OPERATION & MAINTENANCE MANUAL

DFI No. : D00490
Facility Type: Water Quality Extended Det. Dry Pond

NOVEMBER, 2010

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00490**
Facility Type:	Water Quality Extended Det. Dry Pond
Construction Drawings:	(V-File Number) 34V-025
Location:	District: 3
	Highway No.: 091
	Mile Post: 22.05 (beg./end)]
	Description: This facility is located just south of OR99W (Hwy 091) at its intersection with Springbrook Road. Access can be obtained from an access driveway along the east side of Springbrook Road and south of an adjacent water quality pond.

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, Paul Wirfs, P.E., 503-986-2990
Facility construction:	2001
Contractor:	Compton Construction Company

4. Storm Drain System and Facility Overview

A water quality extended detention dry pond is a basin that is designed to detain stormwater for a sufficient time to allow particles and attached pollutants to settle. The outlet control structure limits the rate of runoff leaving the pond by using an orifice. These facilities are designed to completely drain over a 48 hour period. The size of these facilities depends on the location and the amount of contributing impervious area.

This facility is located just south of OR99W (Hwy 091) at its intersection with Springbrook Road. Access can be obtained from a paved access driveway along the east side of Springbrook Road and south of an adjacent water quality pond.

A localized stormwater system comprised of 12", 18", and 36-inch concrete pipes conveys water from along Springbrook Road into a 7-foot diameter drop manhole with a curbside grated inlet. Flows exit the manhole through a 36-inch pipe towards a riprap-lined facility entrance where the water fills the pond and is detained, prior to discharge. An originally designed for cellular confinement structure with vegetated topsoil infill lined the bottom of the pond and emergency spillway. However, this particular structure washed out within the first year of installation and was replaced with a concrete-lining instead; see the Operational Plan, Appendix A.

Stormwater exits the facility outlet control structure at a metered rate of flow via a small diameter orifice. Local maintenance staff originally removed this orifice during the first year when dealing with problems associated with the cellular confinement structure's lining and flows frequently exiting the facility via the emergency spillway. It appears that issues surrounding the orifice and lining have been resolved to a point where the facility functions more optimally. Nonetheless, the outlet control structure's primary and secondary inlet/outlet devices are designed to handle most stormwater flow events and adequately convey water to Springbrook Creek, prior to use of the emergency spillway.

Along with typical maintenance it is recommended that maintenance staff pay particular attention to properly cleaning the primary inlet/outlet device and orifice opening, so that the pond continues to operate smoothly. This facility, like many, has a tendency to become overgrown with vegetation and may need significant trimming and debris removal too.

A. Maintenance equipment access:
   Staff may obtain unrestricted access to the facility from a paved access driveway along the east side of Springbrook Road and south of an adjacent water quality pond. The driveway, itself, is the second

entrance along the east side of Springbrook Road south of a commercial driveway entrance, leading to the adjacent shopping facility.

B. Heavy equipment access into facility:

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

C. Special Features:

☐ Amended Soils
☐ Porous Pavers
☒ Liners; Concrete lining
☐ Underdrains

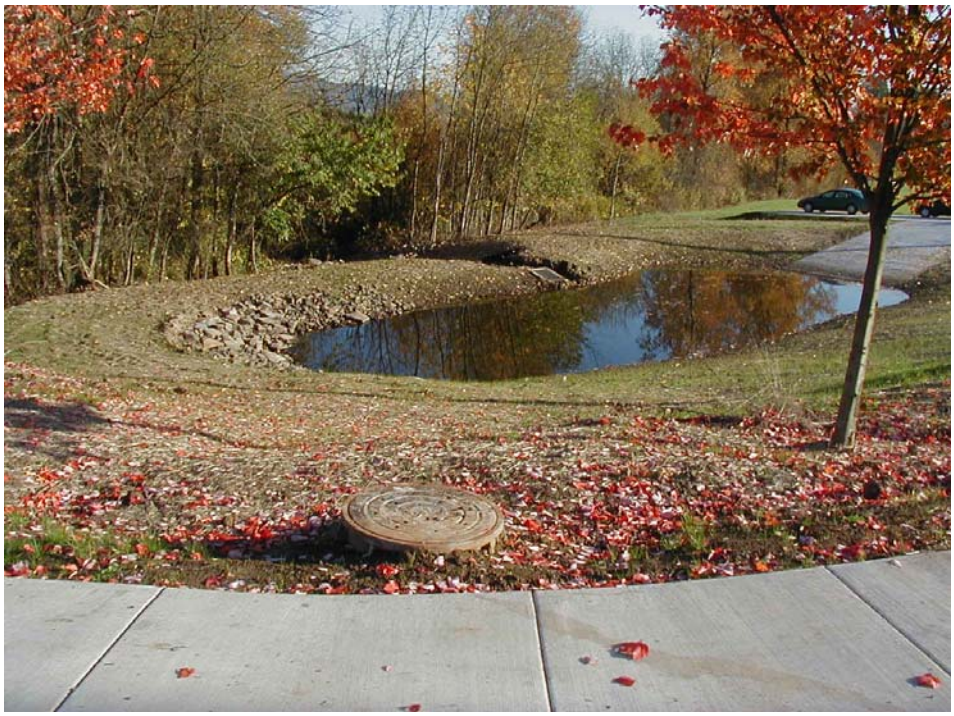


Photo 1: Looking southeast at the facility shortly after its completion, year 2001. Springbrook Road is located to the right.

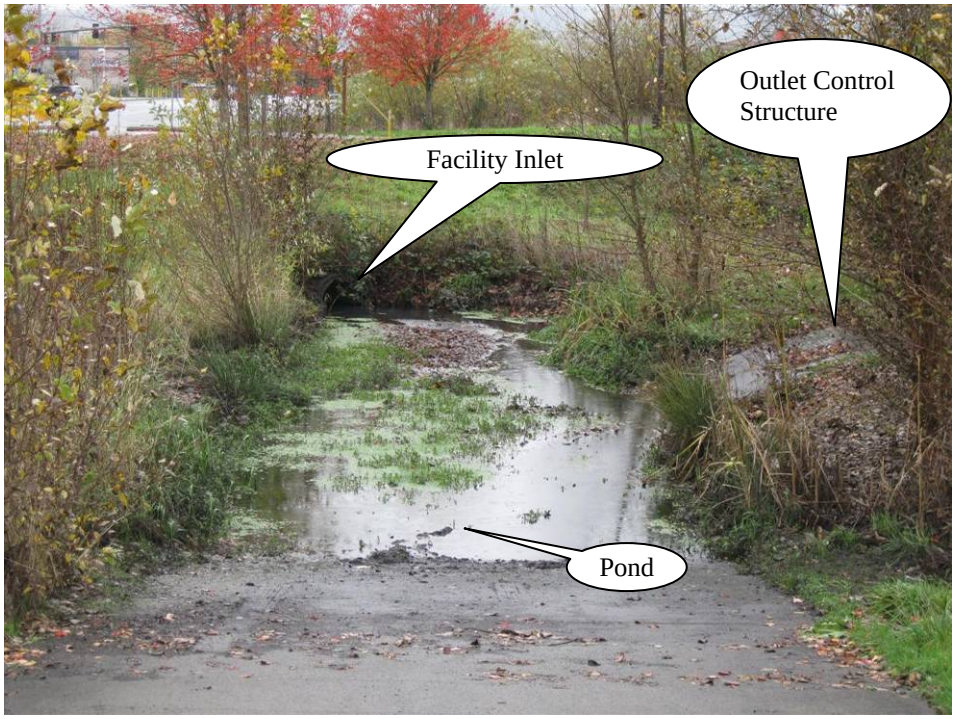


Photo 2: Looking north at the facility. Springbrook Road is located to the left.

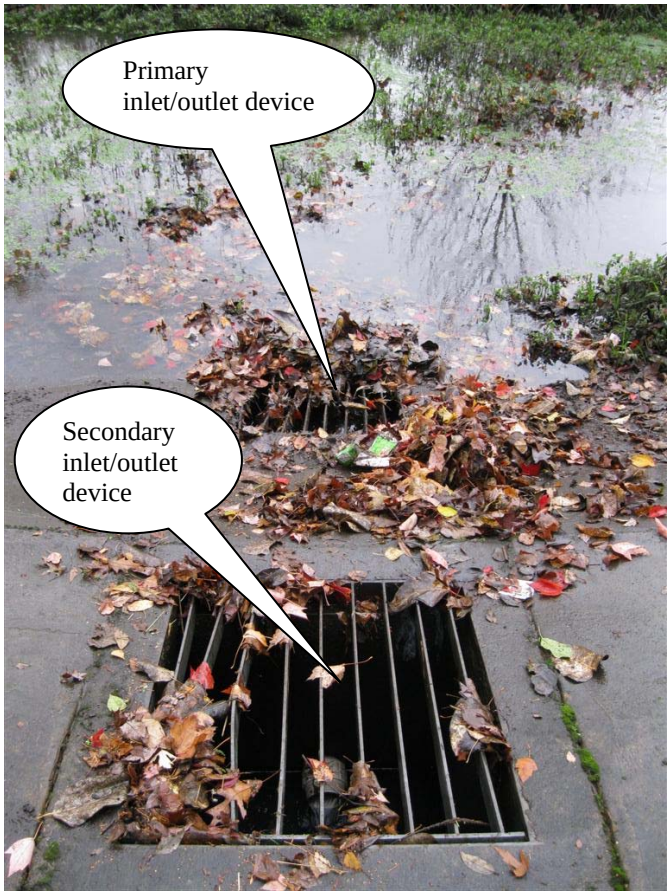


Photo 2: Looking west toward the outlet control structure. Springbrook Road is located straight ahead beyond the pond.

Photo 3: Looking at the secondary inlet/outlet device. Facility was originally designed to contain an orifice cap overtop the pipe exit, above.

Photo 4: Looking east at the facility outlet, paved-end slope pipe exit and riprap lined outfall to Springbrook Creek – straight ahead.

5. Facility Haz Mat Spill Feature(s)

The Water Quality Extended Det. Dry Pond can be used to store a volume of liquid by blocking the 24-inch diameter outlet pipe located at the outlet of the detention pond facility. This pipe is noted as point B on the Operational Plan, Appendix A. The use of a steel plate and sandbags may help with blocking the pipe and outlet control structure devices.

6. Auxiliary Outlet (High Flow Bypass)

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
A secondary auxiliary inlet/outlet grated catch basin has been designed as part of the facility's outlet control structure, and acts as an emergency overflow in the event the primary outlet control device is plugged.

Before flows ever reach the higher level of the secondary inlet/outlet device, however, they are typically released through a primary inlet/outlet grated catch basin located below the secondary device. If runoff should ever exceed the water quality event, where flows normally are directed to the lower primary outlet, the pond level will rise and flows will be released through the secondary auxiliary inlet/outlet device located just above the primary outlet. In the chance the entire outlet control structure overflows due to plugging or a high flow event an auxiliary emergency spillway will further convey flows toward the creek.

☐ 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

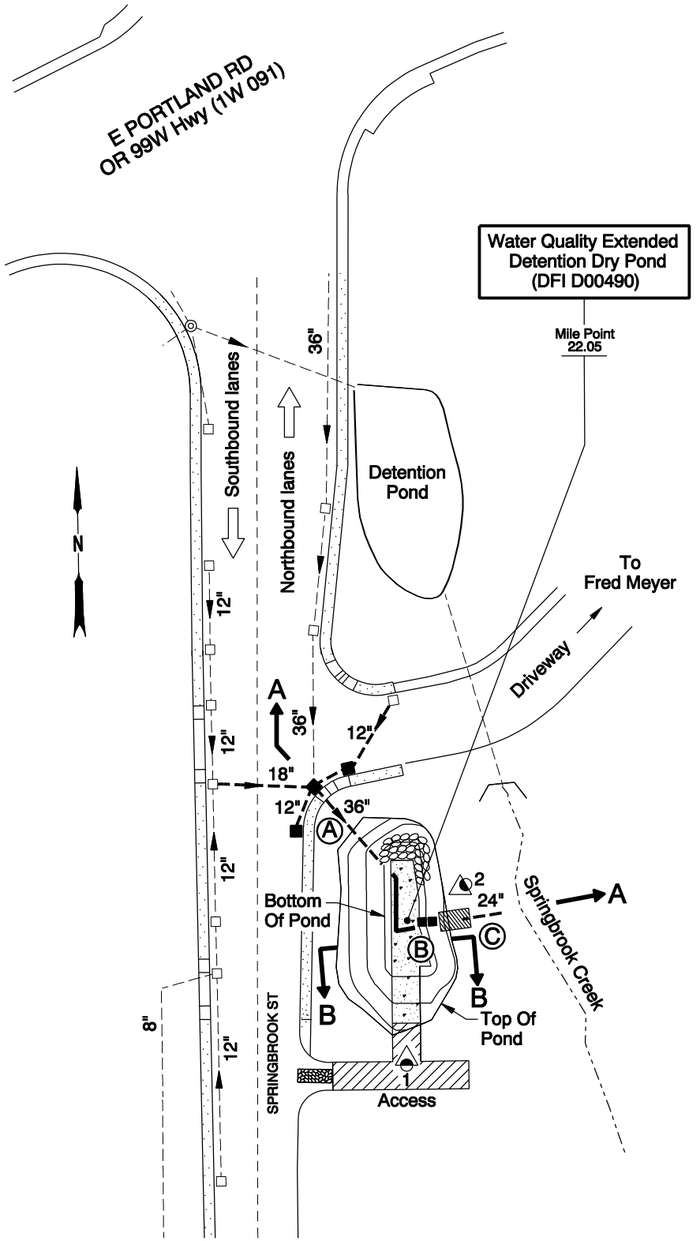
Contact any of the following for more detailed information about management of waste materials found on site:

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

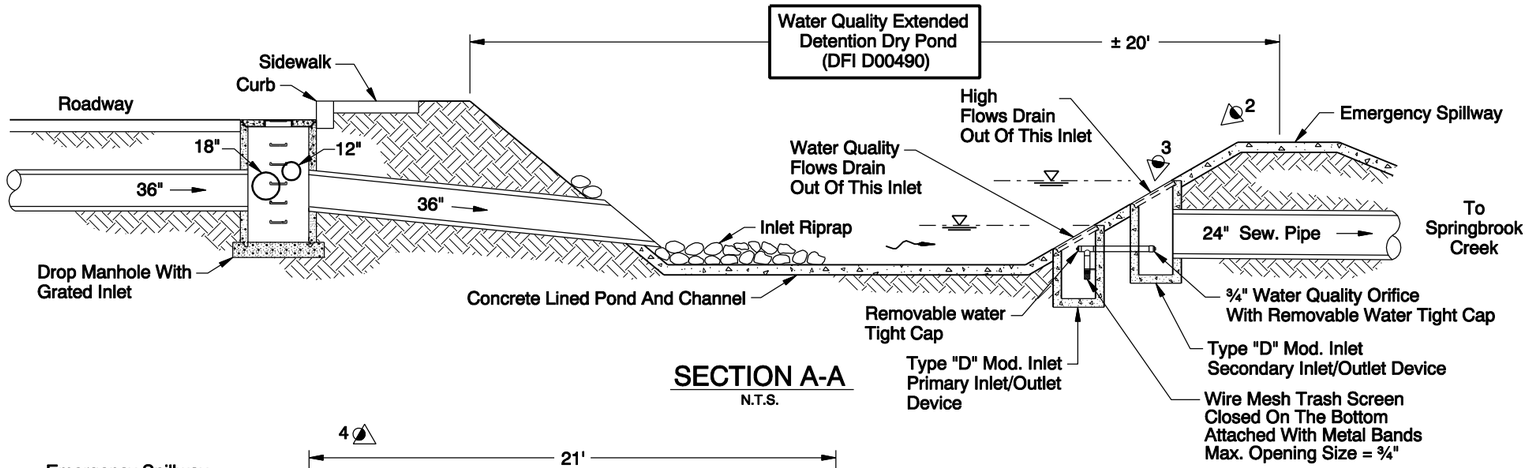
Appendix A

Content:

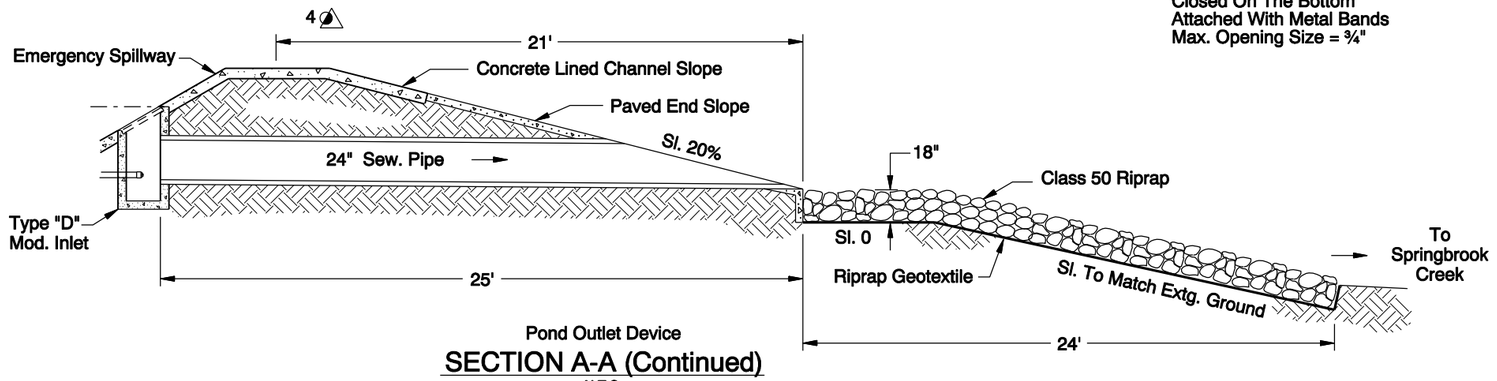
- **Operational Plan and Profile Drawing(s)**



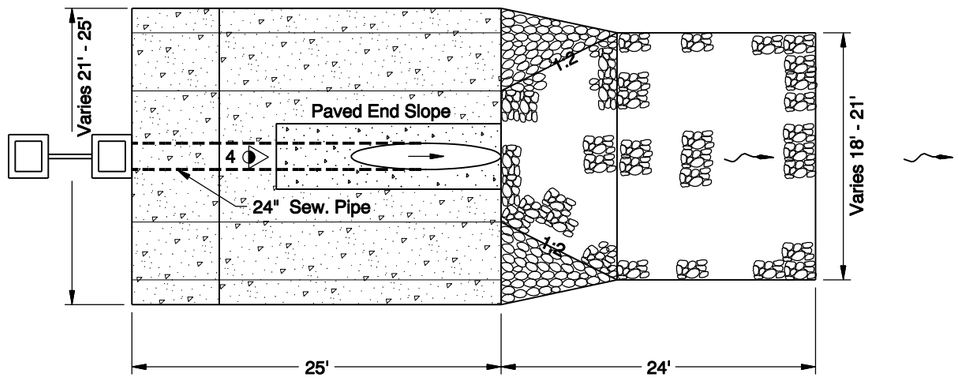
PLAN
N.T.S.



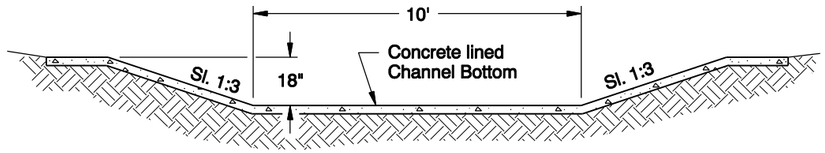
SECTION A-A
N.T.S.



Pond Outlet Device
SECTION A-A (Continued)
N.T.S.



Pond Outlet Device
PLAN
N.T.S.



SECTION B-B
N.T.S.

LEGEND:
- Photo Location / Direction
- Facility Inlet
- Outlet Control Device
- Facility Outlet/Riprap Channel
- Manhole and/or
- Inlet and/or
- Access Area
- Storm Pipe (Facility)
- Storm Pipe
- Conveyance Direction
- Pavement / Facility Flow Path

Sht. 1 of 1

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Bob Knorr

Drafted By: Jim Holeman

DFI D00490
MAINTENANCE DISTRICT 3 HWY 091
WATER QUALITY EXTENDED DET. DRY POND
PACIFIC HIGHWAY WEST MP 22.05
YAMHILL COUNTY

Appendix B

Content:

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

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Contd.
1A-2	Standard Drawing Nos.
2, 2A	Main Line Typical Sections
2A-2 Thru	"F" Line Typical Sections
2A-4 Incl.	
2A-5, 2A-6	"H" Line Typical Sections
2A-7, 2A-8	"S" Line Typical Sections
2A-9	"V" Line Typical Sections
2A-10	"R" Line Typical Sections
2A-11	"HD", "CG", "MD" Line Typical Sections
2A-12	"M", "C" Line Typical Sections
2B	"F" Line, "H" Line Superelevation Data
2B-2	Mountable Island, Simulated Grid Pattern Details
2B-3	Raised Island, Mountable Table Conc. Island Details
2B-4 2B-5	River Rd. Details
2B-6	Cul-De-Sac Details
2B-7	Pedestrian Bulb Out Detail
2B-8, 2B-9	Parking Facility Details
2B-10	Modified Sidewalk Ramp,
2B-11	Asph. Conc. Sidewalk Ramp Details
2B-12	Roof Drain, Special Slope Treament Details
2B-13	Embankment Construction, Sliver Fill Details
2B-14	Manhole Adjustment, Valve Box Details
2B-15	Combination Inlet Detail
2B-16	Outside Drop Manhole, Combination Inlet Detail
2B-17	Corrugated Metal Pipe Saddle, Blind Conn. Detail
2B-18	Type "D" Inlet Detail
2C Thru 2C-33 Incl.	Traffic Control Plans
2D Thru 2D-3 Incl.	Erosion Control Details
2D-4 Thru 2D-15 Incl.	Erosion Control Plans
2E Thru 2E-13 Incl.	Pipe Data
3	Alignment - Main Line
3A, 3B	General Construction - Main Line
3C, 3D	Drainage & Utilities - Main Line
3E	Profile - Main Line
3F	Drainage & Utilities - Main Line
4	Alignment - Main Line, "S" Line
4A	Alignment - "S" Line
4B, 4C	General Construction - Main Line, "S" Line
4D, 4E	General Construction - "S" Line
4F, 4G	Drainage & Utilities - Main Line, "S" Line

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

REVISED PLAN SHEETS INCORPORATED

REVISED PLAN SHEETS INCORPORATED

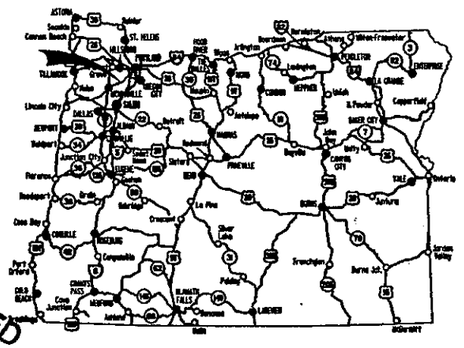
GRADING, STRUCTURE, PAVING, SIGNING & SIGNAL

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.

PACIFIC HIGHWAY WEST

YAMHILL COUNTY

FEBRUARY 2001



Overall Length Of Project - 3.15 km (1.96 Miles)

AS CONTRUCTED

PROJECT MANAGER

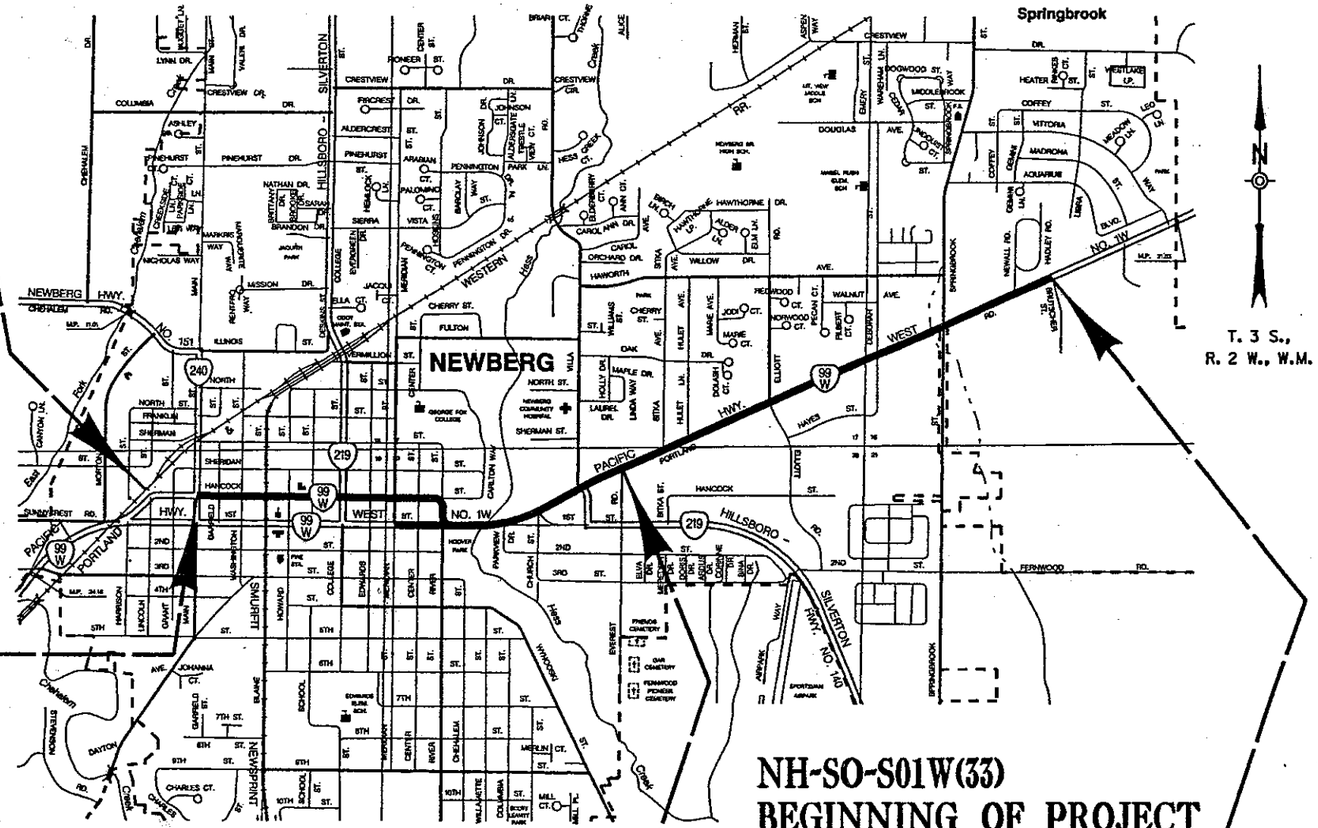
ATTENTION :
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules From The Center, Or Answers To Questions About The Rules By Calling (503) 232-1987.

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

END OF CONTRACT PROJ.
STA. "SEWER" 1+241.4 (M.P. 23.89)

NH-SO-S01W(33)
END OF PROJECT (Main St.)
STA. 26+485 (M.P. 23.76)

NH-SO-S01W(33)
BEGIN. & END OF PROJECT (Everest St.)
STA. 24+990 (M.P. 22.80)



NH-SO-S01W(33)
BEGINNING OF PROJECT
(Brutscher St.)
STA. 23+390 (M.P. 21.80)

OREGON TRANSPORTATION COMMISSION

Steven H. Corey	CHAIRMAN
Gail L. Achterman	COMMISSIONER
Stuart Foster	COMMISSIONER
Randall Pape	COMMISSIONER
John Russell	COMMISSIONER
Grace Crunican	DIRECTOR OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER
18,458
OREGON
MAY 14, 1996
JEFFREY SCHEICK
Expires Jun. 30, 2002

Jeffrey Scheick

TECHNICAL SERVICES MANAGING ENGINEER

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

FEDERAL HIGHWAY ADMINISTRATION		PROJECT NUMBER	SHEET NO.
REGION 10	OREGON DIVISION	NH-SO-S01W(33)	1

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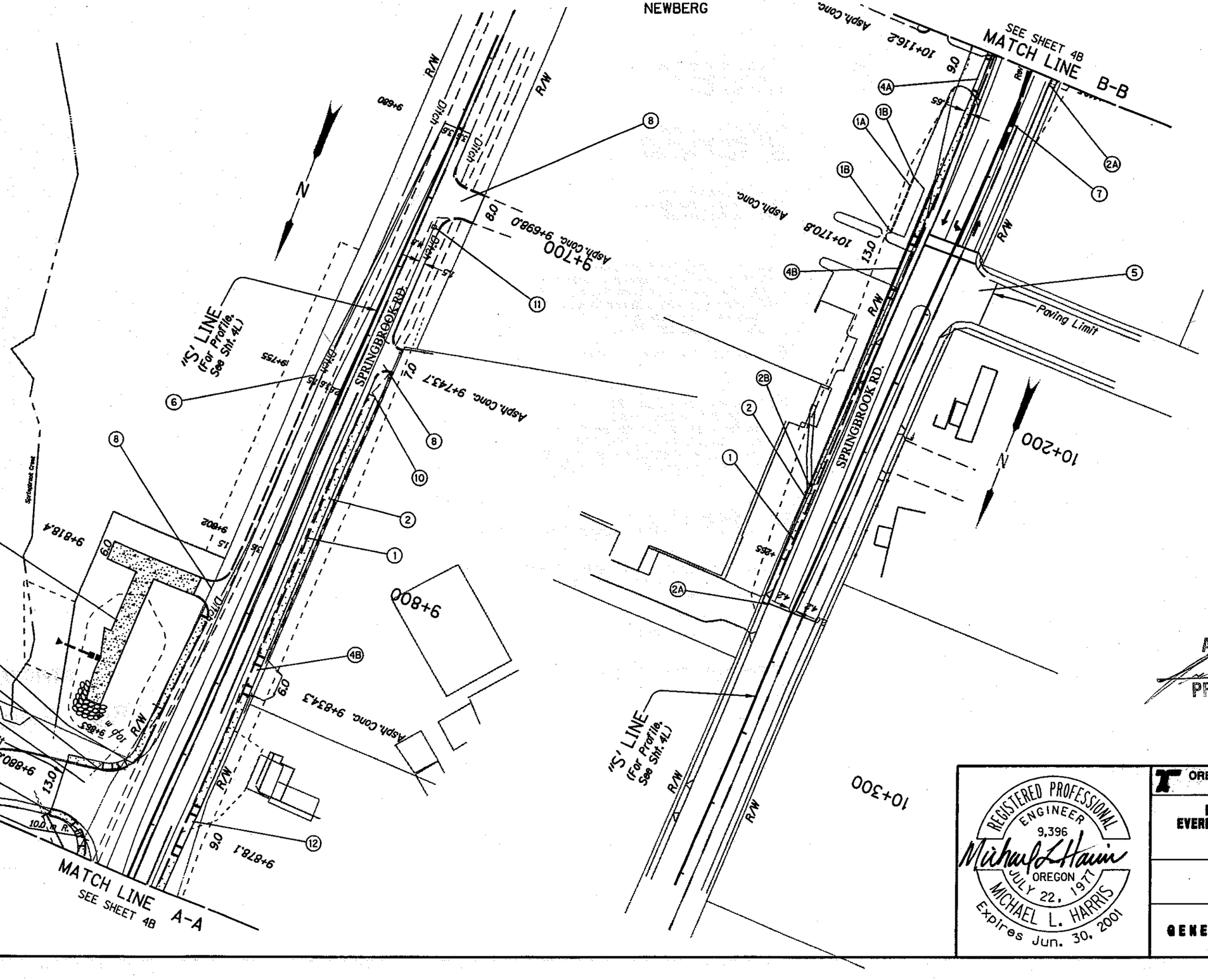
NEWBERG



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

REGISTERED PROFESSIONAL ENGINEER
9,396
OREGON
JULY 22, 1977
MICHAEL L. HARRIS
Expires Jun. 30, 2001

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.

PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Design Team Leader - Michael L. Harris
Designed By - Taundra Mortensen
Drafted By - Robert J. Erpelding

GENERAL CONSTRUCTION

SHEET NO. 4D

13-DEC-2000 17:01
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VIEW 3

VIEW 3

(1) Const. Type "A" Curb
(1A) Const. Type "C" Curb
(1B) Match Extg. Curb - 3

(2) Const. P.C. Conc. Walk
(2A) Match Extg. Sidewalk - 3
(2B) Connect Extg. Sidewalk

Const. Sidewalk Ramp
(3A) Perpendicular Sidewalk Ramp - 0
(3B) Parallel Sidewalk Ramp - 1

Const. P.C. Conc. Reinforced Driveway
(4A) Partially Lowered Sidewalk, Option A - 1
(4B) Fully Lowered Sidewalk, Option B - 2
(4C) Driveway In Wide Sidewalk, Option D - 0
Const. Asph. Conc. Connection - 3
(For Details, See Sht. 2B-11)

(5) Const. Asph. Conc. Street Connection

(6) Const. Curb Ending

(7) See Sht. 4C, Note 6

(8) Const. Approach - 4
(See Drg. No. RD715)

(9) Const. Water Quality Facility
(For Details, See Shts. WC-1 Thru WC-5)

(10) Const. Asph. Conc. Sidewalk Ramp
(For Details, See Sht. 2B-10)

(11) Remove Extg. Mailbox Support
Install Single Mailbox Support
(See Drg. No. RD100)

(12) Const. P.C. Conc. Reinforced Driveway
Fully Lowered Sidewalk, Option B
(For Details, See Sht. 2B-11)

AS CONTRUCTED
PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
9,396
OREGON
JULY 22, 1977
MICHAEL L. HARRIS
Expires Jun. 30, 2001

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. &
EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Design Team Leader - Michael L. Harris
Designed By - Taundra Mortensen
Drafted By - Robert J. Erpelding

GENERAL CONSTRUCTION

SHEET NO. 4E

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VIEW 3
VIEW 3

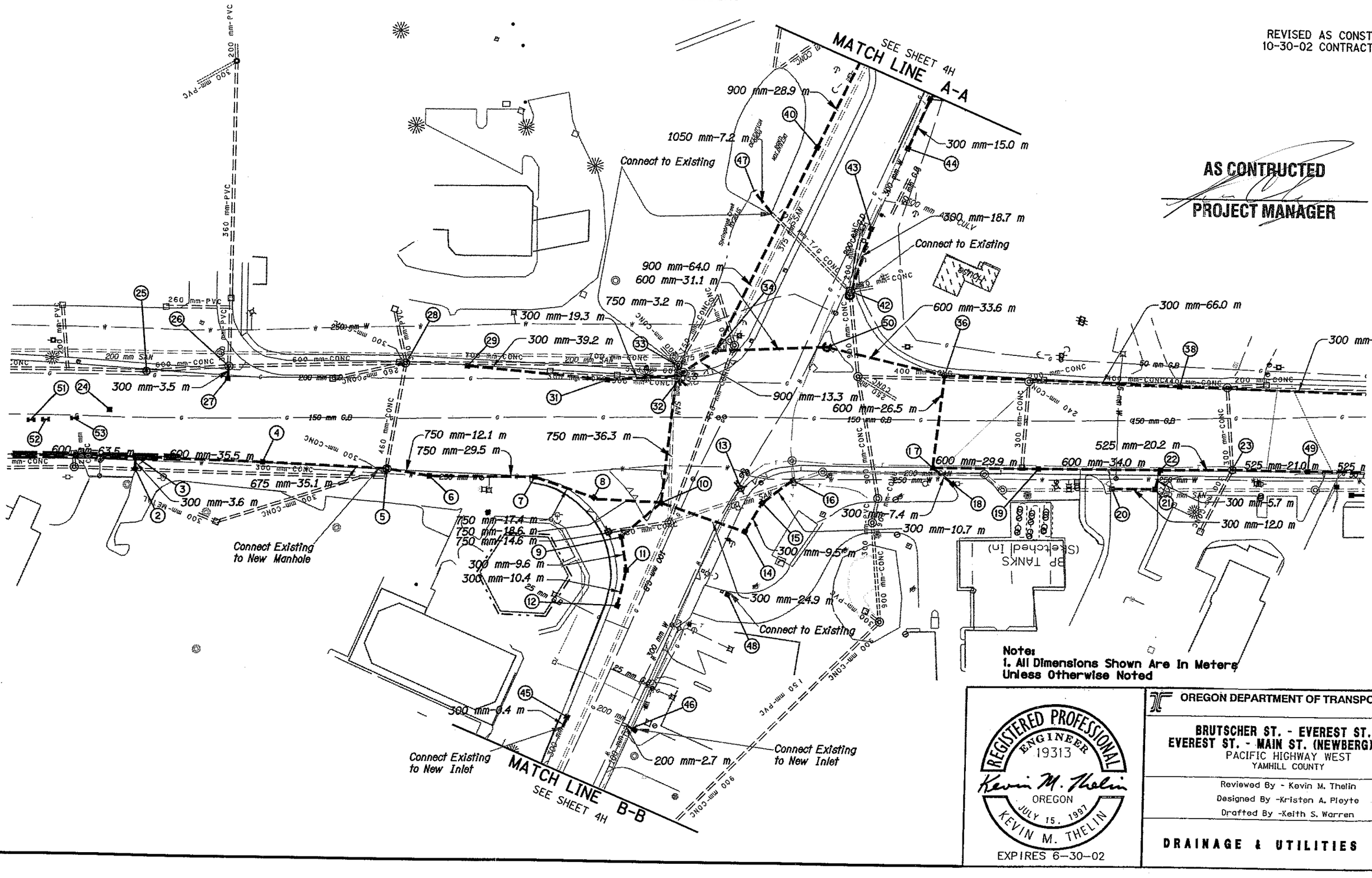
Sec. 16, T.3S., R.2W., W.M.

NEWBERG

REVISED AS CONSTRUCTED
10-30-02 CONTRACT C12504

AS CONTRUCTED

PROJECT MANAGER



Note:
1. All Dimensions Shown Are In Meters Unless Otherwise Noted

REGISTERED PROFESSIONAL ENGINEER
19313
Kevin M. Thelin
OREGON
JULY 15, 1997
KEVIN M. THELIN
EXPIRES 6-30-02

OREGON DEPARTMENT OF TRANSPORTATION

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Reviewed By - Kevin M. Thelin
Designed By -Kristen A. Pleyte
Drafted By -Keith S. Warren

DRAINAGE & UTILITIES

SHEET NO. 4F

VIEW 2

REVISED AS CONSTRUCTED
10-24-02 CONTRACT CI2504

(2) *Sta. 23+627.50, 14.61 m Rt.*
Const. Type "G-2" Inlet
FL = 61.475
Inst. 300 mm Sew. Pipe - 3.6 m
Tr. Exc. - 4 m³

(3) *Sta. 23+627.50, 11.05 m Rt.*
Const. 1500 mm Manhole with "G-2" Inlet
Inst. 600 mm Sew. Pipe - 35.5 m
Tr. Exc. - 66 m³

(4) *Sta. 23+663.00, 11.95 m Rt.*
Const. 1200 mm Manhole with "CG-2" Inlet
Inst. 675 mm Sew. Pipe - 35.1 m
Tr. Exc. - 82 m³

(5) *Sta. 23+698.08, 13.31 m Rt.*

Const. 1500 mm Manhole
Connect to Extg. 300 mm Storm Pipe (N)
Inst. 750 mm Sew. Pipe - 12.1 m
Tr. Exc. - 35 m³

(6) *Sta. 23+710.00, 15.25 m Rt.*
Const. 1500 mm Manhole with "CG-2" Inlet
Inst. 750 mm Sew. Pipe - 29.5 m
Tr. Exc. - 84 m³

(7) *Sta. 23+739.54, 15.25 m Rt.*
Const. 1500 mm Manhole with "CG-2" Inlet
Inst. 750 mm Sew. Pipe - 17.4 m
Tr. Exc. - 49 m³

(8) *Sta. 23+756.03, 20.92 m Rt.*
Const. 1500 mm Manhole with "CG-2" Inlet
Inst. 750 mm Sew. Pipe - 18.6 m
Tr. Exc. - 33 m³

(9) *Sta. 23+763.84, 31.85 m Rt.*
= Sta. "S" 10+043.00, 18.30 m Rt.

Const. 2100 mm Manhole with "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 9.6 m
Inst. 750 mm Sew. Pipe - 14.6 m
Under Pvmt. - 14.6 m
Tr. Exc. - 43 m³

(10) *Sta. 23+774.73, 22.15 m Rt.*
= Sta. "S" 10+029.72, 12.30 m Rt.
Const. 1500 mm Manhole with "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 24.9 m
Inst. 750 mm Sew. Pipe - 36.3 m
Under Pvmt. - 61.2 m
Tr. Exc. - 138 m³

(11) *Sta. "S" 10+051.00, 13.05 m Rt.*
Const. Type "CG-2" Inlet

(12) *Sta. "S" 10+061.18, 11.13 m Rt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 10.4 m
Tr. Exc. - 9 m³

(14) *Sta. 23+798.37, 29.94 m Rt.*

Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 9.5 m
Tr. Exc. - 10 m³

(15) *Sta. 23+803.10, 21.67 m Rt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 10.7 m
Tr. Exc. - 10 m³

(16) *Sta. 23+812.00, 15.10 m Rt.*
Const. Type "CG-2" Inlet

(17) *Sta. 23+850.15, 11.06 m Rt.*
Const. 1500 mm Offset Manhole with "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 7.4 m
Inst. 600 mm Sew. Pipe - 56.4 m
Under Pvmt. - 41.5 m
Tr. Exc. - 140 m³

(18) *Sta. 23+856.00, 15.61 m Rt.*
Const. Type "G-2" Inlet
FL = 60.338

(19) *Sta. 23+880.00, 11.05 m Rt.*
Remove Inlet
Const. 1200 mm Manhole with "CG-2" Inlet
Inst. 600 mm Sew. Pipe - 34.0 m

Tr. Exc. - 71 m³

(20) *Sta. 23+900.50, 16.51 m Rt.*
Const. Type "G-2" Inlet
FL = 60.725
Inst. 300 mm Sew. Pipe - 12.0 m
Under Pvmt. - 12.0 m
Tr. Exc. - 13 m³

(21) *Sta. 23+912.50, 16.51 m Rt.*
Const. Type "G-2" Inlet
FL (NE) = 60.665
FL (SW) = 60.605

(22) *Sta. 23+914.00, 11.05 m Rt.*
Const. 1500 mm Manhole with "G-2" Inlet
Inst. 300 mm Sew. Pipe - 5.7 m
Inst. 525 mm Sew. Pipe - 20.2 m
Tr. Exc. - 45 m³

(23) *Sta. 23+934.18, 9.0 m Rt.*
Remove Inlet
Const. 1500 mm Manhole
Inst. 525 mm Sew. Pipe - 21.0 m
Under Pvmt. - 11.0 m
Tr. Exc. - 40 m³

(25) *Sta. 23+630.24, 13.40 m Lt.*

Const. 1800 mm Drop Manhole

(26) *Sta. 23+653.00, 15.50 m Lt.*
Adjust Manhole
FL (N) = 60.737

(27) *Sta. 23+653.00, 12.00 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 3.5 m
Connect to Extg. Manhole
Tr. Exc. - 4 m³

(28) *Sta. 23+702.50, 17.00 m Lt.*

Adjust Manhole

(29) *Sta. 23+720.00, 16.15 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 39.2 m
Tr. Exc. - 33 m³

(31) *Sta. 23+759.05, 13.00 m Lt.*

Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 19.3 m
Tr. Exc. - 18 m³

(32) *Sta. 23+779.0, 14.07 m Lt.*
= Sta. "S" 9+995.21, 23.67 m Rt.

Const. 2100 Drop Manhole with "CG-2" Inlet
Inst. 900 mm Sew. Pipe - 13.3 m
Tr. Exc. - 74 m³

(33) *Sta. 23+778.00, 17.00 m Lt.*
Adjust Manhole
Inst. 750 mm Encased CMP - 3.2 m
Connect to Extg. Manhole
Plug Extg. FL(S)
Tr. Exc. - 17 m³

(34) *Sta. 23+790.6, 21.88 m Lt.*
= Sta. "S" 9+983.96, 16.59 m Rt.

Const. 2100 mm Drop Manhole with "CG-2" Inlet
Inst. 600 mm Sew. Pipe - 31.1 m
Inst. 900 mm Sew. Pipe - 64.0 m
Under Pvmt. - 21.0 m
Tr. Exc. - 378 m³

(35) *Sta. 23+830.00, 14.50 m Lt.*
Adjust Manhole

(36) *Sta. 23+853.07, 15.25 m Lt.*
Const. 1500 mm Drop Manhole with "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 66.0 m
Under Pvmt. - 14.0 m
Tr. Exc. - 65 m³

(38) *Sta. 23+919.00, 13.00 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 56.0 m
Under Pvmt. - 14.0 m
Tr. Exc. - 46 m³

(40) *Sta. "S" 9+920.00, 14.10 m Rt.*
Const. 1800 mm Manhole with "CG-2" Inlet
Inst. 900 mm Sew. Pipe - 28.9 m
Tr. Exc. - 82 m³

(42) *Sta. "S" 9+953.04, 11.0 m Lt.*
Adjust Manhole
Inst. 300 mm Sew. Pipe - 18.7 m
Connect to Extg. Manhole
Tr. Exc. - 27 m³

(43) *Sta. "S" 9+935.00, 8.15 m Lt.*

Const. Type "CG-2" Inlet

(44) *Sta. "S" 9+910.00, 7.98 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 15.0 m
Tr. Exc. - 15 m³

(45) *Sta. "S" 10+095.19, 10.57 m Rt.*

Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 0.4 m
Connect to Extg. 300 mm Storm Pipe (N)
Tr. Exc. - 1 m³

(46) *Sta. "S" 10+091.00, 8.00 m Lt.*

Const. Type "G-2" Inlet
Inst. 200 mm Sew. Pipe - 2.7 m
Connect to Extg. 200 mm Pipe (E)
Deflect Extg. 100 mm Pipe (N) to Connect to New Inlet
Tr. Exc. - 2 m³

(47) *Sta. "S" 9+942.19, 18.50 m Rt.*
Inst. 1050 mm Sew. Pipe - 7.2 m
Connect to Extg. Culvert Pipe (W)
Outfall FL = 55.106
Tr. Exc. - 40 m³

(48) *Sta. "S" 10+045.27, 15.54 m Lt.*

Const. City of Newberg
Type 2 Catch Basin
Connect to Extg. Storm line
As Directed By Field Engineer

(49) *See Sheet 5C, Note 1*

(50) *Sta. 23+820.34, 23.00 m Lt.*
Const. 1200 mm Manhole
Inst. 600 mm Sew. Pipe - 33.6 m
Under Pvmt. - 5.0 m
Tr. Exc. - 95 m³

(51) *Sta. 23+597.13, 1.15 m Rt.*
Inst. 100 mm PVC Waterline Sleeve - 1.7 m

(52) *Sta. 23+601.17, 1.02 m Rt.*
Inst. 100 mm PVC Waterline Sleeve - 1.7 m

(53) *Sta. 23+609.25, 0.56 m Rt.*
Inst. 100 mm PVC Waterline Sleeve - 1.7 m

AS CONTRUCTED
PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
19313
Kevin M. Thelin
OREGON
JULY 15, 1997
KEVIN M. THELIN
EXPIRES 6-30-02

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Reviewed By - Kevin M. Thelin
Designed By -Kristen A. Pleyte
Drafted By -Keith S. Warren

DRAINAGE & UTILITIES

SHEET NO. 4G

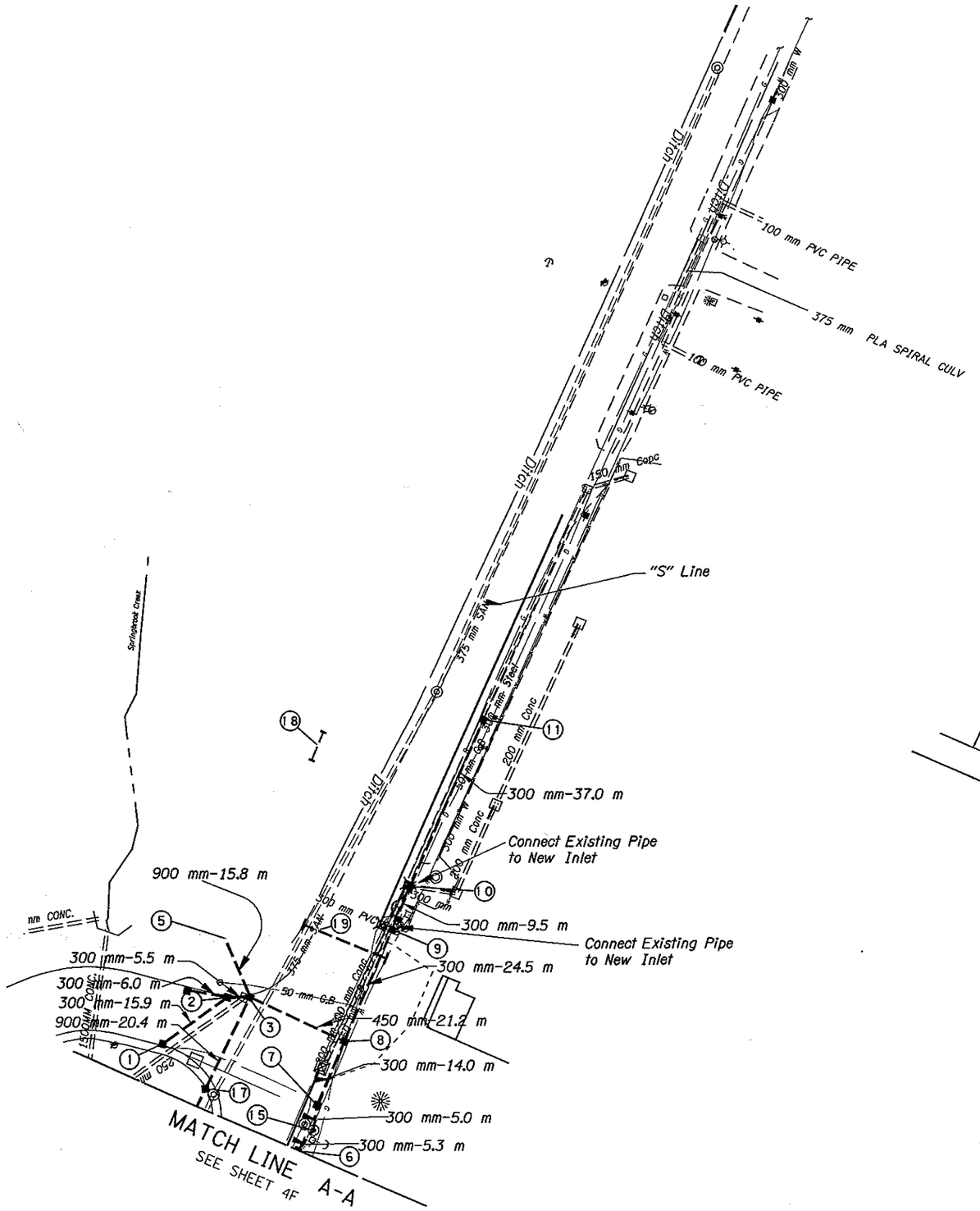
VIEW 2

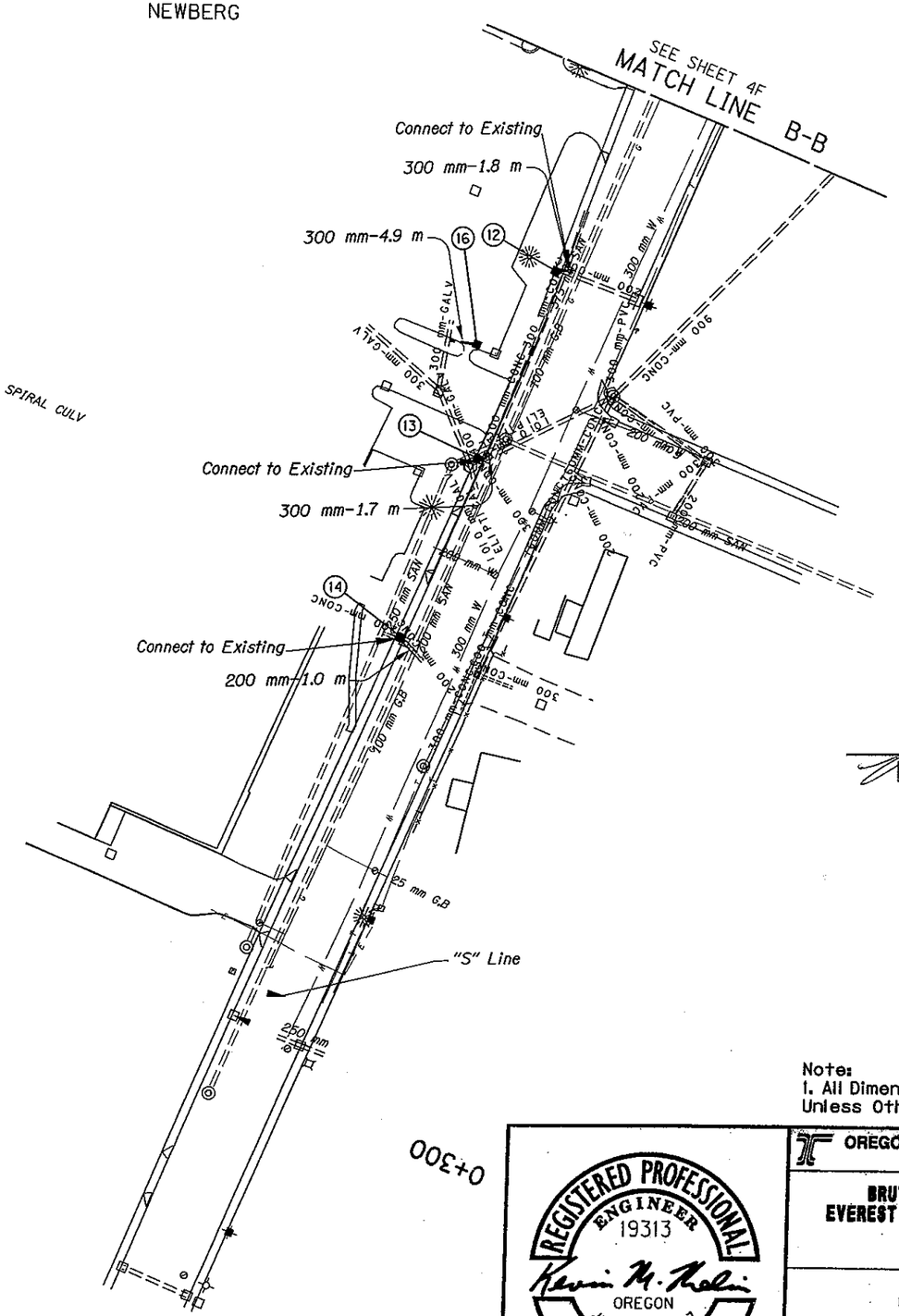
VIEW 2

Sec. 16, T.3S., R.2W., W.M.
NEWBERG

34V-25

REVISED AS CONSTRUCTED
10-30-02 CONTRACT C12504





AS CONTRUCTED

PROJECT MANAGER

Note:
1. All Dimensions Shown Are In Meters Unless Otherwise Noted

Abandon Pipe Shown Thus:

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19313
OREGON
JULY 15, 1997
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OREGON DEPARTMENT OF TRANSPORTATION

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Reviewed By - Kevin M. Thelin
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DRAINAGE & UTILITIES

SHEET NO. 4H

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VIEW 3

VIEW 3

D R A I N A G E

34V-25

REVISED AS CONSTRUCTED
10-24-02 CONTRACT CI2504

AS CONTRUCTED
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① *Sta. "S" 9+886.48, 25.51 m Rt.*

Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 15.9 m
Under Pvmt. - 15.9 m
Tr. Exc. - 14 m³

② *Sta. "S" 9+872.63, 17.68 m Rt.*

Const. 2 Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 11.5 m
Tr. Exc. - 6 m³

③ *Sta. "S" 9+868.09, 14.47 m Rt.*
Const. 2100 mm Drop Manhole with "CG-2" Inlet
Inst. 450 mm Sew. Pipe - 21.2 m

Under Pvmt. - 21.2 m
Tr. Exc. - 58 m³

⑤ *Sta. "S" 9+859.13, 24.91 m Rt.*
(See Water Quality Details, Sheet WC-1)
Inst. 900 mm Sew. Pipe - 15.8 m
Tr. Exc. - 56 m³

⑥ *Sta. "S" 9+894.99, 7.83 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 5.3 m
Tr. Exc. - 6 m³

⑦ *Sta. "S" 9+885.00, 7.73 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 14.0 m
Under Pvmt. - 14.0 m
Tr. Exc. - 15 m³

⑧ *Sta. "S" 9+871.00, 7.59 m Lt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 24.5 m
Tr. Exc. - 27 m³

⑨ *Sta. "S" 9+846.53, 7.35 m Lt.*
Remove Inlet
Const. Type "CG-2" Inlet
Connect to Extg. Storm Pipe (W)
Inst. 300 mm Sew. Pipe - 9.5 m
Tr. Exc. - 9 m³

⑩ *Sta. "S" 9+837.05, 7.25 m Lt.*
Remove Inlet
Const. Type "CG-2" Inlet
Connect to Extg. 200 mm Conc. Storm Pipe (W)
Inst. 300 mm Sew. Pipe - 37.0 m
Tr. Exc. - 33 m³

⑪ *Sta. "S" 9+800.00, 6.88 m Lt.*
Const. Type "CG-2" Inlet

⑫ *Sta. "S" 10+143.03, 9.35 m Rt*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 1.8 m
Connect to Extg. Inlet (W)

Plate Extg. Inlet with 12.7 mm Thick Steel
Match Outside Edge of Extg. Structure
Attach with 9.5 mm Bolts Set 75 mm Into
Extg. Structure, Plate Shall be Below Subgrade
and Above Pipe Crowns
Tr. Exc. - 1 m³

⑬ *Sta. "S" 10+181.36, 7.00 m Rt.*
Const. Type "CG-2" Inlet
Inst. 300 mm Sew. Pipe - 1.7 m
Connect to Extg. Inlet (SW)

Plate Extg. Inlet with 12.7 mm Thick Steel
Match Outside Edge of Extg. Structure
Attach with 9.5 mm Bolts Set 75 mm Into
Extg. Structure, Plate Shall be Below Subgrade
and Above Pipe Crowns
Tr. Exc. - 1 m³

⑭ *Sta. "S" 10+216.46, 7.60 m Rt.*

Const. Type "CG-2" Inlet
Inst. 200 mm Sew. Pipe - 1.0 m
Connect to Extg. Pipe (E & W)
Tr. Exc. - 1 m³

⑮ *Sta. "S" 9+889.84, 9.11 m Lt.*
Const. 1200 mm Manhole
Inst. 300 mm Sew. Pipe - 5.0 m
Tr. Exc. - 5 m³

⑯ *Sta. "S" 10+162.77, 17.06 Rt*

Const. Type "G-2" Inlet
Inlet Location and Connection to be
Placed As Directed by Field Engineer
Inst. 300 mm Sew. Pipe - 4.9 m
Tr. Exc. - 3 m³

⑰ *Sta. "S" 9+892.06, 15.53 m Lt.*
Const. 1800 mm Manhole with "G2" Inlet
Inst. 900 mm Sew. Pipe - 20.4 m
Inst. 900 mm Class 52 Ductile
Under Pvmt. - 20.4 m
Tr. Exc. - 59 m³

⑱ *Sta. "S" 9+821.79, 21.72 m Rt.*
Inst. 100 mm PVC Waterline Sleeve - 6.2 m

⑲ *Sta. "S" 9+852.93, 9.62 m Rt.*
Inst. 100 mm PVC Waterline Sleeve - 18.3 m

REGISTERED PROFESSIONAL ENGINEER
19313
Kevin M. Thelin
OREGON
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KEVIN M. THELIN
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OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. &
EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Reviewed By - Kevin M. Thelin
Designed By -Kristen A. Pleyte
Drafted By -Keith S. Warren

DRAINAGE & UTILITIES

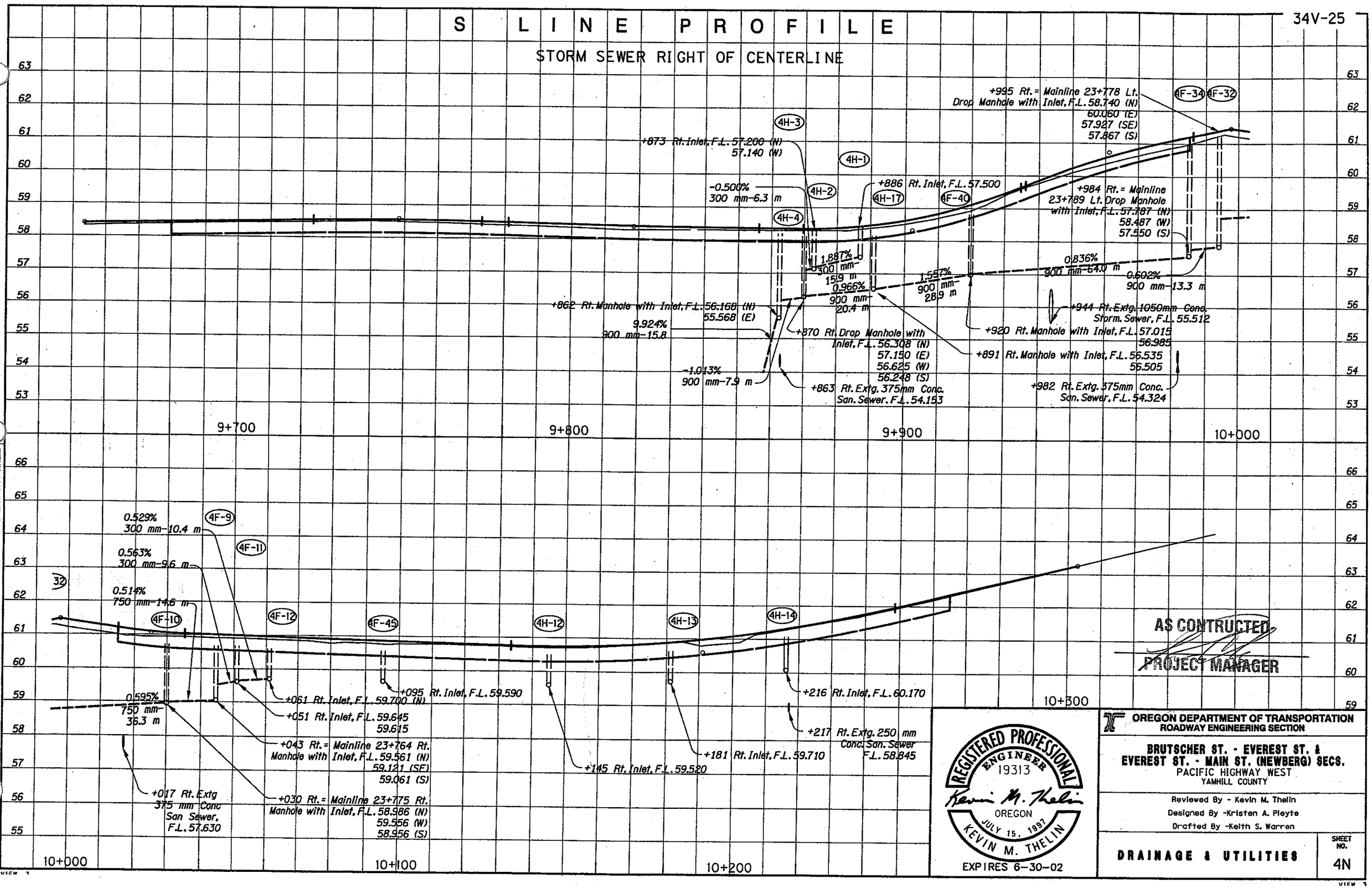
SHEET NO. 4J

VIEW 3

VIEW 3

S L I N E P R O F I L E

STORM SEWER RIGHT OF CENTERLINE



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PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
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Kevin M. Thelin
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OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. &
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PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Reviewed By - Kevin M. Thelin
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Drafted By -Keith S. Warren

DRAINAGE & UTILITIES

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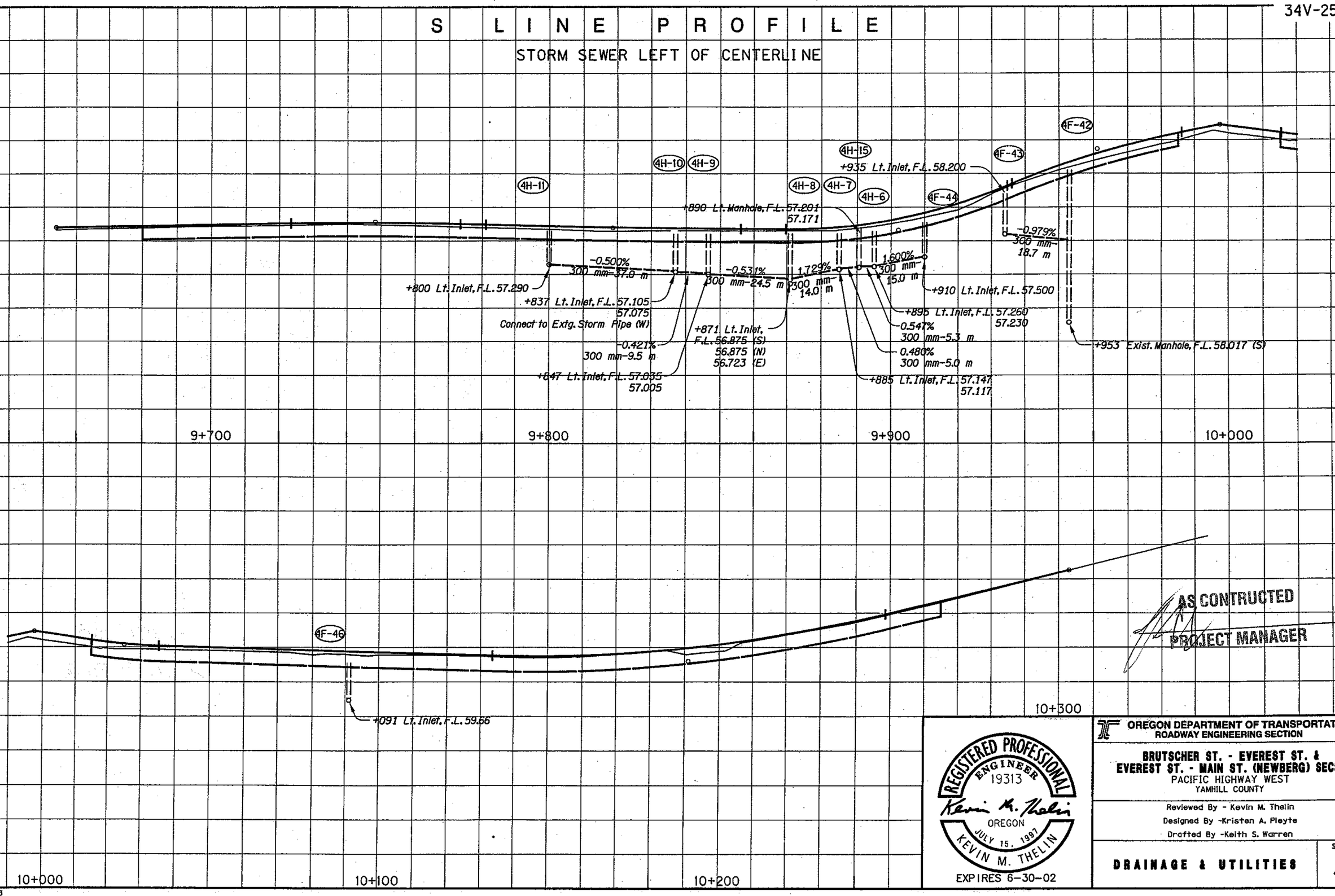
VIEW 3

34V-25

S L I N E P R O F I L E

STORM SEWER LEFT OF CENTERLINE



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OREGON
JULY 15, 1997
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ROADWAY ENGINEERING SECTION

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PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Reviewed By - Kevin M. Thelin
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Drafted By -Keith S. Warren

DRAINAGE & UTILITIES

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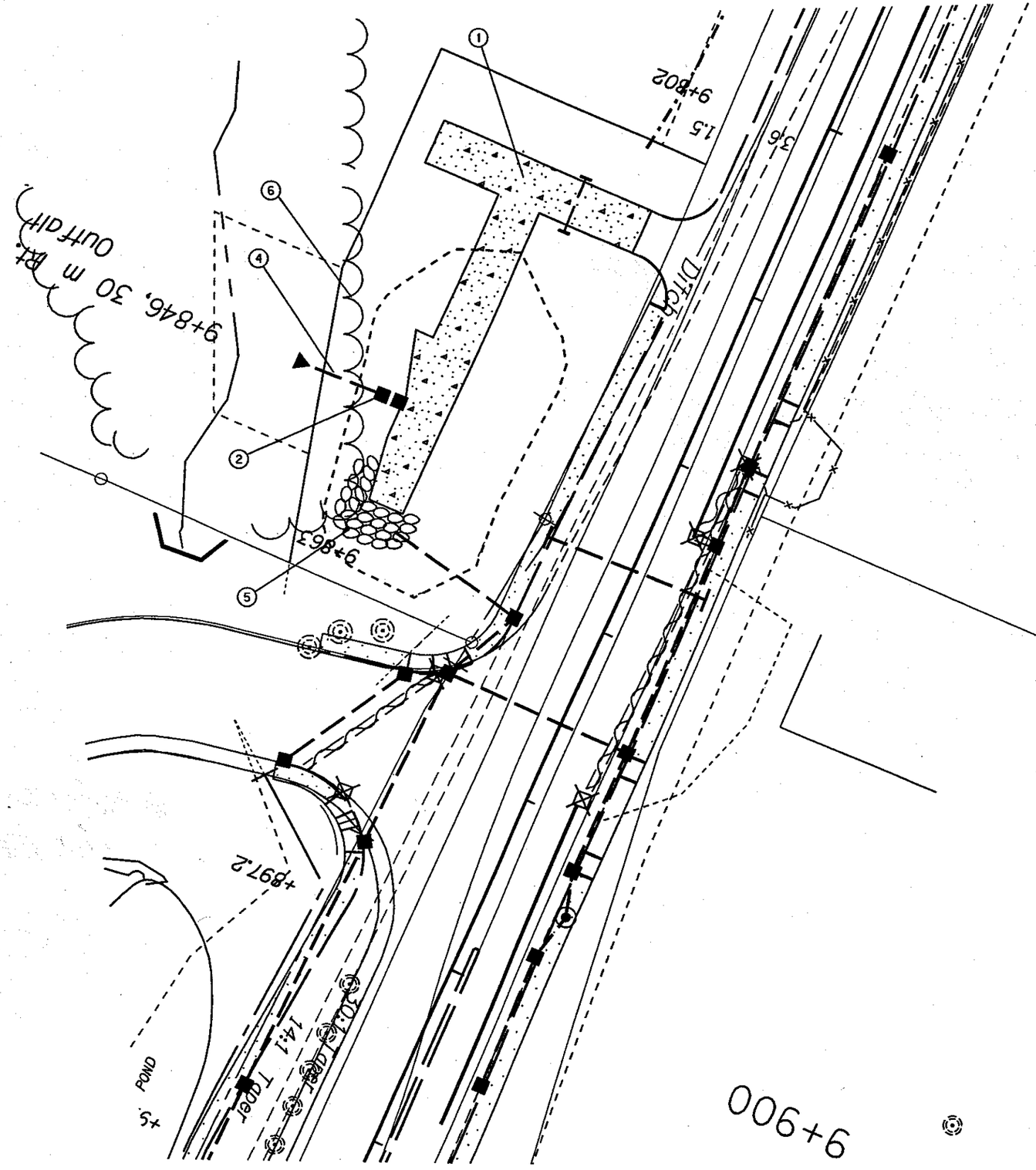

① Const. P.C. Conc. Approach
P.C. Conc. - 336 m²
Agg. Base - 84 m³

② Sta. "S" 9+846 (30 m. Rt.)
Const. Water Quality Outlet Device
(For Details, See Sht. WC-5)

③ Note Deleted From Plans

④ Sta. "S" 9+846
Const. Armored Overflow Channel
Armored Channel Protection - 27.1 m²
Const. Loose Riprap (Class 50) - 44 m³
(For Details, See Sht. WC-4)

⑤ Inst. Loose Riprap (Class 50) - 18 m³

⑥ Retain & Protect Existing Treeline & Vegetation

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

REGISTERED PROFESSIONAL ENGINEER
15441
Paul R. Wirfs
OREGON
MAY 30, 1991
PAUL R. WIRFS
Expires June 30, 2002

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. &
EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Designed By - Dani Nelson
Drafted By - Robert J. Erpelding

WATER QUALITY PLAN

SHEET NO. WC-1

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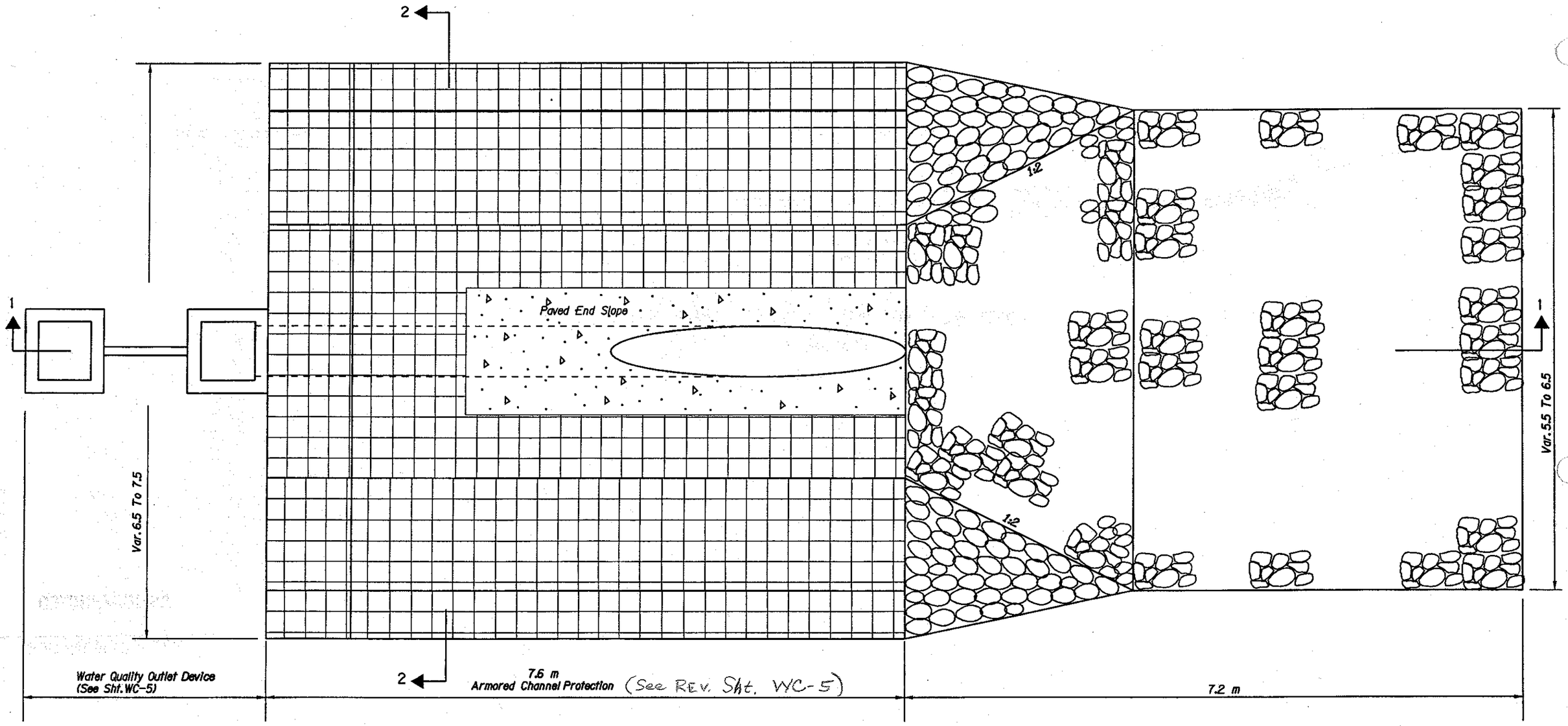
VIEW 1

VIEW 1



All Dimensions Are In Meters (m)
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For Sections 1-1 And 2-2 See Sht. WC-5

AS CONTRUCTED
PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
15441
Paul R. Wirfs
OREGON
MAY 30, 1991
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Expires June 30, 2002

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. &
EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Designed By - Dani Nelson
Drafted By - Robert J. Erpelding

WATER QUALITY DETAILS

SHEET NO. WC-4

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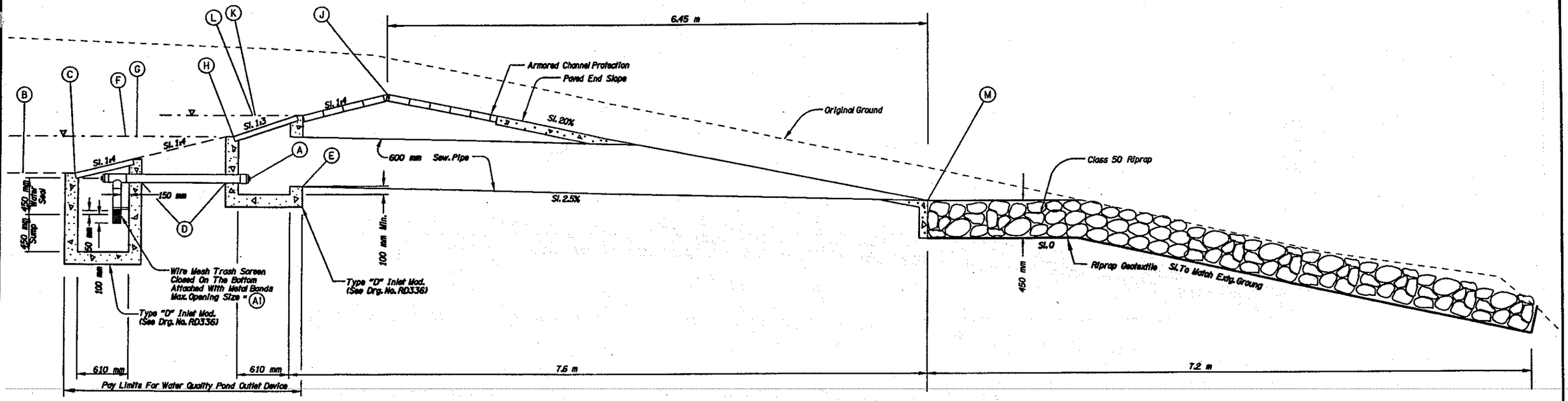
VIEW 3

VIEW 3

WATER QUALITY POND OUTLET DEVICE

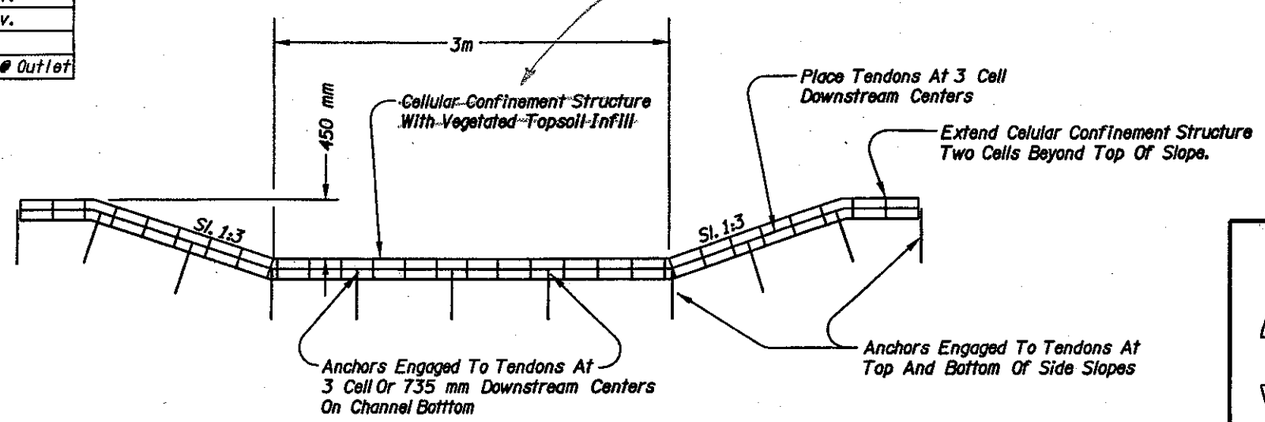


	Dimension	Description
A1	17 mm	Orifice Diameter
A2	54.43	Elev. Of Center Of Orifice
B	54.50	Elev. Of Pond Bottom
C	54.50	Elev. Of Lip Of Inlet
D	54.39	F.L. Elev. Of P.V.C. Pipe
E	54.35	F.L. Elev. Of Outlet Pipe
F	77.13 m³	Pond Design W.Q. Volume @ G
G	54.95	Pond Design W.Q. W.S. Elev.
H	54.95	Elev. Of Lip Of Inlet
J	55.45	Auxiliary Outlet F.L. Elev.
K	55.20	Pond Design Det. W.S. Elev.
L	144.83 m³	Pond Design Vol. @ K
M	54.16	F.L. Elev Of Outfall Pipe @ Outlet

SECTION 1 - 1
STA. "S"9+846.5, Rt.

CELLULAR CONFINEMENT STRUCTURE WITH VEGETATED TOPSOIL INFILL WASHED OUT FIRST SEASON. ALL OF ARMORED CHANNEL PROTECTION WAS REPLACED WITH CONCRETE.

AS CONTRUCTED
PROJECT MANAGER



SECTION 2 - 2
AMORED CHANNEL PROTECTION

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

REGISTERED PROFESSIONAL ENGINEER
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Paul R. Wirfs
OREGON
MAY 30, 1991
PAUL R. WIRFS
Expires June 30, 2002

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ROADWAY ENGINEERING SECTION

BRUTSCHER ST. - EVEREST ST. & EVEREST ST. - MAIN ST. (NEWBERG) SECS.
PACIFIC HIGHWAY WEST
YAMHILL COUNTY

Designed By - Dani Nelson
Drafted By - Robert J. Erpelding

WATER QUALITY DETAILS

SHEET NO. WC-5

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VIEW 2

VIEW 2