OPERATION & MAINTENANCE MANUAL

DFI No. : D00863

Facility Type: Detention/Bioretention Pond

January, 2016

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00863**
Facility Type:	Detention/Bioretention Pond
Construction Drawings:	(V-File Number) 47V-174
Location:	District: 10
	Highway No.: 004
	Mile Post: 92.99; 93.02
	Description: This facility is located on the west side of the Northbound US97 between J Street and I Street, in the City of Madras.

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: Wade Coatney, ODOT, Region 4 Tech. Center, 541-388-6234

Facility construction: 2015
Contractor: High Desert Aggregate and Paving

4. Storm Drain System and Facility Overview

This detention/bioretention pond is designed to store runoff during wet weather and is dry the remainder of the time. This pond functions in

conjunction with another pond, DFI D00862. These are connected to the same storm drain system and are connected by an 18-inch culvert. This pond is “upsystem” of pond DFI D00862.

The drainage basin for this pond begins at the overflow from swales in front of the “Jefferson Square” development (KFC, Madras Cinemas, O’Reilley Auto Parts). Stormwater runoff is collected and conveyed from this point along northbound US97 to a manhole with inlet on the northwest corner of J Street and northbound US97. The trunk line pipe is 24 inches, while all other minor pipe runs are 12 inches. Stormwater from the frontage road between northbound and southbound US97, and from J Street between northbound and southbound US97 is collected and conveyed to this manhole with inlet as well. This manhole with inlet outfalls into pond DFI D00863 via a 24-inch pipe. This manhole has another 24-inch pipe with a cap/plug on the north side. If this pipe is not plugged, the pond will not receive stormwater.

The outlet for this pond is an 18-inch pipe set 2.4 feet above the bottom of the pond. Once reaching this elevation water will be conveyed to Pond DFI D00862.

Pond DFI D00862 outfalls back to the storm drain system on US97 just south of I Street. All stormwater from this point north in the storm drain system will bubble up from a manhole with inlet on the west side of US97 across from Trade Street.

A. Maintenance equipment access:
   Maintenance crews access the pond through a 10-foot opening on the southwest side of the pond.

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)

If empty and properly maintained, this pond will store approximately 49,375 gallons (6,600 cuft) volume of liquid before blocking any outlets. 12-inch pipe, located in the inlet in Detention/Bioretention Pond DFI D00862, can be blocked to store additional liquid.

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 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
An 18 inch pipe functions as the main outlet feature for this pond. A curb cut on the northwest side of the pond will allow overflow from the pond to enter pond DFI D00862 along the City frontage road. See operational Plan in Appendix A for the location of the main outlet and curb cut.

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/GEOENVIRONMENTAL/pages/omm.aspx

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:

Mark as Required and always include Table 1:

- ☒ 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:
  [Insert special maintenance requirements here]

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	(541) 388-6088 or (541) 410-0706
ODEQ Northwest Region Office	(503) 229-5263

Appendix A

Content:

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

N

NORTHBOUND US 97

No flow in pipe

(DFI D00862)

Detention/Bioretention pond (DFI D00863)

MP 92.99

No flow in pipe

MP 93.02

24"

18"

12"

24"

18"

A

A

D

C

A

B

A

Outlet control manhole

Vehicle access point

Pond overflow

Pond overflow

I STREET

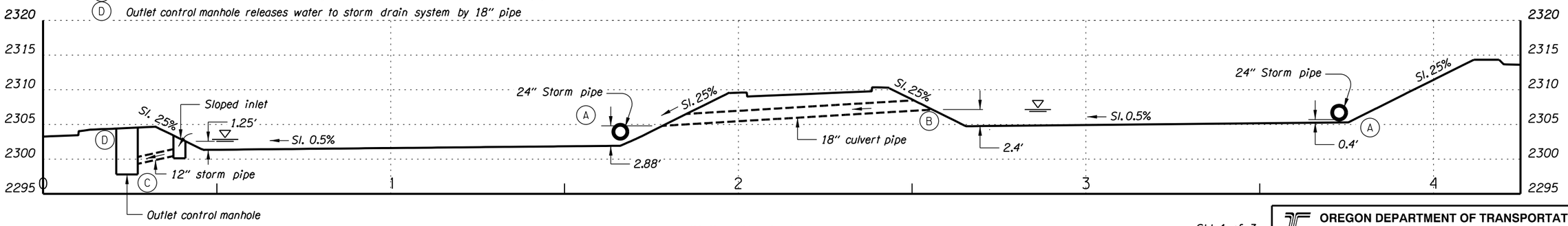
J STREET

CITY FRONTAGE ROAD

Vehicle access point

LEGEND:

- Storm sewer pipe
- Inlet
- Curb opening
- Manhole w/inlet
- Manhole
- Pavement / Facility Flow Path
- (A) Pipe outfalls into pond
- (B) Water fills up in pond and is conveyed by 18" pipe to the next pond
- (C) Water fills up in pond and is conveyed to outlet control manhole by a 12" pipe
- (D) Outlet control manhole releases water to storm drain system by 18" pipe



SECTION A-A

Sht. 1 of 3

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Wade J. Coatney

Drafted By: Joseph J. Rodriguez

DFI D00863
MAINTENANCE DISTRICT 10 HWY 004
DETENTION/BIORETENTION POND
HIGHWAY MP 92.99
JEFFERSON COUNTY

DFI_D00863.dgn :: Default 1/31/2018 3:17:47 PM Hwyr33e

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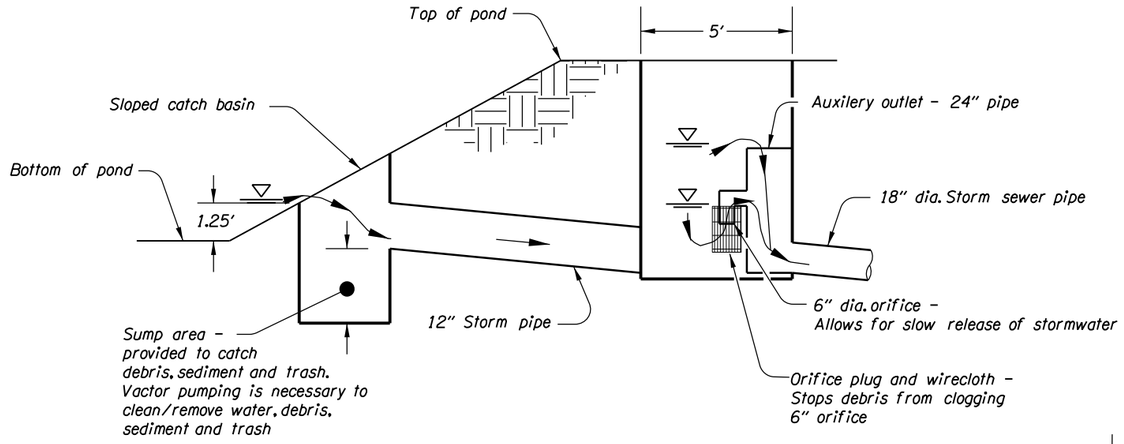


OUTLET CONTROL MANHOLE

LEGEND:

- 24"
- 18"
- 12"
- 8"
- Inlet
- Pond
- Manhole w/inlet
- Manhole
- Pavement / Facility Flow Path

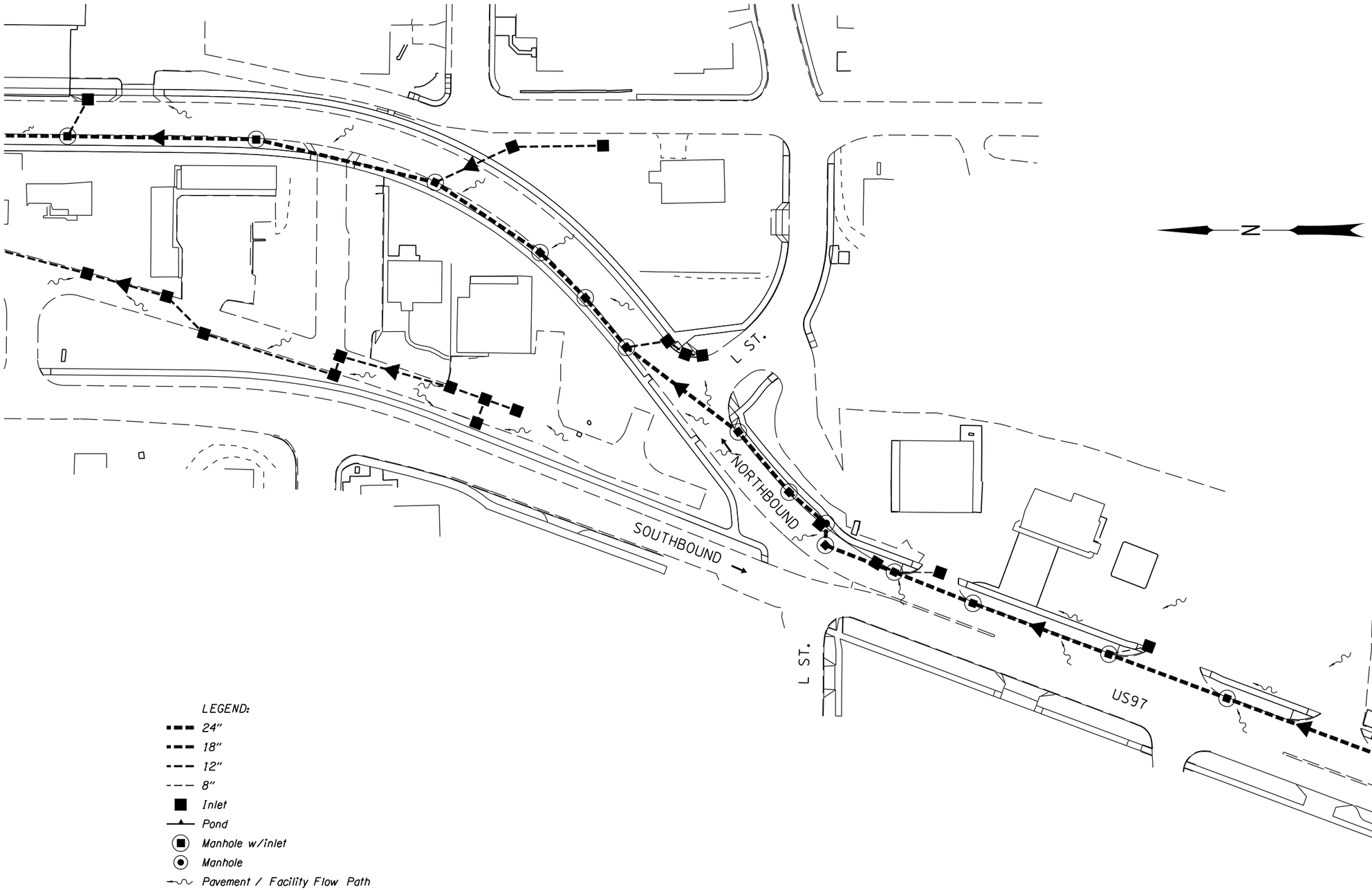
Sht. 2 of 3

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Wade J. Coatney

Drafted By: Joseph J. Rodriguez

DFI D00862 & D00863
MAINTENANCE DISTRICT 10 HWY 004
DETENTION/BIORETENTION POND
HIGHWAY MP 92.95
JEFFERSON COUNTY



LEGEND:

- 24"
- 18"
- 12"
- 8"
- Inlet
- Pond
- Manhole w/inlet
- Manhole
- Pavement / Facility Flow Path

Sht. 3 of 3

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Wade J. Coatney

Drafted By: Joseph J. Rodriguez

DFI D00862 & D00863
MAINTENANCE DISTRICT 10 HWY 004
DETENTION/BIORETENTION POND
HIGHWAY MP 92.95
JEFFERSON COUNTY

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Appendix B

Content:

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

47V-174

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A & 1A-2	Index Of Sheets Cont'd. & Std. Drg. Nos.
1B	Layout Sheet
1C Thru 1C-3 Incl.	Survey Control Data

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

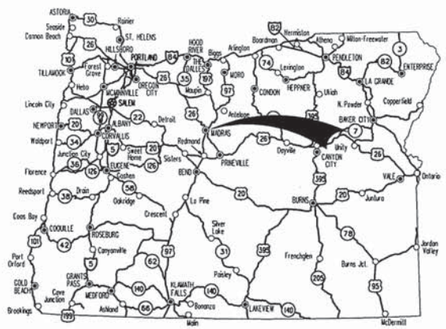
GRADING, DRAINAGE, PAVING, SIGNING, ILLUMINATION AND ROADSIDE DEVELOPMENT

US97: J STREET INTERSECTION (MADRAS SOUTH Y) SEC.

THE DALLES - CALIFORNIA HIGHWAY

JEFFERSON COUNTY

DECEMBER 2014



Overall Length Of Project - 0.61 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

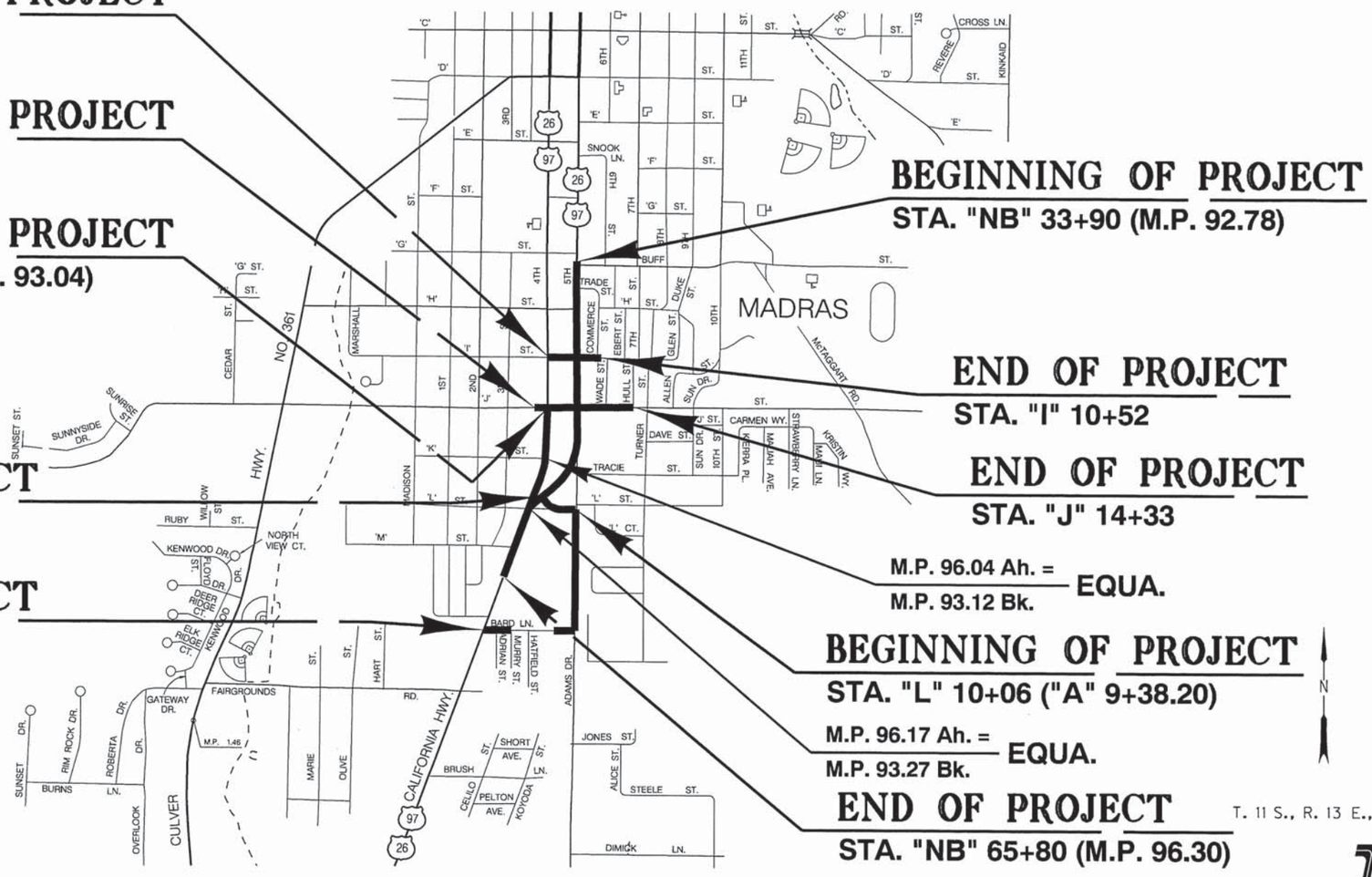
BEGINNING OF PROJECT
STA. "I" 8+18

BEGINNING OF PROJECT
STA. "J" 7+30

BEGINNING OF PROJECT
STA. "SB" 48+00 (M.P. 93.04)

END OF PROJECT
STA. "L" 12+80

END OF PROJECT
STA. "B" 1+42.25



BEGINNING OF PROJECT
STA. "NB" 33+90 (M.P. 92.78)

END OF PROJECT
STA. "I" 10+52

END OF PROJECT
STA. "J" 14+33

M.P. 96.04 Ah. =
M.P. 93.12 Bk. **EQUA.**

BEGINNING OF PROJECT
STA. "L" 10+06 ("A" 9+38.20)

M.P. 96.17 Ah. =
M.P. 93.27 Bk. **EQUA.**

END OF PROJECT
STA. "NB" 65+80 (M.P. 96.30)

T. 11 S., R. 13 E., W.M.

N

OREGON TRANSPORTATION COMMISSION

Catherine Mater	CHAIR
Tammy Baney	COMMISSIONER
David Lohman	COMMISSIONER
Susan Morgan	COMMISSIONER
Alando Simpson	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: Jon W. Heacock 10/22/14
Signature & date

Jon Heacock, Region 4 TCM
Print name and title

Concurrence by ODOT Chief Engineer

US97: J STREET INTERSECTION (MADRAS SOUTH Y) SEC.
THE DALLES-CALIFORNIA HIGHWAY
JEFFERSON COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	NHPP-S004(189)	1

C0161601 011

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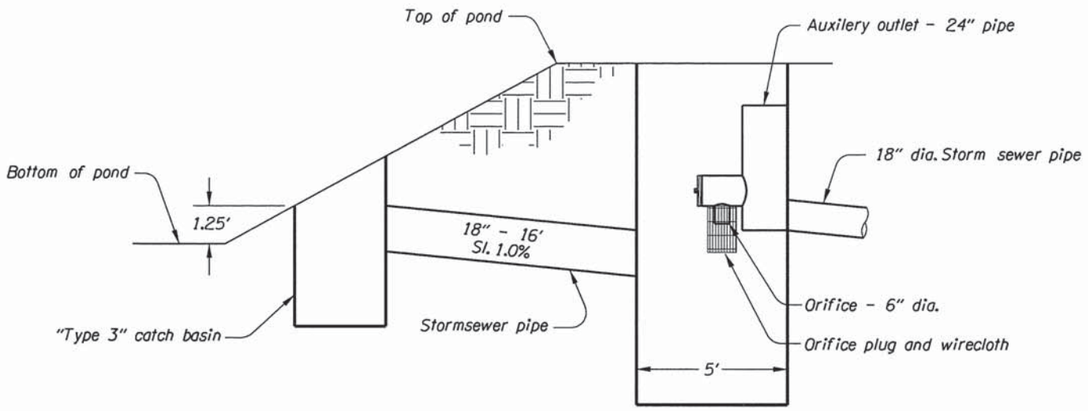
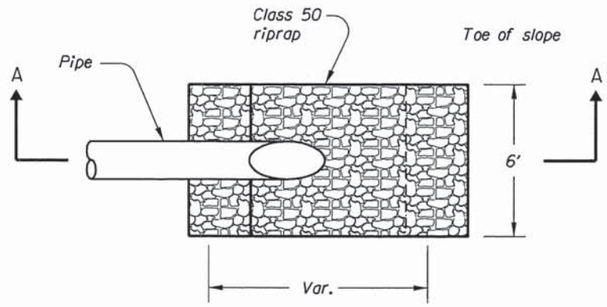


OUTLET CONTROL DETAIL



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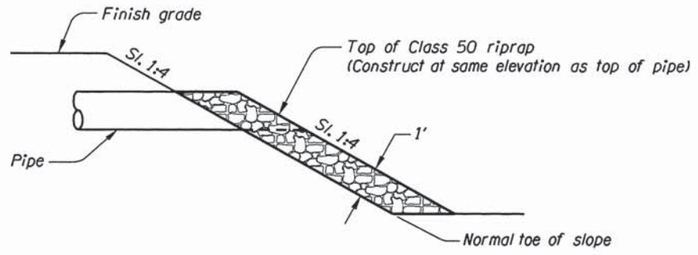

SECTION A-A

REGISTERED PROFESSIONAL ENGINEER
87978
Wade J. Coatney
OREGON
MARCH 12, 2013
WADE JOSH COATNEY

RENEWS: 12-31-2015

VIEW 1

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

US97: J STREET INTERSECTION
(MADRAS SOUTH Y) SEC.
THE DALLES-CALIFORNIA HIGHWAY
JEFFERSON COUNTY

Reviewed By - Rick W. Thompson
Designed By - Wade J. Coatney
Drafted By - Joseph J. Rodriguez

WATER QUALITY DETAILS

SHEET NO. GJ

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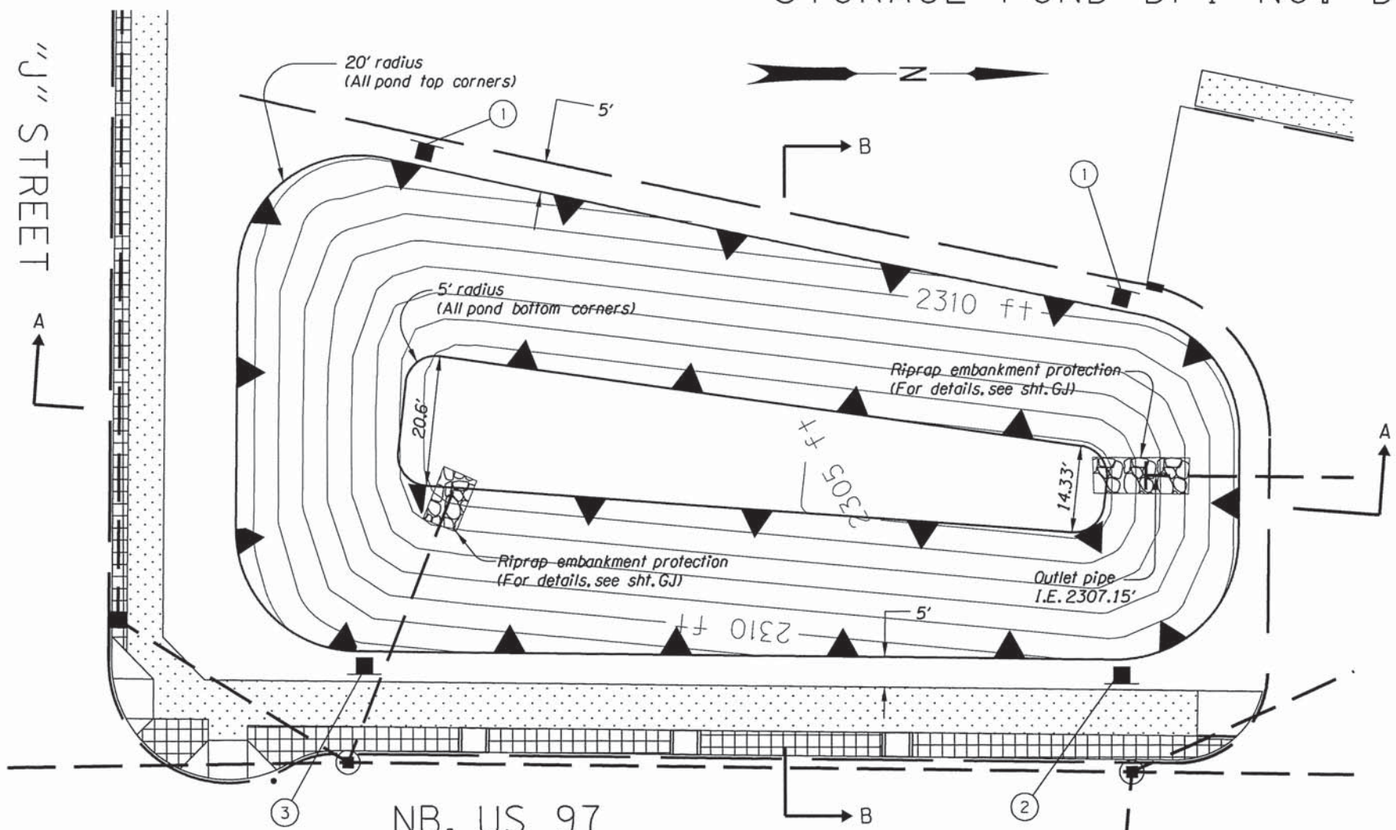
47V-174

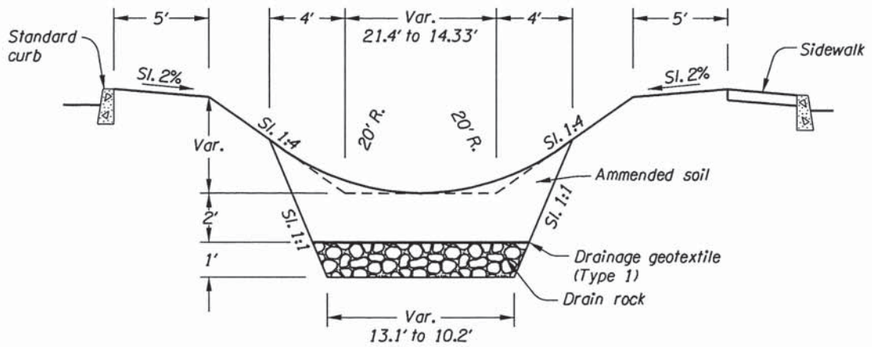
STORAGE POND DFI NO. D00863

(1) Inst. Type "S2" marker - 2 DFI no. D00863

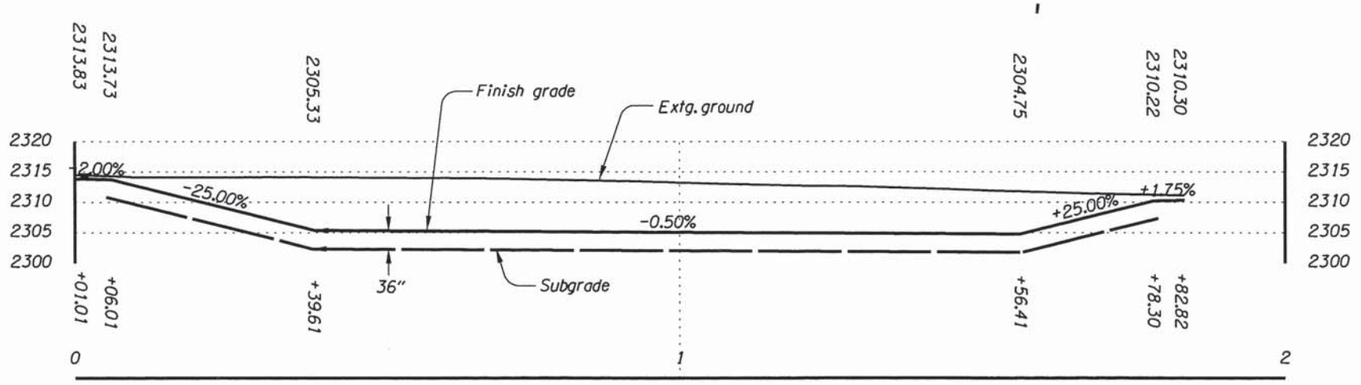
(2) Inst. Type "S1" marker - red

(3) Inst. Type "S1" marker - green





SECTION B-B



SECTION A-A

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

US97: J STREET INTERSECTION
(MADRAS SOUTH Y) SEC.
THE DALLES-CALIFORNIA HIGHWAY
JEFFERSON COUNTY

Reviewed By - Rick W. Thompson
Designed By - Wade J. Coatney
Drafted By - Joseph J. Rodriguez

WATER QUALITY DETAILS

SHEET NO. GJ-3

REGISTERED PROFESSIONAL ENGINEER
87978
Wade J. Coatney
OREGON
MARCH 12, 2013
WADE JOSH COATNEY

RENEWS: 12-31-2015

VIEW 3

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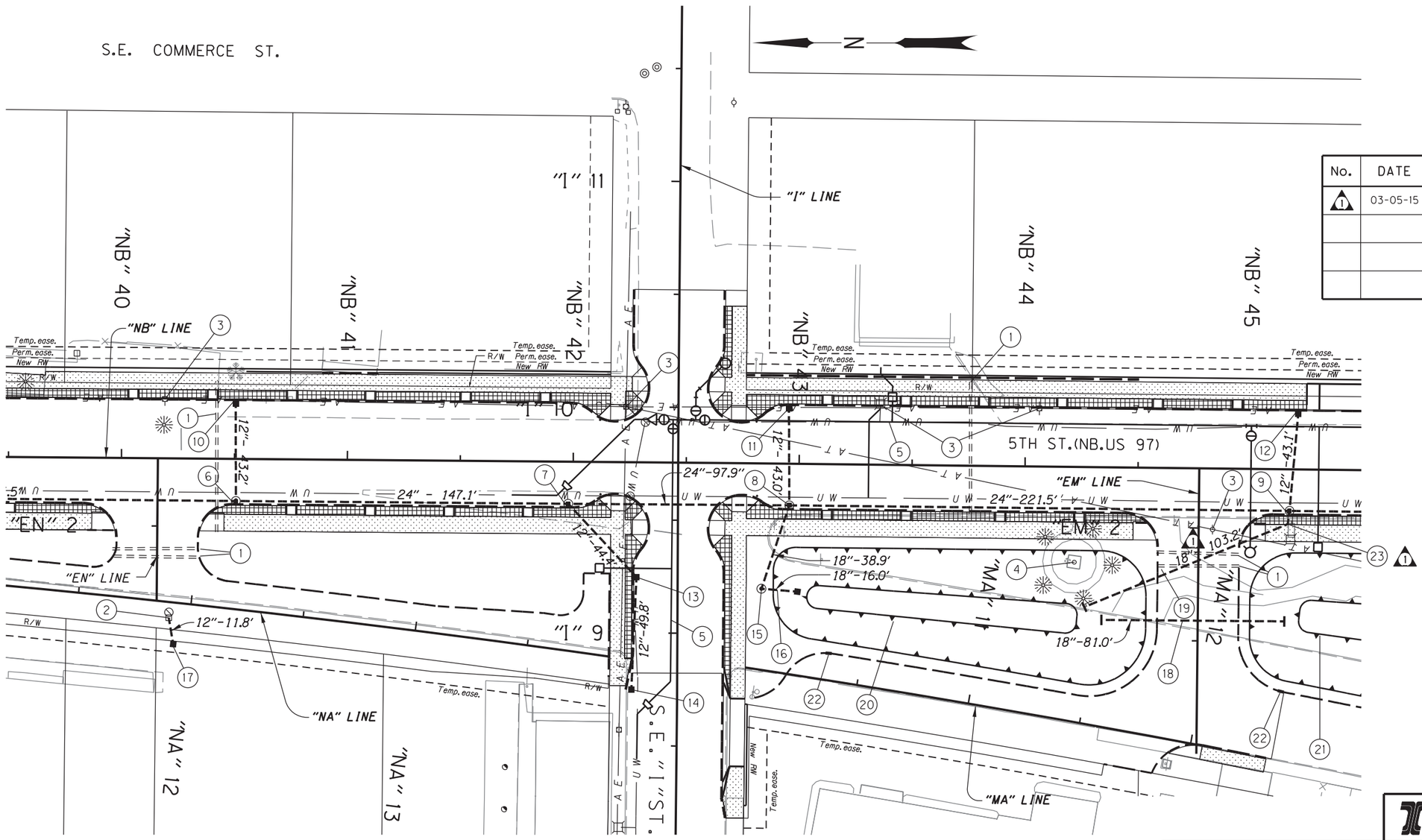
T. 11 S., R. 13 E., W.M.

47V-174

C14766 CCO 05
Attachment A
Page 1 of 10



No.	DATE	REVISIONS	BY
1	03-05-15	Adjusted pipe invert, changed pipe alignment added 60 degree bend	W.J.C.

REGISTERED PROFESSIONAL ENGINEER
87978
OREGON
MARCH 12, 2013
WADE JOSH COATNEY
RENEWS: 12-31-2015

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

US97: J STREET INTERSECTION
(MADRAS SOUTH Y) SEC.
THE DALLES-CALIFORNIA HIGHWAY
JEFFERSON COUNTY

Reviewed By - Brian D. Paslay
Designed By - Wade J. Coatney
Drafted By - Joseph J. Rodriguez

DRAINAGE & UTILITIES

SHEET NO. 4B

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VIEW 2

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C14766 CCO 05
Attachment A
Page 2 of 10

1. Const. irrigation sleeve
(For details, see GN shts.)

2. Adjust inlet
(See drg. no. RD376)

3. Relocate utility
(By others)

4. Remove totem pole
(By others)

5. Const. waterline
(For details, see shts. W thru W-4)

6. Sta. "NB" 40+50.37, Rt.
Const. manhole w/ inlet,
type "G-2" inlet w/ 1.5' sump
I.E. (12" In) - 2293.73'
I.E. (24" In) - 2293.47'
I.E. (24" Out) - 2293.37'
Inst. 24" storm sew. pipe - 215.5'
5' depth
S = 0.023'/ft

7. Sta. "NB" 41+97.90, Rt.
Const. manhole w/ inlet,
type "G-2" inlet w/ 1.5' sump
I.E. (12" In) - 2298.05'
I.E. (24" In) - 2295.91' 3
I.E. (24" Out) - 2295.81'
Inst. 24" storm sew. pipe - 147.1'
5' depth
S = 0.016'/ft 3

8. Sta. "NB" 42+95.84, Rt.
Const. manhole w/ inlet,
type "G-2" inlet w/ 1.5' sump
I.E. (12" In) - '2299.55
I.E. (18" In) - 2298.81'
I.E. (24" In) - 2298.81'
I.E. (24" Out) - 2298.71'
Inst. 24" storm sew. pipe - 97.9'
5' depth
S = 0.029'/ft 3

9. Sta. "NB" 45+17.27, Rt.
Const. manhole w/ inlet,
type "G-2" inlet w/ 1.5' sump
I.E. (12" In) - 2304.14'
I.E. (24" In) - 2303.56'
I.E. (18" Out) - 2303.46'
I.E. (24" Out) - 2303.46'
Inst. 24" storm sew. pipe - 221.5'
5' depth
S = 0.021'/ft
Plug 24" outlet pipe (for future use)

10. Sta. "NB" 40+50.37, Lt.
Const. type "G-2" inlet w/ 1.5' sump
I.E. (12" Out) - 2294.17'
Inst. 12" storm sew. pipe - 43.2'
5' depth
S = 0.010'/ft

11. Sta. "NB" 42+95.20, Lt.
Const. type "G-2" inlet w/ 1.5' sump
I.E. (12" Out) - 2299.98'
Inst. 12" storm sew. pipe - 43.0'
5' depth
S = 0.010'/ft

12. Sta. "NB" 45+20.64, Lt.
Const. type "G-2" inlet w/ 1.5' sump
I.E. (12" Out) - 2304.57'
Inst. 12" storm sew. pipe - 43.1'
5' depth
S = 0.010'/ft

13. Sta. "I" 9+24.74, Lt.
Const. type "G-2" inlet w/ 1.5' sump
I.E. (12" In) - 2298.28'
I.E. (12" Out) - 2298.28' 3
Inst. 12" storm sew. pipe - 44.4'
5' depth
S = 0.005'/ft

14. Sta. "I" 8+74.78, Lt.
Const. type "G-2" inlet w/ 1.5' sump
I.E. (12" Out) - 2298.52'
Inst. 12" storm sew. pipe - 49.8' 3
5' depth
S = 0.005'/ft

15. Sta. "NB" 42+83.90, Rt.
Const. outlet control manhole
(For details, see sht. GJ)
I.E. (18" In) - 2299.84' 2
I.E. (18" Out) - 2299.01'
Inst. 18" storm sew. pipe - 38.9'
5' depth
S = 0.005'/ft

16. Sta. "NB" 42+99.85, Rt. 1
Const. ditch inlet w/ 1.5' sump
(See drg. no. RD378)
I.E. (18" Out) - 2300.00'
Inst. 18" storm sew. pipe - 16.0'
5' depth
S = 0.010'/ft 2

17. Sta. "NA" 11+94.06, Rt
Const type "G-2" inlet w/ 1.5' sump
I.E. (12" In) - 2292.74'
Inst. 12" storm sew. pipe - 11.8'
5' depth
S =0.005'/ft
Connect to extg. structure

18. Sta. "EM" 1+59.03, Rt. to
Sta. "EM" 1+58.85, Lt.
Inst. 18" storm sew. pipe - 81.0'
I.E. (18" Rt.) - 2307.15'
I.E. (18" Lt.) - 2304.82'
5' depth
S = 0.021'/ft
Cont. sloped end - 2
(See drg. nos. RD316 and RD318)

19. Sta. "EM" 2+07.97, Rt. to
Sta. "EM" 1+65.18, Lt.
Inst. 18" storm sew. pipe - 103.2' 4
I.E. (18" Rt.) - 2303.46'
I.E. (18" Lt.) - 2302.94' 4
5' depth
S = 0.005'/ft
Const. sloped end - Lt.

20. Const. storage pond DFI No. D00862
(For details, see shts. GJ & GJ-2)

21. Const. storage pond DFI No. D00863
(For details, see shts. GJ & GJ-3)

22. Const. curb opening - 2

4 23. Inst. 18", 60 degree bend

No.	DATE	REVISIONS	BY
1	02-10-15	Change catch basin type	W.J.C.
2	02-10-15	Adjusted pipe inverts and slope	W.J.C.
3	02-25-15	Adjusted pipe inverts and slope	W.J.C.
4	03-05-15	Adjusted pipe invert, changed pipe alignment, added 60 degree bend	W.J.C.

REGISTERED PROFESSIONAL ENGINEER
87978
OREGON
MARCH 12, 2013
WADE JOSH COATNEY
RENEWS: 12-31-2015

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

US97: J STREET INTERSECTION
(MADRAS SOUTH Y) SEC.
THE DALLES-CALIFORNIA HIGHWAY
JEFFERSON COUNTY

Reviewed By - Brian D. Paslay
Designed By - Wade J. Coatney
Drafted By - Joseph J. Rodriguez

DRAINAGE NOTES

SHEET NO. 4C