OPERATION & MAINTENANCE MANUAL

DFI No. : D01116
Facility Type: Bioretention Pond

August 2017

INDEX

1. Identification

Drainage Facility ID (DFI):	**D01116**
Facility Type:	Bioretention Pond
Construction Drawings:	50V-108
Location:	District: 9
	Highway No.: 002
	Mile Post: 73.98 – 74.00
	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

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 west of a slightly larger bioretention pond (D01117). 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

5. Facility Haz Mat Spill Feature(s)

The bioretention pond can be used to store approximately 2,360 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

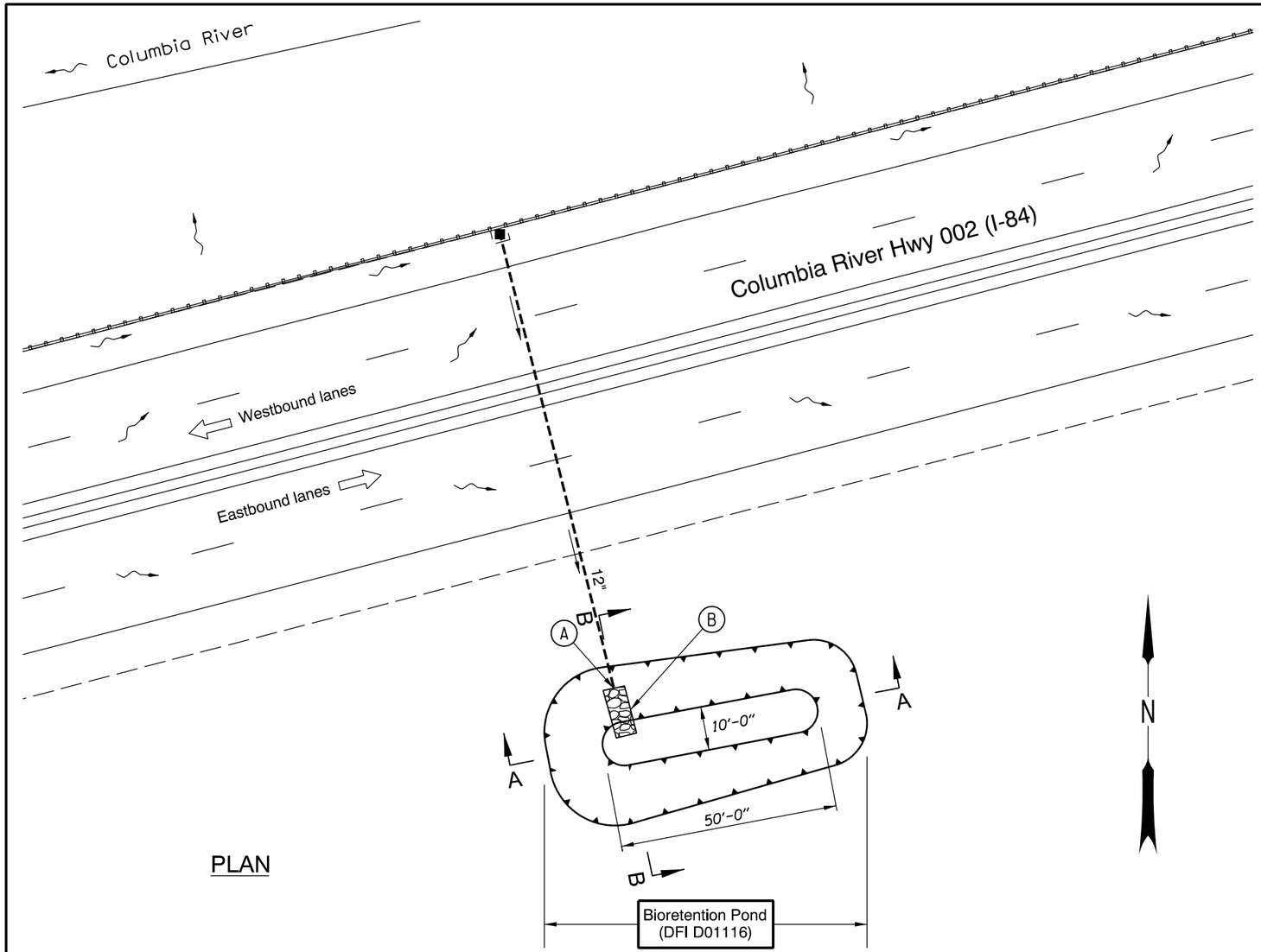
Contact any of the following for more detailed information about management of waste materials found on site:

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

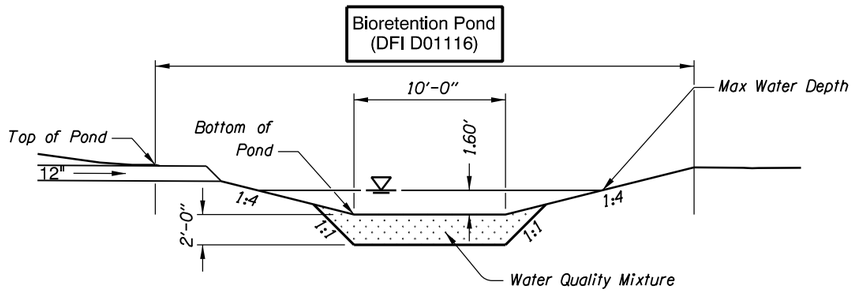
Appendix A

Content:

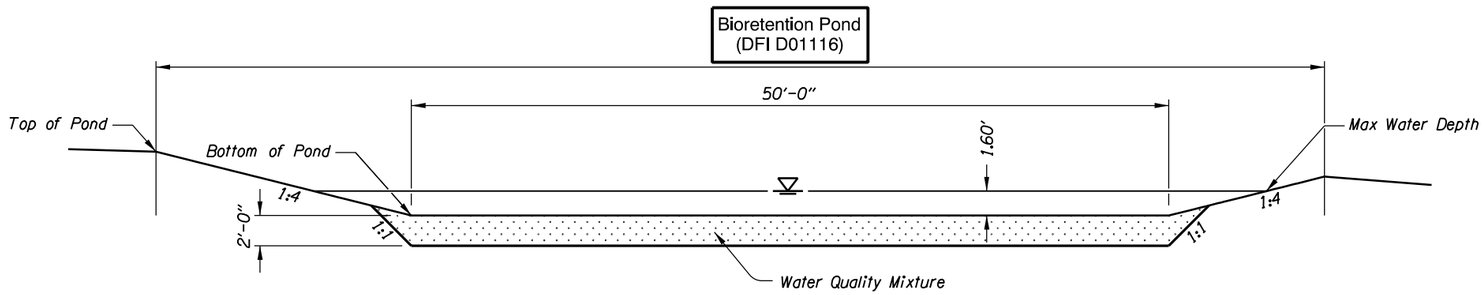
- **Operational Plan and Profile Drawing(s)**



PLAN



SECTION B-B
1" = 10'



SECTION A-A
1" = 10'

LEGEND:
- Photo Location / Direction
- Facility Inlet
- Riprap Embankment Protection
- Type "G-2MA" Inlet
- Storm Pipe (Facility)
- Conveyance Direction
- Pavement / Facility Flow Path

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Austin G. Kleinberg

Drafted By: Austin G. Kleinberg

DFI D01116
MAINTENANCE DISTRICT 9 HWY 002
BIORETENTION POND
HIGHWAY MP 73.98 - 74.00
WASCO COUNTY

Appendix B

Content:

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

50V-108

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

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

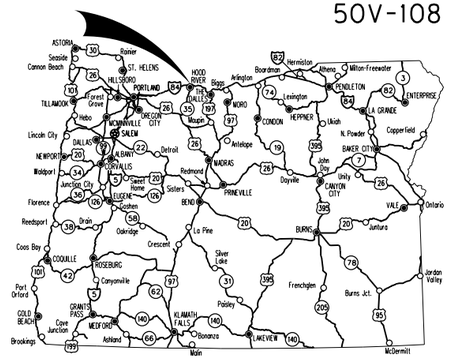
PLANS FOR PROPOSED PROJECT

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

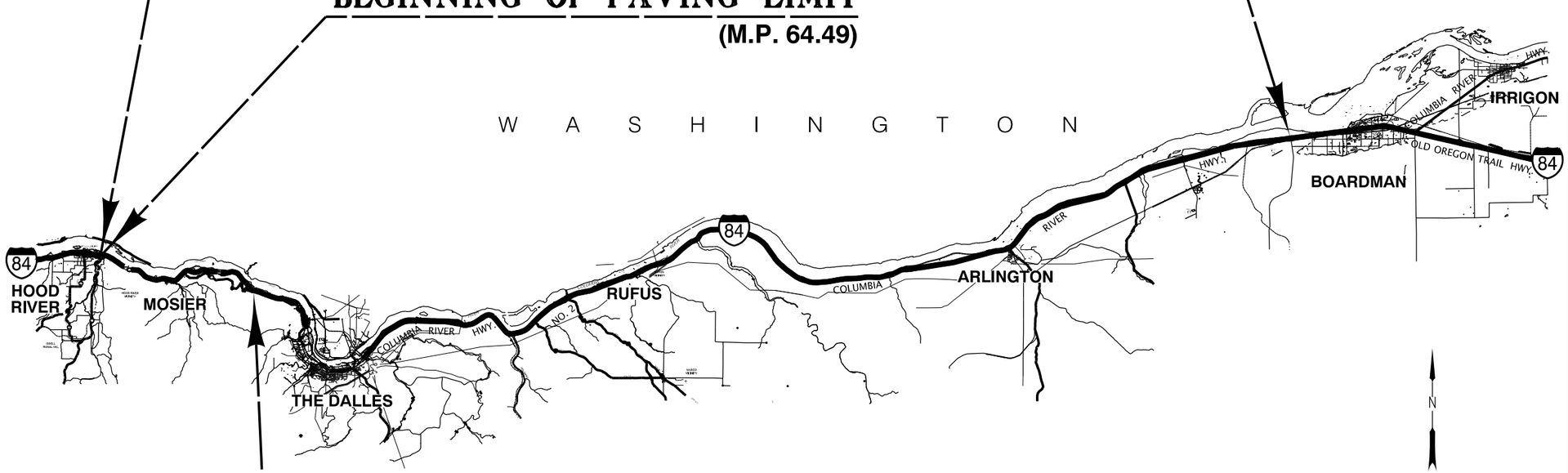
ATTENTION:
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Center Is (503) 232-1987.)

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

BEGINNING OF PROJECT
STP S002(218)
(M.P. 64.44)

BEGINNING OF PAVING LIMIT
(M.P. 64.49)

END OF PROJECT
STP S002(218)
(M.P. 159.30)



END OF PAVING LIMIT
(M.P. 76.45)

OREGON TRANSPORTATION COMMISSION

Tammy 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

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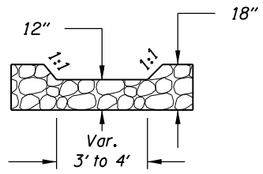
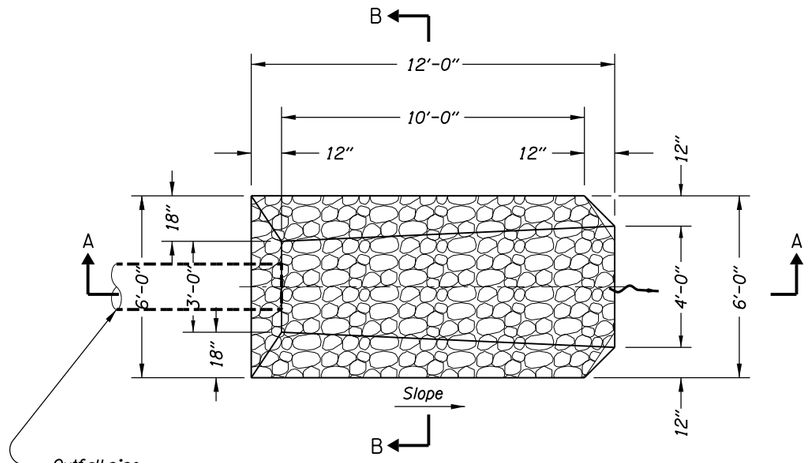
1:1200 - 001

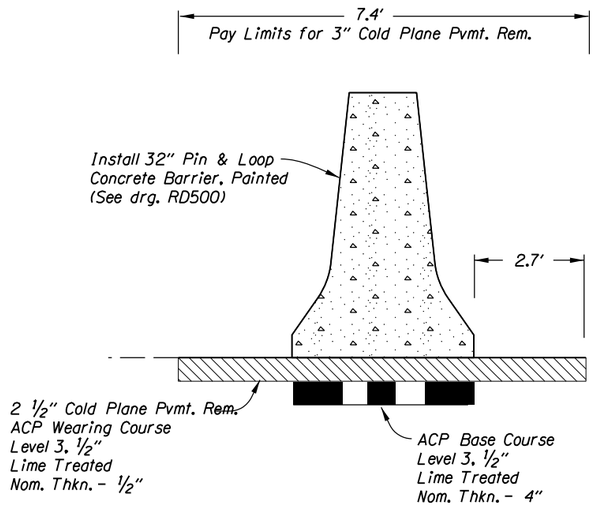


SECTION B-B



PLAN

SECTION A-A



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

WATER QUALITY RIPRAP ENERGY DISSIPATOR

REGISTERED PROFESSIONAL ENGINEER
57775PE
OREGON
JANUARY 13, 2004
MARTIN R. MATEJSEK
RENEWS: 12-31-2018

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

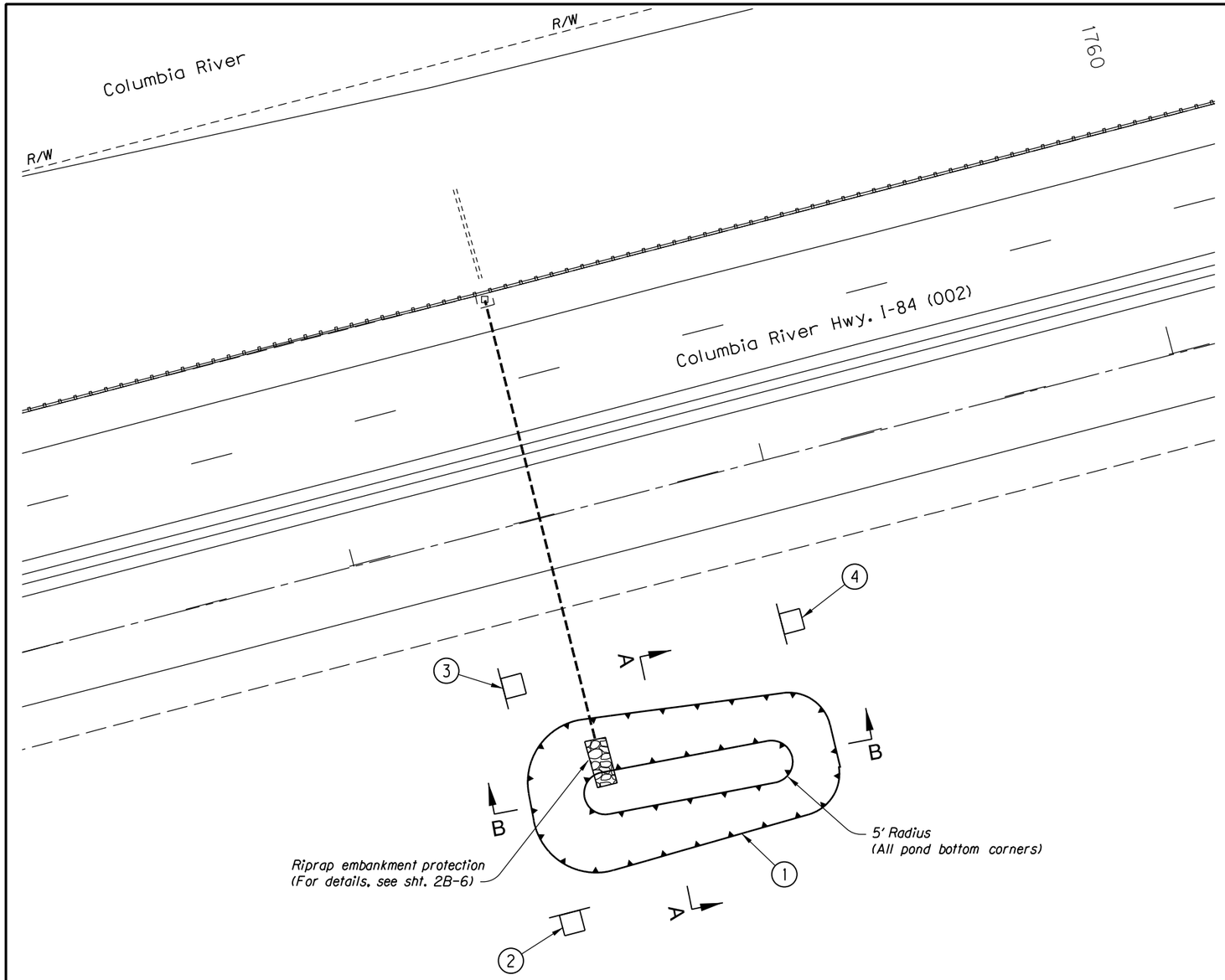
REGION 4 TECHNICAL CENTER

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



MP "EB" 73.98 To MP "EB" 74.00

PLAN

1. Const. Bioretention Pond
   Exc. - 240 cu.yd.
   Water Quality Mixture - 70 cu.yd.
2. Install Type "S2" marker
   DFI No. D01116
   (See drg. no. RD399)
3. Install Type "S1" marker - red
   (See drg. no. RD399)
4. Install Type "S1" marker - green

REGISTERED PROFESSIONAL ENGINEER
87978PE
OREGON
MARCH 12, 2013
WADE JOSH COATNEY
RENEWS: 12-31-2017

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DFI NO. D01116

OREGON DEPARTMENT OF TRANSPORTATION

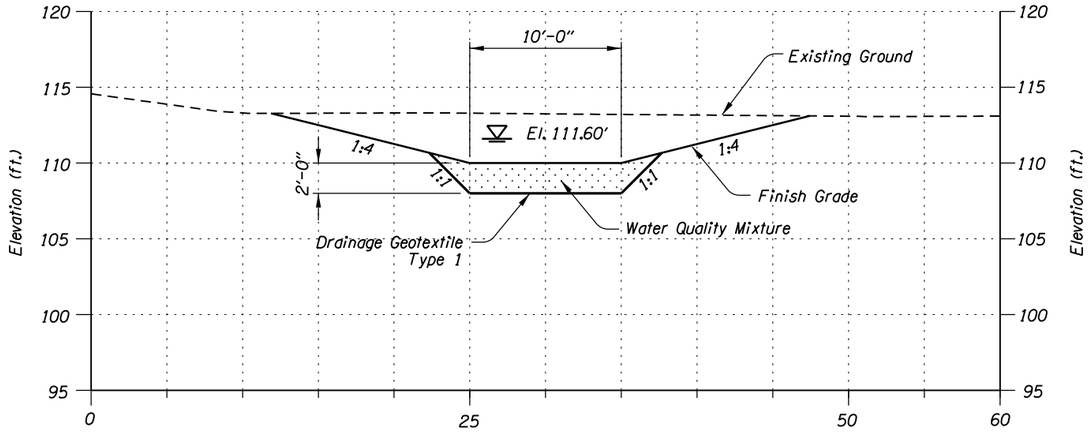
REGION 4 TECHNICAL CENTER

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

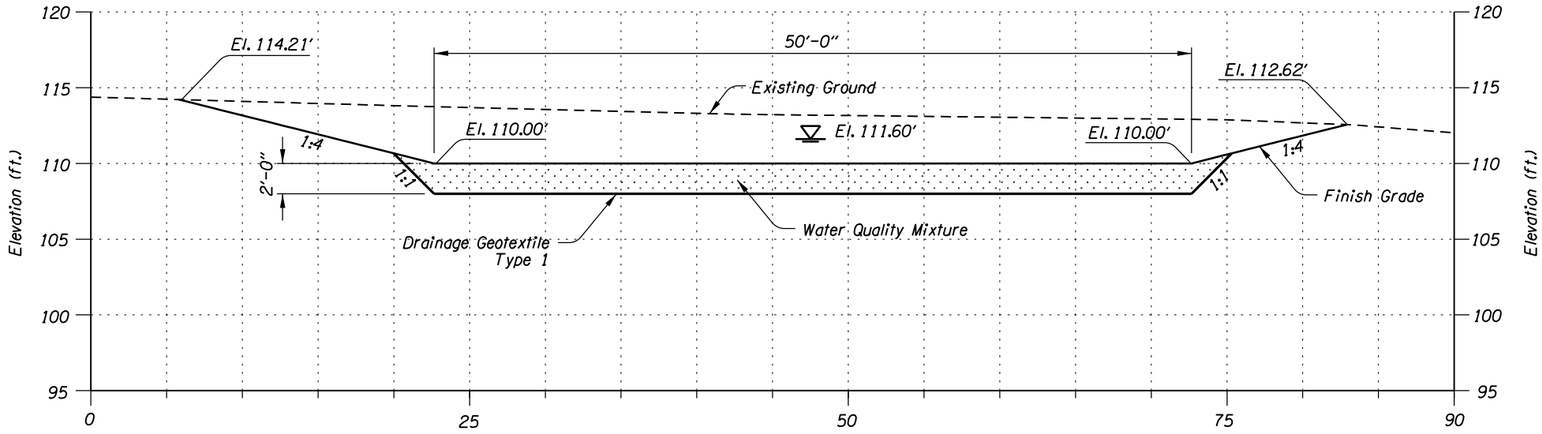
Reviewed By - Wade J. Coatney
Designed By - Austin G. Kleinberg
Drafted By - Michael L. Graves

BIORETENTION POND (WEST)

SHEET NO. GJ



SECTION A-A



SECTION B-B

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

REGISTERED PROFESSIONAL ENGINEER
87978PE
OREGON
MARCH 12, 2013
WADE JOSH COATNEY
RENEWS: 12-31-2017

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

DFI NO. D01116

BIORETENTION POND (WEST)

SHEET NO. GJ-2

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST