OPERATION & MAINTENANCE MANUAL

DFI No. : D01114
Facility Type: Water Quality
Bioretention Pond

November, 2017

INDEX

1. Identification

Drainage Facility ID (DFI):	**D01114**
Facility Type:	Water Quality Bioretention Pond
Construction Drawings:	(V-File Number) 51V-004
Location:	District: 10
	Highway No.: 041
	Mile Post: (15.76 to 15.77) Hwy 041
	Description: This facility is located in the Northwest quadrant of the OR 126/Tom McCall Roundabout.

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: HHPR, Ben Austin, PE, 503-221-1131

4. Storm Drain System and Facility Overview

This Bioretention pond is a flat bottom depressions that treats and provides temporary storage while stormwater is disposed of entirely via infiltration. Treatment is achieved as stormwater travels horizontally through a 24” thick layer of imported water quality soil mix which filters pollutants. Due the arid climate and lack of irrigation infrastructure, the water quality soil will be topped with 4” of rock mulch to reduce erosion and trap larger pollutants. The filtration process removes a variety of pollutants through physical, biological, and chemical treatment mechanisms. The ponds are sized to retain peak runoff volumes through the 100-year storm events while promoting infiltration as the disposal method.

Stormwater from Tom McCall Rd is collected by 2 inlets and is piped to the pond in 12” storm sewers, see Appendix A.

A. Maintenance equipment access:
   Access to the facility can be obtained from the side of Highway 126 or Tom McCall Rd

B. Heavy equipment access into facility:

   Allowed (no limitations)
   Allowed (with limitations)
   Not allowed

C. Special Features:

   Amended Soils
   Porous Pavers
   Liners
   Underdrains

5. Facility Haz Mat Spill Feature(s)

The Water Quality Bioretention Pond cannot be used to store a volume of liquid. If a spill occurs, cover any effected inlet(s) and plug the storm sewer pipe at the inlet or pipe outfall in the pond.

6. Auxiliary Outlet (High Flow Bypass)

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/HWY/OOM/MGuide.shtml

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)

Maintenance should include monitoring of the rock mulch for sediment or debris that may clog the infiltration capacity. Noxious weeds should be removed manually. Rock replacement is required if water quality soil becomes exposed. If sediments/debris completely cover the rock mulch surface, remove sediments/debris or remove and replace the rock mulch.

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://egov.oregon.gov/ODOT/HWY/OOM/EMS.shtml

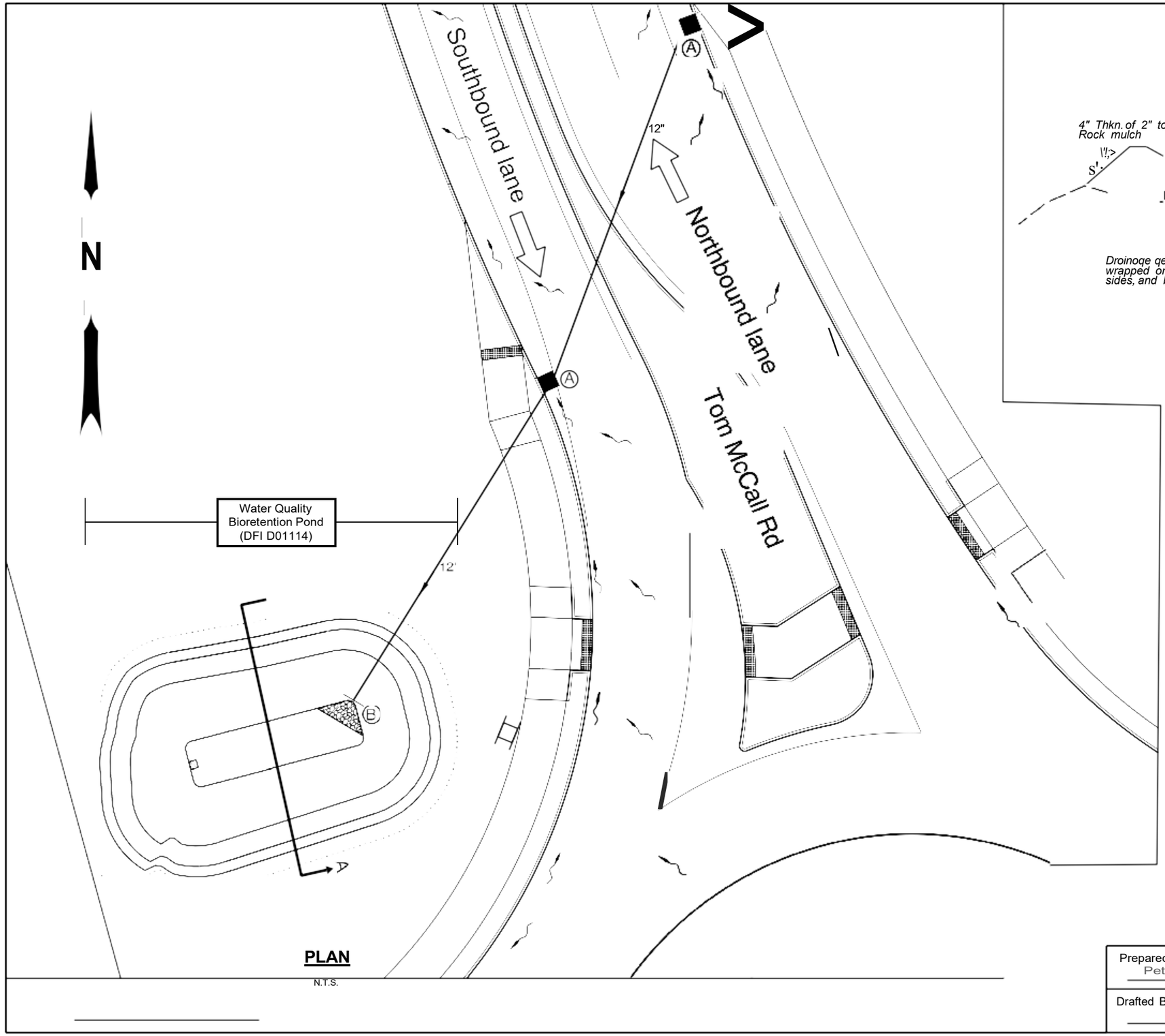
Contact any of the following for more detailed information about management of waste materials found on site:

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:

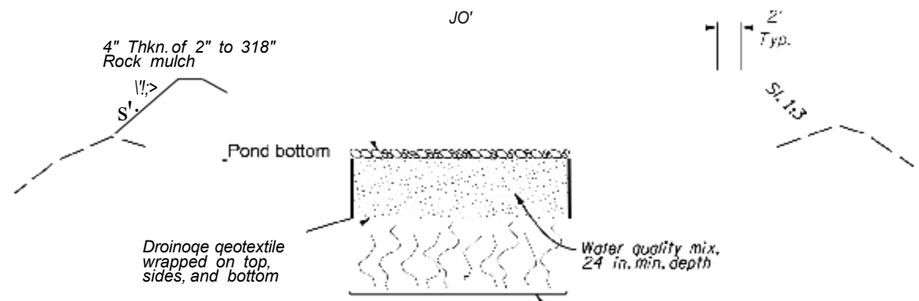
- **Operational Plan and Profile Drawing(s)**



PLAN

N.T.S.

Water Quality Bioretention Pond
(DFI D01114)



SECTION A-A

N.T.S.

LEGEND:

- Photo Location / Direction
- G-2 Inlet
- Outfall
- @and@ or Manhole
- ■ agd □ Inlet
- Storm Pipe (Facility)
- Conveyance Direction
- Pavement / Facility Flow Path
- IT DFI Paddle Marker
- [] DFI Concrete Pond Bottom Marker

ir **OREGON DEPARTMENT OF TRANSPORTATION**

Prepared By: Peter Coffman. PE

Drafted By: HHPR

DFI DO1114
MAINTENANCE DISTRICT 10 HWY 41
BIORETENTION POND
HIGHWAY MP 15.766
CROOK COUNTY

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DFI_D0111'1.dgn

Appendix B

Content:

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

S1V-004

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
AO!	Title Sheet
A02	Index Of Sheets Cont. & Std. Drq. Nos.

ST A TE OIF OREGON

DEJP ARTMENT OF TRANSJPORT ATION

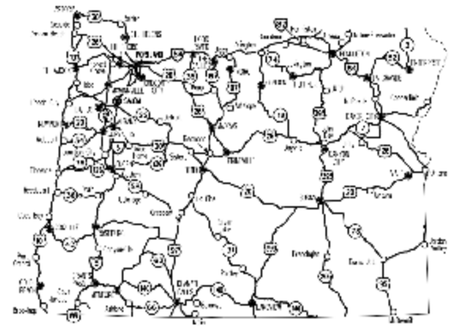
PLANS FOR PROPOSED PROJECT

GRADING, DRAINAGE, PAVING, SIGNING, & ILLUMINATION

FFO-OR126@ TOM MCCALL ROAD(PRINEVILLE) PROJECT

OCHOCO HIGHWAY

CROOK COUNTY
NOVEMBER 2017



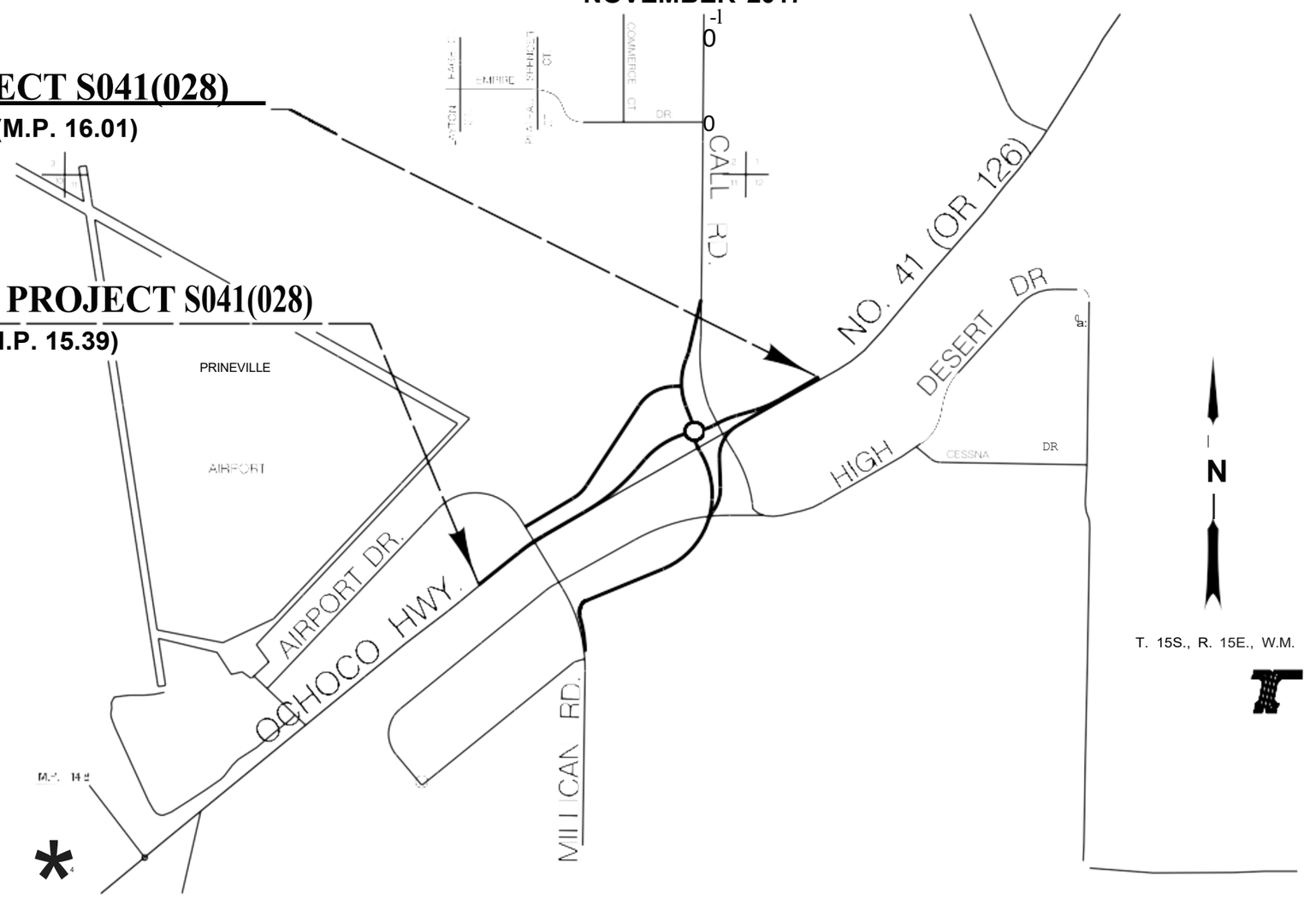
Overall Length Of Project - 0.62 Miles

ATTENTION

Oreoon Low ReQuires You **To Follow Rules Adopted By The Oreoon** Utility Notification **Center. Those Rules Are Set Forth** In **OAR 952-001·0010** Throuoh **OAR 952-001·0090.** You Moy Obtain **Copies Of The Rules By Colling The Center. !Note: The Telephone Number** For **The Oregon** Utility **Center Is <503> 232-1987.>**

END OF PROJECT S041(028)
STA. [11]R[11] 658+36.81 (M.P. 16.01)

BEGINNING OF PROJECT S041(028)
STA. "R" 625+97.14 (M.P. 15.39)



PLANS PREPARED FOR
OREGON DEPARTMENT OF TRANSPORTATION

Harper Houf Peterson Righellis Inc.
ENGINEERS• PLANNERS• LANDSCAPE ARCHITECTS •SURVEYORS

OREGON TRANSPORTATION COMMISSION

Tommy Boney	CHAIR
David Lohman	COMMISSIONER
Paulo Brown	COMMISSIONER
Alondo Simpson	COMMISSIONER
Sean O'Holloren	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: _____
Signature & date

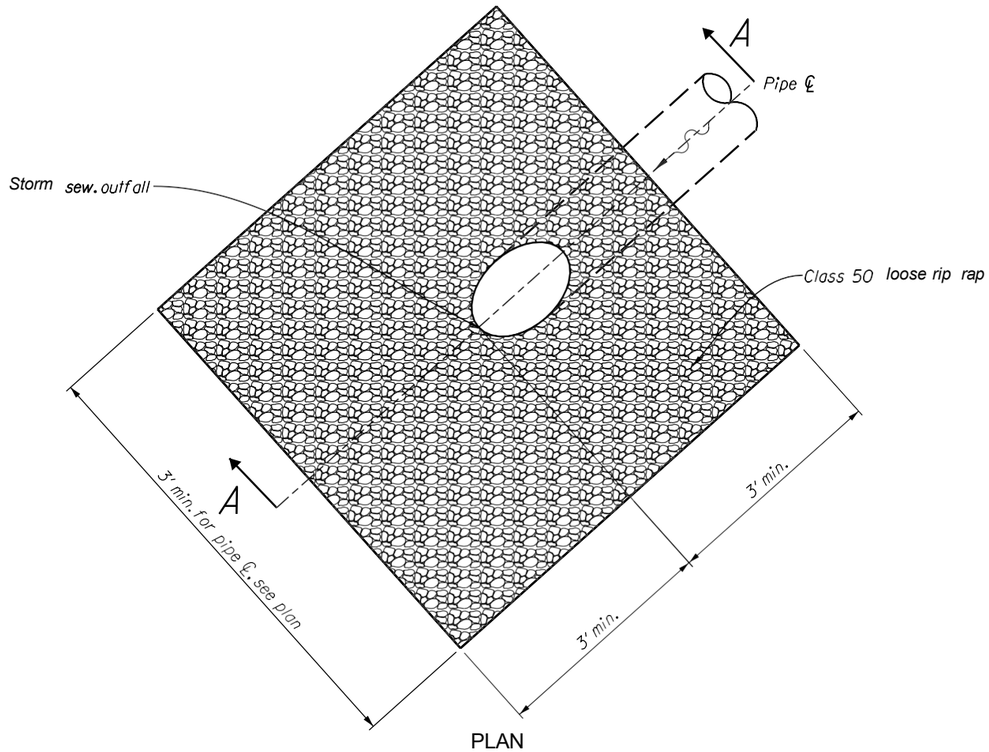
_____
Print name and title

_____
Concurrence by ODOT Chief Engineer

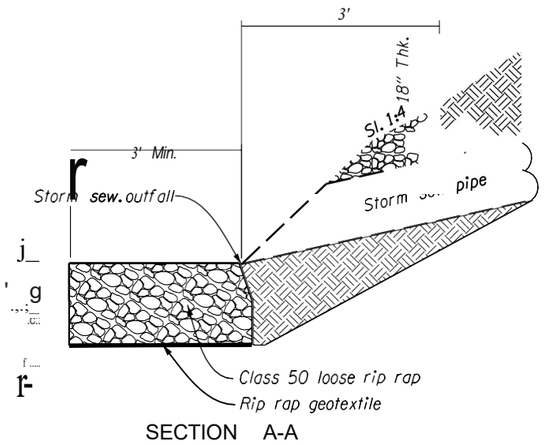
FFO-OR126 @ TOM MCCALL ROADIPRNEVILLEI PROJECT

OCHOCO HIGHWAY
CROOK COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	S04U028I	A01



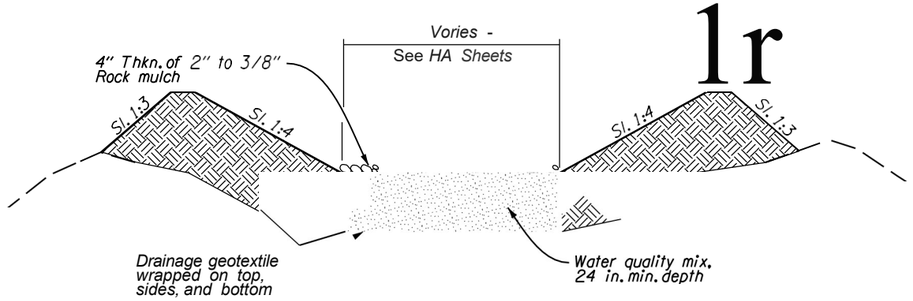
PLAN



SECTION A-A

OUTFALL PROTECTION

N.T.S.



BIORETENTION POND SECTION

N.T.S.

(Typical cross-section in Oregon climate zones 5, 6, 7, 8, and 9)

REGISTERED PROFESSIONAL ENGINEER
70,863
OREGON
JUL. 11, 2006
BENJAMIN R. AUSTIN

EXPIRES: 12/31/17

Harper Houf Peterson Righellis Inc.
2500NW111thAvenue,Suite404 Bend,OR 97703 PHONE:541.318.1161 www.hhpr.com FAX:541.318.1141

FFO-OR126@TOM MCCALL ROAD(PRINEVILLE) PROJECT

OCHOCO HIGHWAY
CROOK COUNTY

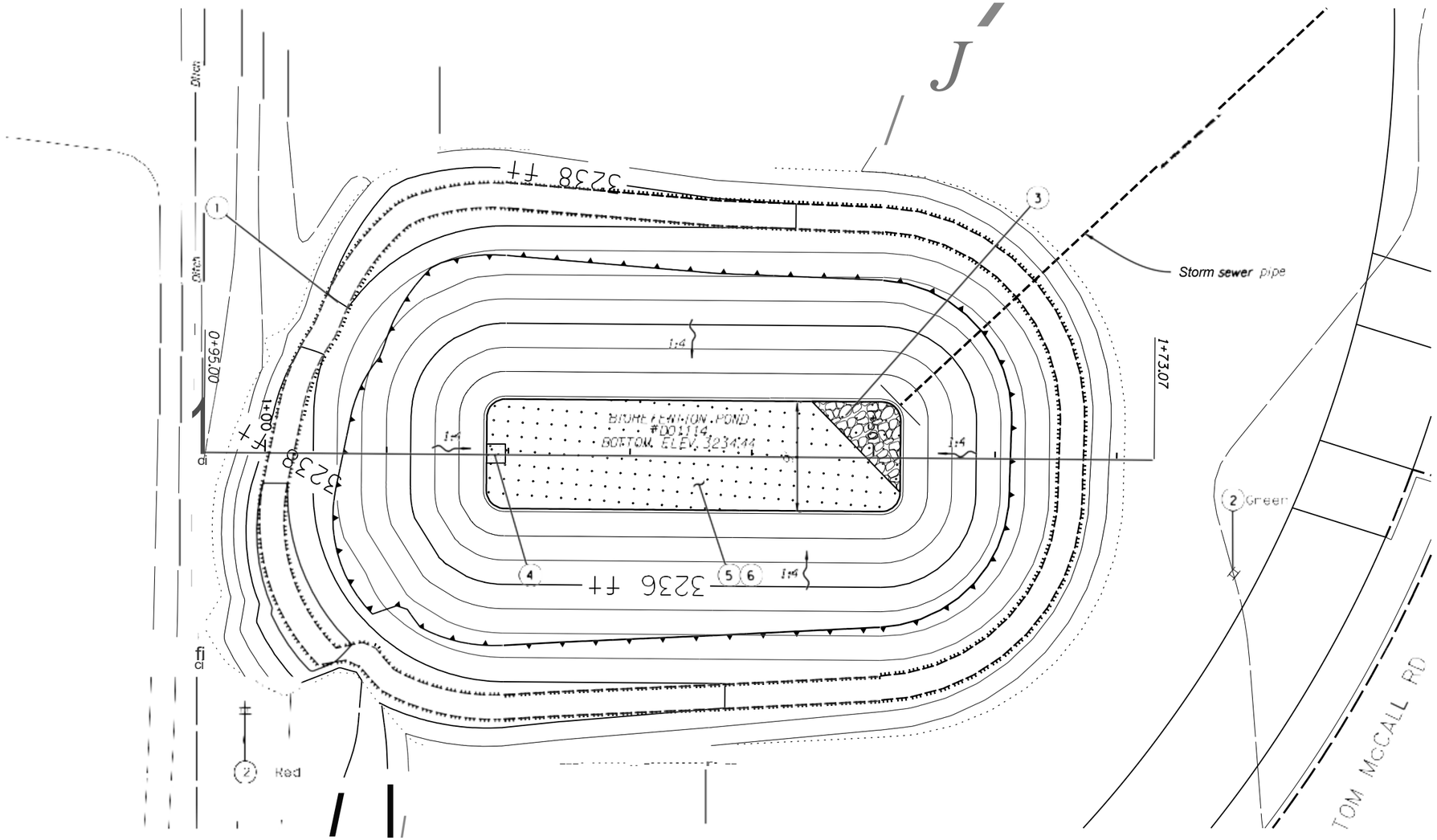
Designer: Benjamin R. Austin
Review: Neil A. Waibel
Drafter: Todd D. Fleming
Checker: Peter G. Coffman

STORMWATER DETAILS

SHEET NO.

Sec. 11, T.15S, R 15E, W.M.

SIV-004



(D Const. Bioretention pond #D01114
(For details. see sht. HA01)

@ Inst. stormwoter field marker, Type S1
Place 4' to 6' behind edge of pavement or curb/bock of walk
DFJ #D01114
(See std. drg. no. RD399J

(D Const.outfall protection
(For details, see sht. HA01)

0 Sta. "R" 646+00.06, 114.85' Lt
Const. 1.5' X 1.5' Cone. pod
Stomp,"Pond Bottom 3234.44"

® Inst. rock mulch
nom. thkn - 4"
On bottom of pond

© Fracture rock 5' below bottom of excavation

LEGEND

——— —— Bioretention Pond Top

..... Bioretention Pond Berm

Hip Hap

Limits of Rock Fracture

N

REGISTERED PROFESSIONAL ENGINEER
70.063
OREGON
IV. - 11
v-<IMtN R. AUSTIN
EXPIRES: 12/31/17

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS• PLANNERS• LANDSCAPE ARCHITECTS• SURVEYORS
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FFO-OR 126 @TOM MCCALL ROAD(PRINEVILLE) PROJECT

OCHOCO HIGHWAY
CROOK COUNTY

Designer: Benjamin R. Austin
Review: Neil A. Waibel
Drafter: Todd D. Fleming
Checker: Peter G. Coffman

STORMWATER DETAILS

SHEET NO.
HA02

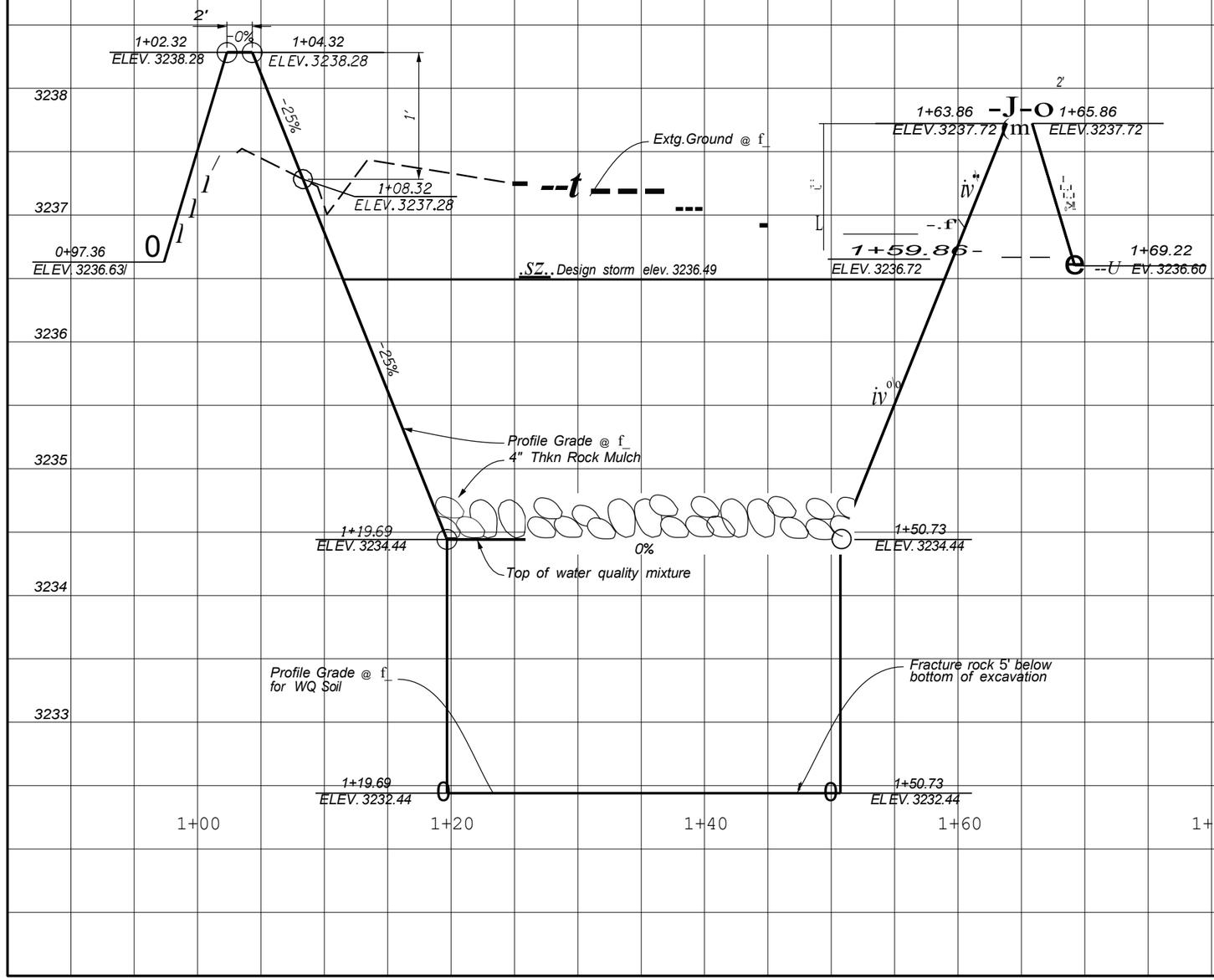
18728_HAOI.dgn :: HA02 POND I 8/ILJ/2017 9:53:57 AM Toddf

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 15. ILJLJ6° Seale: I"=IQ'

POND #D01114

SlV-004



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STORMWATER DETAILS

SHEET NO.
HA02A