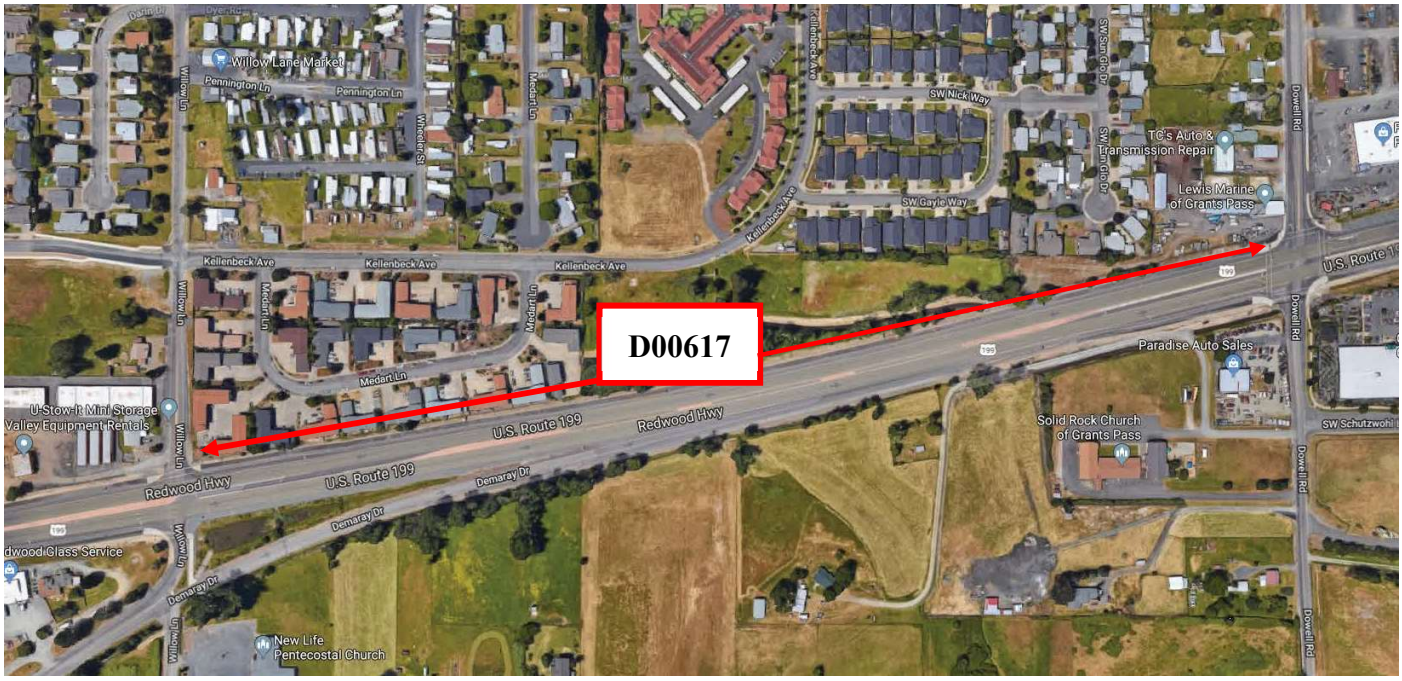
OPERATION & MAINTENANCE MANUAL

DFI No. : D00646
Facility Type: Water Quality Porous Pavement



December, 2018

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00646**
Facility Type:	Water Quality Porous Pavement
Construction Drawings:	43V-178
Location:	District: 08
	Highway No.: 025
	Mile Post: 2.07; 2.55 (beg./end); Right
	Description: This facility is located along the north side of westbound US 199. It can be identified as the multi-use path adjacent to the highway.

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: Jason Sheadel – Region 3 Tech Center

Facility construction: 2013
Contractor: N/A

4. Storm Drain System and Facility Overview

Water quality treatment will be accomplished through the underlying water quality amended soils. A perforated drainpipe, installed in a subsurface drain below the water quality amended soils, will convey the treated stormwater from the water quality amended soils. The entire cross-section will be lined in an impermeable geotextile fabric. A permeable geotextile fabric will be installed between the subbase and amended soils as well as between the water quality amended soils and the subsurface drain to promote flow of water through the system without transporting materials between layers.

A. Maintenance equipment access:
   This facility can be accessed from the north should of westbound US 199.

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)

There are no Haz Mat spill featured designed into this facility.

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

☒ Other

There are no auxiliary outlets built into this facility. In the event that flows exceed design flows the water will flow down the multi-use path surface and/or overtop the mountable curb and flow into the area behind the path..

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: See following table.

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Sediment accumulation	Collection of sediment is too coarse to pass through pavement.	Remove sediment deposits with high-pressure vacuum sweeper.
	Accumulation of leaves, needles, and other foliage	Accumulation on top of pavement is observed.	Remove with a leaf blower or high-pressure vacuum sweeper.
	Trash and debris	Trash and debris have accumulated on the pavement.	Remove by hand or with a high-pressure vacuum sweeper.
	Oil accumulation	Oil collection is observed on top of pavement.	Immediately remove with a vacuum sweeper and follow up by a pressure wash or other appropriate rinse procedure.
Visual Facility Identification	Not aware of permeable pavement location	Facility markers are missing or not readable.	Replace facility identification where needed.
Annual Minimum Maintenance			Remove potential void-clogging debris with a biannual or annual high-pressure vacuum sweeping.

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

8. Waste Material Handling

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

http://www.oregon.gov/ODOT/Maintenance/Documents/ems_manual.pdf

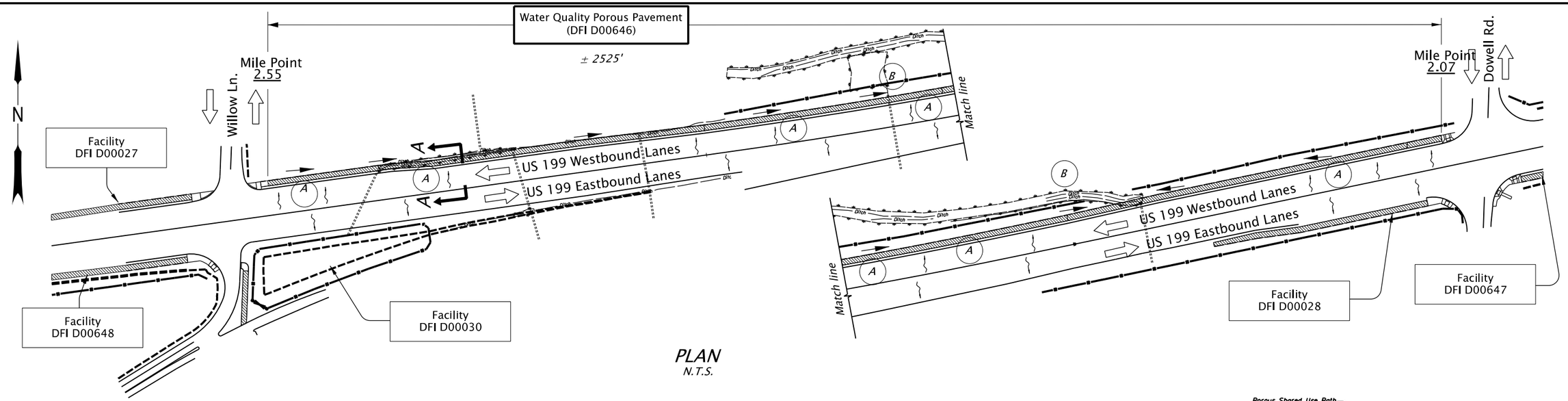
Contact any of the following for more detailed information about management of waste materials found on site:

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

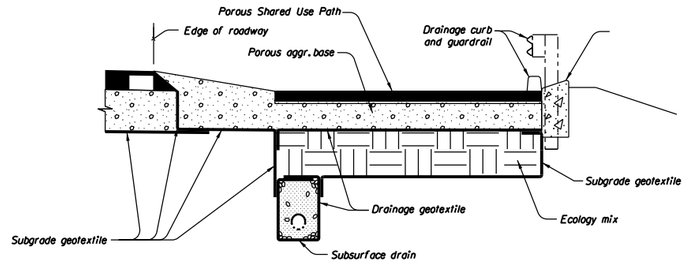
Appendix A

Content:

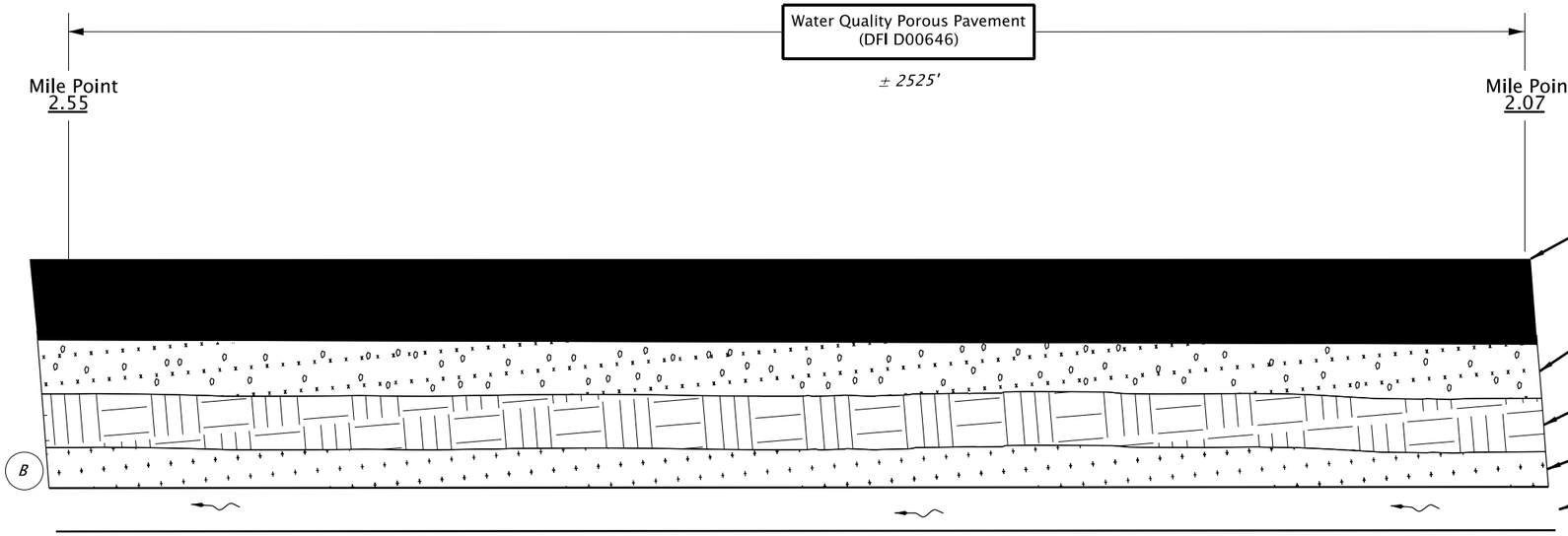
- **Operational Plan and Profile Drawing(s)**



PLAN
N.T.S.



SECTION A-A
N.T.S.



PROFILE
N.T.S.

LEGEND:

- A — Swale Inlet
- B — Swale Outlet
- and / or — Manhole
- and / or — Inlet
- Storm Pipe (Facility)
- Storm Pipe
- Conveyance Direction
- Pavement / Facility Flow Path
- Traffic Flow Direction

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: T.BURRIER

Drafted By: T.BURRIER

DFI D00646
MAINTENANCE DISTRICT 8 HWY 025
Water Quality Porous Pavement
HIGHWAY MP 2.05 - MP 2.58
JOSEPHINE COUNTY

Appendix B

Content:

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

43V-178

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
	Title Sheet
1A	Index Of Sheets Cont'd. & Std. Dwg. Nos.

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED PROJECT

GRADING, PAVING, DRAINAGE, SIGNALS AND STRUCTURE

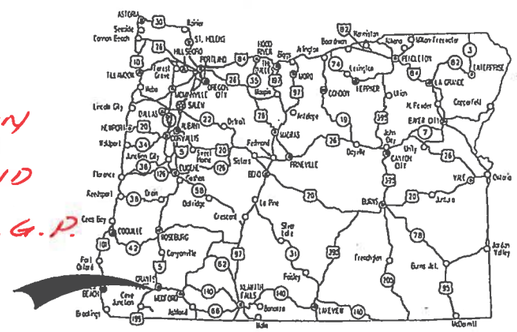
CC: DISTRIBUTION
WSP 7/23/12 - GP10
WSP 7/23/12 - C.O.G.P.

AS CONSTRUCTED
Shellwood 07/20/12
PROJECT INSPECTOR DATE

Dennis S. Dunn 7/20/02 #41759
890-7015

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY

JOSEPHINE COUNTY
DECEMBER 2010



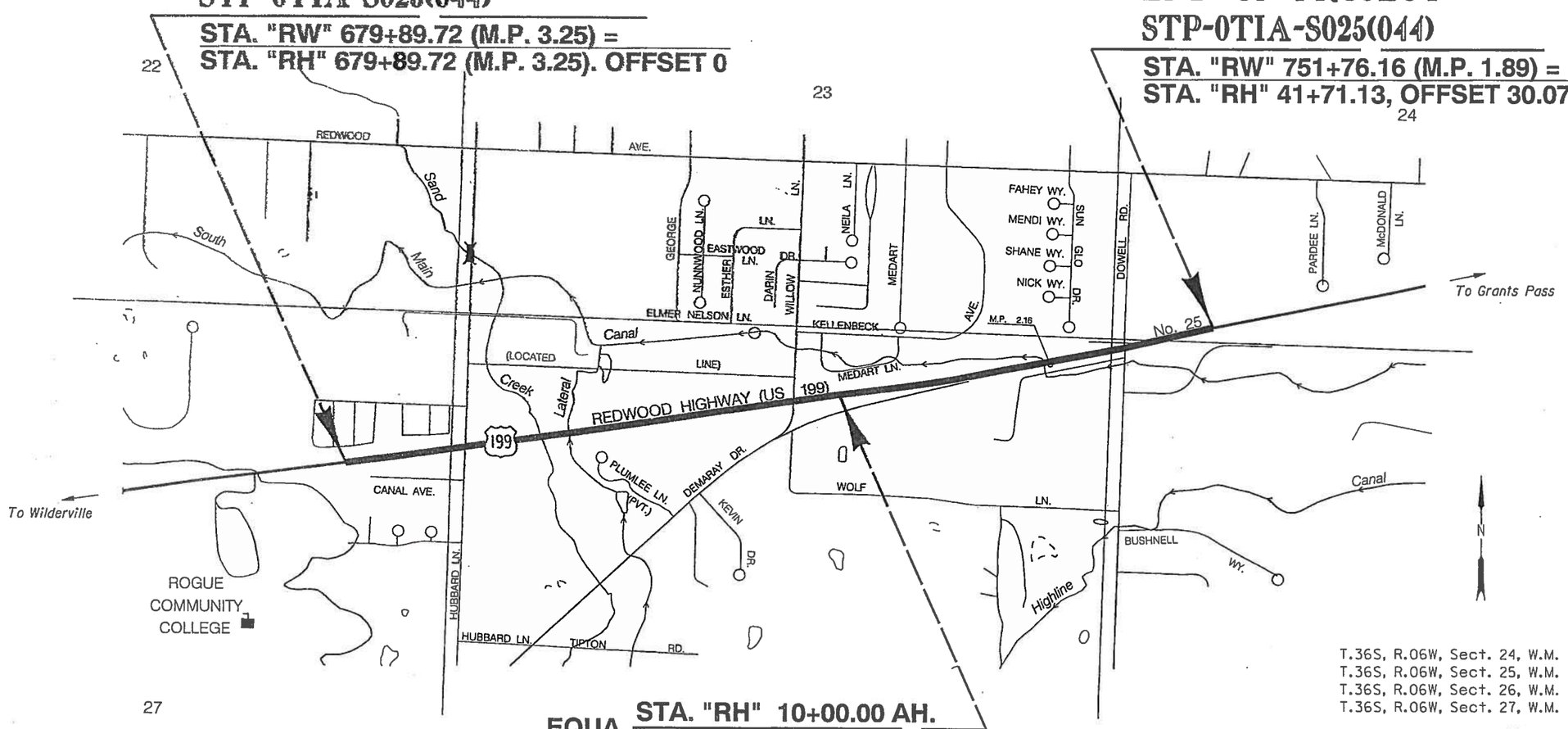
Overall Length Of Project - 1.36 Miles

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.)

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

BEGINNING OF PROJECT
STP-0TIA-S025(044)
STA. "RW" 679+89.72 (M.P. 3.25) =
STA. "RH" 679+89.72 (M.P. 3.25). OFFSET 0

END OF PROJECT
STP-0TIA-S025(044)
STA. "RW" 751+76.16 (M.P. 1.89) =
STA. "RH" 41+71.13, OFFSET 30.07' Lt.



EQUA. STA. "RH" 10+00.00 AH. = STA. "RH" 720+00.00 BK.

T.36S, R.06W, Sect. 24, W.M.
T.36S, R.06W, Sect. 25, W.M.
T.36S, R.06W, Sect. 26, W.M.
T.36S, R.06W, Sect. 27, W.M.

OREGON TRANSPORTATION COMMISSION

Gail Achterman	CHAIR
Michael Nelson	VICE-CHAIR
Mary F. Olson	COMMISSIONER
Alan Brown	COMMISSIONER
David Lohman	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: M. Thompson
Signature & date 9-14-10

MARK THOMPSON, TECH CENTER MGR
Print name and title

Concurrence by ODOT Chief Engineer

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-0TIA-S025(044)	1

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1:1200 - 01

INDEX OF SHEETS, CONT'D.

SHEET NO.	DESCRIPTION
3RW thru 7RW	Right of Way
2 thru 2A-16	Typical Sections
2B thru 2B-6	Details
2C	Traffic Control Plan
2D, 2D-1	Pipe Data Sheet
3 thru 10D	Alignment & General Const., Profiles, Drainage
	GEO/HYDRO
GA thru GA-8	Erosion Control
GC-1, GC-2	Retaining Wall Plan & Elevation
GE thru GE-4	Sand Creek Box Culvert Extension
GG	Temporary Water Management
GJ thru GJ-9	Detention Pond & Drainage Details
GN-1 thru GN-6	Roadside Development
	PERMANENT PAVEMENT MARKINGS
ST1 thru ST8	Striping Plan
	PERMANENT SIGNING
S-12160 thru S-12169	Signing Plans
	TRAFFIC SIGNALS
15673 thru 15684	Signal Plans

Standard Dwg. Nos.

RD100
RD101
RD230
RD300
RD302
RD312
RD314 – Open Grade HMAC Drainage Details
RD317 – Culvert Embankment Protection
RD318 – Sloped Ends for Concrete Pipe
RD336, RD340, RD344, RD346 – Manholes
RD348 – Manhole With Inlet
RD356 – Manhole Cover & Frames
RD360 – Manhole Frame Adjustment
RD364, RD370, RD372 – Concrete Inlets
RD374 – Area Drainage Basin or Field Inlet
RD376 – Miscellaneous Drainage Structures
RD386, RD388, RD390 – Pipe Fill Height Tables

RD400, RD405, RD410, RD415, RD420, RD450, RD470 – Guardrail

RD500 – Precast Conc. Barrier Pin & Loop Assy
RD510 – Concrete Barrier Terminal
RD515 – Median Barrier Anchoring Details
RD516 – Securing Concrete Barrier To Roadway
RD530 – Guardrail Transition To Concrete Barrier

RD610 – Asphalt Pavement Details

RD700, RD701 – Curbs
RD705 – Islands
RD706 – Traffic Separators And Transitions
RD715 – Approaches And Non-Sidewalk Driveways
RD720 – Sidewalks
RD750 – Curb Line Sidewalk Driveways – Local Jurisdictions
RD755 – Sidewalk Ramp Details
RD757 – Sidewalk Ramp Placement
RD759 – Truncated Dome Detectable Warning Surface Details And Locations

RD810 – Barbed and Woven Wire Fences
RD815 – Chain Link Fence

RD1000 – Construction Entrances
RD1005 – Check Dams
RD1010, RD1015 – Inlet Protection
RD1025 – Sediment Barrier (Type 1)
RD1040 – Sediment Fence
RD1055 – Matting

BR720 – Standard Gravity Retaining Wall Details

BR800 – Box Culvert Wingwalls Details
BR805 – Box Culvert Extensions Details
BR840, BR841 – Standard Double Box Culvert Details

TM200 – Sign Installation Details
TM201 – Miscellaneous Sign Placement Details
TM204 – Flag Board Mounting Details
TM206 – Sign Bracing Detail
TM211 – Signing Details
TM221, TM222 – Milepost Marker Details
TM223, TM224 – Directional Sign Layout
TM230, TM231, TM233 – Mounting Details For Removable Legend

TM450 – Mast Arm Pole Details
TM457 – Vehicle, Ped. Signal & Push Button Mounting Details
TM458 – Pedestrian Ramp Placement Details
TM460 – Vehicle Signal Details
TM462 – Adjustable Signal Head Mounting Details
TM465 – Overhead Sign, Fire Preemption & Photoelectronic Details
TM467 – Ped. Signal And Ped. Push Button Details
TM470 – Color Code Charts
TM472 – Traffic Signal Junction Boxes
TM482 – Controller Cabinet And Foundation Details
TM485 – Service Cabinets And Service Cabinet Wiring Details
TM488 – Terminal Cabinet Detail

TM500, TM501, TM502, TM503 – Pavement Marking Standard Details
TM515 – Raised Pavement Markers
TM517 – Recessed Pavement Markers
TM521 – Durable Pavement Markings Method "B" Extruded & Method "F" Spray
TM525 – Turn Arrow Marking Details
TM530 – Intersection Pavement Markings
TM539 – Median And Left Turn Channelization Details
TM570 – Traffic Delineators
TM571 – Traffic Delineators Steel Post Details
TM576 – Traffic Delineator Installation

TM602 – Triangular Base Breakaway Multi-Direction Slip Base
TM629, TM630 – Slip Base & Fixed Base Luminaire Supports
TM635 – Breakaway Sign & Luminaire Supports
TM650, TM651, TM652, TM653 – Traffic Signal Supports
TM670 – Perm. Signing Wood Post Supports Sizing Charts
TM671 – 3 Second Gust Wind Speed Isotach
TM675 – Extruded Aluminum Panels
TM676 – Sign Attachments
TM677 – Sign Mounts
TM678 – Secondary Sign Mounting Details
TM679 – Signal Mast Arm Street Name Sign Mounts
TM680 – Signal Pole Mounts
TM681, TM687, TM688 – Square Tube Sign Supports

TM800 – Tables, Abrupt Edge And PCMS Details
TM820 – Temporary Barricades
TM821 – Temporary Sign Supports
TM830 – Temporary Concrete Barrier And Rumble Strips
TM831 – Temporary Impact Attenuators
TM841 – Intersection Work Zone Details
TM842 – Signalized Intersection Details
TM843 – Multi-Lane Signalized Intersection Details
TM850 – 2-Lane, 2 Way Roadways
TM851, TM852 – Non-Freeway Multi-Lane Sections

R/W Map No. 11B-04-04

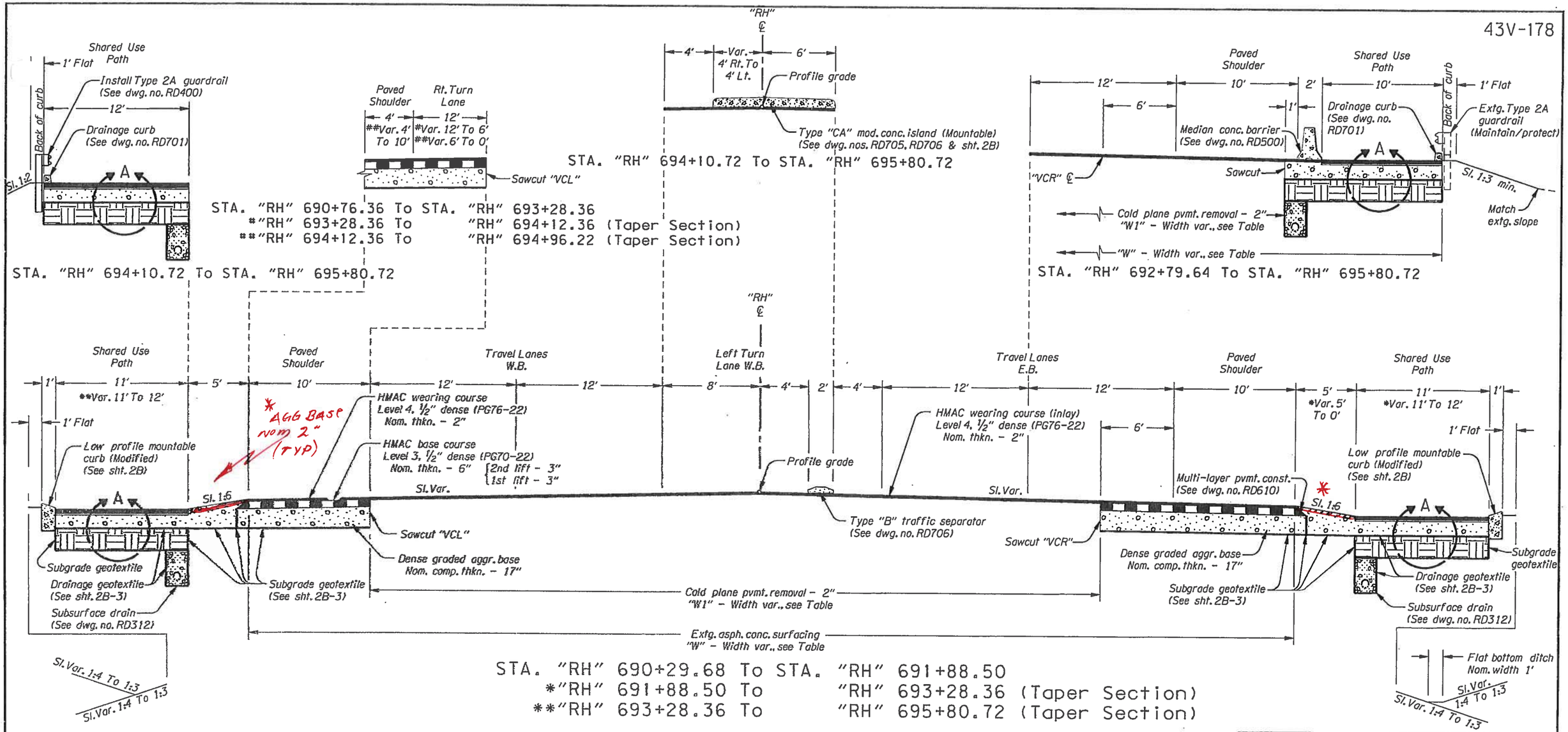
RD
342 Shallow manholes
362 Sanitary cleanout

Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/HWY/ENGSERVICES/standard_drawings_home.shtml

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-0T1A-S025(044)	1A

43V-178



STA. "RH" 694+10.72 To STA. "RH" 695+80.72

STA. "RH" 690+76.36 To STA. "RH" 693+28.36
*"RH" 693+28.36 To "RH" 694+12.36 (Taper Section)
**"RH" 694+12.36 To "RH" 694+96.22 (Taper Section)

STA. "RH" 692+79.64 To STA. "RH" 695+80.72

STA. "RH" 690+29.68 To STA. "RH" 691+88.50
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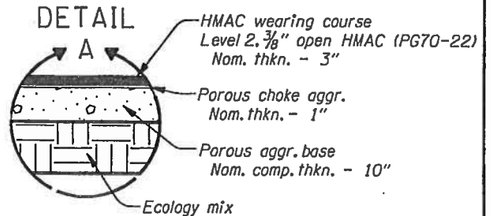
**"RH" 693+28.36 To "RH" 695+80.72 (Taper Section)

STA. To STA.	"W"	"W1"
690+29.68 691+88.50	96.31' To 85.13'	60'
691+88.50 692+79.64	85.13' To 81.7'	60'
692+79.64 693+28.36	97.4' To 96.0'	75'
693+28.36 694+10.72	96.0' To 96.5'	75'
694+10.72 695+80.72	96.0' To 98.0'	75'



REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

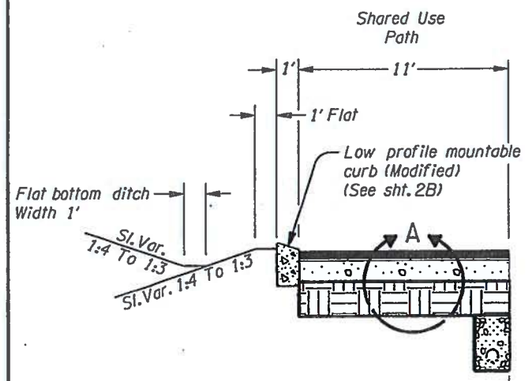
US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Jason Sheadel
Drafted By - Judy Hardin

TYPICAL SECTIONS

SHEET NO. 2A

43V-178



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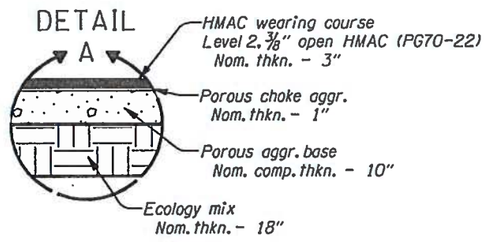

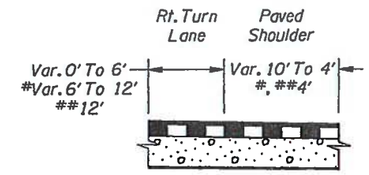

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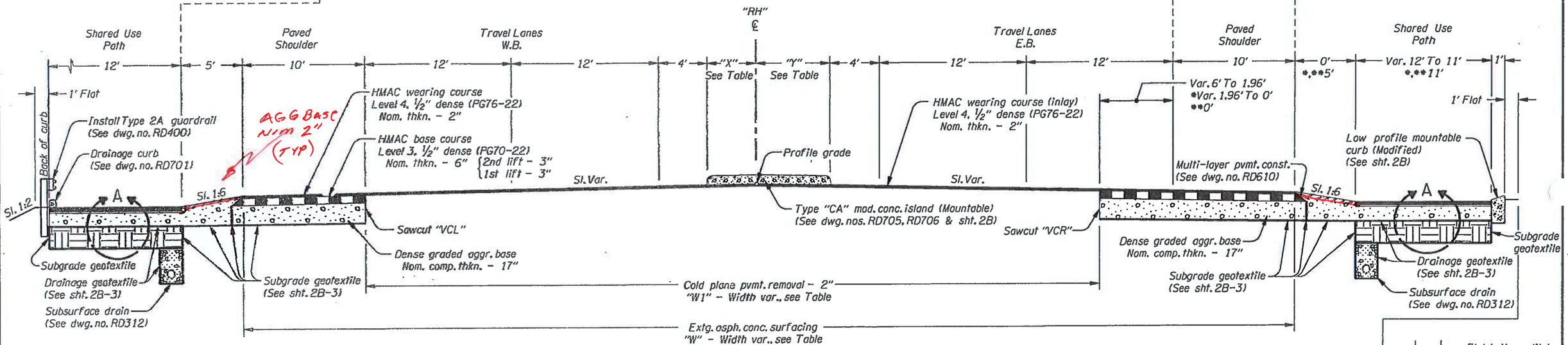
*"RH" 711+80.87 To "RH" 712+67.92 (Taper Section)
**"RH" 712+67.92 To "RH" 715+43.46



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**"RH" 698+20.72 To "RH" 715+50.31 (Taper Section)

STA. To	STA.	"W"	"W1"	"X"	"Y"
695+80.72	697+42.16	98.0' To 97.6'	60.0' To 61.6'	4' To 3.61'	6' To 3.98'
697+42.16	698+20.72	81.3' To 80.9'	61.6' To 62.4'	3.61' To 3.43'	3.98' To 3'
698+20.72	700+00.72	80.9' To 80.1'	62.4' To 62.0'	3.43" To 3'	3'
700+00.72	703+27.15	80.1' To 80.6'	62'	3'	3'
703+27.15	711+25.21	80.6' To 80.4'	62'	3'	3'
711+25.21	714+25.21	80.4' To 92.3'	62.0' To 72.0'	3' To 8'	3' To 8'
714+25.21	715+50.31	92.3' To 94.0'	72'	8'	8'

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

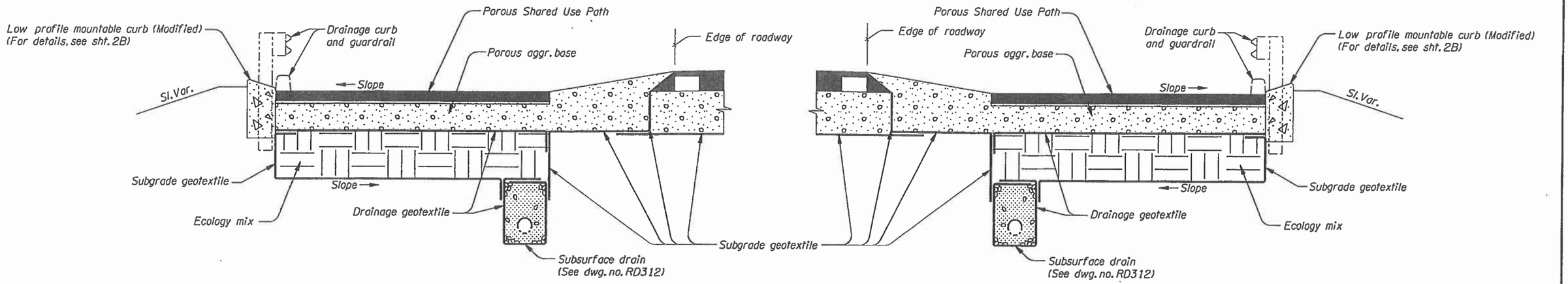
Design Team Leader - James Burford
Designed By - Jason Sheadel
Drafted By - Judy Hardin

TYPICAL SECTIONS

SHEET NO. 2A-2

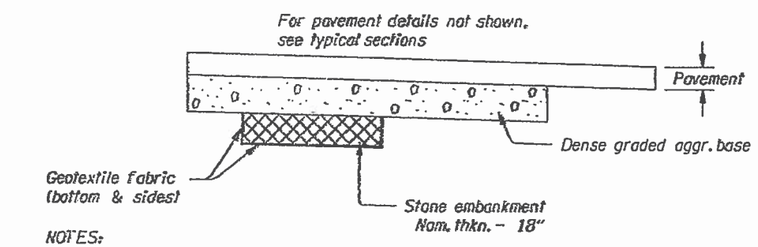
\\s-whitecity-1\userseng\hwye33g\ODOT_DATA\Projects\14019_Dowell_to_RCC_EXPWY\01_Working\14019.tyl :: Default 9/3/2010 9:59:03 AM hwye33g

1208 02A-02



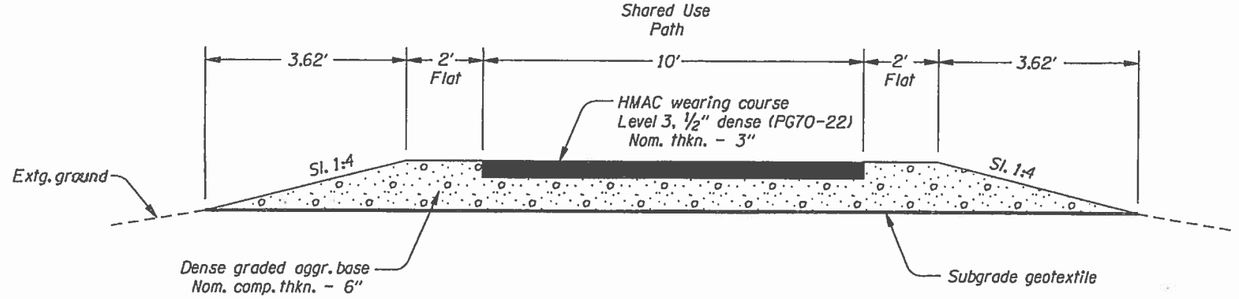
POROUS SHARED USE PATH (GEOTEXTILE OVERLAP DETAIL)

For additional details, see typical sections
Provide geotextile overlap per 00350.41 (a)(2)
(Not to scale)



18" SUBGRADE STABILIZATION

(Location As Directed)



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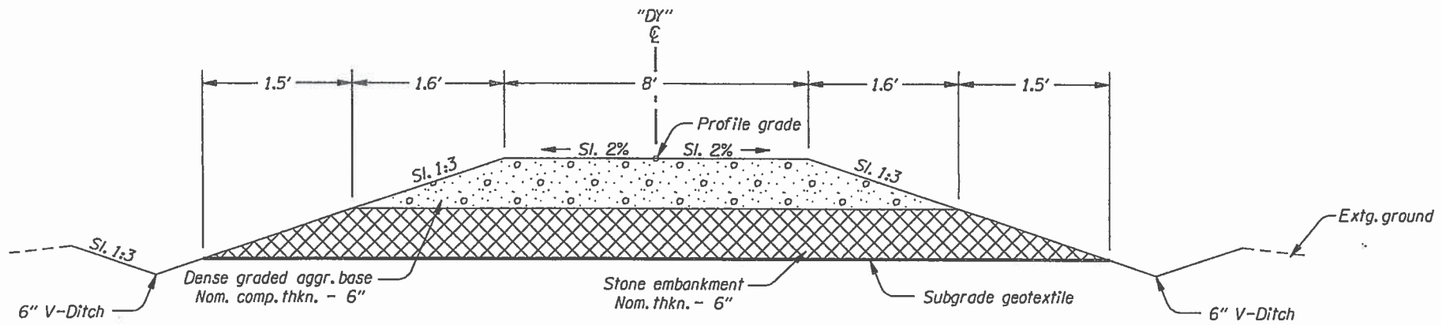
NONPOROUS SHARED USE PATH



STA. "DY" 0+00.00 To STA. "DY" 1+07.48
GRAVEL DRIVEWAY

For Profile, see sht. 4B-2

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL

EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

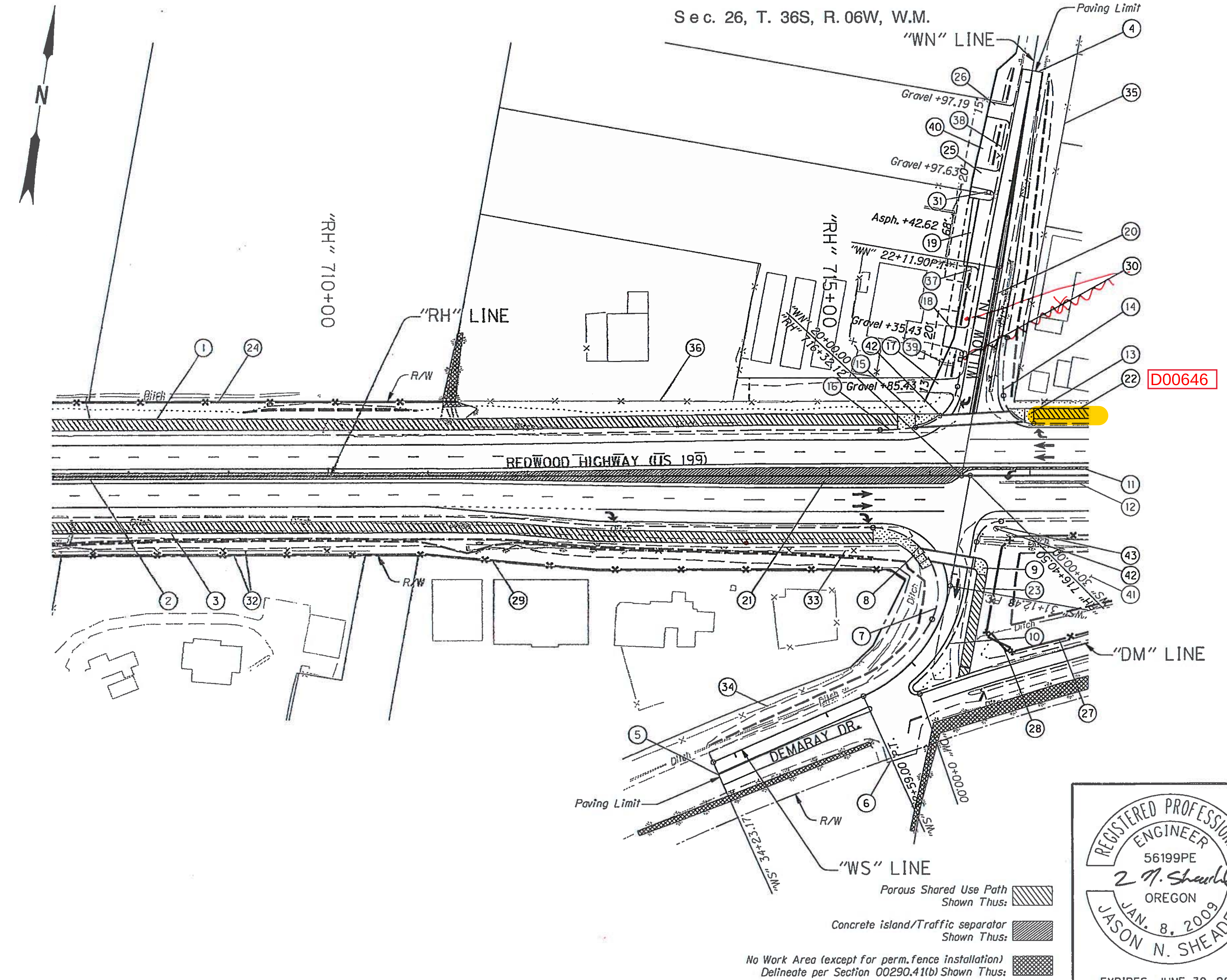
Design Team Leader - James Burford
Designed By - Jason Sheadel
Drafted By - Judy Hardin

DETAILS

SHEET NO. 2B-3

43V-178

(Notes: see sht.6A)



SCALE 1" = 100'

50 0 100 200
FEET

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
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OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
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Designed By - Jason Sheadel
Drafted By - Judy Hardin

ALIGNMENT & GENERAL CONSTRUCTION

SHEET NO. 6

\\s-whitecity-l\userseng\hwye33g\ODOT_DATA\Projects\14019_Dowell_to_RCC_EXPWY\01_Working\14019.pll :: Default 9/3/2010 12:47:11 PM hwye33g

14200 - 06

(1) See sht. 5, note 5
Const. low profile mountable curb, modified

(2) See sht. 4A, note 20
Const. type "CA" mountable conc. island, modified
Const. mountable curb, modified

(3) See sht. 4A, note 23
Const. low profile mountable curb, modified

(4) Sta. "WN" 24+11.76
Const. asph. conc. pvmt. match

(5) Sta. "WS" 34+23.17
Const. asph. conc. pvmt. match

(6) Sta. "WS" 32+52.54, Lt.
Const. asph. conc. street connection

(7) Sta. "RH" 715+43.46, Rt. To Sta. "WS" 31+51.22, Rt.
Const. standard conc. curb (E=7") - 131'

(1) (8) Sta. "RH" 715+43.46, Rt. To Sta. "WS" 30+97.64, Rt.
Const. P.C. conc. sidewalk - 768 sq. ft.
Const. sidewalk ramp
(Parallel Ramp)

(1) (9) Sta. "WS" 30+86.07, Lt
Const. P.C. conc. sidewalk - 206 sq. ft.
Const. sidewalk ramp
(Perpendicular Sidewalk Ramp thru Buffer Strip)
(See dwg. no. RD755)

(10) Sta. "RH" 716+71.50, Rt. To Sta. "WS" 31+72.55, Lt.
(on Demaray Dr.)
Const. standard conc. curb (E=7") - 268'

(1) (11) Sta. "RH" 716+45.41 To Sta. "RH" 718+91.56, Lt.
Const. type "B" traffic separator - 567 sq. ft.

(1) (12) Sta. "RH" 716+85.70 To Sta. "RH" 11+30.69, Rt.
Const. type "B" traffic separator - 1,025 sq. ft.

(1) (13) Sta. "RH" 716+87.23, Lt
Const. P.C. conc. sidewalk - 261 sq. ft.
Const. sidewalk ramp
(Mod. ramp for sidewalks that do not continue around radius. 30' curb radius)
(For details, see sht. 2B-2)

(14) Sta. "RH" 717+03.66, Lt. To Sta. "WN" 21+44.33, Rt.
Const. standard conc. curb (E=7") - 104'

(1) (15) Sta. "RH" 715+97.19, Lt
Const. P.C. conc. sidewalk - 467 sq. ft.
Const. sidewalk ramp
(Mod. ramp for sidewalks that do not continue around radius. 50' curb radius)
(For details, see sht. 2B-2)

(16) Sta. "WN" 20+99.66, Lt. To Sta. "RH" 715+50.31, Lt.
Const. standard conc. curb (E=7") - 111'

(17) Sta. "WN" 20+85.43, Lt.
Const. asph. conc. road approach

(18) Sta. "WN" 21+35.43, Lt.
Const. asph. conc. road approach

(19) Sta. "WN" 22+42.62, Lt.
Const. asph. conc. road approach

(1) (20) Sta. "WN" 20+64.33 To Sta. "WN" 22+11.90
Const. type "B" traffic separator - 324 sq. ft.

(21) Sta. "RH" 714+25.37 To Sta. "RH" 718+91.56
Remove extg. conc. island - 3,407 sq. ft.

(22) Sta. "RH" 717+03.66 To Sta. "RH" 32+40.41, Lt.
Const. low profile mountable curb, modified - 2,533'

(23) Sta. "WS" 30+95.87 To Sta. "WS" 31+80.12, Lt.
Const. nonporous ~~shared-use~~ path, CONCRETE SIDEWALK (CHANGE)
~~(For details, see sht. 2B-3)~~

(24) See sht. 4A, note 40
Inst. type 2 fence, modified

(25) Sta. "WN" 22+97.63, Lt.
Const. asph. conc. road approach

(26) Sta. "WN" 23+66.90, Lt.
Const. asph. conc. road approach

(27) Sta. "RH" 716+72.5 To Sta. "RH" 10+12.6, Rt.
Inst. Type CL-4 (black vinyl coated) chain link fence - 805'
(See dwg. no. RD815)

(28) Sta. "WS" 31+45.2, Lt.
Inst. type CL-4 (black vinyl coated) 16' chain link double gate
(See dwg. no. RD815)

(29) Sta. "RH" 710+37 To Sta. "RH" 715+76, Rt.
Inst. type 2 fence, modified - 542'
Connect to extg. cross fences

(30) Sta. "WN" ~~21+14.4~~ 21+60, Lt.
Inst. multiple mailbox support
(1834 & 1840 Willow)
Const. conc. collar
Remove extg. mailbox support

(31) Sta. "WN" 22+85.2, Lt.
Inst. single mailbox support
(1802 Willow)
Const. conc. collar
Remove extg. single mailbox support

(32) Sta. "RH" 707+32 To Sta. "RH" 710+37, Rt.
Remove extg. fence - 305'
Inst. type 2 fence, modified - 305'

(33) Sta. "RH" 712+97 To Sta. "RH" 715+70, Rt.
Remove extg. fence - 273'

(34) Sta. "WS" 32+03 To Sta. "WS" 34+24, Rt.
Maintain/protect extg. fence

(35) Sta. "WN" 25+06, Rt. To Sta. "RH" 16+08, Lt.
Maintain/protect extg. fence

(36) Sta. "RH" 711+28 To Sta. "RH" 715+21, Lt.
Maintain/protect extg. fence

(37) Sta. "WN" 21+47 To Sta. "WN" 22+07, Lt.
Extg. fence to be removed by others

(38) Sta. "WN" 23+09 To Sta. "WN" 23+56, Lt.
Extg. fence to be removed by others

(39) Sta. "WN" 21+07.80, Lt.
Remove extg. conc. barrier - 12.5'

(40) Sta. "WN" 23+21, Lt. & Sta. "WN" 23+43, Lt
Protect extg. trees at back of R/W

(41) Sta. "RH" 716+66, 10+13 Rt.
For detention pond plan, see sht. GJ
For planting plan, see sht. GN-5

(42) Sta. "RH" 716+10.60' Lt.
Sta. "RH" 716+67.53' Rt.
Remove extg. flashing beacon footing - 2

(43) Sta. "RH" 716+72.19, Rt.
Sta. "RH" 14+47.49, Rt.
Inst. Type S2 marker post - 2
(For details, see sht. 2B-6)

No.	DATE	REVISIONS	BY
(1)	04-05-2011	Revised quantites	J.A.H.

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO
ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

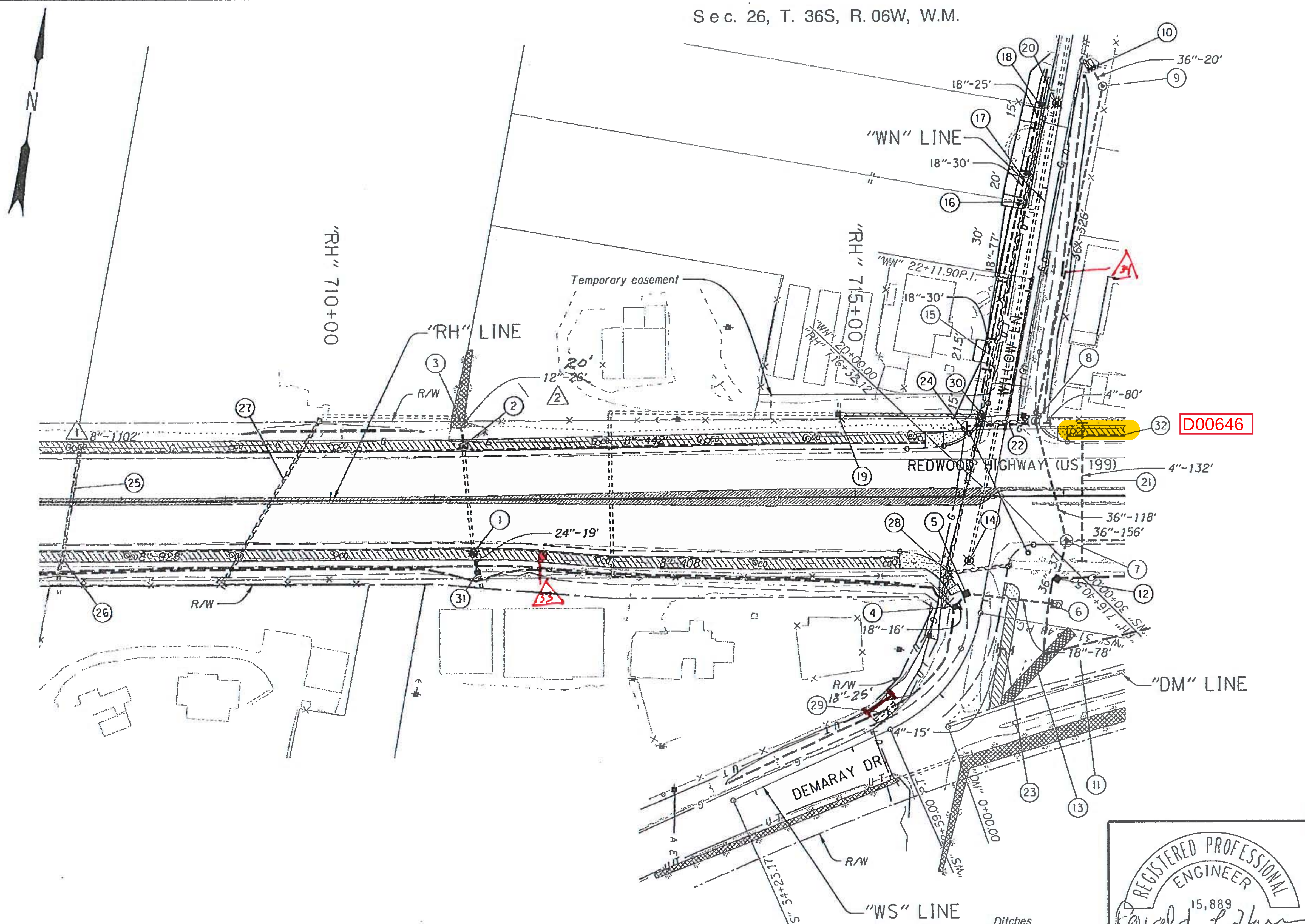
Design Team Leader - James Burford
Designed By - Jason Sheadel
Drafted By - Judy Hardin

ALIGNMENT & GENERAL CONSTRUCTION

SHEET NO. 6A

43V-178

(Notes: see sht. 6D)



Ditches Shown Thus:

Biofiltration Swales Shown Thus:

No Work Area (except for perm. fence installation) Delineate Per Section 00290.41(b) Shown Thus:

REVISIONS

1	Revised 11-19-2010 Revised underdrain length
2	Revised 11-19-2010 Revised pipe size

REGISTERED PROFESSIONAL ENGINEER 15,889 OREGON MAY 19, 1992 RONALD L. HORRES

RENEWS: 06-30-2011

OREGON DEPARTMENT OF TRANSPORTATION

PARSONS BRINCKERHOFF 400 S.W. Sixth Ave. Portland, OR 97204

US199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

NO. 6C

(1) Sta. "RH" 711+36.00, 50.73' Rt.
Remove extg. inlet
Remove extg. culv. pipe - 18'
Const. storm sew. manhole
Rim - 949.64
F.L.(S) - 945.43
F.L.(N) - 945.43
F.L.(W) - 945.43
F.L.(E)- 945.43
Connect to extg. 24" culv. pipe (N)
Inst. 24" storm sew. pipe - 19' S.
5' depth
F.L.(S) - 946.30
Inst. 8" drain pipe - 928' W
Const. 7 cleanouts
Sta. "RH" 702+08.95, 47.10' Rt.
Sta. 703+50.00, 47.06' Rt.
Sta. 705+00.00, 47.01' Rt.
Sta. 706+50.00, 46.95' Rt.
Sta. 708+00.00, 46.93' Rt.
Sta. 709+00.00, 46.90' Rt.
Sta. 710+00.00, 46.87' Rt.
Inst. 8" drain pipe - 408' E
Const. 3 cleanouts
Sta. "RH" 715+43.46, 57.83' Rt.
Sta. 714+00.00, 57.42' Rt.
Sta. 712+50.00, 53.71' Rt

(2) Sta. "RH" 711+26.77, 50.57' Lt.
Const. 60" storm sew. manhole
(See Dwg. No. RD346)
Rim - 949.71
F.L.(N) - ~~945.11~~ 944.95
F.L.(S) - 944.95
F.L.(W) - 945.25
F.L.(E) - 945.11 (INSTALL 24" STORM SEWER + CONC. COLLAR
Remove extg. 24" storm sew. pipe - 7' N
Connect to 24" storm sew. pipe (N)
Connect to extg. 24" storm sew. pipe (S)
Inst. 8" drain pipe - 1102' W
Const. 8 cleanouts (1)
Sta. "RH" 700+25.00, 46.83' Lt.
Sta. 701+50.00, 46.83' Lt.
Sta. 703+00.00, 46.83' Lt.
Sta. 704+50.00, 46.83' Lt.
Sta. 706+00.00, 46.83' Lt.
Sta. 707+50.00, 46.83' Lt.
Sta. 709+00.00, 46.83' Lt.
Sta. 710+00.00, 46.83' Lt.
Inst. 8" drain pipe - 442' E
Const. 4 cleanouts
Sta. "RH" 715+67.98, 51.83' Lt.
Sta. 714+50.00, 51.83' Lt.
Sta. 713+50.00, 50.65' Lt.
Sta. 712+50.00, 48.92' Lt.

(3) Sta. "RH" 711+26.77, 50.57' Lt.
To Sta. 711+24.67, 69.00' Lt.
(2) Inst. 12" storm sew. pipe - ~~26'~~ 20'
5' depth
F.L.(N) - 944.82
F.L.(S) - 944.95

(4) Sta. "WS" 31+10.51, 24.28' Rt.
Const. type "D" inlet
Rim - 946.80
F.L.(E) - 945.00

(5) Sta. "WS" 30+96.53, 16.63' Rt.
Const. type "G-2" inlet
Rim - 948.50
F.L.(E) - 944.87
F.L.(W) - 944.87
Inst. 18" storm sew. pipe - ~~16'~~ W
5' depth
14'

(6) Sta. "WS" 30+96.53, 16.63' Rt. To Sta. 30+92.26, 61.40' Lt.
Inst. 18" storm sew. pipe - ~~78~~ 74'
5' depth
F.L.(W) - 944.87
F.L.(E) - 944.50
Const. 18" Paved Culvert End Slope - 35 sq.ft.
(See Dwg. No. RD320)
Const. loose riprap (Class 50) - 4.1 cu. yd.
Riprap Geotextile Type 2 - 10.0 sq. yd.
(For detail, see sht. GJ-6)

(7) Sta. "RH" 717+03.10, 42.23' Rt.
Const. 72" storm sew. manhole
Rim - 949.62
F.L.(N) - 939.93
F.L.(S) - 939.93
F.L.(E) - 942.23
Connect to 36" storm sew. pipe (N)
Inst. 36" storm sew. pipe - ~~37'~~ S 40'
10' depth
Inst. 36" storm sew. pipe - 156' E.
10' depth

(8) Sta. "WN" 20+78.14, 27.64 Rt.
Remove extg. siphon box
Const. 60" storm sew. manhole w/ inlet
Rim - 948.90
F.L.(S) - 939.56
F.L.(N) - 939.56
Inst. 36" storm sew. pipe - 118' S.
10' depth
Connect to 36" storm sew. pipe (N)

(9) Sta. "WN" 24+03.84, 35.55' Rt.
Const. 72" storm sew. manhole
Rim - 944.25
F.L.(S) - 938.56
F.L.(N) - 938.56 327'
Inst. 36" storm sew. pipe - ~~326'~~ S ADD 7.5' PIPE AND SLOPE END SECTION - 2EA
10' depth
Connect to 36" storm sew. pipe (N)

(10) Sta. "WN" 24+03.84, 35.55' Rt. To Sta. 24+18.94, 22.40' Rt.
Inst. 36" storm sew. pipe - 20'.
F.L.(S) - 938.56
F.L.(N) - 938.50
10' depth
Outfall to irrigation canal
Const. loose riprap (Class 100) - 27 cu.yd.
Riprap Geotextile Type 2 - 46.0 sq. yd.
(For detail, see sht. GJ-6)

(11) Detention Facility
(For details, see sht. GJ)

(12) See Sht. GJ, Note 4

(13) See Sht. GJ, Note 7

(14) Sta. "WS" 30+65.23, 19.49', Rt.
Adjust sanitary sew. manhole - minor
Method B Circular Cut

(15) Sta. "WN" 21+18.69, 27.90' Lt. To
Sta. 21+48.69, 27.90' Lt.
Inst. 18" culv. pipe - ~~30'~~ 45'
5' depth
F.L.(S) - 946.01
F.L.(N) - 945.46
Const. 18" sloped end - 2

(16) Sta. "WN" 22+82.82, 24.68' Lt.
Const. type "~~Field~~" inlet G2-MA
Rim - 944.50
F.L.(S) - 943.07
F.L.(N) - 943.07
(See Dwg. No. RD374)
Inst. ~~12~~" storm sew. pipe - 77' S. ADD 13'.
18" 5' depth
F.L.(S) - 944.50
Connect to 12" storm sew. pipe (N)

(17) Sta. "WN" 23+12.51, 26.04' Lt. To
Sta. 22+82.82, 27.13' Lt.
Inst. ~~12~~" storm sew. pipe - ~~30'~~ 35'
18" 5' depth
F.L.(S) - 943.07
F.L.(N) - 942.95
Const. 12" sloped end

(18) Sta. "WN" 23+54.00, 23.46' Lt. To
Sta. 23+78.97, 20.29' Lt.
Inst. 18" culv. pipe - ~~25'~~ 30'
5' depth
F.L.(S) - ~~942.66~~ 942.95 PER EOR
F.L.(N) - 942.04
(2) Const. 18" sloped end - 2 EA

(19) Sta. "RH" 714+83.95, 79.38' Lt.
Const. siphon box and ~~cover~~ TRAFFIC RATED LID
(See Sht. GJ-6 for details - Siphon Box E)
F.L. (W) - 945.0±
~~Connect to extg. irrigation pipe~~ (N)
RELOCATE 4' OF 10" PIPE FROM E. TO N.

(20) Sta. "WN" 23+81.34, 23.46' Lt.
Adjust sanitary sew. manhole - minor
Method B Circular Cut

(21) Sta. "RH" 717+17.72, 70.06' Lt. To
Sta. 717+17.72, 61.94' Rt.
Inst. 4" irrigation sleeve - 132'
5' depth
F.L.(N) - 945.00
F.L.(S) - 945.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(22) Sta. "RH" 716+07.55, 67.46' Lt. To
Sta. 716+87.50, 70.19' Lt.
Inst. 4" irrigation sleeve - 80'
5' depth
F.L.(W) - 946.00
F.L.(E) - 945.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(23) Sta. "WS" 31+38.44, 24.38' Lt. To
Sta. 31+36.39, 39.18' Lt.
Inst. 4" irrigation sleeve - 15'
5' depth
F.L.(W) - 947.75
F.L.(E) - 947.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(24) Sta. "RH" 716+04.02, 65.35' Lt.
Adjust natural gas valves
(By Others)

WS
(4) - SALVAGE & REINSTALL CULVERT PIPE
- MAINTAIN UTILITY ACCESS
DRIVEWAY

(25) See sht. 5B, note 7

(26) See sht. 5B, note 8

(27) Sta. "RH" 708+97.11, 78.24' Rt. To Sta. 709+88.92, 75.69' Lt.
Abandon 12" irrigation pipe - Rt. side - 1

(28) Sta. "RH" 715+88.93, 72.56' Rt.
Remove extg. inlet
Abandon 12" storm sew. pipe - Rt. side - 1
Abandon 18" storm sew. pipe - Lt. side - 1
~~Remove~~ extg. 18" storm sew. pipe - ~~33'~~ S 25'
REPLACED (ADS)

(29) Sta. "WS" 32+42.60, 20.86' Rt. To Sta. 32+68.77, 13.74' Rt.
~~Remove extg. 18" culv. pipe - 25'~~
REINSTALL 18" CULV PIPE 25'

(30) Sta. "WN" 20+73.77, 25.27' Lt.
Remove extg. siphon boxes - 2
Abandon 12" irrigation pipe - Rt. side - 1
Abandon 8" irrigation pipe - Rt. side - 1
Abandon 10" irrigation pipe - Lt. side - 1
RELOCATE 4' OF 10" PIPE TO NEW SIPHON BOX E (N) SEE (19)

(31) Sta. "RH" 711+40.22, 50.73' ~~Lt.~~ RT
Const. type "~~Field~~" inlet G2-MA
Rim - 948.40
F.L.(S) - 945.90
F.L.(N) - 945.90
Connect to extg. 24" storm sew. pipe (S)
Connect to 24" storm sew. pipe (N)

(32) See Sht. 7B, Note 4

(33) ADJUST EXT. SIPHON BOX & INSTALL LID (G)
RH 712+75 RT

(34) INSTALL SUBSURFACE DRAINS - 8EA
WN 21+40 TO 23+85 RT

REVISIONS
(3) Adjusted Sloped End Qty. 9-14-11 KCT
(4) Revised Note 9-14-11 KCT

REVISIONS	
(1)	Revised 11-19-2010 Revised underdrain length and cleanouts
(2)	Revised 11-19-2010 Revised pipe size

REGISTERED PROFESSIONAL ENGINEER
15,889
OREGON
MAY 19, 1992
RONALD L. HORRES
RENEWS: 06-30-2011

OREGON DEPARTMENT OF TRANSPORTATION

PB PARSONS BRINCKERHOFF
400 S.W. Sixth Ave. Portland, OR 97204

US199: DOWELL RD
TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

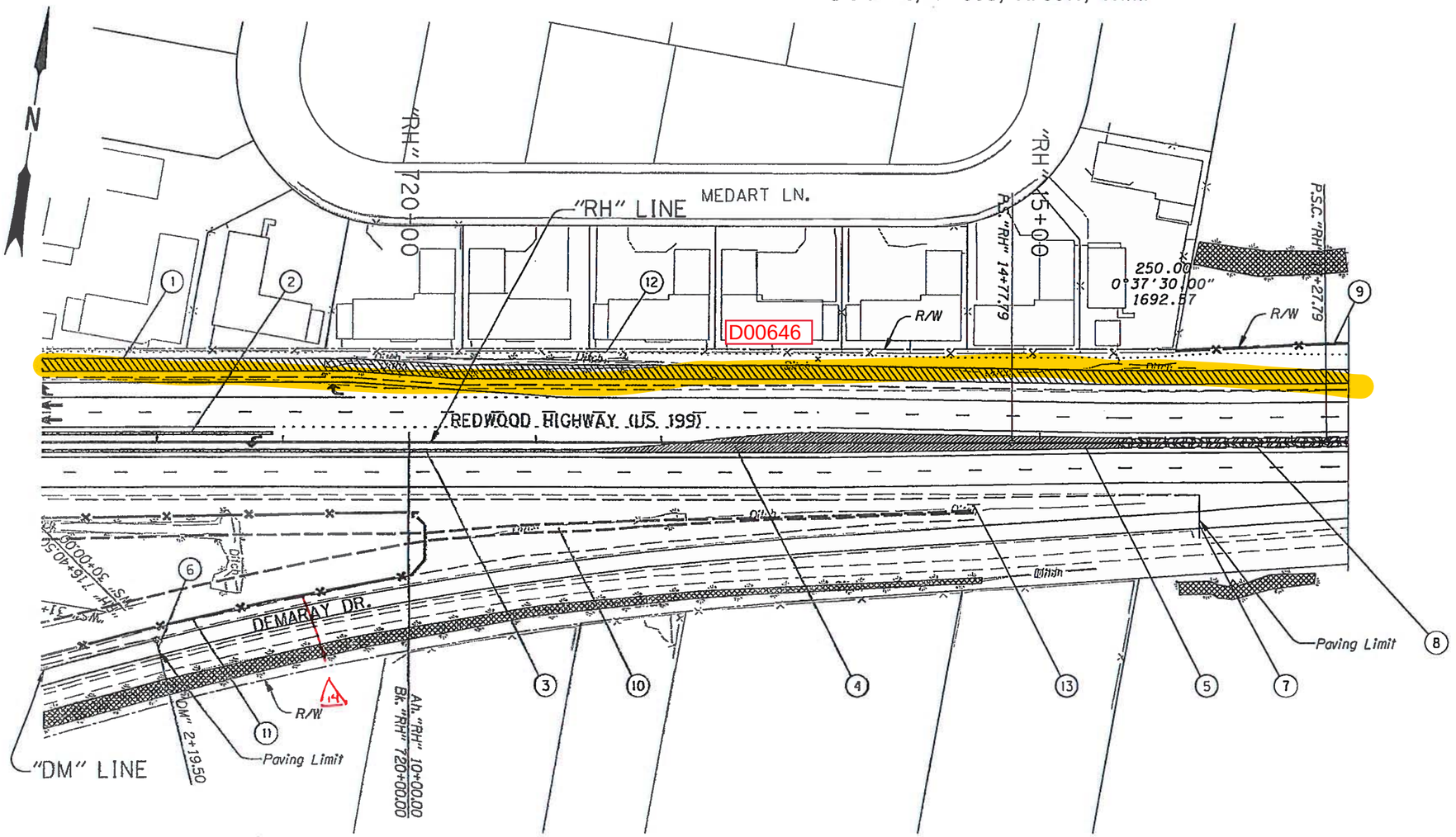
Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

SHEET NO. 6D

Sec. 26, T. 36S, R. 06W, W.M.

43V-178



(1) *See sht. 6A, note 22*
Const. low profile mountable curb, modified

(2) *See sht. 6A, note 11*
Const. type "B" traffic separator

(3) *See sht. 6A, note 12*
Const. type "B" traffic separator

(4) *Sta. "RH" 716+70.33 To Sta. "RH" 13+23.48*
Remove extg. conc. island – 2,665 sq. ft.

(5) *Sta. "RH" 11+30.69 To Sta. "RH" 15+63.56*
Const. type "CA" mountable conc. island, modified – 4,031 sq. ft.
Const. mountable curb, modified – 877'

(6) *Sta. "DM" 2+19.50*
Const. asph. conc. pvmt. match

(7) *Sta. "RH" 16+26.36, Rt.*
Const. asph. conc. street connection

(8) *Sta. "RH" 15+63.56 To Sta. "RH" 18+23.56*
Const. type "CA" mountable porous rock island, modified – 1,734 sq. ft.
Const. mountable curb, modified – 520'
Remove extg. asph. conc. surfacing – 1468 sq. ft.
(For details, see sht. 2B)

(9) *Sta. "RH" 16+08.62 To Sta. "RH" 25+45.82, Lt.*
Inst. type 2 fence, modified – 932'

(10) *Sta. "RH" 10+14.6, Rt. To Sta. "RH" 14+47.5, Rt.*
Const. biofiltration swale #2
Biofiltration mix – 90 cu. yd.
Matting, jute – 585 sq. yd.
(For details, see sht. GJ-7)
(For planting plan, see sht. GN-6)

(11) *See sht. 6A, note 27*
Inst. Type CL-4 (black vinyl coated) chain link fence

(12) *See sht. 6A, note 35*
Maintain/protect extg. fence

(13) *See sht. 6A, note 43*
Inst. Type S2 marker post

(14) Om 2+82
INSTALL 69' of 24" storm Pipe
10' DEEP - N

SCALE 1" = 100'

50 0 100 200
FEET

Porous Rock Island Shown Thus:

Porous Shared Use Path Shown Thus:

Concrete island/Traffic separator Shown Thus:

No Work Area (except for perm. fence installation) Delineate per Section 00290.41(b) Shown Thus:

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO
ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Jason Sheadel
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ALIGNMENT & GENERAL CONSTRUCTION

SHEET NO. 7

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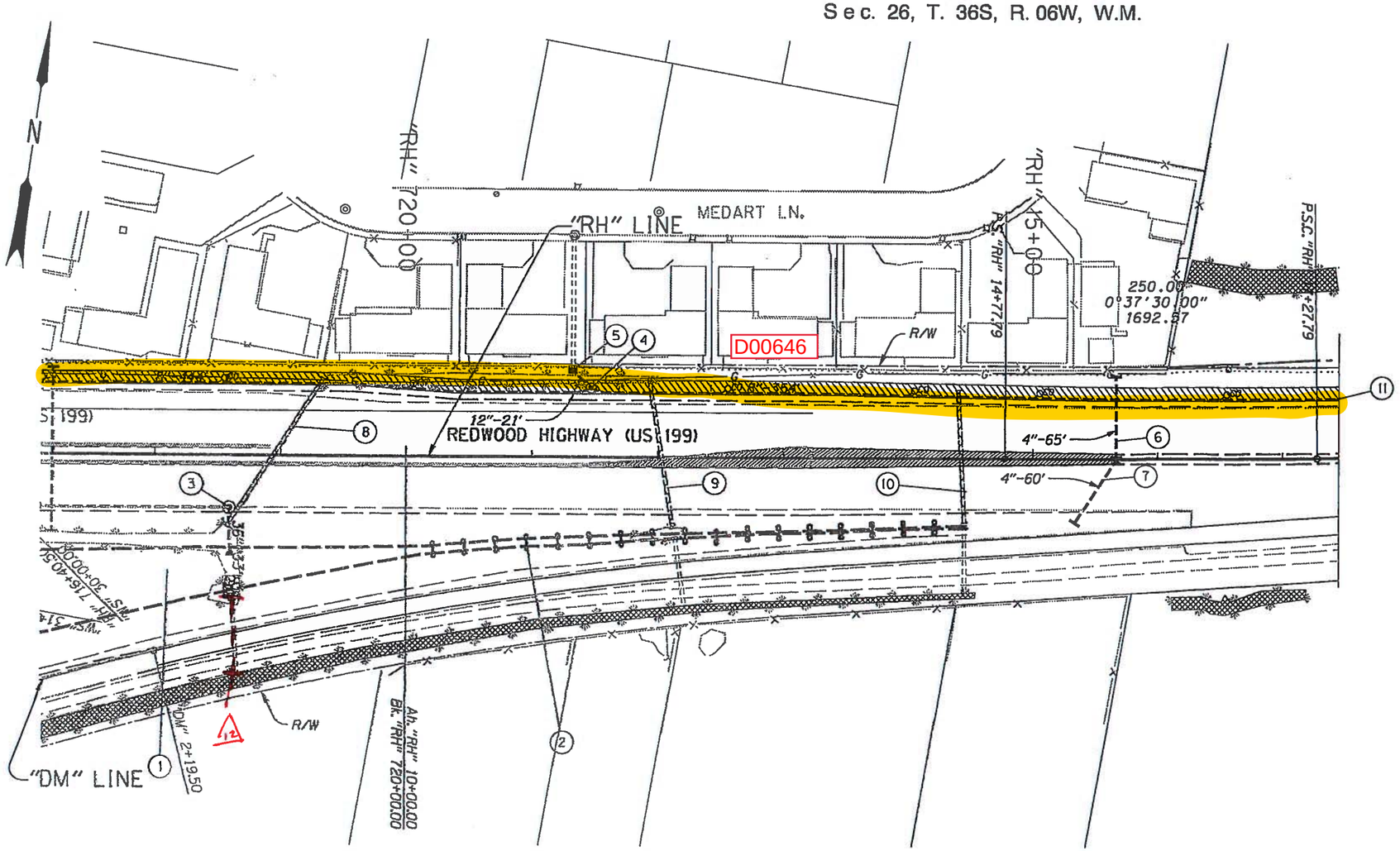
1200 - 07

Sec. 26, T. 36S, R. 06W, W.M.

43V-178



(1) See Sht. 6D, Note 11

(2) Const. Biofiltration Swale No. 2
(For details, see sht. GJ-7)
Const. Biofiltration Check Dams - 17

(3) See Sht. GJ, Note 3

(4) Sta. "RH" 11+46.72, 55.54' Lt.
Const. storm sew. manhole
Rim - 947.87
F.L.(N) - 942.13
F.L.(E) - 943.42
F.L.(W) - 943.42
Connect to 12" storm sew. pipe (N)
Inst. 8" Drain Pipe - 354' E
Const. 3 cleanouts
Sta. "RH" 15+00.00, 49.04' Lt.
Sta. 14+00.00, 50.58' Lt.
Sta. 12+50.00, 51.83' Lt.
Inst. 8" Drain Pipe - 444' W
Const. 3 cleanouts
Sta. "RH" 717+03.66, 57.83' Lt.
Sta. 718+50.00, 57.83' Lt.
Sta. 10+00.00, 54.69' Lt.

(5) Sta. "RH" 11+32.28, 70.32' Lt.
Remove extg. inlet
Const. type "D" inlet
Rim - 946.00
F.L.(N) - 940.13
F.L.(S) - 942.13
Connect to extg. 30" storm sew. pipe (N)
Inst. 12" storm sew. pipe - 21' S
10' depth 18'

(6) Sta. "RH" 15+66.91, 66.63' Lt. To
Sta. 15+66.90, 1.63' Lt.
Inst. 4" irrigation sleeve - 65'
5' depth
F.L.(N) - 942.00
F.L.(S) - 945.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(7) Sta. "RH" 15+66.57, 1.50' Rt. To
Sta. 15+33.73, 51.70' Rt.
Inst. 4" irrigation sleeve - 60'
5' depth
F.L.(N) - 945.00
F.L.(S) - 946.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(8) Sta. "RH" 718+57.38, 57.42' Rt. To Sta. 719+34.04, 61.96' Lt.
Abandon 36" culv. pipe - Rt. side - 1

(9) Sta. "RH" 12+11.95', 57.06' Rt. To Sta. 11+93.21, 63.92' Lt.
Abandon 30" culv. pipe - Rt. side - 1

(10) Sta. "RH" 14+45.37, 52.15' Rt. To Sta. 14+40.26, 55.04' Rt.
Abandon 24" culv. pipe - Rt. side - 1

(11) See Sht. 8B, Note 1

⚠12 REMOVE AND REPLACE 24" STORM SEWER PIPE, 10' DEEP -69'
DM 2+82

Ditches Shown Thus: ===

Biofiltration Swales Shown Thus:

No Work Area (except for perm. fence installation) Delineate Per Section 00290.41(b) Shown Thus:

REGISTERED PROFESSIONAL ENGINEER
15,889
OREGON
MAY 19, 1992
RONALD L. HORRES
RENEWS: 06-30-2011

OREGON DEPARTMENT OF TRANSPORTATION

PB PARSONS BRINCKERHOFF
1/2 400 S.W. Sixth Ave. Portland, OR 97204

US199:DOWELL RD
TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

SHEET NO. 7B

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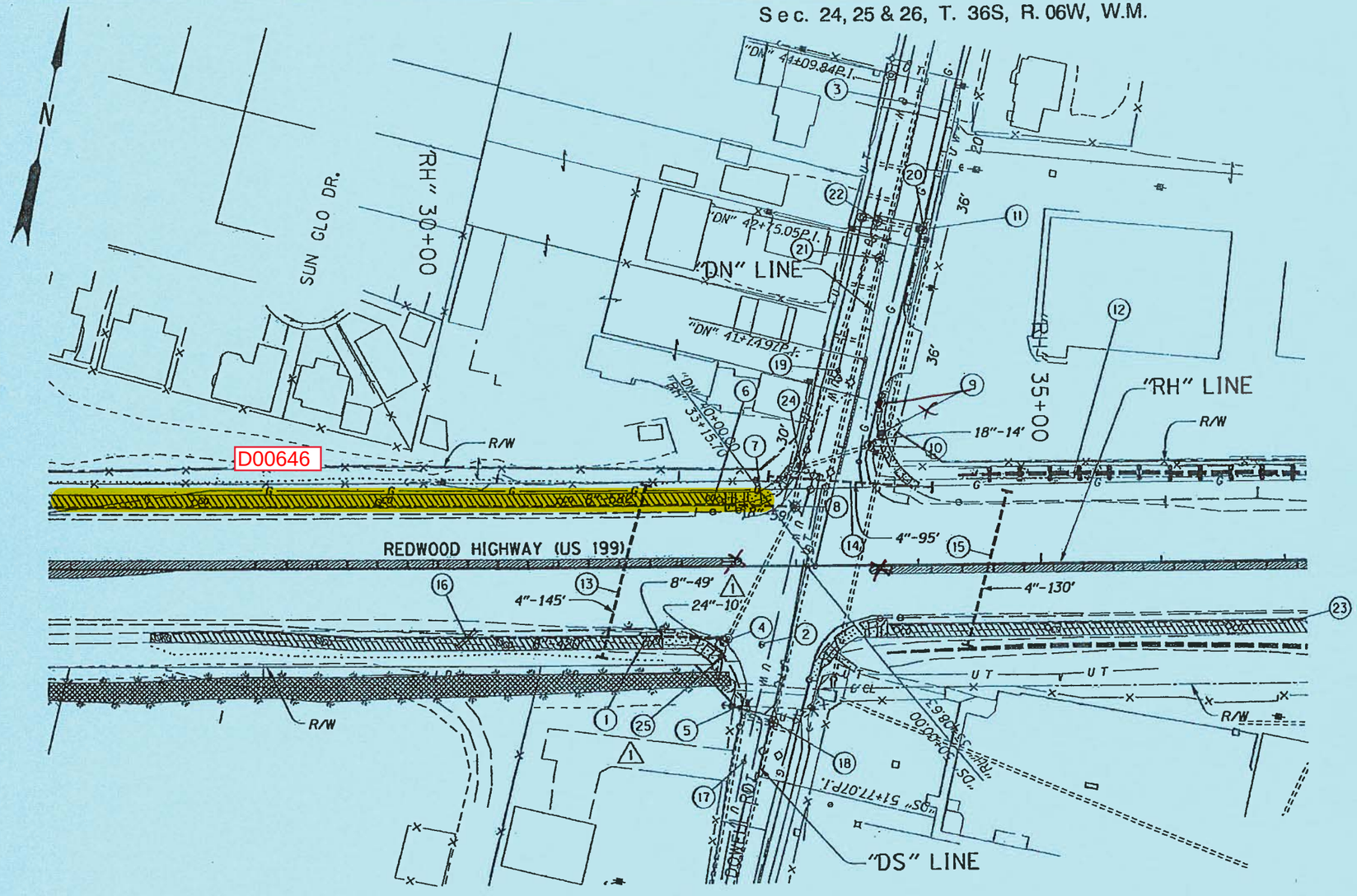
Sec. 24, 25 & 26, T. 36S, R. 06W, W.M.

(Notes: see sht. 9D)



Ditches Shown Thus: ===

Biofiltration Swales Shown Thus: ≠=≠=

No Work Area (except for perm. fence installation) Delineate Per Section 00290.41(b) Shown Thus:

REVISIONS	
1	Revised 10-24-2011 Added inlet and storm sew. pipe

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DRAINAGE & UTILITIES

SHEET NO. 9C

1:1200 - 09

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(1) Sta. "RH" 27+68.49, 52.49' Rt. To
Sta. 31+88.57, 56.83' Rt.
Inst. 8" drain pipe - 420'
Const. 4 cleanouts
Sta. "RH" 27+68.49, 52.49' Rt.
Sta. 29+00.00, 54.24' Rt.
Sta. 30+50.00, 56.83' Rt.
Sta. 31+88.57, 56.83' Rt.
Connect to 8" storm sew. pipe (E)

(2) Sta. "DS" 50.71.23, 21.47" Lt.
Adjust box - survey monument

(3) Sta. "DN" 43+89.42, 12.70' Lt.
Adjust box - water valve

(4) Sta. "RH" 32+38.84, 61.32' Rt.
Remove extg. manhole
(1) Remove extg. 12" storm sew. pipe - 26' W
Const. 96" storm sew. manhole
Rim - 943.85
F.L. (W) - 939.65, CL offset 2.50' N
F.L. (NE) - 939.19, CL offset 1.75' E
F.L. (S) - 940.03, CL offset 1.50' W
Inst. 8" storm sew. pipe - 49' W
5' depth
Connect to 8" drain pipe (W)
Connect to extg. 24" storm sew. pipe (NE)
Connect to 24" storm sew. pipe (S)

(5) Sta. "DS" 51+21.95, 25.20' Rt.
Remove extg. inlet
(1) Const. type "G-2" inlet
Rim - 945.58
F.L. (NW) - 942.44
F.L. (S) - 942.44
Connect to 24" extg. storm sew. pipe (NW)
Connect to 24" extg. storm sew. pipe (S)

(6) Sta. "RH" 26+56.23, 50.35' Lt. To
Sta. 32+40.41, 50.81' Lt.
Inst. 8" drain pipe - 582'
Const. 5 cleanouts
Sta. "RH" 26+56.23, 50.35' Lt.
Sta. 28+00.00, 50.83' Lt.
Sta. 29+50.00, 50.83' lt.
Sta. 31+00.00, 50.83' Lt.
Sta. 32+40.41, 50.81' Lt.
Connect to 8" storm sew. pipe

(7) Sta. "RH" 32+40.41, 50.81' Lt. To
Sta. "RH" 32+99.19, 48.69' Lt.
Inst. 8" storm sew. pipe - ~~59'~~ 43'
5' depth
Connect to 8" drain pipe (W)
Connect to extg. storm sew. manhole (E)
F.L. (E) - 939.87,

(8) Sta. "RH" 32+99.19, 48.69' Lt.
Adjust storm sew. manhole - minor
Method B Circular Cut

(9) Sta. "DN" ~~41+18.63, 27.98~~ 41+33' Rt.
Const. type "CG-3" inlet
Rim - 940.42
F.L. (SW) - 936.61
(See Dwg. No. RD371 And RD372)
Connect to ~~18"~~ 12" INSTALL 28' storm sew. pipe (SW)

(10) Sta. "DN" 41+06.34, 20.41 Rt.
Remove extg. inlet
Const. storm sew. manhole
Rim - 941.25
F.L. (SW) - 936.47
F.L. (NE) - 936.50
Connect to extg. 18" storm sew. pipe (SW)
Inst. ~~18"~~ storm sew. pipe - ~~14'~~ NE, 28'
12' 5' depth

(11) Sta. "DN" 42+90.06, 22.14' Rt.
Remove extg. inlet
Const. type "G-2" inlet
Rim - 937.50
F.L. (W) - 934.13
Connect to extg. 12" storm sew. pipe (W)

(12) See sht. 10B, note 3

(13) Sta. "RH" 31+75.66, 67.20' Lt.
To Sta. 31+39.84, 73.31' Rt.
Inst. 4" irrigation sleeve - 145'
5' depth
F.L. (N) - 938.00
F.L. (S) - 938.50
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(14) Sta. "RH" 32+76.68, 73.88' Lt.
To Sta. 34+11.28, 63.43' Lt.
Inst. 4" irrigation sleeve - 95'
5' depth
F.L. (W) - 939.00
F.L. (E) - 939.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(15) Sta. "RH" 34+71.92, 59.78' Lt.
To Sta. 34+39.81, 66.19' Rt.
Inst. 4" irrigation sleeve - 130'
5' depth
F.L. (N) - 938.00
F.L. (S) - 937.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(16) Sta. "RH" 30+20.56, 64.20' Rt.
To Sta. 30+35.65, 50.64' Rt.
Remove exst. 12" culv. pipe - 20'

(17) Sta. "DS" 51+68.15, 13.97' Rt.
Adjust box - water valve

(18) Sta. "DS" 51+30.69, 2.42' Lt.
Adjust san. sew. manhole - minor
Method B Circular Cut

(19) Sta. "DN" 41+60.71, 19.25' Lt.
Adjust box - water valve

(20) Sta. "DN" 42+93.98, 24.25' Rt.
Adjust box - water meter

(21) Sta. "DN" 42+59.35, 3.77' Lt.
Adjust san. sew. manhole - minor
Method B Circular Cut

(22) Sta. "DS" 42+93.68, 15.26' Lt.
Adjust san. sew. manhole - minor
Method B Circular Cut

(23) See Sht. 10B. Note 1

(24) Sta. "DN" 40+77.38, 30.43' Lt.
Remove extg. inlet
Const. type ~~"CG-3"~~ inlet G2
F.L. (S) - 937.06
F.L. (N) - 937.02
F.L. (E) - 936.45
Connect to extg. 18" storm sew. pipe (S)
Connect to extg. 18" storm sew. pipe (N)
Connect to extg. 18" storm sew. pipe (E)

(25) Sta. "DS" 50+88.36, 52.74' Rt.
Remove extg. 24" storm sew. pipe - 12' N
(1) Const. type "CG-3" inlet
Rim - 944.27
F.L. (N) - 940.60
F.L. (S) - 940.60
Connect to extg. 24" storm sew. pipe (S)
Inst. 24" storm sew. pipe (N) - 10'.

REVISIONS	
(1)	Revised 10-24-2011 Added inlet, revised manhole and inlet location/inverts and pipe length.

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