

OPERATION & MAINTENANCE MANUAL

DFI No. : D01117

Facility Type: Bioretention Pond



Figure 1: DFI No. D01117, looking east at facility from 84-East shoulder

August 2017

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1. Identification

Drainage Facility ID (DFI): **D01117**
Facility Type: Bioretention Pond
Construction Drawings: 50V-108
Location: District: 9
Highway No.: 002
Mile Post: 74.10 – 74.14
Description: This facility is located on the south (eastbound) side of I-84, approximately 1 mile east of the Memaloose Rest Area and 3 miles west of Rowena.

2. Facility Contact Information

Contact the Engineer of Record, Region Technical Center, or Geo-Environmental's Senior Hydraulics Engineer for:

- Operational clarification
- Maintenance clarification
- Repair or restoration assistance

Engineering Contacts:

Region Technical Center Hydro Unit Manager

Or

Geo-Environmental Senior Hydraulics Engineer (503) 986-3365

3. Construction

Engineer of Record: Wade Coatney,
Region 4 Tech Center
(541) 388-6234

Facility construction: 2018

Contractor: [_____ Construction Company]

4. Storm Drain System and Facility Overview

A bioretention pond is a basin that is designed to retain and infiltrate the water quality storm.

This pond is located on the south (eastbound) side of I-84, approximately one mile east of the Memaloose Rest Area and three miles west of Rowena. It is several hundred feet to the east of a slightly smaller bioretention pond (D01116). Both ponds can be accessed from I-84 eastbound (see Appendix A for more location and access details).

The pond receives stormwater collected from the I-84 roadway surface through an inlet on the north (westbound) shoulder of the road. A 12" pipe culvert conveys the stormwater beneath the roadway to the south side of I-84, where it empties directly into the pond. The pond does not have an outlet control structure; it functions solely through infiltration.

A. Maintenance equipment access:

Maintenance crews can access the pond from I-84 eastbound. Crews can drive to the pond as well as in the pond.

B. Heavy equipment access into facility:

Allowed (no limitations)

Allowed (with limitations)

Heavy equipment is allowed around the perimeter of the facility.

Assess the condition of the pond prior to entering with heavy equipment. If wet, the amended soils may not support the weight of the heavy equipment and should not be accessed until soils have dried enough to allow equipment weight.

Not allowed

C. Special Features:

Amended Soils

Porous Pavers

Liners

Underdrains



Figure 2: Access from shoulder of 84-East

5. Facility Haz Mat Spill Feature(s)

The bioretention pond can be used to store approximately 10,520 cubic feet of liquid prior to overflowing. No special measures need to be taken to keep haz mat in or out of the facility.

6. Auxiliary Outlet (High Flow Bypass)

Auxiliary outlets are provided if the primary outlet control structure cannot safely pass the projected high flows. Broad-crested spillway weirs and over flow risers are the two most common auxiliary outlets used in stormwater treatment facility design. The auxiliary outlet feature is either a part of the facility or an additional storm drain feature/structure.

The auxiliary outlet feature for this facility is:

Designed into facility

Other, as noted below:

There is no auxiliary outlet for this facility.

7. Maintenance Requirements

Routine maintenance table for non-proprietary stormwater treatment and storage/detention facilities have been incorporated into ODOT's Maintenance Guide. These tables summarize the maintenance requirements for ponds, swales, filter strips, bioslopes, and detention tanks and vaults. Special maintenance requirements in addition to the routine requirements are noted below when applicable.

The ODOT Maintenance Guide can be viewed at the following website:

<http://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Stormwater.aspx>

Maintenance requirements for proprietary structures, such as underground water quality manholes and/or vaults with filter media are noted in Appendix C when applicable.

The following stormwater facility maintenance table (See ODOT Maintenance Guide) should be used to maintain the facility outlined in this Operation and Maintenance Manual or follow the Maintenance requirements outlined in Appendix C when proprietary structure is selected below:

Table 1 (general maintenance)

Table 2 (stormwater ponds)

- Table 3 (water quality biofiltration swales)
- Table 4 (water quality filter strips)
- Table 5 (water quality bioslopes)
- Table 6 (detention tank)
- Table 7 (detention vault)
- Appendix C (proprietary structure)
- Special Maintenance requirements:

8. Waste Material Handling

Material removed from the facility is defined as waste by DEQ. Refer to the roadwaste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options:

http://www.oregon.gov/ODOT/Maintenance/Documents/ems_manual.pdf

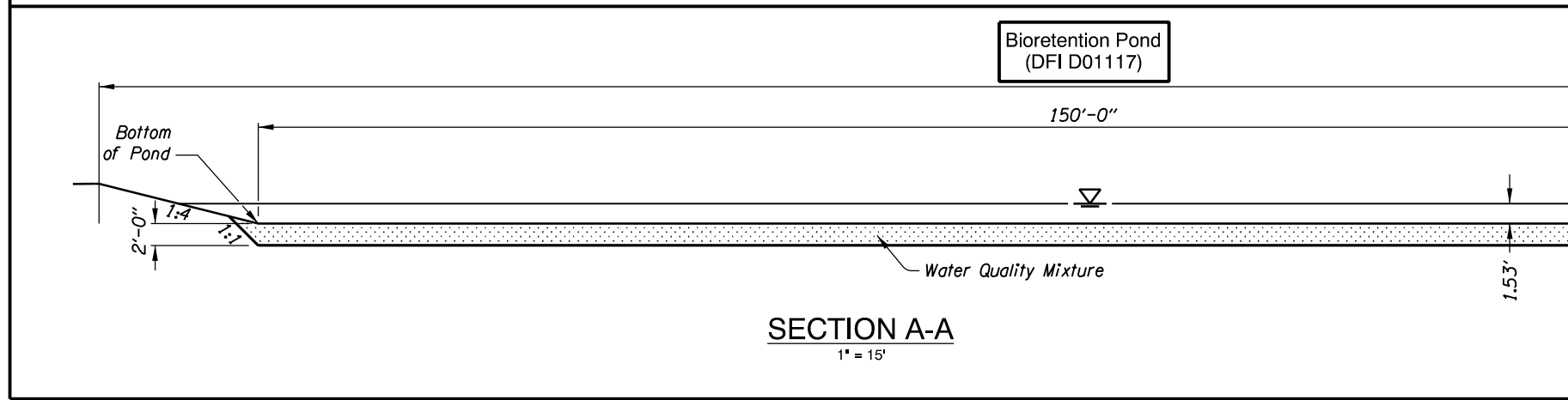
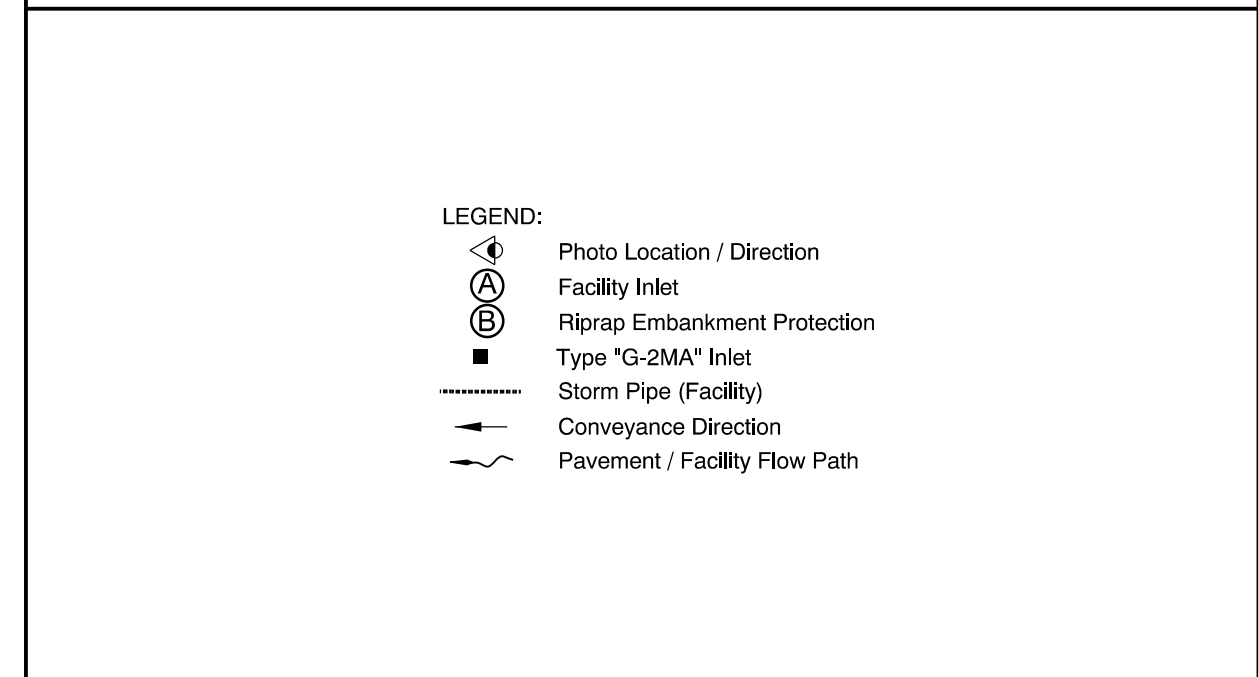
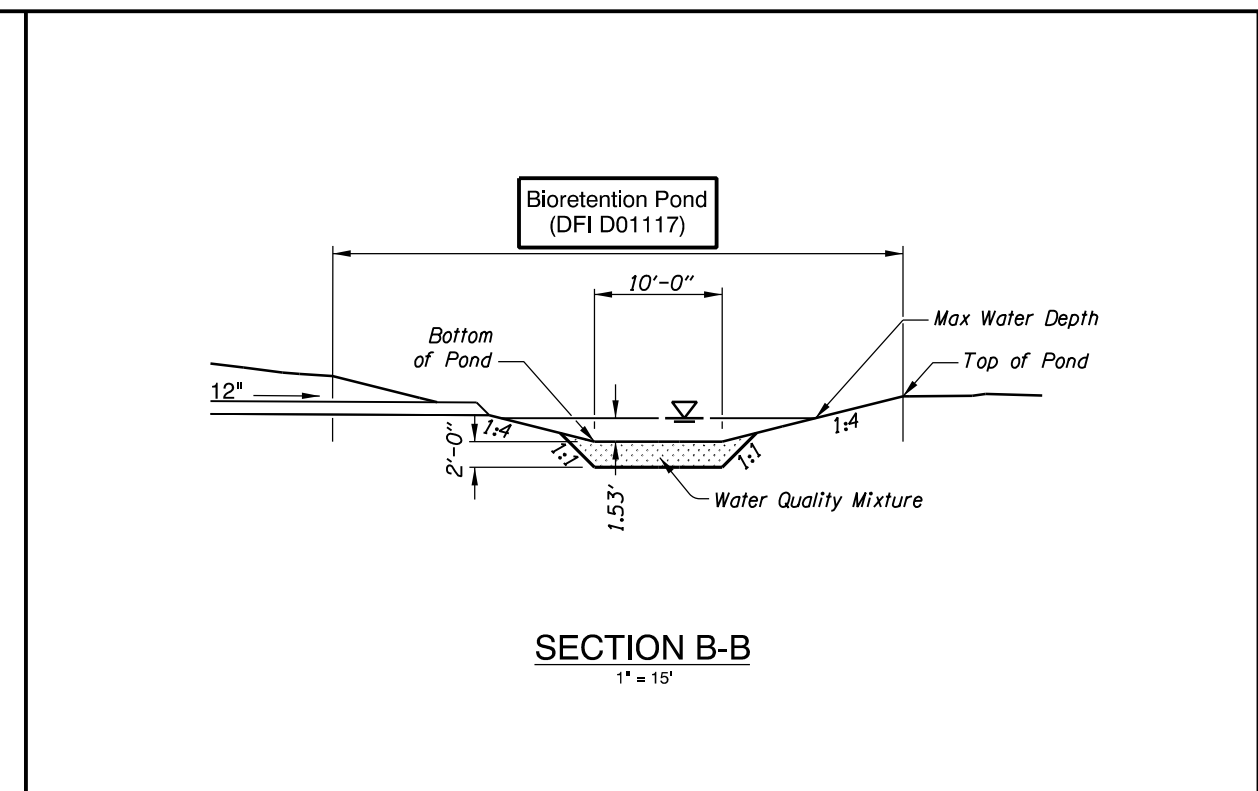
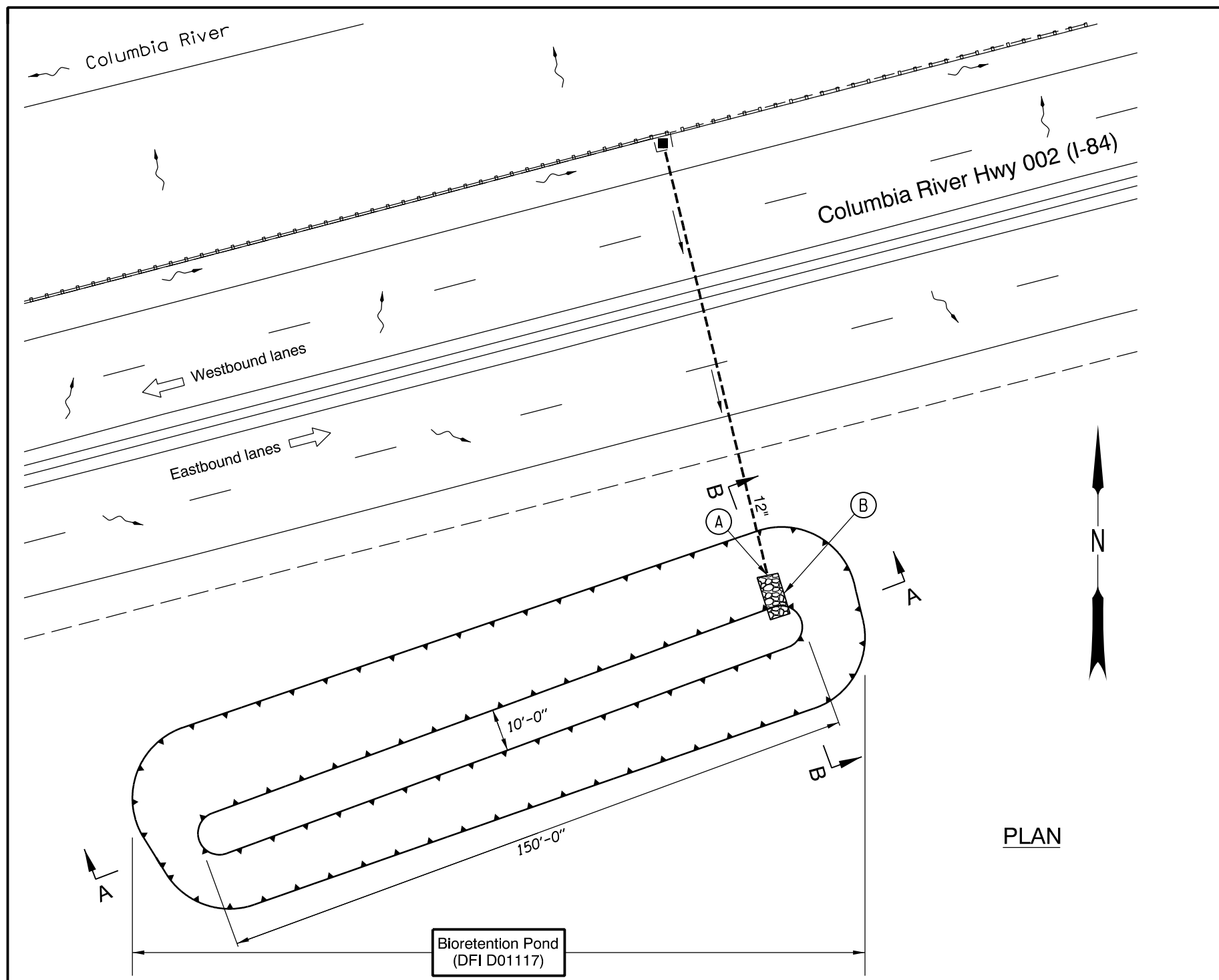
Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region Hazmat Coordinator	(541) 388-6088
ODEQ Northwest Region Office	(503) 229-5263

Appendix A

Content:

- **Operational Plan and Profile Drawing(s)**



OREGON DEPARTMENT OF TRANSPORTATION

DFI D01117
MAINTENANCE DISTRICT 9 HWY 002
BIORETENTION POND
 HIGHWAY MP 74.10 - 74.14
 WASCO COUNTY

Prepared By:
 Austin G. Kleinberg

Drafted By:
 Austin G. Kleinberg

Appendix B

Content:

- **ODOT Project Plan Sheets**
 - *Cover/Title Sheet*
 - *Water Quality/Detention Plan Sheets*
 - *Other Details*

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont'd. & Std. Dwg. Nos.

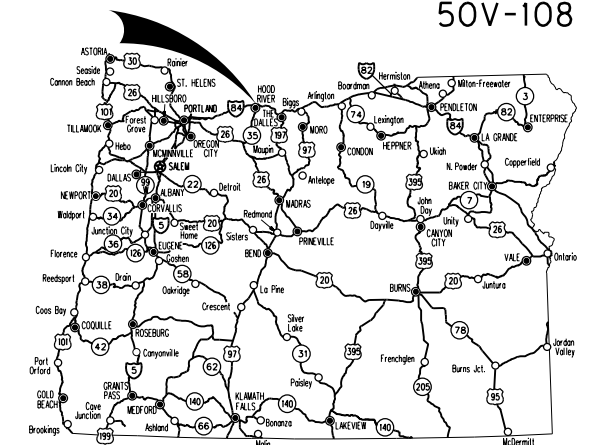
STATE OF OREGON
 DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT
 DRAINAGE, STRUCTURES, PAVING, SIGNING & INTELLIGENT TRANSPORTATION SYSTEM

I-84: HOOD RIVER - TOWER ROAD SEC.

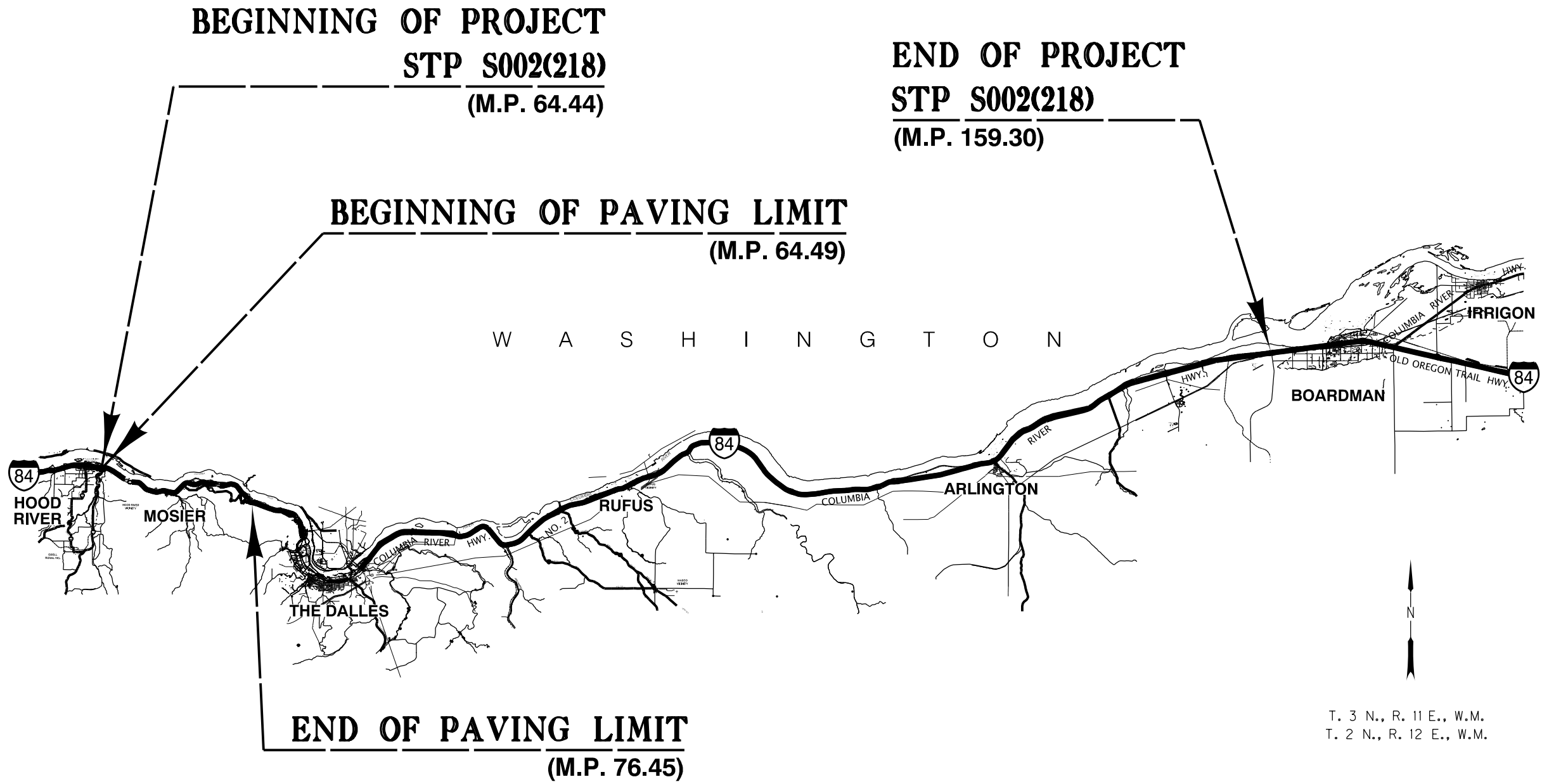
COLUMBIA RIVER HIGHWAY

HOOD RIVER, WASCO, SHERMAN, GILLIAM & MORROW COUNTIES
 OCTOBER 2017



Overall Length Of Project - 94.86 Miles

ATTENTION:
 Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Center Is (503) 232-1987.)



OREGON TRANSPORTATION COMMISSION

- | | |
|--------------------|----------------------------|
| Tommy Baney | CHAIR |
| David Lohman | COMMISSIONER |
| Alando Simpson | COMMISSIONER |
| Sean O'Hollaren | COMMISSIONER |
| Paula Brown | COMMISSIONER |
| Matthew L. Garrett | DIRECTOR OF TRANSPORTATION |

These plans were developed using ODOT design standards. Exceptions to these standards, if any, have been submitted and approved by the ODOT Chief Engineer or their delegated authority.

Approving Authority: _____
 Jon Heacock,
 Reg 4 Tech Center Mgr.

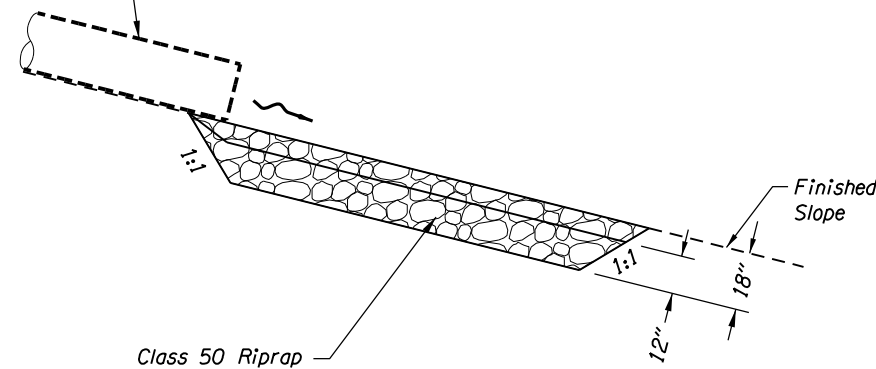
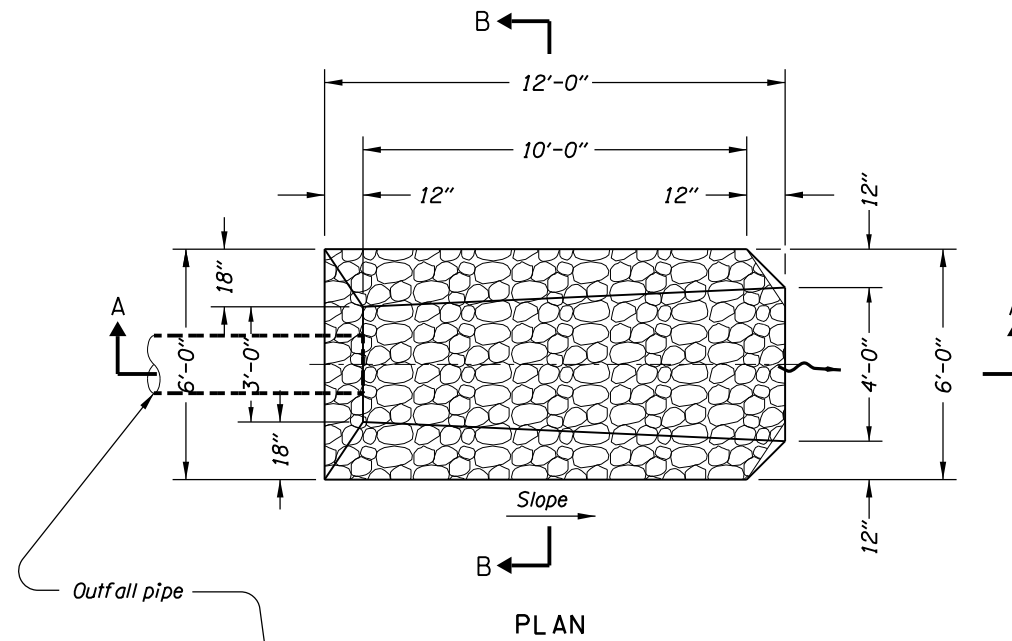
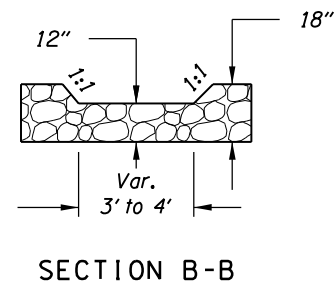
Concurrence by ODOT Chief Engineer

I-84: HOOD RIVER - TOWER ROAD SEC.
 COLUMBIA RIVER HIGHWAY
 HOOD RIVER, WASCO, SHERMAN, GILLIAM & MORROW COUNTIES

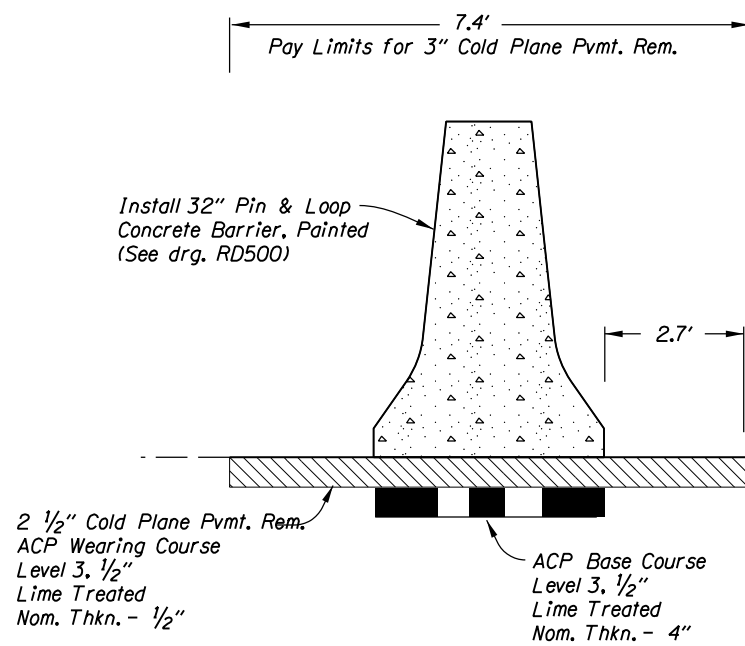
FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	S002(218)	1



PE002622

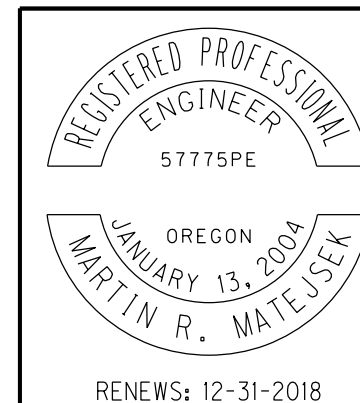


SECTION A-A

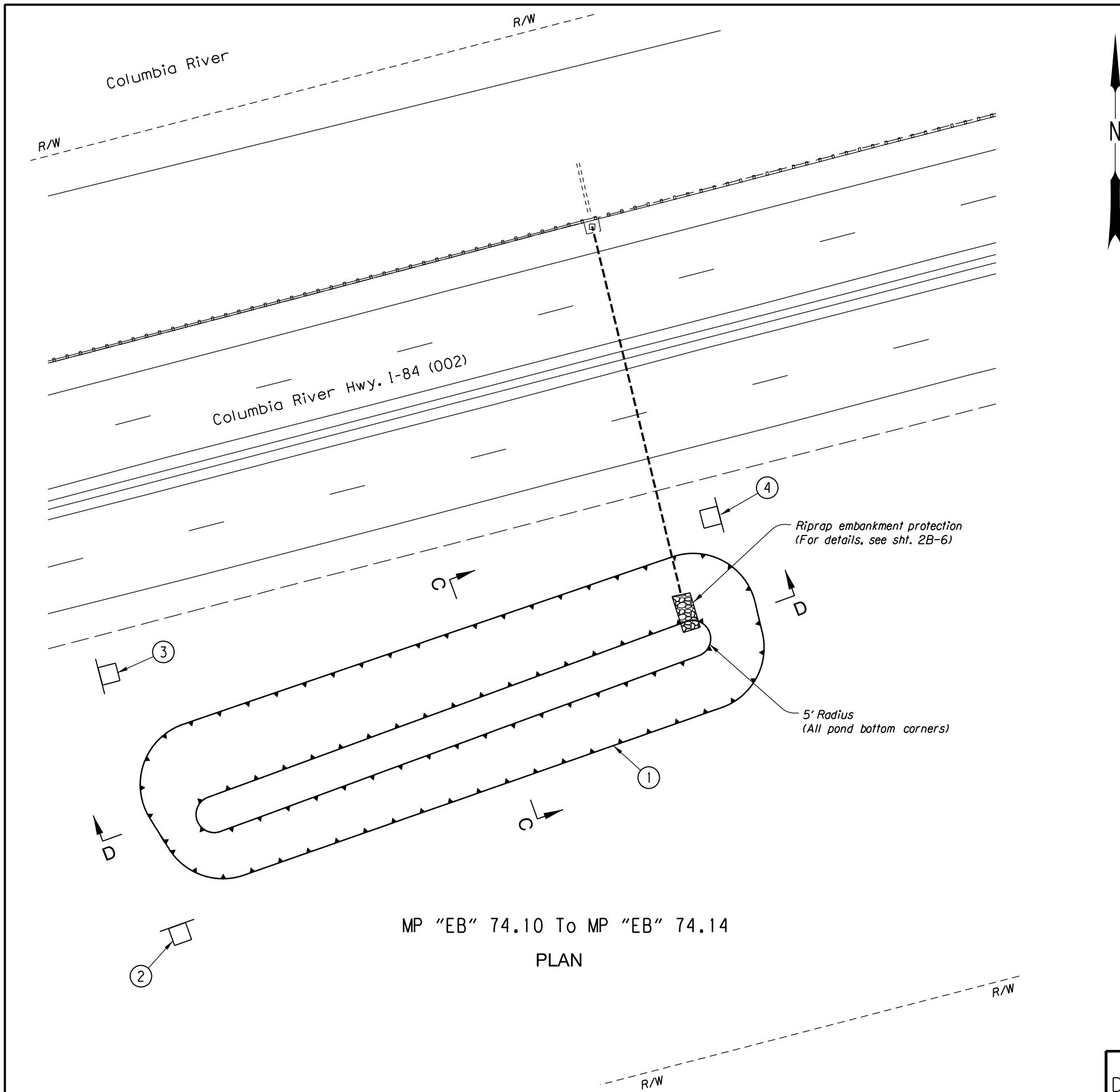


PAVEMENT REPAIR AT
MEDIAN BARRIER REMOVAL
*Depth May Vary Dependent on Grout Pad Depth

WATER QUALITY RIPRAP ENERGY DISSIPATOR



OREGON DEPARTMENT OF TRANSPORTATION	
REGION 4 TECHNICAL CENTER	
I-84: HOOD RIVER - TOWER ROAD SEC. COLUMBIA RIVER HIGHWAY HOOD RIVER, WASCO, SHERMAN, GILLIAM & MORROW COUNTIES	
Reviewed By - Wade J. Coatney Designed By - Martin R. Matejsek Drafted By - Joseph J. Rodriguez	
DETAILS	SHEET NO. 2B-6

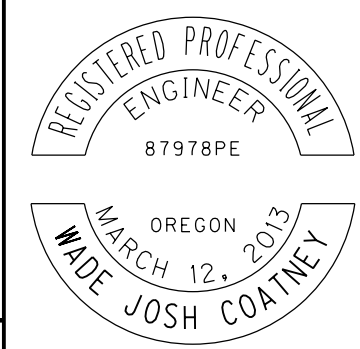


- ① Const. Bioretention Pond
Exc. - 745 cu. yd.
Water Quality Mixture - 170 cu. yd.
- ② Install Type "S2" marker
DFI No. D01117
(See drg. no. RD399)
- ③ Install Type "S1" marker - red
(See drg. no. RD399)
- ④ Install Type "S1" marker - green

Riprap embankment protection
(For details, see sh. 2B-6)

5' Radius
(All pond bottom corners)

MP "EB" 74.10 To MP "EB" 74.14
PLAN



DFI NO.
D01117

RENEWS: 12-31-2017

OREGON DEPARTMENT OF TRANSPORTATION

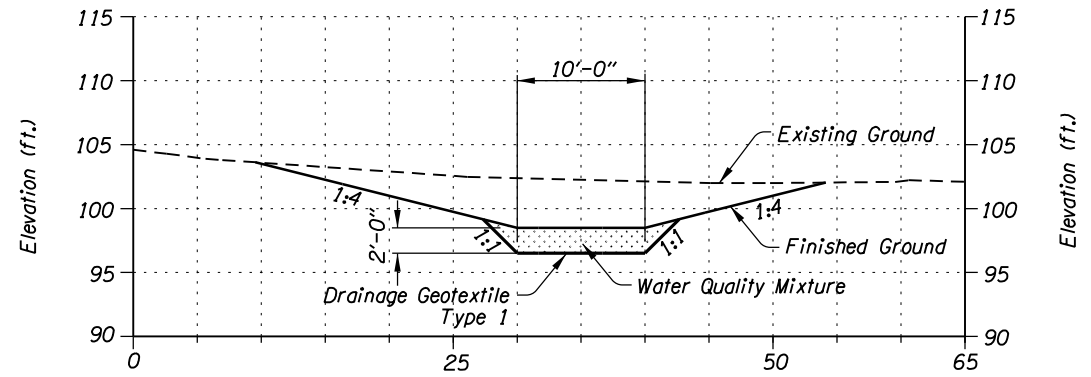
REGION 4 TECHNICAL CENTER

I-84: HOOD RIVER - TOWER ROAD SEC.
COLUMBIA RIVER HIGHWAY
HOOD RIVER, WASCO, SHERMAN, GILLIAM & MORROW COUNTIES

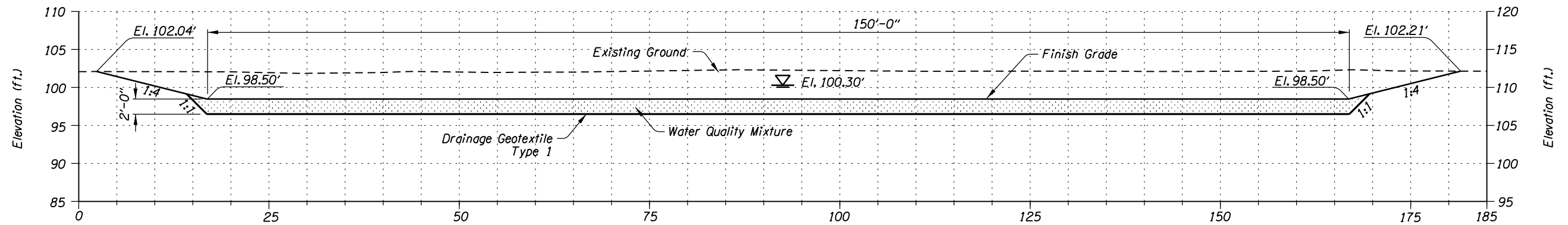
Reviewed By - Wade J. Coatney
Designed By - Austin G. Kleinberg
Drafted By - Michael L. Graves

BIORETENTION POND (EAST)

SHEET NO.
GJ-3



SECTION C-C



SECTION D-D

OREGON DEPARTMENT OF TRANSPORTATION

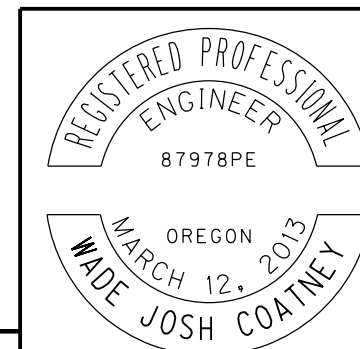
REGION 4 TECHNICAL CENTER

I-84: HOOD RIVER - TOWER ROAD SEC.
COLUMBIA RIVER HIGHWAY
HOOD RIVER, WASCO, SHERMAN, GILLIAM & MORROW COUNTIES

Reviewed By - Wade J. Coatney
Designed By - Austin G. Kleinberg
Drafted By - Michael L. Graves

BIORETENTION POND (EAST)

SHEET NO.
GJ-4



DFI NO.
DO1117

RENEWS: 12-31-2017

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST