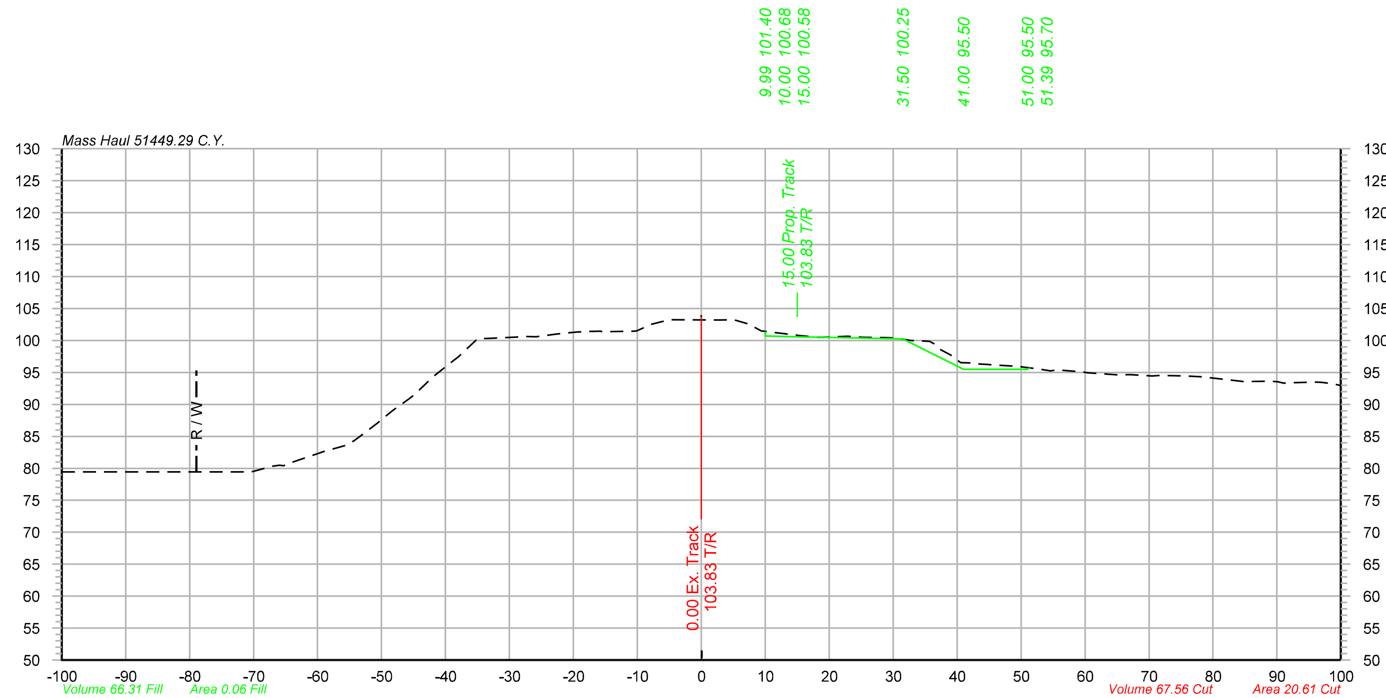
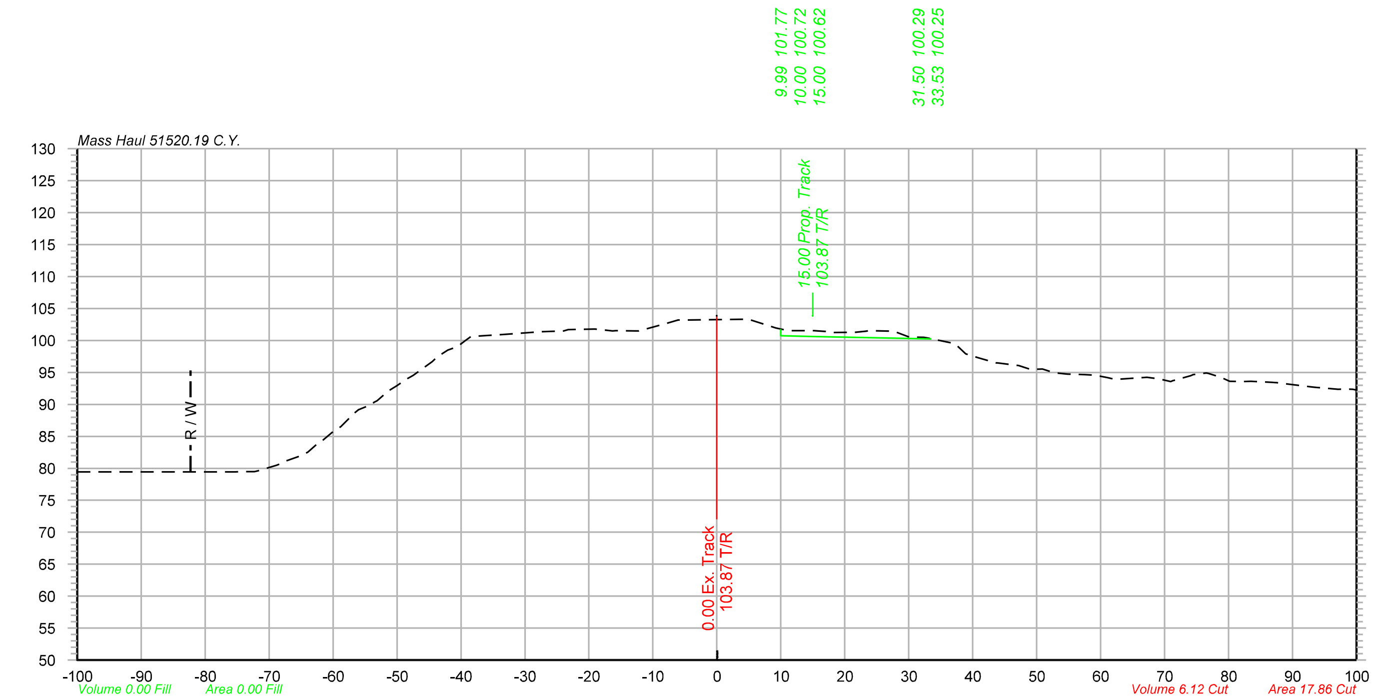
10/20/2014



1697+00

Offset	Elevation
-100.00	79.42
-71.81	79.42
-67.16	80.30
-64.00	80.95
-59.43	82.50
-55.81	83.53
-50.63	87.08
-45.66	90.92
-41.87	94.34
-38.66	96.92
-35.12	100.09
-27.92	100.57
-22.73	100.99
-19.40	101.33
-15.72	101.43
-10.60	101.45
-6.95	102.74
2.85	103.21
6.39	102.85
9.42	101.47
15.59	100.73
18.98	100.47
22.89	100.65
28.61	100.44
32.84	99.99
36.39	99.50
40.56	96.52
44.85	96.25
49.46	95.94
52.47	95.56
55.59	95.38
59.69	95.07
65.18	94.62
70.48	94.44
73.79	94.47
78.16	94.30
81.89	93.90
88.10	93.59
92.01	93.39
96.11	93.49
100.00	92.95



1698+00

Offset	Elevation
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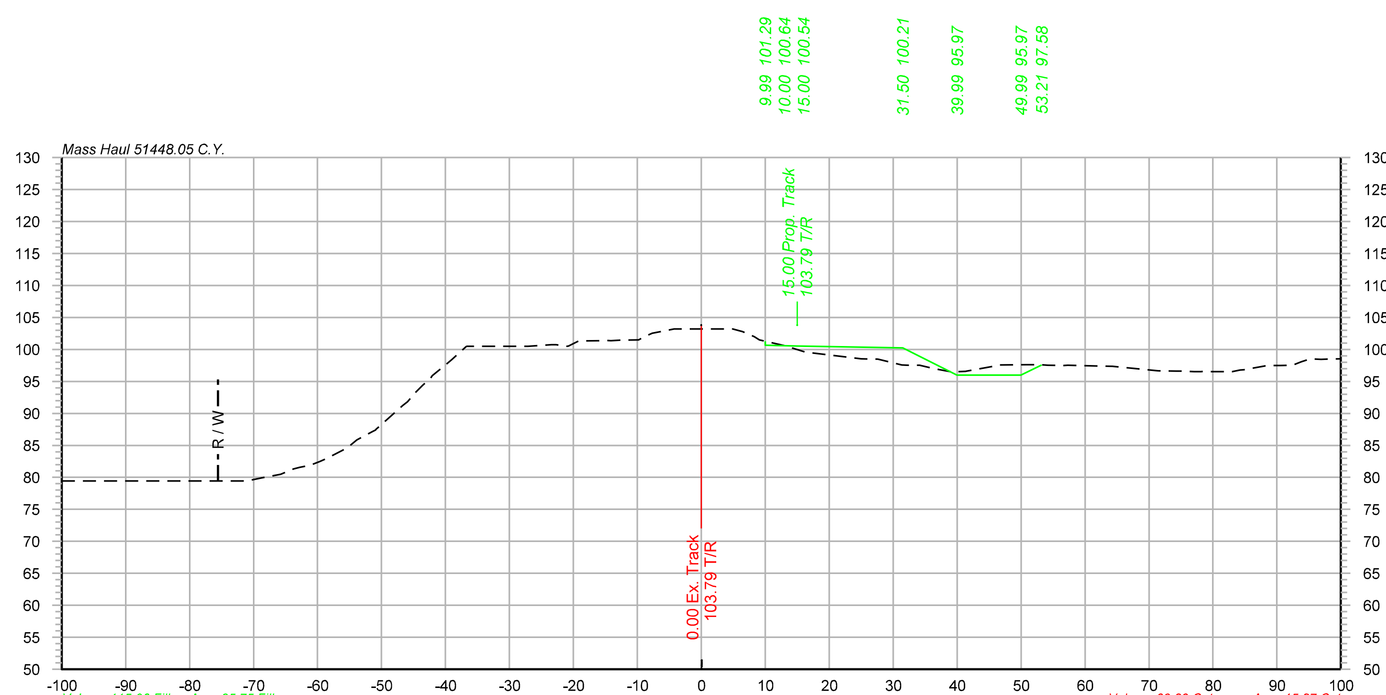
-75.33	79.42
-72.27	79.47
-68.83	80.50
-65.11	81.95
-61.76	84.26
-56.64	88.66
-53.60	90.30
-49.97	92.96
-44.50	96.71
-40.56	99.03
-33.18	100.95
-27.53	101.36
-23.92	101.50
-19.07	101.76
-15.76	101.51
-12.70	101.50
-9.14	102.31
-6.06	103.18
1.84	103.29
4.99	103.33
9.26	101.94
15.19	101.51
21.71	101.26
27.62	101.43
32.17	100.49
37.06	99.51
40.93	97.27
47.21	96.05
50.93	95.52
54.80	94.74
59.09	94.55
62.28	93.89
67.26	94.23
70.95	93.56
74.09	94.50
78.81	94.23
82.29	93.55
86.85	93.45
92.58	92.77
97.12	92.37



1696+00

Offset	Elevation
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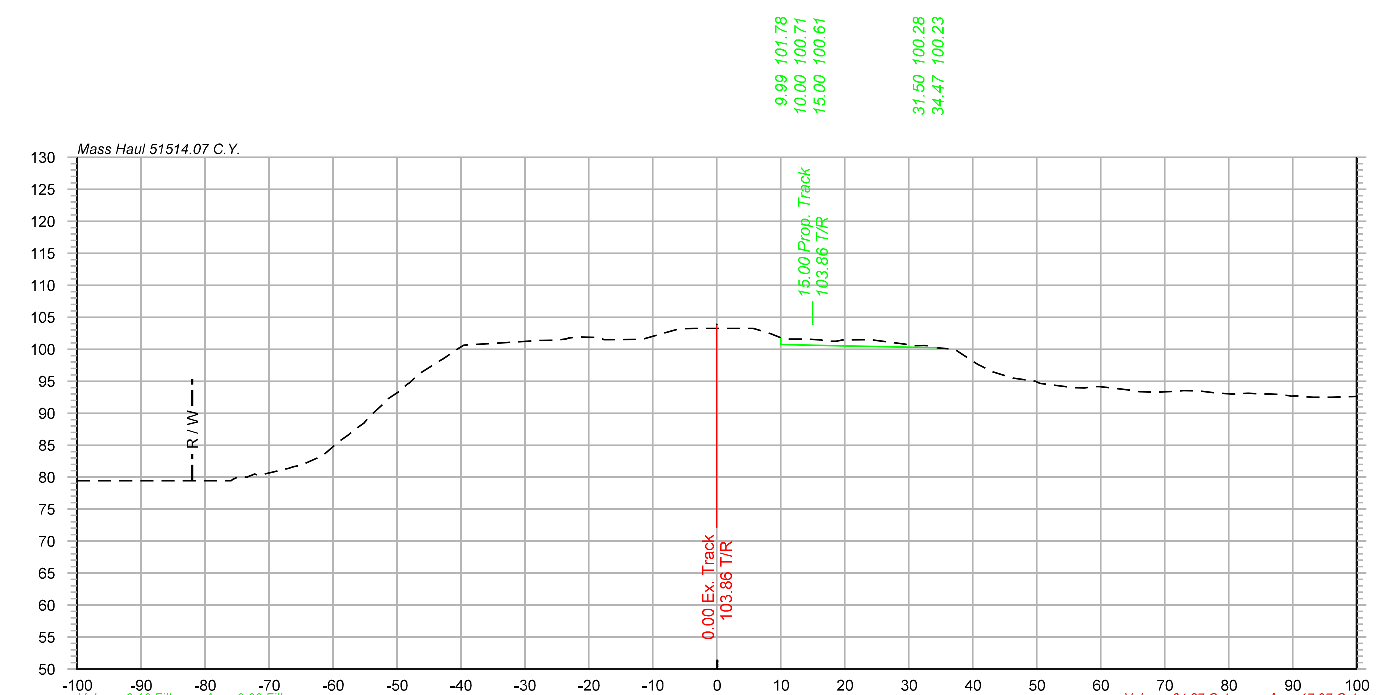
-68.64	79.95
-63.77	81.33
-59.65	82.50
-55.77	84.39
-51.42	87.17
-46.67	91.22
-43.58	94.42
-40.04	97.54
-36.76	100.46
-32.81	100.50
-27.44	100.50
-23.43	100.73
-19.18	101.33
-15.73	101.37
-12.69	101.44
-8.93	101.99
-5.28	103.00
4.92	103.21
8.28	101.98
11.62	100.92
16.16	99.62
23.28	98.73
26.69	98.50
31.32	97.58
36.45	96.97
41.36	96.59
46.34	97.50
50.89	97.60
54.17	97.54
57.31	97.52
62.01	97.39
71.01	96.67
74.27	96.61
78.15	96.53
82.15	96.51
88.54	97.50
92.44	97.54
96.89	98.44
100.00	98.53



1697+91

Offset	Elevation
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-85.74	79.42
-75.91	79.42
-72.24	80.48
-66.83	81.41
-61.54	83.41
-57.57	86.60
-54.28	89.49
-49.43	93.54
-42.95	98.39
-39.76	100.48
-36.30	100.83
-28.92	101.27
-24.76	101.42
-18.34	101.83
-11.91	101.54
-7.00	102.88
-3.51	103.22
2.75	103.26
6.56	102.98
10.53	101.56
14.08	101.58
18.59	101.25
23.80	101.50
29.46	100.79
32.47	100.55
37.16	99.97
40.45	97.83
45.58	95.68
49.80	94.96
55.81	94.00
59.03	94.16
65.21	93.52
68.60	93.26
72.98	93.53
78.04	93.16
83.06	93.09
86.59	92.97
89.77	92.63
93.28	92.49
98.51	92.58

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DATE:	10/20/2014
SHEET NUMBER	X 102 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:

Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: CROSS SECTIONS STA.1696+00 TO STA.1698+00

PC 1 2-482

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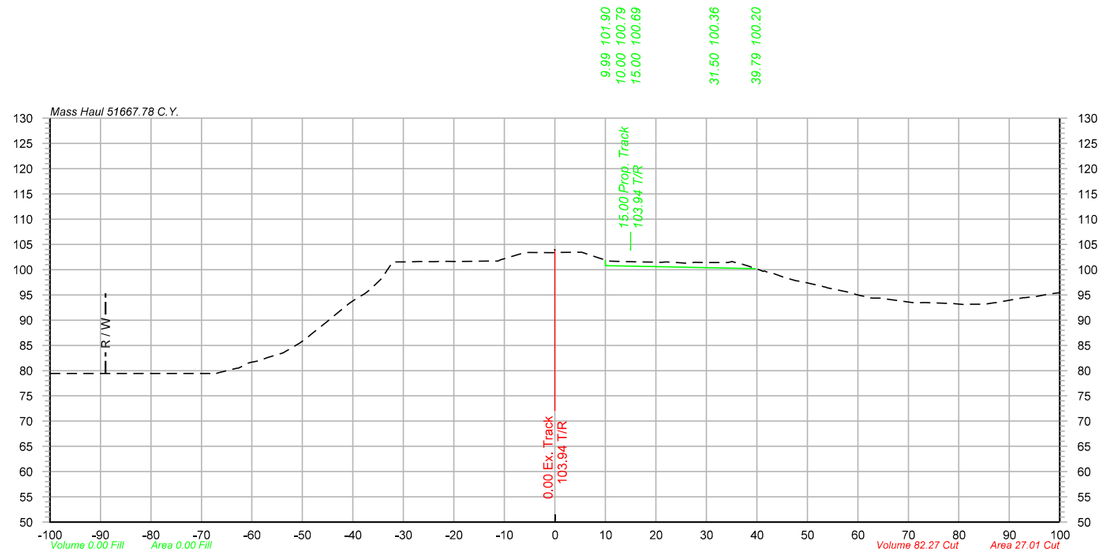
10/20/2014



1700+00

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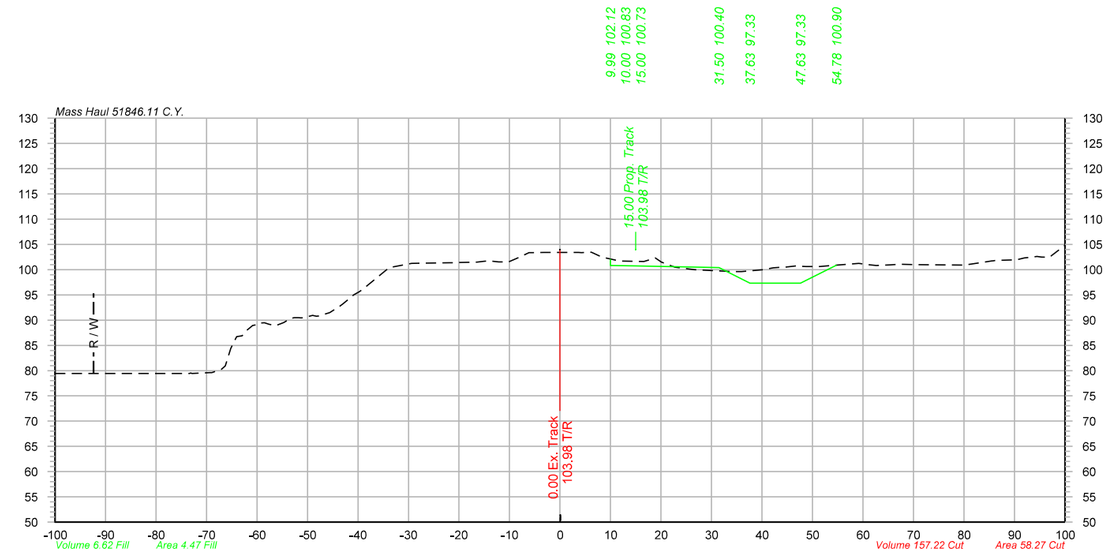
79.42	-72.38
79.42	-69.34
79.71	-66.01
80.52	-62.59
81.95	-58.64
83.51	-53.80
85.46	-50.55
89.47	-45.40
93.30	-40.70
95.26	-37.59
98.49	-34.04
101.54	-28.81
101.58	-24.09
101.62	-19.75
101.71	-13.34
103.38	-5.88
103.38	-0.70
103.43	5.34
101.78	10.35
101.51	16.64
101.45	21.18
101.34	24.79
101.42	29.85
101.39	34.26
100.71	38.35
99.72	41.51
98.50	45.36
97.56	49.20
96.72	52.89
95.51	58.17
94.66	61.58
93.50	70.78
93.27	78.96
93.15	82.36
93.45	86.97
94.29	91.89
95.16	97.78



1701+00

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79.42	-75.40
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80.94	-66.30
86.91	-62.96
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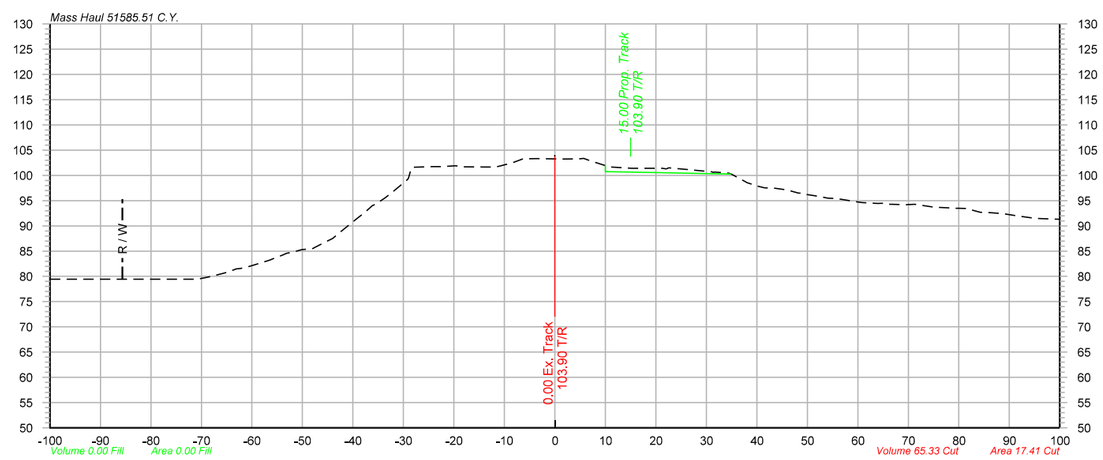
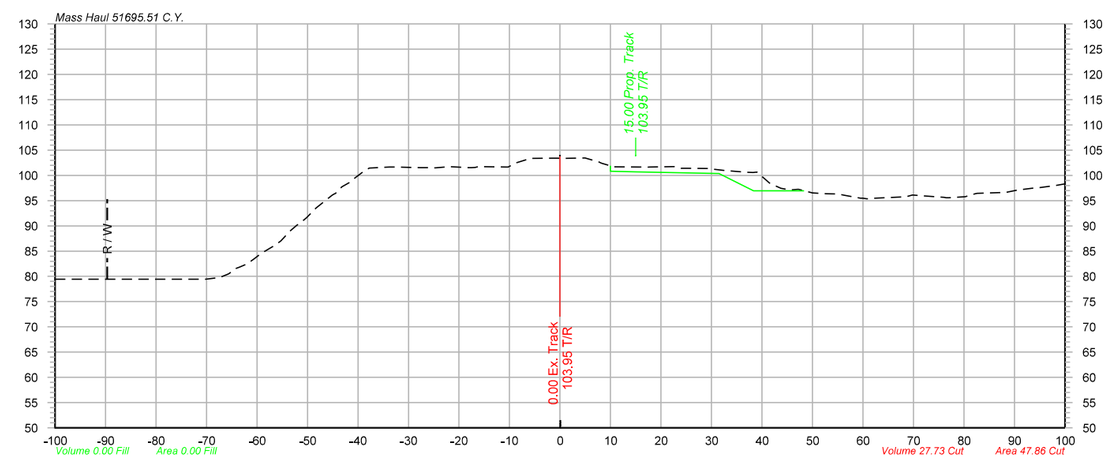
88.90	-56.34
90.50	-52.66
90.94	-49.00
91.48	-45.63
93.75	-42.38
96.07	-39.11
99.48	-34.94
101.25	-29.40
101.33	-24.56
101.38	-21.36
101.49	-16.45
101.52	-12.12
102.50	-7.98
103.41	-3.19
103.41	1.00
103.38	4.25
102.50	8.28
101.72	11.79
101.60	16.61
101.54	20.02
100.34	23.73
99.91	28.33
99.64	33.38
100.00	40.23
100.50	44.01
100.63	48.69
100.75	52.84
101.24	59.18
100.82	62.62
101.08	67.24
101.00	70.46
100.88	79.77
101.49	84.00
101.96	90.44
102.62	94.49
104.82	100.00



1699+00

79.42	-100.00
79.42	-93.73
79.42	-71.53
79.90	-68.49
80.87	-64.78
81.90	-60.78
83.24	-56.44
84.55	-53.14
85.33	-50.04
86.56	-45.94
88.52	-42.82
91.55	-39.04
94.31	-35.47
96.82	-32.02
99.40	-29.00
101.71	-25.21
101.73	-22.17
101.70	-18.04
101.67	-13.63
102.50	-8.40
103.30	-3.55
103.22	1.84
103.30	4.92
101.75	10.63
101.41	15.21
101.41	20.49
101.07	27.20
100.70	31.14
100.45	34.30
98.80	37.61
97.51	41.56
97.10	46.02
96.32	49.17
95.65	53.27
94.72	59.99
94.45	63.94
94.21	69.54
93.84	74.00
93.56	78.01
93.45	81.50
92.64	85.74
91.97	91.55
91.48	95.14
91.31	99.58



1700+20

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79.42	-71.82
79.79	-67.43
81.48	-64.39
83.57	-60.47
86.19	-56.43
90.05	-52.19
93.53	-48.31
95.97	-45.22
98.59	-41.66
101.45	-37.78
101.63	-34.60
101.63	-30.94
101.51	-27.64
101.65	-22.77
101.57	-18.77
101.70	-13.51
101.65	-10.26
103.37	-5.84
103.38	-1.56
103.44	4.94
102.40	8.23
101.65	15.63
101.74	22.57
101.36	29.17
100.97	32.40
100.62	37.05
98.46	41.52
97.09	45.54
96.52	49.99
96.30	54.97
95.49	59.50
95.74	67.87
95.95	71.94
95.65	76.11
95.76	80.26
96.60	87.69
97.49	93.77
98.04	98.35

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DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 103 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1699+00 TO STA.1701+00

PC 1 2-483

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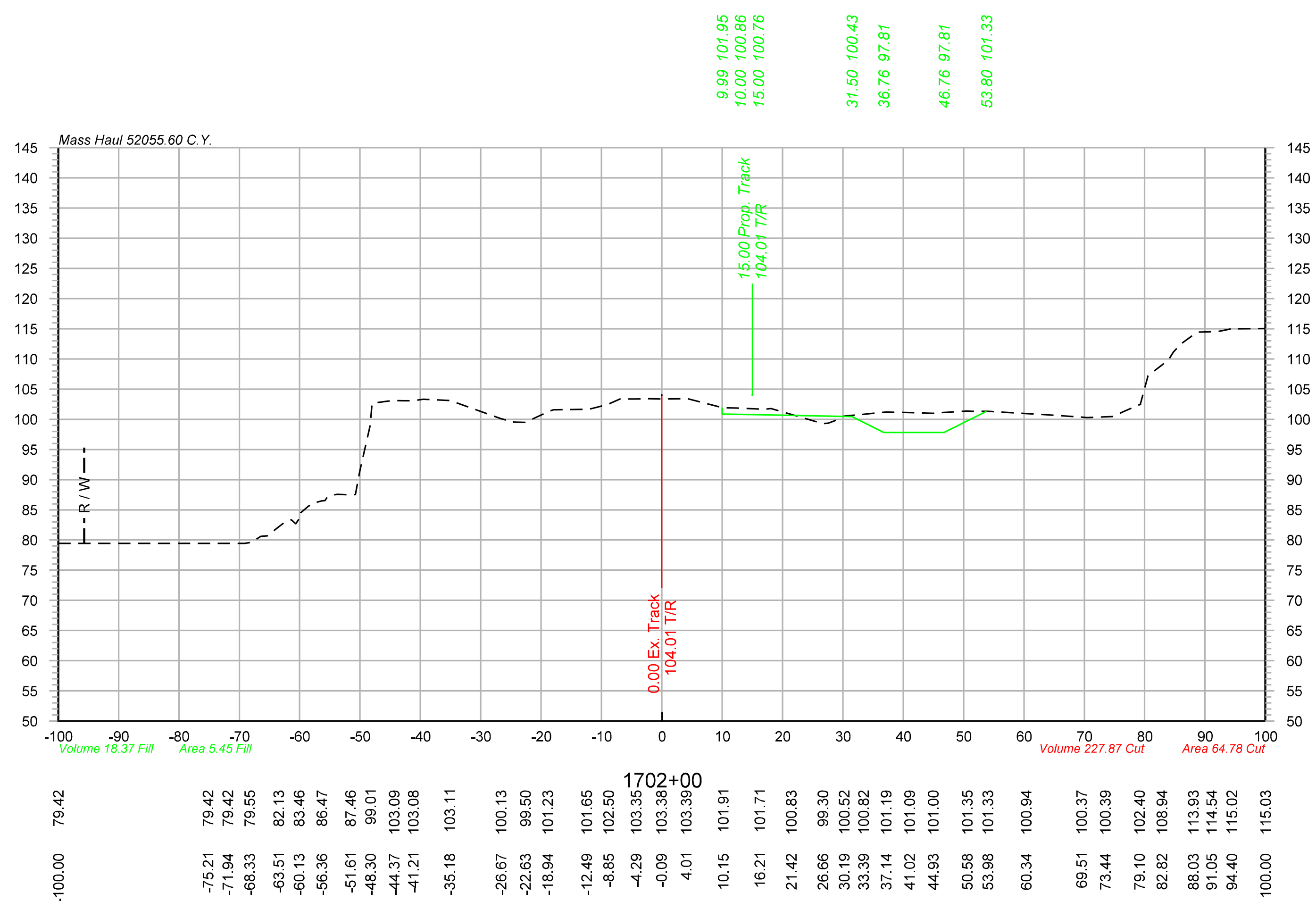

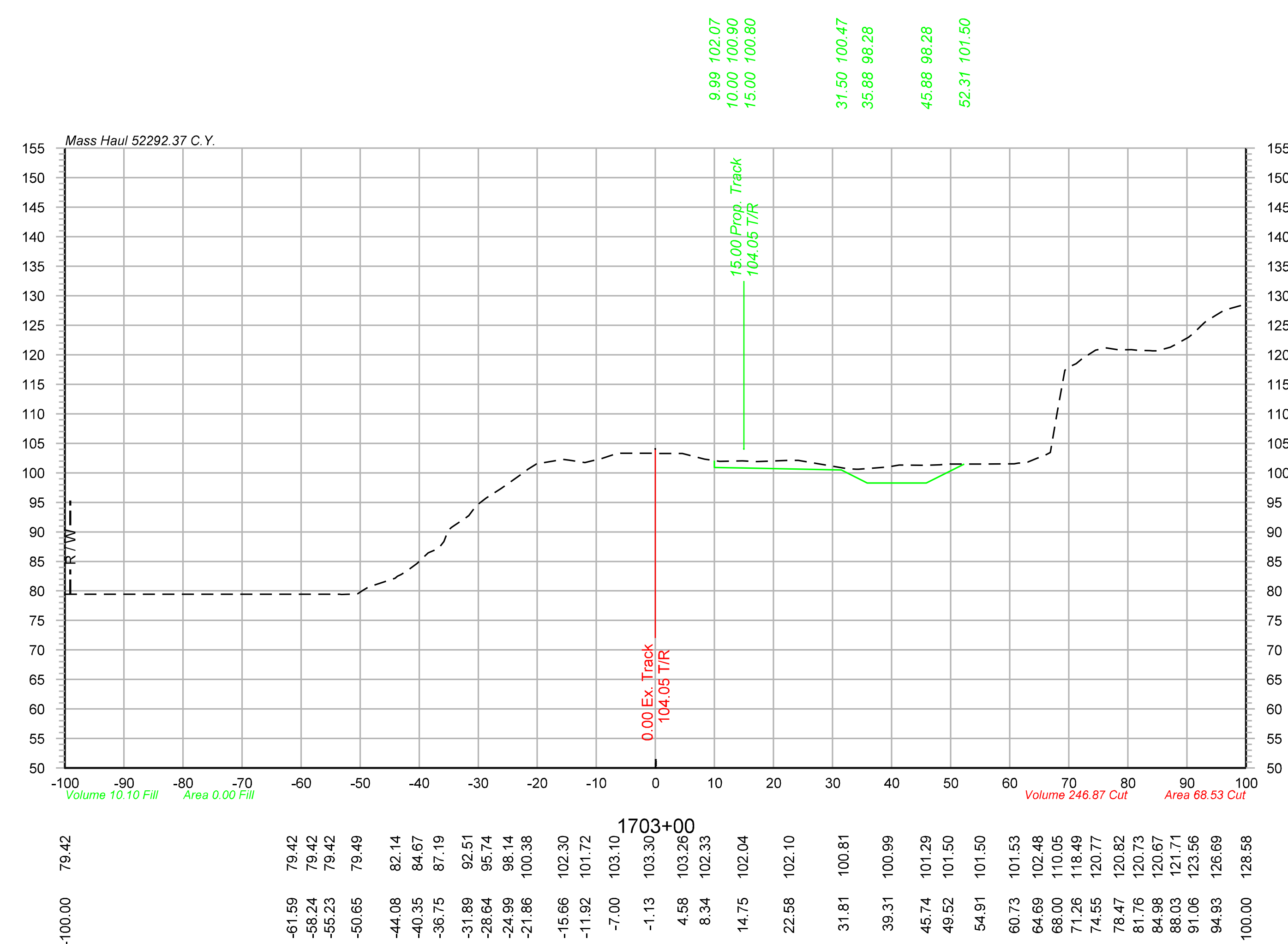

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DRAWN BY: BWG	UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design/Construction
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER: X 104 of 139	SHEET TITLE: PC 1 2-484 CROSS SECTIONS STA.1702+00 TO STA.1703+00

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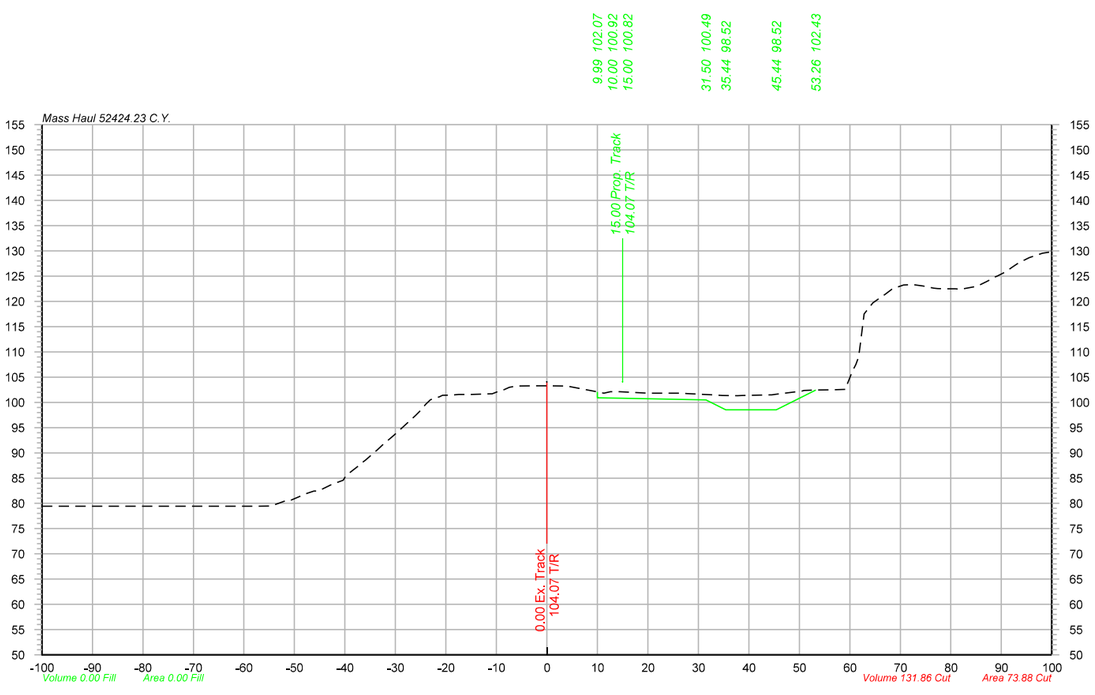
10/20/2014



1703+50

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-59.02	79.42
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-51.51	80.52
-47.53	81.99
-42.64	83.71
-37.54	87.24
-33.48	90.70
-30.34	93.43
-25.99	97.39
-21.26	101.12
-17.47	101.58
-11.15	101.69
-7.44	102.98
-2.33	103.27
3.47	103.22
9.43	102.18
12.60	102.11
20.04	101.81
24.34	101.80
27.84	101.75
32.88	101.48
37.77	101.30
44.29	101.50
50.51	102.22
56.45	102.50
60.57	106.27
64.58	119.68
67.72	121.95
72.49	123.31
76.59	122.60
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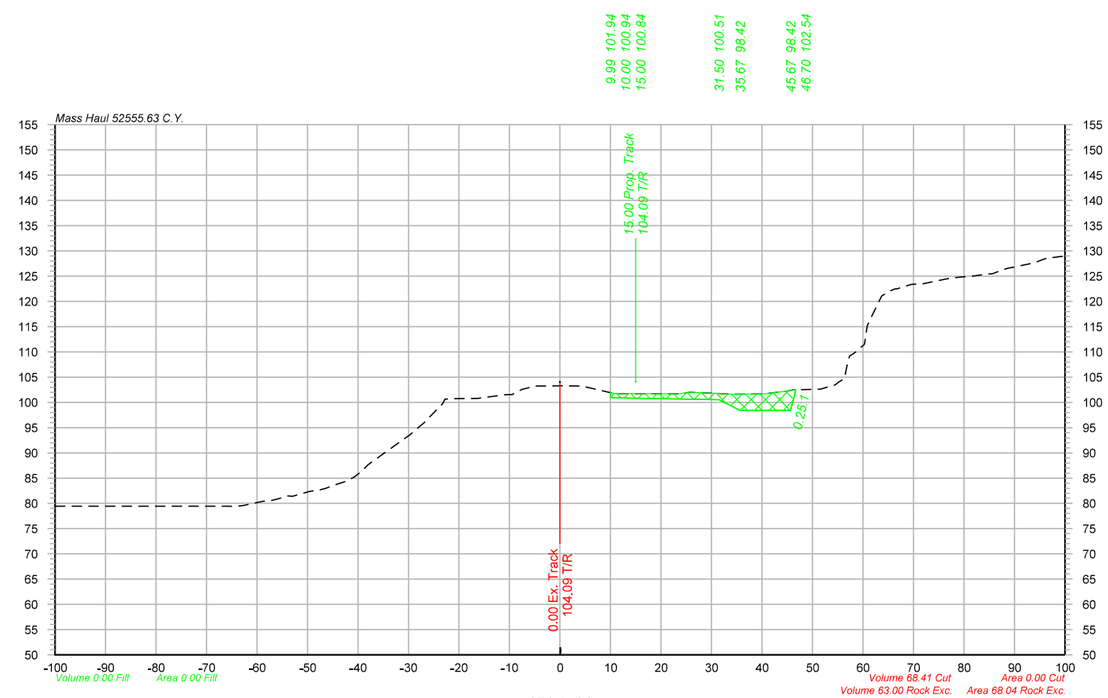

1704+00

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-96.55	79.42
-92.14	79.42
-88.85	79.42
-68.18	79.42
-64.97	79.41
-58.89	80.41
-53.85	81.49
-49.66	82.37
-46.52	82.93
-42.29	84.38
-38.79	86.86
-34.25	90.35
-30.04	93.34
-26.34	96.44
-23.26	99.69
-16.34	100.77
-11.67	101.39
-8.52	102.06
-4.63	103.25
0.41	103.27
3.83	103.22
10.84	101.75
16.48	101.71
23.42	101.70
31.16	101.77
37.70	101.63
45.35	102.29
51.52	102.61
54.55	103.47
58.39	109.83
63.73	121.09
66.82	122.49
71.93	123.50
76.54	124.43
81.94	125.05
85.58	125.44
88.61	126.55
93.28	127.50
96.93	128.53
100.00	128.96

Legend

Assumed Rock Excavation

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UNION PACIFIC

DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 105 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1703+50 TO STA.1704+00

PC 1 2-485

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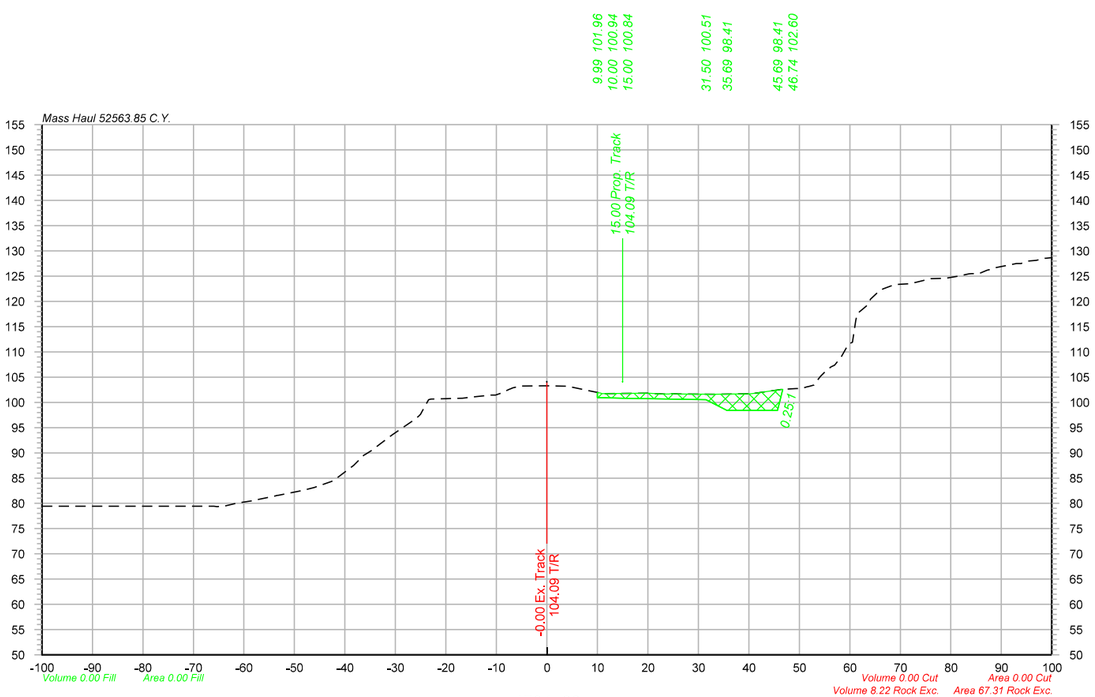
10/20/2014



1704+03

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-53.92	81.46
-48.37	82.57
-42.86	84.27
-38.26	87.53
-34.65	90.50
-30.82	93.43
-26.44	96.42
-23.43	100.54
-19.73	100.75
-16.73	100.81
-11.07	101.43
-7.60	102.54
-0.58	103.27
4.10	103.19
8.66	102.23
19.86	101.80
23.18	101.67
26.55	101.64
33.15	101.60
39.65	101.67
46.47	102.58
49.95	102.72
53.21	103.87
56.28	107.04
59.74	111.51
63.23	119.05
66.52	122.43
71.11	123.46
76.02	124.48
81.24	124.96
85.55	125.49
90.69	127.02
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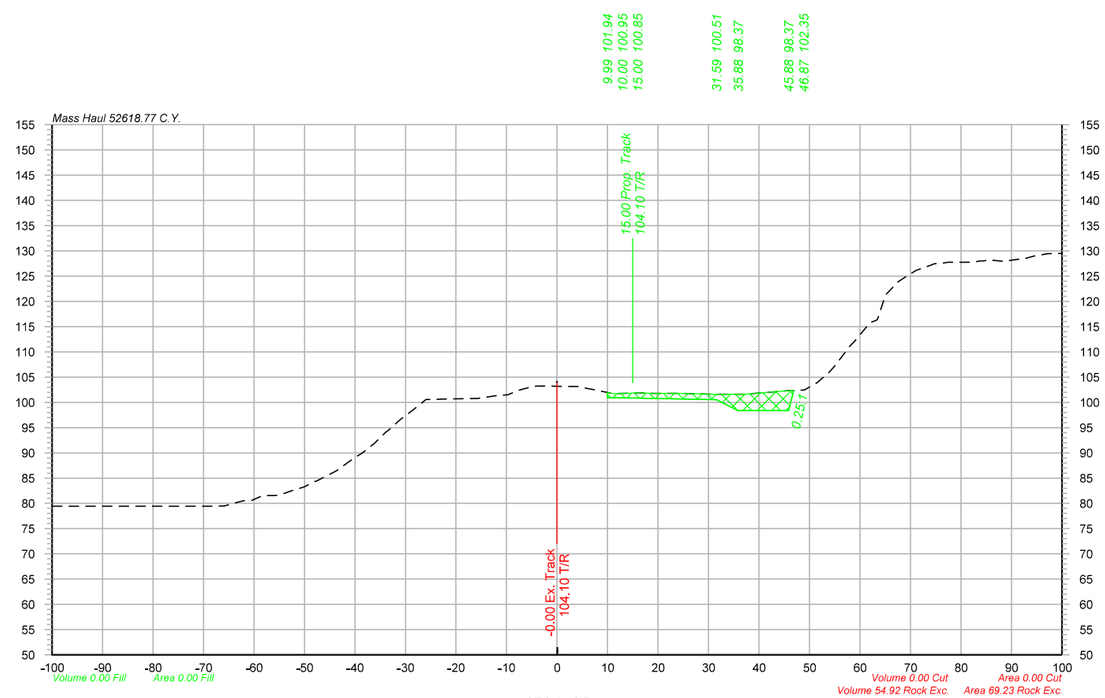

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-58.25	81.55
-54.42	81.84
-50.30	83.19
-46.95	84.75
-43.61	86.50
-40.00	89.11
-36.18	91.85
-31.37	96.31
-26.72	99.94
-23.40	100.61
-15.84	100.78
-11.51	101.39
-8.07	102.17
-4.61	103.21
2.01	103.16
5.19	102.91
11.06	101.72
14.94	101.83
18.96	101.79
23.32	101.77
30.52	101.62
37.08	101.63
44.93	102.25
48.99	102.45
53.94	106.04
58.10	111.25
61.32	114.97
65.04	121.23
68.17	124.30
74.24	127.26
77.36	127.74
81.70	127.75
85.74	128.23
90.32	128.20
94.55	129.00
98.22	129.45

Legend

Assumed Rock Excavation

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 106 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1704+03 TO STA.1704+25

PC 1 2-486

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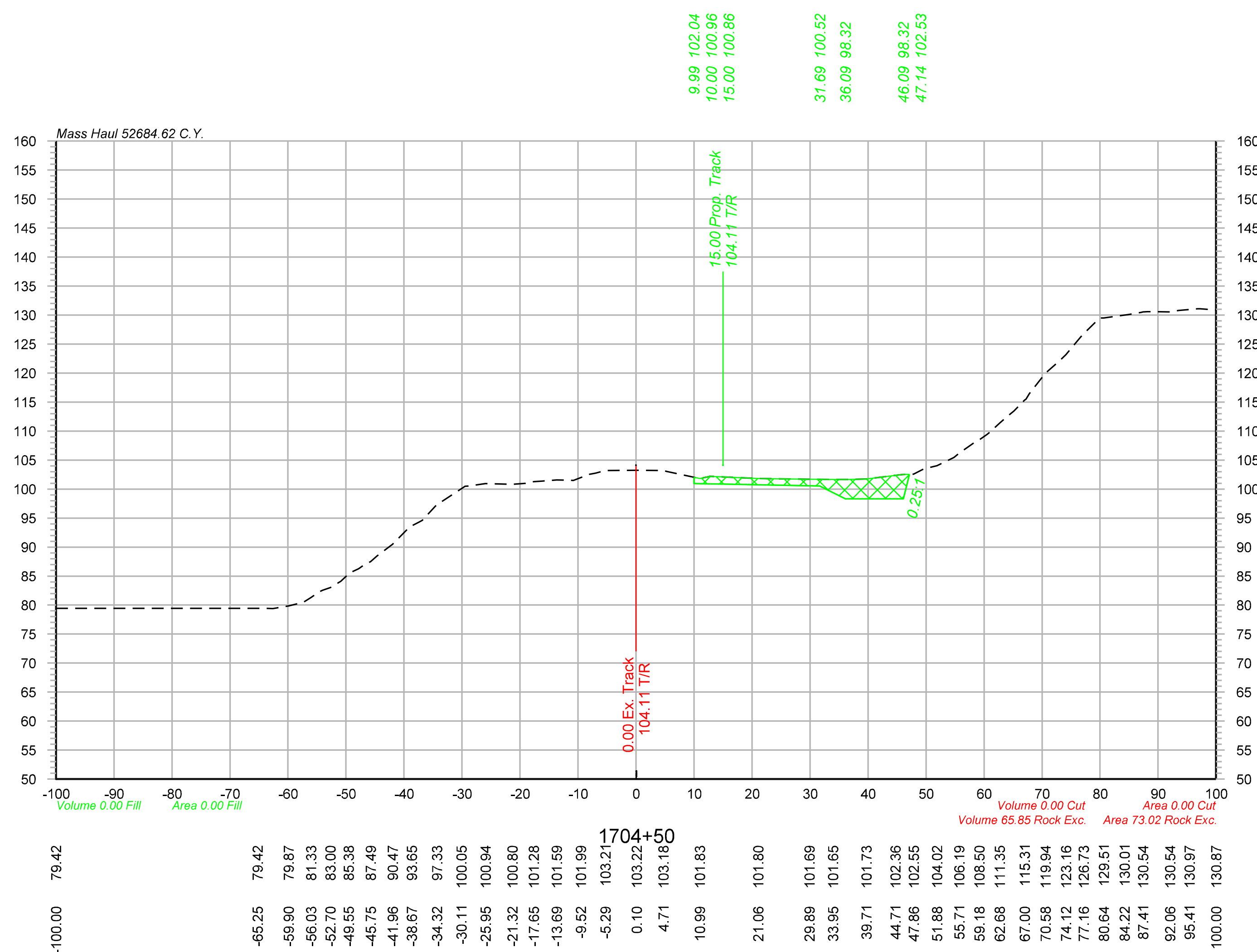
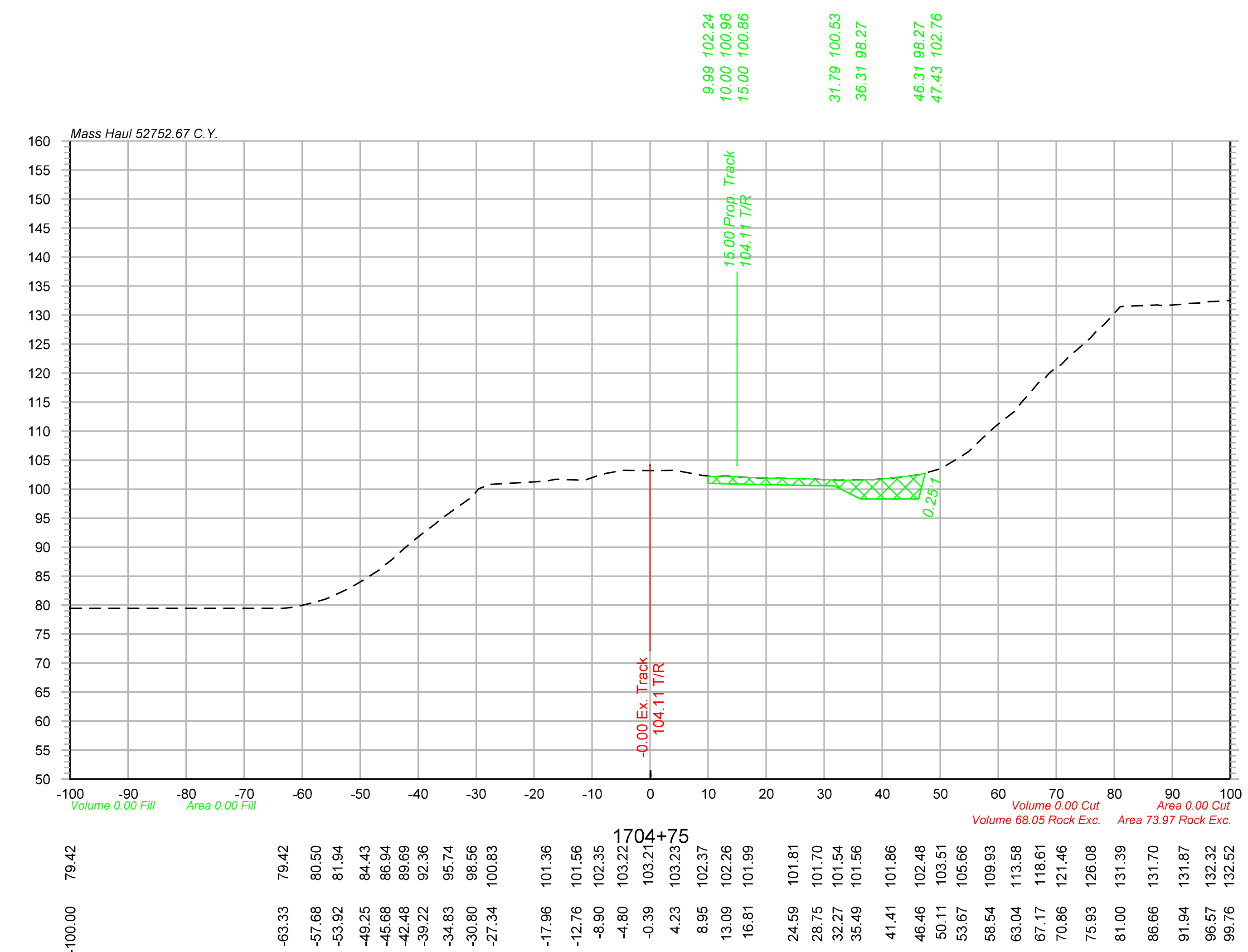
10/20/2014





Legend

Assumed Rock Excavation

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10/20/2014

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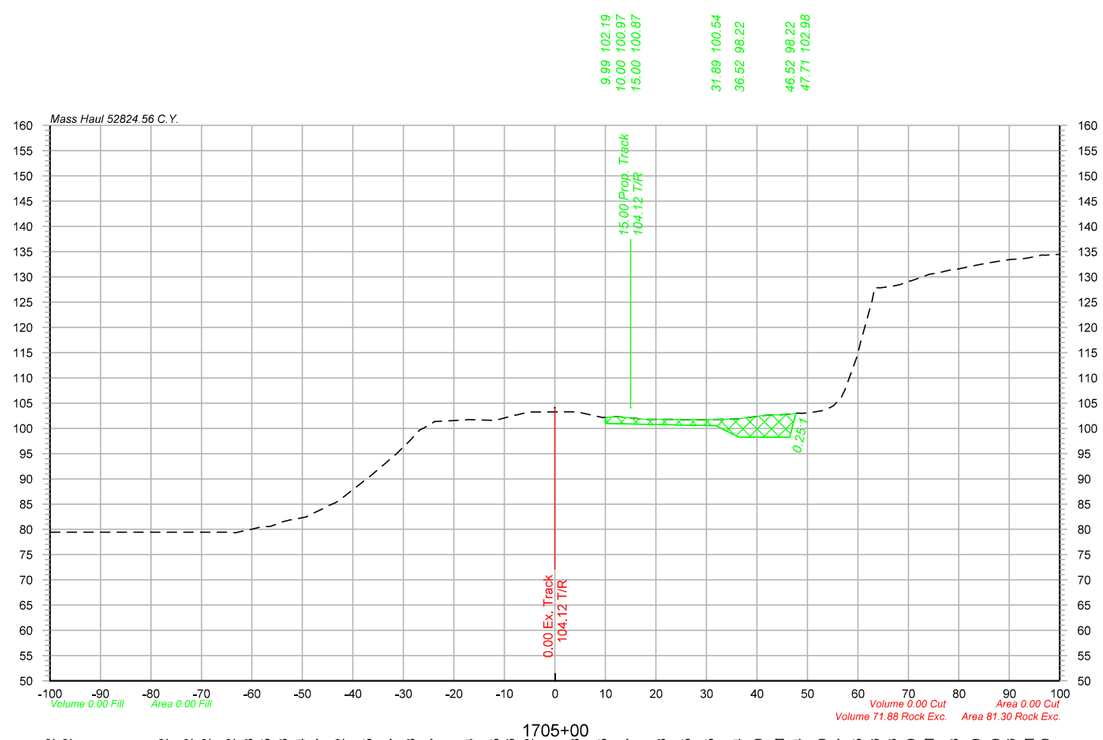
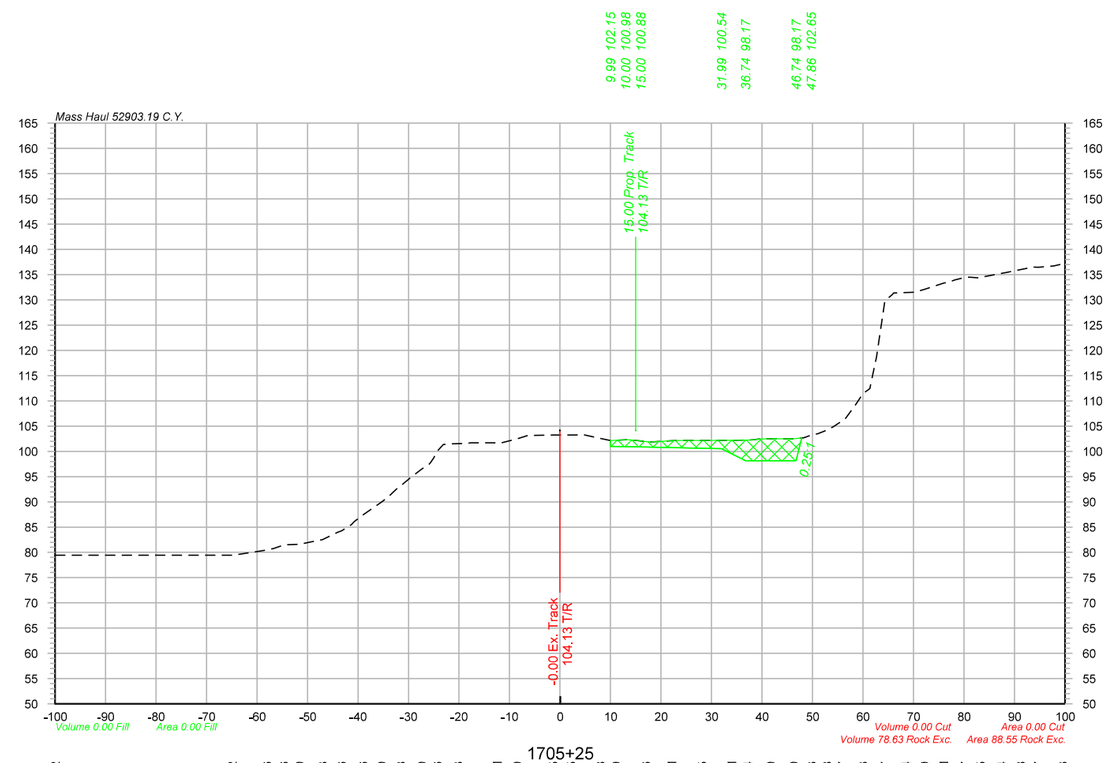
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 107 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-487
CROSS SECTIONS STA.1704+50 TO STA.1704+75





1705+00 Station	Elevation	1705+25 Station	Elevation
-100.00	79.42	-100.00	79.42
-96.63	79.42	-64.94	79.42
-77.60	79.42	-58.01	80.46
-72.68	79.42	-54.65	81.46
-69.12	79.42	-51.59	81.60
-64.31	79.42	-47.03	82.53
-60.70	79.88	-43.22	84.26
-57.26	80.55	-38.98	87.46
-53.87	81.53	-35.32	90.00
-50.40	82.24	-31.54	93.18
-46.44	83.87	-27.38	96.50
-42.67	85.72	-24.26	100.06
-37.08	90.15	-20.21	101.53
-31.83	94.57	-12.44	101.71
-28.61	97.68	-8.48	102.50
-23.80	101.37	-1.31	103.25
-17.00	101.74	2.23	103.25
-11.90	101.55	7.99	102.58
-8.86	102.36	11.10	102.19
-5.18	103.22	17.05	101.96
3.95	103.28	22.14	102.11
9.41	102.15	28.16	102.15
14.99	102.07	34.03	102.21
21.04	101.78	37.18	102.24
25.99	101.75	41.73	102.50
30.62	101.75	46.29	102.50
36.17	101.84	49.81	103.23
40.27	102.40	52.85	104.18
44.48	102.71	55.91	106.07
48.10	103.04	60.00	111.43
52.89	103.50	64.36	129.77
56.81	106.27	68.51	131.44
59.89	114.35	72.16	132.09
63.37	127.86	75.99	133.31
66.76	128.13	80.23	134.47
70.50	129.19	83.32	134.45
74.11	130.51	87.43	135.24
78.99	131.53	91.22	135.98
83.35	132.29	94.72	136.47
87.27	132.99	99.54	137.13
90.28	133.46		
93.94	133.81		
97.09	134.30		

Legend

Assumed Rock Excavation

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SHEET NUMBER	X 108 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1705+00 TO STA.1705+25

PC 1 2-488

Color table:F:\PROJECTS\011-1345\color\UPRR.tbl
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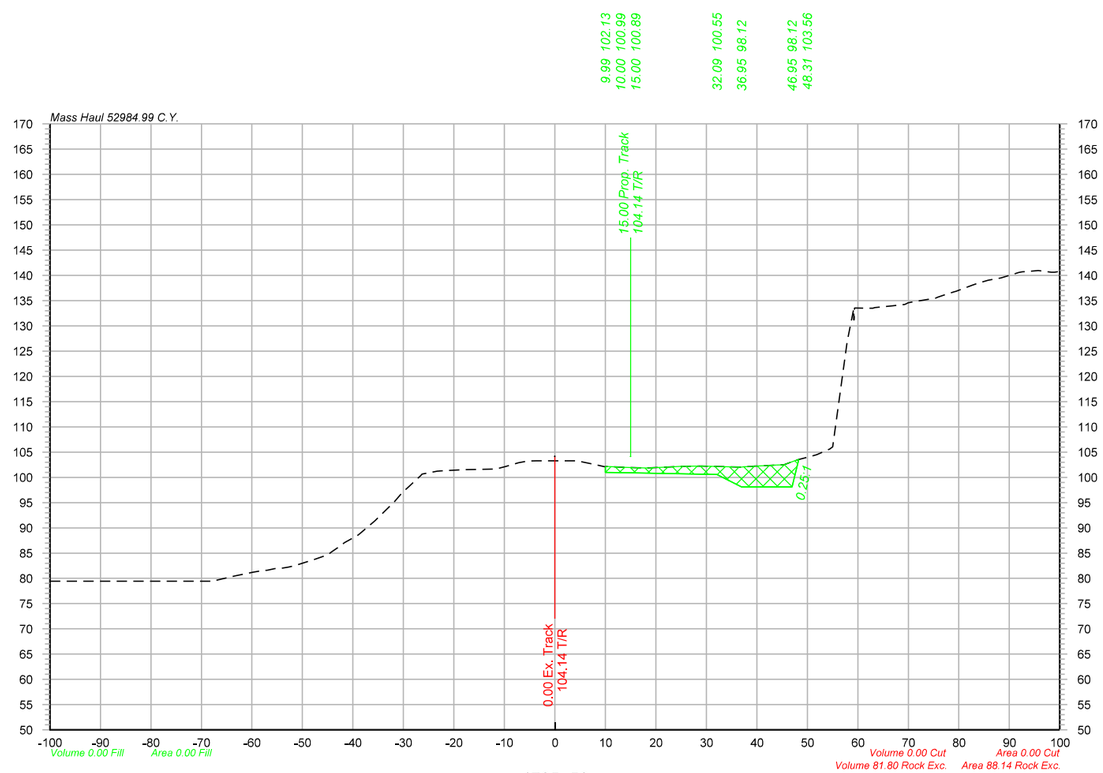
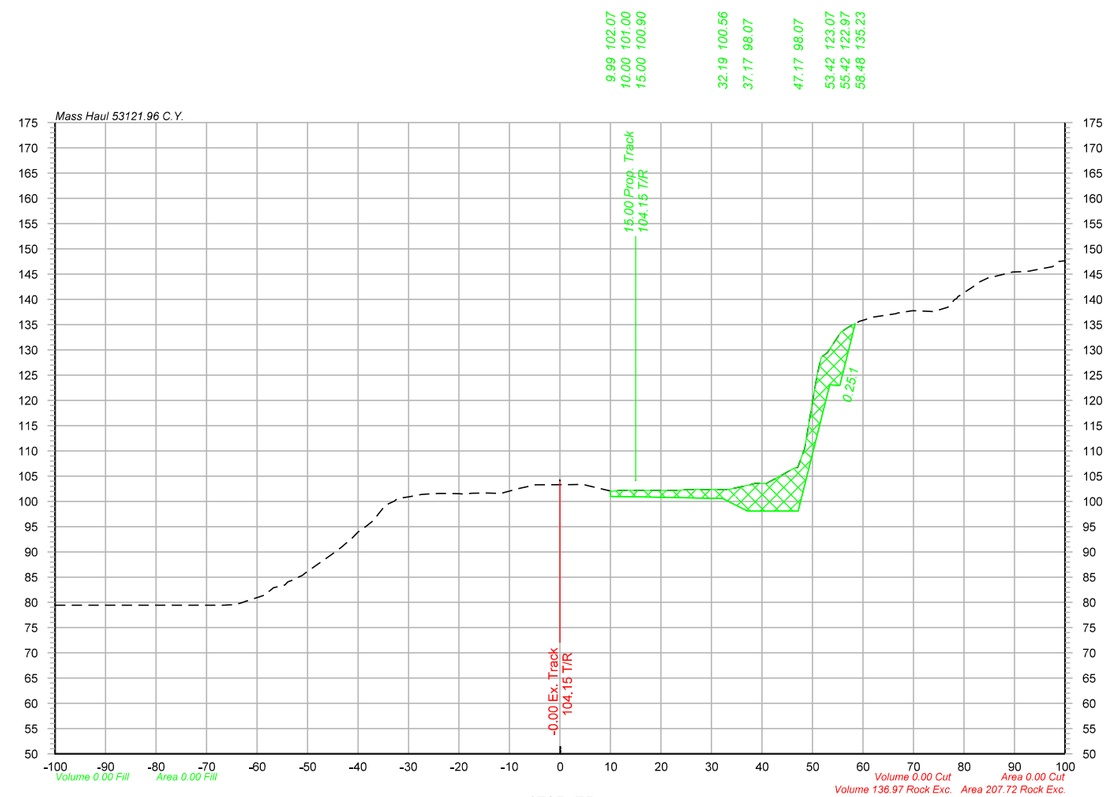
10/20/2014



1705+50

-100.00	79.42
-68.33	79.42
-63.56	80.43
-59.74	81.22
-55.43	81.95
-51.48	82.50
-48.34	83.51
-45.07	84.61
-41.69	87.08
-35.92	91.17
-31.80	95.13
-28.00	99.04
-23.47	101.21
-20.43	101.41
-15.70	101.56
-11.68	101.63
-7.16	102.90
-3.67	103.26
4.38	103.29
7.99	102.54
13.75	102.00
18.00	101.87
22.02	102.04
25.17	102.20
28.60	102.23
36.99	102.02
43.98	102.43
47.95	103.46
51.85	104.51
55.00	106.05
59.16	133.38
62.97	133.50
66.72	133.97
69.97	134.59
75.39	135.48
78.70	136.61
82.72	138.08
85.82	139.05
91.13	140.34
95.75	140.94
98.79	140.63



1705+75

-100.00	79.42
-90.67	79.42
-86.33	79.42
-67.51	79.42
-63.23	79.84
-59.87	80.96
-56.74	82.88
-52.84	84.44
-47.12	88.16
-43.36	90.84
-39.97	93.95
-34.81	98.96
-29.89	100.90
-26.38	101.43
-22.22	101.56
-18.83	101.45
-14.47	101.67
-9.91	102.06
-5.17	103.19
2.51	103.31
5.53	103.13
10.27	102.00
20.78	102.16
24.12	102.24
33.45	102.38
37.40	103.23
40.83	103.52
44.54	105.55
48.44	110.50
51.69	128.44
55.62	133.51
58.81	135.32
62.08	136.50
66.52	137.17
69.76	137.74
74.07	137.56
78.22	140.03
81.93	142.57
85.10	144.40
89.62	145.43
92.86	145.57
96.32	146.27
99.85	147.61

Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 109 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1705+50 TO STA.1705+75

PC 1 2-489

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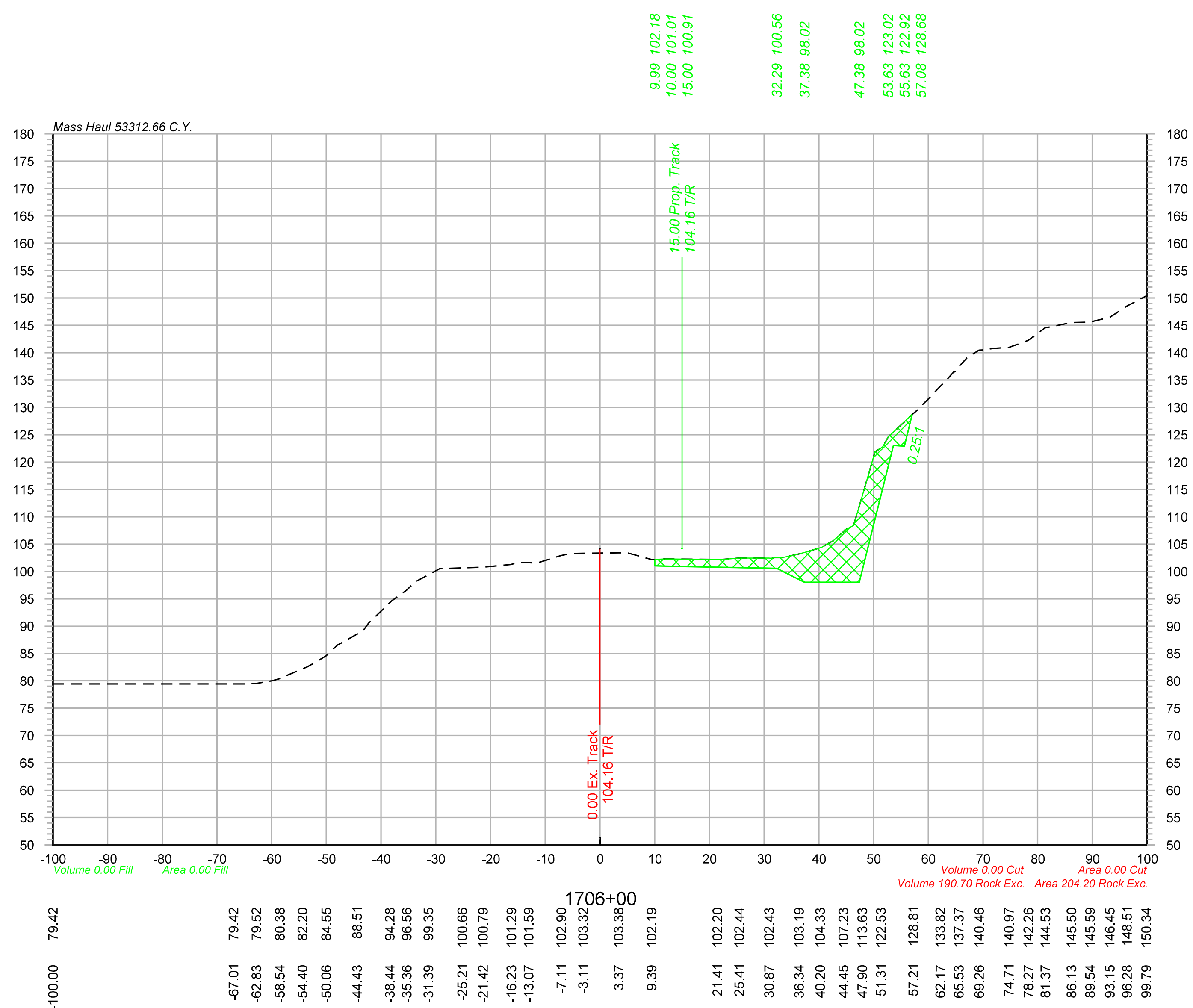
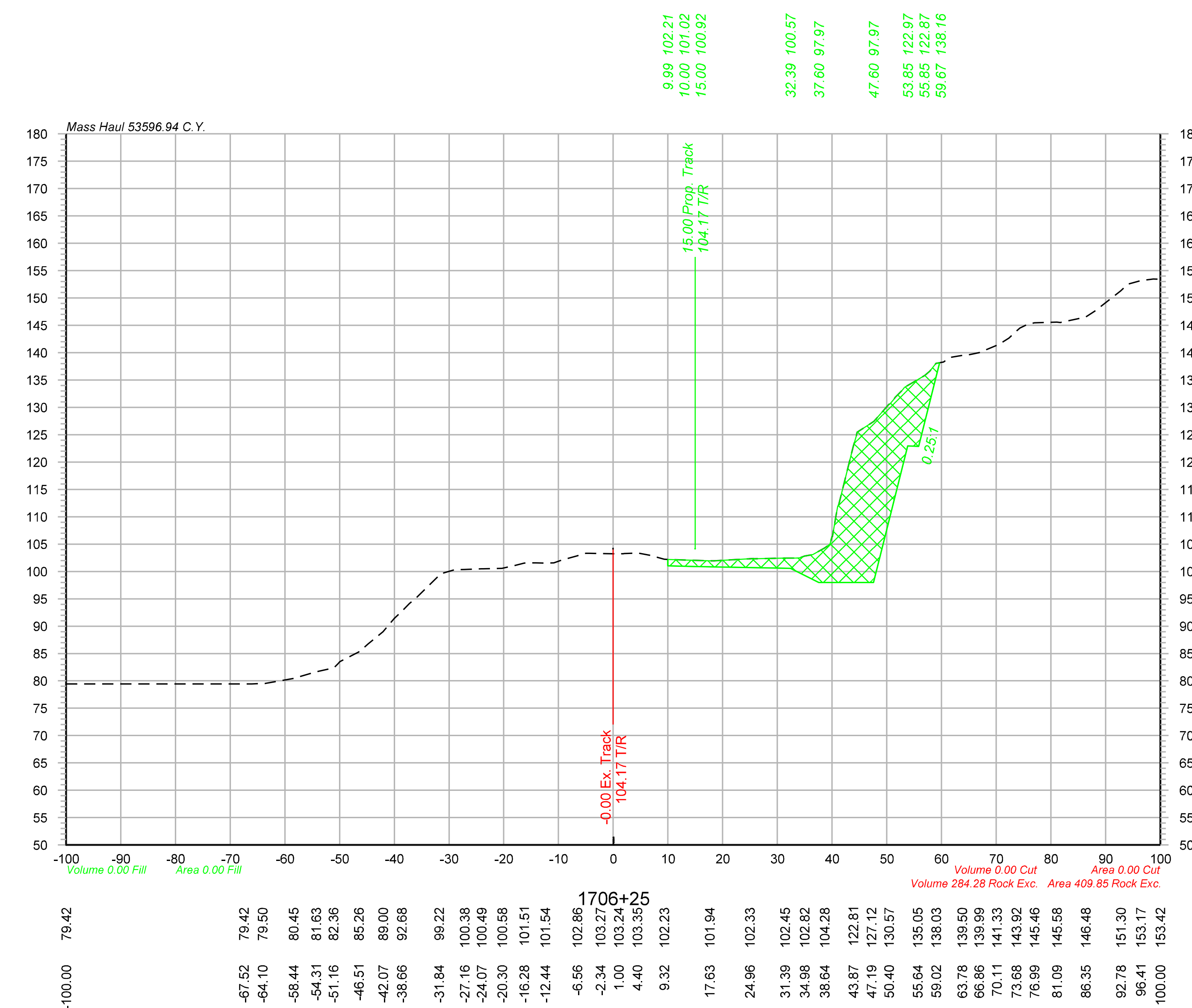
10/20/2014





Legend

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UNION PACIFIC RAILROAD

Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-490
CROSS SECTIONS STA.1706+00 TO STA.1706+25

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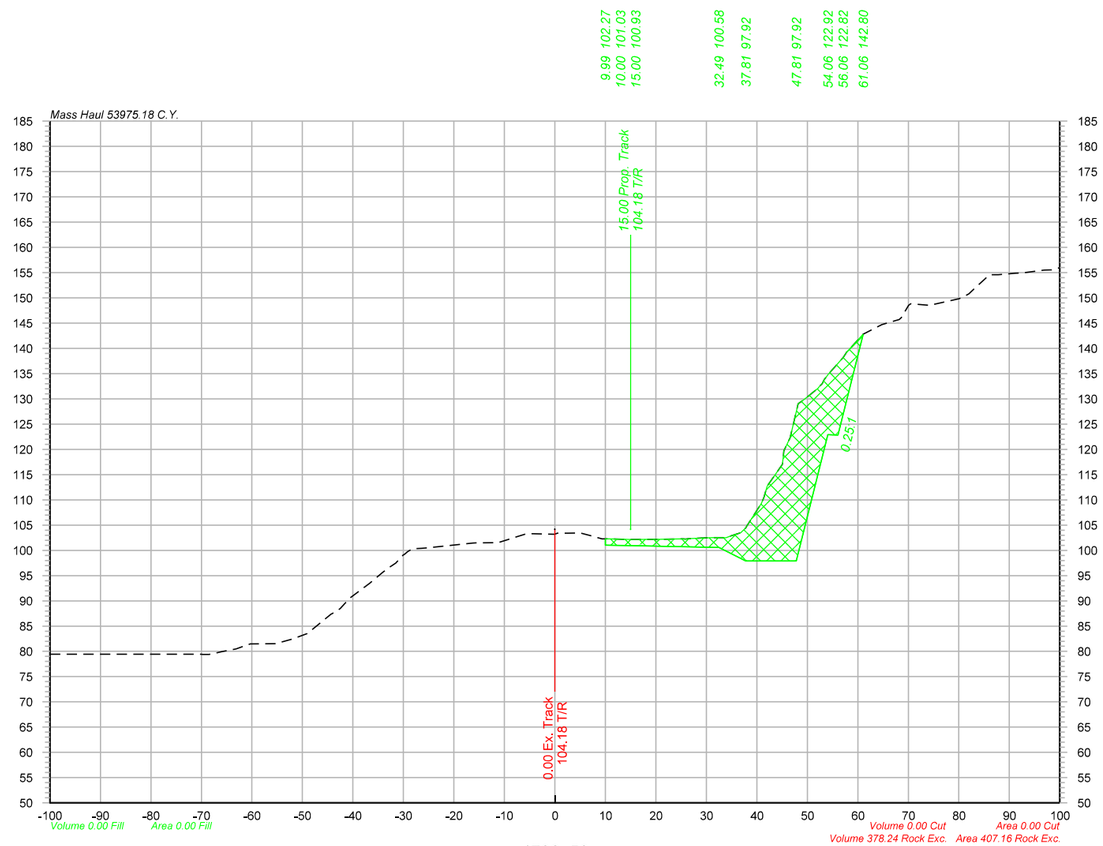
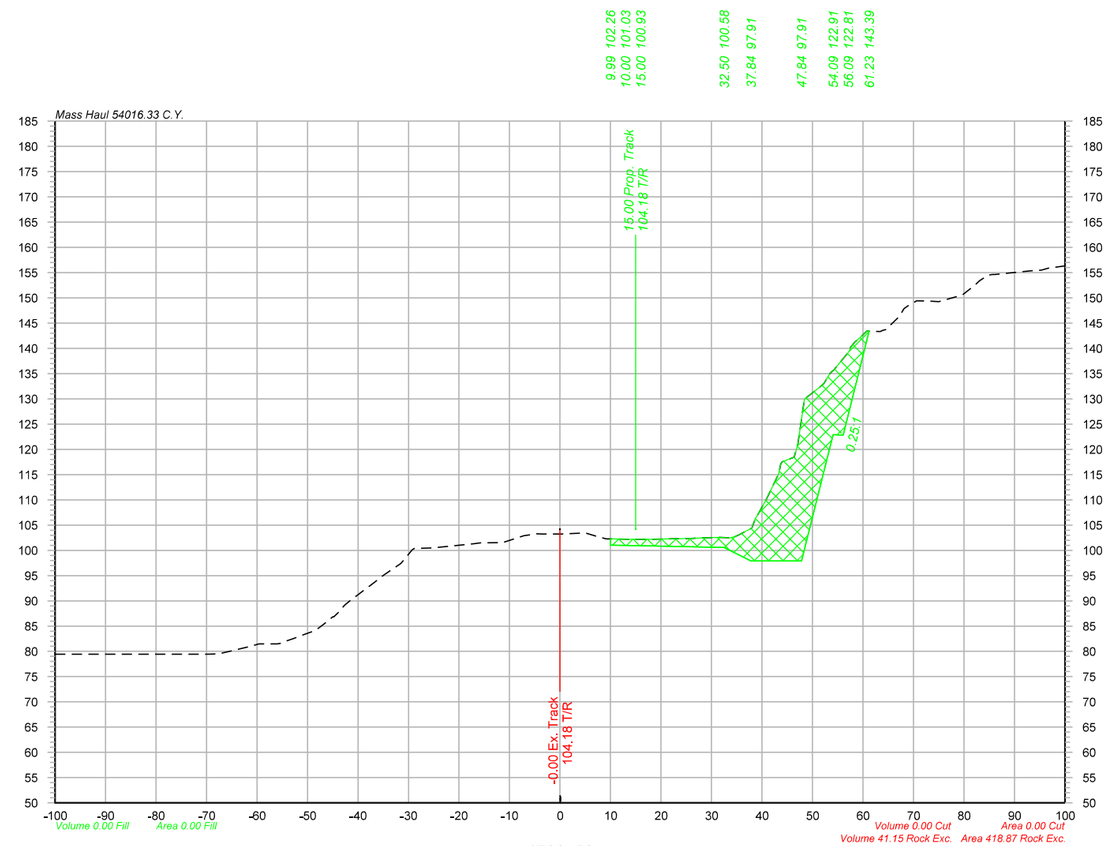
10/20/2014





Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 111 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1706+50 TO STA.1706+53

PC 1 2-491

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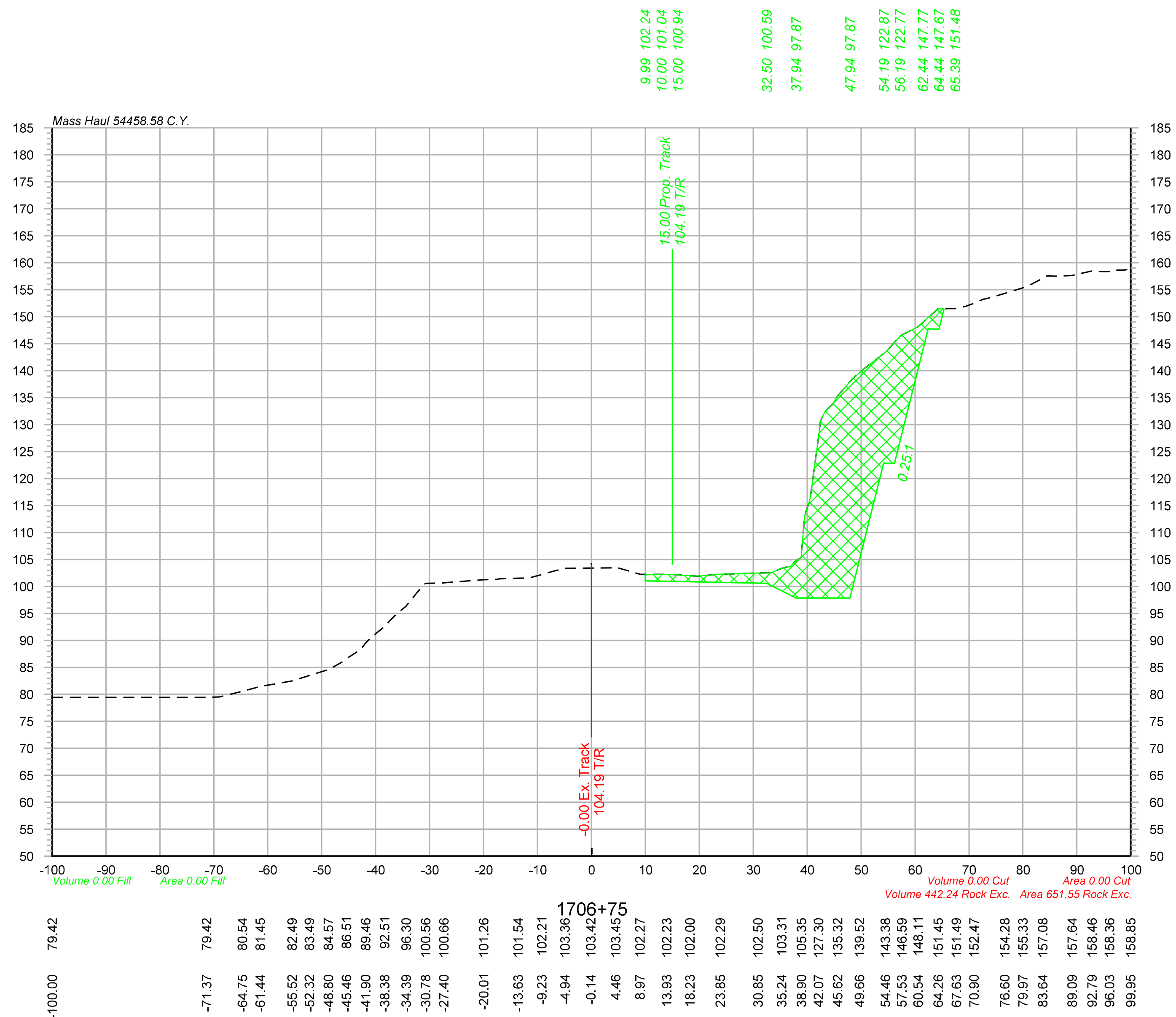

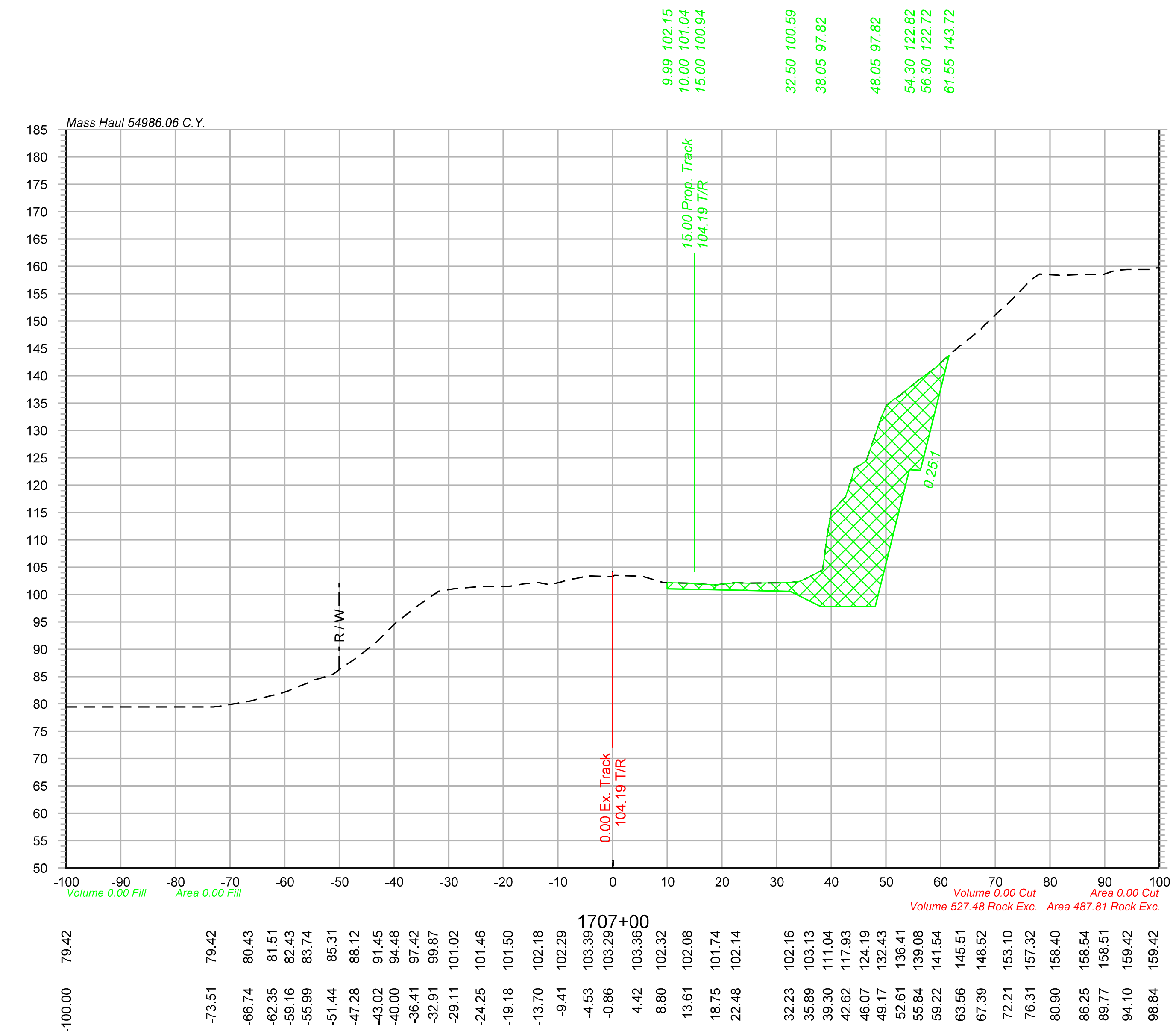

Legend

Assumed Rock Excavation

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CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 112 of 139	SHEET TITLE: CROSS SECTIONS STA.1706+75 TO STA.1707+00

PC 1 2-492

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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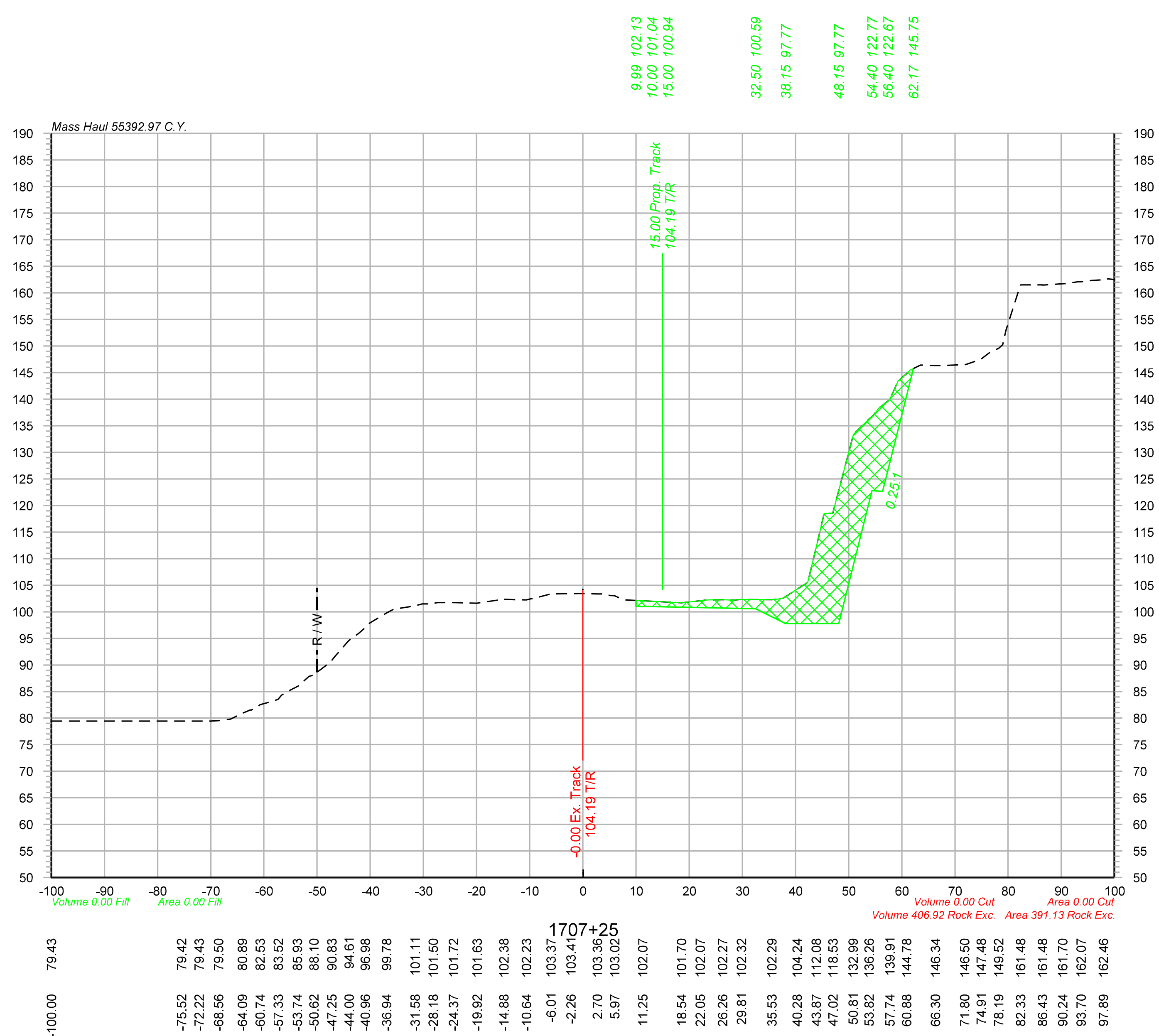

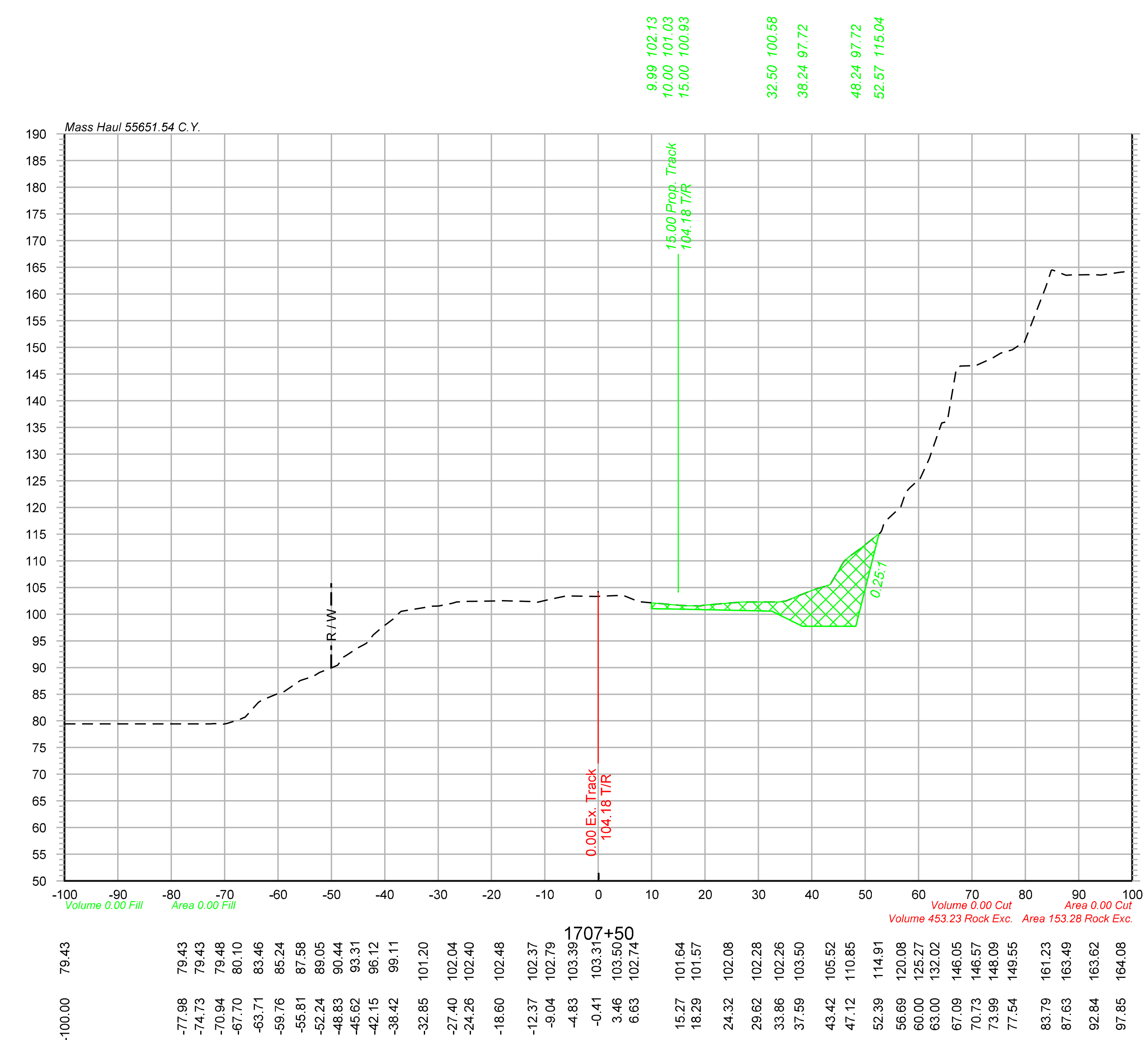

Legend

Assumed Rock Excavation

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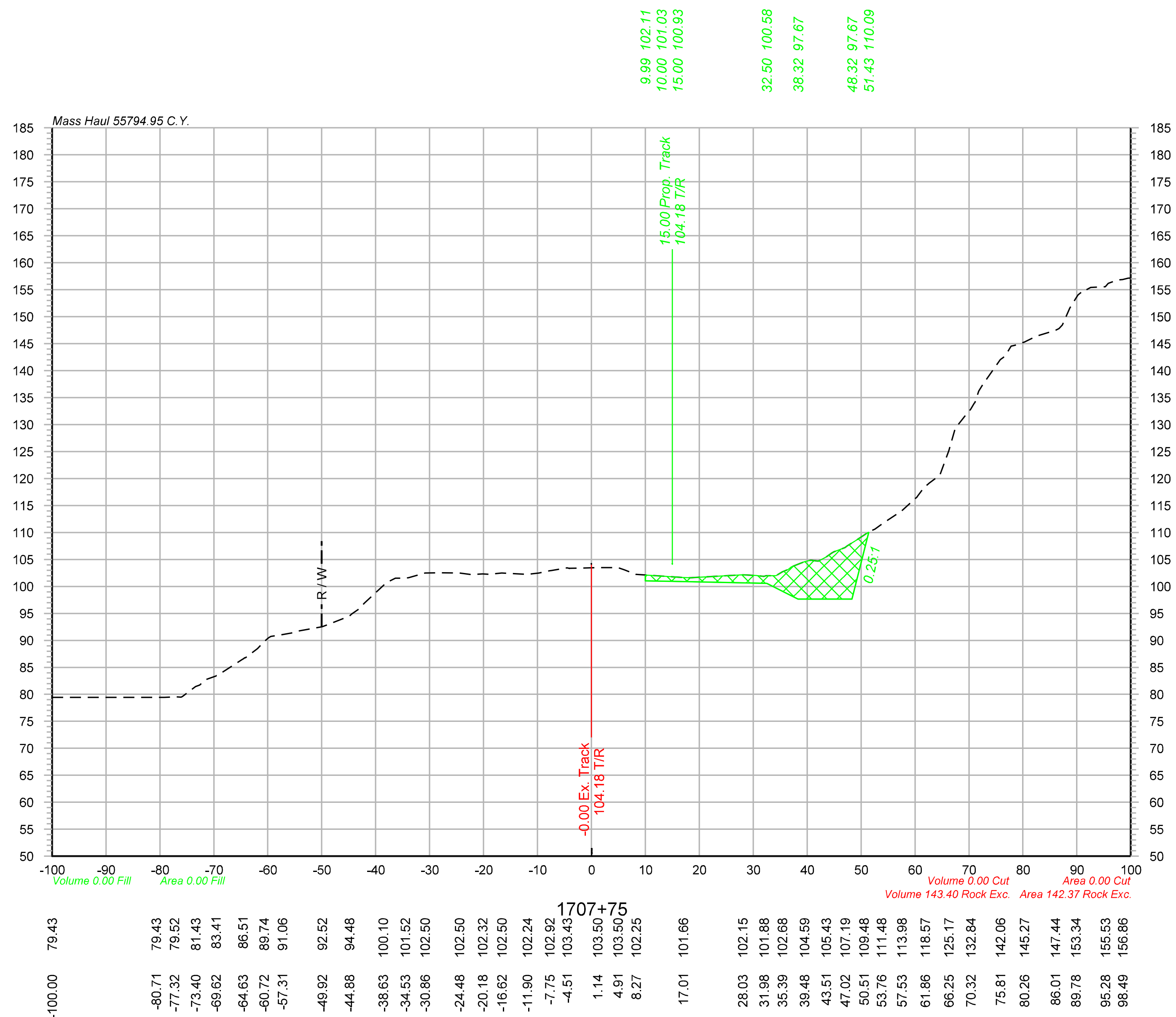
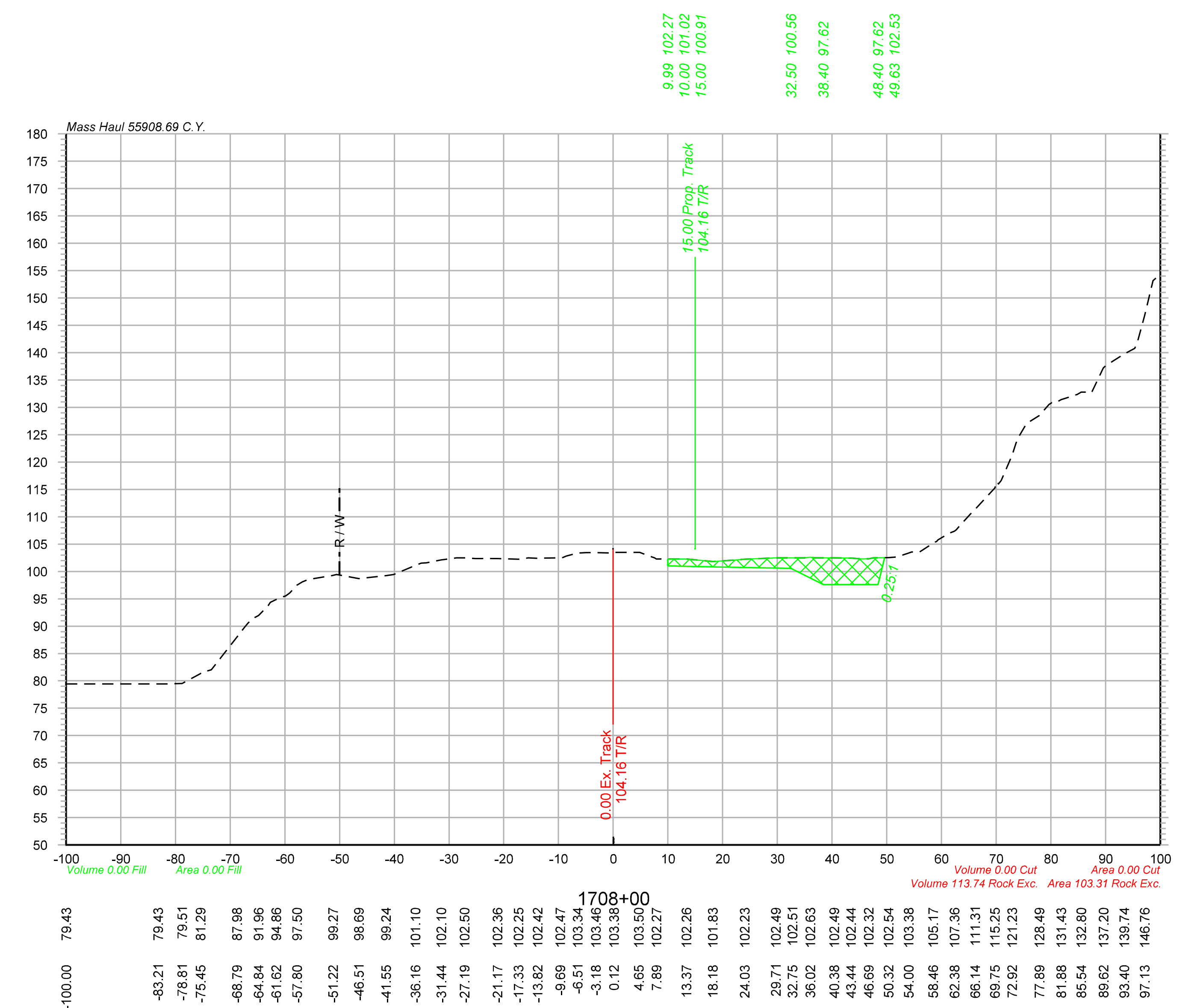
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 113 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-493
CROSS SECTIONS STA.1707+25 TO STA.1707+50





Legend

Assumed Rock Excavation

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-494
CROSS SECTIONS STA.1707+75 TO STA.1708+00

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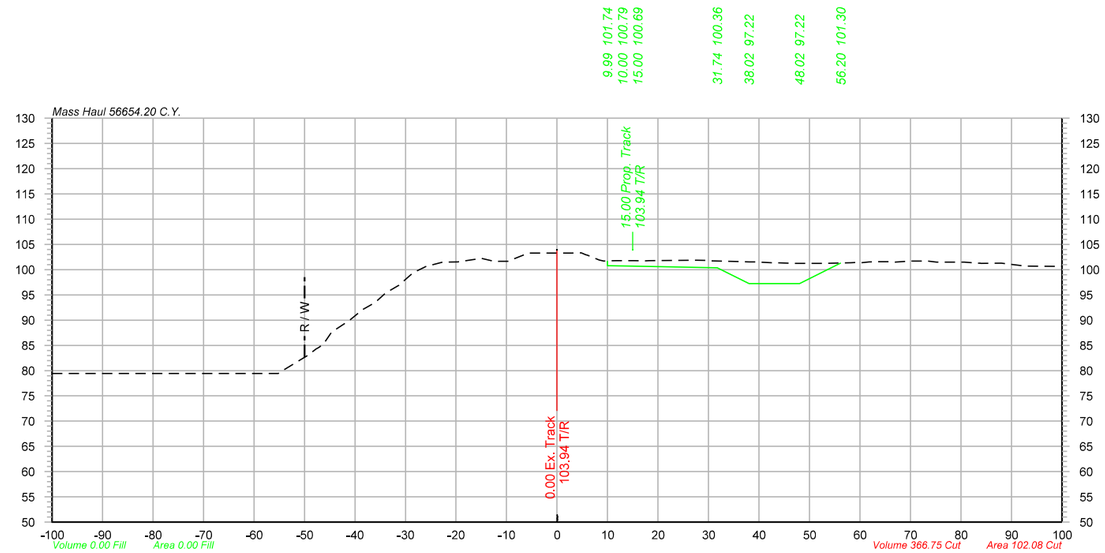
10/20/2014



1710+00

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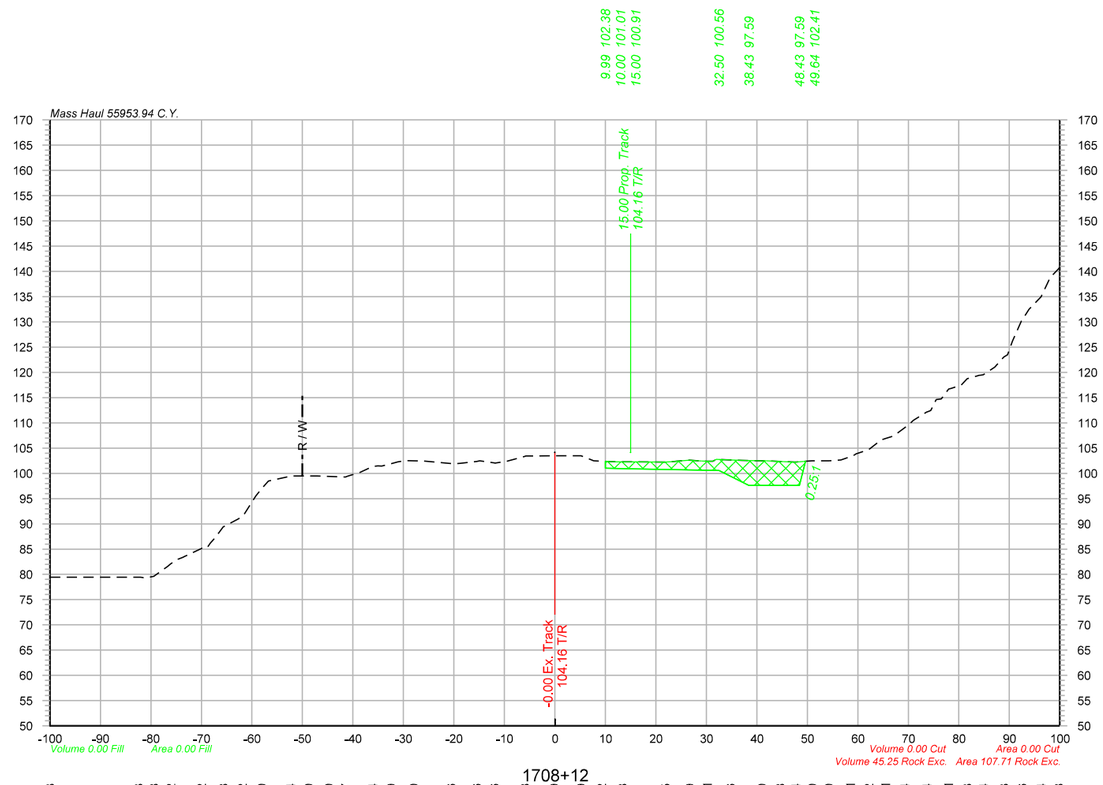
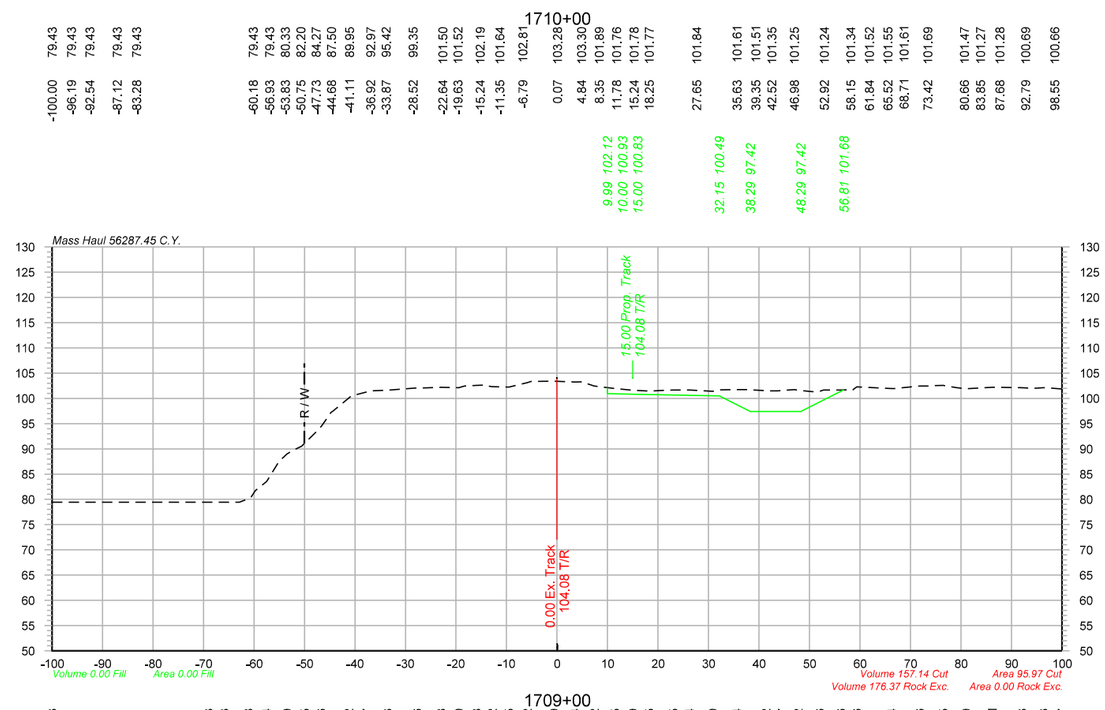
-96.19	79.43
-92.54	79.43
-87.12	79.43
-83.28	79.43
-60.18	79.43
-56.93	79.43
-53.83	80.33
-50.75	82.20
-47.73	84.27
-44.68	87.50
-41.11	89.95
-36.92	92.97
-33.87	95.42
-28.52	99.35
-22.64	101.50
-19.63	101.52
-15.24	102.19
-11.35	101.64
-6.79	102.81
0.07	103.28
4.84	103.30
8.35	101.89
11.78	101.76
15.24	101.78
18.25	101.77
27.65	101.84
35.63	101.61
39.35	101.51
42.52	101.35
46.98	101.25
52.92	101.24
58.15	101.34
61.84	101.52
65.52	101.55
68.71	101.61
73.42	101.69
80.66	101.47
83.85	101.27
87.68	101.28
92.79	100.69
98.55	100.66



1708+12

-100.00	79.43
-82.49	79.43
-79.44	79.58
-76.07	82.12
-70.01	85.12
-65.68	89.38
-61.94	91.52
-58.08	97.00
-52.35	99.44
-48.79	99.50
-44.80	99.40
-41.49	99.27
-36.10	101.34
-32.47	101.89
-27.97	102.50
-20.54	101.96
-15.48	102.36
-11.98	102.06
-5.97	103.38
-0.18	103.49
5.15	103.49
9.23	102.42
13.36	102.28
21.90	102.25
26.68	102.59
30.20	102.41
34.80	102.66
40.98	102.50
44.60	102.38
47.69	102.24
50.95	102.50
54.23	102.50
58.55	103.31
62.15	104.72
65.49	106.91
69.28	109.04
73.65	112.14
77.97	116.71
81.64	118.73
84.86	119.54
88.92	123.03
92.56	130.56
96.27	134.94
99.75	140.48



1709+00

-100.00	79.43
-69.04	79.43
-65.91	79.43
-61.15	80.08
-57.55	83.54
-53.48	88.99
-49.94	91.15
-46.71	94.46
-41.26	100.02
-37.63	101.27
-33.60	101.63
-27.71	102.06
-22.97	102.18
-19.44	102.10
-15.97	102.58
-12.85	102.32
-9.51	102.25
-5.91	103.12
-0.61	103.39
3.55	103.24
7.36	102.42
11.49	101.95
15.01	101.59
18.27	101.45
23.05	101.65
26.25	101.64
30.83	101.40
35.60	101.74
41.36	101.52
44.60	101.57
47.75	101.62
52.04	101.46
56.23	101.66
59.37	102.26
66.27	101.94
71.85	102.46
76.51	102.55
81.00	101.89
86.20	102.21
92.06	102.13
96.31	102.13
100.00	101.87

Legend

Assumed Rock Excavation

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UNION PACIFIC

DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 115 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1708+12 TO STA.1710+00

PC 1 2-495

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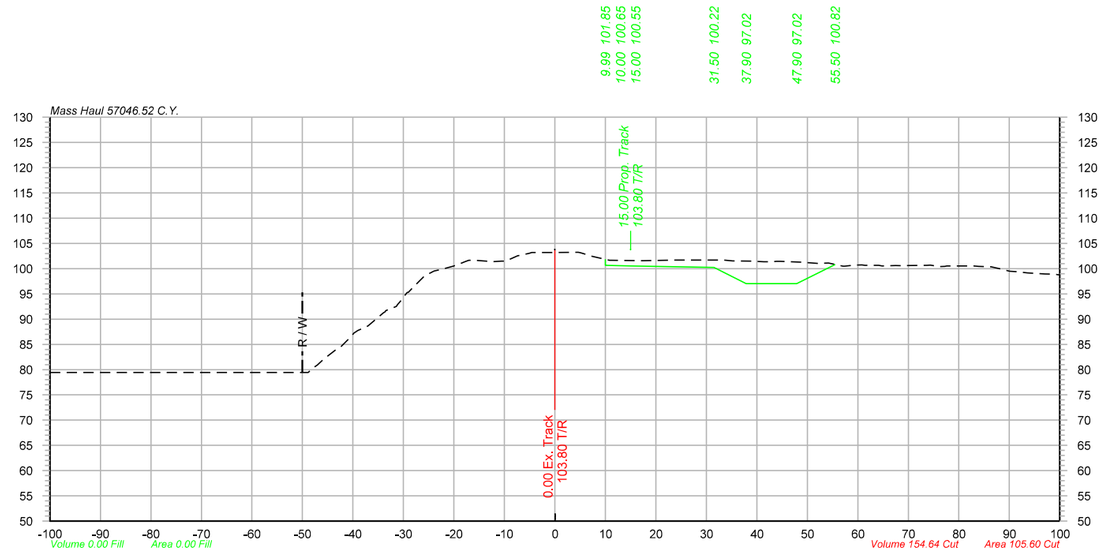
10/20/2014



1711+00

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-47.93	80.29
-43.44	83.90
-40.32	86.61
-37.03	88.65
-33.95	91.29
-30.66	93.47
-25.91	98.46
-22.58	99.82
-18.36	101.13
-13.09	101.45
-9.85	101.48
-5.07	103.05
0.06	103.20
4.62	103.22
10.24	101.79
17.25	101.55
24.02	101.68
28.69	101.71
33.05	101.68
38.82	101.49
43.03	101.37
48.80	101.26
52.14	101.02
57.04	100.50
60.82	100.74
64.16	100.65
67.48	100.59
73.68	100.66
77.24	100.43
82.17	100.51
86.41	100.37
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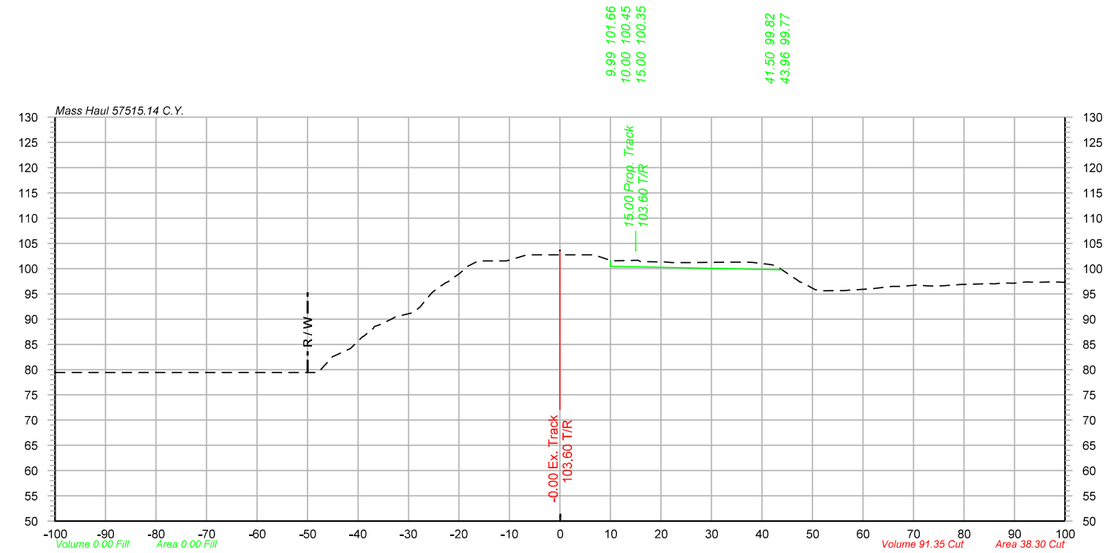

1712+36

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-29.30	91.24
-25.88	94.62
-22.72	97.14
-18.24	100.50
-15.11	101.52
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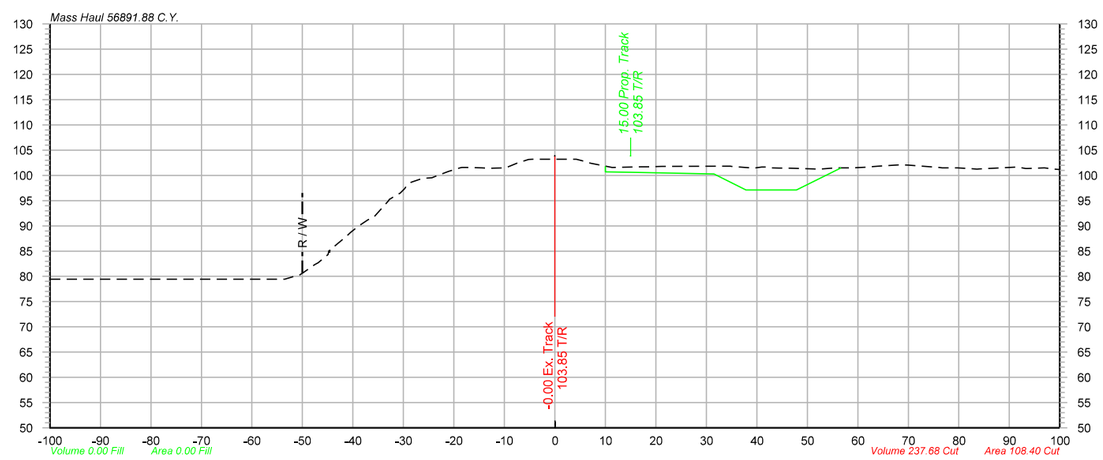
15.24	101.64
20.05	101.33
23.28	101.19
34.42	101.26
38.06	101.26
41.59	100.80
47.24	97.57
50.57	95.84
54.96	95.63
59.36	95.87
65.73	96.47
68.92	96.60
73.32	96.59
79.35	96.86
85.01	97.03
89.82	97.11
94.57	97.30
100.00	97.30



1710+61

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-32.96	94.94
-29.74	97.40
-26.22	99.39
-21.08	100.79
-18.03	101.58
-14.43	101.48
-9.76	101.50
-6.51	102.73
-2.73	103.18
4.26	103.18
11.34	101.55
17.09	101.69
21.08	101.79
34.09	101.81
38.74	101.51
42.05	101.64
45.90	101.45
51.24	101.28
55.06	101.43
59.23	101.50
62.47	101.67
68.00	102.06
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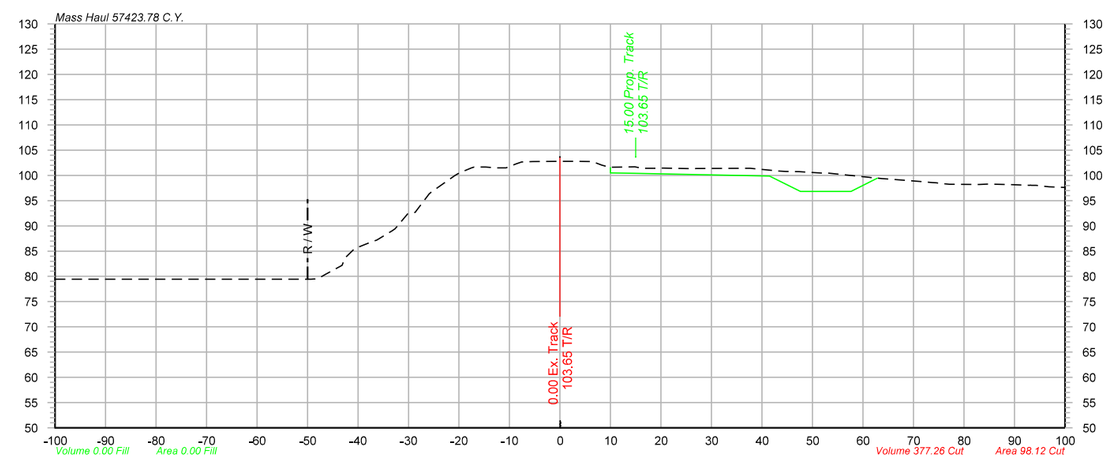
100.00	101.14



1712+00

-100.00	79.43
-56.20	79.43
-49.34	79.43
-43.17	82.18
-37.48	86.78
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-28.67	92.68
-25.46	96.68
-20.72	100.02
-17.50	101.49
-12.63	101.50
-8.69	102.27
-5.39	102.75
-0.12	102.79
6.38	102.75
9.77	101.61
12.94	101.67
16.57	101.42
19.71	101.42
26.45	101.33
36.73	101.40
43.30	100.86
47.38	100.73
51.98	100.44
60.83	99.64
65.03	99.27
71.49	98.76
74.55	98.53
83.02	98.20
89.90	98.15
93.03	98.04
96.84	97.75
100.00	97.59

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CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 116 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1710+61 TO STA.1712+36

PC 1 2-496

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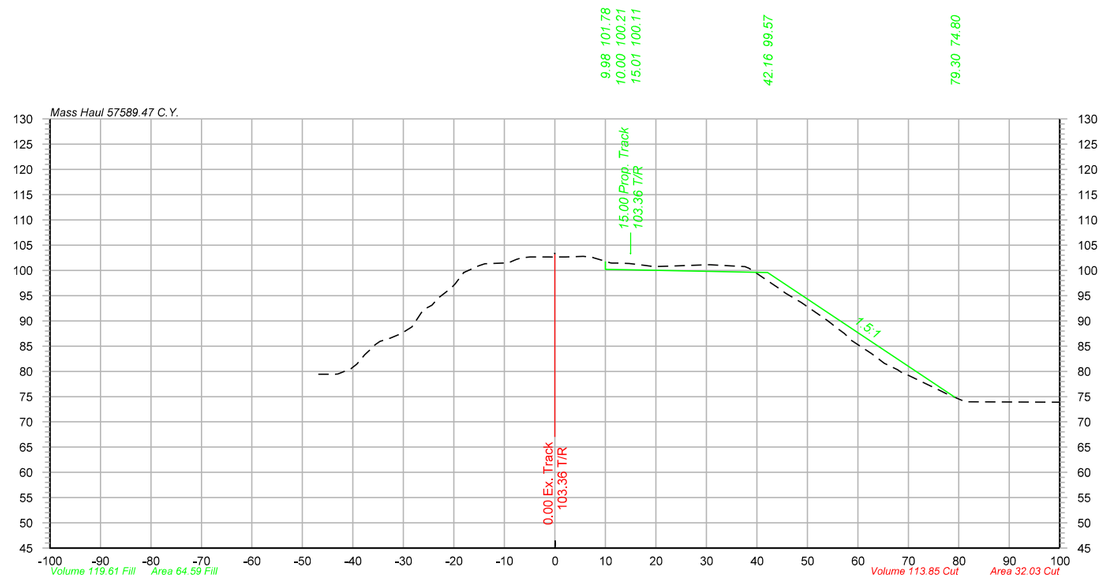
10/20/2014



1714+00

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-79.75	80.51
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-46.29	86.57
-41.31	88.84
-37.78	93.10
-32.59	96.49
-28.46	100.92
-25.40	101.50
-20.98	102.65
-17.41	102.65
-14.11	102.66
-10.84	102.79
-7.36	102.11
-3.57	101.43
0.56	100.97
4.89	100.82
9.65	101.07
14.34	100.97
17.35	100.75
20.41	98.18
27.50	95.50
31.26	93.60
35.85	90.17
40.98	87.52
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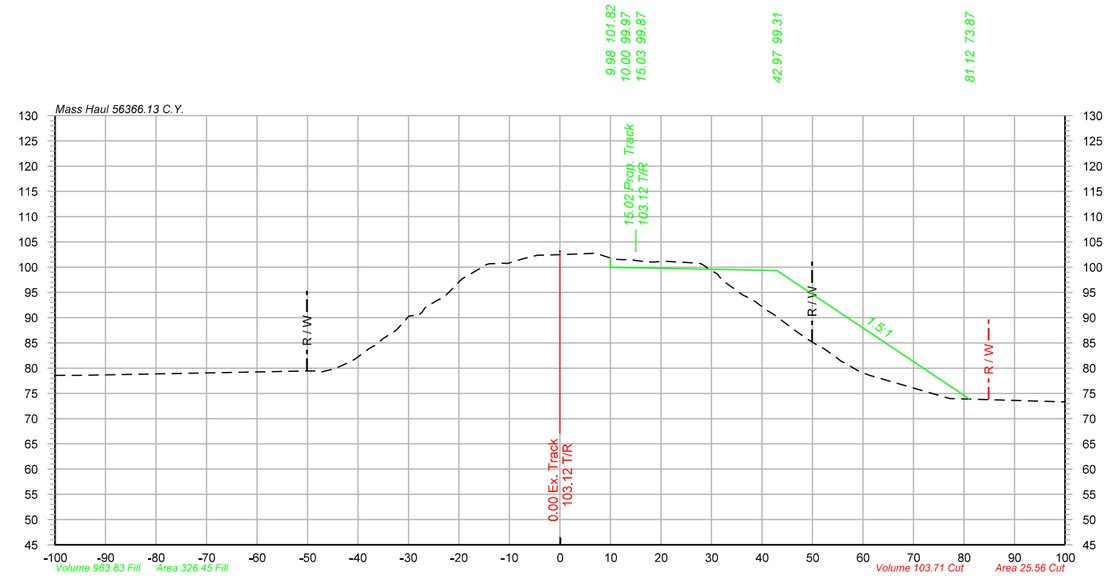

1716+00

-100.00	78.56
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-79.75	78.87
-49.83	79.43
-46.29	79.48
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-37.78	83.92
-32.59	87.40
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-25.40	92.77
-20.98	96.08
-17.41	98.81
-14.11	100.67
-10.84	100.79
-7.36	101.66
-3.57	102.37
0.56	102.50
4.89	102.66
9.65	101.93
14.34	101.50
17.35	100.98
20.41	101.14
27.50	100.79
31.26	98.56
35.85	94.72
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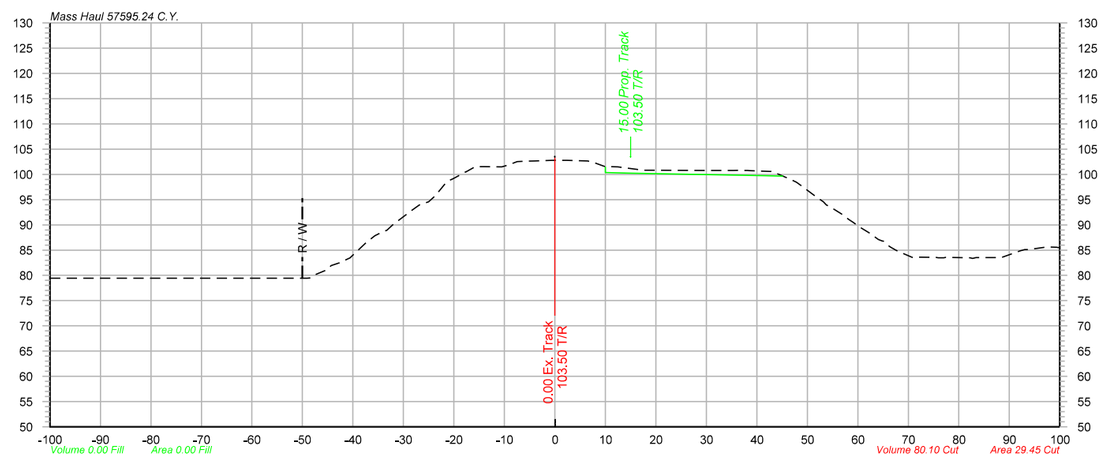

1713+00

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-85.20	79.43
-78.21	79.43
-73.53	79.43
-49.71	79.43
-45.14	81.09
-40.73	83.41
-37.37	86.46
-33.27	88.94
-28.32	92.88
-24.99	94.55
-21.57	98.32
-17.67	100.47
-13.97	101.53
-10.76	101.47
-7.46	102.53
-4.03	102.64
-0.59	102.79
6.49	102.65
9.96	101.54
16.59	100.95
19.89	100.82
29.94	100.79
35.28	100.79
38.59	100.75
42.83	100.58
46.62	99.05
51.72	95.58
56.73	92.17
60.65	89.41
64.06	87.12
67.86	84.81
71.20	83.62
75.42	83.56
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83.40	83.50
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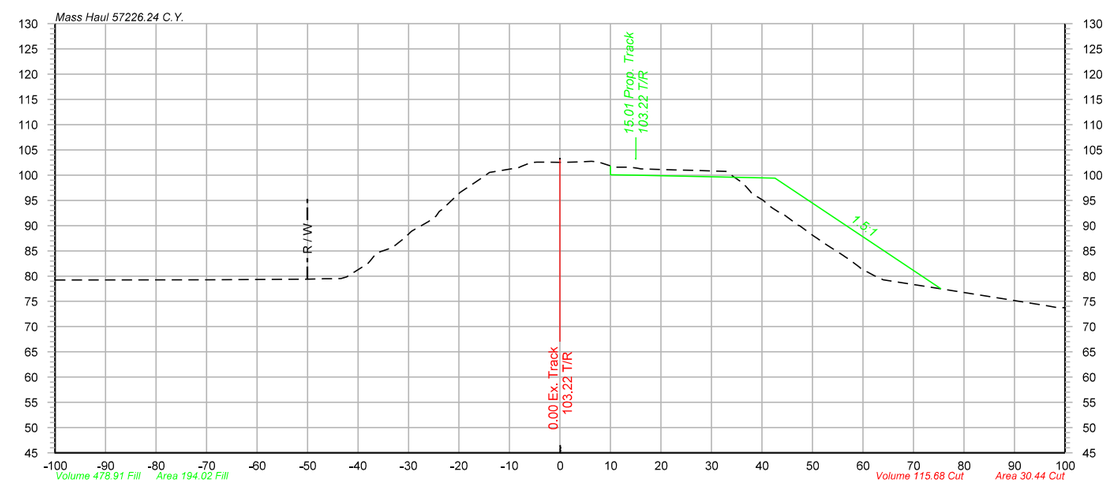

1715+00

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-46.70	79.48
-43.38	79.51
-38.75	82.07
-33.56	85.51
-29.42	88.84
-26.03	90.81
-20.79	95.60
-16.86	98.51
-10.94	101.04
-7.65	101.73
-4.59	102.55
0.12	102.52
3.74	102.62
7.56	102.63
10.79	101.56
13.92	101.57
22.68	101.01
26.52	100.93
30.10	100.81
33.20	100.55
36.23	98.40
40.19	95.03
43.63	92.46
47.24	90.01
50.31	87.92
55.88	84.25
59.42	81.67
63.74	79.41
74.68	77.61
88.81	75.35
94.21	74.50
98.64	73.73

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DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	10/20/2014
SHEET NUMBER	X 117 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1713+00 TO STA.1716+00

PC 1 2-497

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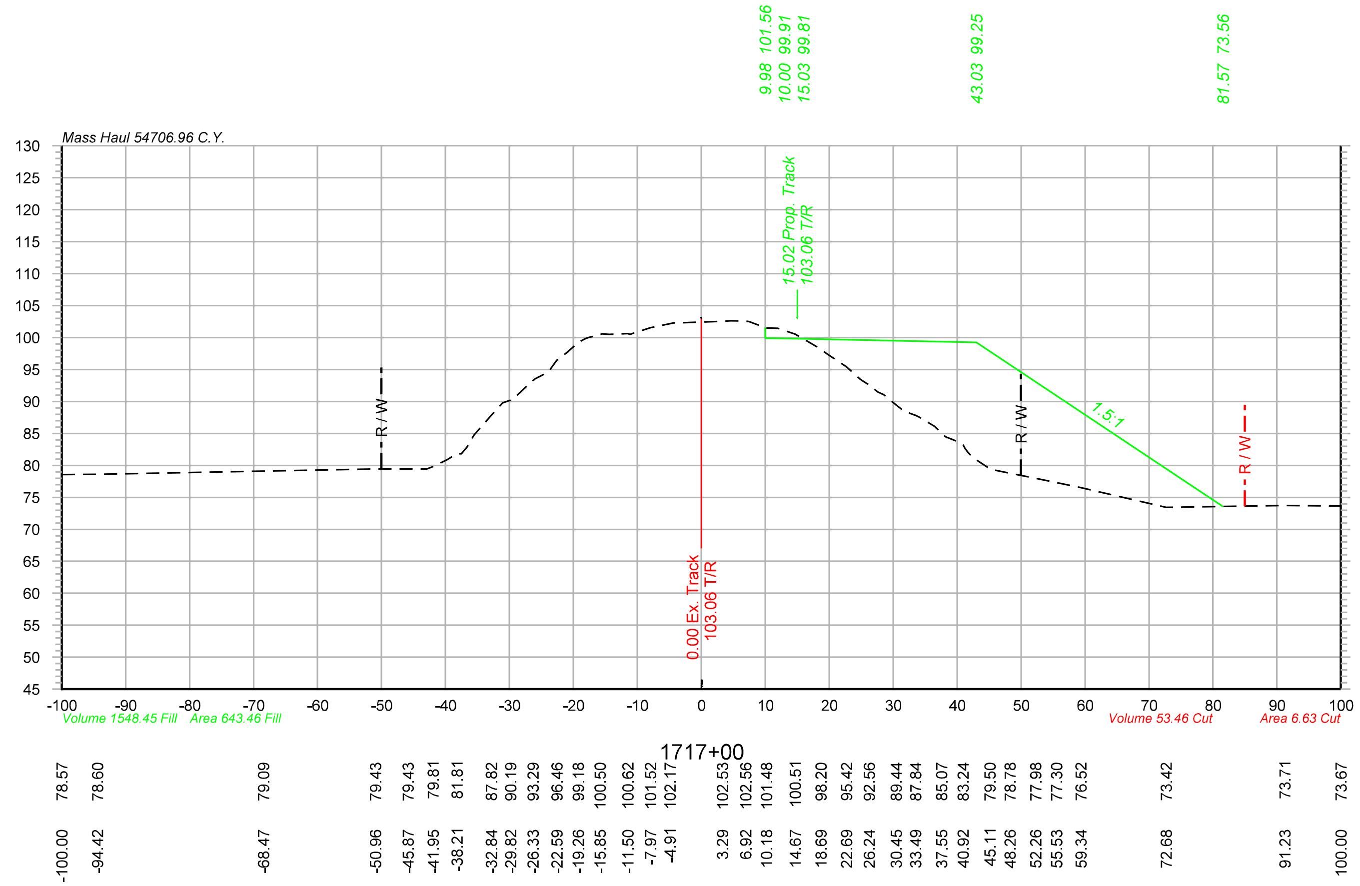

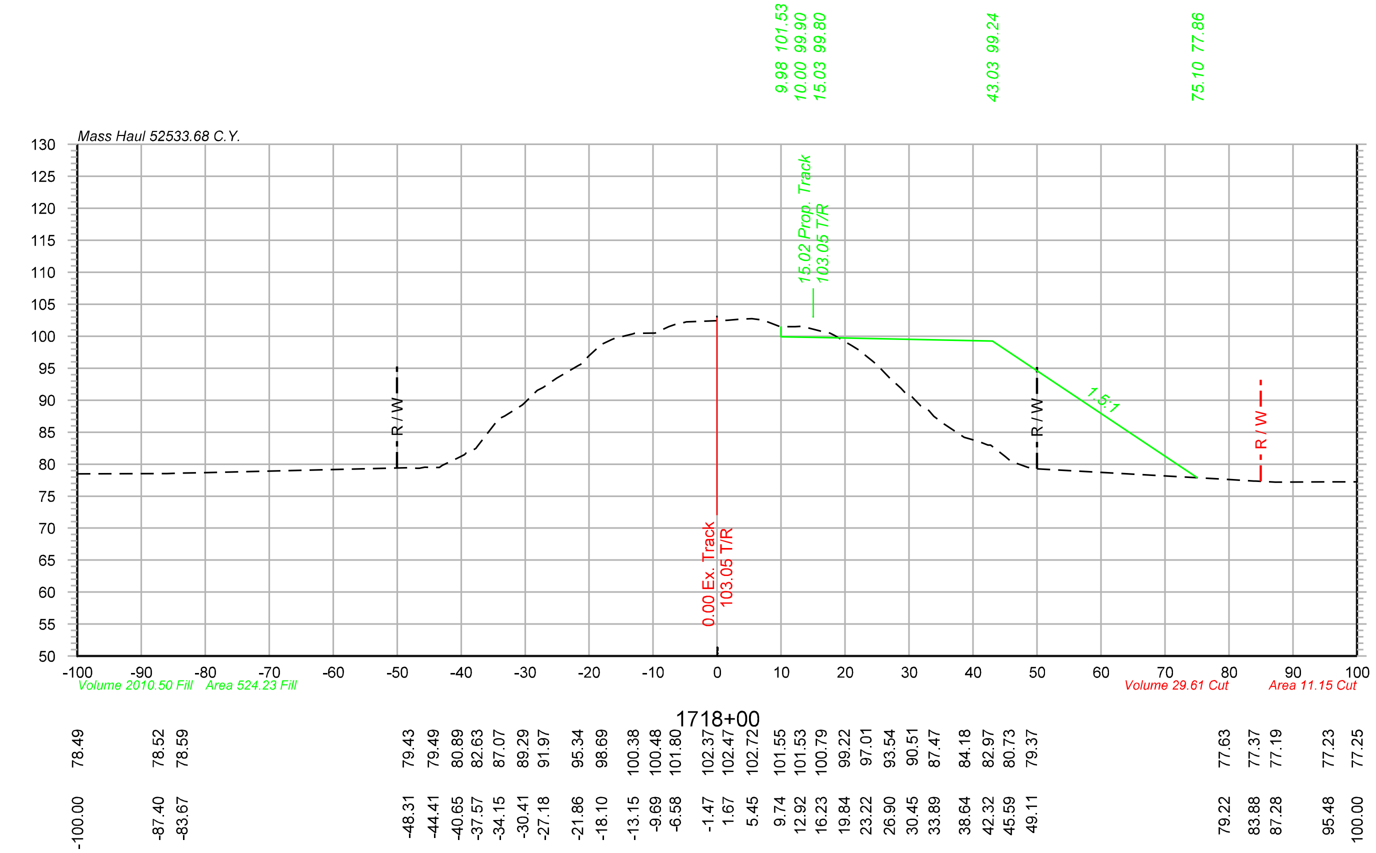

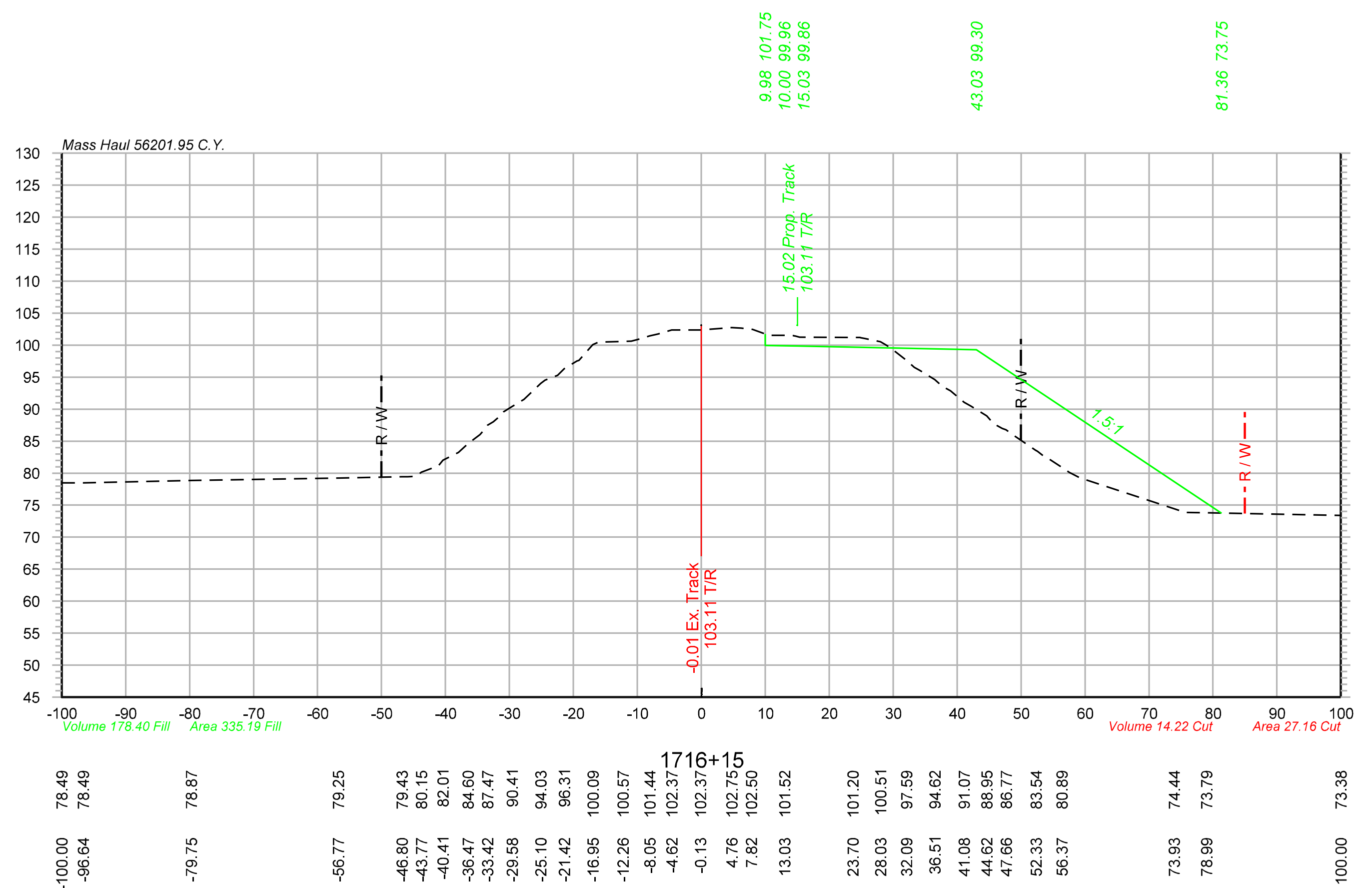

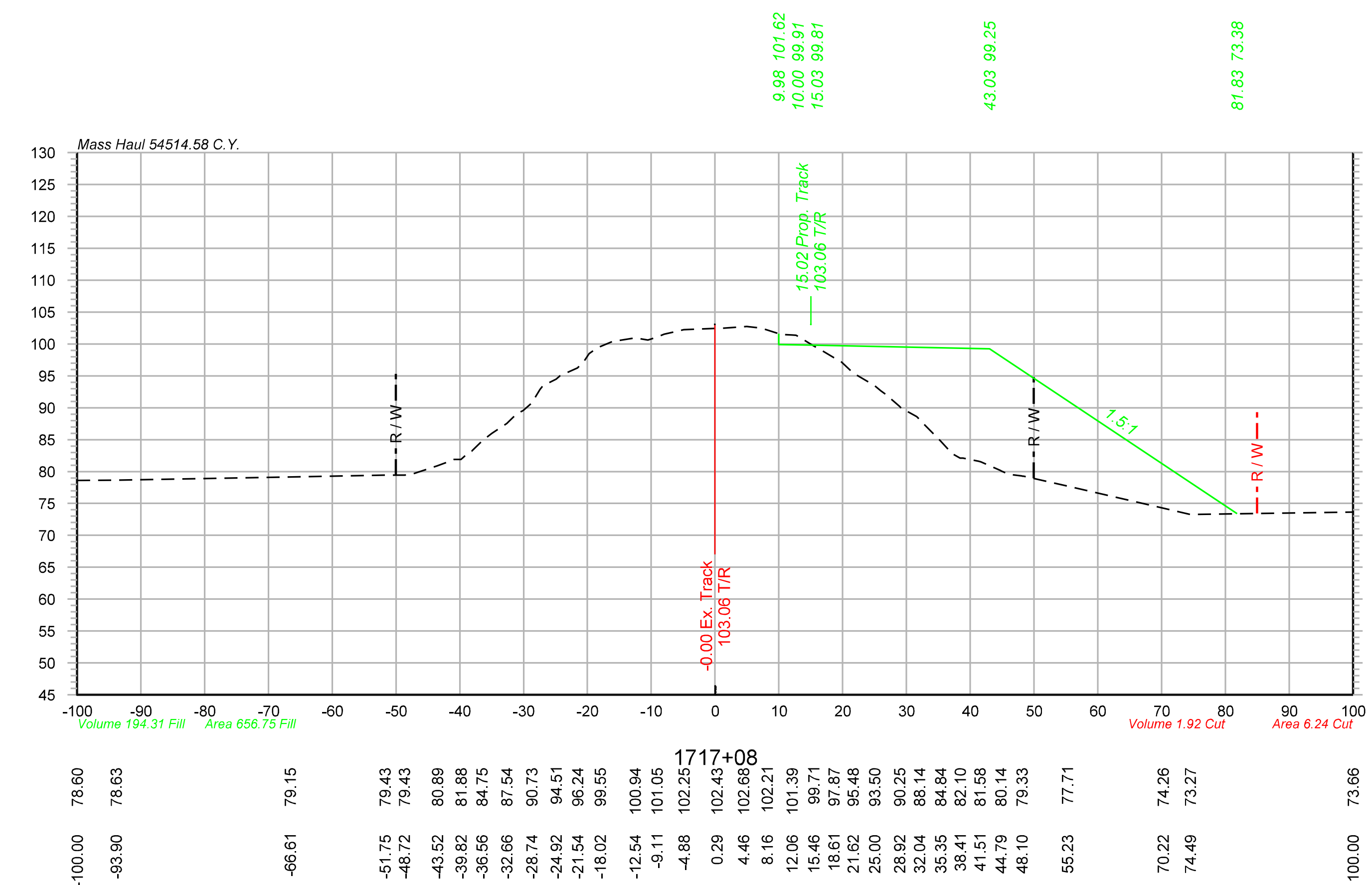

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DATE:	10/20/2014
SHEET NUMBER	X 118 of 139

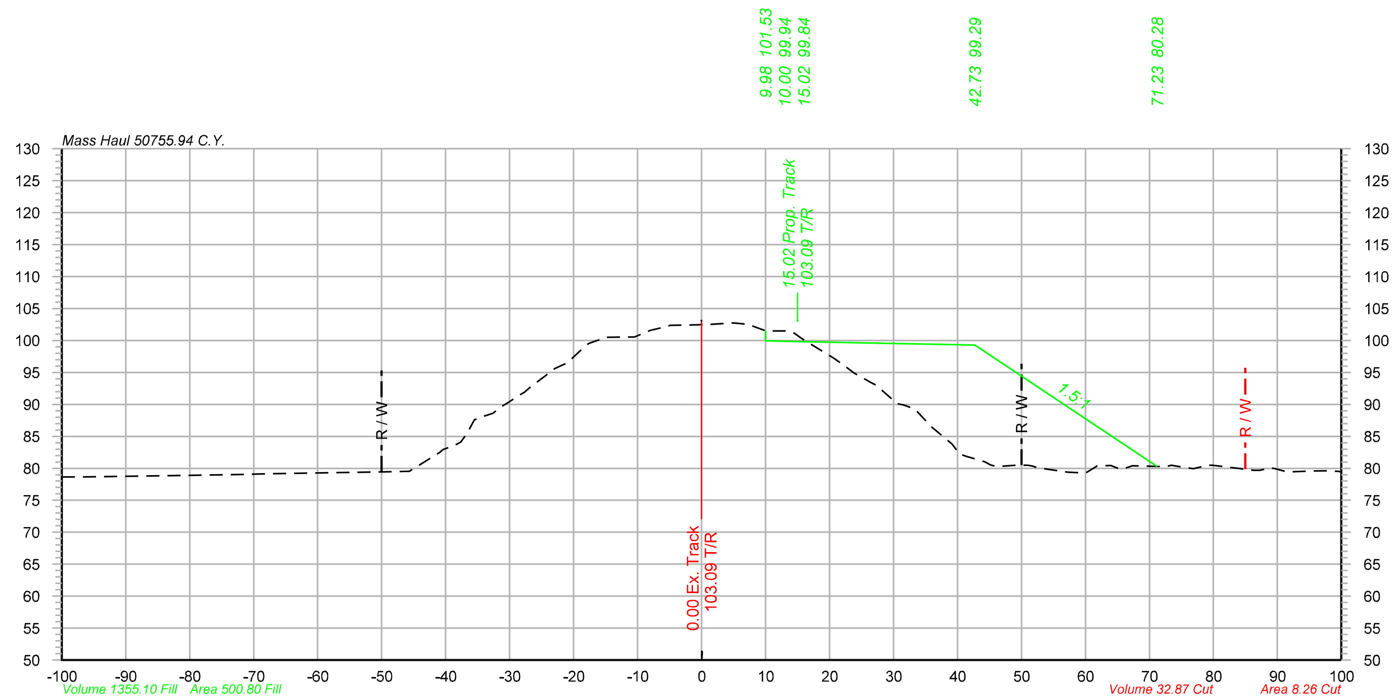
UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1716+15 TO STA.1718+00

PC 1 2-498



1719+00

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-72.63	79.04
-67.60	79.13
-55.27	79.34
-49.78	79.43
-46.36	79.52
-40.91	82.47
-37.65	84.10
-32.59	88.62
-28.48	91.46
-24.73	94.23
-20.93	96.53
-17.62	99.53
-11.86	100.52
-8.00	101.55
-4.87	102.34
-0.52	102.46
4.94	102.72
9.51	101.70
13.24	101.49
20.71	97.20
23.83	94.90
27.40	92.95
30.61	90.12
35.83	86.57
39.13	83.83
44.24	81.01
49.17	80.49
52.63	80.06
57.21	79.40
61.80	80.36
65.02	80.03
72.04	80.26
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87.27	79.68
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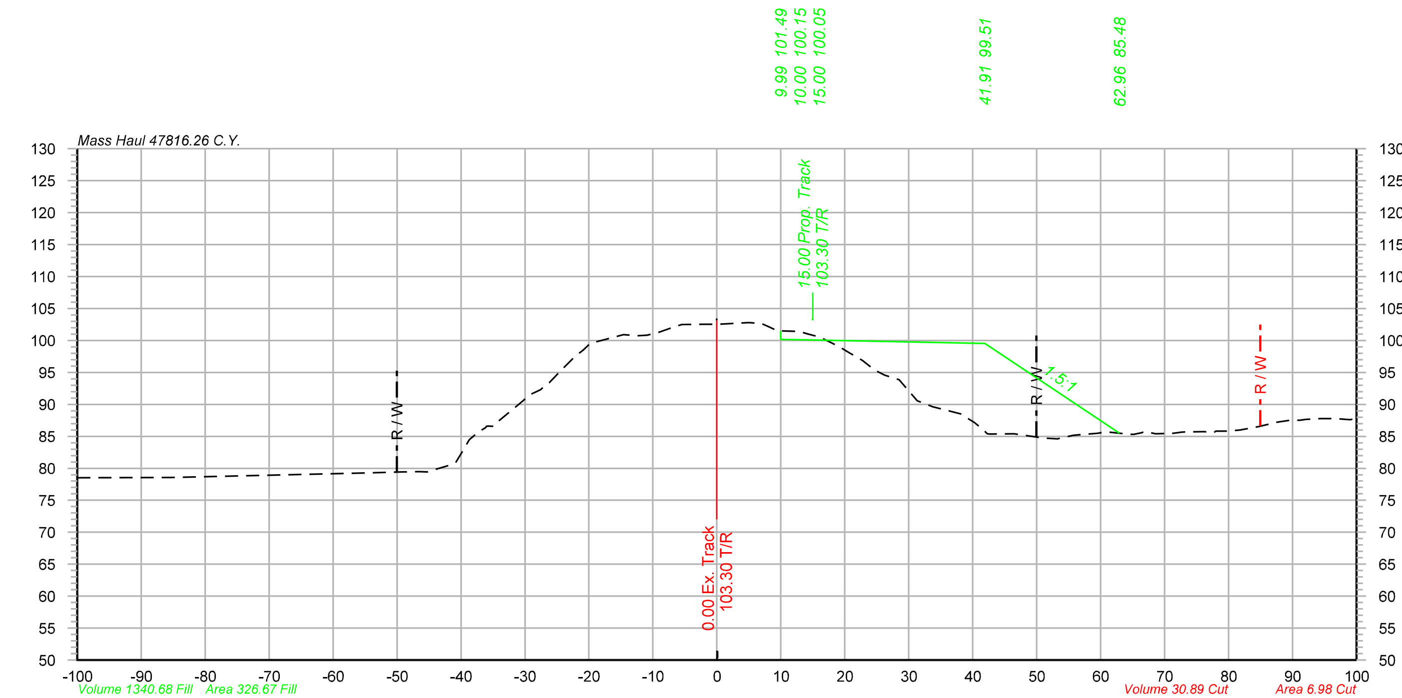
95.15	79.57
98.40	79.59



1721+00

Offset	Elevation
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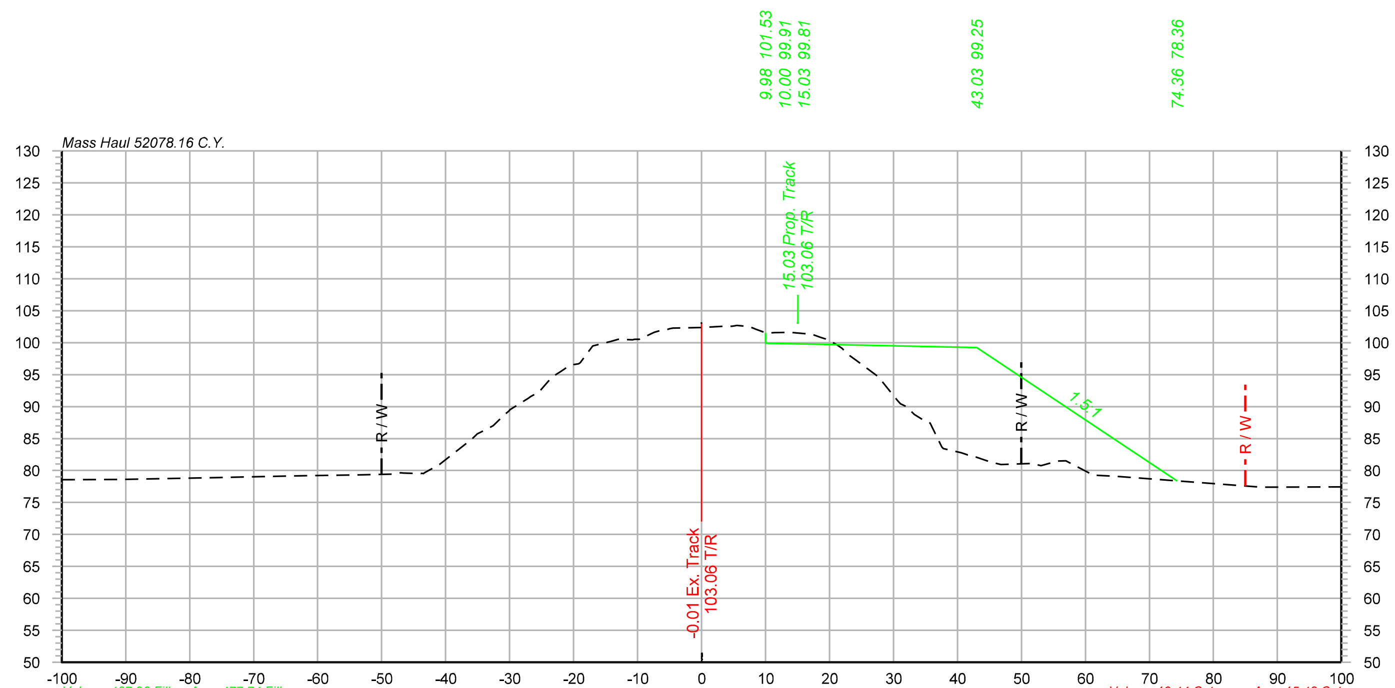
-54.89	79.28
-49.00	79.43
-45.32	79.44
-41.51	80.57
-37.31	85.66
-30.46	90.45
-27.16	92.69
-22.22	97.45
-16.20	100.50
-12.33	100.73
-8.93	101.32
-5.73	102.42
-1.91	102.55
4.81	102.76
8.00	102.19
12.92	101.42
16.06	100.54
19.27	98.95
22.77	96.84
26.23	94.56
31.33	90.56
38.10	88.51
41.25	86.35
46.44	85.39
51.11	84.71
55.69	85.13
59.59	85.47
64.60	85.31
68.58	85.41
72.60	85.64
76.17	85.73
79.65	85.81
84.71	86.52
89.40	87.50
94.43	87.78
98.97	87.60



1718+25

Offset	Elevation
-100.00	78.55
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-75.55	78.90
-72.09	78.97
-66.16	79.09
-62.05	79.17
-53.75	79.33
-48.28	79.43
-43.87	79.53
-36.72	84.28
-33.48	86.51
-30.12	89.28
-27.07	91.31
-23.98	93.95
-20.97	96.20
-17.02	99.49
-13.01	100.51
-9.71	100.53
-5.35	102.09
-0.26	102.35
3.60	102.56
7.32	102.51
10.77	101.52
13.85	101.60
17.13	101.32
21.06	99.73
24.63	96.92
28.02	94.21
31.08	90.42
35.25	87.51
40.62	82.78
45.20	81.30
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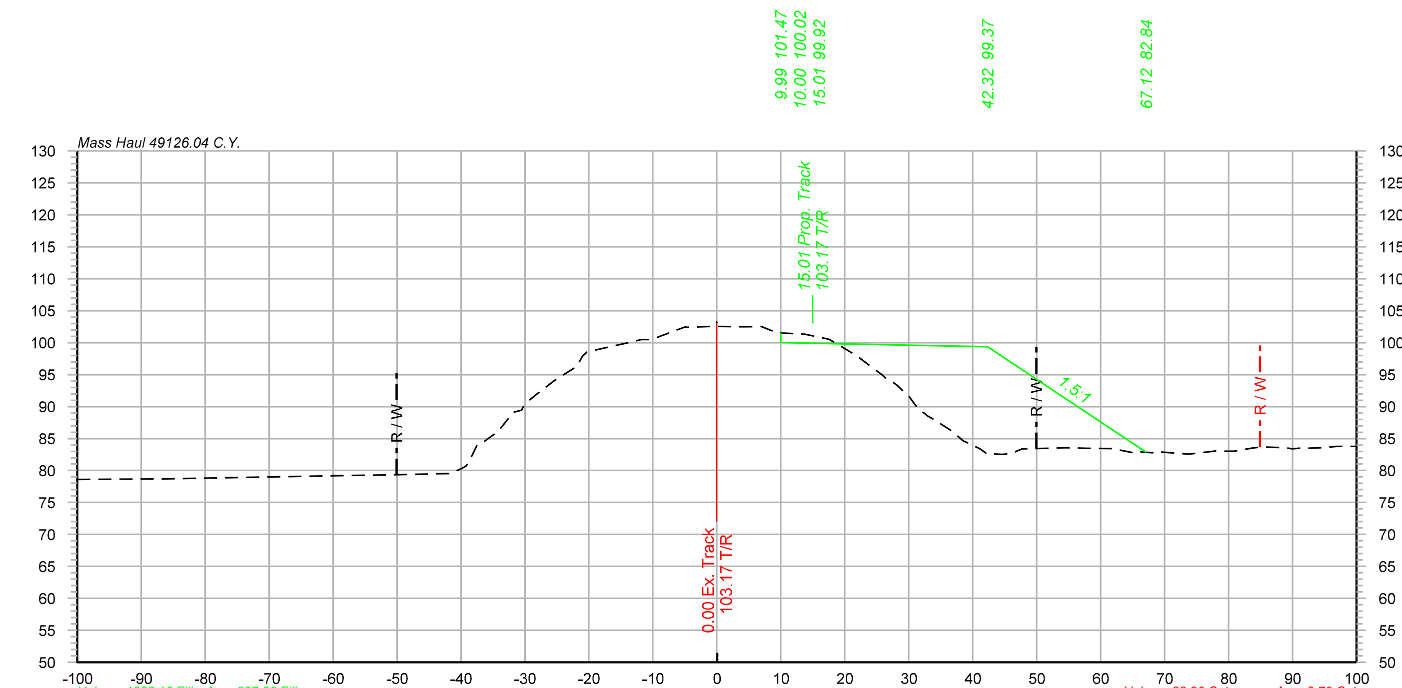
99.53	77.45



1720+00

Offset	Elevation
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-51.53	79.33
-45.83	79.43
-42.22	79.52
-39.21	80.73
-34.88	85.64
-31.80	89.11
-28.25	91.85
-25.21	94.19
-21.88	96.28
-16.15	99.49
-11.80	100.50
-5.03	102.45
-1.16	102.51
3.73	102.50
6.96	102.53
10.56	101.47
13.80	101.34
17.18	100.63
20.91	98.53
25.85	94.93
30.22	91.39
33.77	88.06
36.88	86.09
41.12	83.41
44.59	82.51
47.74	83.41
51.92	83.50
55.91	83.51
61.12	83.44
65.58	82.71
69.00	82.72
73.82	82.54
78.06	83.08
83.74	83.53
88.89	83.57
92.15	83.48
96.95	83.75
100.00	83.78

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UNION PACIFIC

DRAWN BY: BWG
CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 119 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-499
CROSS SECTIONS STA.1718+25 TO STA.1721+00

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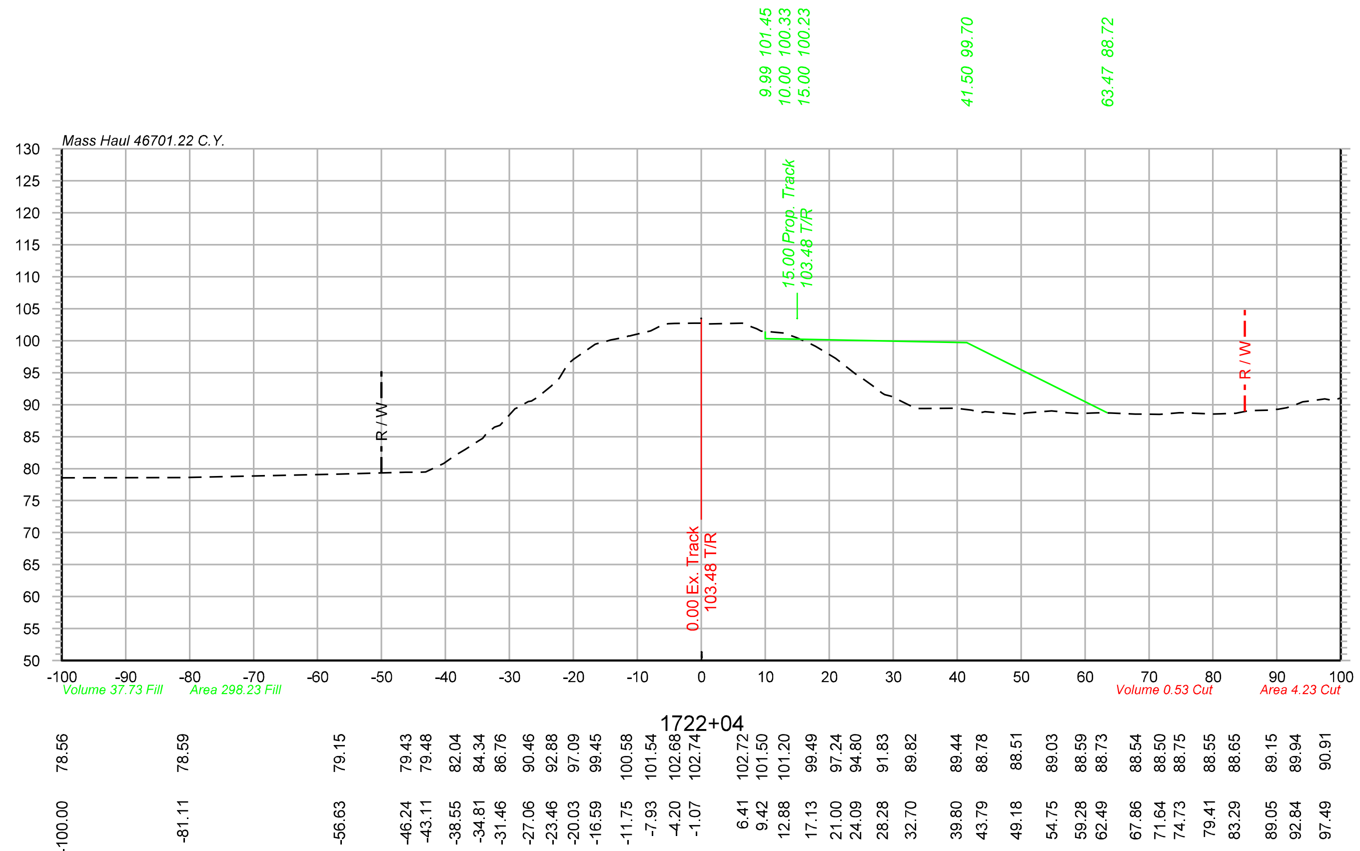
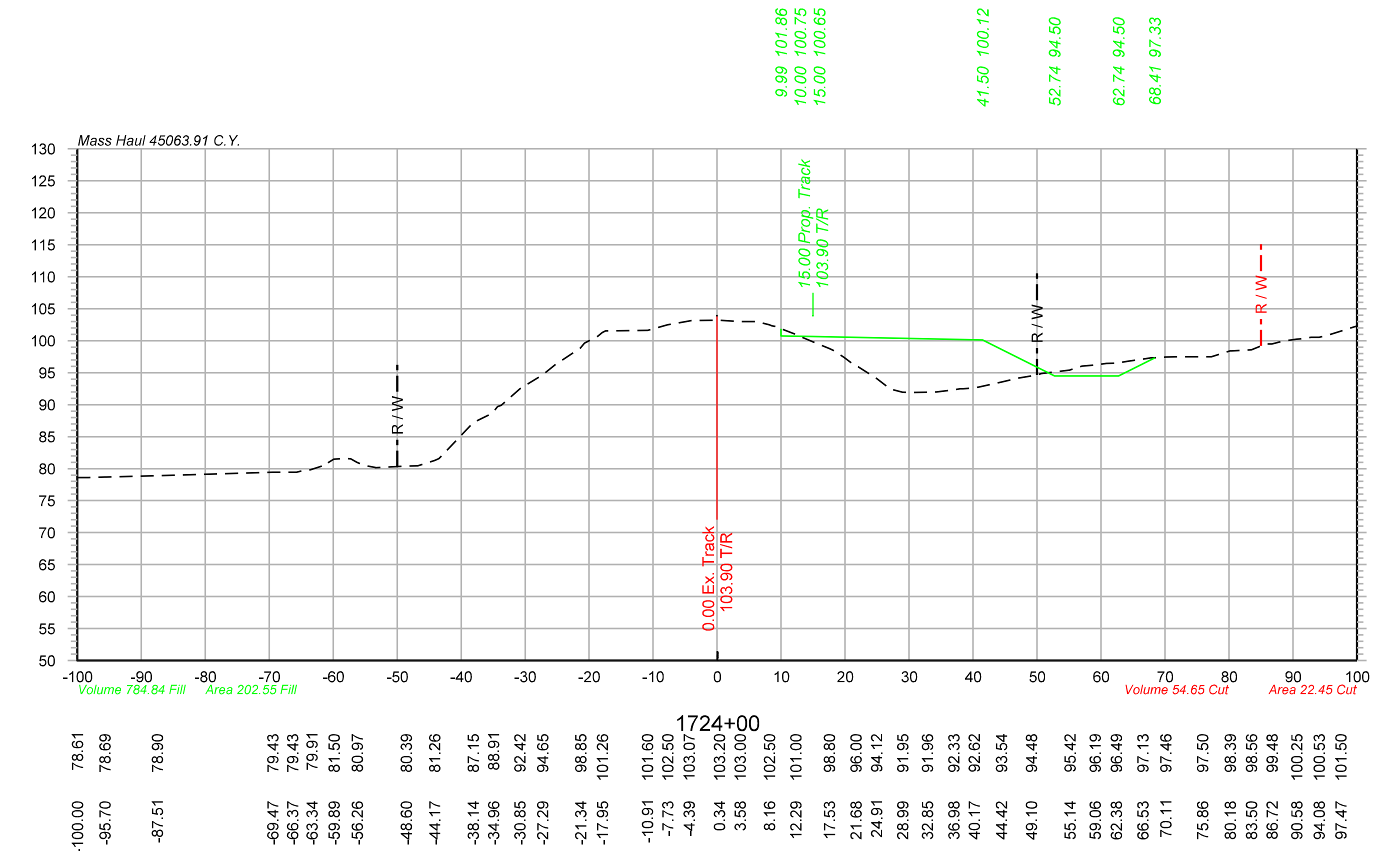
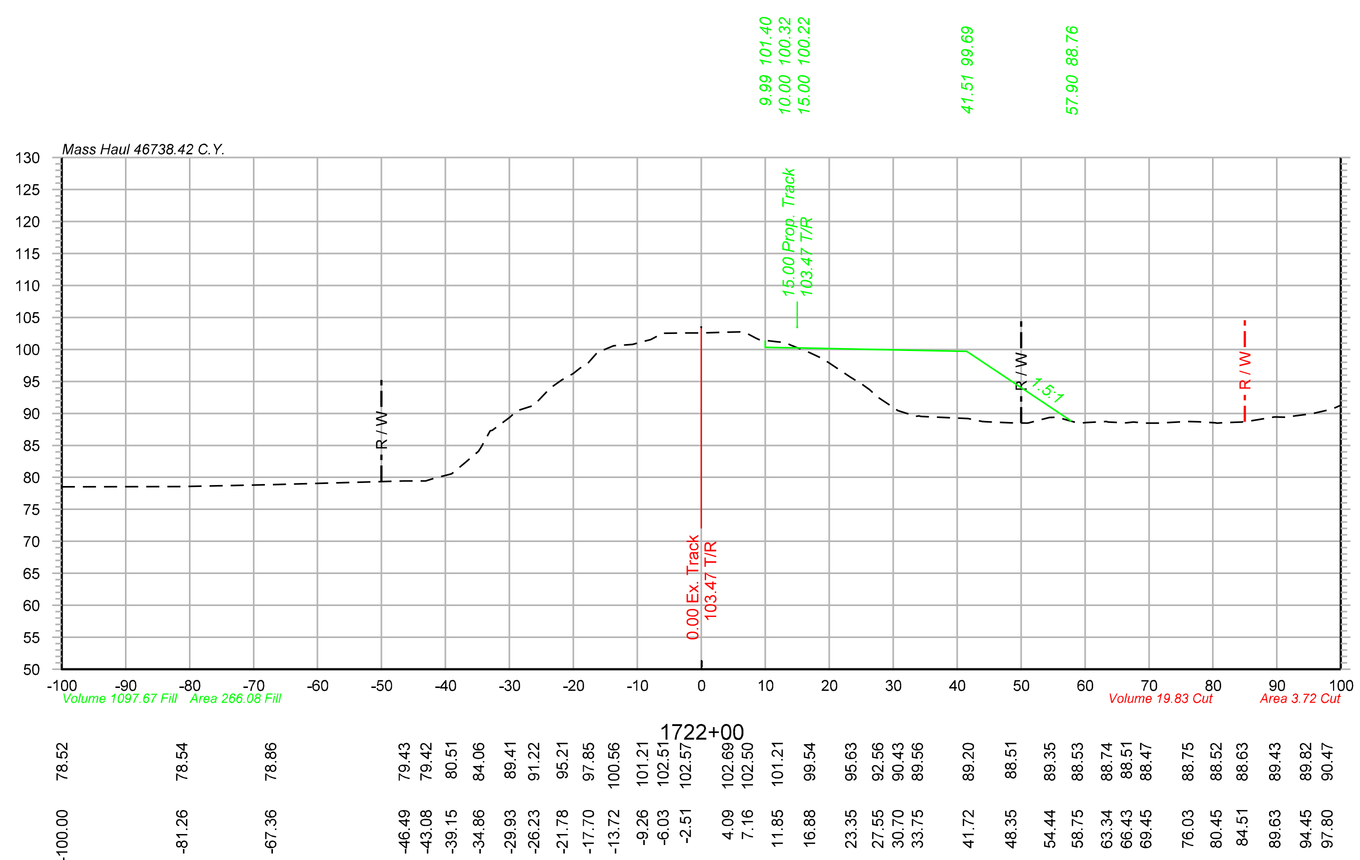
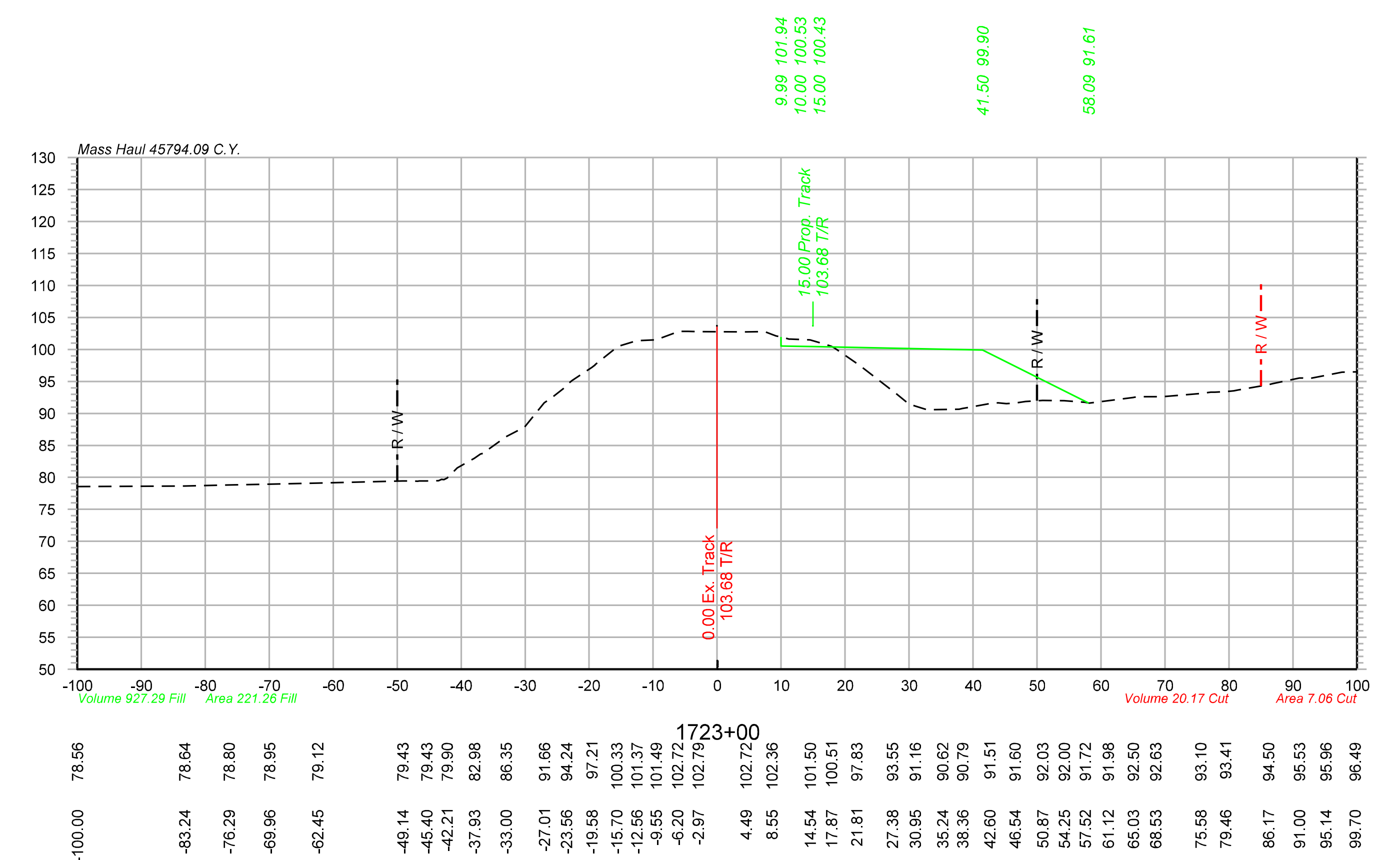
10/20/2014









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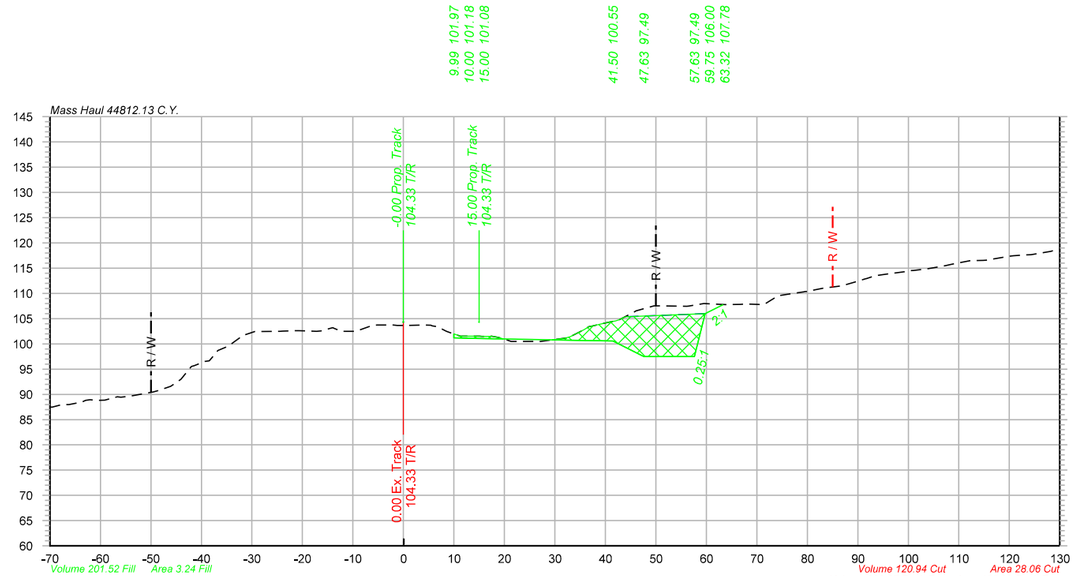
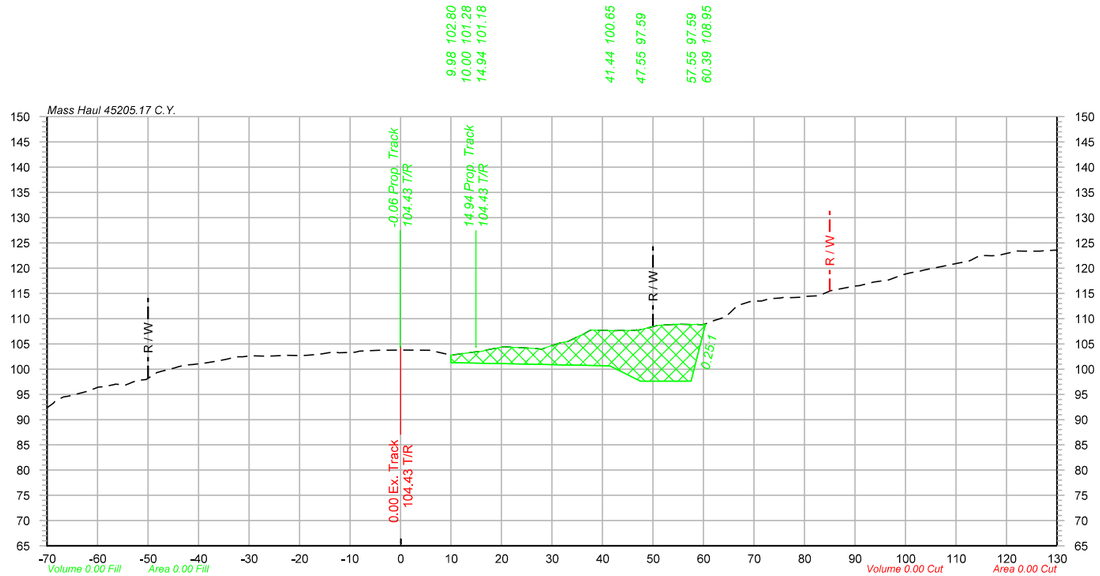
UNION PACIFIC RAILROAD

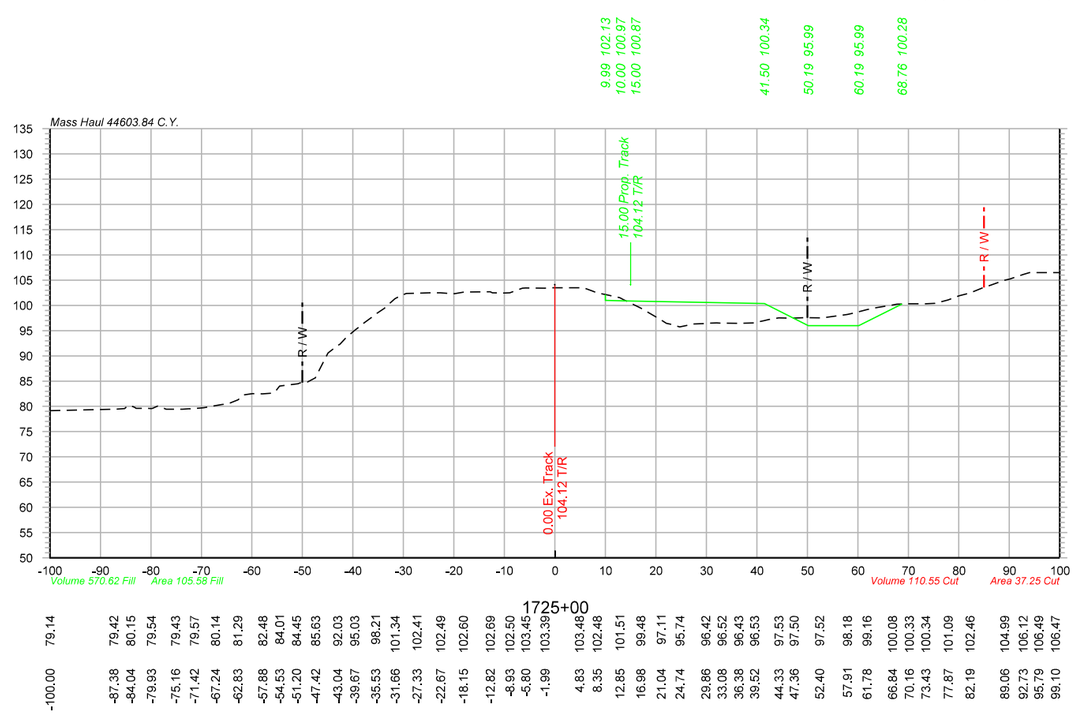
Office of Assistant Vice President
Engineering Design/Construction

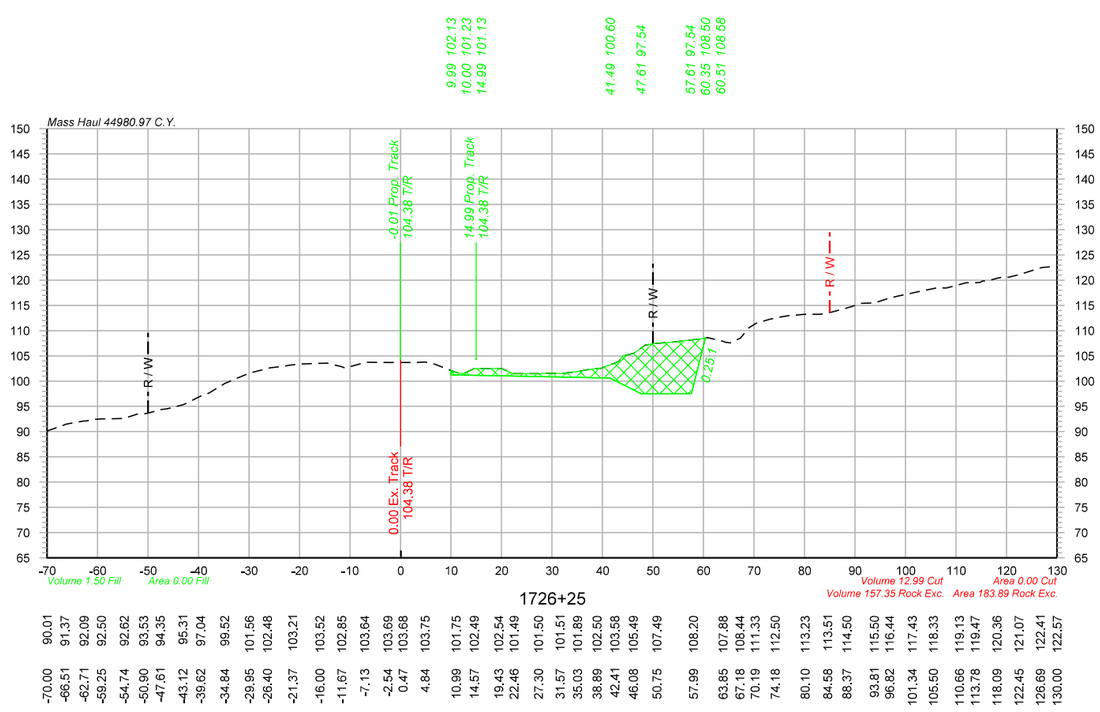
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
PC 1 2-500
CROSS SECTIONS STA.1722+00 TO STA.1724+00









Legend

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1725+00 TO STA.1726+50

PC 1 2-501

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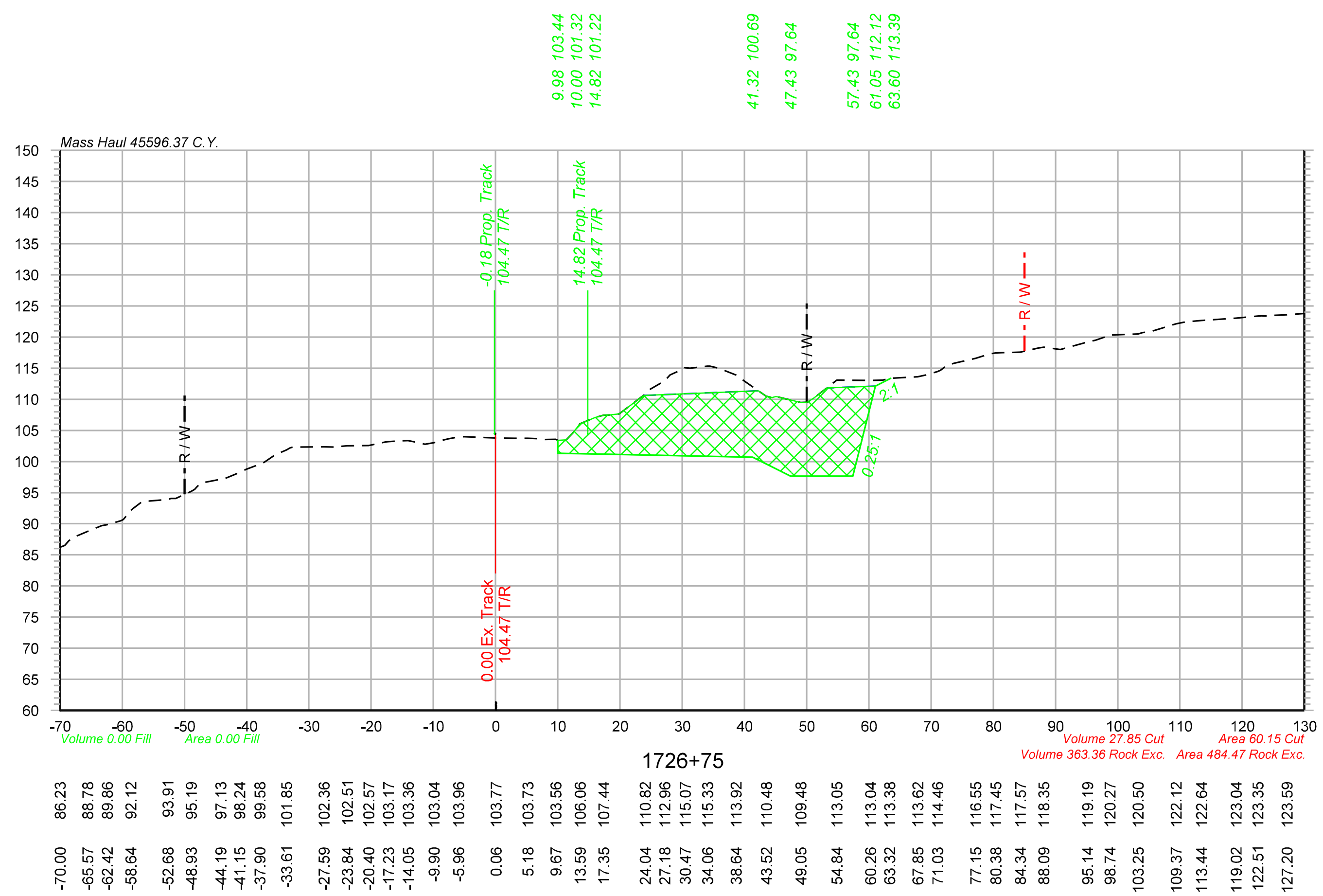

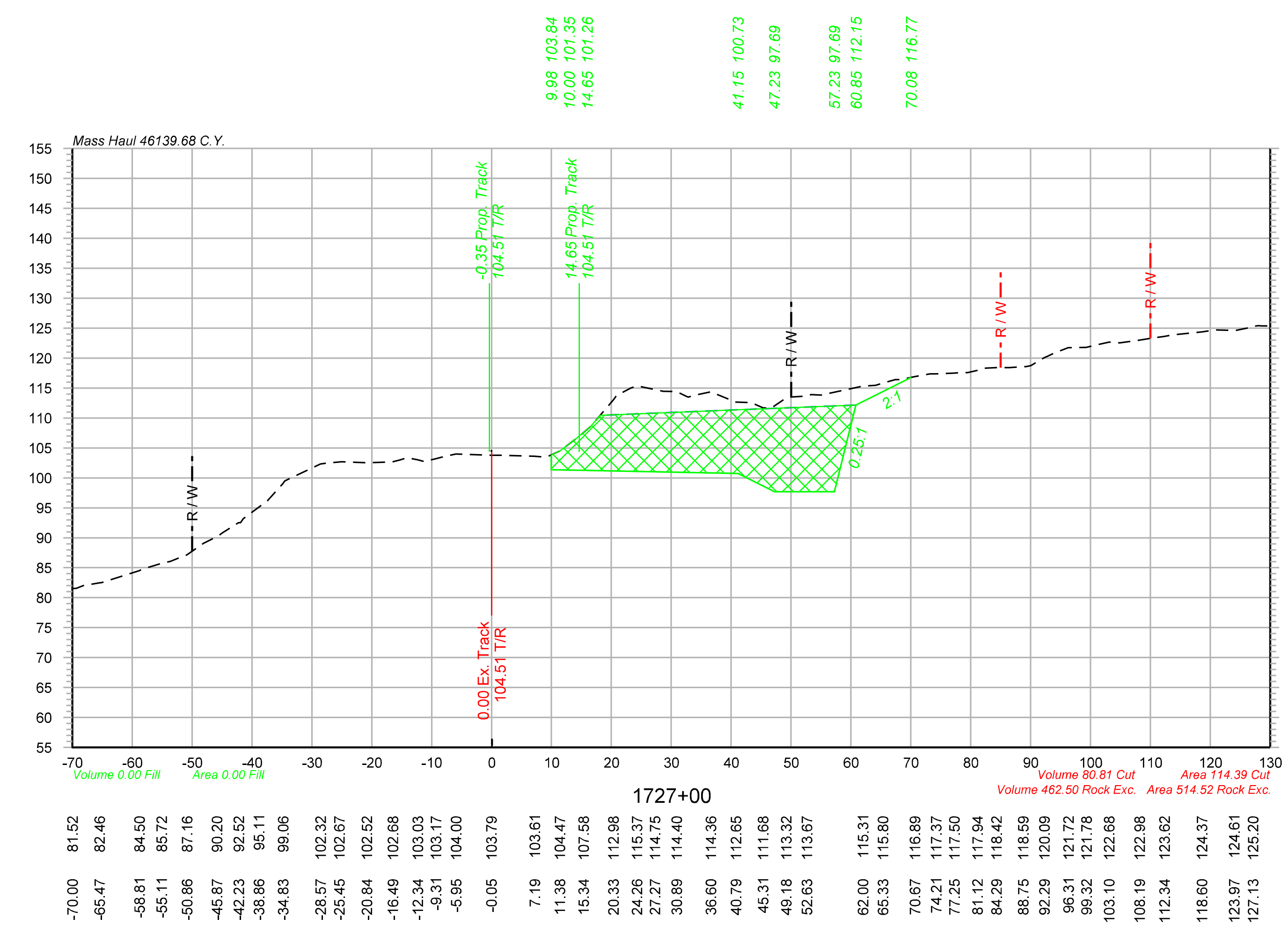

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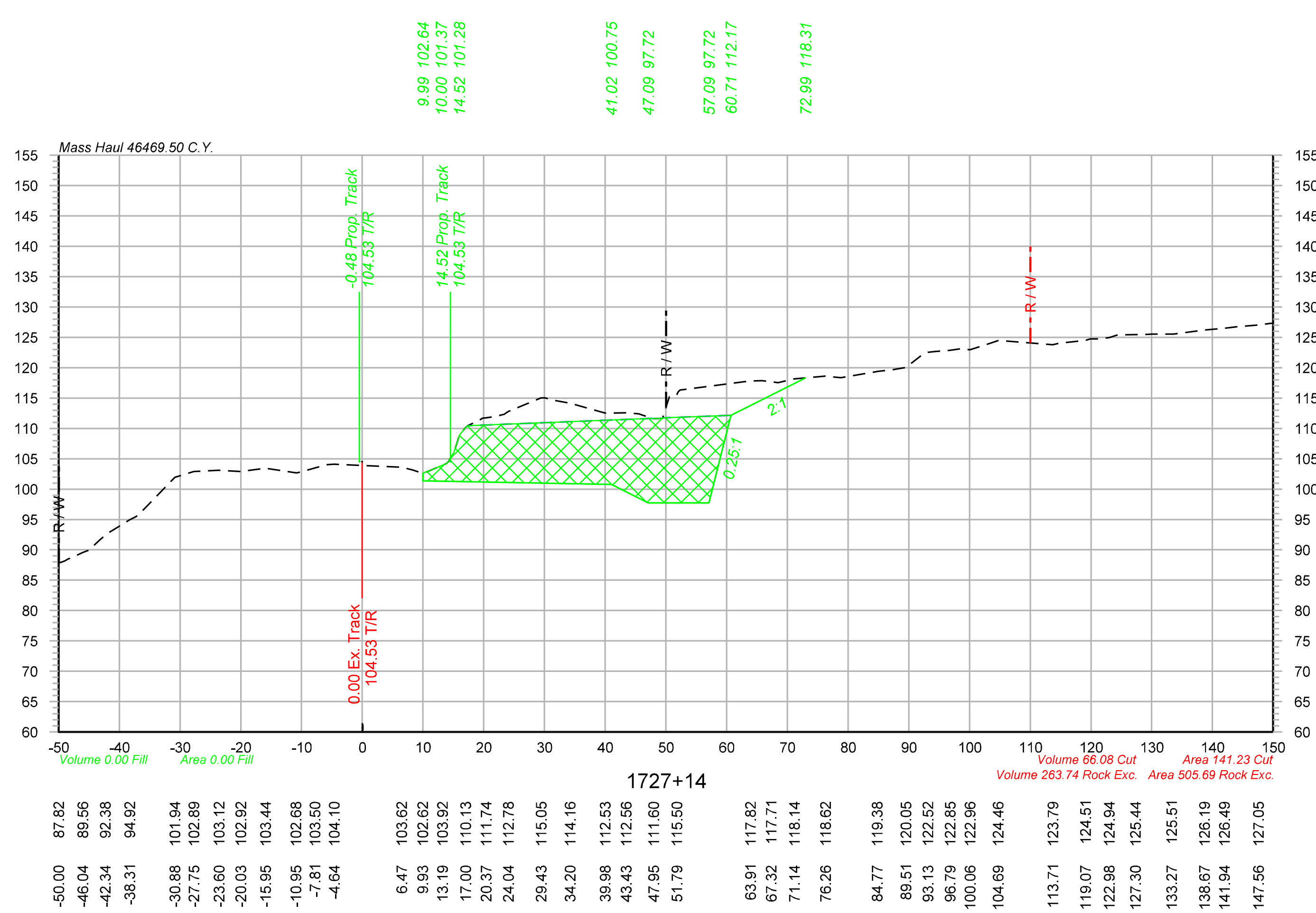
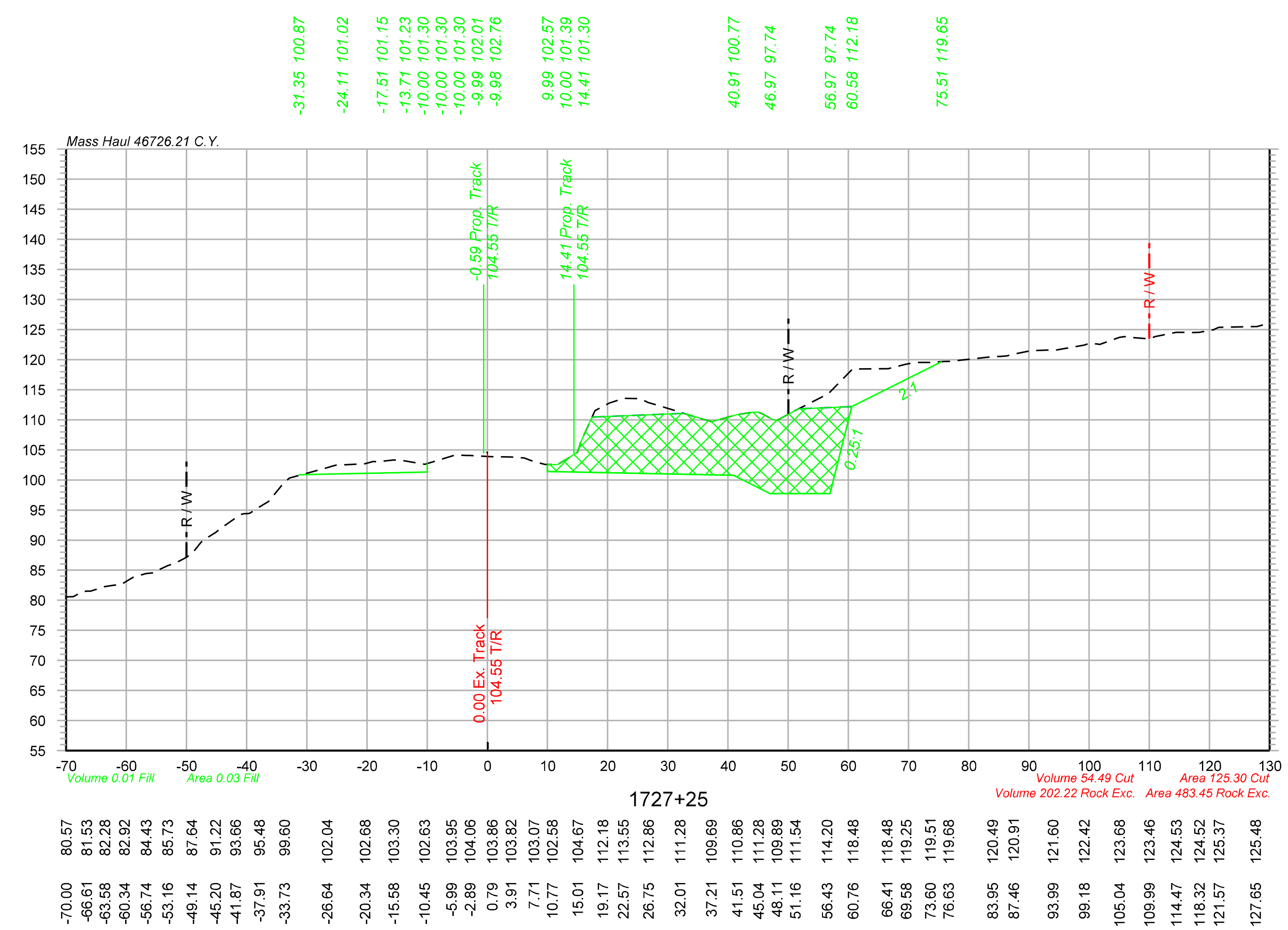
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1726+75 TO STA.1727+00

PC 1 2-502





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Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE: CROSS SECTIONS STA.1727+14 TO STA.1727+25

PC 1 2-503

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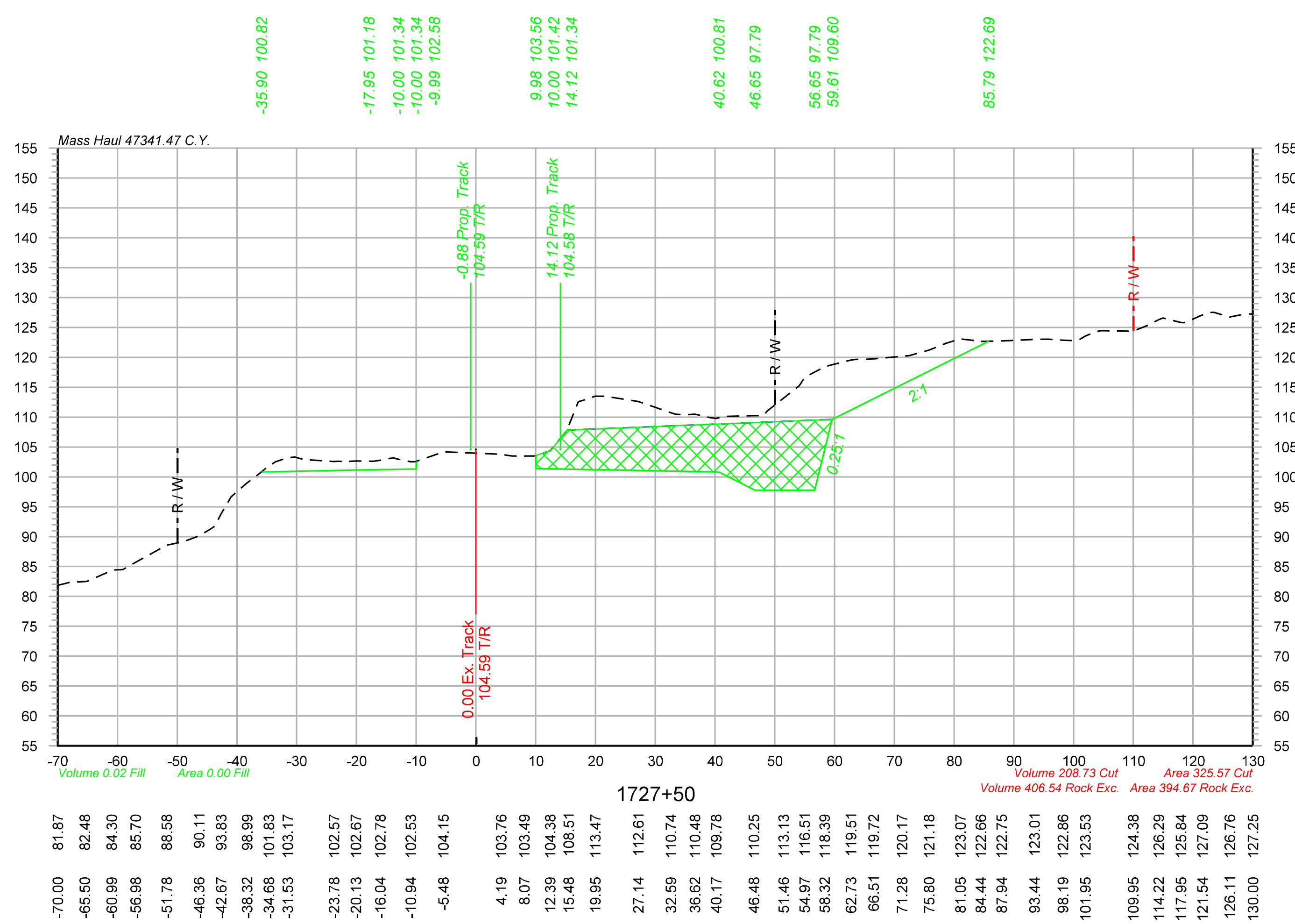

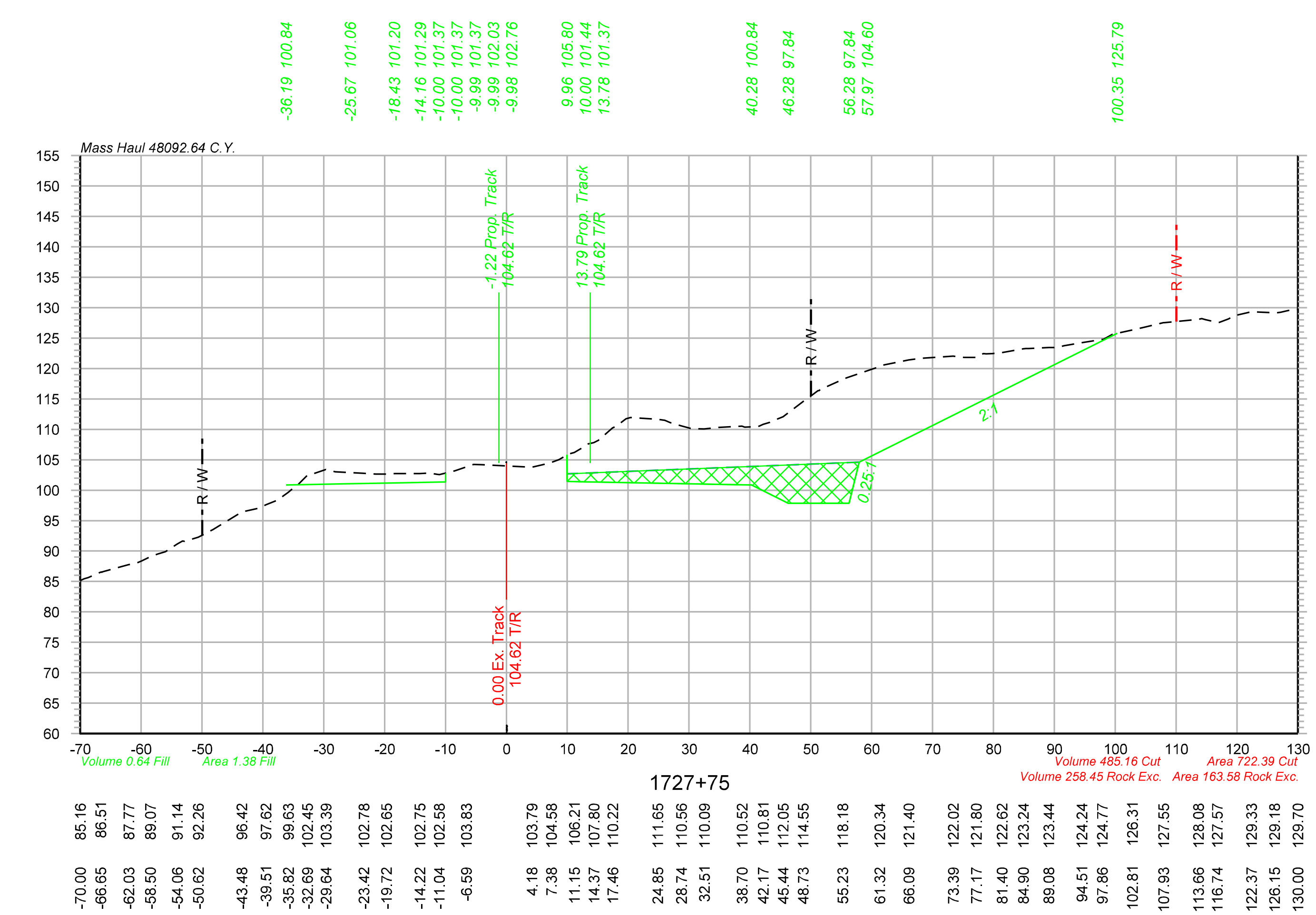

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LOCATION & DESCRIPTION:
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Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1727+50 TO STA.1727+75

PC 1 2-504

Color table: F:\PROJECTS\011-1345\color\UPRR.tbl
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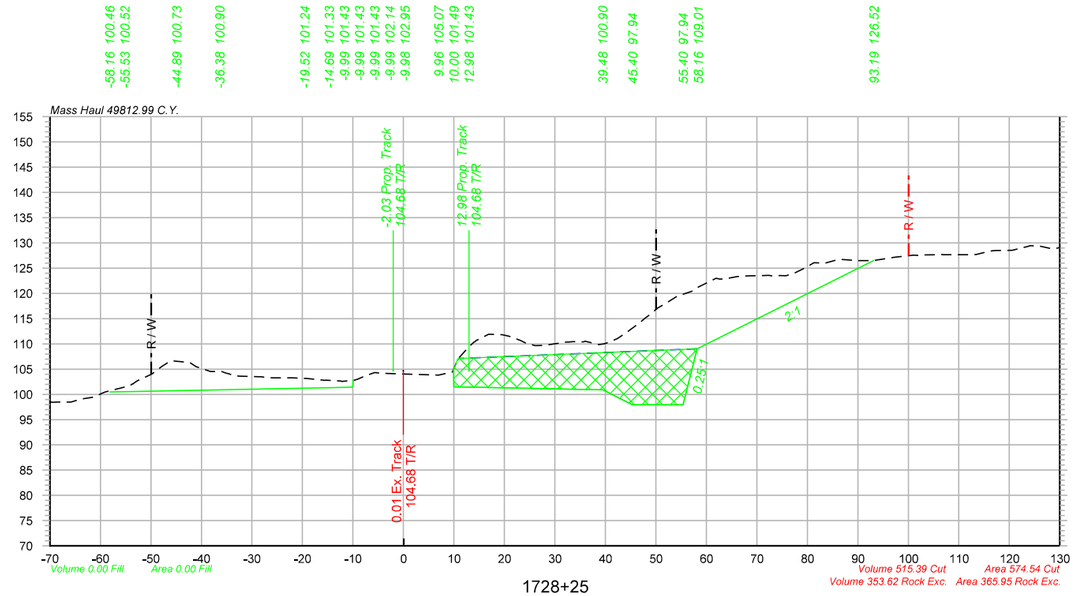

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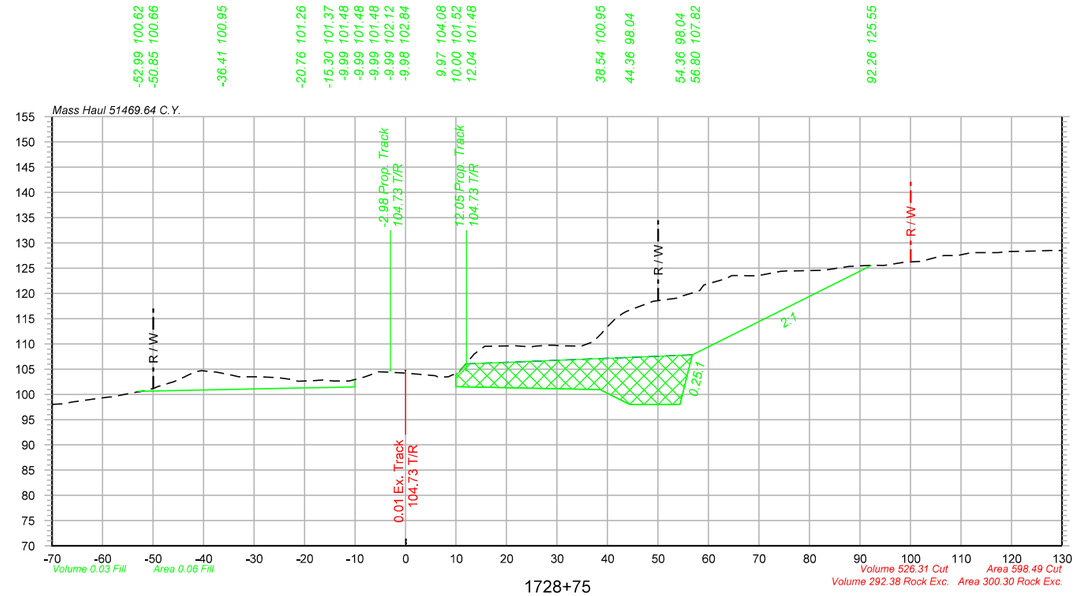

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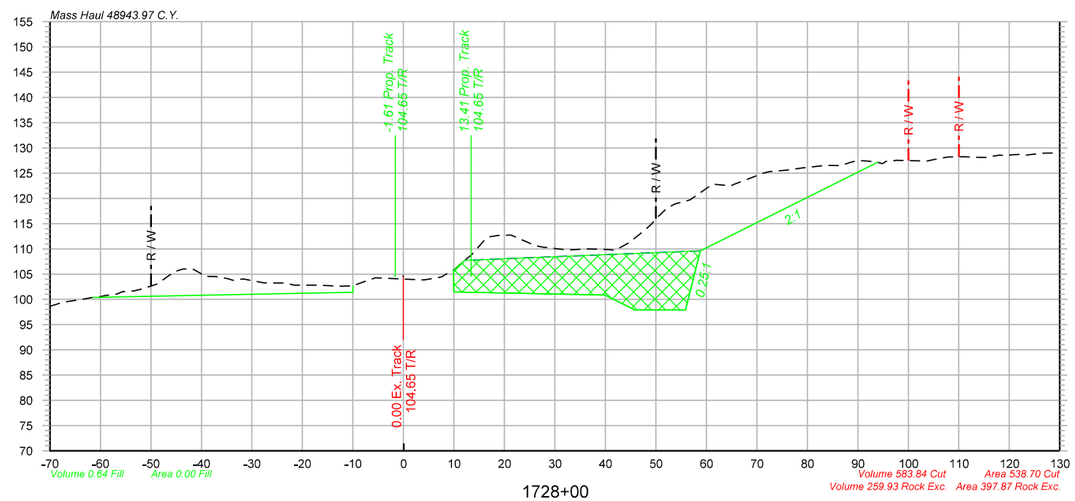

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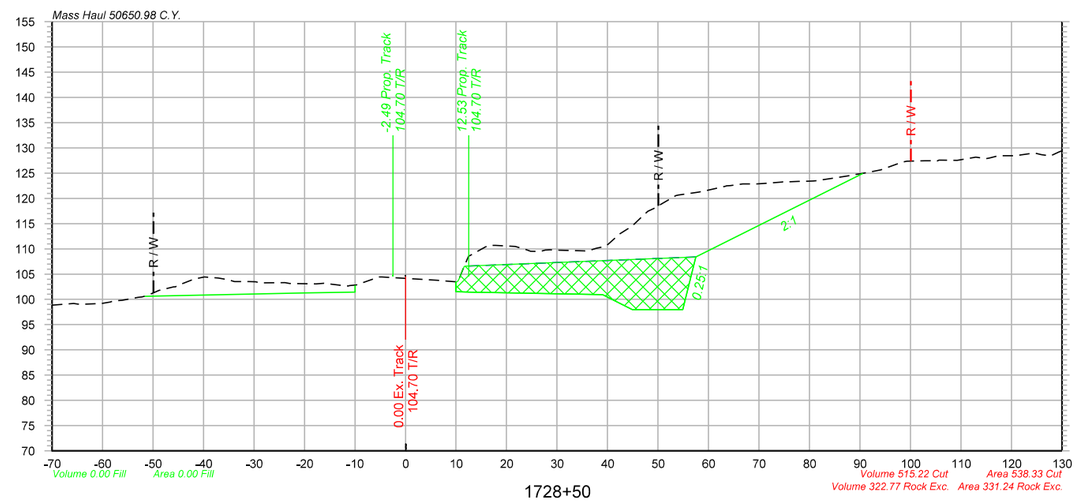

1728+50

Legend

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Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1728+00 TO STA.1728+75

PC 1 2-505

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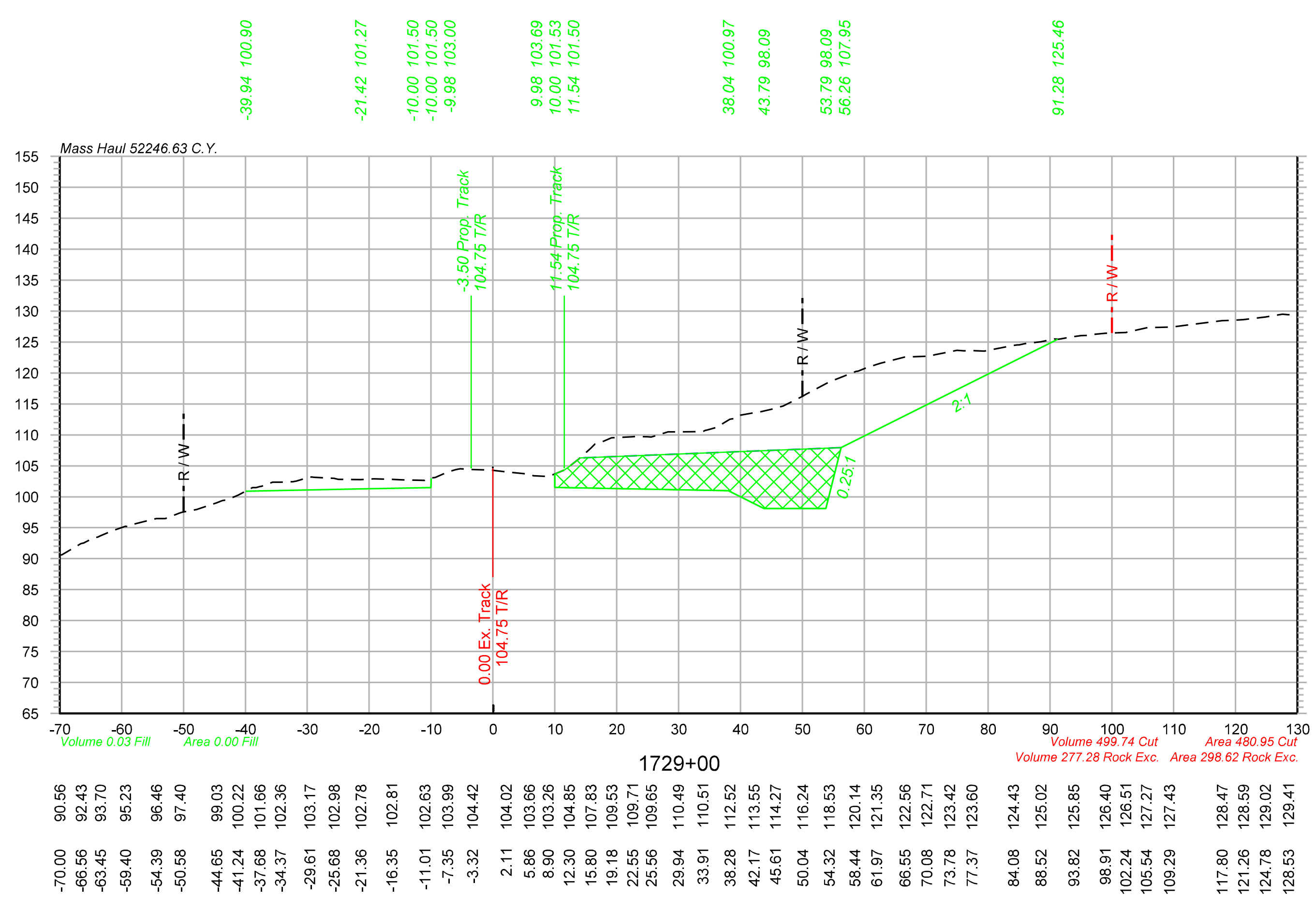

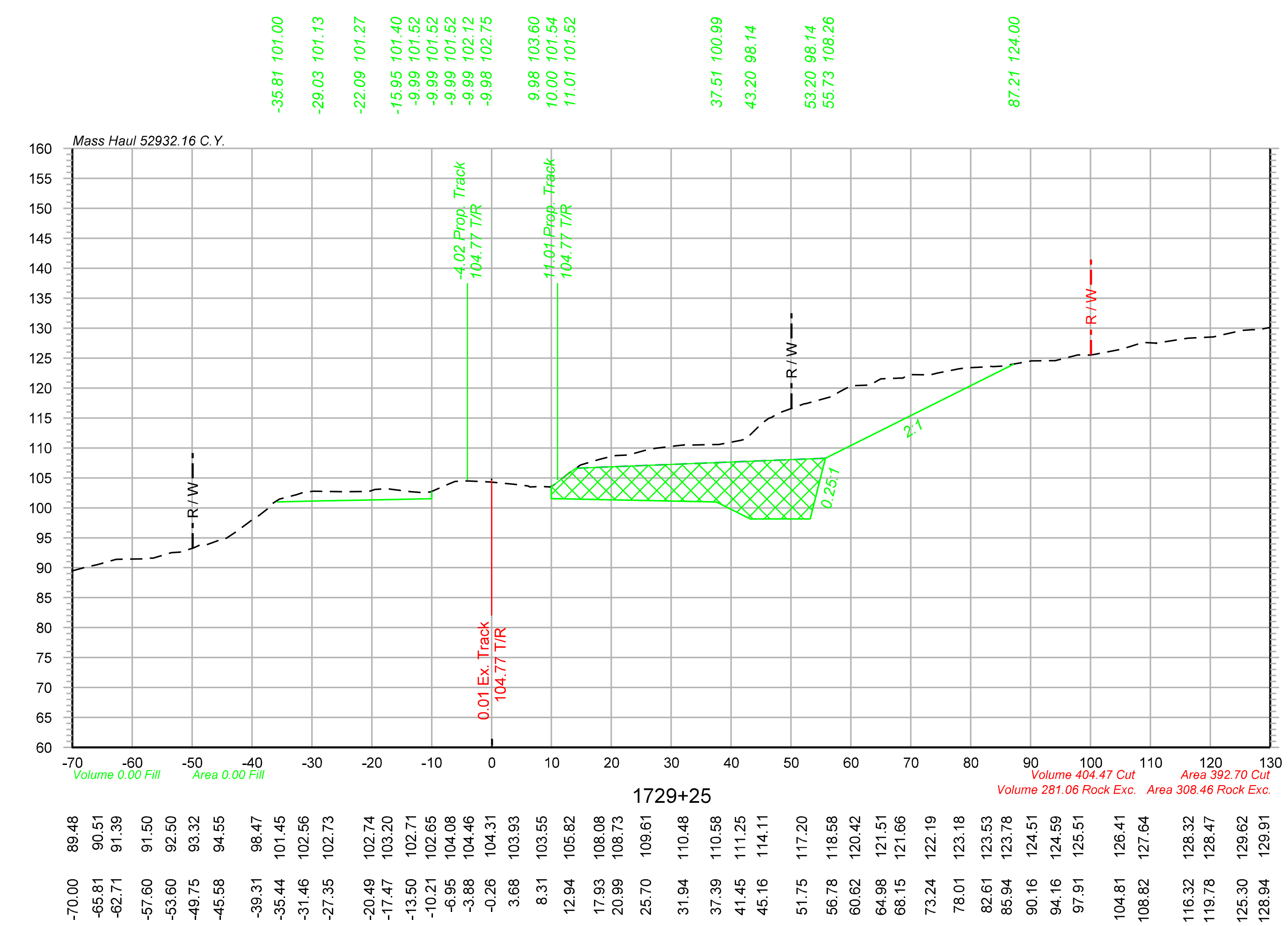

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Engineering Design/Construction

LOCATION & DESCRIPTION:
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Construct Second Mainline

SHEET TITLE:
PC 1 2-506
CROSS SECTIONS STA.1729+00 TO STA.1729+25

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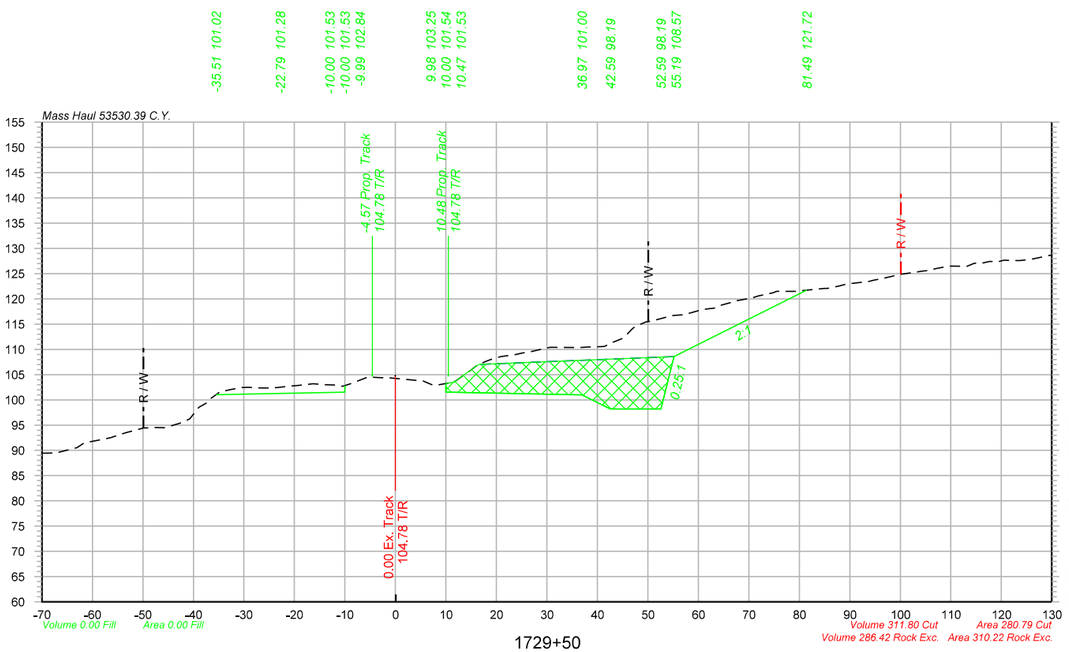

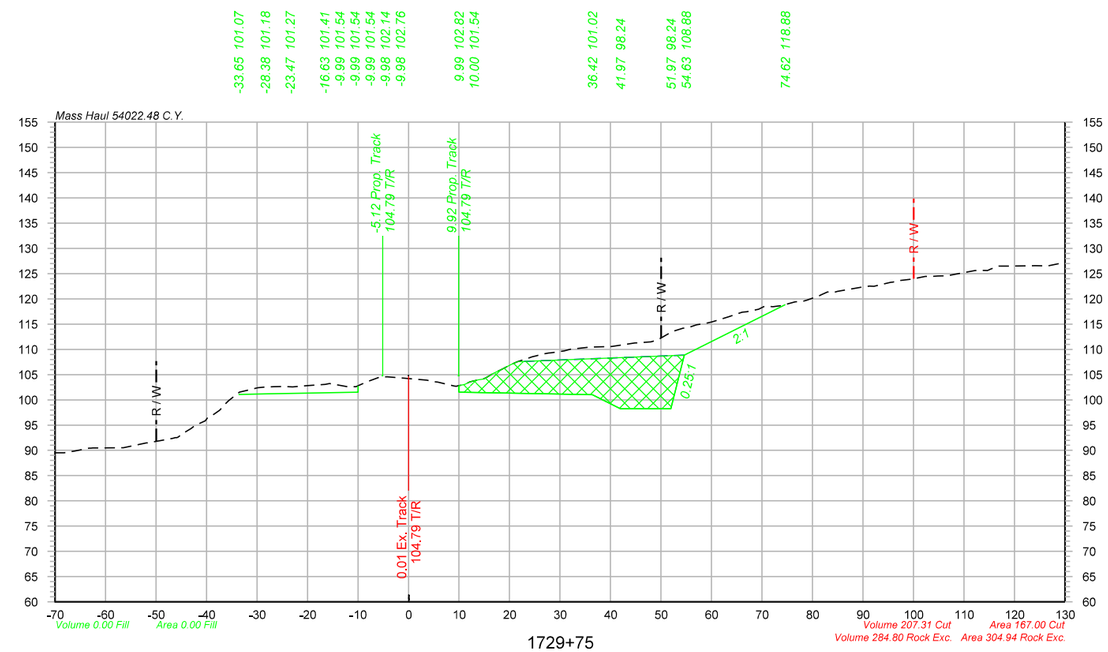

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LOCATION & DESCRIPTION:
Mosier, Oregon
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Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1729+50 TO STA.1729+75

PC 1 2-507

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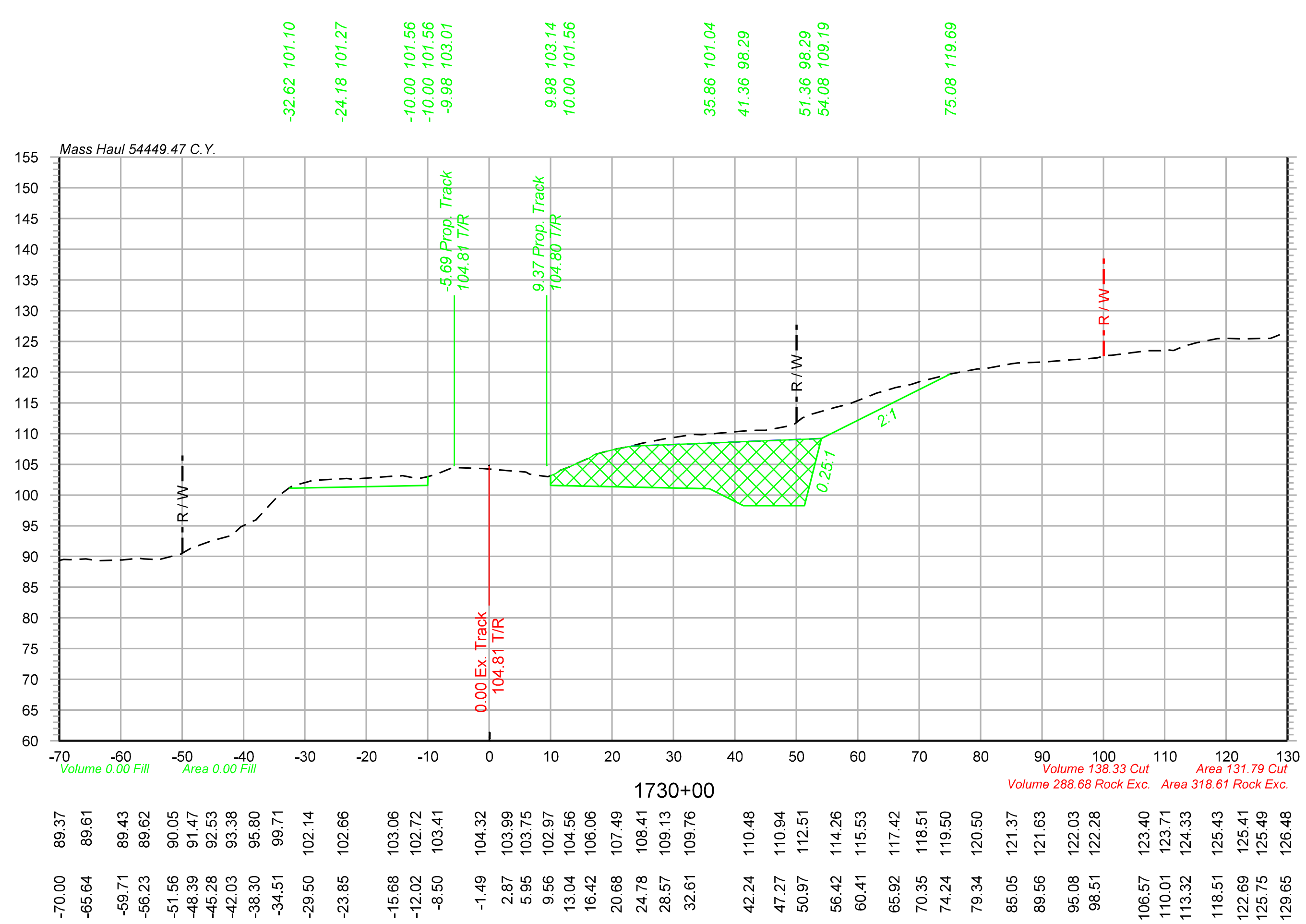

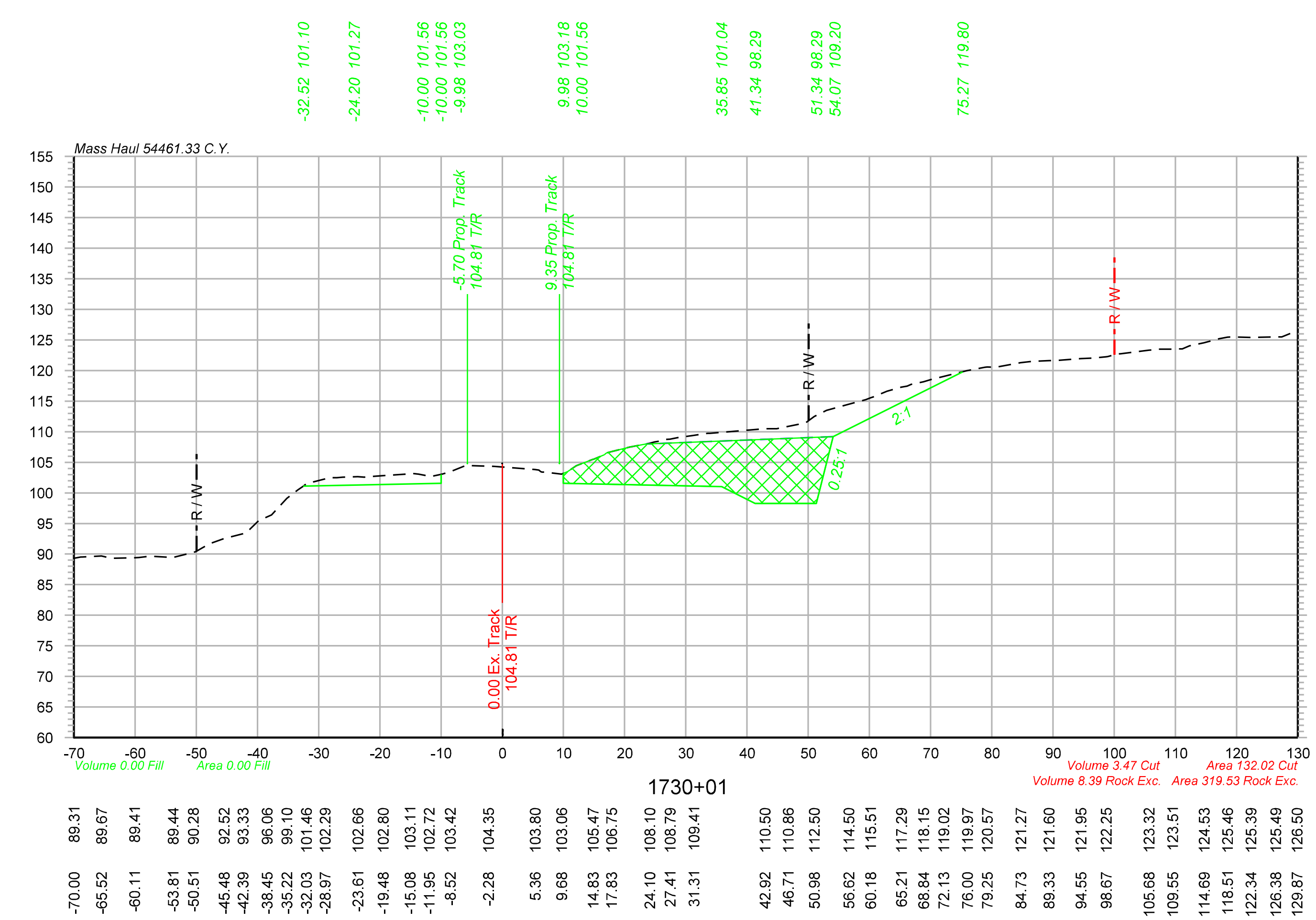

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LOCATION & DESCRIPTION:
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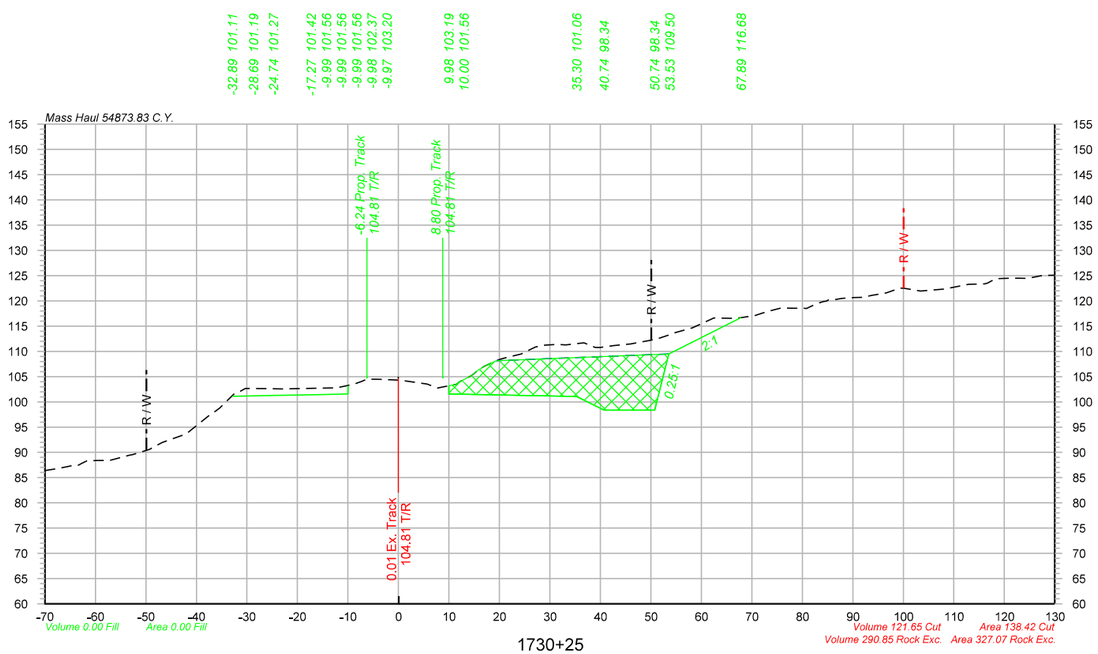
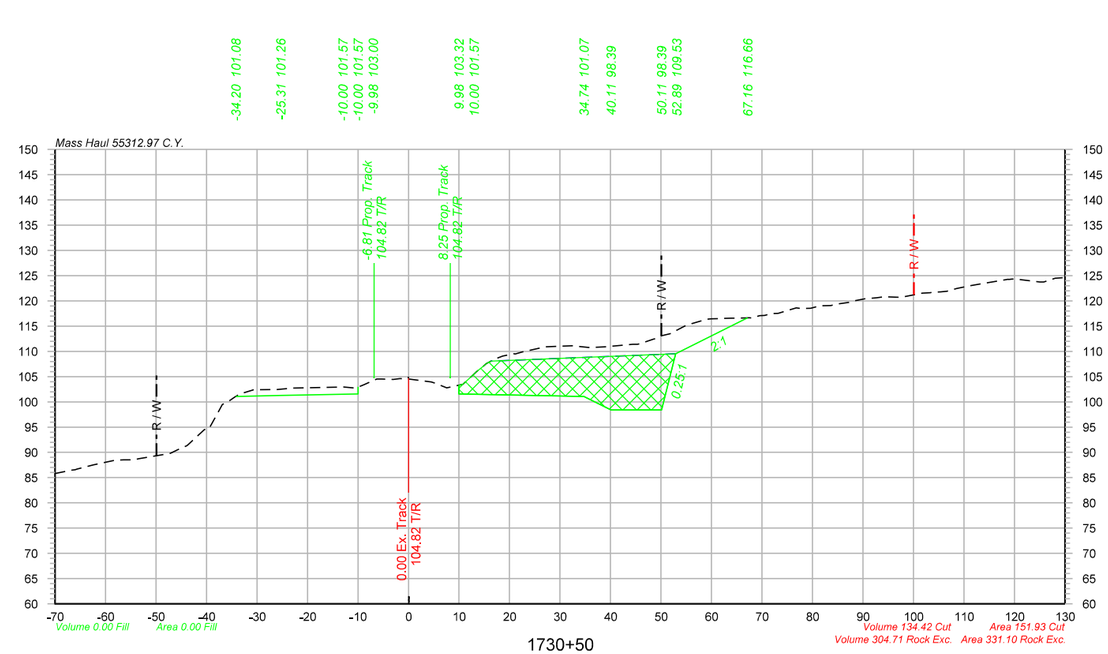
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1730+00 TO STA.1730+01
PC 1 2-508





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1730+25	86.40	102.68
	87.03	102.78
	87.49	103.50
	88.38	104.50
	89.06	104.30
	90.58	103.72
	93.55	102.87
	97.28	103.49
	101.53	105.49
	102.64	108.19
	102.61	109.49
		110.99
		111.35
		111.70
		110.79
		111.44
		112.21
		113.22
		114.61
		116.57
		116.52
		117.08
		118.54
		118.53
		119.41
		120.28
		120.67
		121.12
		122.54
		121.93
		122.38
		123.28
		124.48
		124.43
		125.05

Station	Left	Right
1730+50	85.82	102.96
	86.49	103.11
	87.53	104.51
	88.44	104.45
	88.52	104.51
	89.55	103.96
	91.32	102.80
	94.53	103.50
	99.47	107.05
	101.57	109.05
		109.88
		110.90
		111.11
		110.77
		110.92
		111.40
		112.40
		113.47
		115.38
		116.35
		116.53
		116.63
		117.09
		117.55
		118.60
		118.68
		119.08
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		120.40
		120.81
		120.69
		121.53
		121.77
		122.45
		123.45
		124.21
		123.74
		124.48

Legend

Assumed Rock Excavation

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UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1730+25 TO STA.1730+50

PC 1 2-509

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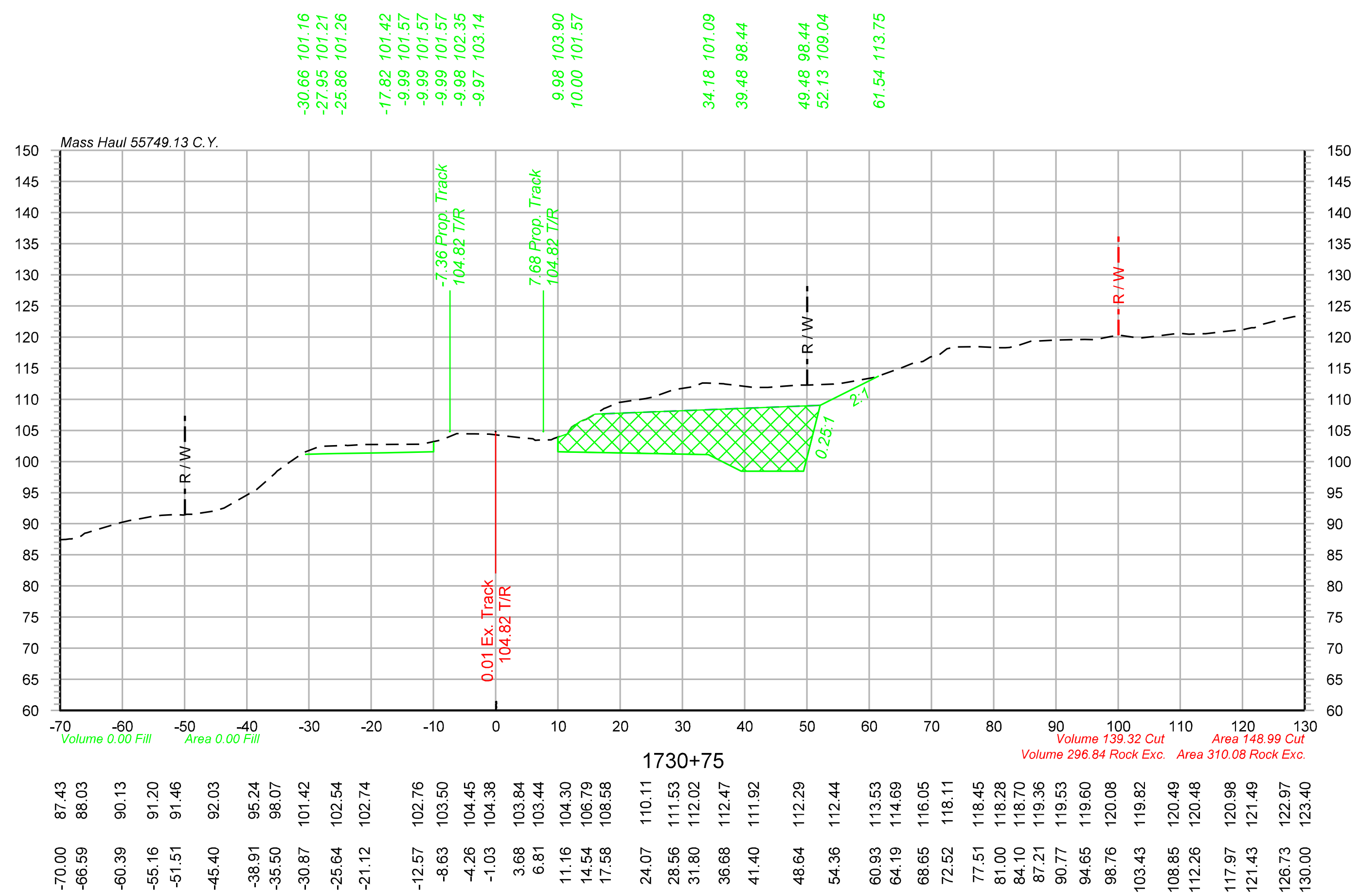

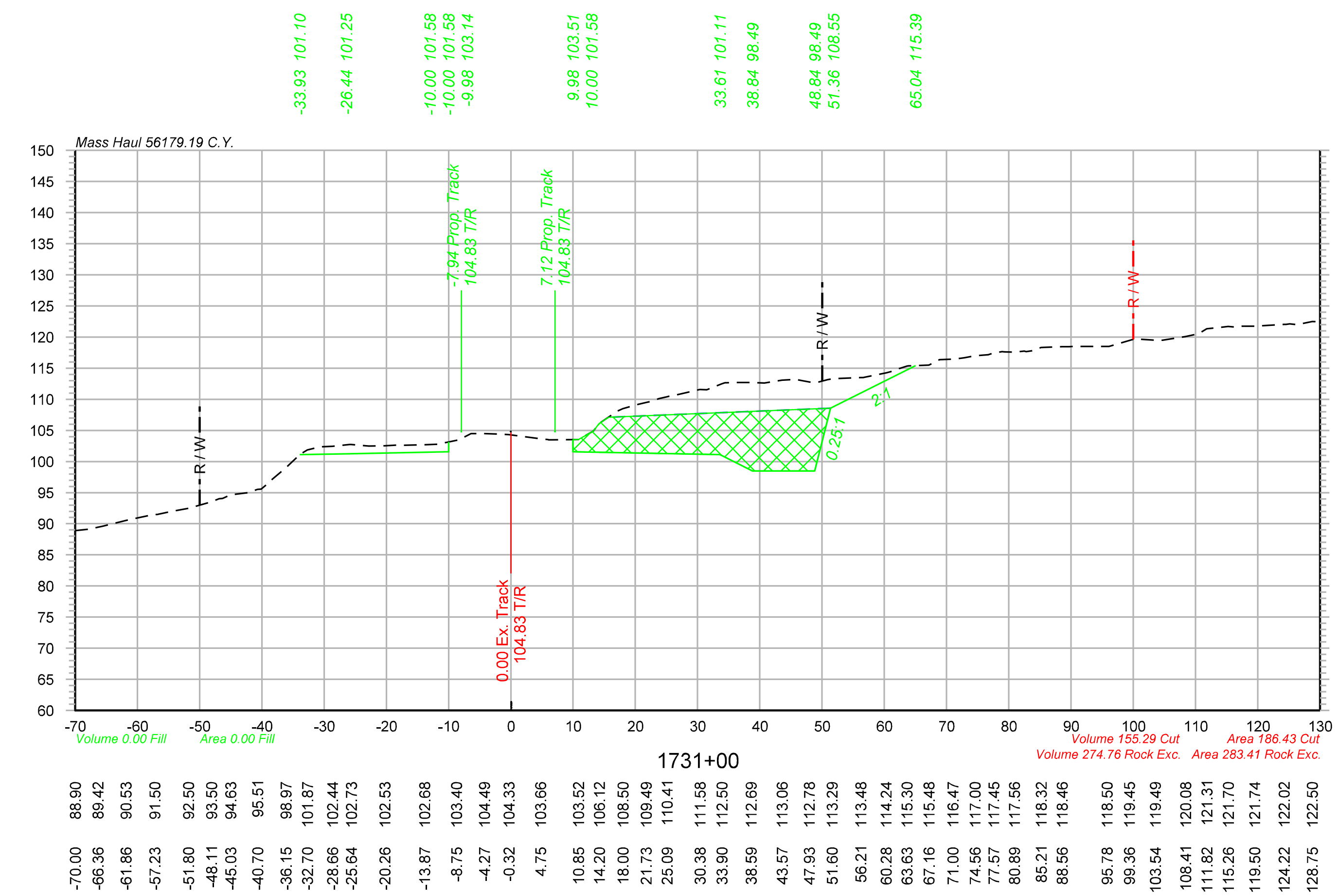

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Assumed Rock Excavation

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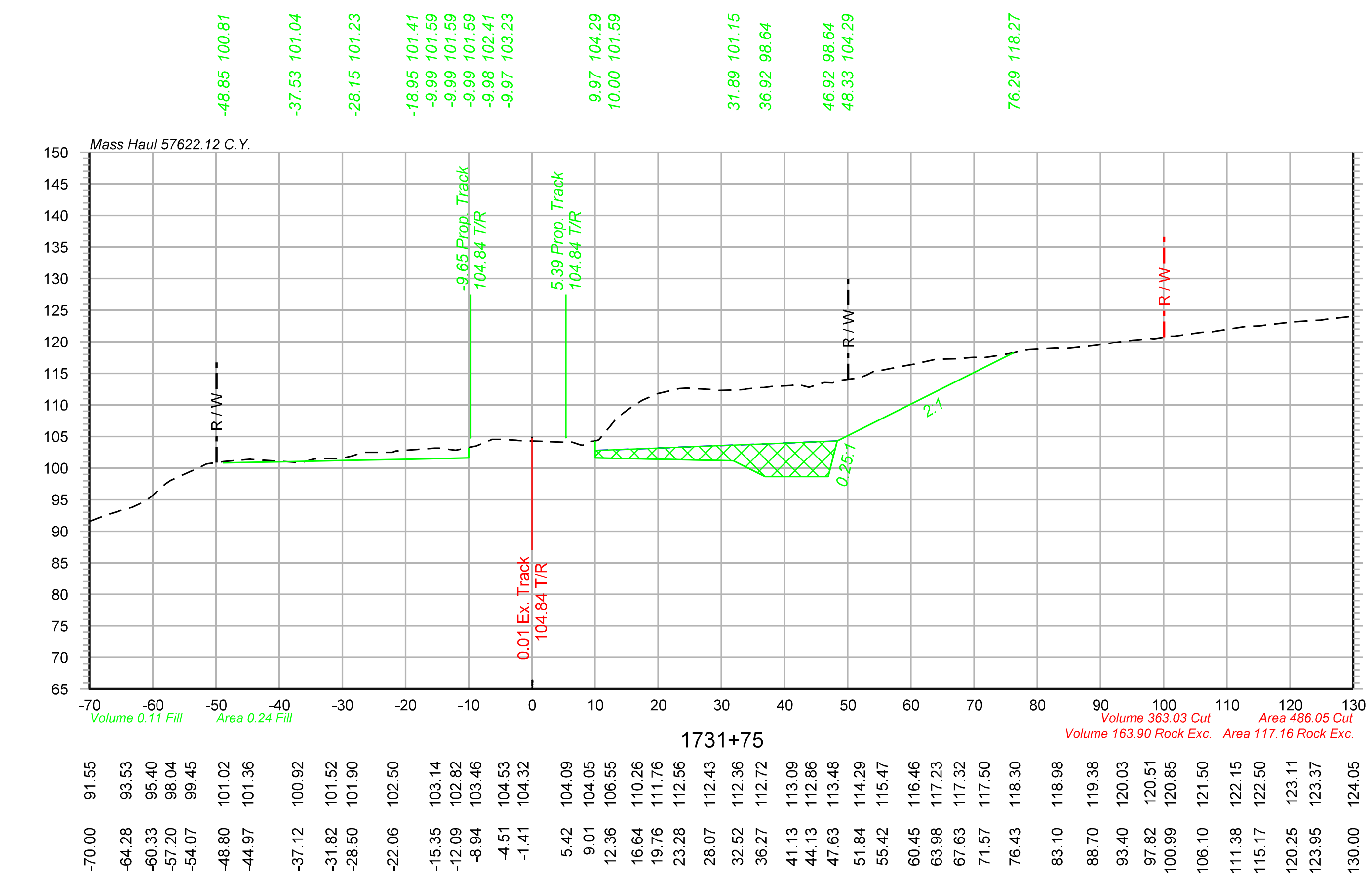
UNION PACIFIC RAILROAD

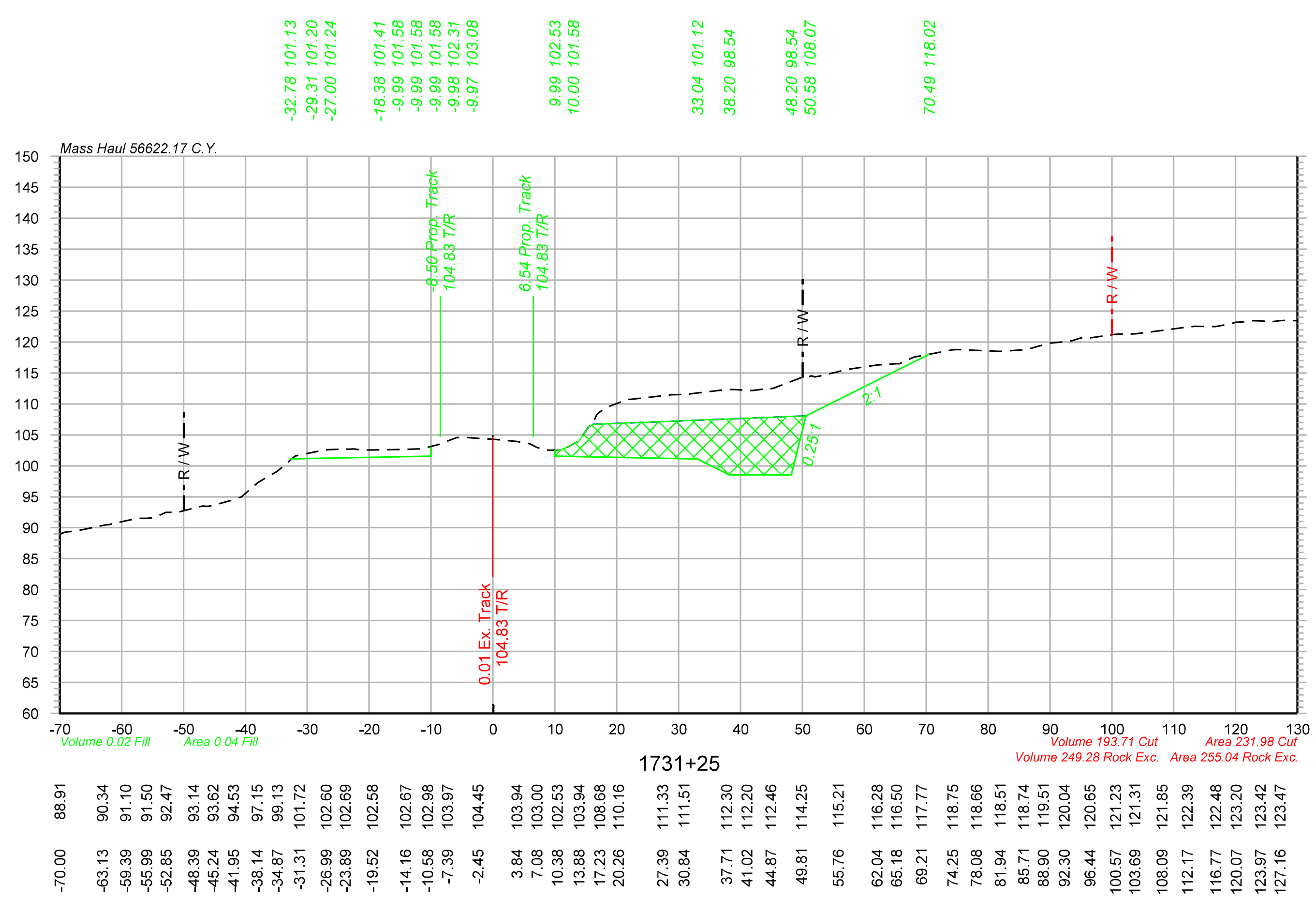
Office of Assistant Vice President
Engineering Design/Construction

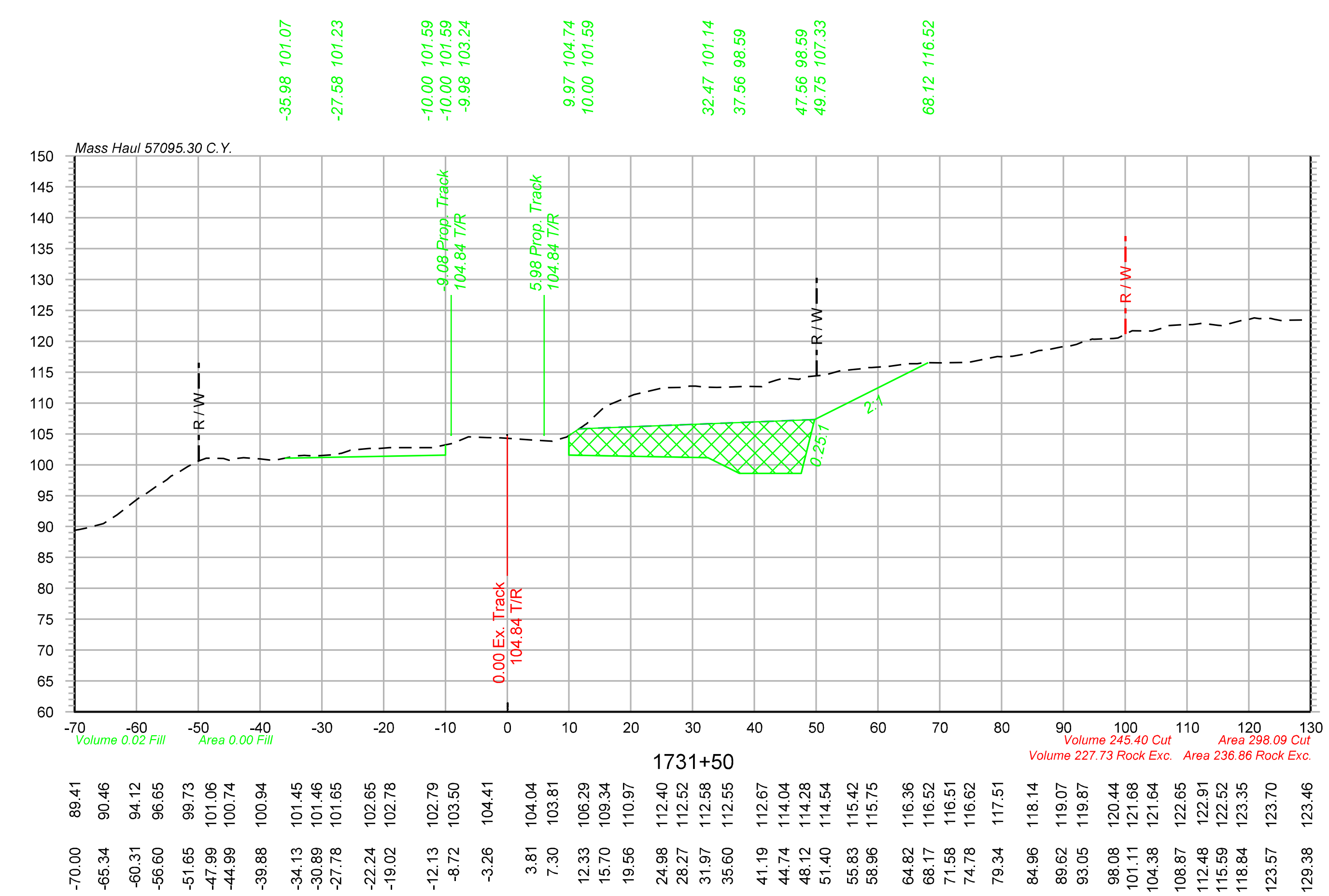
LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1730+75 TO STA.1731+00

PC 1 2-510







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SHEET NUMBER X 131 of 139	SHEET TITLE: PC 1 2-511 CROSS SECTIONS STA.1731+25 TO STA.1731+75

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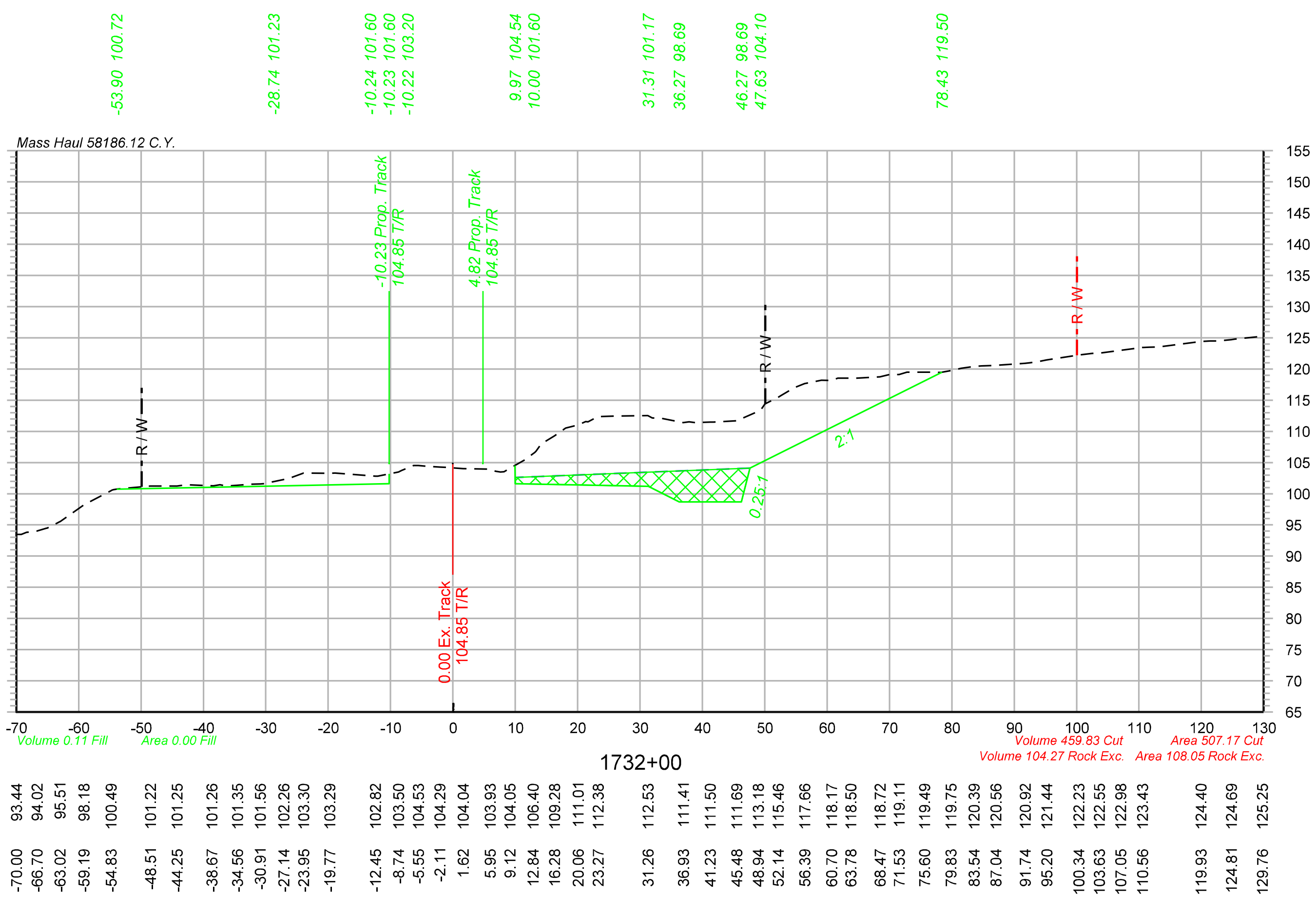

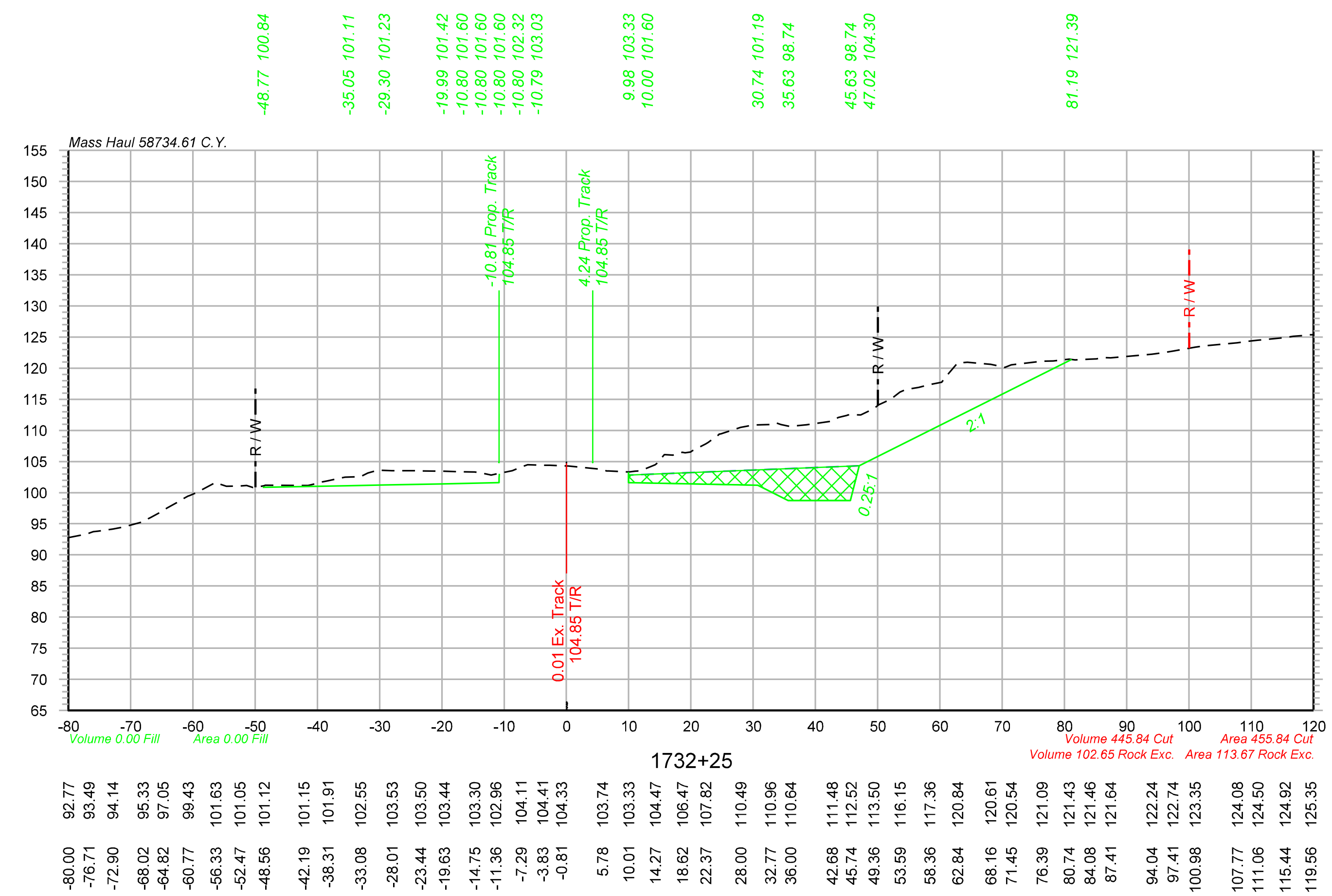

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SHEET NUMBER: X 132 of 139	SHEET TITLE: CROSS SECTIONS STA.1732+00 TO STA.1732+25

PC 1 2-512

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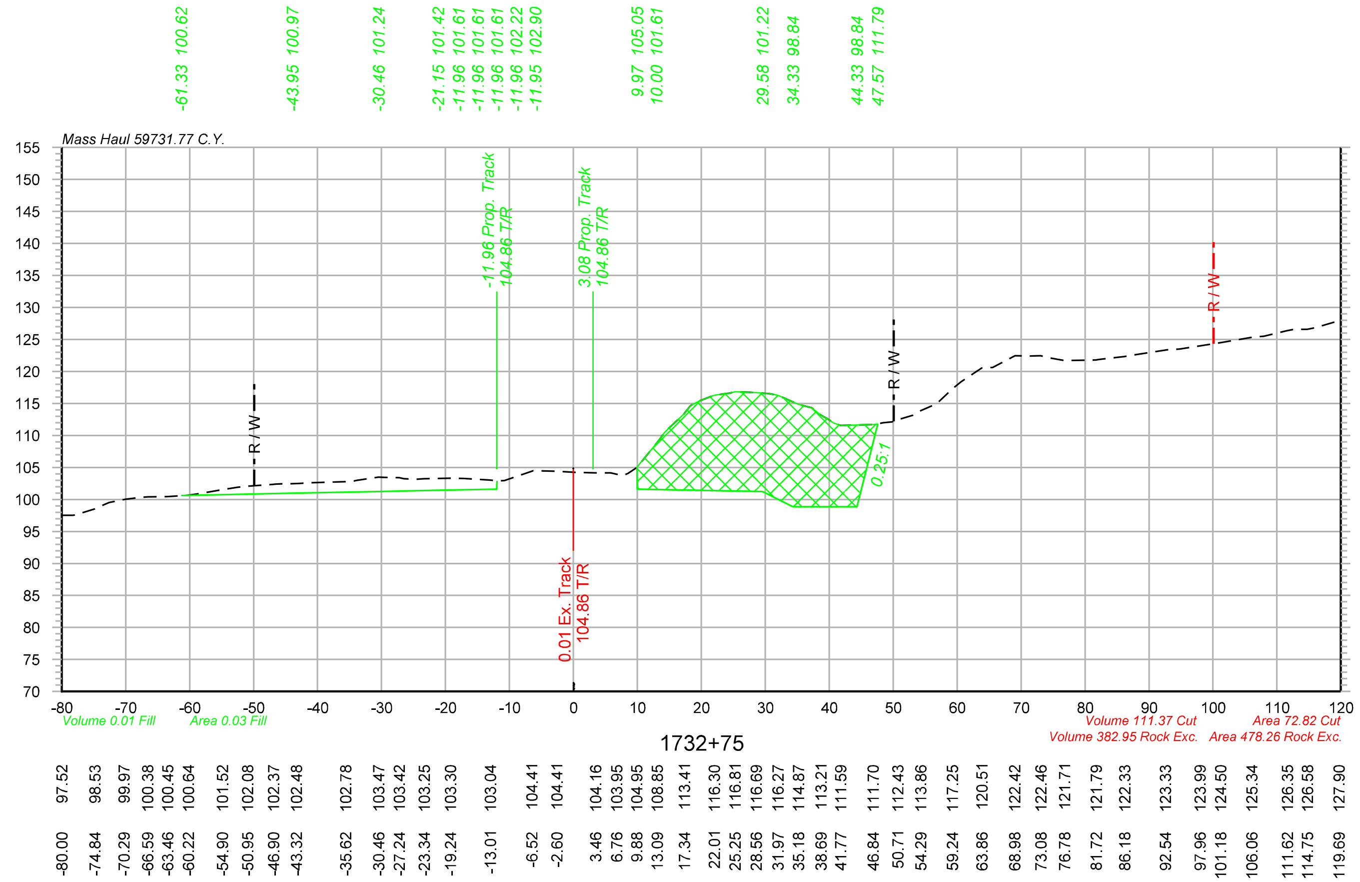
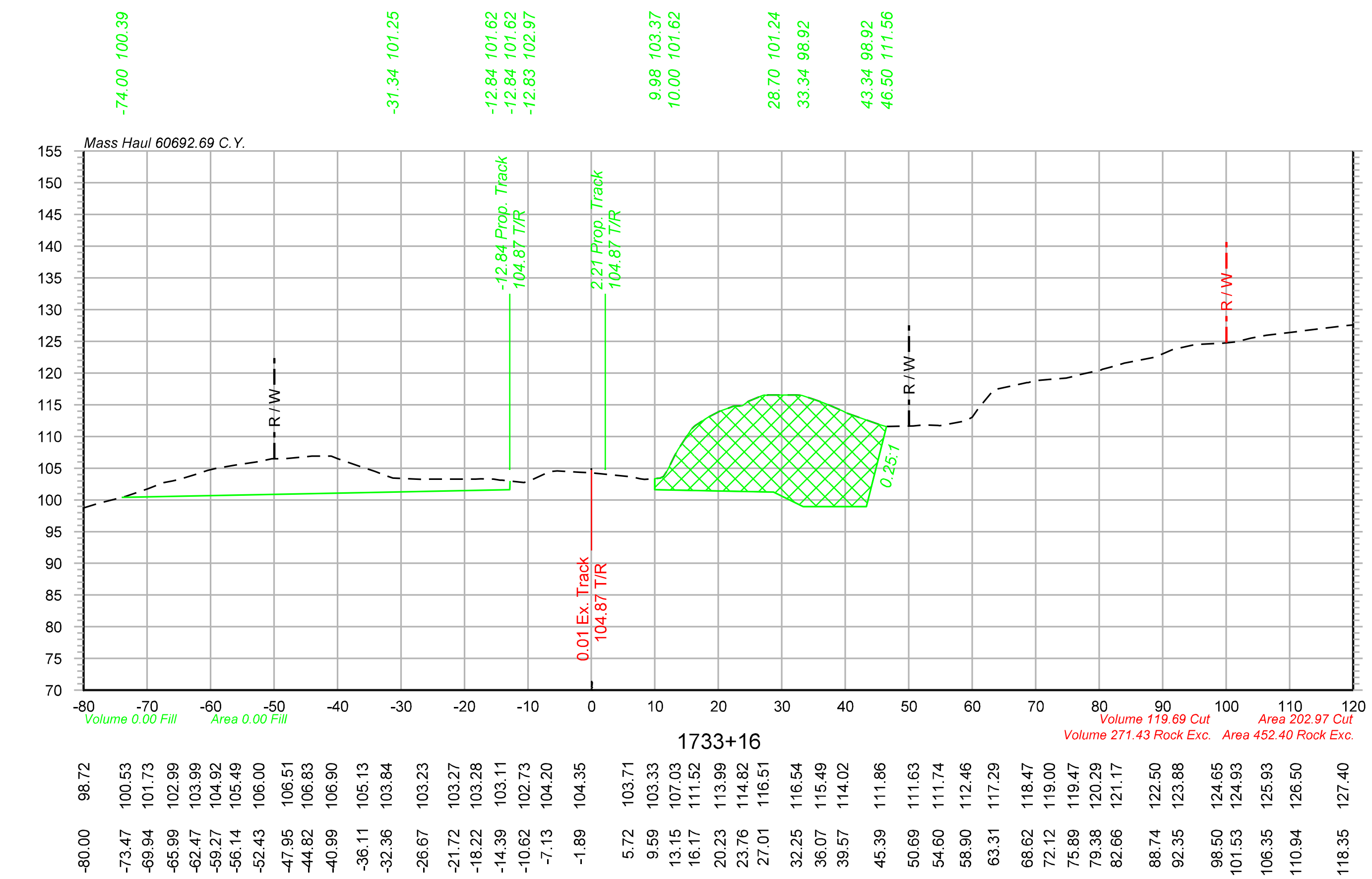
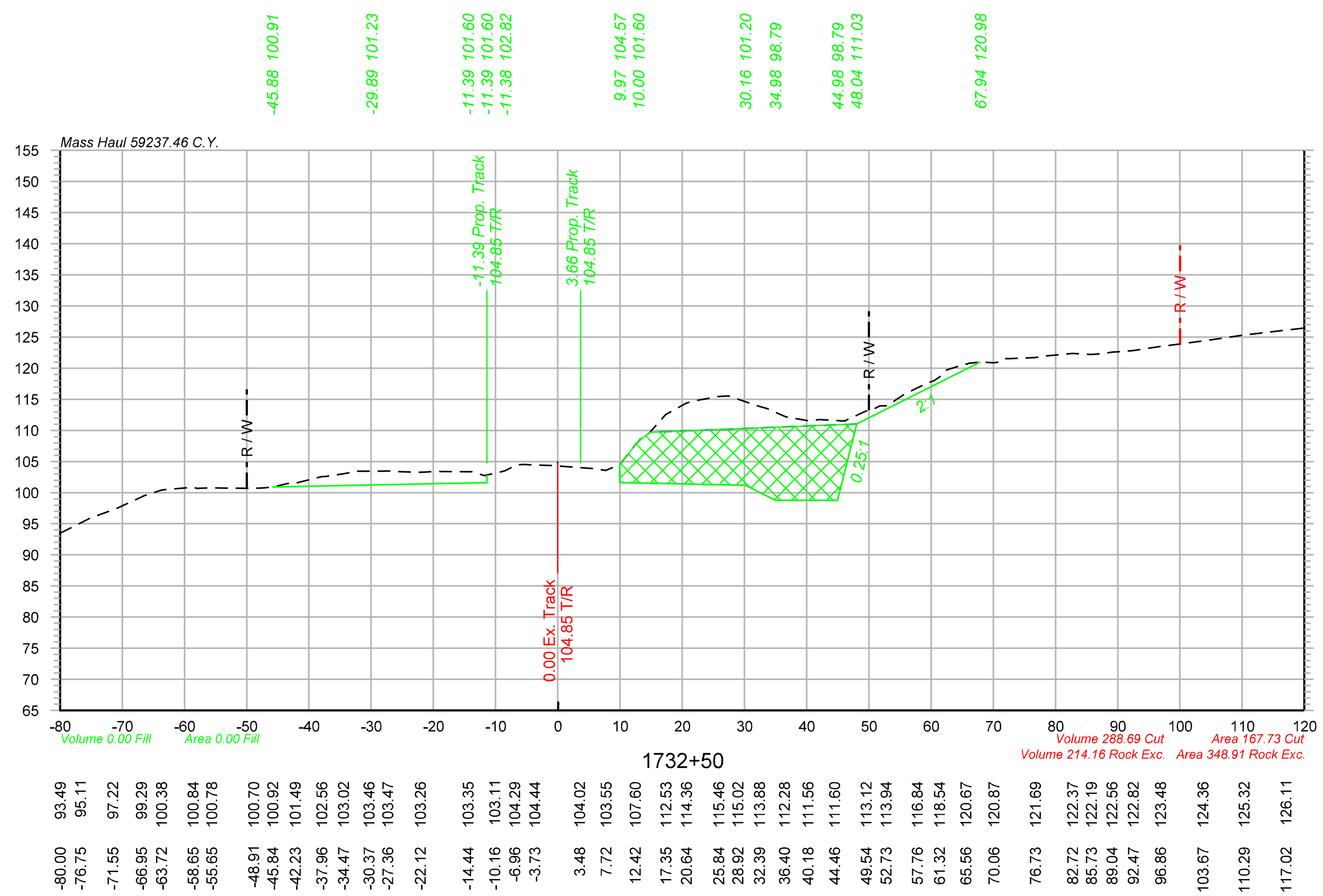
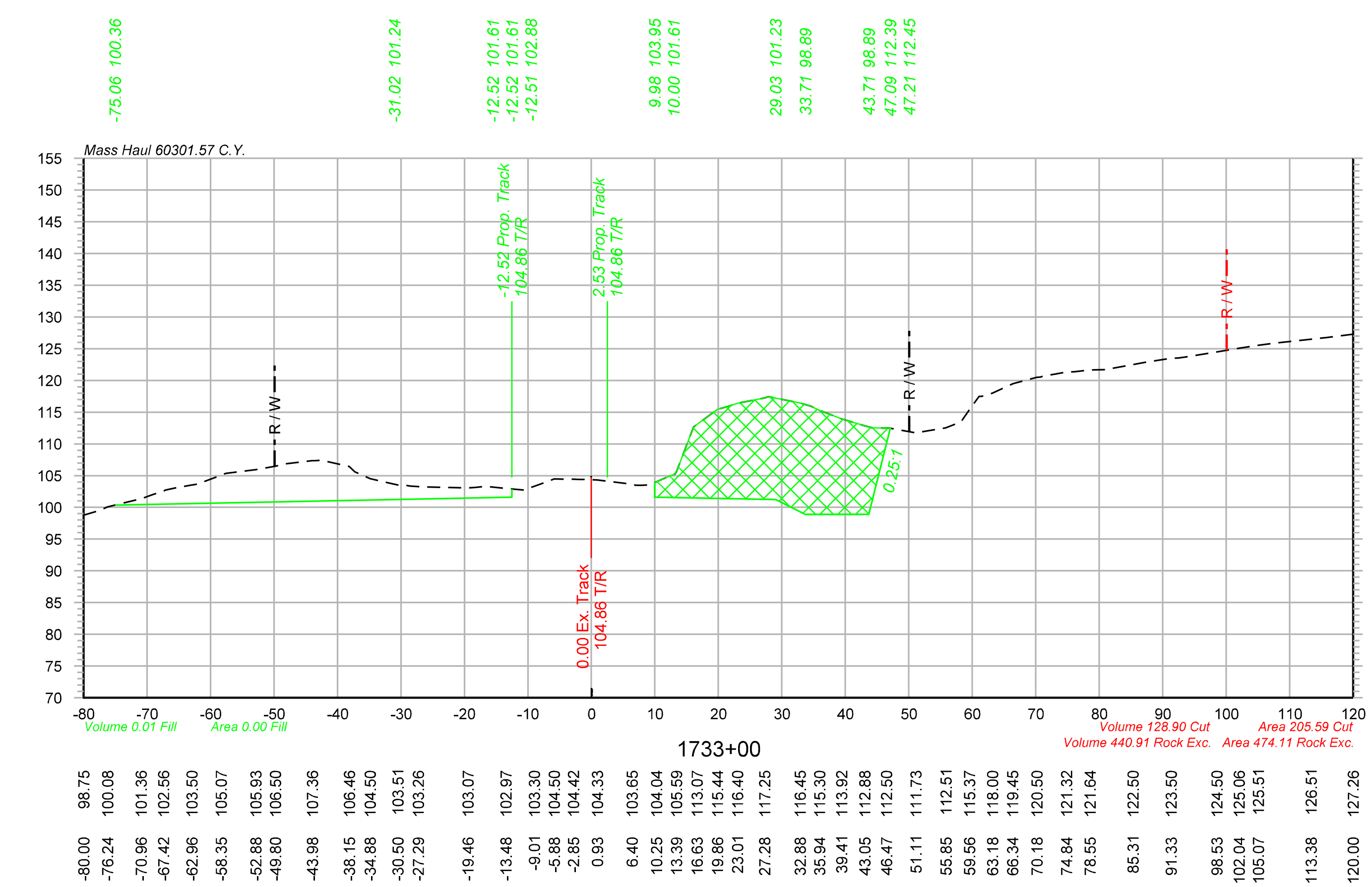
10/20/2014









Legend

Assumed Rock Excavation

OLSSON ASSOCIATES
2111 South 67th Street, Suite 200 Omaha, NE 68106-2810 TEL 402.341.1116 FAX 402.341.5895 www.olssonassociates.com

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER X 133 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1732+50 TO STA.1733+16
PC 1 2-513

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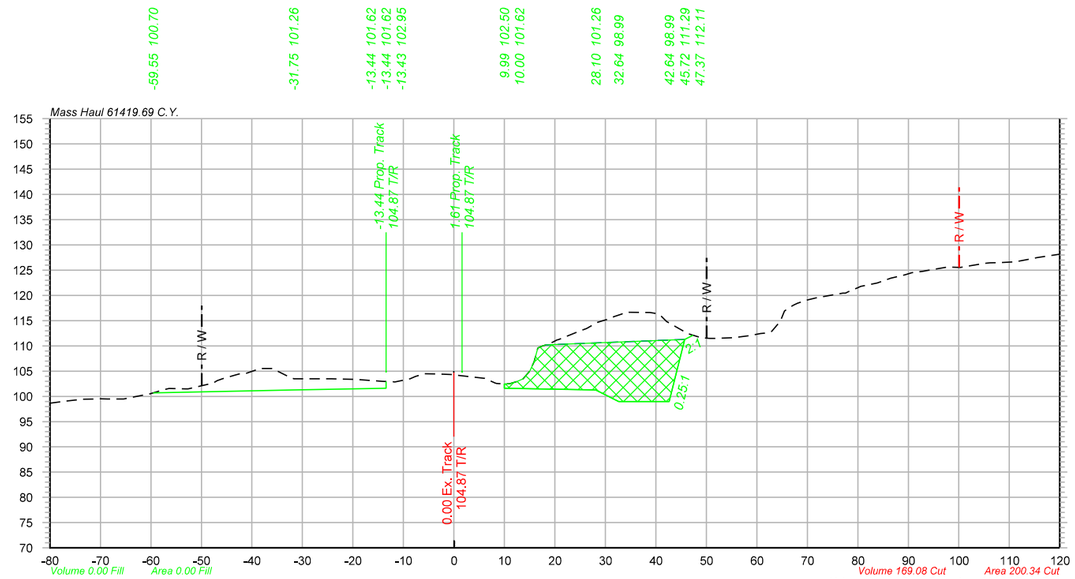
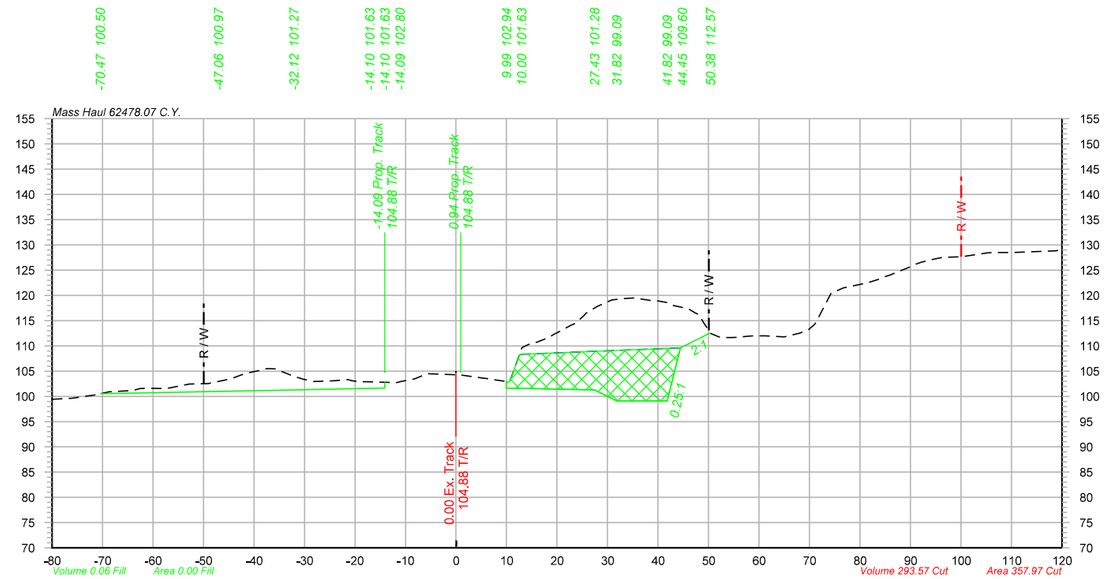
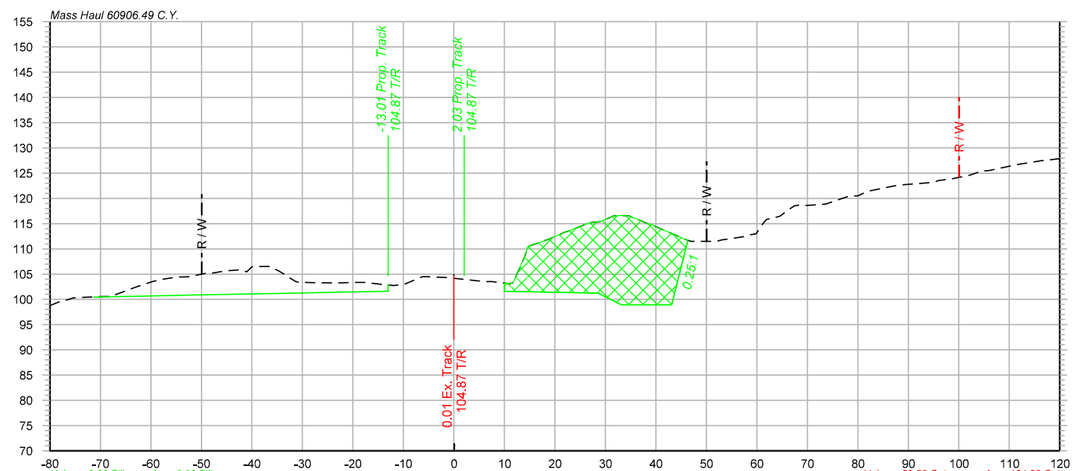
10/20/2014



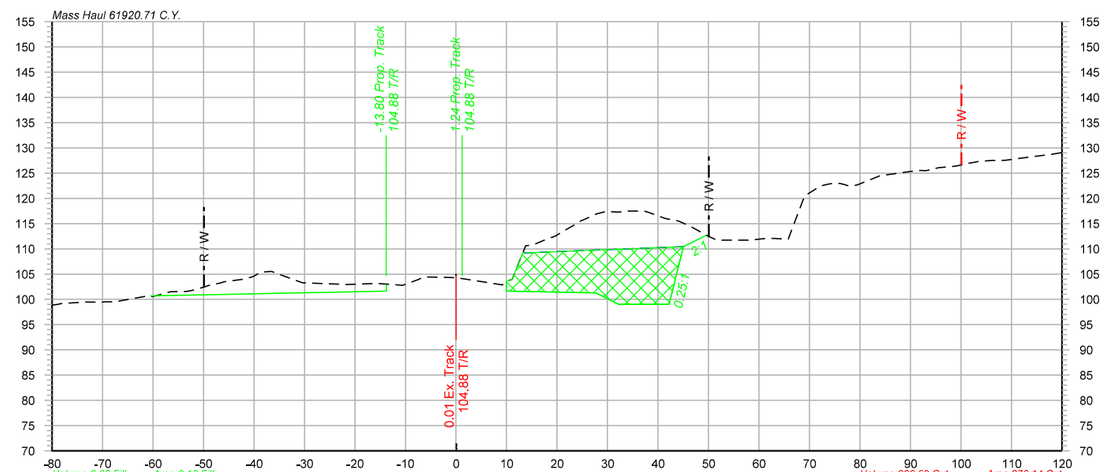
1733+50



1734+00



1733+25



1733+75

Legend

Assumed Rock Excavation

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SHEET NUMBER	X 134 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1733+25 TO STA.1734+00

PC 1 2-514

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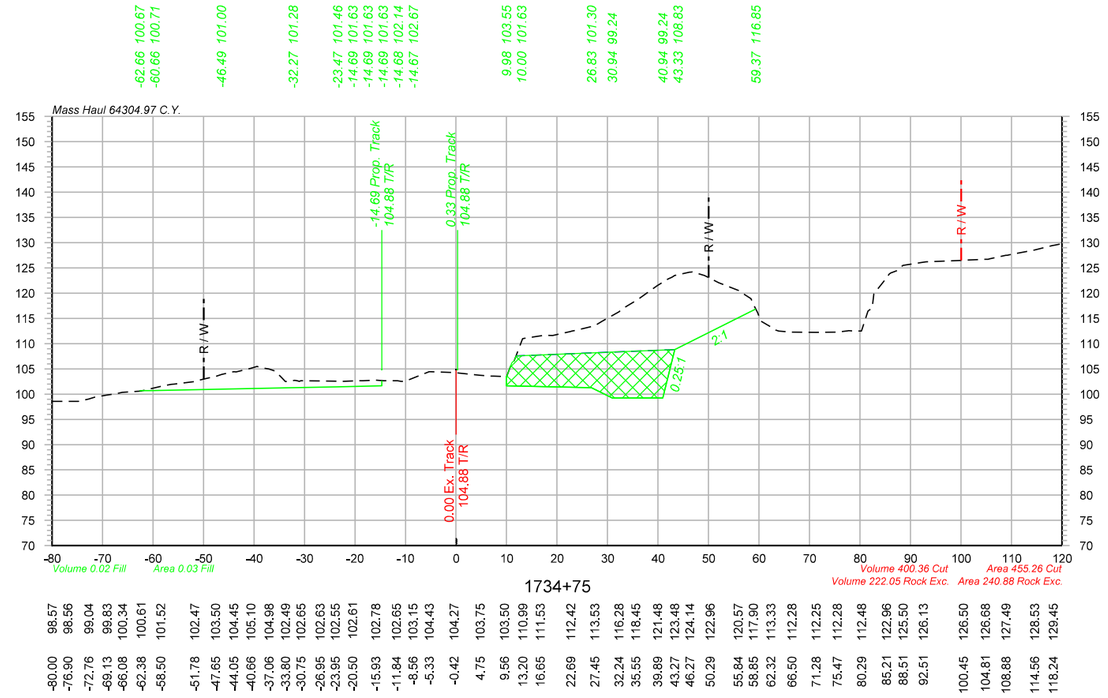

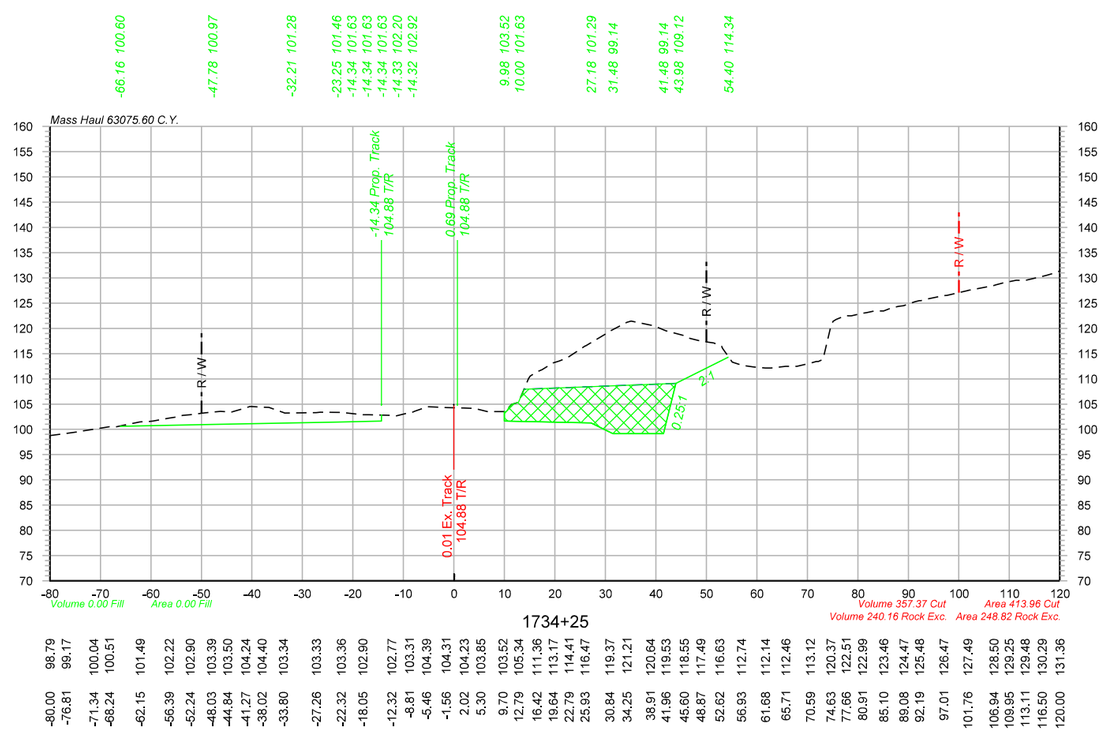

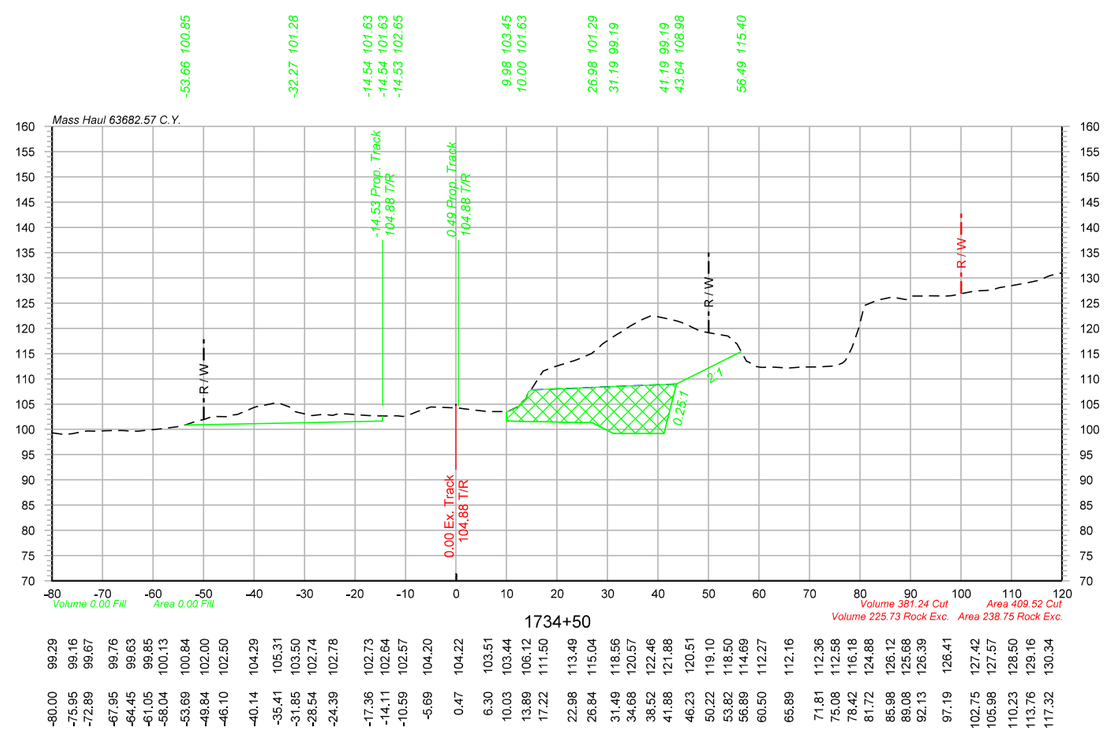

Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 135 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1734+25 TO STA.1734+75

PC 1 2-515

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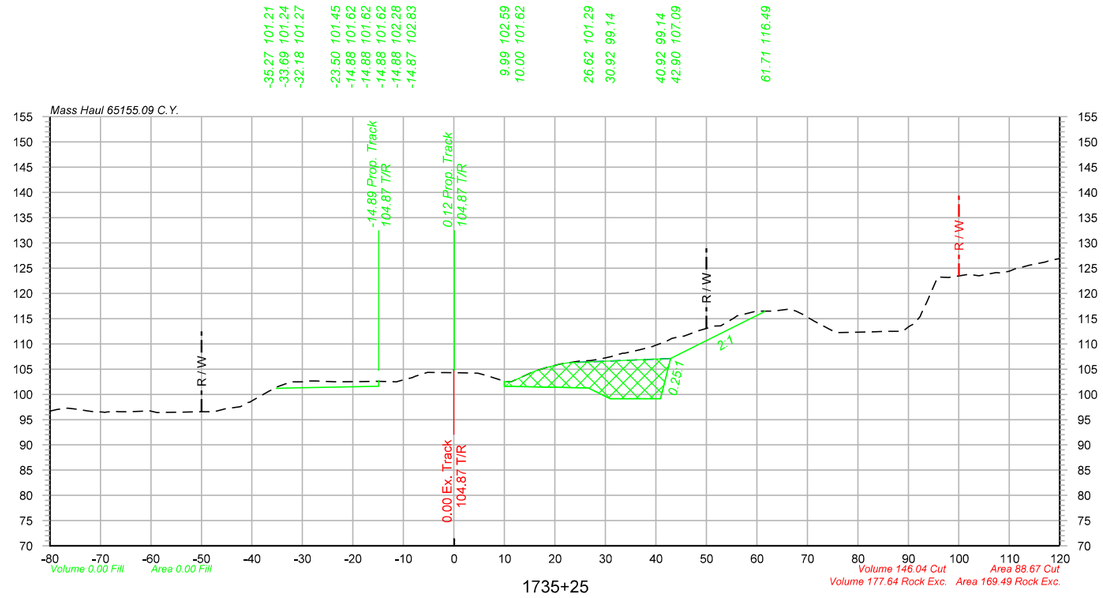

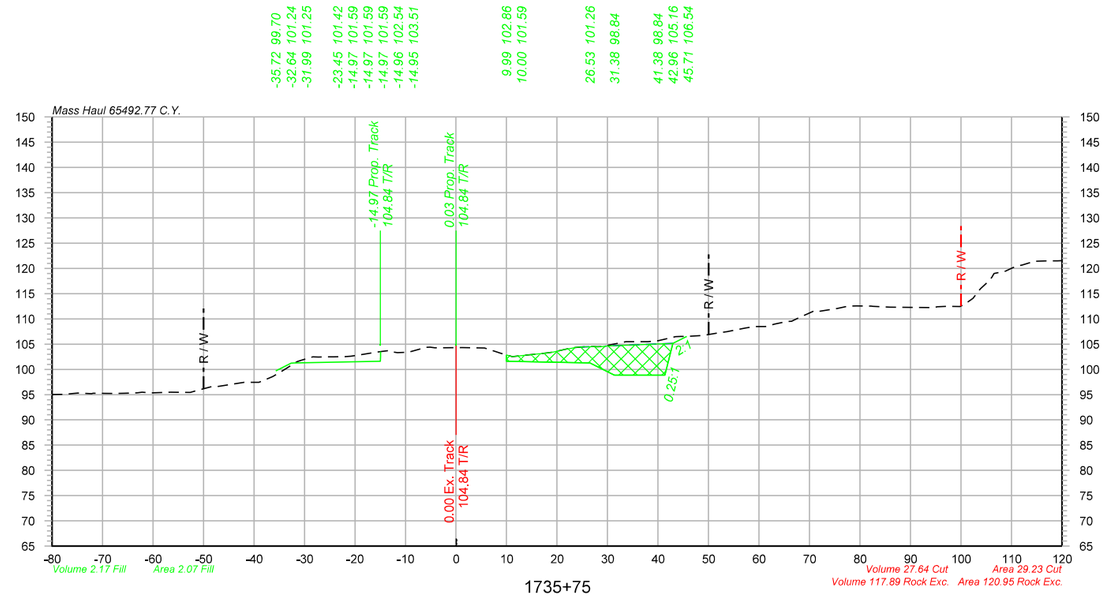

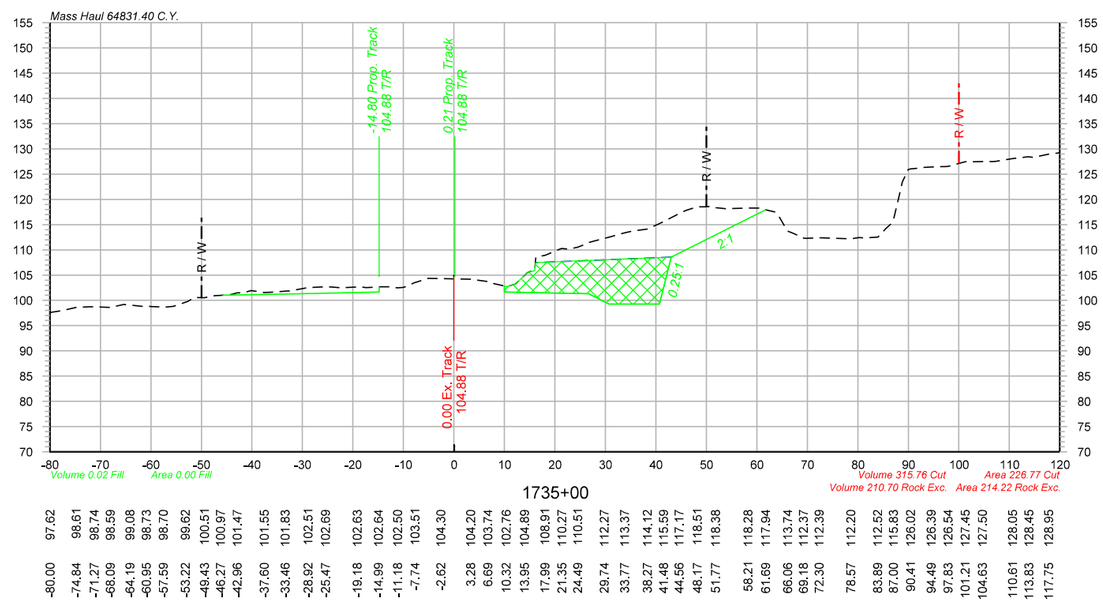

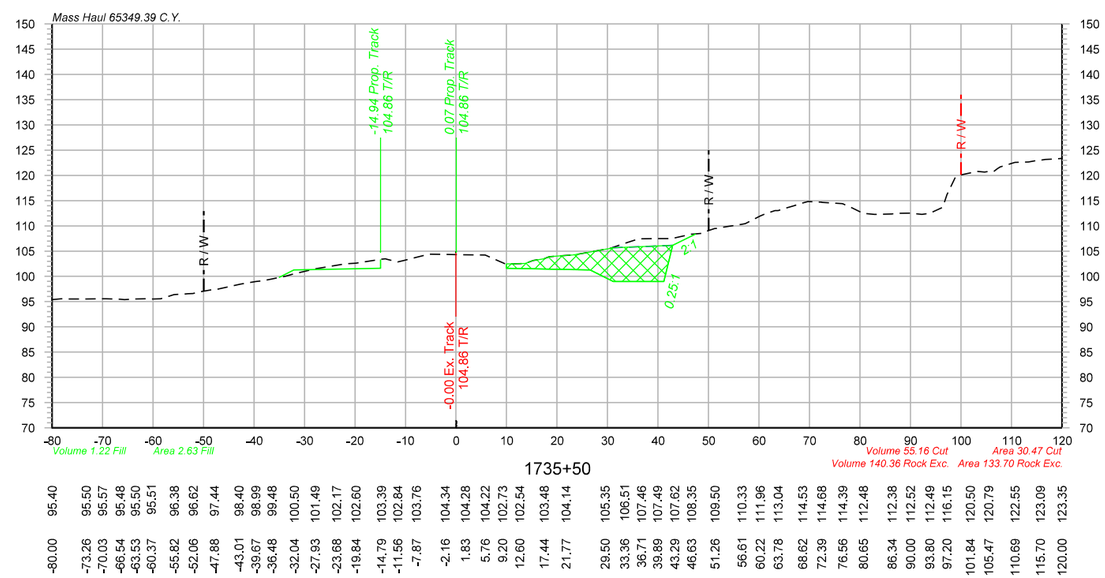

Legend

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UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1735+00 TO STA.1735+75

PC 1 2-516

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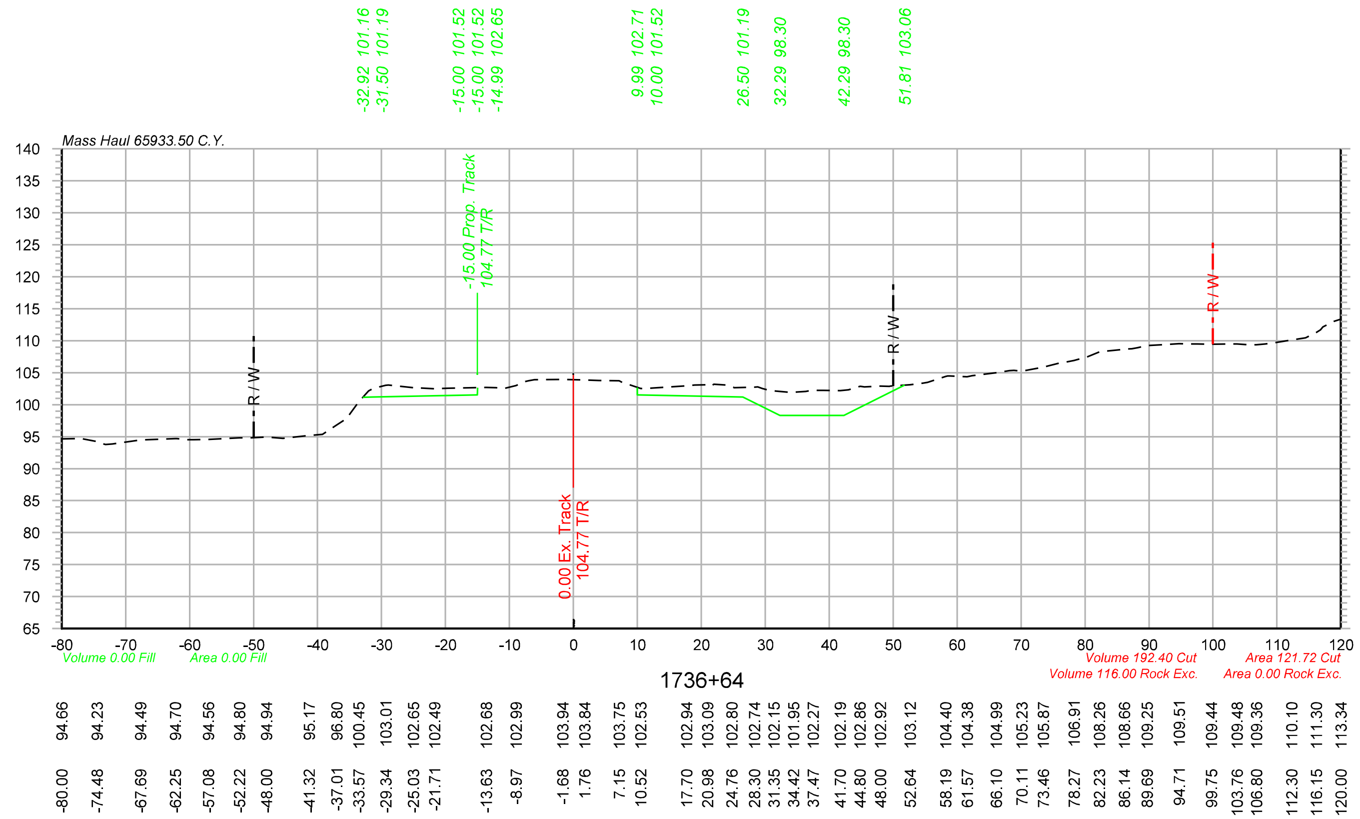

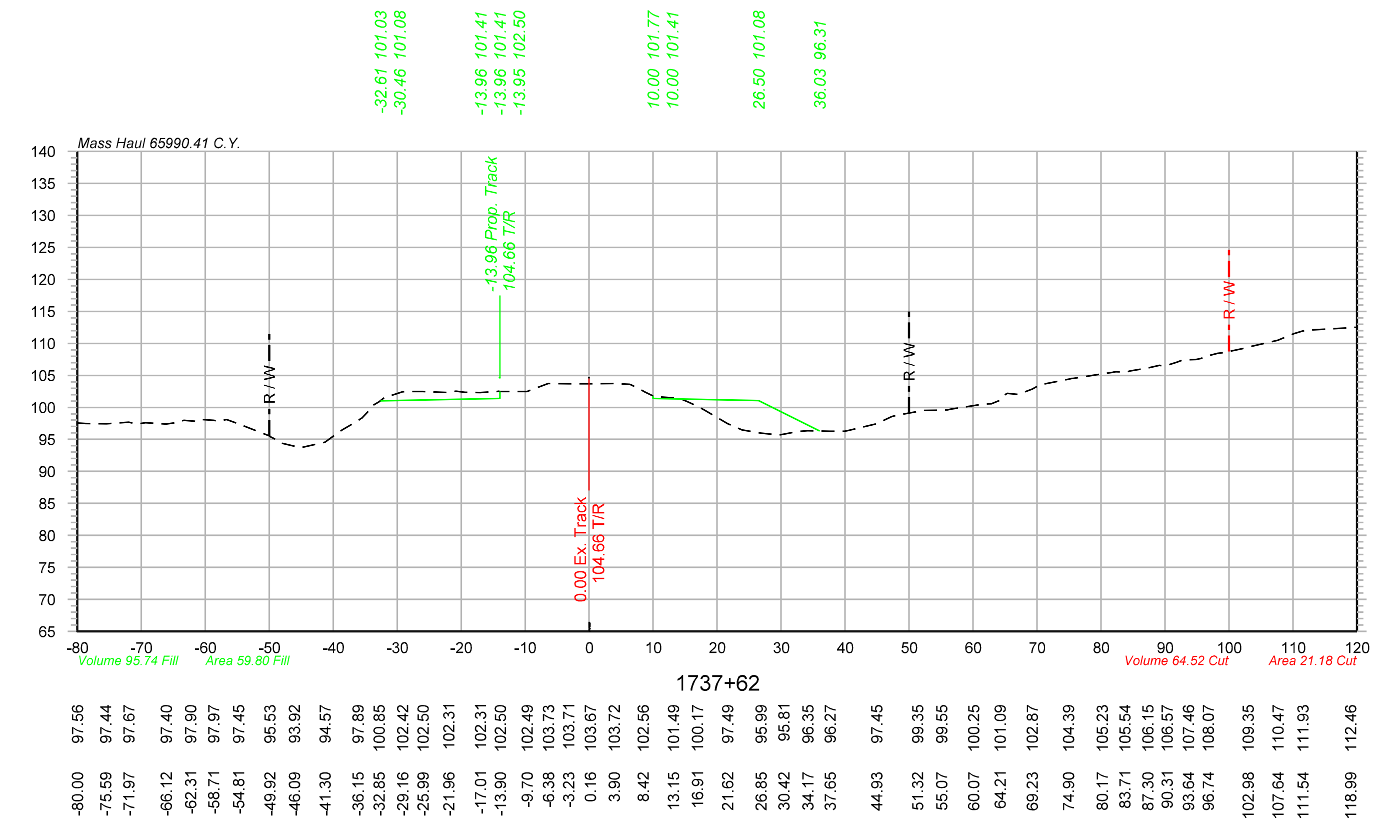

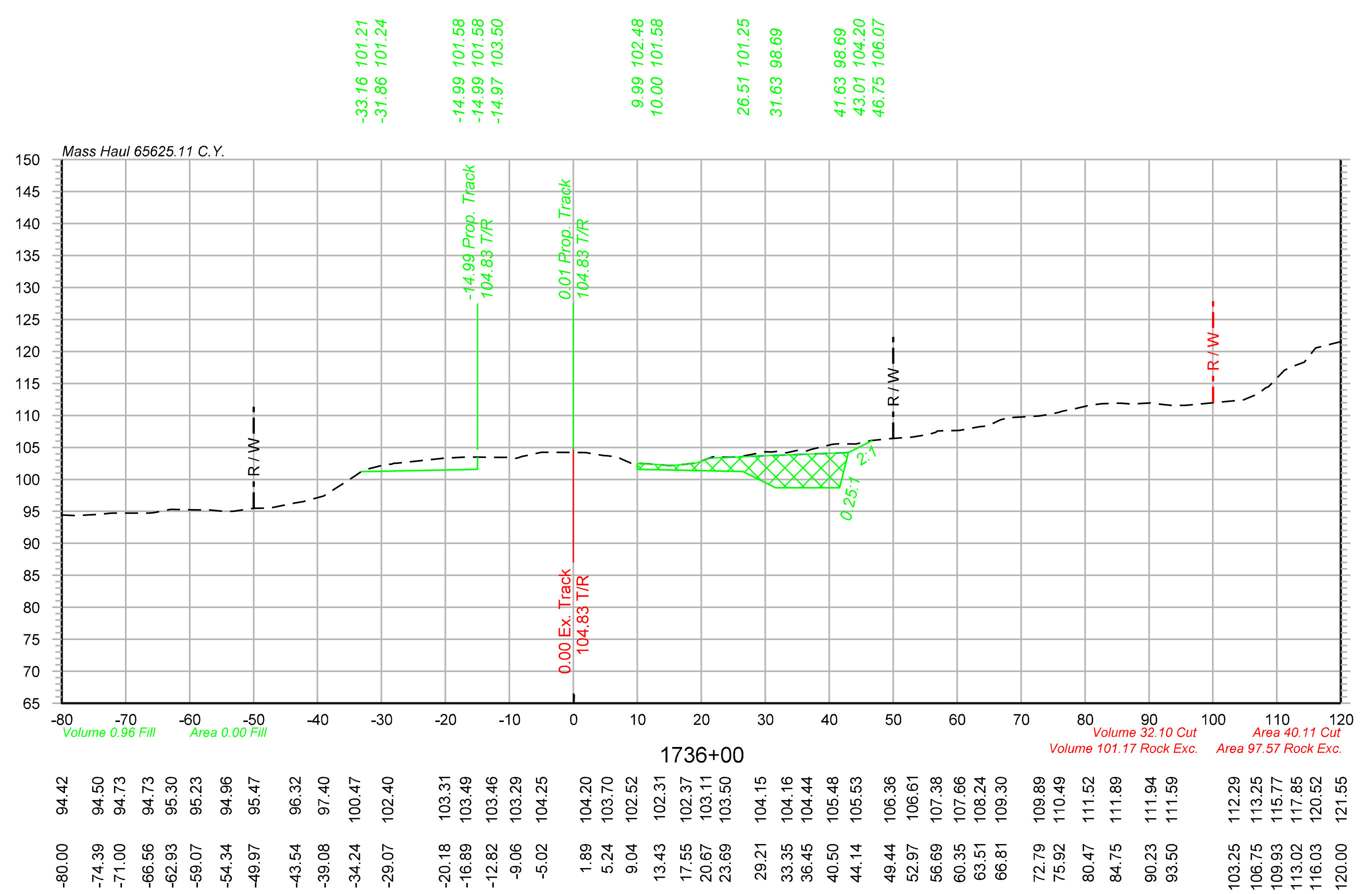

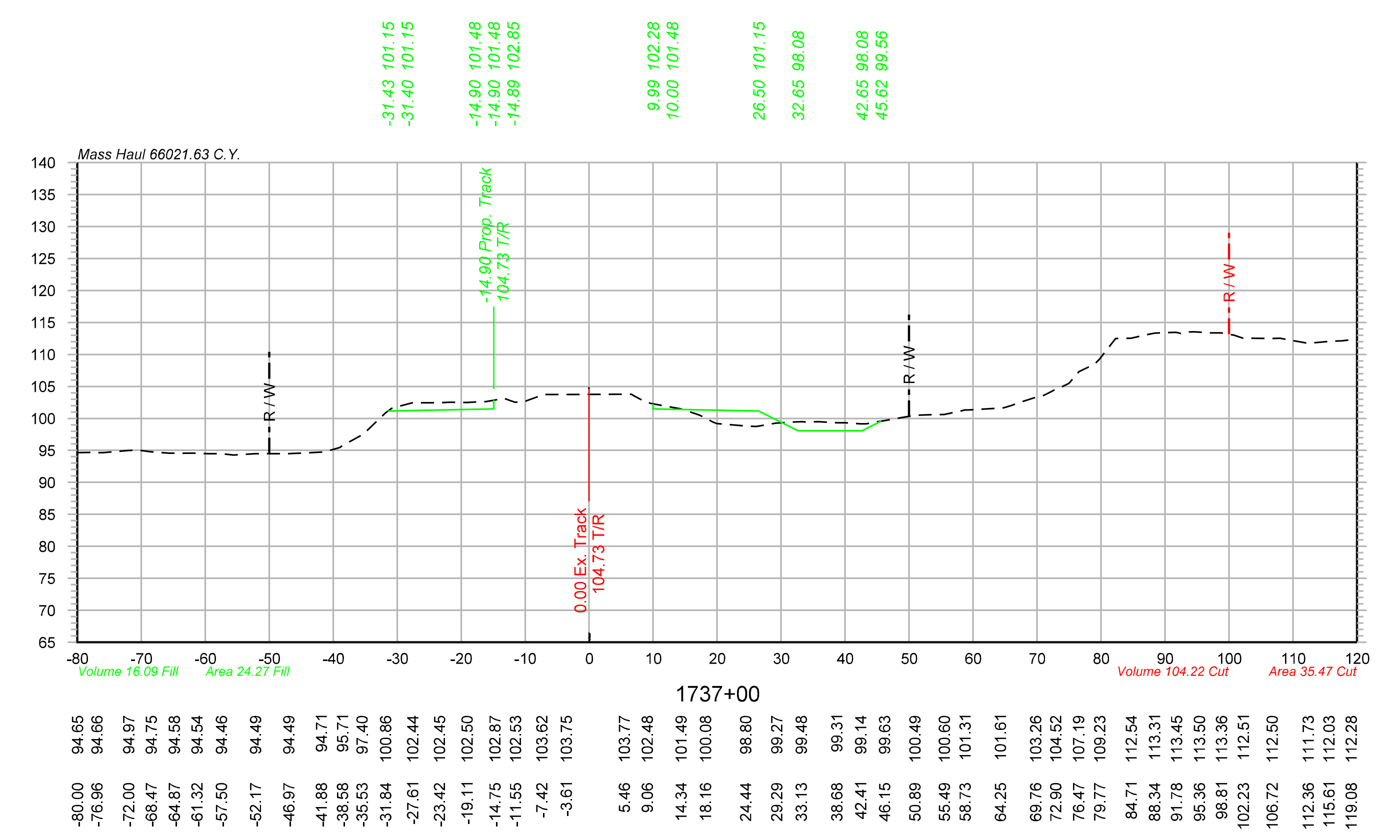

Legend

Assumed Rock Excavation

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DATE:	10/20/2014
SHEET NUMBER	X 137 of 139

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1736+00 TO STA.1737+62

PC 1 2-517

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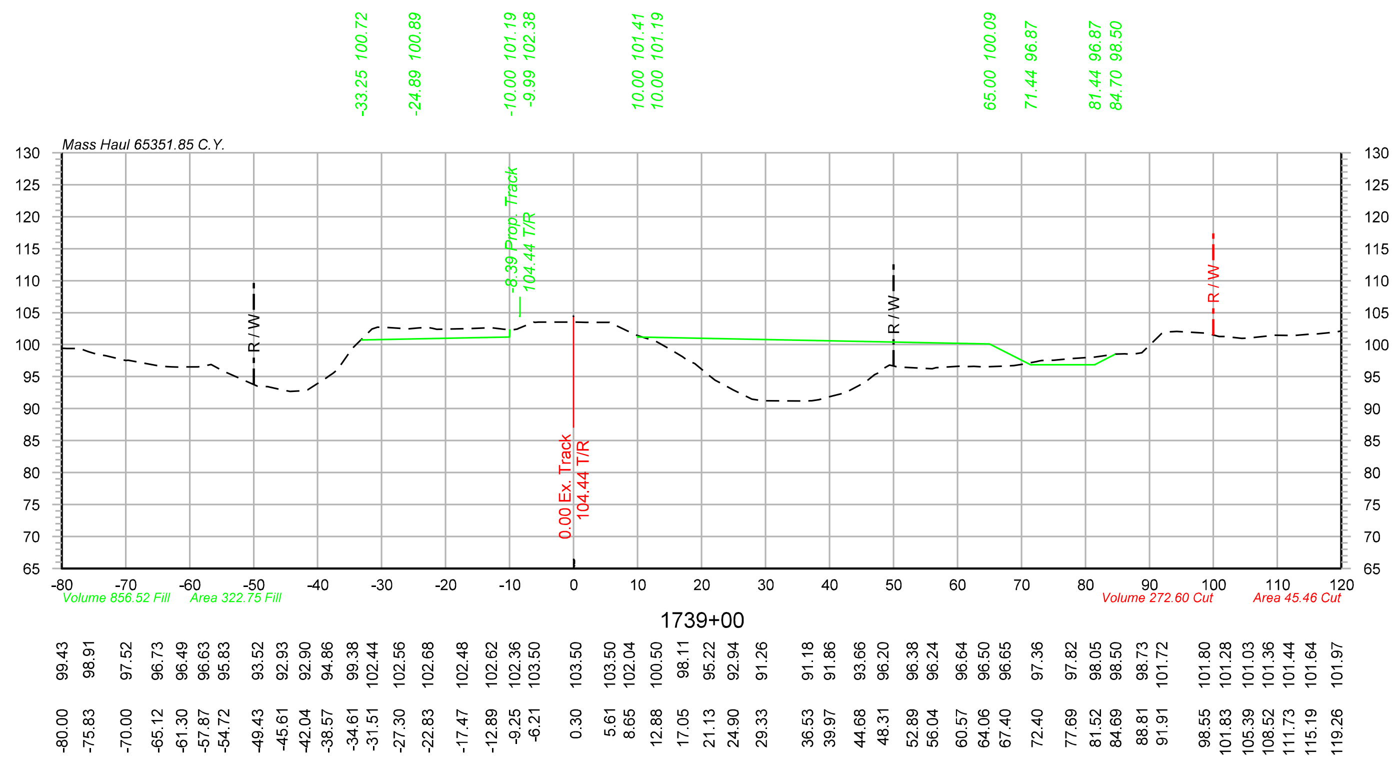

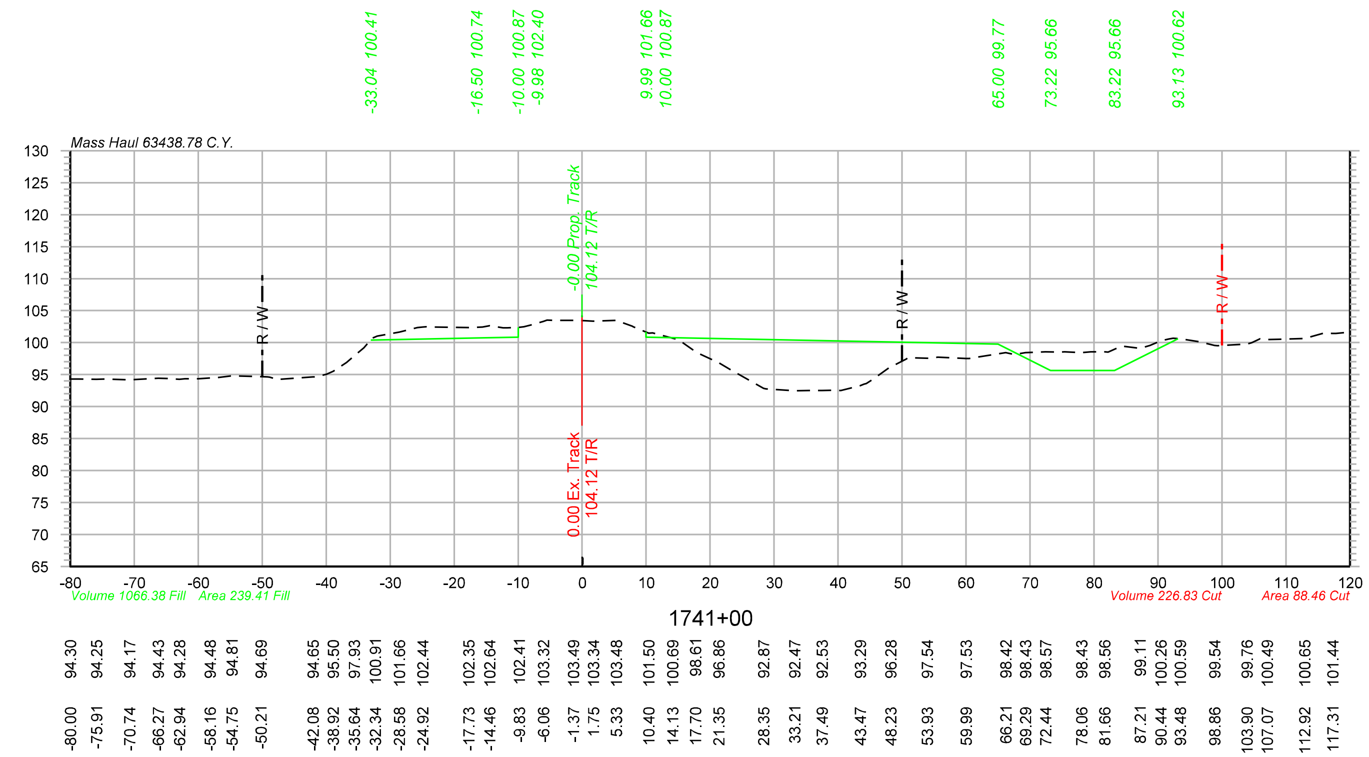

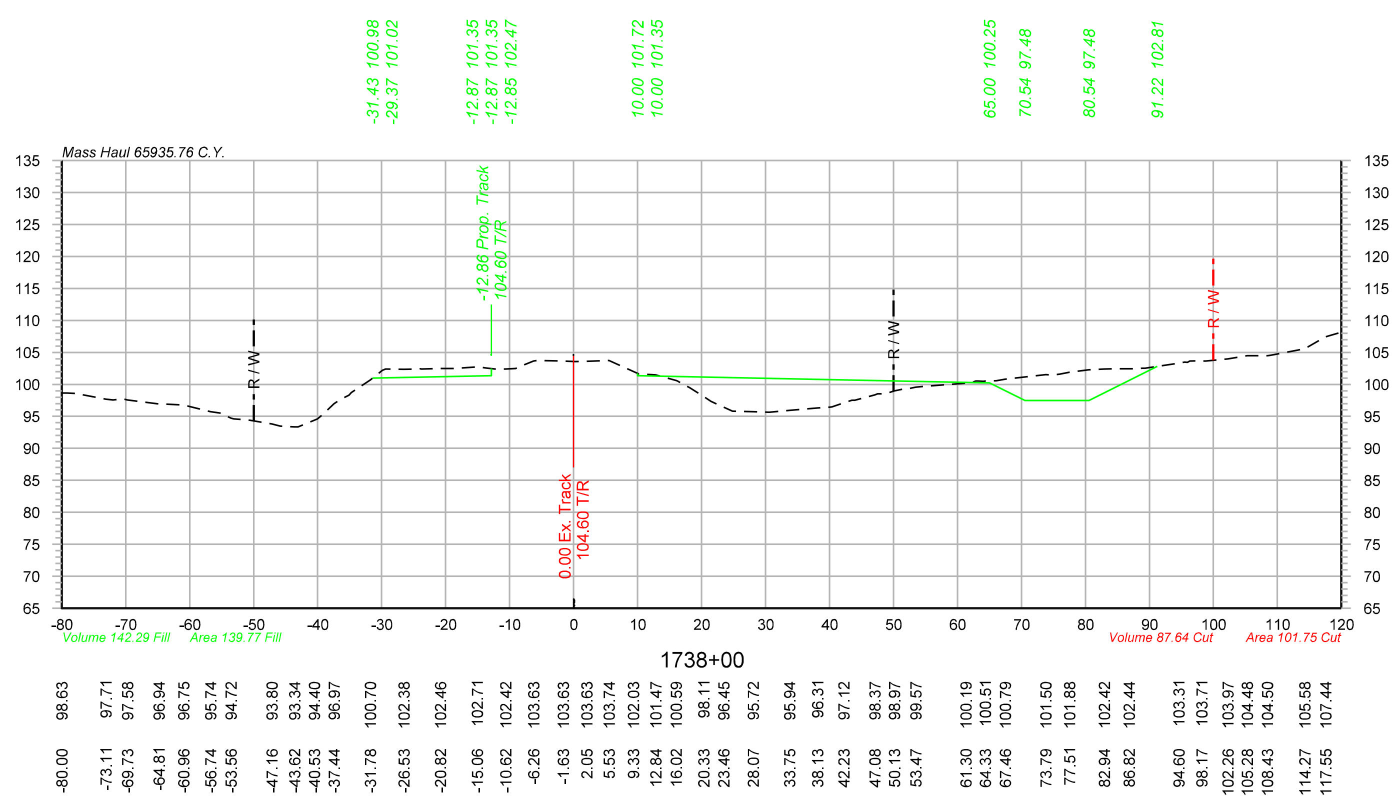

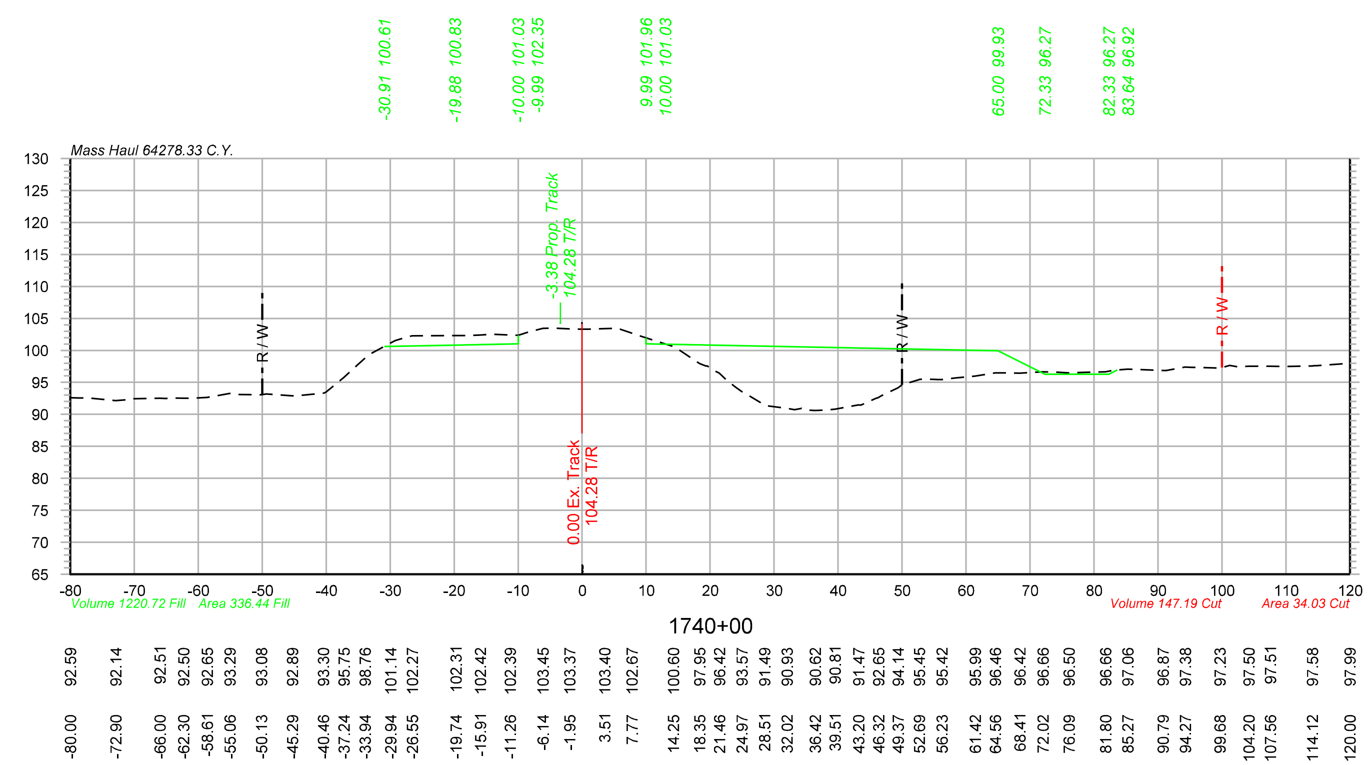

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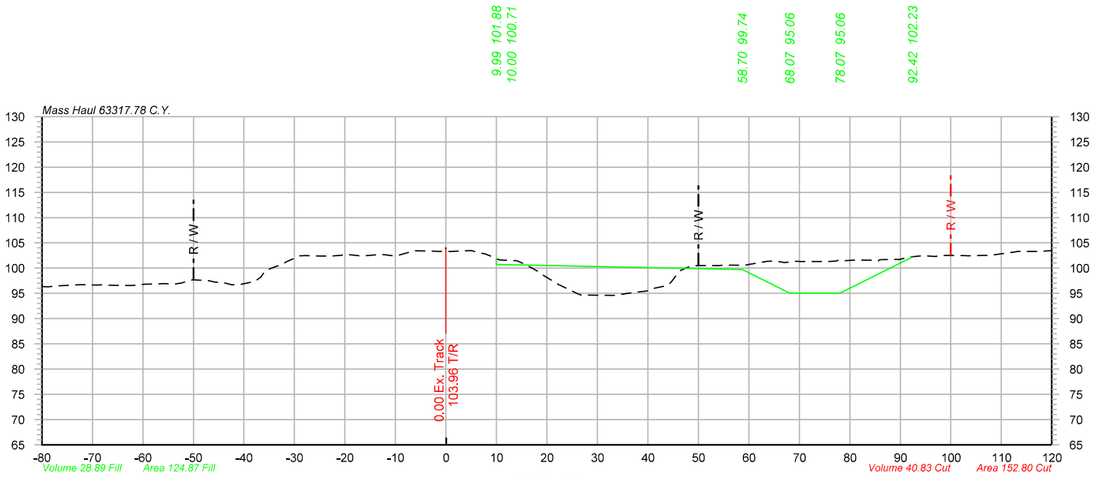
CHECKED BY: RCK	LOCATION & DESCRIPTION: Mosier, Oregon; Portland Subdivision MP 66.98 to MP 72.35; Construct Second Mainline
DATE: 10/20/2014	
SHEET NUMBER X 138 of 139	SHEET TITLE: CROSS SECTIONS STA.1738+00 TO STA.1741+00 — PC 1 2-518

0.0' Offset is Centerline Ex. Main Trk. No. 1

Clearing & Grubbing: 25.67 AC.
Subballast: 19,475 C.Y.
Seeding: 12.74 AC.

Proposed Subgrade Left
Sta 1457+54.66 To Sta 1589+52.23
Cut: 13,829 C.Y.
Fill: 34,380 C.Y.
Net: -20,551 C.Y.

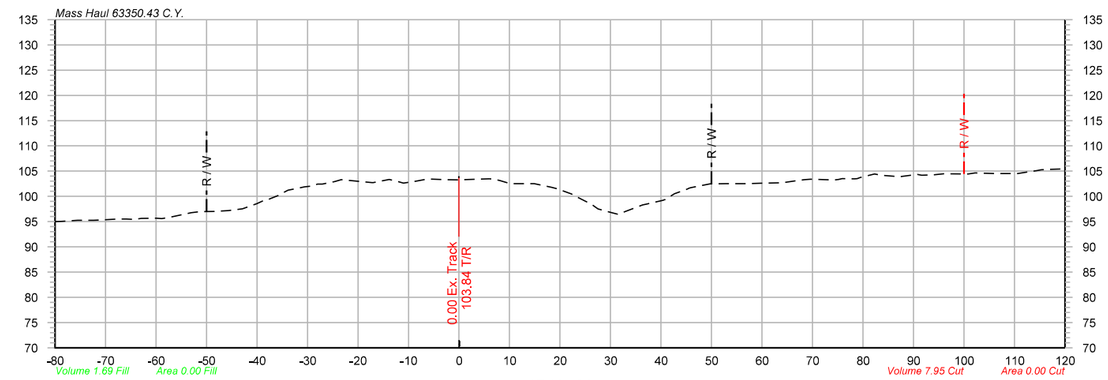
Proposed Subgrade Left & Right
Sta 1638+26.54 To Sta 1742+42.20
Cut: 33,186 C.Y.
Rock Excavation: 58,752 C.Y.
Fill: 28,587 C.Y.
Net: 63,351 C.Y.



1742+00

-80.00	96.34	
-75.41	96.57	
-72.32	96.74	
-69.22	96.66	
-65.95	96.60	
-62.53	96.57	
-55.71	96.94	
-52.54	97.02	
-47.69	97.55	
-43.58	97.02	
-40.52	96.81	
-36.69	98.18	
-33.38	100.42	
-29.41	102.24	
-24.91	102.40	
-20.96	102.53	
-17.76	102.54	
-13.14	102.69	
-9.50	102.50	
-6.39	103.41	
-2.32	103.37	
3.00	103.40	
7.07	102.93	
10.53	101.65	
13.99	101.46	
17.48	99.75	
22.28	96.76	
26.07	94.93	
33.24	94.58	
39.06	95.37	
43.71	96.53	
48.35	100.33	
51.39	100.51	
55.01	100.62	
58.83	100.55	
63.64	101.34	
67.03	101.12	
70.27	101.32	
74.82	101.32	
77.89	101.57	
81.21	101.60	
84.45	101.58	
89.81	101.74	
94.52	102.46	
98.02	102.49	
102.80	102.46	
106.22	102.50	
112.88	103.22	
116.20	103.31	
119.95	103.50	

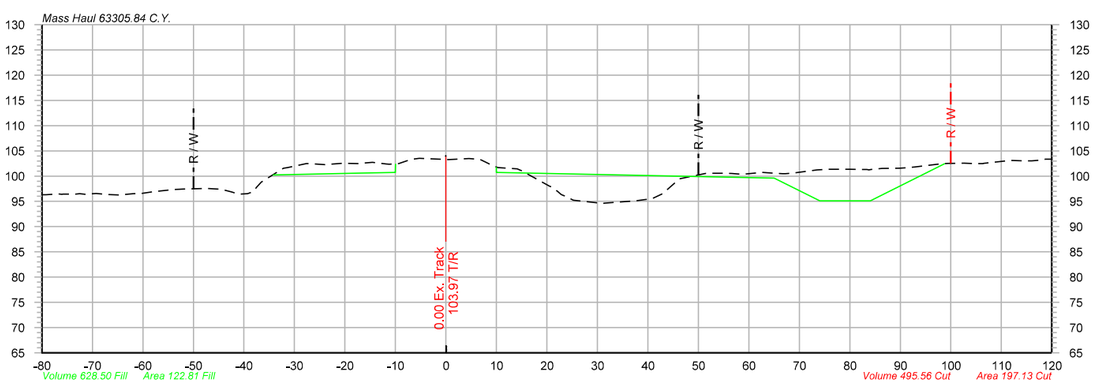
-34.29 100.24
-16.50 100.59
-10.00 100.72
-9.98 102.44
9.99 101.80
10.00 100.72
65.00 99.62
74.05 95.09
84.05 95.09
98.81 102.47



1743+00

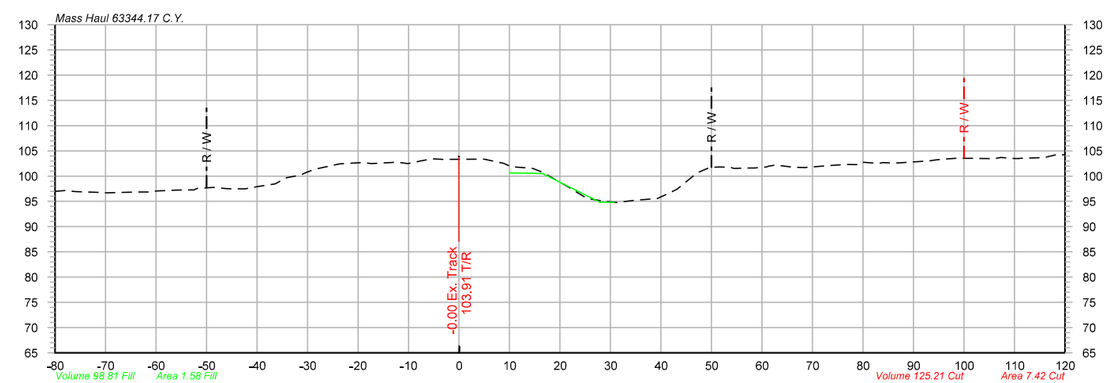
-80.00	95.01
-75.55	95.28
-72.39	95.28
-67.52	95.53
-64.28	95.45
-59.97	95.69
-53.05	96.75
-48.53	97.03
-43.05	97.51
-40.04	98.57
-35.79	100.17
-31.96	101.61
-28.03	102.43
-24.60	102.95
-17.22	102.74
-13.81	103.35
-8.49	103.03
-2.67	103.32
2.09	103.34
5.93	103.49
10.14	102.52
13.64	102.52
18.29	101.79
22.27	100.49
26.17	98.48
29.95	96.86
36.36	98.30
40.41	99.23
45.09	101.41
49.72	102.49
52.89	102.50
55.94	102.53
59.64	102.60
63.46	102.68
67.09	103.16
70.12	103.40
73.76	103.26
78.05	103.49
82.31	104.44
87.26	103.88
90.75	104.33
94.02	104.25
100.57	104.43
106.15	104.50
110.65	104.50
114.44	105.09
119.68	105.43

10.00 100.66
16.51 100.53
27.96 94.80
30.84 94.80



1741+94

-80.00	96.30
-76.78	96.46
-73.34	96.44
-69.28	96.58
-64.87	96.27
-60.31	96.56
-54.61	97.27
-47.35	97.57
-42.40	96.86
-39.26	96.54
-32.52	101.34
-27.66	102.50
-23.97	102.26
-20.73	102.54
-17.45	102.50
-11.75	102.40
-7.39	103.16
-0.34	103.31
4.56	103.50
7.87	102.76
11.57	101.60
15.00	101.07
20.51	98.03
23.53	96.05
30.97	94.61
37.56	95.11
40.67	95.46
46.11	99.33
51.40	100.52
55.07	100.57
58.67	100.34
62.61	100.73
66.68	100.47
73.53	101.25
80.08	101.36
83.39	101.31
89.78	101.58
92.89	101.82
98.06	102.43
102.66	102.56
106.34	102.50
111.01	103.02
114.39	103.04
117.56	103.15



1742+42

-80.00	96.98
-75.99	96.95
-71.20	96.79
-65.20	96.81
-61.33	96.85
-56.04	97.22
-52.50	97.29
-49.17	97.74
-46.00	97.54
-42.57	97.49
-36.58	98.45
-31.28	100.24
-27.81	101.53
-23.59	102.45
-19.00	102.71
-12.74	102.73
-6.63	103.21
-3.17	103.33
4.81	103.37
8.85	102.51
14.63	101.54
17.88	100.00
21.38	98.03
24.51	96.12
28.02	95.16
31.12	94.77
34.96	95.22
39.33	95.57
43.16	97.39
46.83	100.41
49.98	101.65
53.72	101.75
58.49	101.61
62.41	102.17
66.03	101.78
73.08	102.07
76.54	102.31
79.70	102.77
82.85	102.51
85.99	102.55
89.33	102.77
93.21	103.04
98.91	103.55
103.75	103.50
107.31	103.70
110.87	103.50
116.06	103.70
120.00	104.21

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CHECKED BY: RCK
DATE: 10/20/2014
SHEET NUMBER: X 139 of 139

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
CROSS SECTIONS STA.1741+94 TO STA.1743+00

PC 1 2-519

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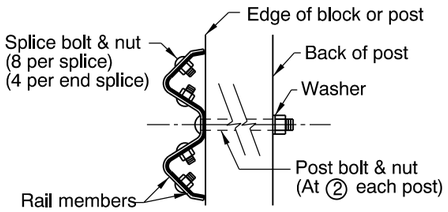
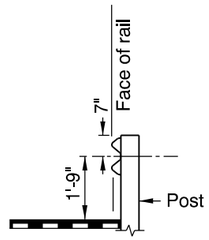


1. When required by the plans, post bolts to extend beyond the tightened nuts within limits of ¼" to ½".
2. When steel posts are used see "APPURTENANCES" for modified bolt detail, Std. Drg. RD415.
3. All post bolt threads to be set after assembly for wrench removal only.

FITTINGS

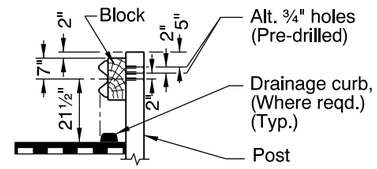
NOTES:
1. Rail height measured from final paved surface at face of rail (Typ. all types).
2. Final paved surfacing to extend to face of post.
3. Drainage curb alignment same as face of guardrail.



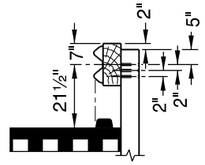
TYPE 1

(Use restricted to non-roadway applications)

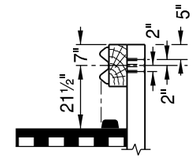
GUARDRAIL



INITIAL INSTALLATION



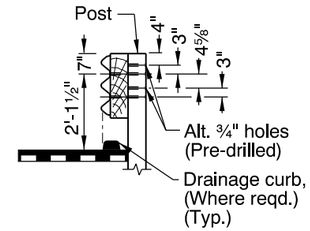
FUTURE ADJUSTMENT



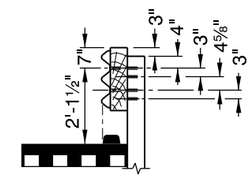
ALTERNATE
INITIAL INSTALLATION
OR FUTURE ADJUSTMENT

TYPES 2A & 3

(See General Note 3)
(For Type 3 use double thickness (2) rail elements)



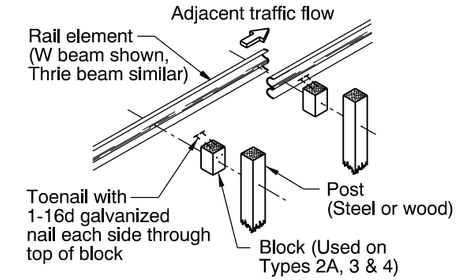
INITIAL INSTALLATION



RAIL AFTER OVERLAY
(Adjust as shown)

TYPE 4

ASSEMBLY DETAILS



RELATION OF PARTS

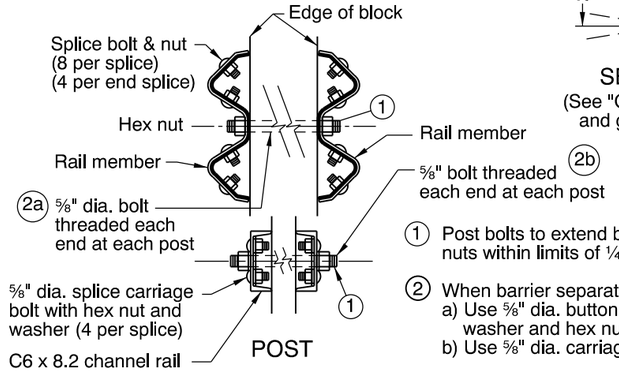
TABLE OF POST SPACING				
TYPE	1	2A	3	4
SPACING	12'-6"	6'-3"	3'-1½"	6'-3"

NORMAL RAIL ELEMENT DATA			
Type	Rail	Effective Lengths	Thkn. *
1, 2A, 3	W beam	6.25', 12.5', 25'	0.105" & 0.135"
4	Thrie beam	6.25', 12.5', 25'	0.105" & 0.135"

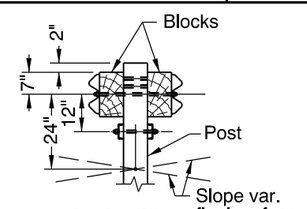
* Base metal thkn. nom. (Before galv.)

METAL MEDIAN BARRIER

NOTE:
Median barrier post spacing 6'-3".
See end construction for variations.



POST

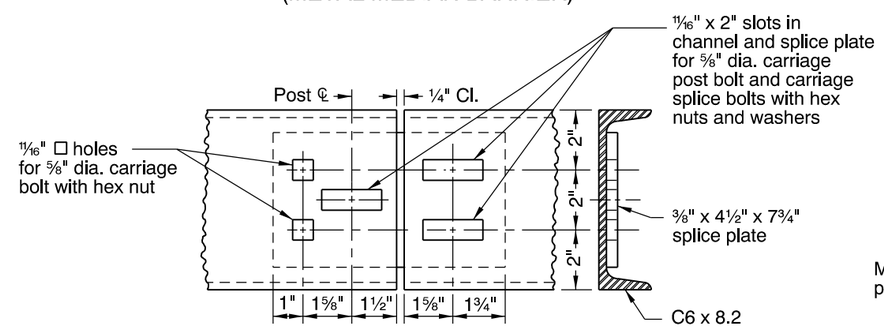


SECTION
(See "Guardrail" details and general note 3)

① Post bolts to extend beyond the tightened nuts within limits of ¼" to ½".

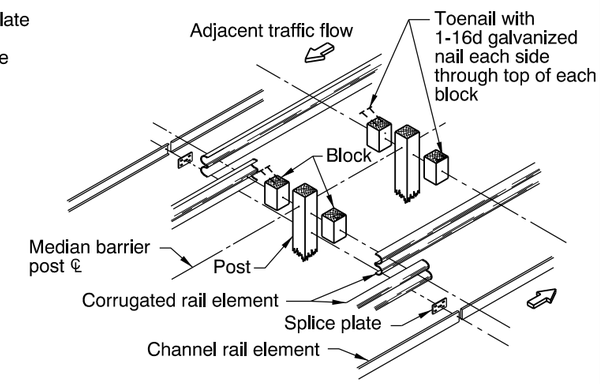
② When barrier separates to double post mounting:
a) Use ⅝" dia. button or alternate bolt with washer and hex nut.
b) Use ⅝" dia. carriage bolt with washer and nut.

CHANNEL RAIL AND SPLICE PLATE
(METAL MEDIAN BARRIER)



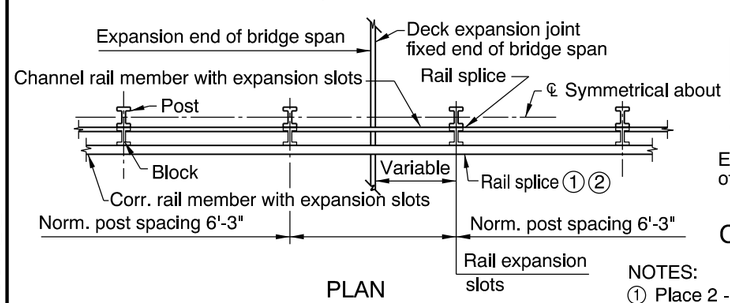
NOTE:
Clearance to be 1⁹⁄₁₆" at rail splice for bridge expansion joints.

ASSEMBLY DETAILS

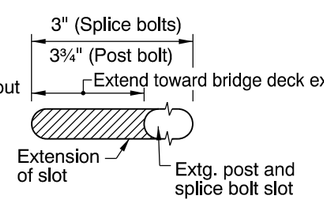


RELATION OF PARTS

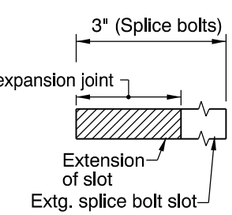
METAL MEDIAN BARRIER/SHOULDER GUARDRAIL INSTALLATION AT BRIDGE DECK EXPANSION JOINT



PLAN



CORRUGATED RAIL



CHANNEL RAIL AND
SPLICE PLATE

NOTES:
① Place 2 - 1⁄32" polytetrafluoroethylene (TFE) sheets between corrugated rail members. The sheets shall be 12½" x 1'-7".

② Adjust nuts to provide a sliding fit and set threads to prevent loosening.

GENERAL NOTES FOR ALL DETAILS:

1. For details of parts, see Std. Drgs. RD405, RD410 & RD415.
2. For details of guardrail installation, see Std. Drgs. RD420, RD425, RD430, RD435 & RD440.
3. Use "Alternate Initial Installation", at bridge ends (See Std. Drg. RD440), adjacent to P.C.C. pvmt., for temporary guardrail, to match existing guardrail, for Type 1 rail or as directed.
4. See Std. Drg. RD701 for drainage curbs, where required.
5. Lap guardrail in direction of adjacent traffic.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 13-JAN-2014

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

GUARDRAIL AND METAL MEDIAN BARRIER

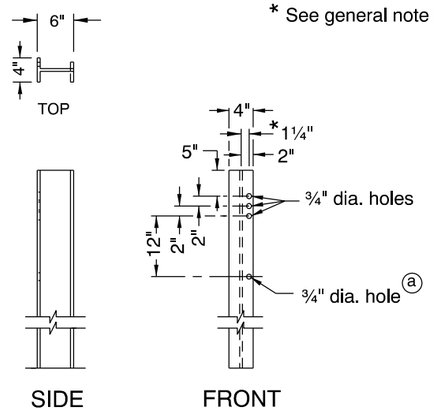
2008

DATE	REVISION DESCRIPTION
06-2009	REVISED DETAILS & NOTES
12-2009	REVISED NOTES
01-2011	REVISED AND ADDED NOTES
01-2014	REVISED NOTES & TABLE

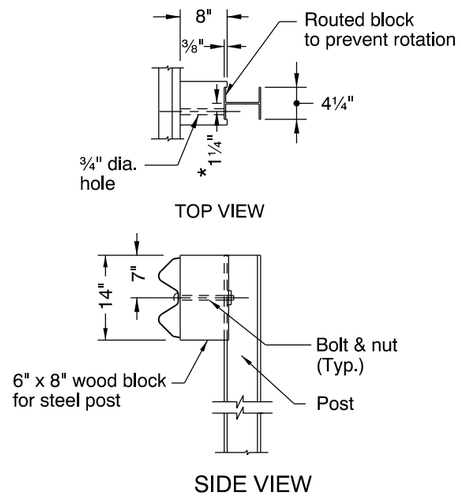
Effective Date: June 1, 2014 - November 30, 2014

POSTS

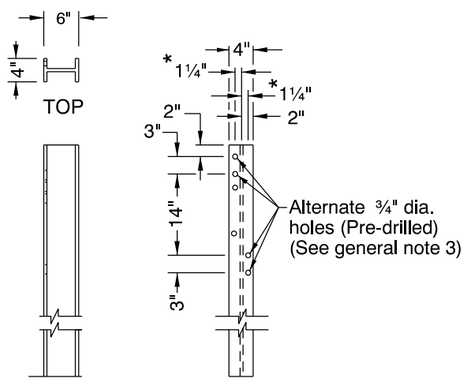
STEEL



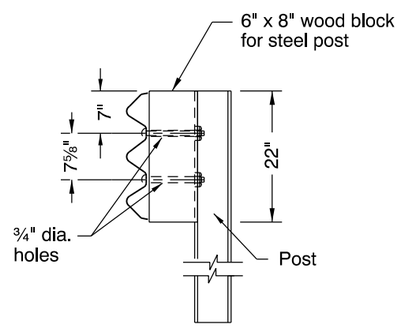
TYPE 2A, 3 OR METAL MEDIAN BARRIER



TYPE 2A, 3 OR METAL MEDIAN BARRIER
WOOD BLOCK FOR STEEL POST



TYPE 4 OR TYPE 4 (TRANSITION) POST

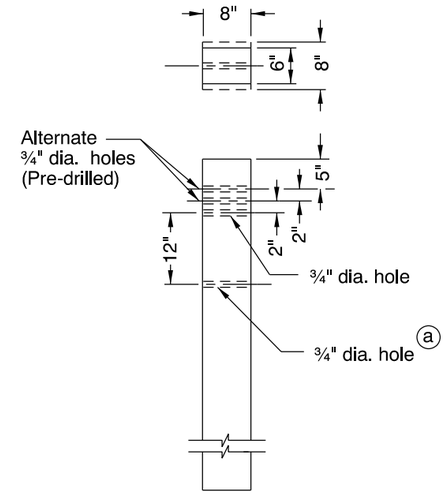


TYPE 4 OR TYPE 4 (TRANSITION) BLOCK
(Routing not required)

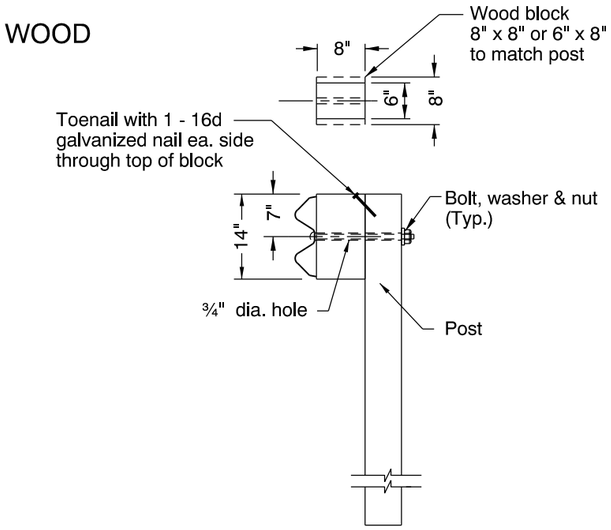
ⓐ Lowest hole(s) required only where channel rail is to be installed. Drill 12" below top ¾" hole(s) used. (See general note 4)

GUARDRAIL POST TABLE				
GUARDRAIL TYPE	POST SIZE		POST LENGTH	
	WOOD	STEEL *	WOOD	STEEL
1	6" x 8" or 8" x 8"	—	6'-0"	—
2A	6" x 8" or 8" x 8"	W6 x 9	6'-0"	6'-6"
3	8" x 8"	W6 x 9	6'-0"	6'-6"
Metal median barrier	8" x 8"	W6 x 9	6' 6"	6'-6"
4	6" x 8" or 8" x 8"	W6 x 9	7'-0"	7'-0"
4 (Transition)	8" x 8"	W6 x 9	6'-0"	6'-9"

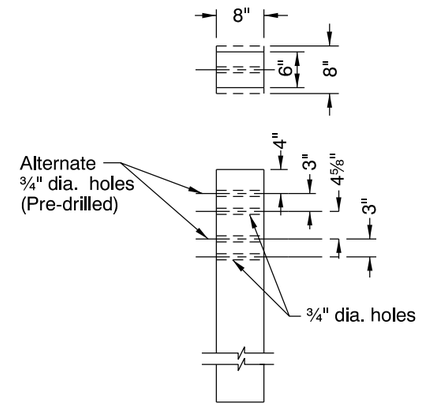
WOOD



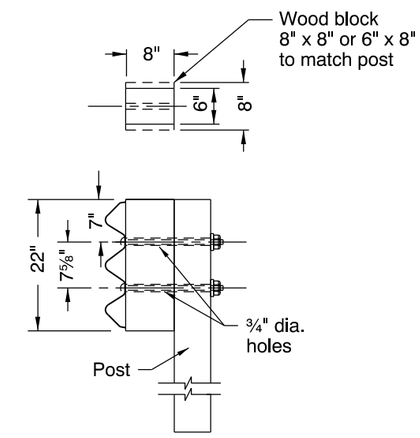
TYPE 1, 2A, 3 OR
METAL MEDIAN BARRIER



TYPE 2A, 3 OR
METAL MEDIAN BARRIER



TYPE 4 OR TYPE 4 (TRANSITION)
POST



TYPE 4 OR TYPE 4 (TRANSITION) BLOCK

GENERAL NOTES FOR ALL DETAILS:

1. See Std. Drg. RD400 for alternate hole useage requirements.
2. For assembly, installation, and appurtenance details, see Std. Drgs. RD400, RD410, RD415, RD420, RD425, RD430, RD435, RD440.
3. See Bridge Drgs. for bridge transition guardrail post & block requirements. Multiple holes are not required in bridge transition rail posts.
4. Posts and blocks to be pre-drilled for the intended guardrail installation.
5. Post and block dimensions are nominal.
6. Steel posts are shifted to accomodate bolt holes.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 13-JAN-2014

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

GUARDRAIL AND METAL MEDIAN BARRIER PARTS

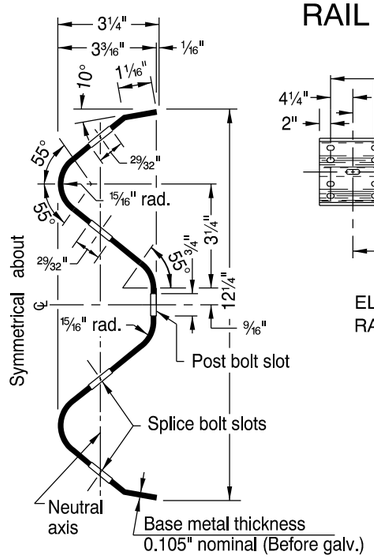
2008

DATE	REVISION DESCRIPTION
06-2009	REVISED DETAILS & NOTES
12-2009	REVISED DETAILS & NOTES
01-2014	REVISED DETAILS & NOTES

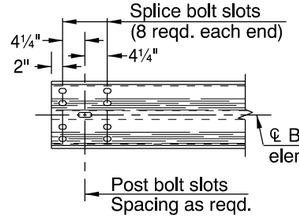
rd405.dgn 13-JAN-2014

RD405

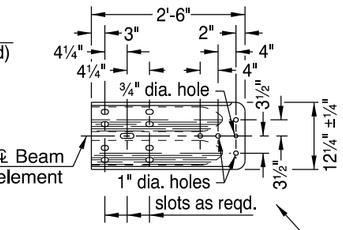
RAIL MEMBERS



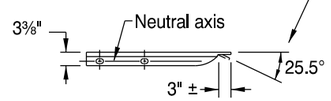
SECTION THRU RAIL ELEMENT



ELEVATION OF RAIL ELEMENT



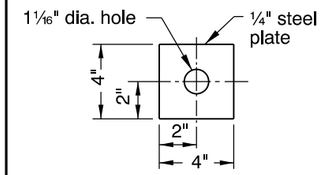
25.5° bend and hole reqd. only for use with alternate Type "C" end piece.



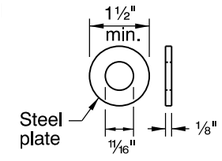
Base metal thickness 0.135" nominal (Before galv.)

TERMINAL CONNECTOR

APPURTENANCES

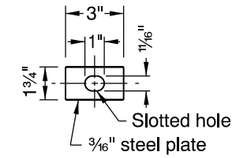


SNOW LOAD (OPTIONAL)
(In area of heavy snow, as directed by the engineer)



PLAIN ③

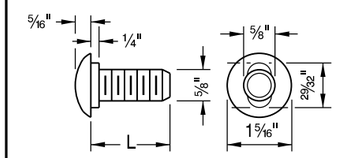
USE ON BACK OF POST



RECTANGULAR

USE ON RAIL ELEMENT FACE ON TYPE C END PIECE ④

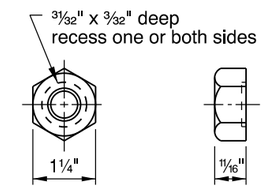
WASHERS



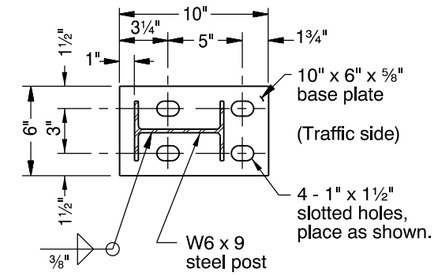
ALTERNATIVE No. 1

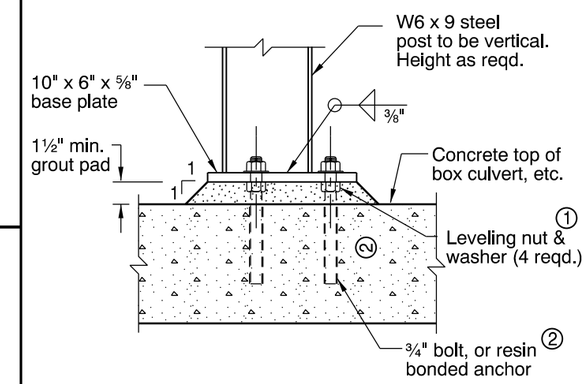
ALTERNATIVE NO. 2

L (in.)	Thread Length
1¼	Full length
2	1½" min.
9½	2" min.
18	3½" min.
25	3" min.



POST OR SPLICE BOLT AND NUT

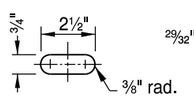




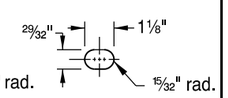
BASE PLATE DETAILS
(For additional details, see Std. Drg. BR266)
(Use when depth of cover is less than normal for post installation.)

NOTES:

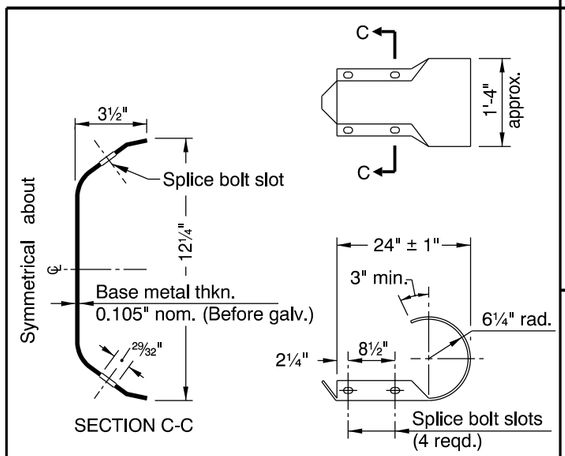
1. For guardrail installed on radii of 150' or less (5' min. radius) use rail elements pre-curved to industry standard. Install "Radius Identification Plate" (See detail right).
2. Effective length of rail sections shall be 12'-6".



POST BOLT SLOT

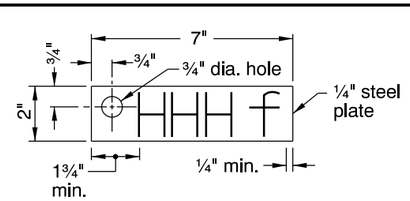


SPLICE BOLT SLOT

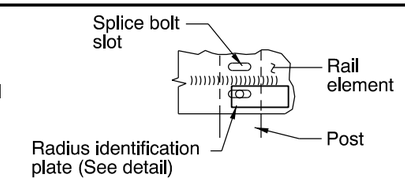


SECTION C-C

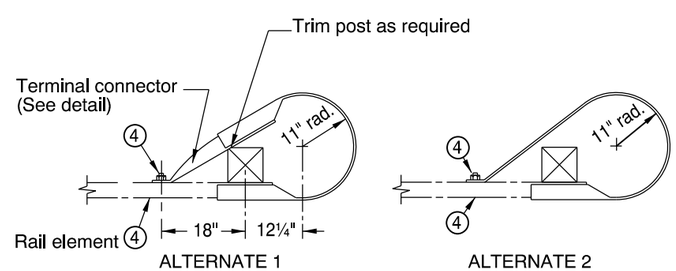
TYPE B END PIECE



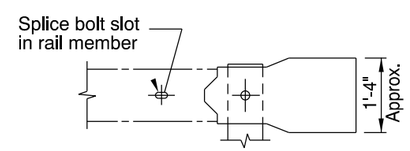
RADIUS IDENTIFICATION PLATE
(See general note 4)



RADIUS IDENTIFICATION PLATE MOUNTING DETAIL
(See general note 5)



ALTERNATE 1 ALTERNATE 2



ELEVATION

TYPE C END PIECE
(For details not shown, see Type B End Piece)

NOTES:

① Furnished & installed by structure contractor when shown on structure plans.

② 6" min. penetration into concrete slabs other than bridge decks. Cast in place or core and install using approved resin bonding system.

③ Not required if "Snow Load" washer option is used.

④ Use rectangular washer under bolt head and nut on Type C End Piece as shown.

GENERAL NOTES FOR ALL DETAILS:

1. For assembly and installation details, see Std. Drgs. RD400, RD405, RD420, RD425, RD430, RD435 & RD440.
2. For details of guardrail connections to structural handrails, see special details or Standard Drawings as called for on plans.
3. All indicated welds shall attain the full strength of the section welded.
4. Radius dimensions, in feet to the nearest 0.5 foot, shall be placed on the plate with a raised weld bead replacing the letters "HHH", shown on the Radius Identification Plate detail. Digits shall be 1½" min. height and ¾" max. width. Plate shall be galvanized after placement of digits.
5. The guardrail radius identification plate is to be mounted on the back side of the rail element with the lowest splice bolt nearest the P.C. of the guardrail radius.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JAN-2010

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

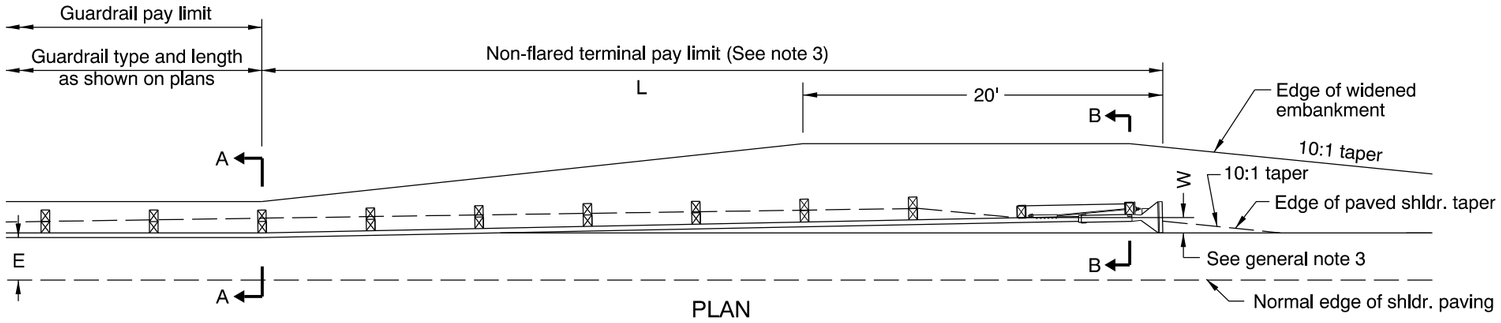
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

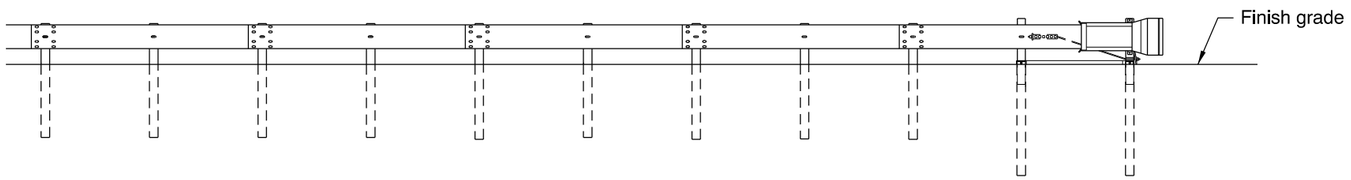
GUARDRAIL AND METAL MEDIAN BARRIER PARTS

2008

DATE	REVISION DESCRIPTION
12-2009	REVISED DETAILS AND NOTES



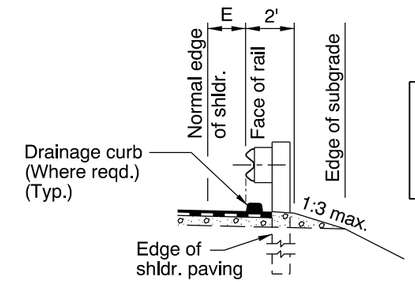
PLAN



ELEVATION
NON-FLARED OPTION

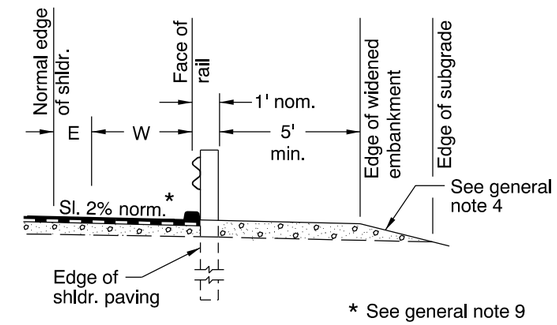
TEST LEVEL	L (ft)	W (ft)
2 (≤ 45 mph)	25	1 to 2 **
3 (> 45 mph)	37.5 or 50	1 to 2 **

** See general note 3



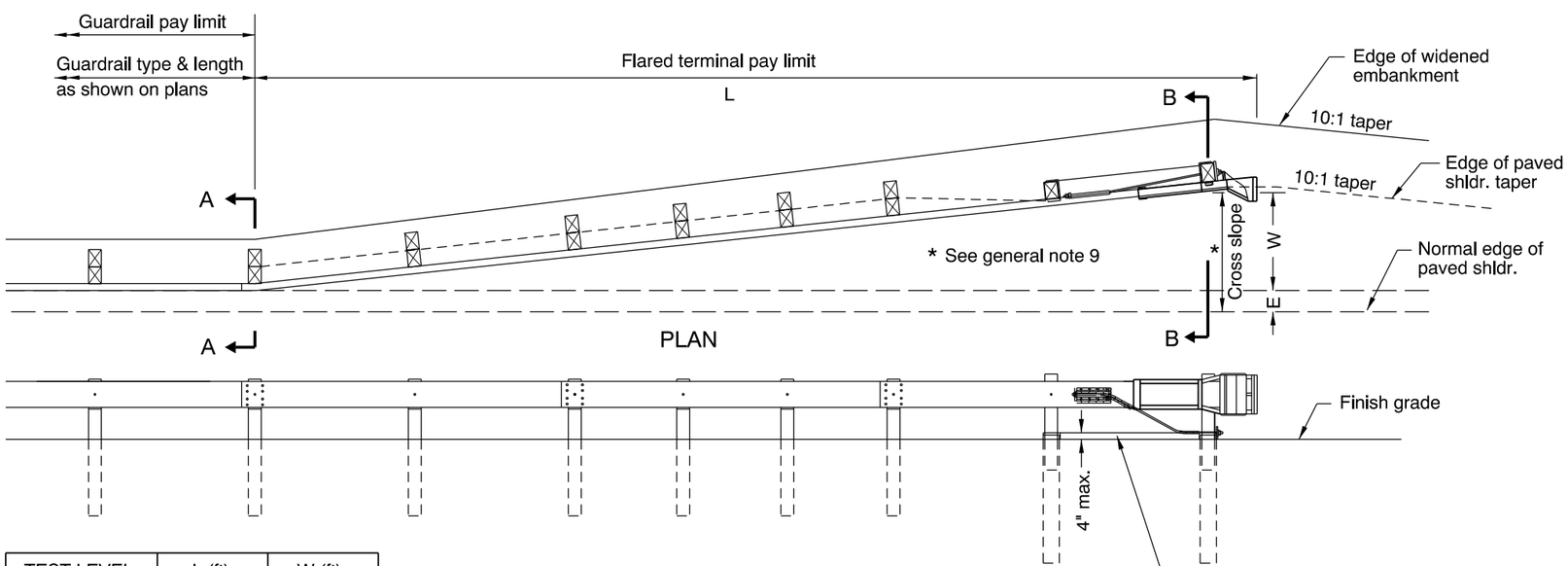
SECTION A-A

NOTES:
1. E=2', where shown on plans.
2. Drainage curb alignment same as face of guardrail.



SECTION B-B

* See general note 9



TEST LEVEL	L (ft)	W (ft)
2 (≤ 45 mph)	25	1.67 to 2.67
3 (> 45 mph)	37.5	2.5 to 4.0

ELEVATION
STRAIGHT FLARE OPTION
(Flare rate varies, see table)

GENERAL NOTES FOR ALL DETAILS:

1. For details not shown, see Std. Drgs. RD400, RD405, RD410, RD415 & RD435.
2. On two way two lane highways, both ends of guardrail runs shall be provided with a terminal flared or non-flared. Paving of widened shldr. on both ends of guardrail runs is required.
3. Non-flared terminal shall be installed with a min. 1-foot offset ensuring that the end piece is entirely off normal shldr.
4. 1:4 slope or flatter preferable, 1:3 max.
5. Provide terminal from ODOT's QPL. Install according to manufacturer's recommendations. Provide Shop Drawings to Engineer.
6. Install fixed object marker on head of every terminal with "W" 4 feet or less.
7. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
8. See Std. Drg. RD701 for drainage curbs, where required.
9. Cross slope to match adjacent roadway cross slope (preferred).
   If required, maximum shoulder slope 10% for guardrail widening.
   If required, maximum grade break at normal edge of shoulder 8%.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 10-JAN-2012

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

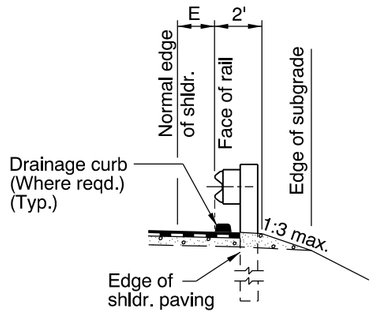
ENERGY ABSORBING TERMINAL

2008

DATE	REVISION DESCRIPTION
06-2009	REVISED DETAILS & NOTES
07-2010	REVISED DETAILS & NOTES
01-2011	REVISED NOTES
01-2012	REVISED & ADDED NOTES

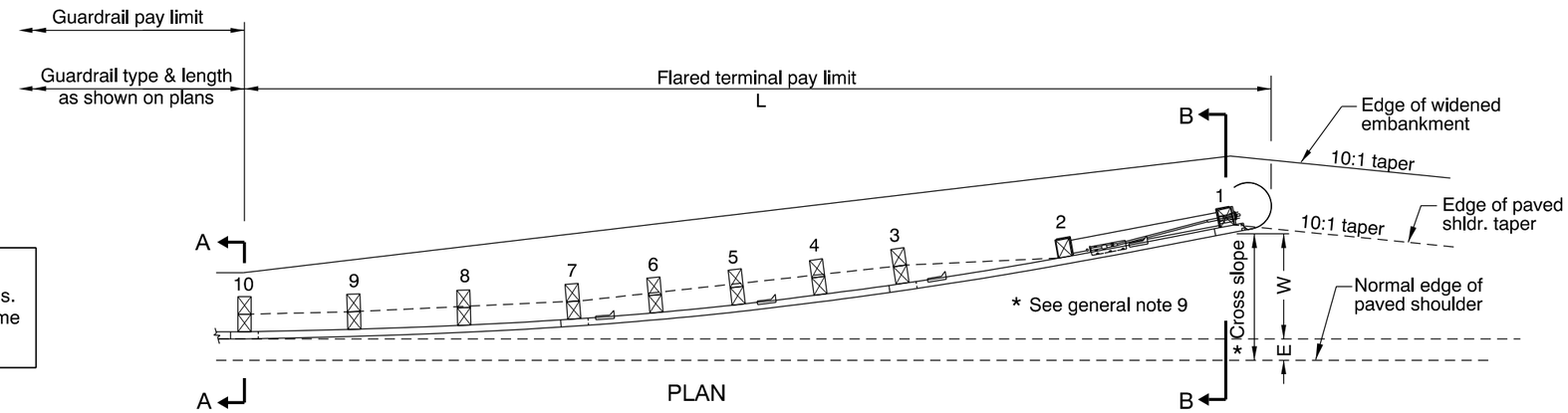
rd420.dgn 11-JAN-2012

RD420

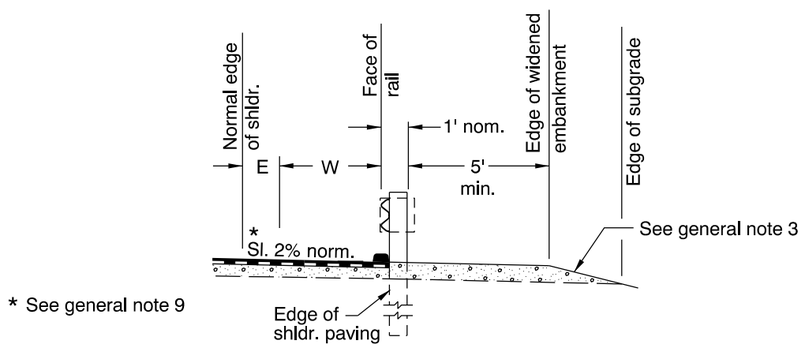


SECTION A-A

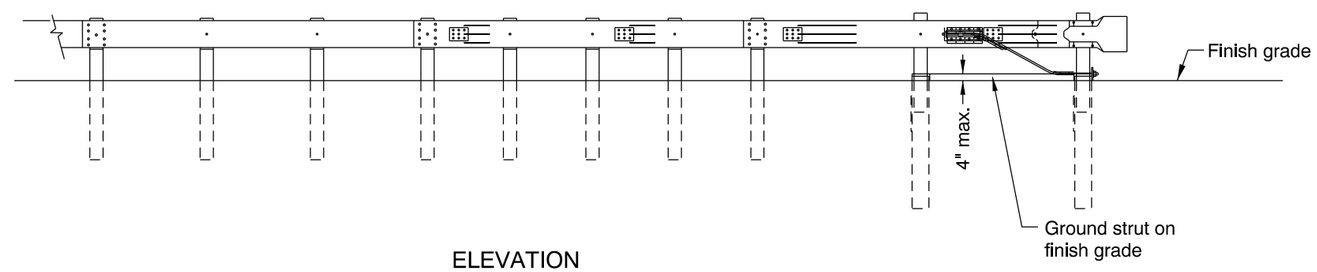
NOTES:
1. E = 2', where shown on plans.
2. Drainage curb alignment same as face of guardrail.



PLAN



SECTION B-B



ELEVATION
PARABOLIC FLARE TERMINAL

TEST LEVEL	L (ft)	W (ft)
3 (> 45 mph)	37.5	3.0 or 4.0

GENERAL NOTES FOR ALL DETAILS:

1. For details not shown, see Std. Drgs. RD400, RD405, RD410, RD415 & RD435.
2. On two way two lane roads, both ends of guardrail runs shall be provided with a terminal. Paving of widened shldr. on both ends of guardrail runs is required.
3. 1:4 slope or flatter preferable, 1:3 max.
4. Provide flared terminal from ODOT's QPL. Install according to manufacturer's recommendation. Provide shop drawings to engineer.
5. Install fixed object marker on head of every terminal with "W" 4 feet or less.
6. This terminal may be used on state highway projects providing a reasonable recovery area exists behind the terminal or can be provided. See Highway Design Manual Section 4.6 Design Criteria/Establishment of Variable-Sized Recovery Areas for guidance.
7. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
8. See Std. Drg. RD701 for drainage curbs, where required.
9. Cross slope to match adjacent roadway cross slope (preferred). If required, maximum shoulder slope 10% for guardrail widening. If required, maximum grade break at normal edge of shoulder 8%.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 07-JAN-2013

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

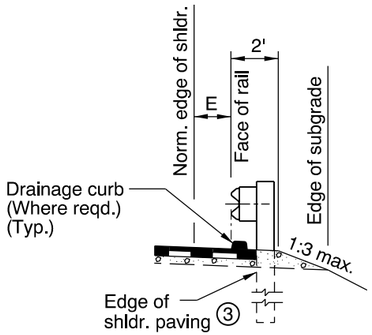
NON ENERGY-ABSORBING TERMINAL 3' OR 4' FLARE

2008

DATE	REVISION DESCRIPTION
06-2009	REVISED DETAILS & NOTES
07-2010	REVISED NOTES
01-2011	REVISED NOTES
01-2013	REVISED NOTE

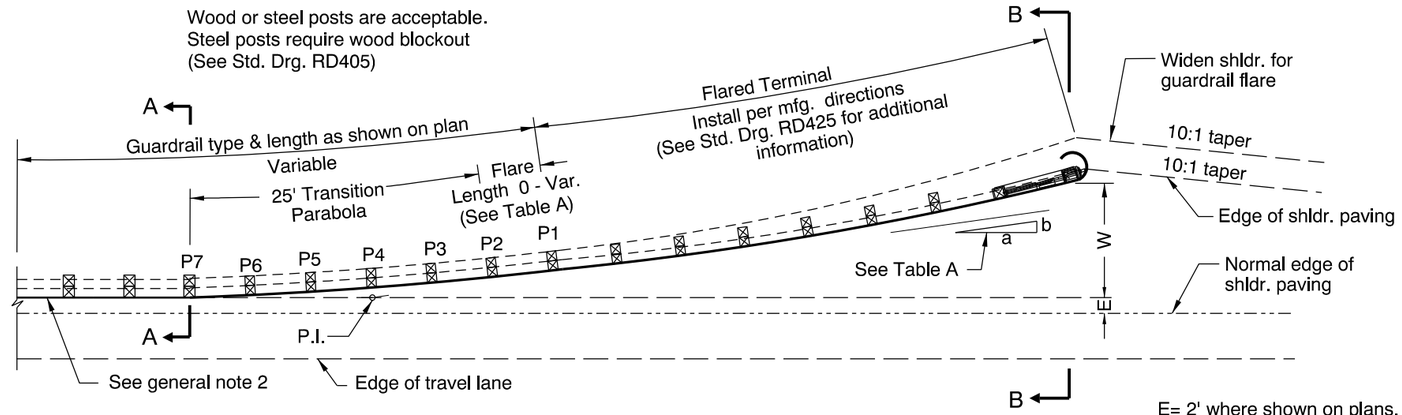
rd425.dgn 29-JAN-2013

RD425



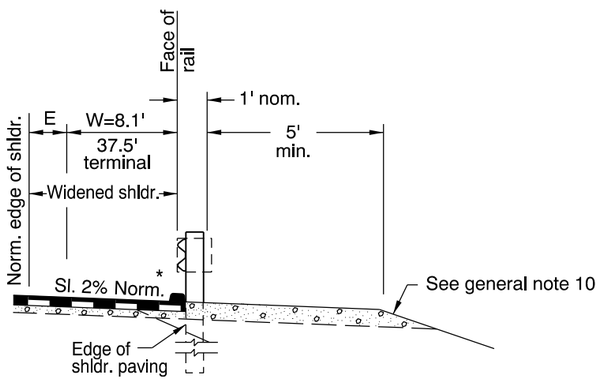
SECTION A-A

NOTES:
1. E = 2', where shown on plans.
2. Drainage curb alignment same as face of guardrail.

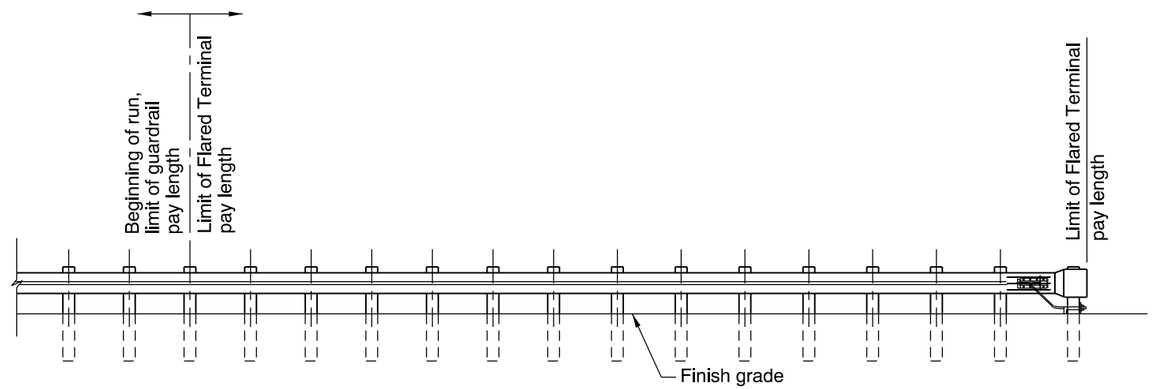


E= 2' where shown on plans.

PLAN



SECTION B-B



ELEVATION

* See general note 11

TABLE A

FOR "W" = 8.1' (25' TRANSITION PARABOLA), 12.5' FLARE LENGTH

FLARE RATE a:b	NORMAL FLARE LENGTH (ft)	NORMAL W (ft)		25' TRANSITION PARABOLA					12.5' FLARE	
				P7	P6	P5	P4	P3	P2	P1
			X (ft)	0	6.25	12.49	18.72	24.92	31.15	37.38
15:1	12.5	8.1	Y (ft)	0	.05	.21	0.47	.83	1.25	1.66

See plan above for additional information

The "Y" dimensions are offset from the tangent line of guardrail.

W=8.1' TERMINAL

(Embankment)

GENERAL NOTES FOR ALL DETAILS:

1. For details not shown, see Std. Drgs. RD400, RD405, RD410, RD415, RD420, RD425 & RD435.
2. Paving of widened shldr. on both ends of guardrail runs is required.
3. Type 2A guardrail shown.
4. Trailing ends (freeway, multilane and similar oneway facilities) not exposed to opposing traffic:
   (a) Guardrail terminals, use a Type 1 modified anchor, Type B end piece and do not flare.
   (b) At bridge ends, omit Transition Guardrail & Type 3 guardrail and substitute the normal required guardrail.
5. (a) All bolts except adjustment bolts shall be drawn tight on rails and components on initial installation.
   (b) Final tightness check on rail and components bolts and retightening as required to be done 30 days after initial installation.
6. Provide flared terminal from ODOT's QPL. Install according to manufacturer's recommendation. Provide shop drawings to engineer.
7. This drawing is retained for maintenance purposes. Do not use for new construction.
8. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
9. See Std. Drg. RD701 for drainage curbs, where required.
10. 1:4 slope or flatter preferable, 1:3 max.
11. Cross slope to match adjacent roadway cross slope (preferred).
    If required, maximum shoulder slope 10% for guardrail widening.
    If required, maximum grade break at normal edge of shoulder 8%.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JAN-2011

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

GUARDRAIL INSTALLATION
WIDE FLARE TERMINAL (EMBANKMENT)

2008

DATE	REVISION DESCRIPTION
06-2009	REVISED DETAILS & NOTES
01-2011	ADDED & REVISED NOTES

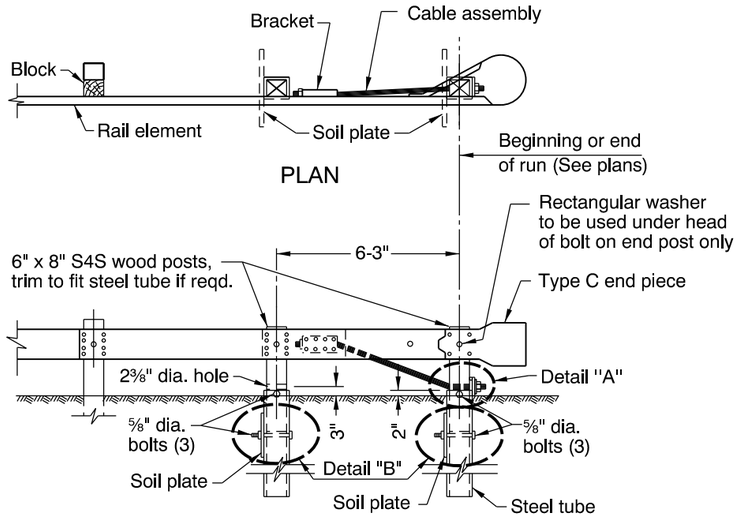
rd430.dgn 14-JAN-2011

RD430

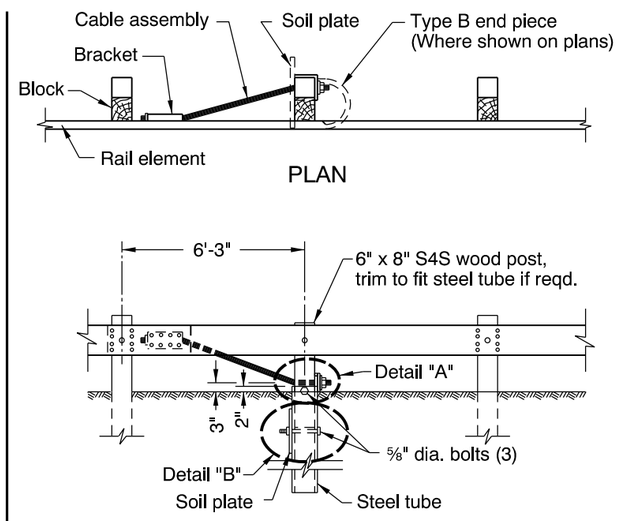
ANCHORS (Steel)

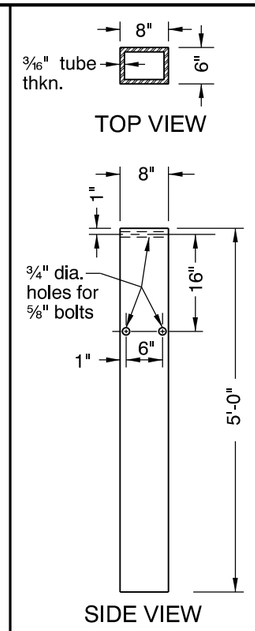
(Where shown on plans)

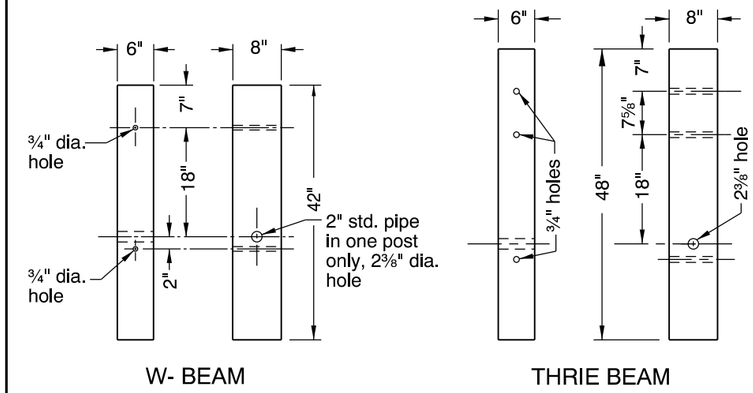
TYPE 1



TYPE 1 MODIFIED

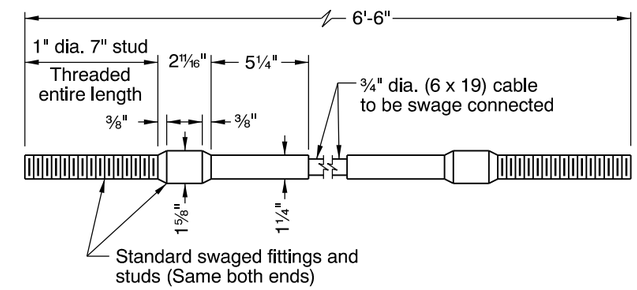




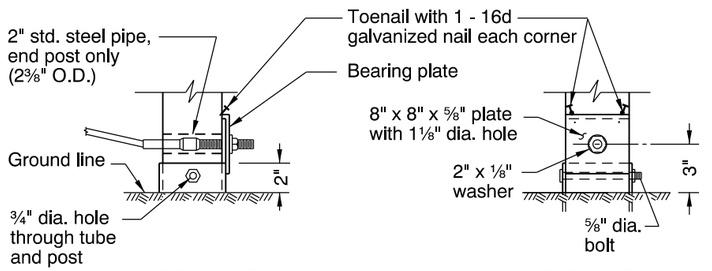


WOOD BREAKAWAY POSTS

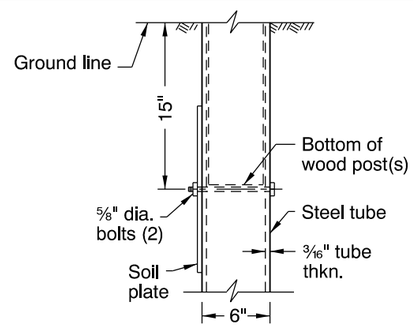
(6" x 8" posts only)



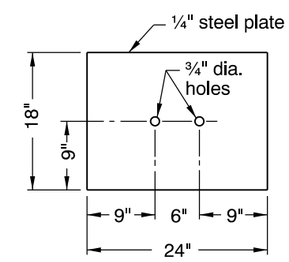
CABLE ASSEMBLY



DETAIL "A"



DETAIL "B"



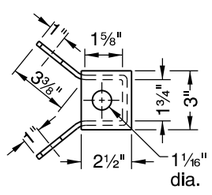
SOIL PLATE

GENERAL NOTES FOR ALL DETAILS:

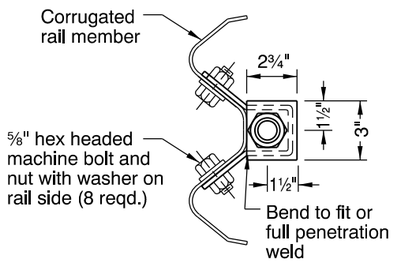
1. (a.) Cable assembly to be tightened to a taut condition on initial installation.

   (b.) Final tension check and tightening of cable assembly as required to be done 30 days following initial installation.

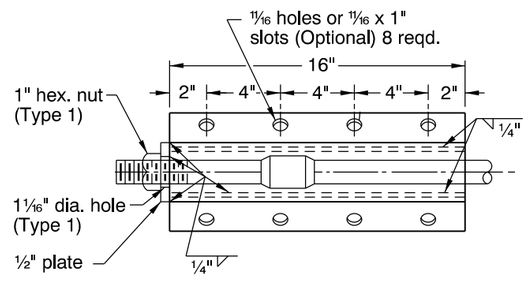
2. See Std. Drgs. RD400 & RD405 for details not shown.



END VIEW
Alternate No. 1



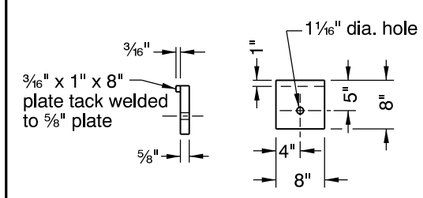
END VIEW
Alternate No. 2



BACK VIEW

NOTE:
All plate for bracket to be ¼" thick steel, unless otherwise noted.

BRACKET



BEARING PLATE

CALC. BOOK NO. N/A	BASELINE REPORT DATE 13-JAN-2014
	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

GUARDRAIL ANCHORS (STEEL)

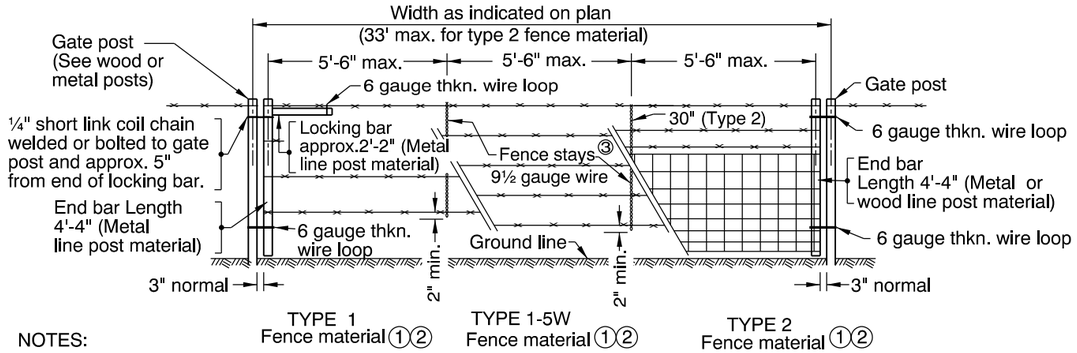
2008

DATE	REVISION DESCRIPTION
12-2009	REVISED DETAILS & NOTES
07-2013	REVISED DETAILS & NOTES
01-2014	REVISED NOTES

rd450.dgn 13-JAN-2014

RD450

GATEWAY



NOTES:

① Match adjointing fence type.
② For details not shown see fence type.
③ For wooden stays, see Type 1 fence details.

TYPES 1 , & 1-5W

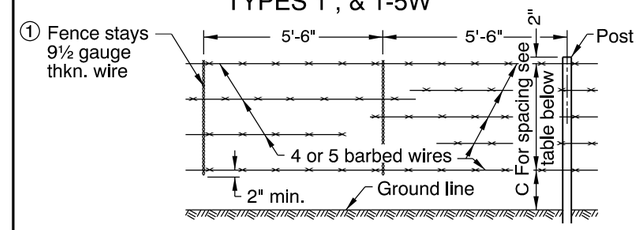
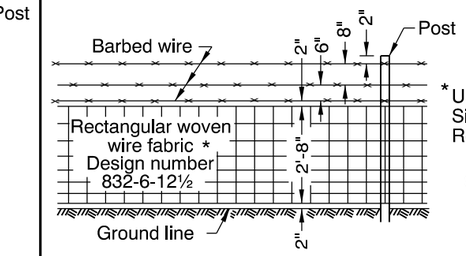


TABLE OF DIMENSIONS

FENCE	C	SPACING	NO. OF WIRES
Type 1	14"	12"	4
Type 1-5W	10"	10"	5

① NOTE:
Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2" x 2" x 52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground. Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.

② TYPE 2



* U.S. Dept. of Commerce Simplified Practice Recommendation R9-47.

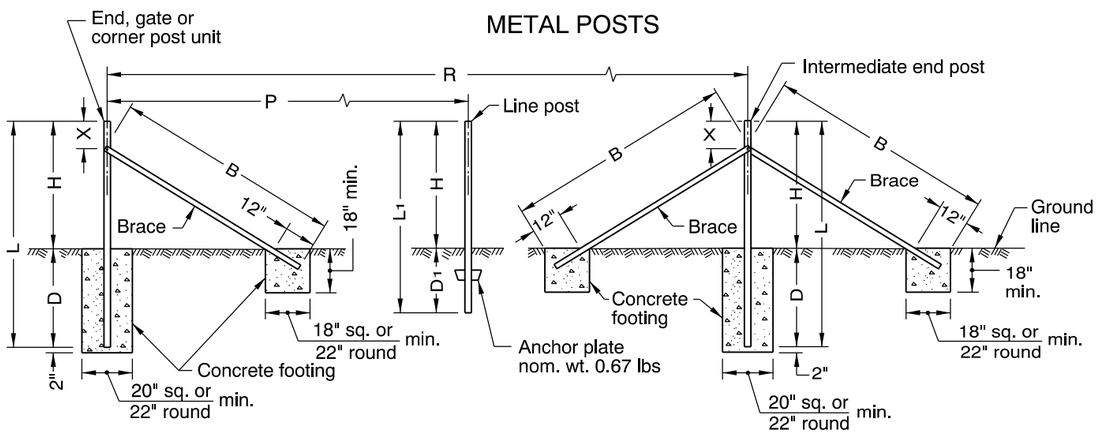
② NOTE:
For wooden stays, see Type 1 fence details

TABLE 1 (For wood posts)

FENCE	R (ft)	UNITS REQUIRED
Types 1, 1-5W & 2	20 or Less	* None
	20-330	A
	Over 330	A & B

* Unit A required at gate post.
Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.

METAL POSTS



BRACE RAIL CONNECTION

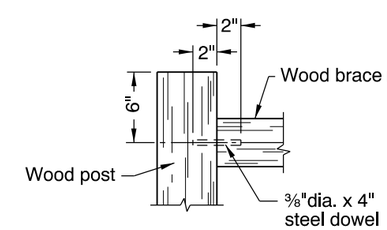


TABLE 2

FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9"-22"

TABLE 3

MEMBER	WOOD: * ROUND DIAMETER OF SMALL END (in) min.-max.	WOOD: * ROUND DIAMETER OF SMALL END (in) min. avg.	WOOD: SQUARE SIZE nominal (in)	METAL: SHAPE	METAL: WEIGHT PER (ft) nominal	METAL: SIZE nominal
Line Post	3" to 4"	3"	‡ 3" x 3"	Tee Channel ⓐ or U-bar	1.33 lb	ASTM A-702
Brace or Brace Rail	3½" to 5½"	4"	4" x 4"	Tubular	ⓑ	1½" +/- O.D.
				ⓐ Angle	3.19 lb	2" x 2" x ¼"
Other Post	4" to 7"	5"	‡ 5" x 5"	Tubular	ⓑ	2⅜" O.D.
				ⓐ Angle	4.1 lb	2½" x 2½" x ¼"

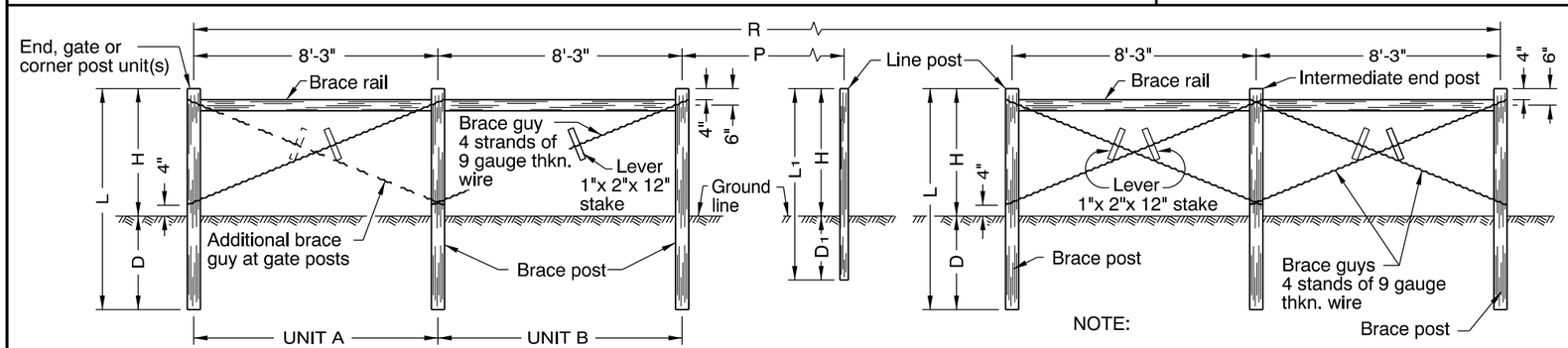
* Max. taper 1":48".
‡ Max. allowable size 1" additional in each dimension.

ⓐ In accordance with ASTM A 702.
ⓑ In accordance with AASHTO M 181.

GENERAL NOTES FOR ALL DETAILS:

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For shapes, weights and dimensions of members see Table 3.
4. All concrete shall be commercial grade concrete.
5. See Std. Drg. RD820 for fence gates.

WOOD POSTS



For units required see Table 1

NOTE:

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For cross sectional dimensions of members see Table 3.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 18-JAN-2011

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

BARBED AND WOVEN WIRE FENCES

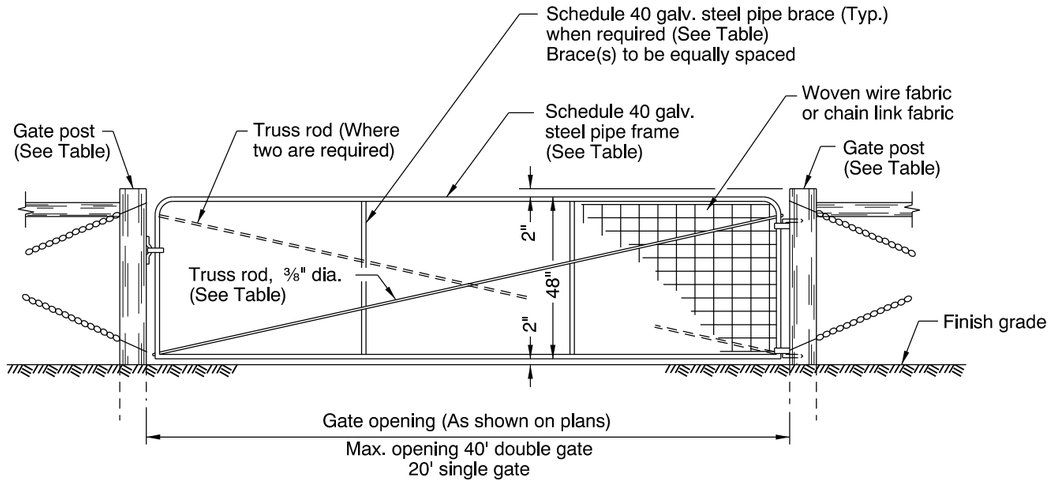
2015

DATE	REVISION DESCRIPTION

rd810.dgn 14-JUL-2014

RD810

Effective Date: February 1, 2015 - May 31, 2015



GATE COMPONENTS								GATE POSTS ① ②					
								WOOD				STEEL	
GATE OPENING (ft)		SCHEDULE 40 GALV. STEEL PIPE FRAME		SCHEDULE 40 GALV. STEEL PIPE BRACE			TRUSS RODS	* ROUND			SQUARE	SCHEDULE 40 GALV. STEEL PIPE	
								DIA. OF SMALL END (in)			NOM. SIZE (in)	NOM. DIA. (in)	MIN. WT. (lb/ft)
SINGLE GATE	DOUBLE GATE	NOM. DIA. (in)	MIN. WT. (lb/ft)	NUMBER	NOM. DIA. (in)	MIN. WT. (lb/ft)		Min.	Max.	Min. Avg.			
UP thru 6	UP thru 12	1	1.68	-	-	-	-	5	7	6	6x6	2½	5.79
7 thru 11	13 thru 22	1¼	2.27	1	1	1.68	1	5	7	6	6x6	3½	9.11
12 thru 16	23 thru 32	1½	2.72	2	1¼	2.27	2	7	9	8	8x8	6	18.97
17 thru 20	33 thru 40	2	3.65	2	1¼	2.27	2	9	11	10	10x10	6	18.97

* Max. taper 1" in 4'

① Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for single gate installation of the wider gate width.

② For length, setting and bracing details see end posts, Std. Drg. RD810.

GENERAL NOTES FOR ALL DETAILS:

1. Gates shown are for use with Fence Types 1, 1-5W and 2.
2. See Std. Drg. RD810 for details not shown.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 17-JAN-2012

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

FENCE GATES

2015

DATE	REVISION DESCRIPTION

rd820.dgn 14-JUL-2014

RD820

UPRR Second Mainline Track Project, Wasco County

Tooley Lake Wetland Mitigation Updates

PREPARED FOR:	Peter Olmstead/USACE Rebecca Viray/NMFS Angie Brewer/Wasco County
COPY TO:	Luke Baatz/UPRR Dave Nielsen/UPRR Steve Cheney/UPRR
PREPARED BY:	Joel Shaich/CH2M Kate Moore/Dunn Carney
DATE:	November 17, 2015

As a follow up to the August 17, 2015, conference call and follow-on discussions with the U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS, Wasco County, Union Pacific Railroad (UPRR) and CH2M, this memorandum presents revisions being made to the *Draft Compensatory Mitigation Plan for the Union Pacific Railroad Second Mainline Track Project* (CH2M, June 2015). The updates are clarifications of information provided in the draft plan and updates to the plan that have been developed on the basis of additional site-specific information gathered since the draft plan was submitted for agency review in June 2015. In addition, the updated grading plan for the Tooley Lake wetland mitigation is attached (Figure 1).

Additional minor modifications have been made based on the hydrologic regime and the modified approach, as described below. Key among these is the depiction of the buffer area on project maps and the removal of the proposed culvert as a design feature for delivering water to the wetland.

Tooley Lake Mitigation Site

Wetland construction activities will be conducted within the boundaries of the site's existing agricultural area. The mitigation wetlands will be constructed by excavating to the elevation of the water table, resulting in a depressional wetland supported by groundwater and containing open water, palustrine emergent, palustrine emergent/scrub-shrub and palustrine scrub-shrub/forested zones. The wetland will have adjacent riparian areas and buffer areas separating it from Interstate 84 and adjacent properties. The wetland will not have a surface or culvert connection to Tooley Lake or other water bodies.

Buffer Area

The draft plan has been revised to show a reserved buffer area at the wetland site (Figure 1). After the wetland is constructed, the buffer area will be managed according to the conditions of the Columbia River Gorge National Scenic Area Management Plan, which requires a buffer around an existing wetland (NSA LUDO Section 14.610.A.2.a(2)(a)). Portions of the buffer could be modified at a later date if potential future wetland expansion were requested by UPRR and received agency approval under a separate permitting process.

Removal of Culvert from Wetland Design

The surface water connection to Tooley Lake, previously shown as a culvert, has been removed from the plan. Hydrologic data collected at the site have shown that the wetland will be viable as a groundwater-

fed resource. Based on discussions with the Oregon Water Resource Department (OWRD), the existing water right can be modified to allow this use, as described below.

Wetland Grade

The wetland grade was developed based on preliminary data on Columbia River and Tooley Lake elevations and groundwater monitoring well data at the proposed wetland site. Based on data collected at the site from June through early September 2015 and historical and recent data reported for Columbia River elevations at The Dalles, the conclusions about wetland grade are:

- Surface water levels at the Tooley Lake and groundwater observation wells within the wetland creation area are the same as the levels in the Columbia River. Horizontal gradients in groundwater flow are variable. During lower lake levels, a gradient from the wetland creation area toward Tooley Lake is evident. During periods of higher levels, a gradient exists from Tooley Lake toward the wetland creation area.
- Groundwater levels track the Columbia River stage (estimated by levels upstream at The Dalles), which indicates a hydraulic connection between the wetland creation area and the river. The data indicate that abundant groundwater is present to support wetland creation without the need for connecting to a surface water source.
- Observed elevations in Tooley Lake include an ordinary high water elevation of approximately 80.5 feet. Elevations of wetlands along the margin of Tooley Lake are between 78 feet and 82 feet.
- Hydroperiod seasonality and elevation range at the proposed wetland site can be inferred from the Columbia River elevation data and will be refined with the ongoing collection of Tooley Lake and groundwater elevation data.

Based on this information, the wetland cell will be excavated to a bottom depth of 77 feet to allow open water areas for other waters creation and habitat interspersion with the wetland areas. Wetland cell elevations between 77 feet and 78 feet are not anticipated to develop wetland vegetation but will generally retain standing water year-round. Wetland cell grade between 78 feet and 82 feet is expected to support wetland vegetation and will be planted with wetland plant species.

Elevations of wetland vegetation communities within the existing wetlands along Tooley Lake will be used as reference elevations for establishment of wetland vegetation communities in the created wetland. Areas above 82 feet are not expected to develop into wetland conditions, but will support riparian habitat creation. Areas between elevation 82 feet and the existing ground surface, which varies from 82 to 85 feet, will be planted with riparian species and/or upland vegetation, depending on site-specific conditions.

Slopes within the wetland cell vary from 4:1 (horizontal:vertical) to 8:1 on upper banks, and from 7:1 to 20:1 within the wetland and water areas. Slopes and elevations will vary to mimic natural conditions, provide a visual aesthetic, and provide varying conditions for wetland and riparian establishment along hydraulic gradients. The grading plan will be finalized after field investigations are completed.

Soils resulting from excavation of the wetland site will be retained on site and graded to create natural contours.

Soil Engineering

Geotechnical investigations of the wetland site are underway. The objectives of these studies are to:

- Identify subsurface constraints to excavation to better support mitigation project cost estimates,
- Characterize subsurface soil conditions and identify soil engineering needed for wetland creation, and

- Determine elevation and movement of groundwater to estimate potential contribution of groundwater to wetland hydrology.

A limited field investigation was conducted on June 11, 2015, using an excavator to dig test pits at 12 locations distributed across the site. Elevations on the site range from a high of approximately 86.5 feet along the northern portion of the site bordering I-84 to a low of approximately 79.4 feet at the water's edge at Tooley Lake. The soil profile was consistent across the site, with a sand and silt mixture from 1 to 4 feet below ground surface that is underlain by clean fine sand. The fine sand that is present from approximately 4 feet to the bottom of the test pit resulted in unstable test pit walls. Despite efforts to excavate deeper, all pits were terminated at depths between 5.5 feet and 9 feet below ground surface. Visible groundwater was encountered in 11 of the 12 tests pits at depths generally between 4.8 feet and 6 feet below ground surface.

Starting on June 22, 2015, a follow-on investigation advanced seven borings to approximately 20 feet below ground surface to evaluate subsurface conditions below the depths previously excavated with test pits (5.5 feet to 9 feet). Selected soil samples were collected from the borings and submitted for laboratory testing, including sieve analysis and Atterberg limits. The explorations encountered variable mixtures of silt, lean clay, and sand extending from the ground surface to the maximum depths of the explorations. The soil ranged from brown to gray, was damp to wet above the groundwater level, and wet or saturated below the groundwater level. The silt and clay was non-plastic to low plastic, and the sand was fine-grained. In general, the profiles graded from primarily fine-grained and silty sand deposits near the ground surface, to primarily fine-grained sand deposits with increasing depth. Because the soils are sandy, slope stabilization might be required within the created wetland to prevent slumping of areas of higher elevation.

Planting Plan

Planting will be conducted within the wetland and riparian areas and within areas disturbed by grading. A preliminary species planting list by planting zone has been developed (provided in the Draft Mitigation Plan, CH2M, June 2015). Plants were selected based on suitability for varying hydrologic conditions, desirability for habitat restoration quality, and propensity for rapid establishment.

Emergent vegetation will be installed either as plug or containerized material or as wetland sod installed in accordance with the manufacturer's specification. Riparian plantings will be canes/live cuttings or containerized material. Areas identified as temporary slope stabilization outside of the anticipated wetland hydrology limits will be planted with herbaceous vegetation to support slope stability, but will not be part of the required mitigation acreage. These areas will be designed to accommodate grading for future wetland expansion separate from the requirements of compensatory mitigation for the proposed Project.

Wetland and riparian planting is planned for implementation in the fall/winter. If construction schedules preclude the ability to acquire dormant cutting material, some planting of cuttings will be scheduled for the winter/spring following wetland construction.

Wildlife Habitat Features

Woody debris of varying diameters will be placed in the wetland and riparian areas to improve habitat for aquatic invertebrates, pollinators, amphibians, reptiles, birds, and small mammals. Approximately 40 pieces between 4 to 12 inches in diameter and at least 6 feet long will be placed throughout the site. Approximately eight logs greater than 18 inches in diameter and at least 8 feet long will be installed throughout the site, primarily in the wetland areas.

Approximately four snags will be placed in the wetland and riparian areas to provide roosting and nesting habitat for birds and other animals. Snags will be at least 18 inches in diameter at ground level and will extend a minimum of 8 feet but no higher than 12 feet (for safety reasons) above-ground following installation. Snags will be embedded a minimum of 6 feet below ground for stability.

Water Rights

Existing Water Rights at Tooley Lake Mitigation Site

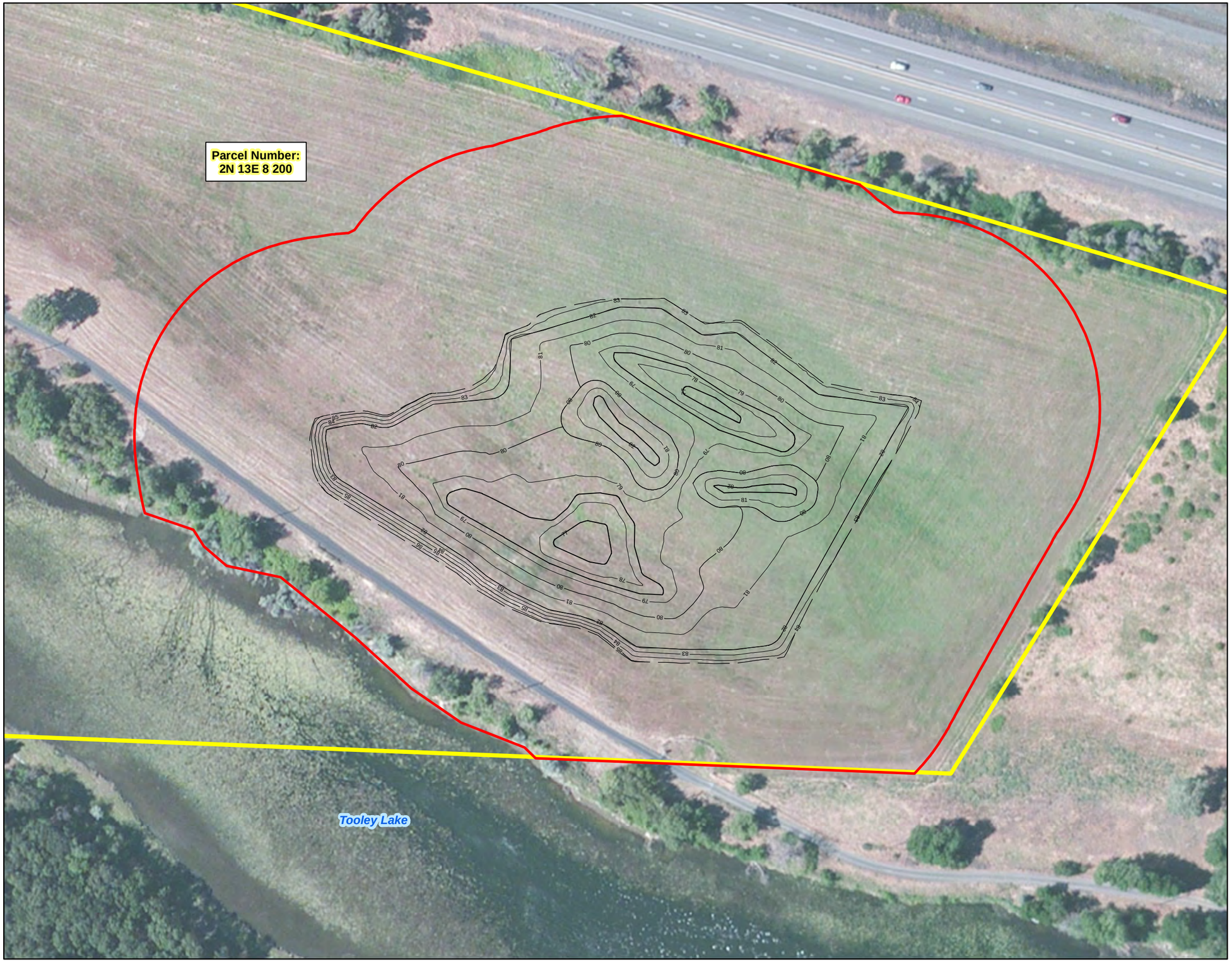
Water Right Certificate 64084 (Permit 49914) allows water of Tooley Lake, which is a tributary of the Columbia River, to be used for irrigating 14.4 acres on the mitigation site. The priority date of this certificate is December 19, 1986. The right is limited to no more than 0.18 cubic foot per second as measured at the point of diversion. The amount of water used for irrigation, together with the amount secured under any other water right for the same property, is limited to 1/80 of 1 cubic foot per second per acre or its equivalent for each acre irrigated, and will be limited to a diversion of no more than 2.5 acre-feet per acre for each acre irrigated during the irrigation season of each year.

Planned Water Rights Applications

To obtain sufficient water for the mitigation site, three separate applications are being submitted to the Oregon Water Resources Department (OWRD). The first is an application for a Limited Water Use License to store groundwater. A limited license will provide temporary authorization to store water from Tooley Lake in the wetland in the short term while the permanent water right transactions are under review by OWRD.

Second, UPRR is filing an application for a Permit to Appropriate Ground Water (for storage in the wetland). The wetland will be designed to meet OWRD's definition of a "sump," that will intercept shallow groundwater for use in the wetland. Because shallow groundwater is known to be hydraulically connected to surface water, surface-water availability limitations will apply to the use of groundwater under this permit, limiting the use of ground water during the months when water is available in the Columbia River (water cannot be diverted between April 15 and September 30). All new use outside of that time frame would require "bucket-for-bucket" mitigation (replacing the amount of water being used with an equal amount of water). As a result, UPRR will limit this permitted use to October 1 through April 14.

To provide water during the timeframe between April 15 and September 30, UPRR will file an application for a Water Rights Transfer. This application will request a change of the existing certificated water right from a surface water right for irrigation to a groundwater right for wetlands enhancement.



LEGEND

Reserved Wetland Buffer

Surveyed Property Line

Basemap Source: ESRI

Note: Wetland buffer is shown to demonstrate a reserved area that would be managed following wetland construction for compliance with the Columbia River Gorge National Scenic Area Management Plan, which requires a buffer around an existing wetland (NSA LUDO Section 14.610.A.2.a (2)(a)). Portions of the buffer shown could be modified at a later date if future wetland expansion were to be authorized.

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FIGURE 1
Tooley Lake Mitigation Site
UPRR Second Mainline Track Project

Appendix D
Mitigation Plan

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Water Resources Conceptual Mitigation Plan
Union Pacific Railroad Second Mainline Track Project
Wasco County, Oregon

PREPARED FOR: Union Pacific

PREPARED BY: Railroad CH2M HILL

DATE: January 9, 2015

Introduction

This conceptual mitigation plan has been prepared in support of the *Wasco County National Scenic Area Development Review Application for the Union Pacific Railroad Second Mainline Track Project* (application), submitted to Wasco County. A detailed purpose and need statement and project description are included in the application narrative (see Sections 2 and 3, respectively). While a final mitigation strategy is still underway, specifically with regard to vegetated wetland mitigation, this document provides a summary of proposed mitigation strategies currently being examined. UPRR will submit a final mitigation plan consistent with the requirements of the National Scenic Area Land Use Development Ordinance (NSA-LUDO) prior to the completion of the National Scenic Area (NSA) Development Review process.

The purpose of this conceptual plan is to address unavoidable disturbance to water resources resulting from the construction of the UPRR Second Mainline Track Project (project) located in Wasco County, Oregon. The project will permanently disturb 0.41-acre of open water areas, 0.75 acre of vegetated wetlands, and 2.14 acres of designated riparian area buffers within the National Scenic Area (NSA)[1]. Disturbance to open water areas will be compensated for on-site through a culvert installation and fish habitat improvement project designed in coordination with National Marine Fisheries Service (NMFS) and Oregon Department of Fish and Wildlife. Vegetated wetland disturbance will be compensated for by third-party off-site wetland restoration, creation and/or enhancement or by off-site land acquisition for wetland restoration, creation and/or enhancement. Disturbance to buffers and riparian areas will be compensated for by rehabilitation of disturbed areas.

Regulatory Requirements

The proposed project is located entirely within the Columbia Gorge National Scenic Area (NSA). The NSA is managed on a partnership basis by the Columbia Gorge counties, the states of Oregon and Washington, the U.S. Forest Service, and the Columbia River Gorge Commission (CRGC). The CRGC is a bi-state compact agency authorized by the National Scenic Area Act and created by Washington and Oregon legislation in 1987.

The NSA is categorized into three areas:

- **Special Management Areas** cover approximately 114,600 acres in which the U.S. Forest Service sets land management and determines federal consistency.
- **General Management Areas** cover approximately 149,400 acres and all of the Columbia River and contain a mix of land uses including farming, logging, cattle grazing, public recreation, and rural residential uses. Development of private lands is administered by the Gorge counties and the Gorge Commission. Five of the six Gorge counties, including Wasco County, implement ordinances under the Scenic Area Management Plan.

[1] Excluding designated Urban Areas that are not under the jurisdiction of National Scenic Area Development Review.

- **Urban Areas.** Thirteen Urban Areas, including the City of Mosier, were designated by Congress as *not* subject to NSA regulation, but solely under the jurisdiction of the applicable city or county government.

All three of these management area categories occur within the proposed project area. Portions of the project located within designated Urban Areas are not discussed in this document.

Wasco County regulates development in the NSA in coordination with the agencies described above and the CRGC under the Wasco County NSA-LUDO (Wasco County, 2010). The NSA-LUDO addresses specific requirements for development in the General Management Areas (GMA) and Special Management Areas (SMA) as described below.

General Management Areas

Section 14.600 of the NSA-LUDO addresses protection of natural resources in General Management Areas. Required actions for unavoidable disturbance to water resources are described in NSA-LUDO Section 14.600(A)(8) and Section 14.600(B)(7):

> **Section 14.600 (A)(8)** requires preparation of a *Wetlands Compensation Plan* when a project applicant is required to restore, create, or enhance wetlands.
>
> **Section 14.600 (B)(7)** requires preparation of *Rehabilitation and Enhancement Plans* when a project applicant is required to rehabilitate or enhance a stream, pond, lake, and/or buffer zone.

UPRR has provided a Rehabilitation and Enhancement Plan for buffer-related disturbance as Appendix K of the NSA Development Review application submitted to Wasco County.

Special Management Areas

Section 14.610 of the NSA-LUDO (Wasco County, 2010) address protection of natural resources in Special Management Areas.

> **Section 14.610 (E)** requires preparation of a *Mitigation Plan* for impacts to water resource buffers

Water Resources Disturbance

As summarized below in Table 1, the project will permanently disturb 1.16-acres of aquatic resources (0.41-acre open water [e.g., lakes]; 0.75-acre of vegetated wetlands). No temporary impacts to vegetated wetlands or lake habitats will occur. The project will result in 8.75 acres of total permanent disturbance to all NSA-LUDO wetland and waterbody buffers within the GMA and SMA. Of this total permanent buffer disturbance, approximately 2.14 acres are classified riparian areas. Approximately 3.52 acres of total temporary buffer disturbance will occur, including 0.04 acre of riparian areas. A summary of buffer disturbance NSA-LUDO sensitive habitat type is included below in Table 1.

Table 1
Wetland and Water Body Disturbance

Wetland ID	GMA/SMA	Approx. Milepost(s)	Total Wetland/ Waterbody Area (acres)	Open Water Permanent Impacts (acres)	Vegetated Wetland Permanent Impacts (acres)	Total Buffer Zone Impact (acres)
Wetland 1	SMA	71.82 – 71.97	0.61	0.00	0.24	1.61
Lake 1/ Thompson Lake	SMA	71.82 – 71.92	1.59	0.24	0.00	
Wetland 3	SMA	72.21 – 72.22	0.06	0	0	1.73[1]
Wetland 4	SMA	72.24	0.02	0	0	
Wetland 5	SMA	72.24 – 72.25	0.06	0	0	
Wetland 6	SMA	72.25 – 72.33	0.24	0	0	

Table 1
Wetland and Water Body Disturbance

Wetland ID	GMA/SMA	Approx. Milepost(s)	Total Wetland/ Waterbody Area (acres)	Open Water Permanent Impacts (acres)	Vegetated Wetland Permanent Impacts (acres)	Total Buffer Zone Impact (acres)
Wetland 7	SMA	72.28 – 72.34	0.17	0	0.17	
Wetland 9	SMA	71.46 – 71.51	0.24	0	0	1.59[1]
Wetland 9B	SMA	71.47 – 71.51	1.78	0	0	
Wetland 11	GMA	70.72 – 70.95	1.15	0.00	0.25	
Lake 11	GMA	70.78 – 70.94	1.86	0.14	0.00	1.01[1]
Wetland 12	GMA	70.69 – 70.72	0.14	0	0.03	
Wetland 17	GMA	68.55 – 68.57	0.08[2]	0.00	0.06[2]	
Wetland 18	GMA	68.56 – 68.58	0.09[2]	0	0	0.20[1]
Lake 18	GMA	68.56 – 68.58	1.21[3]	0	0	
Wetland 20	GMA	66.97 – 67.12	0.15	0	0	0.55
Lake 20	GMA	66.97 – 67.12	1.66	0.02	0	
Columbia River/Bonneville Reservoir	GMA/SMA	North of project area for full project length	-	0.00[3]	0	5.58[4]
Total Impacts to Wetlands, Waterbodies & Buffers				**0.41**	**0.75**	**Temp: 3.52** **Perm: 8.75**

[1] The buffer zones of adjacent wetlands and/or waterbodies overlap in some cases, necessitating buffer disturbance to be reported as a combined acreage.

[2] A portion of Wetlands 17 and 18 are located within the NSA-designated Urban Area; the total wetland/waterbody and impact areas provided in this table constitute only the portions within the NSA and outside of the designated Urban Area.

[3] No permanent disturbance to the Columbia River/Bonneville Reservoir will result from the project; however, approximately 0.01 acres will be temporarily affected during the installation of two culverts proposed to mitigate for potential impacts to fish habitat.

[4] Acreage excludes Columbia River buffer impact areas that intersect with wetland buffers accounted for in above calculations.

Conceptual Compensatory Mitigation

Open Water Mitigation

UPRR proposes to install two 60-inch-diameter culverts at the western end of Lake 1 (Thompsons Lake) (see Attachment 1) with the objective of providing improvements to water quality and enhancements to fish passage for listed fish species that use the lake. Thompsons Lake was selected as the culvert installation site in consultation with NMFS and ODFW, and was selected because its relatively large size and deep depth provide a greater opportunity for enhanced fish passage and habitat improvement relative to the other off-channel ponds within the project area.

The new culverts are proposed to offset the 0.41 acre habitat loss from the proposed project in the off-channel ponds (Lakes 1, 11, and 20) connected to the Columbia River and used by listed fish species. The culverts will serve as enhancements to provide a functional and direct conduit to enhance fish passage from an existing lake to and from the Columbia River that will result in a net increase in aquatic resource functions and services. UPRR determined the design size and placement of the culverts in coordination with the NMFS and ODFW.

Most of the off-channel ponds along the Columbia River can be described as having degraded water quality based on either the lack of exchange of water with the river (because of connections to the river via a single culvert or pipe under a roadway or railway), or they do not receive a substantial amount of water from upland sources, such as a stream.

The conditions at Thompsons Lake adhere to this general description. It is an isolated water body characterized by small drainage areas that limit or impede fish passage as a result of the minimal passage area for fish to move to and from the river. Therefore, these added culverts will improve water quality and habitat conditions for listed fish. The enhancements also are preferable measures to dredging Thompsons Lake, which would accomplish only compensating for the loss of habitat volume versus enhanced fish passage. The proposed conservation enhancement of culverts to improve fish passage will promote water exchange with the river, enhance water quality, and increase the area of fish passage into the off-channel habitat at Thompsons Lake.

Vegetated Wetland Mitigation

UPRR has assessed wetland compensatory mitigation approaches including in-lieu fee mitigation, mitigation banking, onsite mitigation within and outside the UPRR ROW, offsite mitigation within the UPRR ROW, third-party mitigation both onsite and offsite, and land acquisition for mitigation offsite and outside the UPRR ROW. Potential opportunities have been identified for third-party offsite mitigation and for mitigation through offsite land acquisition.

Third-party Wetland Mitigation. Under this approach, UPRR would coordinate with a third-party, such as an agency or private entity to restore, create or enhance wetlands. UPRR is currently in discussions with the U.S. Forest Service (USFS) regarding the potential for partnering with USFS and Ash Creek Forest Management, LLC at the Sandy River Delta Restoration (Sandy) site or Horsetail Creek Floodplain Restoration (Horsetail) site.

UPRR identified the Sandy and Horsetail restoration sites as having adequate acreage, highly suitable restoration objectives, and containing similar off-channel riverine habitat that meet UPRR's mitigation needs. These sites are on USFS lands and provide mitigation opportunities for public and private sector entities seeking compensatory mitigation.

The restoration and enhancement activities currently underway at these sites provide floodplain and wetland restoration and enhancement on lands adjacent to the Columbia River and would directly benefit the same type of riverine habitat affected by the proposed infrastructure improvements. These aquatic resources provide multiple wetland functions, including fish and wildlife habitat that support juvenile salmonids, amphibians, and a variety of waterbirds. Negotiations between USFS and UPRR are underway for this effort.

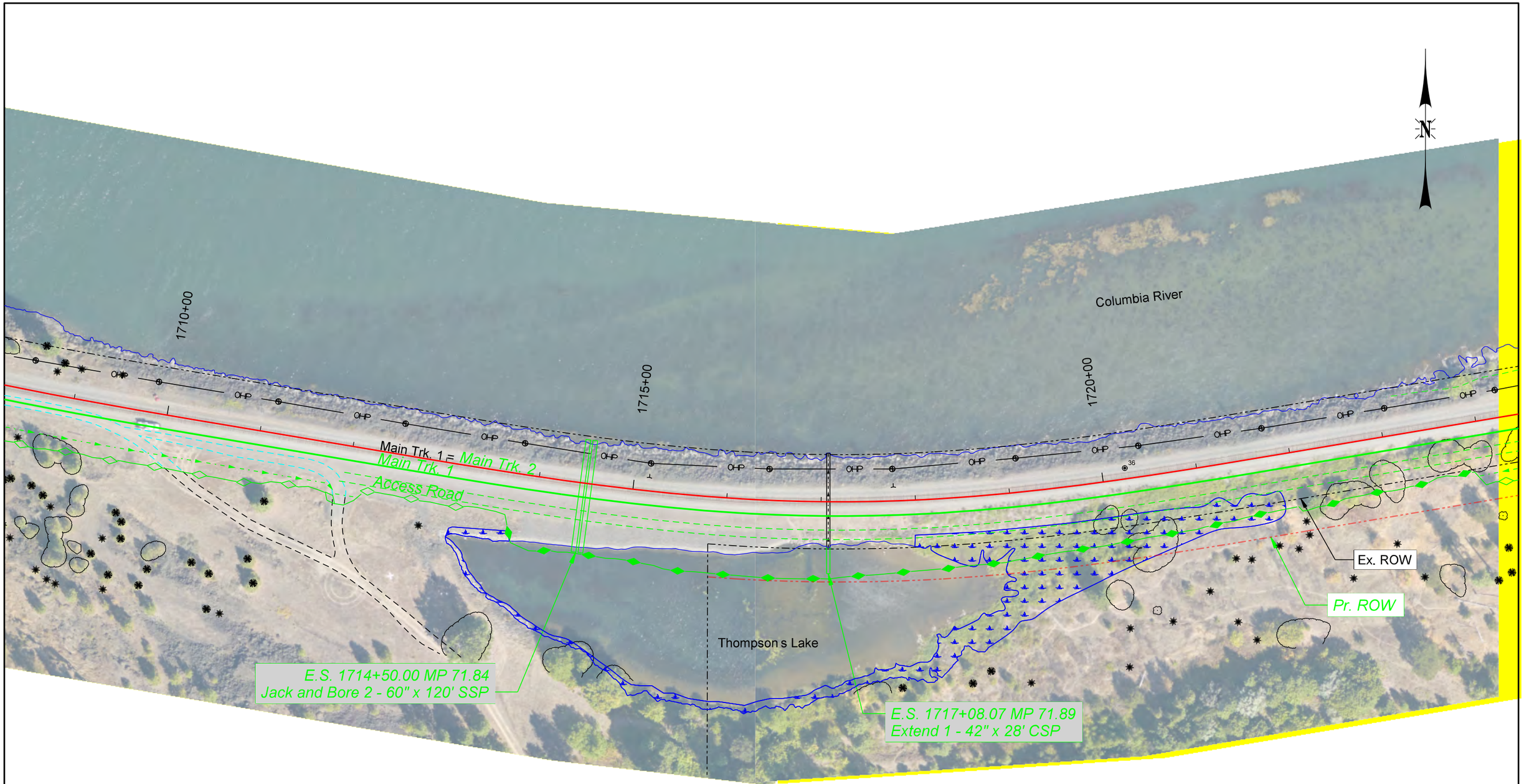
Land Acquisition for Offsite Wetland Mitigation. UPRR has identified more than a dozen properties in the Middle Columbia-Hood watershed with the potential to provide mitigation through offsite wetland restoration, creation or enhancement. These properties include mapped hydric soils, potential onsite converted and existing wetland acreage, water sources (intermittent or perennial streams and/or rivers), and landform and existing habitat that may support wetland mitigation. Several of these off-site options are being actively pursued by UPRR.

Both the third-party and land acquisition approaches would provide adequate acreage to meet the required mitigation ratios in the NSA-LUDO.

Buffer Area Mitigation

Mitigation for buffer area impacts, including impacts to riparian areas, will be provided as described in the *Sensitive Species and Wildlife Habitat Protection and Rehabilitation Plan* (Appendix K).

Attachment 1
Proposed Culvert Installation Plan



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UNION PACIFIC

DRAWN BY:	BWG
CHECKED BY:	RCK
DATE:	7/23/2014
SHEET NUMBER	EX001 of 002

UNION PACIFIC RAILROAD

Office of Assistant Vice President
Engineering Design/Construction

LOCATION & DESCRIPTION:
Mosier, Oregon
Portland Subdivision MP 66.98 to MP 72.35
Construct Second Mainline

SHEET TITLE:
EXHIBIT - CULVERT STA. 1714+50 - INSTALL 2 - 60" SSP

PC 1 2-542

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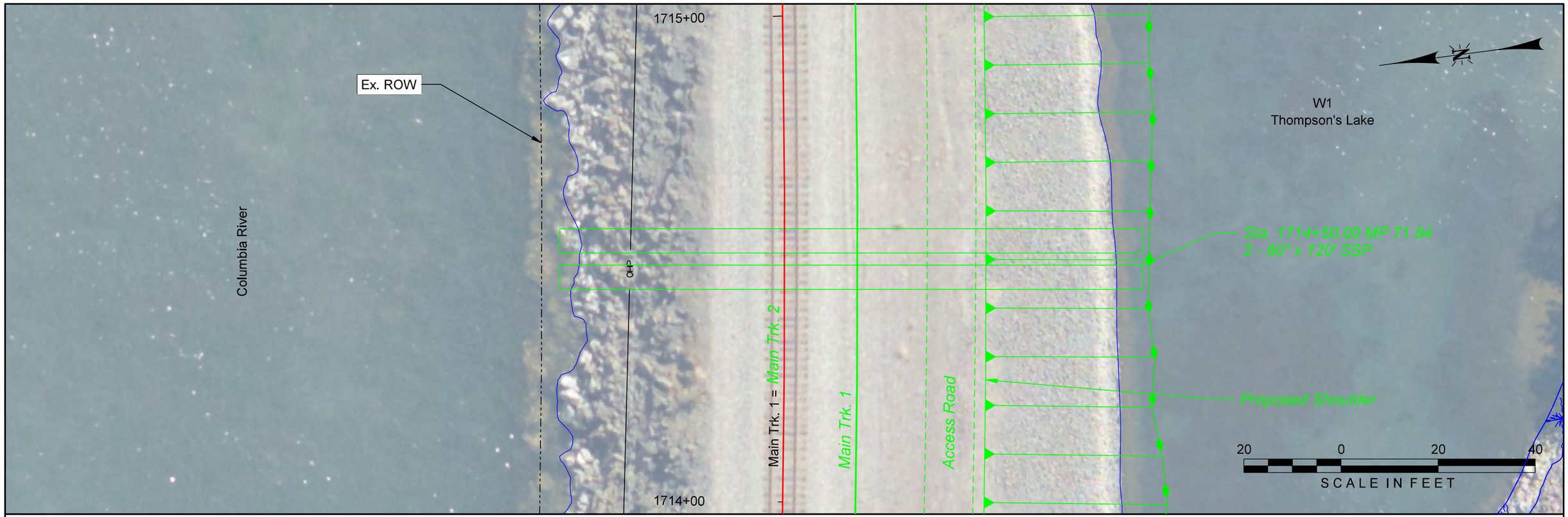

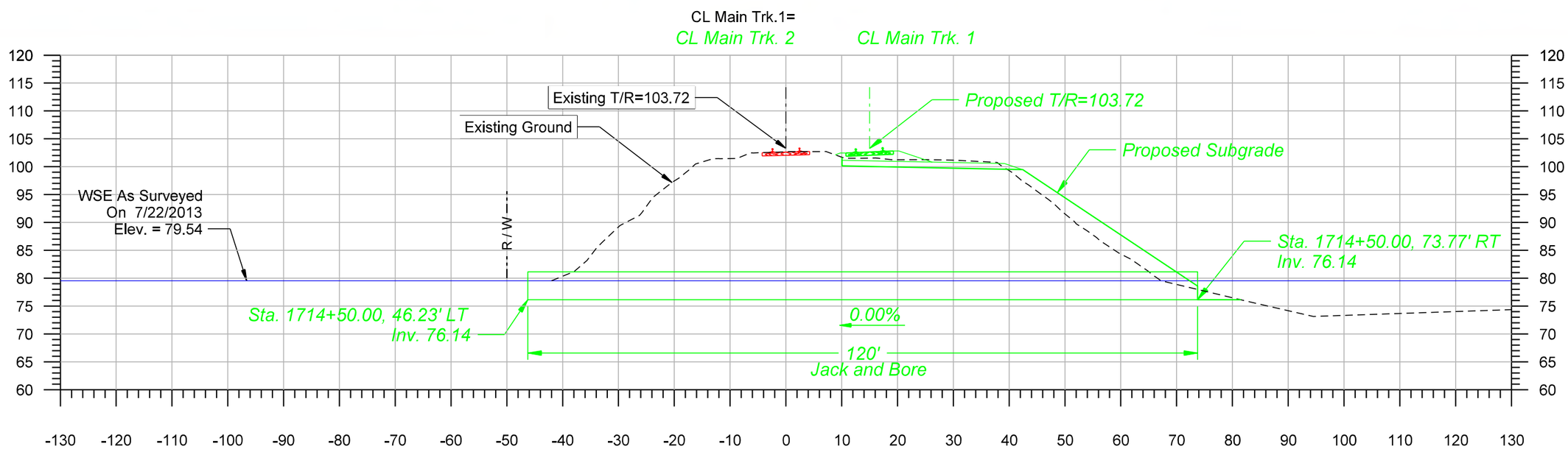

Note: Invert elevation provides 12" water depth in the culvert at the 95% exceedance water surface elevation based on Bonneville forebay historical data and river gradient between the culvert and Bonneville forebay.

Install 2 - 60" SSP - Sta. 1714+50 - MP 71.84

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DATE:	7/23/2014
SHEET NUMBER	EX002 of 002

UNION PACIFIC RAILROAD
Office of Assistant Vice President
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LOCATION & DESCRIPTION:
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Construct Second Mainline

SHEET TITLE:
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Appendix E
Wetland Delineation Report

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WETLAND REPORT

Union Pacific Railroad
Second Mainline Track Project
Wasco County, OR

Union Pacific Railroad

October 2014

CDM Smith

Table of Contents

Section 1 Introduction 1-1

1.1 Project Area 1-1
1.2 Regulatory Background 1-1

Section 2 Project Setting 2-1

2.1 Project Location and Land Use 2-1
2.2 Climate 2-1
2.3 Hydrology 2-1
2.4 Soils 2-3
2.5 Vegetation 2-3

Section 3 Methods 3-1

3.1 Wetland Vegetation 3-1
3.2 Wetland Soils 3-1
3.3 Wetland Hydrology 3-2
3.4 Survey Area and Selection of Sample Sites 3-2
3.5 Wetlands Functional Assessment 3-2

Section 4 Results and Conclusions 4-1

4.1 Wetland Descriptions 4-1
4.1.1. Wetland 1 4-1
4.1.2 Wetland 2 4-1
4.1.3 Wetland 3 4-2
4.1.4 Wetland 4 4-2
4.1.5 Wetland 5 4-2
4.1.6 Wetland 6 4-2
4.1.7 Wetland 7 4-2
4.1.8 Wetland 8 4-2
4.1.9 Wetland 9 4-3
4.1.10 Wetland 10 4-3
4.1.11 Wetland 11 4-3
4.1.12 Wetland 12 4-3
4.1.13 Wetland 12B 4-4
4.1.14 Wetland 13 4-4
4.1.15 Wetland 14 4-4
4.1.16 Wetland 14B and Wetland 15 4-4
4.1.17 Wetland 16 4-5
4.1.18 Wetland 17 4-5
4.1.19 Wetland 18 4-5
4.1.20 Wetland 19 4-6
4.1.21 Wetland 20 4-6
4.1.22 Other Hydrologic Features 4-6
4.2 Functional Assessment 4-7
4.3 Conclusions 4-13

Section 5 References 5-1

Tables

Table 1. Plant Species Observed during Wetland Delineation. 2-4
Table 2. Summary of Wetlands Functional Assessment 4-9
Table 3. Summary of Wetland Areas 4-13

Figures

Figure 1. Vicinity Map of the Project Area 1-2

Appendices

Appendix A Project Area Plates
Appendix B Wetland Delineation Field Data Sheets
Appendix C Photographs of the Project Area

Section 1

Introduction

CDM Smith was retained by Union Pacific Railroad (UPRR) to conduct a delineation of wetlands under the jurisdiction of the Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. The delineation was conducted to identify potential jurisdictional waters of the United States that occur within the project area for the proposed Second Mainline Track Project in Wasco County, Oregon.

CDM Smith conducted a field investigation for wetlands within the proposed project area on October 15-17, 2013. This delineation report documents our findings regarding the occurrence and extent of wetlands located in the project area. This report documents the field investigation, best professional judgment, and conclusions of CDM Smith scientists. However, the jurisdictional determination of wetland boundaries and associated permitting requirements for this region are the responsibility of the Portland District Regulatory Branch of USACE.

1.1 Project Area

The project area lies on the northeastern side of the Cascades Mountains in the Middle Columbia-Hood Watershed (HUC #17070105), near the City of Mosier in Wasco County, Oregon (**Figure 1**).

The project site is located along the existing UPRR right-of-way between approximately Mile Post 66.98 and Mile Post 72.35 in Wasco County, Oregon. The proposed project would consist of adding a second mainline track adjacent to the existing track. In addition, there would be expansion of the existing crossings over Rock Creek (an ephemeral stream) and Mosier Creek (a perennial stream). The proposed project area for construction of the new track, including areas that may be temporarily disturbed during construction, may include up to 150 feet on either side of the existing track. This potential disturbance area was investigated for the presence of wetlands and other waters.

1.2 Regulatory Background

This study was conducted to determine the presence and extent of any waters of the United States, including wetlands, that occur within the project area and that are under the jurisdiction of USACE in accordance with Section 404 of the Clean Water Act.

Waters of the United States is the encompassing term for areas that are regulated under Section 404 of the Clean Water Act. Waters of the United States include wetlands and other waters including but not limited to rivers, lakes, streams, wetlands, harbors, bays, stock ponds, and irrigation ditches. The portion of waters of the U.S. considered as jurisdictional by the USACE usually consists of those areas contained below the ordinary high water mark (OHWM). The OHWM is defined as the line where the incised portion of the bank meets the terrestrial vegetation (USACE 2005).

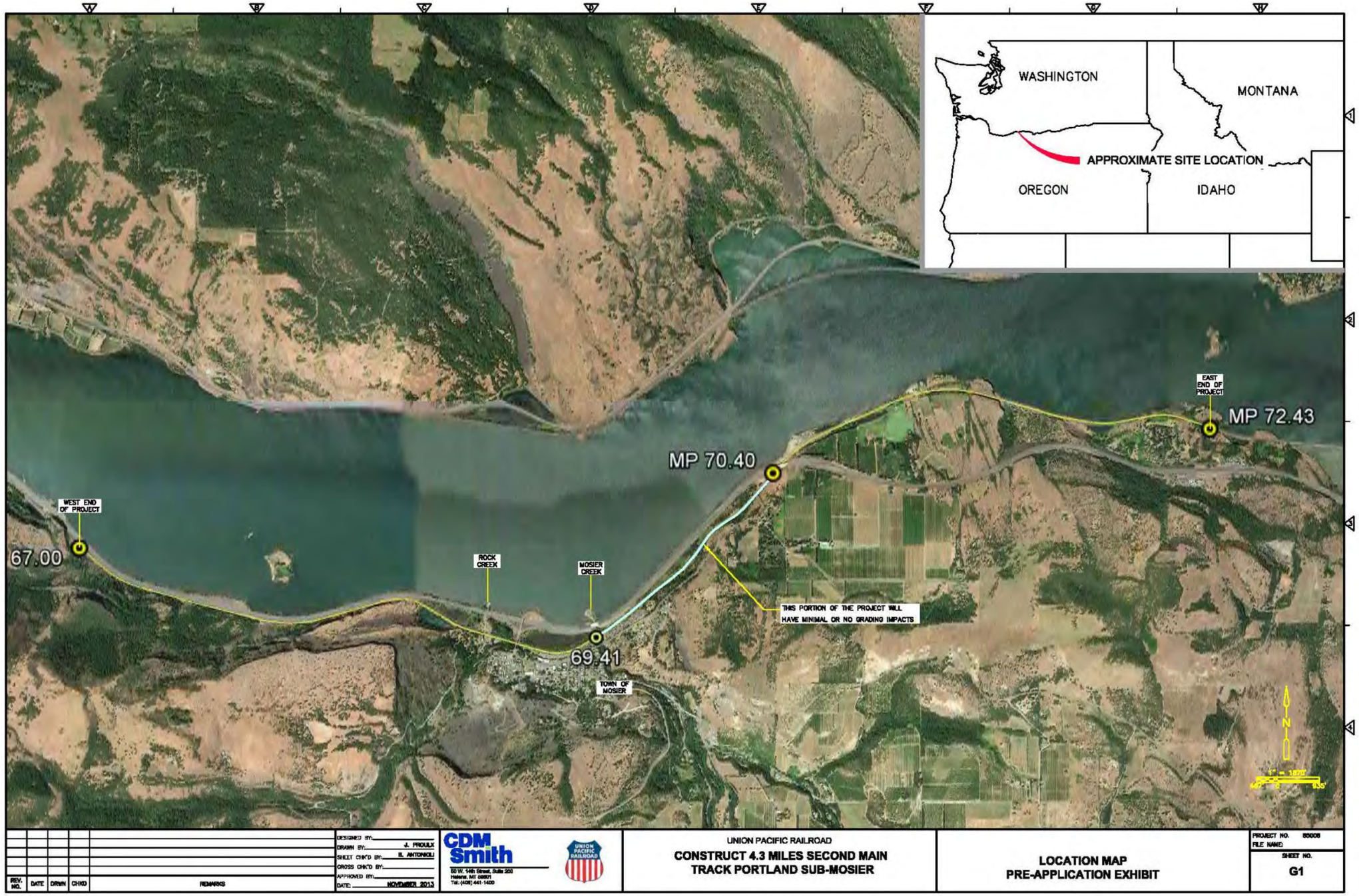

Figure 1. Vicinity Map of the Project Area

For regulatory purposes, wetlands are defined as:

"…areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." (CFR 328.3, CFR 230.3).

In order to qualify as a wetland, all three wetland criteria must be met: presence of hydric soils, wetland hydrology, and at least 50 percent of the dominant plant species designated as obligate, facultative wet, or facultative. These designations represent the likelihood that a particular plant species would grow under wet conditions. Obligate plant species are always found in wetlands while facultative plants may be found equally frequently in wetlands as in uplands.

Other waters of the United States include unvegetated waterways and other water bodies with a defined bank and bed, such as lakes, rivers, creeks, and drainages. Typically, these waters do not have hydrophytic vegetation, and may lack hydric soils.

Section 2

Project Setting

2.1 Project Location and Land Use

The proposed project is located along the existing Union Pacific Railroad in the vicinity of the City of Mosier, Oregon between Mile Post 66.98 and Mile Post 72.35 in Wasco County, Oregon. Specifically, the project is located within Township 2 North, Range 11 East, Sections 2 and 3 and Township 3 North, Range 12 East, Sections 31 and 32. It extends from T2N R11E S3 on the western end to T3N R12E S32 on the eastern end. Land uses in the vicinity of the project site include freight rail, transportation, orchards, and rural residential with relatively more dense residential uses and some commercial within the City of Mosier (population approximately 420).

The project site is located primarilywithin the UPRR right-of-way on private lands. The following is contact information for the Union Pacific Railroad:

Stephen L. Cheney, P.E.
Director, M/W Environmental
1400 Douglas Street, Stop 0910
Omaha, Nebraska 68179-0910
(402)544-3227
slcheney@up.com

2.2 Climate

The project area is in a transitional location between weather dominated by wet marine airflow to the west and the dry continental climate of eastern Oregon. Most precipitation is received between late fall and early spring, starting with rain and changing to snow as winter progresses. Average annual precipitation for the project area is 35 inches. The field work for this wetland delineation was conducted in October, prior to the late fall/winter rainy season.

2.3 Hydrology

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) has mapped several potential wetlands in the project area. The adjacent Columbia River is classified on the USFWS NWI maps as L1UBHh - lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters. The Columbia River in this area is considered lacustrine because it is dammed. The limnetic system includes the littoral (shoreline) boundary and includes all deep-water habitats within the river. The unconsolidated bottom classification refers to having at least 25 percent cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30 percent. Permanently flooded means that water covers the land surface throughout the year in all years. Diked/impounded refers to having been created or modified by a man-made barrier or dam which obstructs the inflow or outflow of water (USFWS 2013).

In several areas, past construction of the railroad and/or freeway separated a part of the river impoundment from the rest of the river. The resulting ponds are given the same classification by NWI

as the Columbia River (L1UBHh). Other types of wetlands have been identified on NWI maps in the project area. These include the following classifications:

PSS1C and PSS1Ch – Palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded wetland. The "h" special modifier indicates a diked/impounded wetland (USFWS 2013). The palustrine system of wetlands, as defined by the USFWS (2013), includes all non-tidal wetlands that are dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts in below 0.5 ppt. Scrub-shrub includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions. The subclass broad-leaved deciduous refers to woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season. Seasonally flooded means that surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface (USFWS 2013).

PFO/SS1A and PFO/SS1Ch – Palustrine, forested wetlands/palustrine forested scrub-shrub wetlands. Forested wetlands are characterized by woody vegetation that is six meters tall or taller (USFWS 2013). They occur in the western U.S. where moisture is relatively abundant, particularly along rivers and in the mountains. Forested wetlands normally possess an overstory of trees, an understory of young trees or shrubs, and a herbaceous layer (USFWS 2013).

The "1" subclass indicates broad-leaved deciduous vegetation. The "A" modifier refers to a temporary flooded water regime where surface water is present for brief periods during growing season, but the water table usually lies well below the soil surface for most of the growing season. Plants that grow both in uplands and wetlands may be characteristic of this water regime. The "Ch" modifier refers to seasonally flood water regime in a diked/impounded wetland as described above.

PFO1C and PFO1Ch – Palustrine, forested, broad-leaved deciduous, seasonally flooded wetland, with some areas also having the "h" special modifier indicating a diked/impounded wetland.

PEM1Ch – Palustrine, emergent, persistent, seasonally flooded, diked/impounded wetland. Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. Persistent means the wetland is dominated by species that normally remain standing at least until the beginning of the next growing season (USFWS 2013).

PSS/EM1CH- Palustrine, scrub-shrub/emergent, persistent, seasonally flooded, diked/impounded wetland.

PUBHh- Palustrine, unconsolidated bottom, permanently flooded, diked/impounded wetland.

The project area is located within the floodplain of the Columbia River as it has been modified by the construction of the dams. Federal Emergency Management Agency (FEMA) flood maps indicate that while the railroad right-of-way is generally above the floodplain, some portions of the project area directly adjacent to the railroad are within Zone A or Zone AE, indicating they are inside the 100-year floodplain (FEMA 2013).

2.4 Soils

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) identifies the following soil types within the project area (NRCS 2013).

- Rock outcrop-Bodell-Bald complex, 0 to 30 percent slopes - The parent material is loess and volcanic ash over colluvium derived from basalt. It has 5 to 30 percent slopes, is well drained, and has a depth to water table of greater than 80 inches. There is no frequency of flooding or ponding. The typical profile consists of unweathered bedrock from 0 to 60 inches.
- Wyeth very gravelly loam, 45 to 75 percent slopes - The parent material is colluvium derived from basalt, mixed with volcanic ash and loess. It has 45 to 75 percent slopes, is well drained, and has a depth to water table of greater than 80 inches. There is no frequency of flooding or ponding. The typical profile consists of very gravelly loam from 0 to 22 inches; extremely gravelly loam from 22 to 40 inches; and cobbly loam from 40 to 62 inches.
- Rock outcrop-Rubble land complex – This soil type has 30 to 100 percent slopes and consists of unweathered bedrock from 0 to 60 inches.
- Rock outcrop-Xeropsamments complex – This soil type has 0 to 30 percent slopes, is well drained, and has a depth to water table of greater than 80 inches. There is no frequency of flooding or ponding. The typical profile consists of loamy sand from 0 to 60 inches.
- Wamic-Skyline complex, 2 to 20 percent slopes – The parent material is volcanic ash and loess over alluvium or colluvium derived from basalt or andesite. It is well drained and has a depth to water table of greater than 80 inches. There is no frequency of flooding or ponding. The typical profile consists of loam to 44 inches over weathered bedrock.
- Wind River fine sandy loam, 0 to 8 percent slopes and 8 to 12 percent slopes - The parent material of this soil type is old alluvium. It is well drained with a depth to water table of greater than 80 inches and no frequency of flooding or ponding. The typical profile is fine sandy loam to a depth of 44 inches over sandy loam.

All soil types identified in the project area are considered nonhydric (NRCS 2013).

2.5 Vegetation

Vegetation in the project area is characterized as temperate evergreen needleleaf forest type dominated by a mixture of evergreen/deciduous and broadleaf/needleleaf woody species. Douglas fir (*Pseudotsuga menziesii),* ponderosa pine (*Pinus ponderosa*), and Oregon oak white oak (*Quercus garryana*) savannahs are typical. Riparian vegetation consists of deciduous trees and shrubs including Oregon ash *(Fraxinus latifolia)*, willows (*Salix* sp.), and black cottonwood (*Populus balsamifera*). Himalayan blackberry (*Rubus armeniacus)* is a common understory plant throughout the project area, while reed canarygrass (*Phalaris arundinacea*) dominates the understory of wetland areas.

Vegetation species identified during sampling within the project area, their status as wetland indicator species are listed in **Table 1**.

Table 1. Plant Species Observed during Wetland Delineation.

Common Name	Scientific Name	Wetland Status *
Bigleaf maple	*Acer macrophyllum*	FACU
Common yarrow	*Achillea millefolium*	FACU
Indian hemp	*Apocynum cannabinum*	FAC
Oat grass	*Avena sativa*	UPL
Brome	*Bromus sp.*	FAC- FACU
Black hawthorn	*Crataegus douglasii*	FAC
Red osier dogwood	*Cornus sericea*	FACW
Beaked hazelnut	*Corylus cornuta*	FACU
Fuller's teasel	*Dipsacus fullonum*	FAC
Fringed willowherb	*Epilobium ciliatum*	FACW
Field horsetail	*Equisetum arvense*	FAC
Oregon ash	*Fraxinus latifolia*	FACW
Honey-locust	*Gleditsia triacanthos*	FAC
Oceanspray	*Holodiscus discolor*	FACU
Black walnut	*Juglans nigra*	UPL
Oregon grape	*Mahonia aquifolium*	FACU
Reed canarygrass	*Phalaris arundinacea*	FACW
Ponderosa pine	*Pinus ponderosa*	FACU
English plantain	*Plantago major*	FAC
Western sword fern	*Polystichum munitum*	FACU
Black cottonwood	*Populus balsamifera*	FAC
Choke cherry	*Prunus virginiana*	FACU
Douglas-fir	*Pseudotsuga menziesii*	FACU
Oregon white oak	*Quercus garryana*	FACU
Black locust	*Robinia pseudoacacia*	FACU
Nootka rose	*Rosa nutkana*	FAC
Himalayan blackberry	*Rubus armeniacus*	FACU
Blackcap	*Rubus leucodermis*	FACU
Pacific willow	*Salix lasiandra*	FACW
Northwest sandbar willow	*Salix sessilifolia*	FACW
Scouler's willow	*Salix scouleriana*	FAC
Blue elderberry	*Sambucus nigra*	FACU

Common Name	Scientific Name	Wetland Status *
Douglas' spiraea	*Spiraea douglasii*	FACW
Snowberry	*Symphoricarpos alba*	FACU
Pacific American-aster	*Symphyotrichum chilense*	FAC
Pacific poison oak	*Toxicodendron diversilobum*	FAC
Broadleaf cattail	*Typha latifolia*	OBL
Great mullein	*Verbascum thapsus*	FACU
Tiny vetch	*Vicia hirsuta*	NL

**Wetland status as defined in USACE 2013 National Wetland Plant List. Available at: http://rsgisias.crrel.usace.army.mil/NWPL/.*

FAC = Facultative plant. Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).

FACU = Facultative upland plant. Usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found on wetlands (estimated probability 1%-33%).

FACW = Facultative wetland plant. Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.

NL = not listed.

OBL = Obligate wetland plant. Occurs almost always (estimated probability 99%) under natural conditions in wetlands.

UPL = Obligate upland plant. Occurs almost always (estimated probability 99%) under natural conditions in non-wetlands. If a species does not occur in wetlands in any region, it is not on the National List (USACE 2013).

Section 3

Methods

Wetlands within the project area were delineated and mapped by CDM Smith biologists on October 15-17, 2013. Wetland areas are shown in Project Area Plates 1 through 8 in **Appendix A**. The delineation methodology conformed to the guidelines presented in the Corps Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987) and the 2010 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010). Sampling points and wetland boundary locations were recorded with a hand-held GPS with submeter accuracy. Wetland delineation data sheets were completed for each sampling point and are included in **Appendix B**. Additionally, photographs were taken to illustrate the current site conditions (**Appendix C**). Following is a brief description of the three criteria used to evaluate potential wetlands at the project site.

3.1 Wetland Vegetation

Hydrophytic vegetation was assessed through identification of dominant species present in a wetland patch and comparison with the National List of Wetland Plants for the Western Valleys, Mountains, and Coast region (USACE 2013). At each sampling point, a visual assessment of the dominant plant species within a 6-foot radius was made. Dominant species were assessed using the recommended "50/20" rule. Change in dominant vegetation was also noted along with topography. Plants were designated as upland (UPL), facultative-upland (FACU), facultative (FAC), facultative-wetland (FACW), or obligate-wetland (OBL) species. If more than 50 percent of the plant species identified in an area are designated OBL, FACW, or FAC, the area fulfills the hydrophytic vegetation requirement needed to be considered a wetland. Additionally, there are two other tests, Prevalence Index and Morphological Adaptations that may also be conducted if the Dominance Test is failed but wetland soils and hydrology are evident.

3.2 Wetland Soils

Due to wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Prolonged anaerobic soil conditions typically lower the soil redox potential and cause a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction affects solubility, movement, and aggregation of these oxides. Reduction is reflected in the soil color and other physical characteristics that are usually indicative of hydric soils.

Soils were assessed by digging test pits in a potential wetland area and checking for hydric soil indicators, including: histosols, histic epipedons, sulfidic material, aquic moisture regimes, reducing soil conditions, mottles, metal concretions, or gleyed or low-chroma colors. Soil colors were verified using the Munsell Color Chart (Munsell 2000). Test pits varied in total depth from 6 to 12 inches below ground surface. The presence of bedrock at the surface prohibited reaching depths of more than a few inches in many areas. Test pits were also dug in upland soils to provide a basis for comparison.

3.3 Wetland Hydrology

The wetland hydrology requirement was assessed through observations of primary and secondary field indicators. Examples of primary indicators include visible observation of surface water, saturation within the upper 12 inches (i.e., typical plant root zone), or signs of recent inundation such as drainage patterns, watermarks, driftlines, or sediment deposits. Oxidized root channels were also noted, if present. Examples of secondary indicators include water-stained leaves, flow lines, and debris. If one primary or two secondary indicators were present, then wetland hydrology was assumed to be present.

3.4 Survey Area and Selection of Sample Sites

The project area was visually surveyed to identify areas with potential wetlands within proposed construction areas, including access roads, staging, and materials storage areas as they were known at the time of the survey. Areas with potential wetland vegetation, depressional areas, and areas with standing water were investigated more closely during the delineation field work.

At each potential wetland area, vegetation was observed, soil sampling was conducted, and indicators of wetland hydrology were noted. Most of the wetland edges were clearly identifiable by changes in topography that restrict hydrology and/or changes in dominant vegetation community.

A total of 9 soil sample points were taken in the project survey area. Soil sample data sheets are provided in **Appendix B** and photos are included in **Appendix C**.

3.5 Wetlands Functional Assessment

A functional assessment of wetlands within the project area was conducted based on the Oregon Freshwater Wetland Assessment Methodology (Roth et al. 1996). Nine wetland functions were assessed for each wetland area identified. Each function is described as intact, degraded, or lost for each wetland area. Findings of the functional assessment are provided in **Section 4.2**.

Section 4

Results and Conclusions

CDM Smith delineated 21 potential wetland areas within the project area, as described below and shown in **Project Area Plates 1** through **8** in **Appendix A**. The figures present the project area from west to east while the wetlands are described in the order in which they were delineated. Wetland 1 is located in the eastern portion of the project area and wetlands 3 through 8 are located to the east of Wetland 1. Wetlands 9 through 20 are located to the west of Wetland 1.

Wetland area 2 was determined to not have wetland characteristics and it is described below but it was not delineated. Wetland 10 and Wetland 12B are ditch-like features excavated in uplands with no surface water connection to any other water of the U.S. These areas would likely not fall under the jurisdiction of USACE. Most of the rest of the wetlands are separated from other waters of the U.S. by either the railroad or the interstate embankments, but would have connections to other waters of the U.S. if those man-made structures were not present. These wetlands would likely fall under the jurisdiction of USACE.

4.1 Wetland Descriptions

4.1.1. Wetland 1

Wetland 1 is associated with Thompsons Lake and an associated wetland area is located to the east side of the lake, just west of Mile Post 72. Thompsons Lake is classified on NWI maps as PUBHh - palustrine, unconsolidated bottom, permanently flooded, diked/impounded wetland. The associated wetland, Wetland 1, is classified as PSS/EM1CH - palustrine, scrub-shrub/emergent, persistent, seasonally flooded, diked/impounded wetland (USFWS 2013). This wetland is likely fed by groundwater moving downslope from the adjacent hillslope to the south and ponding along the railroad embankment east of the lake. Culverts appear to connect Thompsons Lake with the Columbia River.

There is very little vegetation around Thompsons Lake. The west and northern edges are rock ballast while the southern edge is a rock cliff. Only the eastern edge supports wetland vegetation, with a fringe of cattails transitioning into somewhat drier adjacent wetland area. Wetland vegetation is dominated by Pacific willow, northwest sandbar willow, and Indian hemp, with an understory of reed canarygrass. Soils in the wetland were loam with depleted matrix (SS2). Adjacent upland areas supported non-native annual grasses and scattered herbaceous vegetation. Upland soils were loam with bedrock at a depth of 0-6 inches (SS1). The open water lake area is referred to as Lake 1 or Thompsons Lake in this document and in the Joint Permit Application (JPA).

4.1.2 Wetland 2

A very small area located at approximately Mile Post 72.2, north of the railroad on a small terrace above the Columbia River was noted as a potential wetland. Riparian vegetation was observed, including a Scouler's willow. Due to the inaccessibility of this area, no soil sampling was conducted. During a subsequent field visit, the area was observed from below while walking along the Columbia River to map the ordinary high water mark. Upon further observation, the hydrology of this area does not appear to support its classification as a wetland. It is not mapped as a wetland on NWI maps

(USFWS 2013) and it is not shown on the figures in this report. The designation W2 was applied to this area for tracking purposes during the field survey.

4.1.3 Wetland 3

Wetland 3 is located along the Columbia river north of the railroad at approximately Mile Post 72.3. This area is a terrace sitting above the river on bedrock outcrops. Vegetation consists of Northwest sandbar willow and honey-locust. This area is not classified as a wetland on NWI maps (USFWS 2013).

A soil sampling point was located upslope from this area within an area dominated by Oregon white oak with Oregon grape and annual grasses in the understory. Soils in this upland area did not demonstrate wetland characteristics (SS3).

4.1.4 Wetland 4

Wetland 4 is located at approximately Mile Post 72.3, just north of the railroad embankment within a depressional area dominated by black cottonwood. There was evidence of ponding in this area, including water-stained leaves and drift deposits.

4.1.5 Wetland 5

Wetland 5 is located just east of Wetland 4 and may be hydrologically connected to Wetland 4. Vegetation was dominated by black cottonwood overstory. Soils in Wetland 5 consisted of sandy loam with depleted matrix (SS4). Neither Wetland 4 nor Wetland 5 are classified as wetlands on NWI maps (USFWS 2013).

4.1.6 Wetland 6

Wetland 6 is located east of Wetlands 4 and 5 at approximately Mile Post 72.35. Like Wetlands 4 and 5, Wetland 6 is located just north of the railroad embankment where water appears to pond seasonally. Along the southern edge of Wetland 6 (along the railroad embankment), vegetation is dominated by Oregon ash and Northwest sandbar willow. To the north in the wetland, the vegetation changes to scrub-shrub dominated by Douglas' spiraea. Outside of the wetland, vegetation species include Oregon grape and poison oak, extending to an open grassy field on a terrace above the Columbia River. The NWI maps show a potential wetland area to the east of Wetland 6 on the edge of the Columbia River; however, this area is perched above the Columbia River at the top of a small cliff and is not connected to the river as a riparian wetland edge as shown on the maps (see Appendix A photos).

4.1.7 Wetland 7

Wetland 7 is located on the south side of the railroad embankment at approximately Mile Post 72.35. Vegetation in this area is dominated by Oregon ash with little to no ground cover. There is evidence of ponding. This area is not classified as a wetland on NWI maps (USFWS 2013).

4.1.8 Wetland 8

Wetland 8 is located on the western edge of an associated large pond or lake located at approximately Mile Post 72.5. The wetland area is dominated by red osier dogwood. The northern and eastern edges of the lake are rocky cliffs that do not support vegetation. The lake is labeled Lake 8 for the purposes of this report and the JPA and is classified on the NWI maps as PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded wetland). Wetland 8 on the western end of the lake is

classified as PSS1Ch (palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded wetland); however, this wetland area is much smaller than shown on the NWI maps (USFWS 2013). Culverts appear to connect the lake with the Columbia River.

4.1.9 Wetland 9

Wetland 9 is located south of the railroad at approximately Mile Post 71.5. The wetland area is located within a swale running along the base of the railroad embankment. Vegetation consists of Oregon ash with scattered Pacific willow and an understory of reed canarygrass. To the south of Wetland 9 is a pond that was apparently constructed as part of an old fire station for the railroad. Wetland 9 is separately hydrologically from the pond via a berm. Wetland 9 is mapped by NWI as PSS1Ch-palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded wetland (USFWS 2013).

4.1.10 Wetland 10

Wetland 10 is a series of discontinuous ditch-like structures located between Wetland 9 and Wetland 11 in an area where the railroad is placed through a rock cut that rises up on both sides of the tracks. The ditch-like linear depression is formed at the base of the rock cut slope and the ballast and subgrade of the railroad. Water appears to be retained in these "ditches" as they are situated on top of the bedrock and do not connect laterally to any other surface drainage or waters of the U.S. The bedrock would also prevent any groundwater connection with offsite areas. The vegetation in these areas consist primarily of cattails. Areas in between the areas mapped on the figures in Appendix A are unvegetated or support predominantly upland vegetation. These areas appear to meet the definition for isolated wetlands. These areas are not shown on the NWI maps (USFWS 2013).

4.1.11 Wetland 11

Wetland 11 is located at both ends of a large pond or lake south of the railroad embankment, and extends from approximately Mile Post 70.8 to Mile Post 71. The pond, labeled as Lake 11 for this report and the JPA, was apparently formed when the railroad was constructed, cutting off this portion of the Columbia River impounded reservoir. Thus, it is classified on the NWI maps as part of the Columbia River (L1UBHh - lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters) (USFWS 2013). An old railroad embankment forms the southern edge of the lake and the wetland. The old railroad embankement is lined with poplar trees. Another large area of open water exists on the south side of the old railroad embankment. Culverts appear to connect the lake with the Columbia River.

Wetland 11 extends both east and west of the lake and is constrained to the north and south by both the old and the existing railroad embankments. These areas are primarily classified on the NWI maps as PFO/SS1Ch (palustrine, forested/scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded wetlands) (USFWS 2013). Vegetation is dominated by Oregon ash, black cottonwood, and black hawthorn.

4.1.12 Wetland 12

Wetland 12 is located just west of Wetland 11 but appears to be disconnected from Wetland 11 by a berm constructed at the Mosier signal house located at Mile Post 70.79. In the absence of the berm, Wetland 12 would be connected to Wetland 11 and to the Columbia River through the culverts under the existing railroad embankment from Lake 11. Like Wetland 11, Wetland 12 is bounded by the existing railroad embankment and an old railroad embankment to the south. Vegetation is dominated

by black hawthorn. Evidence of ponding was observed as water stained leaves and bare or sparsely vegetated ground surface. This area is classified on the NWI maps as PEM1Ch (palustrine emergent, persistent, seasonally flooded, diked/impounded wetland) (USFWS 2013).

4.1.13 Wetland 12B

Similar to Wetland 10, Wetland 12B is a small discontinuous ditch-like structure located west of Wetland 12 near to the I-84 overpass. There is a low rock cut at this location and the juxtaposition of the railroad track bed and the rock cut forms a small area where water ponds on the underlying bedrock. The area does not connect laterally to any other surface drainage or waters of the U.S. The bedrock would also prevent any groundwater connection with offsite areas. It appears that the rock outcrop was created when the railroad was constructed by cutting away the surrounding upland topography to create a suitably graded road bed. This small area supports some facultative plant species. This area is not shown on the NWI maps (USFWS 2013).

4.1.14 Wetland 13

Wetland 13 extends along the north side of the railroad from approximately Mile Post 69.8 to Mile Post 70.1. This area is constrained between the railroad embankment on the south and the I-84 freeway embankement on the north. The western portion of this area is shown on NWI maps as PSS1C (palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded wetland). The eastern portion is shown on NWI maps as PFO1C (palustrine, forested, broad-leaved deciduous, seasonally flooded wetland) (USFWS 2013). Although there does not appear to be any surface water connection from Wetland 13, there would be a connection to the Columbia River in the absence of the I-84 freeway embankment.

The forested portion of Wetland 13 is dominated by black cottonwood and Pacific willow with an understory of reed canarygrass. There is evidence of standing water within the forested area. The reed canarygrass extends west into the scrub-shrub wetland, with Indian hemp and Nootka rose also prevalent. Soils in Wetland 13 were found to have a depleted matrix (SS8). Further west, outside of the wetland boundary, the vegetation changes to Himalayan blackberry where soils are dryer. Ballast rock and bedrock at the surface prevented placement of a soil pit in this dryer area.

4.1.15 Wetland 14

Wetland 14 is located at approximately Mile Post 69.6 on the north side of the railroad. The vegetation is dominated by black cottonwood with an understory of reed canarygrass and Indian hemp. At the eastern end of Wetland 14, Himalayan blackberry dominates the understory as the black cottonwood forest extends to the east into a dryer area. On the western end of Wetland 14, the I-84 freeway embankment pinches off the vegetated area against the railroad embankment. Although there does not appear to be an existing surface water connection from this wetland, it would be connected to the Columbia River in the absence of the I-84 freeway embankment. Oregon white oak trees exist outside of Wetland 14 near the base of the I-84 freeway embankment. This area is not shown as a wetland on NWI maps (USFWS 2013).

4.1.16 Wetland 14B and Wetland 15

Wetland 14B is located on the east side of Mosier Creek at approximately railroad Mile Post 69.4. Wetland 15 is located on the west side of the existing Mosier Creek channel within a former channel of Mosier Creek. Both areas are shown on NWI maps as PFO1Ch (palustrine, forested, broad-leaved

deciduous, seasonally flooded, diked/impounded wetland) (USFWS 2013). The wetlands are part of the riparian fringe of Mosier Creek.

Vegetation within these wetlands consists of reed canarygrass and honey-locust, with scattered black cottonwood and Pacific willow saplings. The soil is sandy and cobbly.

4.1.17 Wetland 16

Wetland 16 consists of the wetland fringe associated with a large pond or lake between Mosier Creek and Highway 30, from approximately Mile Post 69.1 to Mile Post 69.4. The lake, labeled Lake 16 for this report and the JPA, sits between the railroad to the south and the I-84 freeway to the north, and appears to have been formed when the I-84 freeway was constructed, cutting off this portion of the Columbia River reservoir impoundment. Thus, it is shown on NWI maps as part of the Columbia River reservoir - L1UBHh (lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters) (USFWS 2013). Lake 16 is also locally called "Harmony Lake". Wetland 16 extends to both the east and west ends of the lake and wraps around a portion of the south side. This wetland edge is shown on NWI maps as PSS1Ch (palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded wetland) (USFWS 2013). There is a surface water connection between the lake and Mosier Creek in the vicinity of the I-84 bridge over Mosier Creek that contained water at the time of the field visit.

Vegetation within Wetland 16 consists of Oregon ash and Pacific willow. The northern edge of the lake along the I-84 freeway embankment is largely unvegetated as is a section in the southwest quadrant alongside the railroad embankment. Upland areas between the railroad and the wetland are dominated by ponderosa pine and Himalayan blackberry.

4.1.18 Wetland 17

Wetland 17 is located at the east and west ends of a large pond or lake located north of the railroad from approximately Mile Post 68.6 to 68.9. The lake, labeled Lake 17 for this report and the JPA, is shown as part of the Columbia River reservoir on the NWI maps and classified as L1UBHh (lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters) (USFWS 2013). Lake 17 is also known locally as West Lake. Wetland 17 extends to the east of the open water lake area and is classified as PSS1Ch and PFO1Ah, with the "A" modifier referring to the temporary flooding regime associated with the far eastern end of the wetland. Vegetation in this area is dominated by reed canarygrass with scattered willows. There is a small vegetated wetland area on the western end of the lake as well. The southern, western, and northern edges of the lake are largely unvegetated and consist of ballast rock down into the water. There does not appear to be any culvert connection under I-84 between Wetland 17 and the Columbia River. The NWI maps do not show a connection to either Rock Creek or the Columbia River. The area close to I-84 was not investigated at the time of the field visit but the topography would indicate that there is not a connection. The lack of a surface water connection between Lake 17 and the Columbia River or Rock Creek has been confirmed by Oregon Department of Fish and Wildlife staff.

4.1.19 Wetland 18

Wetland 18 is a narrow vegetated fringe around portions of a large pond or lake located south of the railroad embankment across from Wetland 17. The lake associated with Wetland 18 is labeled Lake 18 for this report and the JPA. Like lake 17, Lake 18 is classified as part of the Columbia River - L1UBHh (lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters) (USFWS 2013). The lake is bounded on the eastern and western ends by rock revetment

devoid of vegetation. The edge adjacent to the railroad embankment does not support any vegetation and most of the southern edge is a sheer rock cliff that also does not support vegetation. Culverts appear to connect Lake 18 with Lake 17 on the other side of the railroad.

4.1.20 Wetland 19

Wetland 19 is located west of the railroad tunnel and south of the railroad at Mile Post 66.8. It is also associated with a large pond or lake, labeled Lake 19 for this report and the JPA. Lake 19 is classified on the NWI maps as part of the Columbia River - L1UBHh (lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters) (USFWS 2013). Rock revetment surrounds the entire lake, and the lake edge is devoid of vegetation. The southern edge of the pond is a sheer rock cliff that does not support any vegetation. There is a small vegetated area on the eastern end of the lake with some emergent vegetation and a small stream that enters the lake through this area from higher topography to the east and south. Poison oak dominates the vegetation along this narrow stream channel.

4.1.21 Wetland 20

Wetland 20 is located on the east side of the railroad tunnel and south of the railroad at Mile Post 67. It is associated with a large pond or lake, labeled Lake 20 for this report and the JPA. The lake is classified as part of the Columbia River - L1UBHh (lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded waters) (USFWS 2013). The lake is bounded by large piles of ballast rock in the northwest quadrant, sheer rock cliffs on the southern edge, and rock ballast embankment on the north and eastern edges. There are a few Oregon ash and some blackberry along the periphery of the lake. Wetland 20 is mostly located at the west end of the lake where there is an area of lower topography and some vegetation. Culverts appear to connect the lake with the Columbia River.

4.1.22 Other Hydrologic Features

Between Wetland 9 and Wetland 10, at Mile Post 71.36 is a culvert that carries runoff from the plateau above and to the south down under the railroad embankment to the Columbia River to the north. At the northern end of the culvert is a small area that was investigated for wetland characteristics. Although the area appeared to potentially have appropriate hydrology, it did not contain hydric soils or a preponderance of wetland vegetation (SS5).

West of the I-84 overpass and north of the railroad (but east of Wetland 13) are several forested depressional areas that may hold water in the winter months. However, soil sampling and analysis of the vegetation indicate that these areas are not wetlands (SS6 and SS7).

Mosier Creek crosses the project area between Wetland 14B and Wetland 15. The ordinary high water mark (OHWM) was mapped for approximately 100 feet up and downstream of the existing railroad bridge using the same handheld GPS unit used to map the wetland boundaries. On the south side of the railroad bridge, Mosier Creek makes a sharp turn through a deep pool that appears to provide fishing and wind surfer access. Just upstream of the bridge, past the sharp curve, there is a small beaver dam that is impounding water up against the western bridge abutment. South of the existing bridge, the stream banks rise up quickly from the water's edge and are heavily vegetated in Himalayan blackberry. North of the existing bridge, the eastern bank supports a narrow riparian wetland fringe (Wetland 14B) before rising steeply above the creek. On the western bank, Wetland 15 is located in an old creek channel, but the bank quickly steps up to a terrace dominated by ponderosa pine.

Rock Creek crosses the project area west of Highway 30 and east of Wetlands 17 and 18. The OHWM was mapped for approximately 100 feet up and downstream of the existing railroad bridge using the same handheld GPS unit used to map the wetland boundaries. The creek was dry at the time of the field visit and is reported to be dry most of the time. The creek bed is gravel with a fringe of willows along the edge.

As described under the wetland sections, there are a number of lakes that appear to have been formed when embankments for the interstate highway and the railroad isolated small portions of reservoir pool of the Columbia River. Many of these areas are connected to the river via culverts under those embankments. Lakes in the project area include Lake 1/Thompsons Lake, Lake 8, Lake 11, Lake 16/Harmony Lake, Lake 17, Lake 18, Lake 19, and Lake 20. These lakes are described in the above sections with their associated wetland areas.

4.2 Functional Assessment

Based on the Oregon Freshwater Wetland Assessment Methodology (Roth et al. 1996), the following nine wetland functions were assessed for wetlands in the project area: wildlife habitat, fish habitat, water quuality (with respect to pollutant removal potential), hydrologic control (flood control and water supply), sensitivity to future impacts, enhancement potential, education, recreation, and aesthetic quality. A summary of the functional assessment is provided in **Table 2**.

The project area is not part of a designated federal, state, or local preserve or Important Bird Area, and does not contain rare or unique wetland types (e.g., vernal pools, old-growth forested wetlands, etc.). There are no wetlands of special interest, wetland mitigation sites, or restoration sites. The area is located within the Columbia River Gorge National Scenic Area and thus provides important aesthetic resources, although many wetlands are not visible from either the interstate or the Columbia River and views of others are obscured from the Interstate (I-84) freeway.

There is some potential for federally listed salmonids, including Chinook and Coho salmon, steelhead, and bull trout, to be present in wetlands that are connected by culverts to the Columbia River. However, the condition of culverts for fish passage was not evaluated and connectivity has not been confirmed. Mosier Creek provides migration, spawning, and rearing habitat for summer and winter steelhead, and Coho salmon, and Rock Creek (an ephemeral stream), is designated as migration, spawning, and rearing habitat for winter steelhead and Coho salmon.

The project area is somewhat protected from future impacts due to its use as a transportation corridor for both I-84 and the railroad. There is no active draining, diking, or irrigation uses impacting the wetlands; however, flow in the Columbia River is controlled by the dams. The general inaccessibility of the project area limits its capacity for educational and recreational uses. Surrounding land uses are primarily rural, including state park recreational lands and some agricultural lands that are not directly adjacent to the project area. Light urban use occurs within the City of Mosier, and this is the only location where the public may have some access to wetland areas.

Some of the wetlands support vegetation including emergent, scrub-shrub, and/or forest that provides wildlife habitat and may help to remove nutrients. Many of the wetlands may be considered to be part of the Bonneville pool on the Columbia River and take the form of open water ponds or lakes formed by the construction of the railroad and/or freeway. The banks of these “lakes” have been stabilized with rock revetment or are bounded by rock cliffs and are largely devoid of vegetation. With a few exceptions, most of the lakes are connected to the Bonneville pool on the Columbia via culverts

and may be assumed to fluctuate with river levels. The hydrology of most of the other wetlands is associated with seasonal high groundwater rather than connection to other surface waters.

The nutrient removal capacity of most wetlands in the project area is limited by the small amount of vegetation present and the limited connectivity to the Columbia River or other surface waters. There is some opportunity for nutrient removal by wetlands located in and near the City of Mosier.

Table 2. Summary of Wetlands Functional Assessment

Wetland ID/ Description	Wildlife Habitat	Fish Habitat	Water Quality (pollutant removal)	Hydrologic Control (flood control and water supply)	Sensitivity to Future Impacts	Enhancement Potential	Education	Recreation	Aesthetic Quality
W1- wetland associated with Thompsons Lake. Palustrine, scrub-shrub/emergent persistent, seasonally flooded, diked/ impounded	Degraded- little vegetation around lake, scrub-shrub and emergent vegetation provides some habitat diversity	Degraded- culvert connection to Columbia River	Intact- but limited potential due to rural land use; surrounded by protected state park	Degraded- unknown if culverts are blocked or sized correctly. Flow in CR controlled by dams	Intact- surrounding land use is state park, but not generally accessible	Intact- opportunity for structural and habitat improvements	Lost- not accessible; location adjacent to active railroad makes it unsafe for educational programming	Lost- not accessible	Degraded- not visible from I-84 or CR
W2- not a wetland	NA	NA	NA	NA	NA	NA	NA	NA	NA
W3- Riparian area directly adjacent to CR. Scrub-shrub vegetation	Intact- provides riparian habitat along CR (native and non-native vegetation)	Degraded- provides limited shallow water habitat in CR	Degraded- limited vegetation for nutrient removal	Degraded- hydrology of CR controlled by dams	Intact- accessible only by boat in CR	Degraded- small area, limited opportunity for habitat improvements along CR	Degraded- accessible only by boat	Intact- fishing from CR	Intact- view from CR
W4, W5, and W6- scrub/shrub and forested wetland above CR floodplain	Intact- provides small area of scrub/shrub habitat on slopes above CR	Intact – provides nutrient removal and attenuation of runoff upstream of the CR.	Intact- opportunity for nutrient removal during flooding	Degraded- hydrology likely from ponded surface water drainage.	Intact- accessible only by boat in CR	Degraded- small area, limited opportunity for habitat improvements	Degraded- not accessible	Degraded- some wildlife viewing opportunity from CR	Degraded- not visible from CR
W7- forested wetland along south side of railroad	Intact- provides forested habitat corridor	Degraded- no connection to CR	Intact- but limited potential due to rural land use	Degraded- hydrology likely from groundwater. Provides flood capacity.	Intact- surrounding land use is open space and state park, not accessible	Intact- some opportunity for habitat restoration	Degraded- not accessible	Degraded- not accessible	Degraded- view only from railroad
W8- wetland associated with lake. Palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded	Degraded- little vegetation around lake, small scrub-shrub habitat	Degraded- culvert connection to CR	Intact- but limited potential due to rural land use and limited emergent wetland area	Degraded- unknown if culverts are blocked or sized correctly. Flow in CR controlled by dams	Intact- surrounding land use is open space and state park, not accessible	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- Only visible from railroad
W9- palustrine, scrub-shrub, broad-leaved	Intact- provides scrub/shrub	Degraded- no connection to	Intact- but limited potential	Degraded- hydrology likely	Intact- surrounding land	Intact- some opportunity for habitat	Lost- not accessible	Lost- not accessible	Degraded- Not visible from any

Wetland ID/ Description	Wildlife Habitat	Fish Habitat	Water Quality (pollutant removal)	Hydrologic Control (flood control and water supply)	Sensitivity to Future Impacts	Enhancement Potential	Education	Recreation	Aesthetic Quality
deciduous, seasonally flooded, diked/impounded	habitat	Columbia River	due to rural land use	from groundwater. Provides flood capacity	use is open space, not accessible; development restricted by scenic area regulations	restoration			viewpoint
W10- series of discontinuous isolated ditches	Degraded- small isolated patches of cattails	Degraded- no connection to Columbia River	Intact- but small area and limited potential due to rural land use	Degraded- hydrology from ponded surface water	Intact- surrounding land use is open space, not accessible	Degraded- small area, little opportunity for habitat enhancement	Lost- not accessible	Lost- not accessible	Degraded- only visible from railroad
W11- associated with lake. Palustrine, forested/scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded	Intact- provides forested and scrub/ shrub habitat	Degraded- culvert connection to CR	Intact- some potential to filter agricultural pollutants- limited by surrounding old railroad embankments	Degraded- unknown if culverts to CR are blocked or sized correctly. Wetland is surrounded by RR berms.	Degraded- may be susceptible to agricultural land use to the south	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- visible only from railroad and private agricultural land
W12- palustrine emergent, persistent, seasonally flooded, diked/impounded	Intact- provides forested habitat	Degraded- no connection to CR	Intact- some potential to filter agricultural pollutants- limited by surrounding old railroad embankments	Degraded- hydrology likely from groundwater. Provides some stormwater runoff storage	Degraded- may be susceptible to agricultural land use to the south	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- visible only from railroad
W12B – isolated depression	Degraded – small isolated patch of cattails	Degraded- no connection to Columbia River	Intact- but small area and limited potential due to rural land use	Degraded- hydrology from ponded surface water	Intact- surrounding land use is agricultural, not accessible	Degraded- small area, little opportunity for habitat enhancement	Lost- not accessible	Lost- not accessible	N/A
W13- palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded and palustrine, forested, broad-leaved deciduous, seasonally flooded	Intact- provides forested habitat	Degraded- no connection to CR	Intact- potential to filter pollutants from I-84	Degraded- hydrology likely from groundwater. Provides some stormwater runoff storage	Intact- surrounding land use is open space, not accessible	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- view from I-84 may be obscured

Wetland ID/ Description	Wildlife Habitat	Fish Habitat	Water Quality (pollutant removal)	Hydrologic Control (flood control and water supply)	Sensitivity to Future Impacts	Enhancement Potential	Education	Recreation	Aesthetic Quality
W14- forested/scrub-shrub	Intact- provides wildlife habitat (mix of native and non-native vegetation)	Degraded- no connection to CR	Intact- potential to filter pollutants from I-84	Degraded- hydrology likely from groundwater. Provides some stormwater runoff storage	Intact- surrounding land use is open space, not accessible	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- view from I-84 may be obscured
W14B and W15- palustrine, forested, broad-leaved deciduous, seasonally flooded, diked/impounded	Intact- provides wildlife habitat and corridor along Mosier Creek	Intact- provides shallow water habitat adjacent to Mosier Creek	Intact- potential to filter pollutants from urban and highway uses	Intact- unrestricted floodplain of Mosier Creek	Degraded- surrounding light urban land use	Intact- opportunity for structural and habitat improvements	Intact- accessible for wildlife viewing	Intact- accessible for wildlife viewing	Intact- view from streets in the City of Mosier; view from I-84 may be obscured
W16- palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded	Degraded- rock revetment along shore of lake, wildlife habitat present in forested wetland fringe	Degraded- likely connected to Mosier Creek seasonally. Carp observed in lake.	Intact- potential to filter pollutants from urban and highway uses	Degraded- lake is bermed, some potential for flood control	Degraded- surrounding light urban land use	Intact- opportunity for structural and habitat improvements	Intact- accessible for wildlife viewing via trail next to lake and wildlife observation post	Intact- accessible for wildlife viewing via trail next to lake and wildlife observation post	Intact- accessible via trail next to lake; views from I-84 may be obscured
W17- palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded, diked/impounded	Degraded- rock revetment along shore of lake	Degraded- no apparent connection to CR or Rock Creek	Degraded- potential to filter pollutants from urban and highway uses	Degraded- lake is bermed, some potential for flood control	Degraded- surrounding light urban land use. Future changes unlikely due to proximity of railroad and highway.	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- view from I-84 may be obscured
W18- lake with rock revetment connected to W17 via culvert	Degraded- rock revetment along shore of lake	Degraded- no apparent connection to CR or Rock Creek	Degraded- limited potential to filter pollutants from urban and highway uses due to limited vegetation	Degraded- lake is bermed, some potential for flood control	Degraded- surrounding light urban land use	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- view from I-84 may be obscured

Wetland ID/ Description	Wildlife Habitat	Fish Habitat	Water Quality (pollutant removal)	Hydrologic Control (flood control and water supply)	Sensitivity to Future Impacts	Enhancement Potential	Education	Recreation	Aesthetic Quality
W19- lake with rock revetment	Degraded- rock revetment along shore of lake	Degraded- culvert connection to CR	Degraded- limited vegetation for nutrient removal	Degraded- lake is bermed, some potential for flood control	Intact- surrounding land use is open space, not accessible	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- view from I-84 may be obscured
W20- lake with rock revetment	Degraded- rock revetment along shore of lake	Degraded- culvert connection to CR	Degraded- limited vegetation for nutrient removal	Degraded- lake is bermed, some potential for flood control	Intact- surrounding land use is open space, not accessible	Intact- opportunity for structural and habitat improvements	Lost- not accessible	Lost- not accessible	Degraded- view from I-84 may be obscured

4.3 Conclusions

CDM Smith identified several potentially jurisdictional wetlands and two creeks within the construction boundary as described above and shown on the plates in **Appendix A**. Approximately 21 wetlands were found to meet the USACE Western Mountains, Valleys, and Coast Region manual definition and are summarized in **Table 3** below. With the exception of Wetland 10 and 12B, these wetlands and the two creeks are considered potential jurisdictional waters of the United States.

Table 3. Summary of Wetland and Lake Areas

Wetland ID (W)	Vegetated Wetland (feet^2)	Vegetated Wetland (acres)	Open Water (feet^2)	Open Water (acres)
W1	26,516	0.61		
Lake 1/ Thompsons Lake			69,167	1.59
W3	2,730	0.06	0	0
W4	1,011	0.02	0	0
W5	2,509	0.06	0	0
W6	10,422	0.24	0	0
W7	7,254	0.17	0	0
W8	5,503	0.13		
Lake 8			47,621	1.09
W9	10,257	0.24	0	0
W10	1,596	0.04	0	0
W11	50,129	1.15		
Lake 11			80,880	1.86
W12	6,091	0.14	0	0
W12B	2,297	0.05	0	0
W13	142,618	3.27	0	0
W14	3,272	0.08	0	0
W14B	644	0.01	0	0
W15	3,087	0.07	0	0
W16	64,649	1.48		
Lake 16/ Harmony Lake			342,962	7.87
W17	71,895	1.65		
Lake 17/ West Lake			152,878	3.51
W18	8895	0.20		
Lake 18			185,305	4.25
W19	11,140	0.26		
Lake 19			40,787	0.94
W20	6,689	0.15		
Lake 20			72,127	1.66

Section 5

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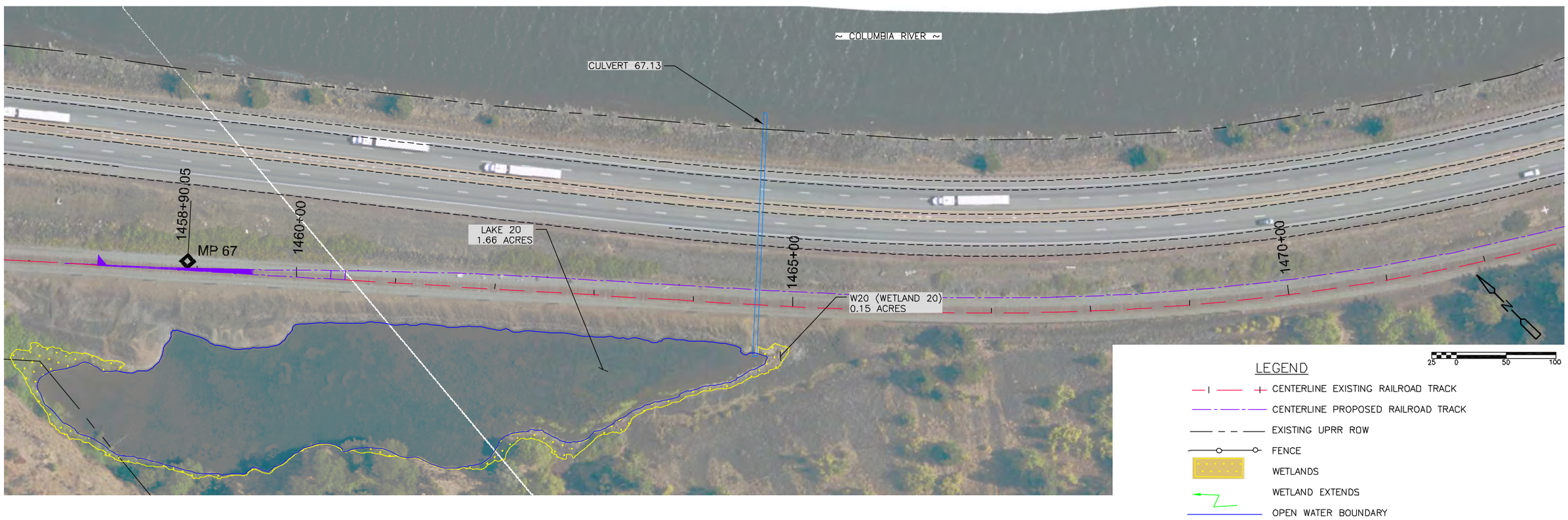
Appendix A

Project Area Plates



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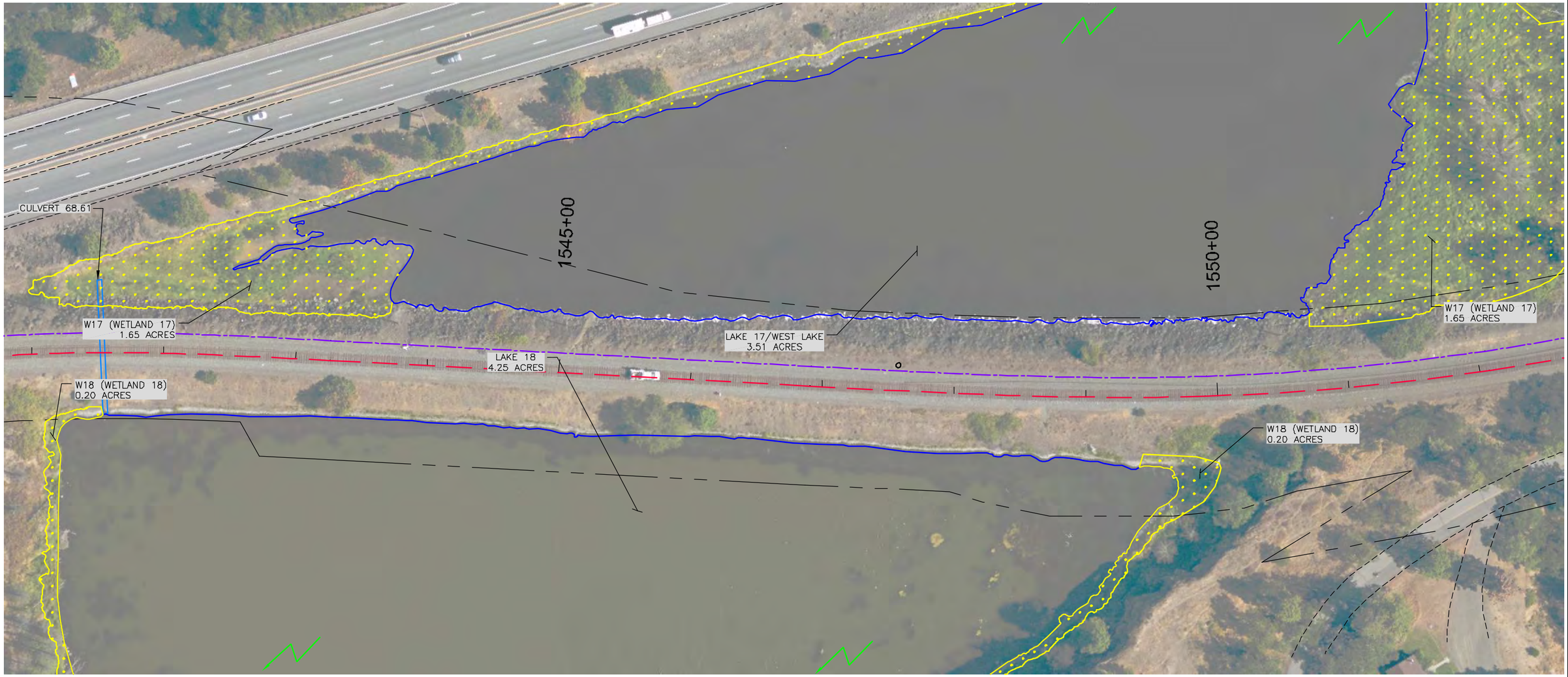
CDM Smith

UNION PACIFIC RAILROAD

SECOND MAINLINE TRACK PROJECT
WASCO COUNTY, OREGON

FIGURE 1
WETLANDS DELINEATION
PC 1 2-580 SEPTEMBER 2014



LEGEND

- CENTERLINE EXISTING RAILROAD TRACK
- CENTERLINE PROPOSED RAILROAD TRACK
- EXISTING UPRR ROW
- FENCE
- WETLANDS
- WETLAND EXTENDS
- OPEN WATER BOUNDARY

N

18.75 0 37.5 75

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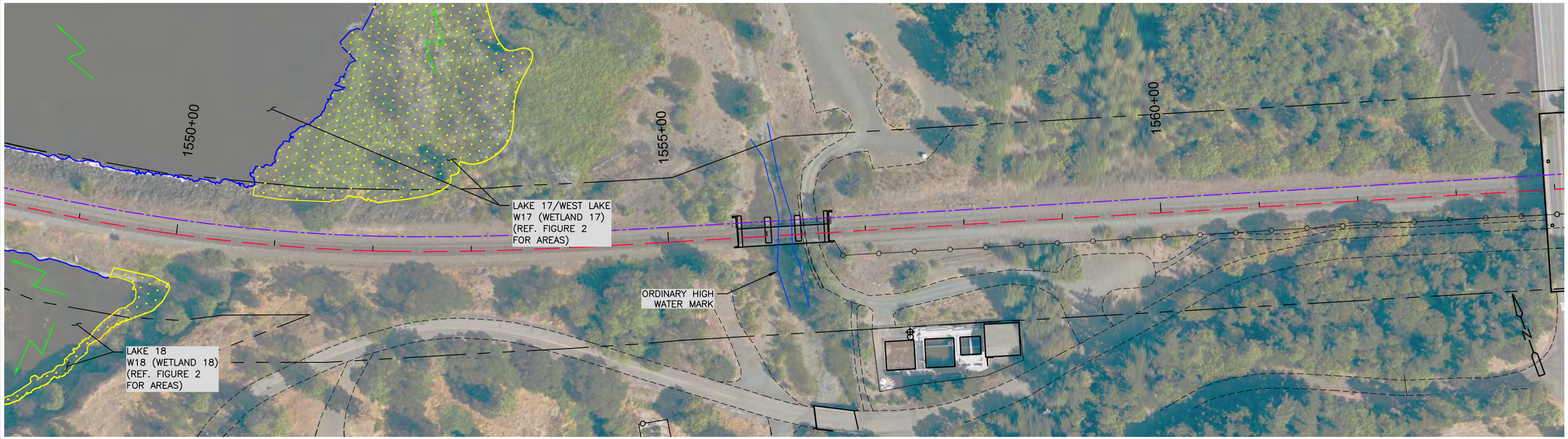
FIGURE 2
WETLANDS DELINEATION
SEPTEMBER 2014



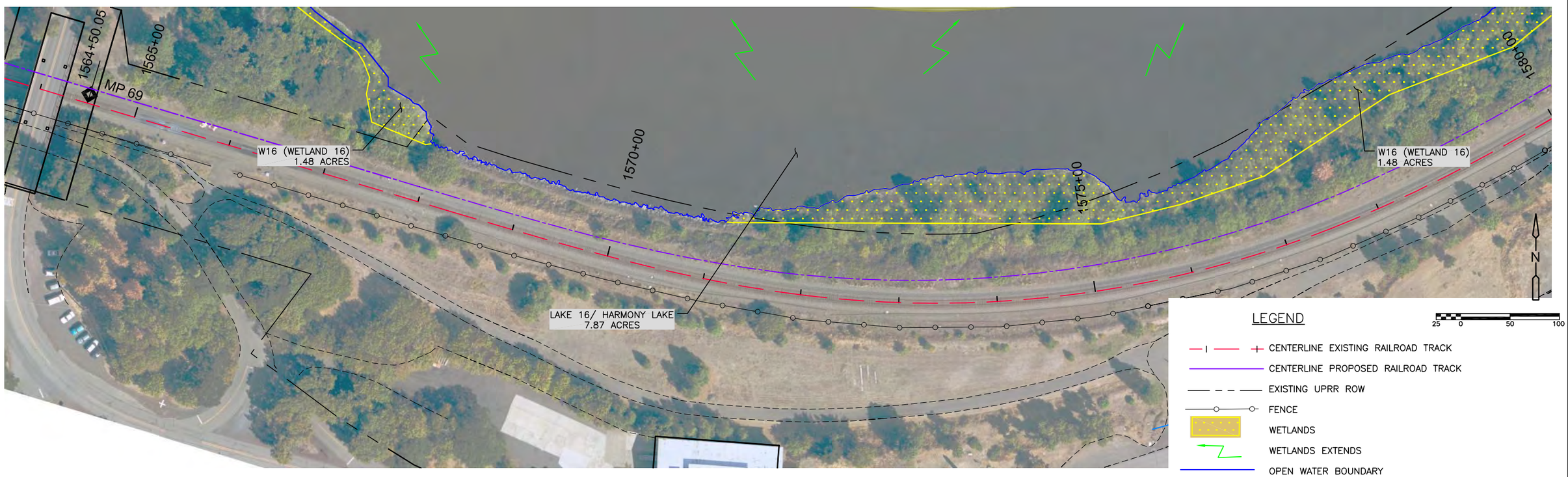


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FIGURE 3
WETLANDS DELINEATION
PC 1 2-582 SEPTEMBER 2014

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FIGURE 4
WETLANDS DELINEATION
PC 1 2-583 SEPTEMBER 2014

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FIGURE 5
WETLANDS DELINEATION
SEPTEMBER 2014

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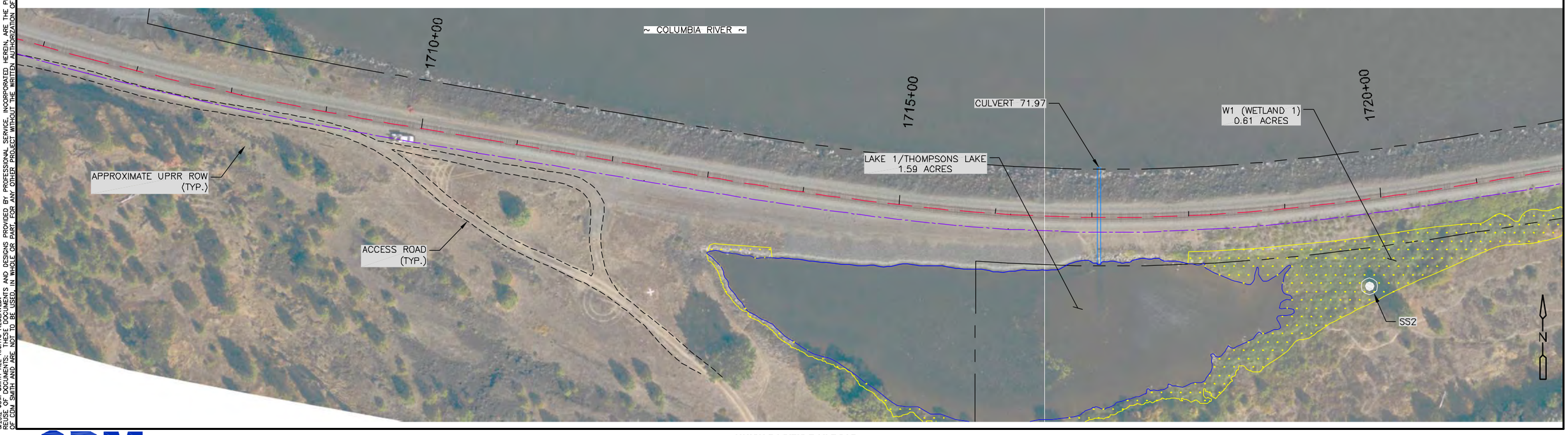
WASCO COUNTY, OREGON

FIGURE 6
WETLANDS DELINEATION
SEPTEMBER 2014



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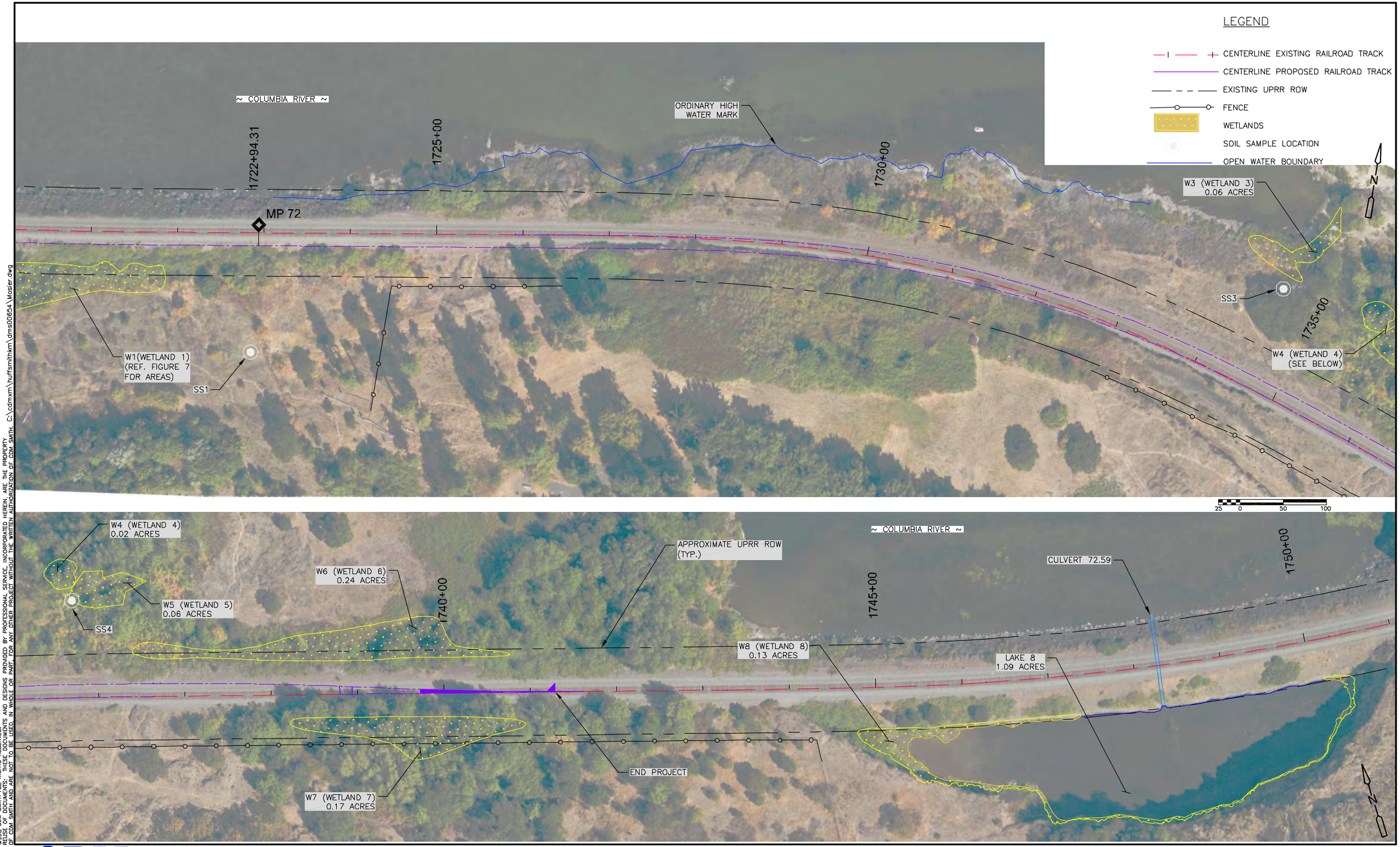
UNION PACIFIC RAILROAD

SECOND MAINLINE TRACK PROJECT-
WASCO COUNTY, OREGON

FIGURE 7
WETLANDS DELINEATION
PC 1 2-586 SEPTEMBER 2014



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UNION PACIFIC RAILROAD

SECOND MAINLINE TRACK PROJECT-
WASCO COUNTY, OREGON

FIGURE 8
WETLANDS DELINEATION
SEPTEMBER 2014

Appendix B

Wetland Delineation Field Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/15/13
Applicant/Owner: UPRR State: OR Sampling Point: SS1
Investigator(s): KS, JJ Section, Township, Range: OR T2N R12E S32
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-5
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Rock outcrop-Xeropsamments complex NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____
Hydric Soil Present?	Yes ____	No ✓
Wetland Hydrology Present?	Yes ____	No ✓

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks: east of Thompson's Lake in grassy meadow upslope

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Bromus (nonnative grass)	100	Y	FAC
2. Avena sativa	20	Y	UPL
3. Vicia hirsuta	5	N	NL
4. Epilobium ciliatum	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	130 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	100	x 3 =	300
FACU species		x 4 =	
UPL species	25	x 5 =	125
Column Totals:	130 (A)		435 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 551

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR 2.5/2	100					loam	soil dry
9-								basalt - refusal

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

hydric - dark surface soils to basalt

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

drainage approx. 15' east of SS point. no evidence of hydrology but could stay wet long enough

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/15/13
Applicant/Owner: UPRR State: OR Sampling Point: SS2
Investigator(s): KS, JJ Section, Township, Range: OR T2N R12E S32
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0-1
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Classified as "Water" on NRCS maps NWI classification: PSSEMICH
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: SS2 is located just east of pond

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Salix sessilifolia	40	Y	FACW
2. Salix lasiandra	40	Y	FACW
3.			
4.			
5.			
	80 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Phalaris arundinacea	60	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus armeniacus	20	Y	FACU
2.			
	20 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 552

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 2.5/3	95	7.5YR 4/6	5	D	M	loam	Soil moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks: White patches in soil - likely fungal hyphae

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Misier City/County: Wasco County Sampling Date: 10/15/13
Applicant/Owner: UPRR State: OR Sampling Point: SS3
Investigator(s): KS, JJ Section, Township, Range: OR T2N R12E S32
Landform (hillslope, terrace, etc.): hillslope/terrace Local relief (concave, convex, none): none Slope (%): 2-3
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Rock outcrops-xerepsamments complex NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: River side of tracks near end of project area within oak woodland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus garryana	60	Y	FACU
2.			
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Mahonia aquifolium	20	Y	FACU
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Bromus (nonnative grass)	60	Y	FAC
2. Achillea millefolium	10	N	FACU
3. Equisetum arvense	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 553

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 4/2	100					Sand	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/15/13
Applicant/Owner: UPRR State: OR Sampling Point: SS4
Investigator(s): KS, JJ Section, Township, Range: OR T2N R12E S32
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0-1
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Rock outcrop-Xerosamments complex NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: w/in cottonwood patch river side

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	60	Y	FAC
2. Fraxinus latifolia	30	Y	FACW
3.			
4.			
	90 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Rosa nutkana	20	Y	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus armeniacus	10	Y	FACU
2.			
	10 = Total Cover		

% Bare Ground in Herb Stratum 100

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SS4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/2	95	7.5YR 5/6	5	D	M	sandy loam	soil moist
6-12	"	80	"	20	D	M	"	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/15/13
Applicant/Owner: UPRR State: OR Sampling Point: SS5
Investigator(s): KS, JJ Section, Township, Range: OR T2N R12E S31
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 1-2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Rock outcrop-Xerosamments complex NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
just W. of culvert N. of RR tracks

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus garryana	5	Y	FACU
2. Juglans nigra	5	Y	UPL
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Toxicodendron diversilobum	15	Y	FAC
2. Symphoricarpos albus	10	Y	FACU
3. Mahonia aquifolium	5	Y	FACU
4. Quercus garryana	5	Y	FACU
5.			
	35 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Nonnative grass - bromus	50	Y	FAC
2. Equisetum arvense	40	Y	FAC
3. Achillea millefolium	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus leucodermis	5	Y	FACU
2.			
	5 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 8 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: SS5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0 – 6	7.5YR 4/4	100					loamy sand	dry
								rock – either basalt or RR ballast

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: SS5 is at end of culvert. Appears water does not stand here but moves downslope (where culvert carries water)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/16/13
Applicant/Owner: UPRR State: OR Sampling Point: SS6
Investigator(s): KS, JJ Section, Township, Range: OR T2N R12E S36
Landform (hillslope, terrace, etc.): terrace/slope Local relief (concave, convex, none): none Slope (%): 1-2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Rock outcrop - Xerosamments complex NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: approx 75' N. of RR tracks and S. of 84 W. of Rowena [illegible]

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Crataegus douglasii	80	Y	FAC
2. Fraxinus latifolia	20	Y	FACW
3.			
4.			
	100 = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1. Toxicodendron diversilobum	10	Y	FAC
2. Acer macrophyllum	5	Y	FACU
3. Quercus garryana	5	Y	FACU
4.			
5.			
	20 = Total Cover		

Herb Stratum (Plot size: ____)			
1. non-native grass - bromus	60	Y	FAC
2. Equisetum arvense	20	Y	FAC
3. Plantago major	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 57 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: DS6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/3	100					sand	dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/16/13
Applicant/Owner: UPRR State: OR Sampling Point: SS7
Investigator(s): KS, JJ Section, Township, Range: OR T2N R11E S1
Landform (hillslope, terrace, etc.): slope/terrace Local relief (concave, convex, none): none Slope (%): 1-2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Rock outcrop-Xerosamments complex NWI classification: PEOIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: within slight depressional area

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	20	Y	FACW
2. Acer macrophyllum	20	Y	FACU
3.			
4.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Quercus garryana	10	Y	FACU
2. Corylus cornuta	10	Y	FACU
3. Acer macrophyllum	10	Y	FACU
4. Rosa nutkana	10	Y	FAC
5. Prunus virginica	10	Y	FACU
	50 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Equisetum arvense	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus leucodermis	10	Y	FACU
2.			
	10 = Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 9 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: S57

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	10					loamy sand	moist
4-12	10YR 4/3	90						
4-12	10YR 4/3	100					sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: depressional area but upland plants

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/16/13
Applicant/Owner: UPRR State: OR Sampling Point: SS8
Investigator(s): KS, JJ Section, Township, Range: OR T2N R11E S1
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): slightly concave Slope (%): 0-1
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Rock outcrop-Xerosamments complex NWI classification: PSS1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No _____	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No** _____
Hydric Soil Present? Yes ✓ No _____		
Wetland Hydrology Present? Yes ✓ No _____		

Remarks: on lower edge floodplain

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	75	Y	FAC
2.			
3.			
4.			
	75 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Populus balsamifera	20	Y	FAC
2. Salix lasiandra	10	Y	FACW
3.			
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Phalaris arundinacea	20	Y	FACW
2. Equisetum arvense	40	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks:

SOIL

Sampling Point: SS8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	80	7.5YR 4/6	20	D	M	loamy sand	very cobbly soil is moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: UPRR Mosier City/County: Wasco County Sampling Date: 10/16/13
Applicant/Owner: UPRR State: OR Sampling Point: SS9
Investigator(s): KS, JJ Section, Township, Range: OR T2N R11E S1
Landform (hillslope, terrace, etc.): ____ Local relief (concave, convex, none): ____ Slope (%): ____
Subregion (LRR): A Lat: ____ Long: ____ Datum: ____
Soil Map Unit Name: ____ NWI classification: PFO1Ch
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Gleditsia triacanthos	15	Y	FAC
2. Populus balsamifera	10	Y	FAC
3. Salix lasiandra	10	Y	FACW
4.			
5.			
	35 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Phalaris arundinacea	90	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SS9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C

Photographs of the Project Area

Vegetation within Wetland 1.

Looking north from soil sampling point SS1 within upland area from Wetland 1.

Wetland 3.

Oregon white oak at soil sampling point SS3 located upland of Wetland 3 area.

Columbia River's edge north of Wetland 8 and east of Wetland 6.

Eastern end of Lake 8 –Algal Blooms Visible in Lake.

Western end of Lake 20 Looking Toward Vegetated Wetland Area.

Appendix F
Agent Authorization

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UNION PACIFIC RAILROAD
1400 Douglas Street Omaha, Nebraska 68179

January 9, 2015

Ms. Angie Brewer
Interim Director, Wasco County Planning Department
2705 East 2nd Street
The Dalles, Oregon 97058

Subject: Agent Authorization for Application Submittal and Coordination

Ms. Brewer:

This letter serves to authorize CH2M HILL to coordinate with Wasco County regarding the contents and information provided in the Wasco County National Scenic Area Development Review Application (Application) for the Union Pacific Railroad Second Mainline Track Project (Project). Union Pacific Railroad, as Applicant, permits CH2M HILL to submit the Application and serve as Authorized Agent during the associated review process.

Sincerely,

Union Pacific Railroad

Debra Schafer
General Director
Maintenance of Way - Environmental

CH2M HILL Engineers, Inc.

Jeremy Sande
Authorized Agent
Union Pacific Railroad
Second Mainline Track Project
Wasco County, Oregon

c: Brock Nelson/UPRR
Ty Wyman/Dunn Carney Allen Higgins & Tongue LLP
Jessica Golman/CH2M HILL
Christine Roberts/CH2M HILL

Febraury 27, 2015

Wasco County
Planning Department
2705 East 2nd Street
The Dalles, OR 97058

Regarding: Consent for Union Pacific Railroad To File Wasco County National Scenic Area Review Applications for the Proposed Second Mainline Track Project

This document serves as notice that I/we, Oregon Department of Transportation as owner(s)/authorized representatives of the real properties commonly known as, Tax Lot Numbers 2N 11E 1 ROADS, 2N 11E 2 ROADS, 2N 11E 3 ROADS, 2N 12E 6 ROADS, and 3N 12E 31 ROADS, and as more particularly described below (see Table 1 and attached Figure 1) expressly give my/our permission and/or authorization for Union Pacific Railroad to file National Scenic Area Review Applications with Wasco County for permits necessary for the construction and operation of the proposed Second Mainline Track Project, which would require acquisition of a temporary construction access upon my/our property. These applications include Development Approval for Conditional Uses and a Planning Commission Variance Application. **The permission and/or authorization granted herein is for land use application purposes only and is not to be construed as any sort of lease, sale or other real estate transaction or contract. Furthermore, permission and/or authorization granted herein does not include consent for any re-zoning actions and/or encumbrances on the properties described in Table 1.**

Table 1: Property Description

Tax Lot No.	Property Location	Owner Name	Mailing Address	City	State	Zip Code
2N 11E 1 ROADS	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
2N 11E 2 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
2N 11E 3 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
2N 12E 6 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
3N 12E 31 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058

* Note: Data discrepancies exist between Union Pacific Railroad ROW deed and records, and Wasco County parcel data. Verification of this data may necessitate revisions to County data, and potentially result in the project's avoidance of Oregon Department of Transportation parcels.

Sincerely,

Legal Landowner(s)/Authorized Representative(s) Printed Name(s):

_____

_Patrick N. Cimmiyotti _____ _____

Landowner/Authorized Representative(s) Signature(s):

_____ Date: 3/30/15

_____ Date: _____

~~January 9, 2015~~ June 8, 2015

Wasco County
Planning Department
2705 East 2nd Street
The Dalles, OR 97058

Regarding: Consent for Union Pacific Railroad To File Wasco County National Scenic Area Review Applications for the Proposed Second Mainline Track Project

This document serves as notice that ~~I/we~~, Oregon Parks and Recreation Department, as owner(s) of the real properties commonly known as, Tax Lot Numbers 3N 12E 0 100 and 3N 12E 31 800, and as more particularly described below (see Table 1 and attached Figure 1) expressly give my/our ~~permission and/or~~ consent ~~authorization~~ for Union Pacific Railroad to file National Scenic Area Review Applications with Wasco County for permits necessary for the construction and operation of the proposed Second Mainline Track Project, which would require acquisition of additional permanent ROW and temporary construction easement upon my/our property. These applications include Development Approval for Conditional Uses and a Planning Commission Variance Application.

The ~~permission and/or authorization~~ consent granted herein is for land use application purposes only and is not to be construed as any sort of lease, sale or other real estate transaction or contract. Furthermore, ~~permission and/or authorization~~ consent granted herein does not include consent for any re-zoning actions and/or encumbrances on the properties described in Table 1.

Table 1: Property Description

Tax Lot No.	Property Location	Owner Name	Mailing Address	City	State	Zip Code
3N 12E 0 100	See Figure 1	Oregon Parks and Recreation Department	725 Summer St NE Suite C	Salem	OR	97301
3N 12E 31 800	See Figure 1	Oregon Parks and Recreation Department	725 Summer St NE Suite C	Salem	OR	97301

Sincerely,

Legal Landowner(s) Oregon Parks and Recreation Department

Printed Name: MG Devereux, Deputy Director

Landowner Signature: MGD

Date: June 8, 2015

August 3, 2015

Wasco County
Planning Department
2705 East 2nd Street
The Dalles, OR 97058

Regarding: Consent for Union Pacific Railroad To File Wasco County National Scenic Area Review Applications for the Proposed Second Mainline Track Project

This document serves as notice that I/we, Skylar & Kathleen Schacht as owner(s) of the real properties commonly known as, Tax Lot Numbers 2N 13E 8 200, and as more particularly described below (see Table 1 and attached Figure 1) expressly give my/our permission and/or authorization for Union Pacific Railroad to file National Scenic Area Review Applications with Wasco County for permits necessary for the construction and operation of the proposed wetland mitigation project, which would require purchase of my/our property. These applications include Development Approval for Conditional Uses and a Planning Commission Variance Application.

The permission and/or authorization granted herein is for land use application purposes only and is not to be construed as any sort of lease, sale or other real estate transaction or contract. Furthermore, permission and/or authorization granted herein does not include consent for any re-zoning actions and/or encumbrances on the properties described in Table 1.

Table 1: Property Description

Tax Lot No.	Property Location	Owner Name	Mailing Address	City	State	Zip Code
2N 13E 8 200	See Figure 1	Schacht, Skylar & Kathleen				

Sincerely,

Legal Landowner(s) Skylar & Kathleen Schacht

Printed Name: Skylar Schacht Kathleen Schacht

Landowner Signature: [signature] Kathleen Schacht

Date: 8.3.15

Appendix G
Landowner Consent Forms

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January 9, 2015

Wasco County
Planning Department
2705 East 2nd Street
The Dalles, OR 97058

Regarding: Consent for Union Pacific Railroad To File Wasco County National Scenic Area Review Applications for the Proposed Second Mainline Track Project

This document serves as notice that I/we, _____ as owner(s) of the real properties commonly known as, __Tax Lot Numbers 3N 12E 0 100 and 3N 12E 31 800__, and as more particularly described below (see Table 1 and attached Figure 1) expressly give my/our permission and/or authorization for Union Pacific Railroad to file National Scenic Area Review Applications with Wasco County for permits necessary for the construction and operation of the proposed Second Mainline Track Project, which would require acquisition of additional permanent ROW and temporary construction easement upon my/our property. These applications include Development Approval for Conditional Uses and a Planning Commission Variance Application.

The permission and/or authorization granted herein is for land use application purposes only and is not to be construed as any sort of lease, sale or other real estate transaction or contract. Furthermore, permission and/or authorization granted herein does not include consent for any re-zoning actions and/or encumbrances on the properties described in Table 1.

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3N 12E 31 800	See Figure 1	Oregon Parks and Recreation Department	725 Summer St NE Suite C	Salem	OR	97301

Sincerely,

Legal Landowner(s) _____

Printed Name: _____

Landowner Signature: _____

Date: _____

Legend

- Existing Track
- OPRD Parcels Crossed
- Proposed ROW Acquisition
- Proposed Temporary Construction Easement

Figure 1
Oregon Parks and Recreation Department Parcels Crossed
UPRR Second Mainline Track Project
Wasco County, OR

PC 1 2-624

January 9, 2015

Wasco County
Planning Department
2705 East 2nd Street
The Dalles, OR 97058

Regarding: Consent for Union Pacific Railroad To File Wasco County National Scenic Area Review Applications for the Proposed Second Mainline Track Project

This document serves as notice that I/we, _____ as owner(s) of the real properties commonly known as, __Tax Lot Numbers 2N 11E 1 ROADS, 2N 11E 2 ROADS, 2N 11E 3 ROADS, 2N 12E 6 ROADS, and 3N 12E 31 ROADS__, and as more particularly described below (see Table 1 and attached Figure 1) expressly give my/our permission and/or authorization for Union Pacific Railroad to file National Scenic Area Review Applications with Wasco County for permits necessary for the construction and operation of the proposed Second Mainline Track Project, which would require acquisition of a temporary construction easement upon my/our property. These applications include Development Approval for Conditional Uses and a Planning Commission Variance Application.

The permission and/or authorization granted herein is for land use application purposes only and is not to be construed as any sort of lease, sale or other real estate transaction or contract. Furthermore, permission and/or authorization granted herein does not include consent for any re-zoning actions and/or encumbrances on the properties described in Table 1.

Table 1: Property Description

Tax Lot No.	Property Location	Owner Name	Mailing Address	City	State	Zip Code
2N 11E 1 ROADS	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
2N 11E 2 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
2N 11E 3 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
2N 12E 6 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058
3N 12E 31 ROADS*	See Figure 1	Oregon Department of Transportation	District 9 3313 Bret Clodfelter Way	Salem	OR	97058

* Note: Data discrepancies exist between Union Pacific Railroad ROW deed and records, and Wasco County parcel data. Verification of this data may necessitate revisions to County data, and potentially result in the project's avoidance of Oregon Department of Transportation parcels.

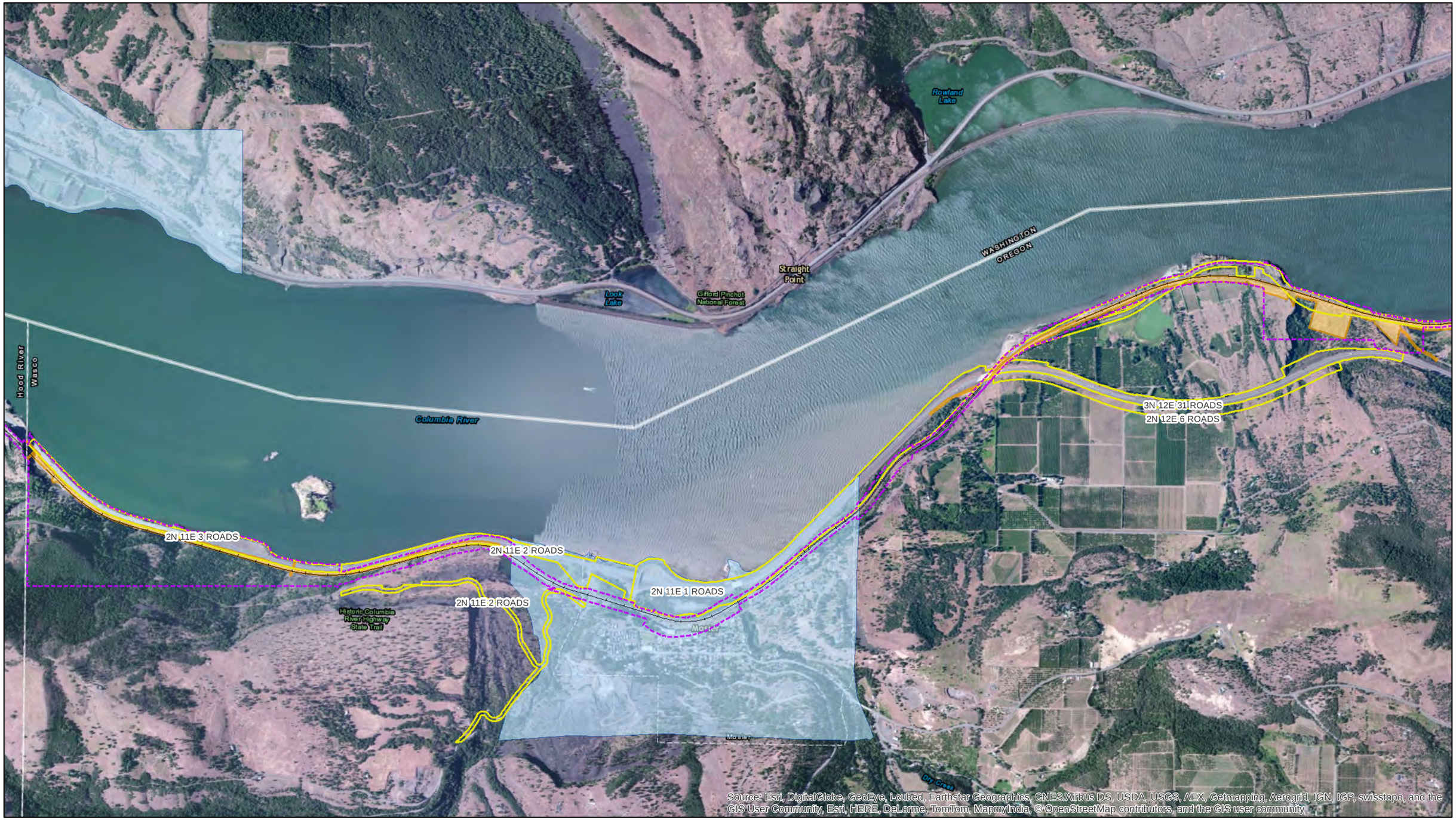
Sincerely,

Legal Landowner(s) _____

Printed Name: _____

Landowner Signature: _____

Date: _____



Legend

- Project Area
- ODOT Parcels Crossed
- NSA Urban Area
- Existing Railroad
- Existing UPRR ROW

Note: Data discrepancies exist between Union Pacific Railroad ROW deeds and Wasco County parcel data. Verification of this data may necessitate revisions to County data, and potentially result in the project's avoidance of ODOT parcels.

Figure 1
Oregon Department of Transportation Parcels Crossed
UPRR Second Mainline Track Project
Wasco County, OR

Appendix H
Wasco County Pre-Application Conference Staff Report

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Wasco County Planning Department
"Service, Sustainability & Solutions"
2705 East Second St. • The Dalles, OR 97058
(541) 506-2560 • wcplanning@co.wasco.or.us
www.co.wasco.or.us/planning

PRE-APPLICATION CONFERENCE REPORT: UPRR SECOND MAINLINE TRACK PLAPRE-14-01-0001

MEETING INFORMATION

Date: February 12, 2014
Time: 10:30am
Location: Celilo Room, Wasco County Courthouse, 511 Washington Street, The Dalles, OR

APPLICANT

Jeremy Sande/CH2M Hill on Behalf of Union Pacific Railroad
2020 SW 4th Avenue, Suite 300
Portland, OR 97201
Jeremy.Sande@ch2m.com
503.872.4726

PROJECT DESCRPITION

The proposed project consists of approximately 4.02 miles of second mainline track crossing the northern portion of Wasco County, within the Columbia River Gorge National Scenic Area (NSA). The second mainline track will parallel the existing track, alternating alignment to the north and south. The project includes the acquisition of additional right-of-way (ROW). The project requires temporary construction areas, the number and location of which has not yet been determined. The purpose of the project is to improve the efficiency and average velocity of rail freight movements along the Portland Subdivision (Portland to Hinkle Yard near Hermiston). The existing short siding near Mosier creates a "pinch point" that negatively affects freight movement.

New Structures:
Guardrail extensions along I-84
Railroad signage, signal lights, and up to six wooden poles and wireless signaling equipment
Up to six signal buildings (6' x 6' to 8' x 10', approximately 9' high)

Removal of Existing Structures:
Up to six existing signal buildings and up to two existing antenna poles will be removed from unnecessary locations along the route.

Grading:
Significant amounts of grading will occur in conjunction with the project, though a specific estimate was not submitted. Applicant estimates ten identified wetlands will be affected.

PROPERTY INFORMATION

Map and Taxlots:

Applicant has identified 13 unique taxlots within Wasco County Planning's jurisdiction of the National Scenic Area that will be crossed by the project. They are listed in Table 2 of the Pre-Application Conference Submittal, along with applicable account numbers and acreage. Seven of the 13 appear to be designated as existing rail or road ROW. Of the six remaining taxlots, one (Acct# 16539) appears to be located fully within the NSA designated (GMA) Urban Area. Two of the six (Accts# 14614 and 15788) are owned by State Parks, and three remaining are privately owned.

Zoning:

The proposed project crosses through nine National Scenic Area zoning districts, including (GMA) Urban Area. Wasco County Planning has jurisdiction over the eight other zones:

- (GMA) A-1 (40)
- (GMA) Open Space
- (GMA) A-2 (80)
- (SMA) Public Recreation
- (SMA) Open Space
- (GMA) Water
- (SMA) Ag
- (GMA) Ag Special

Recreational Intensity Class:

The proposed project crosses lands designated Recreational Intensity Class 1, Class 2, and Class 4. Lands Adjacent to the project are designated Recreational Intensity Classes 1-3.

Key Viewing Area:

Staff has not conducted a thorough analysis of Key Viewing Areas (KVAs) visible from the proposed project. Based on proximity to the Columbia River, I-84, and other KVAs, Staff expects significant portions of the project to be in the foreground of multiple KVAs. KVAs are further addressed in NSA LUDO Chapter 14.

Legal Parcel:

Applicant did not submit any analysis of legal parcel for the properties crossed by the proposed project. As detailed below, NSA LUDO sections addressing the applicable zones require that uses occur on legal parcels. NSA LUDO Section 1.200 provides the definition for **Parcel (Legal)/Lot of Record**:

A unit of land created as follows:

a. *A lot in an existing, duly recorded subdivision; or*
b. *A parcel in an existing, duly recorded partition (including major or minor land partitions); or*
c. *By deed or land sales contract prior to 4 September 1974.*

A preliminary analysis by Staff shows only two of the subject taxlots within Wasco County's planning jurisdiction have been subject to partition or subdivision. Two privately-owned taxlots (Accts# 355 and 356) appear to have been created, in their current configuration, by PLA-99-

103 and PLA-99-104. Consequently, a complete application will include information demonstrating that that the project is occurring on a legally created unit of land.

NATIONAL SCENIC AREA LAND USE AND DEVELOPMENT ORDINANCE (NSA LUDO) STANDARDS & CRITERIA

CHAPTER 2 – DEVELOPMENT APPROVAL PROCEDURES

Chapter 2 of the NSA LUDO outlines the timelines and development approval procedures followed by Wasco County Planning in review of development applications in the National Scenic Area. Below are key sections which apply to the proposed project. Please see Chapter 2 for a comprehensive list of applicable procedures.

Section 2.060 <u>Who May Apply</u>

A. Development request may be initiated by one or more of the following:

1. *All owner(s) of the property which is the subject of the application; or*
2. *The purchaser(s) of such property who submits a duly executed written contract, or copy thereof, which has been recorded with the Wasco County Clerk; or*
3. *The purchaser(s) of such property who submits a duly executed earnest money agreement stating the land use action proposal; or*
4. *A lessee in possession of such property who submits written consent of the owner(s) to make such application; or*
5. *Resolution of the County Governing Body; or*
6. *County Road Department, (when dealing with land involving public works projects).*

Any of the above may be represented by an agent who submits written authorization by his principal to make such application.

The subject properties covered by the proposed project, as submitted by Applicant, are owned by different parties according to Wasco County Assessor records. An official application for development shall comply with Section 2.060. If CH2M Hill is acting as the agent, then an authorization stating such should be submitted with signatures of all property owners.

Section 2.070 <u>Pre-Application Conference</u>

An applicant shall request a pre-application conference prior to submitting a request for a subdivision, planned unit development, conditional use, farm dwelling or site plan review for a home occupation. The purpose of the conference shall be to acquaint the applicant with the substantive and procedural requirements of the Ordinance, provide for an exchange of information regarding applicable elements of the Comprehensive Plan and development requirements, arrange such technical and design assistance as will aid the applicant, and to identify policies and regulations that create opportunities or pose significant constraints for the proposed development.

Section 2.080 Completeness

A. Complete Application Required:

Any proposed use, development or structure, including expedited review uses, shall be reviewed according to the standards in effect on the date an applicant submitted a complete land use application. A complete application is one the Director determines contains:

1. *A complete application form, including all applicable information and review criteria listed on the application form, the Complete Application Submittal requirements of Section 14.020, and any additional information indicated throughout this ordinance; and*
2. *The required fee, pursuant to Section 2.090.*
3. *Completeness Time Frame*
   a. *If an application for a permit is incomplete, the applicant shall be notified in writing of exactly what information is missing within 30 days of receipt of the application and be allowed to submit the missing information. The application shall be deemed complete upon receipt of all of the missing information.*
   b. *On the 181st day after first being submitted, the application is void if the applicant has been notified of the missing information as required under subsection a. of this section and has not submitted information.*

B. Quasi Judicial Time Limitations

After deeming a quasi judicial application listed in Section 2.050 complete, the Director shall act on or cause a hearing to be held on the application within the time requirements of ORS. 215.427 unless such time limitation is extended with the consent of the applicant.

The size, scope, and complexity of the proposed second mainline track project cannot be adequately captured using the standard Wasco County Planning application forms. Consequently, Applicant will need to submit supplemental information, studies, and plans in order to comply with the provisions of the NSA LUDO. Upon submission of a full application package and fee, Staff will begin reviewing the application for completeness. Once deemed complete, Staff will work to comply with the timelines for land use decisions contained in ORS 215.427. The application submittal requirements listed in Section 14.020, are attached to this report.

Section 2.090 Filing Fees

A. Any application filed with the Planning Department shall be accompanied by the appropriate filing fee to reimburse the County for processing costs attendant upon the application.

B. Fees shall not exceed the actual or average cost of providing the service.

C. Any and all fees shall be established by County Governing Body Order, be separate from this Ordinance, and may be revised whenever necessary.

D. A filing fee may be waived by the County Governing Body following the procedures indicated in the current fee schedule.

E. All fees received pursuant to this Section shall be deposited in the County General Fund.

F. Fees are not transferable or refundable.

The size and scope of the proposed second mainline track is large enough that it is not adequately captured by a line item in the Wasco County Planning Department fee schedule.

The Wasco County Planning Director has drafted a memorandum of understanding (MOU) outlining a fee schedule for review of this special project. The MOU is attached to this report.

Section 2.250 Time Limits for Permits and Extensions of Time

A. Time Limits for Permits: A permit will become invalid without special action if:

1. *Development has not commenced within two (2) years of the date of approval;*
2. *The use approved is discontinued for any reason for one (1) continuous year or more.*

B. Extension of Time Request: If an extension of time is required, the holder of the approved permit must file an application which will be processed as an administrative action. A one time extension may be granted for a maximum of twelve (12) months. Extensions shall be granted only upon findings that:

1. *Request for an extension of time has been made prior to expiration of the approved permit.*
2. *There has been no change in circumstances or the law likely to necessitate significant modification of the development approval or conditions of approval.*
3. *The applicant has provided reasons that prevented the applicant from beginning or continuing development within the approval period.*

Please be mindful of the time limits and constraints on extensiond associated with permits in the National Scenic Area.

CHAPTER 3 – BASIC PROVISIONS & ZONING (PERMITTED USES)

The Wasco County NSA LUDO specifies certain uses which may be allowed without review in all GMA and SMA land use designations except Open Space and Agriculture Special, subject to the applicable property development standards. Staff has identified the following uses permitted without review, which may relate to the proposed project:

Section 3.100.H. The following transportation facilities:

(***)

6. *New guardrails and guardrail ends, provided the structures are*
   a. *Located inside rights-of-way that have been disturbed in the past and*
   b. *Constructed of natural wood, weathering steel (e.g., Corten), or materials consistent with the Historic Columbia River Highway Master Plan for the Historic Columbia River Highway or a scenic highway corridor strategy for the Intersate 84 prepared according to the GMA policies in the section of the Scenic Resources chapter of the Management Plan titled "Scenic Travel Corridors." This category does not include jersey barriers.*

7. *In the General Management Area, replace and/or expand existing culverts, provided the entity or person owning or operating the culvert shall obtain all necessary federal and state permits that protect water quality and fish and wildlife habitat before construction.*

8. *In the Special Management Area, replace and/or expand existing culverts for ephemeral streams or ditches, provided the visible ends of culverts shall be dark and non-reflective.*

Additional uses are listed, which may apply to the proposed project. Please refer directly to Section 3.100 for the comprehensive list of uses permitted without review. Section 3.110 also contains a shorter list of uses that are permitted subject to expedited review, including certain transportation facilities and removal/demolition of structures less than 50 years old. Please review this section for any uses which may apply.

Apart from the uses permitted without review, the Wasco County NSA LUDO contains a finite list of permitted uses. Generally, uses not listed in each zone are prohibited. Therefore, Staff recommends that Applicant determine how their proposed use best conforms to the list of permitted uses in the applicable zone. Based on the materials submitted by Applicant, Staff has identified the following permitted and conditional uses which may apply in each zone crossed by the proposed second mainline track project. Please note that new structures and buildings associated with this project may require additional compliance with the applicable "Property Development Standards" (i.e. setbacks, height, etc.) for each zone.

Section 3.120 "A-1" Large Scale Agriculture Zone (GMA & SMA)

E. Uses Permitted Conditionally

The following uses and activities may be allowed with conditions on a legal parcel designated Large Scale Agricultures subject to Subsection G – Property Development Standards, Chapter 5 – Conditional Use Review, Chapter 11 – Fire Safety Standards & Chapter 14 – Scenic Area Review, as well as any other listed or referenced standards.

(***)

20. Utility facilities and railroads necessary for public service upon a showing that (GMA & SMA):

a. There is no practicable alternative location with less adverse effect on the scenic, cultural, natural, recreational, agricultural or forest lands; and

b. The size is the minimum necessary to provide the service.

Staff notes that this same language is used in Section 3.130.E.14, which addresses railroad use in the "A-2" Small Scale Agriculture Zone. In both zones, a railroad is a conditional use subject to a three part test: 1) that it is necessary for public service; 2) that "no practicable alternative" location exists that would have less adverse effects; and 3) that the size is the minimum necessary to provide the service. A complete application for the proposed second mainline track will include an alternatives analysis addressing these three tests. One alternative should include a "no development" option.

Section 3.170 "PR" Public Recreation Zone (GMA & SMA)

E. Uses Permitted Conditionally

The following uses and activities may be allowed with conditions on a legal parcel designated Large Scale Agricultures subject to Subsection G – Conditional Use Approval Standards, Subsection H – Property Development Standards, Chapter 5 – Conditional Use Review, Chapter 11 – Fire Safety Standards & Chapter 14 – Scenic Area Review, as well as any other listed or referenced standards.

(***)

27. Road and railroad construction and reconstruction. (SMA Only)
(***)
29. Utility transmission, transportation, communications, and public works facilities for public service provided that (GMA & SMA):
   a. There is no alternative location with less adverse effect on Public Recreation land; and
   b. The size is the minimum necessary to provide the service.

It appears to Staff that the proposed project may conform to more than one conditional use permitted in the PR Public Recreation Zone (SMA). Generally, a project is evaluated under only one listed use, and absent any clarifying contextual information, Applicant can submit under the preferred use. Subsection G applies only to uses in the GMA. Preliminary Staff analysis of the project does not show the project crossing through lands zoned PR (GMA). If the project does cross lands zoned PR (GMA), then Section 3.170.G will need to be addressed by Applicant.

Section 3.180 "OS" Open Space Zone (GMA & SMA)

D. Uses Permitted Subject to Review
The following uses and activities may be allowed on a legal parcel designated Open Space subject to Chapter 14 – Scenic Area Review, Subsection G – Property Development Standards, as well as any other listed or referenced standards.
(***)
2. Repair, maintenance, operation, and improvement and expansion of existing serviceable structures, including roads, railroads, hydro facilities and utilities that provide sewer, transportation, electric, gas, water telephone, telegraph, telecommunications. (GMA Only)
(***)
8. Utility facilities for public service, upon a showing that (SMA Only):
   a. There is no alternative location with less adverse effect on Open Space land.
   b. The size is the minimum necessary to provide the service.

The proposed project appears to cross through both GMA and SMA lands zoned OS Open Space. There is a different permitted use listed for each scenario.

Section 3.190 "AS" Agriculture Special Zone (GMA Only)

B. Uses Permitted Without Review
The following activities and uses may be allowed on lands designated Agriculture-Special without review:
(***)
2. Repair, maintenance, and operation of existing and serviceable structures, trails, roads, railroads and utility facilities.

D. Uses Permitted Conditionally
The following uses and activites may be allowed on a legal parcel designated Agriculture-Special subject to Chapter 5 – Conditional Use Review, Chapter 14 – Scenic Area Review, and

Subsection D – Conditional Use Approval Standards, as well as any other listed or referenced standards.
(***)

4. *Replacement or minor expansion of existing and serviceable structures within a dedicated site. Expansion shall be limited to the dedicated site.*

E. *<u>Prohibited Uses:</u>*
Except for permitted and conditional uses, new uses shall be prohibited on lands designated Agriculture-Special. Prohibited uses include, but are not limited to:
(***)

7. *Utility facilities, public use facilities, and roads.*

Preliminary analysis did not present Staff with a clear pathway for fitting the proposed project with a permitted use in the AS Agriculture Special Zone. The NSA LUDO text above lists some of the ambiguous opportunities and constraints related to permitting the proposed project in the AS Zone. This is an area that Staff has flagged for further investigation and discussion with Applicant, Gorge Commission, and other technical resources.

CHAPTER 5 – CONDITIONAL USE REVIEW

Any uses that are permitted conditionally must meet the requirements listed in Section 5.020, in addition to any other listed or applicable standards. Staff has included the requirements below:

SECTION 5.020 <u>Authorization to Grant or Deny Conditional Uses, and Standards and Criteria Used</u>

Conditional uses listed in this Ordinance shall be permitted, enlarged or otherwise altered or denied upon authorization by Administrative Action in accordance with the procedures set forth in Chapter 2 of this Ordinance. In judging whether or not a conditional use proposal shall be approved or denied, the Administrative Authority shall weigh the proposal's appropriateness and desirability or the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and to approve such use, shall find that the following criteria are either met, can be met by observance of conditions, or are not applicable.

A. *The proposal is consistent with the goals and objectives of the Management Plan for the Columbia River Gorge National Scenic Area, and consistent with the provisions of the County's implementing ordinances.*

B. *Taking into account location, size, design and operational characteristics of the proposed use, the proposal is compatible with the surrounding area and development of abutting properties by outright permitted uses.*

C. *The proposed use will not exceed or significantly burden public facilities and services available to the area, including, but not limited to: roads, fire and police protection, sewer and water*

facilities, telephone and electrical service, or solid waste disposal facilities.

D. *The proposed use will not unduly impair traffic flow or safety in the area.*

E. *The effects of noise, dust and odor will be minimized during all phases of development and operation for the protection of adjoining properties.*

F. *The proposed use will not significantly reduce or impair sensitive wildlife habitat, riparian vegetation along stream banks and will not subject areas to excessive soil erosion.*

G. *The proposed use will not adversely affect the air, water, or land resource quality of the area.*

H. *The location and design of the site and structures for the proposed use will not significantly detract from the visual character of the area.*

I. *The proposal will preserve areas of historic value, natural or cultural significance, including archaeological sites, or assets of particular interest to the community.*

For properties located within or adjacent to farm or forest zones, or located nearby agricultural and forest operations, the following shall apply:

J. *The proposed use is compatible with agricultural uses and will not force a change in, or significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to, or available for, farm or forest use.*

K. *The proposed use or development will be sited in such a way as to minimize the loss of forest or agricultural land suitable for the production of crops or livestock and to minimize the chance of interference and not force a change in accepted farm or forest practices on surrounding lands devoted to, or available for, farm or forest use.*

L. *The use or development will not significantly increase fire hazard, fire suppression costs or risks to fire suppression personnel.*

M. *A declaration shall be signed by the landowner and recorded into county deeds and records specifying that the owners, successors, heirs and assigns of the subject property are aware that adjacent and nearby operators are entitled to carry on accepted agriculture or forest practices on lands designated Large-Scale or Small-Scale Agriculture, Agriculture-Special, Commercial Forest Land, or Large or Small Woodland.*

CHAPTER 6 – VARIANCES

Based on the provisions in Section 14.600 Natural Resources (GMA Only) and Section 14.610 Natural Resources (SMA Only), Staff finds it likely that Applicant will need to seek variances to resource buffers in conjunction with the proposed project. Upon demonstrated compliance with the criteria, a variance of less than 50% of the stated distance or standard can be granted

administratively by Staff. Variances of 50% or more of the stated distance or standard can only be granted by the Wasco County Planning Commission. Chapter 6 – Variances, is included in its entirety, below.

SECTION 6.010 Purpose

A. *When building height, setbacks, buffers or other review criteria specified in this Ordinance for protection of scenic, cultural, natural, recreational, agricultural or forestry resources overlap or conflict, building height, setbacks, or buffers should be varied in a manner to achieve, to the greatest extent possible, the overall protection of the affected resources.*
   1. *Variances of setbacks from parcel boundaries imposed on lands designated Agriculture, Special Agriculture, Rural Residential, or Commercial, to protect adjacent property owners and variances to the maximum building height shall not allow a development to:*
      a. *infringe on any buffers or setbacks or supersede any height constraints stipulated under Chapter 14 - Scenic Area Review, or*
      b. *encroach on setbacks established in and around land designated agriculture for the protection of lands that are used for or are suitable for agricultural uses.*
   2. *Setbacks established, in and around land designated agriculture, for the protection of lands that are used for or are suitable for agricultural uses shall not encroach on any buffer or setbacks stipulated under Chapter 14 - Scenic Area Review. (SMA Only)*

B. *Building height, setbacks and buffers specified in this Ordinance for protection of scenic, cultural, natural, recreational, agricultural or forestry resources shall not be applied in the General Management Area in such a manner as to deprive the owner of a tract of land of the opportunity to establish a residence on the land if that opportunity is otherwise authorized by the land use designation. (GMA Only)*

SECTION 6.020 Criteria for Decision

A. *Authority*
   1. *Administrative Variance*
      The request shall be for a variance to a building height, setback or buffer which is less than 50% of the stated standard for the building height, setback or buffer as stated in this ordinance.
   2. *Planning Commission Variance*
      The request shall be for a variance to a building height, setback or buffer which is 50% or greater of the stated standard for the building height, setback or buffer as stated in this ordinance.

B. *When building height, setbacks or buffers specified in the standards for protection of scenic, cultural, natural, recreational, agricultural or forestry resources overlap or conflict, the building height, slope setbacks or buffers may be varied upon a demonstration that: (GMA Only)*
   1. *A building height, setback or buffer specified in this Ordinance to protect one resource would cause the proposed use to fall within a setback or buffer specified in this ordinance to protect another resource; and*

2. *Variation from the specified building height, setbacks or buffer would, on balance, best achieve the protection of the affected resources.*

C. *A building height, setback or buffer specified in the standards for protection of scenic, cultural, natural, recreational, agricultural, or forestry resources may be varied in the General Management Area in order to allow a residence to be built on a tract of land upon a demonstration that:*
   1. *The land use designation otherwise authorizes a residence on the tract;*
   2. *There is no site on the tract (all contiguous lots or parcels under the same ownership) on which a residence could be placed practicably in full compliance with the building height, setback or buffer; and*
   3. *The variance from the specified building height, setback or buffer is the minimum necessary to allow the residence.*

D. *All setbacks and buffer zones in the SMA shall remain undisturbed unless:*
   1. *It has been shown that no practicable alternatives exist, as evidenced by completion of a practicable alternative test; and*
   2. *The natural resources mitigation plan completed in accordance with Chapter 14 of this ordinance ensures that the development can be mitigated to ensure no adverse effects would result.*

CHAPTER 14 – SCENIC AREA REVIEW

Chapter 14 contains many of the provisions which make planning and development in the Columbia River Gorge National Scenic Area unique. Rather than list all applicable criteria, which is largely defined by the details of a specific project, Staff has summarized the applicable sections below.

Section 14.100 Provisions for All New Development
Section 14.200 Key Viewing Areas
Section 14.300 Scenic Travel Corridors
Section 14.400 Landscape Settings
Section 14.500 Cultural Resources
Section 14.600 Natural Resources
Section 14.700 Recreation Resources
Section 14.800 Indian Tribal Treaty Rights and Consultation

Section 14.100 provides a baseline of standards affecting primarily structures, buildings, and landscaping.

Section 14.200 requires development meet certain standards related to visibility from Key Viewing Areas. Most standards require analysis of "topographic visibility," absent any screening from existing or proposed vegetation or structures. Applicant should be aware specifically of Section 14.200.L:

Determination of potential visual effects and compliance with visual subordinance policies shall include consideration of the cumulative effects of proposed developments.

Section 14.300 addresses the importance of "Scenic Travel Corridors" to the National Scenic Area. In Wasco County, these special travelways include Interstate 84 and the Historic Columbia River Highway (Hwy 30).

Section 14.400 provides recommendations and requirements to ensure development integrates into the surrounding land uses, landforms, and vegetation patterns.

Section 14.500 is designed to protect and enhance cultural resources. The scope of the proposed project will almost certainly trigger requirements for a Cultural Resource Reconnaissance Survey and a Historic Survey. Wasco County must notify the Indian tribal governments whenever a reconnaissance survey is required or cultural resources are identified in the project area. The section describes the notification process, how resources are evaluated for significance, and assessment. Section 14.500.K provides guidelines for the design of reconnaissance surveys related to large scale uses. If human remains or other significant resources are discovered during a survey or construction, all survey, excavation, and construction activities must immediately halt, and notification must be given to Wasco County Planning, the Gorge Commission, and the Indian tribal governments. In *Friends of the Columbia Gorge v. Columbia River Gorge Commission (2009)*, the Oregon Supreme Court ruled that cumulative adverse impacts to cultural resources must be evaluated.

For further information about reconnaissance surveys, please contact Marge Dryden, Heritage Resources Program Manager with the US Forest Service, Columbia River Gorge National Scenic Area.

Section 14.600 provides standards for development in proximity to natural resources, including wetlands, streams, ponds lakes, riparian areas, wildlife habitat, and rare or sensitive plants. Identifying, delineating, and/or surveying for natural resources is Applicant's responsibility. Generally, detailed site plans must be submitted for uses within 1,000 feet of sensitive natural resources. Wasco County Planning will coordinate with our agency partners to provide comment and technical expertise in evaluation of wetland delineations and compensation plans, aquatic/riparian rehabilitation and enhancement plans, field surveys, and wildlife management plans.

Please contact the Oregon Biodiversity Information Center for the most current plant data. Applicant must address whether proposed development will contribute to cumulative adverse impacts to natural resources.

Section 14.700 protects and enhances recreation resources. While the proposed project does not explicitly provide new recreational uses, it does cross lands adjacent to existing recreation resources, and may contribute to cumulative effects. An expansion of ROW is proposed at the

northern border of Memaloose State Park. Applicant should note the following criteria, and evaluate how it applies:

Section 14.710 Recreation Resources (SMA Only)

A. *New developments and land uses shall not displace existing recreational use.*
B. *Protect recreation resources from adverse effects by evaluating new developments and land uses as proposed in the site plan. An analysis of both on- and off-site cumulative effects shall be required.*

Section 14.800 ensures that implementation of the National Scenic Area Act does not affect or modify any rights of any Indian tribe, and requires Wasco County to provide notice when new uses are proposed on public lands, in the Columbia River or its tributaries support fish, or adjacent to the Columbia River or its tributaries that support. Site plans addressing this section shall include text assessing the potential effects on Indian treaty rights.

AFFECTED AGENCIES

The following is a preliminary list of agencies that Wasco County may rely on for technical assistance in the review of a formal application. This list is subject to change as Staff learns more about the proposed project.

Oregon Biodiversity Information Center
Institute for Natural Resources / INR
Portland State University
P.O. Box 751
Portland, OR 97207-0751
Phone: 503-725-9950
Fax: 503-725-9960
Contact: Sue Vrilakas, sue.vrilakas@pdx.edu

United States Forest Service
Columbia River Gorge National Scenic Area
902 Wasco Avenue, Suite 200
Hood River, OR 97031
Phone: 541-308-1700
Contacts: Robin Shoal, rshoal@fs.fed.us
Marge Dryden, Archaeologist, mdryden@fs.fed.us

Oregon Department of Fish & Wildlife
3701 W. 13th Street
The Dalles, OR 97058
Phone: 541-296-4628
Contact: Joy Vaughan, joy.r.vaughan@state.or.us

Oregon State Historic Preservation Office
Oregon Parks & Recreation Department
725 Summer St NE, Suite C
Salem, OR 97031
Phone: 503-986-0690
Contact: Susan Haylock, susan.haylock@state.or.us

Columbia River Gorge Commission
PO Box 730
White Salmon, WA 98672
Phone: 509-493-3323
Contacts: Angie Brewer, Senior Regional Planner, angie.brewer@gorgecommission.org

Nez Perce Tribe
PO Box 305
Lapwai, ID 83540
Contacts: Aaron Miles, Sr, 2moon@nezperce.org
Patrick Baird, keithb@nezperce.org

The Confederated Tribes of Warm Springs
PO Box C
Warm Springs, OR 97761
Contact: Sally Bird, sbird@wstribes.org
Elmer Ward, eward@wstribes.org

Confederated Tribes of the Umatilla Indian Reservation
46411 Timíne Way
Pendleton, Oregon 97801
Contact: Patty Perry, pattyperry@ctuir.org
Teara Farrow Ferman, TearaFarrowFerman@ctuir.org

Yakama Nation
PO Box 151
Toppenish, WA 98948
Contact: Kris Proszek, enviroreview@yakama.com

Columbia River Inter-tribal Fish Commission (CRITFC)
Four Columbia River treaty tribes exert their sovereignty related to fishery management.
fdsk@critfc.org

Oregon Department of Environmental Quality
Oregon Department of State Lands
Oregon Department of Transportation
Oregon State Parks and Recreation Department

SECTION 14.020 Complete Application Submittal Requirements for a Scenic Area Review

A. Application Form Requirements

1. *Project applicant's name and address.*
2. *Property owner's name and address if different than 1 above.*
3. *Location of the proposed use, including township, range, section, and tax lot number.*
4. *A written description of the proposed use, including details on the height, dimensions, exterior color(s), and construction materials of proposed structures.*
5. *A list of Key Viewing Areas that are visible from the proposed development site and from which the proposed use would be visible.*
6. *Legal parcel documentation.*
7. *Legal structure documentation. Evidence that a structure was lawfully established shall include the following:*
   a. *Wasco County Assessor records verifying the structure was built prior to 4 September 1974; or*
   b. *Any one of the following:*
      (1) *a valid Oregon State Building Codes permit signed by the Wasco County Planning Department between 4 September 1974 and 17 November 1986; or*
      (2) *a valid Wasco Sherman Health Department septic permit before 1 January 1985; or*
      (3) *a valid Land Use Compatibility Statement signed by the Wasco County Planning Department between 1 January 1985 and 17 November 1986, or*
      (4) *National Scenic Area approval by either the Columbia River Gorge Commission, the USDA Forest Service, or the Wasco County Planning Department, after 17 November 1986, and a valid Oregon State Building Codes permit signed by the Wasco County Planning Department.*
8. *Signatures of the owners or authorized representatives.*

B. Site Plan

A complete site plan shall be submitted for all new development, except for buildings smaller than 60 square feet in area and less than or equal to 10 feet in height, as measured at the roof peak.

The site plan shall be prepared at a scale of 1" = 200' or a scale providing greater detail which clearly indicates the following information:

ALL DEVELOPMENT

1. *Boundaries, dimensions, and size of the subject parcel.*
2. *Location, size, and shape, of all existing and proposed buildings and structures on the subject parcel.*
3. *Access: Indicate all existing and proposed points of ingress and egress and whether they are public or private.*
4. *Location, dimensions and method of improvement of all roads, access drives, trails, and parking areas with individual parking spaces and internal circulation patterns.*

Access drives shall be constructed to a minimum of twelve (12) feet in width and not exceed a grade of twelve (12) percent with turnouts provided at a minimum of every five hundred (500) feet.

5. *Location of existing and proposed services, including wells or other water supplies, sewage disposal systems, telephone and power poles and lines. Telephone and power supply systems shall be underground whenever practical.*
6. *The location of the pond, stream, tank or sump with storage of not less than 1,000 gallons if the well or water system is not capable of delivering twenty (20) gallons per minute.*
7. *The location of a standpipe (water spigot) a minimum of fifty (50) feet from each flammable structure if the development includes a plumbed water system.*
8. *Location, size and dimension of all yards and setbacks and all spaces between buildings.*
9. *Lighting: General nature and location (not including interior building lighting).*
10. *Outdoor storage and activities, if permitted in the zone, showing type, location and height of screening devices, including trash and recycling storage locations and their pick up locations.*
11. *Location and depth of all proposed grading, filling, ditching and excavating unless a grading plan is required by F below.*
12. *North arrow and map scale.*
13. *Significant terrain features and landforms.*
14. *Bodies of water and watercourses.*

NON RESIDENTIAL DEVELOPMENT

15. *Signs: Locations, size, height, material and method of illumination.*
16. *Loading: Location, dimensions, internal circulation and access from public right-of-way.*
17. *General locations for all temporary facilities associated with a commercial event.*

C. ***Material Samples*** *- As part of a complete application, material samples for all exterior surfaces of proposed structures shall be submitted. Material samples may be paint samples, stain samples, a piece of the physical construction material, brochures, manufactures specifications, or other material or information that is adequate to represent the final exterior appearance. Samples shall be required for all exterior parts of proposed structure(s) including but not limited to:*

1. *Main*
2. *Trim or Secondary*
3. *Roof. The roof shall be constructed of fire resistant material.*
4. *Window frames, sills, and sashes*
5. *Doors, including garage doors, and*
6. *Hooding for exterior lighting*

D. ***Landscaping Plan*** *- A detailed plan for landscaping which shall clearly illustrate:*
(The landscaping plan may be included on the site plan if there is adequate detail to show all of the required information.)

1. *The location, height and species of existing trees and vegetation. Indicate which are proposed to be removed. The landscaping plan shall include detailed information to the level of individual trees and groupings of vegetation for the proposed development area and all topographically visible corridors between the proposed development area and Key Viewing Areas. The landscaping information for the remainder of the property may be generalized.*
2. *The location, height and species of individually proposed trees and vegetation groupings.*
3. *Indicate the fifty (50) foot fuel break surrounding each new building and how this area will meet hazardous fuels reduction standards.*
   Irrigated or fire resistant vegetation may be planted within the fuel break. This could include green lawns and low shrubs (less than 24 inches in height). Trees should be spaced with greater than fifteen (15) feet between the crowns and pruned to remove dead and low [less than eight (8) feet] branches. Accumulated leaves, needles, and other dead vegetation shall be removed from beneath trees.
4. *The location of automatic sprinkler systems or other irrigation provisions to ensure survival of landscape planting for screening purposes.*

E. ***Elevation Drawing*** *- Elevation drawings shall show the appearance of all sides of proposed structures and shall include natural grade, finished grade, and the geometrical exterior of at least the length and width of structures as seen from a horizontal view. Elevation drawings shall be drawn to scale.*

F. ***Grading Plan***
1. *All applications for structural development, except for trails in the SMA, involving more than 100 cubic yards of grading with slopes greater than 10 percent shall include a grading plan.*
2. *All proposed structural development involving more than 200 cubic yards of grading on sites visible from Key Viewing Areas shall include a grading plan*
3. *All grading plans shall include the following:*
   a. *A map of the site, prepared at a scale of 1 inch equals 200 feet (1:2,400) or a scale providing greater detail, with contour intervals of at least 5 feet, including:*
      (1) Natural and finished grades.
      (2) Location of all areas to be graded, with cut banks and fill slopes delineated.
      (3) Estimated dimensions of graded areas.
   b. *A narrative description (may be submitted on the grading plan site map and accompanying drawings) of the proposed grading activity, including:*
      (1) Its purpose.
      (2) An estimate of the total volume of material to be moved.
      (3) The height of all cut banks and fill slopes.
      (4) Provisions to be used for compactions, drainage, and stabilization of graded areas. (Preparation of this information by a licensed engineer or engineering geologist is recommended.)
      (5) A description of all plant materials used to revegetate exposed slopes and banks, including the species, number, size, and location of plants, and a

description of irrigation provisions or other measures necessary to ensure the survival of plantings.

(6) A description of any other interim or permanent erosion control measures to be used.

Appendix I
Proof of Legal Parcels

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2781

KNOW ALL MEN BY THESE PRESENTS, That Jefferson D. Mozier and Mary A. Mozier, Husband and Wife of Wasco

of the County of Wasco in the State Oregon in consideration of the sum of One Hundred dollars, paid by the Oregon-Washington Railroad & Navigation Company, a corporation duly organized under the laws of the State of Oregon, having its principal office at the City of Portland in said State, the receipt whereof is hereby acknowledged, have granted, bargained, sold and conveyed, and by these presents do grant, bargain, sell and convey unto the said, Oregon-Washington Railroad and Navigation Company, its successors and assigns, the following described parcel of land, situate in Wasco County, in the State of Oregon to-wit:

A strip of land Irregular ~~feet in~~ width, ~~being~~ ~~one hundred feet in width on each~~ side of ~~and parallel with~~ the center line of the main track of the Oregon-Washington Railroad & Navigation Company's railroad, as the same is staked out and located over and across the lands of the said Jefferson D. Mozier and Mary A. Mozier situate in Wasco County, State of Oregon and known and designated as follows:

Being a part of the J. D. Mozier Donation Land Claim, in Section One (1) and Two (2) Township Two (2) North, Range Eleven (11) East W.M. and particularly described as follows:- Beginning at a point in the north line of grantee's right of way, said point being seventy (70) feet northerly measured at right angles from the center line of the main track of grantee railroad as the same is constructed and operated, and eighty-four (84) rods west of the line between said Sections One (1) and Two (2), measured at right angles; thence easterly parallel with and seventy (70) feet northerly, measured at right angles, from said center line of said main track of grantee's railroad, five hundred feet more or less to a point in grantee's northerly right of way line; thence westerly along said northerly right of way line to the beginning, containing one hundred and eighty-six (186) thousandths of an acre

Together with all and singular the trees, wood and timber thereon and the stone, gravel and material therein. To have and to hold the said described premises unto the said Oregon-Washington Railroad & Navigation Company, its successors and assigns forever.

In Witness Whereof we have hereunto set our hands and seals this 13th day of September 1913

Signed in presence of

Jefferson D. Mozier (SEAL)

Mary A. Mozier (SEAL)

PC 1 2-649

STATE OF Oregon
County of Wasco } ss.

I, Elizabeth Burham, a Notary Public, do hereby certify that on this 13th day of September 1913, personally appeared before me Sylvester R. Mazer and Mary A. Mazer husband and Wife, to me known to be the individuals described in and who executed the within instrument, and acknowledged to me that they signed, sealed and executed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this 13th day of September A. D. 1913.

Elizabeth Burham
Notary Public for Oregon.

RIGHT OF WAY DEED

TO

Oregon-Washington Railroad & Navigation Co.

STATE OF
County of } ss.

I certify that the within instrument of writing was received for record on the day of at o'clock M., and recorded on page in Book Records and deeds of said County.

Witness my hand and seal of County affixed.

By Deputy.

PC 1 2-650

OREGON WASHINGTON RAILWAY

#2052

KNOW ALL MEN BY THESE PRESENTS, That Jefferson N. Mosier and Mary A. Mosier, his wife, Alice S. Faucette, a widow and Lydia S. Mosier, unmarried, of the County of Wasco, in the State of Oregon, in consideration of the sum of Four Hundred and Fifty ($450.00) Dollars paid by The Oregon Railro & Navigation Company, a corporation duly organized under the laws the State of Oregon, having its principal office at the City of Po land in said State, the receipt whereof is hereby acknowledged, ha granted, bargained, sold and conveyed, and by these presents do grant, bargain, sell and convey, unto the said The Oregon Railroad Navigation Company, its successors and assigns, an undivided three quarters interest in the following described parcels of land, situat in Wasco County, in the State of Oregon to-wit:

Being parts of Mosier Donation Land Claim situated in Sections One (1) and Two (2), Township Two (2) North, Range Eleven (11) East, W.M., and more particularly bounded and described as follows:

Beginning at a point on the East line of the Mosier Donation Land Claim, which point is 2363 feet west and 310 feet north from the quarter corner between Sections One (1) and Two (2) and 50 feet distant from and measured at right angles to the revised center line of the railroad; thence parallel with said revised center line and distant 50 feet therefrom and on a course bearing south 54 deg. 30 min. east a distance of 440 feet to a point in the original right of way of the railroad; thence north-westerly along said original right of way line a distance of 505 feet to a point on the east line of the Mosier Donation Land Claim; thence south along said center line a distance of 110 feet to the place of beginning, containing 0.5 acres.

Also, Beginning at a point on the northerly original right of way line of the railroad, which point is 1930 feet west and 118 feet north from the quarter corner between Sections One (1) and Two (2): thence south-easterly 50 feet distant from and parallel to the revised center line and on a curve having a radius of 1860 feet a distance of 535 feet to a point in the original right of way line; thence north-westerly along said original right of way line a distance of 540 feet to the place of beginning, containing 0.15 acres.

Certificate of Witness

PC 1 2-6

Also, Beginning at a point in the original right of way line of the railroad, which point is 2115 feet north and 352 feet west from the south-east corner of Section Two (2); thence on a course bearing south 71 deg. 0 min east a distance of 275 feet to a point on the west line of the Depot Grounds of the Railroad Company: thence southerly along said west line of the Depot Grounds a distance of 52 feet to a point in the original right of way line of the railroad thence north-westerly along said original right of way line a distance of 270 feet to the place of beginning, containing 0.15 acres.

Also, Beginning at a point 1990 feet north and 47 feet east from the south-west corner of Section One (1), which point is located in the northerly line of the Depot Ground of the Railroad Company: thence easterly parallel with and 50 feet distant from the revised center line of the railroad and on a curve having a radius of 1096 feet a distance of 360 feet to a point in the original northerly boundary line of the depot grounds; thence westerly along said boundary line a distance of 362 feet to the place of beginning, containing 0.12 acres.

Also, The right to borrow earth and material from the following described tracts of land:

Being that tract bounded on the north and east by the right of way hereby conveyed and by the original right of way line of the railroad; on the west for a distance of 245 feet by the west line of the Mosier Donation Land Claim; thence on a course south 54 deg. 30 min. east a distance of 95 feet to a point; thence on a course bearing south 81 deg. 15 min. east a distance of 400 feet to a point in the original right of way line of the railroad, containing 1.58 acres.

Also, From that tract lying northerly from and within 100 feet of the revised center line of the railroad and between Station 1552 of said revised center line and a point in the original right of way, which point is 2133 feet west and 310 feet north from the quarter corner between Sections One (1) and Two (2), containing 0.6 acres.

Also, From that tract 250 feet in width, lying northerly from the right of way hereby conveyed and between Stations 1067 and 1572 of the revised center line, containing 2.7 acres.

Said right of way hereby conveyed is indicated in red, and the different tracts from which it is hereby granted to borrow material and maintain slopes are indicated in green upon the blue print heret attached, which blue print is hereby made a part of this instrument.

This conveyance is made for the purpose of change of allignme of the main line of the said Railroad Company.

Together with all and singular the trees, wood and timber thereon and the stone, gravel and material therein.

To have and to hold the said described premises unto the said The Oregon Railroad & Navigation Company, its successors and assigns forever for the purpose of building and maintaining a railroad thereo and to use the same for all legitimate railroad purposes.

And the grantors hereby covenant to and with the grantee, its successors and assigns that the above premises conveyed are free from all encumbrance; that they Jefferson M. Mosier and Mary A. Mosier, his wife, to the extent of $150.00, and Alice S. Taucette to the extent of $150.00, and Lydia S. Mosier to the extent of $150.00, will and their heirs, executors and administrators shall forever defend the title thereto from all claims and demands from all persons whomsoever.

In Witness Whereof, we have hereunto set our hands and seals this 16 day of August 1900.

Executed in presence of
W. G. Van Valkenburgh
J. A. Mc Adams
To signature of Mary A. Mosier
F. Francis Evans
F. Langworth

Jefferson M. Mosier (Seal)
(Seal)
Alice S. Taucette (Seal)
Lydia S. Mosier (Seal)
Mary A. Mosier. (Seal)

STATE OF Washington
County of Walla Walla

I, W. G. Van Valkenburgh a Notary Public do hereby certify that on this 17th day of August 1900, personally appeared before me Jefferson M. Mosier and Lydia S. Mosier Alice S. Taucette a married woman to me known to be the individuals described in and who executed the within instrument, and acknowledged to me that they signed, sealed and executed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this 17th day of August A. D. 1900.

W. G. Van Valkenburgh
Notary Public Residing at Walla Walla

PC 1 2-6

OREGON WASHINGTON RAILROAD & NAVIGATION CO.

KNOW ALL MEN BY THESE PRESENTS, That THE DALLES, PORTLAND AND ASTORIA NAVIGATION COMPANY, a corporation under the laws of the State of Oregon, in consideration of One Hundred Dollars ($100.00) to it paid by OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, a corporation under the laws of the State of Oregon, has bargained and sold, and by these presents does grant, bargain, sell and convey unto said OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, its successors and assigns, all the following bounded and described real property, situated in the County of Wasco and State of Oregon:

A portion of the Jonah A. Mosier Donation Land Claim in Section two (2), Township two (2) North, Range eleven (11) East, Willamette Meridian, containing twenty-hundredths (0.20) of an acre, bounded and described as follows:

Beginning at the southeast corner of that certain tract of land conveyed by J. N. Mosier and M. A. Mosier, his wife, to The Dalles, Portland and Astoria Navigation Company, a corporation, by a certain deed of conveyance dated July 13, 1903, and recorded in Book 36, on Page 608, of the records of deeds of said County of Wasco; thence North 39°34' West, on the northeasterly limit of said tract, [illegible] feet, more or less, to a point in the same which is 65 feet northeasterly, measured at right angles, from the center line of the main track of the railroad of the Oregon-Washington Railroad & Navigation Company, as the same is now located and operated across said Donation Land Claim; thence northwesterly, parallel to and 65 feet distant northeasterly, at right angles, from said center line, 720.0 feet, more or less, to an intersection with the northeasterly limit of the right of way of said Oregon-Washington Railroad & Navigation Company and the dividing line between the lands of the parties hereto; thence on said right of way limit, South 47°05' East, 90 feet, more or less, to an intersection with the line which is described in said deed of conveyance as "running South 59°05' East 162.3 feet"; thence following the southwesterly limit of said tract of land as follows: South 59°05' East 120.0 feet to a point; thence South 65°59' East 369.7 feet to a point; thence South 73°22' East 161.9 feet to the point of beginning, and being all that part of said tract of land conveyed by J. N. Mosier and M. A. Mosier, his wife, to The Dalles, Portland and Astoria Navigation Company that lies South and West of a line which is parallel to and 65 feet northeasterly, measured at right angles, from said center line of the main track of said railroad.

The course of the center line of the main track of the railroad of Oregon-Washington Railroad & Navigation Company across that portion of said Donation Land Claim in which the premises hereby conveyed are situated is particularly described as follows:

Beginning at a point in the South line of said Donation Land Claim which is also the North line of Lot five (5) of said Section two (2), 900.6 feet East of a corner of said Donation Land Claim, said corner being 10 chains South of the Northwest corner of said Claim No. 37; thence northwesterly on a 3° curve to the right, the tangent to which curve at the point of beginning makes an angle of 19°13' with the said south line, a distance of 472.6 feet to a point; thence on a tangent 590 feet, more or less, to a point in the West line of said Donation Land Claim.

Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, and also

all its right, title and interest, at law and in equity, therein and thereto.

TO HAVE AND TO HOLD, the above described and granted premises unto the said OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, its successors and assigns, forever.

IN WITNESS THEREOF, THE DALLES, PORTLAND AND ASTORIA NAVIGATION COMPANY, pursuant to a resolution of its Board of Directors, duly and legally adopted, has caused these presents to be executed by its President and Secretary and its corporate seal to be hereunto affixed this 4th day of June, 1914.

THE DALLES, PORTLAND AND ASTORIA NAVIGATION COMPANY,

Signed, Sealed and Delivered In Presence of Us as Witnesses:

By _____ President.

Attest: _____ Secretary.

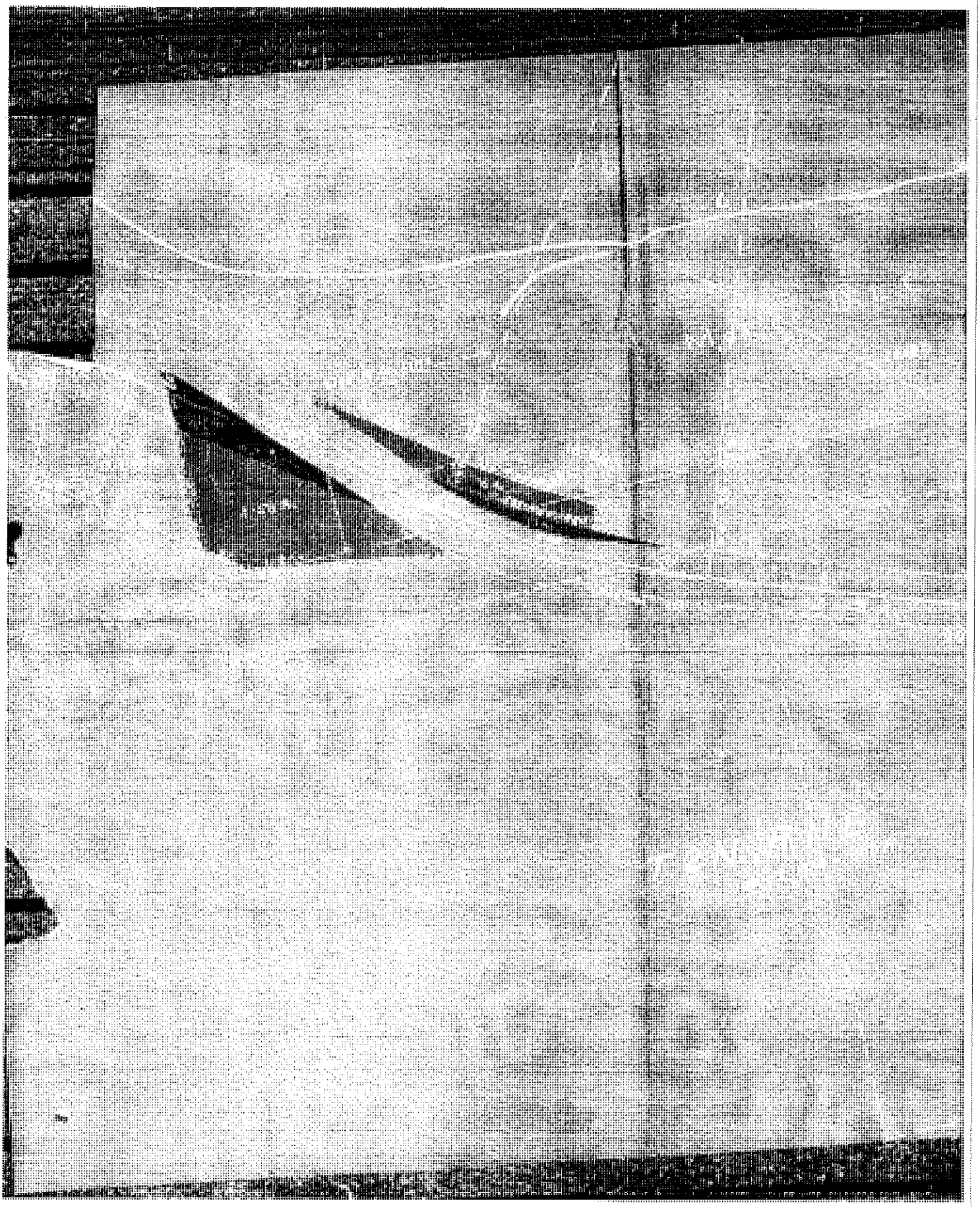
STATE OF OREGON,)
: ss.
County of Multnomah.)

On this 5th day of June, 1914, before me appeared [illegible] and [illegible], who, being duly sworn, did say that he, the said [illegible], is the President, and he, the said [illegible], is the Secretary of THE DALLES PORTLAND AND ASTORIA NAVIGATION COMPANY, the corporation that executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said [illegible] and [illegible] acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my official seal the day and year first in this, my certificate, written.

[illegible]

Notary Public for Oregon.



PC 1 2-657

N
1/4
2 Cor.
D. L. C.
LOT 6
MOSIER

Deeds of Records for Existing UPRR ROW – Township 2N Range 11E Section 3

OREGON WASHINGTON RAILROAD & NAVIGATION CO. DEED 12

AUD. NO.

Know all Men by these Presents, that we Sarah H. [illegible] Thomas Martha J. Moses [illegible] Wasco [illegible] the State of Oregon, for the consideration of the sum of [illegible] five hundred [illegible] Dollars, [illegible] paid by the Oregon Railway and Navigation Company, a corporation duly [illegible] Portland in [illegible] and conveyed, and by these [illegible] Company, the [illegible] Wasco County, in the State of Oregon, viz:

[illegible] and parallel with the [illegible] Railroad, as the same is now located and [illegible] Sarah H. Moses and Martha J. Moses [illegible] County, and bounded and described as follows:

Being the original donation land claim of Richard [illegible] and the adjoining claim of [illegible] Township 3 North Range 13 East [illegible] Sec. 2 N. 13 E. and Sec. 35 in T. 2 N. 14 E. and Sec. 30 in T. 3 N. 14 E. also the original donation land claim of [illegible] and the adjoining claim [illegible] Township 2 N. R. 14 E. also the school [illegible] Section 31 in Township 3 N. R. 13 E. also Lots [illegible] Sec. 1 T. 2 N. Range 14 E. of Willamette Meridian

[illegible] 19th day [illegible]

[illegible]

[illegible]

PC 1 2-6

STATE OF OREGON,

County of Marion

THIS CERTIFIES, That on the 19th day of May A. D. 1886 before me, a Notary Public in and for said County and State, personally appeared the above named Jonah H. Musser and Martha J. Musser

who are known to me to be the same persons described in and who executed the foregoing instrument of writing, and they severally acknowledged the same to be their free act and deed, and that the said Martha J. Musser was at the time of the execution of said instrument of writing, and of the acknowledgment thereof, separate and apart from her husband, the said Jonah H. Musser, and that she did not make the same through fear or compulsion of her said husband.

In Testimony Whereof, I have hereunto set my hand and official seal the 19th day of May A. D. 1886.

Geo. C. Marx

Notary Public for the State of Oregon

RECORDER'S NOTES OF RECORDS

Recorded May 19 1886 at 4 P.M. in Book 13 Page 1

Right of Way Deed.

Jonah H. Musser and Wife

to

Oregon Railway and Navigation Company.

Filed May 19 1886

B3 (13)

Mary A. Wilson

Recorder

PC 1 2-662

Deeds of Records for Existing UPRR ROW – Township 3N Range 12E Section 31

KNOW ALL MEN BY THESE PRESENTS, That Louisa E. Swasey, widow, of the County of Wasco, in the State of Oregon, in consideration of the sum of

OREGON WASHINGTON RAILROAD & NAVIGATION CO.

Fifty and 00/100 Dollars,

paid by The Oregon Railroad & Navigation Company, a corporation duly organized under the laws of the State of Oregon, having its principal office at the City of Portland in said State, the receipt whereof is hereby acknowledged, has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey unto the said The Oregon Railroad & Navigation Company, its successors and assigns, the following described tracts or parcels of land situate in Wasco County in the State of Oregon, to-wit:

Two tracts or parcels of land lying southerly from and contiguous to the southerly boundary line of the right of way of The Oregon Railroad & Navigation Company's railroad, as the same is constructed and operated over and across the lands of the said Louisa E. Swasey, located in Government Lot two (2), of Section thirty one (31), Township Three (3) North, Range twelve (12) East, W.M., being more particularly bounded and described as follows:

First Beginning at a point on the southerly right of way line of the railroad, which point is 80 feet west and 508 feet north from the north-east corner of the Richard Marshal D.L.C., said point being also the intersection of said southerly right of way boundary line with the west line of said Lot 2; thence north-easterly on a curve to the right having a radius of 1382.7 feet, the tangent to which curve at this point bears north 55 deg. 30 min. east a distance of 822.5 feet to a point on the southerly right of way line of the railroad; thence south-westerly along said southerly right of way line a distance of 831 feet to the place of beginning, containing .02 acres, more or less.

Second Beginning at a point which is 780 feet east and 602 feet north of the north-east corner of said Richard Marshal D.L.C., which point is 150 feet southerly from and measured at right angles to the southerly boundary line of the right of way of the railroad; thence on a course bearing north 89 deg. 35 min east parallel with said s outherly right of way line a distance of 300 feet to a point; thence at right angles toward the north a distance of 150 feet to a point on said southerly right of way line; thence westerly along said right of way line a distance of 300 feet to a point; thence at right angles southerly a distance of 150 feet to the place of beginning, containing 1.03 acres, more or less.

Approved: [illegible]

PC 1 2-665

The two tracts herein conveyed are indicated colored in red on blue print map hereto attached, which map is hereby made a part of this instrument.

Together with all and singular the trees, wood and timber thereon and the stone, gravel and material therein.

To have and to hold the said described premises unto the said The Oregon Railroad & Navigation Company, its successors and assigns forever.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 29th day of May, 1902.

Executed in presence of

Louisa E. Swasey (Seal)

J. E. Anderson

J. B. Eddy

STATE OF OREGON)
) SS.
County of Wasco)

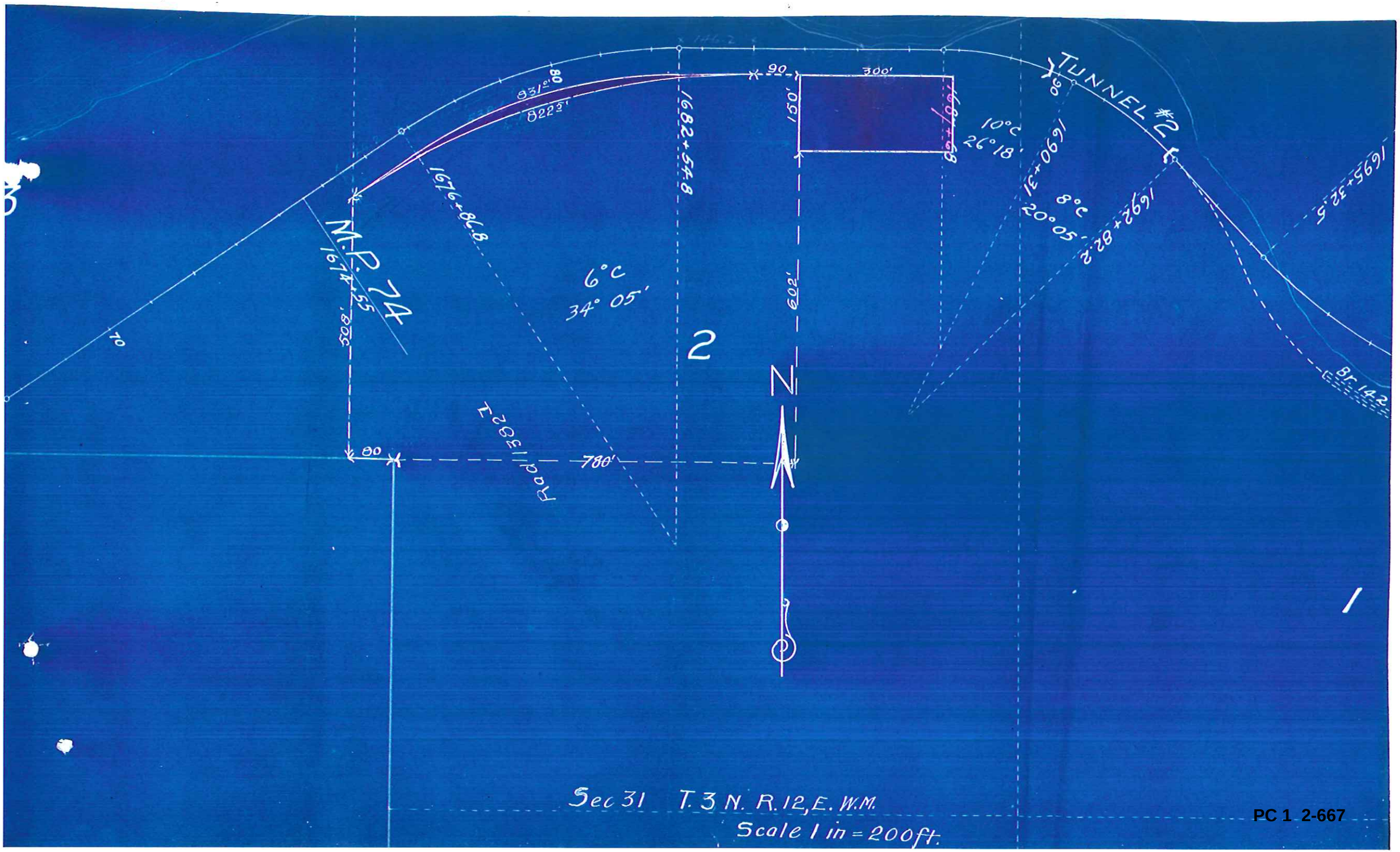
I J. B. Eddy a Notary Public do hereby certify that on this 29th day of May, 1902, personally appeared before me Louisa E. Swasey, to me known to be the individual described in and who executed the within instrument, and acknowledged to me that she signed, sealed and executed the same as her free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this 29th day of May A.D. 1902.

J. B. Eddy
Notary Public for Oregon.

APPROVED AS TO FORM
H. F. Comm
for General Attorney

PC 1 2-666


TUNNEL #2
M.P. 74
1674+55
1676+86.8
1682+54.8
1687+98
1690+06.91
1692+82.2
1695+32.5
831.0'
822.2'
300'
150'
209'
780'
10°C
26°18'
8°C
20°05'
6°C
34°05'
2
1
N
Road 1382 J
Br 14.2
Sec 31 T. 3 N. R. 12, E. W.M.
Scale 1 in = 200 ft.

PC 1 2-667

OREGON WASHINGTON RAILROAD & NAVIGATION CO.
RECD AUD. NO. 127

Know all Men by these Presents,

That We Jonah H. Mosier Martha J Mosier

of the County of Wasco in the State of Oregon in consideration of the sum of —

One hundred — Dollars,

to us in hand paid by the **Oregon Railway and Navigation Company,** a corporation duly incorporated and organized under the laws of the State of Oregon, having its principal office at the City of Portland in said State, the receipt whereof is hereby acknowledged, have granted, bargained, sold, and conveyed, and by these presents do — grant, bargain, sell, and convey, unto the said Oregon Railway and Navigation Company, its successors and assigns, the following described parcel of land situate in Wasco County, in the State of Oregon, to wit:

A strip of land 100 feet in width, being 50 feet in width on each side of and parallel with the center line of the main track of the Oregon Railway and Navigation Company's Railroad, as the same is staked out and located over and across the lands of the said Jonah H. Mosier and Martha J. Mosier situate in Wasco County, and known and designated as follows:

Being the original donation land claim of Richard Marshal and wife Being Cl. No 37 in Township 3 North R 12 E. Claim 39 in T. 2. N. 12 East, claim 38 in T. 2. N. 11 East and claim 38 in 3. N. 11 E. also the original donation land claim of Jonah Mosier and wife being claim Number 37 in Township 2. N. R. 11 East — also to the extent of present or future interest in lots 2. 3 & 4 section 31 in Township 3. N. R. 12 East also Lots 1 & 2 in sec. 1 T. 2 N. Range 11 East of Willamette Meredian

To have and to hold the said described and herein conveyed premises unto the said Oregon Railway and Navigation Company its successors and assigns forever, for the purpose of building and maintaining a Railroad thereon, and to use the same for all legitimate Railroad purposes.

In Witness Whereof, we have hereunto set our hands and seals this 19th day of May 1885

Executed in the presence of

James Howard

Ahio Smith

Jonah H Mosier [L. S.]

Martha J Mosier [L. S.]

PC 1 2-668

STATE OF OREGON,
County of Wasco

THIS CERTIFIES, That on this 19th day of May A. D. 1885, before me, a Notary Public in and for said County aud State, personally appeared the within named Jonah H Musier and Martha J Musier known to me to be the persons described in and who executed the within instrument and acknowledged to me that they freely and voluntarily executed the same for the purposes therein set forth, and the said Martha J Musier wife of said Jonah H Musier on an examination, made by me, separately and apart from her said husband, acknowledged to me that she executed the same freely and voluntarily and without fear or compulsion from any one.

In Testimony Whereof, I have hereunto set my hand and official seal this 19th day of May A. D. 1885

Thos S Mason
Notary Public for the State of Oregon

AUDITOR'S
No. 28644
Filed 19 DEED
ANGT No. 127
B-21

Right of Way Deed.

R. O. W. RECORDS
PAGE

J H Musier
Wife

TO

Oregon Railway and Navigation Company.

Branch 1 - P 14 B3 (13)

W. L. C. 1408

Filed for Record on
May 24 1885
B F Gibbs
County Clerk

C. E. No. 29 15

127

STATE OF OREGON,
County of Wasco, } ss.

I certify that the within was received and duly recorded by me in Wasco County Records, Book of Deeds, Vol G, Page 246 on the 24 day of May A. D. 1885

B F Gibbs
County Clerk.

U. P. RY.
Chief Engr's Office
JAN 27 1902
Right of Way
OMAHA

PC 1 2-669

Joynes

OREGON WASHINGTON RAILROAD & NAVIGATION CO.

FILED WITH
OWR&N L.P. Deed
AUDIT NO. 8091

KNOW ALL MEN BY THESE PRESENTS LEE JOYNES AND DENICE JOYNES, husband and wife

of Wasco County State of Oregon (herein called "Vendor"), in consideration of the sum of Five ---------- Dollars ($ 5.00) to them paid by OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, an Oregon corporation (herein called "Vendee"), the receipt whereof is hereby acknowledged, has given and granted and does hereby give and grant unto said Vendee, its successors and assigns, the sole, exclusive and irrevocable right and option until and including the 29th day of January 1958, to purchase at and for the consideration of One thousand------ Dollars ($ 1,000.00), that certain real property in the County of Wasco State of Oregon, described as follows:

See description dated July 5, 1957, revised July 26, 1957, which is attached hereto and made a part hereof.

It is agreed that if this option is exercised by the Vendee, the Vendee will:

1) Make provision for private crossing in vicinity MP 71.1 in Lot 3, Section 31, T3N, R12E WM.
2) Install culvert in new grade similar to 42" corrugated metal culvert pipe at MP 70.95.

PC 1 2-670

3) Install 12 inch water pipe in new grade.

4) Grant permission to cross the Vendee's right of way with conduit or wires to reach property north of the track, at one location.

5) Fence the new south right of way line.

6) Convey to Vendor any excess portions of present right of way that Vendee may decide is not necessary to its operations. Conveyance of this excess right of way to Vendor will be in payment for an equal area of the property described in description attached to this option, which is to be conveyed to Vendee by Vendor.

It is agreed that if the Vendee exercises this option:

The lessee Carolina E. Phelps and Harry L. Phelps acknowledges the taking of the above descibed property and hereby releases the Vendee from all claims for damage and compensation.

Carolina E. Phelps

Harry L. Phelps

PC 1 2-671

In event this option is exercised by the Vendee, the Vendor shall and will:

(a) Promptly furnish to the Vendee title insurance policy prepared and issued by a reliable title insurance company satisfactory to the Vendee and authorized to do business in the State of showing perfect title to the above-described property in the Vendor, free and clear of all encumbrances whatsoever. The Vendee shall have a reasonable time to examine said certificate, and the Vendor shall, upon being notified thereof, correct any defect or defects therein within a reasonable time after such notice.

(b) Convey the above-described property to the Vendee, its successors and assigns, in fee simple, free and clear of and from all encumbrances of whatsoever kind or nature, and make said conveyance by general warranty deed with full covenants.

In the event the Vendee exercises this option, the Vendee shall:

(a) Notify the Vendor of its election so to do, by written notice signed by the Manager of Properties of the Vendee; and

(b) Pay to the Vendor the sum of Nine Hundred ninety-five Dollars ($ 995.00), upon the delivery by the Vendor to the Vendee of certificate showing perfect title in the Vendor, free and clear of all encumbrances, and general warranty deed conveying such title from the Vendor to the Vendee.

The Vendee shall have the right to enter upon the above-described premises for the purpose of examining the same and making surveys thereon, and the exercise by the Vendee of said right shall not be deemed or considered as an exercise of the option hereby granted, unless the Vendee shall give written notice to the Vendor as hereinbefore provided.

IN WITNESS WHEREOF, the Vendor has executed these presents on the 29th day of July 1957.

Lee Joynes

VENDOR

Denice Joynes

PC 1 2-672

Description of Property to be Acquired
From Lee Joynes for Additional Right of Way
at
Mosier, Wasco County, Oregon

Parcel No. 1

A piece or parcel of property situated in Wasco County, Oregon and being all that part of the Southeast Quarter and the Southwest Quarter of Section Thirty-one, in Township Three North, Range Twelve East of Willamette Meridian (SE 1/4 and SW 1/4 Sec. 31, T3N, R12 EWM) that lies within the following described boundary lines.

Beginning at a point on the southerly right of way line of the Oregon-Washington Railroad & Navigation Company's main line track as now constructed and operated by Union Pacific Railroad Company, lessee, said point being one thousand eight hundred ninety-six and twenty-four hundredths (1896.24'±) feet, plus or minus northerly of Section Corner between Section thirty-one and Section thirty-two, Township Three North, Range Twelve East of Willamette Meridian (between Sec. 31 and Sec. 32, T3N, R12 EWM) and said point being opposite Engineer's Station one thousand seven hundred and four plus eighty-two (1704+82); thence westerly along a curve to the left having a radius of one thousand forty-six and twenty-eight hundredths (1046.28') feet a distance of one hundred and three (103') feet to a point.

Thence southwesterly on a straight line tangent to the end of the last above described curve a distance of two hundred thirty-six (236') feet to a point.

Thence northwesterly along a curve to the right having a radius of six hundred seventy-three and sixty-eight hundredths (673.68') feet, a distance of one hundred and twenty-one (121')

feet to a point.

Thence continuing northwesterly on a straight line which forms an angle of three (3^{0}) degrees from right to left from tangent to the last above described curve, a distance of eight hundred and sixty (860') feet to a point which is the true point of beginning of this description.

Thence northerly on a straight line forming an angle of eighty-six degrees and fifty-one minutes ($86^{0}51'$) from left to right, a distance of seven hundred and five (705') feet to a point which is a point on said Railroad right of way line.

Thence northwesterly along a curve to the left having a radius of five hundred twenty-three and sixty-eight hundredths (523.68') feet a distance of one hundred and fifty-three (153'±) feet plus or minus to a point.

Thence southerly at right angles to tangent of the last above described curve a distance of one hundred and fifty (150')feet to a point.

Thence westerly at right angles to the last above described course, a distance of three hundred (300') feet to a point.

Thence northerly at right angles to the last above described course, a distance of One Hundred and fifty (150') feet to a point.

Thence westerly at right angles to the last above described course a distance of ninety-seven (97'±) plus or minus to a point.

Thence southwesterly along a curve to the left having a radius of nine hundred eighteen and eightyone hundredths (918.81') feet a distance of eight hundred ten and nine tenths (810.9') feet to a point.

Thence continuing southwesterly on a straight line tangent

to the end of the last above described course, a distance of two hundred and fifty (250') feet to a point.

Thence easterly along a curve to the right having a radius of two thousand seven hundred sixty-four and ninety-three hundredths (2764.93') feet, a distance of twelve hundred and twenty-four (1224.0') feet to a point.

Thence southerly on a straight line which forms an angle of eighty-one degrees and fifty-two (81°52') minutes from left to right from tangent to the last above described curve, a distance of four hundred and fifty (450') feet to a point.

Thence easterly on a straight line which forms an angle of eighty-six degrees and fifty-one (86°51') minutes from right to left, a distance of two hundred and seventy (270') feet to the point of beginning.

Parcel No. 2

A piece or parcel of property situated in Wasco County, Oregon and being all that part of the southwest quarter of Section thirty-one in Township three North, Range twelve East of Willamette Meridian (SW 1/4 Sec. 31, T3N, R12 EWM) that lies within the following described boundary lines.

Beginning at a point on the center line of the Oregon-Washington Railroad & Navigation Company's main line track as now constructed and operated by Union Pacific Railroad Company, lessee, said point being seven hundred, seven and eight-tenths (707.8') feet northerly of Section corner between section thirty-one and section thirty-six, Township three north, range twelve east of Willamette Meridian (between Sec. 31 and Sec. 36, T3N, R12 EWM) and said point being commonly known as Bugbee [illegible]

one thousand six hundred thirty-eight plus forty-six and three tenths (1638+46.3); thence northeasterly on a straight line forming an angle of thirty-nine degrees and fifty-eight (39°58') minutes from left to right from the last above described course, a distance of four hundred twenty-two (422') feet to a point.

Thence continuing northeasterly along a curve to the right having a radius of nine hundred five and thirteen hundredths (905.13') feet, a distance of seven hundred sixth-eight and fifty-five hundredths (768.55') feet to a point.

Thence continuing northeasterly on a straight line tangent to the end of the last above described curve a distance of two hundred and seventy (270') feet to a point.

Thence northerly at right angles to the last above described course, a distance of fifty (50') feet to a point on the northerly right of way line of said railroad which is the true point of beginning of this description.

Thence continuing northerly on a straight line which forms an angle of twenty degrees and twenty-two (20°22') minutes from left to right, a distance of one hundred and forty-four (144') feet to a point.

Thence northeasterly along a curve to the right having a radius of two thousand nine hundred sixty-four and ninety-three hundredths (2964.93') feet, a distance of sixty-five (65') feet to a point.

Thence continuing northeasterly on a straight line tangent to the end of the last above described curve, a distance of one thousand four hundred and twenty-five (1425'±) feet plus or minus to a point.

Thence northeasterly along a curve to the right having a radius of two thousand nine hundred sixty-four and ninety-three hundredths (2964.93') feet, a distance of seven hundred and ninety-three (793'±) plus or minus feet to a point which is a point on said Railroad Company northerly right of way line.

Thence southwesterly along a curve to the left having a radius of one thousand eighteen and eightyone hundredths (1018.81') feet a distance of sixty-five (65'±) feet plus or minus to a point.

Thence continuing southwesterly on a straight line tangent to the end of the last above described curve, a distance of six hundred andninety-eight (698'±) feet plus or minus to a point.

Thence southwesterly along a curve to the right having a radius of one thousand three hundred eight-two and sixty-nine hundredths (1382.69') feet a distance of seven hundred forty-five and eight tenths (745.8') feet to a point.

Thence continuing southwesterly on a straight line tangent to the end of the last above described curve a distance of nine hundred (900') feet to the point of beginning.

Excepting therefrom that portion conveyed to Harry W. Wilson and Fern K. Wilson by Alfred J. Shepler and Clara E. Shepler by deed dated June 12, 1946 and recorded in book 106, page 315 in deed records of Wasco County, Oregon.

Office of Division Engineer
Portland (Albina) Oregon
July 5, 1957

Revised July 26, 1957
Office of Manager of Properties
Portland, Oregon

FORM 3505
5-56-3M

UNION PACIFIC RAILROAD COMPANY

PROPERTY DEPARTMENT

D. J. CALLAHAN
MANAGER OF PROPERTIES

H. C. HARVEY
GENERAL TAX AGENT

O. W. RYAN
GENERAL INDUSTRIAL AGENT

PITTOCK BLOCK
PORTLAND 5, OREGON

February 18, 1958

Lee Joynes and Dencie Joynes
Route 4
The Dalles, Ore.

Dear Mr. and Mrs. Joynes:

On July 29, 1957, you executed an option to Oregon-Washington Railroad & Navigation Company, a corporation, wherein you agreed to sell to said corporation property therein identified, located in Section 31, Township 3 North, Range 12 East, Willamette Meridian, in Wasco County, Oregon, for the consideration and subject to the terms and conditions stated in the option. The company has heretofore exercised said option and you are executing a deed conveying to it the real property referred to therein.

Pursuant to the above-mentioned option the company has:

(1) Made provision for private crossing near MP 71.1;

(2) Installed corrugated metal culvert in new grade approximately at MP 70.95. (With your approval the diameter of the culvert installed was changed to 36 inches instead of 42 inches.)

(3) Installed in new grade a water pipe line 12 inches in diameter, at approximate Engineer's Station 1669 + 30.

(4) Installed fence approximately on south right-of-way line of the company's relocated main line between the westerly and the easterly boundaries of the property which you are conveying to the company, as described in said option and deed.

We understand you have inspected the foregoing installations and that they are satisfactory to you. If so, we request that you confirm this by signing in the space below provided and returning to us copy of this letter so signed.

In accordance with the provisions of said option, the company expects to convey to you that part of the right of way for its main line (as located and constructed on the date of said option) in Government Lot 3 and in the Richard Marshall D.L.C. No. 37 in Section 31, Township 3 North, Range 12 East, W.M., in Wasco County, Oregon, as described in description of the company's Chief Engineer dated December 3, 1957, consisting of three sheets, hereto attached and made part of this letter. Said conveyance will include such title as the company has to said last-mentioned right of way and will be subject to mineral reservations and any encumbrances thereon except the railroad's Refunding Mortgage, the lien of which mortgage will be released. Said conveyance will be within a reasonable time after relocation of the company's main line.

When requested, the company will grant you permission to construct, maintain and operate conduit not over 3-inches in diameter for electrical wires under and across the right of way and track of the company's main line at one location within the property which you are conveying to the company by the above-mentioned deed; with the understanding that such wires will be installed, maintained and operated without expense to the company, in a manner satisfactory to the Chief Engineer or his representative, and in such manner as not to interfere with the company's signal or communication systems or other facilities.

OREGON-WASHINGTON RAILROAD
& NAVIGATION COMPANY

By M Callahan
Manager of Properties

The work mentioned in paragraphs numbered 1 to 4 above has been performed and completed to our satisfaction.

Dated Feb 20 - 1958.

Lee Jaynes

Commonwealth Title Insurance Co.

Title Insurance · · Escrows

CAPITOL 8-8141 · 731 S. W. STARK STREET

PORTLAND 5, OREGON

Oregon Land Title Association
Standard Coverage Policy

OREGON WASHINGTON RAILROAD & NAVIGATION CO.

$1,000.00 **Premium** $ 22.50 **No.** 14-6814

Policy of Title Insurance

COMMONWEALTH TITLE INSURANCE CO., a corporation, (incorporated under the laws of the State of Oregon), hereinafter called the Company, for a valuable consideration paid for this policy of title insurance,

FILED WITH Owrn L.P. Deed 8091
AUDIT NO.

Does Hereby Insure

OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY,
an Oregon corporation,

together with the persons and corporations included in the definition of "the insured" as set forth in the stipulations of this policy, against loss or damage not exceeding ONE THOUSAND - dollars, which the insured shall sustain by reason of:

1. Title to the land described in Schedule A being vested, at the date hereof, otherwise than as herein stated; or
2. Unmarketability, at the date hereof, of the title to said land of any vestee named herein, unless such unmarketability exists because of defects, liens, encumbrances, or other matters shown or referred to in Schedule B; or
3. Any defect in, or lien or encumbrance on, said title existing at the date hereof, not shown or referred to in Schedule B; or
4. Any defect in the execution of any mortgage or deed of trust shown in Schedule B securing an indebtedness, the owner of which is insured by this policy, but only insofar as such defect affects the lien or charge of such mortgage or deed of trust upon said land; or
5. Priority, at the date hereof, over any such mortgage or deed of trust, of any lien or encumbrance upon said land, except as shown in Schedule B, such mortgage or deed of trust being shown in the order of its priority.

all subject, however, to SCHEDULES A and B, and the STIPULATIONS herein, all of which schedules and stipulations are hereby made a part of this policy.

In witness whereof, **COMMONWEALTH TITLE INSURANCE CO.**, has caused its corporate name and seal to be hereunto affixed by its duly authorized officers, the day and hour set forth in SCHEDULE A hereof.

COMMONWEALTH TITLE INSURANCE CO.

This policy shall not become effective until countersigned.

By W. M. Hawkins
President

Countersigned:
WASCO TITLE CORP. LTD.

By Donald C. Park
Vice-President

Dan P. McLoughlin
General Partner

SCHEDULE A

On this 5th day of March, 1958, at 5:00 o'clock, P.M., the title to the land described in this Schedule is vested in:

OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY,
an Oregon corporation,

Description of the tract of land the title to which is insured by this policy:
The following described real property situated in the County of Wasco State of Oregon:

Parcel No. 1

A parcel of land situated in Government Lots 2 and 3 of Section 31, Township 3 North, Range 12 East of the Willamette Meridian, in Wasco County, Oregon, bounded and described as follows:

Beginning at a point in the east line of said Government Lot 2 that is 1010 feet, more or less, north from the southeast corner thereof, said point being 100 feet distant southerly, measured radially, from the hereinafter described center line of relocated main track of Oregon-Washington Railroad & Navigation Company as surveyed and located; thence westerly along a line parallel with and 100 feet distant southerly, measured radially, from said hereinafter described center line of relocated main track, a distance of 1496 feet, more or less, to a point in the southerly right of way line of said Railroad Company; thence northeasterly along said southerly right of way line which is parallel with and 50 feet distant southeasterly, measured at right angles, from the center line of the main track of said Railroad Company as constructed and operated prior to the year 1957, a distance of 220 feet, more or less, to a point in the west line of said Government Lot 2; thence northeasterly along said southerly right of way line which is a curve to the right having a radius of 1382.7 feet, a distance of 822.5 feet to a point 50 feet distant south, measured at right angles, from said center line of main track as constructed and operated prior to the year 1957; thence easterly along said southerly right of way line, parallel with said center line, a distance of 90 feet; thence southerly at right angles a distance of 150 feet; thence easterly at right angles a distance of 300 feet; thence northerly at right angles a distance of 150 feet, more or less, to a point 50 feet distant south, measured radially, from said center line of main track as constructed and operated prior to the year 1957; thence easterly along said southerly right of way line, parallel with said center line, a distance of 153 feet, more or less, to a point in the east line of said Government Lot 2; thence south along said east line a distance of 300 feet, more or less, to the point of beginning.

SCHEDULE A continued

Parcel No. 2

A parcel of land situated in Government Lots 3 and 4 and in the Richard Marshall D.L.C. No. 37, all in Section 31, Township 3 North, Range 12 East of the Willamette Meridian, in Wasco County, Oregon, bounded and described as follows:

Commencing at the U. S. Monument set at the northeast corner of the Richard Marshall D.L.C. No. 37; thence northwesterly along a straight line forming an angle of 70° 03' 30" from west to north with the north line of said Richard Marshall D.L.C. No. 37, a distance of 533.3 feet to a point in the center line of the main track of Oregon-Washington Railroad & Navigation Company as constructed and operated prior to the year 1957; thence southwesterly along said center line of main track, which forms an angle of 75° 36' from southeast to southwest with the last described line, a distance of 151.3 feet; thence northwesterly at right angles a distance of 50 feet to the point of intersection of the northerly right of way line of said Railroad Company with the easterly property line of Lee Joynes, said point being the true point of beginning of the parcel of land hereby being described; thence southwesterly along said northerly right of way line which is parallel with and 50 feet northwesterly from said center line of main track as constructed and operated prior to the year 1957, a distance of 390 feet, more or less, to a point 100 feet distant southeasterly from said hereinafter described center line of relocated main track of said Oregon-Washington Railroad & Navigation Company; thence southwesterly along a line parallel with and 100 feet distant southeasterly from said hereinafter described center line of relocated main track, a distance of 1025 feet, more or less, to a point in said northerly right of way line; thence southwesterly along said northerly right of way line which is parallel with and 50 feet distant northwesterly, measured at right angles, from said center line of main track as constructed and operated prior to the year 1957, a distance of 474 feet, more or less, to a point in a westerly property line; thence north along said westerly property line which forms an angle of approximately 72° 30' from east to north with said northerly right of way line, a distance of 160 feet, more or less, to a point 100 feet distant northwesterly, measured at right angles, from said hereinafter described center line of relocated main track; thence northeasterly along a straight line parallel with said hereinafter described center line of relocated main track a distance of 245 feet, more or less, to a point in the northerly line of said Richard Marshall D.L.C. No. 37; thence easterly along said northerly line a distance of 85 feet, more or less, to an angle point in said northerly line; thence northeasterly along said northerly line which forms an angle of 21° 39' 40" from east to northeast with the last described line produced, a distance of 137.4 feet to an angle point in said northerly line;

SCHEDULE A continued

thence easterly along the north line of said Donation Land Claim, which forms an angle of 21° 39' 40" from northeast to east with the last described line produced, a distance of 70 feet to a property line; thence northerly along said property line which forms an angle of 72° 30" from west to north with said north line of Donation Land Claim, a distance of 65 feet, more or less, to a point 100 feet distant northwesterly, measured at right angles, from said hereinafter described center line of relocated main track; thence northeasterly along a line parallel with and 100 feet distant northwesterly from said hereinafter described center line of relocated main track, a distance of 1247 feet, more or less, to a point in said easterly property line; thence southeasterly along said easterly property line, which is a straight line at right angles to said center line of main track as constructed and operated prior to the year 1957, a distance of 115 feet, more or less, to the true point of beginning.

Said center line of relocated main track of Oregon-Washington Railroad & Navigation Company hereinabove referred to being described as follows:

Beginning at a point in the east line of Section 31, Township 3 North, Range 12 East, W. M. that is 2070.4 feet, more or less, north from the southeast corner thereof; thence northwesterly along a straight line forming an angle of 73° 34' from north to west with the east line of said Section 31, a distance of 1093.51 feet, more or less, to the point of beginning a spiral curve; thence northwesterly along an increasing spiral curve to the left, having eleven 30-foot chords, through an angle of 3° 18', a distance of 330 feet; thence westerly along a 2° 00' curve to the left, having a radius of 2864.93 feet, a distance of 1683.33 feet; thence southwesterly along a decreasing spiral curve to the left, having eleven 30-foot chords, through an angle of 3° 18', a distance of 330 feet; thence southwesterly along a straight line tangent to the end of the last described spiral, a distance of 1419.95 feet, more or less, to the beginning of a spiral curve; thence southwesterly along an increasing spiral curve to the left, having eleven 30-foot chords, through an angle of 3° 18', a distance of 330 feet; thence southwesterly along a 2° 00' curve to the left, having a radius of 2864.93 feet, a distance of 968.33 feet; thence southwesterly along a decreasing spiral curve to the left, having eleven 30-foot chords, through an angle of 3° 18' a distance of 330 feet to a point in the center line of main track of said Railroad Company as constructed and operated prior to the year 1957.

SCHEDULE B

This policy does not insure against loss by reason of the matters shown or referred to in this Schedule except to the extent that the owner of any mortgage or deed of trust is expressly insured in Paragraphs numbered 4 and 5 on page 1 of this policy.

1. Easements, liens or encumbrances, including material or labor liens, which are not shown by the public records; mining claims; reservations in patents; water rights, claims or title to water.

2. Rights or claims of persons in possession, or claiming to be in possession, not shown of record; any state of facts which an accurate survey and inspection of said land would show.

3. Assessments which are not shown as existing liens by the public records; taxes not yet payable; pending proceedings for vacating, opening or changing of streets or highways preceding entry of the ordinance or order therefor.

4. Any laws, governmental acts or regulations, including but not limited to zoning ordinances, restricting, regulating or prohibiting the occupancy, use or enjoyment of the land or any improvement thereon, limiting the height of improvements, or prohibiting a reduction in the dimensions or area, or separation in ownership, of any lot or parcel of land; or the effect of any violation of any such restrictions, regulations or prohibitions.

(a) 5. The usual reservations as contained in patent issued by the United States of America.

(c) 6. Flowage easement, George Chamberlain, et ux., to the United States of America, recorded December 10, 1938 in Book 89, Page 633, Deed Records of Wasco County, Oregon.

(a) 7. The right to use a road, reserved in and by deed dated June 6, 1945, recorded in Book 104, Page 211, Deed Records of Wasco County, Oregon.

(b) 8. A right of way reserved in and by deed dated September 17, 1954, recorded in Book 129, Page 477, Deed Records of Wasco County, Oregon.

(c) 9. Flowage easement, given by M. Yasui and S. Yasui, husband and wife, to United States of America, dated July 11, 1938, recorded December 23, 1938, in Book 90, Page 81, of the Deed Records of Wasco County, Oregon.

STIPULATIONS

1. SCOPE OF COVERAGE

This policy does not insure against, and the Company will not be liable for loss or damage created by or arising out of any of the following: (a) defects, liens, claims, encumbrances, or other matters which result in no pecuniary loss to the insured; (b) defects, liens, encumbrances, or other matters created or occurring subsequent to the date hereof; (c) defects, liens, encumbrances, or other matters created or suffered by the insured claiming such loss or damage; or (d) defects, liens, claims, encumbrances, or other matters existing at the date of this policy and known to the insured claiming such loss or damage, either at the date of this policy or at the date such insured claimant acquired an estate or interest insured by this policy, unless such defect, lien, claim, encumbrance or other matter shall have been disclosed to the Company in writing prior to the issuance of this policy or appeared at the date of this policy on the public records. Any rights or defenses of the Company against a named insured shall be equally available against any person or corporation who shall become an insured hereunder as successor of such named insured.

2. DEFENSE OF ACTIONS, NOTICE OF ACTIONS OR CLAIMS TO BE GIVEN BY THE INSURED

The Company at its own cost shall defend the insured in all litigation consisting of actions or proceedings against the insured, or defenses, restraining orders, or injunctions interposed against a foreclosure or sale of said land in satisfaction of any indebtedness, the owner of which is insured by this policy, which litigation is founded upon a defect, lien, encumbrance, or other matter insured against by this policy, and may pursue such litigation to final determination in the court of last resort. In case any such litigation shall become known to any insured, or in case knowledge shall come to any insured of any claim of title or interest which is adverse to the title as insured or which might cause loss or damage for which the Company shall or may be liable by virtue of this policy, such insured shall notify the Company thereof in writing. If such notice shall not be given to the Company at least five days before the appearance day in any such litigation, or if such insured shall not, in writing, promptly notify the Company of any defect, lien, encumbrance, or other matter insured against, or of any such adverse claim which shall come to the knowledge of such insured, in respect to which loss or damage is apprehended, then all liability of the Company as to each insured having such knowledge shall cease and terminate; provided, however, that failure to so notify the Company shall in no case prejudice the claim of any insured unless the Company shall be actually prejudiced by such failure. The Company shall have the right to institute and prosecute any action or proceeding or do any other act which, in its opinion, may be necessary or desirable to establish the title, or any insured lien or charge, as insured. In all cases where this policy permits or requires the Company to prosecute or defend any action or proceeding, the insured shall secure to it in writing the right to so prosecute or defend such action or proceeding, and all appeals therein, and permit it to use, at its option, the name of the insured for such purpose. Whenever requested by the Company the insured shall assist the Company in any such action or proceeding, in effecting settlement, securing evidence, obtaining witnesses, prosecuting or defending such action or proceeding, to such extent and in such manner as is deemed desirable by the Company, and the Company shall reimburse the insured for any expense so incurred. The Company shall be subrogated to and be entitled to all costs and attorneys' fees incurred or expended by the Company, which may be recoverable by the insured in any litigation carried on by the Company on behalf of the insured. The word "knowledge" in this paragraph means actual knowledge, and does not refer to constructive knowledge or notice which may be imputed by the public records.

3. NOTICE OF LOSS, LIMITATION OF ACTION

A statement in writing of any loss or damage for which it is claimed the Company is liable under this policy shall be furnished to the Company within sixty days after such loss or damage shall have been ascertained. No action or proceeding for the recovery of any such loss or damage shall be instituted or maintained against the Company until after full compliance by the insured with all the conditions imposed on the insured by this policy, nor unless commenced within twelve months after receipt by the Company of such written statement.

4. APPORTIONMENT OF LOSS

Whenever the Company shall be obligated to pay a loss under the terms of this policy to an insured owner, purchaser or lessee by reason of a defect in the title to a portion of the area insured herein, liability shall be limited to the proportion of the face amount of this policy which the value of the defective portion bears to the value of the whole at the time of the discovery of the defect.

5. OPTION TO PAY, SETTLE, OR COMPROMISE CLAIMS

The Company reserves the option to pay, settle, or compromise for, or in the name of, the insured, any claim insured against or to pay this policy in full at any time, and payment or tender of payment of the full amount of this policy, together with all accrued costs which the Company is obligated hereunder to pay, shall terminate all liability of the Company hereunder, including all obligations of the Company with respect to any litigation pending and subsequent costs thereof.

6. SUBROGATION UPON PAYMENT OR SETTLEMENT

Whenever the Company shall have settled a claim under this policy, it shall be subrogated to and be entitled to all rights, securities, and remedies which the insured would have had against any person or property in respect to such claim, had this policy not been issued. If the payment does not cover the loss of the insured, the Company shall be subrogated to such rights, securities, and remedies in the proportion which said payment bears to the amount of said loss. In either event the insured shall transfer, or cause to be transferred, to the Company such rights, securities, and remedies, and shall permit the Company to use the name of the insured in any transaction or litigation involving such rights, securities, or remedies.

7. OPTION TO PAY INSURED OWNER OF INDEBTEDNESS AND BECOME OWNER OF SECURITY

The Company has the right and option, in case any loss is claimed under this policy by an insured owner of an indebtedness secured by mortgage or deed of trust, to pay such insured the indebtedness of the mortgagor or trustor under said mortgage or deed of trust, together with all costs which the Company is obligated hereunder to pay, in which case the Company shall become the owner of, and such insured shall at once assign and transfer to the Company, said mortgage or deed of trust and the indebtedness thereby secured, and such payment shall terminate all liability under this policy to such insured.

8. PAYMENT OF LOSS AND COSTS OF LITIGATION. INDORSEMENT OF PAYMENT ON POLICY

The Company will pay, in addition to any loss insured against by this policy, all costs imposed upon the insured in litigation carried on by the Company for the insured, and in litigation carried on by the insured with the written authorization of the Company, but not otherwise. The liability of the Company under this policy shall in no case exceed, in all, the actual loss of the insured and costs which the Company is obligated hereunder to pay, and in no case shall such total liability exceed the amount of this policy and said costs. All payments under this policy shall reduce the amount of the insurance pro tanto, and payment of loss or damage to an insured owner of indebtedness shall reduce, to that extent, the liability of the Company to the insured owner of said land. No payment may be demanded by any insured without producing this policy for indorsement of such payment.

9. MANNER OF PAYMENT OF LOSS TO INSURED

Loss under this policy shall be payable, first, to any insured owner of indebtedness secured by mortgage or deed of trust shown in Schedule B, in order of priority therein shown, and if such ownership vests in more than one, payment shall be made ratably as their respective interests may appear, and thereafter any loss shall be payable to the other insured, and if more than one, then to such insured ratably as their respective interests may appear. If there be no such insured owner of indebtedness, any loss shall be payable to the insured, and if more than one, to such insured ratably as their respective interests may appear.

10. DEFINITION OF TERMS

The following terms when used in this policy mean:

(a) "named insured": the persons and corporations named as insured on page one of this policy;

(b) "the insured": such named insured together with (1) each successor in ownership of any indebtedness secured by any mortgage or deed of trust shown in Schedule B, the owner of which indebtedness is named herein as an insured, (2) any such owner or successor in ownership of any such indebtedness who acquires the land described in Schedule A or any part thereof, by lawful means in satisfaction of said indebtedness or any part thereof, (3) any governmental agency or instrumentality acquiring said land under an insurance contract or guarantee insuring or guaranteeing said indebtedness or any part thereof, and (4) any person or corporation deriving an estate or interest in said land as an heir or devisee of a named insured or by reason of the dissolution, merger, or consolidation of a corporate named insured;

(c) "land": the land or leasehold estate described specifically or by reference in Schedule A and improvements affixed thereto which by law constitute real property;

(d) "date": the exact day, hour and minute specified on the first line of Schedule A (unless the context clearly requires a different meaning);

(e) "public records": those public records which, under the recording laws, impart constructive notice of matters relating to said land.

11. WRITTEN INDORSEMENT REQUIRED TO CHANGE POLICY

No provision or condition of this policy can be waived or changed except by writing indorsed hereon or attached hereto signed by the President, a Vice President, the Secretary, or an Assistant Secretary of the Company.

12. NOTICES, WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at its home office.

Deeds of Records for Existing UPRR ROW – Township 3N Range 12E Section 32

H 6768

OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY
DEED
Audit No. 6768

THE DALLES & WASCO COUNTY ABSTRACT COMPANY

ABSTRACTS AND TITLE INSURANCE

408 WASHINGTON STREET

THE DALLES, ORE.

1938 JUL 20 AM 8 34

July 19, 1938

Mr. Geo. W. McMath
Land Tax Agent
828 Pittock Block
Portland, Oregon

Dear Sir:

At the request of Mr. C. S. Spencer we beg leave to report that Roy D. Chatfield is the owner of all that part of Lot 4 of Section 32 in Township 3 North, Range 12 East of the Willamette Meridian, south of the O. W. R. & N. right of way, save and except therefrom the southerly 200 feet thereof, and that same is free and clear of all encumbrances save and except that certain Flowage Easement given Roy D. Chatfield and Bernice M. Chatfield, his wife, to United States of America, dated October 1, 1936 and recorded January 18, 1937 in Volume 87 of the Deed Records of Wasco County, Oregon, at page 375.

Dated at The Dalles, Wasco County, Oregon, this 19th day of July, 1938, at 10:00 o'clock A. M.

THE DALLES & WASCO COUNTY ABSTRACT CO.

By R. D. Yates, President.

RTY/RY

394

OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY

DEED

Audit No. 6768

Corner File No. 2-2-2576

10

45257

WARRANTY DEED.

ROY D. CHATFIELD AND BERNICE M. CHATFIELD

TO

OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY

STATE OF OREGON, } ss
County of Wasco, }

I, H. W. SCHERRER, County Clerk and ex officio Recorder of Conveyances, in and for said county, do hereby certify that the within instrument of writing was received for record and recorded in the record of

DEEDS of said county at

FILED
COUNTY CLERK'S OFFICE

1938 JUL 29 AM 8 23

H. W. SCHERRER
COUNTY CLERK

In Book 89 On Page 394

Witness my hand and seal of office affixed at The Dalles.

H. W. SCHERRER, County Clerk

By J. F. Elton Deputy

Return to Geo W. McMath

Street Union Pacific Land & Ext Dept

City Portland Ore

(9.95ac. in G R12E, W.M.

PC 1 2-690

#6768

Land and Tax Dept.
Deed No. 2724

KNOW ALL MEN BY THESE PRESENTS, That ROY D. CHATFIELD and BERNICE M. CHATFIELD, his wife, of Wasco County, State of Oregon, in consideration of Three Thousand Dollars ($3,000.00) to them paid by OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, a corporation of the State of Oregon, have bargained and sold, and by these presents do, grant, bargain, sell and convey unto said OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, its successors and assigns, all the following bounded and described real property, situated in the County of Wasco, and State of Oregon:

> A piece or parcel of land containing Nine and Ninety-five Hundredths (9.95) acres, more or less, being all that part of Government Lot Four (4), Section Thirty-two (32), Township Three (3) North, Range Twelve (12) East of Willamette Meridian, Wasco County, Oregon, that lies southerly of the southerly right of way boundary line of the OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, said right of way line being located parallel with and Fifty (50) feet southerly from the center line of main track of said OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, measured at right angles or radially thereto, save and except the southerly Two Hundred (200) feet of said Lot Four (4).

Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, and also all their estate, right, title and interest in and to the same, including dower and claim of dower.

The Grantors hereby reserve to themselves the right to pass over the above described and granted premises in passing between the grantors' adjoining property in Government Lot 3 in Section 32 and in Government Lot 1 in Section 31, Township 3 North, Range 12 East, W.M., but such right of passage shall be so exercised as not to interfere in any way with the grantee's use and enjoy-

PC 1 2-691

ment of the premises hereby conveyed.

TO HAVE AND TO HOLD the above described and granted premises unto the said OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, its successors and assigns forever, subject, however, to that certain flowage easement upon the said property, or some part thereof, acquired by the United States of America by deed dated October 1st 1936, which deed was recorded January 18, 1937, in Volume 87, at Page 375 of the Records of Deeds in the County of Wasco, State of Oregon. And ROY D. CHATFIELD and BERNICE M. CHATFIELD, grantors above named, do covenant to and with OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY, the above named grantee, its successors and assigns, that they are lawfully seized in fee simple of the above granted premises, that the above granted premises are free from all encumbrances except said flowage easement and that they will and their heirs, executors and administrators, shall warrant and forever defend the above granted premises, and every part and parcel thereof, against the lawful claims and demands of all persons whomsoever, except as to said flowage easement.

IN WITNESS WHEREOF, we, the Grantors above named, hereunto set our hand and seal this 22nd day of July 1938.

Roy D Chatfield (SEAL)

Bernice M Chatfield (SEAL)

PC 1 2-692

STATE OF OREGON)
) ss.
County of Wasco)

BE IT REMEMBERED, That on this 22nd day of July 1938, before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named ROY D. CHATFIELD and BERNICE M. CHATFIELD, his wife, who being known to me to be the identical persons described in and who executed the within instrument, and acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and notarial seal, the day and year last above written.

Charles L Spencer
Notary Public for Oregon

My Commission Expires May 13, 1939

9562

67650WRN-D

Deeds of Records for Existing OPRD Parcel – 3N 12E 00 100

AmeriTitle

WASCO COUNTY

Property Account Summary

Parcel Number	14614	Situs Address	NO SITUS ADDRESS , NO SITUS CITY, OR 00000

General Information	
Alternate Property #	03N12 E00 00100 00
Property Description	SECTION 0 TOWNSHIP 3N RANGE 12E QUARTER PRCL 100 MapTax Lot: 03N12 E00 00100 00
Property Category	Land &/or Buildings
Status	Active, Locally Assessed
Tax Code Area	92
Remarks	

Tax Rate	
Description	Rate
No Values Found	

Property Characteristics	
Property Class Category	9614: 961 RT TREND
Neighborhood	109: AA 1&2 SMA (2003 APPR) RT/LOW
Acreage	311.580

Related Properties		
TCA SPLIT CODE 15785	1/1/1970	

Parties			
Role	Percent	Name	Address
Taxpayer	100	STATE OF OREGON	725 SUMMER ST NE STE C, SALEM, OR 97301 USA
Owner	100	PARKS & RECREATION DEPT	725 SUMMER ST NE STE C, SALEM, OR 97301 USA
Owner	100	STATE OF OREGON	725 SUMMER ST NE STE C, SALEM, OR 97301 USA

Property Values					
Description	2013	2012	2011	2010	2009
Assessed Value Regular (AVR)	435,886	484,930	484,930	484,930	484,930
Total Exemption Amount Regular (EAR)	435,886	484,930	483,620	484,930	484,930
Taxable Value Regular (TVR)	0	0	1,310	0	0
MKLND + SAMKL (MKLTL)	516,270	179,650	179,650	179,650	179,650
MKIMP + SAMKI (MKITL)	305,280	305,280	305,280	305,280	305,280
Real MKT Total (MKTTL)	821,550	484,930	484,930	484,930	484,930
Market Land (MKLND)	516,270	179,650	179,650	179,650	179,650
Display Only (M5SAV)					
Market Improvement(MKIMP)	305,280	305,280	305,280	305,280	305,280
SA Por Only-Exc Val Not Incl (SAVL)					
Market Portion BMAV + EAV (MAVMK)	435,886	423,190	410,864	398,897	387,279
Exception Base Value NEWCN+OEV (EBV)	0	0	0	0	0
Exception Assessed Value (EAV)	0	0	0	0	0

Active Exemptions
State Property

Events			
Effective Date	Entry Date-Time	Type	Remarks
No Events Found			

PC 1 2-697

AmeriTitle

Receipts					
Date	Receipt	Amount Applied	Amount Due	Tendered	Change
No Events Found					

Sales History					
Transfer Date	Recording Number	Sale Amount	Deed Type	Grantee	Grantor

Property Details							
Living Area Sq Ft	Manf Struct Size	Year Built	Improvement Grade	Stories	Bedrooms	Full Baths	Half Baths

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ASACD1R7 PUBLIC **DISPLAY REAL ACCOUNTS** DISPLAY 4/01/14

ACCOUNT # **14614** **2013** **EXEMPT** OWNER **STATE OF OREGON**
LEG/COMM C/O **PARKS & RECREATION DEPT**
MAP # **3 N 12 E** **100** NAME
CODE AREA **92** ZONING **OS** ADDRESS **725 SUMMER ST NE STE C**
MA **1** VALUE AREA **109** CLASS **9614** ADDRESS
SUB/BL/LT SPLIT **S** ADDRESS **SALEM OR** **97301**
G.I.S. x SD# **0** CON/SEG JV # **0**
SITUS # ZIP
DOC # ACRES **311.580** FP ACRES **.000** SPLIT CODE **15785**
EXEMPT ACT SMA SPLIT ZONE NC
03N12 E00 00100 00 **RMV** **MAV** **SAV** **MSAV/M50** **TAXABLE AV**

LAND VALUE	**179,650**		
IMPROVEMENTS	**305,280**		
MFG STRUCTURE			
SUB TOTAL/BASE	**484,930**		
EXCEPTIONS			
SUB TOTAL	**484,930**		
EXEMPTIONS			**484,930**
2013 TOTALS	**484,930**		**0**

M/H X-NUMBER

F1=LN 2=IM 3=EN 4=OW 5=SA 6=EX 7=OH 8=ET 10=LG 11=FL 12=CM
13=MS 14=SI 15=XC 16=DT 17=TX 18=SL 19=QP 20=PR 21=NX 22=AP 24=DL

Amerititle

BOOK 125 PAGE 254

File No. 19947

WARRANTY DEED

(Individual)

This Indenture Witnesseth, That we, Pete Kitto and Marie K. Kitto, husband and wife grantors, for the consideration of the sum of TWO THOUSAND SIX HUNDRED SIXTY AND NO/100- ($2,660.00) - - - DOLLARS to us paid, have bargained and sold and by these presents do bargain, sell and convey unto the STATE OF OREGON, by and through its STATE HIGHWAY COMMISSION, the following described premises, to wit:

A parcel of land lying in Lots 2 and 3 of Section 4, Township 2 North, Range 12 East, W.M., Wasco County, Oregon. The said parcel being described as follows: That portion of the East 425 feet of said Lot 3 lying North of a line which is parallel to and 730 feet South of the North line of said Lot 3. Also that portion of said Lot 2 lying Northerly of a line which is described as follows:

Beginning at a point on the West line of said Lot 2, said point being 730 feet South of the Northwest corner of said Lot 2; thence in a Northeasterly direction 1370 feet more or less to a point on the East line of said Lot 2, said point being 375 feet South of the Northeast corner of said Lot 2. Excepting all that land heretofore coveyed to the State of Oregon by and through its State Highway Commission.

The parcel of land to which this description applies contains 13.2 acres, more or less.

As a part of the consideration hereinabove stated, there also is bargained, sold, conveyed and relinquished to the Grantee all existing, future, or potential common law or statutory easements of access between the right of way of the public way identified as the Columbia River Highway and all of the contiguous remaining real property of the Grantors whether acquired by separate conveyances or otherwise, of which the real property covered by this instrument is a part, where said remaining real property abuts on the southerly side of the said public way.

It is expressly intended that these covenants, burdens and restrictions shall run with the land and shall forever bind the grantors, their heirs and assigns.

TO HAVE AND TO HOLD the said premises with their appurtenances, in fee simple, unto the said State of Oregon, by and through its State Highway Commission, its successors and assigns forever.

And we the said grantors do hereby covenant to and with the said State of Oregon, by and through its State Highway Commission, its successors and assigns, that we are the owners in fee simple of said premises; that they are free from all incumbrances

and that we will warrant and defend the same from all lawful claims whatsoever.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 3d day of March, 19 53.

Done in presence of:

Pete Kitto [SEAL]

Marie K. Kitto [SEAL]

S2295

Form E12—3M—Revised 6-51

Warranty Deed
(Individual)

FROM
Pete Kitto et ux

TO
STATE OF OREGON
BY AND THROUGH ITS
STATE HIGHWAY COMMISSION

STATE OF OREGON,
County of Wasco, } ss

I, D. V. BOLTON, County Clerk and ex officio Recorder of Conveyances, in and for said county, do hereby certify that the within instrument of writing was received for record and recorded in the record of DEEDS of said county at

CLERK'S OFFICE
1953 MAR 6 AM 8 50

In Book 125 On Page

Witness my hand and seal of office affixed at The Dalles

D. V. BOLTON, County Clerk

By [illegible] Deputy

Return to State Highway Dept.

Street State Highway Bldg.

STATE OF OREGON,
County of Wasco, } ss.

On this 3d day of March, 1953, personally came before me, a Notary Public in and for said county and state, the within named Pete Kitto and Marie K. Kitto, his wife, to me personally known to be the identical persons described in, and who executed, the within instrument, and who each personally acknowledged to me that they executed the same freely and voluntarily for the uses and purposes therein named.

Witness my hand and official seal the day and year last above written.

NOTARY PUBLIC STATE OF OREGON

Notary Public for Oregon

My commission expires August 1st, 1956.

ASACD1R7 PUBLIC **DISPLAY REAL ACCOUNTS** DISPLAY 4/01/14

ACCOUNT # **15785** **2013** **EXEMPT** OWNER **STATE OF OREGON**
LEG/COMM C/O **PARKS & RECREATION DEPT**
MAP # **3 N 12 E** **100** NAME
CODE AREA **95** ZONING **OS** ADDRESS **725 SUMMER ST NE STE C**
MA **1** VALUE AREA **109** CLASS **9614** ADDRESS
SUB/BL/LT SPLIT **S** ADDRESS **SALEM OR** **97301**
G.I.S. x SD# **0** CON/SEG JV # **0**
SITUS # ZIP
DOC # ACRES **.640** FP ACRES **.000** SPLIT CODE **14614**
EXEMPT ACT SMA SPLIT ZONE
03N12 E00 00100 00 **RMV** **MAV** **SAV** **MSAV/M50** **TAXABLE AV**
LAND VALUE **330**
IMPROVEMENTS
MFG STRUCTURE
SUB TOTAL/BASE **330**
EXCEPTIONS
SUB TOTAL **330**
EXEMPTIONS **330**
2013 TOTALS **330** **0**
M/H X-NUMBER

F1=LN 2=IM 3=EN 4=OW 5=SA 6=EX 7=OH 8=ET 10=LG 11=FL 12=CM
13=MS 14=SI 15=XC 16=DT 17=TX 18=SL 19=QP 20=PR 21=NX 22=AP 24=DL

AmeriTitle

AmeriTitle

WASCO COUNTY

Property Account Summary

Parcel Number	15785	Situs Address	NO SITUS ADDRESS , NO SITUS CITY, OR 00000

General Information	
Alternate Property #	03N12 E00 00100 00
Property Description	SECTION 0 TOWNSHIP 3N RANGE 12E QUARTER PRCL 100 MapTax Lot: 03N12 E00 00100 00
Property Category	Land &/or Buildings
Status	Active, Host Other Property, Locally Assessed
Tax Code Area	95
Remarks	

Tax Rate	
Description	Rate
No Values Found	

Property Characteristics	
Property Class Category	9614: 961 RT TREND
Neighborhood	109: AA 1&2 SMA (2003 APPR) RT/LOW
Acreage	0.640

Related Properties		
14614 is TCA SPLIT CODE this property	1/1/1970	

Parties			
Role	Percent	Name	Address
Taxpayer	100	STATE OF OREGON	725 SUMMER ST NE STE C, SALEM, OR 97301 USA
Owner	100	PARKS & RECREATION DEPT	725 SUMMER ST NE STE C, SALEM, OR 97301 USA
Owner	100	STATE OF OREGON	725 SUMMER ST NE STE C, SALEM, OR 97301 USA

Property Values					
Description	2013	2012	2011	2010	2009
Assessed Value Regular (AVR)	230	330	330	330	330
Total Exemption Amount Regular (EAR)	230	330	329	330	330
Taxable Value Regular (TVR)	0	0	1	0	0
MKLND + SAMKL (MKLTL)	230	330	330	330	330
MKIMP + SAMKI (MKITL)	0	0	0	0	0
Real MKT Total (MKTTL)	230	330	330	330	330
Market Land (MKLND)	230	330	330	330	330
Display Only (M5SAV)					
Market Improvement(MKIMP)	0	0	0	0	0
SA Por Only-Exc Val Not Incl (SAVL)					
Market Portion BMAV + EAV (MAVMK)	340	340	340	340	340
Exception Base Value NEWCN+OEV (EBV)	0	0	0	0	0
Exception Assessed Value (EAV)	0	0	0	0	0

Active Exemptions
State Property

Events			
Effective Date	Entry Date-Time	Type	Remarks
No Events Found			

PC 1 2-703

AmeriTitle

Receipts					
Date	Receipt	Amount Applied	Amount Due	Tendered	Change
No Events Found					

Sales History					
Transfer Date	Recording Number	Sale Amount	Deed Type	Grantee	Grantor

Property Details							
Living Area Sq Ft	Manf Struct Size	Year Built	Improvement Grade	Stories	Bedrooms	Full Baths	Half Baths

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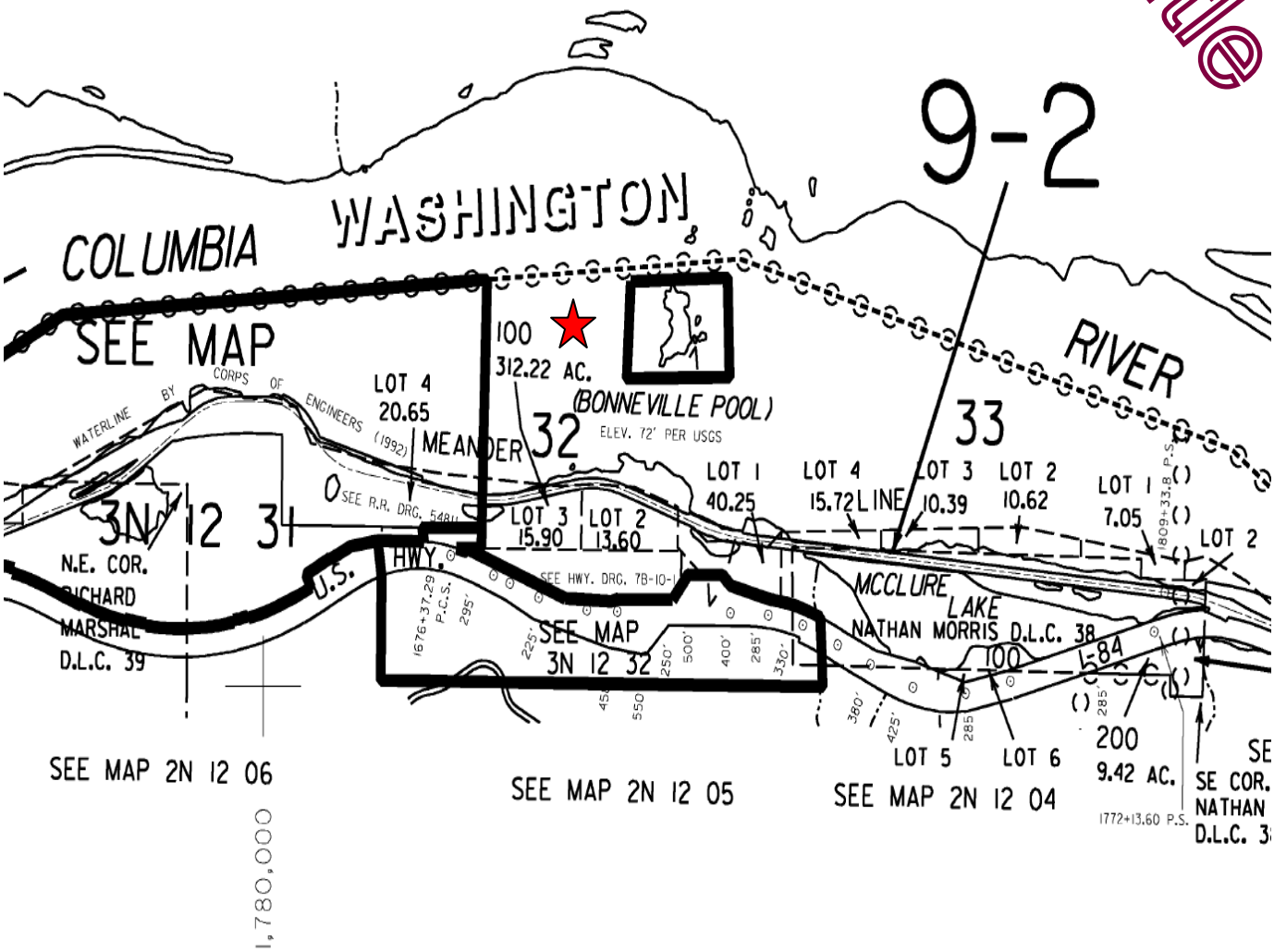
AmeriTitle



NORTH

COMPLIMENTS OF AMERITITLE – THE DALLES

This sketch is furnished for information purposes only to assist in property location with references to street and other parcels. No representation is made as to the accuracy and the company assumes no liability for any loss occurring by reason of reliance thereon.

Deeds of Records for Existing OPRD Parcel – 3N 12E 31 800

AmeriTitle

WASCO COUNTY

Property Account Summary

Parcel Number	15788	Situs Address	NO SITUS ADDRESS , NO SITUS CITY, OR 00000

General Information	
Alternate Property #	03N12 E31 00800 00
Property Description	SECTION 31 TOWNSHIP 3N RANGE 12E QUARTER PRCL 800 MapTax Lot: 03N12 E31 00800 00
Property Category	Land &/or Buildings
Status	Active, Locally Assessed
Tax Code Area	92
Remarks	

Tax Rate	
Description	Rate
No Values Found	

Property Characteristics	
Property Class Category	9600: 960 MISC NO TREND
Neighborhood	109: AA 1&2 SMA (2003 APPR) RT/LOW
Acreage	16.900

Related Properties
No Values Found

Parties			
Role	Percent	Name	Address
Taxpayer	100	STATE OF OREGON	725 SUMMER ST NE STE C, SALEM, OR 97301 USA
Owner	100	STATE OF OREGON	725 SUMMER ST NE STE C, SALEM, OR 97301 USA
Owner	100	PARKS & RECREATION DEPT	725 SUMMER ST NE STE C, SALEM, OR 97301 USA

Property Values					
Description	2013	2012	2011	2010	2009
Assessed Value Regular (AVR)	1,385	156,130	155,890	155,740	156,470
Total Exemption Amount Regular (EAR)	1,385	156,130	155,469	155,740	156,470
Taxable Value Regular (TVR)	0	0	421	0	0
MKLND + SAMKL (MKLTL)	126,440	156,130	155,890	155,740	156,470
MKIMP + SAMKI (MKITL)	0	0	0	0	0
Real MKT Total (MKTTL)	126,440	156,130	155,890	155,740	156,470
Market Land (MKLND)	126,440	156,130	155,890	155,740	156,470
Display Only (M5SAV)					
Market Improvement(MKIMP)	0	0	0	0	0
SA Por Only-Exc Val Not Incl (SAVL)					
Market Portion BMAV + EAV (MAVMK)	1,385	1,345	1,306	1,268	1,231
Exception Base Value NEWCN+OEV (EBV)	0	0	0	0	0
Exception Assessed Value (EAV)	0	0	0	0	0

Active Exemptions
State Property

Events			
Effective Date	Entry Date-Time	Type	Remarks
No Events Found			

PC 1 2-709

AmeriTitle

Receipts					
Date	Receipt	Amount Applied	Amount Due	Tendered	Change
No Events Found					

Sales History					
Transfer Date	Recording Number	Sale Amount	Deed Type	Grantee	Grantor

Property Details							
Living Area Sq Ft	Manf Struct Size	Year Built	Improvement Grade	Stories	Bedrooms	Full Baths	Half Baths

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ODOT
File P-19
Map 7B-10-1 and
Park Boundary Map
Memaloose State Park

ORIGINAL

QUITCLAIM DEED

STATE OF OREGON, by and through its DEPARTMENT OF TRANSPORTATION, Grantor, for no monetary consideration does relinquish and forever quitclaim unto the **STATE OF OREGON, by and through its PARKS AND RECREATION DEPARTMENT**, Grantee, all of Grantor's right, title, and interest in and to the following described property:

A parcel of land lying in Section 4, Township 2 North, Range 12 East, W.M.; and in Sections 31, 32, 33 and 34, Township 3 North, Range 12 East, W.M.; Wasco County, Oregon and being that property described in that deed to the State of Oregon, recorded June 8, 1925 in Book 75, Page 618 and being that property designated as Parcel 1 and described in that deed to the State of Oregon, by and through its State Highway Commission, recorded June 12, 1952 in Book 123, Page 645 and being that property described in those deeds to the State of Oregon, by and through its State Highway Commission, recorded April 11, 1952 in Book 123, Page 339; recorded April 24, 1952 in Book 123, Page 412; recorded May 21, 1952 in Book 123, Page 548; recorded April 4, 1952 in Book 123, Page 325; recorded April 24, 1952 in Book 123, Page 414; recorded March 6, 1953 in Book 125, Page 354 and recorded February 11, 1953 in Book 125, Page 211, all of Wasco County Record of Deeds.

EXCEPT therefrom that property described in that deed to Oregon Washington Railroad and Navigation Company, recorded April 17, 1958 in Book 137, Page 48 of Wasco County Record of Deeds.

The parcel of land to which this description applies contains 336.79 acres, more or less.

10-8-97

AFTER RECORDING RETURN TO
OREGON DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY SECTION
417 TRANSPORTATION BLDG.
SALEM, OREGON 97310

TAX STATEMENTS SHALL BE SENT TO
TAX EXEMPT AT THIS TIME

OREGON PARKS DEPARTMENT
1115 Commercial NE
Salem OR 97310-1001

Microfilm No. 974651 (3)
FILED WASCO CTY
THE DALLES OR.
Oct 17 11 34 AM '97
KATHY M. WASHINGTON
COUNTY CLERK

STATE OF OREGON, } SS
County of Wasco, }
I certify that this document was received and recorded in the DEED records.
Karen LaBreton, County Clerk
A+T ___ LC IC ___ Recording Deputy

974651(3)

ODOT
File P-19
Map 7B-10-1 and
Park Boundary Map
Memaloose State Park

EXCEPT GRANTOR RESERVES a Permanent Easement for Highway Right of Way Purposes over the following described portion of the parcel described above:

A parcel of land lying in Section 4, Township 2 North, Range 12 East, W.M.; and in Sections 31, 32, 33 and 34, Township 3 North, Range 12 East, W.M.; Wasco County, Oregon and being that property described in that deed to the State of Oregon, recorded June 8, 1925 in Book 75, Page 618 and being that property designated as Parcel 1 and described in that deed to the State of Oregon, by and through its State Highway Commission, recorded June 12, 1952 in Book 123, Page 645 and being that property described in those deeds to the State of Oregon, by and through its State Highway Commission, recorded April 11, 1952 in Book 123, Page 339; recorded April 24, 1952 in Book 123, Page 412; recorded May 21, 1952 in Book 123, Page 548; recorded April 4, 1952 in Book 123, Page 325; recorded April 24, 1952 in Book 123, Page 414; recorded March 6, 1953 in Book 125, Page 354 and recorded February 11, 1953 in Book 125, Page 211, all of Wasco County Record of Deeds; the said parcel being that portion of said property included in a strip of land varible in width, lying on each side of the center line of the relocated Columbia River Highway, which center line is referred to in said State of Oregon deed, recorded April 4, 1952 in Book 123, Page 325 of Wasco County Record of Deeds.

The widths in feet of the strip of land above referred to are as follows:

Station	to	Station	Width on Northerly Side of Center Line
1661+00		1664+00	240
1664+00		1667+16	240 in a straight line to 173
1667+16		1672+50	173 in a straight line to 90
1672+50		1678+30	90
1678+30		1683+59	120
1683+59		1692+20	120 in a straight line to 77
1692+20		1698+38	77 in a straight line to 98
1698+38		1699+18.56	98 in a straight line to 120
1699+18.56		1706+50	120
1706+50		1708+50	120 in a straight line to 370
1708+50		1713+00	370
1713+00		1714+12.02	370 in a straight line to 270
1714+12.02		1719+12.02	270 in a straight line to 155
1719+12.02		1733+50.83	155
1733+50.83		1739+50.83	155 in a straight line to 250
1739+50.83		1746+56.94	250 in a straight line to 110
1746+56.94		1780+00	110

974651(3)

ODOT
File P-19
Map 7B-10-1 and
Park Boundary Map
Memaloose State Park

Station	to	Station	Width on Southerly Side of Center Line
1661+00		1664+00	175
1664+00		1667+16	175
1667+16		1672+50	175
1672+50		1678+30	175
1678+30		1684+68.56	175
1684+68.56		1688+68.56	175 in a straight line to 225
1688+68.56		1698+00	225 in a straight line to 360
1698+00		1703+00	360 in a straight line to 430
1703+00		1706+00	430 in a straight line to 130
1706+00		1723+77.35	130
1723+77.35		1780+00	175

In construing this document, where the context so requires, the singular includes the plural and all grammatical changes shall be made so that this document shall apply equally to corporations and to individuals.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

Dated this 10th day of October, 1997.

STATE OF OREGON, by and through its DEPARTMENT OF TRANSPORTATION

By Deolinda G. Jones
Deolinda G. Jones, Right of Way Manager

STATE OF OREGON, County of Marion

10-10, 1997. Personally appeared Deolinda G. Jones, who being sworn, stated that she is the Right of Way Manager for the State of Oregon, Department of Transportation, and that this document was voluntarily signed on behalf of the State of Oregon by authority delegated to her. Before me:

OFFICIAL SEAL
THOMAS P. AUGUSTYN
NOTARY PUBLIC-OREGON
COMMISSION NO. 055468
MY COMMISSION EXPIRES JULY 17, 2000

Thomas P. Augustyn
Notary Public for Oregon

My Commission expires 7/17/2000

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Page 3 - QC
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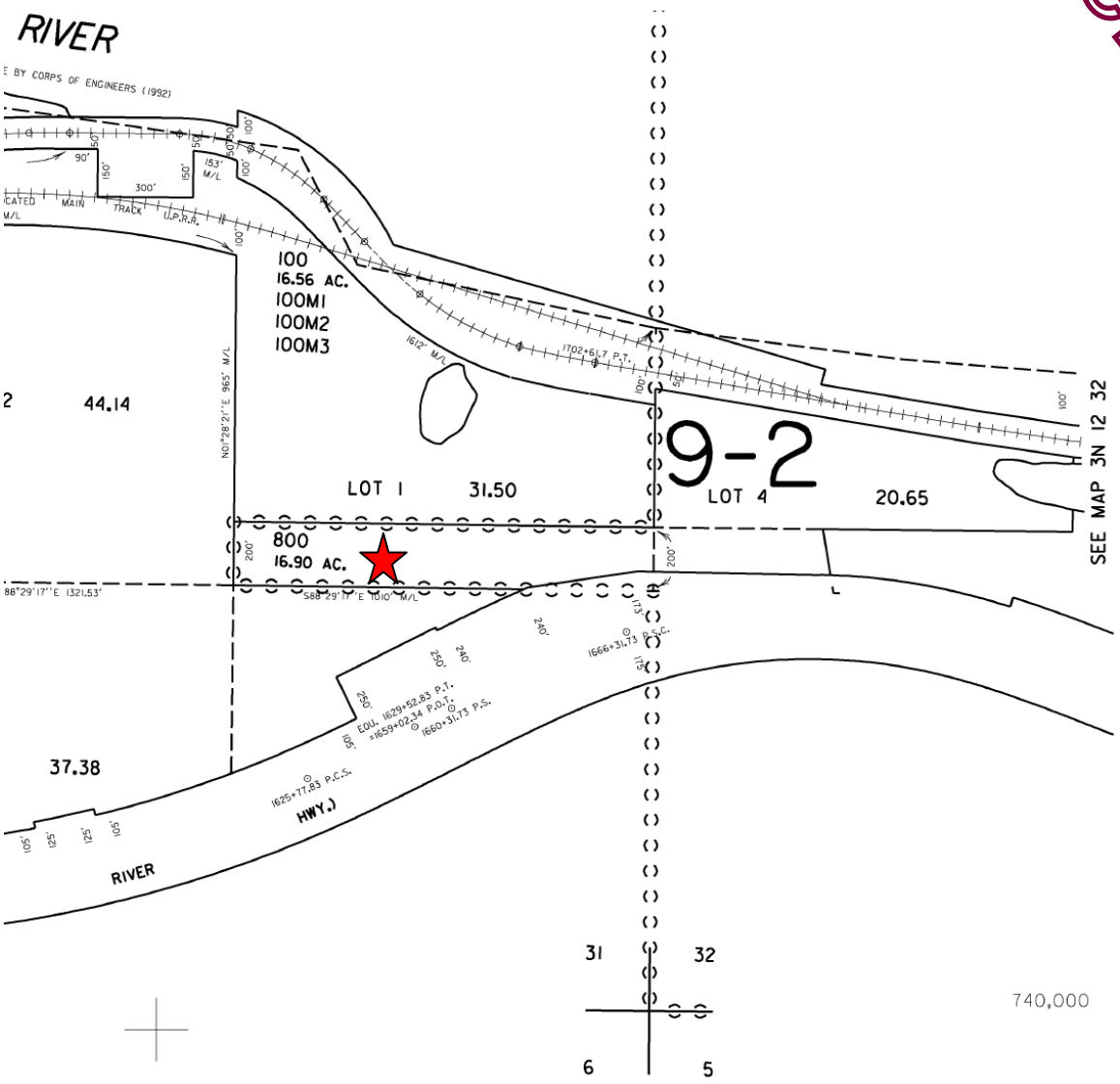

Revised
12/15/2008, DBJ

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NORTH

COMPLIMENTS OF AMERITITLE – THE DALLES

This sketch is furnished for information purposes only to assist in property location with references to street and other parcels. No representation is made as to the accuracy and the company assumes no liability for any loss occurring by reason of reliance thereon.