OPERATION & MAINTENANCE MANUAL

Detention Pond

Manual prepared: February 2019

DFI No. D00882

Figure 1: DFI No. D00882, looking southwest

1. Identification

Drainage Facility ID (DFI):	D00882
Facility Type:	Detention Pond
Construction Drawings:	(V-File Numbers) NA
Location:	District: 2B
	Highway No.: 144
	Mile Post: 3.96 to 4.03, [left]

2. Manual Purpose

The purpose of this manual is to outline inspection needs and summarize maintenance actions for stormwater ponds.

3. Facility Location

The location map below details the facility location. The highway, mile posts, side streets, access location, and stormwater flow directions are noted on the map.

Facility location type: On ramp

Flow direction: northwest

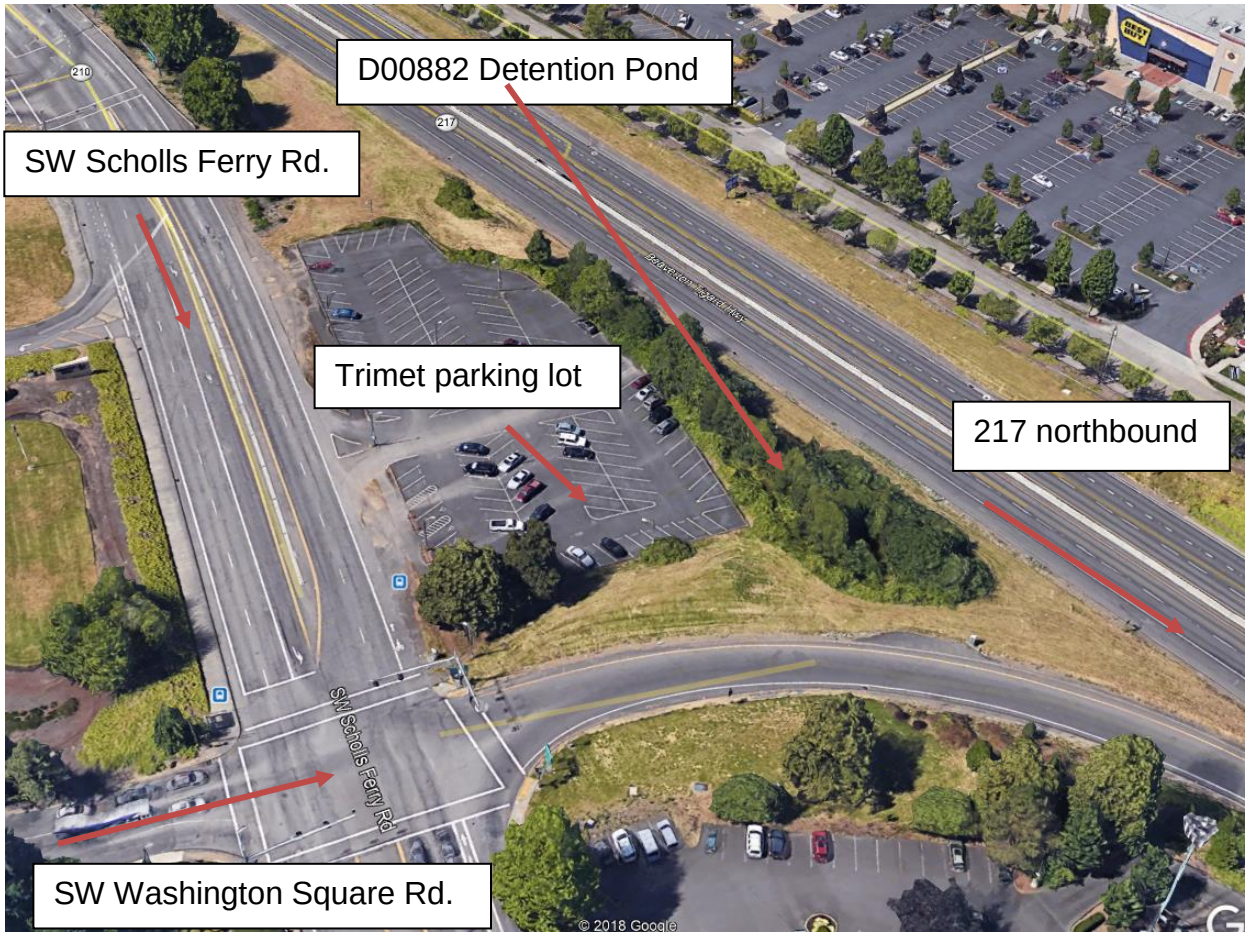


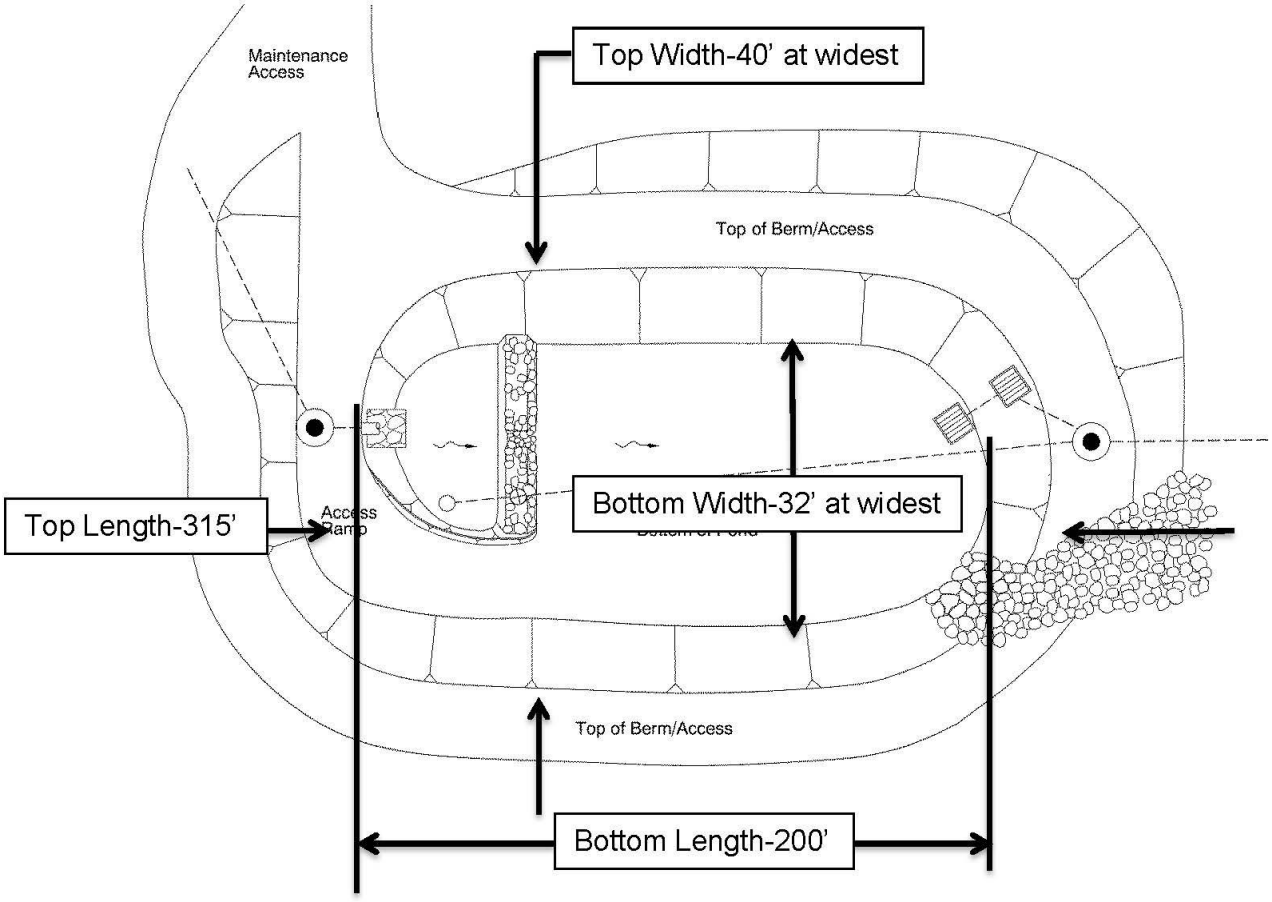
Figure 2**: [Facility map]**

4. Facility Summary

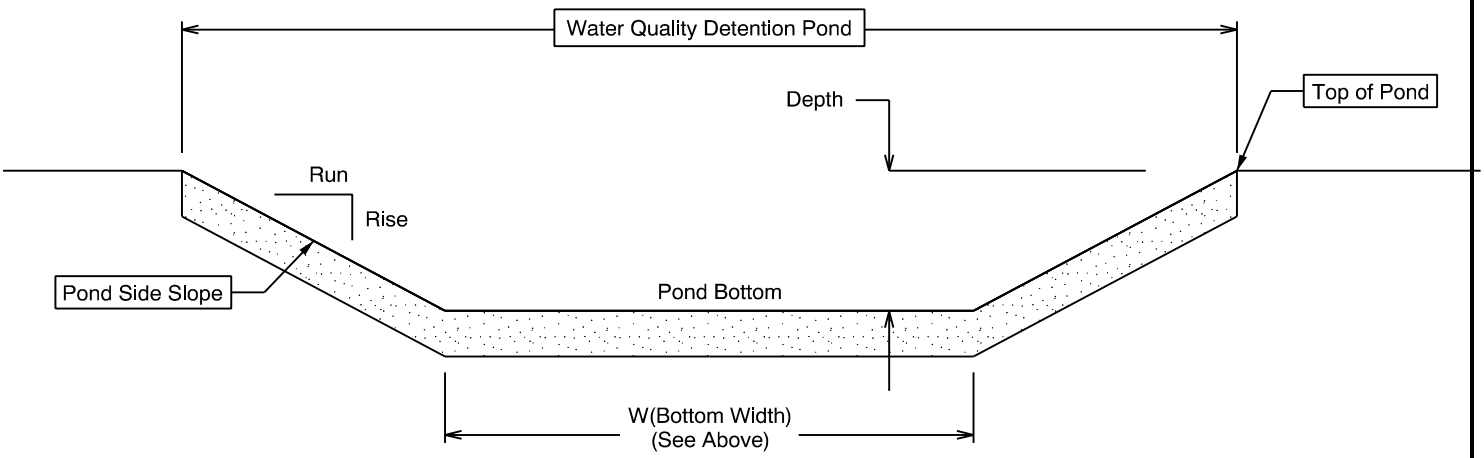
The pond size is based on storage volume, the bottom and top surface areas and the depth are used for this measurement.

The bottom area and top area of the pond is:

Bottom Area (sq. ft.)	Top Area (sq. ft.)
3180	6530



The depth of the pond is the vertical distance measured from the bottom of the pond to the top. The slope of the pond sides is presented by a vertical distance (rise) followed



by the horizontal distance (run).

Depth and side slopes:

Depth (feet)	Rise (feet)	Run (Feet)
4	1	4

Site Specific Information: The installation of this facility was not part of an ODOT highway project and therefore no plan sets are included. Appendix A is included in this manual, but there is no Appendix B. Annual maintenance for the facility should include mowing around the perimeter and inspection of inlets and outlets. Tree limbs should be periodically trimmed as needed. The facility was built to treat the sheet-flow draining from the Trimet Smart Park.

5. Facility Access

Maintenance access to the facility:

☒Roadside pad	☒Roadside shoulder
☐Access road with Gate	☒Access road without Gate

Figure 3: Facility access

6. Operational Components / Maintenance Items

Classification and Standard Operational (Op) Plan:

This facility is classified as a:

☒ Detention Pond (Op Plan A)	☐ WQ Bioretention Pond (Op Plan B)	☐ WQ Extended Detention Dry Pond (Op Plan C)	☐ WQ Detention Pond/Biofiltration Swale Combo (Op Plan D)
A standard operational plan illustrates the general facility footprint configuration and explains the purpose of each facility component. Operational plans (A,B,C,D) are provided in the Standard Operation Manual.			

See Appendix A for the site specific operational plan.

Key Features/Items:

This facility is classified as a:

☐ Dry Pond	☒ Wet Pond
The pond is wet during storm events and dries during periods of no precipitation.	**The pond has constant presence of water year round. A portion of the pond dries during periods of no precipitation.**

This facility includes a **high flow bypass component**:

☒ No	☐ Yes
There is no bypass component. High flows drains into and through the facility	**There is a bypass component. Only low/small flows drain into the pond. High flows are diverted around the pond using a bypass component**

This facility includes a **proprietary structure(s)**:

☒ No	☐ Yes (DXXXXX)
There are no proprietary structures associated with this facility.	**A proprietary structure is used in the operation of this facility. The proprietary structure is a/an:**

Operational Components

The facility components table (**Table 1**) has been provided to highlight the applicable components for this facility. The component is in use when the box contains an "x" (e.g. ☒).

The Standard Operation Manual for Ponds (implemented Month YYYY) outlines facility operation, typical footprint configuration, and component definitions and details. A link to the manual is attached to the feature marker in TransGIS. https://gis.odot.state.or.us/TransGIS/

Maintenance Items

Operational components marked in **Table 1** should be inspected and maintained according to Section 7. Each facility component is defined and detailed in the Standard Operation Manual using the associated ID number indicated in the table below.

Table 1: Stormwater Pond Components		ID #
Upstream Manholes/Structures		
Pre-treatment Manhole Type:	☐	**P1**
Water Quality Manhole Type:	☐	**P2**
Flow Splitter Manhole	☐	**P3**
Standard Manhole	☐	**P4**
Sediment Basin/Forebay	☐	**P5**
Forebay Dewatering Riser Pipe (outlet)	☐	**P6**
Facility Inlet		
Pavement Sheet Flow	☒	**P7**
Inlet Pipe(s)	☐	**P8**
Open Channel Inlet	☐	**P9**
Riprap Pad (Energy Dissipater)	☐	**P10**
Ground Cover		
Grass Bottom	☒	**P11**
Grass Side Slopes	☒	**P12**
Granular Drain Rock	☐	**P13**
Plantings	☒	**P14**
Underground Components		
Geotextile Fabric:	☐	**P15**
Impermeable Liner	☐	**P16**
Compost/Topsoil Blend	☒	**P17**
Perforated Pipe	☐	**P18**
Bottom Marker (ex. Porous Pavers)	☐	**P19**

Flow Spreader		
Anchored Board (midpoint of pond or every 50 feet along pond bottom)	☐	**P20**
Other:	☐	**P21**
Facility Outlet		
Catch Basin with Grate	☐	**P22**
Outlet Pipe(s)	☒	**P23**
Outlet/Flow Control Structure	☒	**P24**
Auxiliary Outlet	☐	**P25**
Hazmat Control Valve:	☐	**P26**
Outfall Type		
Waterbody (**C**reek/**L**ake/**O**cean)	☐ **C** ☐ **L** ☐ **O**	**P27**
Ditch	☐	**P28**
Storm Drain System	☒	**P29**
Outfall Components		
Riprap Pad	☐	**P30**
Riprap Bank Protection	☐	**P31**

7. Maintenance

Maintenance Frequency/Maintain Records

a. Inspect annually. Preferably prior to the rainy season.
b. Clean and maintain as necessary. Refer to Activity 125 in the Maintenance Guide for conditions when maintenance is needed.
c. Keep a record of inspections, maintenance, and repairs.

Maintenance Guide/Maintenance Actions

The Maintenance Guide outlines the standard maintenance actions for water quality facilities under Activity 125.

There are standard maintenance tables for standard ODOT designs. The maintenance tables describe the maintenance component, the defect or problem, the condition when maintenance is needed, and the recommended maintenance to correct the problem. Use the following tables to maintain ODOT Ponds:

- Table 1 (General Maintenance): Contains general maintenance and inspection guidelines that are applicable to all ODOT water quality facilities
- Table 2 (Maintenance of Stormwater Ponds): Contains maintenance information for ponds

The ODOT Maintenance Guide can be viewed at the following website:
http://www.oregon.gov/ODOT/HWY/OOM/pages/mguide.aspx

The Blue Book can be viewed at the following website:
http://www.oregon.gov/ODOT/Maintenance/Documents/blue_book.pdf

8. Limitations

There are access limitations for this facility:

☐ No	☒ Yes
There are no duty porous pavers installed in this pond.	

Ponds are designed to allow equipment access along the bottom if an access grid is installed. If an access grid is NOT installed, vehicles entering the pond can create depressions (tire ruts), damage vegetation, or damage structural components (e.g. flow spreaders). These conditions may result in poor treatment and drainage performance.

If no access grid then: Equipment wheels should be kept on the tops and side slopes. Mower arms may be run along the pond bottom.

9. Waste Material Handling

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

http://www.oregon.gov/ODOT/HWY/OOM/pages/ems.aspx

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) 667-7442
ODOT Region 1 Hazmat Coordinator	(503) 731-8290
ODOT Region 2 Hazmat Coordinator	(503) 986-2647
ODOT Region 3 Hazmat Coordinator	(541) 957-3594
ODOT Region 4 Hazmat Coordinator	(541) 388-6186
ODOT Region 5 Hazmat Coordinator	(541) 963-1590
ODEQ Northwest Region Office	(503) 229-5263

A Appendix A – Site Specific Operational Plan

Contents:

Operational Plan: DFI D00882

N

SW Scholls Ferry Rd.

Trimet Smart Park

Highway 217
Northbound Onramp

Maintenance
Access

S14 Pavement Sheet Flow

Detention Pond

Outlet Pipe

P23

12" Conc

Water Quality
Structure

P24 Outlet Flow Control Structure

North
21
Mile
4.0

Inlet

Sump

Inlet

Inlet

A

A

P14

8" CON

NOD 8

Highway 217 North

P29 Storm Drain System

10"

Highway 217 South

D00882 Detention Pond

Mile Post
3.96

Mile Post
4.03

P11 Grass Bottom

P12 Grass Side Slopes

Varies 32' bottom to 40' top

Planting
throughout P14

Sl. 1:4

P17 1" thk.
topsoil/compost
blend

P17

1'-6" Blended
compost/topsoil
mixture

SECTION A-A
N.T.S.

LEGEND:

X#	Facility Component (see table 1 in O&M Manual)
and or	Manhole
and or	Inlet
	Storm Pipe (Facility)
	Storm Pipe
	Conveyance Direction
	Pavement / Facility Flow Path
	Traffic Flow Direction

OREGON DEPARTMENT
OF TRANSPORTATION

Sht. 01 of 01

Prepared By:
Laila Bush

Drafted By:
Laila Bush

DFI D00882
MAINTENANCE DISTRICT 2B HWY 144
Detention Pond
Highway 217 MP 3.96-4.03
Washington County

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B Appendix B – Project Contract Plans

Contents:

Site Specific Subset of Project Contract Plan NA