OPERATION & MAINTENANCE MANUAL

DFI No.: D00036
Facility Type: Detention Tank/Pipe

MARCH, 2011

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00036**
Facility Type:	Detention Tank/Pipe
Construction Drawings:	(V-File Number) 38V-117
Location:	District: 3
	Highway No.: 001
	Mile Post: 252.16 / 252.19 (beg./end)
	Description: This facility is located along the centerline of I-5 (Hwy 001) in the left shoulder/median of the northbound lanes, between two bridge structures, overcrossing Turner Road (Bridge No. 20032) and the U.P.R.R. (Bridge No. 20026) rail line.

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:
ODOT Designer – Region 2 Tech. Center
Chris Carman, 503-986-2691

Facility construction: 2005
Contractor: Hamilton Construction Company

4. Storm Drain System and Facility Overview

A detention facility is designed to control the quantity of runoff, by reducing the peak discharge and only detaining runoff for some short period of time. These facilities are designed to store and gradually release or attenuate stormwater runoff via a control structure or release mechanism, and completely drain after the design storm has passed. The most common detention facilities include:

- Dry ponds - these are depressed storage areas that store runoff during wet weather and are dry the rest of the time. Usually they are earthen depressions.
- Tanks - these are underground storage facilities that are typically constructed from large diameter pipe.
- Vaults - these are enclosed underground storage facilities. They are typically constructed from reinforced concrete.

The detention pipe facility is located along the centerline of I-5 (Hwy 001) in the left shoulder/median of the northbound lanes, between two bridge structures, overcrossing Turner Road (Bridge No. 20032) and the U.P.R.R. (Bridge No. 20026) rail line.. The facility can be accessed from the northbound travel lanes (Photo 1).

The detention pipe facility is composed of a 72-inch diameter pipe segment, approximately 105 feet long, and two oversized manholes. The manholes include an upstream manhole and a flow control manhole (**Point A on Operational Plan in Appendix A**). This facility receives flow from both the north and south ends. From the west, a 12-inch diameter, 80-foot long pipe conveys stormwater from facility DFI D00037 to the flow control manhole of this facility, DFI D00036. From the north, a 12-inch diameter, 40-foot long pipe conveys stormwater to the flow control manhole from a manhole tied with two inlets (**Photo 2**). From the south, stormwater runoff is collected by one inlet and discharged into the south manhole (**Photo 3**). A 15-inch diameter, 60-foot long pipe conveys stormwater from the flow control manhole eastwards to a downstream facility, DFI D00033 (**Operational Plan in Appendix A; 16C & 16D in 38V-117 in Appendix B**).

(Note: The southern and northern manholes of D00036 and the water quality structure for D00033 were not found during fieldwork. Construction photographs confirm that the northern manhole of D00036 exists. The southern manhole of D00036 and the water quality structure for D00033 may exist.)

The roadway within this area slopes downward towards the north. The drainage area for this detention facility includes the area from

the southern end panel of the U.P.R.R. overcrossing to the southern end panel of the Turner Road overcrossing (**Operational Plan in Appendix A; 16C & 16D in 38V-117 in Appendix B; Photos 4 & 5**). Stormwater runoff from the northbound lanes of I-5 (Hwy 0001) enters the detention system through inlets either north or south of the flow control manhole (**Photos 2 & 3**). Conveyance pipes deliver the stormwater runoff first to manholes and then to the flow control manhole. Stormwater runoff from the southbound lanes of I-5 (Hwy 001) passes through the inlets, conveyance pipes and manholes of D00037 before being discharged into the flow control manhole of D00036 from a 12-inch diameter, 80-foot long conveyance pipe (**Operational Plan in Appendix A; 16C & 16D in 38V-117 in Appendix B**).

After detention in the flow control manhole, the water is released into a 15-inch diameter storm pipe that discharges into a water quality structure (DFI D00033) approximately 60 feet east. DFI D00033 discharges treated stormwater into a 15-inch diameter, 77-foot long storm pipe, which conveys the water downhill and farther east to an inlet structure. From the inlet structure, an 18-inch diameter, 184-foot long storm pipe conveys the water to the facility's ultimate outfall at a ditch north of the U.P.R.R. railroad, which runs under Bridge No. 20026 (**Operational Plan in Appendix A; 16C & 16D in 38V-117 in Appendix B; Photo 6**).

For further information and details regarding the system refer to **Appendix A** for the **Operational Plan** and **Appendix B** for **Construction Drawings**.

A. Maintenance equipment access:
   This facility is located along the centerline in the median/12 foot-wide left shoulder of the northbound lanes of I-5 (Hwy 001). Sufficient room to utilize the shoulder area should allow adequate access to the system when performing maintenance activities such as using a vactor truck to clean the manholes.

B. Heavy equipment access into facility:

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

C. Special Features:

   ☐ Amended Soils
   ☐ Porous Pavers

☐ Liners
☐ Underdrains

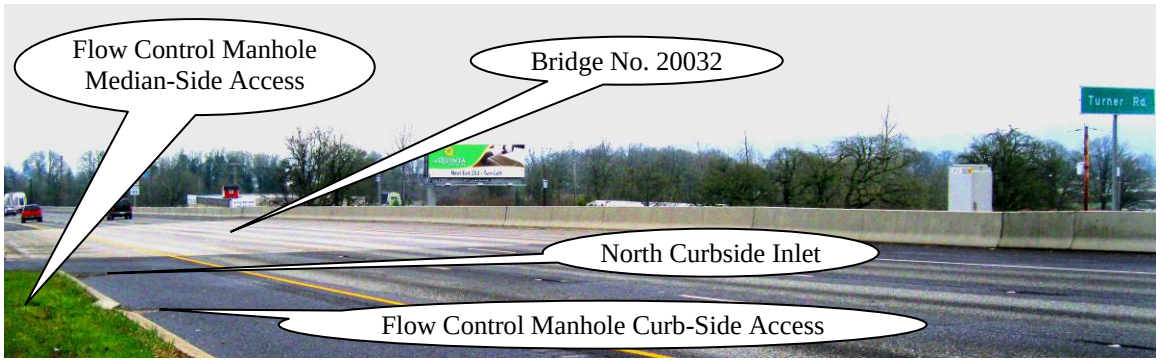


Photo 1: D00036 across from Turner Road sign.

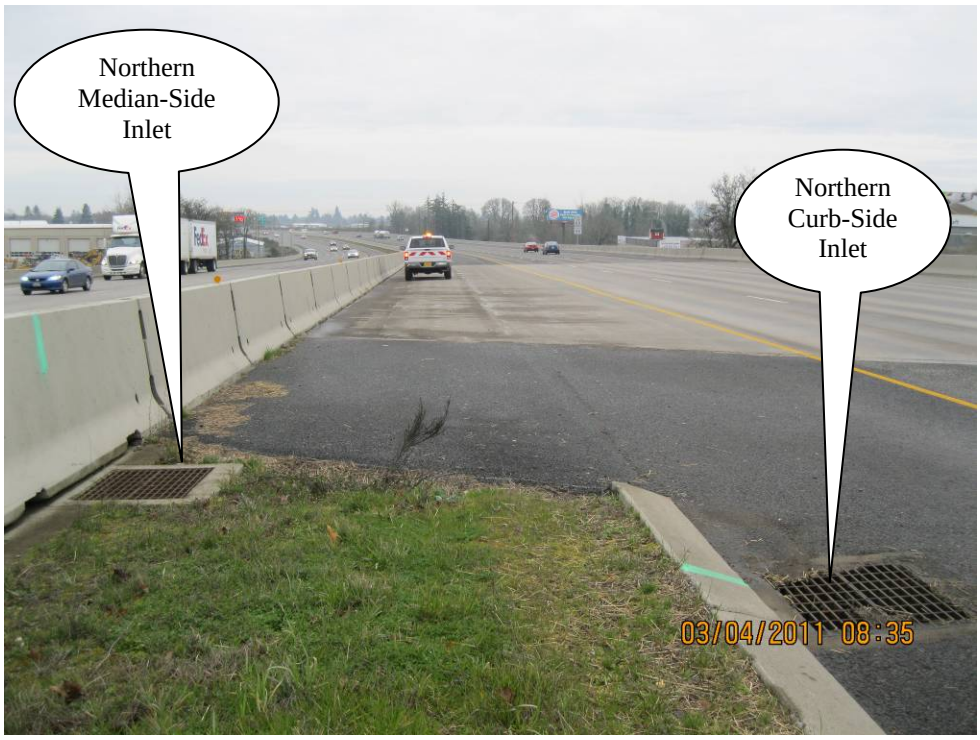


Photo 2: Northern inlets. The manhole between these inlets was not found during fieldwork, but construction photographs confirm that the manhole exists. For the position of this manhole, refer to the Operational Plan in Appendix A and pages 16C and 16D in 38V-117 in Appendix B.

Photo 3: Southern inlet. The manhole attached to this inlet was not found during fieldwork, but it may exist. For the position of this manhole, refer to the Operational Plan in Appendix A and pages 16C and 16D in 38V-117 in Appendix B.

Photo 4: Drainage area. Photograph taken facing north.

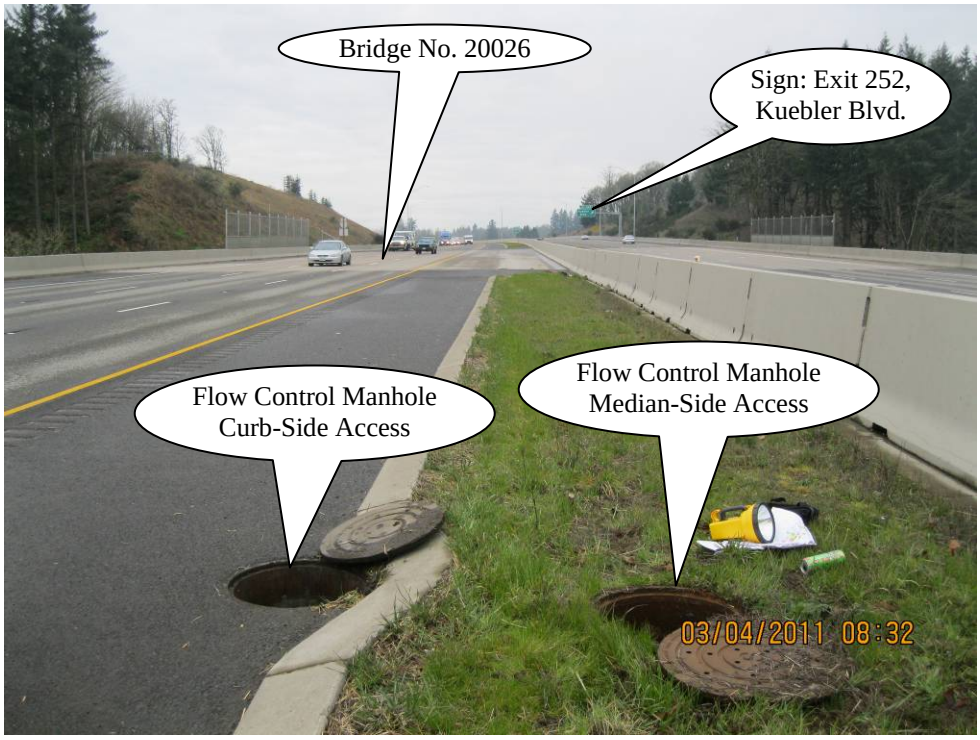


Photo 5: Drainage area. Photograph taken facing south.

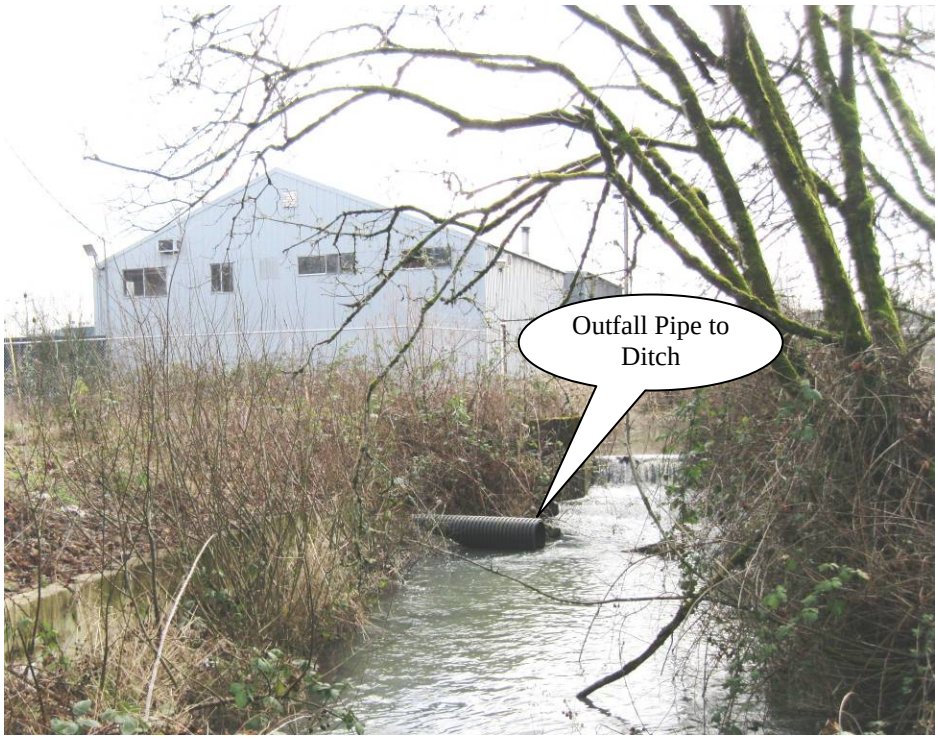


Photo 6: Outfall pipe to ditch. Photograph taken facing east. (U.P.R.R. to right (south) not pictured.)

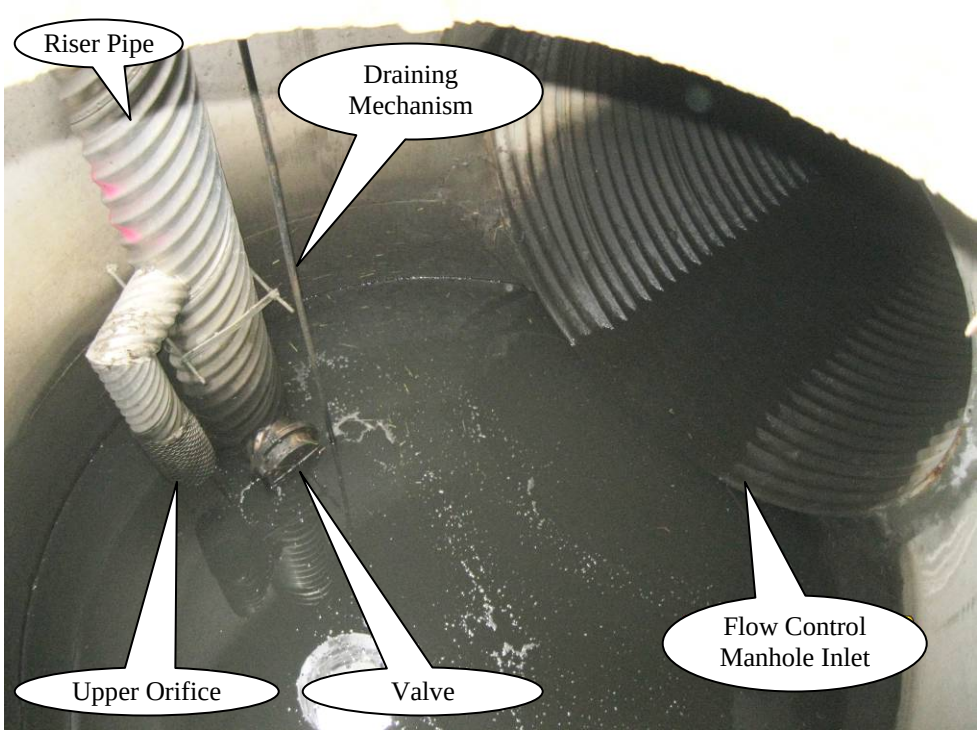


Photo 7: Flow control manhole interior view from median-side access.

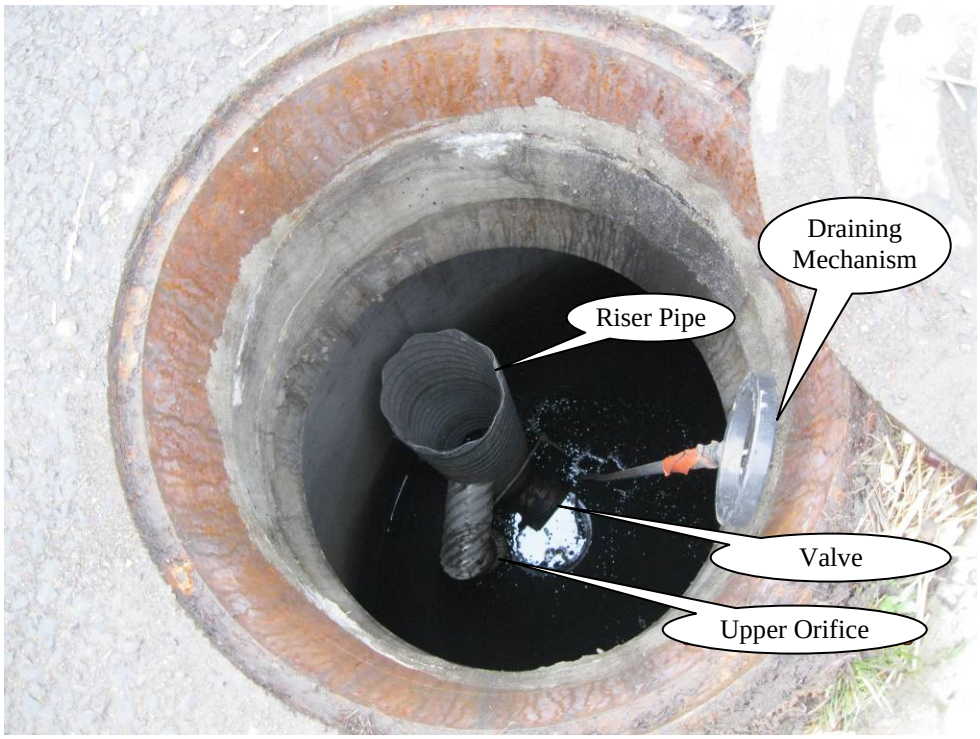


Photo 8: Flow control manhole interior view from curb-side access.

5. Facility Haz Mat Spill Feature(s)

This detention facility does not have features to block liquids from draining from the pipe. However, the detention pipe itself can be used to store hazardous liquids entering the system until such time the pipe is full and begins flowing toward the water quality structure (to the east) where additional storage of these liquids may be available in the manhole's sump. Another option may be possible by blocking the outfall pipe downstream from this water quality structure and capturing hazardous liquids there.

6. Auxiliary Outlet

Auxiliary Outlets are provided if the primary outlet control structure can not 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:

In the event that the orifices become plugged or the flows exceed the capacity of the facility, the water is released through the high flow riser within the flow control structure.

The auxiliary high flow bypass for the flow control manhole consists of a riser pipe above the outlet flow pipe in the flow control manhole. If stormwater enters the flow control manhole more quickly than the lower orifice can convey stormwater (due to either a larger storm or clogging of the lower orifice), the water level within the manhole will rise until water enters the riser pipe through its upper orifice. The water will then discharge through the high flow riser. (**Flow Control Structure Detail in the Operational Plan in Appendix A; working schematics on sheets GJ-4 & GJ-6 in 38V-117 in Appendix B; Photos 7 & 8**).

If the lower orifice clogs, and if the flow control manhole fills with water, use of the draining mechanism will quickly reduce the water level inside the manhole. The draining mechanism opens a valve in the riser pipe, thus enabling flows to leave directly through the flow control manhole outlet and bypass the lower orifice, the upper orifice and the top of the riser pipe (**Operational Plan in Appendix A; Photos 7 & 8**).

☐ Other, as noted below:

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)
☐ Special Maintenance requirements:

Note: Special maintenance Requirements Require Concurrence from ODOT SR Hydraulics Engineer.

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

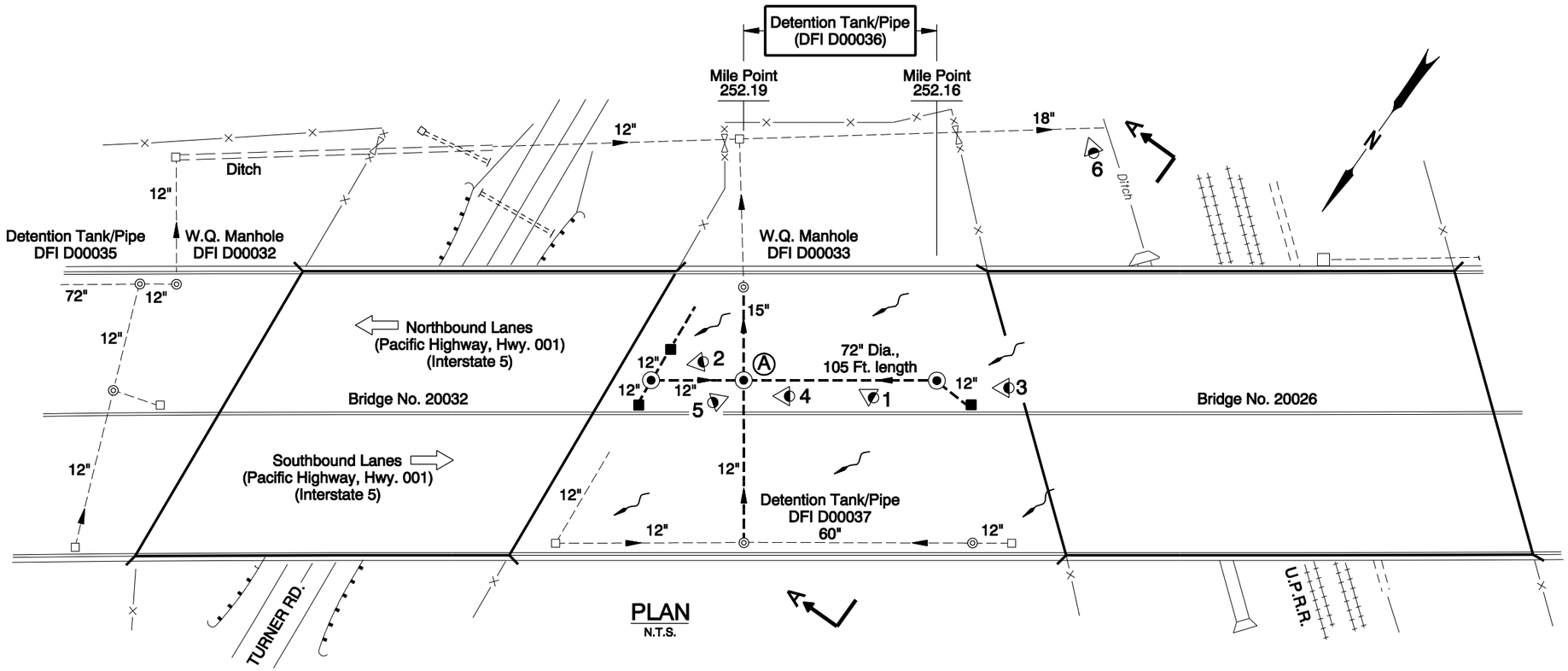
Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region Hazmat Coordinator	(503) 986-2647
ODEQ Northwest Region Office	(503) 229-5263

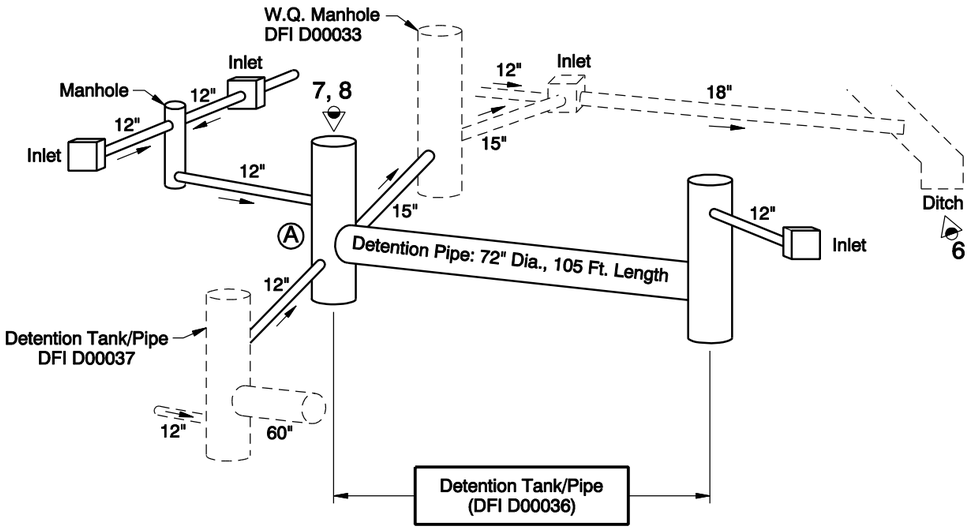
Appendix A

Content:

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

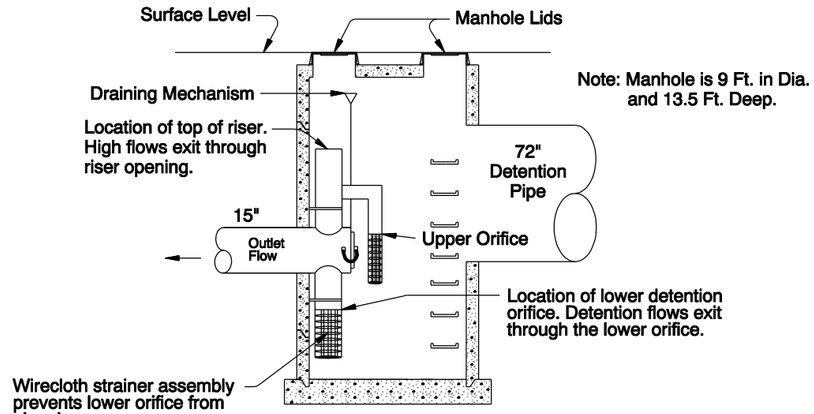


PLAN
N.T.S.



SCHEMATIC OF PIPE DRAINAGE SYSTEM SECTION A-A

N.T.S.



Note: Manhole is 9 Ft. in Dia. and 13.5 Ft. Deep.

LEGEND:

- Photo Location/Direction
- Flow Control Structure - 9' Dia.
- Manhole
- Inlet
- Storm Pipe (Facility)
- Storm Pipe
- Conveyance Direction
- Pavement/Facility Flow Path

Flow Control Structure for Detention Tank/Pipe (DFI D00036)

Sht. 1 of 1

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Wynee Hu

Drafted By: Jim Holeman

DFI D00036
MAINTENANCE DISTRICT 3 HWY 001
DETENTION TANK/PIPE
PACIFIC HIGHWAY MP 252.16-252.19
MARION COUNTY

Appendix B

Content:

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

38V-117

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont'd.
1A-2	Index Of Sheets Cont'd.
1A-3	Index Of Sheets Cont'd.
1A-4	Standard Drawing Nos.
1B	Layout Sheet

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

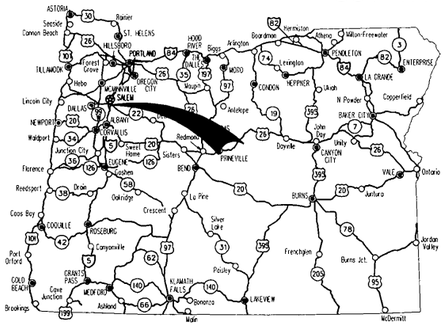
GRADING, DRAINAGE, STRUCTURES, PAVING, SIGNING, ILLUMINATION, SIGNALS & ROADSIDE DEVELOPMENT

I-5: N. SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.

PACIFIC HIGHWAY

MARION COUNTY

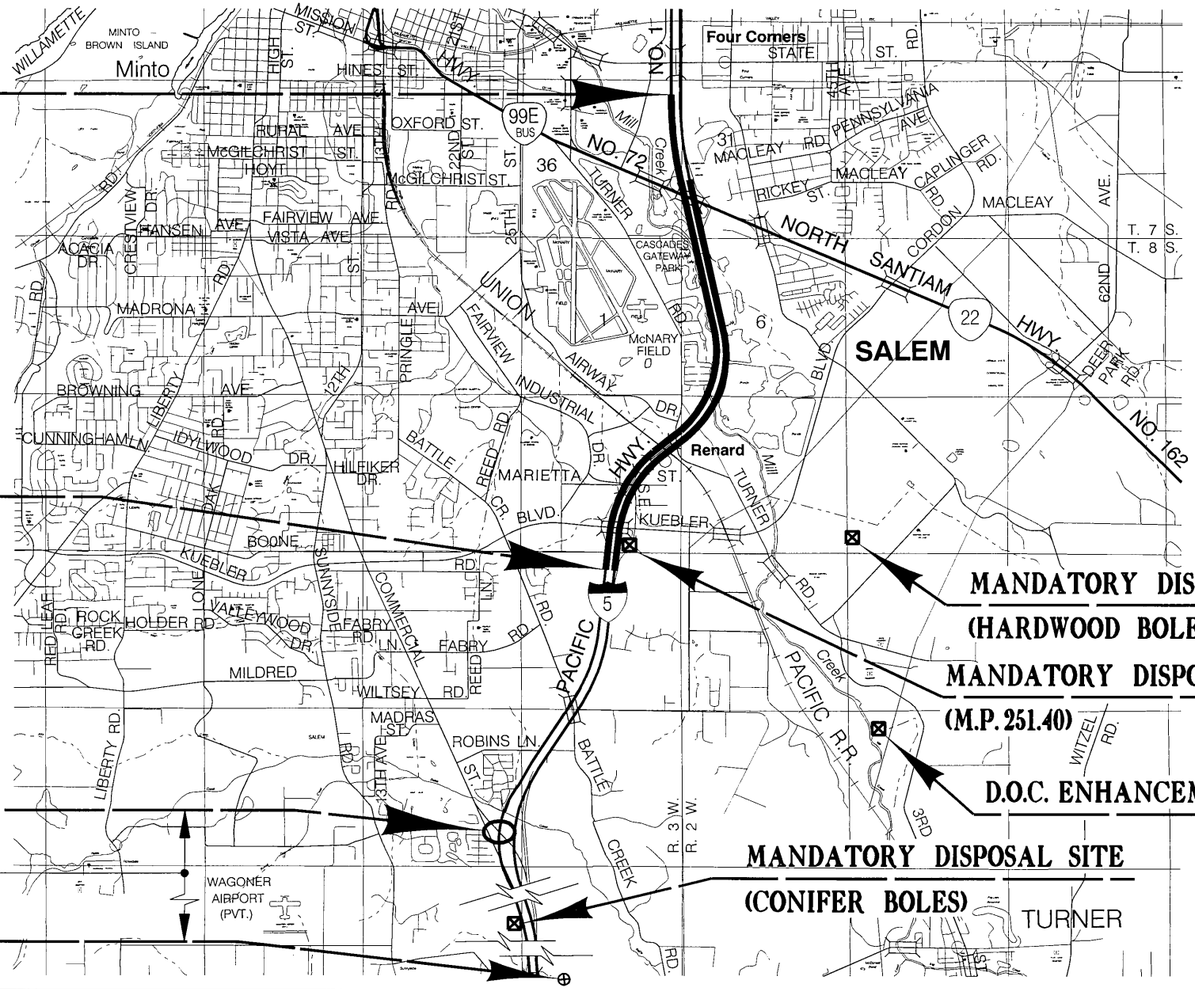
OCTOBER 2005



Overall Length Of Project - 4.02 km (2.49 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.)

OTIA-NH-IM-S001(196)
BEGINNING OF PROJECT
STA. "L" 10+280 (M.P. 254.58)



T. 7, 8 S.,
R. 2, 3 W., W.M.

END OF WORK AREA
STA. "L" 15+682.3 (M.P. 251.22)

NO WORK AREA

OTIA-NH-IM-S001(196)
END OF PROJECT
STA. "LS" 18+664.61 (M.P. 249.38)

Approx. 28 Mi. South

PROSPECTIVE MATERIAL SOURCE
(M.P. 221.13)

MANDATORY DISPOSAL SITE
(HARDWOOD BOLES)

MANDATORY DISPOSAL SITE
(M.P. 251.40)

D.O.C. ENHANCEMENT SITE

MANDATORY DISPOSAL SITE
(CONIFER BOLES)

OREGON TRANSPORTATION INVESTMENT ACT

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

OREGON TRANSPORTATION COMMISSION

Stuart Foster	CHAIRMAN
Gail L. Achterman	COMMISSIONER
Mike Nelson	COMMISSIONER
Randall Papé	COMMISSIONER
Janice J. Wilson	COMMISSIONER
Bruce A. Warner	DIRECTOR OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER
13,704
OREGON
JULY 16, 1987
CATHERINE M. NELSON
Expires Dec. 31, 2006

Catherine M. Nelson
TECHNICAL SERVICES MANAGING ENGINEER

I-5: N. SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	OTIA-NH-IM-S001(196)	1

METRIC

PE000950

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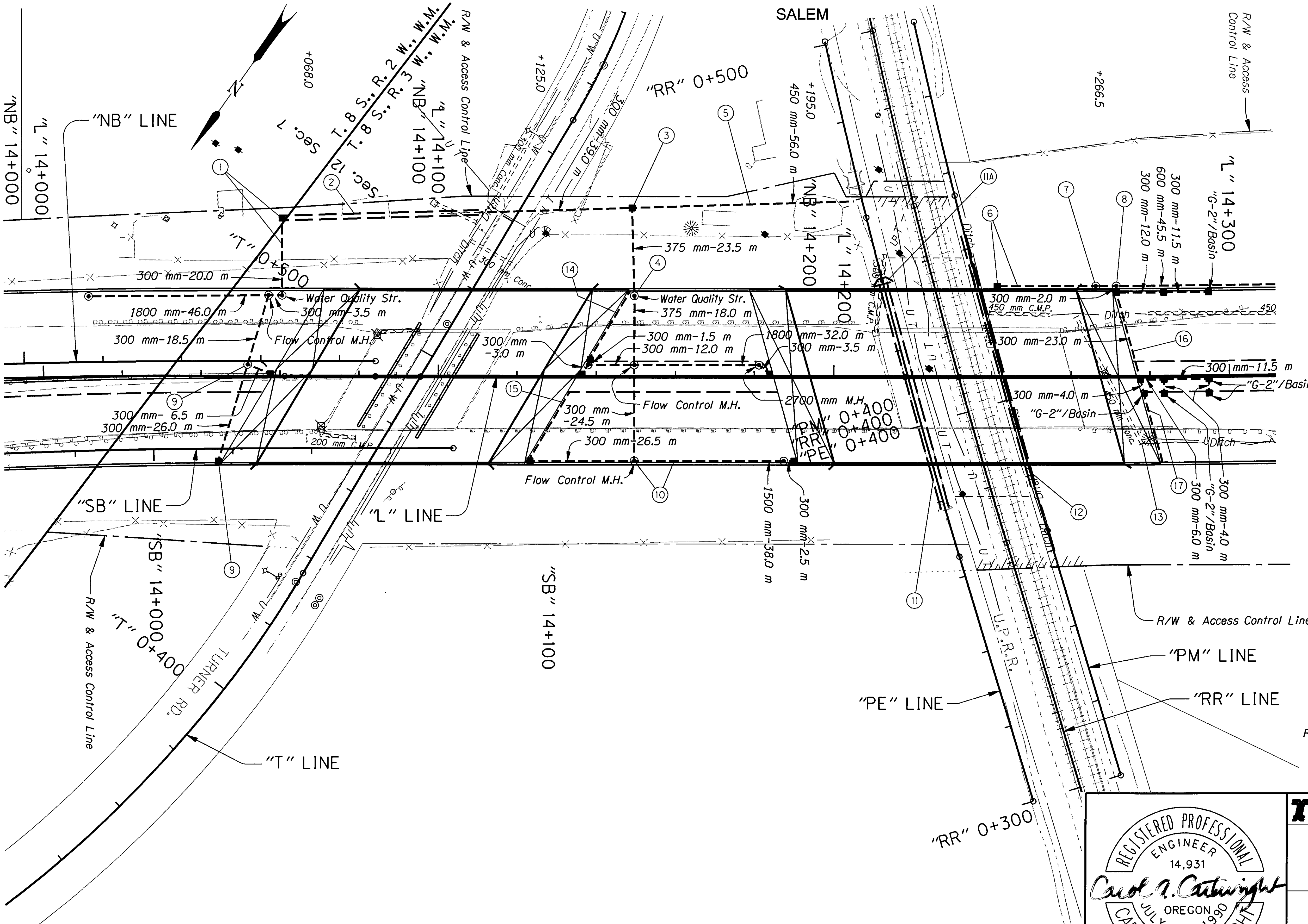

SALEM
"NB" LINE
"NB" 14+000
"L" 14+000
T. 8 S., R. 2 W., W.M.
T. 8 S., R. 3 W., W.M.
Sec. 7
Sec. 12
R/W & Access Control Line
"RR" 0+500
"NB" 14+100
"L" 14+100
"NB" 14+200
"L" 14+200
"L" 14+300
"T" 0+500
300 mm-20.0 m
375 mm-23.5 m
1800 mm-46.0 m
Water Quality Str.
300 mm-3.5 m
375 mm-18.0 m
300 mm-18.5 m
Flow Control M.H.
300 mm-1.5 m
300 mm-12.0 m
1800 mm-32.0 m
300 mm-3.5 m
300 mm-3.0 m
300 mm-6.5 m
300 mm-26.0 m
300 mm-24.5 m
300 mm-26.5 m
2700 mm M.H.
"PM" 0+400
"RR" 0+400
"PE" 0+400
300 mm-2.0 m
450 mm C.M.P.
Ditch
300 mm-23.0 m
300 mm-11.5 m
"G-2"/Basin
300 mm-4.0 m
300 mm-12.0 m
600 mm-45.5 m
300 mm-11.5 m
300 mm-6.0 m
200 mm C.M.P.
1500 mm-38.0 m
300 mm-2.5 m
"SB" LINE
"L" LINE
"SB" 14+000
"SB" 14+100
"T" 0+400
TURNER RD.
"T" LINE
R/W & Access Control Line
"PM" LINE
"RR" LINE
"PE" LINE
U.P.R.R.
"RR" 0+300
+068.0
+125.0
+195.0
450 mm-56.0 m
+266.5
300 mm-39.0 m
1 2 3 4 5 6 7 8 9 10 11 11A 12 13 14 15 16 17

Plug And Abandon Extg. Pipe Shown Thus:

All Dimensions Are Shown In Meters (m)
Unless Otherwise Noted.

STRUCTURAL DETAILS CHECKED

REGISTERED PROFESSIONAL ENGINEER 14,931
OREGON
JULY 25, 1990
CAROL A. CARTWRIGHT
Expires Dec. 31, 2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

I-5: N. SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

Design Team Leader - Carol Cartwright
Designed By - John Lucas
Drafted By - Jeff Larson

DRAINAGE & UTILITIES

SHEET NO. 16C

STRUCTURAL DETAILS CHECKED _____

(1) *Sta."L"14+051.1 To Sta."NB"14+065.4*
Const. Manhole 2700 mm Dia.
Const. Water Quality Structure
Const. Flow Control Manhole 2400 mm Dia.
Const. Siphon Box
Inst. 300 mm Sew. Pipe - 18.5 m
3.0 m Depth
Inst. 300 mm Sew. Pipe - 23.5 m
6.0 m Depth
Inst. 1800 mm Sew. Pipe - 46.0 m
6.0 m Depth
(For Details, See Sht. GJ-4)
(See Drg. No. RD376)

(2) *Const. Ditch*
"V" Bottom, 1:3 Slopes
Dt. Exc. - 48 m³

(3) *Sta."L"14+110.1 To Sta."L"14+148.9*
Const. Type "G-2MA" Inlet
Shape Bottom
Inst. 300 mm Sew. Pipe - 39.0 m
1.5 m Depth
Inst. 375 mm Sew. Pipe - 23.5 m
6.0 m Depth
Inst. Slope Anchors
(See Drg. Nos. RD330 & RD364)

(4) *Sta."L"14+136.4 To Sta."L"14+183.9*
Const. Water Quality Structure
Const. Flow Control Manhole 2700 mm Dia.
Const. Large Manhole 2700 mm Dia.
Const. Manhole
Const. Type "G-2" Open Grade HMAC Inlet
With Basin - 2
0.45 m Deep
Const. Type "G-2" Open Grade HMAC Inlet
Shape Bottom
Adjust Inlet For Wearing Course - 2
Inst. 300 mm Sew. Pipe - 20.0 m
1.5 m Depth
Inst. 300 mm Sew. Pipe - 24.5 m
3.0 m Depth
Inst. 375 mm Sew. Pipe - 18.0 m
6.0 m Depth
Inst. 1800 mm Sew. Pipe - 32.0 m
6.0 m Depth
(For Details, See Sht. GJ-4)

(5) *Sta."L"14+148.9 To Sta."L"14+205.0*
Inst. 450 mm Sew. Pipe - 56.0 m
1.5 m Depth

(6) *Sta."L"14+241.4 To Sta."L"14+266.3*
Const. Type "D MOD" Inlet
Inst. 300 mm Sew. Pipe - 26.5 m
1.5 m Depth
Inst. Slope Anchors
(For Details, See Sht. GJ-9)
(See Drg. No. RD370)

(7) *Sta."L"14+266.3 To Sta."L"14+271.5*
Const. Water Quality Structure
Inst. 600 mm Sew. Pipe - 5.5 m
1.5 m Depth

(8) *Sta."L"14+271.5 To Sta."L"14+317.4*
Const. Manhole
Const. Type "G-2" Open Grade HMAC Inlet
With Basin - 5
0.45 m Deep
Const. Type "G-2" Open Grade HMAC Inlet - 4
Shape Bottom
Adjust Inlet For Wearing Course - 6
Inst. 300 mm Sew. Pipe - 78.0 m
1.5 m Depth
Inst. 600 mm Sew. Pipe - 45.5 m
1.5 m Depth

(9) *Sta."SB"14+016.3 To Sta."L"14+051.1*
Const. Manhole
Const. Type "G-2" Open Grade HMAC Inlet
With Basin - 2
0.45 m Deep
Adjust Inlet For Wearing Course - 2
Inst. 300 mm Sew. Pipe - 6.5 m
1.5 m Depth
Inst. 300 mm Sew. Pipe - 26.0 m
3.0 m Depth

(10) *Sta."L"14+123.4 To Sta."L"14+190.1*
Const. Large Manhole 2100 mm Dia.
Const. Flow Control Manhole 2100 mm Dia.
Const. Type "G-2" Open Grade HMAC Inlet
With Basin - 2
0.45 m Deep
Adjust Inlet For Wearing Course - 2
Inst. 300 mm Sew. Pipe - 2.5 m
1.5 m Depth
Inst. 300 mm Sew. Pipe - 26.5 m
3.0 m Depth
Inst. 1500 mm Sew. Pipe - 38.0 m
6.0 m Depth
(For Details, See Sht. GJ-4)

(11) *Remove Extg. 2.1 m x 1.2 m R.C.B.C.*
Const. Channel Change
(11A) *Const. Outlet*
(For Details, See Shts. GE-1, GE-2, GE-3 & GF-1)

(12) *Const. Channel Change*
(For Details, See Sht. GF-2)

(13) *Remove Pipe*

(14) *Sta."L"14+135.6*
Const. Open Grade Wearing Surface Drain
Outlet To Inlet

(15) *Sta."L"14+135.6*
Const. Open Grade Wearing Surface Drain
Outlet To Inlet

(16) *Sta."L"14+272.0*
Const. Open Grade Wearing Surface Drain
Outlet To Inlet

(17) *Sta."L"14+278.5*
Const. Open Grade Wearing Surface Drain
Outlet To Inlet

REGISTERED PROFESSIONAL ENGINEER
14,931
Carol A. Cartwright
OREGON
JULY 25, 1990
CAROL A. CARTWRIGHT
Expires Dec. 31, 2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

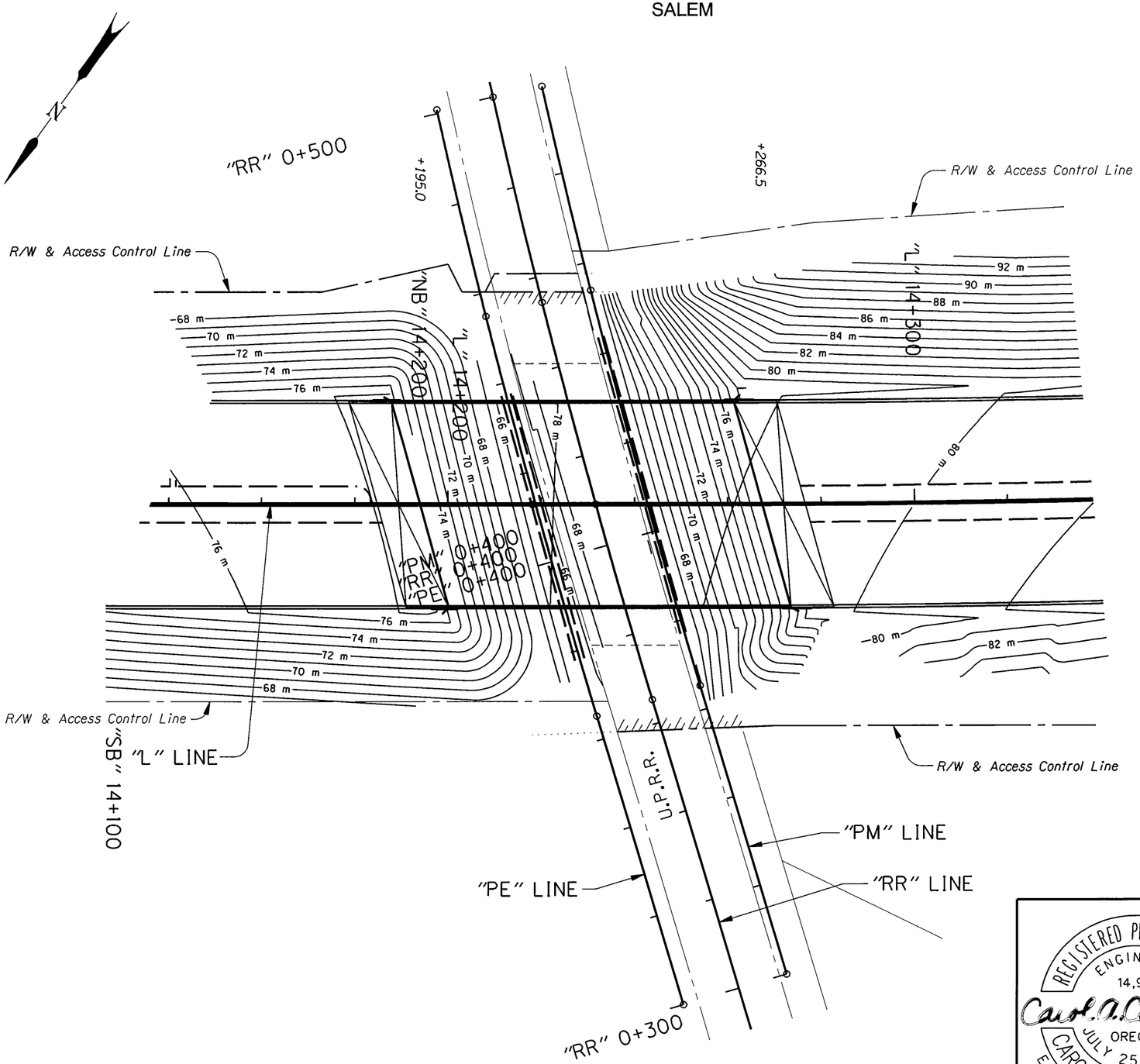
I-5: N. SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

Design Team Leader - Carol Cartwright
Designed By - John Lucas
Drafted By - Jeff Larson

NOTES

SHEET NO. 16D

Sec. 12, T. 8 S., R. 3 W., W.M.
SALEM



All Dimensions Are Shown In Meters (m) Unless Otherwise Noted.

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OREGON
JULY 25, 1990
CAROL A. CARTWRIGHT
Expires Dec. 31, 2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

I-5: N. SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

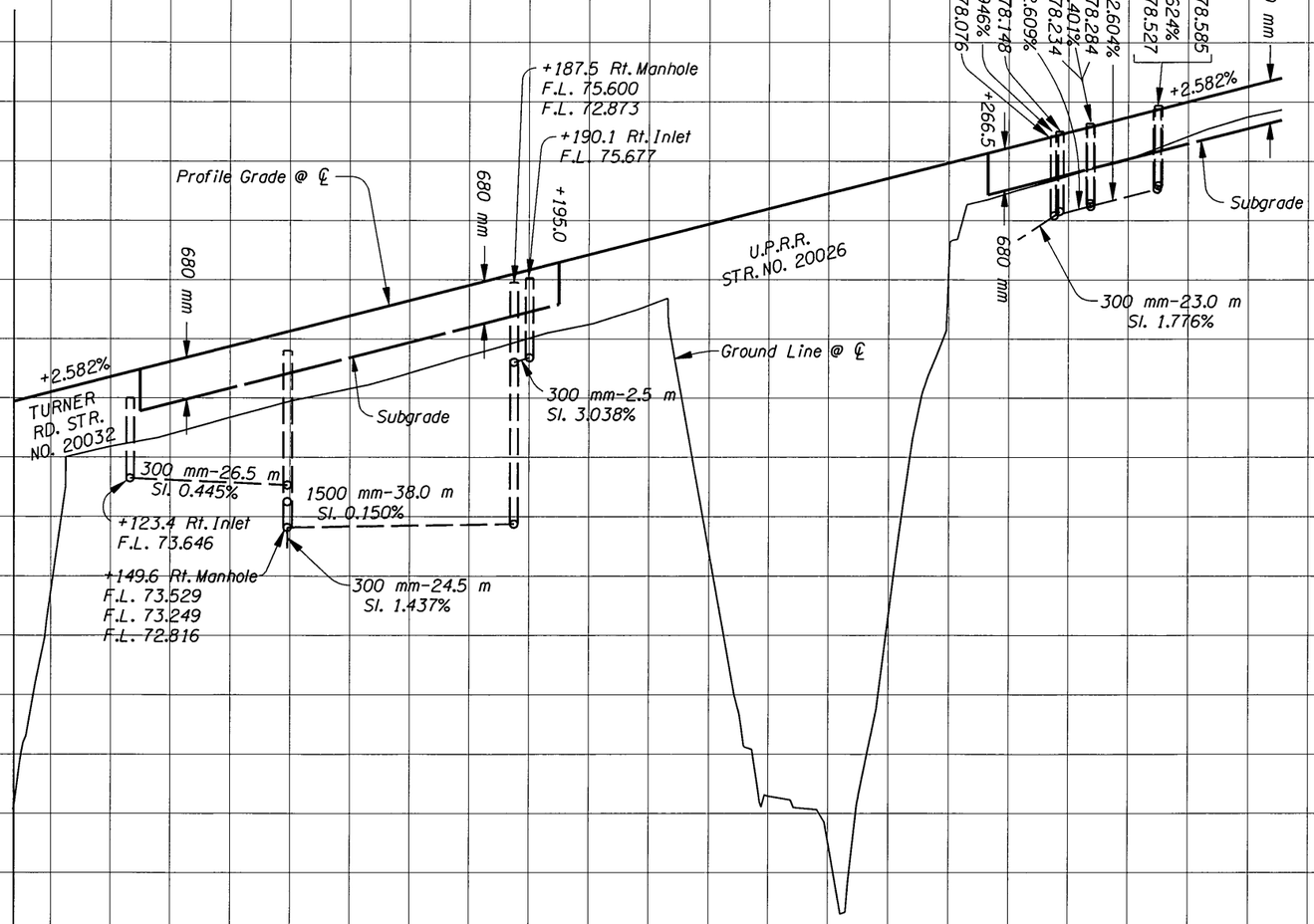
Design Team Leader - Carol Cartwright
Designed By - John Lucas
Drafted By - Jeff Larson

CONTOUR GRADING PLAN

SHEET NO. 16E

STRUCTURAL DETAILS CHECKED

"L" LINE
RIGHT
(Southbound)



REGISTERED PROFESSIONAL ENGINEER
14,931
Carol A. Cartwright
OREGON
JULY 25, 1990
CAROL A. CARTWRIGHT
Expires Dec. 31, 2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

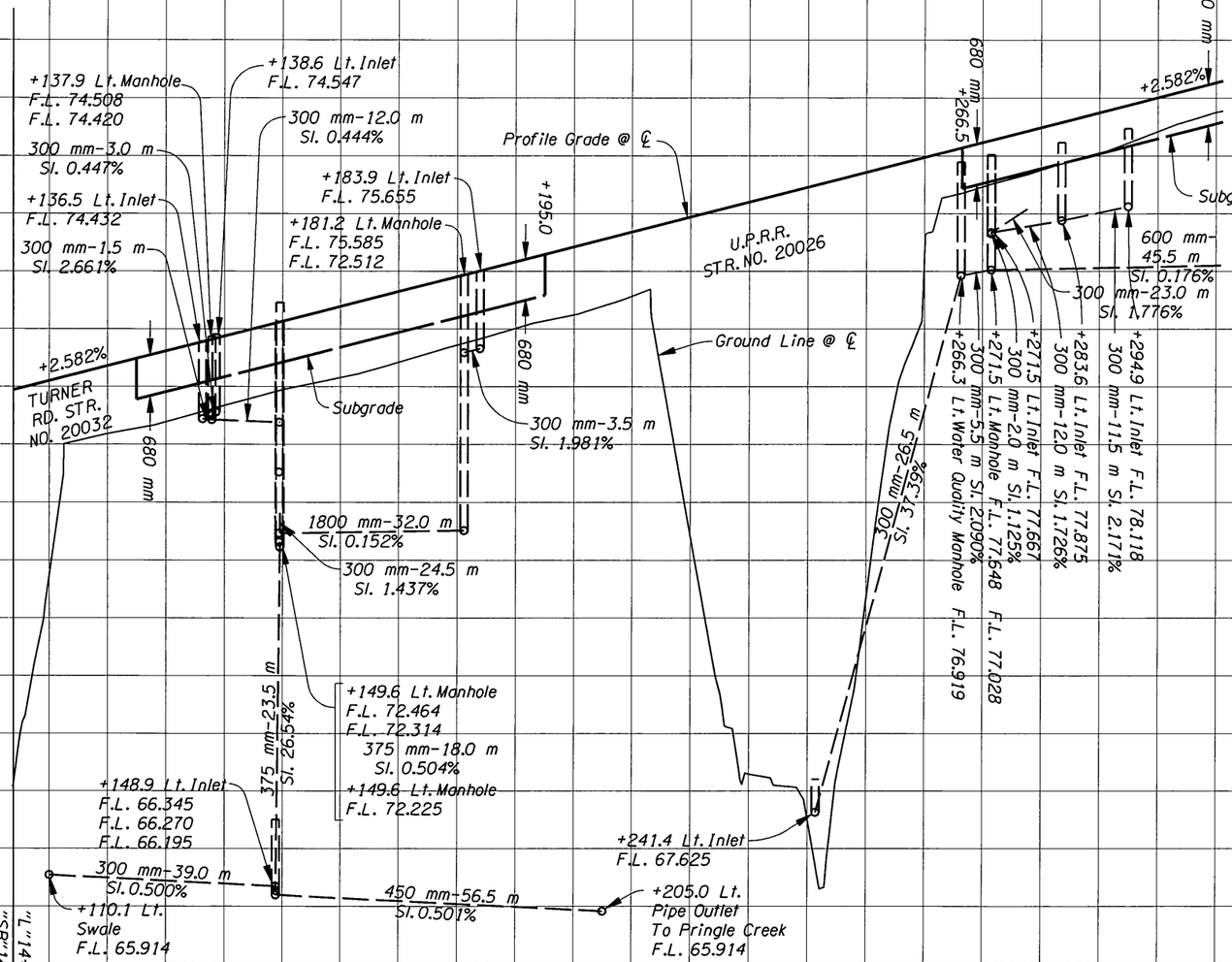
I-5: N. SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

Design Team Leader - Carol Cartwright P.E.
Designed By - John Lucas
Drafted By - Steve Donaldson

PROFILE

SHEET NO. 16F

"L" LINE
LEFT
(Northbound)



STRUCTURAL DETAILS CHECKED _____

REGISTERED PROFESSIONAL ENGINEER
14,931
Carol A. Cartwright
OREGON
JULY 25, 1990
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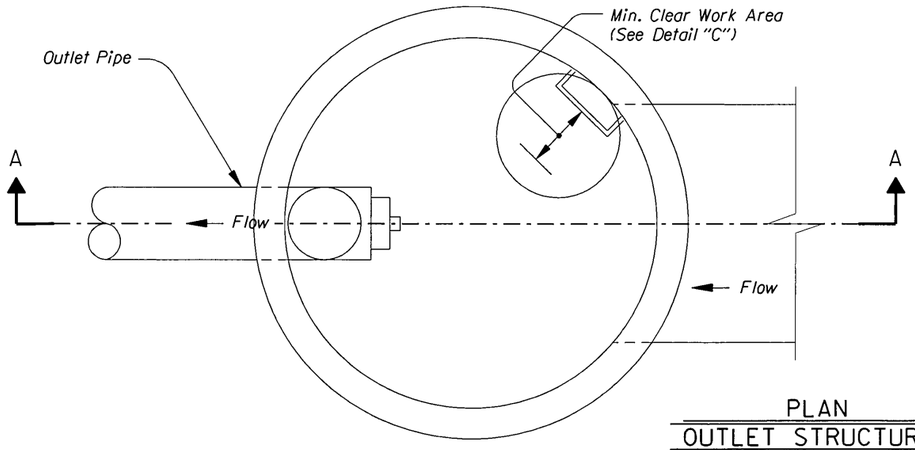
PACIFIC HIGHWAY
MARION COUNTY

Design Team Leader - Carol Cartwright P.E.
Designed By - John Lucas
Drafted By - Steve Donaldson

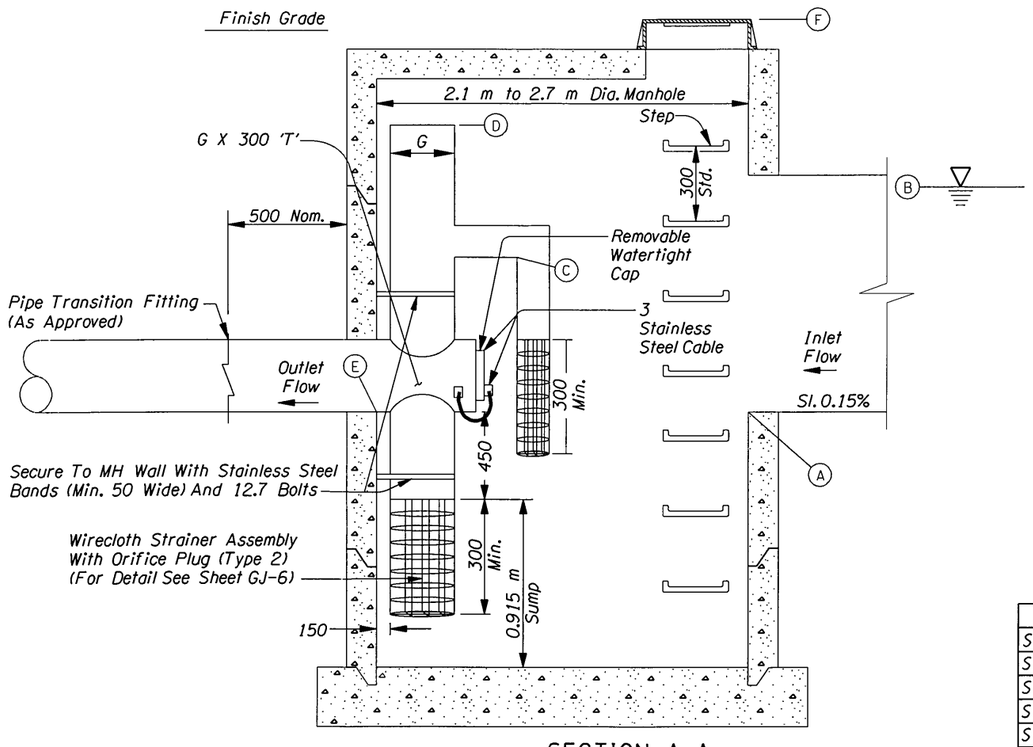
PROFILE

SHEET NO. 16G

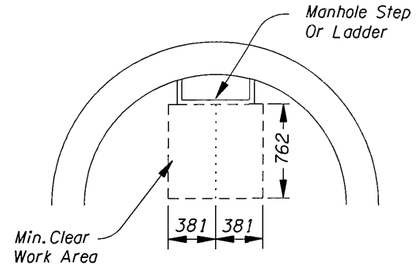
NOTES:
1. Hardware, Fasteners And Anchors To Be Stainless Steel; Use 3 mm Stainless Steel Cable.
2. For Manhole Details Not Shown, See RD346
3. Hardware, Fasteners, Anchors, Fittings, Appurtenances, Labor, And Equipment Are Incidental.



PLAN
OUTLET STRUCTURES
(For Location, See Sht. 16C and 17)
Not To Scale



SECTION A-A
FLOW CONTROL MANHOLE
Not To Scale



Locate Pipes, Etc. So That No Portion Of Them Are Within Min. Clear Work Area

DETAIL "C"
MIN. CLEAR WORK AREA
Not To Scale

Sta "L" 14+149.633 21.510 Rt.		
	ELEVATION (m)	DESCRIPTION
A	73.251	Detention Pipe Inlet
B	74.733	Elev. Of Detention Water Surface 50 Year Storm
C	74.247	Fl. Elev. Of Elbow
D	75.033	Rim Of Overflow Riser
E	73.247	Fl. Elev. Of Outlet Pipe
F	75.796	Top Of Manhole

Sta "L" 14+149.601 0.720 Lt.		
	ELEVATION (m)	DESCRIPTION
A	72.466	Detention Pipe Inlet
B	74.131	Elev. Of Detention Water Surface 50 Year Storm
C	73.058	Fl. Elev. Of Elbow
D	74.431	Rim Of Overflow Riser
E	72.458	Fl. Elev. Of Outlet Pipe
F	76.124	Top Of Manhole

Sta "L" 14+362.421 25.372 Lt.		
	ELEVATION (m)	DESCRIPTION
A	77.376	Detention Pipe Inlet
B	78.839	Elev. Of Detention Water Surface 50 Year Storm
C	78.071	Fl. Elev. Of Elbow
D	79.139	Rim Of Overflow Riser
E	77.371	Fl. Elev. Of Outlet Pipe
F	80.618	Top Of Manhole

Sta "L" 14+061.972 16.794 Lt.		
	ELEVATION (m)	DESCRIPTION
A	69.814	Detention Pipe Inlet
B	71.408	Elev. Of Detention Water Surface 50 Year Storm
C	70.353	Fl. Elev. Of Elbow
D	71.708	Rim Of Overflow Riser
E	69.803	Fl. Elev. Of Outlet Pipe
F	74.439	Top Of Manhole

Sta "L" 14+360.118 2.547 Rt.		
	ELEVATION (m)	DESCRIPTION
A	78.348	Detention Pipe Inlet
B	79.723	Elev. Of Detention Water Surface 50 Year Storm
C	79.043	Fl. Elev. Of Elbow
D	80.023	Rim Of Overflow Riser
E	78.343	Fl. Elev. Of Outlet Pipe
F	81.590	Top Of Manhole

Location	G(mm)
Sta. "L" 14+149.633 21.510 Rt.	250
Sta. "L" 14+149.601 0.720 Lt.	250
Sta. "L" 14+061.972 16.494 Lt.	250
Sta. "L" 14+362.421 25.372 Lt.	300
Sta. "L" 14+360.118 2.547 Rt.	450

All Dimensions Shown Are In Millimeters (mm) Unless Otherwise Noted

REGISTERED PROFESSIONAL ENGINEER
17807
OREGON
JULY 25, 1995
CHRIS CARMAN
EXPIRES: December 31, 2005

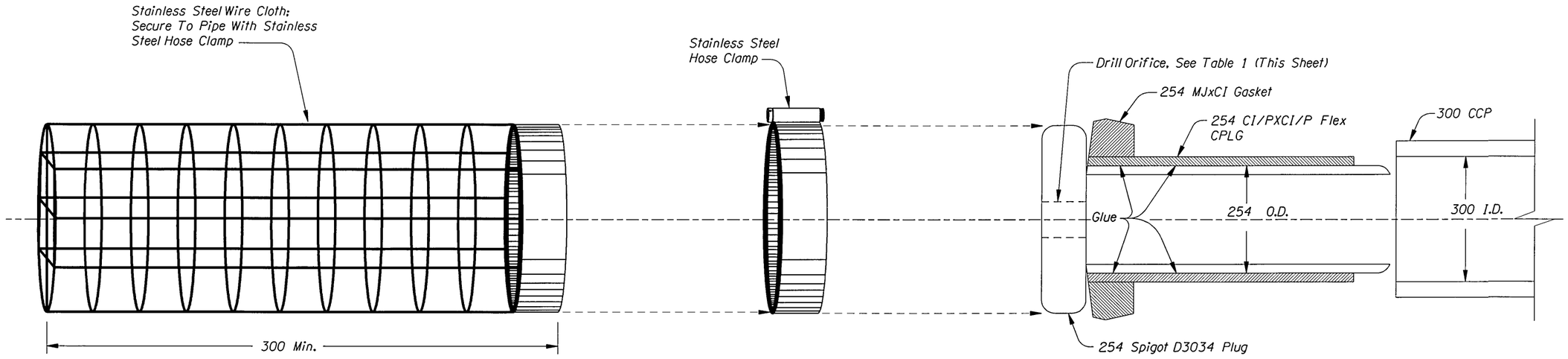
OREGON DEPARTMENT OF TRANSPORTATION
REGION 2 TECH CENTER

I-5: NORTH SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

Reviewed By - Alvin Shoblom
Designed By - Chris Carman
Drafted By - Chris Shearer

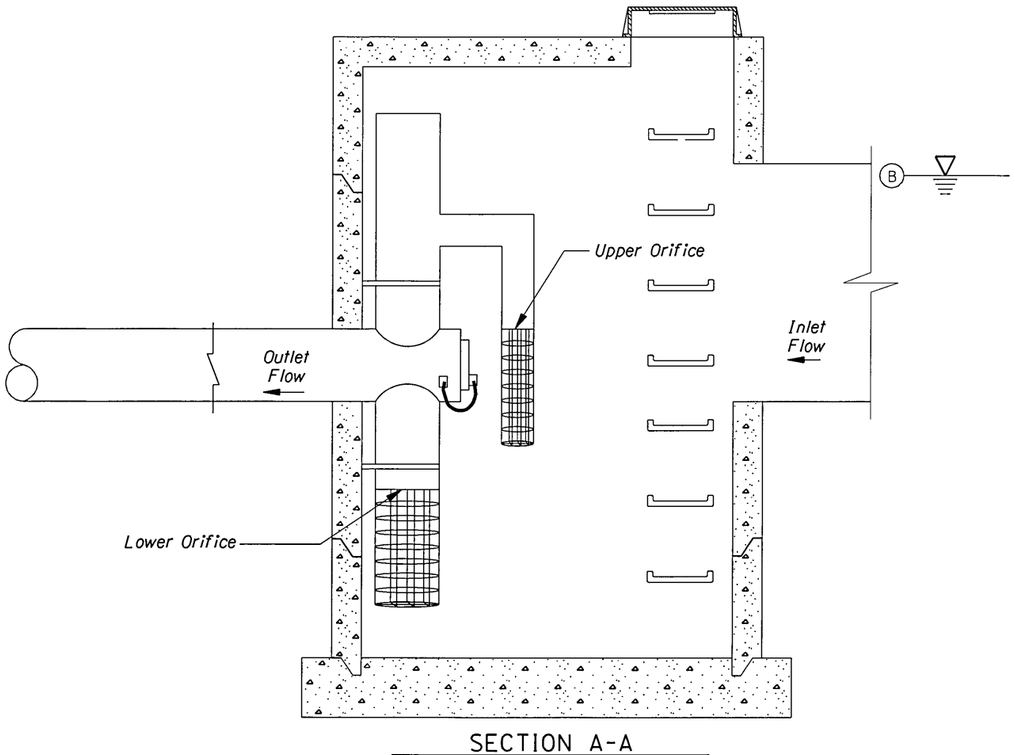
DETAILS

SHEET NO. GJ-4



FLOW CONTROL MANHOLE
WIRE CLOTH STRAINER ASSEMBLY
Not To Scale

ORIFICE PLUG (TYPE 2)
Not To Scale



SECTION A-A
FLOW CONTROL MANHOLE
Not To Scale

Table 1

Location	Lower Orifice Dia.(mm)	Upper Orifice Dia.(mm)
North Santiam Interchange	63.5	N/A
Sta."L" 14+360.118 2.547 Rt.	50	250
Sta."L" 14+362.421 25.372 Lt.	25	175
Sta."L" 14+149.633 21.50 Rt.	25	75
Sta."L" 14+149.601 0.720 Lt.	50	115
Sta."L" 14+061.976 16.794 Lt.	25	75
Kuebler Blvd. Interchange	25	400

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OREGON
JULY 25, 1995
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I-5: NORTH SANTIAM HWY. - KUEBLER BLVD. (SALEM) SEC.
PACIFIC HIGHWAY
MARION COUNTY

Reviewed By - Alvin Shoblom
Designed By - Chris Carman
Drafted By - Chris Shearer

DETAILS

SHEET NO. GJ-6