OPERATION & MAINTENANCE MANUAL

Detention Pond

Manual prepared: May / 2018

DFI No. D00363

Water Quality Detention Pond DFI No. D00363

(if applicable)

Figure 1: DFI No. D00363, looking Southwest

Identification

Drainage Facility ID (DFI):	D00363
Facility Type:	Choose an item.
Construction Drawings:	(V-File Numbers) 27V-025
Location:	District: 3
	Highway No.: 091
	Mile Post: 38.19 to 38.19, [left side]

1. Manual Purpose

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

2. 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: Roadway shoulder

Flow direction: [note cardinal direction]

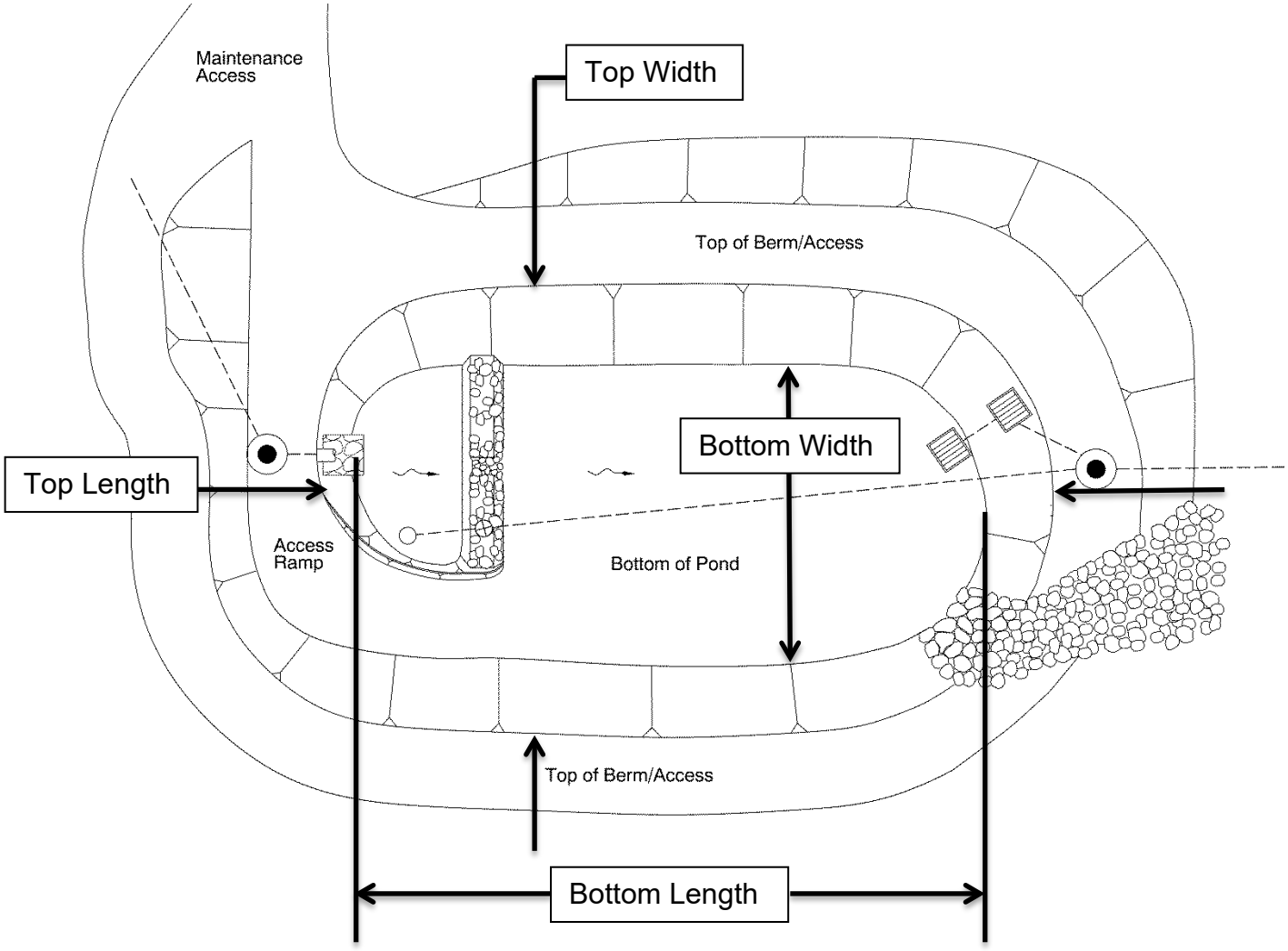
Figure 2**: [ODOT Geo-Environmental to insert facility location map]**

3. 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.)
300	XXX

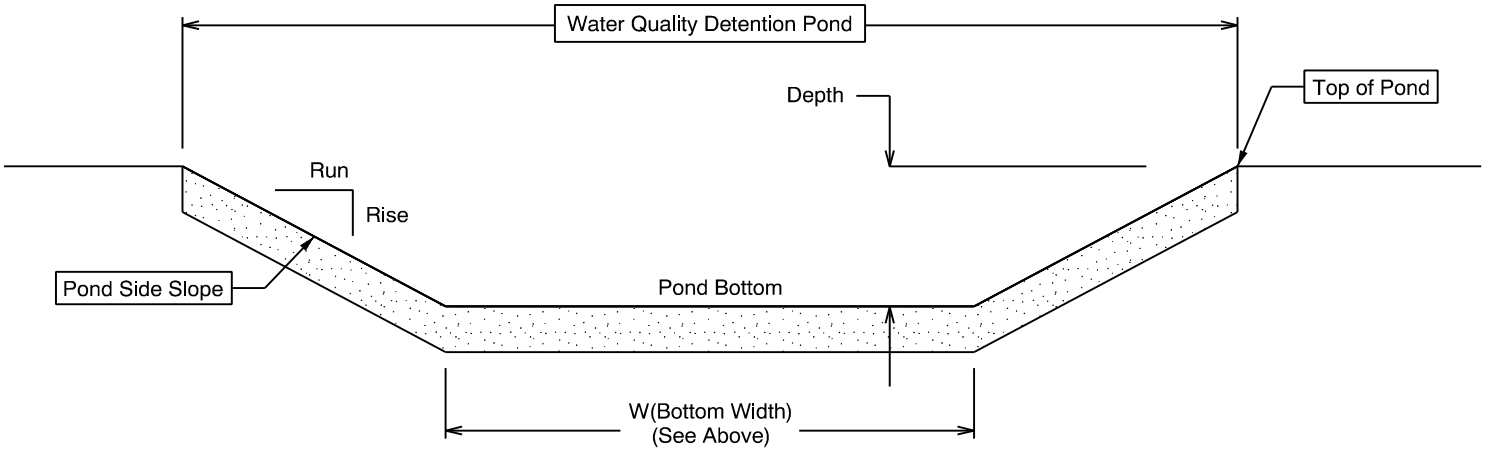


The depth of the pond is the vertical distance measured from the bottom of the pond to the top. The slope of the pond sides is presented by a vertical distance (rise) followed by the horizontal distance (run).

Depth and side slopes:

Depth (feet)
5

Side Slope	
Rise (feet)	1
Run (feet)	3



Site Specific Information: Add site specific information that is not standard to the Operation Manual

4. Facility Access

Maintenance access to the facility:

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

Figure 3: [insert post construction facility access photo and caption text]

5. Operational Components / Maintenance Items

Classification and Standard Operational (Op) Plan:

This facility is classified as a:

☒ Detention Pond (Op Plan A)	☐ Bioretention Pond (Op Plan B)	☐ Extended Detention Dry Pond (Op Plan C)	☐ 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: describe

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: Facility Components		ID #
Upstream Manholes/Structures		
Pre-treatment Manhole Type: describe	☐	**P1**
Water Quality Manhole Type: describe	☐	**P2**
Flow Splitter Manhole (Weir/Orifice)	☐	**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: Specify Type	☐	**P15**
Impermeable Liner	☐	**P16**
Water Quality Mix	☐	**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: describe	☐	**P21**
Facility Outlet		
Catch Basin with Grate	☐	**P22**
Outlet Pipe(s)	☐	**P23**
Outlet/Flow Control Structure	☐	**P24**
Auxiliary Outlet	☐	**P25**
Hazmat Control Valve: Specify make/model	☐	**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**

6. 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

7. Limitations

There are access limitations for this facility:

☒ No	☐ Yes
There are (no, light, med., heavy) 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.

8. 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

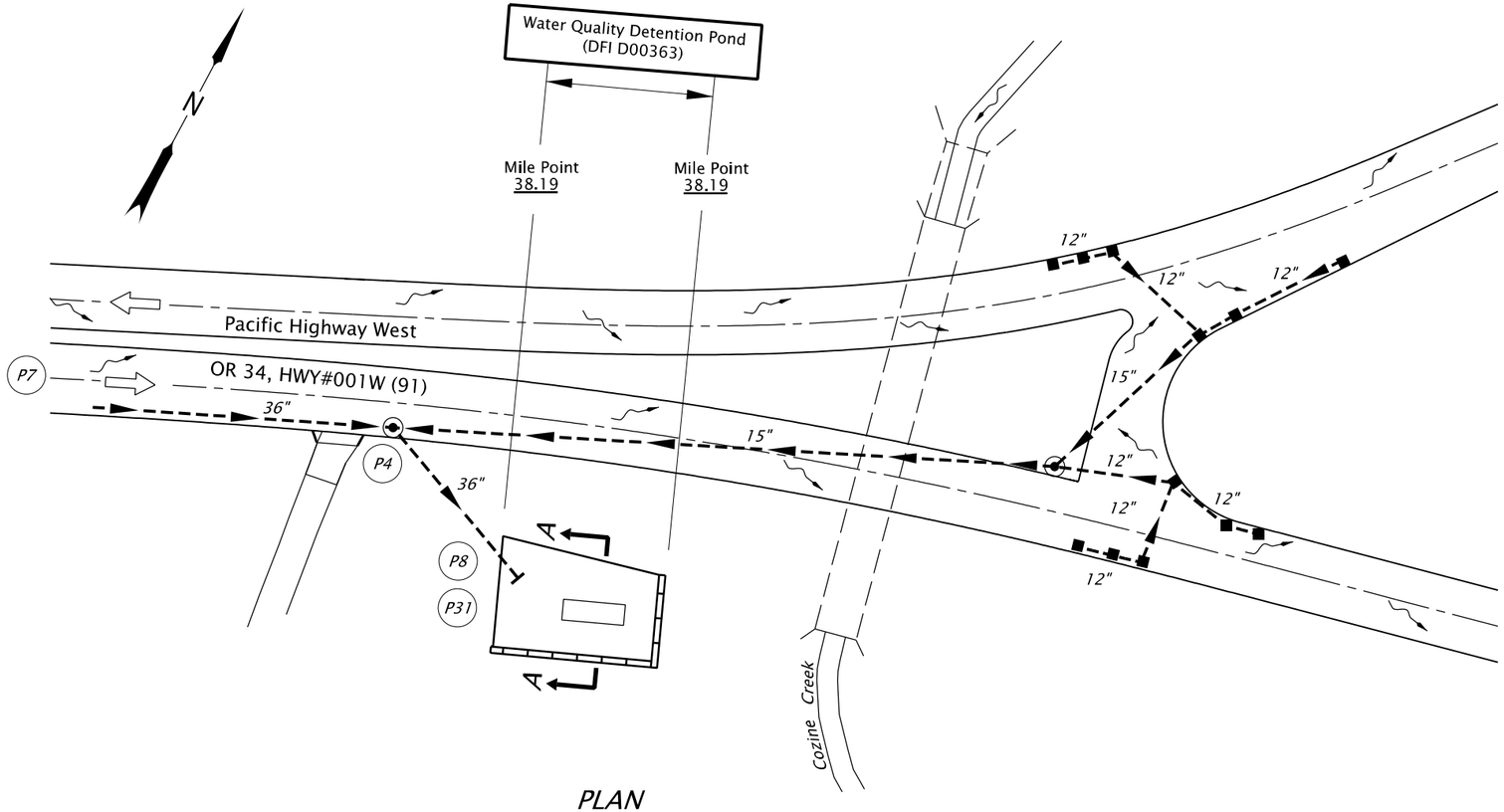
Contact any of the following for more detailed information about management of waste materials found on site:

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

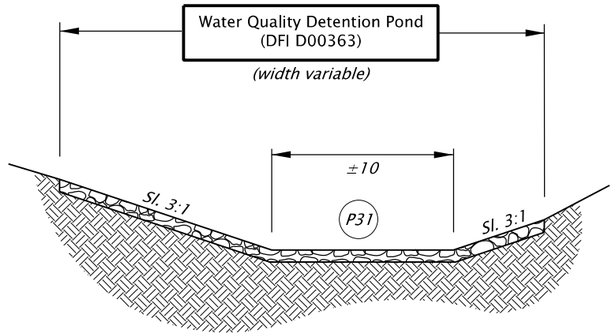
A Appendix A – Site Specific Operational Plan

Contents:

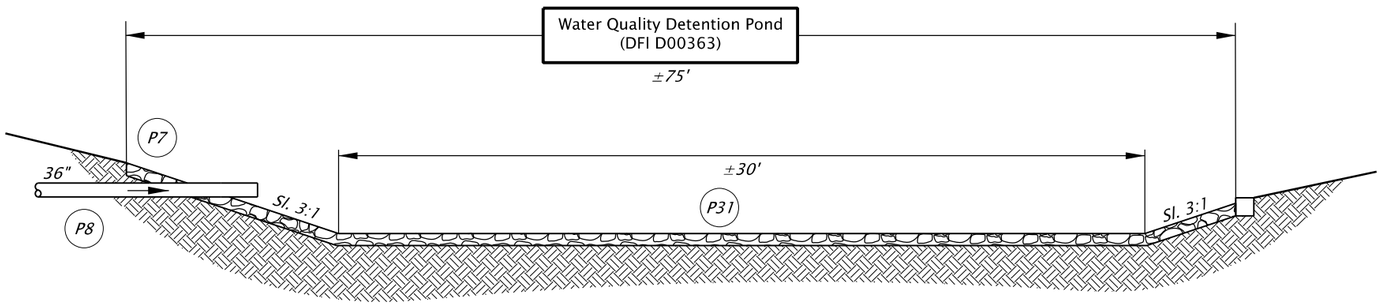
Operational Plan: DFI D00363



PLAN
N.T.S.



SECTION A–A
N.T.S.



PROFILE
N.T.S.

LEGEND:

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

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Name

Drafted By: JM/IKS

DFI D00363
MAINTENANCE DISTRICT 3 HWY 091
DETENTION POND
HIGHWAY MP 38.19
YAMHILL COUNTY

DFI_D00363.dgn

B Appendix B – Project Contract Plans

Contents:

Site Specific Subset of Project Contract Plan 27V-025

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Contd. & Standard Drawings Nos.
2, 2A Thru 2A-9 Incl.	Typical Sections
2B Thru 2B-4 Incl.	Details
2C Thru 2C-4 Incl.	Traffic Control And Temporary Signing
2D Thru 2D-4 Incl.	Erosion Control Plans
2E Thru 2E-4 Incl.	Pipe Data
2F	Summary
3, 3A, 3B	Plans
3C	Profile
4, 4A, 4B, 4B-2	Plans
4C	Profile
5, 5A, 5B	Plans
5C	Profile
6, 6A, 6B, 6B-2	Plans
6C	Profile
7, 7A, 7B	Plans
7C,	Profile
8, 8A, 8B	Plans
8C	Profile
9 Thru 20 Incl. 20A, 20A1, 20A2, 20B, 20C, 20D 21 Thru 31 Incl., 31A, 32 thru 36 Incl.	Landscape

DRAWING NO.	DESCRIPTION
	BRIDGE NO. 5023A
52598	Box Culvert Plan And Elevation
52599	Box Culvert Foundation Data
	BRIDGE NO. 17979
52594	Soundwall General Layout
52595, 52596	Soundwall Plan & Elevation
52597	Soundwall Miscellaneous Details
	BRIDGE NO. 17978
52593	Gravity Wall No. 1 Plan & Elevation
	BRIDGE NO. 18126
52592	Gravity Wall No. 2 Plan & Elevation

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

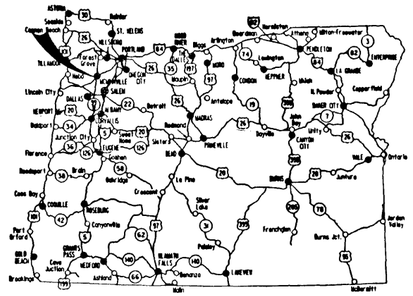
GRADING, STRUCTURE, PAVING, SIGNING, ILLUMINATION, & SIGNAL

EDMUNSTON ST. - SALMON RIVER HWY. (McMINNVILLE) SEC.

PACIFIC HIGHWAY WEST

YAMHILL COUNTY

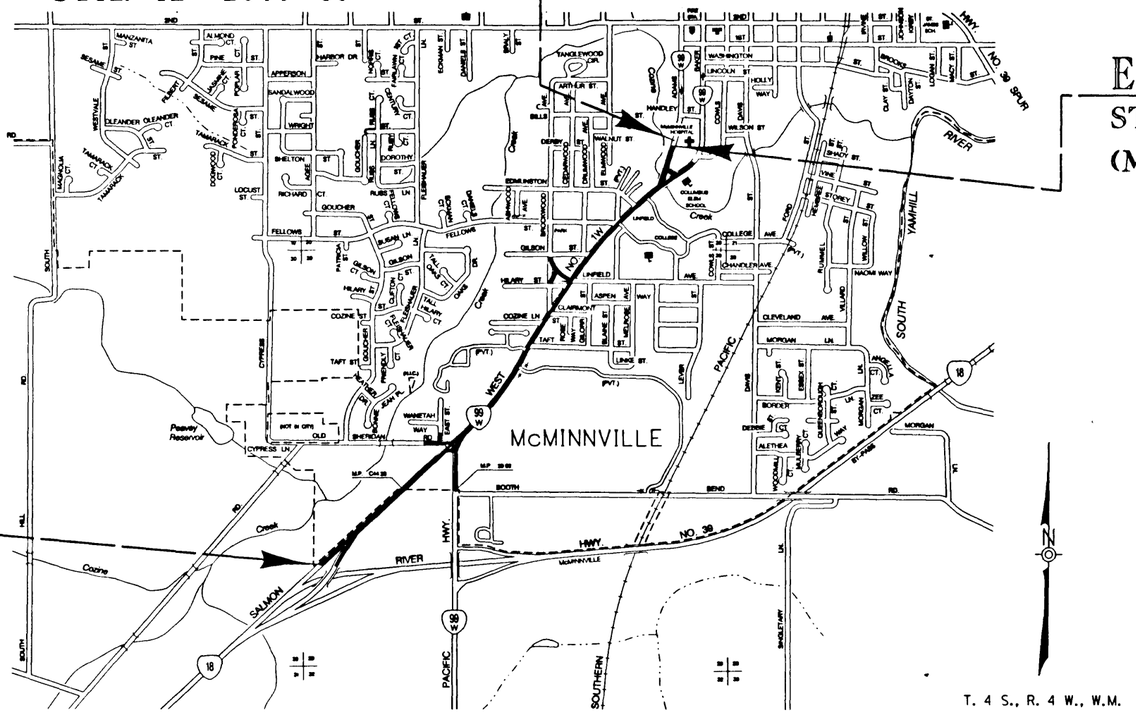
JANUARY 1996



Overall Length Of Project - 1.31 Miles

END OF CONTRACT PROJECT

STA. "A" 2644 + 00



X-NH-S01W(15)

BEGINNING OF PROJECT

STA. 1573 + 45 (M.P. C39.40)

X-NH-S01W(15)

END OF PROJECT

STA. "A" 2643 + 50

(M.P. 38.09)

OREGON TRANSPORTATION COMMISSION

Henry H. Hewitt	CHAIRMAN
Susan Brody	VICE CHAIRMAN
Cynthia J. Ford	COMMISSIONER
Steven H. Corey	COMMISSIONER
Stuart Foster	COMMISSIONER
Kenneth E. Husby	INTERIM DIRECTOR OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER 8491 OREGON AUGUST 22,1975 THOMAS D. LULAY Expires Dec. 31, 1996

Thomas D. Lulay

TECHNICAL SERVICES MANAGING ENGINEER

EDMUNSTON ST. - SALMON RIVER HWY. (McMINNVILLE) SEC.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

FEDERAL HIGHWAY ADMINISTRATION		PROJECT NUMBER	SHEET NO.
REGION 10	OREGON DIVISION		1

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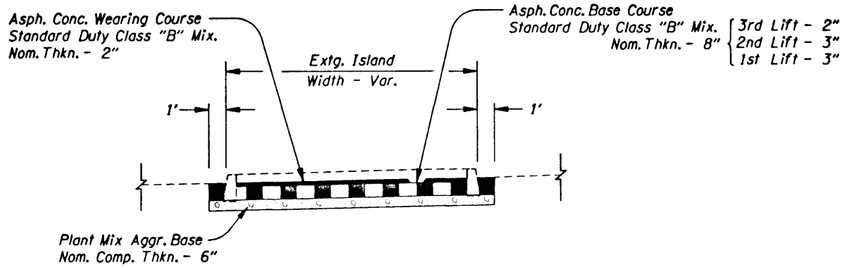
D E T A I L S



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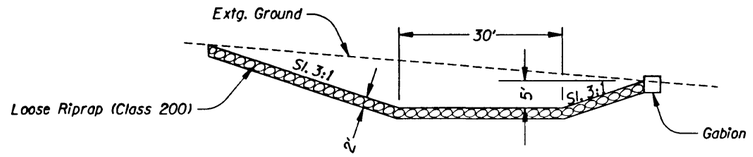
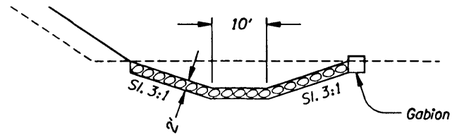
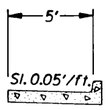


SECTION A-A



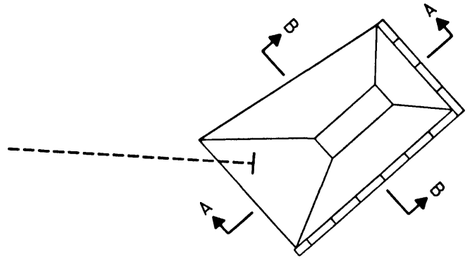
SECTION B-B

SLOPE PAVING



(For Details Not Shown, See Drg. No. 2077)

TYPE "A MODIFIED" CURB



SEDIMENTATION BASIN

(See Sht. 8B, Note 6)

EDMUNSTON ST. - SALMON RIVER HWY. (McMINNVILLE) SEC. PACIFIC HIGHWAY WEST YAMHILL COUNTY			
FEDERAL HIGHWAY ADMINISTRATION		PROJECT NUMBER	SHEET NO.
REGION 10	OREGON DIVISION		2B

larson
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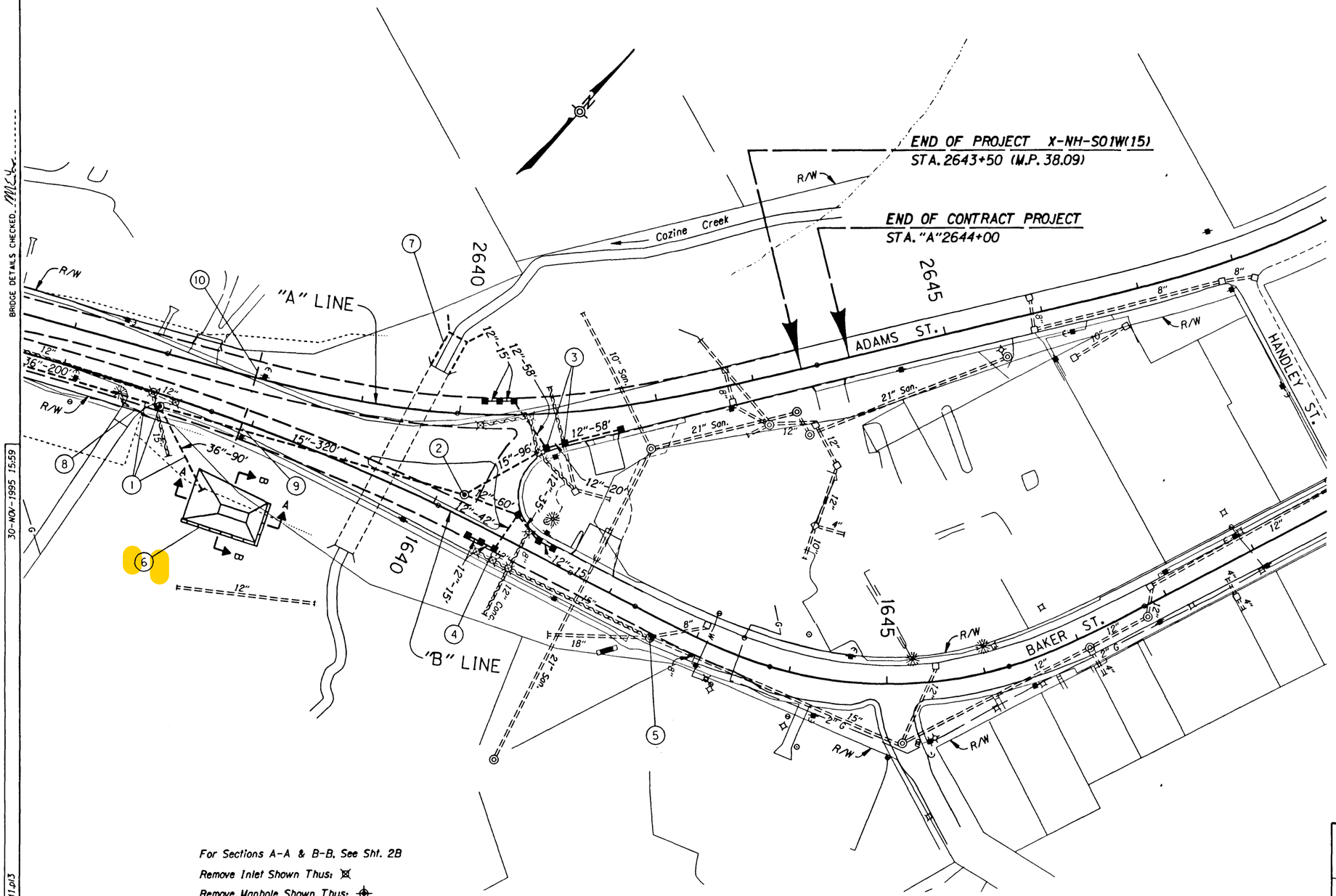
DRAINAGE PLAN & UTILITIES

Sec. 20, T. 4 S., R. 4 W., W.M.

McMINNVILLE



1. Sta. "B" 1637+05
   Const. 60" Manhole
   Inst. 15" Sew. Pipe - 320'
   Inst. 36" Sew. Pipe - 290'
   Tr. Exc. - 1,665 C.Y.

2. Sta. "B" 1640+25
   Const. Manhole
   Inst. 12" Sew. Pipe - 60'
   Inst. 15" Sew. Pipe - 96'
   Under Pvmt. - 82'
   Tr. Exc. - 60 C.Y.

3. Sta. "A" 2640+85
   Const. Type "CG-2" Inlet - 6
   Inst. 12" Sew. Pipe - 166'
   Under Pvmt. - 122'
   Tr. Exc. - 50 C.Y.

4. Sta. "B" 1640+84
   Const. Type "CG-2" Inlet - 6
   Inst. 12" Sew. Pipe - 122'
   Under Pvmt. - 122'
   Tr. Exc. - 35 C.Y.

5. Reconst. Manhole

6. Const. Sedimentation Basin
   Loose Riprap (Class 200) - 270 C.Y.
   Gabions - 41 C.Y.
   Gen. Exc. - 650 C.Y.
   (For Details, See Sht. 2B)

7. Sta. "A" 2639+58
   Bridge No. 5023A
   Double 10'X8' R.C.B.C.
   Extend - 37', Lt.
   (For Drg. Nos., See Sht. 1A)

8. Sta. "B" 1636+83
   Inst. 6" Culv. Pipe - 34' (Conduit)
   Under Pvmt. - 18'
   Tr. Exc. - 5 C.Y.

9. Sta. "B" 1637+90
   Inst. 6" Culv. Pipe - 42' (Conduit)
   Under Pvmt. - 26'
   Tr. Exc. - 5 C.Y.

10. Sta. "A" 2637+90
    Inst. 6" Culv. Pipe - 42' (Conduit)
    Under Pvmt. - 12'
    Tr. Exc. - 5 C.Y.

For Sections A-A & B-B, See Sht. 2B

Remove Inlet Shown Thus: ⊠

Remove Manhole Shown Thus: ⊕

Plug And Abandon Extg. Pipe Shown Thus: ═══

EDMUNSTON ST. - SALMON RIVER HWY. (McMINNVILLE) SEC.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

FEDERAL HIGHWAY ADMINISTRATION		PROJECT NUMBER	SHEET NO.
REGION 10	OREGON DIVISION		8B

BRIDGE DETAILS CHECKED: MLC

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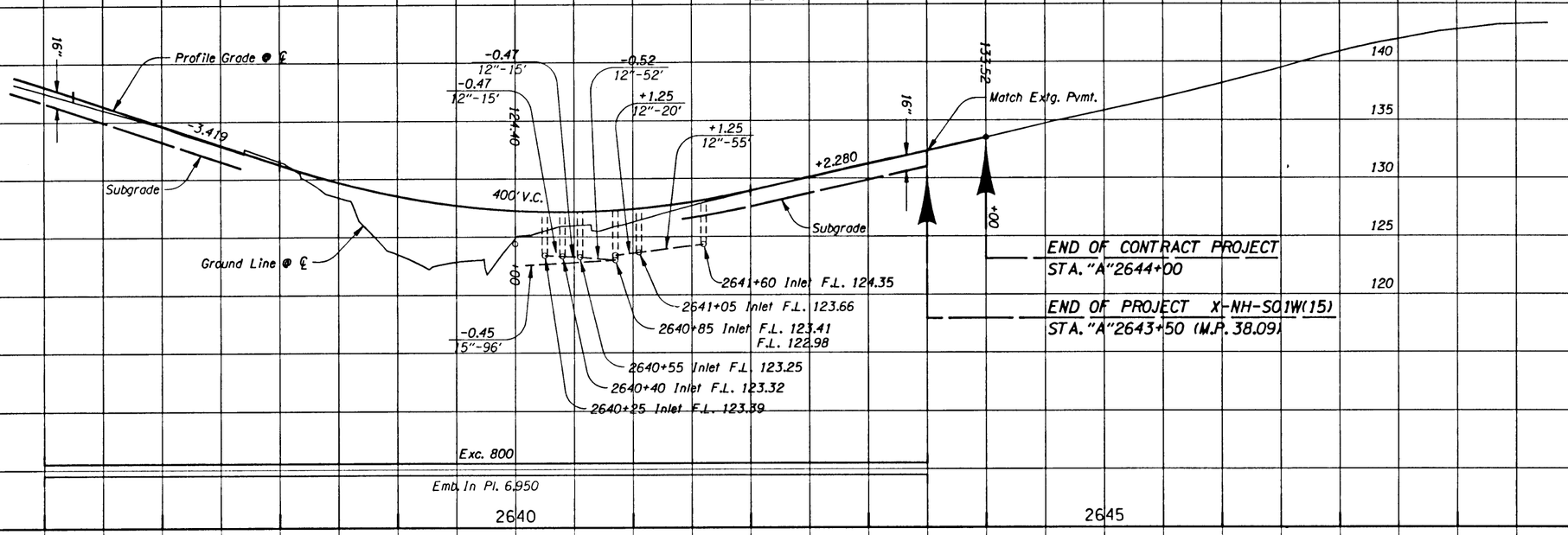
VIEW B3

"A" LINE



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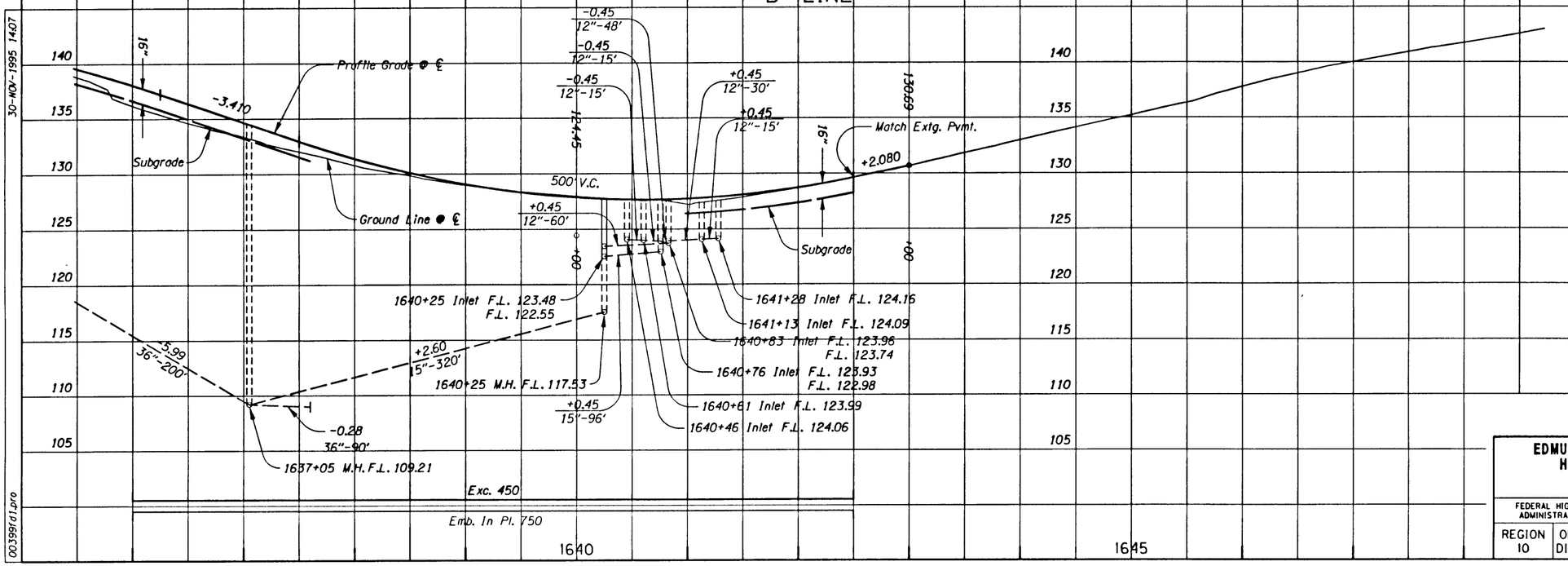

EDMUNSTON ST. - SALMON RIVER HWY. (McMINNVILLE) SEC.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

FEDERAL HIGHWAY ADMINISTRATION		PROJECT NUMBER	SHEET NO.
REGION 10	OREGON DIVISION		8C

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