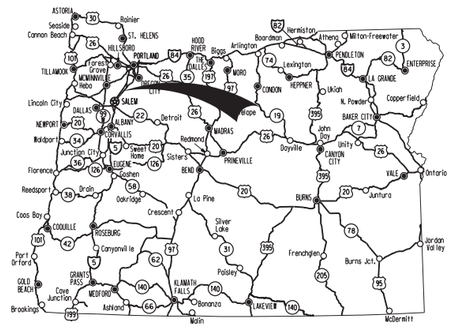
Inspection Quality Assurance Program

General Inspector Plans

Oregon Department of Transportation

2024-2025



57V-020

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STATE OF OREGON
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED PROJECT

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

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY
FEBRUARY 2024

Overall Length Of Project - 1.03 Miles

ATTENTION:
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0001 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center (Note: The Telephone Number For The Oregon Utility Notification Center Is (503) 232-1987).

SAFETY FIRST
LET'S ALL
WORK TOGETHER
TO MAKE THIS
JOB SAFE

BEGINNING OF CONTRACT
STA. "RW" 771+70.0 (MP 279.45)

BEGINNING OF PROJECT
STA. "RW" 781+17.2 (MP 279.27)

BEGINNING OF PROJECT
STA. "ER" 63+75.00 (MP 4.79)

END OF PROJECT
STA. "ER" 107+58.0 (MP 5.59)

END OF PROJECT
STA. "RW" 838+03.5 (MP 278.19)

END OF CONTRACT
STA. "RW" 848+06.1 (MP 278.00)

T. 4 S., R. 1 W., W.M.

PLANS PREPARED FOR
OREGON DEPARTMENT OF TRANSPORTATION
By:
DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON TRANSPORTATION COMMISSION

Julie Brown	CHAIR
Lee Beyer	VICE CHAIR
Sharon Smith	COMMISSIONER
Alicia Chapman	COMMISSIONER
Jeff Baker	COMMISSIONER
Kristopher W. Strickler	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: Ted Charles Stewart Digitally Signed 2023.11.15 18:53:12-08'00'
Signature & date

Ted Stewart, PE, Engineering Lead
Print name and title

Michael Kimlinger 2023.12.15 14:42:33 -08'00'
Concurrence by ODOT Chief Engineer

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	**S001(554)**	A01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 0° Scale: NTS

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Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/Engineering/Pages/Standards.aspx

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I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SEE SHEET A01	A02

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Standard Drawings located on the web at:
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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SEE SHEET A01	A03

57V-020

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RW Map No. RW9483M

Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/Engineering/Pages/Standards.aspx

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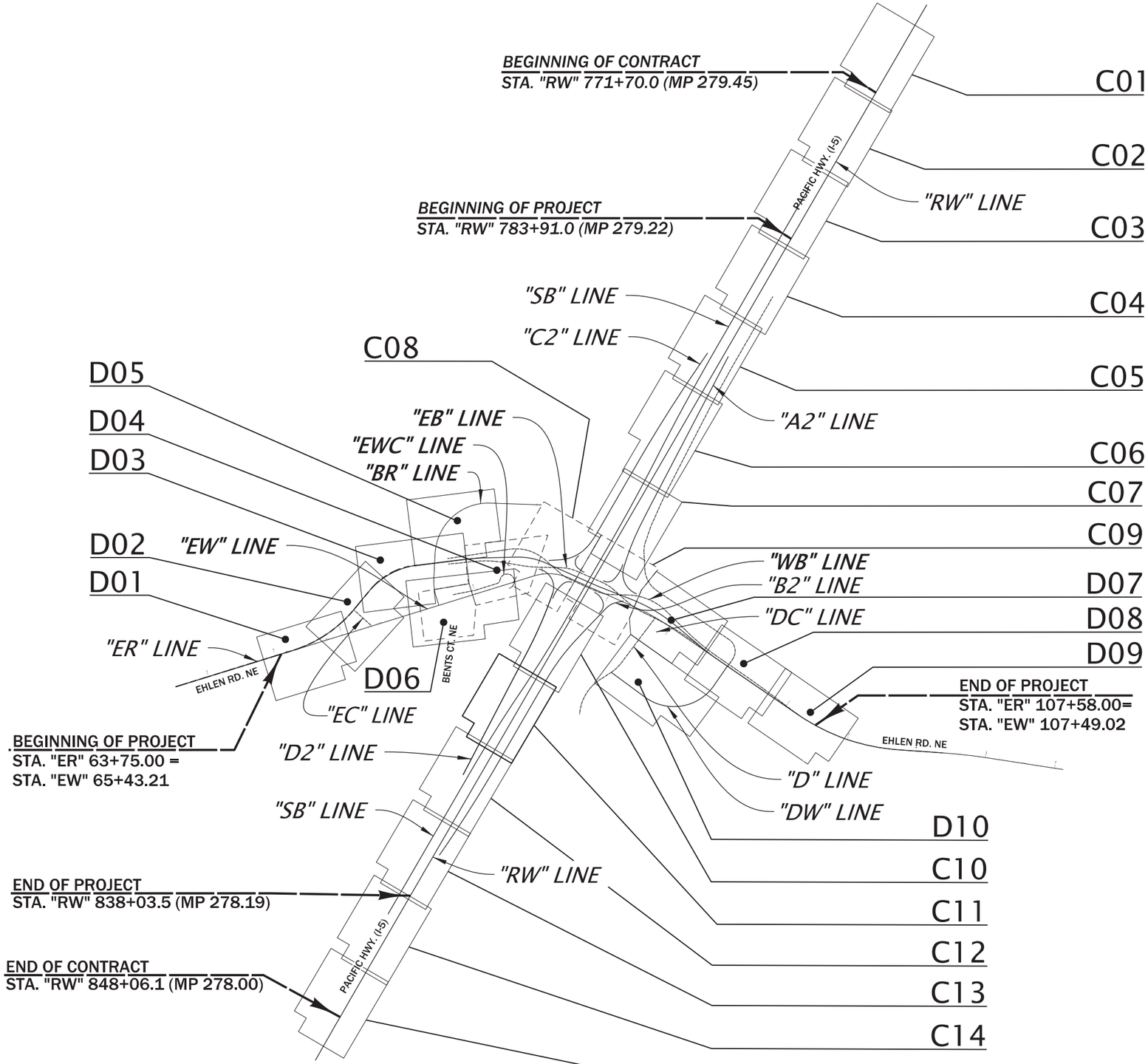
OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SEE SHEET A01	A04

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



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B–B	C07 – C09
C–C	C08 – C09
D–D	C08 – C10
E–E	C08 – D04
F–F	C09 – C10
G–G	C09 – D07
H–H	D03 – D04
J–J	D03 – D05
K–K	D03 – D06
L–L	D04 – D06
M–M	D08 – D10
N–N	D07 – D10

N

N.T.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.15 17:21:26-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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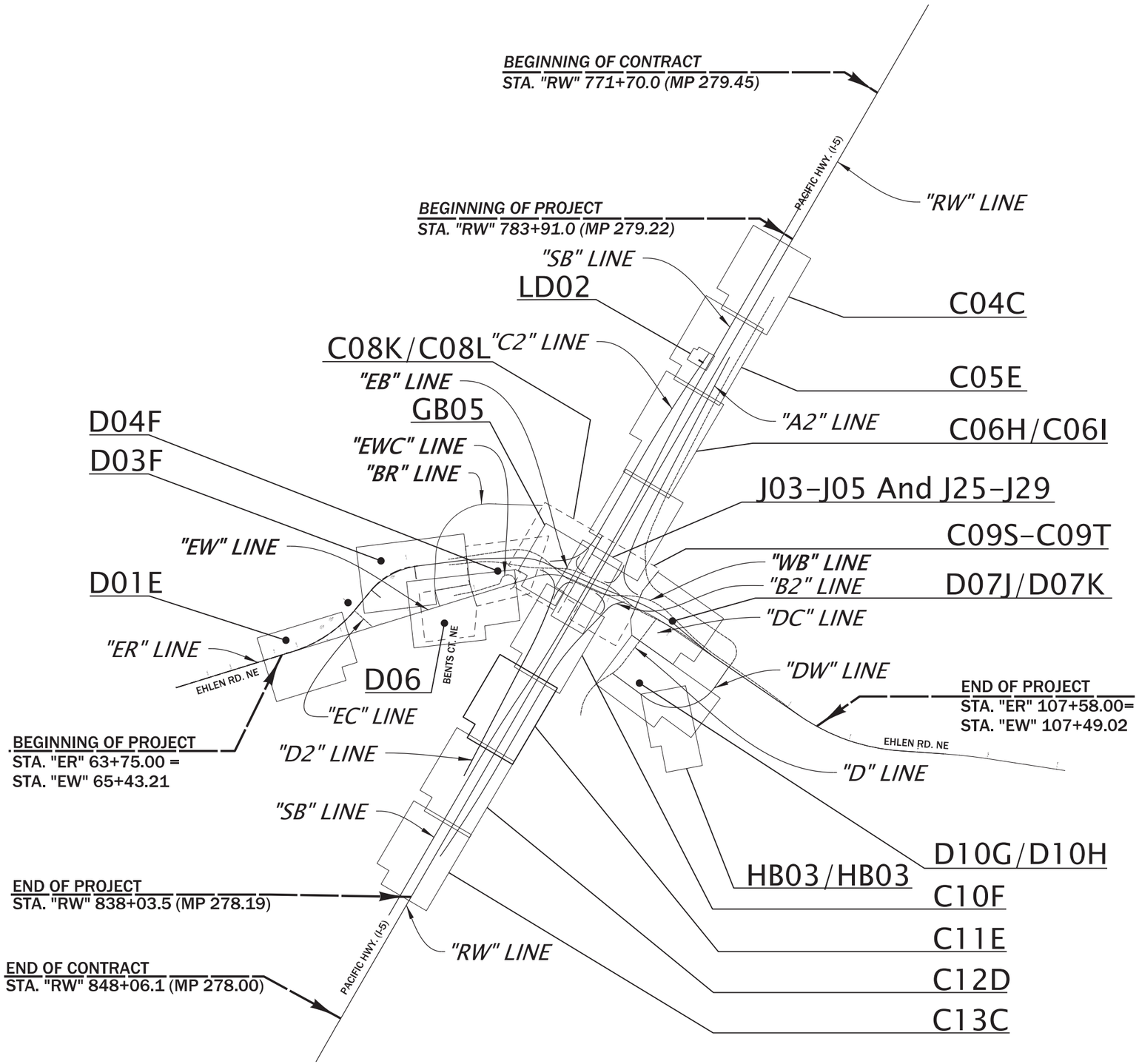
OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Steve Cooley

PLAN SHEET LAYOUT

SHEET NO.
AA01



N

N.T.S.

REGISTERED PROFESSIONAL ENGINEER
51358PE
DIGITALLY SIGNED 2023.11.13 08:46:55-08'00'
OREGON
JULY 9, 2001
KEITH S. MARTIN
RENEWS: 12-31-2024

GRI Geotechnical & Environmental Consultants
16520 SW Upper Boones Ferry Road, Suite 100, Tigard, Oregon 97224

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

Designer: Keith Martin
Reviewer: George Freitag, CEG
Drafter: Dustin Altenburg
Checker: Tom Gayne

GEOTECHNICAL PLAN SHEET LAYOUT

SHEET NO. AB01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

57V-020

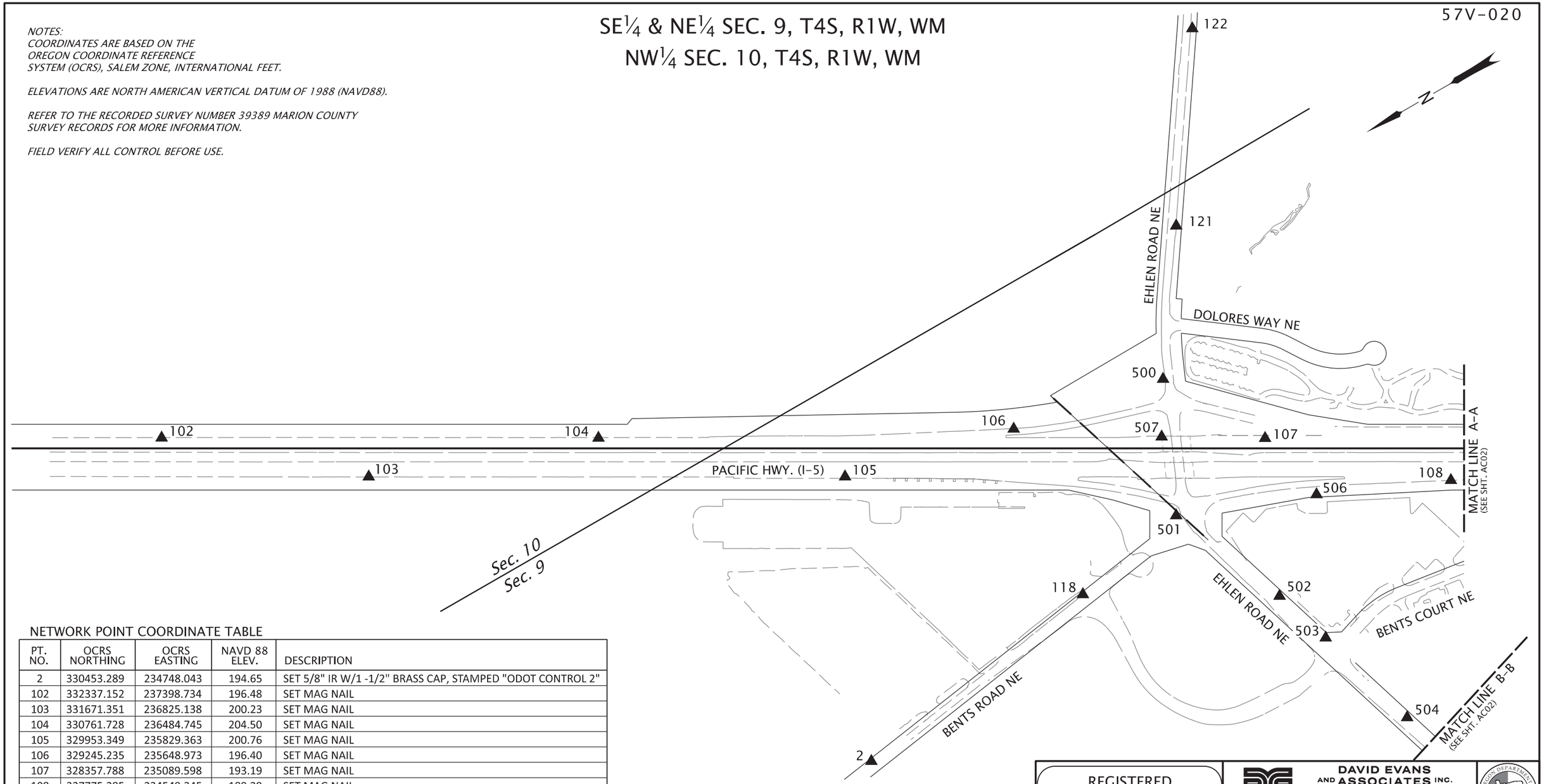
NOTES:
COORDINATES ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS), SALEM ZONE, INTERNATIONAL FEET.

ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

REFER TO THE RECORDED SURVEY NUMBER 39389 MARION COUNTY SURVEY RECORDS FOR MORE INFORMATION.

FIELD VERIFY ALL CONTROL BEFORE USE.

SE¼ & NE¼ SEC. 9, T4S, R1W, WM
NW¼ SEC. 10, T4S, R1W, WM



NETWORK POINT COORDINATE TABLE

PT. NO.	OCRS NORTHING	OCRS EASTING	NAVD 88 ELEV.	DESCRIPTION
2	330453.289	234748.043	194.65	SET 5/8" IR W/1 -1/2" BRASS CAP, STAMPED "ODOT CONTROL 2"
102	332337.152	237398.734	196.48	SET MAG NAIL
103	331671.351	236825.138	200.23	SET MAG NAIL
104	330761.728	236484.745	204.50	SET MAG NAIL
105	329953.349	235829.363	200.76	SET MAG NAIL
106	329245.235	235648.973	196.40	SET MAG NAIL
107	328357.788	235089.598	193.19	SET MAG NAIL
108	327775.285	234549.345	189.29	SET MAG NAIL
118	329341.441	234907.267	194.72	SET MAG NAIL
121	328234.323	236041.591	188.00	SET MAG NAIL
122	327763.354	236719.735	192.95	SET MAG NAIL
500	328602.121	235516.191	178.30	SET 1/2" IR W/RED PLASTIC CAP, STAMPED "DEA CONTROL"
501	328840.210	234996.805	189.32	SET 1/2" IR W/RED PLASTIC CAP, STAMPED "DEA CONTROL"
502	328635.713	234490.082	194.91	SET 1/2" IR W/RED PLASTIC CAP, STAMPED "DEA CONTROL"
503	328556.549	234243.020	196.04	SET 1-1/8" BRASS DISK, STAMPED "DEA CONTROL 503"
504	328429.292	233785.153	196.46	SET 1/2" IR W/RED PLASTIC CAP, STAMPED "DEA CONTROL"
506	328289.938	234778.924	194.04	SET 1/2" IR W/RED PLASTIC CAP, STAMPED "DEA CONTOL"
507	328728.057	235311.167	195.04	SET MAG NAIL W/WASHER

LEGEND

▲ SET NETWORK POINT

REGISTERED PROFESSIONAL LAND SURVEYOR

DIGITALLY SIGNED 2023.11.15 13:01:01-08'00'

OREGON
JULY 10, 1996
PATRICK M. GAYLORD
2767

RENEWS: 06-30-2025

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Kyle McNaught-Davis Reviewer: Darren Hockman
Drafter: Kyle McNaught-Davis Checker: Pat Gaylord

SURVEY CONTROL DATA

SHEET NO. AC01

57V-020

SW¼ & SE¼ SEC. 9. T4S, R1W, WM
NE¼ SEC 16, T4S, R1W, WM

NOTES:
COORDINATES ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS), SALEM ZONE, INTERNATIONAL FEET.

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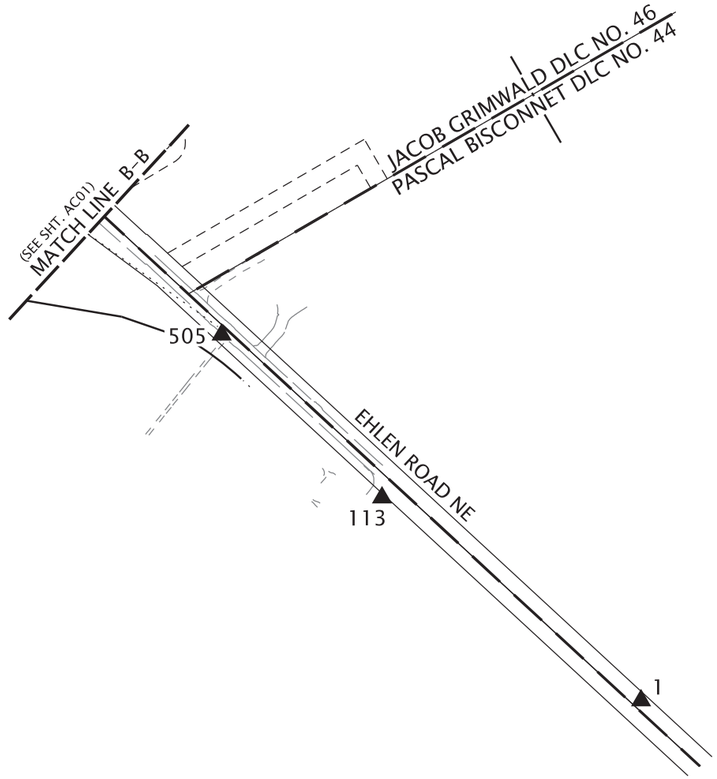
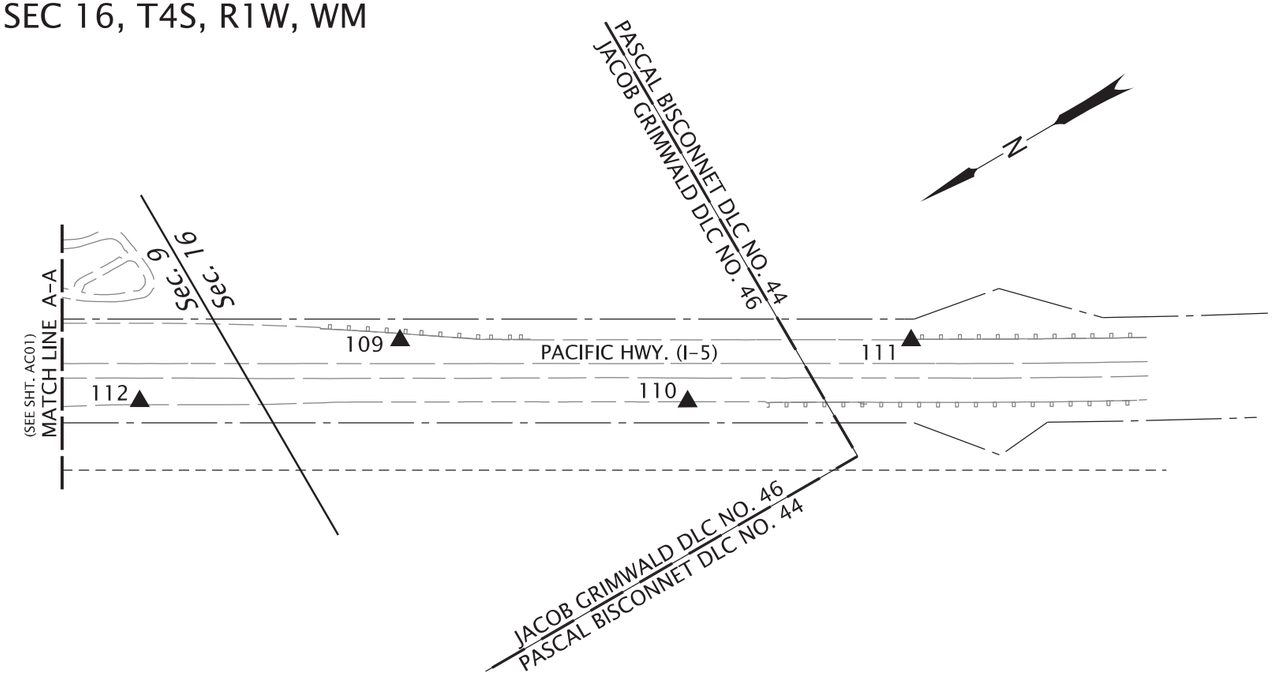
FIELD VERIFY ALL CONTROL BEFORE USE.





NETWORK POINT COORDINATE TABLE

PT. NO.	OCRS NORTHING	OCRS EASTING	NAVD 88 ELEV.	DESCRIPTION
1	327820.735	231830.445	197.06	SET 5/8" IR W/1-1/2" BRASS CAP, STAMPED "ODOT CONTROL 1", FLUSH
109	326866.991	234227.099	185.40	SET MAG NAIL
110	326290.945	233706.305	182.02	SET MAG NAIL
111	325699.751	233550.150	180.73	SET MAG NAIL
112	325103.120	233018.428	181.95	SET MAG NAIL
113	328144.051	232636.812	193.51	SET MAG NAIL
505	328294.710	233221.351	192.29	SET 1/2" IR W/RED PLASTIC CAP, STAMPED "DEA CONTROL"

LEGEND

▲ SET NETWORK POINT

REGISTERED PROFESSIONAL LAND SURVEYOR

DIGITALLY SIGNED 2023.11.15 13:02:07-08'00'

OREGON
JULY 10, 1996
PATRICK M. GAYLORD
2767

RENEWS: 06-30-2025

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

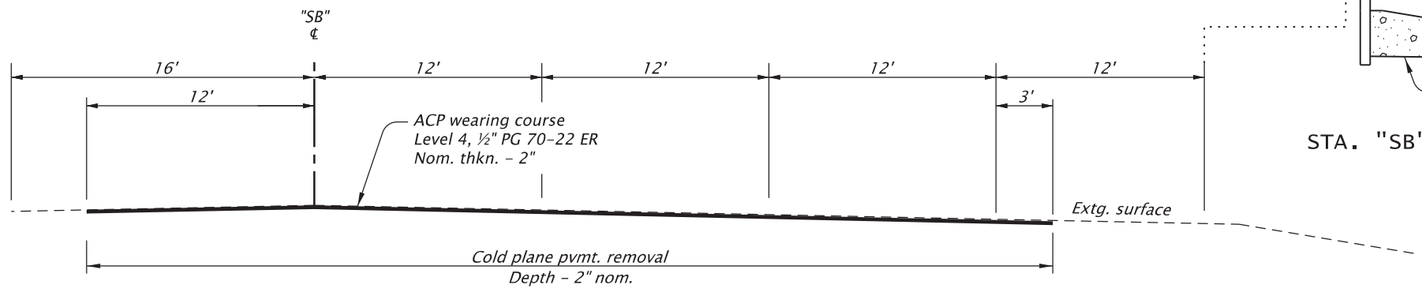
Designer: Kyle McNaught-Davis Reviewer: Darren Hockman
Drafter: Kyle McNaught-Davis Checker: Pat Gaylord

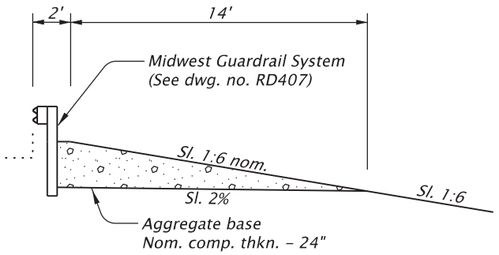
SURVEY CONTROL DATA

SHEET NO. AC02

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

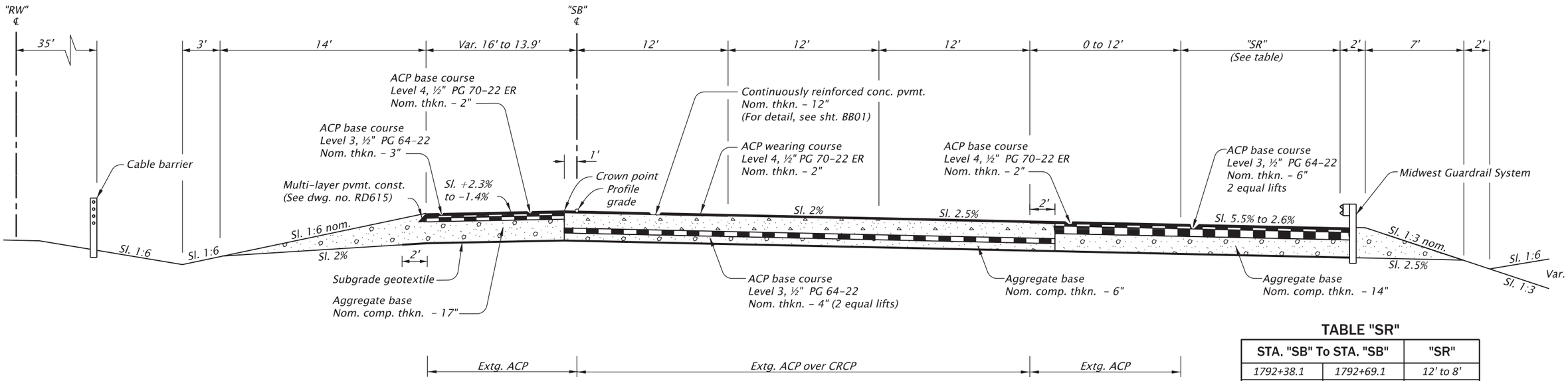
Rotation: 239.8925° Scale: 1"=400'





STA. "SB" 1781+17.2 To STA. "SB" 1792+38.1

STA. "SB" 1791+07.1 STA. "SB" 1792+38.1



STA. "SB" 1792+38.1 To STA. "SB" 1793+82.0

TABLE "SR"

STA. "SB" To STA. "SB"		"SR"
1792+38.1	1792+69.1	12' to 8'
1792+69.1	1793+82.0	8'

NOTE:
1. *Side-slopes are shown as vert. to horiz.*
2. *For slope rounding, see dwg. no. RD150.*

SHOULDER CROSS-SLOPE DIRECTION CHANGE

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.15 20:58:40-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS

SHEET NO. BA01

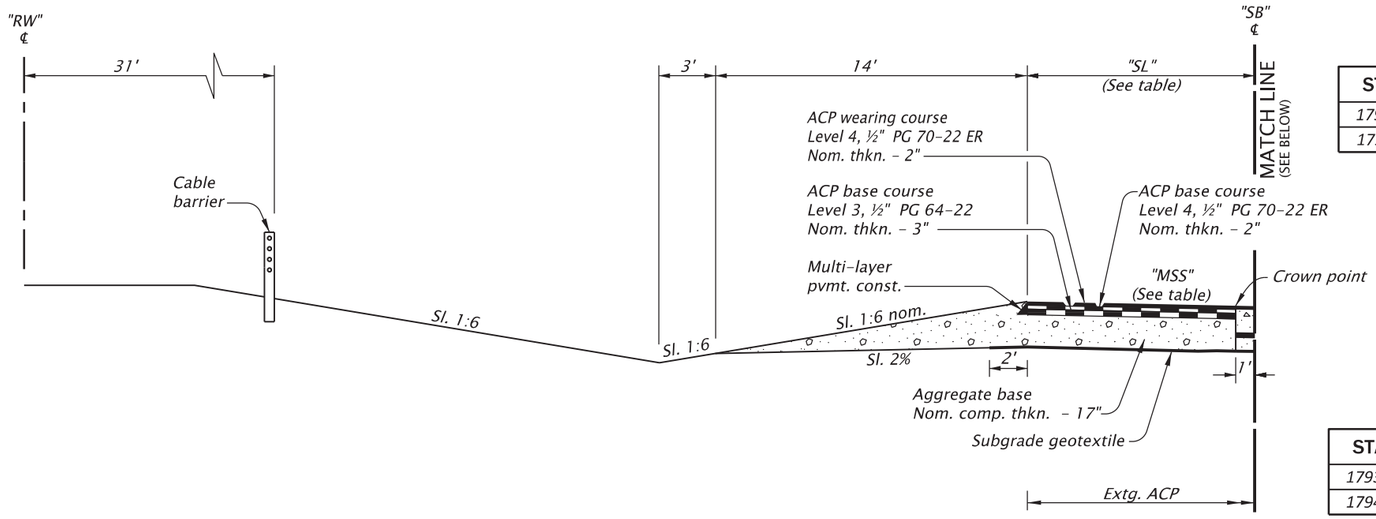


TABLE "SL"

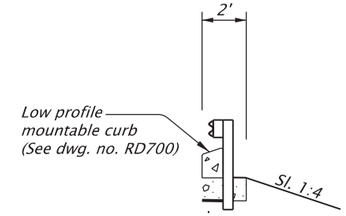
STA. "SB" To STA. "SB"		"SL"
1793+82.0	1795+18.1	13.9' to 12'
1795+18.1	1797+98.6	12'

TABLE "MSS"

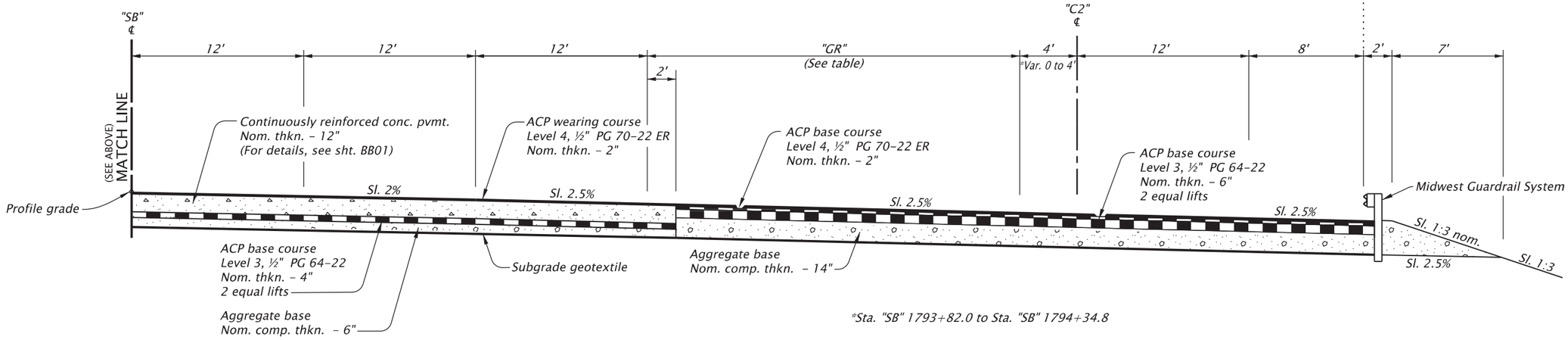
STA. "SB" To STA. "SB"		"MSS"
1793+82.0	1794+05.1	-1.4% to -2.0%
1794+05.1	1794+98.6	-2.0%

TABLE "GR"

STA. "SB" To STA. "SB"		"GR"
1793+82.0	1794+34.8	0
1794+34.8	1797+98.8	0 to 30.2'



STA. "SB" 1796+41.9 To STA. "SB" 1797+98.6



*Sta. "SB" 1793+82.0 to Sta. "SB" 1794+34.8

STA. "SB" 1793+82.0 To STA. "SB" 1797+98.6

NOTE:
1. Side-slopes are shown as vert. to horiz.

SHOULDER CROSS-SLOPE DIRECTION CHANGE

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.15 20:59:54-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
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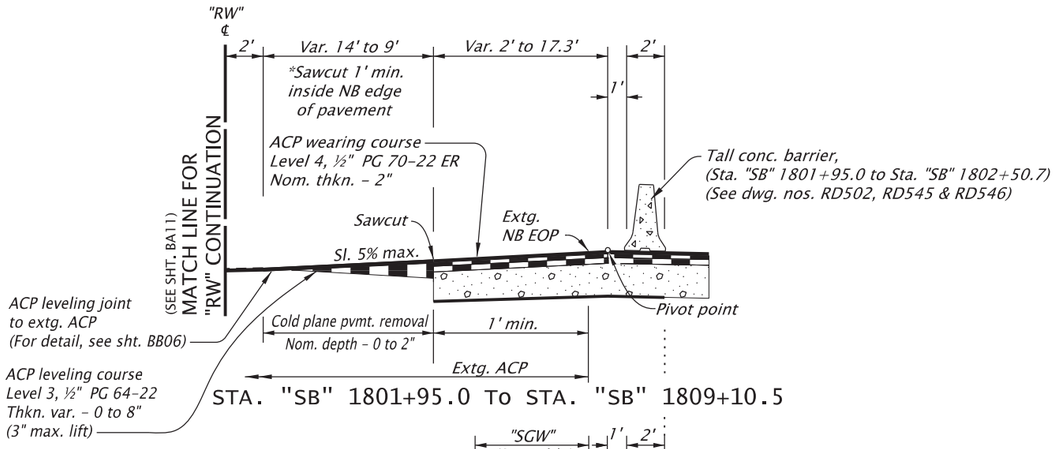
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

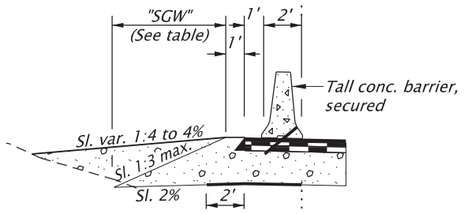
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS

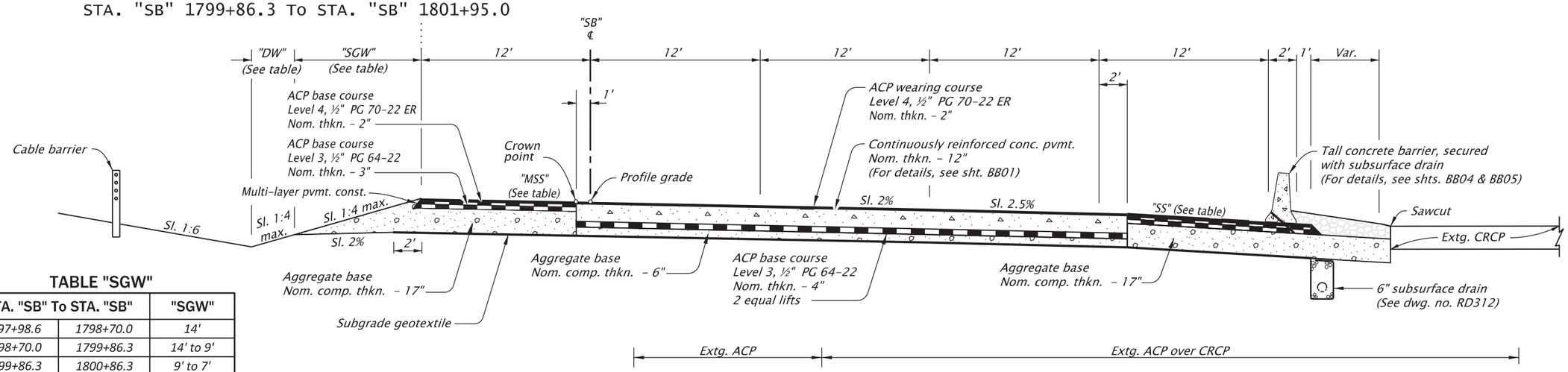
SHEET NO. BA02



STA. "SB" 1801+95.0 To STA. "SB" 1809+10.5



STA. "SB" 1799+86.3 To STA. "SB" 1801+95.0



STA. "SB" 1797+98.6 To STA. "SB" 1809+10.5

TABLE "SGW"

STA. "SB" To STA. "SB"		"SGW"
1797+98.6	1798+70.0	14'
1798+70.0	1799+86.3	14' to 9'
1799+86.3	1800+86.3	9' to 7'
1800+86.3	1801+95.0	7'

TABLE "MSS"

STA. "SB" To STA. "SB"		"MSS"
1797+98.6	1807+90.5	-2.0%
1807+90.5	1809+10.5	-2.0% to +2.0%

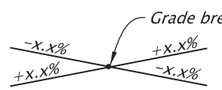
TABLE "SS"

STA. "SB" To STA. "SB"		"SS"
1797+98.6	1798+73.6	2.0% to 5%
1798+73.6	1809+10.5	5%

TABLE "DW"

STA. "SB" To STA. "SB"		"DW"
1797+98.6	1798+70.0	3'
1798+70.0	1799+86.3	3' to 2'

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. Construct 18" subgrade/embankment foundation stabilization. (For details, see sht. BB17)



SHOULDER CROSS-SLOPE DIRECTION CHANGE

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.12.18 20:49:50-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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OREGON DEPARTMENT OF TRANSPORTATION

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PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

TYPICAL SECTIONS

SHEET NO. BA03

TABLE "SBL"

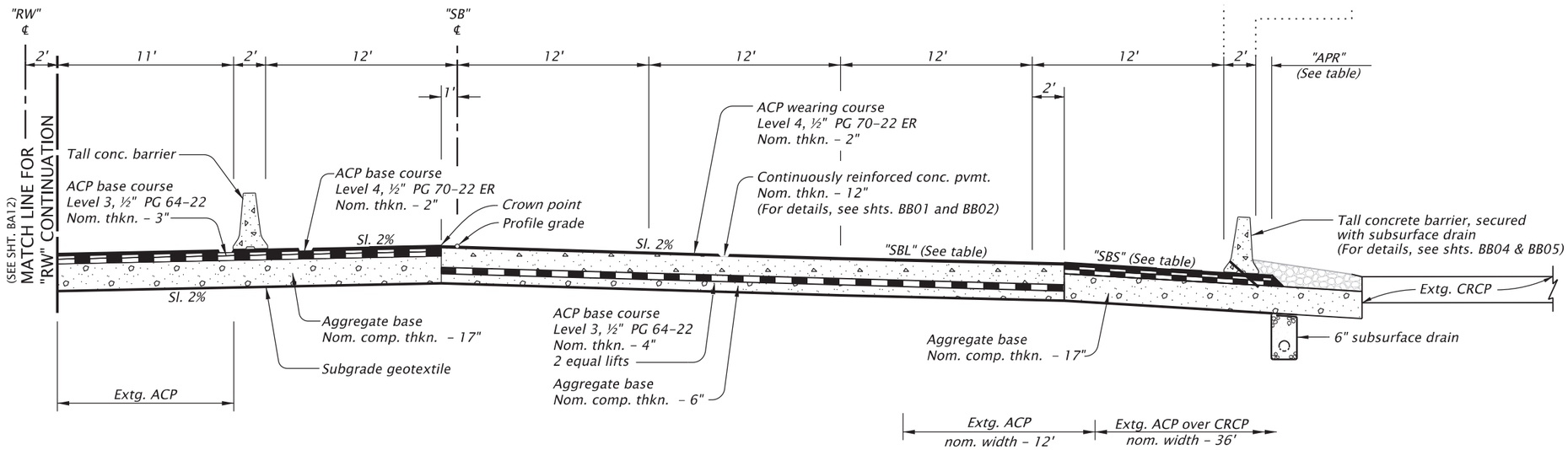
STA. "SB" To STA. "SB"		"SBL"
1809+10.5	1811+16.4	2.5%
1811+16.4	1811+36.4	2.5% to 2%
1811+36.4	1813+10.1	2%
1813+10.1	1813+30.1	2% to 2.5%
1813+30.1	1815+13.0	2.5%

TABLE "SBS"

STA. "SB" To STA. "SB"		"SBS"
1809+10.5	1810+16.4	5%
1810+16.4	1811+36.4	5% to 2%
1811+36.4	1813+10.1	2%
1813+10.1	1813+30.1	2% to 2.5%
1813+30.1	1815+13.0	2.5%

TABLE "APR"

STA. "SB" To STA. "SB"		"APR"
1809+10.5	1810+98.6	1'
1810+98.6	1811+18.6	1' to 3.5'
1811+18.6	1811+20.6	3.5'
1813+40.1	1813+42.1	3.5'
1813+42.1	1813+62.1	3.5' to 1'
1813+62.1	1815+13.0	1'



Var.

Aggregate base
Nom. comp. thkn. - var.

Sl. 2%

"D2" ramp ditch

STA. "SB" 1814+93.6 To STA. "SB" 1815+13.0

3.5'

Structure no. 24041
(For sht. nos., see sht. A02, Bridge)

(For surfacing details not shown, see section below)

STA. "SB" 1811+20.6 To STA. "SB" 1811+39.2
"SB" 1813+03.2 To "SB" 1813+40.1

STA. "SB" 1809+10.5 To STA. "SB" 1811+39.2
"SB" 1811+39.2 To "SB" 1813+03.2 (Structure)
"SB" 1813+03.2 To "SB" 1815+13.0

NOTE:
1. *Side-slopes are shown as vert. to horiz.*
2. *Construct 18" subgrade/embankment foundation stabilization. (For details, see sht. BB17)*

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.12.18 20:49:09-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

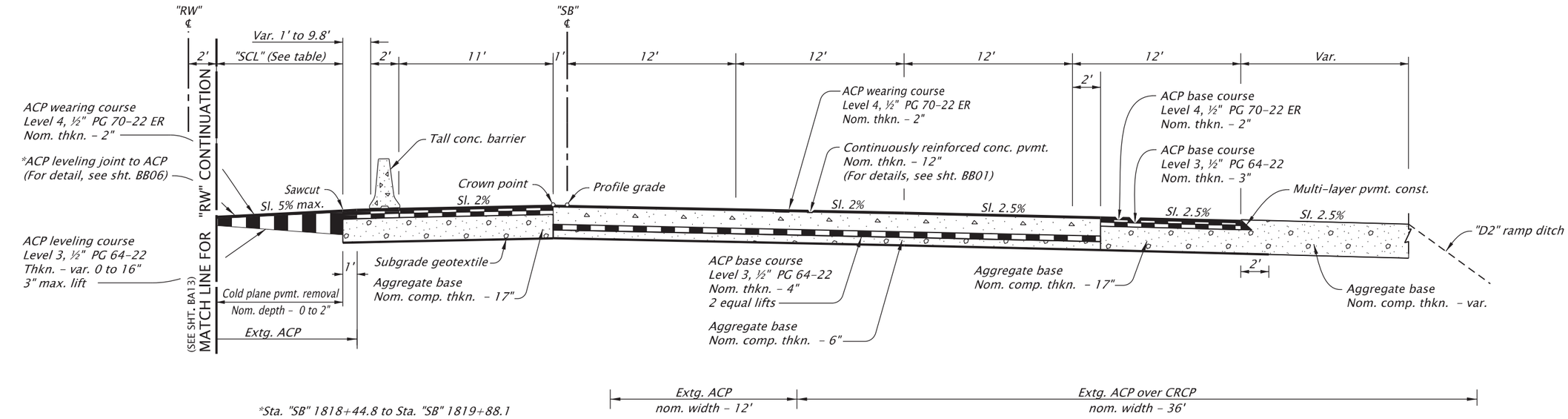
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS

SHEET NO. BA04

TABLE "SCL"

STA. "SB" To STA. "SB"		"SCL"
1815+13.0	*1817+95.0*	*11'*
1817+95.0	*1819+88.1*	*14'*



STA. "SB" 1815+13.0 To STA. "SB" 1819+88.1

NOTE:
1. *Side-slopes are shown as vert. to horiz.*
2. *Construct 18" subgrade/embankment foundation stabilization. (For details, see sht. BB17)*

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.12.18 20:48:28-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

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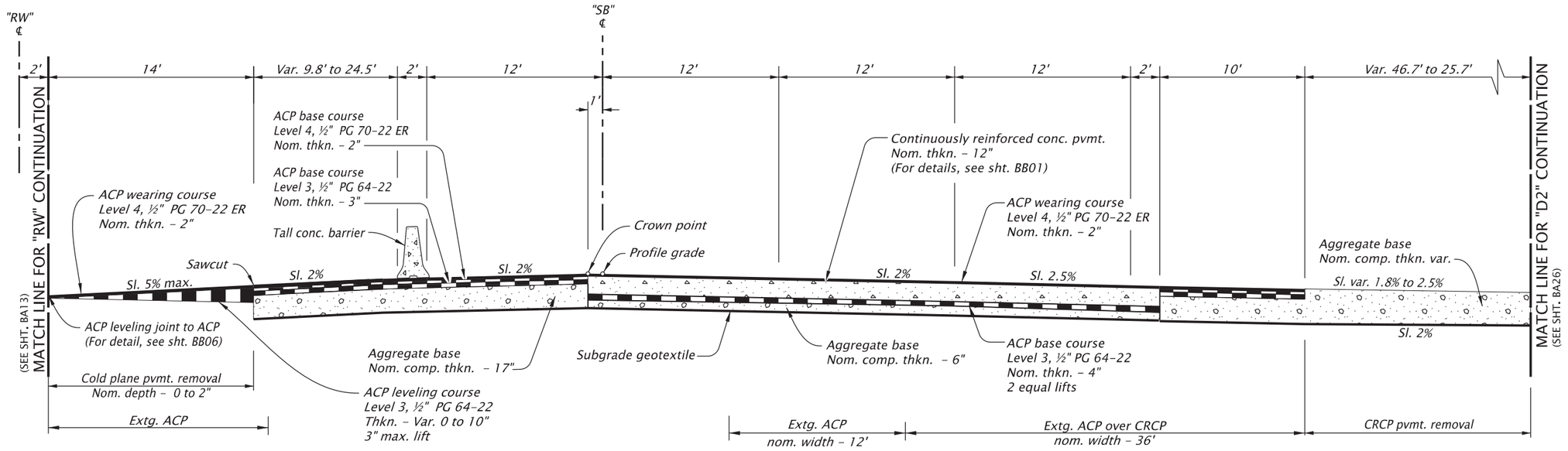
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS | SHEET NO. BA05

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



STA. "SB" 1819+88.1 To STA. "SB" 1822+30.0

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. Construct 18" subgrade/embankment foundation stabilization. (For details, see sht. BB17)

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.12.18 20:47:53-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

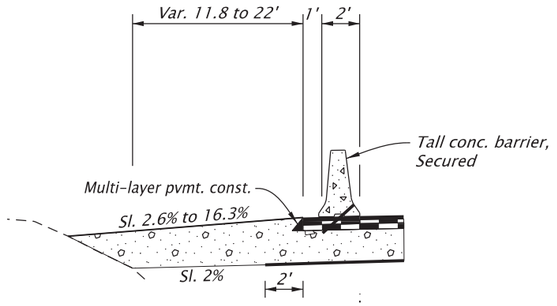
DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

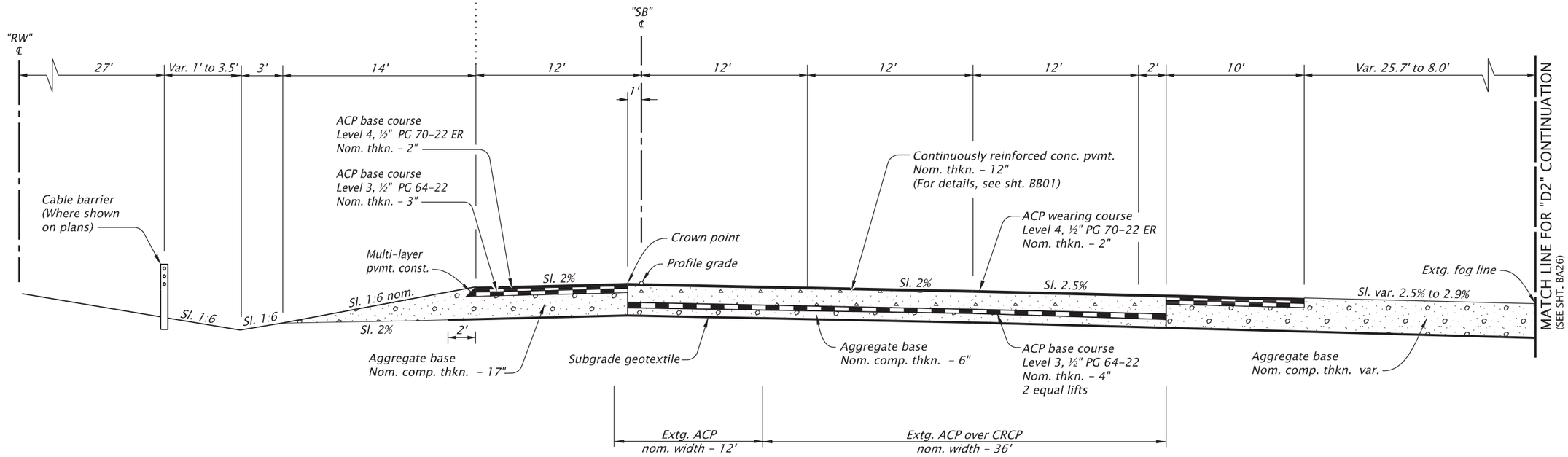
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS

SHEET NO. BA06



STA. "SB" 1822+30.0 To STA. "SB" 1823+30.0



STA. "SB" 1822+30.0 To STA. "SB" 1824+16.8

NOTE:
1. *Side-slopes are shown as vert. to horiz.*
2. *Construct 18" subgrade/embankment foundation stabilization. (For details, see sht. BB17)*

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.12.18 20:38:19-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

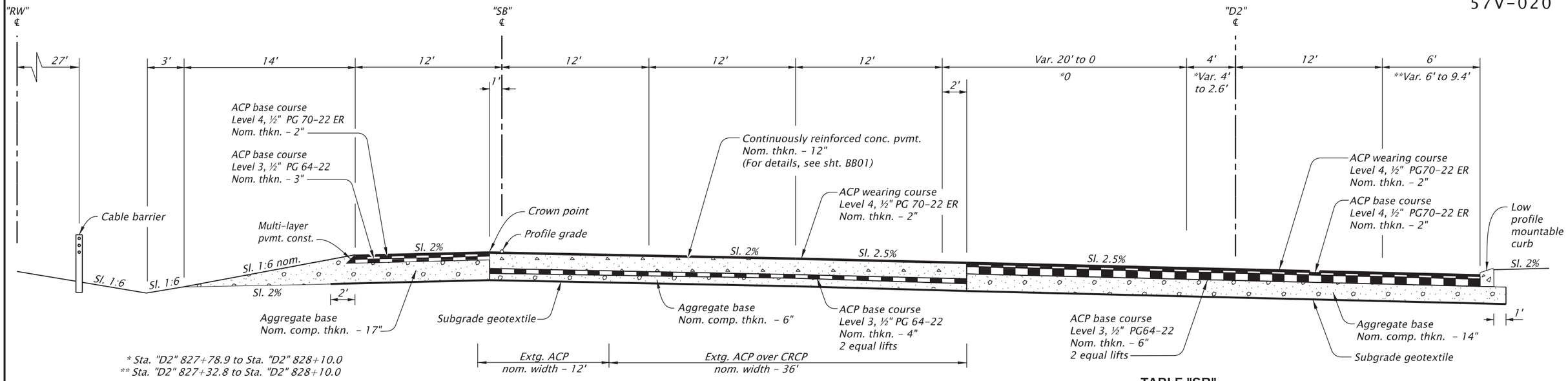
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS

SHEET NO. BA07

57V-020

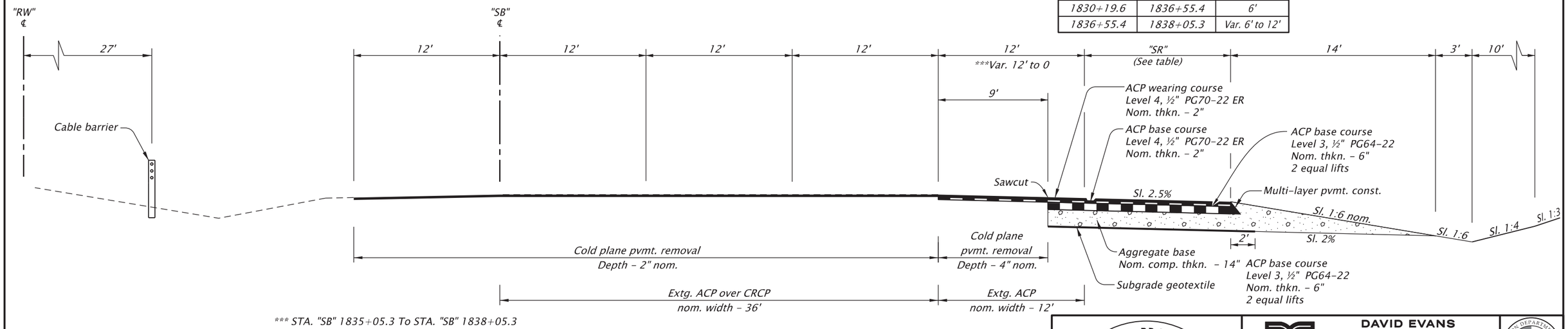


* Sta. "D2" 827+78.9 to Sta. "D2" 828+10.0
** Sta. "D2" 827+32.8 to Sta. "D2" 828+10.0

STA. "SB" 1824+16.8 To STA. "SB" 1828+10.0

TABLE "SR"

STA. "SB" To STA. "SB"		"SR"
1828+10.0	1828+69.6	Var. 9.4' to 12'
1828+69.6	1830+19.6	Var. 12' to 6'
1830+19.6	1836+55.4	6'
1836+55.4	1838+05.3	Var. 6' to 12'



*** STA. "SB" 1835+05.3 To STA. "SB" 1838+05.3

STA. "SB" 1828+10.0 To STA. "SB" 1838+05.3

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. For slope rounding, see dwg. no. RD150.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.15 21:19:03-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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MARION COUNTY

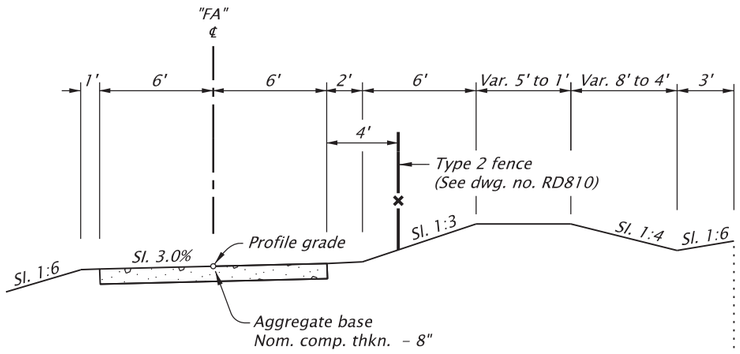
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

TYPICAL SECTIONS

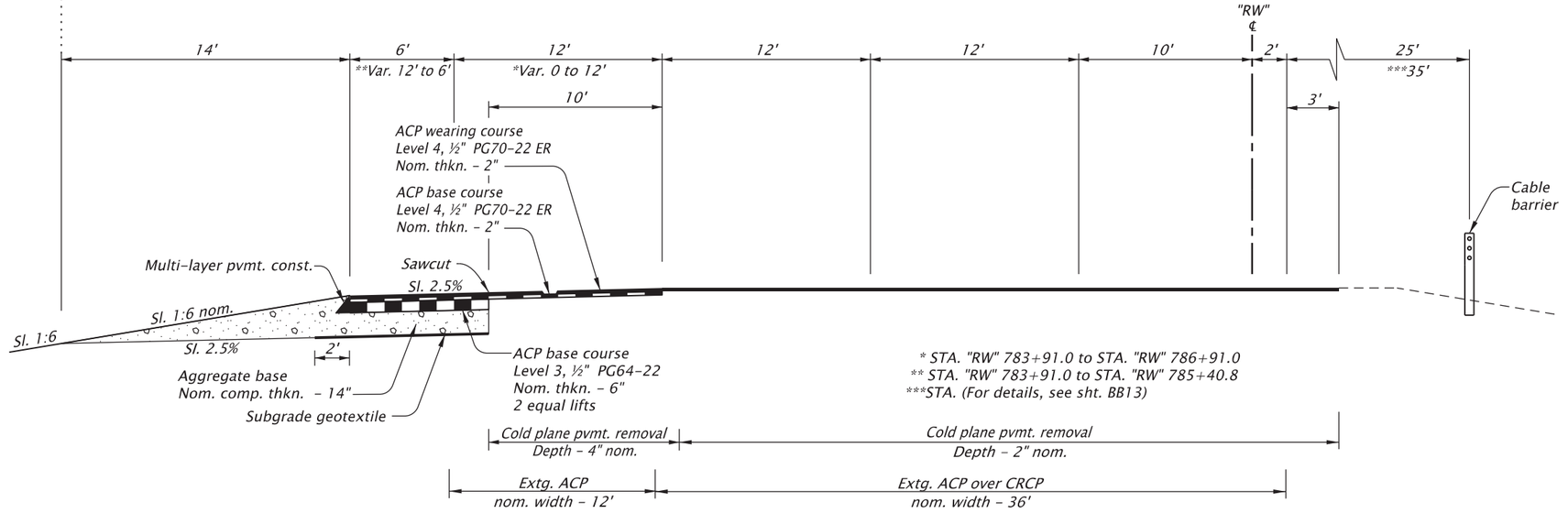
SHEET NO. BA08

57V-020

"RW" SECTIONS



STA."RW" 789+78.7 To STA."RW" 793+30.1



* STA. "RW" 783+91.0 to STA. "RW" 786+91.0
** STA. "RW" 783+91.0 to STA. "RW" 785+40.8
***STA. (For details, see sht. BB13)

STA. "RW" 783+91.0 To STA. "RW" 793+30.1

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. For slope rounding, see dwg. no. RD150.

REGISTERED PROFESSIONAL ENGINEER
51,631
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OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT
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DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

TYPICAL SECTIONS

SHEET NO.
BA09

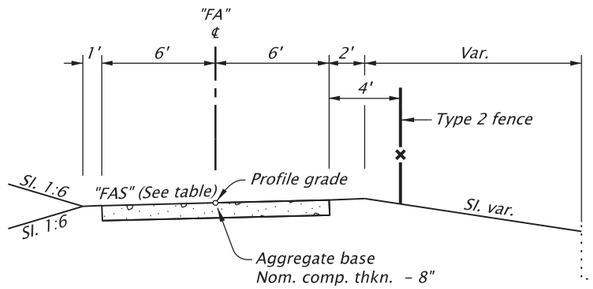
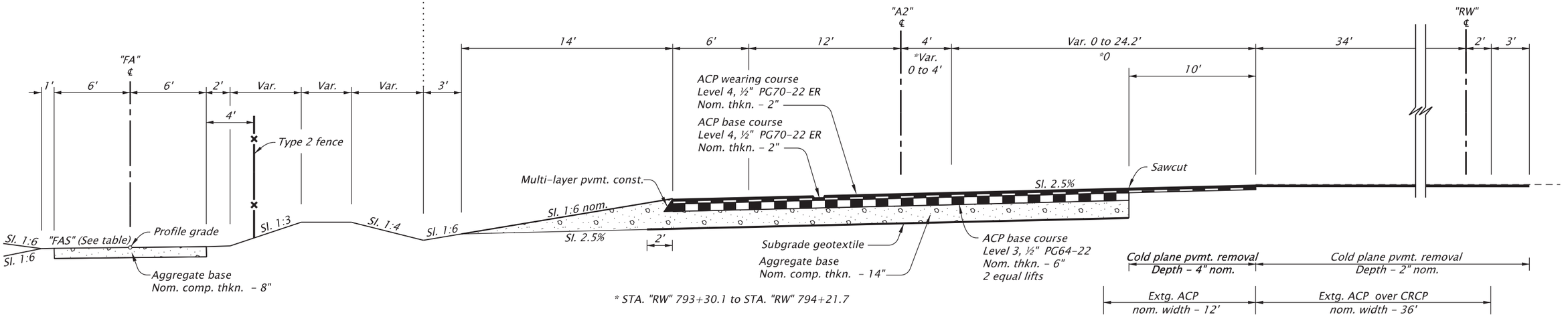


TABLE "FAS"

STA. "RW" To STA. "RW"		"FAS"
793+30.1	795+25.0	+3%
795+25.0	797+25.0	+3% to -3%
797+25.0	799+75.2	-3%

STA."RW" 796+25.0 To STA."RW" 799+75.2



* STA. "RW" 793+30.1 to STA. "RW" 794+21.7

STA. "RW" 793+30.1 To STA. "RW" 799+75.2

CROSS-SLOPE DIRECTION CHANGE

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JUL. 11, 2000
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PHASE 2 SECTION
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MARION COUNTY

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TYPICAL SECTIONS | SHEET NO. BA10

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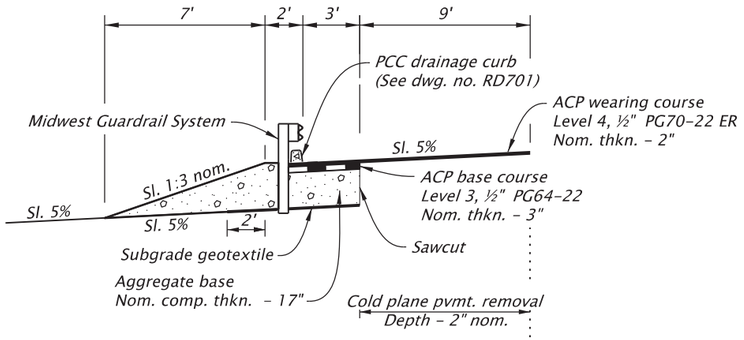
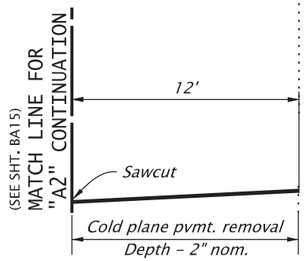
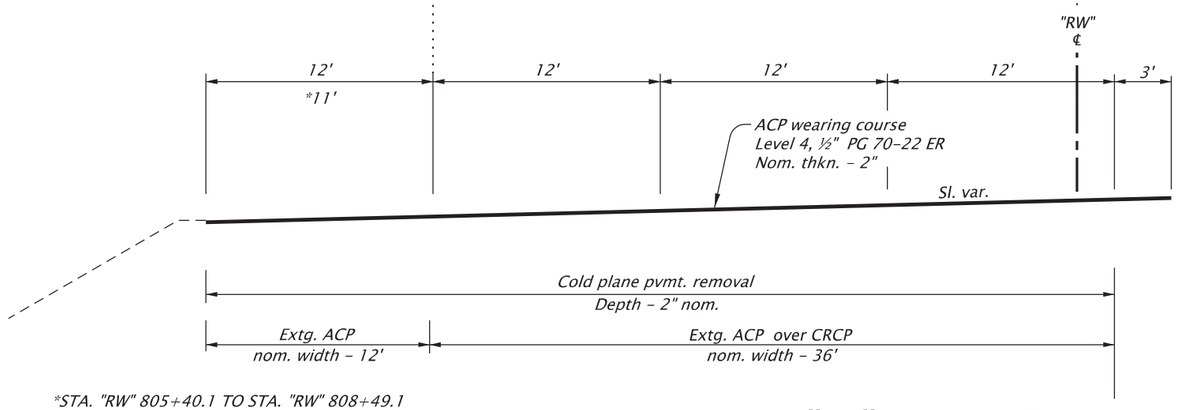


STA. "RW" 808+49.1 TO STA. "RW" 809+09.7



STA. "RW" 799+75.2 To STA. "RW" 805+40.1

STA. "RW" 801+92.31 TO STA. "RW" 809+09.7



*STA. "RW" 805+40.1 TO STA. "RW" 808+49.1

STA. "RW" 799+75.2 To STA. "RW" 809+09.7

REGISTERED PROFESSIONAL ENGINEER
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
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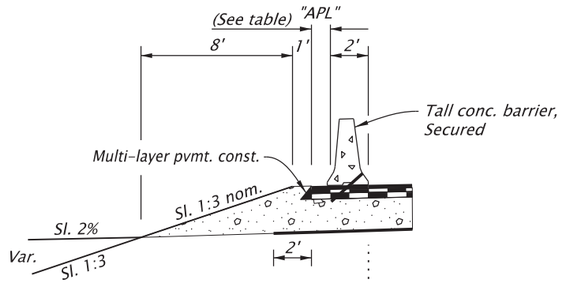
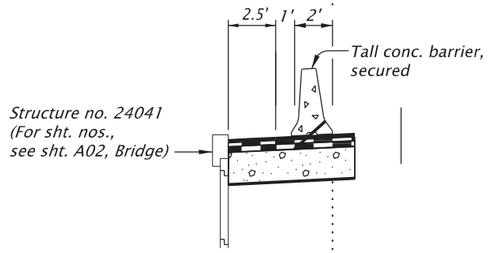
TYPICAL SECTIONS

SHEET NO. BA11

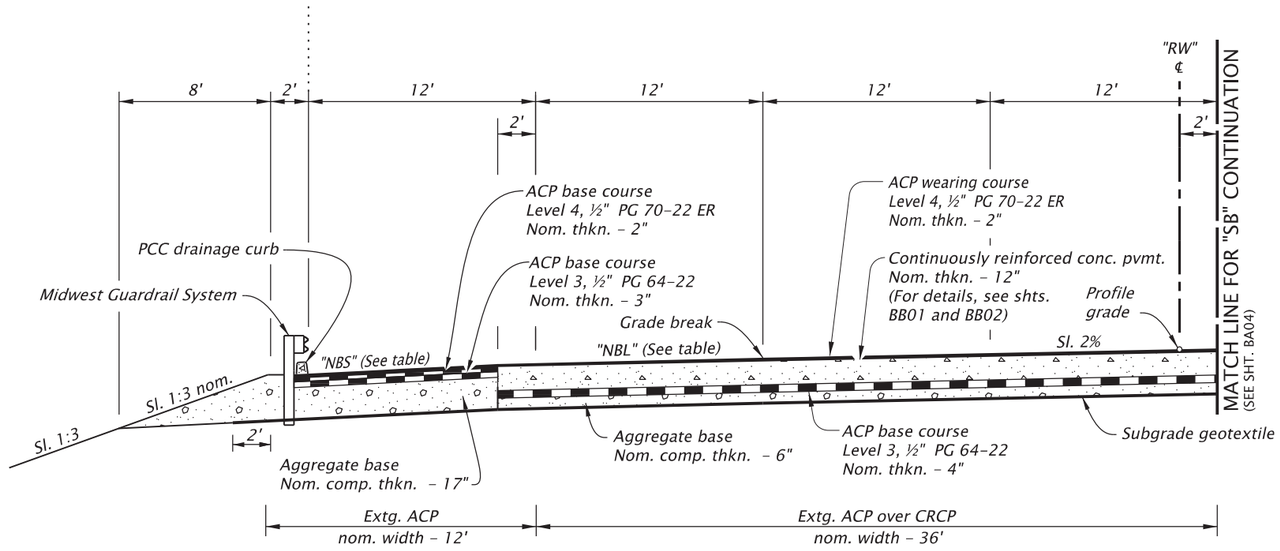


STA. "RW" 810+70.9 To STA. "RW" 810+99.2
"RW" 813+26.1 To "RW" 815+12.2



(For surfacing details not shown, see section below)

STA. "RW" 810+99.2 To STA. "RW" 811+35.3
"RW" 812+99.3 To "RW" 813+26.1



STA. "RW" 809+09.7 To STA. "RW" 811+35.3
"RW" 811+35.3 To "RW" 812+99.3 (Structure)
"RW" 812+99.3 To "RW" 815+12.2

TABLE "APL"

STA. "SB" To STA. "SB"		"APL"
1810+71.7	1810+78.0	1'
1810+78.0	1810+98.0	1' to 3.5'
1813+26.9	1813+28.9	3.5'
1813+28.9	1813+48.9	3.5' to 1'
1813+48.9	1815+13.0	1'

See Note 2

TABLE "NBS"

STA. "SB" To STA. "SB"		"NBS"
1809+10.5	1810+09.5	5%
1810+09.5	1811+29.5	5% to 2%
1811+29.5	1813+03.4	2%
1813+03.4	1813+23.4	2% to 5%
1813+23.4	1815+13.0	5%

See Note 2

TABLE "NBL"

STA. "SB" To STA. "SB"		"NBL"
1809+10.5	1811+09.5	2.5%
1811+09.5	1811+29.5	2.5% to 2%
1811+29.5	1813+03.4	2%
1813+03.4	1813+23.4	2% to 2.5%
1813+23.4	1815+13.0	2.5%

See Note 2

NOTE:
1. *Side-slopes are shown as vert. to horiz.*
2. *"RW" Line profile grade on this sheet is controlled by "SB" Line stationing, including tables on this sheet.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
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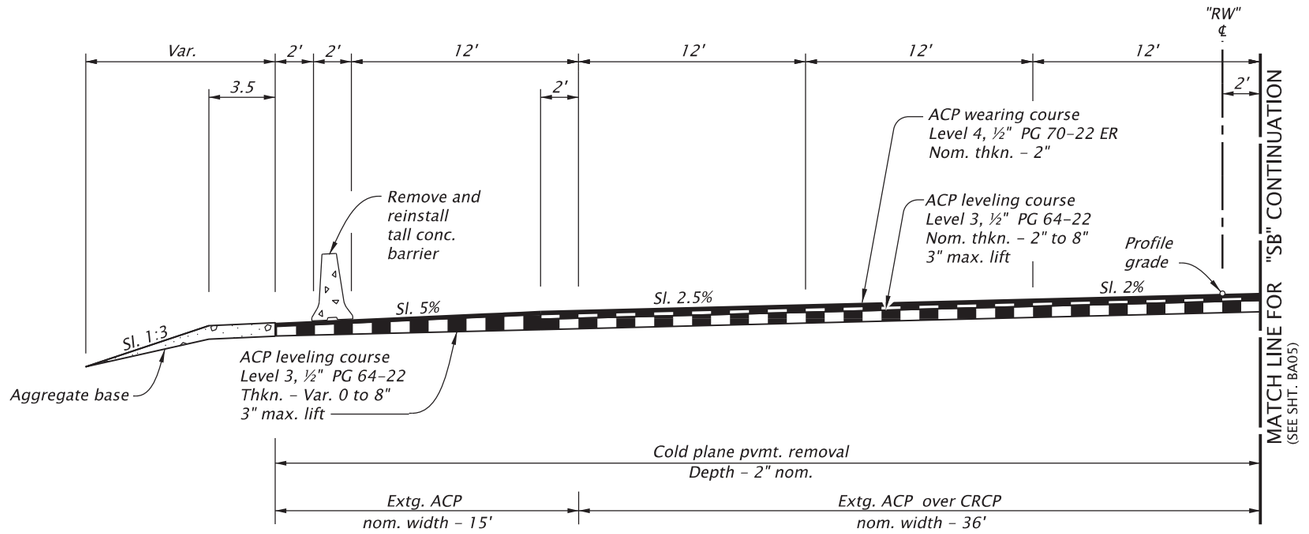
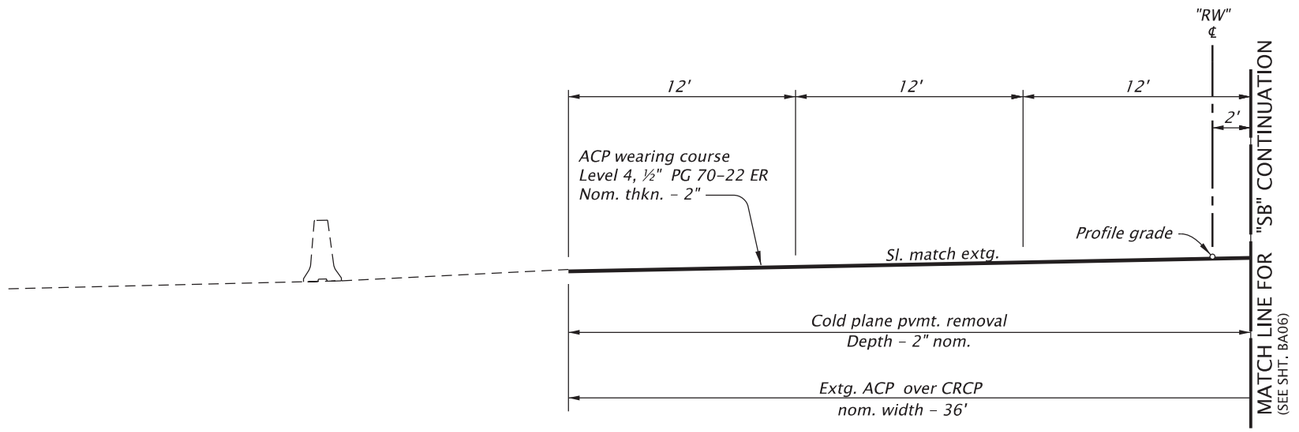
TYPICAL SECTIONS

SHEET NO. BA12



STA. "RW" 815+12.2 To STA. "RW" 818+45.0



STA. "RW" 818+45.0 To STA. "RW" 822+30.0

NOTE:
1. Side-slopes are shown as vert. to horiz.

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

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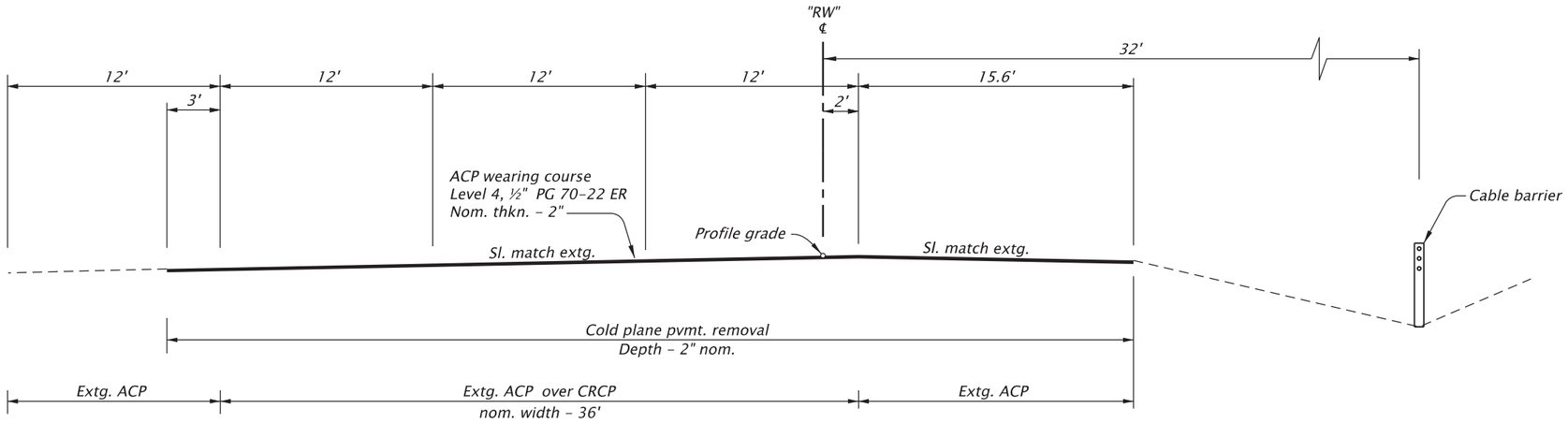
TYPICAL SECTIONS

SHEET NO. BA13



STA. "RW" 822+13.8 To STA. "RW" 832+44.0

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. For slope rounding, see dwg. no. RD150.

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PHASE 2 SECTION
PACIFIC HIGHWAY
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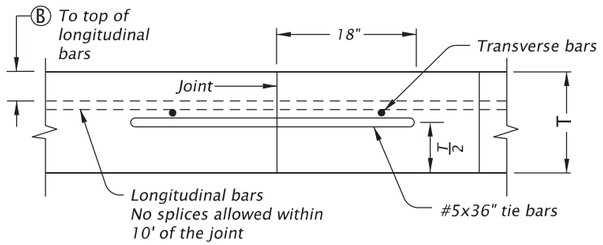
TYPICAL SECTIONS

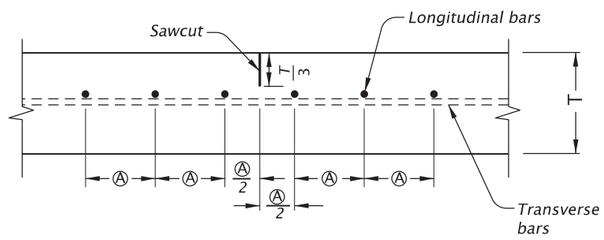
SHEET NO. BA14

57V-020

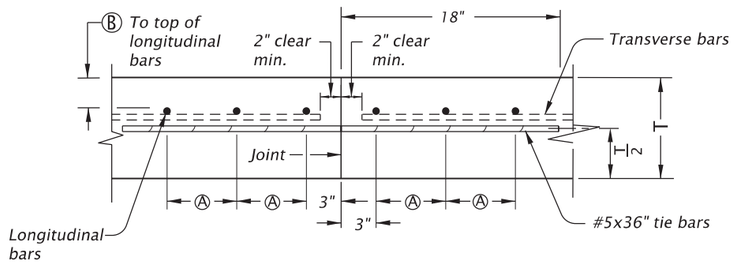
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT



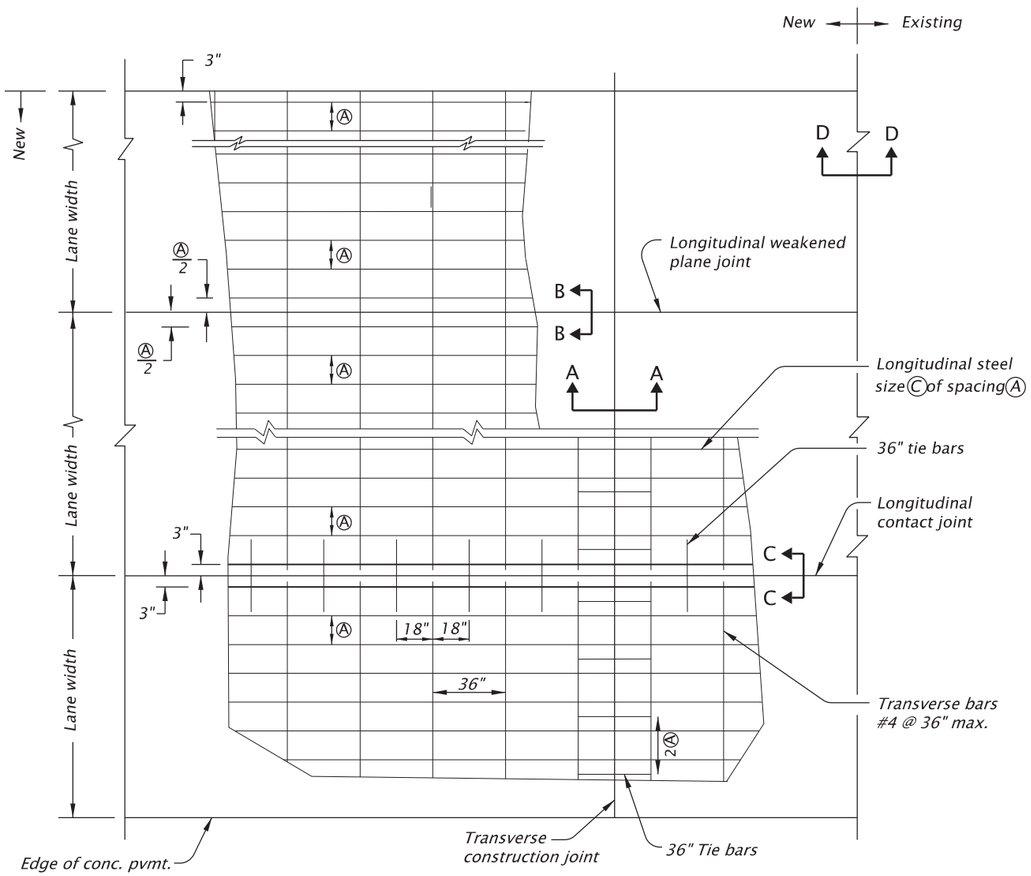
SECTION A-A
TRANSVERSE CONSTRUCTION JOINT



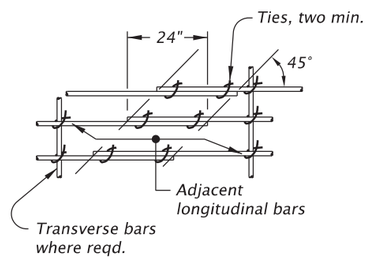
SECTION B-B
LONGITUDINAL WEAKENED PLANE JOINT



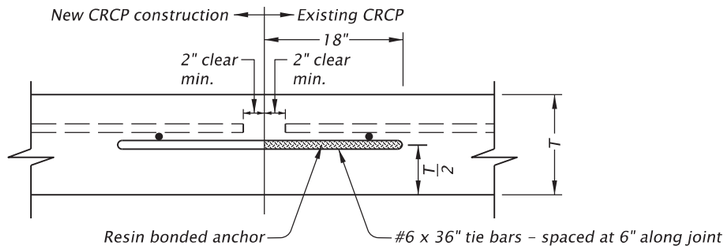
SECTION C-C
LONGITUDINAL CONTACT JOINT



PLAN VIEW
TYPICAL PAVEMENT LAYOUT



LAPPING METHOD



SECTION D-D
TRANSVERSE CONTACT JOINT

PVMT. THKN. T (in)	Ⓐ (in)	Ⓑ (in)	Ⓒ BAR SIZE
12	5.75	4.0	7

Ⓐ = Max. bar spacing

Ⓑ = Depth to top of longitudinal bars

NOTE:
Spacing and depth of longitudinal steel is specific to each project.

PAVEMENT AND STEEL DETAILS

GENERAL NOTES FOR ALL DETAILS:

1. *Pavement width, pavement thickness, the crown cross-slope, and related details are shown elsewhere in the plans.*
2. *Install tie bars for longitudinal contact joint by drilling and securing according to the applicable specifications for resin bonded anchors. When approved by the Engineer, tie bars may be installed by inserting into plastic concrete at longitudinal contact joint.*
3. *Use reinforcing steel conforming to ASTM A706 or AASHTO M31 (ASTM A615) grade 60. Use full length bars as shown, and place them a minimum 2" clear of the nearest face of conc. unless shown or noted otherwise.*
4. *Construct a longitudinal joint (Section B-B or Section C-C) for pavement widths of more than 15 ft. Locate these joints within 6 in. of the lane line unless the joint location is shown elsewhere on the plans.*
5. *When transverse construction joint ties new CRCP to existing, use a resin bonded anchor method to tie into the existing CRCP.*

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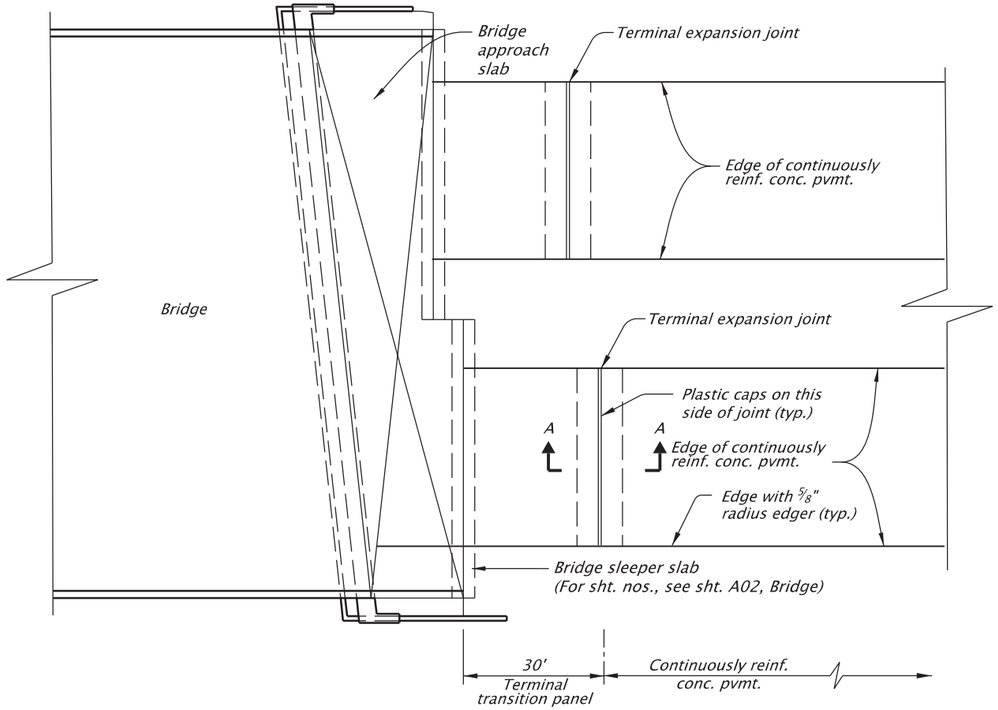
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

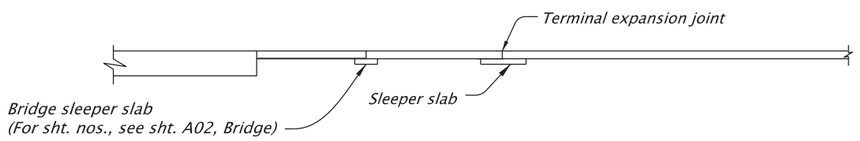
DETAILS | SHEET NO. BB01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
TRANSITION PANEL AND DETAILS

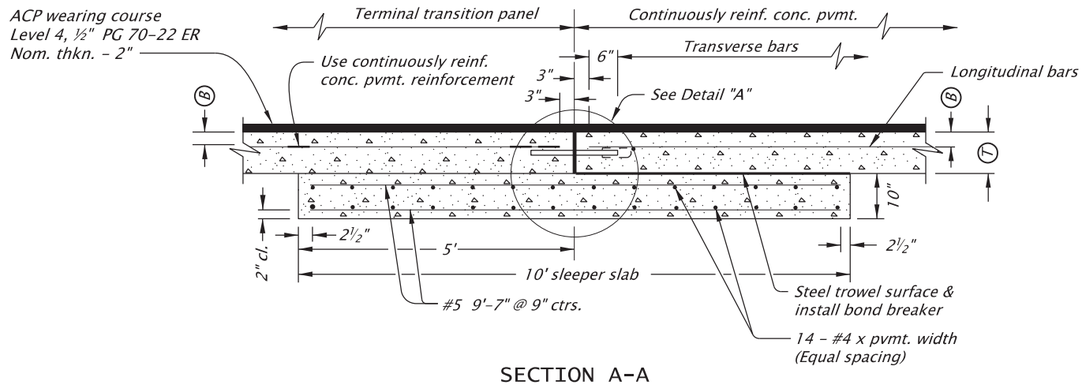


PLAN



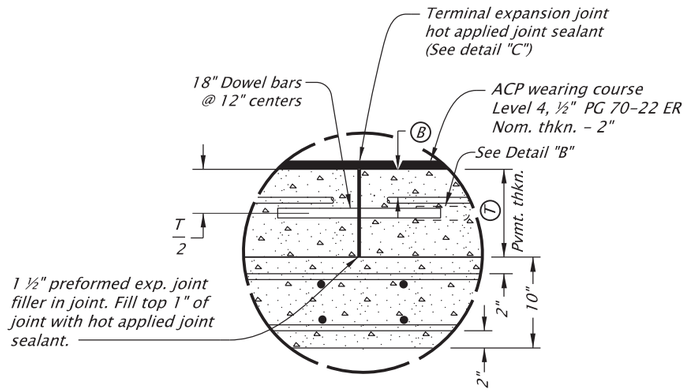
ELEVATION

TERMINAL TRANSITION LAYOUT

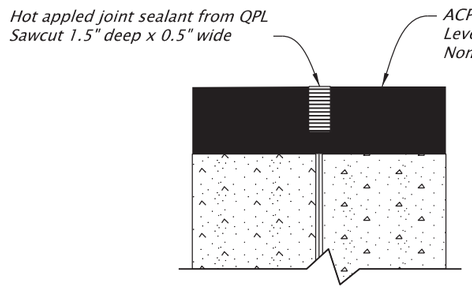


SECTION A-A

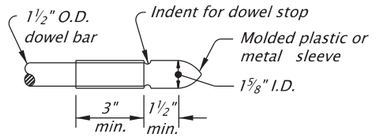
TERMINAL EXPANSION JOINT



DETAIL "A"



DETAIL "C"



DETAIL "B"

GENERAL NOTES FOR ALL DETAILS:

1. *Lap all bars 24" at splices.*
2. *Use reinforcing steel conforming to ASTM A706 or AASHTO M31 (ASTM A615) grade 60. Use full length bars as shown, and place them a minimum 2" clear of the nearest face of conc. unless shown or noted otherwise.*
3. *Use Class 4000-1½ paving concrete.*
4. *For ACP type and other details not shown, see other plan sheets.*

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51,631
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
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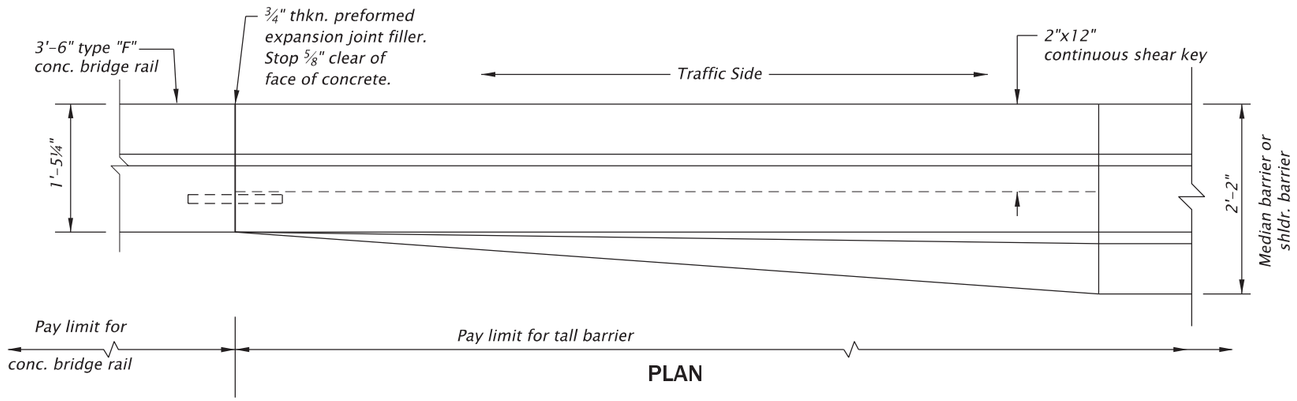
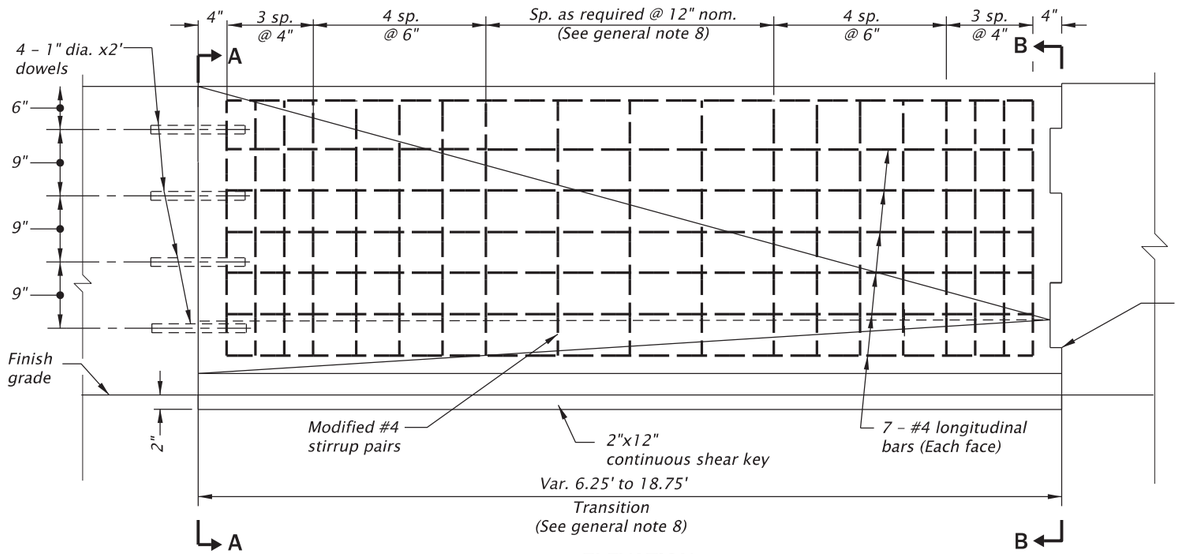
DETAILS | SHEET NO. BB02

57V-020

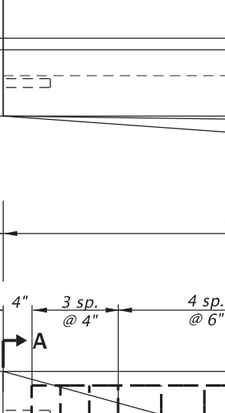


PLAN

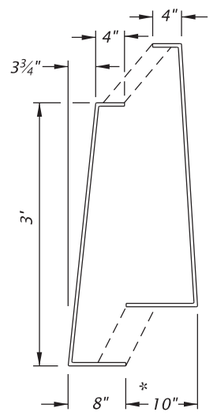


ELEVATION

NOTE:
End configuration and connection details shall be as detailed for the barrier specified (See general note 7)



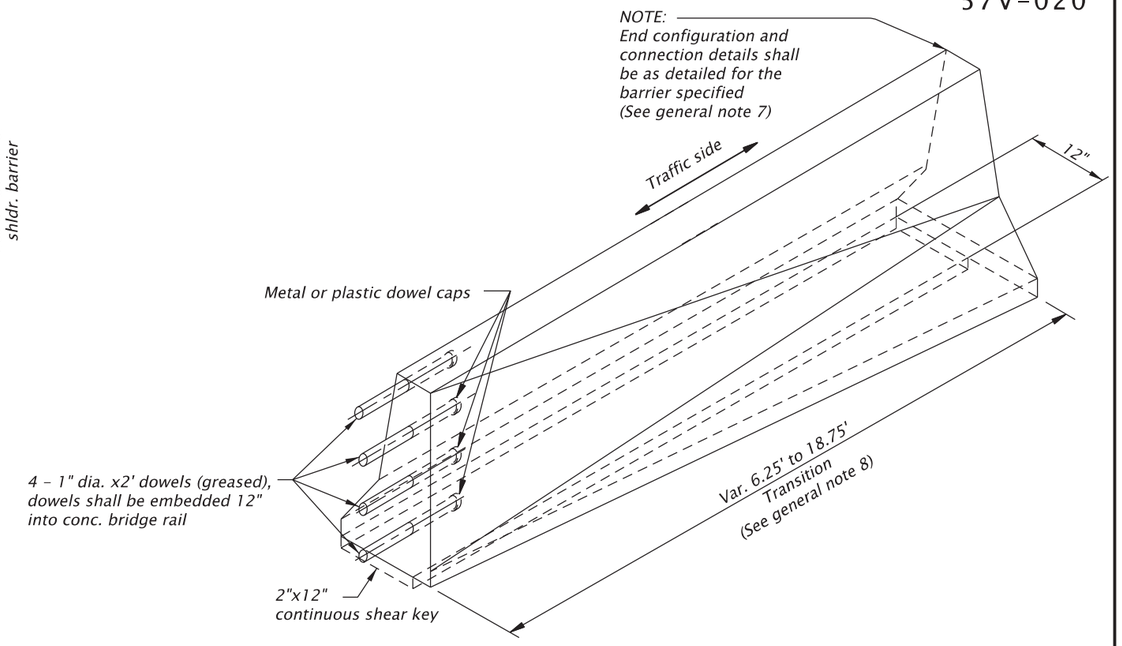
SECTION A-A
#4 Rebar
MODIFIED STIRRUP PAIR



SECTION B-B
#4 Rebar
MODIFIED STIRRUP PAIR

* Dimension variable through transition section.

TALL CONCRETE BARRIER TO 42" TYPE F BRIDGE RAIL TRANSITION



(Looking at side away from traffic)

CAST IN PLACE TRANSITION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *All reinf. shall be full length as shown and shall be 1½" clear of nearest face of concrete, unless otherwise shown.*
2. *See dwg. no. RD545 for additional details.*
3. *See dwg. nos. RD502 & RD545 for securing concrete barrier to roadway.*
4. *See dwg. no. BR290 for Conc. Bridge Rail, Type "F", 42".*
5. *All pins, bolts, dowels, loop bars, and connectors shall be hot-dip galvanized after fabrication.*
6. *Not for use on bridge approach slab.*
7. *Field verify end configurations of connecting barriers prior to forming connections at transitions. Dowelled connection is an acceptable alternative. See dwg. no. RD505 for details not shown.*
8. *Normal length for cast-in-place transition is 12'-6". Site conditions may require varying lengths between 6'-3" and 18'-9". Field verify transition length and end configurations of connecting barriers.*

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OREGON
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RENEWS: 06-30-2024

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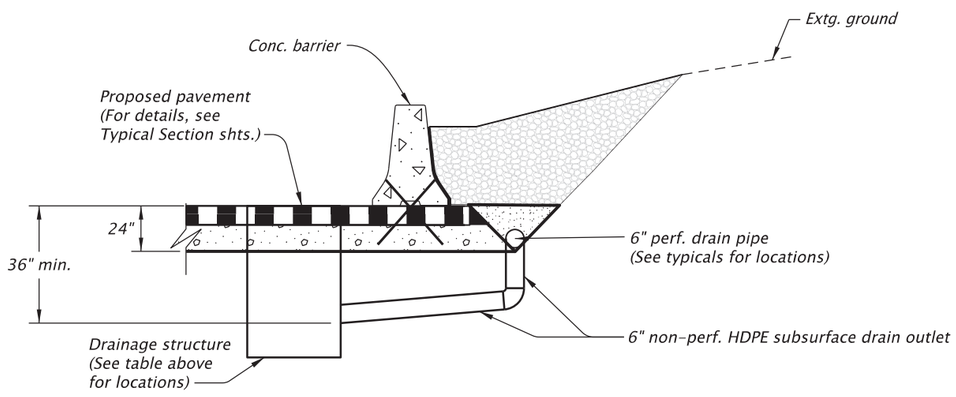
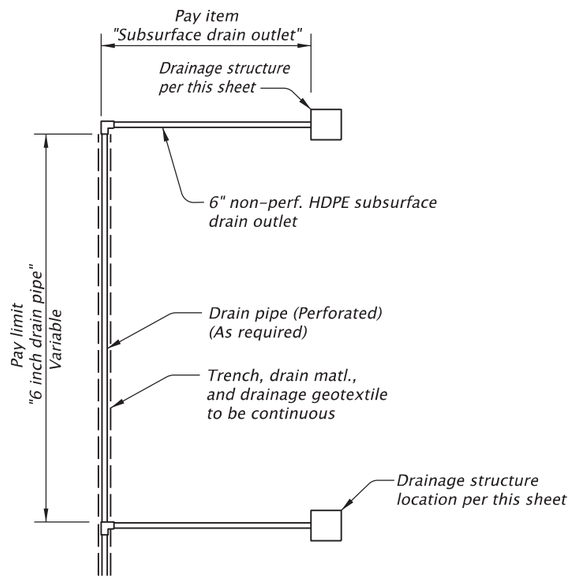
DETAILS | SHEET NO. BB03

STATION	STRUCTURE
"C2" 800+80.0	Type "G-2" Inlet
"C2" 803+79.5	Manhole with type "G-2" Inlet
"C2" 806+99.6	Manhole with type "G-2" Inlet



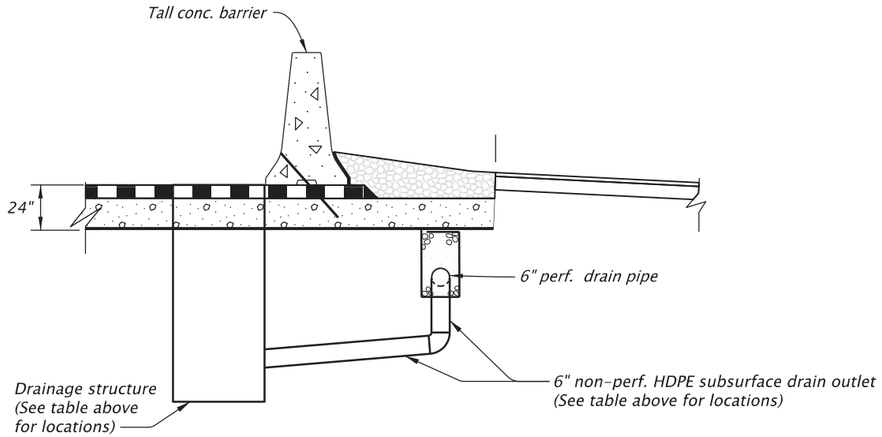
(For details not shown, see sht. BB05)

BACKFILLED BARRIER SUBSURFACE DRAIN OUTLETS



SUBSURFACE DRAIN INSTALLATION

STATION	STRUCTURE
"SB" 1800+08.9	Manhole with type "G-2" Inlet
"SB" 1803+47.5	Manhole with type "G-2" Inlet
"SB" 1806+51.4	Manhole with type "G-2" Inlet
"SB" 1809+57.1	Type "G-2" Inlet
"SB" 1809+71.8	Manhole with type "G-2" Inlet
"SB" 1809+86.9	Type "G-2" Inlet
"SB" 1814+91.0	Manhole with type "G-2" Inlet



(For details not shown, see sht. BB05)

TALL CONCRETE BARRIER SUBSURFACE DRAIN OUTLETS

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:51:43-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

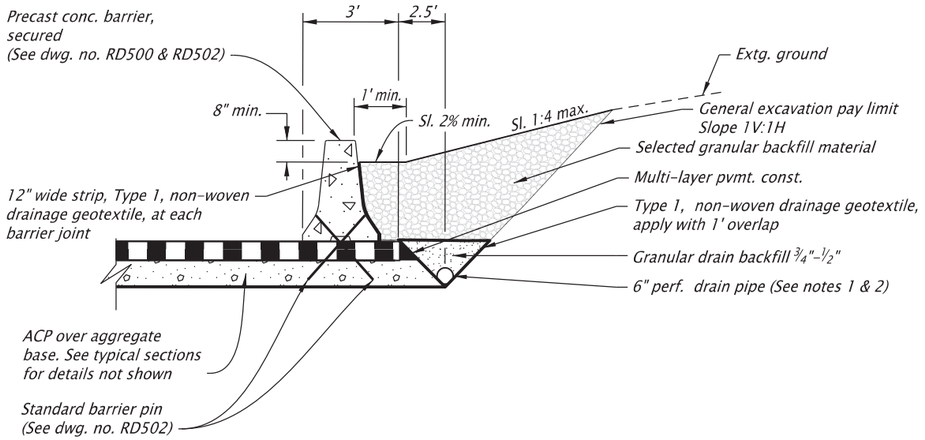
DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

DETAILS | SHEET NO. BB04

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

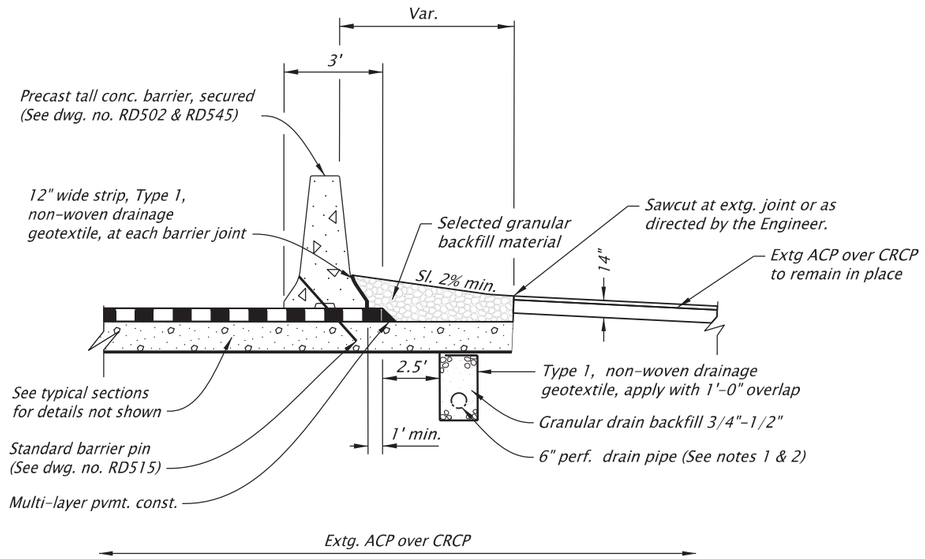


STA. "C2" 799+87.9 To STA. "C2" 807+74.8

BACKFILLED CONCRETE BARRIER WITH SUBSURFACE DRAIN

NOTES:

1. *Slope drain pipe to drain toward outlet, 1% min.*
2. *Use 6" dia. non-perforated drain pipe to connect perforated drain pipe to subsurface drain outlet or drainage structure, as shown on BB04.*
3. *Temporary slope or excavation support to be designed by contractor.*
4. *Plug barrier scuppers as per dwg. no. RD500.*



STA. "SB" 1797+98.6 To STA. "SB" 1811+16.1
STA. "SB" 1813+40.1 To STA. "SB" 1814+93.6

TALL CONCRETE BARRIER WITH SUBSURFACE DRAIN

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:47:58-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

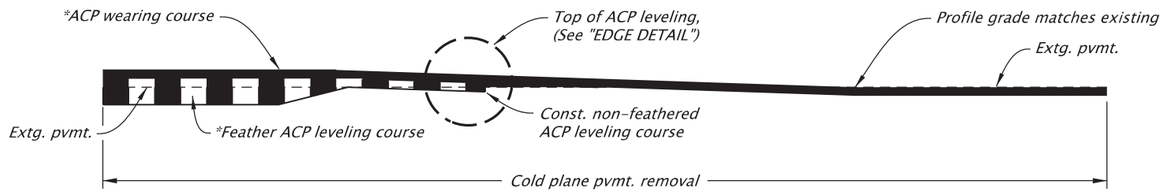
DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

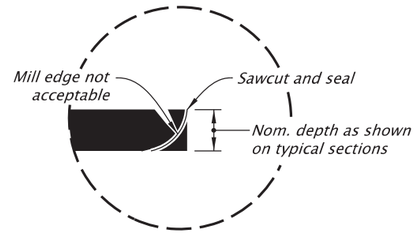
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

DETAILS

SHEET NO. BB05



METHOD B

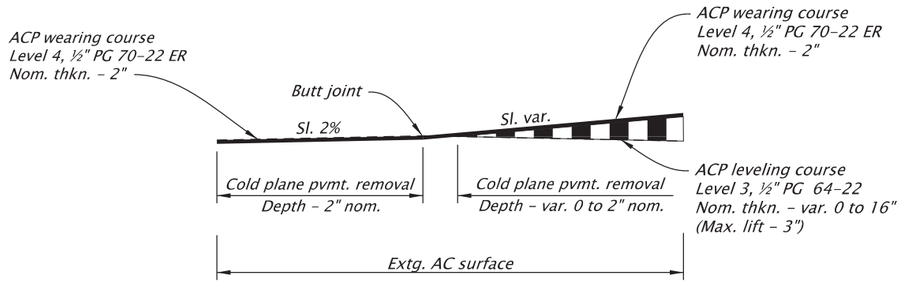


EDGE DETAIL

(For details not shown, see std. dwg. RD610)
**See typical sections for pavement design and depths*

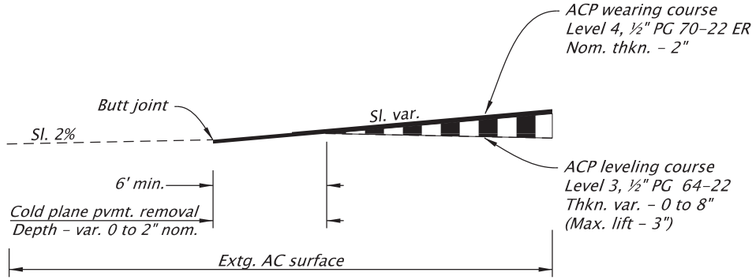
ACP PAVEMENT MATCH

ACP LEVELING DETAILS
MEDIAN CROSS SLOPE CORRECTION



STA. "SB" 1819+51.0 TO STA. "SB" 1822+30.0

ACP LEVELING JOINT TO ACP



STA. "SB" 1801+95.0 TO STA. "SB" 1809+10.5

ACP LEVELING JOINT TO EXTG. ACP

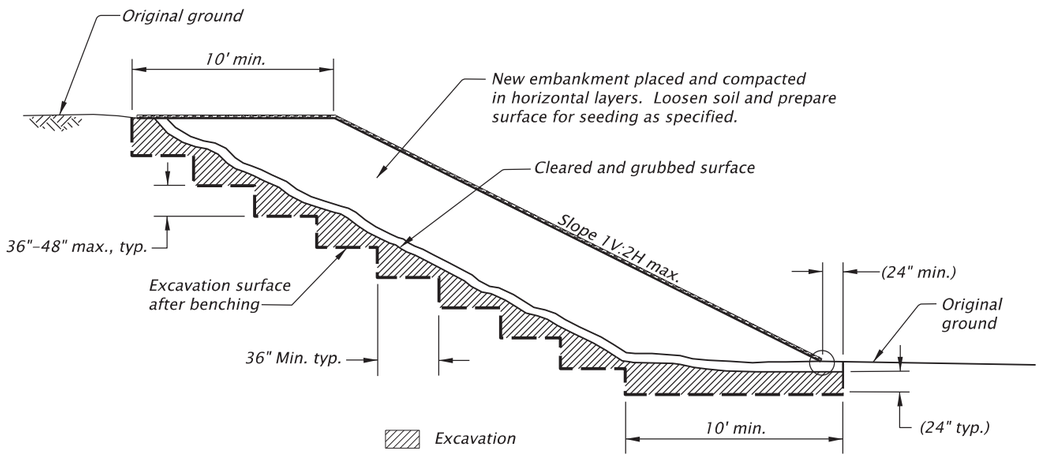
REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:52:21-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

DETAILS | SHEET NO. BB06

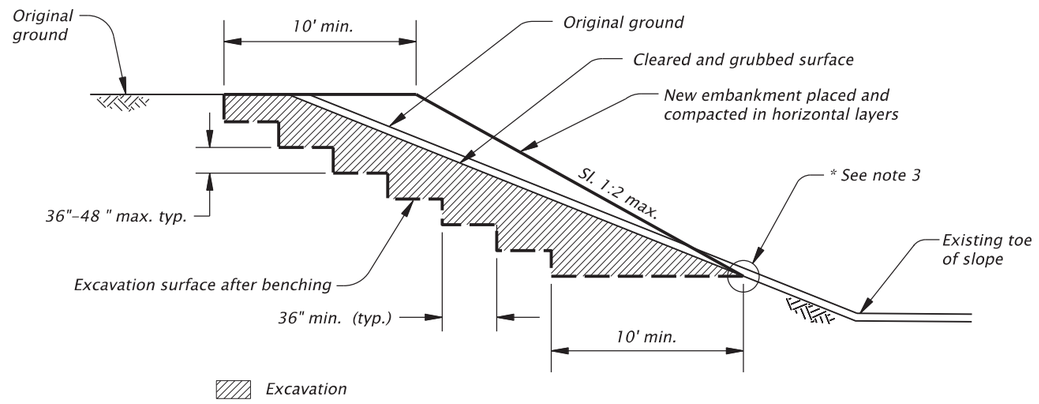


(Diagrammatic only)

EMBANKMENT CONSTRUCTION

Embankment general notes:

1. *Construct benches on original ground slopes steeper than 1V:5H to provide positive bond with existing ground.*
2. *Benching work is incidental to embankment construction.*



(Diagrammatic only)

SLIVER FILL BENCHING

Sliver fill general notes:

1. *Construct benches on slopes steeper than 1:5 (v: h) to provide positive bond with existing ground.*
2. *Benching work is incidental to embankment construction.*
3. *This detail applies to embankments which toe out at a height greater than 5' above the existing toe of slope. Use Embankment Construction Detail for embankments which toe out 5' or less above the existing toe of slope.*

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:52:58-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

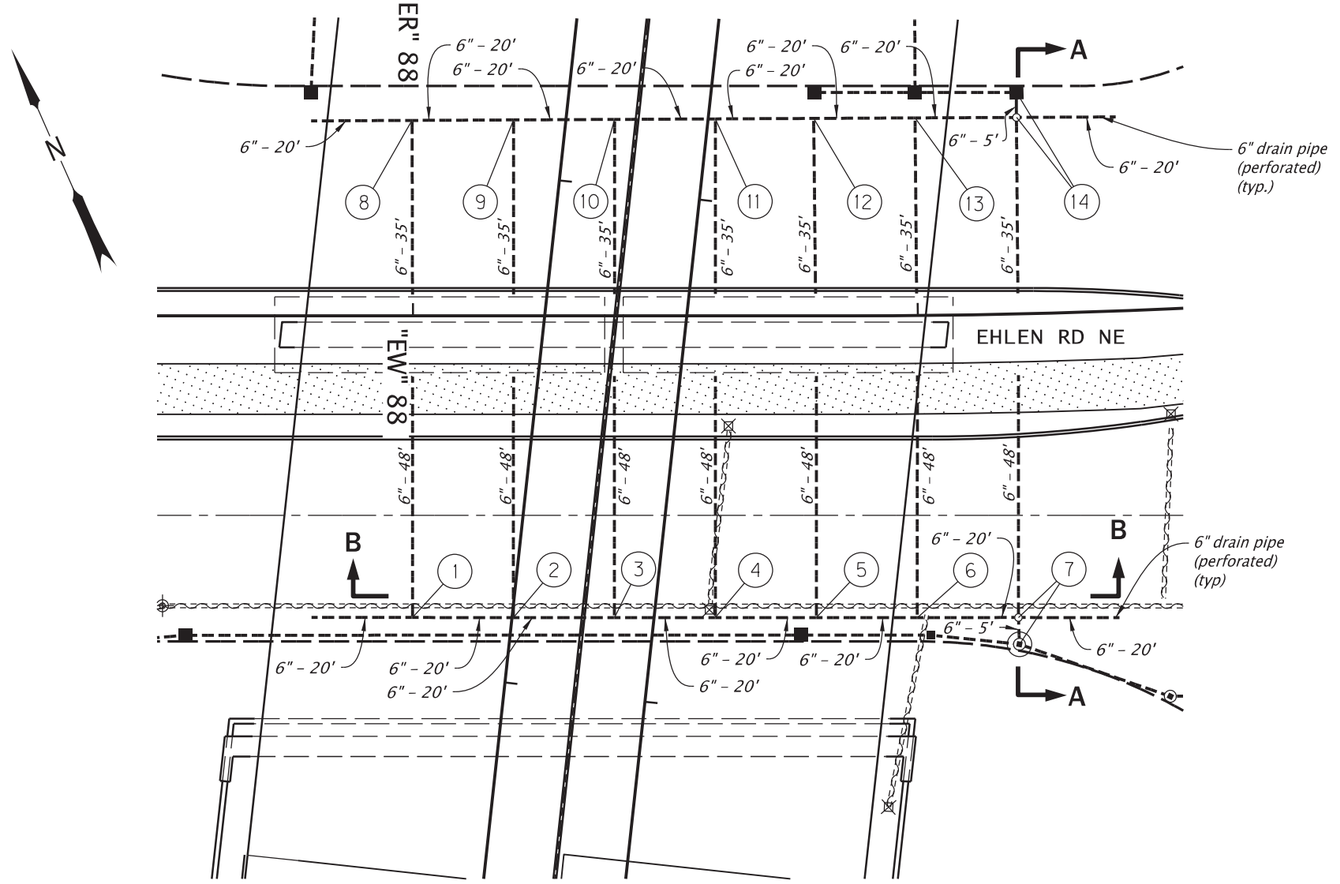
OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

DETAILS | SHEET NO. BB07

57V-020



UNDERDRAIN LAYOUT DETAIL

Not to scale

1 Sta. "ER" 87+99.9, 59.7' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

2 Sta. "ER" 88+19.9, 59.7' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

3 Sta. "ER" 88+39.9, 59.7' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

4 Sta. "ER" 88+59.9, 59.7' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

5 Sta. "ER" 88+79.9, 59.7' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

6 Sta. "ER" 88+99.4, 59.8' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

7 Sta. "ER" 89+18.6, 60.1' Rt.
Inst. 6" drain pipe - 48', Sl.=1.00%
5' depth
Inst. cleanout
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth
Inst. 6" drain pipe - 5', Sl.=1.00%
Conn. to structure (See sht. C09C)

8 Sta. "ER" 87+99.8, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

9 Sta. "EW" 88+19.9, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

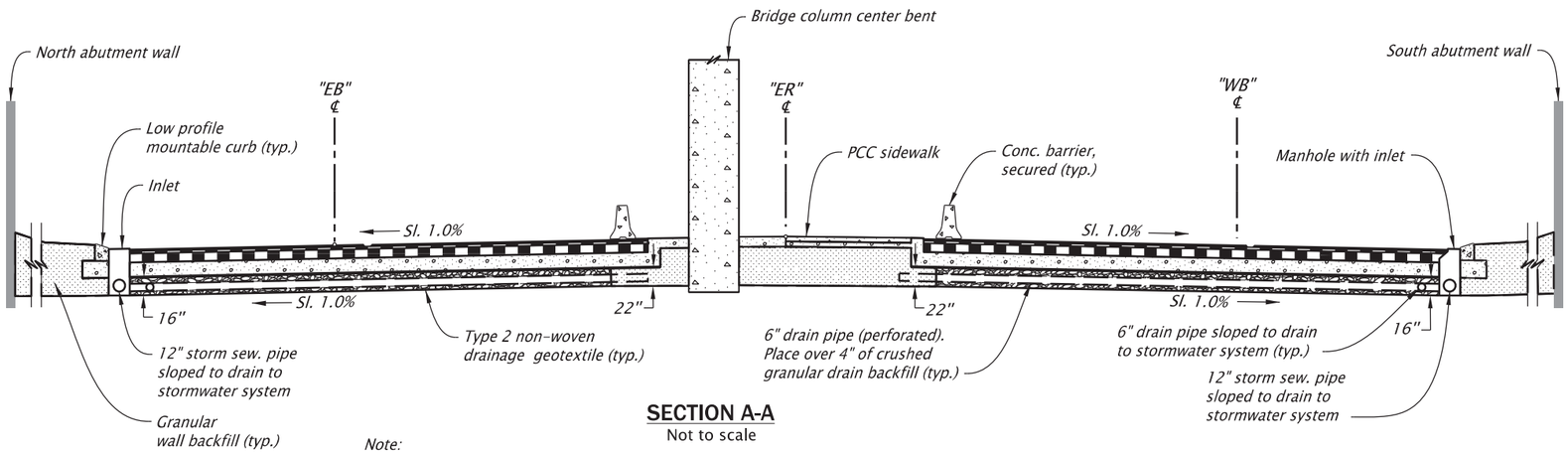
10 Sta. "EW" 88+39.9, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

11 Sta. "EW" 88+59.9, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

12 Sta. "EW" 88+79.9, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

13 Sta. "EW" 88+99.9, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. slip joint (6"x6"x6")
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth

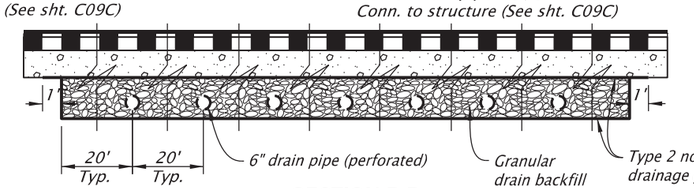
14 Sta. "EW" 89+19.9, 38.7' Lt.
Inst. 6" drain pipe - 35', Sl.=1.00%
5' depth
Inst. cleanout
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth
Inst. 6" drain pipe - 20', Sl.=0.50%
5' depth
Inst. 6" drain pipe - 5', Sl.=1.00%
Conn. to structure (See sht. C09C)



SECTION A-A

Not to scale

Note:
For pavement details, see sht. BA31



SECTION B-B

Not to scale

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 20:00:29-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

DETAILS

SHEET NO. BB08

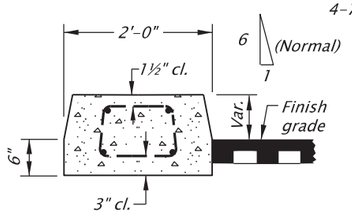
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 336.0804° Scale: 1"=30'

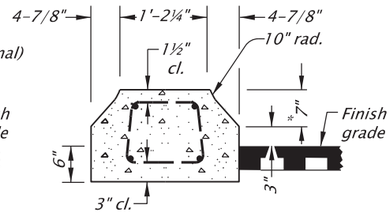
57V-020

TRANSITION TO STANDARD CURB OR CURB & GUTTER

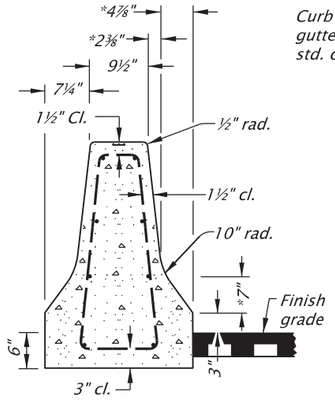
* Dimensions marked thus are to the intersection point of the barrier slopes. Construct the 10" radius to provide a smooth transition between the slopes.



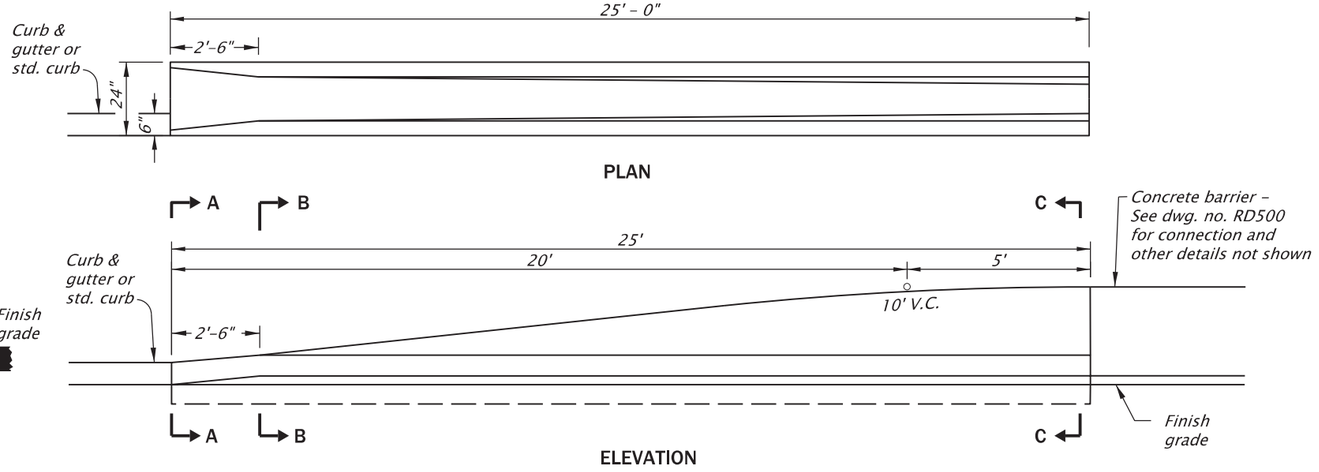
SECTION A-A



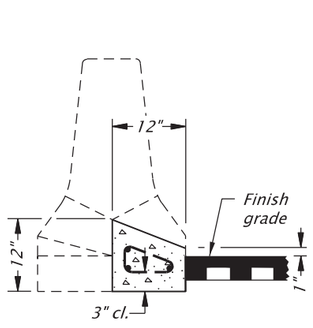
SECTION B-B



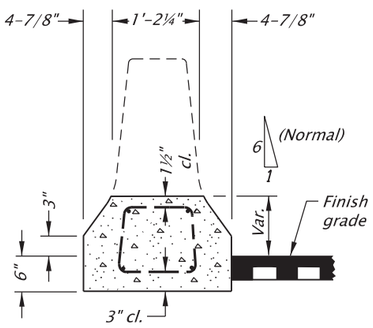
SECTION C-C



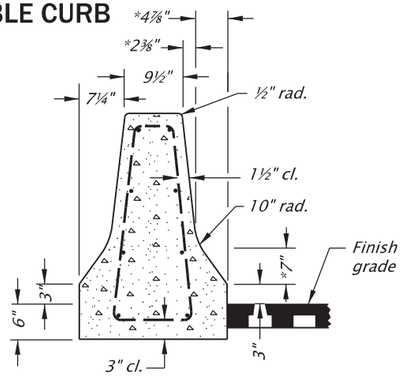
TRANSITION TO LOW PROFILE MOUNTABLE CURB



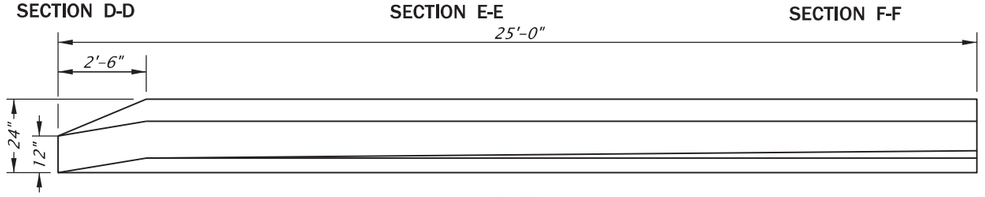
SECTION D-D

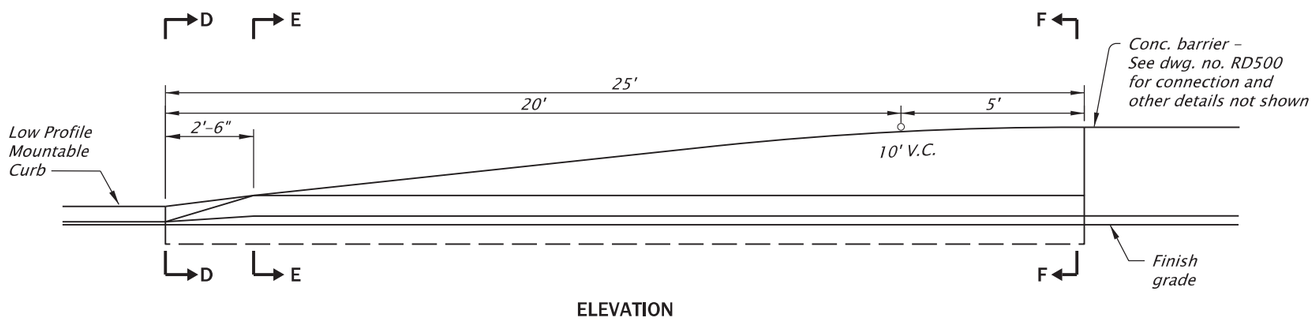


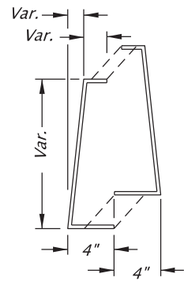
SECTION E-E



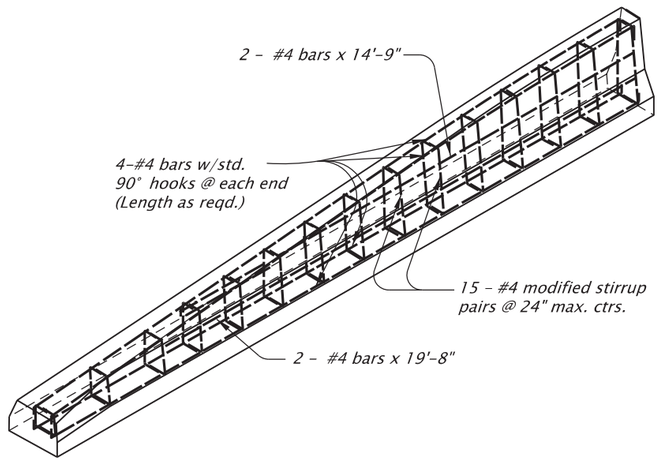
SECTION F-F







#4 Rebar
MODIFIED
STIRRUP PAIR



REINFORCEMENT DETAIL

GENERAL NOTES FOR ALL DETAILS:

1. *All metal reinf. shall be $1\frac{59}{64}$" (min.) clear of nearest face of conc. unless otherwise shown.*
2. *See std. dwg. RD700 for curb details.*
3. *See std. dwgs. RD500 & RD505 for concrete barrier details.*

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:53:23-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Drafter: Tammy Taggart
Reviewer: Ted Stewart
Checker: Dan Ilyn

DETAILS

SHEET NO. BB09

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

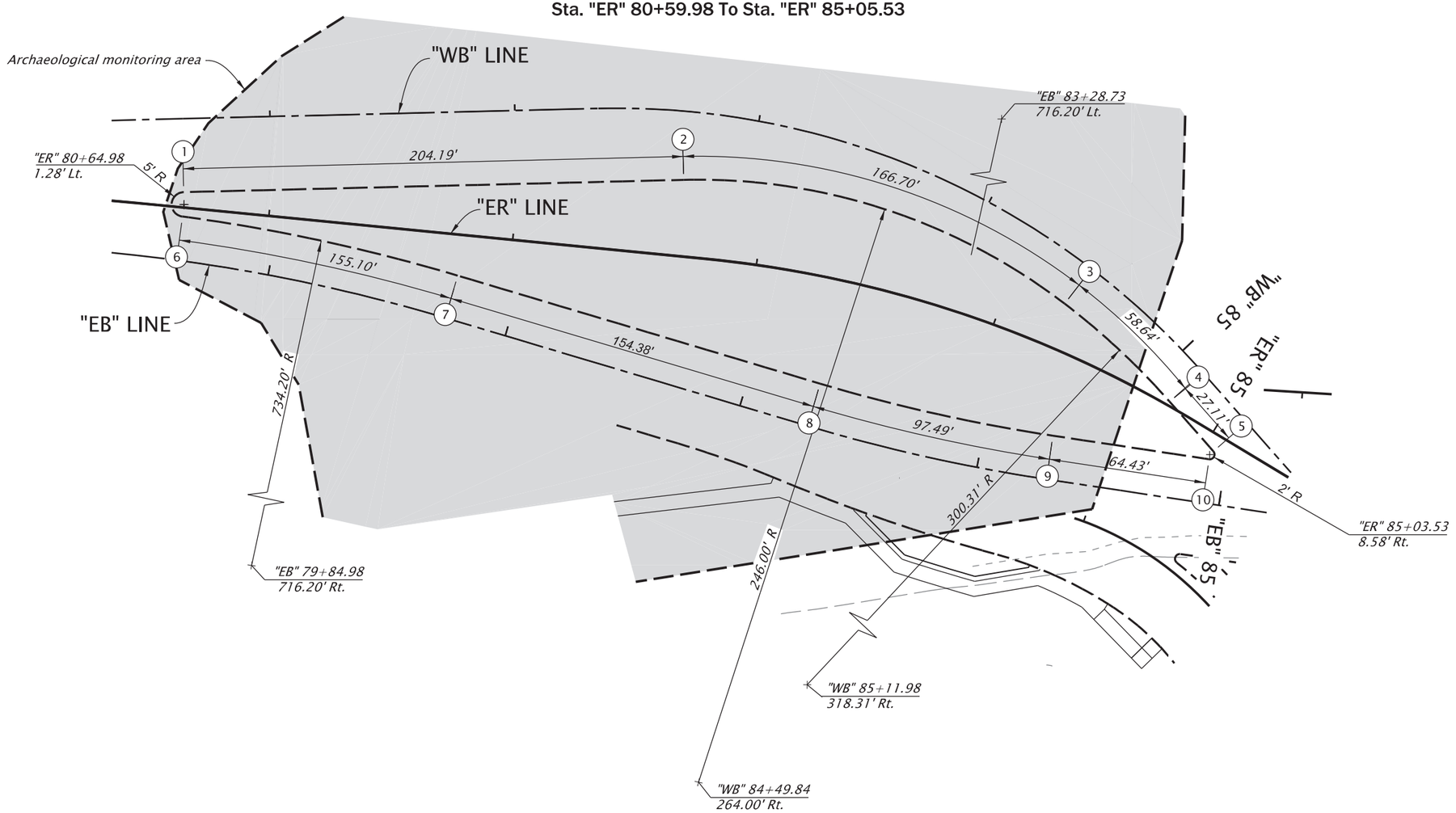
Rotation: 0° Scale: 1"=100'

57V-020

Sec. 9, T. 4S, R. 1W, W.M.

CONCRETE ISLAND

Sta. "ER" 80+59.98 To Sta. "ER" 85+05.53



LAYOUT POINTS TABLE "WB"

Point no.	Sta. "WB"	Offset	Rt./Lt.	Elev.	Point type
1	80+63.99	30.00'	Rt.	196.11	P.T.
2	82+71.55	28.00'	Rt.	192.58	P.C.
3	84+49.84	18.00'	Rt.	187.06	P.C.C.
4	85+11.98	18.00'	Rt.	184.98	P.T.
5	85+39.09	18.00'	Rt.	183.82	P.C.

LAYOUT POINTS TABLE "EB"

Point no.	Sta. "EB"	Offset	Rt./Lt.	Elev.	Point type
6	80+62.07	18.00'	Lt.	196.17	P.C.
7	81+74.35	18.00'	Lt.	194.38	P.T.
8	83+28.73	18.00'	Lt.	190.26	P.C.
9	84+28.73	18.00'	Lt.	186.00	P.T.
10	84+93.16	18.00'	Lt.	183.77	P.C.

NOTE:
Station, offset, elevation information, and radii dimensions on this sheet are to face of curb.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:53:59-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Drafter: Tammy Taggart
Reviewer: Ted Stewart
Checker: Dan Ilyn

DETAILS

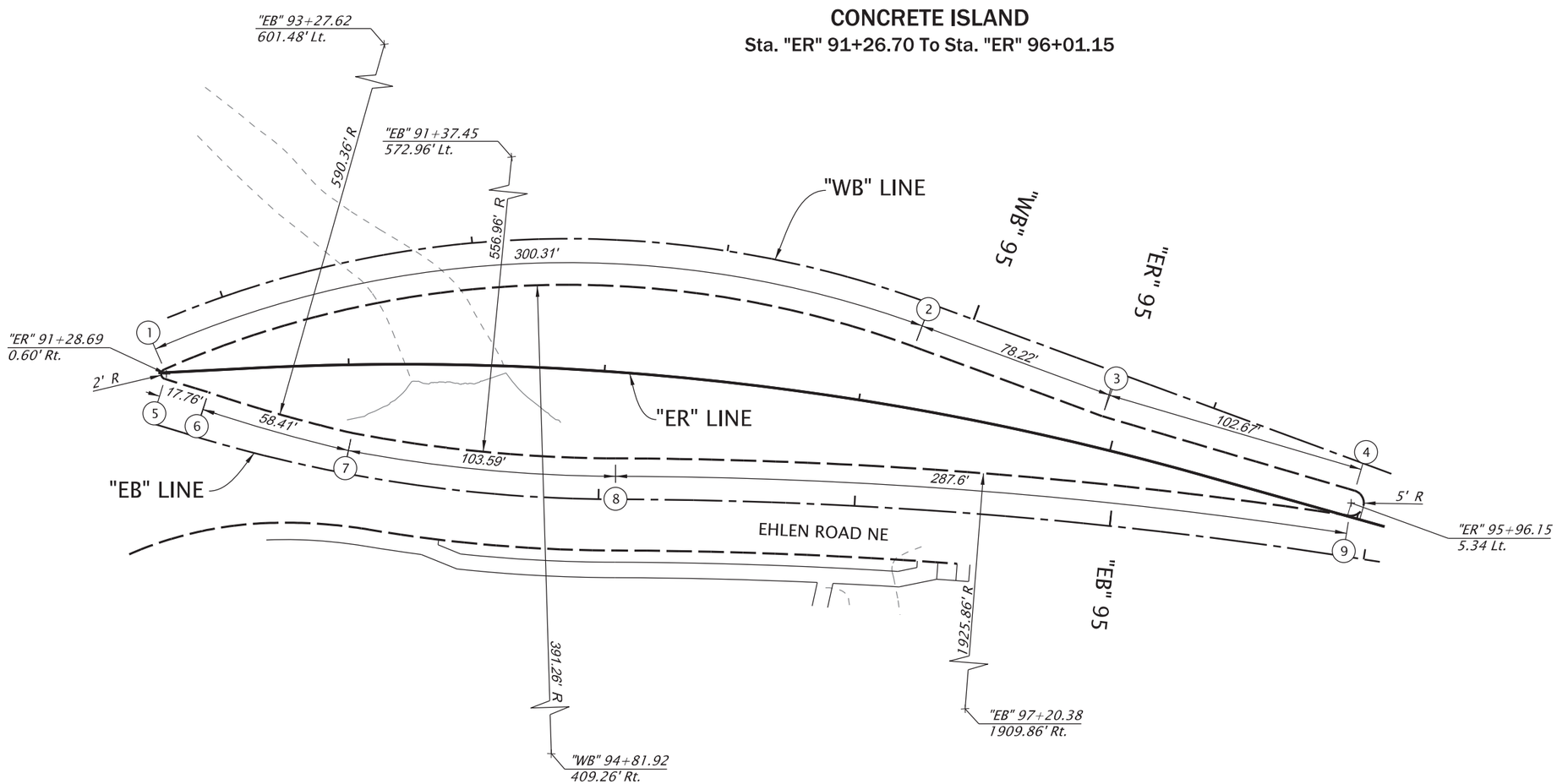
SHEET NO. BB10

57V-020

Sec. 9, T. 4S, R. 1W, W.M.

CONCRETE ISLAND

Sta. "ER" 91+26.70 To Sta. "ER" 96+01.15



LAYOUT POINTS TABLE "WB"

Point no.	Sta. "WB"	Offset	Rt./Lt.	Elev.	Point type
1	91+68.05	18.00'	Rt.	177.04	P.C.
2	94+81.92	18.00'	Rt.	181.94	P.T.
3	95+60.27	18.00'	Rt.	183.68	P.I.
4	96+62.71	11.16'	Rt.	185.52	P.C.

LAYOUT POINTS TABLE "EB"

Point no.	Sta. "EB"	Offset	Rt./Lt.	Elev.	Point type
5	91+22.16	18.00'	Lt.	177.03	P.T.
6	91+40.00	18.00'	Lt.	177.25	P.C.
7	92+00.00	16.00'	Lt.	177.87	P.I.
8	93+06.57	16.00'	Lt.	179.69	P.R.C.
9	95+91.78	16.00'	Lt.	185.72	P.R.C.

NOTE:
Station, offset, elevation information, and radii dimensions on this sheet are to face of curb.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 15:54:23-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

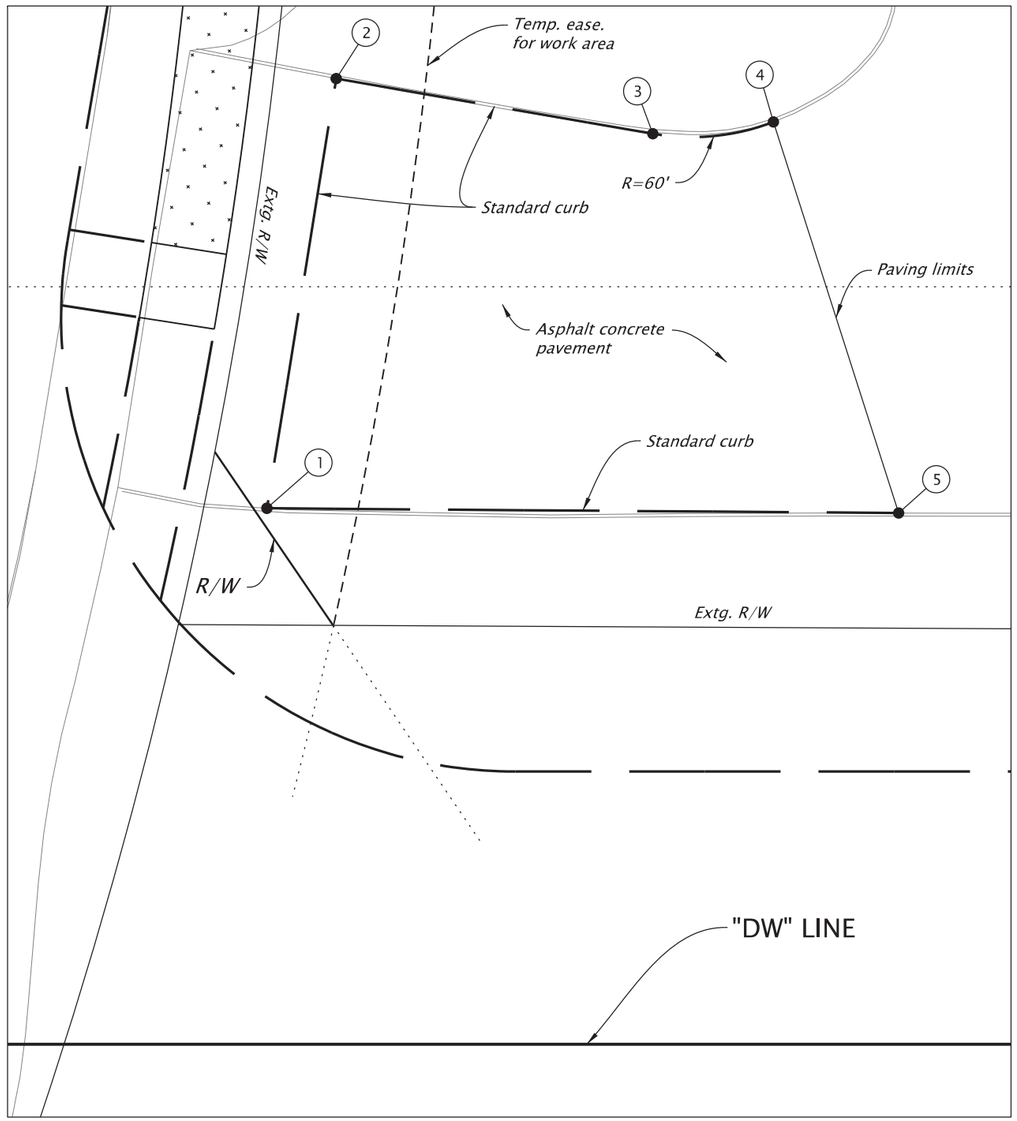
OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

DETAILS | SHEET NO. BB11

57V-020

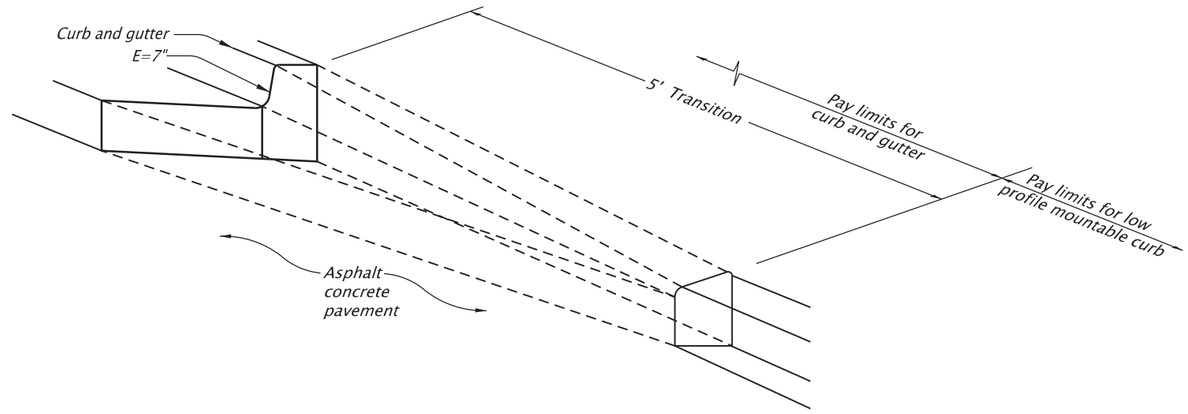


Location	Station "DW"	Offset	Descr.	Elevation (ft)
1	1+45.01	35.58' Lt.	BFC	189.03
2	1+49.59	63.75' Lt.	BFC	189.23
3	1+70.49	60.10' Lt.	BFC	189.09
4	1+78.45	60.88' Lt.	BFC	189.04
5	1+86.72	35.07' Lt.	BFC	188.74

10 5 0 10
FEET

PARKING LOT DETAIL

NOTE:
See dwg. no. RD715 for pavement details.



CURB AND GUTTER TRANSITION TO LOW PROFILE MOUNTABLE CURB

REGISTERED PROFESSIONAL ENGINEER
83838PE
DIGITALLY SIGNED
2023.11.14 10:34:53-08'00'
OREGON
NOV. 18, 2014
BRETT T. COWGILL
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Parametrix
5 SE MARTIN LUTHER KING JR. BLVD.
SUITE 400 | PORTLAND, OR 97214
P 503.233.2400
WWW.PARAMETRIX.COM

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

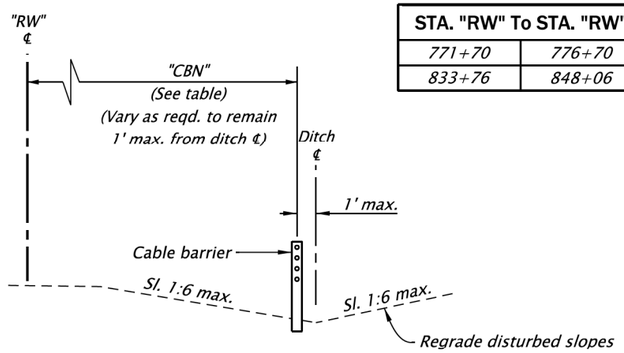
Designer: Brett Cowgill
Reviewer: Dan Ilyn
Drafter: Drew Segren
Checker: Steve Cooley

DETAILS

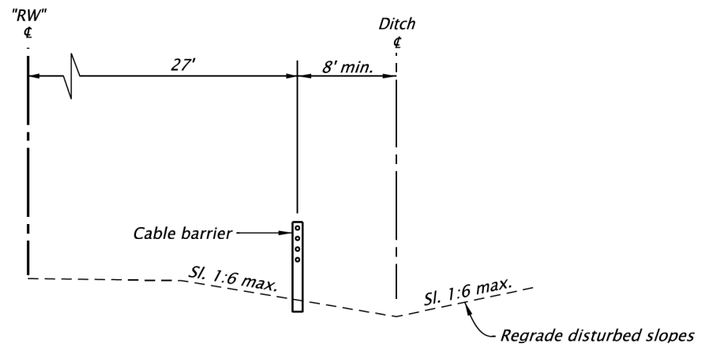
SHEET NO.
BB12

TABLE "CBN"

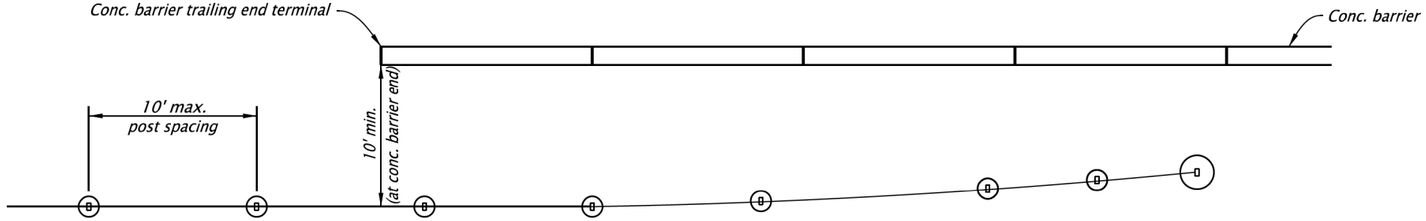
STA. "RW" To STA. "RW"		"CBN"
771+70	776+70	35'
833+76	848+06	38'



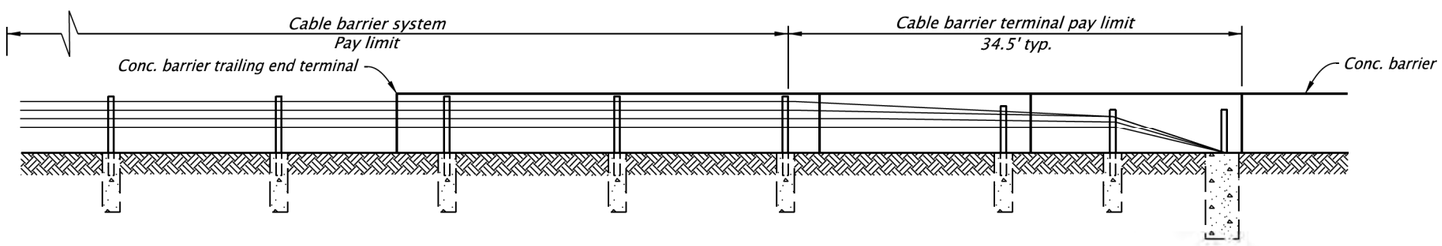
STA. "RW" 771+70 To STA. "RW" 786+70
"RW" 833+76 To "RW" 848+06



STA. "RW" 786+20 To STA. "RW" 801+93
"RW" 822+50 To "RW" 834+26



PLAN



ELEVATION

CABLE BARRIER SYSTEM DETAILS

Notes:
1. Cable barrier shall be 4-strand CBS TL-3.
2. Max. deflection of cable barrier shall be 8'.
3. Flare rate 70:1.
   Install two-way retro-reflective post caps at 20' spacing.
4. Install accordinng to manufacturer's recommendations.

No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 16:14:45-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

Parametrix
5 SE MARTIN LUTHER KING JR. BLVD.
SUITE 400 | PORTLAND, OR 97214
P 503.233.2400
WWW.PARAMETRIX.COM

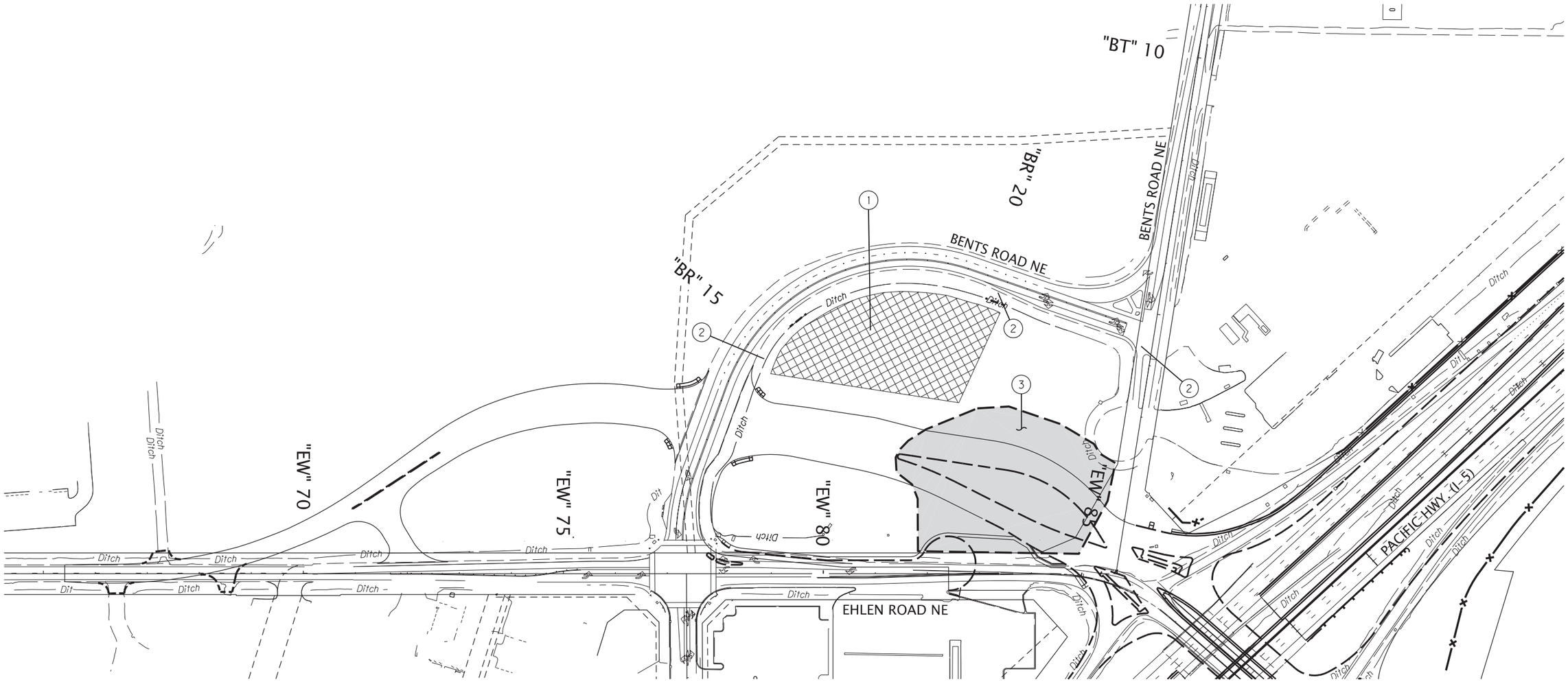
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo | Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski | Checker: Atalia Raskin

TYPICAL SECTIONS

SHEET NO.
BB13

PROSPECTIVE CONTRACTOR STAGING AREA



GENERAL NOTES:

1. Use of contractor prospective staging area is optional.

CONSTRUCTION NOTES:

① *Prospective contractor staging area shown thus:* ▨

② *Construct temporary construction access*
(For sht. nos., see sht. A02, Erosion Control)
See dwg. no. RD1000.

③ *Archaeological monitoring area shown thus:* ▒

N

51,631
DIGITALLY SIGNED 2023.11.16 15:56:21-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

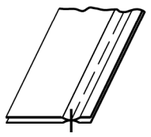
DETAILS

SHEET NO.
BB16

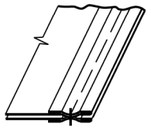
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

PAVING DETAILS

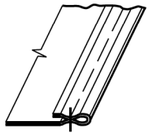
57V-020



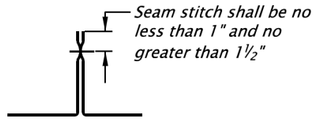
TYPE SSa-1



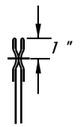
TYPE SSd-1



TYPE SSn-1

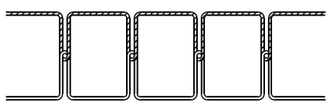


"FLAT" OR "PRAYER" SEAM SSa-1

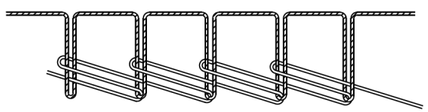


"BUTTERFLY" SEAM SSd-1

"J" SEAM SSn-1



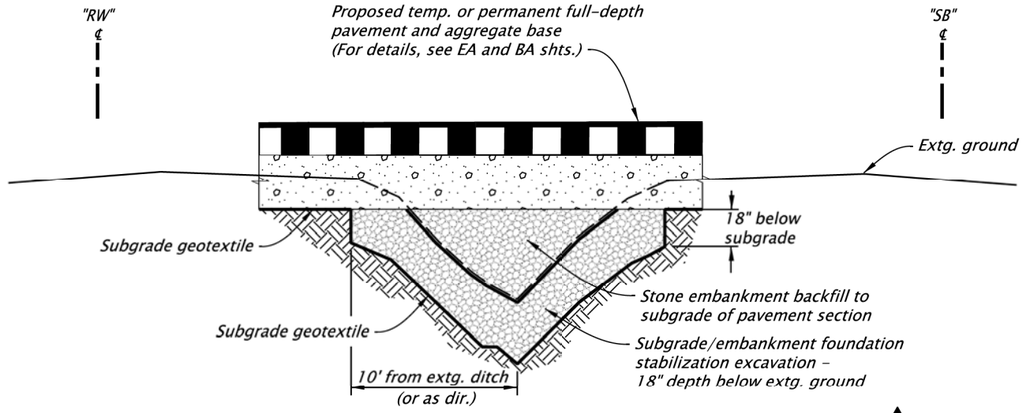
STITCH TYPE 301



STITCH TYPE 401

GEOTEXTILE STITCHING

No.	DATE	REVISIONS	BY
1	02-01-24	Revised location description	T.C.S.

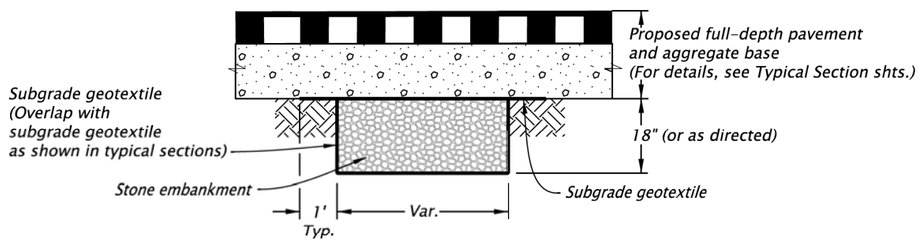


STA. "SB" 1792+38.1 To STA. "SB" 1811+39.2
"SB" 1813+03.2 To "SB" 1828+10.0
"TSB" 2784+73.0 To "TSB" 2809+11.4
"TSB" 2819+51.5 To "TSB" 2835+68.3

1

NOTE:
Applies to all proposed pavement in the existing I-5 median. During removal of temporary pavement, stone shall only be removed to original ditch grade.

18" SUBGRADE/EMBANKMENT FOUNDATION STABILIZATION



STA. "EW" 78+25.0 To STA. "EW" 78+75.0
"EW" 81+25.0 To "EW" 81+75.0
(Other stations as directed)

18" SUBGRADE/EMBANKMENT FOUNDATION STABILIZATION

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 19:35:46-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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MARION COUNTY

Designer: Brent Carney Reviewer: Ted Stewart
Drafter: Tammy Taggart Checker: Dan Ilyn

DETAILS

SHEET NO. BB17

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SHEET NUMBER	NOTE No. ON PLANS	DESIGN HEIGHT OF COVER (FEET) ①	PIPE – CIRCULAR OR ELLIPTICAL – SIZE IN (Inches) 6 – LENGTH IN FEET	12	18	24	30		PIPE - ARCH – HELICAL Riveted Welded or Lock Seam – EQUIV. RND SIZE (Inches)	LENGTH (FEET)	CROSS - SECTIONAL DIMENSIONS ② SPAN (Feet-Inches)	RISE (Feet-Inches)	CORNER RADII (Inches)	USE / INSTALLATION CRITERIA – DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)	TERMINAL TREATMENT – LT. / RT. SLOPED ENDS (Not for Conc. Pipe Over 60" Dia.)	SKEW NUMBER	PAVED END SLOPES No.
C06C	1	3.0		64																✓			✓			6.9	50.4			
	2	3.4		339																✓			✓			6.9	50.4			
	3																													
	4	2.8		300																✓			✓			6.9	50.4			
	6	3.0		209																✓			✓			6.9	50.4			
	7																													
C07B	1	1.5		320																✓			✓			6.9	50.4			
	4	1.9		303																✓			✓			6.9	50.4			
C08C	4	3.4		70																✓			✓			6.9	50.4			
	4	1.4		88																✓			✓			6.9	50.4			
	8	1.3		211																✓			✓			6.9	50.4			
	9	1.7		78																✓			✓			6.9	50.4			
	10																													
	11	0.0		9																✓			✓			6.9	50.4			
	11	0.1		11																✓			✓			6.9	50.4			
	12	2.5	13																	✓			✓			6.9	50.4			
	13	0.7		117																✓			✓			6.9	50.4			
	13	9.9		17																✓			✓			6.9	50.4			
	14	1.0		34																✓			✓			6.9	50.4			
	15	0.7		54																✓			✓			6.9	50.4			
	16																													
	17	1.0		36																✓			✓			6.9	50.4			
	17	0.6		14																✓			✓			6.9	50.4			
	17	0.9		4																✓			✓			6.9	50.4			
	18	1.1				60														✓			✓			6.9	50.4			
	20	0.1		28																✓			✓			6.9	50.4	/ 1:4	90	1
	21	0.5		55																✓			✓			6.9	50.4			
	23																													
	24	4.8		8																✓			✓			6.9	50.4			
	26	1.4	11												✓									✓			6.9	50.4			
	26	1.6	16												✓									✓			6.9	50.4			
	27																													
	28																													
	33	1.2		22																✓			✓			6.9	50.4			
	34																													
	37	1.2		36																✓			✓			6.9	50.4	/ 1:4	90	1
	38	0.2		88																✓			✓			6.9	50.4			
	38	0.2	7																			✓				6.9	50.4			
	39	0.4		18																✓			✓			6.9	50.4			
	45	0.7				53														✓			✓			6.9	50.4			

SHEET NUMBER	NOTE No. ON PLANS	ALTERNATE MATERIALS – HELICAL CORRUGATED METAL – ALUMINUM – RIVETED, WELDED OR LOCK SEAM 1 1/2" x 1/4" PLATE THKN. (Inches)	CROSS SECTION ③	2 2/3" x 1/2" PLATE THKN. (Inches)	CROSS SECTION ③	3" x 1" PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	ALUMINUM – LOCK SEAM – SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C. PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	ALUMINIZED OR GALVANIZED IRON AND STEEL – RIVETED, WELDED OR LOCK SEAM 1 1/2" x 1/4" PLATE THKN. (Inches)	CROSS SECTION ③	2 2/3" x 1/2" PLATE THKN. (Inches)	CROSS SECTION ③	3" x 1" PLATE THKN. (Inches)	CROSS SECTION ③	COATING GALVANIZED ④	COATING ALUMINIZED ④	ALUMINIZED OR GALVANIZED IRON AND STEEL – LOCK SEAM – SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C. PLATE THKN. (Inches)	CROSS SECTION ③	COATING GALVANIZED ④	COATING ALUMINIZED ④	RIGID – PRE-CAST CONCRETE REINF. III	IV	V	PLASTIC & IRON – CORRUGATED HDPE	SOLID WALL HDPE	REINFORCED HDPE	PVC - PSI STIFFNESS	POLYPROPYLENE, DOUBLE WALL	POLYPROPYLENE, TRIPLE WALL	DUCTILE IRON - PIPE CLASS
C06C	1								0.060	R										0.064	R			✓			✓			46	✓		
	2								0.060	R										0.064	R			✓			✓			46	✓		
	3																																
	4								0.060	R										0.064	R			✓			✓			46	✓		
	6								0.060	R										0.064	R			✓			✓			46	✓		
	7																																
C07B	1								0.060	R										0.064	R			✓						129	✓		
	4								0.060	R										0.064	R			✓						129	✓		
C08C	4								0.060	R										0.064	R			✓			✓			46	✓		
	4								0.060	R										0.064	R			✓			✓			46	✓		
	8								0.060	R										0.064	R			✓						129	✓		
	9								0.060	R										0.064	R			✓						129	✓		
	10																																
	11								0.060	R										0.064	R												51
	11								0.060	R										0.064	R												51
	12																										✓						
	13								0.060	R										0.064	R					✓							
	13								0.060	R										0.064	R			✓			✓			46	✓		
	14								0.060	R										0.064	R					✓				129	✓		
	15								0.060	R										0.064	R					✓							
	16																																
	17								0.060	R										0.064	R					✓				129	✓		
	17								0.060	R										0.064	R					✓							
	17								0.060	R										0.064	R												51
	18								0.060	R										0.064	R					✓							
	20								0.060	R										0.064	R												51
	21								0.060	R										0.064	R												51
	23																																
	24								0.060	R										0.064	R			✓			✓			46	✓		
	26																							✓			✓			46	✓		
	26																							✓			✓			46	✓		
	27																																
	28																																
	33								0.060	R										0.064	R				✓					129	✓		
	34																																
	37								0.060	R										0.064	R					✓				129	✓		
	38								0.060	R										0.064	R												51
	38																																
	39								0.060	R										0.064	R												51
	45								0.060	R										0.064	R					✓							

SHEET NUMBER	NOTE No. ON PLANS	APPURTENANCES – MANHOLES – DEPTH, TOP OF COVER TO INVERT (Feet)	DIAMETER OF LARGEST PIPE IN BASE (In.)	CONC. PRECAST	CONC. CAST-IN-PLACE	DROP MANHOLE	SPECIAL	INLETS – TYPE – Number Required G-2MA	G-2	G-2M	G-1	D	EXTENSION – LEFT (Feet)	RIGHT (Feet)	EXTG. PIPE MATERIAL ⑤	REMARKS
C06C	1	6.2	12													MH w/ G-2 Inlet
	2	6.6	12													MH w/ G-2 Inlet
	3								1							w/ 18" sump
	4	6.0	12													MH w/ G-2 Inlet
	6	5.9	12													60" dia. MH, conn. to etxg. pipe
	7							1								w/ 18" sump
C07B	1	4.7	12													MH w/ G-2 Inlet
	4	5.1	12													MH w/ G-2 Inlet
C08C	4	6.5	12													Lrg. manhole 72" dia.,
	4															
	8								1							w/ 18" sump
	9	4.8	12													
	10															Type CG-2 inlet w/ 18" sump
	11						✓									Water Quality MH w/ CG-2 Inlet w/ 36" sump
	11															
	12							1								Conn. to bioslope underdrain
	13	3.9	12				✓									MH w/ G-2 inlet, shallow
	13															
	14	4.1	12													
	15															Type CG-2 inlet w/ 18" sump
	16										1					w/ 18" sump
	17	4.1	12				✓									MH w/ G-2 inlet
	17															
	17															
	18	5.2	24													Lrg. manhole 60" dia.
	20															w/ riprap basin
	21								1							w/ 18" sump
	23											1				
	24											1				
	26	1.9	12			✓										Conn. to extg. storm sew. pipe
	26															
	27															Inst. cleanout
	28															Inst. Cleanout
	33	6.3	12													72" dia. flow control MH
	34						✓									Water Quality MH w/ CG-2 Inlet w/ 36" sump
	37															w/ riprap basin
	38								1							w/ 18" sump
	38															non-perforated drain pipe
	39								1							w/ 18" sump
	45							1								

GENERAL NOTES:

1. A check (✓) indicates column heading applies.
2. A new pipe culvert installation shall be of like material throughout.
3. Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, see Std. Dwg. No. RD326.
4. Dimensions shown are nominal.
5. All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved. column heading applies.

FOOTNOTES:

① Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.

② Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternates use a separate line for each type of material.

③ Cross-sectional shape of pipe normal to longitudinal axis, prior to loading
A = Pipe - Arch
R = Round
E = Elliptical (5% nominal elongation)

④ Abbreviations for protective coatings for metal pipe
PM = Polymeric, 10 Mil. thkn. coated both sides
PO = Polyethylene inside lining, polymeric outside
U = Uncoated
CIM = Chevron industrial membrane
Ep = Epoxy coated

⑤ Abbreviations for existing pipe materials
AB = Asbestos cement
Al = Corrugated aluminum
Co = Concrete
Pl = Plastic
St = Corrugated steel
X = Other material, see remarks column

■	RD300	Trench Backfill, Bedding, Pipe Zone And Multiple Installations
□	RD302	Street Cut
□	RD304	Arch Pipe Backfill/Compaction
□	RD306	Concrete Encasement, Cradle, and Cap Details
□	RD308	Bore Casing Detail
□	RD310	Shallow/Deep Trench Service Connection, Blocking and Markers
■	RD312	Subsurface Drain
■	RD316	Sloped Ends For Metal Pipe
■	RD317	Culvert Embankment Protection And Riprap Pads
■	RD318	Sloped Ends For Concrete Pipe
■	RD319	Miscellaneous Culvert Details
■	RD320	Paved End Slope For Culverts 60" Maximum Pipe Size
□	RD321	Paved End Slope With Removable Safety Bar(s)
□	RD322	Safety End Section For Metal Pipe
□	RD324	Safety End Section For Concrete, PVC, HDPE & Polypropylene Pipe
□	RD325	Coupling Bands For Corrugated Metal Pipe
■	RD326	Coupling Bands For Corrugated Metal Pipe
□	RD327	Coupling Bands For Corrugated Metal Pipe
□	RD328	Slotted CMP Drain Details
□	RD330	Pipe Slope Anchors – Metal
■	RD332	Pipe Slope Anchors – Concrete
□	RD334	Locator Post
■	RD335	Standard Storm Sewer Manhole
■	RD336	Standard Manhole Details
□	RD338	Standard Sanitary Sewer Manhole
■	RD339	Pipe To Structure Connections
■	RD340	Storm Sewer Pollution Control Manhole
■	RD342	Shallow Manholes
□	RD343	24" Manholes
■	RD344	Standard Manhole Base Section
■	RD345	Pipe To Manhole Connections
■	RD346	Large Precast Manhole
■	RD348	Manhole With Inlet
□	RD350	Sanitary Sewer Piped Inside Drop Connection for Manholes
■	RD352	Outside Drop Manholes
□	RD354	Carry Through Manhole – Storm
■	RD356	Manhole Covers And Frames
□	RD358	Manhole Slope Protectors
■	RD360	Manhole Frame Adjustment
■	RD362	Sanitary Cleanout
■	RD363	Gutter Transition At Inlet
■	RD364	Concrete Inlets Type G-1, G-2, G-2M, and G-2MA
■	RD365	Frames & Grates For Concrete Inlets
■	RD366	Concrete Inlets Type CG-1, CG-2
□	RD367	Curb Inlet Channel
□	RD368	Concrete Inlets Type M-E, M-O, B And B-SL
■	RD370	Ditch Inlet Type D
□	RD371	Concrete Inlet Base Type CG-3
□	RD372	Concrete Inlet Top, Option 1 Type CG-3
□	RD373	Concrete Inlet Top, Option 2 Type CG-3
□	RD374	Area Drainage Basin Or Field Inlet
■	RD376	Miscellaneous Drainage Structures Siphon Box, Inlet Cap & Inlet Adjustment
□	RD378	Type "3" Catch Basin, Frame and Grate
■	RD380	Fill Height Tables For Aluminum & Steel Corrugated Pipe
□	RD382	Fill Height Tables For Aluminum & Steel Arch Pipe
□	RD384	Fill Height Tables For Aluminum & Steel Spiral Rib Pipe
■	RD386	Fill Height Table For Circular Concrete Pipe
■	RD388	Fill Height Tables For PVC Pipe
■	RD390	Fill Height Table For Corrugated HDPE Pipe
■	RD391	Fill Height Table For Steel Reinforced HDPE Pipe
■	RD393	Fill Height Tables For Polypropylene Pipe
■	RD398	Culvert ID Marker
■	RD399	Stormwater Treatment and Storage Facility Field Markers

74328PE
DIGITALLY SIGNED 2023.12.19 17:35:25-08'00'
ATALIA SAMPSON RASKIN
SEPT. 9, 2008
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DAVID EVANS
AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PIPE DATA

SHEET NO.
BD01

SHEET NUMBER	NOTE No. ON PLANS	DESIGN HEIGHT OF COVER (FEET) (1)	PIPE: CIRCULAR OR ELLIPTICAL: SIZE IN (Inches) 6	12	18	24	30	LENGTH IN FEET	PIPE: CIRCULAR OR ELLIPTICAL: HELICAL: Riveted Welded or Lock Seam: EQUIV. RND SIZE (Inches)	PIPE: PIPE - ARCH: LENGTH (FEET)	PIPE: PIPE - ARCH: CROSS - SECTIONAL DIMENSIONS (2): SPAN (Feet-Inches)	RISE (Feet-Inches)	CORNER RADII (Inches)
	1	3.2		64									
	2	1.4		22									
	5	1.7			10								
	6	0.6			54								
	6	1.1				118							
	6	1.3				127							
	9	0.9		85									
	9	0.3			57								
	11												
	12	1.4		61									
	13	0.8		15									
	14	0.9		18									
	15	1.4				62							
	19	0.1				48							
	19	0.1		18									
	20												
	21	1.8		38									
	21	2.1		66									
	22												
C09C	23	0.9				119							
	23	2.0		18									
	24	0.1		20									
	24	0.1		20									
	26												
	27	1.3			158								
	28	0.0			122								
	29	0.0			26								
	30	0.1			18								
	33												
	36	2.1				68							
	37												
	38	3.5		62									
	38	2.9		35									
	38	3.0		15									
	39												
	41	2.2		57									
	42	1.9		122									
	43	1.5		305									
	44	0.2		15									
	44	0.2		15									

SHEET NUMBER	USE / INSTALLATION CRITERIA: DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)	TERMINAL TREATMENT: LT. / RT. SLOPED ENDS: SKEW NUMBER: Not for Conc. Pipe Over 60" Dia.	PAVED END SLOPES: No.
1							✓			✓			7.1	23.8		
2							✓			✓			7.1	23.8	/ 1:4	90 1
5							✓			✓			7.1	23.8	/ 1:4	90 1
6							✓			✓			7.1	23.8		
6							✓			✓			7.1	23.8		
6							✓			✓			7.1	23.8		
9							✓			✓			7.1	23.8		
9							✓			✓			7.1	23.8		
11																
12							✓			✓			7.1	23.8		
13							✓			✓			7.1	23.8		
14							✓			✓			7.1	23.8		
15							✓			✓			7.1	23.8		
19							✓			✓			7.1	23.8		
19							✓			✓			7.1	23.8		
20																
21							✓			✓			7.1	23.8		
21							✓			✓			7.1	23.8		
22																
23							✓			✓			7.1	23.8		
23							✓			✓			7.1	23.8		
24							✓			✓			7.1	23.8		
24							✓			✓			7.1	23.8		
26																
27							✓			✓			7.1	23.8		
28							✓			✓			7.1	23.8		
29							✓			✓			7.1	23.8		
30							✓			✓			7.1	23.8		
33																
36							✓			✓			7.1	23.8		
37																
38							✓			✓			7.1	23.8		
38							✓			✓			7.1	23.8		
38							✓			✓			7.1	23.8		
39																
41							✓			✓			7.1	23.8		
42							✓			✓			7.1	23.8	/ 1:4	90 1
43							✓			✓			7.1	23.8		
44							✓			✓			7.1	23.8		
44							✓			✓			7.1	23.8		

SHEET NUMBER	ALTERNATE MATERIALS: HELICAL CORRUGATED METAL: ALUMINUM: SIZE OF CORRUGATIONS: RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4": PLATE THKN. (Inches)	CROSS SECTION (3)	2 2/3" x 1/2": PLATE THKN. (Inches)	CROSS SECTION (3)	3" x 1": PLATE THKN. (Inches)	CROSS SECTION (3)	COATING (4)
1							
2							
5							
6							
6							
6							
9							
9							
11							
12							
13							
14							
15							
19							
19							
20							
21							
21							
22							
C09C 23							
23							
24							
24							
26							
27							
28							
29							
30							
33							
36							
37							
38							
38							
38							
39							
41							
42							
43							
44							
44							

SHEET NUMBER	ALTERNATE MATERIALS: HELICAL CORRUGATED METAL: ALUMINUM: SIZE OF CORRUGATIONS: LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C.: PLATE THKN. (Inches)	CROSS SECTION (3)	COATING (4)
1	0.060	R	
2	0.060	R	
5	0.060	R	
6	0.060	R	
6	0.060	R	
6	0.060	R	
9	0.060	R	
9	0.060	R	
11			
12	0.060	R	
13	0.060	R	
14	0.060	R	
15	0.060	R	
19	0.060	R	
19			
20			
21	0.060	R	
21	0.060	R	
22			
C09C 23	0.060	R	
23	0.060	R	
24			
24			
26			
27			
28			
29	0.060	R	
30	0.060	R	
33			
36	0.060	R	
37			
38	0.060	R	
38	0.060	R	
38	0.060	R	
39			
41	0.060	R	
42	0.060	R	
43	0.060	R	
44	0.060	R	
44	0.060	R	

SHEET NUMBER	ALTERNATE MATERIALS: ALUMINIZED OR GALVANIZED IRON AND STEEL: SIZE OF CORRUGATIONS: RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4": PLATE THKN. (Inches)	CROSS SECTION (3)	2 2/3" x 1/2": PLATE THKN. (Inches)	CROSS SECTION (3)	3" x 1": PLATE THKN. (Inches)	CROSS SECTION (3)	GALVANIZED (4)	ALUMINIZED (4)
1								
2								
5								
6								
6								
6								
9								
9								
11								
12								
13								
14								
15								
19								
19								
20								
21								
21								
22								
C09C 23								
23								
24								
24								
26								
27								
28								
29								
30								
33								
36								
37								
38								
38								
38								
39								
41								
42								
43								
44								
44								

SHEET NUMBER	ALTERNATE MATERIALS: ALUMINIZED OR GALVANIZED IRON AND STEEL: SIZE OF CORRUGATIONS: LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C.: PLATE THKN. (Inches)	CROSS SECTION (3)	COATING: GALVANIZED (4)	ALUMINIZED (4)
1	0.064	R		
2	0.064	R		
5	0.064	R		
6	0.064	R		
6	0.064	R		
6	0.064	R		
9	0.064	R		
9	0.064	R		
11				
12	0.064	R		
13	0.064	R		
14	0.064	R		
15	0.064	R		
19	0.064	R		
19				
20				
21	0.064	R		
21	0.064	R		
22				
C09C 23	0.064	R		
23	0.064	R		
24	0.064	R		
24	0.064	R		
26				
27	0.064	R		
28	0.064	R		
29	0.064	R		
30	0.064	R		
33				
36	0.064	R		
37				
38	0.064	R		
38	0.064	R		
38	0.064	R		
39				
41	0.064	R		
42	0.064	R		
43	0.064	R		
44	0.064	R		
44	0.064	R		

SHEET NUMBER	RIGID: PRE-CAST CONCRETE REINF.: III	IV	V	PLASTIC & IRON: CORRUGATED HDPE	SOLID WALL HDPE	REINFORCED HDPE	PVC - PSI STIFFNESS	POLYPROPYLENE, DOUBLE WALL	POLYPROPYLENE, TRIPLE WALL	DUCTILE IRON - PIPE CLASS
1		✓		✓			46	✓		
2		✓					129	✓		
5	✓									
6			✓				129	✓		
6		✓		✓			46	✓		
6	✓						129	✓		
9			✓							
9			✓							
11										
12		✓					129	✓		
13			✓							
14			✓							
15		✓					129	✓		
19			✓							
19										51
20										
21	✓									
21	✓			✓			46	✓		
22										
C09C 23			✓				129	✓		
23	✓									
24										51
24										51
26										
27										51
28										51
29										51
30										51
33										
36		✓		✓			46	✓		
37										
38		✓		✓			46	✓		
38		✓		✓			46	✓		
38		✓		✓			46	✓		
39										
41	✓	✓	✓	✓			46	✓		
42		✓					115	✓		
43		✓					129	✓		
44									51	
44									51	

SHEET NUMBER	APPURTENANCES: MANHOLES: DEPTH, TOP OF COVER TO INVERT (Feet)	DIAMETER OF LARGEST PIPE IN BASE (In.)	CONC.: PRECAST	CAST-IN-PLACE	DROP MANHOLE	SPECIAL	INLETS: TYPE: G-2MA	G-2	G-2M	G-1	D: Number Required	EXTENSION: LEFT (Feet)	RIGHT (Feet)	(5) EXTG. PIPE MATERIAL	REMARKS
1	6.4	12													w/ pipe slope anchor
2															w/ riprap basin
5											1				
6	4.1	24													Lrg. manhole 72" dia.
6															
6															
9	3.4	18													Minor adj. MH
9															
11										1					w/ 18" sump
12															Type CG-2 inlet w/ 18" sump
13															Type CG-2 inlet w/ 18" sump
14	4.1	12													Major adj. MH. Conn. to extg. MH
15	5.4	24													Minor adj. MH. Conn. To extg. MH
19															
19	4.4	24													
20															Type CG-2 inlet w/ 18" sump
21	5.0	12				✓									72" dia. Water Quality MH
21															
22															Type CG-2 inlet w/ 18" sump
C09C 23	5.0	24													
23															
24															Type CG-2 inlet w/ 18" sump
24															Type CG-2 inlet w/ 18" sump
26															Type CG-2 inlet w/ 18" sump
27															Type CG-2 inlet w/ 18" sump
28															Type CG-2 inlet w/ 18" sump
29															Type CG-2 inlet w/ 18" sump
30	3.0	18													Shallow flat top MH w/ CG-2 inlet
33											1				
36															
37										1					w/ 18" sump
38	6.7	12													MH w/ G-2 inlet
38															
38															
39										1					w/ 18" sump
41	5.4	12													MH w/ G-2 inlet
42															w/ riprap basin
43										1					w/ 18" sump
44	5.4	12													MH w/ G-2 inlet
44															

GENERAL NOTES:

1. A check (✓) indicates column heading applies.
2. A new pipe culvert installation shall be of like material throughout.
3. Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, see Std. Dwg. No. RD326.
4. Dimensions shown are nominal.
5. All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved. column heading applies.

FOOTNOTES:

(1) Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.

(2) Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternates use a separate line for each type of material.

(3) Cross-sectional shape of pipe normal to longitudinal axis, prior to loading
- A = Pipe - Arch
- R = Round
- E = Elliptical (5% nominal elongation)

(4) Abbreviations for protective coatings for metal pipe
- PM = Polymeric, 10 Mil. thkn. coated both sides
- PO = Polyethylene inside lining, polymeric outside
- U = Uncoated
- CIM = Chevron industrial membrane
- Ep = Epoxy coated

(5) Abbreviations for existing pipe materials
- AB = Asbestos cement
- Al = Corrugated aluminum
- Co = Concrete
- Pl = Plastic
- St = Corrugated steel
- X = Other material, see remarks column

- RD300 Trench Backfill, Bedding, Pipe Zone And Multiple Installations
- RD302 Street Cut
- RD304 Arch Pipe Backfill/Compaction
- RD306 Concrete Encasement, Cradle, and Cap Details
- RD308 Bore Casing Detail
- RD310 Shallow/Deep Trench Service Connection, Blocking and Markers
- RD312 Subsurface Drain
- RD316 Sloped Ends For Metal Pipe
- RD317 Culvert Embankment Protection And Riprap Pads
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- RD336 Standard Manhole Details
- RD338 Standard Sanitary Sewer Manhole
- RD339 Pipe To Structure Connections
- RD340 Storm Sewer Pollution Control Manhole
- RD342 Shallow Manholes
- RD343 24" Manholes
- RD344 Standard Manhole Base Section
- RD345 Pipe To Manhole Connections
- RD346 Large Precast Manhole
- RD348 Manhole With Inlet
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- RD352 Outside Drop Manholes
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- RD358 Manhole Slope Protectors
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- RD367 Curb Inlet Channel
- RD368 Concrete Inlets Type M-E, M-O, B And B-SL
- RD370 Ditch Inlet Type D
- RD371 Concrete Inlet Base Type CG-3
- RD372 Concrete Inlet Top, Option 1 Type CG-3
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REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.12.18 11:57:05-08'00'
OREGON SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PIPE DATA

SHEET NO. BD02

SHEET NUMBER	NOTE No. ON PLANS	DESIGN HEIGHT OF COVER (FEET) ①	PIPE											USE / INSTALLATION CRITERIA														TERMINAL TREATMENT		
			CIRCULAR OR ELLIPTICAL						PIPE - ARCH																					
			SIZE IN (Inches)						HELICAL Riveted Welded or Lock Seam	LENGTH (FEET)	CROSS - SECTIONAL DIMENSIONS ②			DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)	LT. / RT. SLOPED ENDS	SKEW NUMBER	PAVED END SLOPES
			6	12	18	24	30		EQUIV. RND SIZE (Inches)		SPAN	RISE	CORNER RADII (Inches)															Not for Conc. Pipe Over 60" Dia.		No.
			LENGTH IN FEET								(Feet-Inches)																			
C09C	45																													
	49	0.1			32															✓			✓			7.1	23.8			
	52	2.3			8															✓			✓			7.1	23.8			
C10B	1	0.9		251																✓			✓							
	3																													
	6																													
	7	0.9		58																✓			✓							
	8	0.8		239																✓			✓							
	8	0.8		219																✓			✓							
	9	1.0		95																✓			✓					/ 1:6	90	1
	11	0.0		52																✓			✓					/ 1:6	90	1
C11B	1																													
	2																													
	3	0.8		77																✓			✓					1:6 /	90	1
C12B	1																													
	2	0.1		5																✓			✓							
	3	0.5		17																✓			✓					/ 1:6	90	1
D01B	4	0.9		57											✓								✓			6.4	23.5	1:6 / 1:6	90	
	6	-0.8			13										✓								✓			6.4	23.5	1:6 /	90	
D02B	1	0.8		8																✓			✓							
	4	1.6		78																✓			✓					1:4 / 1:4	90	2
	5	1.6		17																✓			✓			6.4	23.5			
	6	0.6			88															✓			✓			6.4	23.5	1:6 /	90	1
	7	0.5		102																✓			✓					1:6 / 1:4	90	2
	8																													
	9																													
D04B	3																													
	4	2.5	4																	✓			✓			6.4	23.5			
	5	4.3		55																✓			✓			6.4	23.5			
	5	2.4		48																✓			✓			6.4	23.5			
	6	2.6		78																✓			✓			6.4	23.5			
	8	0.6		52																✓			✓			6.4	23.5			
	13	-0.1		58																✓			✓			6.4	23.5			
D07C	3	2.9			4															✓			✓			6.4	23.5			
	4	3.3			148															✓			✓			6.4	23.5			
	5	13.0			90															✓			✓			6.4	23.5			
	5	4.1		67																✓			✓			6.4	23.5			
	7	3.7		76																✓			✓			6.4	23.5			
	9																													
	10	1.7					400													✓			✓			5.7	32.8			

SHEET NUMBER	NOTE No. ON PLANS	ALTERNATE MATERIALS																															
		HELICAL CORRUGATED METAL																						RIGID			PLASTIC & IRON						
		ALUMINUM										ALUMINIZED OR GALVANIZED IRON AND STEEL												PRE-CAST CONCRETE REINF.									
		SIZE OF CORRUGATIONS										SIZE OF CORRUGATIONS																					
		RIVETED, WELDED OR LOCK SEAM							LOCK SEAM			RIVETED, WELDED OR LOCK SEAM								LOCK SEAM													
		1 1/2" x 1/4"		2 2/3" x 1/2"		3" x 1"			SMOOTH WALL SPIRAL RIB $^3/_4$" x $^3/_4$" @ 7 $^1/_2$" O.C. Or $^3/_4$" x 1" @ 11 $^1/_2$" O.C.			1 1/2" x 1/4"		2 2/3" x 1/2"		3" x 1"		COATING		SMOOTH WALL SPIRAL RIB $^3/_4$" x $^3/_4$" @ 7 $^1/_2$" O.C. Or $^3/_4$" x 1" @ 11 $^1/_2$" O.C.		COATING											
		PLATE THKN. (Inches)	CROSS SECTION ③	PLATE THKN. (Inches)	CROSS SECTION ③	PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	PLATE THKN. (Inches)	CROSS SECTION ③	PLATE THKN. (Inches)	CROSS SECTION ③	PLATE THKN. (Inches)	CROSS SECTION ③	GALVANIZED ④	ALUMINIZED ④	PLATE THKN. (Inches)	CROSS SECTION ③	GALVANIZED ④	ALUMINIZED ④	III	IV	V	CORRUGATED HDPE	SOLID WALL HDPE	REINFORCED HDPE	PVC - PSI STIFFNESS	POLYPROPYLENE, DOUBLE WALL	POLYPROPYLENE, TRIPLE WALL	DUCTILE IRON - PIPE CLASS
C09C	45																																
	49																																51
	52								0.060	R										0.064	R			✓			✓			46	✓		
C10B	1								0.060	R										0.064	R					✓							
	3																																
	6																																
	7								0.060	R										0.064	R					✓							
	8								0.060	R										0.064	R					✓							
	8								0.060	R										0.064	R					✓							
	9								0.060	R										0.064	R				✓					129	✓		
	11								0.060	R										0.064	R												51
C11B	1																																
	2																																
	3								0.060	R										0.064	R					✓							
C12B	1																																
	2								0.060	R										0.064	R												51
	3								0.060	R										0.064	R					✓							
D01B	4								0.060	R										0.064	R					✓							
	6																									✓							
D02B	1								0.060	R										0.064	R					✓							
	4																							✓						129	✓		
	5								0.060	R										0.064	R			✓						129	✓		
	6								0.060	R										0.064	R					✓							
	7																									✓							
	8																																
	9																																
D04B	3																																
	4																										✓						
	5								0.060	R										0.064	R			✓			✓			46	✓		
	5								0.060	R										0.064	R			✓			✓			46	✓		
	6								0.060	R										0.064	R			✓			✓			46	✓		
	8								0.060	R										0.064	R					✓							
	13								0.060	R										0.064	R					✓							
D07C	3								0.060	R										0.064	R			✓			✓			46	✓		
	4								0.060	R										0.064	R			✓			✓			46	✓		
	5								0.060	R										0.064	R			✓			✓			46	✓		
	5								0.060	R										0.064	R			✓			✓			46	✓		
	7								0.060	R										0.064	R			✓			✓			46	✓		
	9																										✓						
	10								0.060	R										0.064	R			✓						129	✓		

SHEET NUMBER	NOTE No. ON PLANS	APPURTENANCES											EXTENSION			REMARKS
		MANHOLES						INLETS								
				CONC.				TYPE								
		DEPTH, TOP OF COVER TO INVERT (Feet)	DIAMETER OF LARGEST PIPE IN BASE (In.)	PRECAST	CAST-IN-PLACE	DROP MANHOLE	SPECIAL	G-2MA	G-2	G-2M	G-1	D	LEFT (Feet)	RIGHT (Feet)	EXTG. PIPE MATERIAL ⑤	
								Number Required								
C09C	45								1							w/ 18" sump
	49															MH w/ CG-2 inlet
	52	4.1	18													72" dia. Flow control MH
C10B	1	4.1	12													MH w/ G-2 inlet
	3								1							w/ 18" sump
	6	3.0	12													Shallow flat top MH w/ G-2 inlet.
	7	4.1	12													MH w/ G-2 inlet
	8	4.0	12													MH w/ G-2 inlet
	8															
	9															w/ riprap basin
	11															w/ riprap basin
C11B	1								1							w/ 18" sump
	2								1							w/ 18" sump
	3															w/ riprap basin
C12B	1								1							w/ 18" sump
	2								1							w/ 18" sump
	3															w/ riprap basin
D01B	4															
	6															Conn. to extg. culvert
D02B	1											1				
	4															w/ riprap basin
	5	3.0	12													72" dia. Flow control MH
	6															w/ riprap basin
	7															w/ riprap basin
	8	2.4	12									1				
	9	2.4	12									1				w/ 18" sump
D04B	3															MH w/ G-2 inlet, Conn. To extg pipe
	4											1				Conn. to bioslope underdrain
	5	9.1	12													Conn. to extg. pipe
	5															
	6															MH w/ CG-2 inlet
	8															Conn. to extg.
	13	4.8	12													MH w/ CG-2 inlet
D07C	3											1				
	4	6.9	18			✓										Remove extg. inlet. Conn. to extg. pipe
	5	16.0	18													Minor adjust MH., Conn. to extg.MH
	5															
	7	6.7	12	✓												Conn. to extg. pipe
	9											1				Conn. to bioslope underdrain
	10	6.3	30													Lrg. manhole 72" dia.

GENERAL NOTES:

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3. Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, see Std. Dwg. No. RD326.
4. Dimensions shown are nominal.
5. All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved. column heading applies.

FOOTNOTES:

① Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.

② Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternates use a separate line for each type of material.

③ Cross-sectional shape of pipe normal to longitudinal axis, prior to loading
A = Pipe - Arch
R = Round
E = Elliptical (5% nominal elongation)

④ Abbreviations for protective coatings for metal pipe
PM = Polymeric, 10 Mil. thkn. coated both sides
PO = Polyethylene inside lining, polymeric outside
U = Uncoated
CIM = Chevron industrial membrane
Ep = Epoxy coated

⑤ Abbreviations for existing pipe materials
AB = Asbestos cement
Al = Corrugated aluminum
Co = Concrete
Pl = Plastic
St = Corrugated steel
X = Other material, see remarks column

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■	RD370	Ditch Inlet Type D
☐	RD371	Concrete Inlet Base Type CG–3
☐	RD372	Concrete Inlet Top, Option 1 Type CG–3
☐	RD373	Concrete Inlet Top, Option 2 Type CG–3
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■	RD376	Miscellaneous Drainage Structures Siphon Box, Inlet Cap & Inlet Adjustment
☐	RD378	Type "3" Catch Basin, Frame and Grate
■	RD380	Fill Height Tables For Aluminum & Steel Corrugated Pipe
☐	RD382	Fill Height Tables For Aluminum & Steel Arch Pipe
☐	RD384	Fill Height Tables For Aluminum & Steel Spiral Rib Pipe
■	RD386	Fill Height Table For Circular Concrete Pipe
■	RD388	Fill Height Tables For PVC Pipe
■	RD390	Fill Height Table For Corrugated HDPE Pipe
■	RD391	Fill Height Table For Steel Reinforced HDPE Pipe
■	RD393	Fill Height Tables For Polypropylene Pipe
■	RD398	Culvert ID Marker
■	RD399	Stormwater Treatment and Storage Facility Field Markers

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.12.19 17:35:06-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PIPE DATA

SHEET NO.
BD03

SHEET NUMBER	NOTE No. ON PLANS	① DESIGN HEIGHT OF COVER (FEET)	PIPE CIRCULAR OR ELLIPTICAL SIZE IN (Inches) 6 LENGTH IN FEET	12	18	24	30		PIPE - ARCH HELICAL Riveted Welded or Lock Seam EQUIV. RND SIZE (Inches)	LENGTH (FEET)	CROSS - SECTIONAL DIMENSIONS ② SPAN (Feet-Inches)	RISE	CORNER RADII (Inches)	USE / INSTALLATION CRITERIA DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)	TERMINAL TREATMENT LT. / RT. SLOPED ENDS Not for Conc. Pipe Over 60" Dia.	SKEW NUMBER	PAVED END SLOPES No.	ALTERNATE MATERIALS HELICAL CORRUGATED METAL ALUMINUM SIZE OF CORRUGATIONS RIVETED, WELDED OR LOCK SEAM 1 1/2" x 1/4" PLATE THKN. (Inches)	CROSS SECTION ③	2 2/3" x 1/2" PLATE THKN. (Inches)	CROSS SECTION ③	3" x 1" PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	LOCK SEAM SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C. PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	ALUMINIZED OR GALVANIZED IRON AND STEEL SIZE OF CORRUGATIONS RIVETED, WELDED OR LOCK SEAM 1 1/2" x 1/4" PLATE THKN. (Inches)	CROSS SECTION ③	2 2/3" x 1/2" PLATE THKN. (Inches)	CROSS SECTION ③	3" x 1" PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④ GALVANIZED	ALUMINIZED	LOCK SEAM SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C. PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④ GALVANIZED	ALUMINIZED	RIGID PRE-CAST CONCRETE REINF. III	IV	V	PLASTIC & IRON CORRUGATED HDPE	SOLID WALL HDPE	REINFORCED HDPE	PVC - PSI STIFFNESS	POLYPROPYLENE, DOUBLE WALL	POLYPROPYLENE, TRIPLE WALL	DUCTILE IRON - PIPE CLASS	APPURTENANCES MANHOLES DEPTH, TOP OF COVER TO INVERT (Feet)	DIAMETER OF LARGEST PIPE IN BASE (In.)	CONC. PRECAST	CAST-IN-PLACE	DROP MANHOLE	SPECIAL	INLETS TYPE G-2MA Number Required	G-2	G-2M	G-1	D	EXTENSION LEFT (Feet)	RIGHT	⑤ EXTG. PIPE MATERIAL	REMARKS
D07C	10	6.6		76																✓			✓			5.7	32.8											0.060	R										0.064	R			✓			✓			46	✓																	
	11																																																																								1				
	12	2.0		35																✓			✓			5.7	32.8											0.060	R										0.064	R			✓			✓			46	✓			5.0	12													Manhole w/ CG-2 inlet
	16																																																																											Type CG-2 inlet w/ 18" sump
	20	2.5	4																	✓			✓			5.7	32.8																													✓																		1				Conn. to drain pipe
D08B	3	0.0		78											✓								✓			8.4	26.9	1:6 / 1:6	90																																		51															
	7	2.5	76																	✓			✓			8.4	26.9											0.060	R										0.064	R			✓			✓			46	✓																	Conn. to bioslope underdrains
	8	2.5	67																	✓			✓			8.4	26.9											0.060	R										0.064	R			✓			✓			46	✓																	Conn. to bioslope underdrains
D09B	1	0.9		68											✓								✓			8.4	26.9	1:6 / 1:6	90										0.060	R										0.064	R					✓																							
	2	1.1		98											✓								✓			8.4	26.9	1:6 / 1:6	90										0.060	R										0.064	R				✓																								
D10C	1	11.9					369													✓			✓															0.060	R										0.064	R			✓			✓			46	✓			16.50	30													Lrg. manhole 72" dia.
	2																																																																						1							w/ 18" sump
	5	18.4					84													✓			✓					1:6 /	90	1								0.060	R										0.064	R			✓			✓			46	✓																	w/ riprap basin
	8	2.5		61											✓													1:6 / 1:6	90										0.060	R										0.064	R			✓			✓																					
	9	1.7		17																✓			✓					1:6 /	90	1								0.060	R										0.064	R			✓																										w/ riprap basin
	11	2.5	42																	✓			✓															0.060	R										0.064	R			✓			✓			46	✓																	Conn. to bioslope underdrains
	12	2.5	44																	✓			✓															0.060	R										0.064	R			✓			✓			46	✓																	w/ riprap basin
BB08	1	2.4	48											✓									✓																																	✓																						Slip joint (6"x6"x6")
	1	2.4	20											✓									✓																																	✓																						
	2	2.4	48											✓									✓																																	✓																						Slip joint (6"x6"x6")
	2	2.4	20											✓									✓																																	✓																						
	3	2.4	48											✓									✓																																	✓																						Slip joint (6"x6"x6")
	3	2.4	20											✓									✓																																	✓																						
	4	2.4	48											✓									✓																																	✓																						Slip joint (6"x6"x6")
	4	2.4	20											✓									✓																																	✓																						
	5	2.4	48											✓									✓																																	✓																						Slip joint (6"x6"x6")
	5	2.4	20											✓									✓																																	✓																						
	6	2.4	48											✓									✓																																	✓																						Slip joint (6"x6"x6")
	6	2.4	20											✓									✓																																	✓																						
	7	2.4	48											✓									✓																																	✓																						Cleanout
	7	2.4	20											✓									✓																																	✓																						Connect to structure
	7	2.4	20											✓									✓																																	✓																						Connect to structure
	7	2.4	5											✓									✓																																	✓																						Connect to structure
	8	2.4	35											✓									✓																																	✓																						Slip joint (6"x6"x6")
	8	2.4	20											✓									✓																																	✓																						
	9	2.4	35											✓									✓																																	✓																						Slip joint (6"x6"x6")
	9	2.4	20											✓									✓																																	✓																						
	10	2.4	35											✓									✓																																	✓																						Slip joint (6"x6"x6")
	10	2.4	20											✓									✓																																	✓																						

GENERAL NOTES:

1. A check (✓) indicates column heading applies.
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4. Dimensions shown are nominal.
5. All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved. column heading applies.

FOOTNOTES:

① Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.

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③ Cross-sectional shape of pipe normal to longitudinal axis, prior to loading
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■	RD342	Shallow Manholes
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■	RD380	Fill Height Tables For Aluminum & Steel Corrugated Pipe
□	RD382	Fill Height Tables For Aluminum & Steel Arch Pipe
□	RD384	Fill Height Tables For Aluminum & Steel Spiral Rib Pipe
■	RD386	Fill Height Table For Circular Concrete Pipe
■	RD388	Fill Height Tables For PVC Pipe
■	RD390	Fill Height Table For Corrugated HDPE Pipe
■	RD391	Fill Height Table For Steel Reinforced HDPE Pipe
■	RD393	Fill Height Tables For Polypropylene Pipe
■	RD398	Culvert ID Marker
■	RD399	Stormwater Treatment and Storage Facility Field Markers

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED
2023.12.17
16:57:02-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PIPE DATA

SHEET NO.
BD04

SHEET NUMBER	NOTE No. ON PLANS	① DESIGN HEIGHT OF COVER (FEET)	PIPE: CIRCULAR OR ELLIPTICAL, SIZE IN (Inches) 6, LENGTH IN FEET	12	18	24	30	96	PIPE - ARCH: HELICAL Riveted Welded or Lock Seam EQUIV. RND SIZE (Inches)	LENGTH (FEET)	CROSS - SECTIONAL DIMENSIONS ②: SPAN (Feet-Inches)	RISE (Feet-Inches)	CORNER RADII (Inches)	USE / INSTALLATION CRITERIA: DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)	TERMINAL TREATMENT: LT. / RT.	SLOPED ENDS (Not for Conc. Pipe Over 60" Dia.)	SKEW NUMBER	PAVED END SLOPES No.	ALTERNATE MATERIALS, HELICAL CORRUGATED METAL, ALUMINUM, SIZE OF CORRUGATIONS, RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4" PLATE THKN. (Inches)	CROSS SECTION ③	2 2/3" x 1/2" PLATE THKN. (Inches)	CROSS SECTION ③	3" x 1" PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C. PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④	ALUMINIZED OR GALVANIZED IRON AND STEEL, SIZE OF CORRUGATIONS, RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4" PLATE THKN. (Inches)	CROSS SECTION ③	2 2/3" x 1/2" PLATE THKN. (Inches)	CROSS SECTION ③	3" x 1" PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④ GALVANIZED	④ ALUMINIZED	LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C. PLATE THKN. (Inches)	CROSS SECTION ③	COATING ④ GALVANIZED	④ ALUMINIZED	RIGID: PRE-CAST CONCRETE REINF. III	IV	V	PLASTIC & IRON: CORRUGATED HDPE	SOLID WALL HDPE	REINFORCED HDPE	PVC - PSI STIFFNESS	POLYPROPYLENE, DOUBLE WALL	POLYPROPYLENE, TRIPLE WALL	DUCTILE IRON - PIPE CLASS	APPURTENANCES, MANHOLES: DEPTH, TOP OF COVER TO INVERT (Feet)	DIAMETER OF LARGEST PIPE IN BASE (In.)	CONC.: PRECAST	CAST-IN-PLACE	DROP MANHOLE	SPECIAL	INLETS, TYPE, Number Required: G-2MA	G-2	G-2M	G-1	D	EXTENSION (Feet): LEFT	RIGHT	⑤ EXTG. PIPE MATERIAL	REMARKS
BB08	11	2.4	35											✓									✓																																		✓																					Slip joint (6"x6"x6")
	11	2.4	20											✓									✓																																		✓																					
	12	2.4	35											✓									✓																																		✓																					Slip joint (6"x6"x6")
	12	2.4	20											✓									✓																																		✓																					
	13	2.4	35											✓									✓																																		✓																					Slip joint (6"x6"x6")
	13	2.4	20											✓									✓																																		✓																					
	14	2.4	35											✓									✓																																		✓																					Cleanout
	14	2.4	20											✓									✓																																		✓																					Connect to structure
	14	2.4	20											✓									✓																																		✓																					Connect to structure
	14	2.4	5											✓									✓																																		✓																					Connect to structure
HB01		22.0						137									✓								6.8	39.0									0.105	R	U								0.079	R	U	U																													Structure No. 24316

GENERAL NOTES:

1. A check (✓) indicates column heading applies.
2. A new pipe culvert installation shall be of like material throughout.
3. Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, see Std. Dwg. No. RD326.
4. Dimensions shown are nominal.
5. All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved. column heading applies.

FOOTNOTES:

① Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.

② Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternates use a separate line for each type of material.

③ Cross-sectional shape of pipe normal to longitudinal axis, prior to loading
A = Pipe - Arch
R = Round
E = Elliptical (5% nominal elongation)

④ Abbreviations for protective coatings for metal pipe
PM = Polymeric, 10 Mil. thkn. coated both sides
PO = Polyethylene inside lining, polymeric outside
U = Uncoated
CIM = Chevron industrial membrane
Ep = Epoxy coated

⑤ Abbreviations for existing pipe materials
AB = Asbestos cement
Al = Corrugated aluminum
Co = Concrete
Pl = Plastic
St = Corrugated steel
X = Other material, see remarks column

■	RD300	Trench Backfill, Bedding, Pipe Zone And Multiple Installations
□	RD302	Street Cut
□	RD304	Arch Pipe Backfill/Compaction
□	RD306	Concrete Encasement, Cradle, and Cap Details
□	RD308	Bore Casing Detail
□	RD310	Shallow/Deep Trench Service Connection, Blocking and Markers
■	RD312	Subsurface Drain
■	RD316	Sloped Ends For Metal Pipe
■	RD317	Culvert Embankment Protection And Riprap Pads
■	RD318	Sloped Ends For Concrete Pipe
■	RD319	Miscellaneous Culvert Details
■	RD320	Paved End Slope For Culverts 60" Maximum Pipe Size
□	RD321	Paved End Slope With Removable Safety Bar(s)
□	RD322	Safety End Section For Metal Pipe
□	RD324	Safety End Section For Concrete, PVC, HDPE & Polypropylene Pipe
□	RD325	Coupling Bands For Corrugated Metal Pipe
■	RD326	Coupling Bands For Corrugated Metal Pipe
□	RD327	Coupling Bands For Corrugated Metal Pipe
□	RD328	Slotted CMP Drain Details
□	RD330	Pipe Slope Anchors - Metal
■	RD332	Pipe Slope Anchors - Concrete
□	RD334	Locator Post
■	RD335	Standard Storm Sewer Manhole
■	RD336	Standard Manhole Details
□	RD338	Standard Sanitary Sewer Manhole
■	RD339	Pipe To Structure Connections
■	RD340	Storm Sewer Pollution Control Manhole
■	RD342	Shallow Manholes
□	RD343	24" Manholes
■	RD344	Standard Manhole Base Section
■	RD345	Pipe To Manhole Connections
■	RD346	Large Precast Manhole
■	RD348	Manhole With Inlet
□	RD350	Sanitary Sewer Piped Inside Drop Connection for Manholes
■	RD352	Outside Drop Manholes
□	RD354	Carry Through Manhole - Storm
■	RD356	Manhole Covers And Frames
□	RD358	Manhole Slope Protectors
■	RD360	Manhole Frame Adjustment
■	RD362	Sanitary Cleanout
■	RD363	Gutter Transition At Inlet
■	RD364	Concrete Inlets Type G-1, G-2, G-2M, and G-2MA
■	RD365	Frames & Grates For Concrete Inlets
■	RD366	Concrete Inlets Type CG-1, CG-2
□	RD367	Curb Inlet Channel
□	RD368	Concrete Inlets Type M-E, M-O, B And B-SL
■	RD370	Ditch Inlet Type D
□	RD371	Concrete Inlet Base Type CG-3
□	RD372	Concrete Inlet Top, Option 1 Type CG-3
□	RD373	Concrete Inlet Top, Option 2 Type CG-3
□	RD374	Area Drainage Basin Or Field Inlet
■	RD376	Miscellaneous Drainage Structures Siphon Box, Inlet Cap & Inlet Adjustment
□	RD378	Type "3" Catch Basin, Frame and Grate
■	RD380	Fill Height Tables For Aluminum & Steel Corrugated Pipe
□	RD382	Fill Height Tables For Aluminum & Steel Arch Pipe
□	RD384	Fill Height Tables For Aluminum & Steel Spiral Rib Pipe
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■	RD399	Stormwater Treatment and Storage Facility Field Markers

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.12.17 16:58:02-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

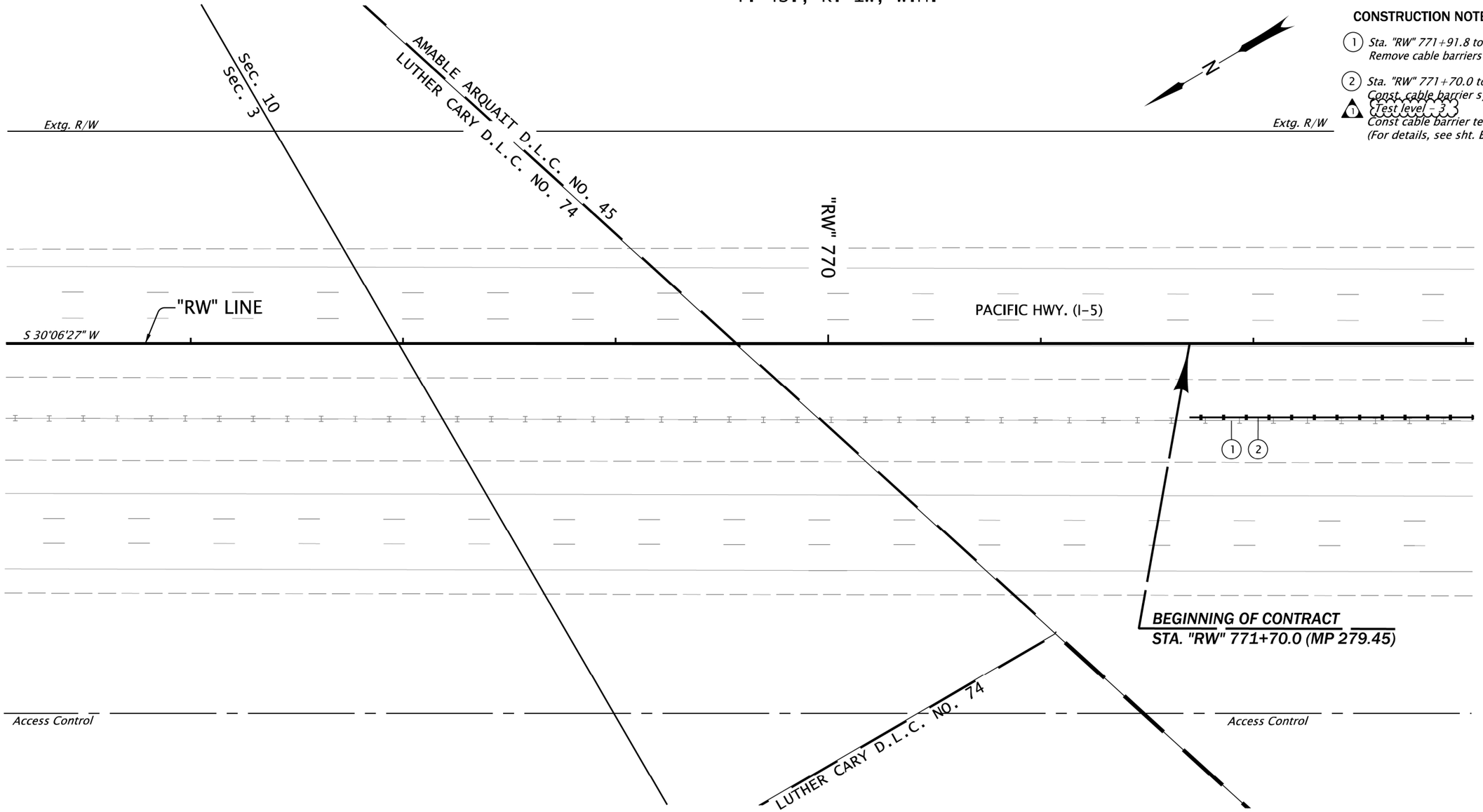
Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PIPE DATA

SHEET NO.
BD05

57V-020

T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *Sta. "RW" 771+91.8 to Sta. "RW" 790+34.3, Rt. Remove cable barriers and foundations - 1,865'*
2. *Sta. "RW" 771+70.0 to Sta. "RW" 786+71.0, Rt. Const. cable barrier system - 1,431'*
   (Test level - 3)
1. *Const cable barrier terminal (For details, see sht. BB13)*

No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 18:17:17-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

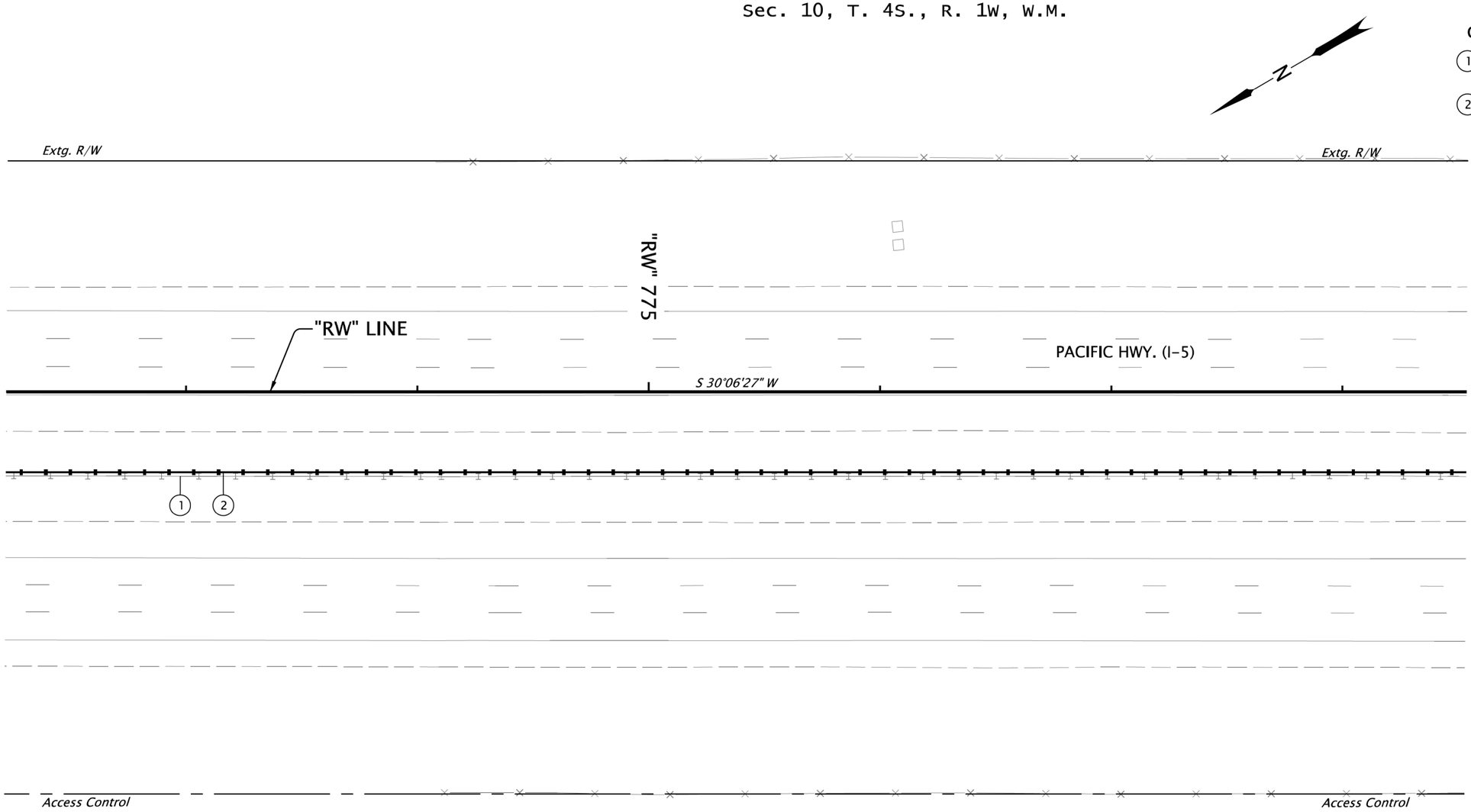
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION | SHEET NO. C01

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *See sht. C01, note 1*
   Remove extg. cable barrier and foundations
2. *See sht. C01, note 2*
   Const. cable barrier, test level 3 (1)

No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 18:18:02-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION

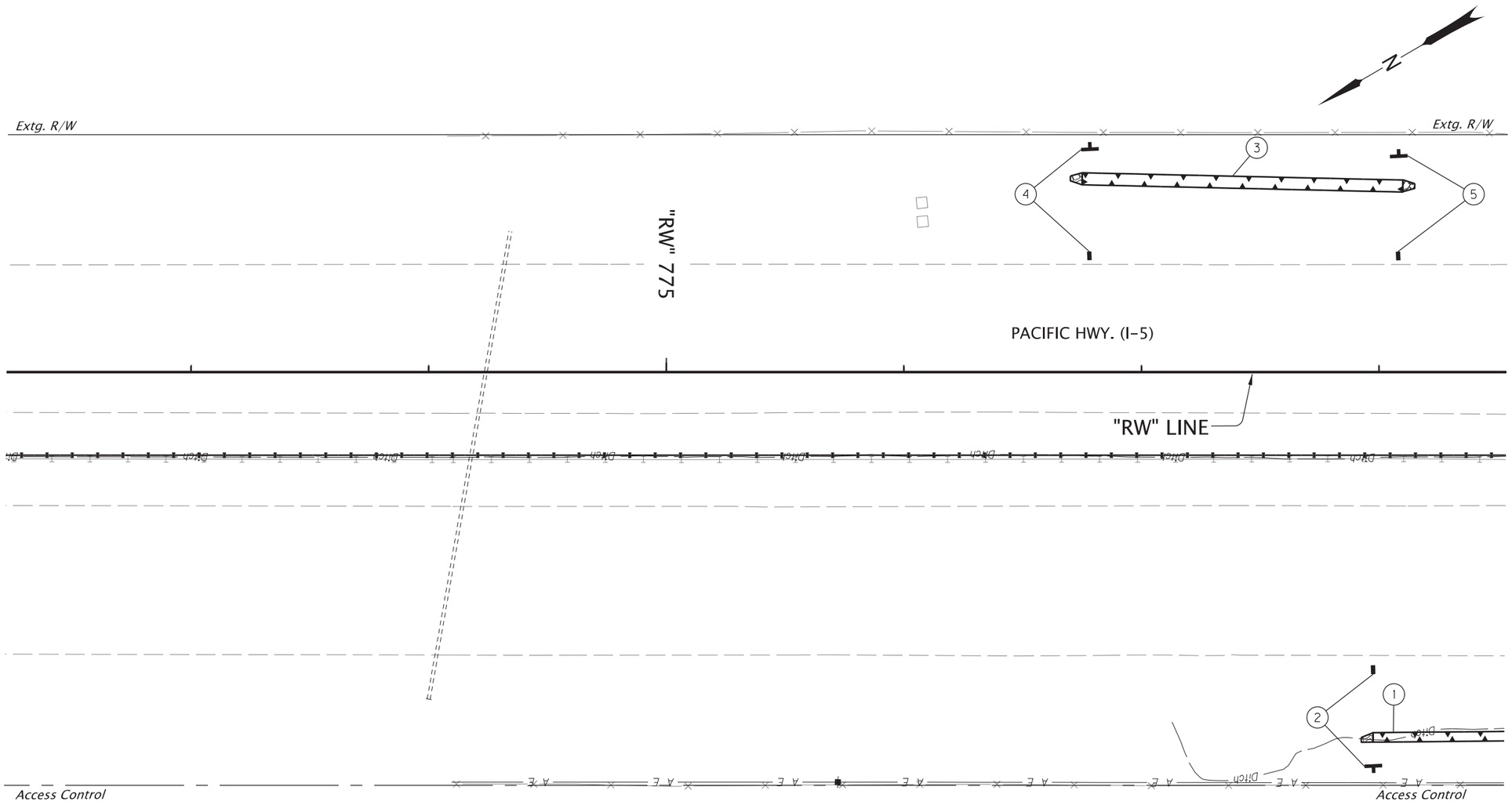
SHEET NO. C02

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 239.8925° Scale: 1"=50'

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *Sta. "RW" 777+97, 153.8' Rt. to*
   Sta. "RW" 778+97, 152.9' Rt.
   Const. water quality swale D01415 - 100 LF
   (For details, see shts. HA03 & HA06)
2. *Inst. stormwater field marker, Type S2*
   Inst. stormwater field marker, Type S1
   DFI D01415
   MP 279.31
   (For details, see shts. HA03 & HA06)
   (See dwg. no. RD399)
3. *Sta. "RW" 776+76, 78.9' Lt. to*
   Sta. "RW" 778+06, 75.9' Lt.
   Const. water quality swale D00948 - 130 LF
   (For details, see shts. HA03 & HA06)
4. *Inst. stormwater field marker, Type S2*
   Inst. stormwater field marker, Type S1
   DFI D00948
   MP 279.38
   (For details, see shts. HA03 & HA06)
5. *Inst. stormwater field marker, Type S2*
   Inst. stormwater field marker, Type S1
   DFI D00948
   MP 279.35
   (For details, see shts. HA03 & HA06)

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 19:40:57-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

DRAINAGE & UTILITIES

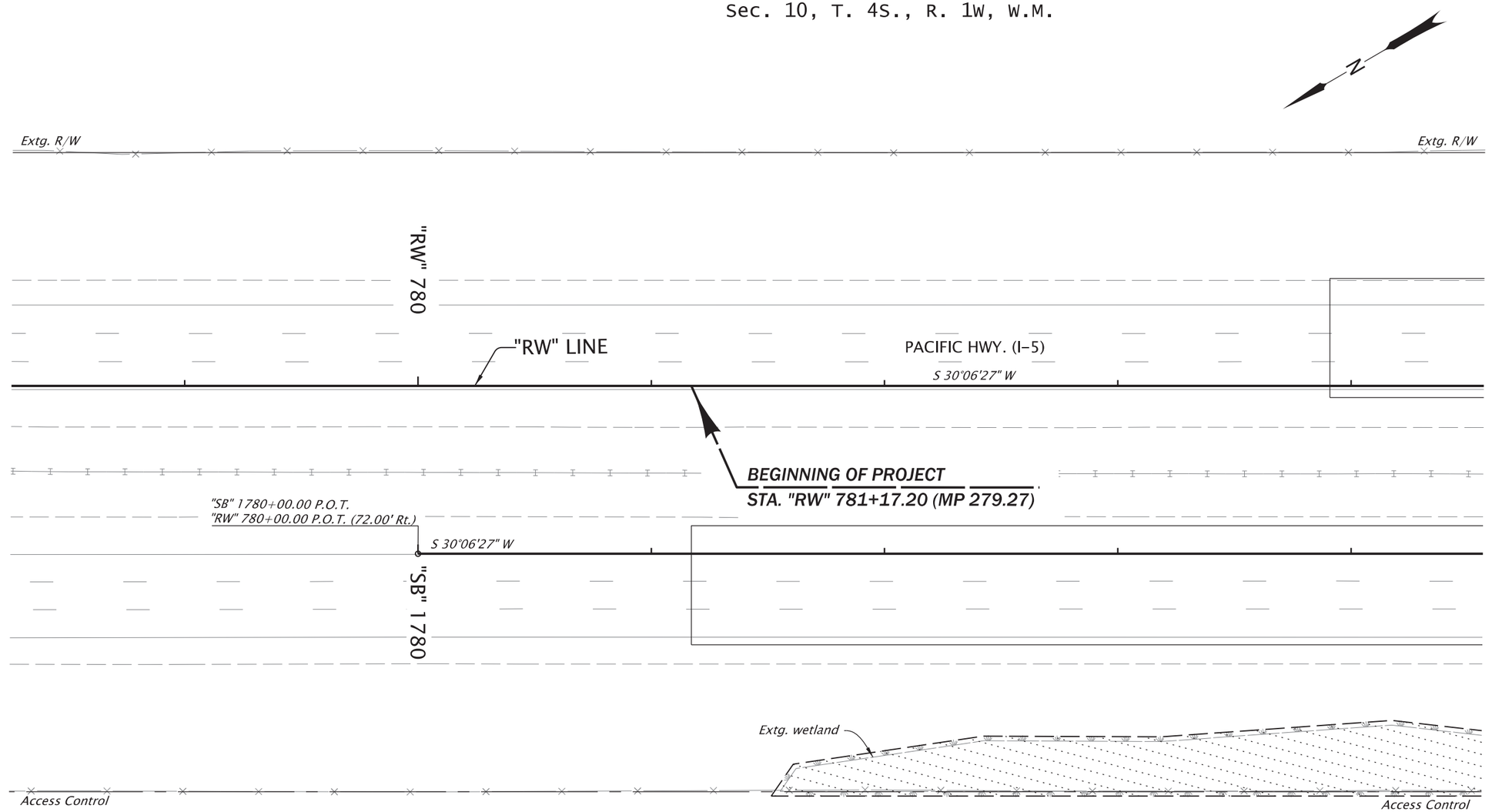
SHEET NO.
C02A

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 239.8925° Scale: 1"=50'

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
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OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
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Portland Oregon 97201
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I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

ALIGNMENT

SHEET NO. C03

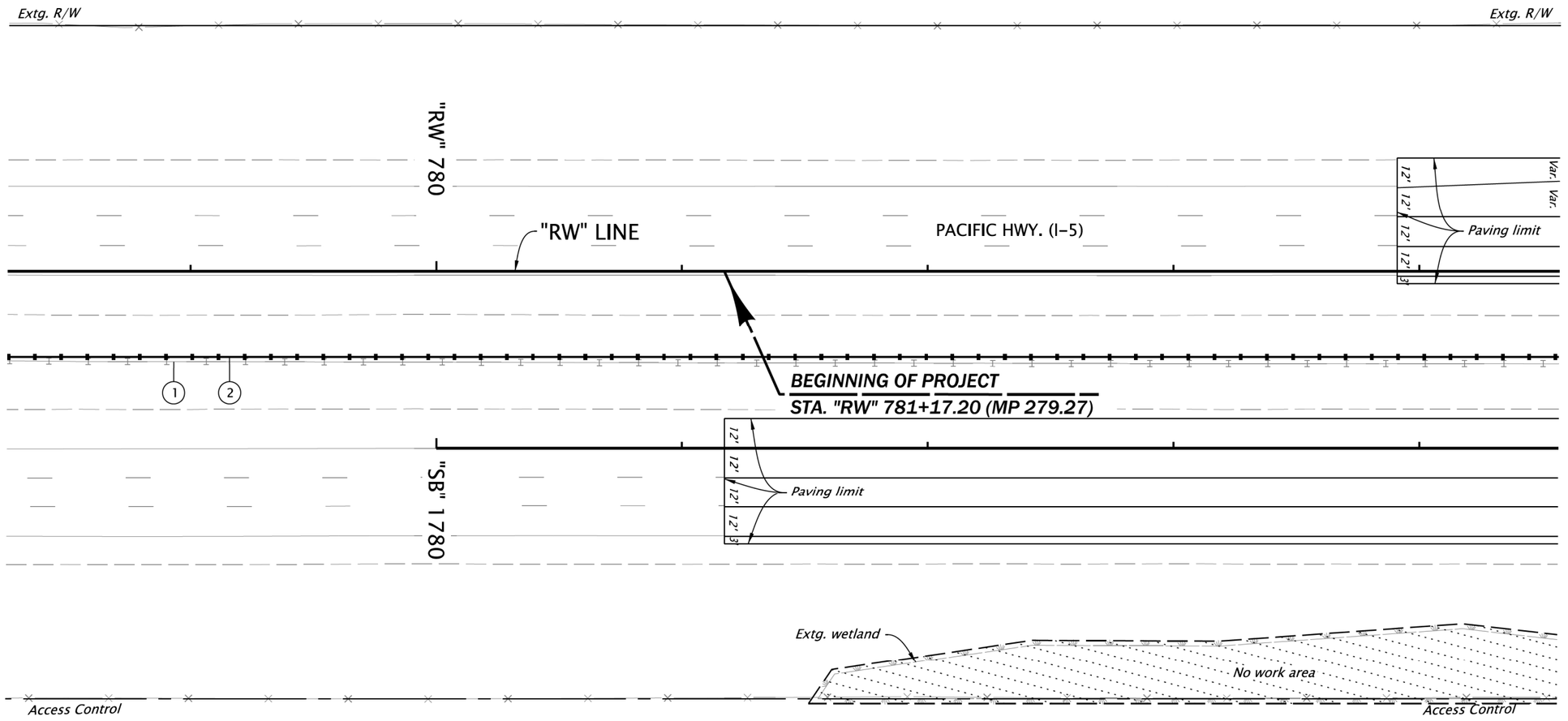
Rotation: 239.8925° Scale: 1"=50'

57V-020

Sec. 10, T. 4S., R. 1W, W.M.

CONSTRUCTION NOTES

1. *See sht. C02A, note 1*
   Remove extg. cable barrier and foundations
2. *See sht. C02A, note 2*
   Const. cable barrier, test level 3 (1)



No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

LEGEND

No work area

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 18:56:32-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

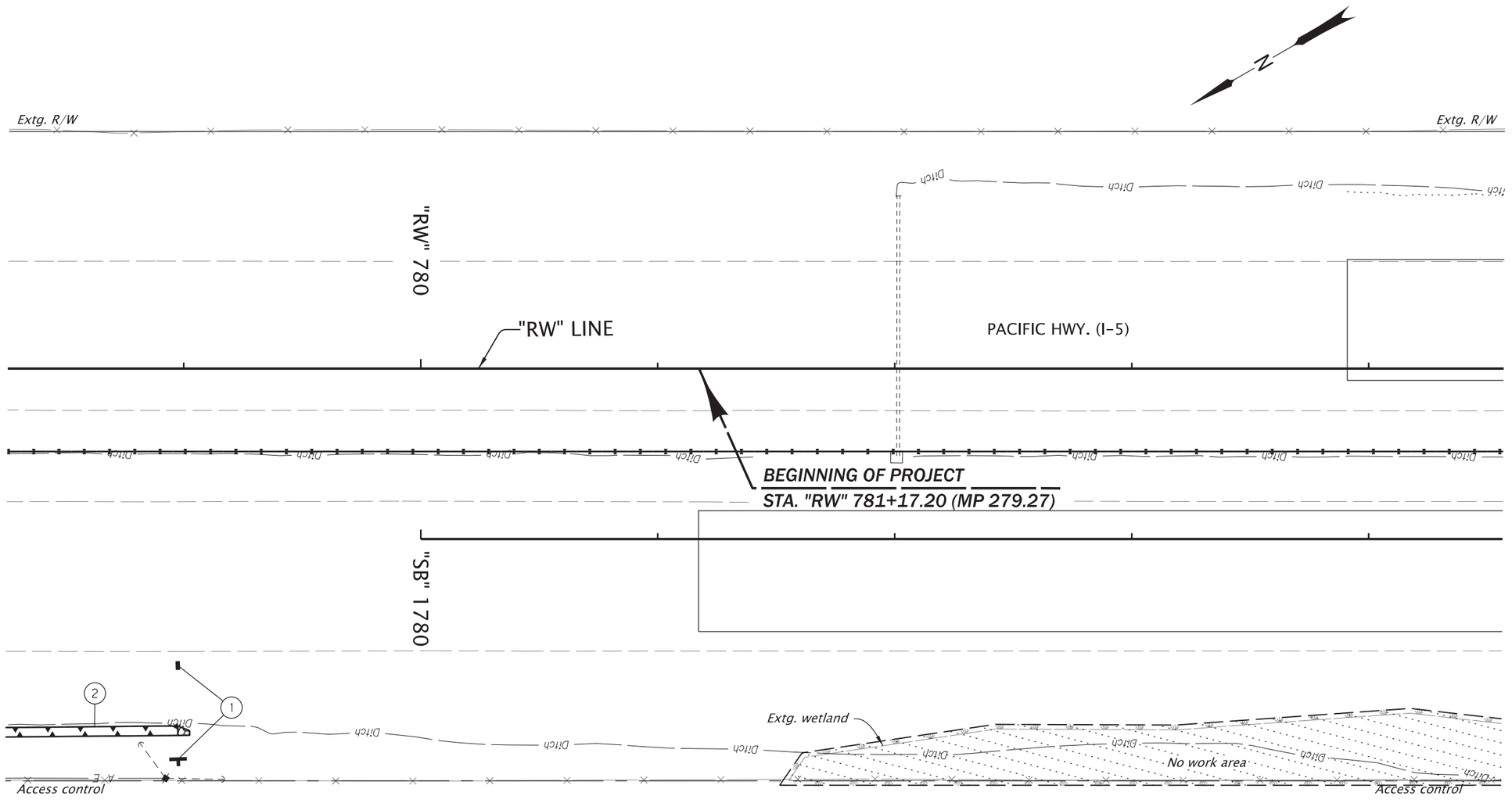
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION

SHEET NO. C03A

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *Inst. stormwater field marker, Type S2*
   Inst. stormwater field marker, Type S1
   DFI D01415
   MP 279.29
   (For details, see shts. HA03 & HA06)
   (See dwg. no. RD399)
2. *See sht. C02A, note 1*
   Const. water quality swale

LEGEND

No work area

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 19:41:24-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

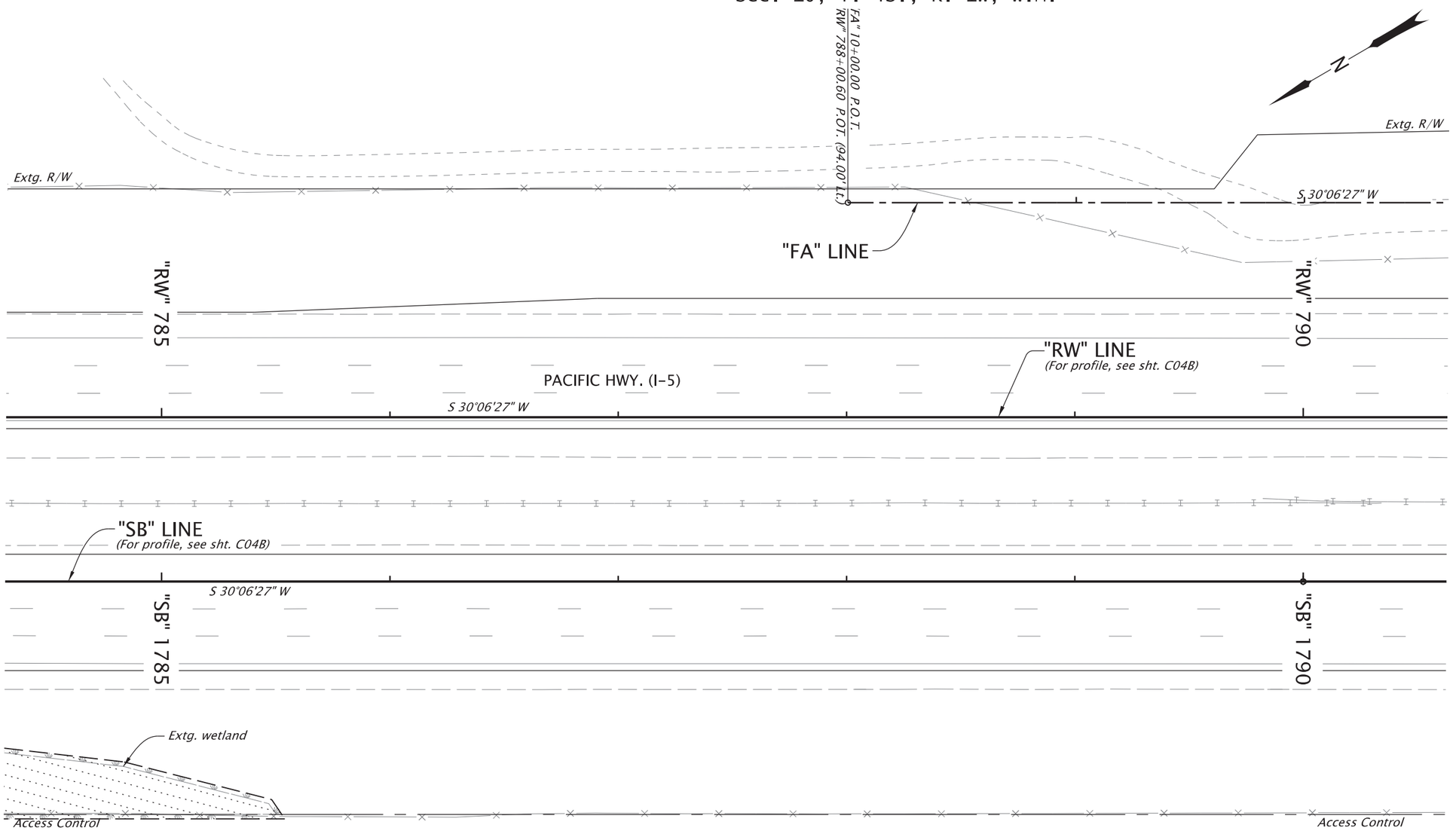
Designer: Hao Vo | Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski | Checker: Atalia Raskin

DRAINAGE & UTILITIES

SHEET NO. C03B

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 17:44:31-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

ALIGNMENT

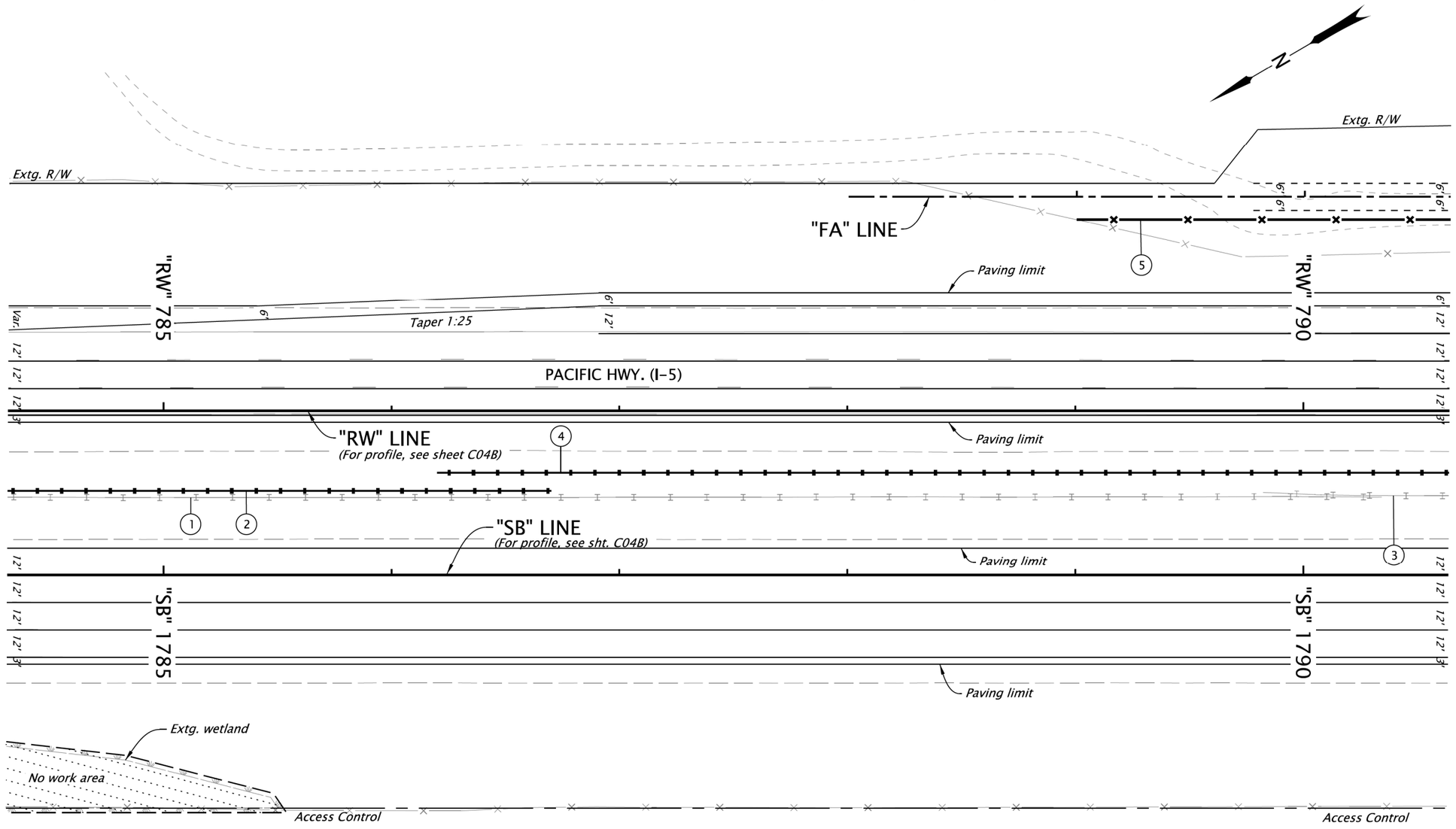
SHEET NO. C04

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 239.8925° Scale: 1"=50'

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *See sht. C03A, note 1*
   Remove extg. cable barrier and foundations
2. *See sht. C03A, note 2*
   Const. cable barrier
   (Test level - 3) ⚠1
   Const cable barrier terminal
3. *Sta. "RW" 789+82.3 to Sta. "RW" 808+28.9, Lt.*
   Remove cable barriers and foundations - 1847'
4. *Sta. "RW" 786+20.0 to Sta. "RW" 801+93.4, Rt.*
   Const. cable barrier system - 1,504'
   (Test level - 3) ⚠1
   Const cable barrier terminal
5. *Sta. "RW" 789+00 to Sta. "RW" 810+00, Lt.*
   Remove extg. fence
   Const. type 2 fence
   (See dwg. no RD810)

No.	DATE	REVISIONS	BY
⚠1	02-01-24	Revised cable barrier type	T.C.S.

LEGEND

No work area

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 16:25:35-06'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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MARION COUNTY

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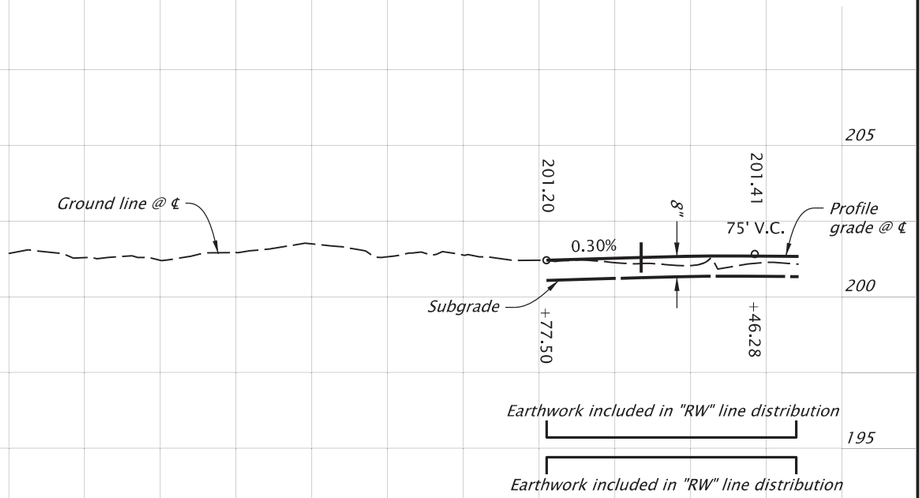
GENERAL CONSTRUCTION | SHEET NO. C04A

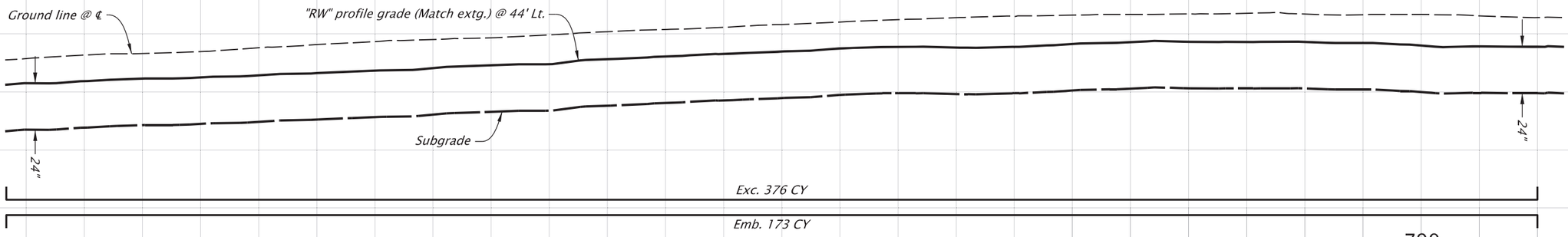
57V-020

"FA" LINE



10

"RW" LINE



790

785

RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

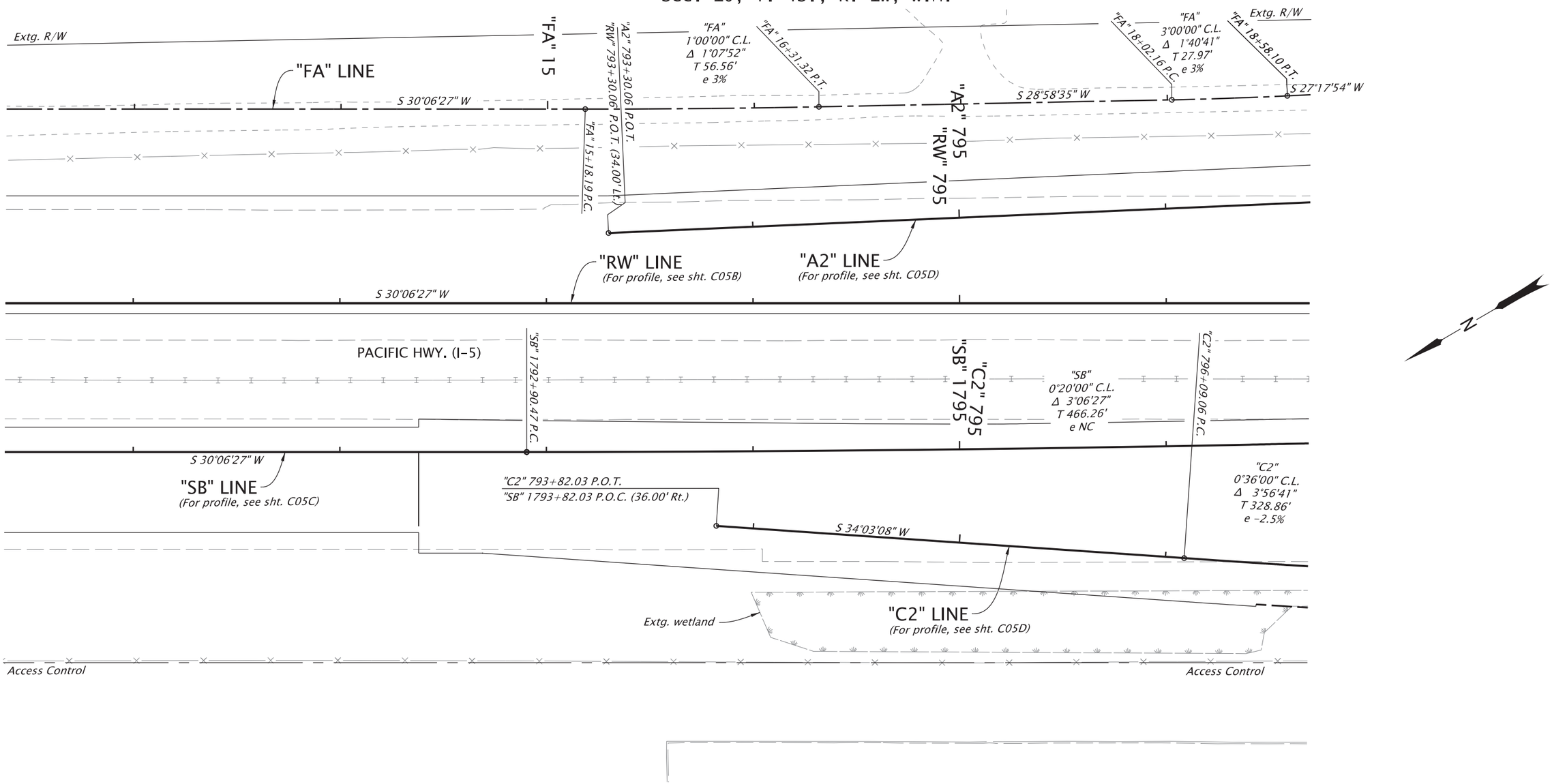
PROFILE

SHEET NO. C04B

Rotation: 0° Scale: 1"=50'

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 17:49:26-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

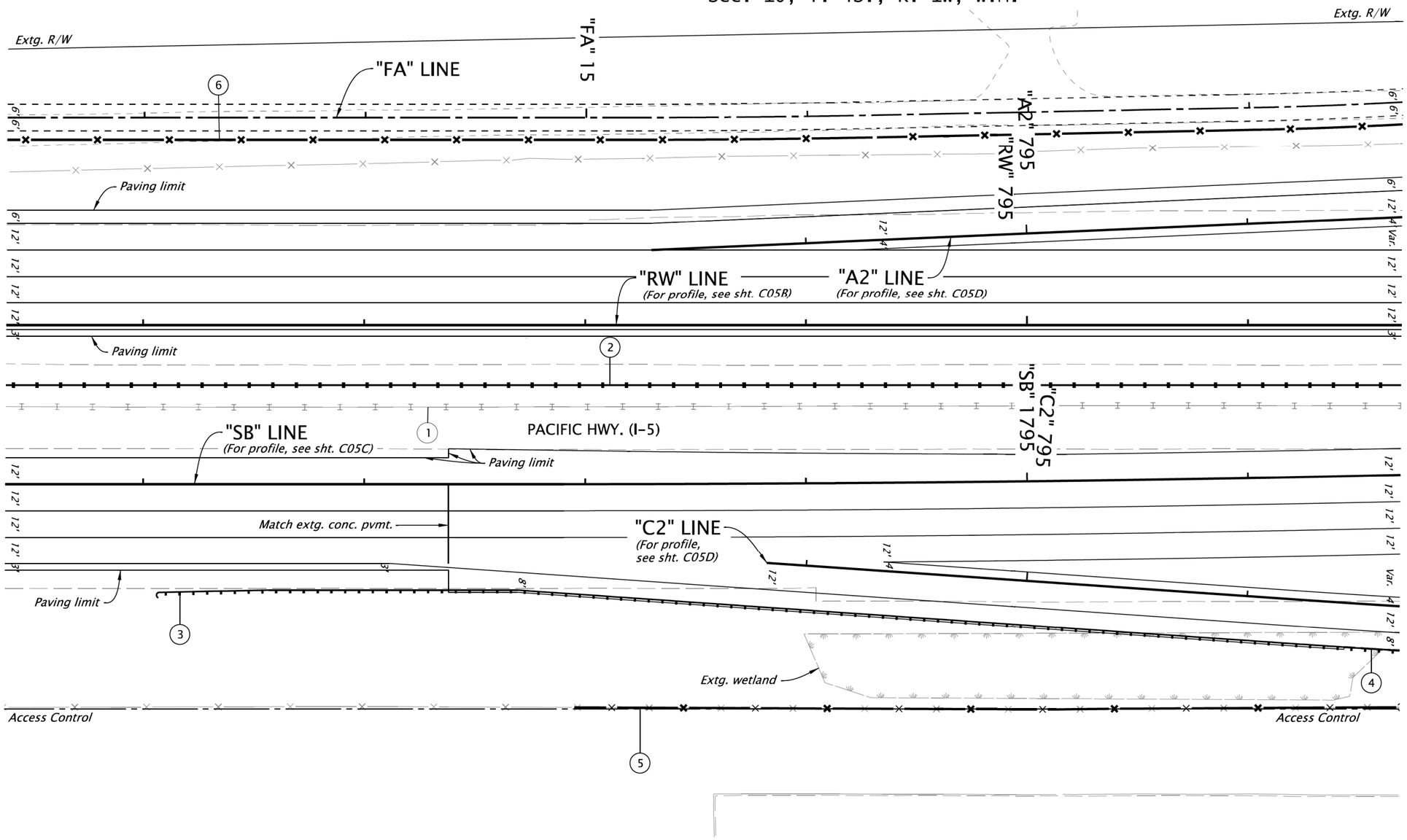
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

ALIGNMENT

SHEET NO. C05

57V-020

Sec. 10, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *See sht. C04A, note 3*
   Remove extg. cable barrier and foundations
2. *See sht. C04A, note 2*
   Const. cable barrier, test level 3 ⚠1
3. *Sta. "SB" 1791+07.1 to Sta. "C2" 799+87.9, Rt.*
   Const. Midwest Guardrail System - 800' (Type 2A)
   W=1', E=0
   Const. guardrail terminal non-flared
   Test level - 3
   (See dwg. nos. RD402, RD403, RD407, RD416, RD417, RD419 & RD420)
4. *Const. low profile mountable curb*
   (See dwg. no. RD700)
5. *Sta. "SB" 1792+95.5 to Sta. "C2" 808+23.6, Rt.*
   Remove extg. fence
   Const. type 2 fence
6. *See sht. C04A, note 5*
   Remove extg. fence
   Const. type 2 fence

No.	DATE	REVISIONS	BY
⚠1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 18:26:26-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

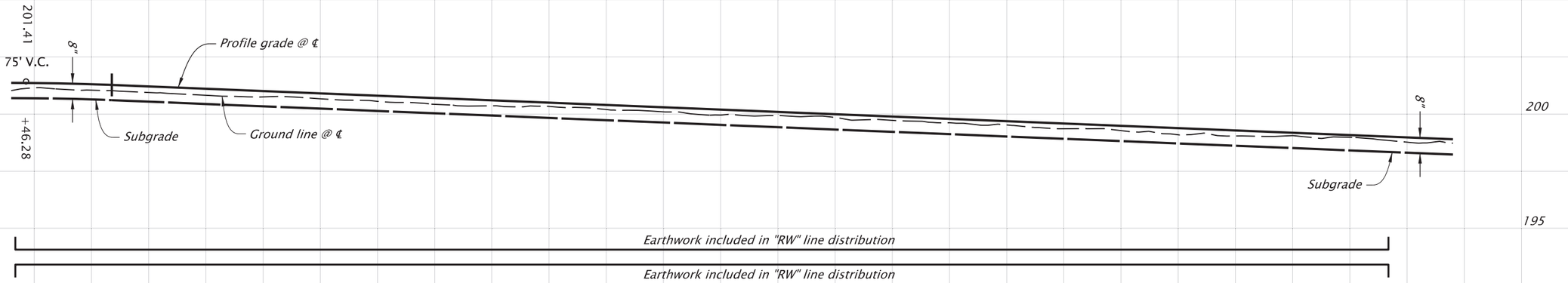
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION

SHEET NO. C05A

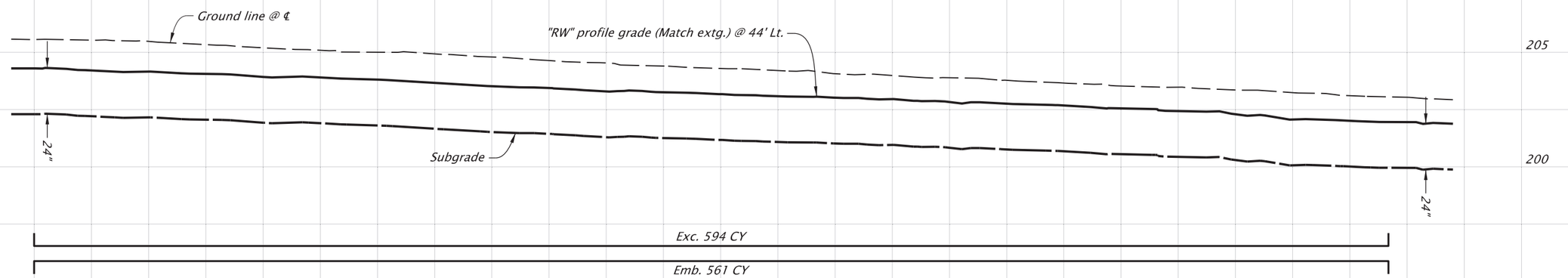
57V-020

"FA" LINE



15

"RW" LINE



795

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 21:51:19-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

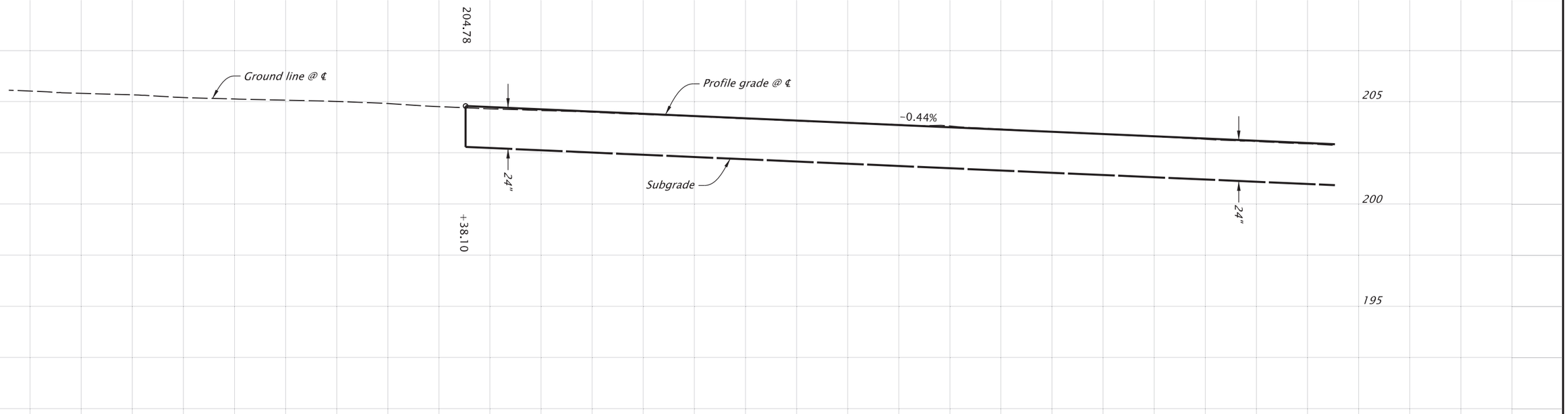
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

PROFILE

SHEET NO. C05B

57V-020

"SB" LINE



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REGISTERED PROFESSIONAL ENGINEER
51,631
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OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

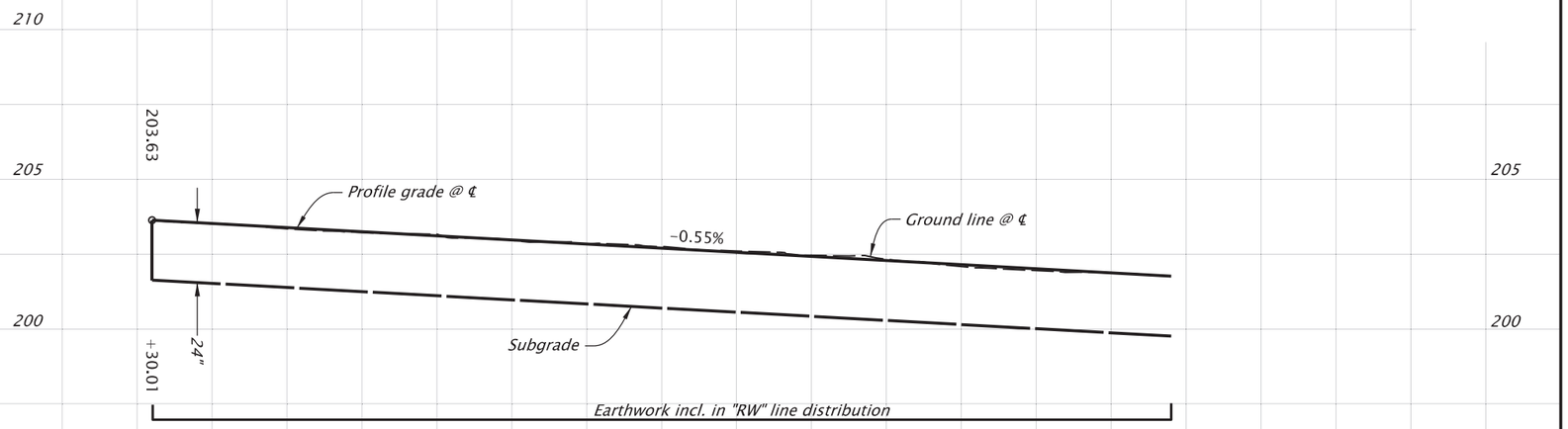
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

PROFILE

SHEET NO. C05C

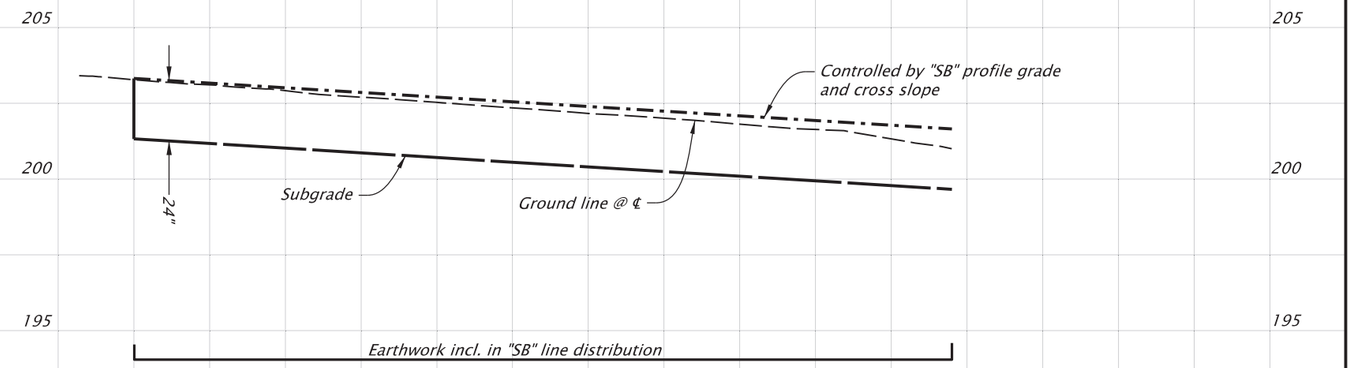
57V-020

"A2" LINE



795

"C2" LINE



795

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 21:53:30-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

PROFILE

SHEET NO. C05D

57V-020

T. 4S., R. 1W, W.M.

"FA" 18+58.10 P.T.

Extg. R/W

"FA" 20

"FA" LINE

"A2" 800

S 27°17'54" W

"FA" 25

Extg. R/W

"FA" 26+03.27 P.C.

"FA"
3°00'00" C.L.
Δ 1°40'41"
T 27.97'
e 3%

"FA"
400' R.C.L.
Δ 3°11'11"
T 11.13'
e 3%

S 27°36'27" W

"A2" LINE
(For profile, see sht. C06E)

"RW" 800

"RW" LINE
(For profile, see sht. C06E)

S 30°06'27" W

Sec. 10
Sec. 9

PACIFIC HWY. (I-5)

"SB" 1800

"SB" 1802+22.75 P.R.C.

"SB" LINE
(For profile, see sht. C06F)

"SB"
0°20'00" C.L.
Δ 3°06'27"
T 466.26'
e NC

"C2" 800

"C2" 802+66.52 P.T.

"SB"
0°27'00" C.R.
Δ 3°06'27"
T 345.38'
e NC

S 30°06'27" W

Access Control

184.00'

80.00'

"C2" LINE
(For profile, see sht. C06F)

"C2"
0°36'00" C.L.
TΔ 3°56'41"
T 328.86'
e -2.5%

Temp. ease. - slopes

Access Control

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 21:54:25-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

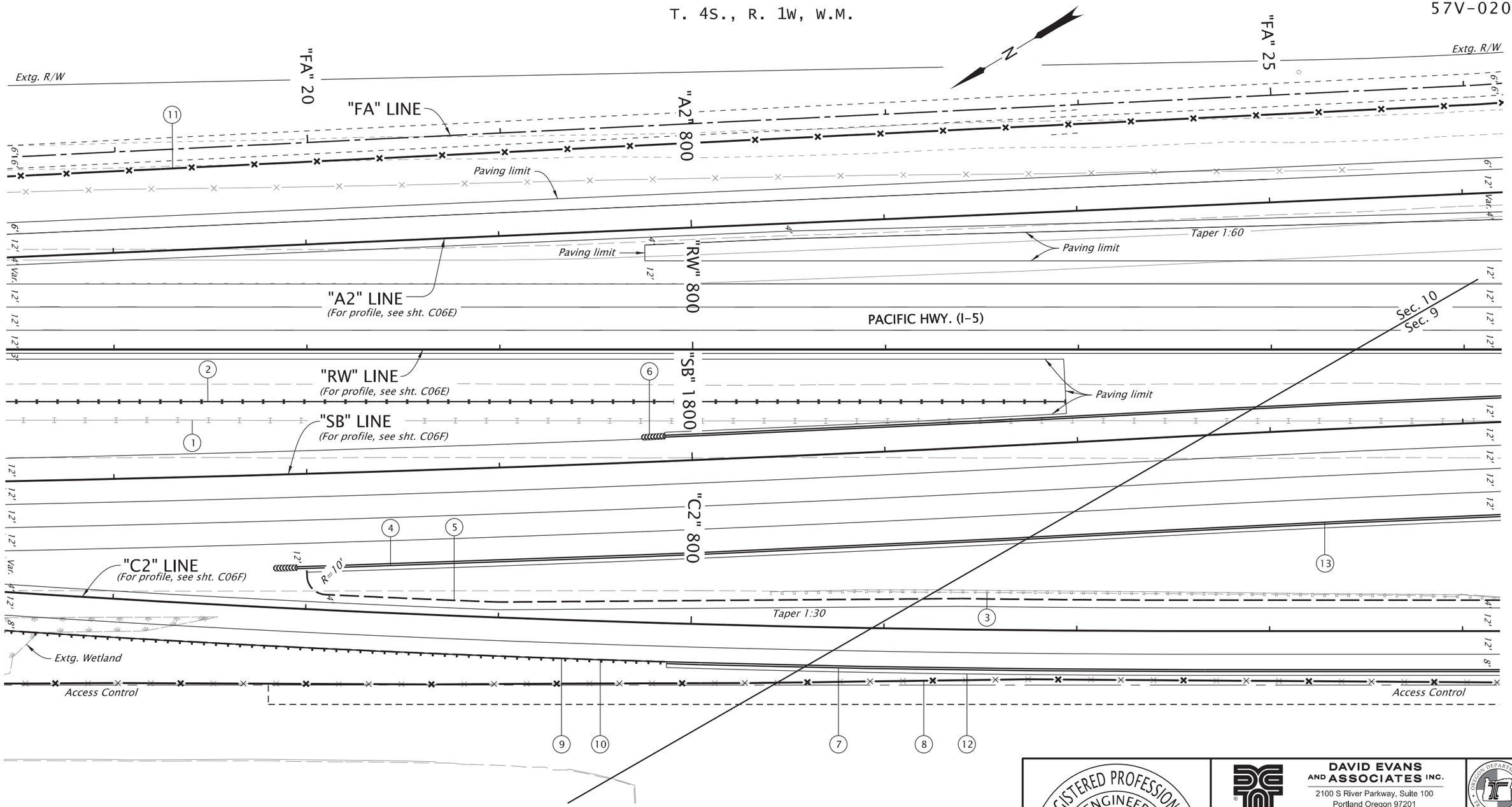
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

ALIGNMENT

SHEET NO. C06

T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 21:56:36-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

GENERAL CONSTRUCTION

SHEET NO. C06A

Rotation: 239.8925° Scale: 1"=50'

57V-020

CONSTRUCTION NOTES

1. *See sht. C05A, note 1*
   Remove cable barrier and foundations

2. *See sht. C05A, note 2*
   Const. cable barrier, test level 3 (1)
   Const. cable barrier terminal

3. *Sta. "C2" 800+40.5 to Sta. "C2" 805+25.2, Lt.*
   Remove extg. guardrail - 485.0'

4. *Sta. "SB" 1797+93.5 to Sta. "SB" 1811+16.1, Rt.*
   Const. tall conc. barrier - 1,321.3'
   Secure barrier
   Const. impact attenuator, type J
   (For details, see shts. BB04 & BB05)
   (See dwg. nos. RD502, RD545 & RD546)

5. *Const. low profile mountable curb*

6. *Sta. "SB" 1799+86.3 to Sta. "SB" 1823+25.7, Lt.*
   Const. tall conc. median barrier - 2,340.5'
   Const. impact attenuator, type J

7. *Sta. "C2" 799+87.9 to Sta. "C2" 812+17.6, Rt.*
   Const. conc. shldr. barrier - 1,208.0'
   Secure barrier
   (See dwg. nos. RD500 & RD502)

8. *See sht. C05A, note 5*
   Remove extg. fence
   Const. type 2 fence

9. *See sht. C05A, note 3*
   Const. Midwest Guardrail System (Type 2A)
   Const. Midwest Guardrail System- 12.5' (Type 3)
   Const. guardrail transition
   (See dwg. nos. RD409, RD410 & RD482)

10. *Const. low profile mountable curb*

11. *See sht. C05A, note 6*
    Remove extg. fence
    Const. type 2 fence

12. *Sta. "C2" 799+87.9 to Sta. "C2" 807+74.8, Rt.*
    Inst. subsurface drain
    Const. select granular backfill material
    (For details, see shts. BB04 & BB05)

13. *Sta. "SB" 1797+87.8 to Sta. "SB" 1810+85.6, Rt.*
    Inst. subsurface drain
    Const. select granular backfill material
    (For details, see shts. BB04 & BB05)

No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 15:26:58-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
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Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

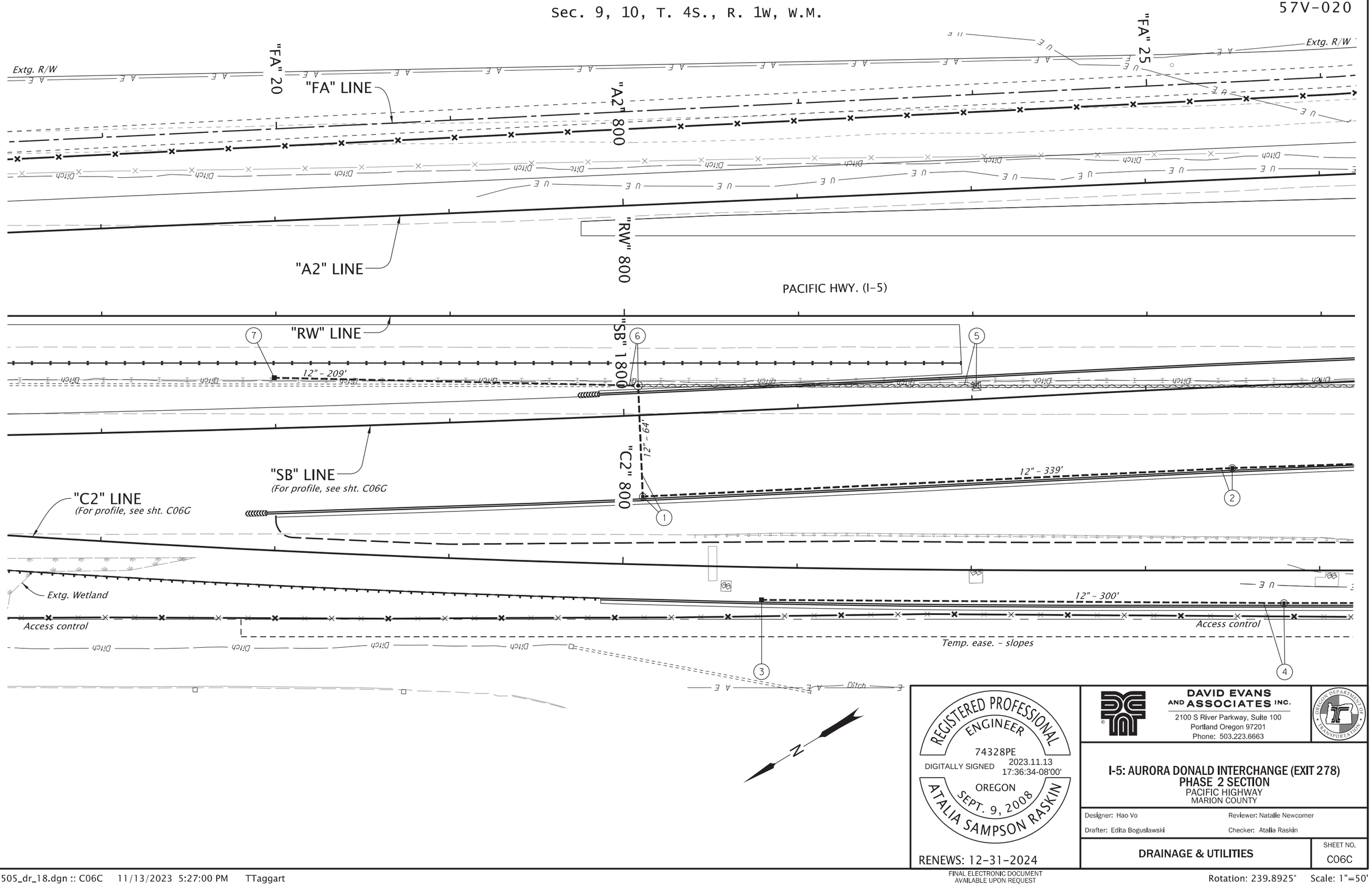
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION NOTES | SHEET NO. C06B

Rotation: 360° Scale: 1"=50'

Sec. 9, 10, T. 4S., R. 1W, W.M.

57V-020



REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.13 17:36:34-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

DRAINAGE & UTILITIES

SHEET NO.
C06C

Rotation: 239.8925° Scale: 1"=50'

57V-020

CONSTRUCTION NOTES

1. *Sta. "SB" 1800+08.9, 46.6' Rt.*
   Const. manhole with type "G-2" inlet
   Inst. 12" storm sew. pipe - 64'
   10' depth
   (See dwg. nos. RD300, RD335, RD344, RD345, RD348, RD364, RD365, RD380, RD386, RD388, RD390, RD391,& RD393)

2. *Sta. "SB" 1803+47.5, 46.7' Rt.*
   Const. manhole with type "G-2" inlet
   Inst. 12" storm sew. pipe - 339'
   10' depth

3. *Sta. "C2" 800+80.0, 18.7' Rt.*
   Const. type "G-2" inlet
   Const. 18" sump

4. *Sta. "C2" 803+79.5, 18.7' Rt.*
   Const. manhole with type "G-2" inlet
   Inst. 12" storm sew. pipe - 300'
   5' depth

5. *Sta. "SB" 1802+02.8, 7.7' Lt.*
   Remove inlet
   Remove 12" pipe - 194'

6. *Sta. "SB" 1800+08.9, 17.0' Lt.*
   Const. manhole 60" dia.
   Inst. 12" storm sew. pipe - 209'
   5' depth
   Connect to extg. storm sew. pipe
   (See dwg. nos. RD345, RD346, & RD356)

7. *Sta. "SB" 1798+00.0, 29.0' Lt.*
   Const. type "G-2MA" inlet
   Const. 18" sump
   (See dwg. nos. RD339, & RD364)

NOTES:
1. Sta./offset call-outs for inlets and manhole are to center of structure.

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.12.19 17:27:26-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo | Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski | Checker: Atalia Raskin

DRAINAGE & UTILITIES NOTES

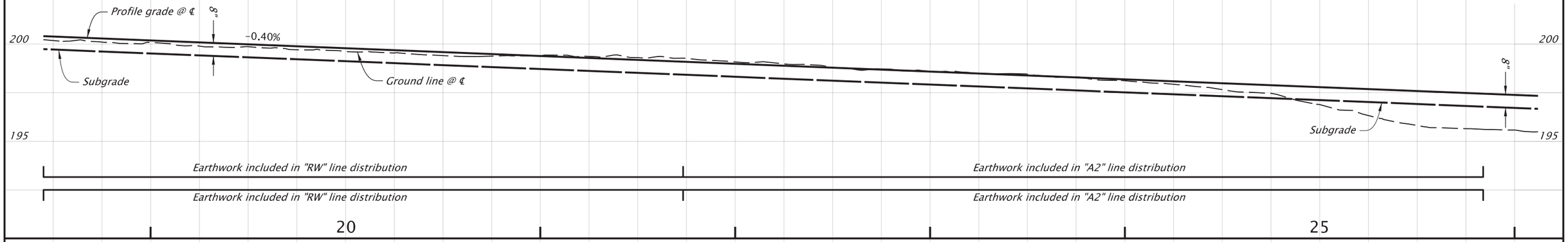
SHEET NO. C06D

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

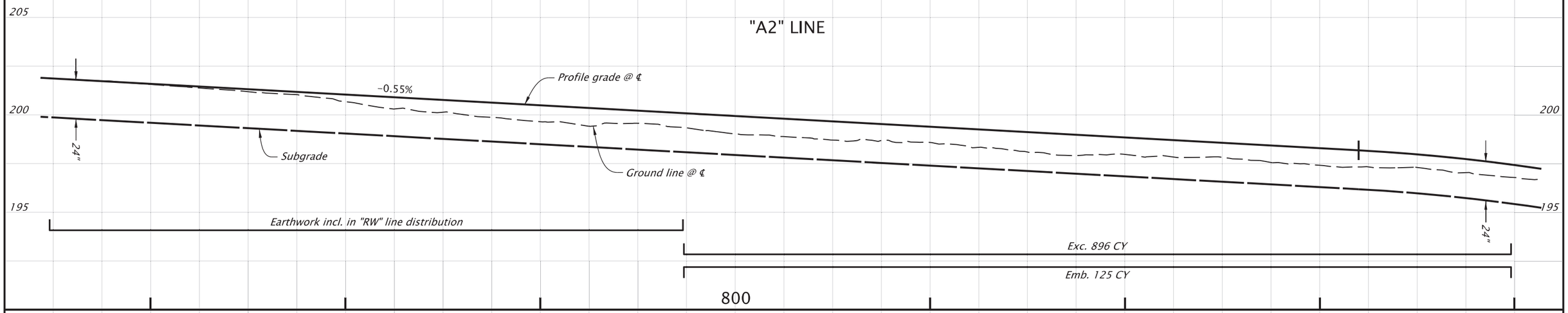
Rotation: 360° Scale: 1"=50'

57V-020

"FA" LINE



"A2" LINE



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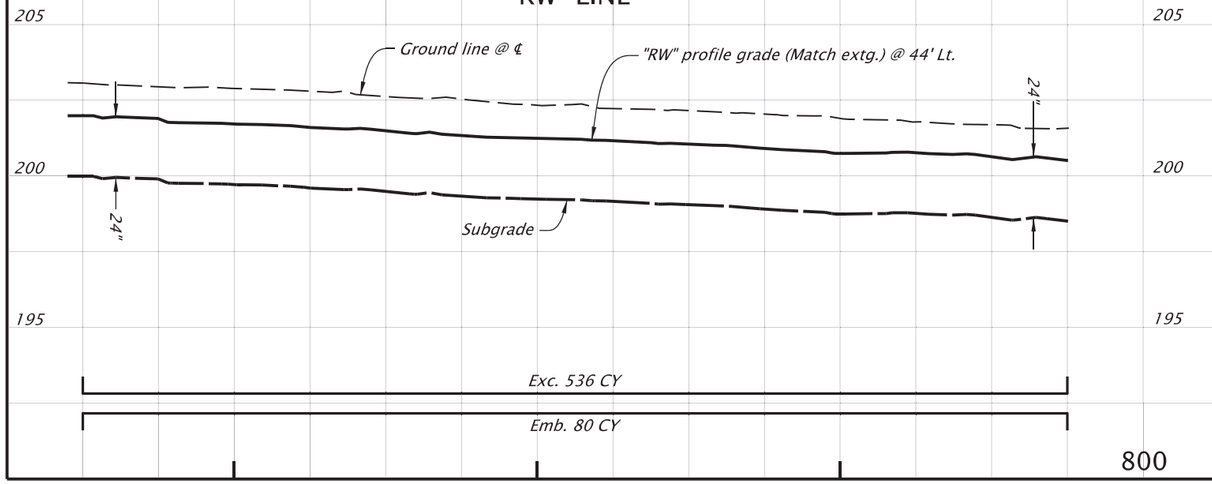

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 21:58:40-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

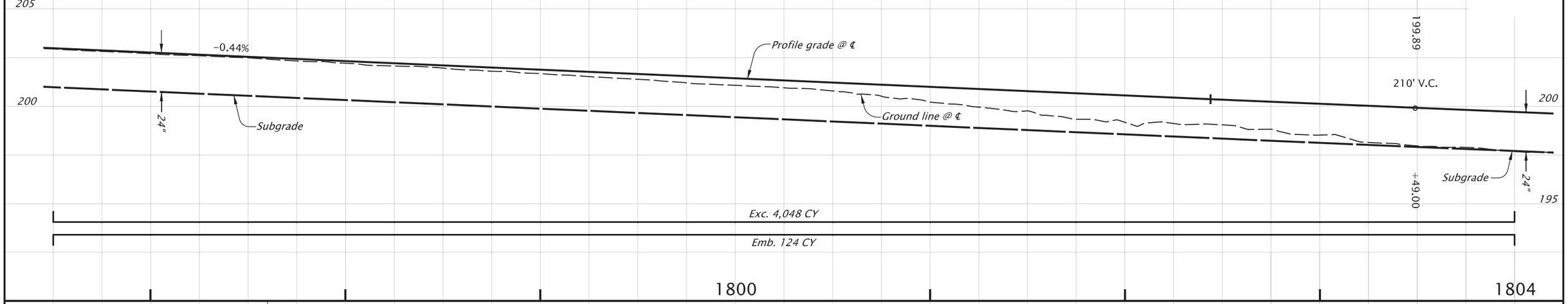
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

PROFILE

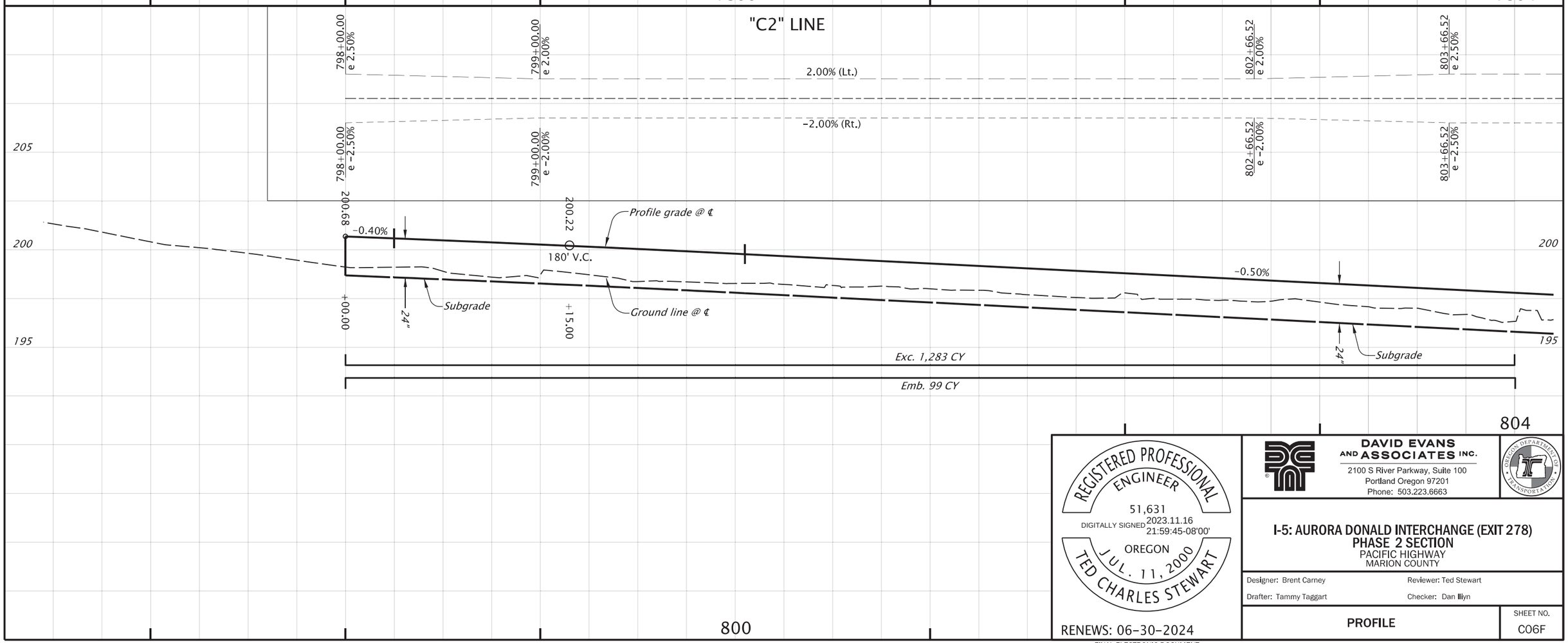
SHEET NO. C06E

57V-020

"SB" LINE



"C2" LINE



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 21:59:45-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

PROFILE

SHEET NO. C06F

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 0° Scale: 1"=50'

57V-020

"SB" LINE

205

200

195

6
+08.9, 17.0' Lt.
Manhole 60" dia
Rim el. = 201.50'
FL in = 195.27' (NE) Extg.
FL in = 197.37' (NE)
FL out = 195.26' (NW)

Profile grade @ ℄

Ground line @ ℄

Subgrade

7
+00.0, 29.0' Lt. Inlet
Grate el. = 199.77'
FL out = 198.27' (SW)

0.44% nom.
12" = 208.9'

0.44% nom.
12" = 338.7'

1
+08.9, Rt.
Manhole with inlet
Grate el. = 200.75'
FL in = 195.00' (SE)
FL out = 195.00' (SW)

2
+47.5, Rt.
Manhole with inlet
Grate el. = 198.65'
FL in = 193.52' (NE)
FL out = 193.52' (SW)

0.44% nom.
12" = 302.9'

See sht. C07F

1800

1804

"C2" LINE

200

195

190

Profile grade @ ℄

Subgrade

Ground line @ ℄

4
+79.5, Rt.
Manhole with inlet
Grate el. = 197.43'
FL in = 192.94' (NE)
FL out = 192.74' (SW)

1.16% nom.
12" = 320.1'

0.50% nom.
12" = 299.9'

3
+80.0, Rt. Inlet
Grate el. = 199.02'
FL out = 194.43' (SW)

See sht. C07G

800

804

PROFILE ALONG PIPE ℄
Sta. "SB" 1800+08.9, Lt. To Sta. "SB" 1800+08.9, Rt.

205

200

195

Extg. ground
along pipe ℄

Finish grade
along pipe ℄

1
+08.9, Rt.
Manhole with inlet
Grate el. = 200.13
FL in = 195.00' (SE)
FL out = 195.00' (SW)

6
+08.9, 17.0' Lt.
Manhole 60" dia
Rim el. = 201.50'
FL in = 195.27' (NE) Extg.
FL in = 197.37' (NE)
FL out = 195.26' (NW)

0.44% nom.
12" = 63.7'

1800

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.13 17:36:18-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

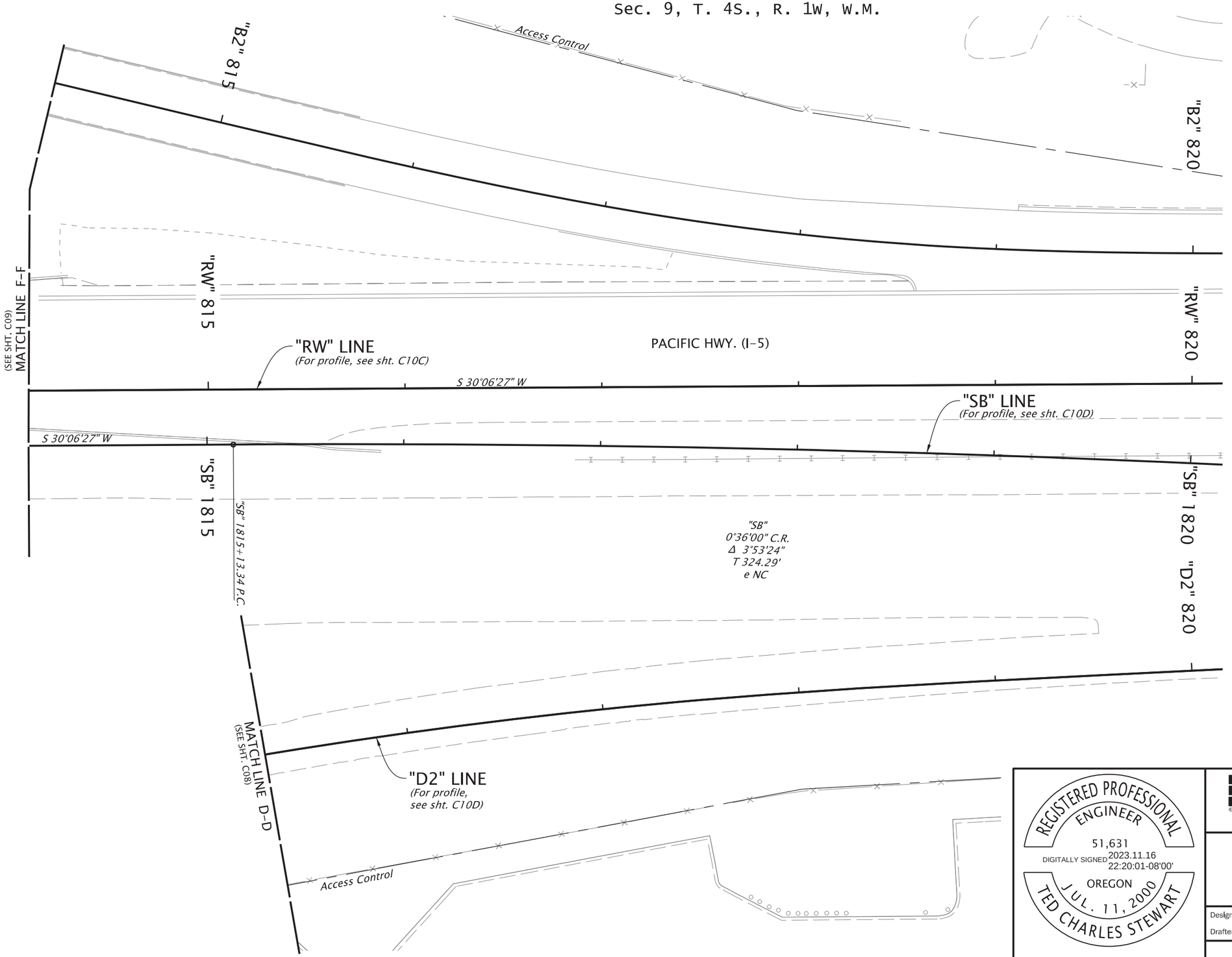
Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PROFILE

SHEET NO. C06G

57V-020

Sec. 9, T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:20:01-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

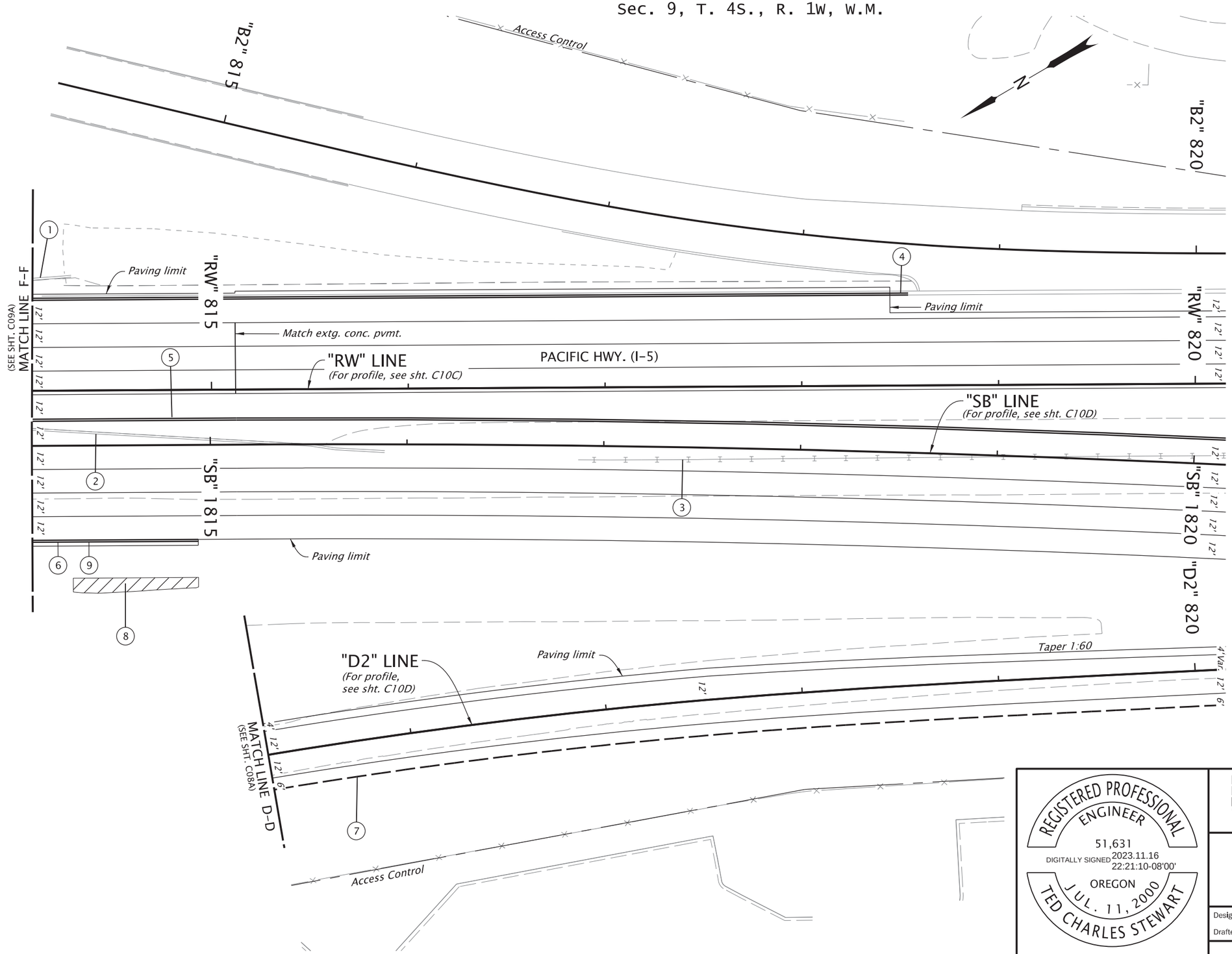
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

ALIGNMENT

SHEET NO. C10

57V-020

Sec. 9, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *See Sht. C09B, note 19*
   Remove extg. conc. barrier
2. *See sht. CO9B, note 30*
   Remove extg. conc. barrier
3. *Sta. "RW" 816+86.1 to Sta. "RW" 831+10.2*
   Remove extg. cable barrier and foundations - 1424'
4. *See sht. C09B, note 6*
   Const. tall conc. barrier
   Remove and reinstall tall conc. barrier
   Secure barrier
   Connect to extg. tall conc. barrier
5. *See sht. C06B, note 6*
   Const. tall conc. barrier
   Secure barrier
6. *See sht. C09B, note 7*
   Const. tall conc. barrier
   Const. alternate trailing end terminal
7. *Const. low profile mountable curb*
8. *Remove pvmt., shown thus:*
9. *See sht. C09B, note 36*
   Inst. subsurface drain
   Const. select granular backfill material
   (For details, see shts. BB04 & BB05)

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:21:10-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

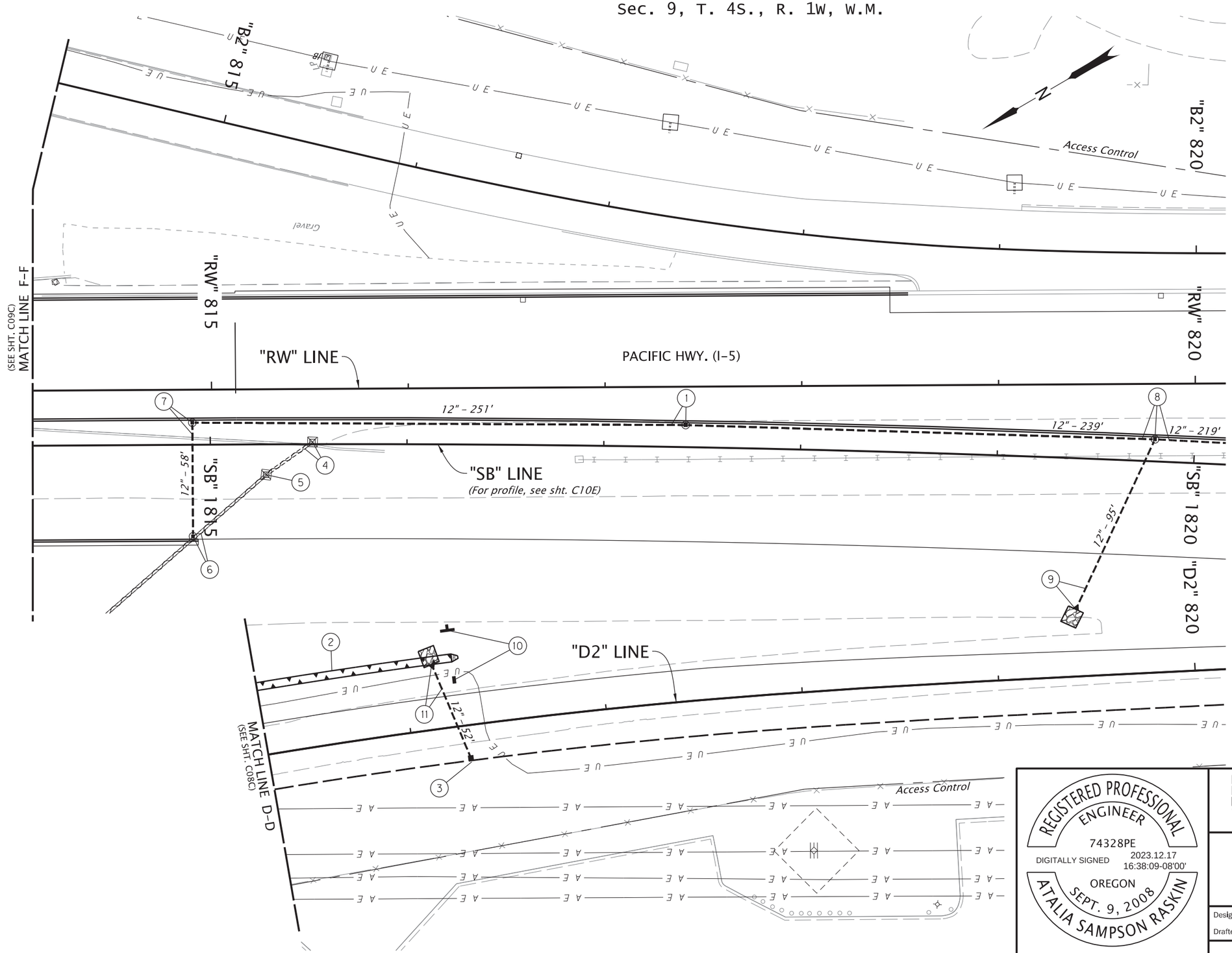
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

GENERAL CONSTRUCTION

SHEET NO. C10A

57V-020

Sec. 9, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *Sta. "SB" 1817+41.4, 11.2' Lt.*
   Const. manhole with type "G-2" inlet
   Inst. 12" storm sew. pipe - 251'
   5' depth
2. *See sht. C08D, note 22*
   Const. water quality swale
3. *Sta. "D2" 816+28.7, 16.7' Rt.*
   Const. type "G-2" inlet
   Const. 18" sump
4. *Sta. "SB" 1815+52.0, 1.1' Lt.*
   Remove inlet
   Abandon 12" pipe - 29'
5. *Sta. "SB" 1815+28.3, 15.4' Rt.*
   Remove inlet
6. *Sta. "SB" 1814+90.9, 46.6' Rt.*
   Abandon 12" pipe - 49'
   Const. shallow, flat top manhole with type "G-2" inlet
7. *Sta. "SB" 1814+90.9, 11.2' Lt.*
   Const. manhole with type "G-2" inlet
   Inst. 12" storm sew. pipe - 58'
   5' depth
8. *Sta. "SB" 1819+79.8, 11.2' Lt.*
   Const. manhole with type "G-2" inlet
   Inst. 12" storm sew. pipe - 239'
   5' depth
   Inst. 12" storm sew. pipe - 219'
   5' depth
9. *Sta. "SB" 1819+43.0, 76.8' Rt.*
   Inst. 12" storm sew. pipe - 95'
   5' depth
   Const. sloped end, Rt.
   Const. paved end slope, Rt.
   Const. riprap basin
   (For details, see sht. HA07)
10. *Inst. stormwater field marker, Type S2*
    Inst. stormwater field marker, Type S1
    DFI D00949
    MP 278.58
    (For details, see shts. HA04 & HA06)
11. *Sta. "D2" 816+15.1, 33.0' Lt.*
    Inst. 12" storm sew. pipe - 52'
    5' depth
    Const. sloped end, Rt.
    Const. paved end slope, Rt.
    Const. riprap basin
    (For details, see sht. HA07)

NOTES:
1. Sta./offset call-outs for inlets and manholes are to center of structure.

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.12.17 16:38:09-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Drafter: Edita Boguslawski
Reviewer: Natalie Newcomer
Checker: Atalia Raskin

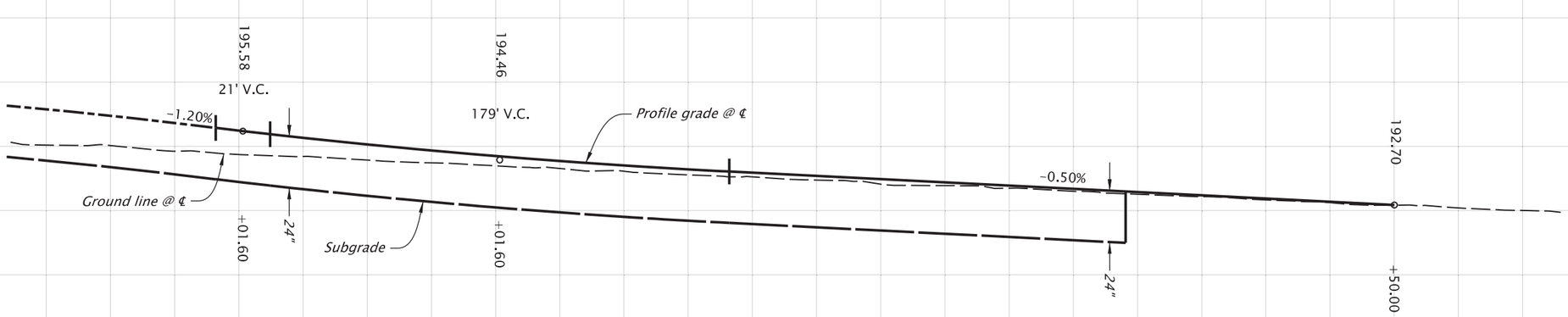
DRAINAGE & UTILITIES

SHEET NO. C10B

Rotation: 239.5479° Scale: 1"=50'

57V-020

"RW" LINE



Exc. 138 CY

Emb. 0 CY

820

815

RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
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Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

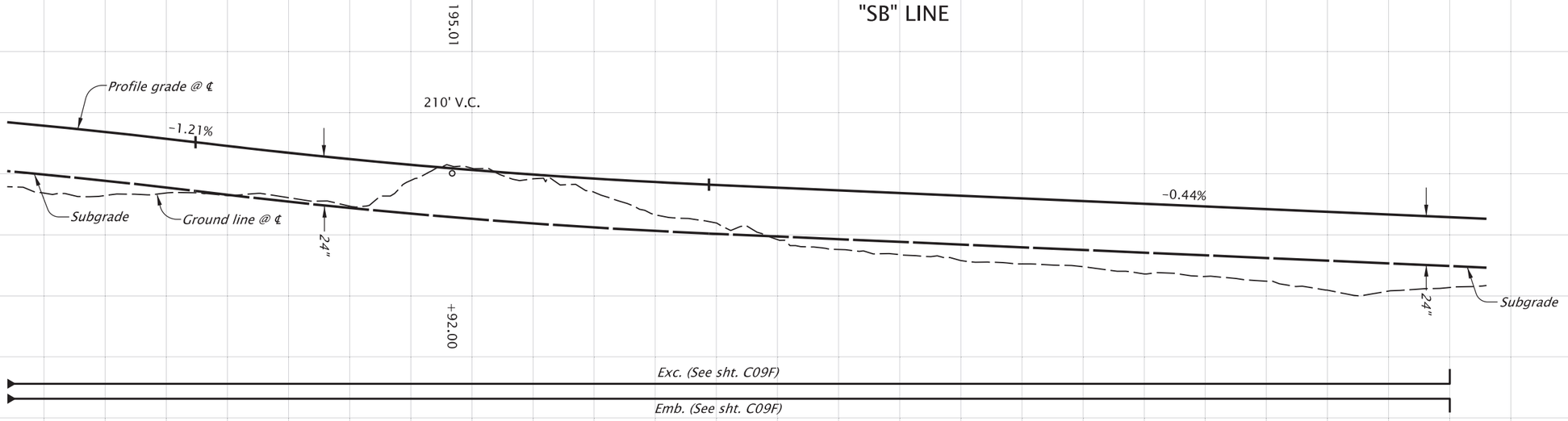
Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

PROFILE

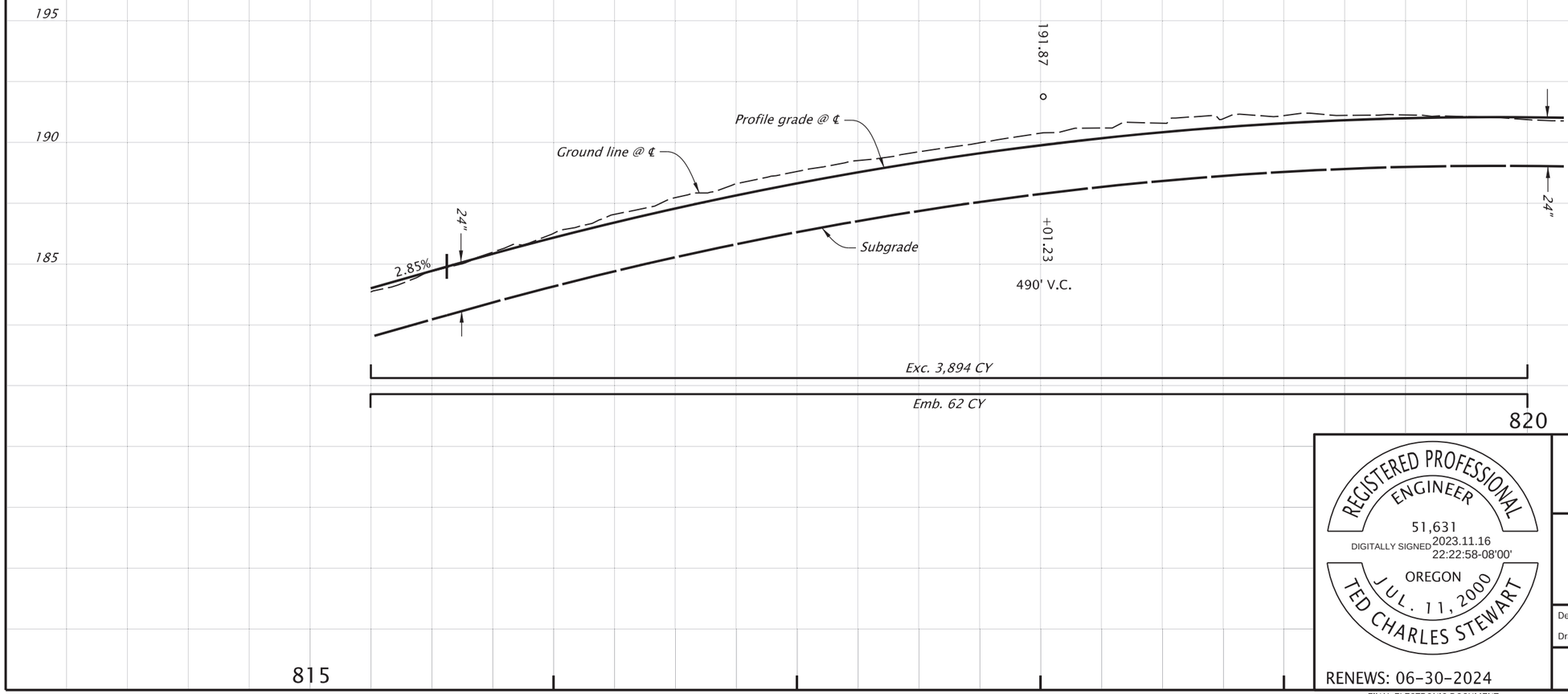
SHEET NO. C10C

57V-020

"SB" LINE



"D2" LINE



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:22:58-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Iliyn

PROFILE

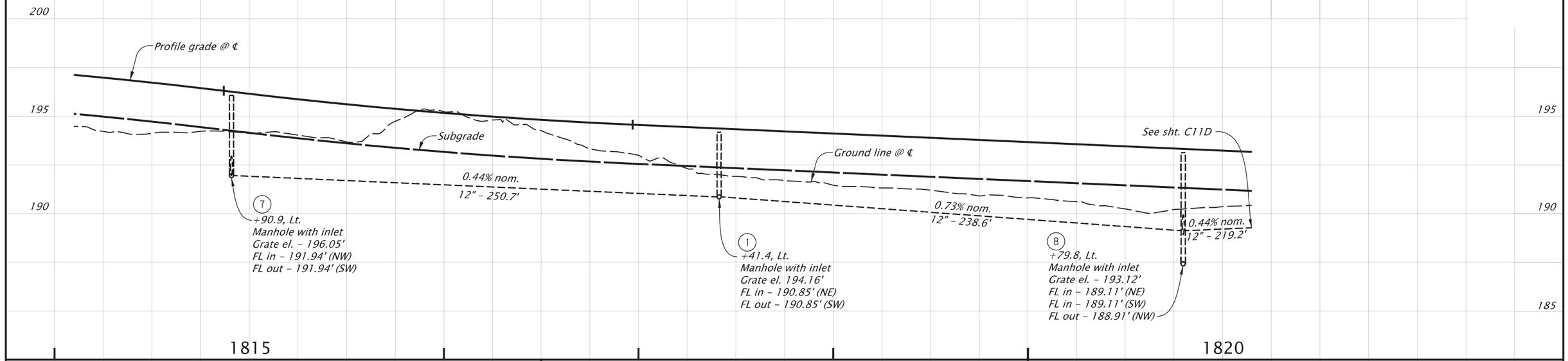
SHEET NO. C10D

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

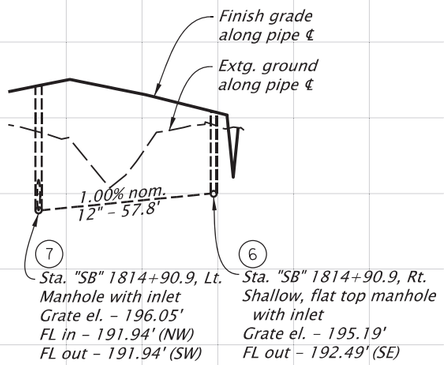
Rotation: 0° Scale: 1"=50'

57V-020

"SB" LINE

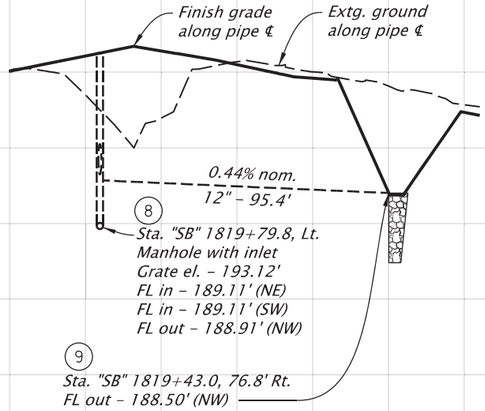


PROFILE ALONG PIPE ℄
Sta. "SB" 1814+90.9 Rt. To Sta. "SB" 1814+90.9 Lt.



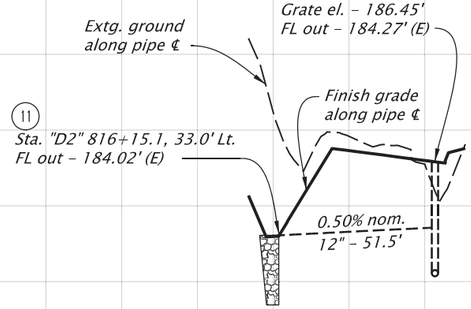
1815

PROFILE ALONG PIPE ℄
Sta. "SB" 1819+79.8 Lt. To Sta. "SB" 1819+43.0 Rt.



1820

PROFILE ALONG PIPE ℄
Sta. "D2" 816+15.1, Lt. To Sta. "D2" 816+28.7, Rt.



816

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 19:48:37-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PROFILE

SHEET NO. C10E

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 0° Scale: 1"=50'

57V-020

Sec. 9, T. 4S., R. 1W, W.M.

"B2" 820

"B2" 825

Access Control

Access Control

"RW" 820

"RW" 825

"RW" LINE

S 30°06'27" W

"SB" 0°36'00" C.L. Δ 3°53'24" T 324.29' e NC

PACIFIC HWY. (I-5)

"SB" 1820

"SB" 1825

"SB" LINE
(For profile, see sht. C11C)

"SB" 0°36'00" C.R. Δ 3°53'24" T 324.29' e NC

"SB" 1821+61.66 P.R.C.

"D2" 820

"D2" 825

"D2" LINE
(For profile, see sht. C11C)

Access Control

Access Control

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:23:33-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

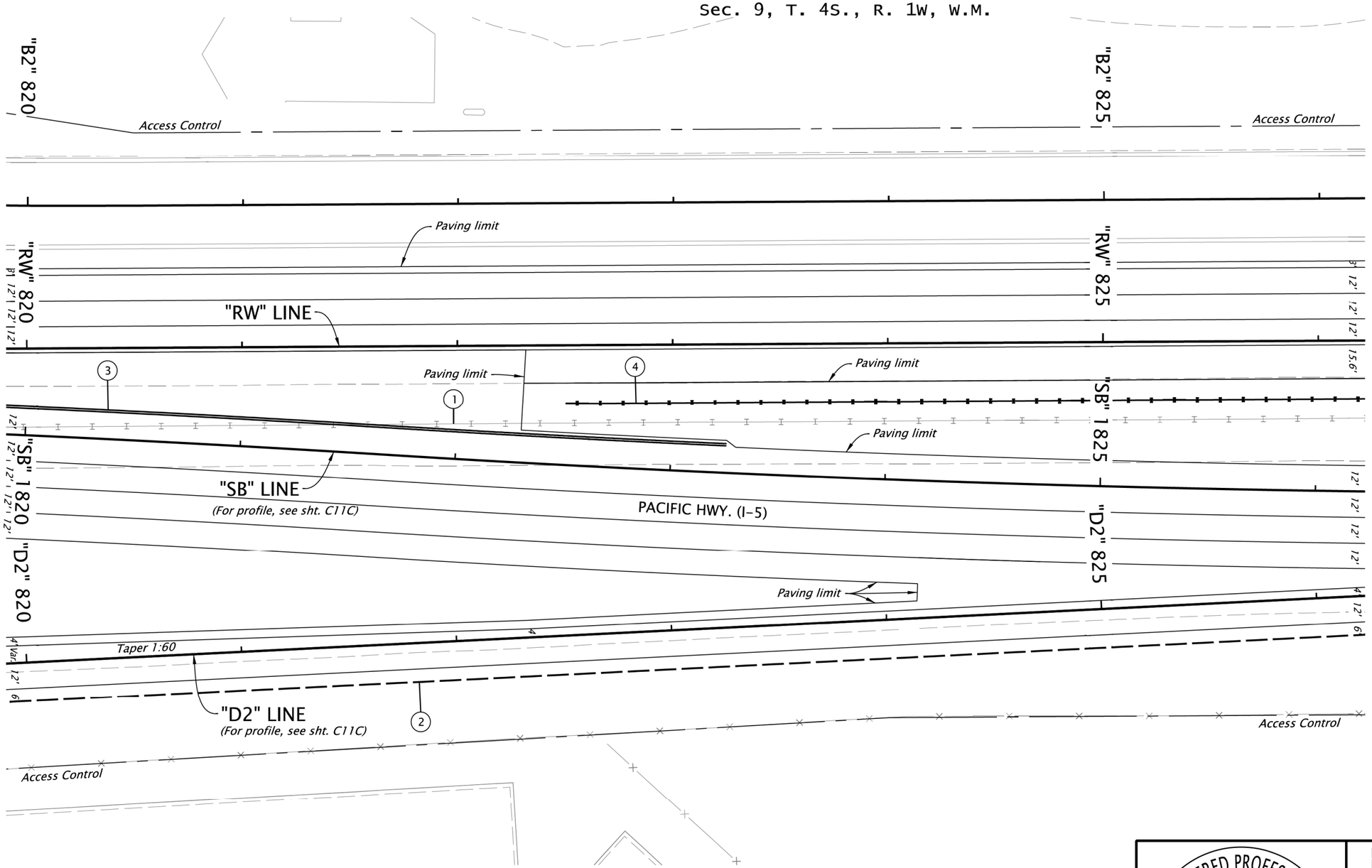
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

ALIGNMENT

SHEET NO. C11

57V-020

Sec. 9, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *See sht. C10A, note 3*
   Remove extg. cable barrier
2. *Const. low profile mountable curb*
3. *See sht. C10A, note 5*
   Const. tall conc. barrier
   Secure barrier
   Const. alternate trailing end terminal
4. *Sta. "RW" 822+50.3 to Sta. "RW" 834+26.1, Rt.*
   Const. cable barrier system - 1,107'
   (Test level - 3) △1
   Const cable barrier terminal

No.	DATE	REVISIONS	BY
△1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 16:28:34-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION

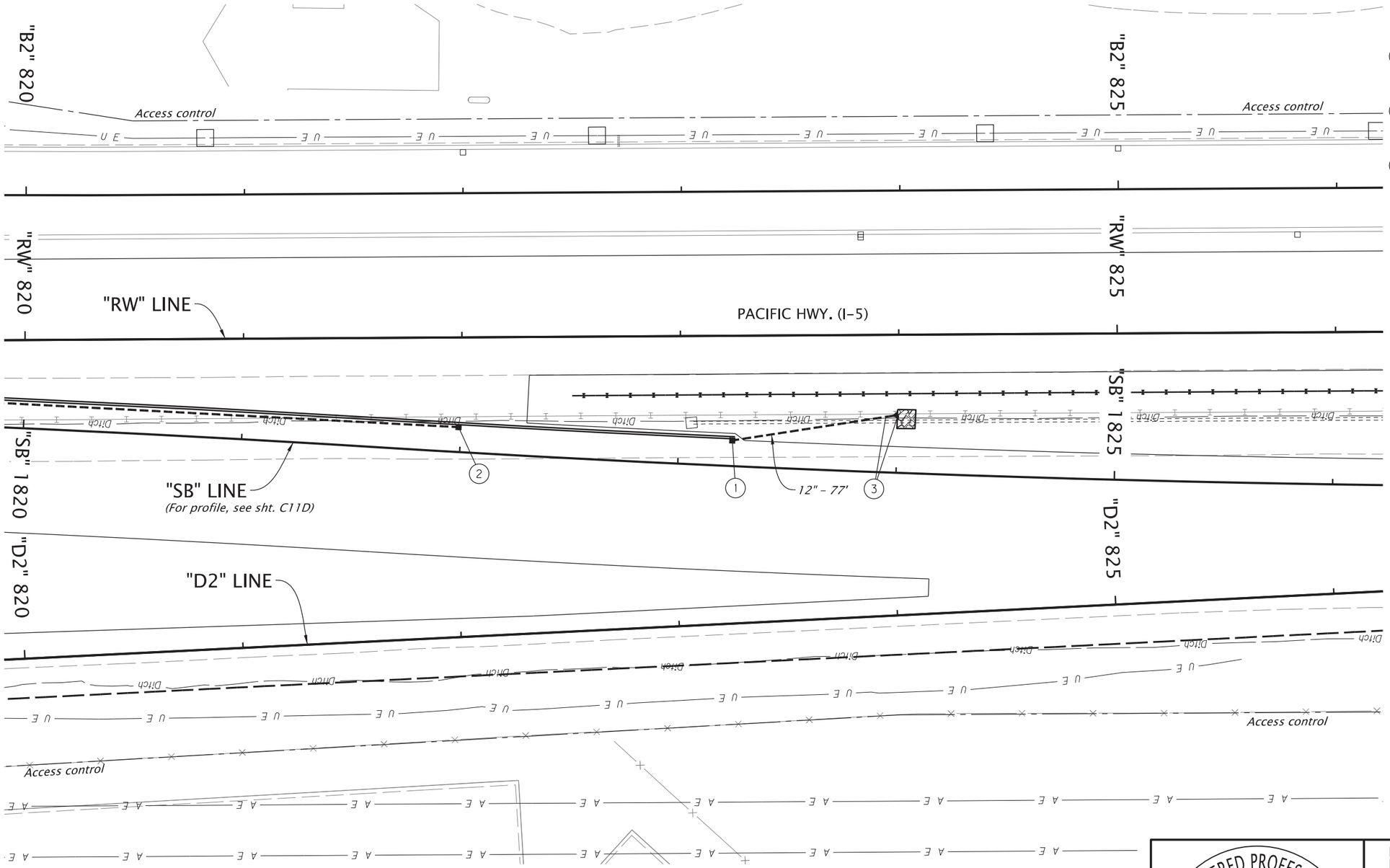
SHEET NO. C11A

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 239.5479° Scale: 1"=50'

Sec. 9, T. 4S., R. 1W, W.M.

57V-020



CONSTRUCTION NOTES

1. *Sta. "SB" 1823+24.5, 11.7' Lt.*
   Const. type "G-2" inlet
   Const. 18" sump
2. *Sta. "SB" 1821+98.8, 11.4' Lt.*
   Const. type "G-2" inlet
   Const. 18" sump
3. *Sta. "SB" 1824+00.0, 26.5' Lt.*
   Inst. 12" storm sew. pipe - 77'
   5' depth
   Const. sloped end, Lt.
   Const. paved end slope, Lt.
   Const. riprap basin
   (For details, see sht. HA07)

NOTES:
1. Sta./offset call-outs for inlets and manholes are to center of structure.

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 19:48:20-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

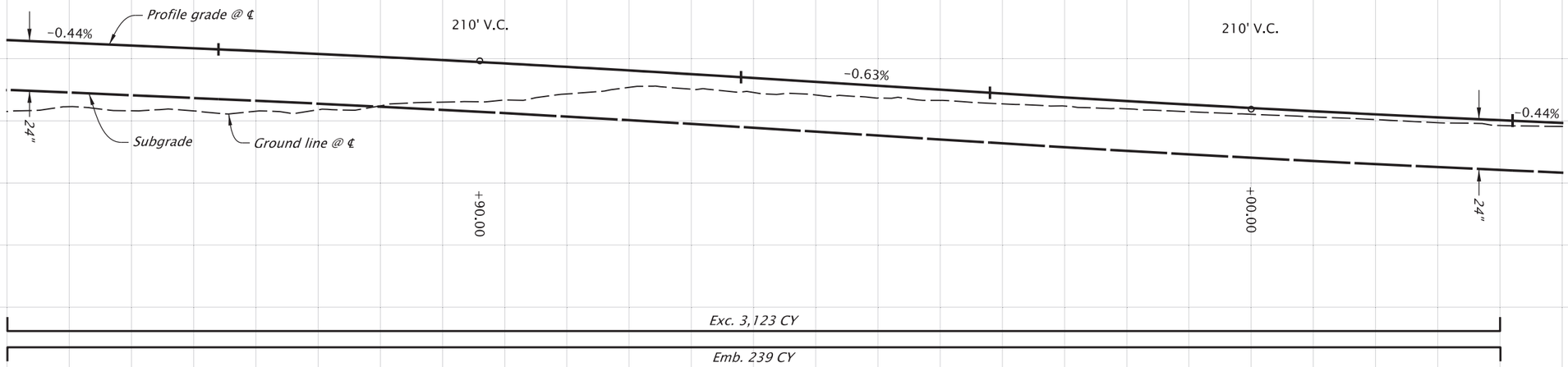
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo | Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski | Checker: Atalia Raskin

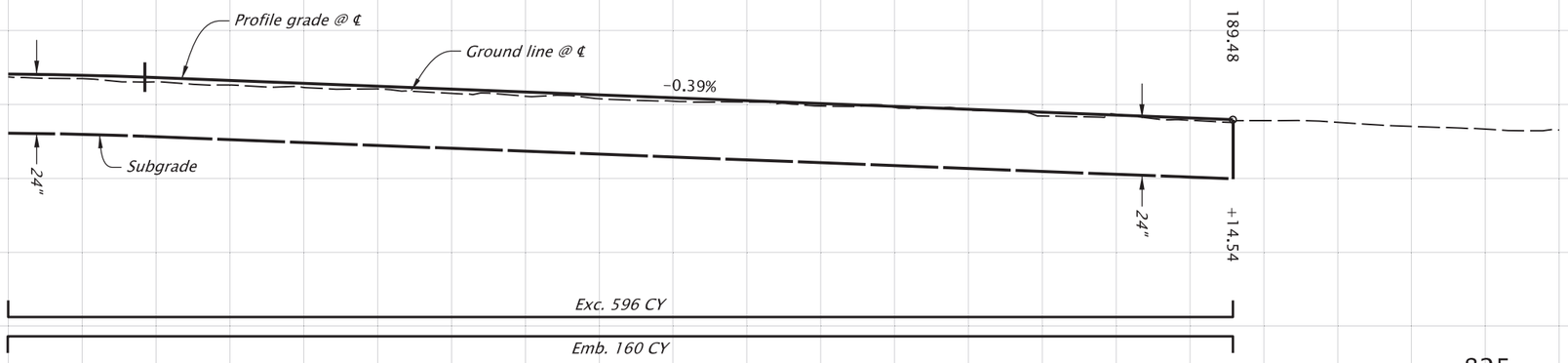
DRAINAGE & UTILITIES | SHEET NO. C11B

57V-020

"SB" LINE



"D2" LINE



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:25:04-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

PACIFIC HIGHWAY
MARION COUNTY

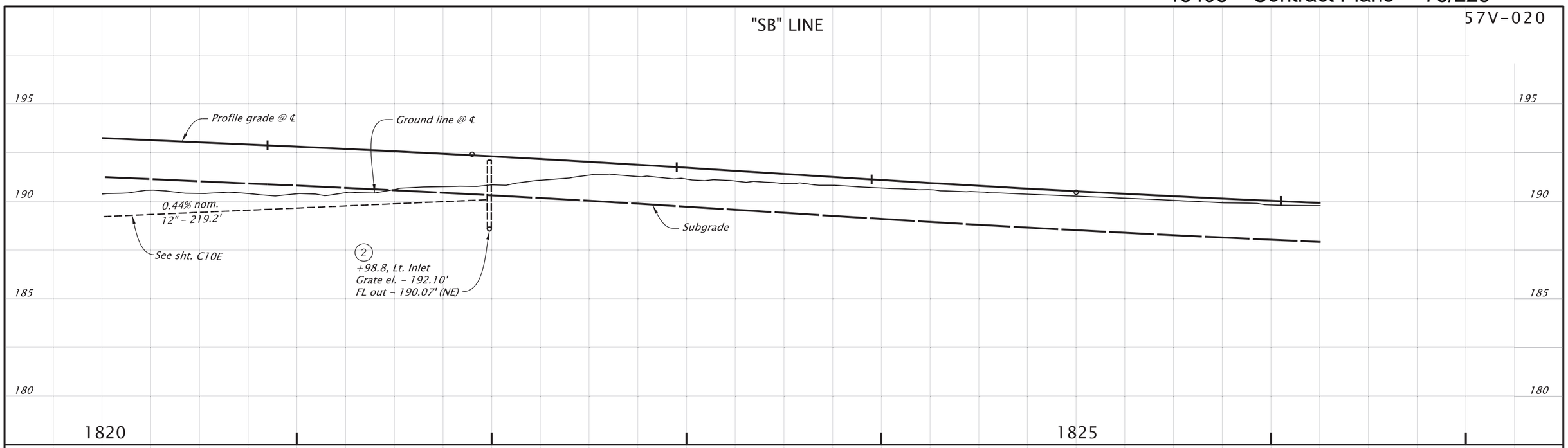
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

PROFILE

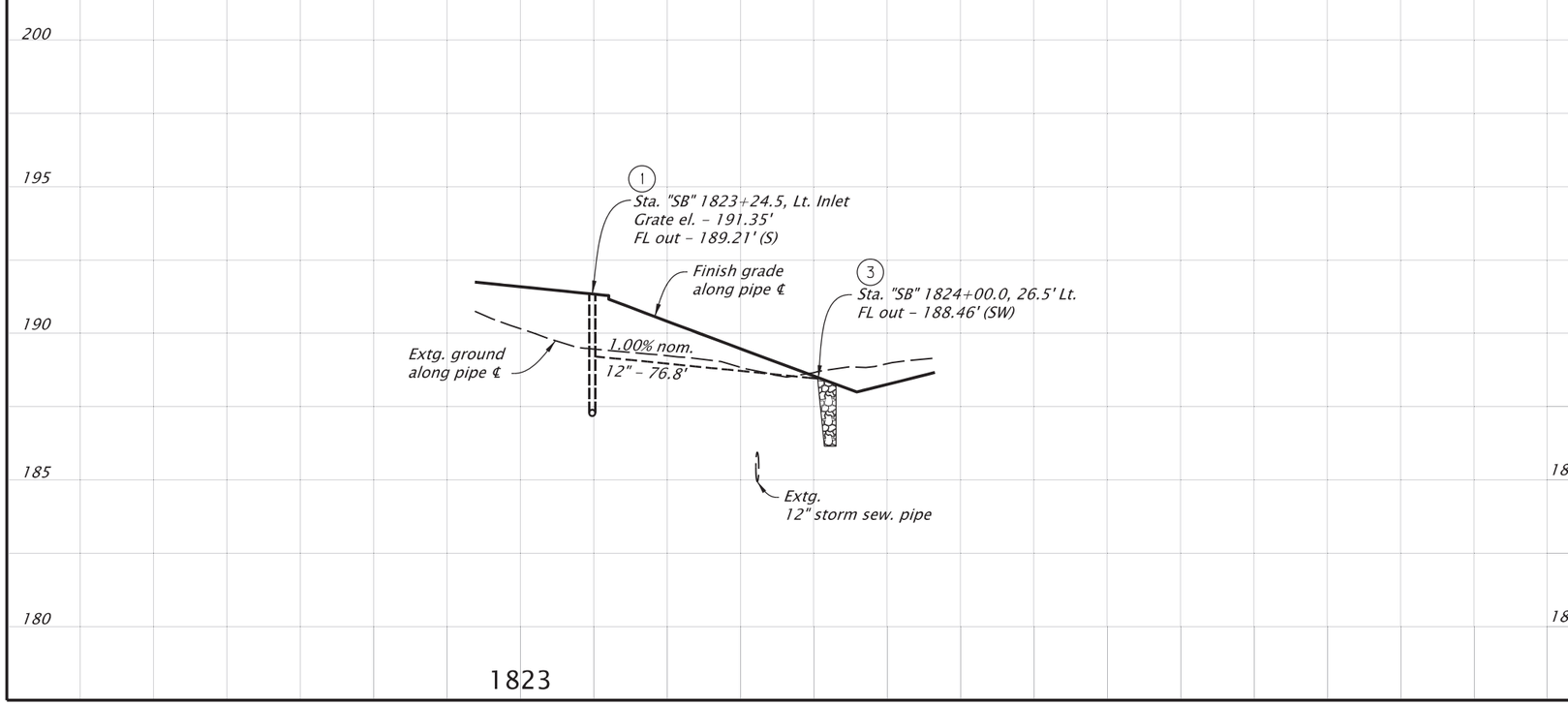
SHEET NO. C11C

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

57V-020



PROFILE ALONG PIPE ℄
Sta. "SB" 1823+24.5, Lt. To Sta. "SB" 1824+00.0, Lt.



REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 19:48:04-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

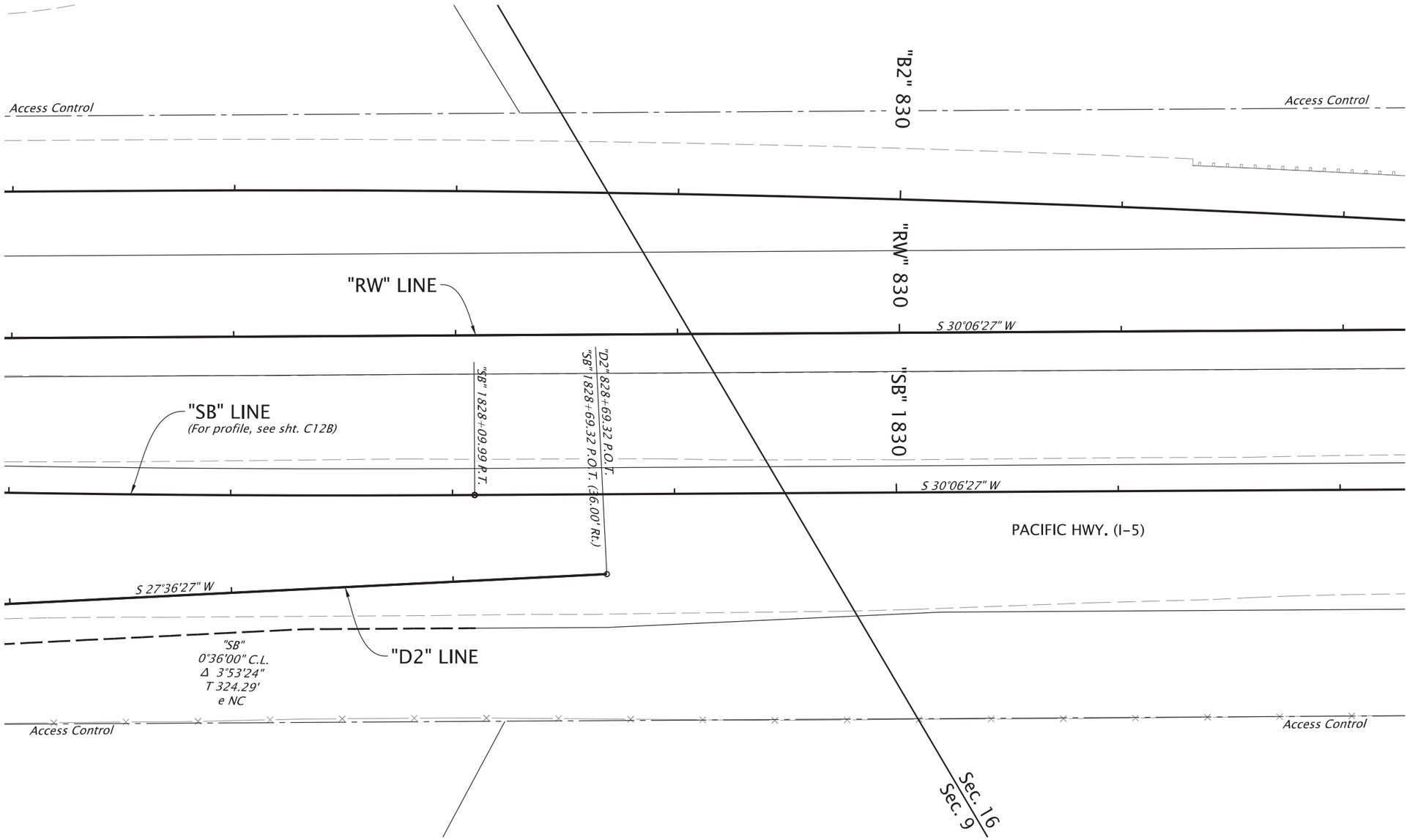
Designer: Hao Vo
Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski
Checker: Atalia Raskin

PROFILE

SHEET NO. C11D

57V-020

T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
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OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DAVID EVANS AND ASSOCIATES INC.
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

ALIGNMENT

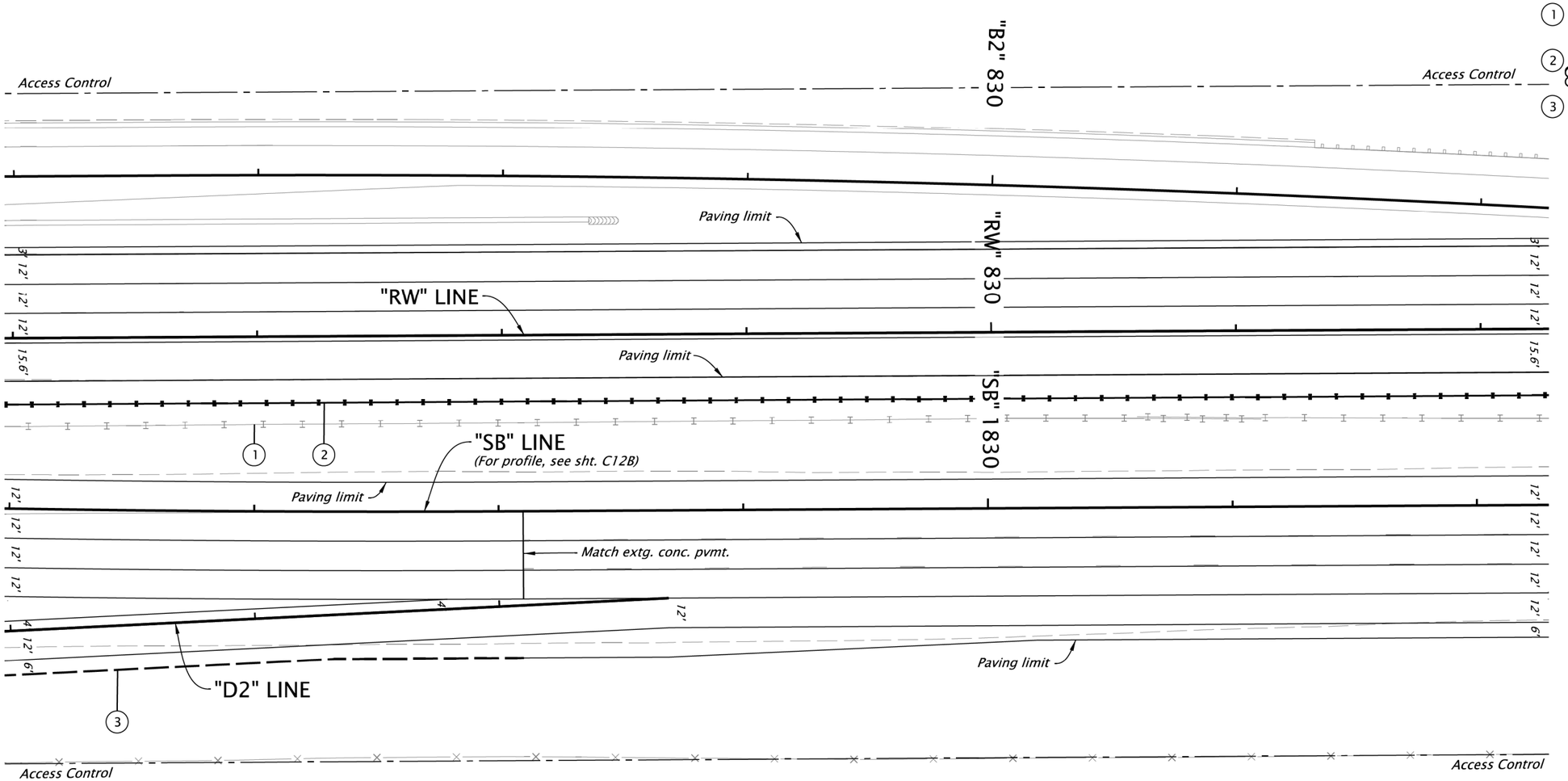
SHEET NO. C12

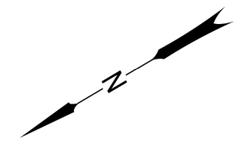
57V-020

Sec. 9, 16, T. 4S., R. 1W, W.M.

CONSTRUCTION NOTES

1. See sht. C11A, note 1
   Remove extg. cable barrier
2. See sht. C11A, note 4
   Const. cable barrier, test level 3 (1)
3. Const. low profile mountable curb





No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2024.01.31 16:29:17-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION

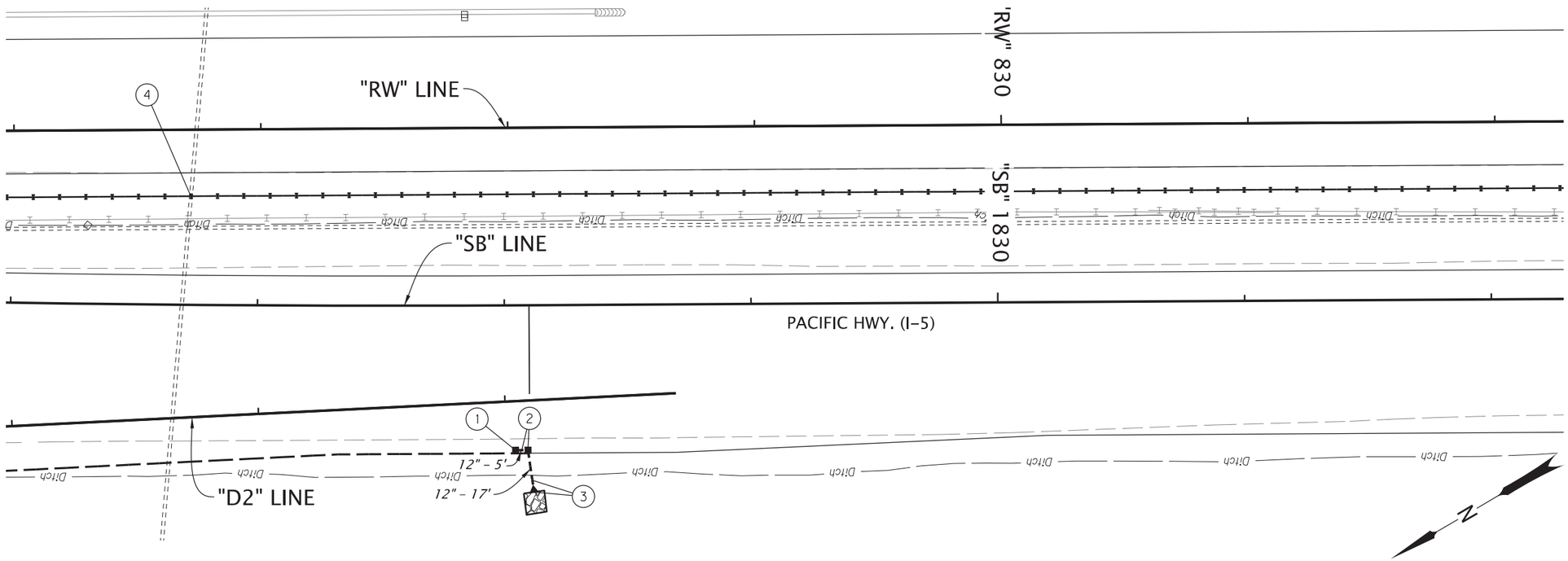
SHEET NO. C12A

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Rotation: 239.5479° Scale: 1"=50'

57V-020

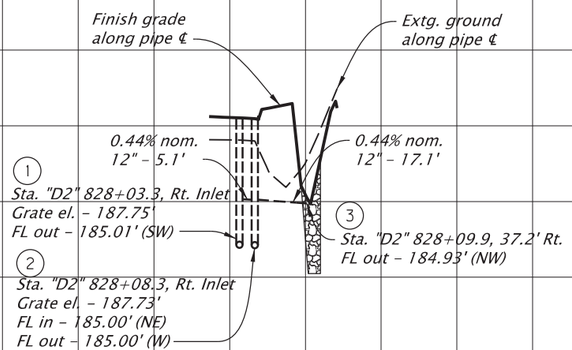
Sec. 9, 16, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *Sta. "D2" 828+03.3, 19.9' Rt.*
   Const. type "G-2" inlet
   Const. 18" sump
2. *Sta. "D2" 828+08.3, 20.1' Rt.*
   Const. type "G-2" inlet
   Const. 18" sump
   Inst. 12" storm sew. pipe - 5'
   5' depth
3. *Sta. "D2" 828+09.9, 37.2' Rt.*
   Inst. 12" storm sew. pipe - 17'
   5' depth
   Const. sloped end, Rt.
   Const. paved end slope, Rt.
   Const. riprap basin
   (For details, see sht. HA07)
4. *Maintain and protect extg. sanitary sew. force main*

PROFILE ALONG PIPE ℄
Sta. "D2" 828+03.3, Rt. To Sta. "D2" 828+09.9, Rt.



828

NOTES:
1. Sta./offset call-outs for inlets and manholes are to center of structure.

REGISTERED PROFESSIONAL ENGINEER
74328PE
DIGITALLY SIGNED 2023.11.12 19:47:48-08'00'
OREGON
SEPT. 9, 2008
ATALIA SAMPSON RASKIN
RENEWS: 12-31-2024

DAVID EVANS AND ASSOCIATES INC.
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Hao Vo | Reviewer: Natalie Newcomer
Drafter: Edita Boguslawski | Checker: Atalia Raskin

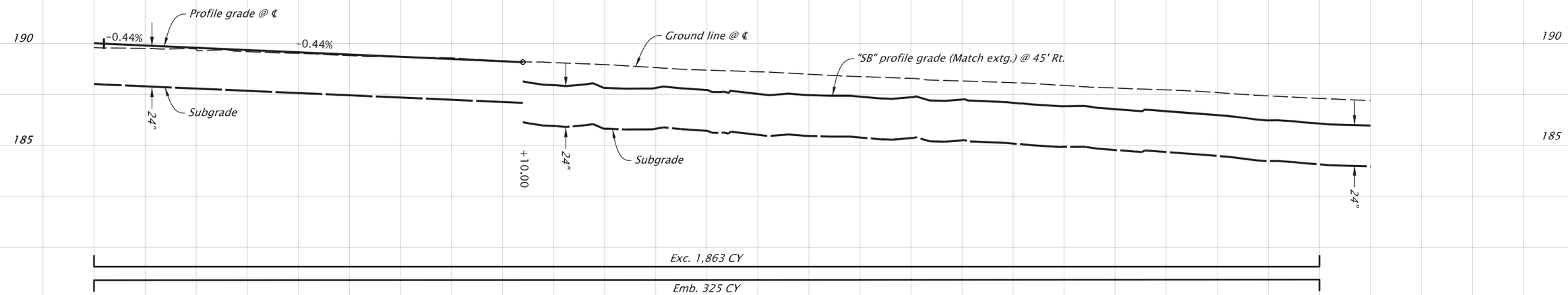
DRAINAGE & UTILITIES

SHEET NO. C12B

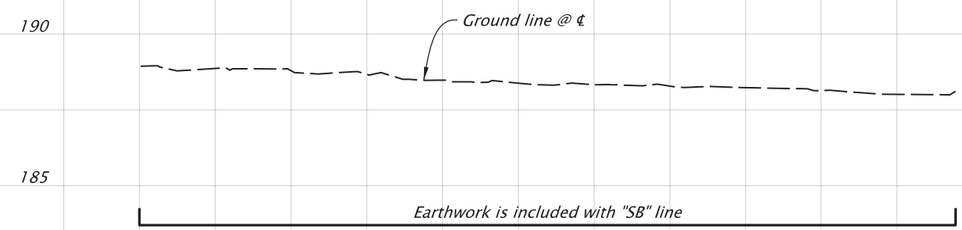
Rotation: 239.5479° Scale: 1"=50'

57V-020

"SB" LINE



"D2" LINE



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:29:14-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Iliyn

PROFILE

SHEET NO. C12C

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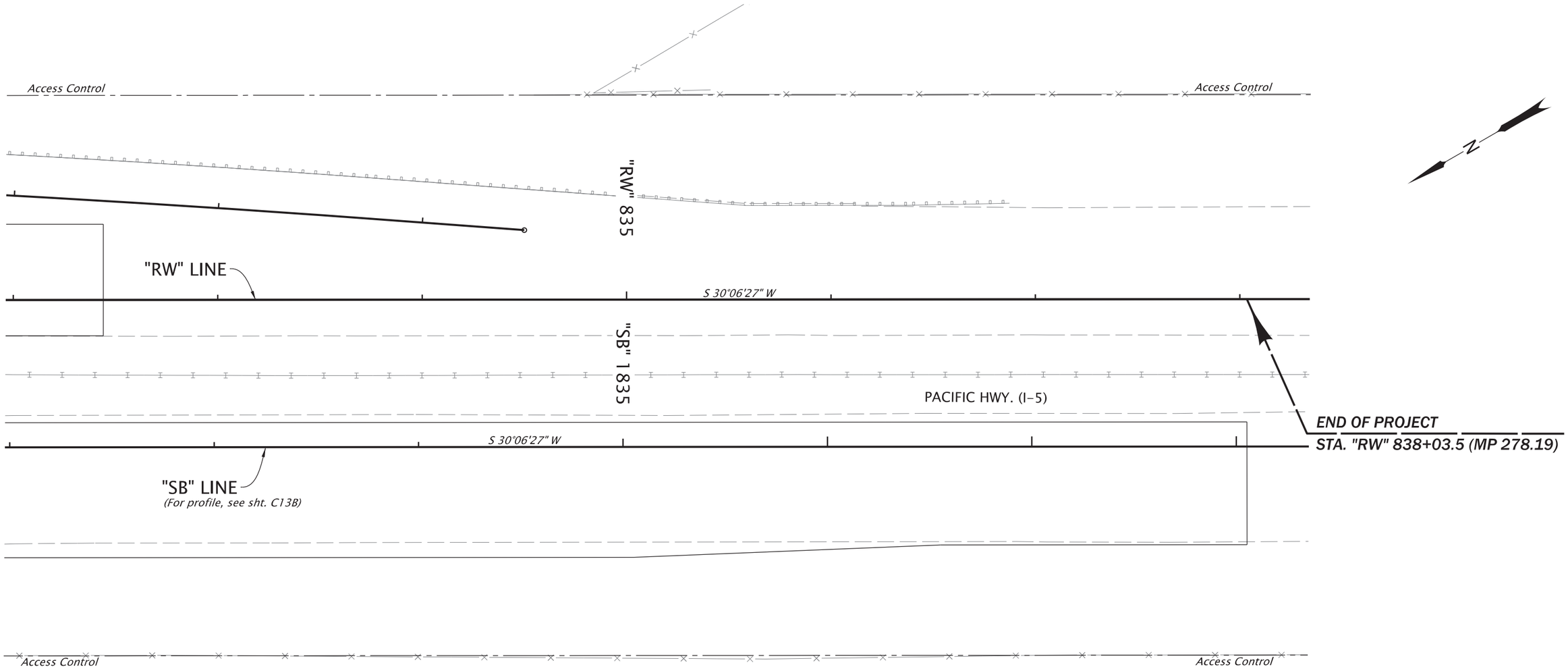
Rotation: 0° Scale: 1"=50'

57V-020

Sec. 16, T. 4S., R. 1W, W.M.



REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.11.16 22:30:00-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

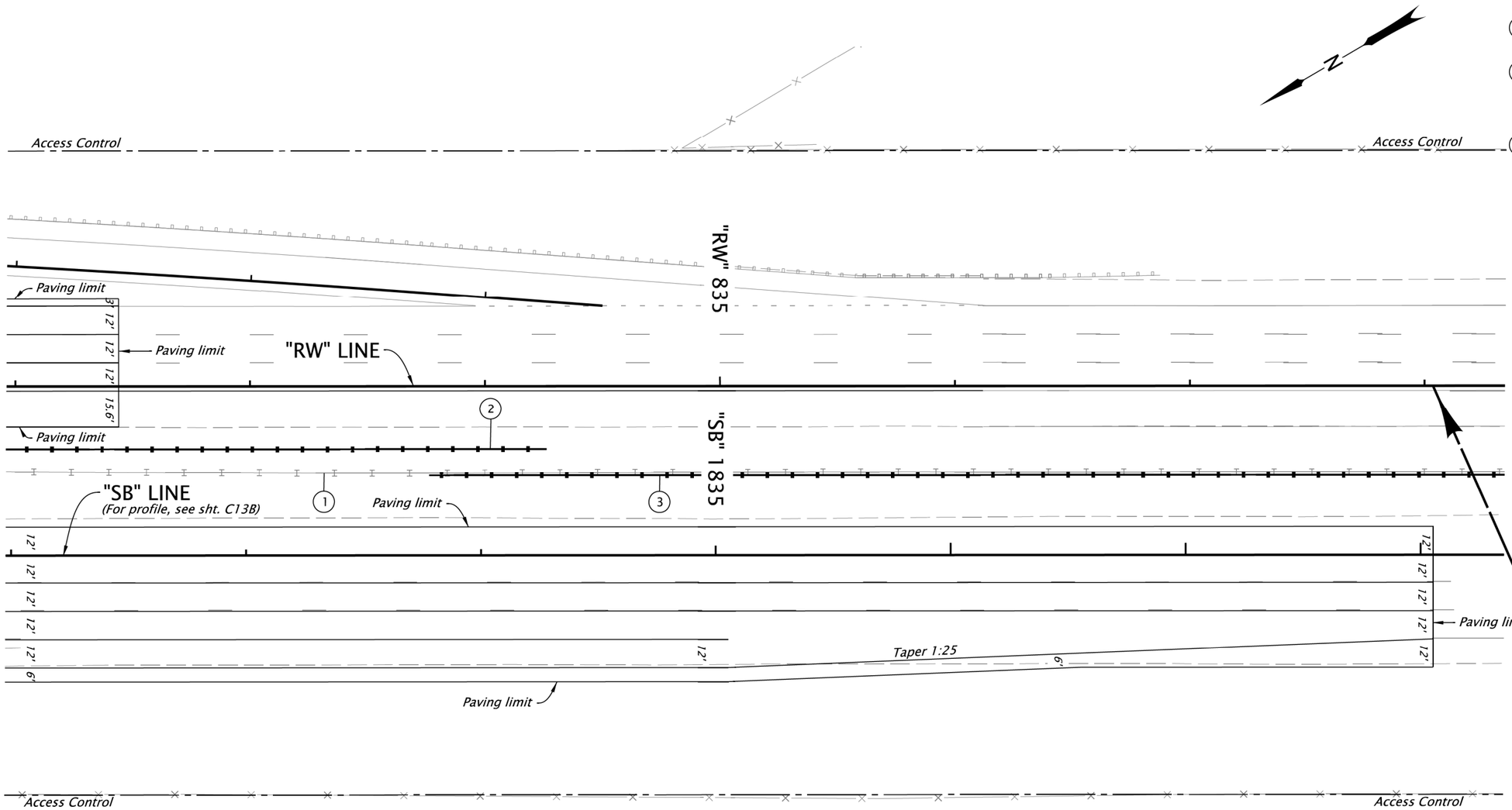
Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

ALIGNMENT

SHEET NO. C13

57V-020

Sec. 16, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *See sht. C12A, note 1*
   Remove cable barrier system
2. *See sht. C12A, note 2*
   Const. cable barrier
   (Test level 3) ⚠1
   Const cable barrier terminal
3. *Sta. "RW" 833+76.1 to Sta. "RW" 848+06.1, Rt.*
   Const. cable barrier system - 1,361'
   (Test level - 3) ⚠1
   Const cable barrier terminal
   (For details, see sht. BB13)

END OF PROJECT
STA. "RW" 838+03.5 (MP 278.19)

No.	DATE	REVISIONS	BY
⚠1	02-01-24	Revised cable barrier type	T.C.S.

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51,631
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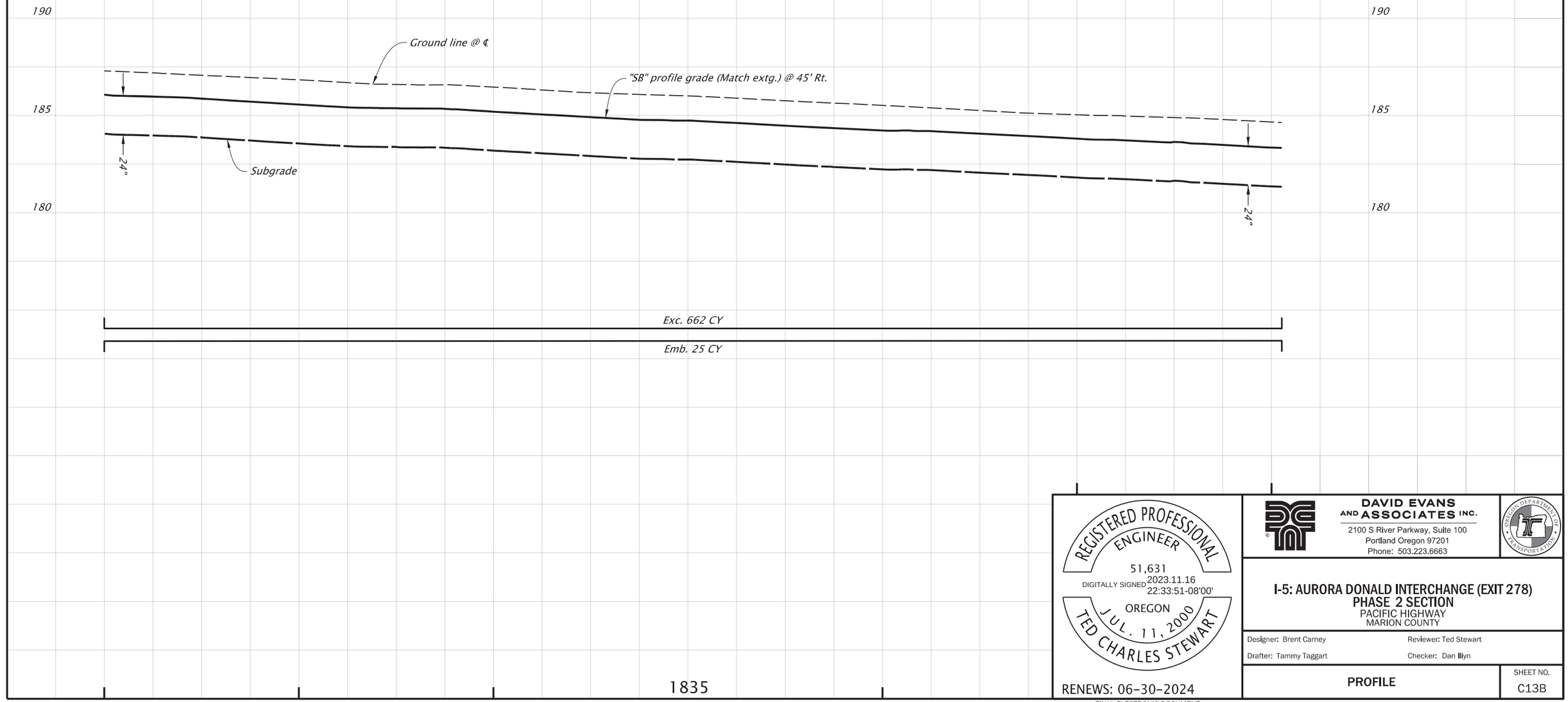
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION | SHEET NO. C13A

57V-020

"SB" LINE



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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyn

PROFILE

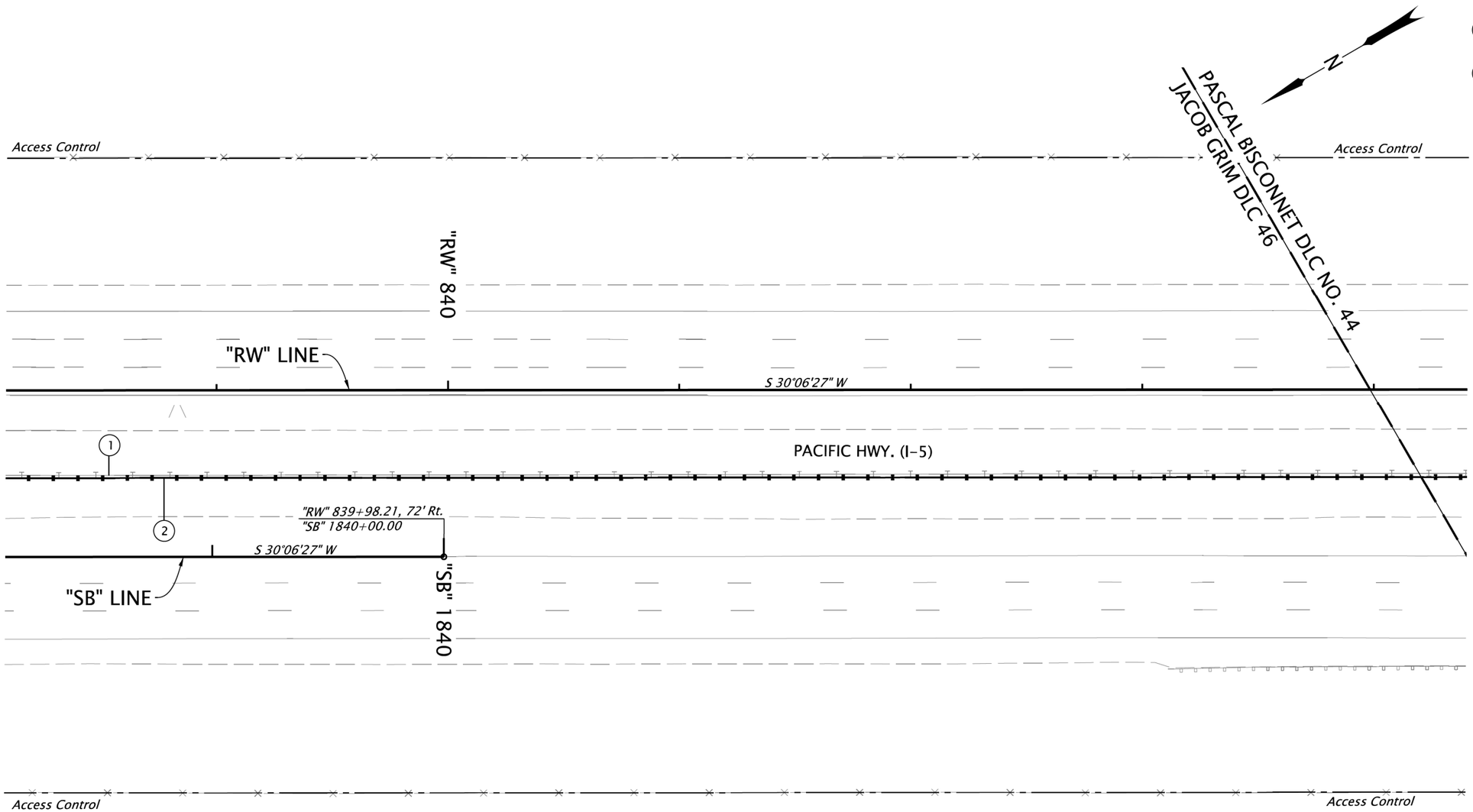
SHEET NO.
C13B

57V-020

Sec. 16, T. 4S., R. 1W, W.M.

CONSTRUCTION NOTES

1. *See sht. C13A, note 1*
   Remove cable barrier system
2. *See sht. C13A, note 3*
   Const. cable barrier
   Test level 3 1



No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

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OREGON
JUL. 11, 2000
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilfyn

GENERAL CONSTRUCTION

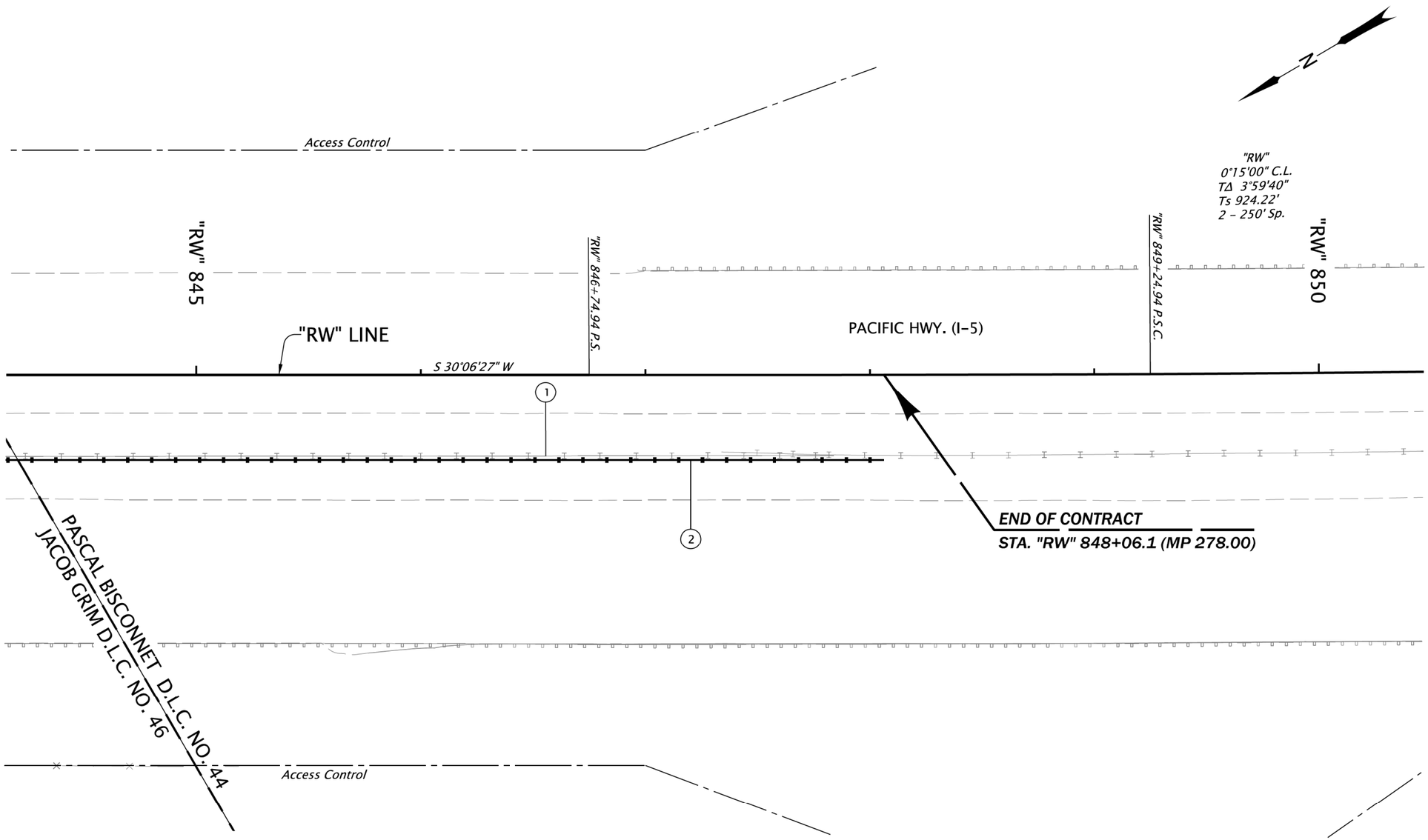
SHEET NO. C14

57V-020

Sec. 16, T. 4S., R. 1W, W.M.

CONSTRUCTION NOTES

1. *See sht. C14, note 1*
   Remove extg. cable barrier system
2. *See sht. C14, note 2*
   Const. cable barrier, test level 3 (1)
   Const. cable barrier terminal
   (For details, see sht. BB13)



No.	DATE	REVISIONS	BY
1	02-01-24	Revised cable barrier type	T.C.S.

REGISTERED PROFESSIONAL ENGINEER
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OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWS: 06-30-2024

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Portland Oregon 97201
Phone: 503.223.6663

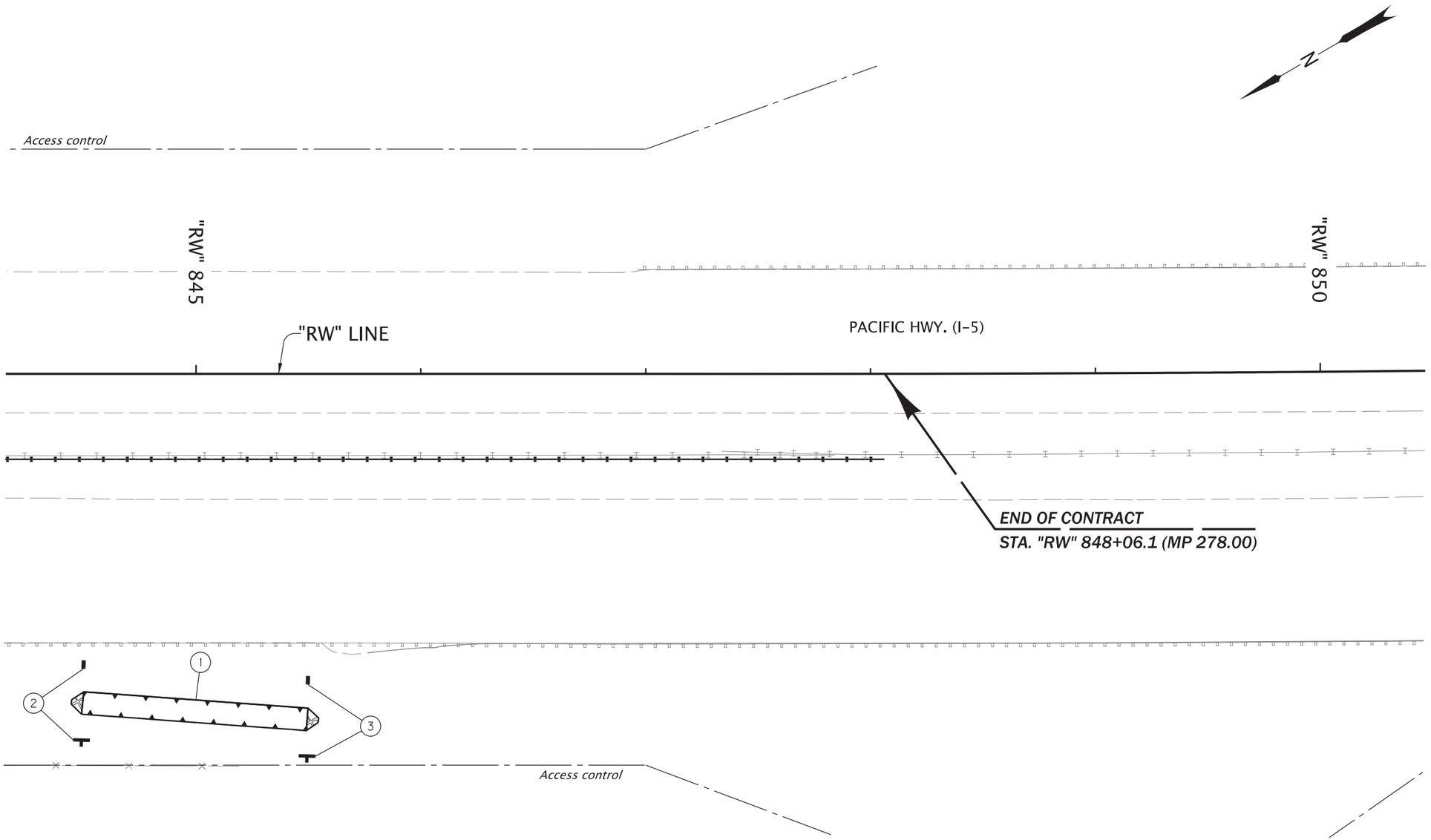
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Brent Carney | Reviewer: Ted Stewart
Drafter: Tammy Taggart | Checker: Dan Ilyn

GENERAL CONSTRUCTION | SHEET NO. C15

57V-020

Sec. 16, T. 4S., R. 1W, W.M.



CONSTRUCTION NOTES

1. *Sta. "RW" 844+50, 146.3' Rt. to Sta "RW" 845+50, 153.3' Rt. Const. water quality swale D01417 - 100' (For details, see shts. HA04 & HA06)*
2. *Inst. stormwater field marker, Type S2 Inst. stormwater field marker, Type S1 DFI D01417 MP 278.05 (For details, see shts. HA04 & HA06)*
3. *Inst. stormwater field marker, Type S2 Inst. stormwater field marker, Type S1 DFI D01417 MP 278.03 (For details, see shts. HA04 & HA06)*

REGISTERED PROFESSIONAL ENGINEER
49649
Digitally Signed
2023.11.16 09:00:42-08'00'
OREGON
JULY 21, 1998
SHAWN E. ELLIS
RENEWS: 12-31-2023

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SUITE 400 | PORTLAND, OR 97214
P 503.233.2400
WWW.PARAMETRIX.COM

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

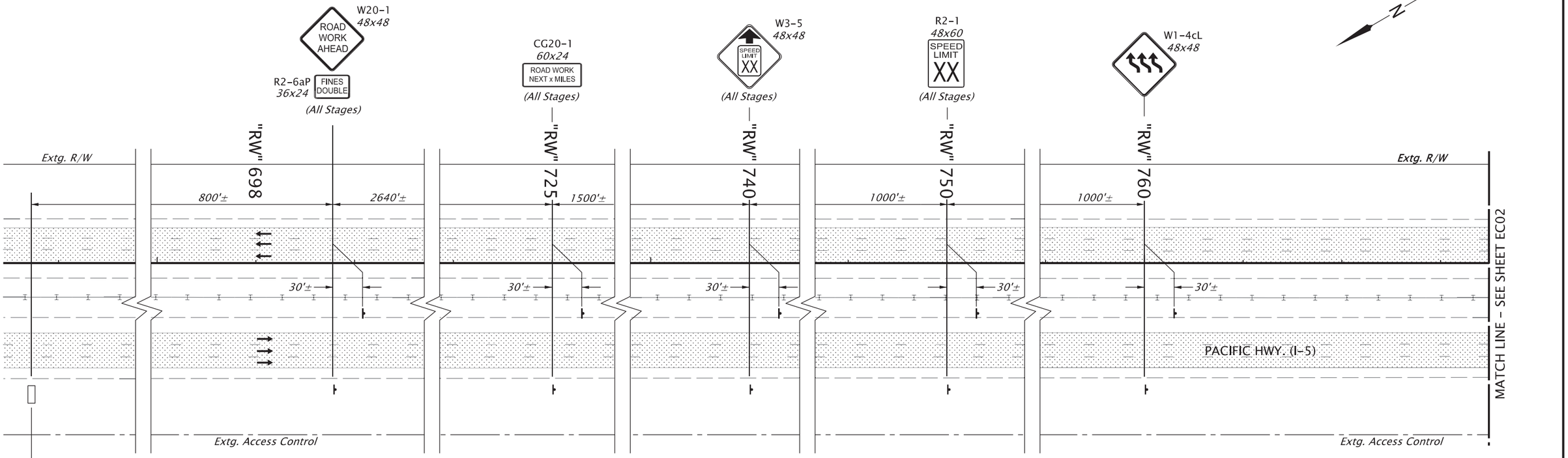
Designer: Shawn Ellis | Reviewer: Jim Phillips
Drafter: Drew Segren | Checker: Shawn Ellis

DRAINAGE & UTILITIES

SHEET NO. C15A

57V-020

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS



LANES SHIFT AHEAD	WORKZONE REDUCED SPEED

PORTABLE CHANGABLE MESSAGE SIGN (PCMS)
Recommended Messages

GENERAL NOTES:

1. *Signs shown on the plans are the minimum required. All signs to be new or like new condition. Determination of sign condition to be made by engineer.*
2. *For sign numbers refer to the Manual on Uniform Traffic Control Devices (MUTCD) and the ODOT Sign Policy and Guidelines for the State Highway System.*
3. *Pedestrian pushbuttons at existing and temporary traffic signals shall remain accessible at all times. If a crosswalk crossing is closed at an intersection, add appropriate signing per the MUTCD and cover the affected pedestrian signal heads.*
4. *During construction at signalized intersections, traffic signals shall be turned off when flaggers are controlling traffic. Coordinate temporary modifications to signal operations with ODOT Traffic Operations.*
5. *The location of all signs and temporary traffic control devices shall be verified by the Engineer prior to placement. Adjustments to temporary sign and PCMS locations on these plans may be required.*
6. *Plans to be accompanied by ODOT Standard Drawings BR203, RD410, RD420, RD500, RD510, RD530, RD545, TM204, TM211, TM212, TM670, TM671, TM677, TM681, TM687, TM688, TM800, TM810, TM820, TM821, TM822, TM830, TM831, TM832, TM833, TM840, TM841, TM842, TM843, TM844, TM845, TM850, TM855, TM860, TM861, and TM862.*
7. *Install temporary striping when necessary to delineate travel lanes as shown in the traffic control plans and as directed by the project engineer. Remove existing striping that conflicts with temporary striping shown on plans.*
8. *Maintain temporary striping for the duration of construction and until permanent striping is installed.*
9. *The widths of the travel lanes as shown on the staging plans are minimum widths and must be maintained at all times.*
10. *Maintain existing signs unless otherwise shown or conflict with plans.*

LEGEND

- *Under traffic*
- *Sign on post*
- *PCMS*
- *Traffic direction*

REGISTERED PROFESSIONAL ENGINEER 74,348
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OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

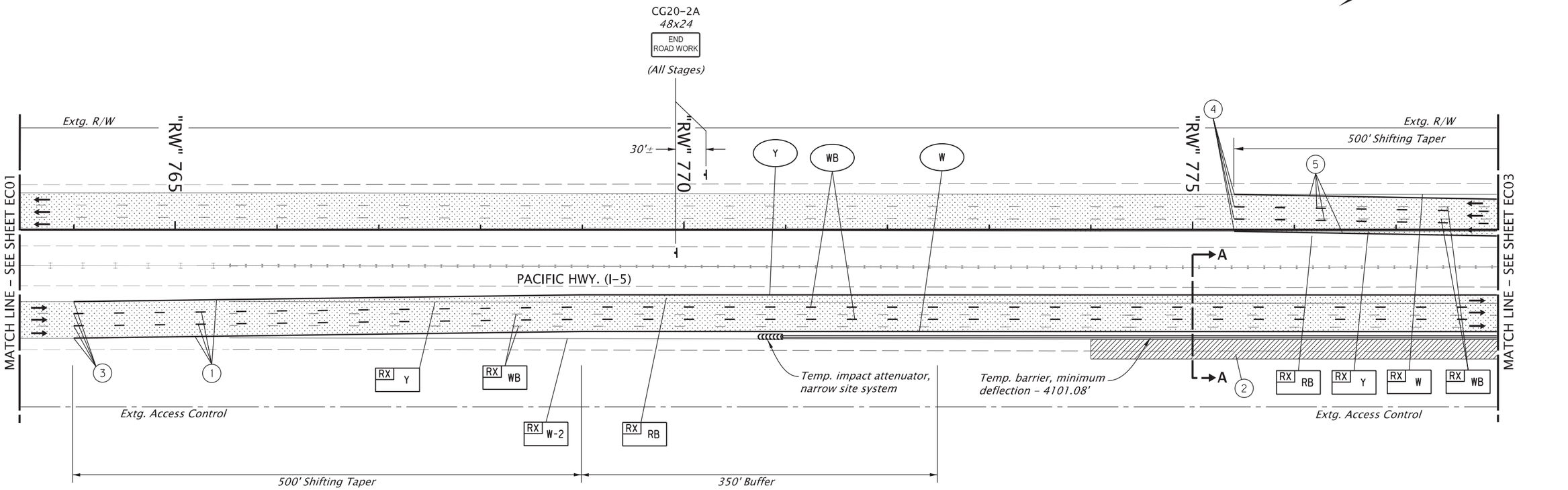
Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

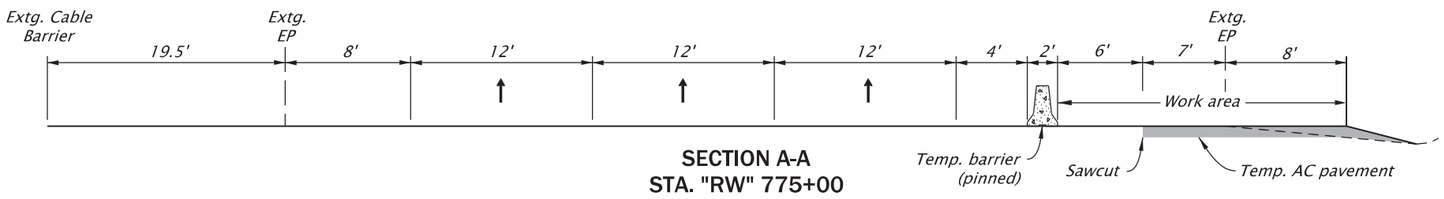
TRAFFIC CONTROL PLAN

SHEET NO. EC01

57V-020

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS





SECTION A-A
STA. "RW" 775+00

LEGEND

- Under traffic
- Under construction
- Sign on post
- Temp. impact attenuator, narrow site system
- Traffic direction
- W — Inst. 4" white line
- Y — Inst. 4" yellow line
- WB — Inst. 4" white broken line
- RX W — Remove 4" white line
- RX W-2 — Remove 8" white line
- RX Y — Remove 4" yellow line
- RX WB — Remove 4" broken white line
- RX RB — Remove 12" rumble strips per TM830. See Section 00620 - Cold Plane Pavement Removal. See Section 00230 - Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.

CONSTRUCTION NOTES:

1. *Shift SB I-5 lanes to the east 6' from Sta. "RW" 764+00 to "RW" 814+50 to accommodate shoulder widening and exit ramp construction.*
2. *Construct temporary SB shoulder widening for extension of SB exit ramp needed in Stage III to maintain access to Ehlen Road.*
3. *Match existing striping at Sta. "RW" 764+00.*
4. *Match existing striping at Sta. "RW" 775+40.*
5. *End I-5 NB lane shift from Sta. "RW" 775+40 to "RW" 810+40.*

REGISTERED PROFESSIONAL ENGINEER
74,348
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JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

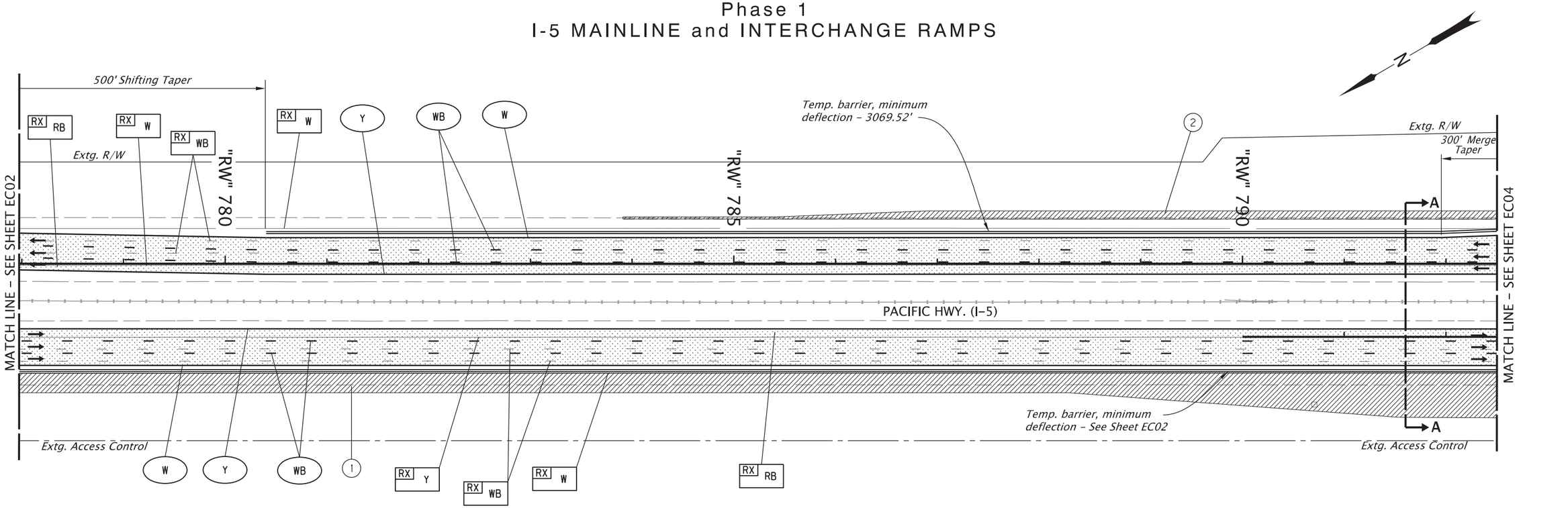
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

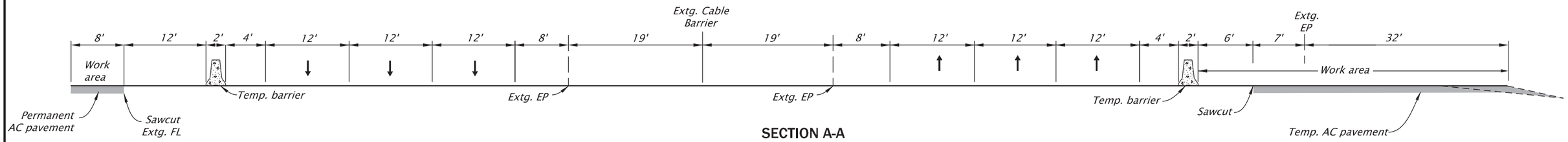
TRAFFIC CONTROL PLAN

SHEET NO. EC02

57V-020

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS





SECTION A-A
STA. "RW" 791+60

L E G E N D

Under traffic	RX W — Remove 4" white line
Under construction	RX Y — Remove 4" yellow line
Traffic direction	RX WB — Remove 4" broken white line
W — Inst. 4" white line	RX RB — Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.
Y — Inst. 4" yellow line	
WB — Inst. 4" white broken line	

CONSTRUCTION NOTES:

1. *Construct temporary SB shoulder widening for extension of SB exit ramp needed in Stage III to maintain access to Ehlen Road.*
2. *Construct NB shoulder widening for extension of new NB entrance ramp.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

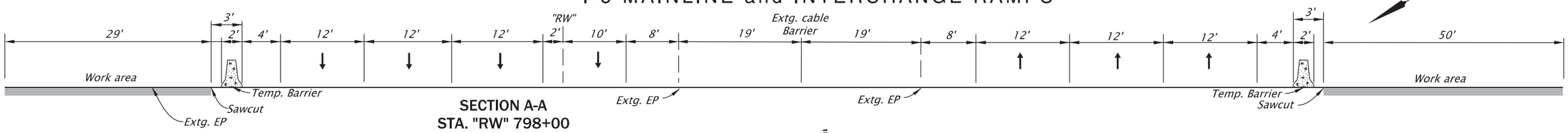
Designer: B. Moizio/L. Camacho — Reviewer: B. Copeland
Drafter: M. Lohr — Checker: S. Boice

TRAFFIC CONTROL PLAN

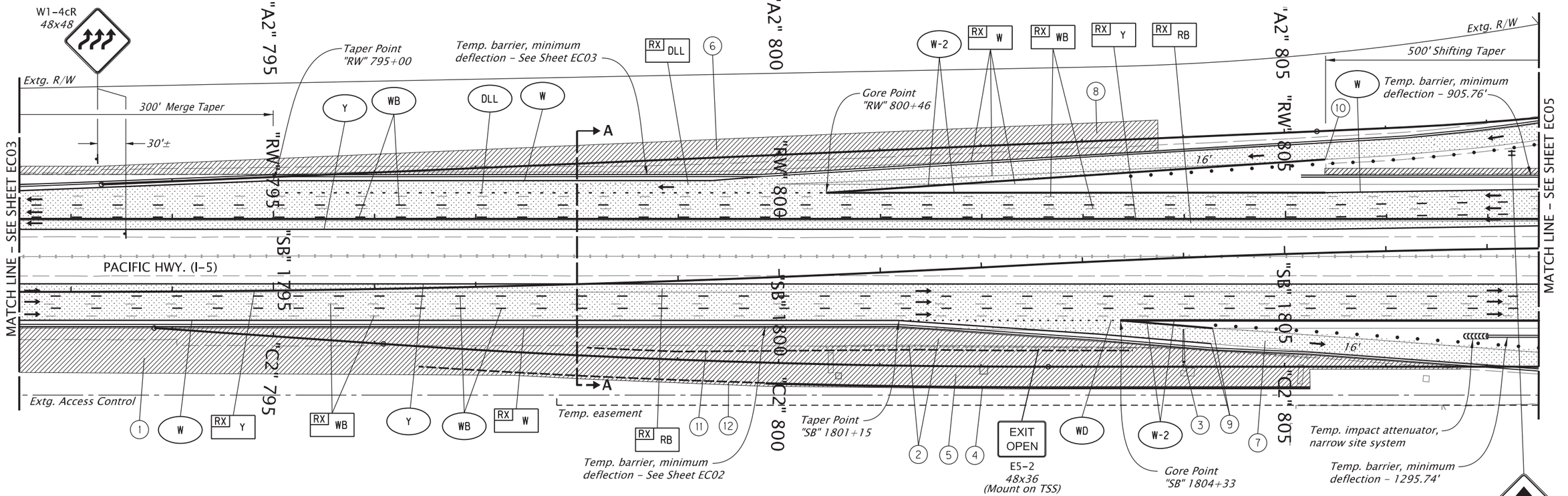
SHEET NO. EC03

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS

57V-020



SECTION A-A
STA. "RW" 798+00



L E G E N D

	Under traffic	W-2	Inst. 8" white line	RX Y	Remove 4" yellow line
	Under construction	Y	Inst. 4" yellow line	RX WB	Remove 4" broken white line
• • •	28" Tubular markers on 20' max. spacing	WB	Inst. 4" white broken line	RX DLL	Remove 4" white dotted lane line
	Sign on post	WD	Inst. 4" white dotted line	RX RB	Remove 12" rumble strips per TM830. See Section 00620 - Cold Plane Pavement Removal. See Section 00230 - Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.
	TSS	DLL	Inst. 4" white dotted lane line		
	Temp. impact attenuator, narrow site system	RX W	Remove 4" white line		
	Traffic direction				
W	Inst. 4" white line				

CONSTRUCTION NOTES:

1. *Construct temporary SB shoulder widening for extension of SB exit ramp needed in Stage III to maintain access to Ehlen Road.*
2. *Remove existing guardrail. Place temporary barrier, as shown.*
3. *Maintain existing overhead cantilever sign and sign support until new sign support has been installed.*
4. *Construct permanent concrete shoulder barrier (See Sheet C06A).*
5. *Construct portion of new SB exit ramp, as shown.*
6. *Construct portion of new NB entrance ramp, as shown.*
7. *At the end of Stage I Phase 1, construct remaining on-alignment portion of SB exit ramp north of Sta. "C2" 805+25 and tie into existing exit ramp under 7-day full ramp closure. See Sheet EA20 for ramp closure details and Sheet EB07 for detour. Do not close more than one ramp at a time.*
8. *At the end of Stage I Phase 1, construct remaining on-alignment portion of NB entrance ramp north of Sta. "A2" 803+75 and tie into existing exit ramp under 7-day full ramp closure. See Sheet EA20 for ramp closure details and Sheet EB04 for detour. Do not close more than one ramp at a time.*
9. *Match existing striping at Sta. "C2" 804+28*

CONSTRUCTION NOTES (Cont'd):

10. *Match existing striping at Sta. "A2" 805+41*
11. *Construct portion of low profile mountable curb from Sta. "C2" 798+10 to Sta. "C2" 803+50, as shown.*
12. *Construct low profile mountable curb, as shown.*

REGISTERED PROFESSIONAL ENGINEER
74,348
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EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

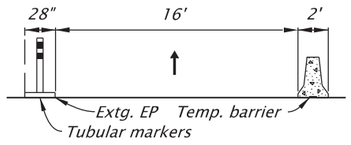
Designer: B. Moizio/L. Camacho
Reviewer: B. Copeland
Drafter: M. Lohr
Checker: S. Boice

TRAFFIC CONTROL PLAN

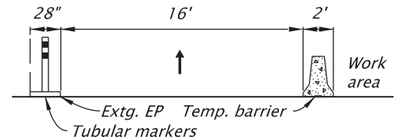
SHEET NO. EC04

57V-020

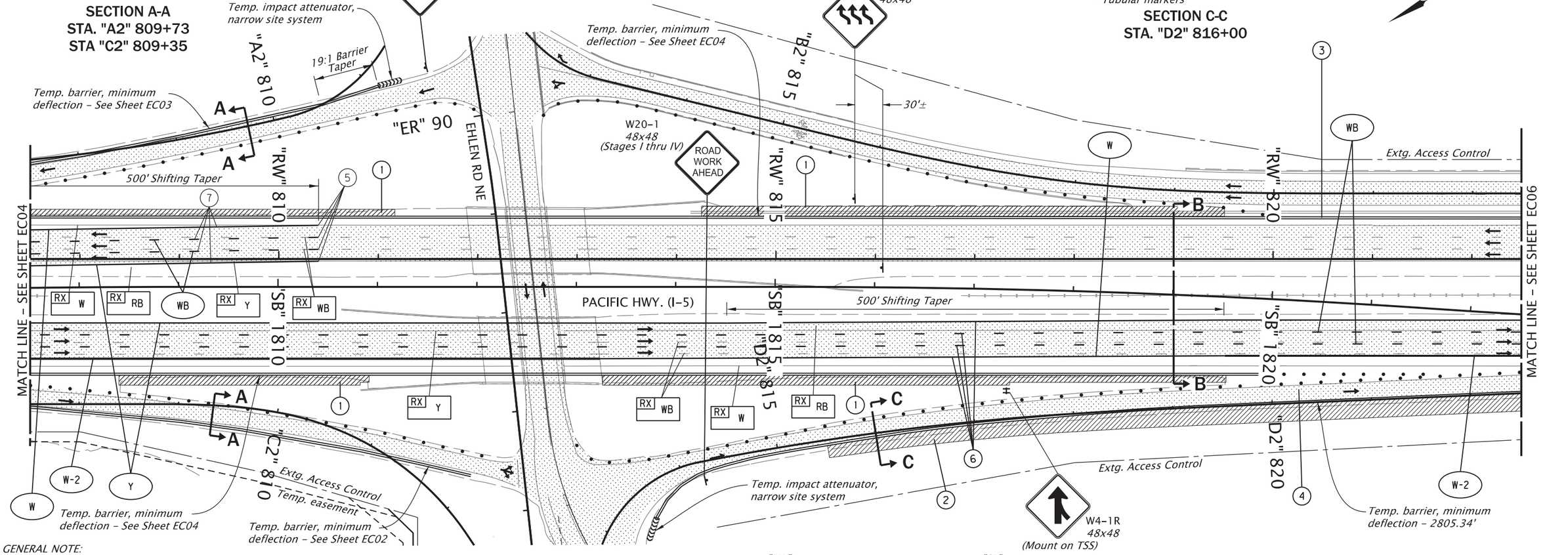
STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS

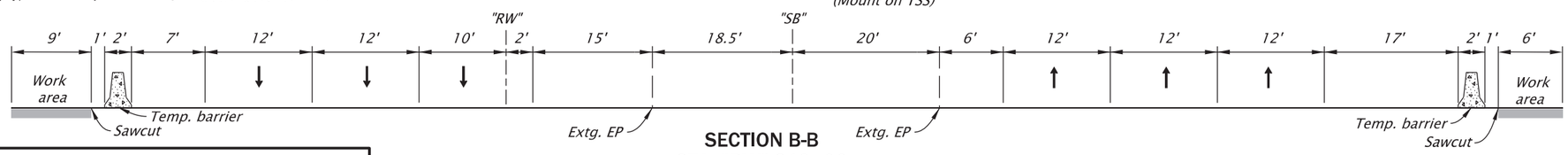


SECTION A-A
STA. "A2" 809+73
STA "C2" 809+35



SECTION C-C
STA. "D2" 816+00





SECTION B-B
STA. "RW" 819+00

GENERAL NOTE:

1. *Maintain stop control at Ehlen Road ramp terminal intersections during Stage I Phase 1.*

CONSTRUCTION NOTES:

(1) *Construct SB and NB shoulder pavement widening, as shown.*

(2) *Construct SB shoulder widening for extension of SB entrance ramp.*

L E G E N D

- *Under traffic*
- *Under construction*
- *28" Tubular markers on 20' max. spacing*
- *Sign on post*
- *TSS*
- *Temp. impact attenuator, narrow site system*
- *Traffic direction*
- W — *Inst. 4" white line*
- W-2 — *Inst. 8" white line*
- Y — *Inst. 4" yellow line*
- WB — *Inst. 4" white broken line*
- RX W — *Remove 4" white line*
- RX Y — *Remove 4" yellow line*
- RX WB — *Remove 4" broken white line*
- RX RB — *Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.*

CONSTRUCTION NOTES (cont'd):

(3) *Shift existing barrier west 5' and use as temporary barrier. Connect to new temporary barrier at Sta. "RW" 814+15.*

(4) *At the end of Stage I Phase 1, construct remaining on-alignment portion of SB entrance ramp south of Sta. "D2" 815+50 and tie into existing entrance ramp under 1-week full ramp closure. See Sheet EA21 for ramp closure details and Sheet EB05 for detour. Do not close more than one ramp at a time.*

(5) *Match existing striping at Sta. "RW" 810+40.*

(6) *Shift SB I-5 lanes to the east an additional 3' from Sta. "RW" 814+50 to Sta. "RW" 846+50 to accommodate entrance ramp construction.*

(7) *Shift NB I-5 lanes to the west 9' from Sta. "RW" 775+40 to "RW" 810+40 to accommodate shoulder widening and entrance ramp construction.*

REGISTERED PROFESSIONAL ENGINEER
74,348
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OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

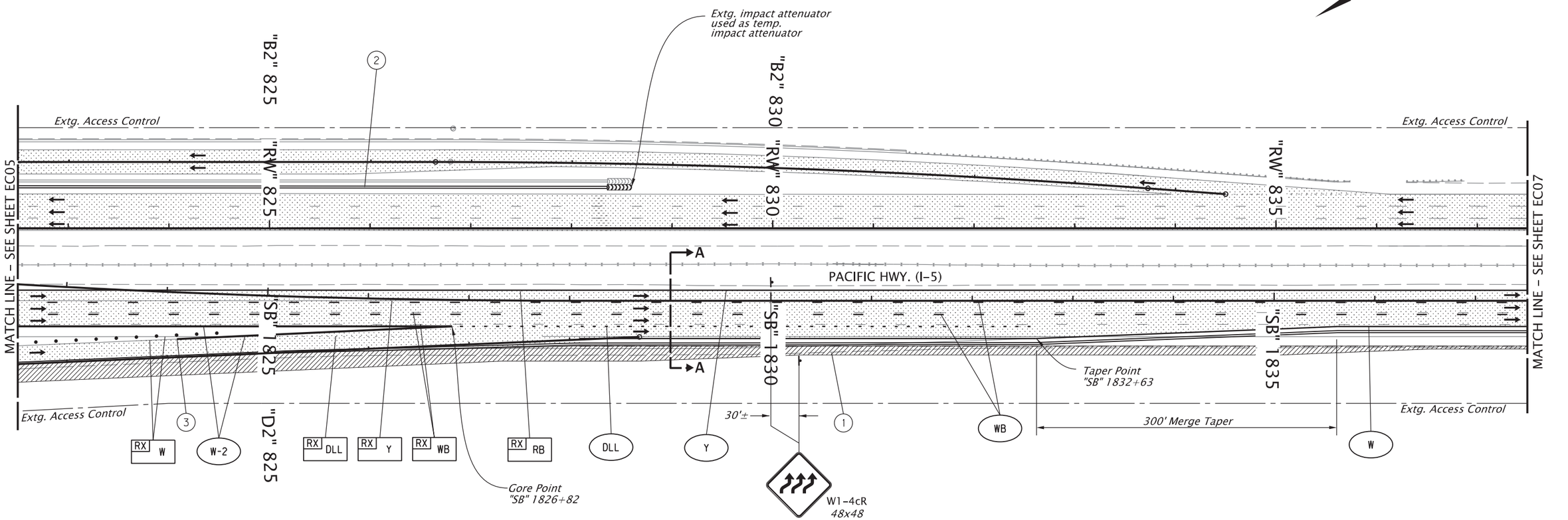
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

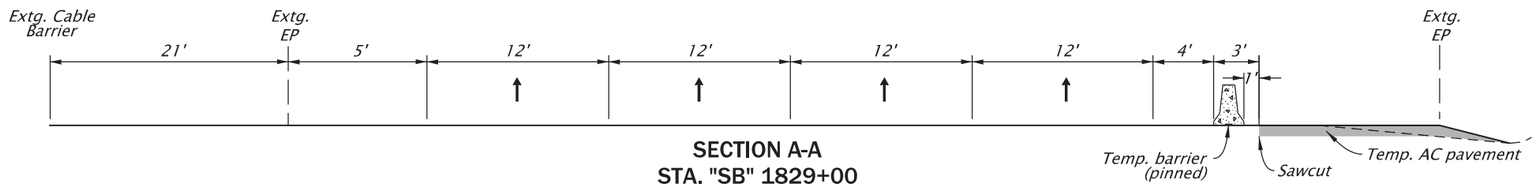
TRAFFIC CONTROL PLAN

SHEET NO. EC05

57V-020

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS





SECTION A-A
STA. "SB" 1829+00

LEGEND

- Under traffic
- Under construction
- 28" Tubular markers on 20' max. spacing
- Sign on post
- Temp. impact attenuator, narrow site system
- Traffic direction
- W — Inst. 4" white line
- W-2 — Inst. 8" white line
- Y — Inst. 4" yellow line
- WB — Inst. 4" white broken line
- DLL — Inst. 4" white dotted lane line
- RX W — Remove 4" white line
- RX Y — Remove 4" yellow line
- RX WB — Remove 4" broken white line
- RX DLL — Remove 4" white dotted lane line
- RX RB — Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.

CONSTRUCTION NOTES:

1. *Construct SB shoulder widening for extension of SB entrance ramp.*
2. *Shift existing barrier west 5' and use as temporary barrier. Connect to new temporary barrier as Sta. "RW" 814+15.*
3. *Match existing striping at Sta. "D2" 824+11.*

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STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

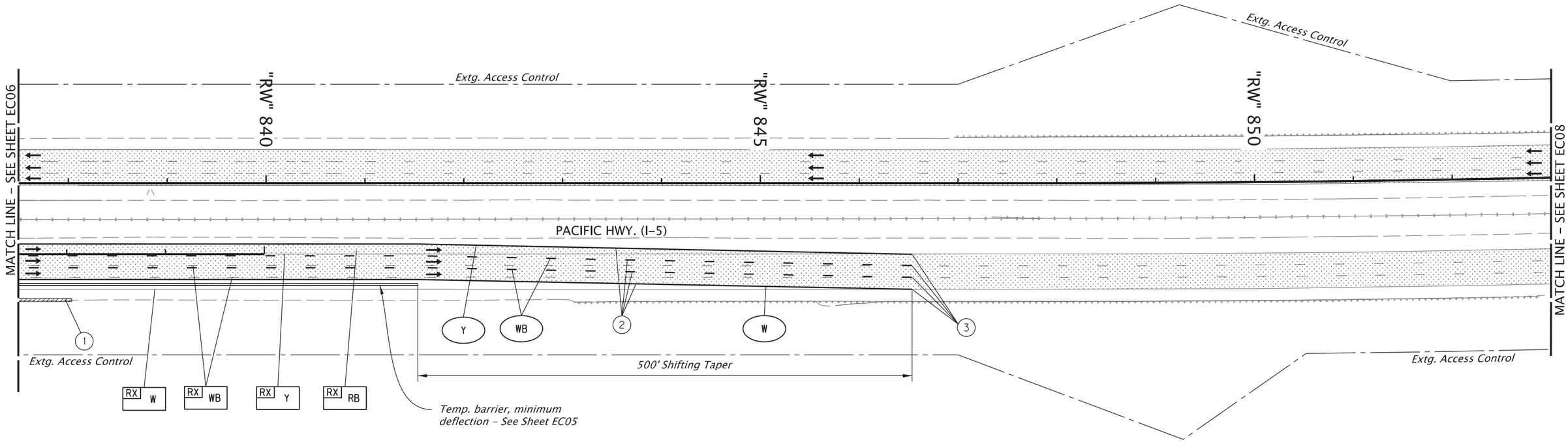
Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC06

57V-020

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

Under traffic	RX W — Remove 4" white line
Under construction	RX Y — Remove 4" yellow line
Traffic direction	RX WB — Remove 4" broken white line
W — Inst. 4" white line	RX RB — Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.
Y — Inst. 4" yellow line	
WB — Inst. 4" white broken line	

CONSTRUCTION NOTES:

1. *Construct SB shoulder widening for extension of SB entrance ramp.*
2. *End I-5 SB lane shift from Sta. "RW" 764+00 to Sta. "RW" 846+50.*
3. *Match existing striping at Sta. "RW" 846+50.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

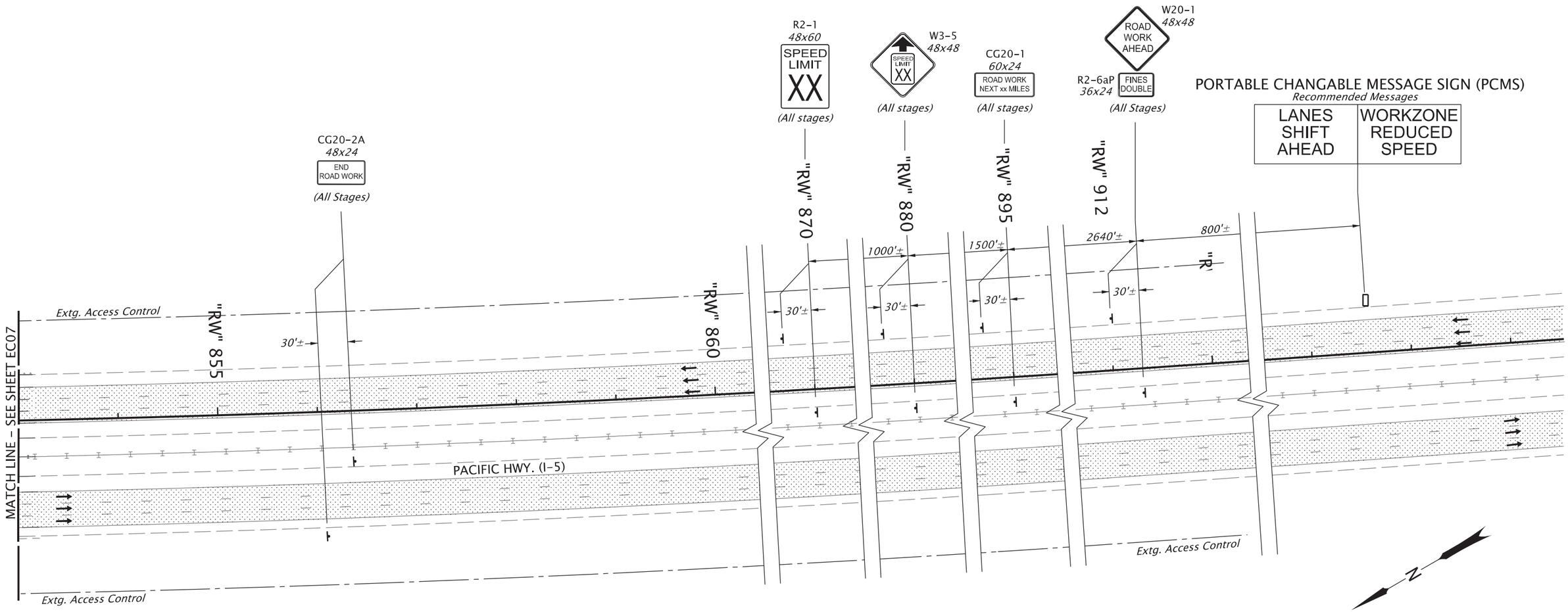
Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC07

57V-020

STAGE I
Phase 1
I-5 MAINLINE and INTERCHANGE RAMPS



LEGEND

- Under traffic
- Sign on post
- PCMS
- Traffic direction

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

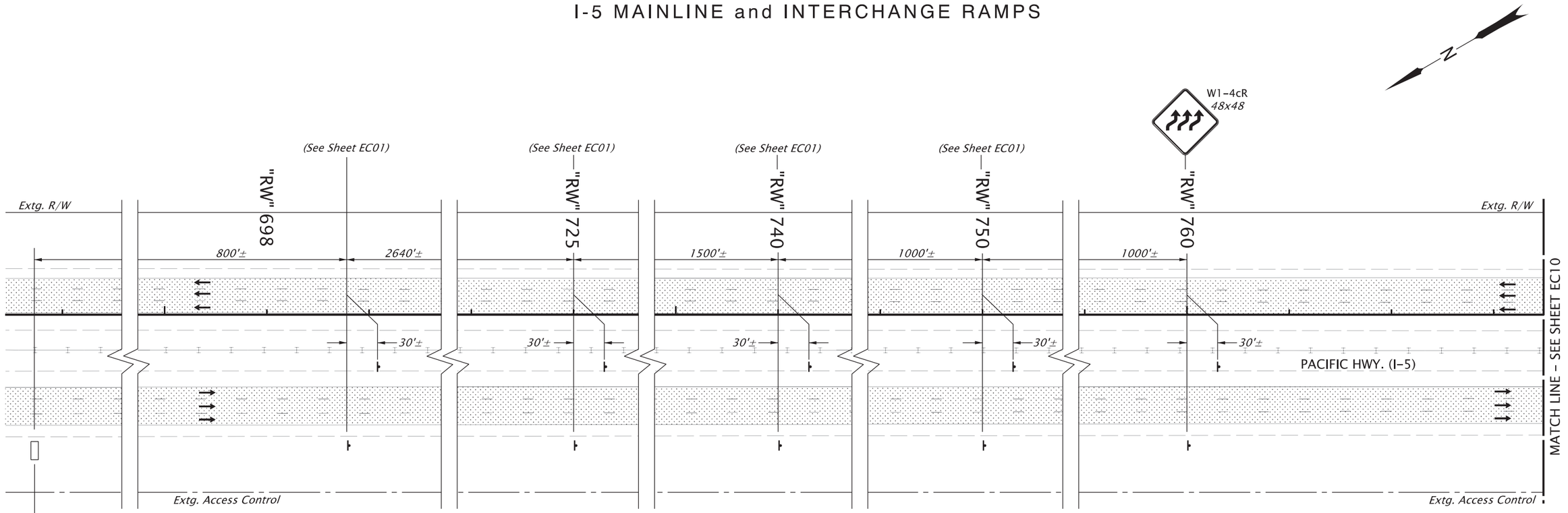
Designer: B. Moizio/L. Camacho
Reviewer: B. Copeland
Drafter: M. Lohr
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC08

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



LANES SHIFT AHEAD	WORKZONE REDUCED SPEED

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
Recommended Messages

L E G E N D

- *Under traffic*
- *Sign on post*
- *PCMS*
- *Traffic direction*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN | SHEET NO. EC09

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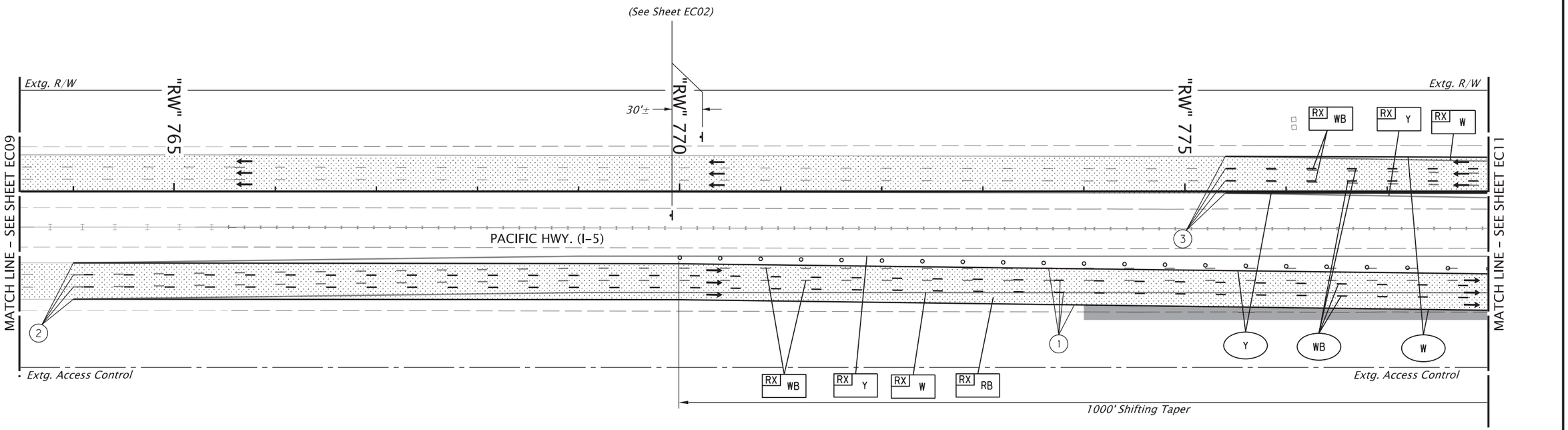
STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

Under traffic	Inst. 4" white broken line
Completed, not under traffic	Remove 4" white line
Temp. plastic drums on 40' max. spacing	Remove 4" yellow line
Sign on post	Remove 4" broken white line
Traffic direction	Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.
Inst. 4" white line	
Inst. 4" yellow line	

CONSTRUCTION NOTES:

1. *Shift SB I-5 lanes to the west 18' from Stage I Phase 1 alignment from Sta. "RW" 770+00 to "RW" 851+00.*
2. *Match existing striping at Sta. "RW" 764+00.*
3. *Match existing striping at Sta. "RW" 775+40.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

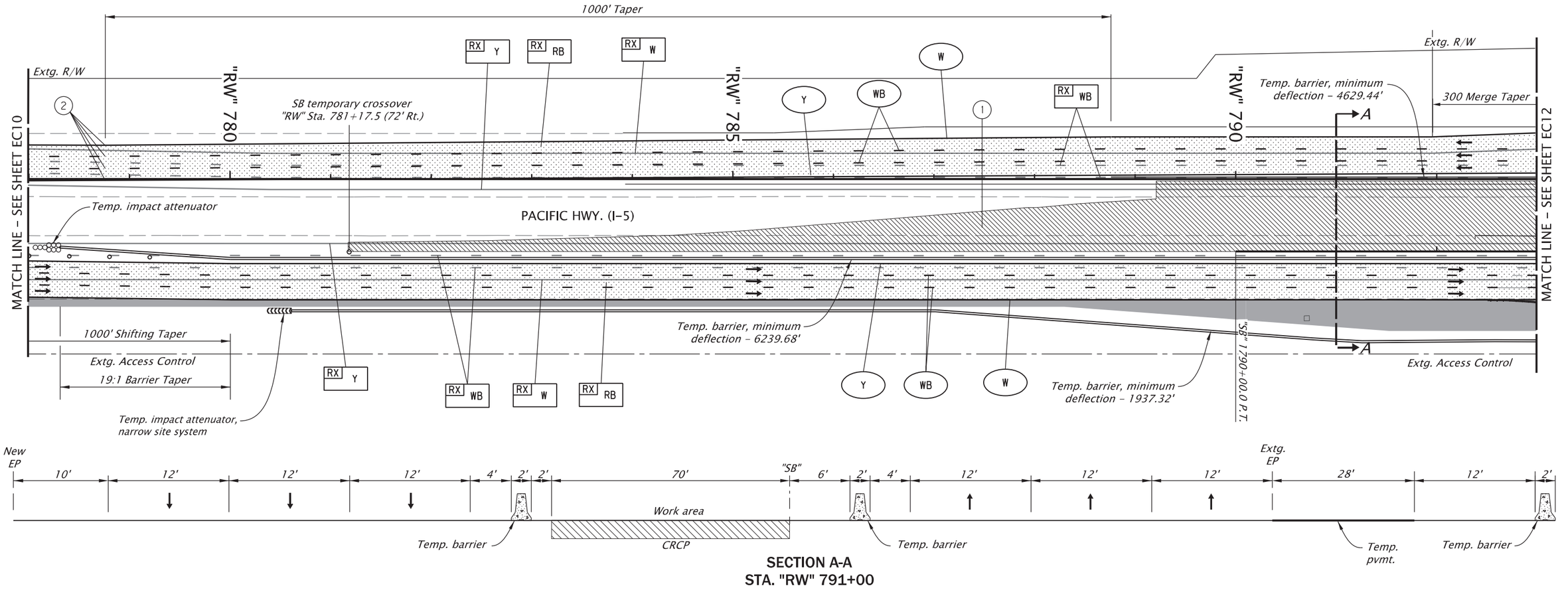
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC10

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



SECTION A-A
STA. "RW" 791+00

L E G E N D

- Under traffic
- Under construction (ACP)
- Completed, not under traffic
- Temp. impact attenuator
- Temp. impact attenuator, narrow site system
- Traffic direction
- W — Inst. 4" white line
- Y — Inst. 4" yellow line
- WB — Inst. 4" white broken line
- RX W — Remove 4" white line
- RX Y — Remove 4" yellow line
- RX WB — Remove 4" broken white line
- RX RB — Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.

CONSTRUCTION NOTES:

1. *Construct SB median shoulder cross-slope pavement corrections for future SB temporary crossover. Construct SB temporary crossover pavement.*
2. *End NB I-5 lane shift from Sta. "RW" 778+75 to "RW" 838+70.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

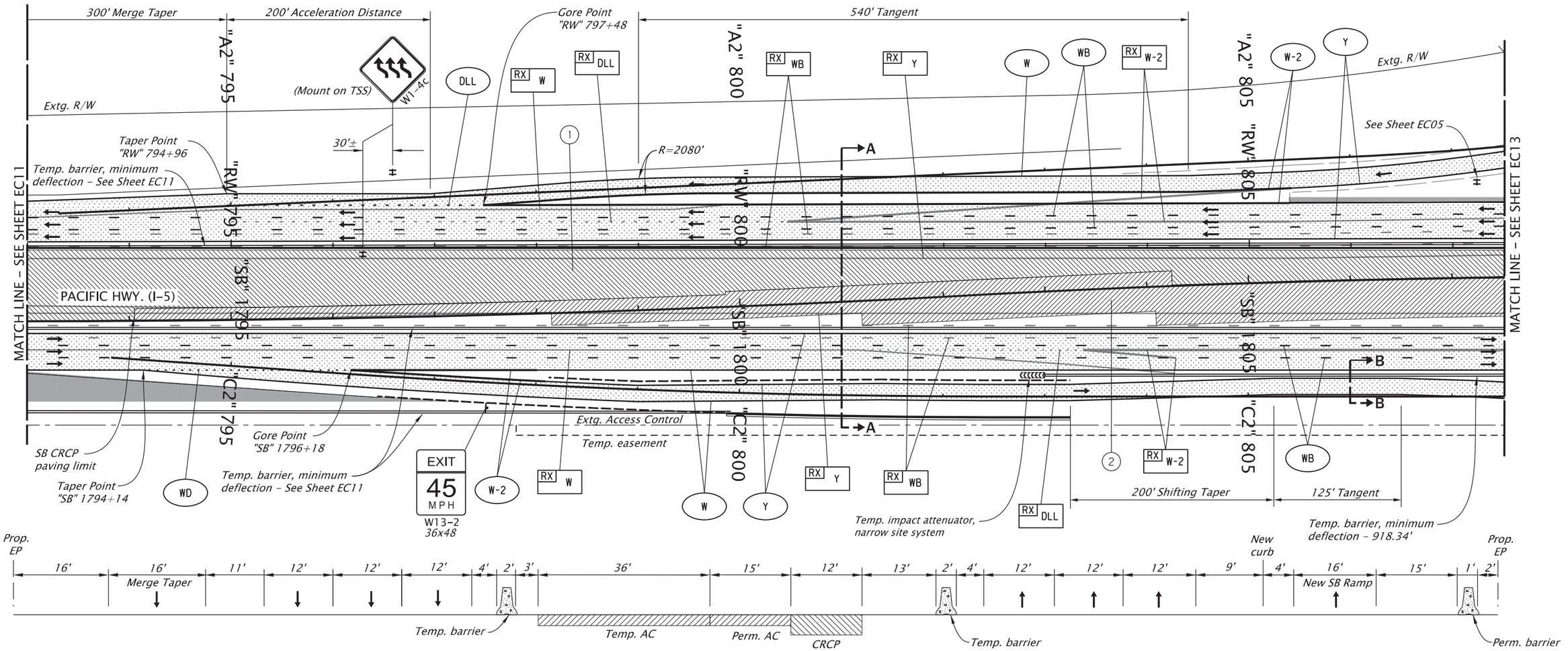
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

TRAFFIC CONTROL PLAN

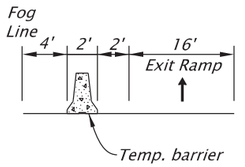
SHEET NO. EC11

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



SECTION A-A
STA. "RW" 801+00



SECTION B-B
STA. "C2" 806+00

L E G E N D

	Under traffic	W-2	Inst. 8" white line	RX W	Remove 4" white line
	Under construction	Y	Inst. 4" yellow line	RX W-2	Remove 8" white line
	Under construction (ACP)	WB	Inst. 4" white broken line	RX Y	Remove 4" yellow line
	Completed, not under traffic	WD	Inst. 4" white dotted line	RX WB	Remove 4" broken white line
±	TSS	DLL	Inst. 4" white dotted lane line	RX DLL	Remove 4" white dotted lane line
	Temp. impact attenuator, narrow site system				
→	Traffic direction				
W	Inst. 4" white line				

CONSTRUCTION NOTES:

1. *Construct NB/SB temporary crossover AC pavement.*
2. *Construct permanent continuously reinforced concrete pavement (CRCP) and permanent SB median shoulder.*

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

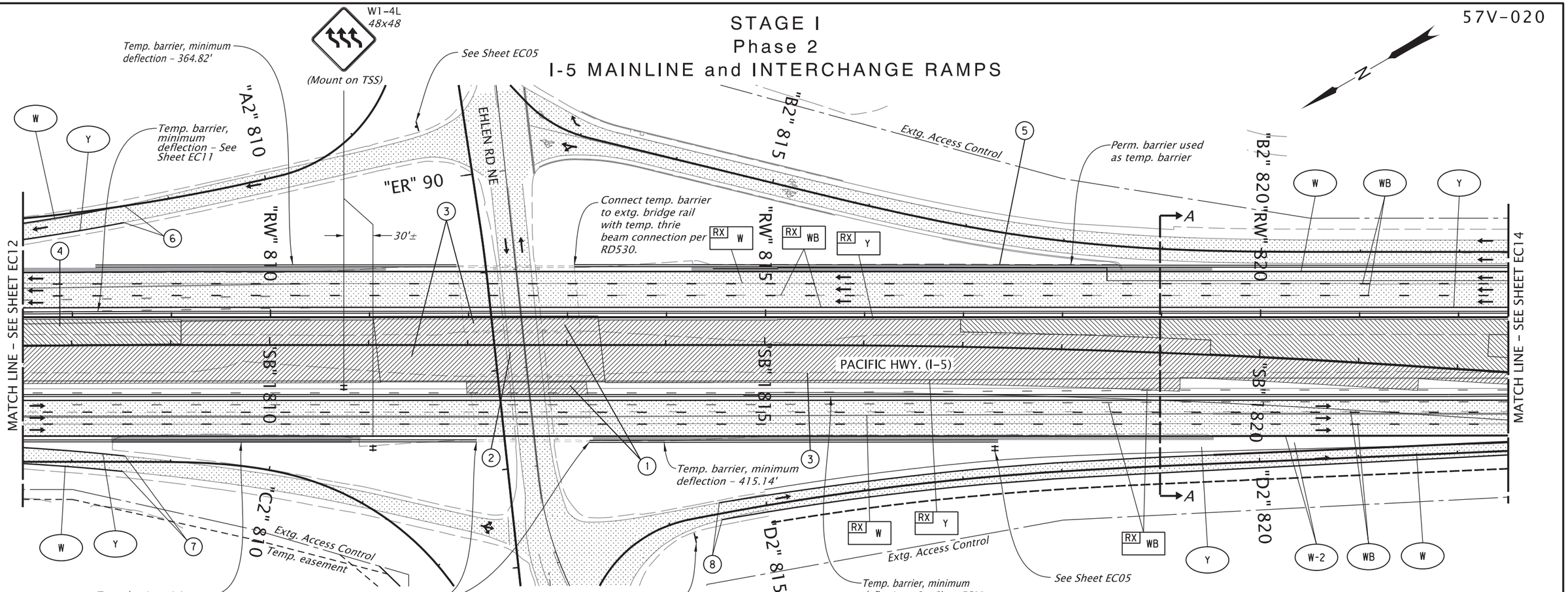
Designer: B. Moizio/L. Camacho
Reviewer: B. Copeland
Drafter: M. Lohr
Checker: S. Boice

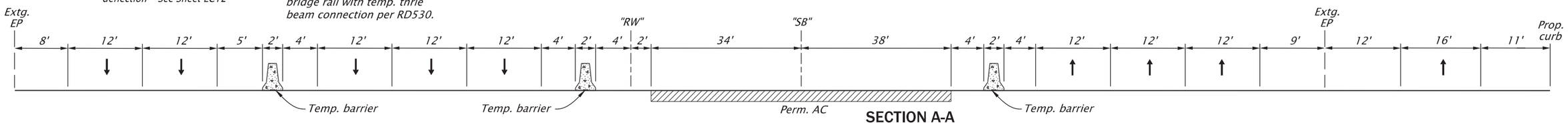
TRAFFIC CONTROL PLAN

SHEET NO. EC12

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS





SECTION A-A
STA. "RW" 819+00

L E G E N D

	Under traffic	W-2	Inst. 8" white line	RX WB	Remove 4" broken white line
	Under construction	Y	Inst. 4" yellow line		
	Under construction (ACP)	WB	Inst. 4" white broken line		
	Completed, not under traffic	RX W	Remove 4" white line		
≠	TSS	RX Y	Remove 4" yellow line		
→	Traffic direction				
W	Inst. 4" white line				

CONSTRUCTION NOTES:

1. *Demolish interior portion of existing interchange overcrossing structure. See Sheet J06 for details. Limited - duration full closures of Ehlen Road may be conducted to complete this work. See Sheet EB01 for detour details. Complete Ehlen Road work during full road closure, or under two-way, one-lane operations using flaggers.*
2. *Construct center portion of new interchange overcrossing structure.*
3. *Construct permanent CRCP and AC shoulders for new SB I-5 alignment.*
4. *Construct NB/SB temporary crossover pavement.*
5. *Shift existing barrier 9' east of Phase 1 location and use as temporary barrier. Connect to existing barrier at Sta. "RW" 813+26.*
6. *Match existing striping at Sta. "A2" 808+55.*
7. *Match existing striping Sta. "C2" 808+55.*
8. *Match existing striping Sta. "D2" 814+50.*

GENERAL NOTE:

1. *Maintain stop control at Ehlen Road ramp terminal intersections during Stage I Phase 2.*

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

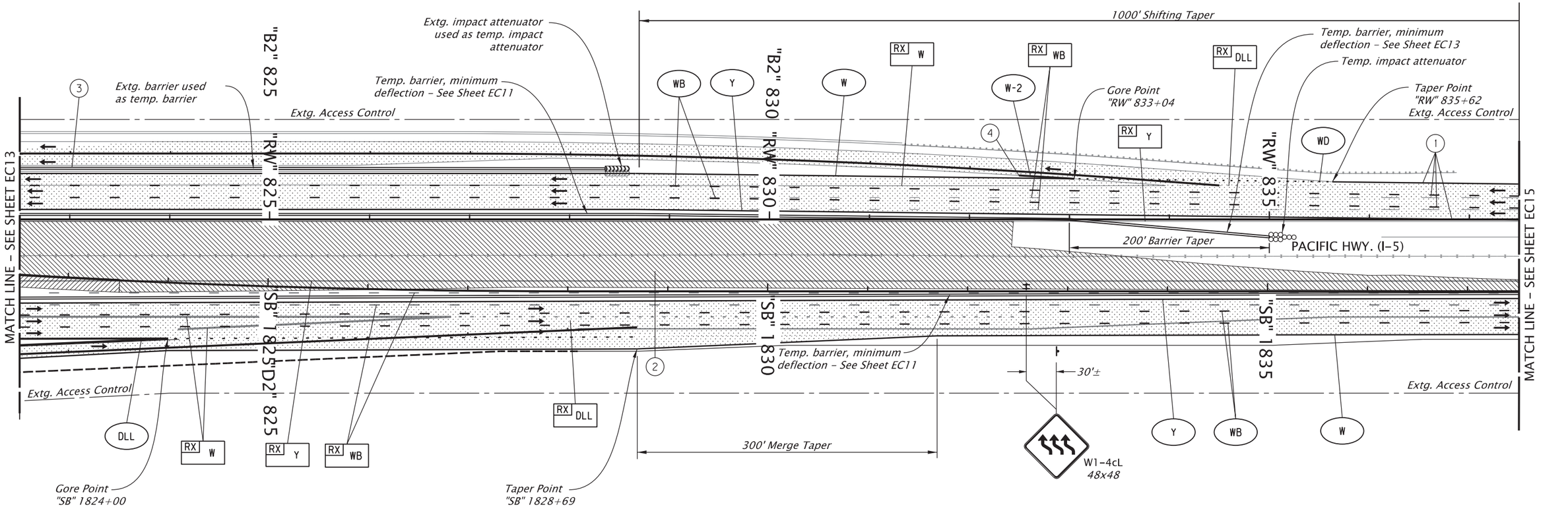
Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC13

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

	Under traffic	W	Inst. 4" white line	DLL	Inst. 4" white dotted lane line
	Under construction	W-2	Inst. 8" white line	RX W	Remove 4" white line
	Under construction (ACP)	Y	Inst. 4" yellow line	RX Y	Remove 4" yellow line
	Sign on post	WB	Inst. 4" white broken line	RX WB	Remove 4" broken white line
	TSS	WD	Inst. 4" white dotted line	RX DLL	Remove 4" white dotted lane line
	Temp. impact attenuator, narrow site system				
	Temp. impact attenuator				
→	Traffic direction				

CONSTRUCTION NOTES:

1. *Shift NB I-5 to the east into narrowed cross section.*
2. *Construct portion of permanent CRCP for new SB I-5 alignment.*
3. *Shift existing barrier 9' east of Phase 1 location and use as temporary barrier. Connect to existing barrier at Sta. "RW" 813+26.*
4. *Match existing striping at Sta. "B2" 832+49.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

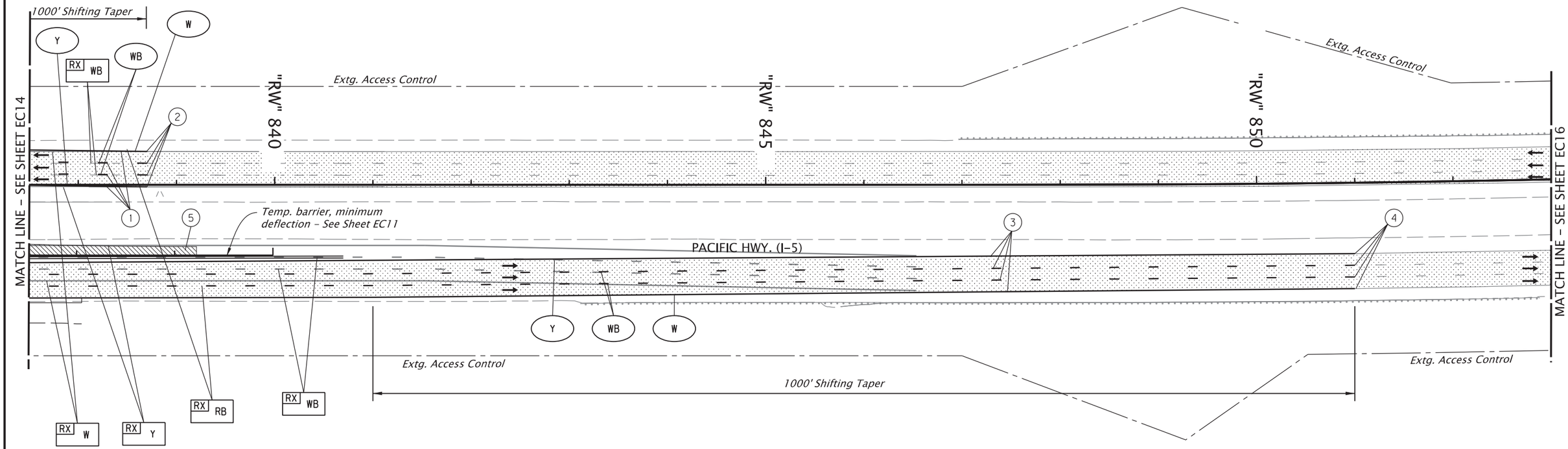
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC14

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

- Under traffic
- Under construction (ACP)
- Traffic direction
- W — Inst. 4" white line
- Y — Inst. 4" yellow line
- WB — Inst. 4" white broken line
- RX W — Remove 4" white line
- RX Y — Remove 4" yellow line
- RX WB — Remove 4" broken white line
- RX RB — Remove 12" rumble strips per TM830. See Section 00620 – Cold Plane Pavement Removal. See Section 00230 – Construct and Remove Temporaray Roadbed and Surfacing for ACP paving.

CONSTRUCTION NOTES:

1. *Shift NB I-5 lanes to the east 19' from Stage I Phase 1 alignment from Sta. "RW" 778+75 to "RW" 838+70.*
2. *Match existing striping at Sta. "RW" 838+70.*
3. *End SB I-5 lane shift from Sta. 770+00 to "RW" 851+00.*
4. *Match existing striping at Sta. "RW" 851+00.*
5. *Construct portion of permanent CRCP for new SB alignment.*

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

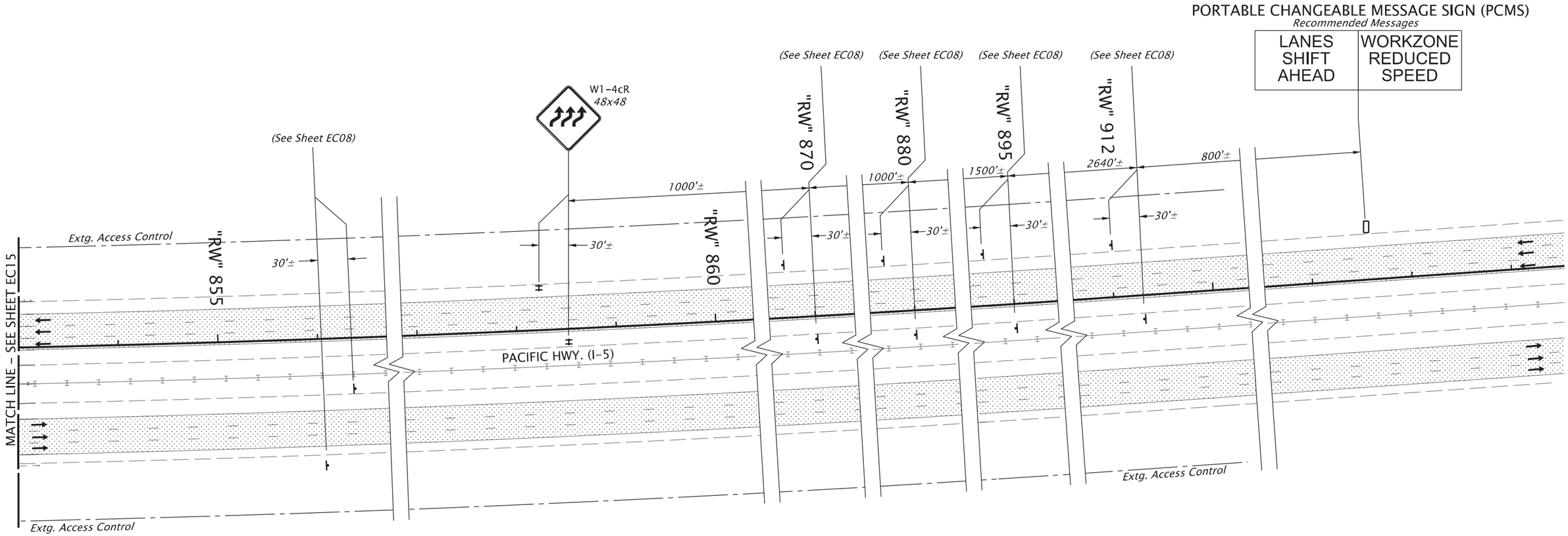
Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC15

57V-020

STAGE I
Phase 2
I-5 MAINLINE and INTERCHANGE RAMPS



LEGEND

- *Under traffic*
- *Sign on post*
- *TSS*
- *PCMS*
- *Traffic direction*

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EC16

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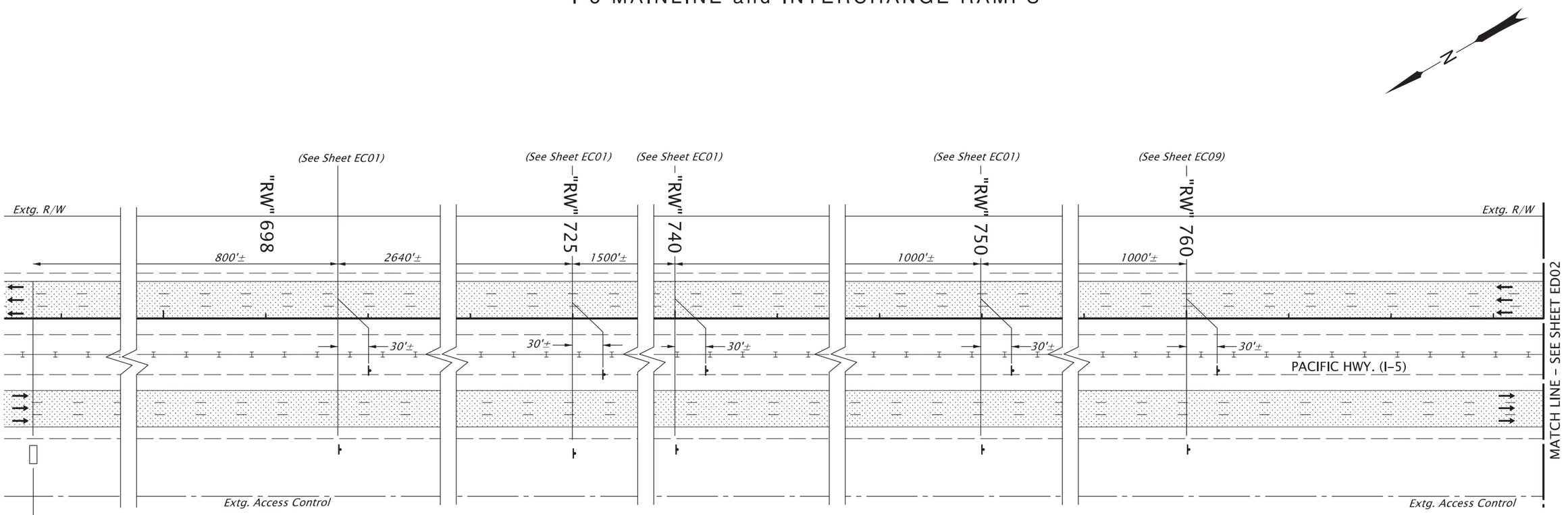
57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS



LANES SHIFT AHEAD	WORKZONE REDUCED SPEED

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
Recommended Messages

LEGEND

- *Under traffic*
- *Sign on post*
- *PCMS*
- *Traffic direction*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

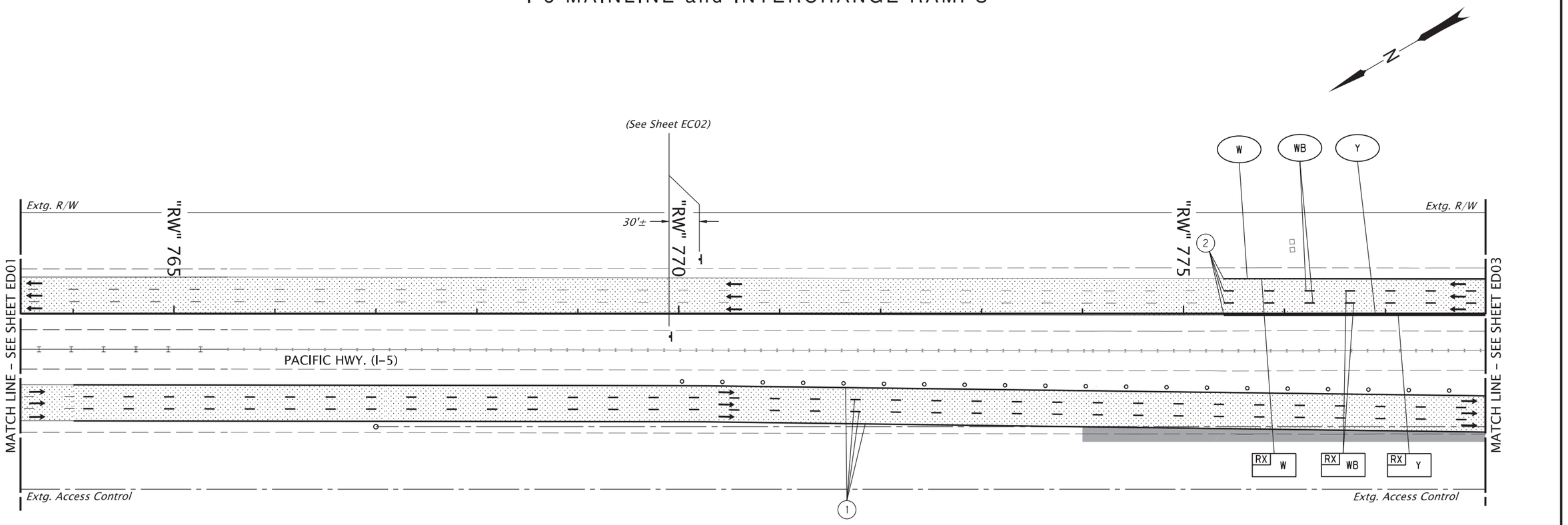
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO.
ED01

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

Under traffic	Inst. 4" white broken line (WB)
Completed, not under traffic	Remove 4" white line (RX W)
Temp. plastic drums on 40' max. spacing	Remove 4" yellow line (RX Y)
Sign on post	Remove 4" broken white line (RX WB)
Traffic direction	
Inst. 4" white line (W)	
Inst. 4" yellow line (Y)	

CONSTRUCTION NOTES:

1. *Maintain SB I–5 lanes in shifted position from Stage I Phase 2.*
2. *Match existing striping at Sta. "RW" 775+40.*

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

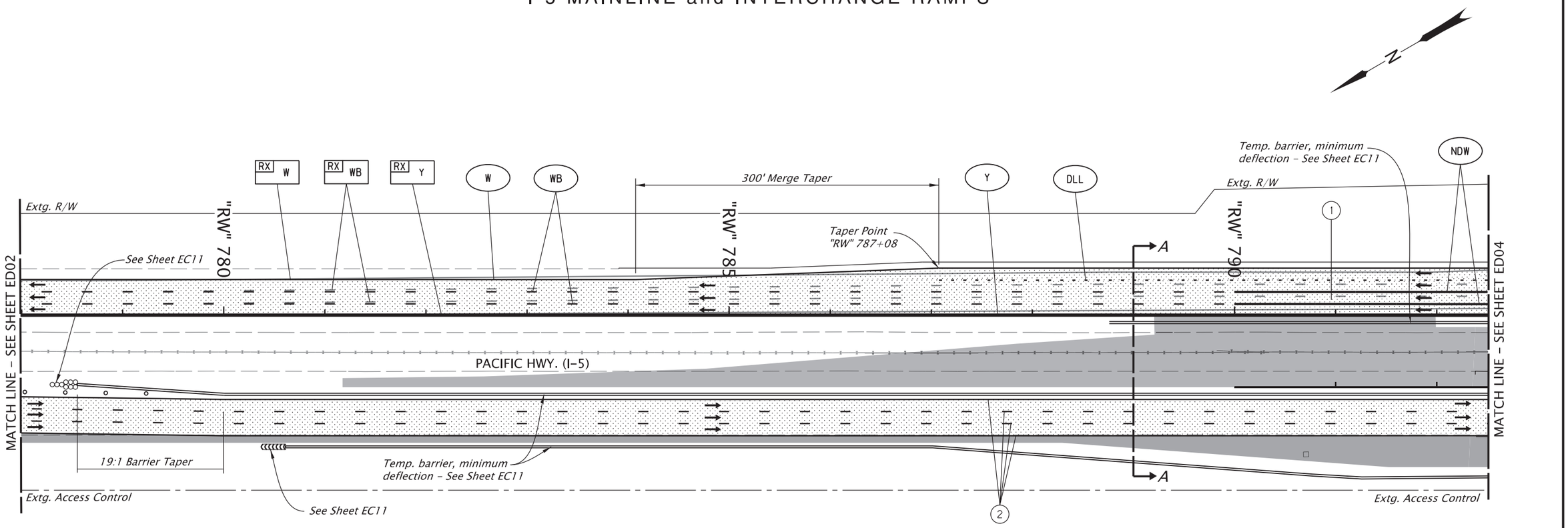
Designer: B. Moizio/L. Camacho
Reviewer: B. Copeland
Drafter: M. Lohr
Checker: S. Boice

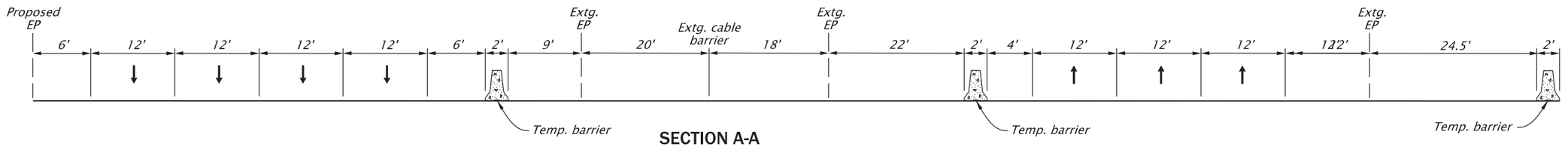
TRAFFIC CONTROL PLAN

SHEET NO. ED02

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS





SECTION A-A
STA. "RW" 789+00

L E G E N D

	Under traffic	WB	Inst. 4" white broken line
	Completed, not under traffic	DLL	Inst. 4" white dotted lane line
o o	Temp. plastic drums on 40' max. spacing	NDW	Inst. narrow double no-lane change two 4" white lines
	Temp. impact attenuator	RX W	Remove 4" white line
→	Traffic direction	RX Y	Remove 4" yellow line
W	Inst. 4" white line	RX WB	Remove 4" broken white line
Y	Inst. 4" yellow line		

CONSTRUCTION NOTES:

1. *Move NB I-5 traffic onto temporary crossover under nighttime two-lane closure per Sheet EA21. Divert the single lane of traffic onto the I-5 NB exit ramp and I-5 NB entrance ramp. Flag all approaches at ramp terminal intersection.*
2. *Maintain SB I-5 lanes in shifted position from Stage I Phase 2.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

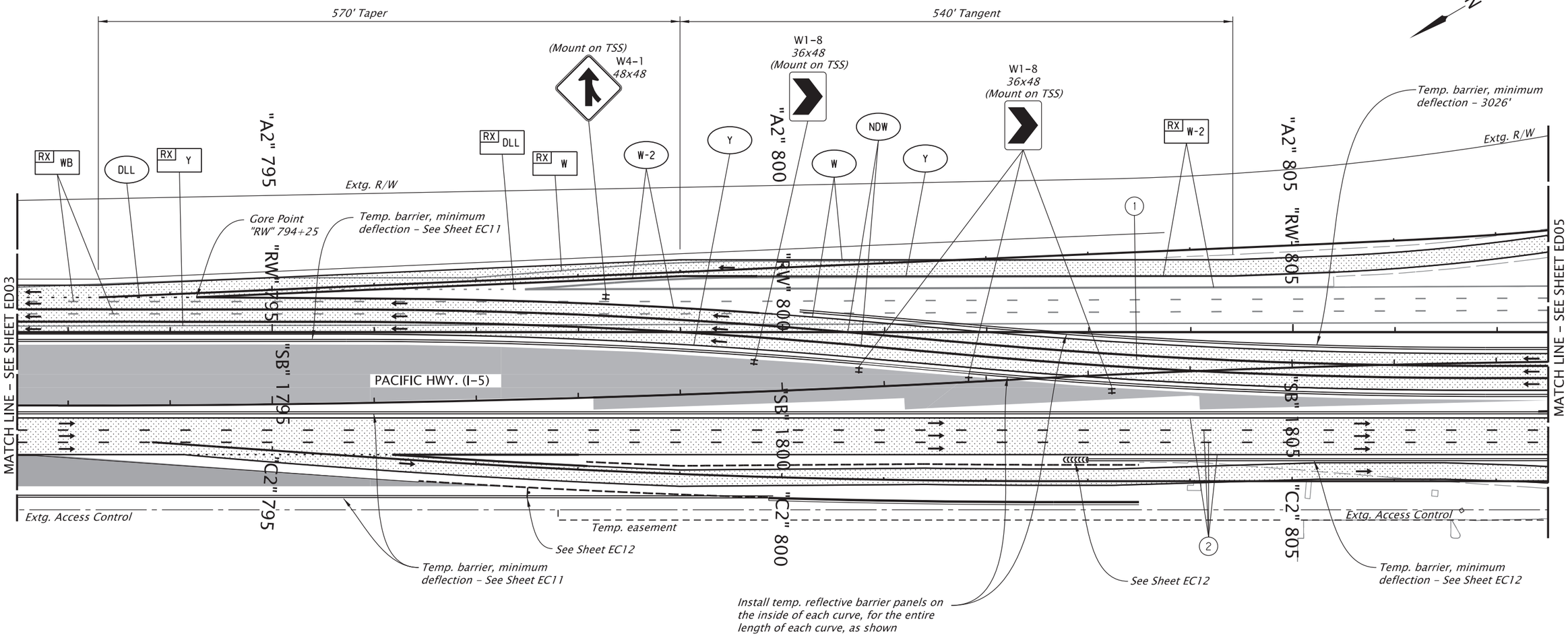
TRAFFIC CONTROL PLAN

SHEET NO. ED03

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS



LEGEND

Under traffic	Y — Inst. 4" yellow line	RX WB	Remove 4" broken white line
Completed, not under traffic	DLL — Inst. 4" white dotted lane line	RX DLL	Remove 4" white dotted lane line
TSS	NDW — Inst. narrow double no-lane change two 4" white lines		
Traffic direction	RX W — Remove 8" white line		
W — Inst. 4" white line	RX W-2 — Remove 4" white line		
W-2 — Inst. 8" white line	RX Y — Remove 4" yellow line		

CONSTRUCTION NOTES:

1. *Move NB I-5 traffic onto temporary crossover under nighttime two-lane closure per Sheet EA21. Divert the single lane of traffic onto the I-5 NB exit ramp and I-5 NB entrance ramp. Flag all approaches at ramp terminal intersection.*
2. *Maintain SB I-5 lanes in shifted position from Stage I Phase 2.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

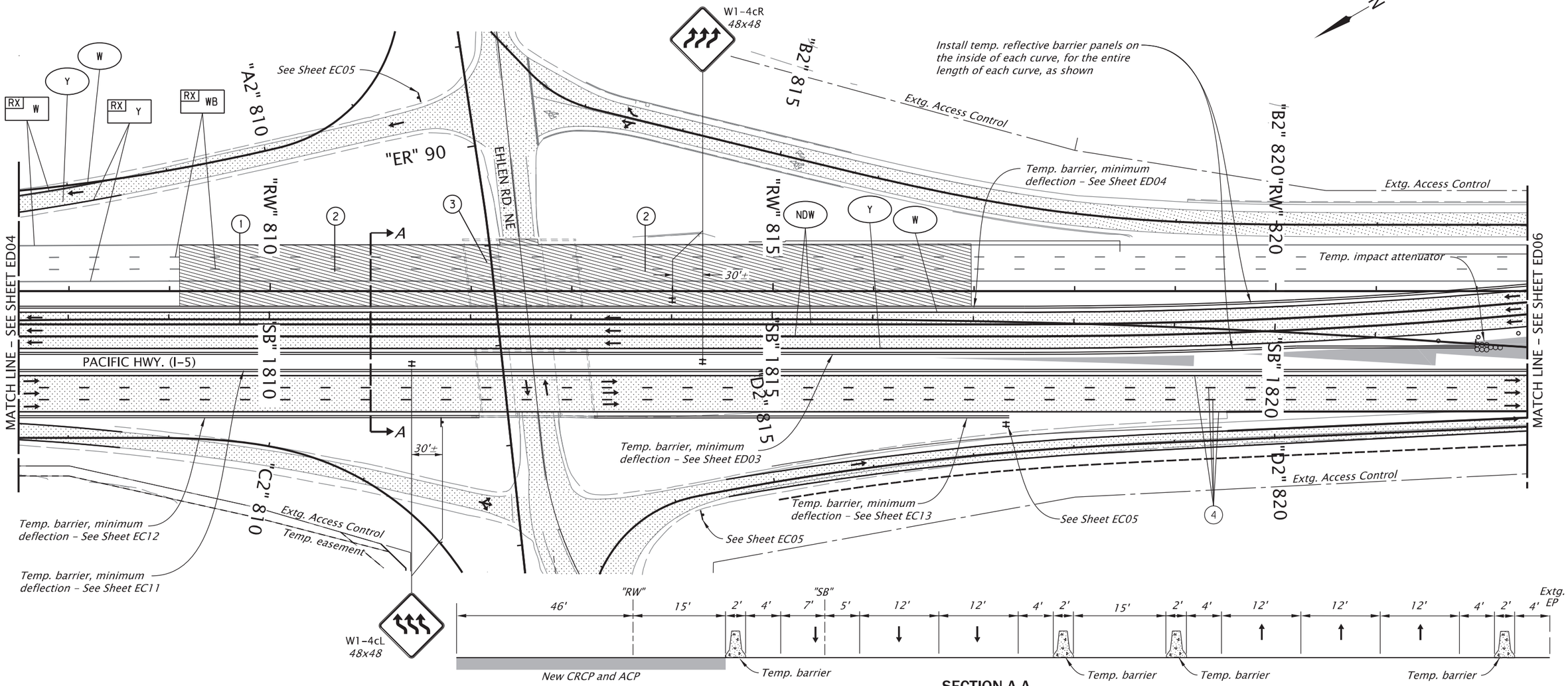
SHEET NO. ED04

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS

GENERAL NOTE:

1. *Maintain stop control at Ehlen Road ramp terminal intersections during Stage II.*



SECTION A-A
STA. "RW" 811+00

L E G E N D

Under traffic	W — Inst. 4" white line
Under construction (ACP)	Y — Inst. 4" yellow line
Completed, not under traffic	NDW — Inst. narrow double no-lane change two 4" white lines
Sign on post	RX W — Remove 8" white line
TSS	RX Y — Remove 4" yellow line
Temp. impact attenuator, narrow site system	RX WB — Remove 4" broken white line
Temp. impact attenuator	
Traffic direction	

CONSTRUCTION NOTES:

1. *Move NB I-5 traffic onto temporary crossover under nighttime two-lane closure per Sheet EA21. Divert the single lane of traffic onto the I-5 NB exit ramp and I-5 NB entrance ramp. Flag all approaches at ramp terminal intersection.*
2. *Construct new CRCP and AC shoulders at each end of the new over-crossing bridge, as shown. Install permanent guardrail and barrier along right shoulder on bridge ends. Connect permanent shoulder barrier to bridge rail ends. See Sheet C09A.*
3. *Install coffer dam for driving piling and constructing spread footings. Construct east portion of new interchange bridge. Limited - duration full closures of Ehlen Road may be conducted to complete this work. See Sheet EB01 and Sheet EB02 for detour details.*
4. *Maintain SB I-5 lanes in shifted position from Stage I Phase 2.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

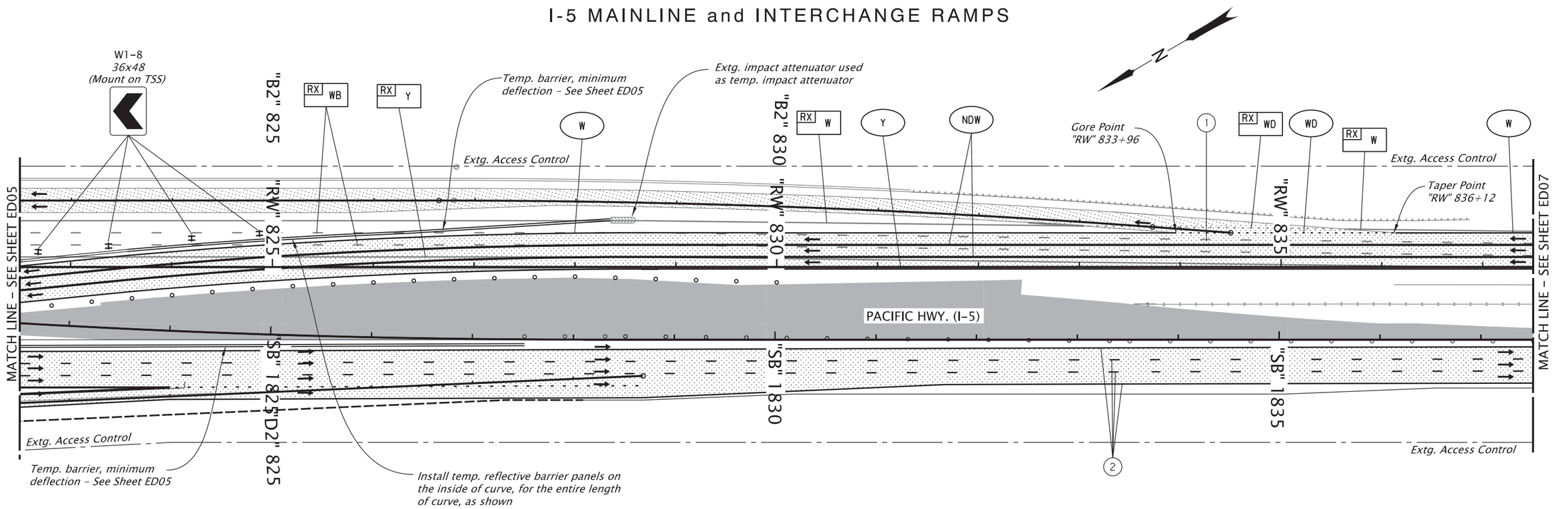
Designer: B. Moizio/L. Camacho — Reviewer: B. Copeland
Drafter: M. Lohr — Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. ED05

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

- Under traffic
- Completed, not under traffic
- Temp. plastic drums on 40' max. spacing
- TSS
- Temp. impact attenuator, narrow site system
- Traffic direction
- W — Inst. 4" white line
- Y — Inst. 4" yellow line
- WD — Inst. 4" white dotted line
- NDW — Inst. narrow double no-lane change two 4" white lines
- RX W — Remove 4" white line
- RX Y — Remove 4" yellow line
- RX WB — Remove 4" broken white line
- RX WD — Remove 4" white dotted line

CONSTRUCTION NOTES:

1. *Move NB I-5 traffic onto temporary crossover under nighttime two-lane closure per Sheet EA21. Divert the single lane of traffic onto the I-5 NB exit ramp and I-5 NB entrance ramp. Flag all approaches at ramp terminal intersection.*
2. *Maintain SB I-5 lanes in shifted position from Stage I Phase 2.*

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
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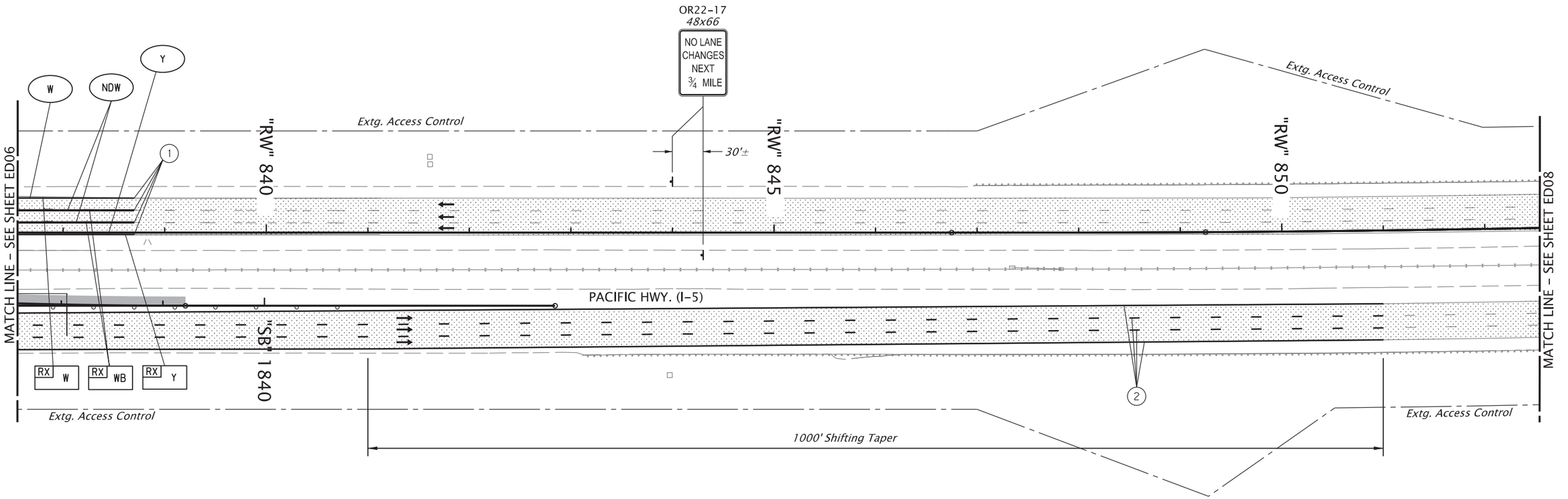
TRAFFIC CONTROL PLAN

SHEET NO. ED06

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

- Under traffic
- Completed, not under traffic
- Temp. plastic drums on 40' max. spacing
- Sign on post
- Traffic direction
- W — Inst. 4" white line
- Y — Inst. 4" yellow line
- NDW — Inst. narrow double no-lane change two 4" white lines
- RX W — Remove 4" white line
- RX Y — Remove 4" yellow line
- RX WB — Remove 4" broken white line

CONSTRUCTION NOTES:

1. *Match existing striping at Sta. "RW" 838+70.*
2. *Maintain SB I-5 lanes in shifted position from Stage I Phase 2.*

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

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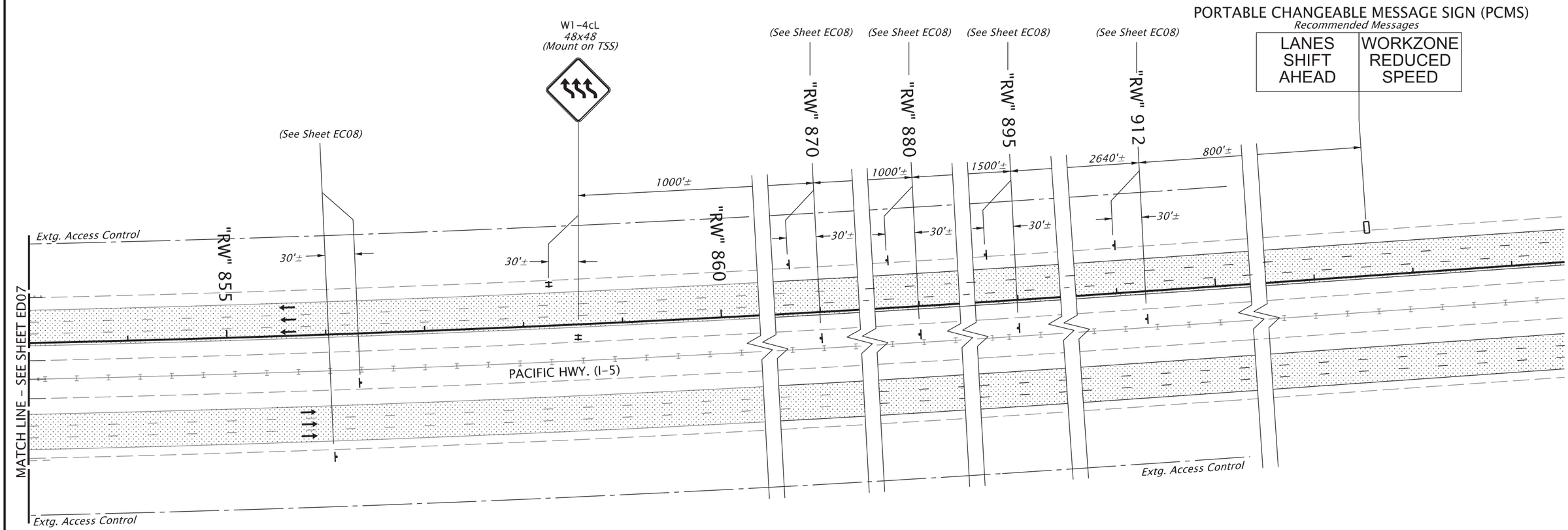
TRAFFIC CONTROL PLAN

SHEET NO. ED07

57V-020

STAGE II
I-5 MAINLINE and INTERCHANGE RAMPS



LEGEND

- Under traffic
- Sign on post
- TSS
- PCMS
- Traffic direction

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

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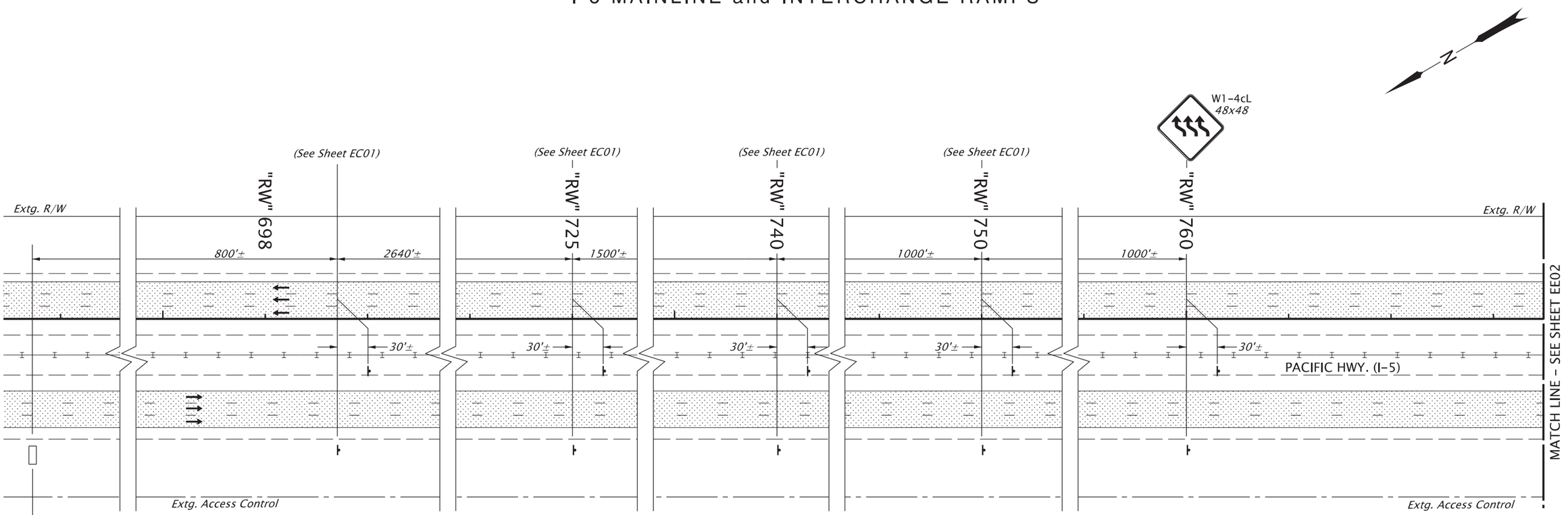
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. ED08

57V-020

STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



LANES SHIFT AHEAD	WORKZONE REDUCED SPEED

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
Recommended Messages

L E G E N D

- *Under traffic*
- *Sign on post*
- *PCMS*
- *Traffic direction*

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MARION COUNTY

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Drafter: M. Lohr
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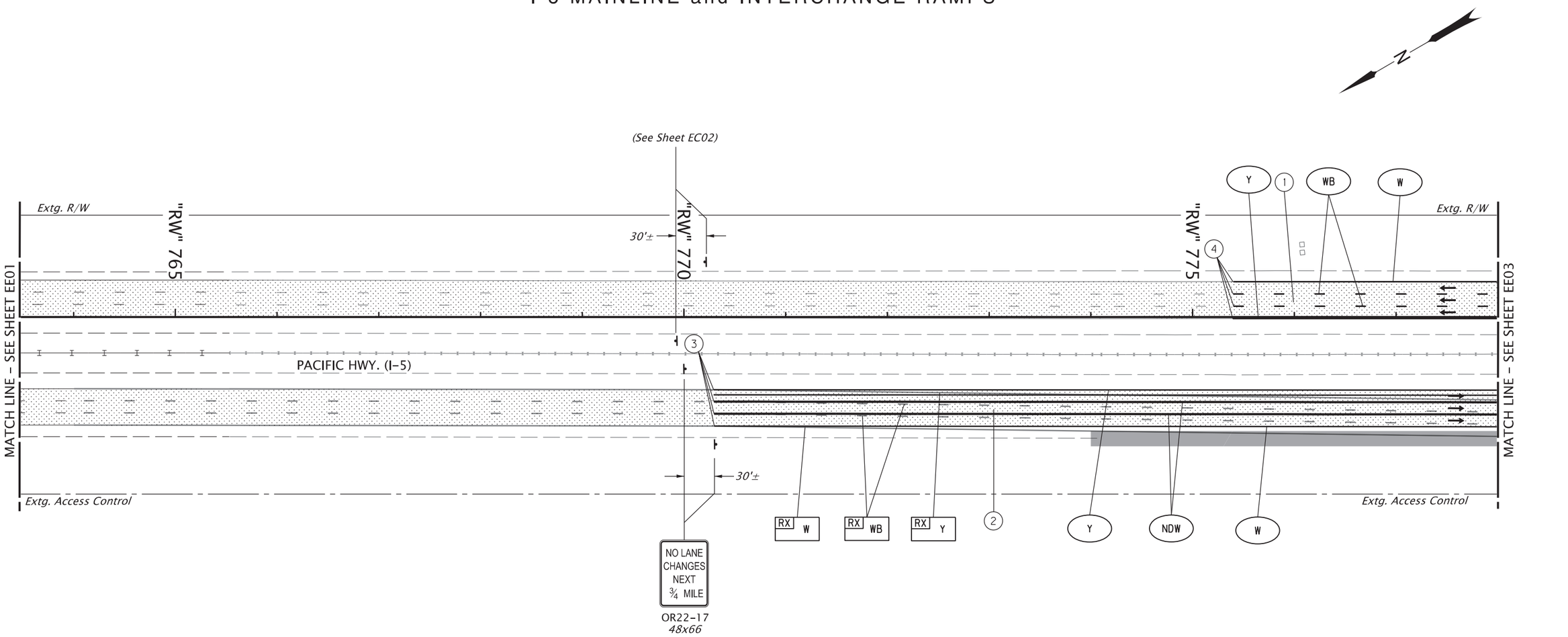
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO.
EE01

57V-020

STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

	Under traffic	WB	Inst. 4" white broken line
	Completed, not under traffic	NDW	Inst. narrow double no-lane change two 4" white lines
	Sign on post	RX W	Remove 4" white line
→	Traffic direction	RX Y	Remove 4" yellow line
W	Inst. 4" white line	RX WB	Remove 4" broken white line
Y	Inst. 4" yellow line		

CONSTRUCTION NOTES:

1. *Move NB I–5 traffic into permanent lane locations under nighttime two–lane closure per Sheet EA21. Divert the single lane of traffic onto the I–5 NB exit ramp and I–5 NB entrance ramp. Remove existing temporary striping and place new temporary striping as shown or as directed.*
2. *Move SB I–5 traffic onto temporary crossover under nighttime two–lane closure per Sheet EA21. Divert the single lane of traffic onto the I–5 SB exit ramp and I–5 SB entrance ramp. Flag all approaches at ramp terminal intersection.*
3. *Match existing temporary striping at Sta. "RW" 770+30.*
4. *Match existing striping at Sta. "RW" 775+39.*

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

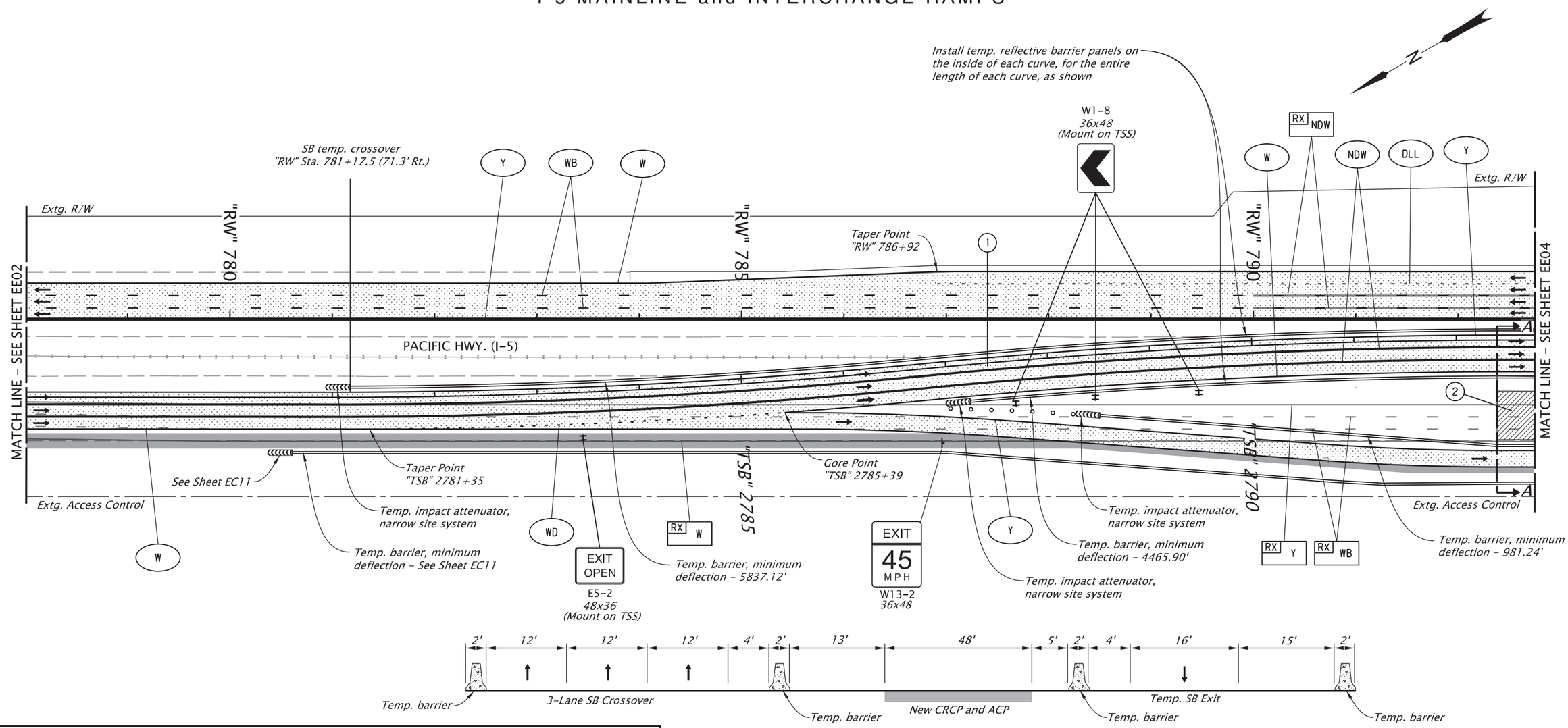
Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
Reviewer: B. Copeland
Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EE02

57V-020

STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



SECTION A-A
STA. "RW" 792+38

L E G E N D

	Under traffic	W	Inst. 4" white line	NDW	Inst. narrow double no-lane change two 4" white lines
	Under construction	Y	Inst. 4" yellow line	RX W	Remove 4" white line
	Completed, not under traffic	WB	Inst. 4" white broken line	RX Y	Remove 4" yellow line
	Temp. plastic drums on 20' max. spacing	WD	Inst. 4" white dotted line	RX WB	Remove 4" broken white line
	TSS	DLL	Inst. 4" white dotted lane line	RX DLL	Remove 4" white dotted lane line
	Temp. impact attenuator, narrow site system			RX NDW	Remove narrow double no-lane change two 4" white lines
	Traffic direction				

CONSTRUCTION NOTES:

1. *Move SB I-5 traffic onto temporary crossover under nighttime two-lane closure per Sheet EA21. Divert the single lane of traffic onto the I-5 SB exit ramp and I-5 SB entrance ramp. Flag all approaches at ramp terminal intersection.*
2. *Construct permanent CRCP and ACP shoulders for new SB I-5 alignment.*

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

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Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EE03

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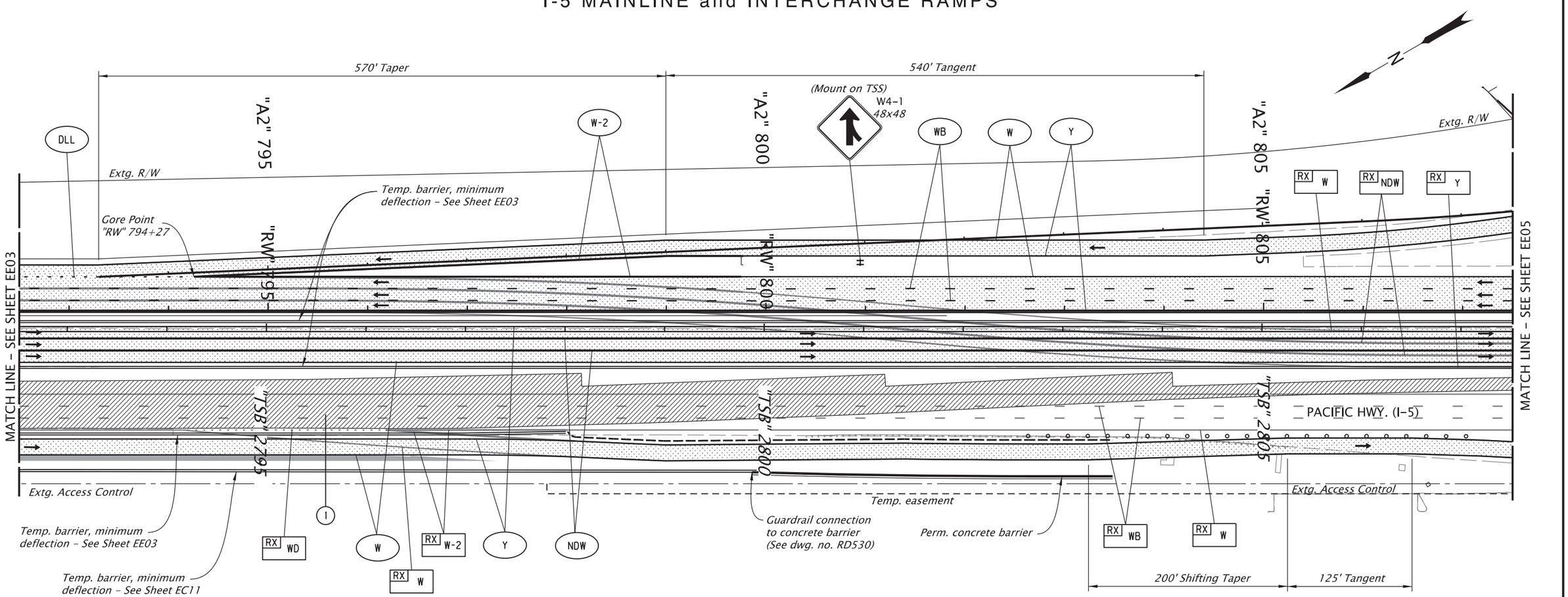
STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

	Under traffic	WB	Inst. 4" white broken line	RX WB	Remove 4" broken white line
	Under construction	DLL	Inst. 4" white dotted lane line	RX WD	Remove 4" white dotted line
→	Traffic direction	NDW	Inst. narrow double no-lane change two 4" white lines	RX NDW	Remove narrow double no-lane change two 4" white lines
W	Inst. 4" white line	RX W	Remove 4" white line		
W-2	Inst. 8" white line	RX W-2	Remove 8" white line		
Y	Inst. 4" yellow line	RX Y	Remove 4" yellow line		

CONSTRUCTION NOTE:

(1) *Construct new CRCP and ACP shoulders for permanent I-5 SB alignment.*

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PACIFIC HIGHWAY
MARION COUNTY

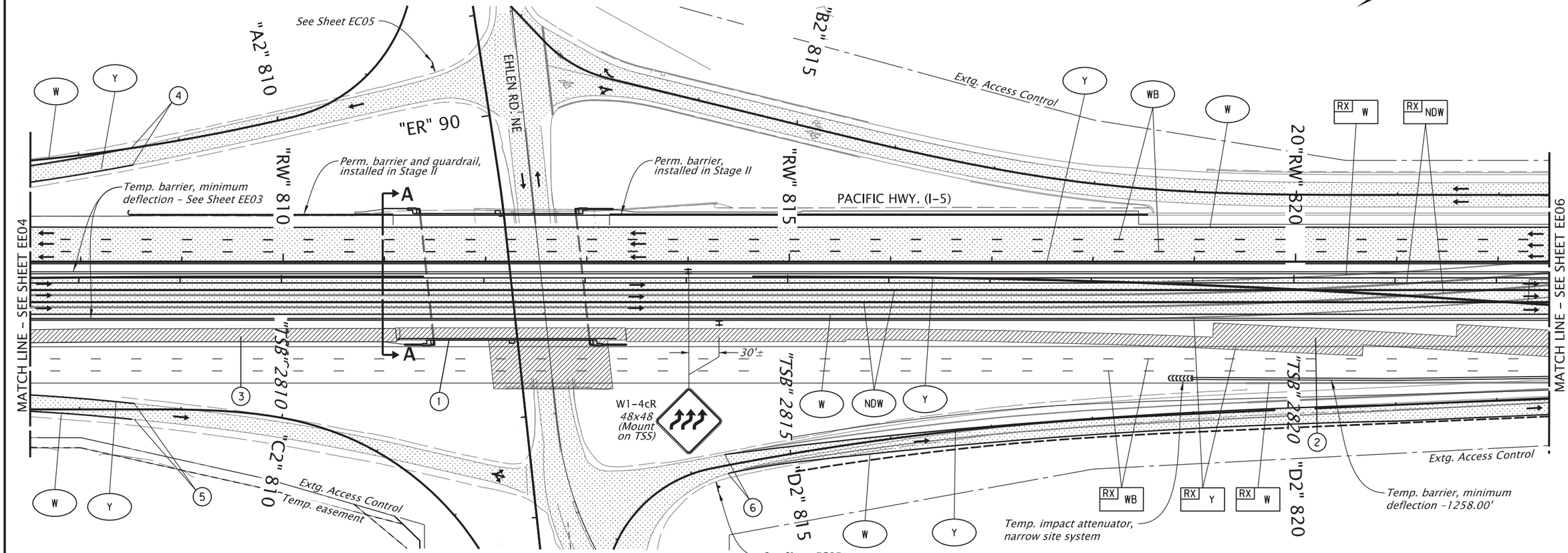
Designer: B. Moizio/L. Camacho
Reviewer: B. Copeland
Drafter: M. Lohr
Checker: S. Boice

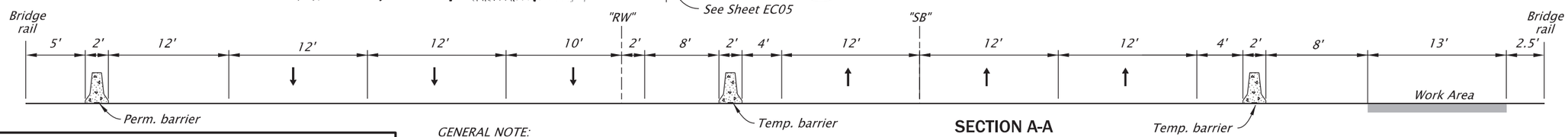
TRAFFIC CONTROL PLAN

SHEET NO. EE04

57V-020

STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS





SECTION A-A
STA. "RW" 811+00

L E G E N D

	Under traffic	WB	Inst. 4" white broken line
	Under construction	NDW	Inst. narrow double no-lane change two 4" white lines
±	TSS	RX W	Remove 4" white line
	Temp. impact attenuator, narrow site system	RX Y	Remove 4" yellow line
→	Traffic direction	RX WB	Remove 4" broken white line
W	Inst. 4" white line	RX NDW	Remove narrow double no-lane change two 4" white lines
Y	Inst. 4" yellow line		

GENERAL NOTE:

1. *Maintain stop control at Ehlen Road ramp terminal intersections during Stage III.*

CONSTRUCTION NOTES:

1. *Build western portion of new interchange bridge. Limited – duration full closures of Ehlen Road may be conducted to complete this work. See Sheet EB01.*
2. *Construct permanent CRCP for new SB I-5 alignment.*
3. *Construct remainder of SB permanent CRCP and ACP shoulders.*
4. *Match existing striping at Sta. "A2" 808+53.*
5. *Match existing striping Sta. "C2" 808+54.*
6. *Match existing striping Sta. "D2" 814+36.*

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EE05

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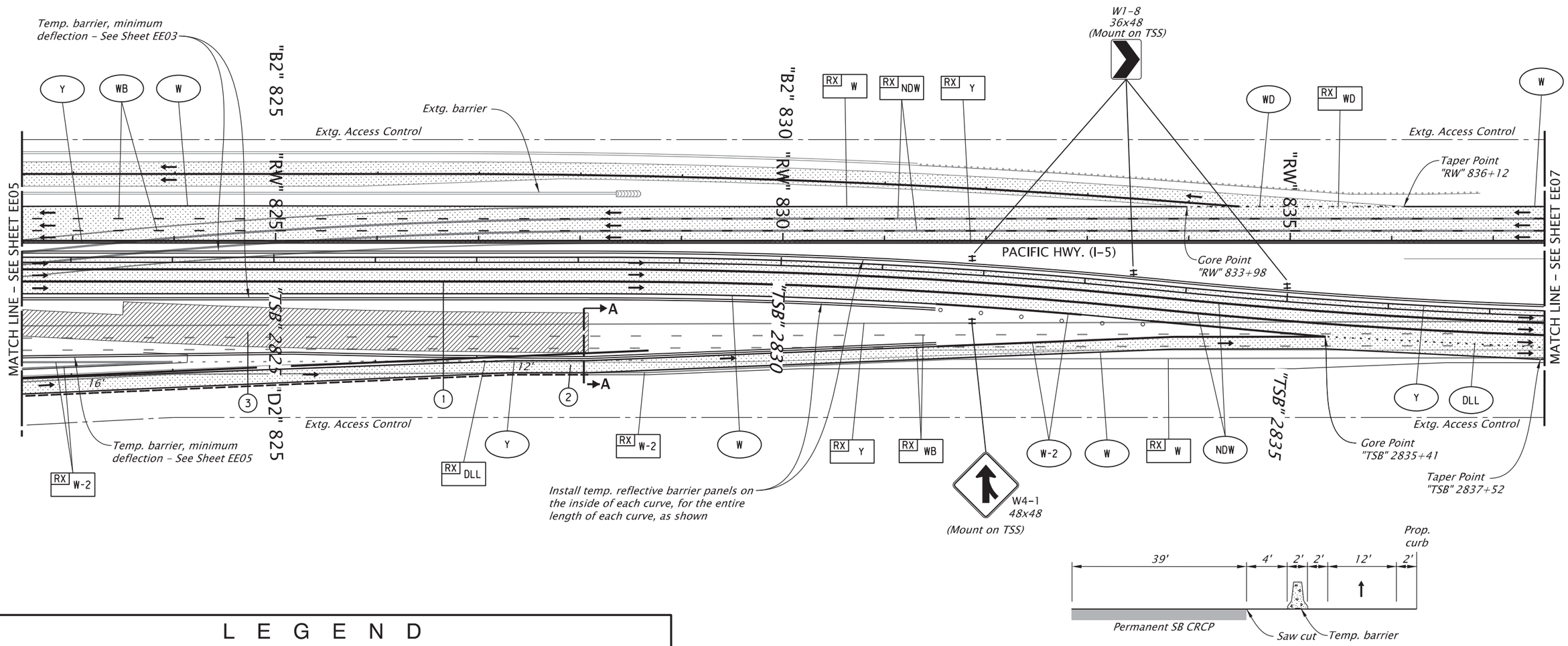
STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



SECTION A-A

L E G E N D

Under traffic	Y — Inst. 4" yellow line	RX W-2 — Remove 8" white line
Under construction	WB — Inst. 4" white broken line	RX Y — Remove 4" yellow line
Temp. plastic drums on 40' max. spacing	WD — Inst. 4" white dotted line	RX WB — Remove 4" broken white line
TSS	DLL — Inst. 4" white dotted lane line	RX WD — Remove 4" white dotted line
Temp. impact attenuator, narrow site system	NDW — Inst. narrow double no-lane change two 4" white lines	RX DLL — Remove 4" white dotted lane line
Traffic direction	RX W — Remove 4" white line	RX NDW — Remove narrow double no-lane change two 4" white lines
W — Inst. 4" white line		
W-2 — Inst. 8" white line		

CONSTRUCTION NOTES:

1. *Move SB I-5 traffic onto temporary crossover under nighttime two-lane closure per Sheet EA21. Divert the single lane of traffic onto the I-5 SB exit ramp and I-5 SB entrance ramp. Flag all approaches at ramp terminal intersection.*
2. *Shift entrance ramp alignment to the west approximately 4' to avoid impacting construction of permanent CRCP.*
3. *Construct permanent CRCP for new SB I-5 alignment.*

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PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho
Drafter: M. Lohr
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Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EE06

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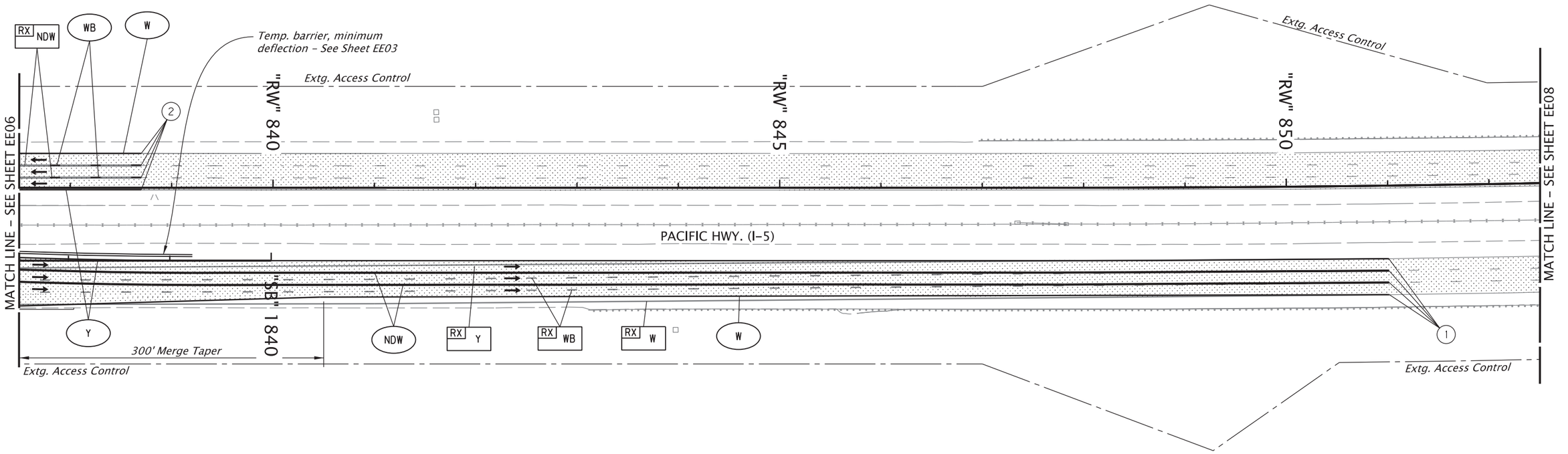
STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



L E G E N D

Under traffic	RX W — Remove 4" white line
Traffic direction	RX Y — Remove 4" yellow line
W — Inst. 4" white line	RX WB — Remove 4" broken white line
Y — Inst. 4" yellow line	RX NDW — Remove narrow double no-lane change two 4" white lines
WB — Inst. 4" white broken line	
NDW — Inst. narrow double no-lane change two 4" white lines	

CONSTRUCTION NOTES:

(1) *Match existing striping at Sta. "RW" 851+00.*

(2) *Match existing striping at Sta. "RW" 838+70.*

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

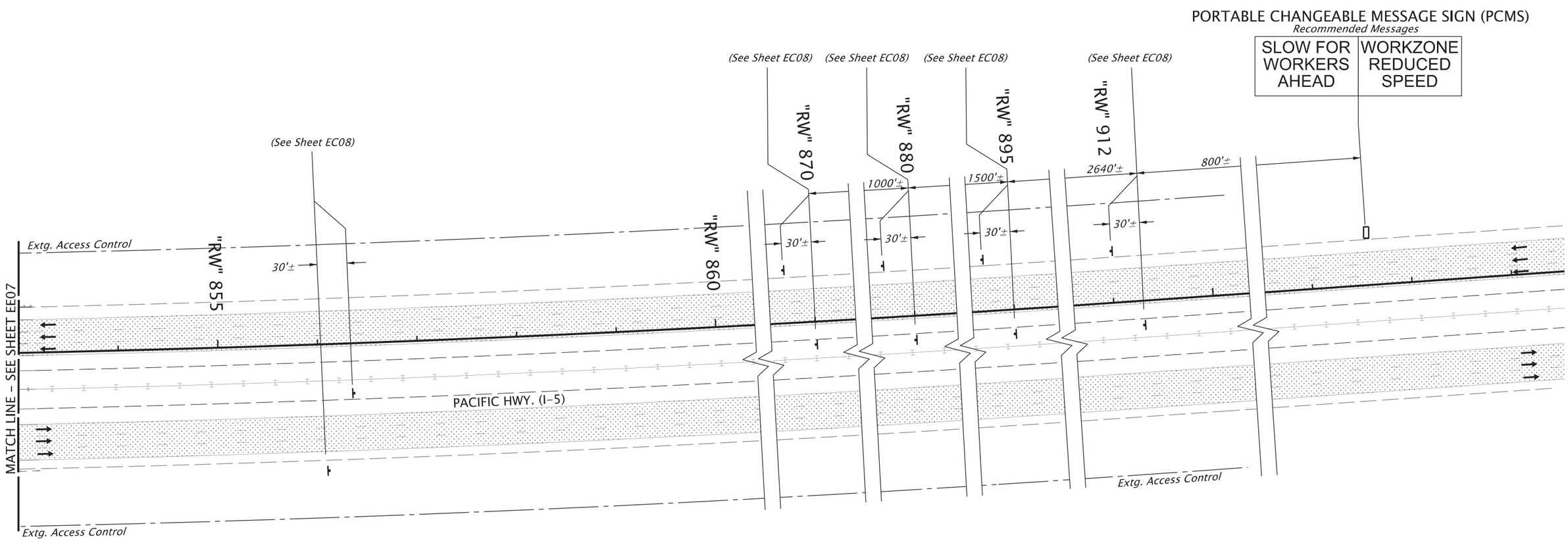
Designer: B. Moizio/L. Camacho | Reviewer: B. Copeland
Drafter: M. Lohr | Checker: S. Boice

TRAFFIC CONTROL PLAN

SHEET NO. EE07

57V-020

STAGE III
I-5 MAINLINE and INTERCHANGE RAMPS



LEGEND

- Under traffic
- Sign on post
- PCMS
- Traffic direction

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: B. Moizio/L. Camacho
Reviewer: B. Copeland
Drafter: M. Lohr
Checker: S. Boice

TRAFFIC CONTROL PLAN

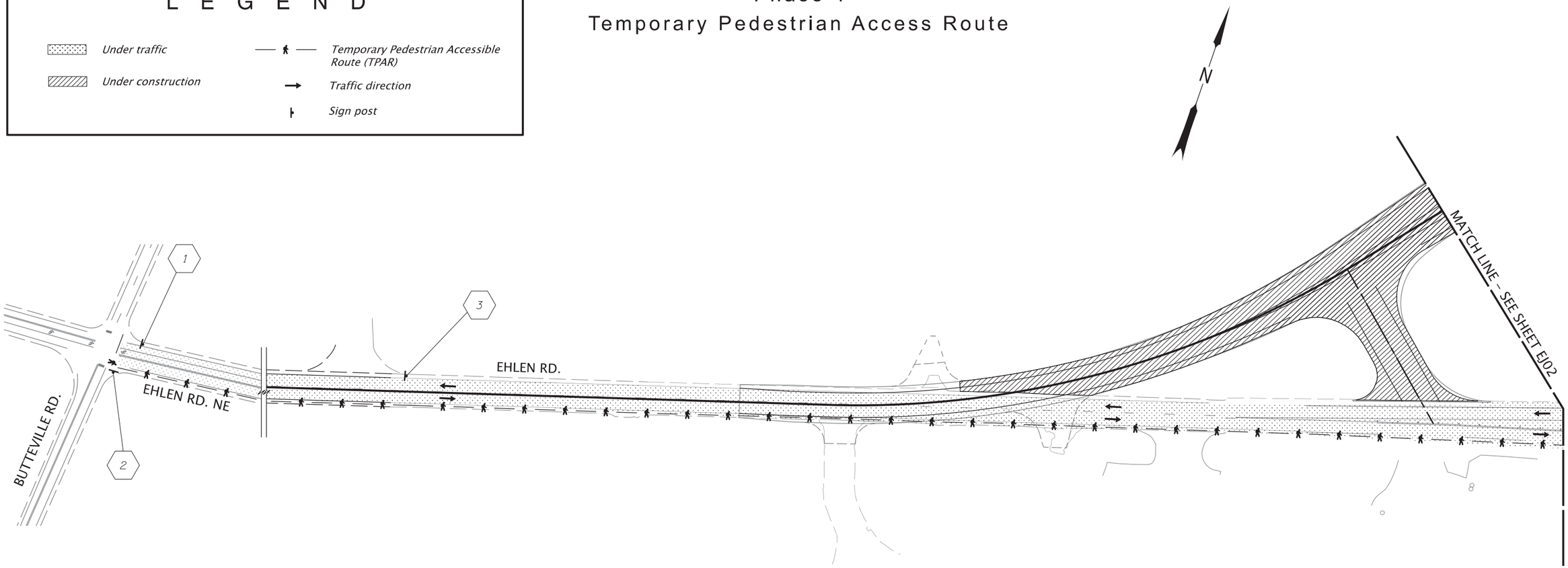
SHEET NO.
EE08

57V-020

STAGE V
Phase 1
Temporary Pedestrian Access Route

L E G E N D

- *Under traffic*
- *Under construction*
- *Temporary Pedestrian Accessible Route (TPAR)*
- *Traffic direction*
- *Sign post*



NOTES:

- *This Detail is intended for the work area that does not extend into the travel lane; and, where existing shoulder widths are 6 feet (min.). If shoulders are less than 6 feet, propose an alternate route.*
- *Temporary Pedestrian Accessible Route (TPAR) shall meet or exceed current level of accessibility. If conditions in the field for the designated route do not meet the accessibility conditions, the Contractor may propose an alternate route. Alternate routes require the approval of the Engineer.*
- *Refer to EG02 for traffic control measures.*
- *Maintain any business access located directly within the work zone at all times.*
- *To be accompanied by Dwg. Nos. TM820, TM821 and TM844.*

R9-11 Mod (R)
24x18
(Mount on B(II)R)

1

M4-9b (L)
30x24
(Mount on B(II)R)

2

R9-9
24x12
30x24
(Mount on B(II)R)

3

REGISTERED PROFESSIONAL ENGINEER
77,739
DIGITALLY SIGNED 2023.11.12 19:56:34 -08'00'
OREGON
DEC. 09, 2013
ROBERT E. RIPPEE
RENEWS: 12-31-2024
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

ALIGNED ENGINEERING, LLC
Drafting and Design Support
Aloha, OR
(503) 737-4750; (541) 225-7157

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Robert Rippee
Reviewer: Steve Boice
Drafter: Rose Rippee
Checker: Lorel Camacho

TRAFFIC CONTROL PLAN

SHEET NO. EJ01

57V-020

STAGE V
Phase 1
Temporary Pedestrian Access Route

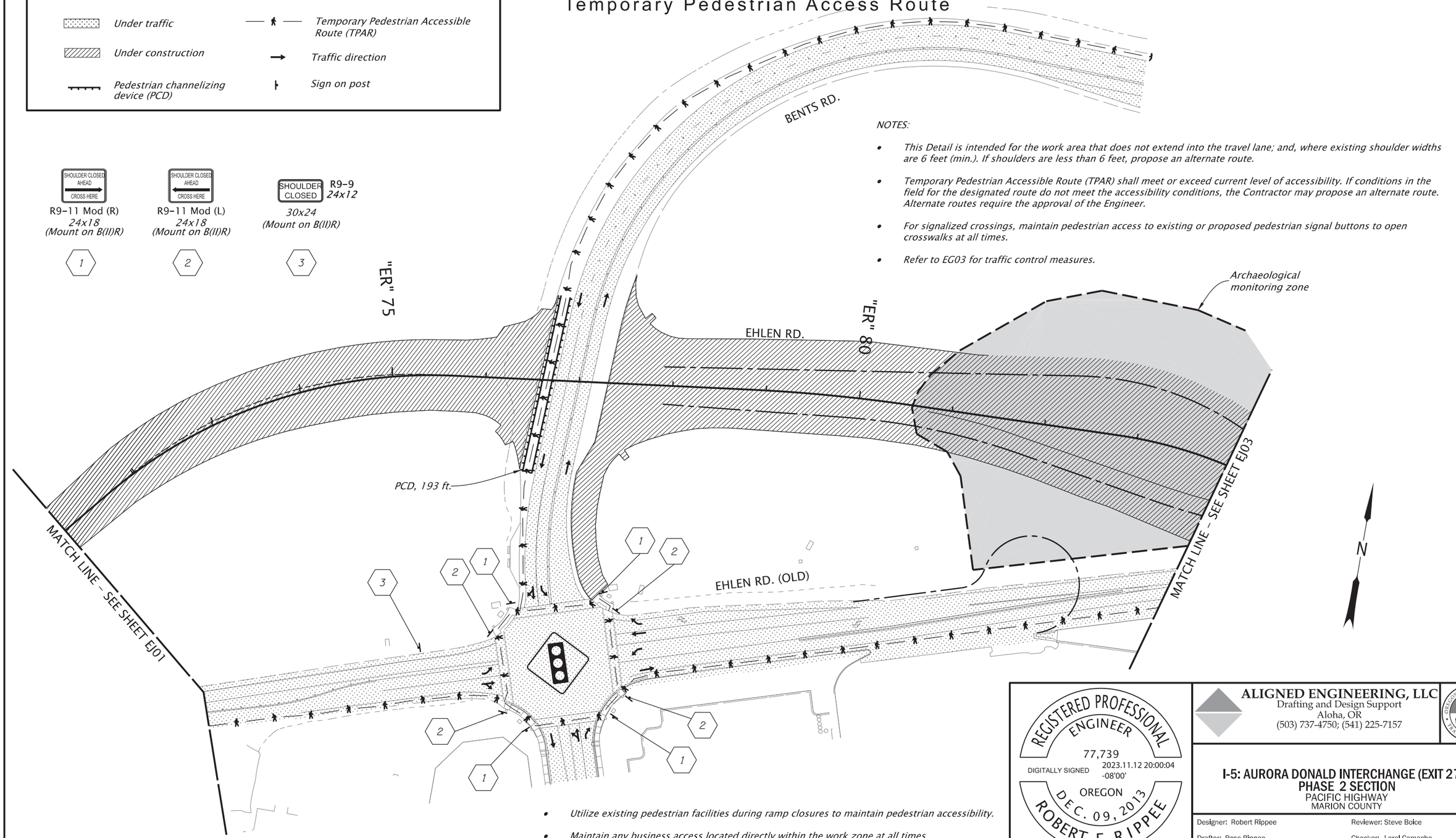
L E G E N D

- *Under traffic*
- *Under construction*
- *Pedestrian channelizing device (PCD)*
- *Temporary Pedestrian Accessible Route (TPAR)*
- *Traffic direction*
- *Sign on post*

R9-11 Mod (R) 24x18 (Mount on B(II)R) — 1

R9-11 Mod (L) 24x18 (Mount on B(II)R) — 2

SHOULDER CLOSED R9-9 24x12 30x24 (Mount on B(II)R) — 3



NOTES:

- *This Detail is intended for the work area that does not extend into the travel lane; and, where existing shoulder widths are 6 feet (min.). If shoulders are less than 6 feet, propose an alternate route.*
- *Temporary Pedestrian Accessible Route (TPAR) shall meet or exceed current level of accessibility. If conditions in the field for the designated route do not meet the accessibility conditions, the Contractor may propose an alternate route. Alternate routes require the approval of the Engineer.*
- *For signalized crossings, maintain pedestrian access to existing or proposed pedestrian signal buttons to open crosswalks at all times.*
- *Refer to EG03 for traffic control measures.*
- *Utilize existing pedestrian facilities during ramp closures to maintain pedestrian accessibility.*
- *Maintain any business access located directly within the work zone at all times.*
- *To be accompanied by Dwg. Nos. TM820, TM821 and TM844.*

REGISTERED PROFESSIONAL ENGINEER
77,739
DIGITALLY SIGNED 2023.11.12 20:00:04 -08'00'
OREGON
DEC. 09, 2013
ROBERT E. RIPPEE
RENEWS: 12-31-2024

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(503) 737-4750; (541) 225-7157

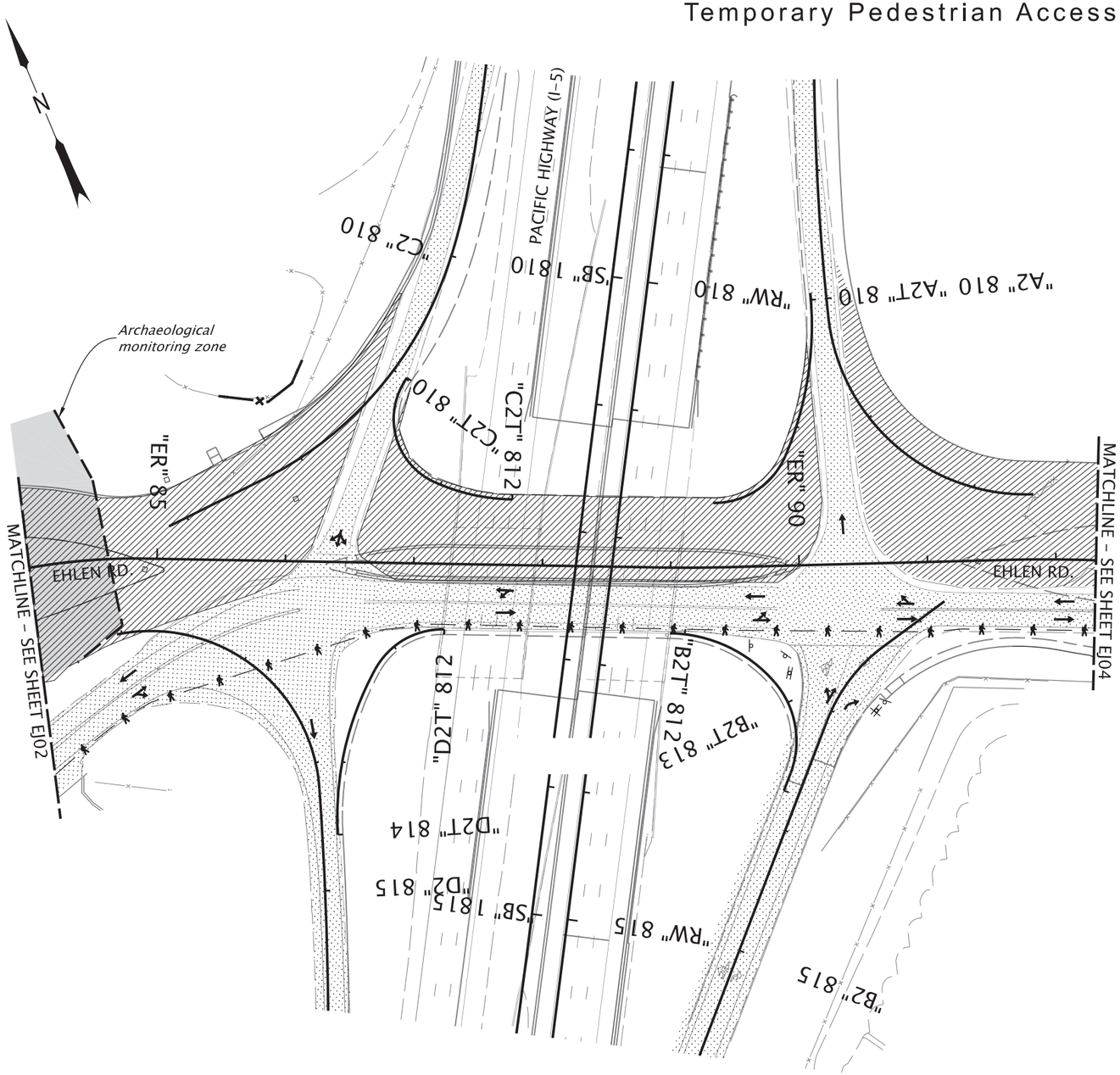
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Robert Rippee | Reviewer: Steve Boice
Drafter: Rose Rippee | Checker: Lorel Camacho

TRAFFIC CONTROL PLAN | SHEET NO. EJ02

57V-020

STAGE V
Phase 1
Temporary Pedestrian Access Route



NOTES:

- *This Detail is intended for the work area that does not extend into the travel lane; and, where existing shoulder widths are 6 feet (min.). If shoulders are less than 6 feet, contractor to propose an alternate route.*
- *Temporary Pedestrian Accessible Route (TPAR) shall meet or exceed current level of accessibility. If conditions in the field for the designated route do not meet the accessibility conditions, the Contractor may propose an alternate route. Alternate routes require the approval of the Engineer.*
- *Refer to EG01 for traffic control measures.*
- *Maintain any business access located directly within the work zone at all times.*
- *To be accompanied by Dwg. Nos. TM820, TM821 and TM844.*

LEGEND

- *Under traffic*
- *Under construction*
- *Temporary predestrian access route*
- *Traffic direction*

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77,739
DIGITALLY SIGNED 2023.11.12 20:02:33 -08'00'
OREGON
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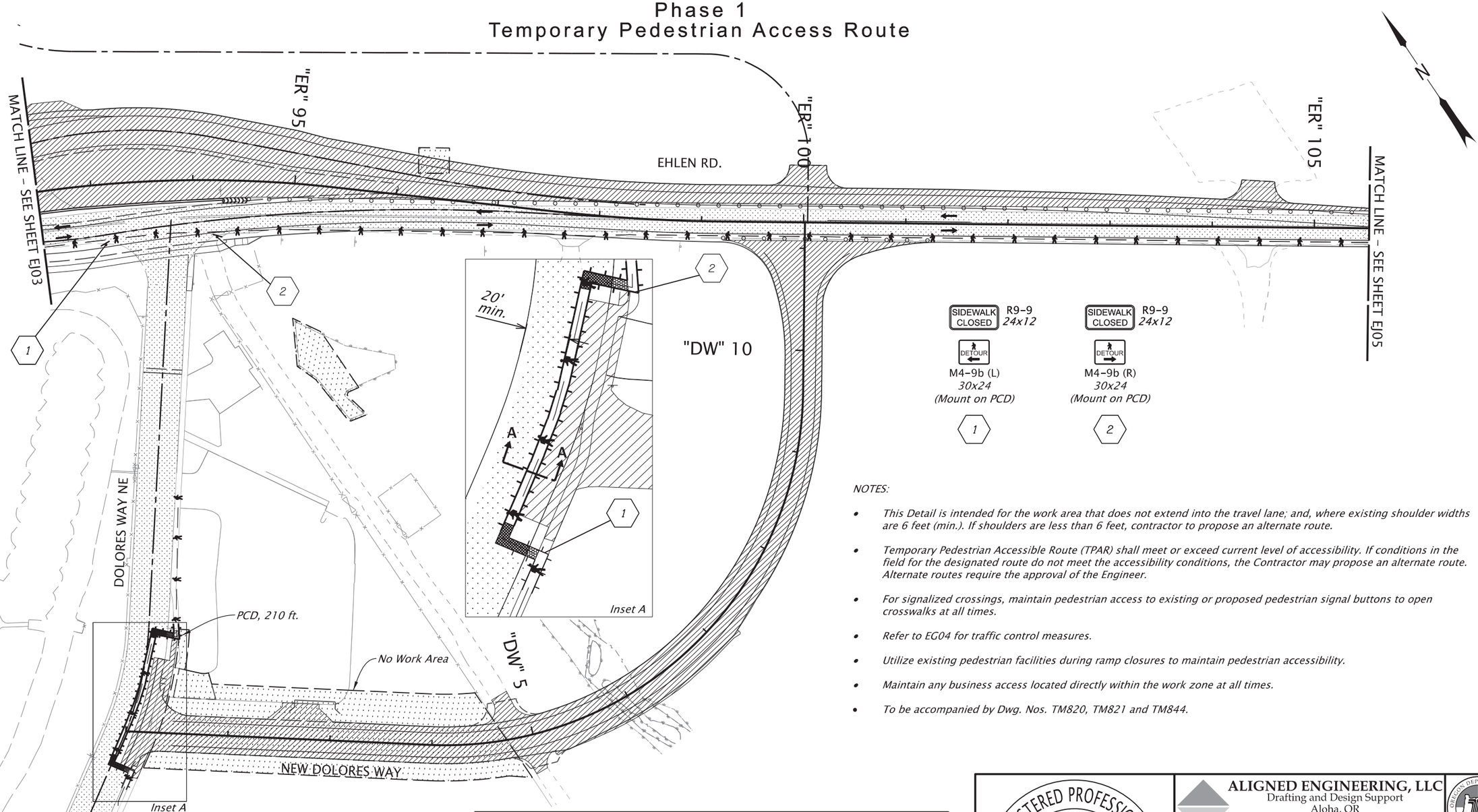
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Robert Rippee | Reviewer: Steve Boice
Drafter: Rose Rippee | Checker: Lorel Camacho

TRAFFIC CONTROL PLAN | SHEET NO. EJ03

57V-020

STAGE V
Phase 1
Temporary Pedestrian Access Route



NOTES:

- *This Detail is intended for the work area that does not extend into the travel lane; and, where existing shoulder widths are 6 feet (min.). If shoulders are less than 6 feet, contractor to propose an alternate route.*
- *Temporary Pedestrian Accessible Route (TPAR) shall meet or exceed current level of accessibility. If conditions in the field for the designated route do not meet the accessibility conditions, the Contractor may propose an alternate route. Alternate routes require the approval of the Engineer.*
- *For signalized crossings, maintain pedestrian access to existing or proposed pedestrian signal buttons to open crosswalks at all times.*
- *Refer to EG04 for traffic control measures.*
- *Utilize existing pedestrian facilities during ramp closures to maintain pedestrian accessibility.*
- *Maintain any business access located directly within the work zone at all times.*
- *To be accompanied by Dwg. Nos. TM820, TM821 and TM844.*

L E G E N D

- *Under traffic*
- *Under construction*
- *Temporary Curb Ramp*
- *Temporary Walks*
- *Temporary Pedestrian Accessible Route (TPAR)*
- *Pedestrian Channelizing Device (PCD)*
- *Traffic direction*
- *Sign post*

REGISTERED PROFESSIONAL ENGINEER
77,739
DIGITALLY SIGNED 2023.11.12 20:04:08 -08'00'
OREGON
DEC. 09, 2013
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RENEWS: 12-31-2024

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Robert Rippee
Drafter: Rose Rippee
Reviewer: Steve Boice
Checker: Lorel Camacho

TRAFFIC CONTROL PLAN

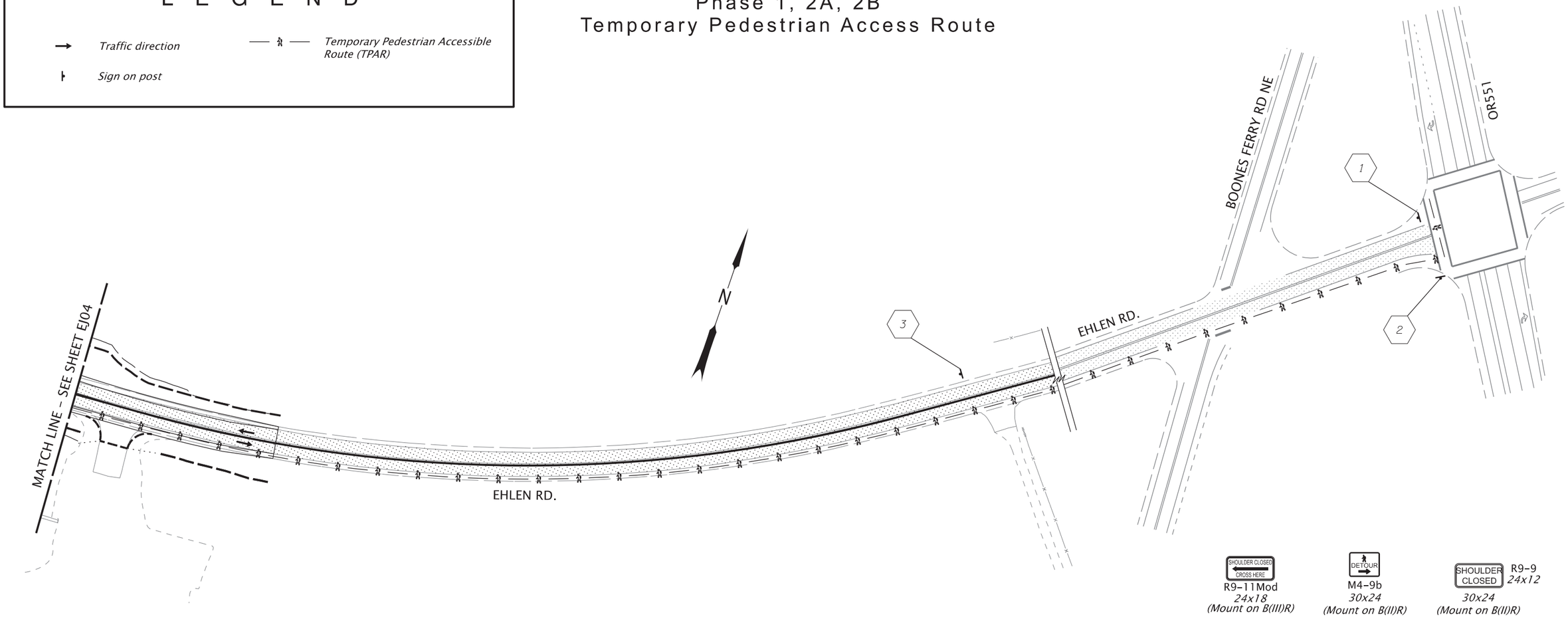
SHEET NO. EJ04

57V-020

STAGE V
Phase 1, 2A, 2B
Temporary Pedestrian Access Route

L E G E N D

- *Traffic direction*
- *Sign on post*
- *Temporary Pedestrian Accessible Route (TPAR)*



SHOULDER CLOSED CROSS HERE
R9-11Mod
24x18
(Mount on B(III)R)

1

DETOUR
M4-9b
30x24
(Mount on B(II)R)

2

SHOULDER CLOSED
R9-9
24x12
30x24
(Mount on B(II)R)

3

NOTES:

- *Refer to sheet EG05 for traffic control measures.*
- *Additional traffic control devices may be used, as directed, to enhance the work zone, including; PCMS, Radar Speed Trailer, Advisory Speed signing, Temporary Work Zone Speed Reduction*, Temporary RRFB*.*
- *Utilize existing pedestrian facilities during ramp closures to maintain pedestrian accessibility.*
- *Maintain any business access located directly within the work zone at all times.*
- *Coordinate with local transit provider to close or relocate bus stops as necessary.*

REGISTERED PROFESSIONAL ENGINEER
77,739
DIGITALLY SIGNED 2023.11.12 20:13:52 -08'00'
OREGON
DEC. 09, 2013
ROBERT E. RIPPEE
RENEWS: 12-31-2024

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(503) 737-4750; (541) 225-7157

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Robert Rippee
Drafter: Rose Rippee
Reviewer: Name
Checker: Name

TRAFFIC CONTROL PLAN

SHEET NO. EJ05

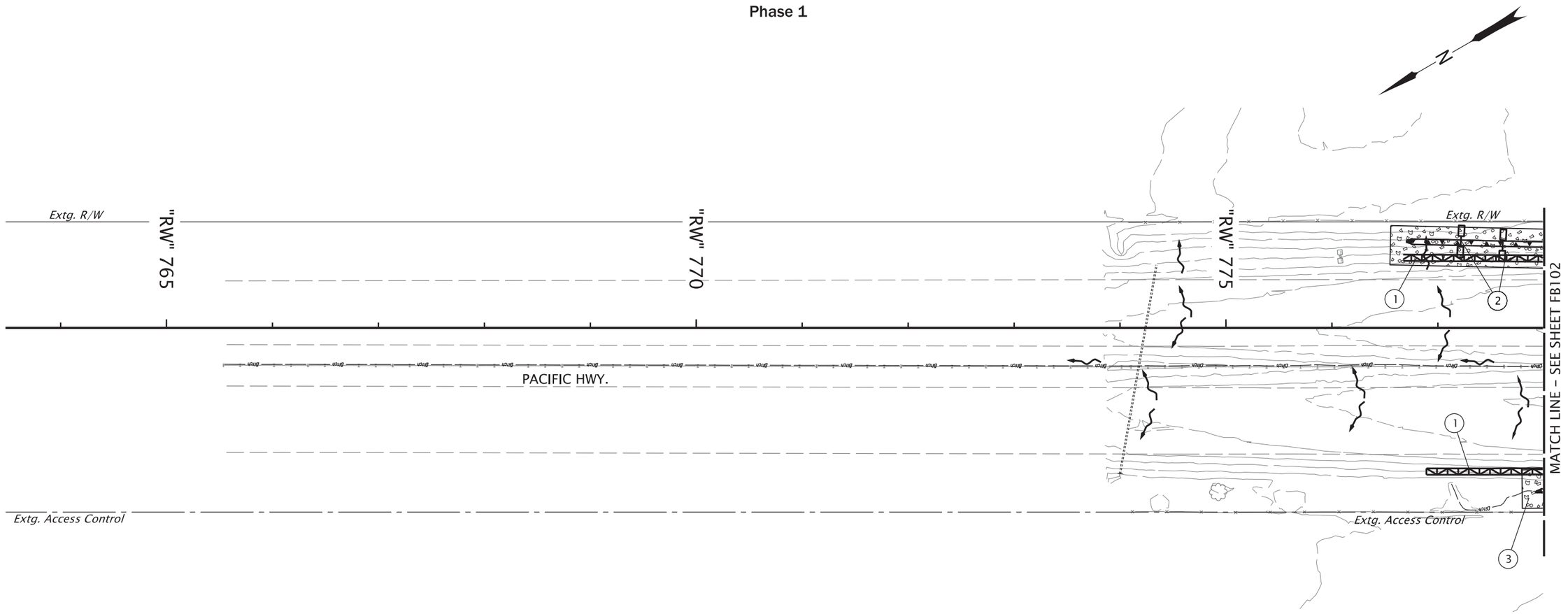
Rotation: 341.1141° Scale: 1"=100'

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



LEGEND

- *Sediment barrier, straw wattle*
- *Check dam in ditch section*
- *Temp. seeding and mulching*
- *Flow direction*

1. *Inst. sediment barrier type 3 (See dwg. no. RD1030)*
2. *Const. check dam – 2 (Type 6) (See dwg. no. RD1006)*
3. *Apply temporary seeding and mulching*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:15:22-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT
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Parametrix
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SUITE 400 | PORTLAND, OR 97214
P 503.233.2400
WWW.PARAMETRIX.COM

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

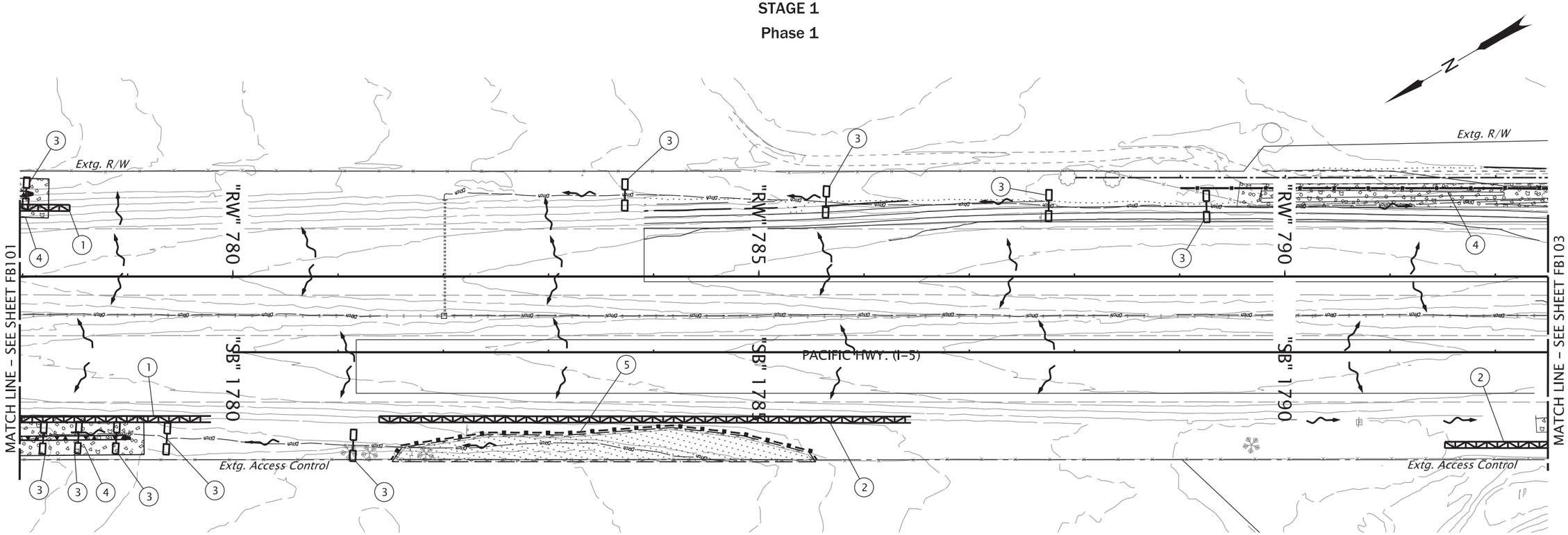
SHEET NO.
FB101

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



LEGEND

- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*
- *Orange plastic mesh fence (no work area)*
- *No work area*

CONSTRUCTION NOTES

1. *See sht. FB101, note 1*
   Inst. sediment barrier
2. *Inst. sediment barrier type 3*
3. *Const. check dam – 10 (Type 6) (See dwg. no. RD1006)*
4. *Apply temporary seeding and mulching*
5. *Install no work area (orange plastic mesh) fencing*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:29:06-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO.
FB102

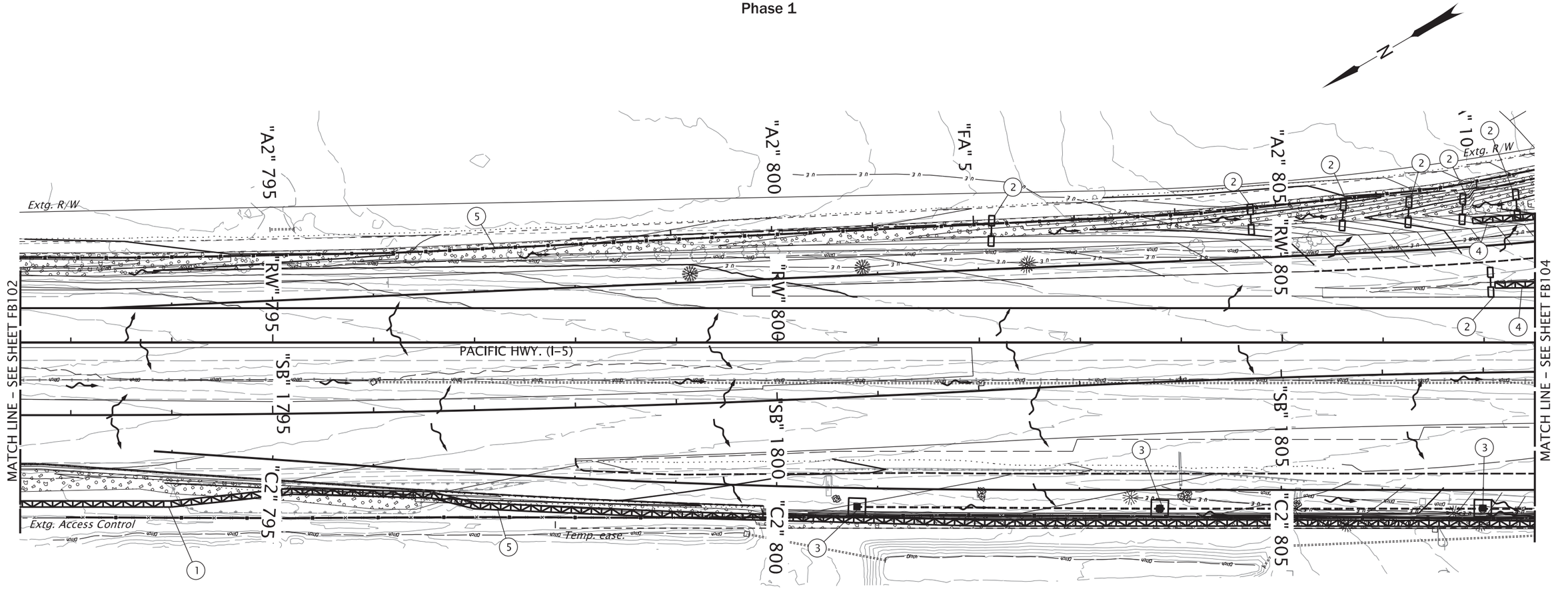
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



CONSTRUCTION NOTES

1. *See sht. FB102, note 2*
   Inst. sediment barrier
2. *Const. check dam – 7*
   (Type 6)
3. *Const. inlet protection – 3*
   type 3
   (See dwg. no. RD1010)
4. *Inst. sediment barrier*
   type 3
5. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:28:47-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

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AVAILABLE UPON REQUEST

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P 503.233.2400
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

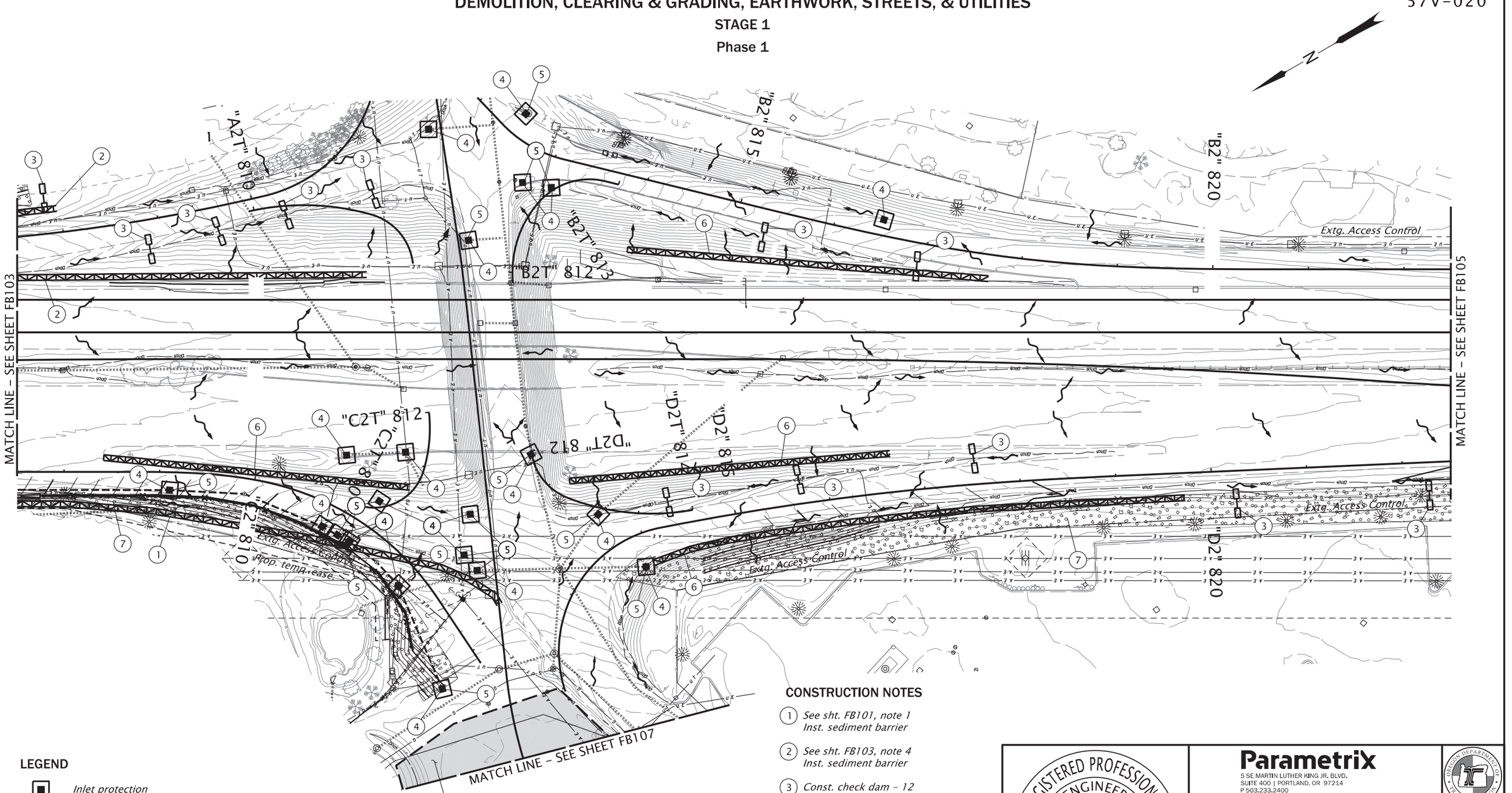
SHEET NO.
FB103

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*
- *Archaeological monitoring area*

CONSTRUCTION NOTES

1. *See sht. FB101, note 1*
   Inst. sediment barrier
2. *See sht. FB103, note 4*
   Inst. sediment barrier
3. *Const. check dam – 12*
   (Type 6)
4. *Const. inlet protection – 20*
   type 3
5. *Const. inlet protection – 17*
   type 7
6. *Inst. sediment barrier*
   type 3
7. *Apply temporary seeding and mulching*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.12.17 23:36:26-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

Parametrix
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SUITE 400 | PORTLAND, OR 97214
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WWW.PARAMETRIX.COM

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO. FB104

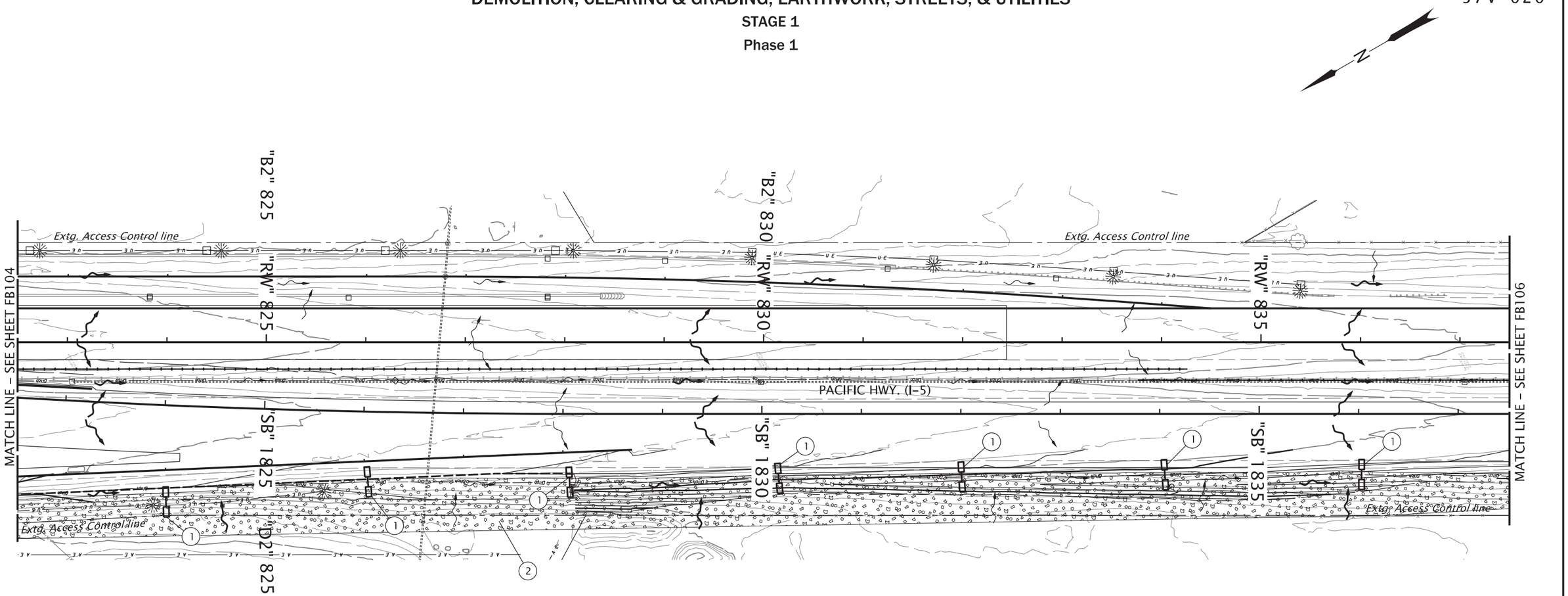
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



LEGEND

- *Check dam in ditch section*
- *Temp. seeding and mulching*
- *Flow direction*

CONSTRUCTION NOTES

1. *Const. check dam – 7 (Type 6)*
2. *Apply temporary seeding and mulching*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:28:10-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

Parametrix
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P 503.233.2400
WWW.PARAMETRIX.COM

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL — SHEET NO. FB105

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

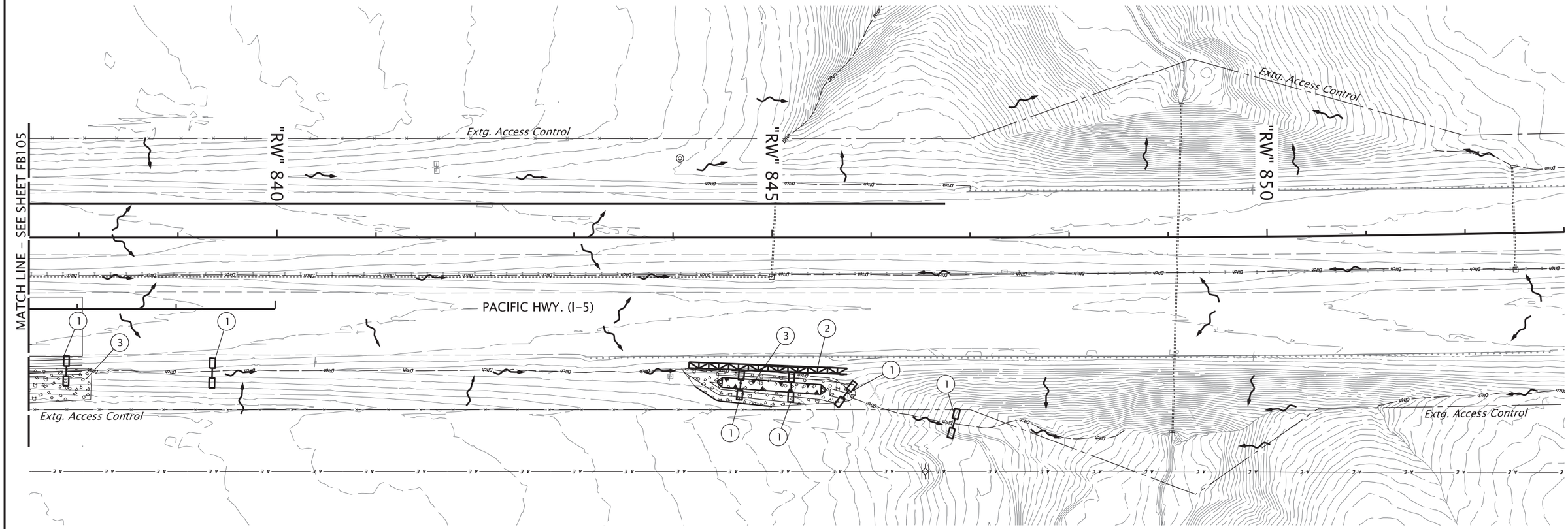
Rotation: 239.8925° Scale: 1"=100'

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



LEGEND

- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*

CONSTRUCTION NOTES

1. *Const. check dam – 6 (Type 6)*
2. *Inst. sediment barrier type 3*
3. *Apply temporaray seeding and mulching*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:27:52-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

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SUITE 400 | PORTLAND, OR 97214
P 503.233.2400
WWW.PARAMETRIX.COM

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE	Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE	Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

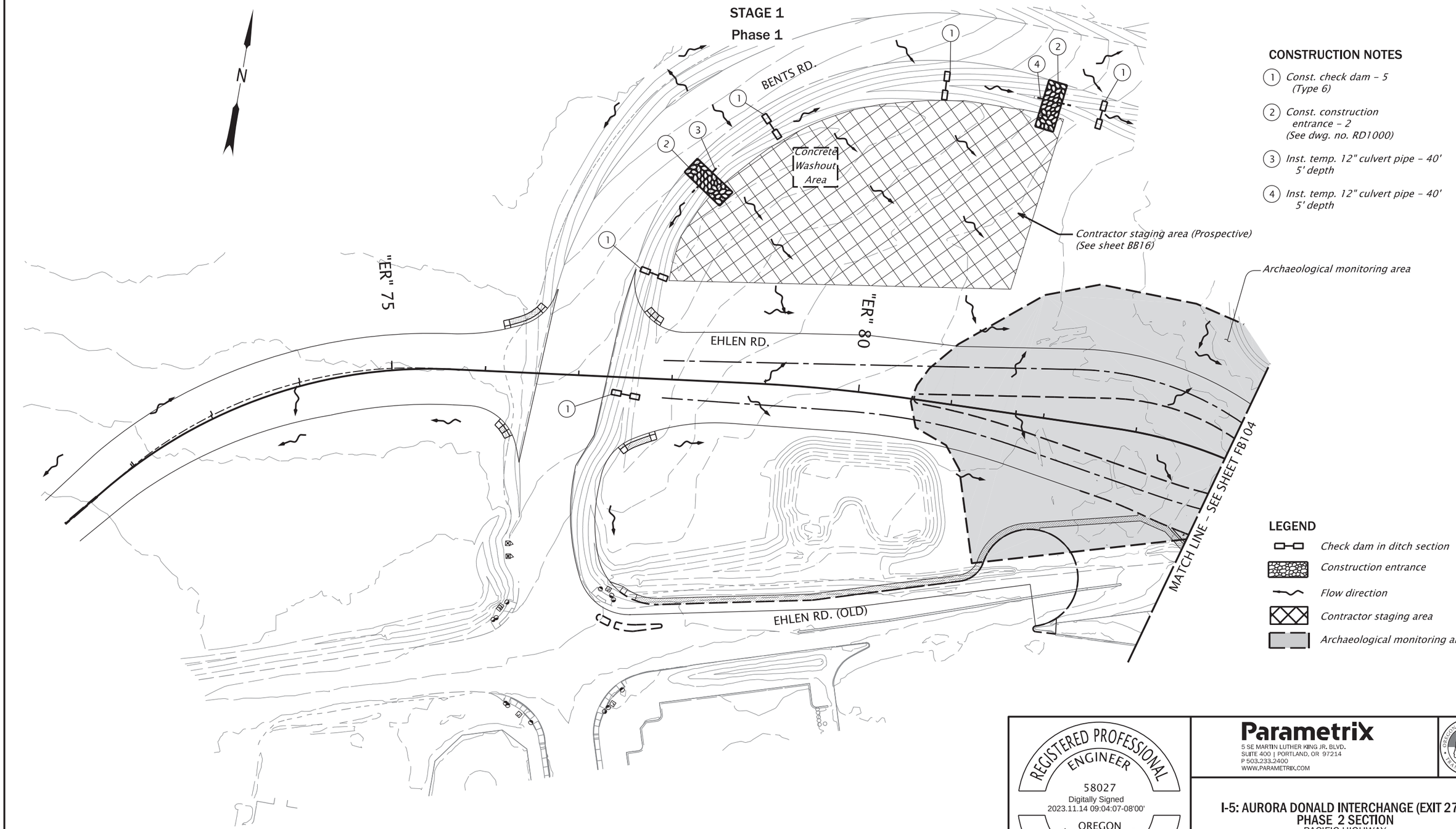
SHEET NO. FB106

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 1



CONSTRUCTION NOTES

1. *Const. check dam - 5 (Type 6)*
2. *Const. construction entrance - 2 (See dwg. no. RD1000)*
3. *Inst. temp. 12" culvert pipe - 40' 5' depth*
4. *Inst. temp. 12" culvert pipe - 40' 5' depth*

LEGEND

- *Check dam in ditch section*
- *Construction entrance*
- *Flow direction*
- *Contractor staging area*
- *Archaeological monitoring area*

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.14 09:04:07-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Parametrix
5 SE MARTIN LUTHER KING JR. BLVD.
SUITE 400 | PORTLAND, OR 97214
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WWW.PARAMETRIX.COM

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

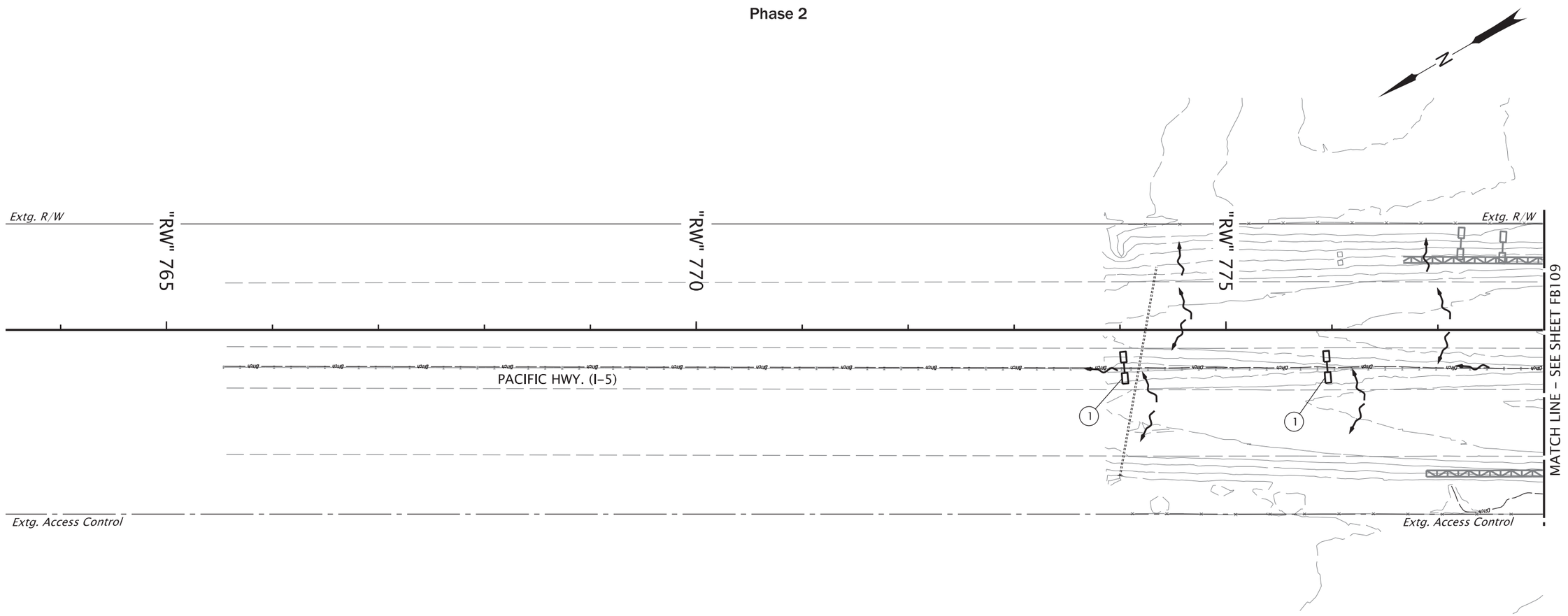
SHEET NO. FB107

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 2



LEGEND

- *Check dam in ditch section*
- *Flow direction*

CONSTRUCTION NOTES

(1) *Const. check dam - 2 (Type 6)*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:27:36-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

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5 SE MARTIN LUTHER KING JR. BLVD.
SUITE 400 | PORTLAND, OR 97214
P 503.233.2400
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

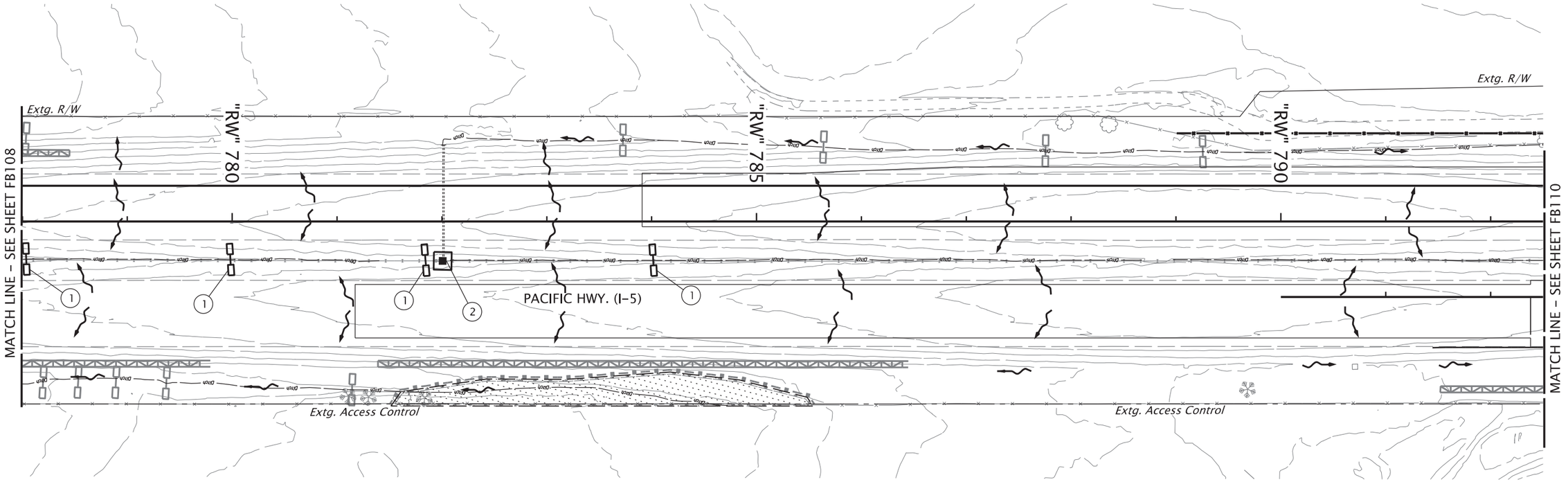
SHEET NO.
FB108

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 2



LEGEND

- Inlet protection
- Check dam in ditch section
- Flow direction
- Orange plastic mesh fence (no work area)
- No work area

CONSTRUCTION NOTES

1. Const. check dam - 4 (Type 6)
2. Const. inlet protection type 3

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:27:19-08'00'
OREGON
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

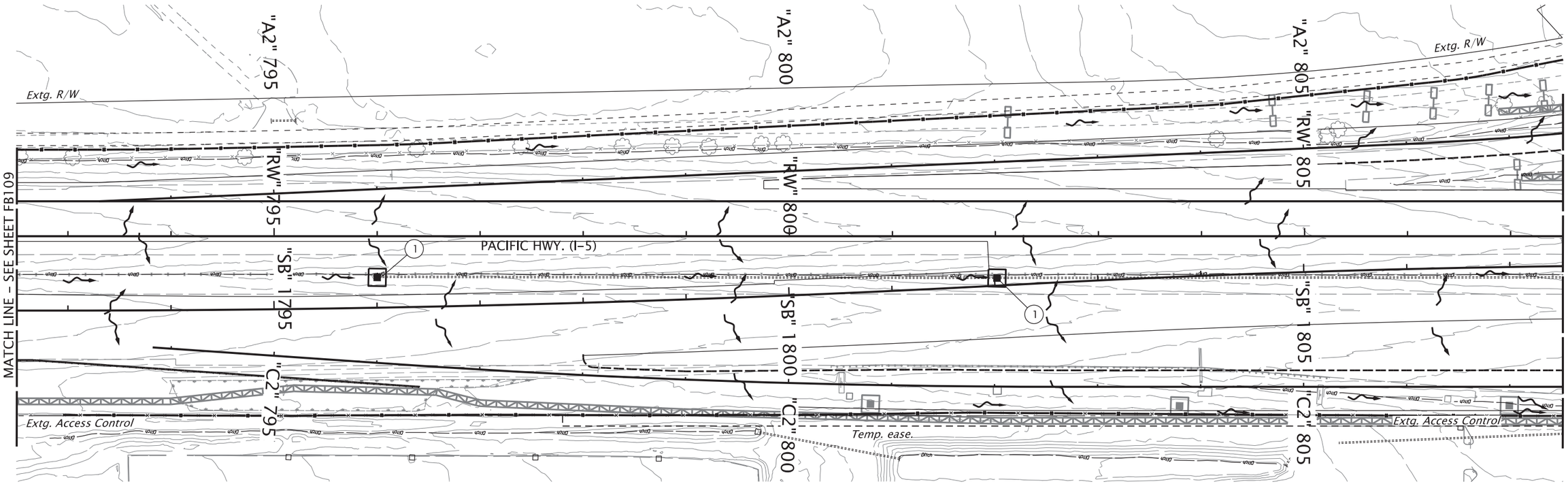
SHEET NO.
FB109

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 2



Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

CONSTRUCTION NOTES

(1) *Const. inlet protection – 2 type 3*

LEGEND

Inlet protection

Flow direction

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

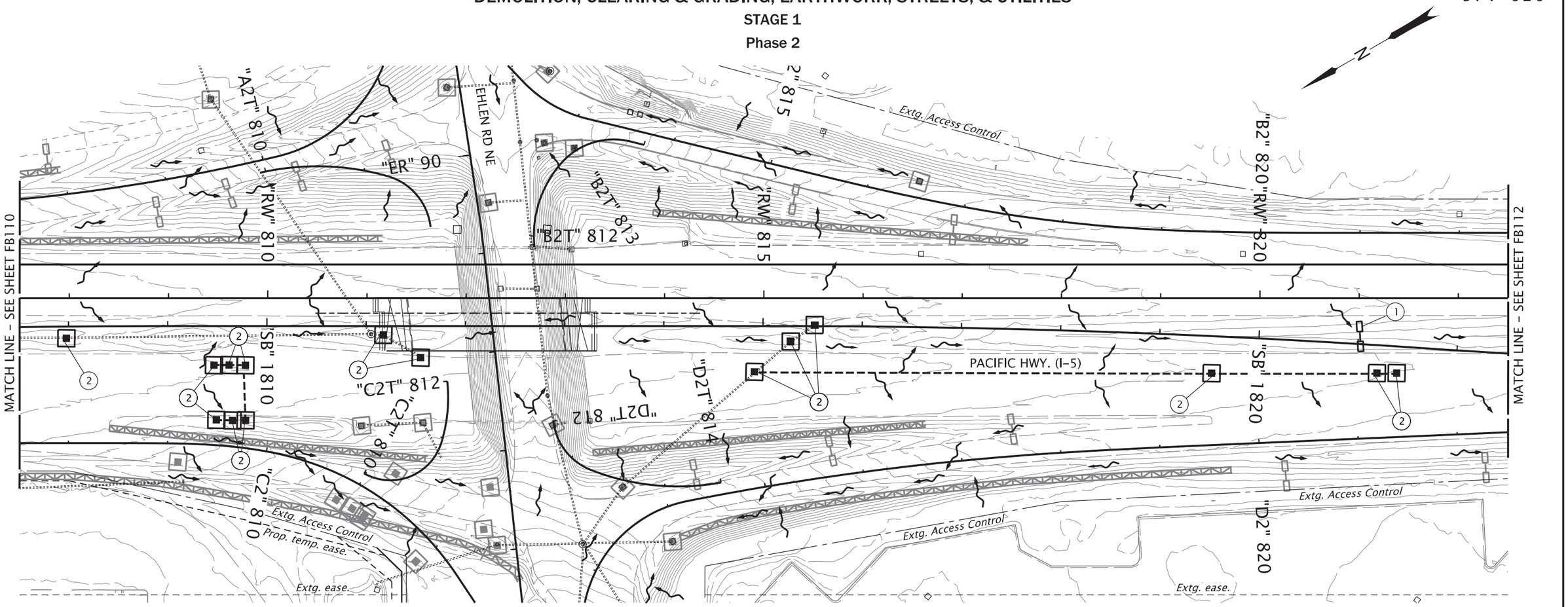
SHEET NO.
FB110

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 2



LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Flow direction*

CONSTRUCTION NOTES

1. *Const. check dam – 1 (Type 6)*
2. *Const. inlet protection – 15 type 3*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

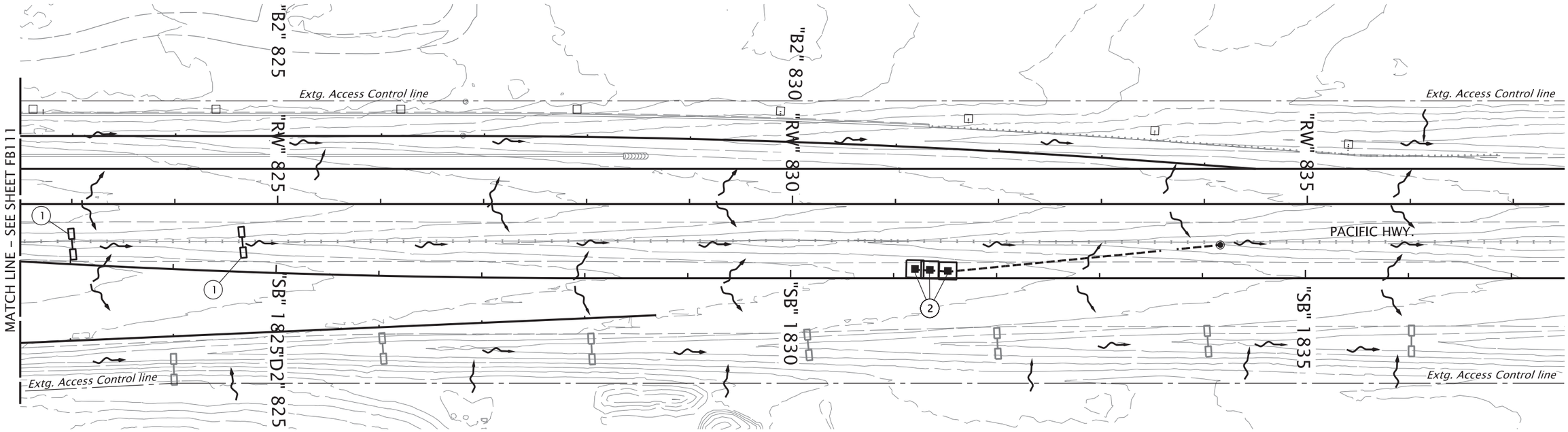
SHEET NO.
FB111

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 1

Phase 2



LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Flow direction*

CONSTRUCTION NOTES

1. *Const. check dam – 2 (Type 6)*
2. *Const. inlet protection – 3 type 3*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
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Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO.
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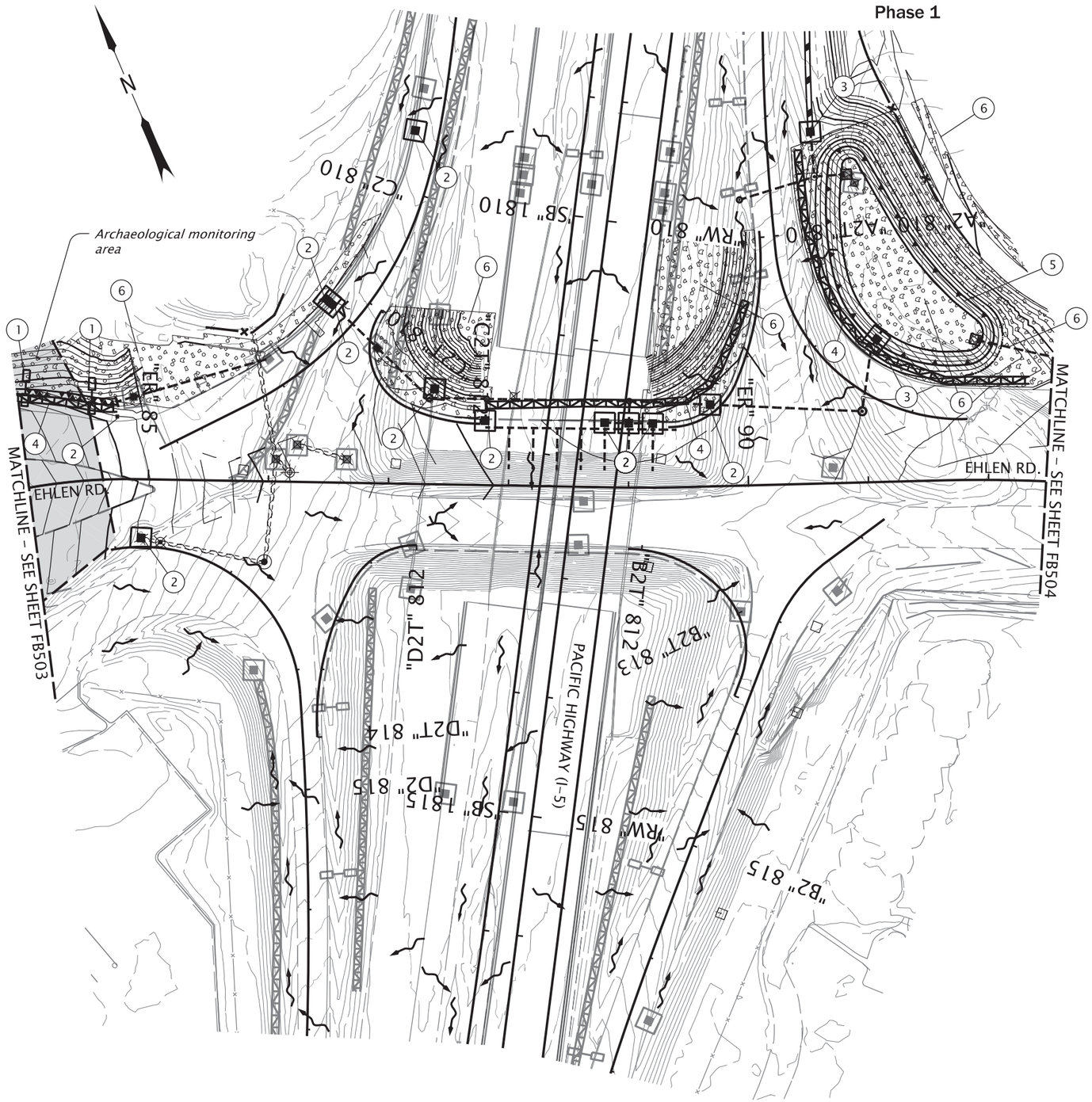
DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 1



CONSTRUCTION NOTES

1. *Const. check dam - 2 (Type 6)*
2. *Const. inlet protection - 12 type 3*
3. *Const. inlet protection - 2 type 4*
4. *Inst. sediment barrier type 3*
5. *Inst. slope matting, type B (See dwg. no. RD1055)*
6. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Erosion control matting*
- *Temp. seeding and mulching*
- *Flow direction*
- *Archaeological monitoring area*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

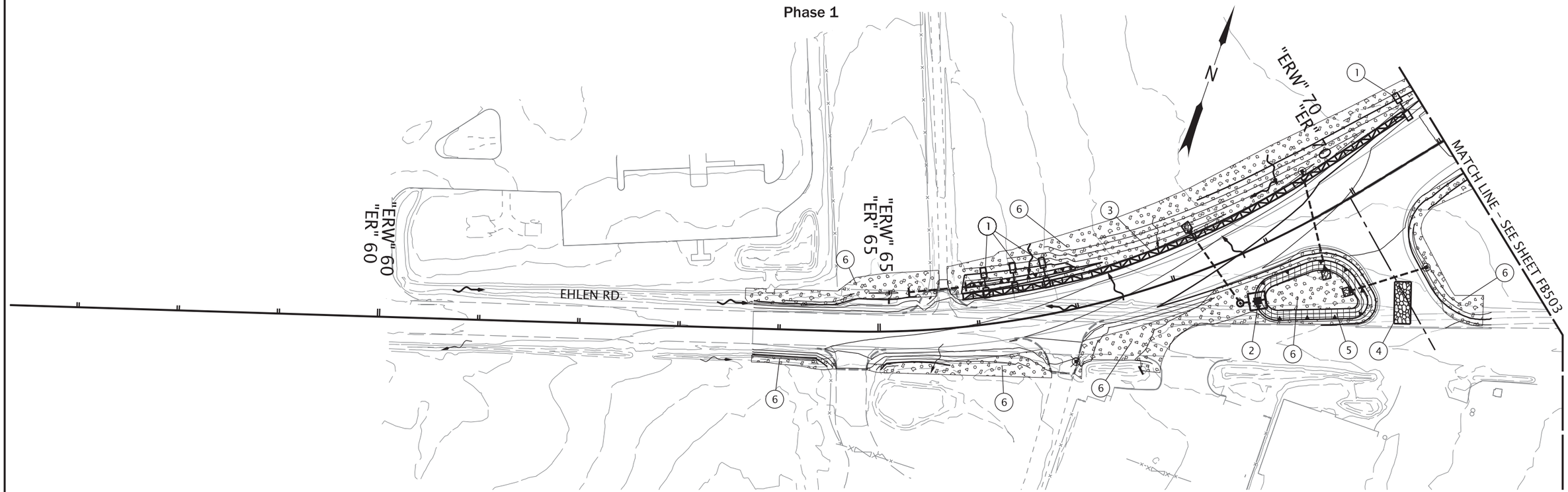
SHEET NO. FB501

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 1



LEGEND

- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Construction entrance*
- *Erosion control matting*
- *Temp. seeding and mulching*
- *Flow direction*

CONSTRUCTION NOTES

1. *Const. check dam - 4 (Type 6)*
2. *Const. inlet protection type 4*
3. *Inst. sediment barrier type 3*
4. *Const. construction entrance*
5. *Inst. slope matting, type B*
6. *Apply temporary seeding and mulching*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

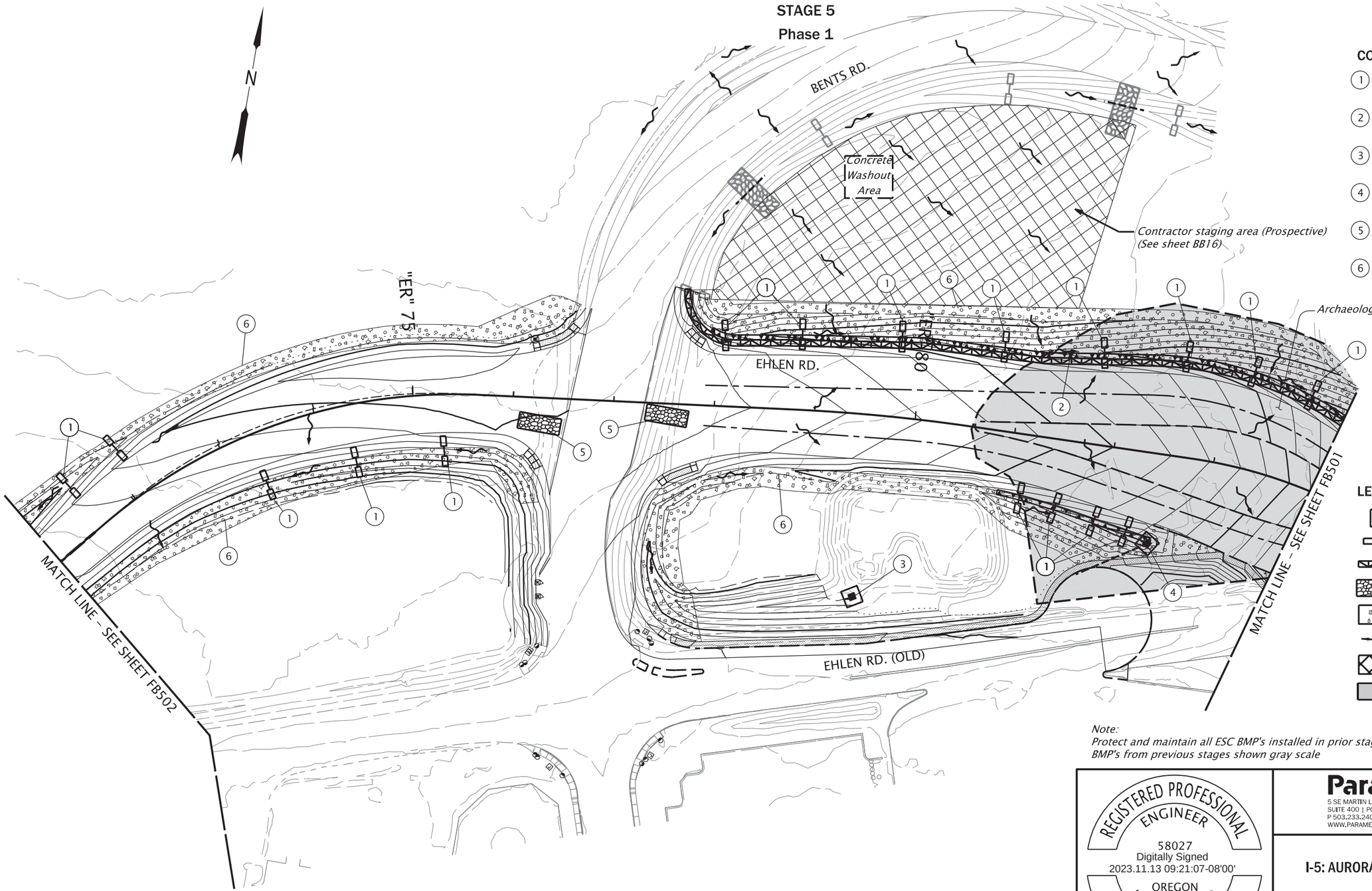
EROSION AND SEDIMENT CONTROL

SHEET NO. FB502

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5
Phase 1



CONSTRUCTION NOTES

1. *Const. check dam - 17 (Type 6)*
2. *Inst. sediment barrier type 3*
3. *Const. inlet protection type 3*
4. *Const. inlet protection type 4*
5. *Const. construction entrance - 2*
6. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Construction entrance*
- *Temp. seeding and mulching*
- *Flow direction*
- *Contractor staging area*
- *Archaeological monitoring area*

Note:
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE | Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE | Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO. FB503

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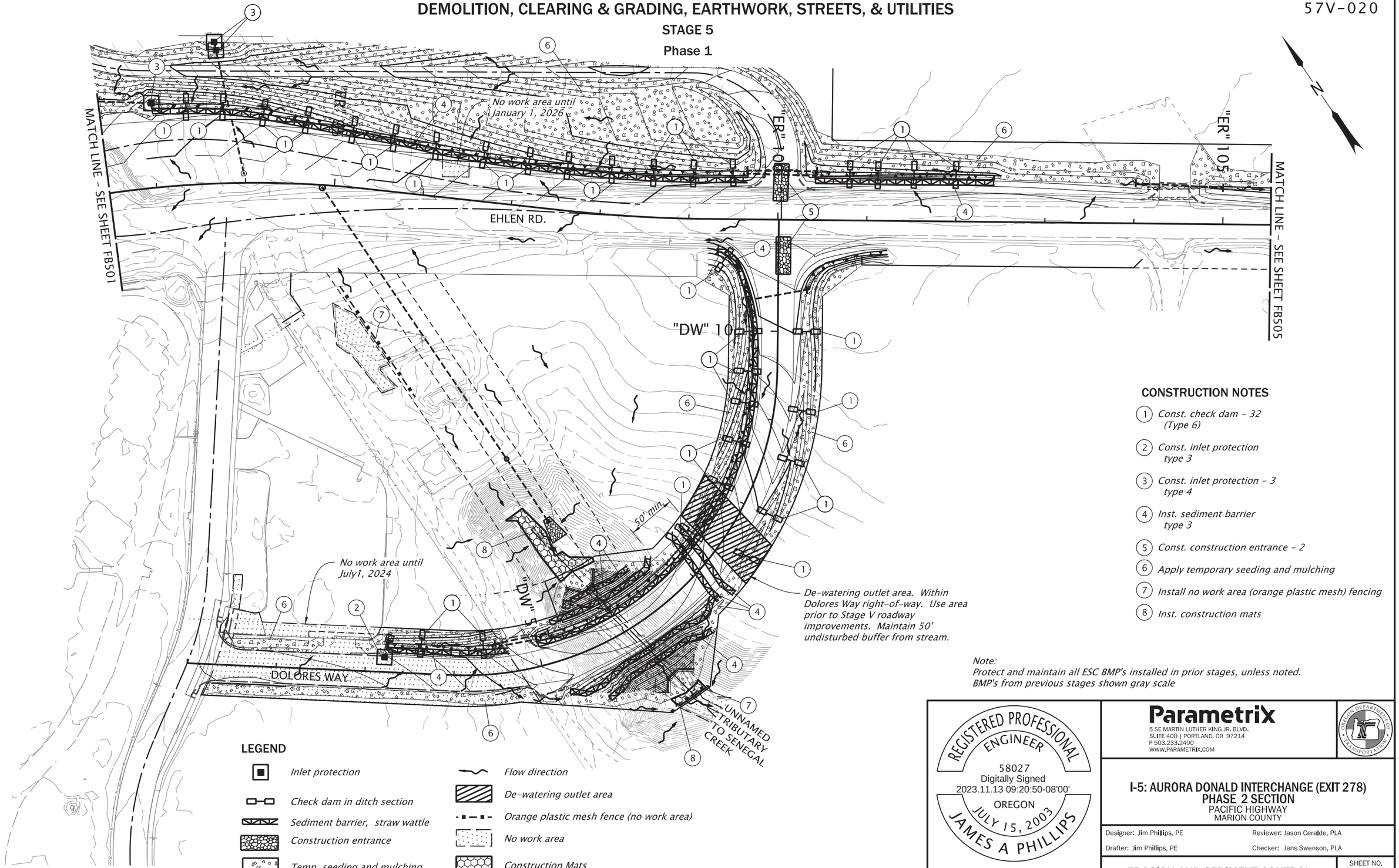
57V-020

STAGE 5

Phase 1



CONSTRUCTION NOTES

1. *Const. check dam – 32 (Type 6)*
2. *Const. inlet protection type 3*
3. *Const. inlet protection – 3 type 4*
4. *Inst. sediment barrier type 3*
5. *Const. construction entrance – 2*
6. *Apply temporary seeding and mulching*
7. *Install no work area (orange plastic mesh) fencing*
8. *Inst. construction mats*

De-watering outlet area. Within Dolores Way right-of-way. Use area prior to Stage V roadway improvements. Maintain 50' undisturbed buffer from stream.

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Construction entrance*
- *Temp. seeding and mulching*
- *Flow direction*
- *De-watering outlet area*
- *Orange plastic mesh fence (no work area)*
- *No work area*
- *Construction Mats*

Note:
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

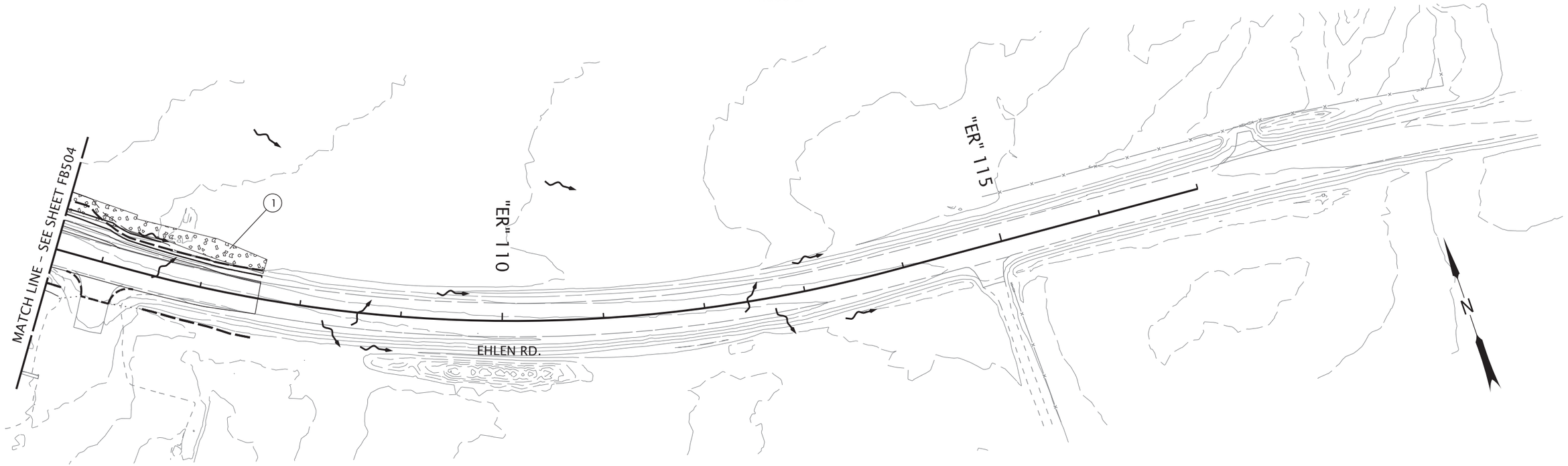
SHEET NO. FB504

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 1



CONSTRUCTION NOTES

(1) *Apply temporary seeding and mulching*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

LEGEND

Temp. seeding and mulching

Flow direction

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

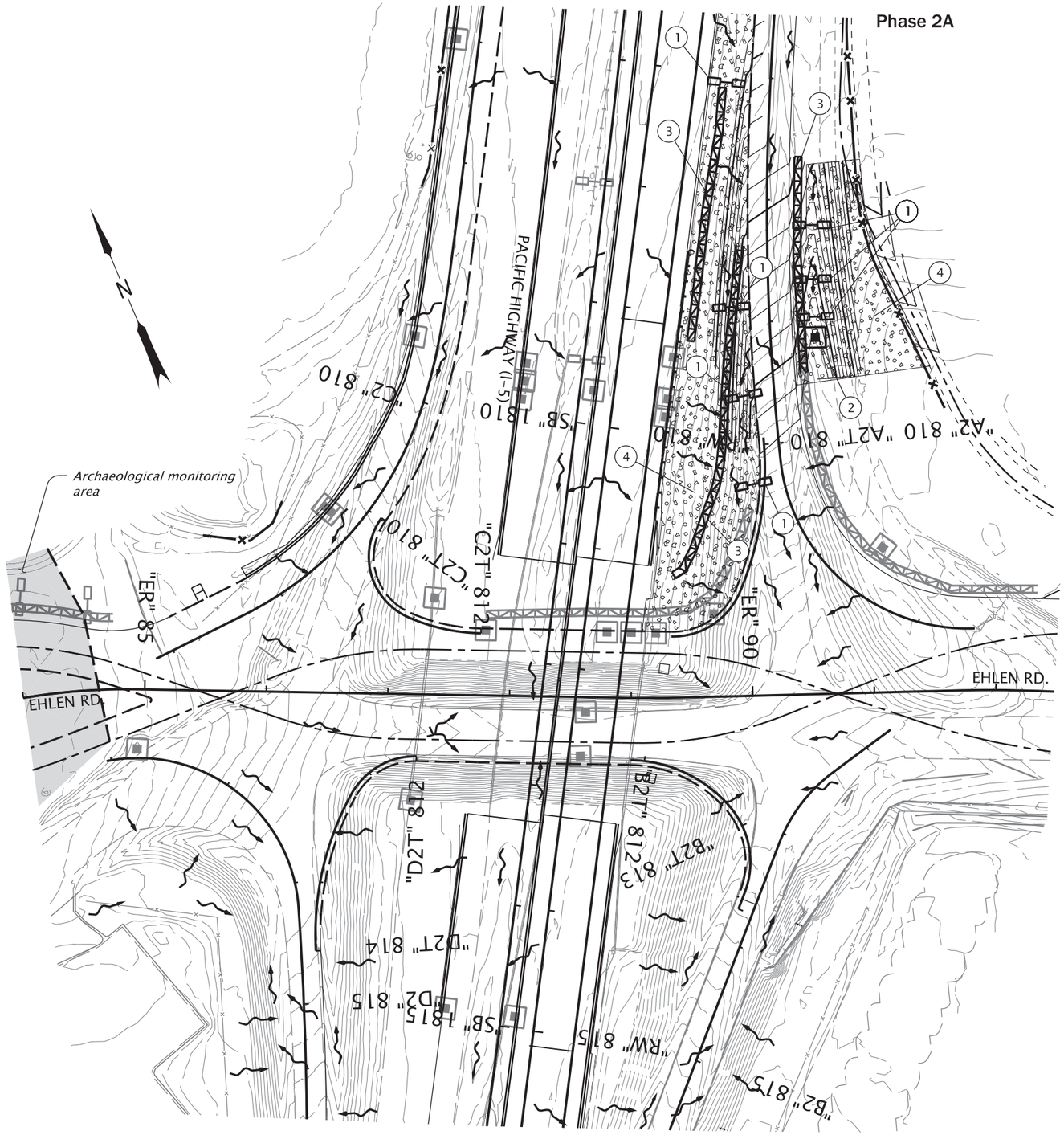
SHEET NO.
FB505

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 2A



CONSTRUCTION NOTES

1. *Const. check dam – 6 (Type 6)*
2. *Const. inlet protection type 3*
3. *Inst. sediment barrier type 3*
4. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*
- *Archaeological monitoring area*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO. FB506

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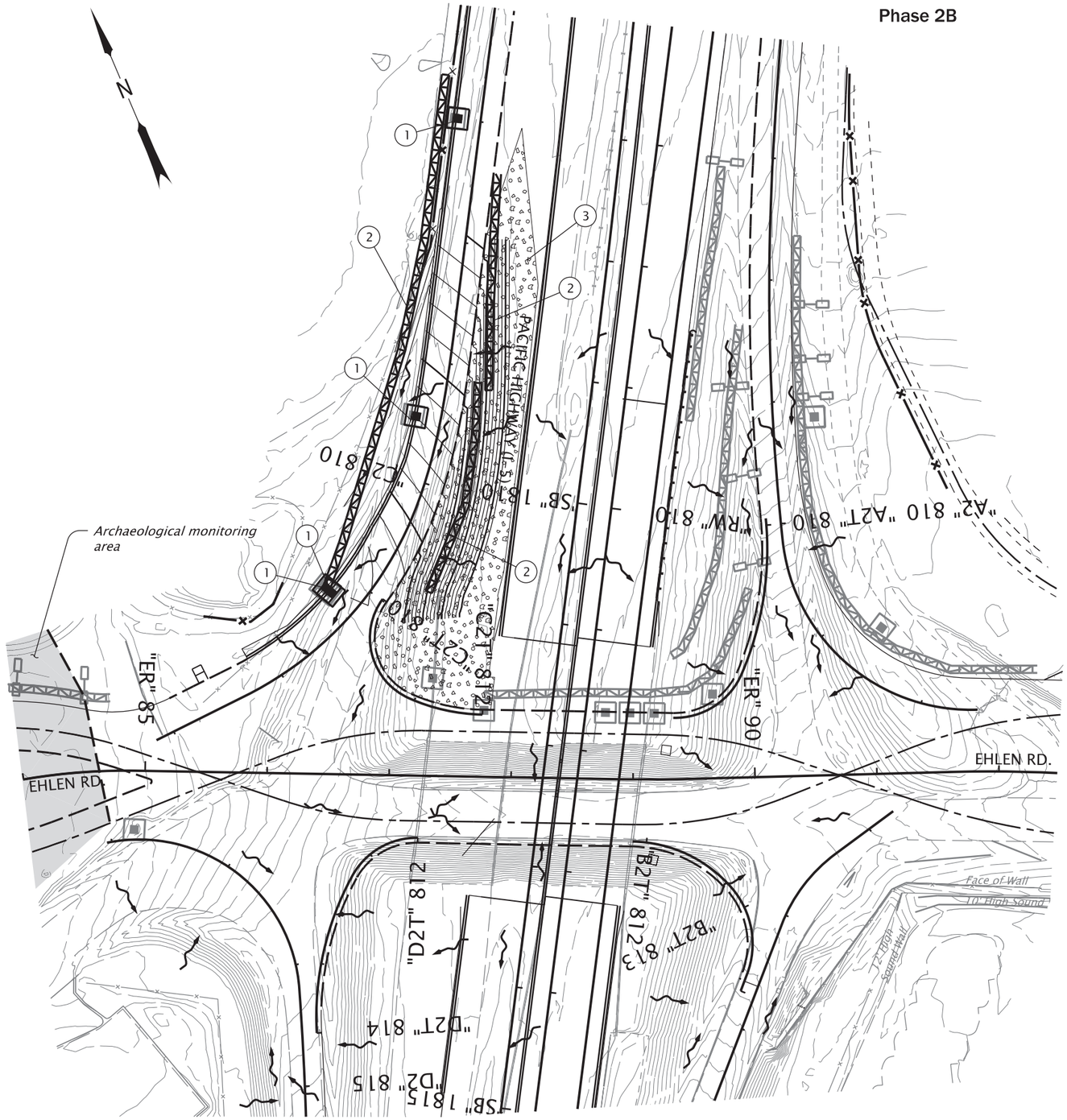
DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 2B



CONSTRUCTION NOTES

1. *Const. inlet protection - 4 type 3*
2. *Inst. sediment barrier type 3*
3. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*
- *Archaeological monitoring area*

Note:
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE	Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE	Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL — SHEET NO. FB507

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5
Phase 3A

CONSTRUCTION NOTES

1. *Const. inlet protection – 4 type 3*
2. *Const. inlet protection type 4*
3. *Const. check dam – 4 (Type 6)*
4. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Erosion control matting*
- *Temp. seeding and mulching*
- *Flow direction*
- *Archaeological monitoring area*

Note:
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
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PACIFIC HIGHWAY
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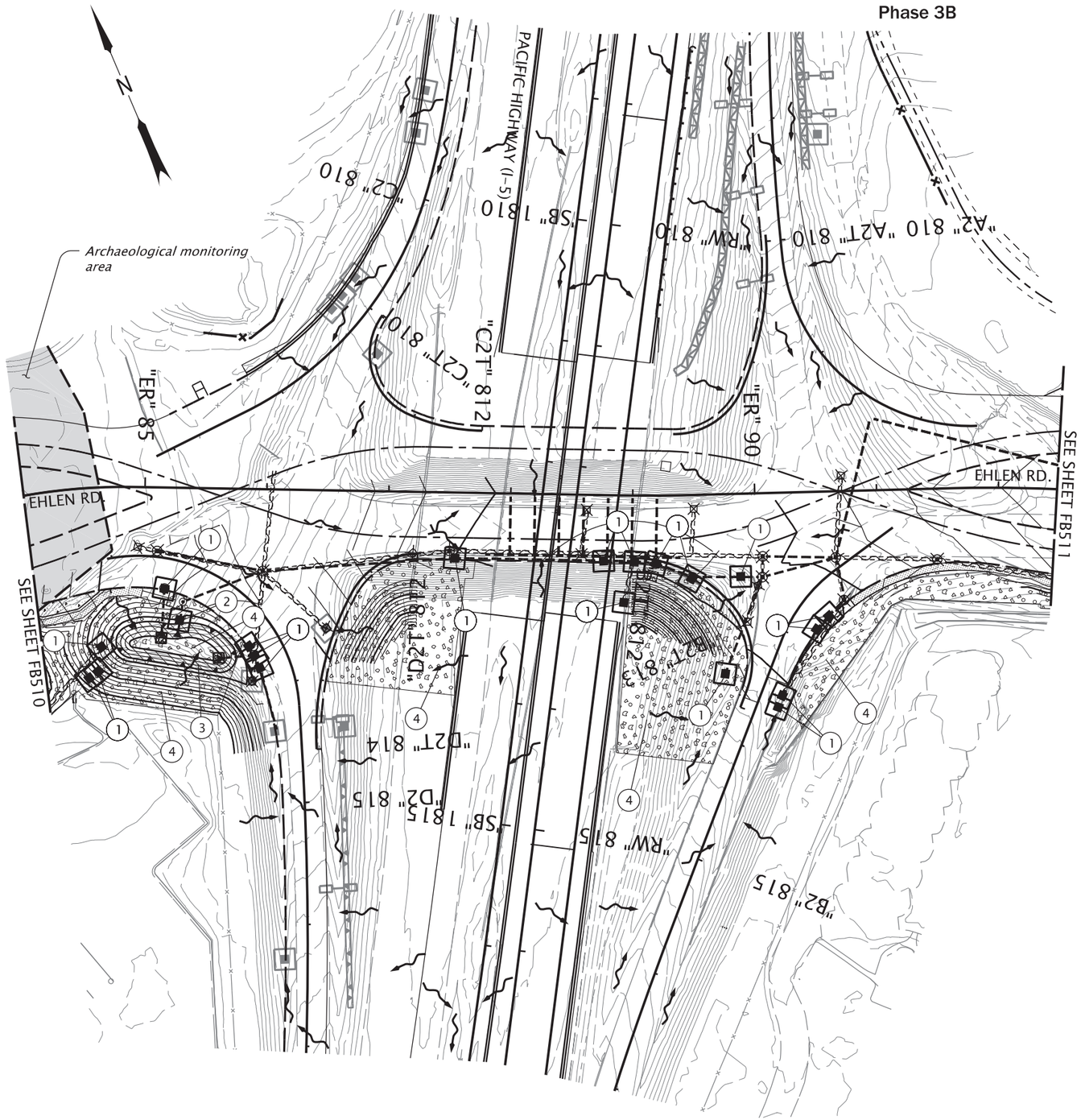
EROSION AND SEDIMENT CONTROL — SHEET NO. FB508

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 3B



CONSTRUCTION NOTES

1. *Const. inlet protection - 19 type 3*
2. *Const. inlet protection type 4*
3. *Inst. slope matting, type B*
4. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Erosion control matting*
- *Temp. seeding and mulching*
- *Flow direction*
- *Archaeological monitoring area*

Note:
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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO. FB509

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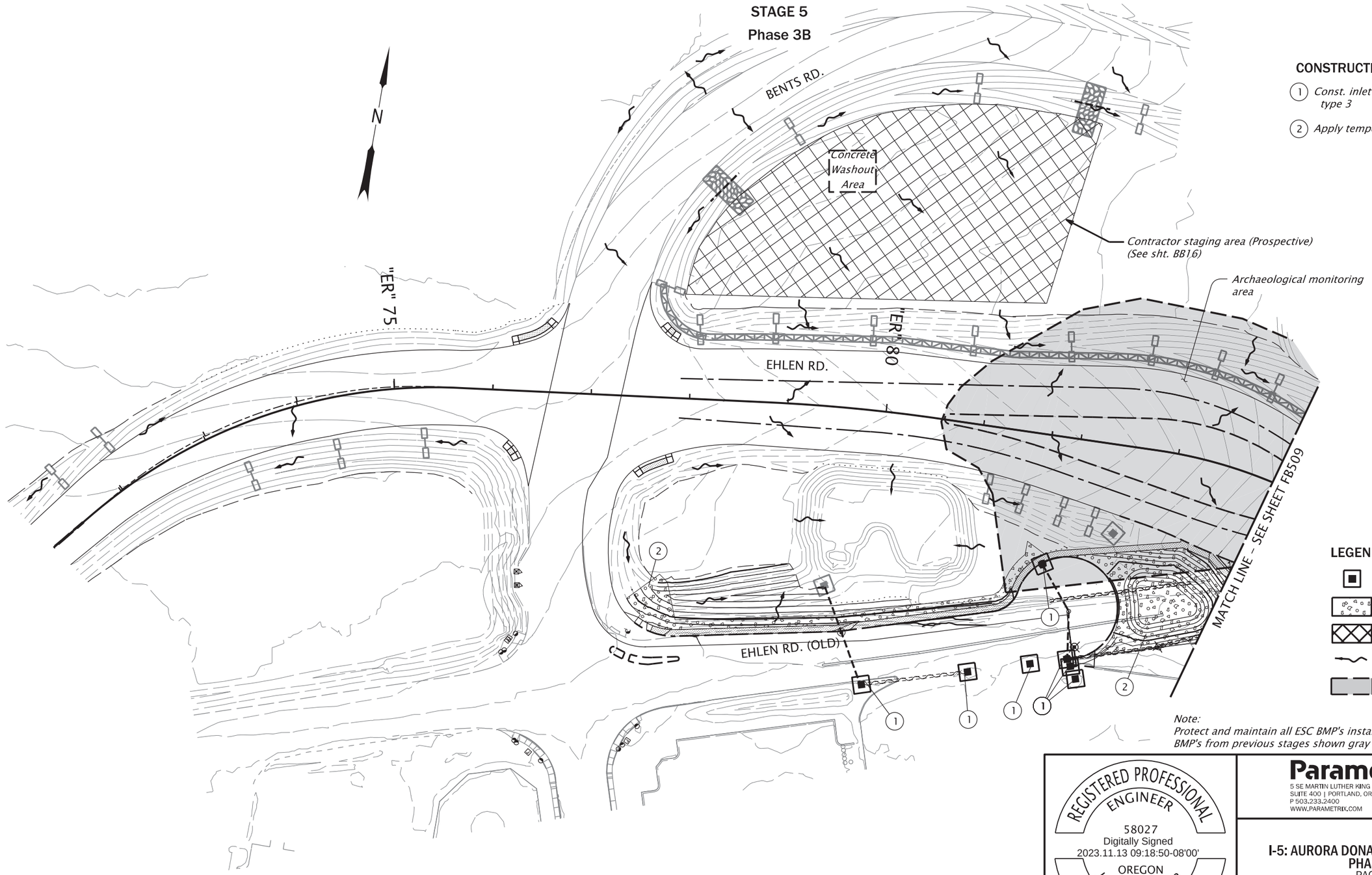
DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 3B



CONSTRUCTION NOTES

1. *Const. inlet protection - 7 type 3*
2. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Temp. seeding and mulching*
- *Contractor staging area*
- *Flow direction*
- *Archaeological monitoring area*

Note:
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MARION COUNTY

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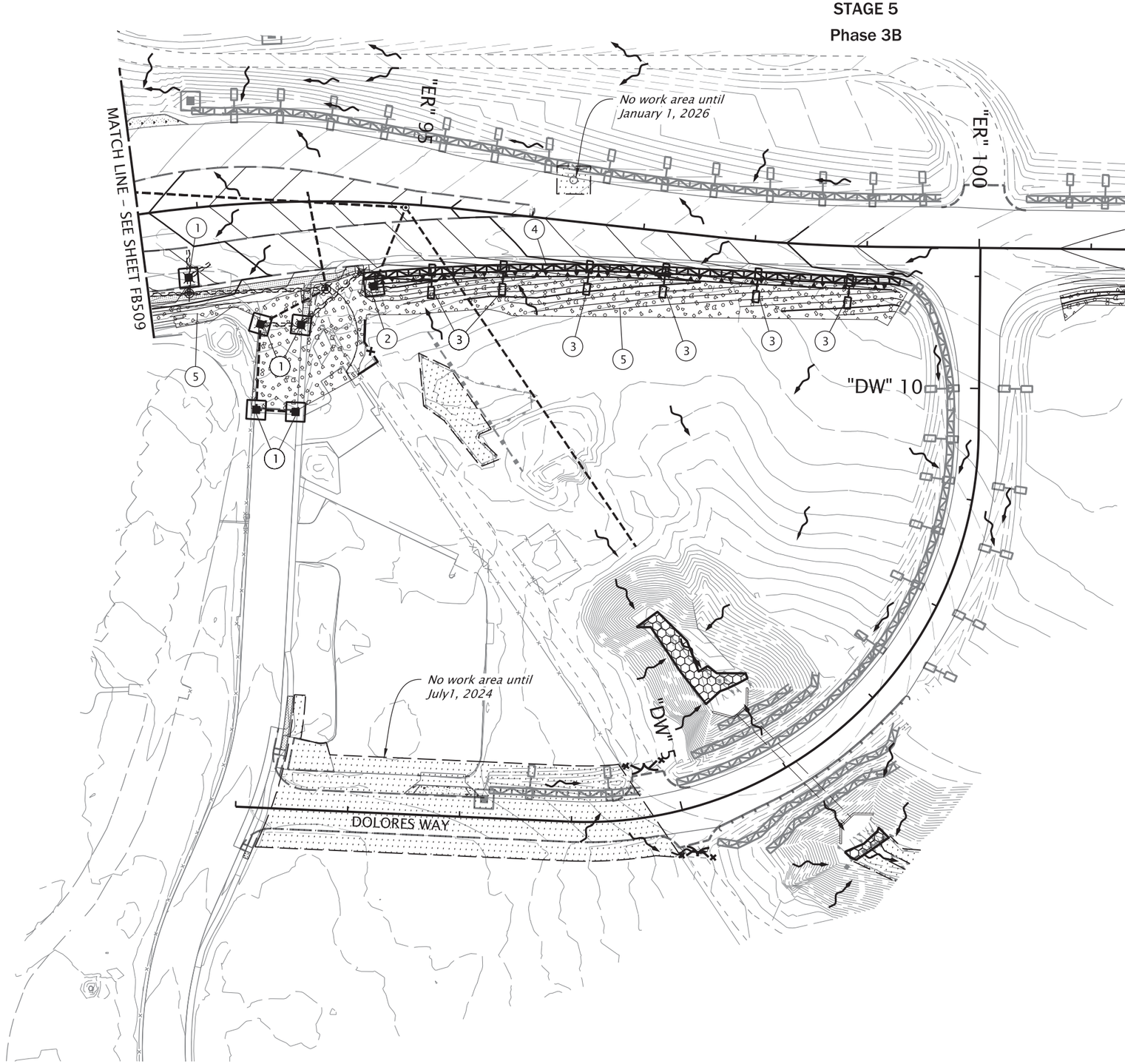
EROSION AND SEDIMENT CONTROL — SHEET NO. FB510

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 3B



CONSTRUCTION NOTES

1. *Const. inlet protection - 5 type 3*
2. *Const. inlet protection type 4*
3. *Const. check dam - 9 (Type 6)*
4. *Inst. sediment barrier type 3*
5. *Apply temporary seeding and mulching*

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Temp. seeding and mulching*
- *Flow direction*
- *Orange plastic mesh fence (no work area)*
- *No work area*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
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EROSION AND SEDIMENT CONTROL

SHEET NO. FB511

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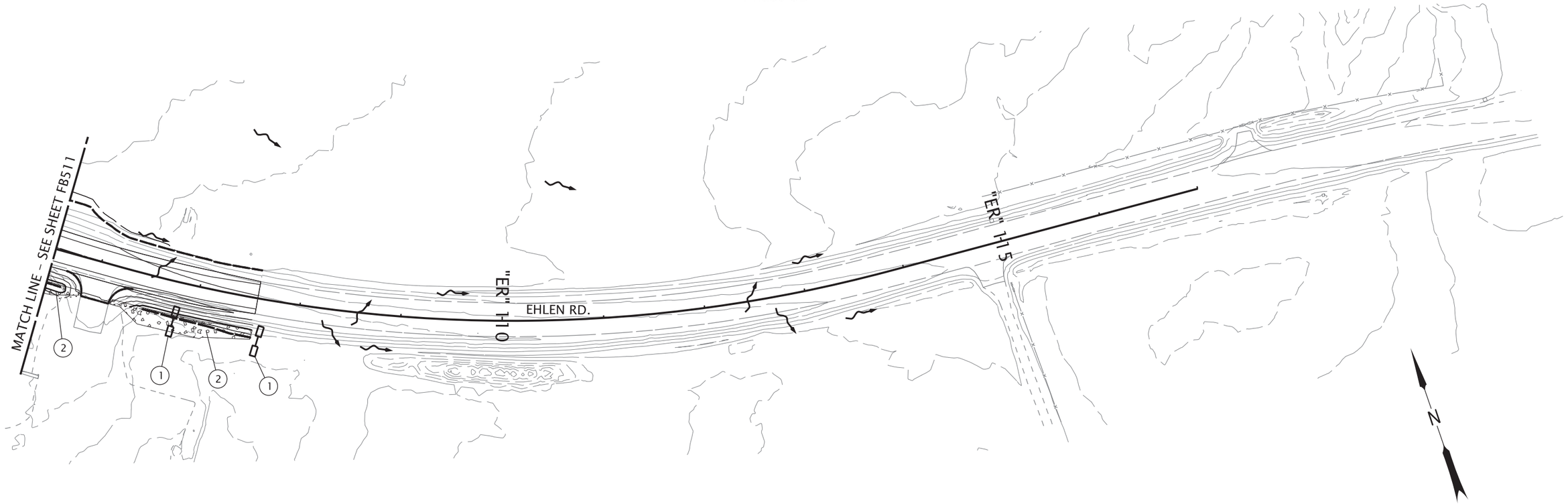
Rotation: 326.1883° Scale: 1"=100'

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 3B



CONSTRUCTION NOTES

(1) *Const. check dam – 2 (Type 6)*

(2) *Apply temporary seeding and mulching*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

LEGEND

Check dam in ditch section

Temp. seeding and mulching

Flow direction

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.11.13 09:18:07-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

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WWW.PARAMETRIX.COM

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: Jim Phillips, PE
Drafter: Jim Phillips, PE
Reviewer: Jason Ceralde, PLA
Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

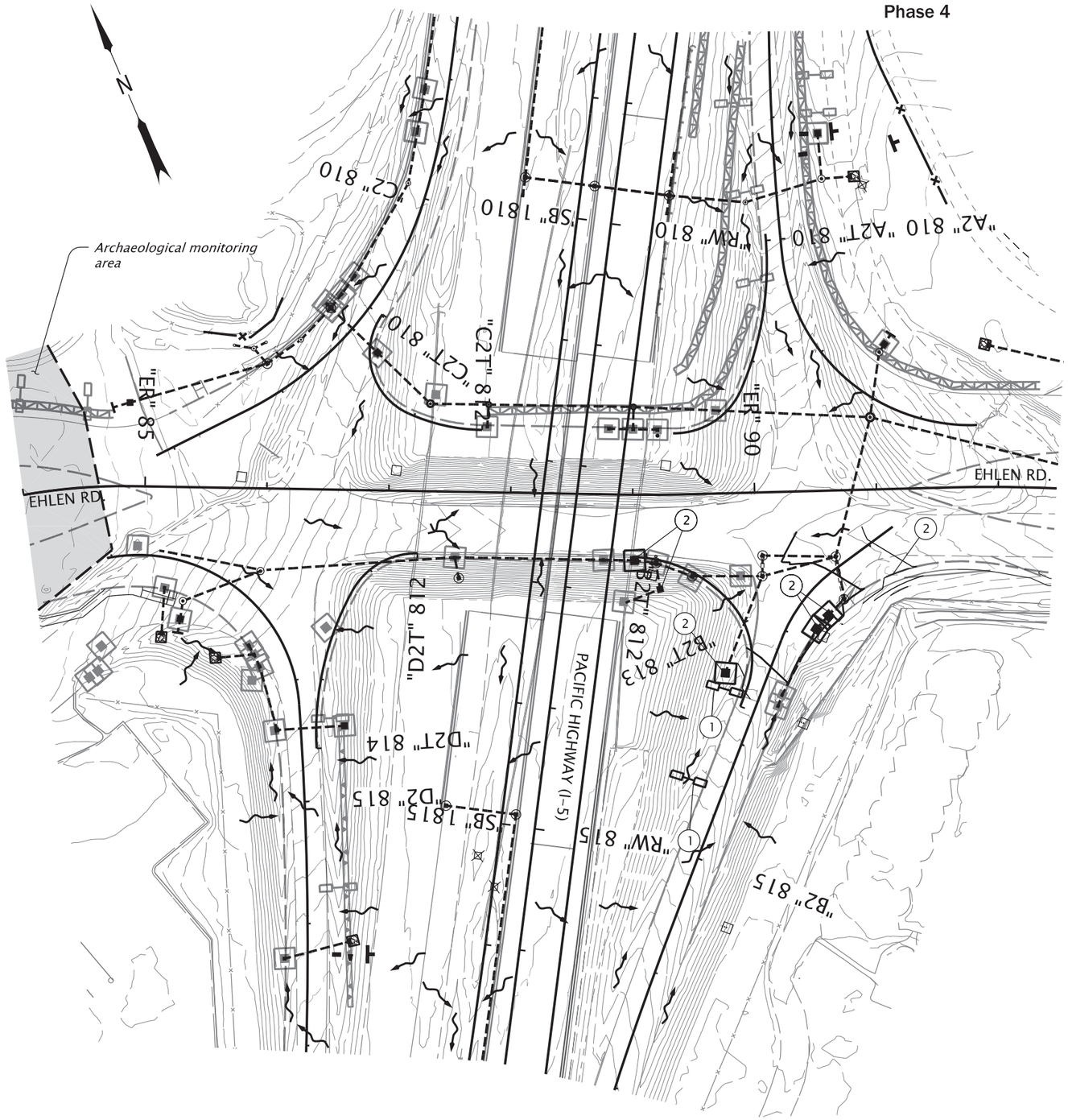
SHEET NO.
FB512

DEMOLITION, CLEARING & GRADING, EARTHWORK, STREETS, & UTILITIES

57V-020

STAGE 5

Phase 4



CONSTRUCTION NOTES

1. *Const. check dam - 2 (Type 6)*
2. *Const. inlet protection - 6 type 3*

LEGEND

- *Inlet protection*
- *Check dam in ditch section*
- *Sediment barrier, straw wattle*
- *Flow direction*
- *Archaeological monitoring area*

Note:
Protect and maintain all ESC BMP's installed in prior stages, unless noted.
BMP's from previous stages shown gray scale

REGISTERED PROFESSIONAL ENGINEER
58027
Digitally Signed
2023.12.17 23:38:10-08'00'
OREGON
JULY 15, 2003
JAMES A PHILLIPS
RENEWS: 12-31-2024

Parametrix
5 SE MARTIN LUTHER KING JR. BLVD.
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

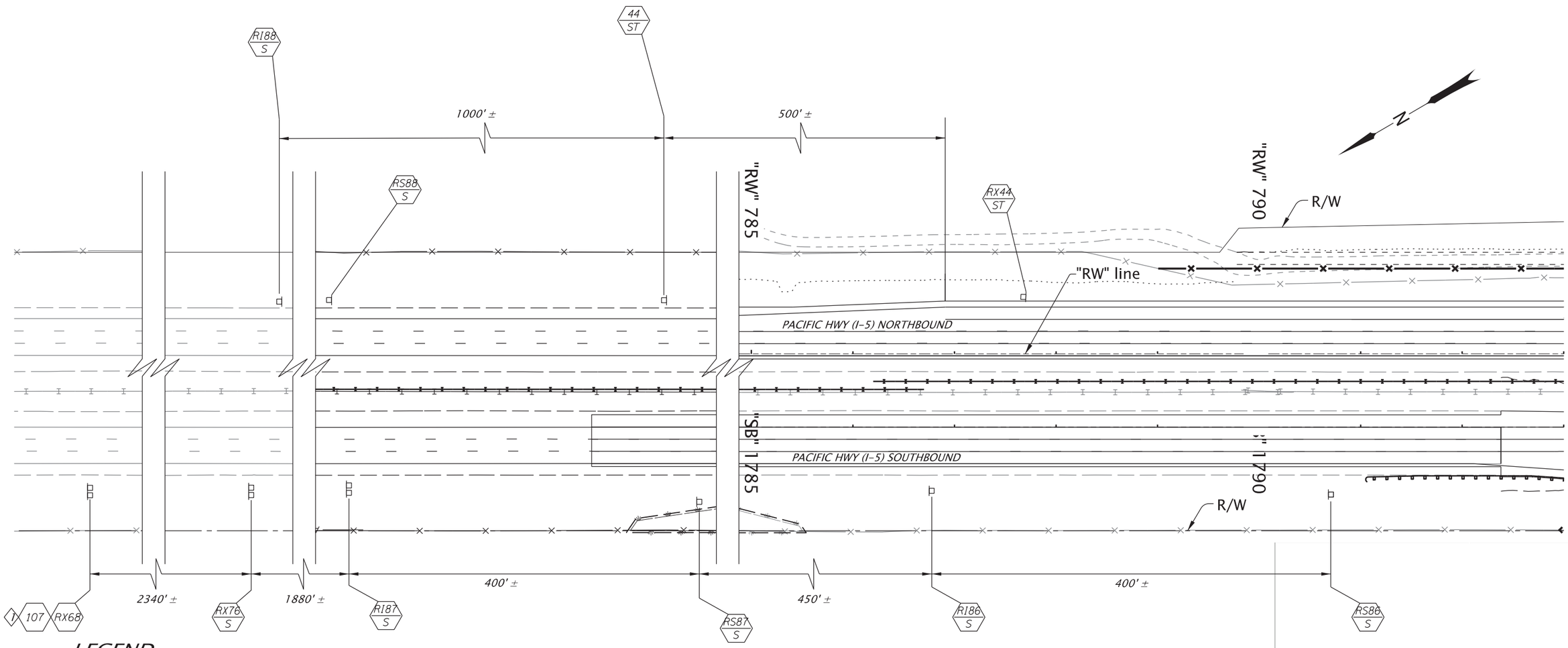
Designer: Jim Phillips, PE — Reviewer: Jason Ceralde, PLA
Drafter: Jim Phillips, PE — Checker: Jens Swenson, PLA

EROSION AND SEDIMENT CONTROL

SHEET NO. FB513

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGNING PLAN
I-5, M.P. 279.14 TO 278.85
STA. "RW" 777+50 TO 793+00



LEGEND

- N — Install new sign (N)
- N / M — Install new sign (N) on new (M) sign support
- RXN — Remove existing sign (N)
- EXN — Maintain and protect existing sign (N) and support
- RSN / M — Remove and save existing sign (N) and remove (M) sign support
- RXN / M — Remove existing sign (N) and (M) sign support
- RIN / M — Reinstall existing sign (N) on new (M) sign support

N = Sign Number
M = Material
Material options:
S = Steel Breakaway Support (TBB or MPB)
ST = Perforated Steel SquareTube Sign Support

Construction Note:

1 — Install new sign on existing sign support.

General Notes:

1. Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

2. The locations of sign installations shown are approx. with exact locations to be determined in the field by the Engineer.

ACCOMPANIED BY DWGS.:
LA02-LD01, TM200, TM201, TM211, TM220, TM221, TM222-TM225, TM230-TM233, TM240, TM600-TM602, TM621-624, TM626, TM628, TM650, TM670-TM672, TM675-TM679, TM681, TM687, TM688

HWY: 001
M.P.: 279.14-278.85
UNIT FILE CODE: 21710
DFI/TSSU NO.: N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:18:37-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

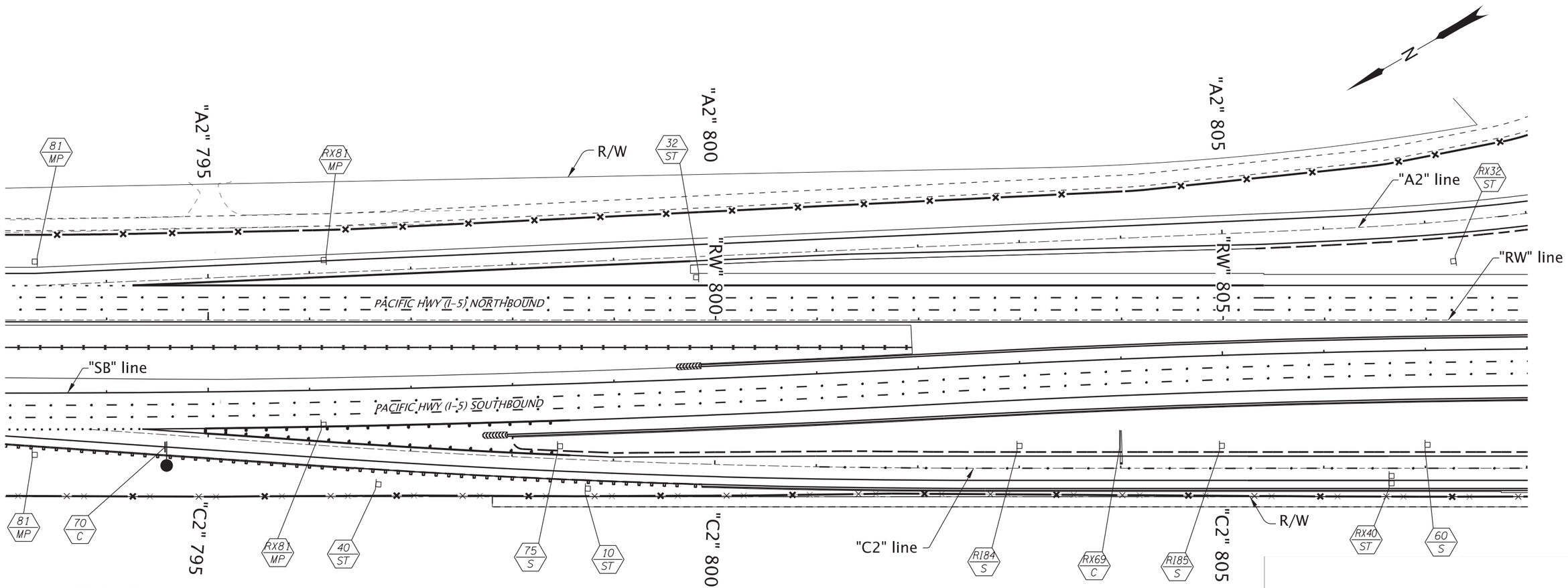
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGNING PLAN
SHEET NO. LA01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGNING PLAN
I-5, M.P. 278.85 TO 278.56
STA. "RW" 793+00 TO 808+00



LEGEND

N / M — *Install new sign (N) on new (M) sign support*

RXN / M — *Remove existing sign (N) and (M) sign support*

RIN / M — *Reinstall existing sign (N) on new (M) sign support*

N = Sign Number

M = Material

Material options:

S = Steel Breakaway Support (TBB or MPB)
C = Cantilever
ST = Perforated Steel Square Tube Sign Support
MP = Mile Post Marker Sign Support

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:19:21-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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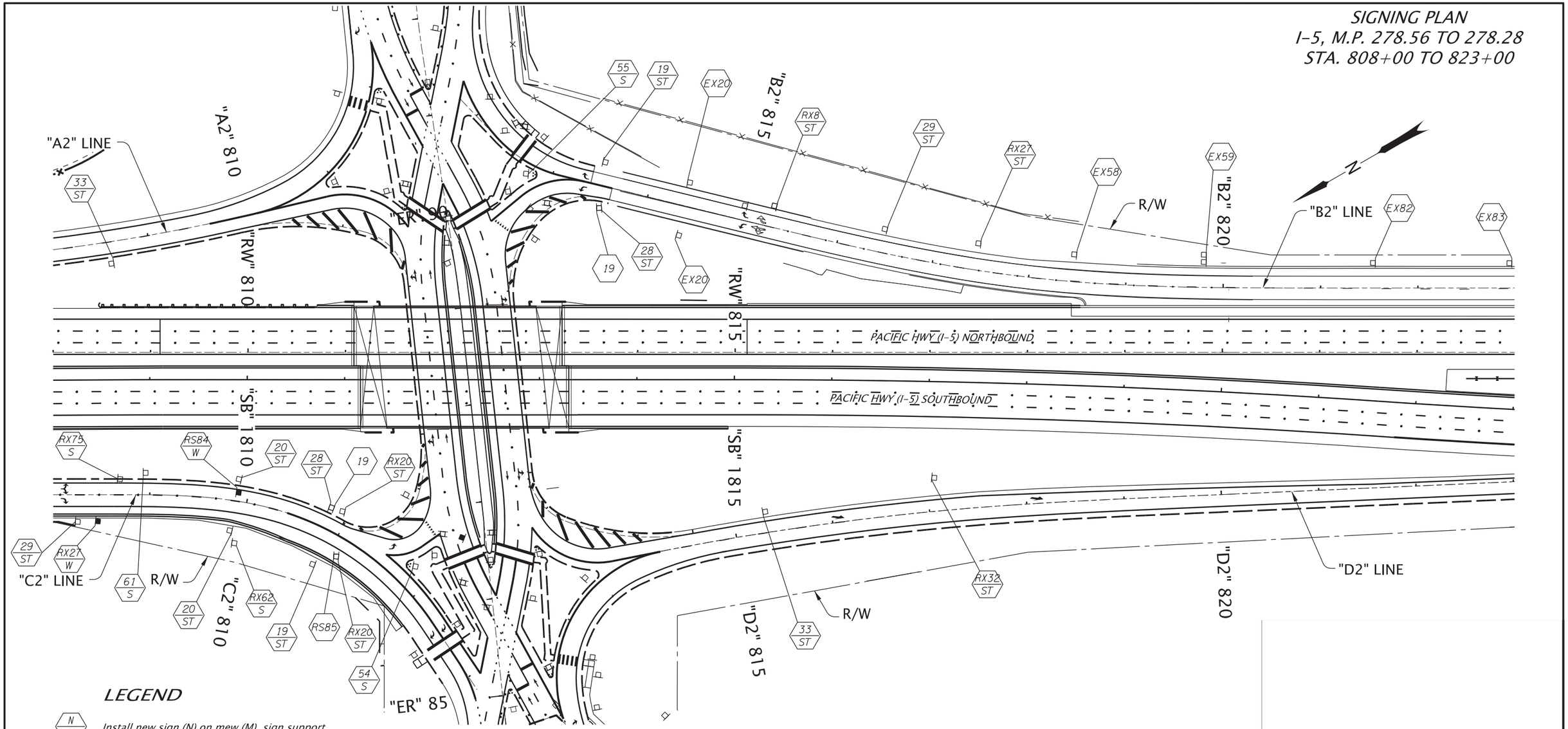
OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

HWY: 001	
M.P.: 278.85-278.56	
UNIT FILE CODE: 21711	
DFI/TSSU NO.: N/A	
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice
SIGNING PLAN	SHEET NO.: LA02

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGNING PLAN
I-5, M.P. 278.56 TO 278.28
STA. 808+00 TO 823+00



LEGEND

- N / M — *Install new sign (N) on mew (M) sign support*
- N — *Install new sign (N)*
- EXN — *Maintain and protect existing sign (N) and support*
- RSN — *Remove and save existing sign (N)*
- RXN / M — *Remove existing sign (N) and (M) sign support*

N = Sign Number
M = Material
Material options:
S = Steel Breakaway Support (TBB or MPB)
ST = Perforated Steel Square Tube Sign Support
W = Wood Post

For signing along Ehlen Rd, see sheet LA07

HWY: 001
M.P.: 278.56-278.28
UNIT FILE CODE: 21712
DFI/TSSU NO.: N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:20:29-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

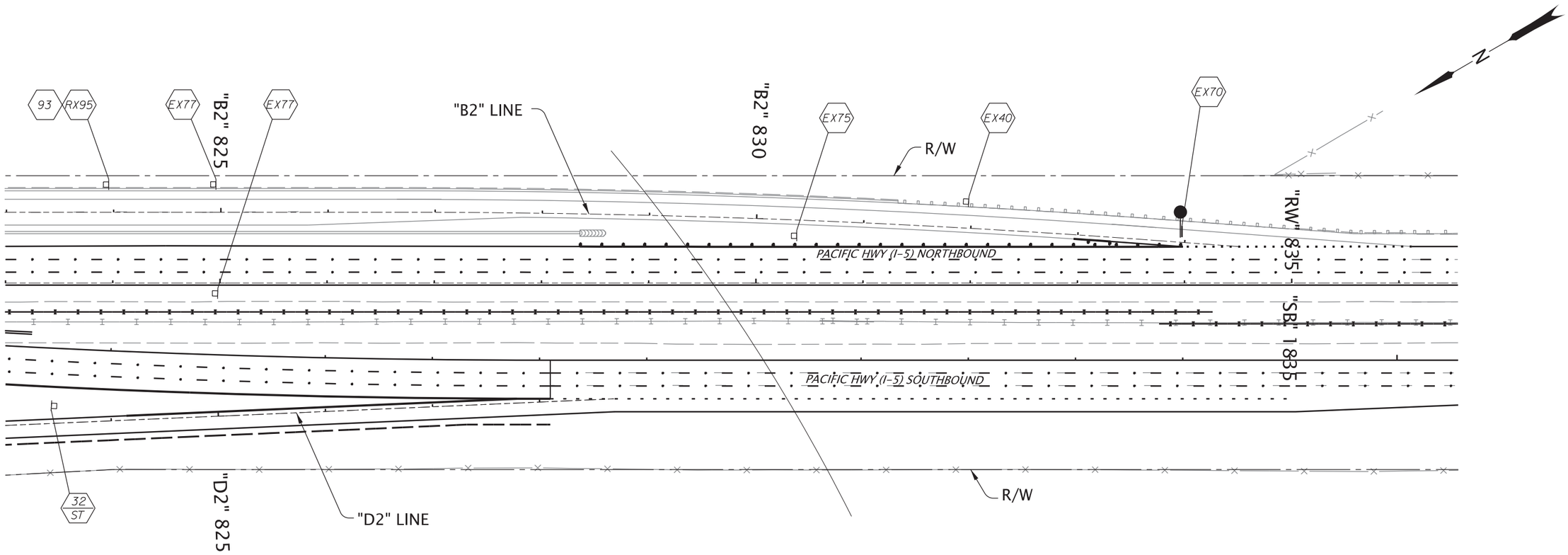
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGNING PLAN
SHEET NO. LA03

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGNING PLAN
I-5, M.P. 278.28 TO 278.00
STA. "RW" 823+00 TO 838+00



LEGEND

- EXN — *Maintain and protect existing sign (N) and support*
- RXN — *Remove existing sign (N)*
- N — *Install new sign (N)*
- N / M — *Install new sign (N) on new (M) sign support*

N = Sign Number
M = Material
Material options:
ST = Perforated Steel Square Tube Sign Support

HWY: 001	
M.P.: 278.28-278.00	
UNIT FILE CODE	21713
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
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OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

SIGNING PLAN — SHEET NO. LA04

LEGEND

- N / M — Install new sign (N) on new (M) sign support
- N — Install new sign (N)
- EXN — Maintain and protect existing sign (N) and support
- RXN / M — Remove existing sign (N) and (M) sign support
- RSN / M — Remove and save existing sign (N) and remove (M) sign support
- RIN / M — Reinstall existing sign (N) on new (M) sign support

N = Sign Number

M = Material

Material options:

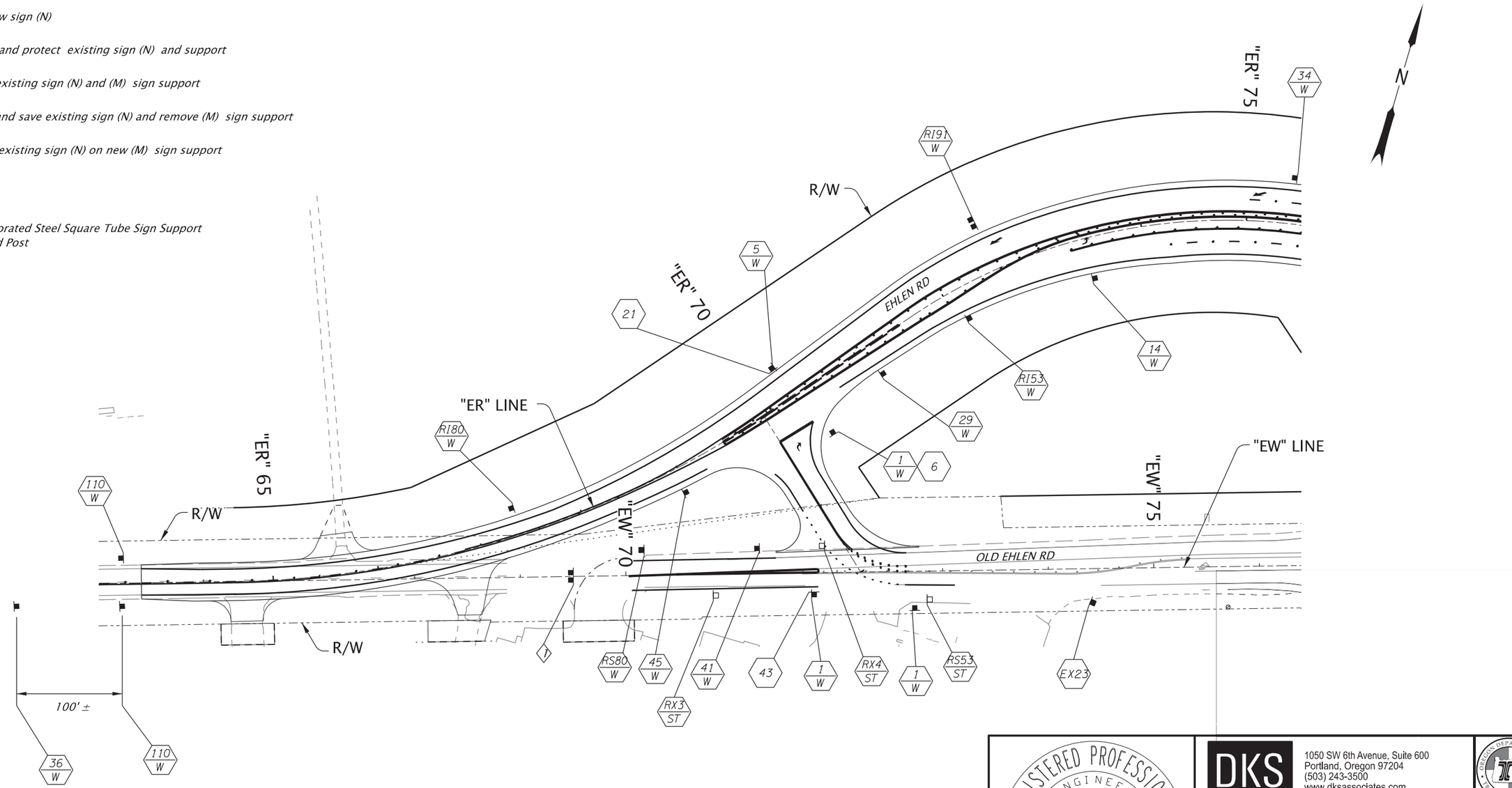
ST = Perforated Steel Square Tube Sign Support

W = Wood Post

Construction Note:

1 Install new permanent closure barricade. See Sheet LB07 for details.

SIGNING PLAN
STA. "ER" 63+32 TO 75+52



HWY: 001	
M.P.: 278.00-277.71	
UNIT FILE CODE	21714
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
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JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

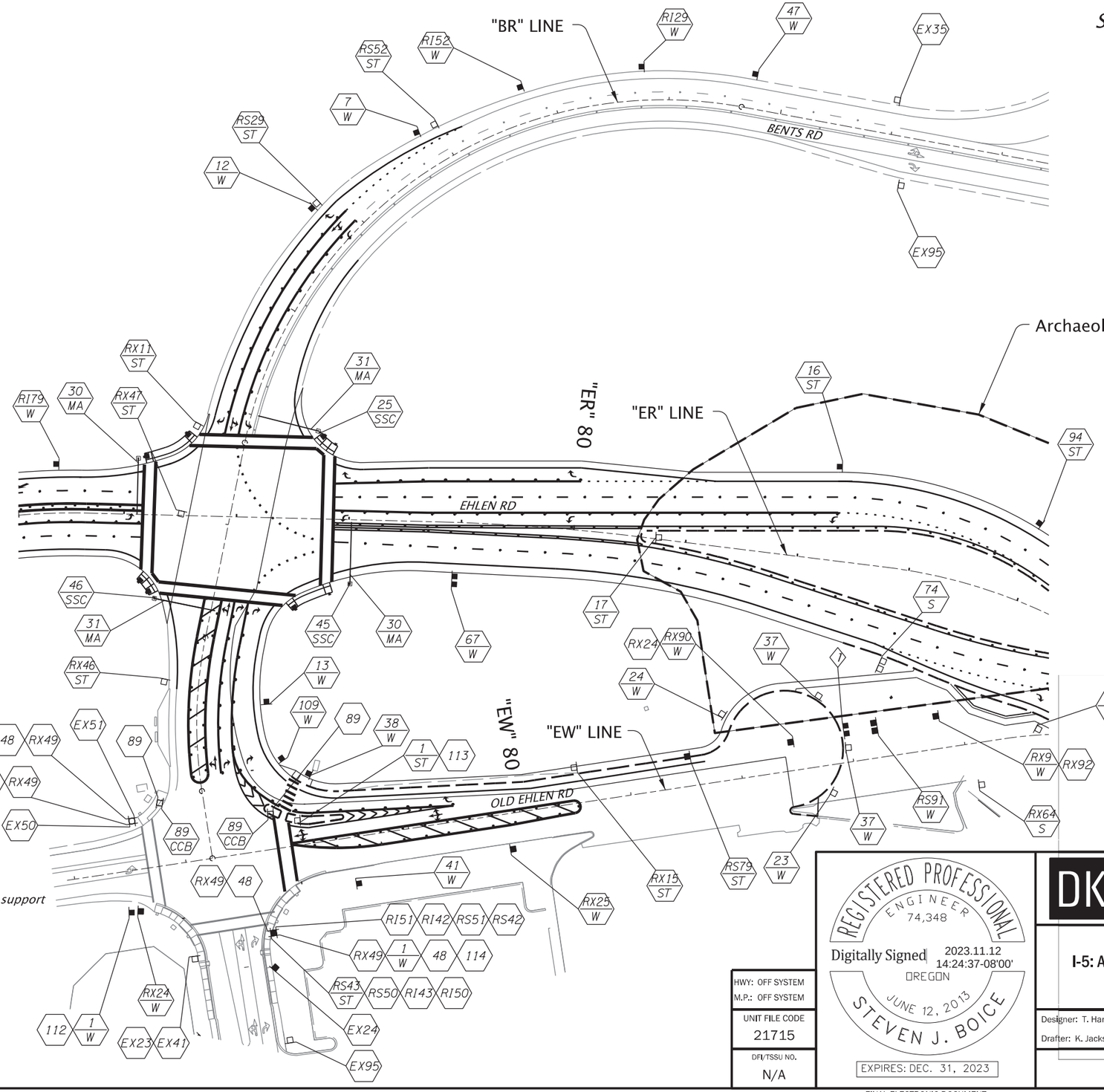
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

SIGNING PLAN — SHEET NO. LA05

Construction Note:

1 *Install new permanent closure barricade. See Sheet LB07 for details.*

SIGNING PLAN
STA. "EW" 75+14 TO 84+75



LEGEND

N / M	*Install new sign (N) on new (M) sign support*
N	*Install new sign (N)*
EXN	*Maintain and protect existing sign (N) and support*
RXN	*Remove existing sign (N)*
RIN	*Reinstall existing sign (N)*
RIN / M	*Reinstall existing sign (N) on new (M) sign support*
RSN	*Remove and save existing sign (N)*
RSN / M	*Remove and save existing sign (N) and remove (M) sign support*

N = Sign Number

M = Material

Material options:

S = Steel Breakaway Support (TBB or MPB)
ST = Perforated Steel Square Tube Sign Support
W = Wood Post
CCB = Crosswalk Closure Barricade
SSC = Stainless Steel Clamp
MA = Mast Arm Street Name Sign Support

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OREGON
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

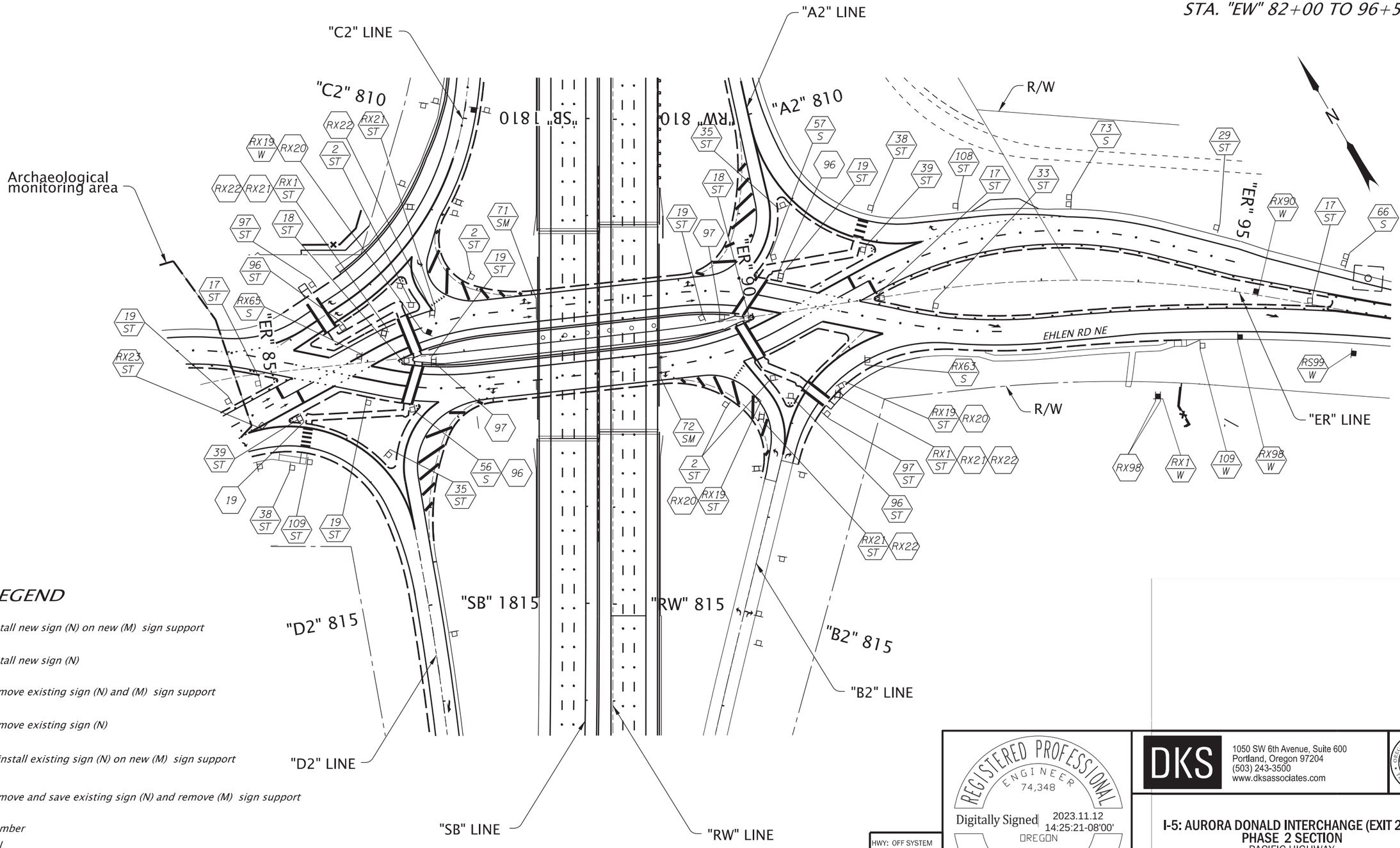
HWY: OFF SYSTEM	
M.P.: OFF SYSTEM	
UNIT FILE CODE	21715
DFI/TSSU NO.	N/A
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

SIGNING PLAN

SHEET NO. LA06

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGNING PLAN
STA. "EW" 82+00 TO 96+50



For signing along I-5 Ramps, see sheet LA03

LEGEND

- N / M — *Install new sign (N) on new (M) sign support*
- N — *Install new sign (N)*
- RXN / M — *Remove existing sign (N) and (M) sign support*
- RXN — *Remove existing sign (N)*
- RIN / M — *Reinstall existing sign (N) on new (M) sign support*
- RSN / M — *Remove and save existing sign (N) and remove (M) sign support*

N = Sign Number
M = Material
Material options:
S = Steel Breakaway Support (TBB or MPB)
ST = Perforated Steel Square Tube Sign Support
SM = Structure Mount

HWY:	OFF SYSTEM
M.P.:	OFF SYSTEM
UNIT FILE CODE	21716
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:25:21-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

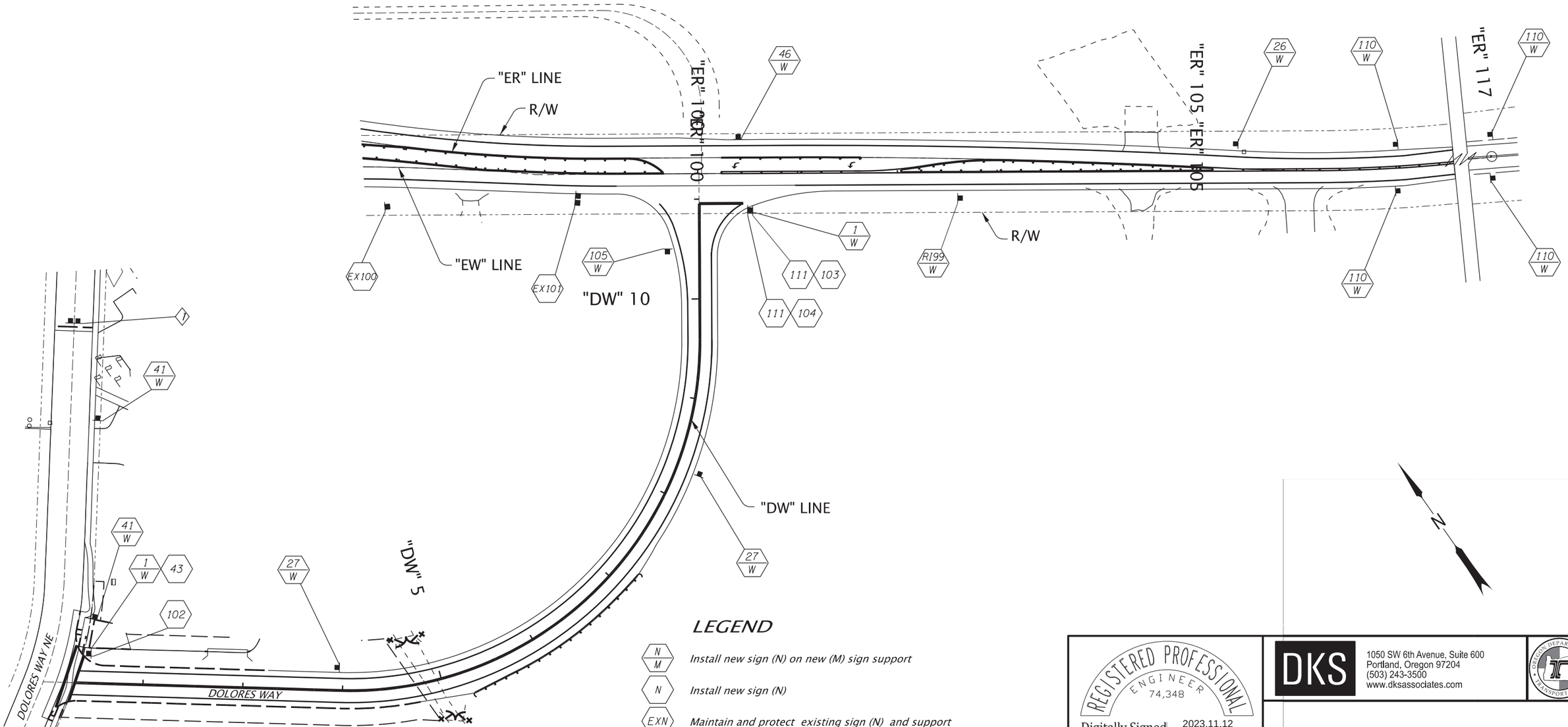
SIGNING PLAN — SHEET NO. LA07

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Construction Note:

1 *Install new permanent closure barricade. See Sheet LB07 for details.*

SIGNING PLAN
STA. "ER" 96+63 TO 107+60



LEGEND

- N / M — *Install new sign (N) on new (M) sign support*
- N — *Install new sign (N)*
- EXN — *Maintain and protect existing sign (N) and support*

N = Sign Number
M = Material
Material options:
W = Wood Post

HWY: OFF SYSTEM
M.P.: OFF SYSTEM
UNIT FILE CODE 21717
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER 74,348
Digitally Signed 2023.11.12 14:25:59-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGNING PLAN

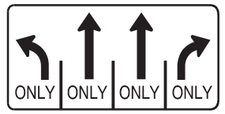
SHEET NO. LA08

SIGNING DETAILS

R1-1
Sign No. 1

R3-5R
Sign No. 6

R3-8 Mod
Sign No. 11



R3-8b Mod
Sign No. 16

R6-1R
Sign No. 21

R1-2
Sign No. 2

R3-7L
Sign No. 7

R3-8a Mod
Sign No. 12

R4-7
Sign No. 17

R6-1L
Sign No. 22

R2-1
Sign No. 3

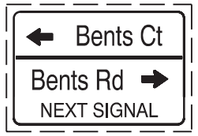
R3-7R
Sign No. 8

R3-8a Mod
Sign No. 13

R4-8
Sign No. 18

R7-1Mod
Sign No. 23

R2-1
Sign No. 4



Sign No. 9

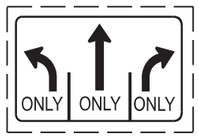
R3-8a Mod
Sign No. 14

R5-1
Sign No. 19

R7-1Mod
Sign No. 24

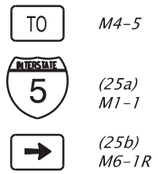
R3-2
Sign No. 5

R3-8 Mod
Sign No. 10



R3-8b
Sign No. 15

R5-1a
Sign No. 20



M4-5
(25a)
M1-1
(25b)
M6-1R

Sign No. 25

NOTE:
Signs shown with broken boxes are existing signs.

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:26:41-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

HWY:	
M.P.:	
UNIT FILE CODE	21718
DFI/TSSU NO.	N/A

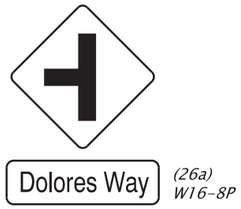
Designer: T. Hart — Reviewer: S. Boice
Drafter: K. Jackson — Checker: S. Boice

SIGN DETAILS

SHEET NO. LB01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGNING DETAILS

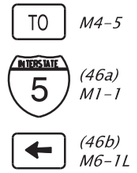


W2-2L
Sign No. 26

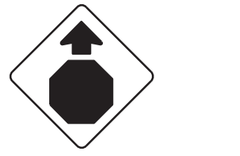
Sign No. 31

W1-4L
Sign No. 36

W14-1
Sign No. 41



Sign No. 46

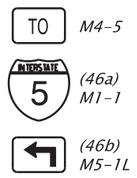


W3-1
Sign No. 27

W4-1R
Sign No. 32

Sign No. 37

Sign No. 42



Sign No. 47

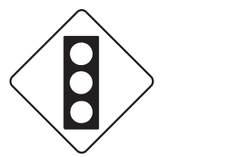
W3-2
Sign No. 28

W4-2L
Sign No. 33

W11-2
Sign No. 38

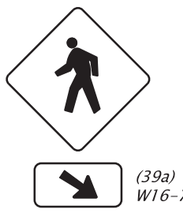
W14-1aR
Sign No. 43

Sign No. 48



W3-3
Sign No. 29

W4-2R
Sign No. 34



W11-2
Sign No. 39

Sign No. 44

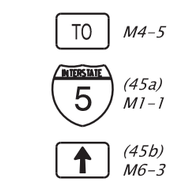
Sign No. 49

NOTE:
Signs shown with broken boxes are existing signs.

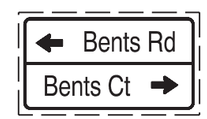
Sign No. 30

W4-3R
Sign No. 35

W13-2
Sign No. 40



Sign No. 45



Sign No. 50

HWY:	
M.P.:	
UNIT FILE CODE	21719
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:27:12-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

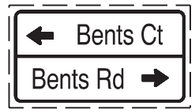
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

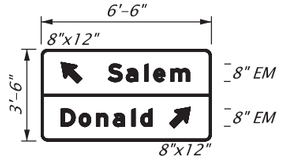
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

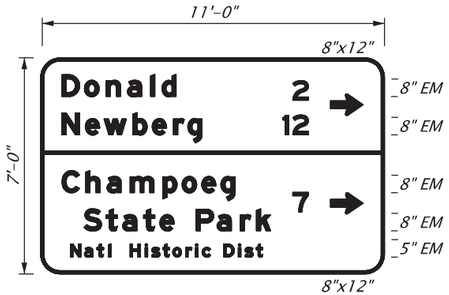
SIGN DETAILS — SHEET NO. LB02



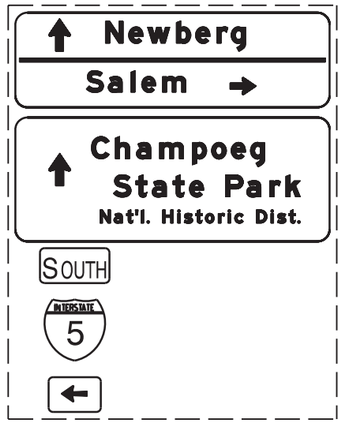
Sign No. 51



Sign No. 56

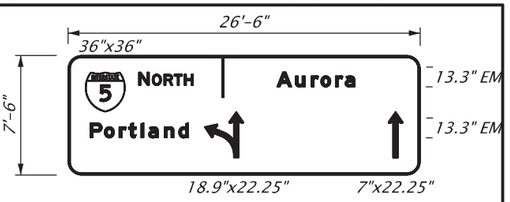


Sign No. 61



Sign No. 65

Sign No. 68



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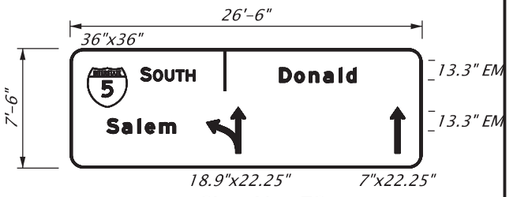
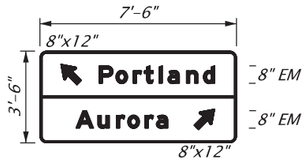


Sign No. 72

Sign No. 52



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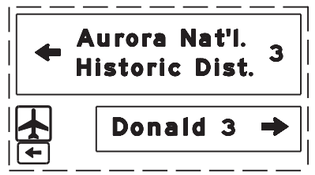
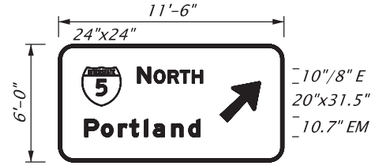
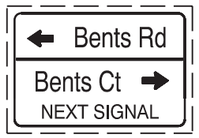


Sign No. 62

Sign No. 69



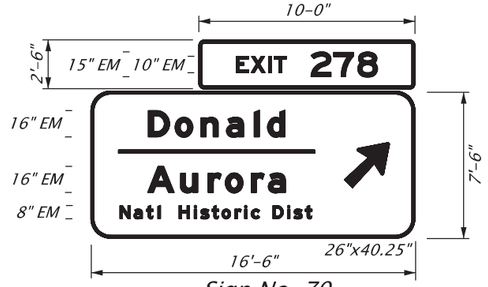
Sign No. 73



Sign No. 53

Sign No. 58

Sign No. 66



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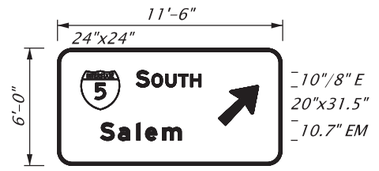
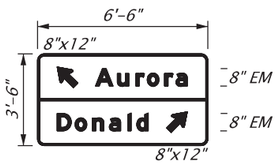


Sign No. 74



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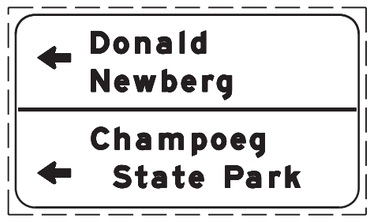
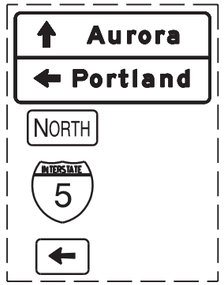


Sign No. 59



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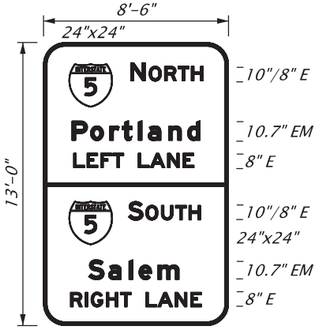
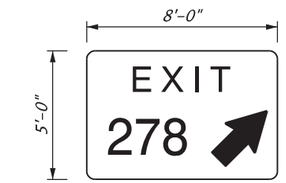
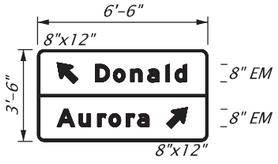


Sign No. 67

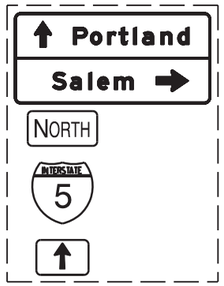


Sign No. 75



Sign No. 55

Sign No. 60



Sign No. 64

NOTE:
Signs shown with broken boxes are existing signs.

REGISTERED PROFESSIONAL ENGINEER 74,348
Digitally Signed 2023.11.12 14:27:53-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

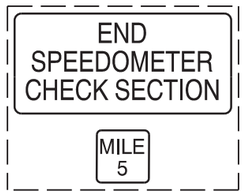
OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

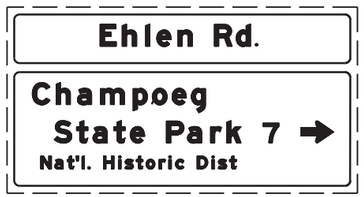
HWY:	
M.P.:	
UNIT FILE CODE	21720
DFI/TSSU NO.	N/A
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice
SIGN DETAILS	SHEET NO. LB03

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sign No. 76



Sign No. 77



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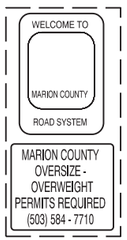
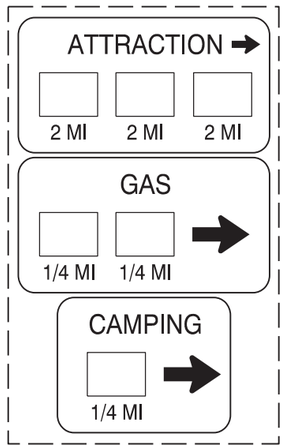


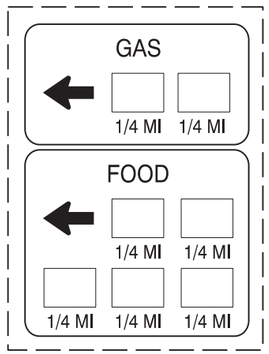
Sign No. 79

Sign No. 80

Sign No. 81

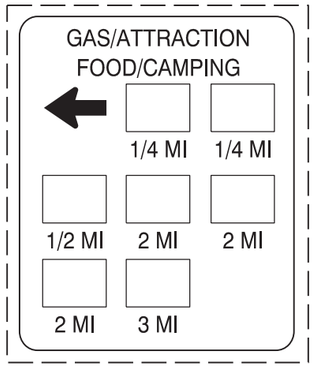


Sign No. 82

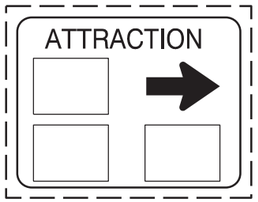


Sign No. 83

NOTE:
Signs shown with broken boxes are existing signs.

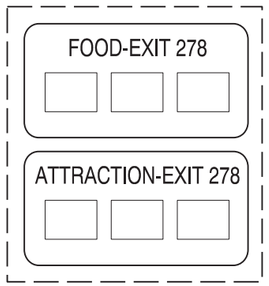


Sign No. 84



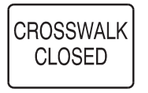
Sign No. 85

Sign No. 86



Sign No. 87

Sign No. 88

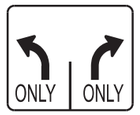


OR22-7
Sign No. 89

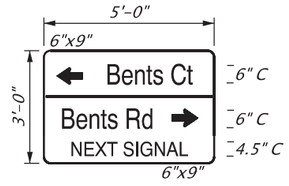
Sign No. 90

Sign No. 91

Sign No. 92



R3-8 Mod.
Sign No. 93



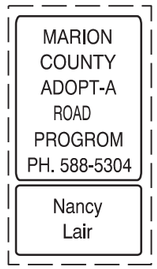
Sign No. 94

Sign No. 95

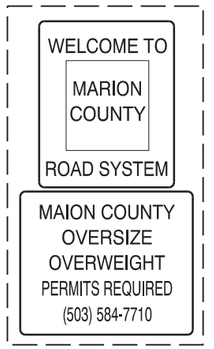
R10-6aR
Sign No. 96

R10-6aL
Sign No. 97

Sign No. 98



Sign No. 99



Sign No. 100

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:28:26-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

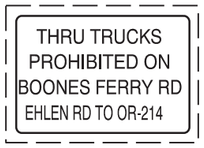
DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

OREGON DEPARTMENT OF TRANSPORTATION

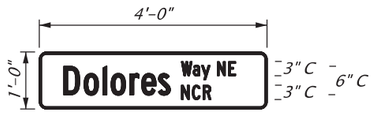
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

HWY:	
M.P.:	
UNIT FILE CODE	21721
DFI/TSSU NO.	N/A
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice
SIGN DETAILS	SHEET NO. LB04

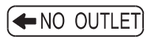
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



Sign No. 101



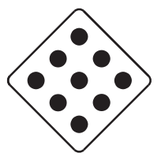
Sign No. 102



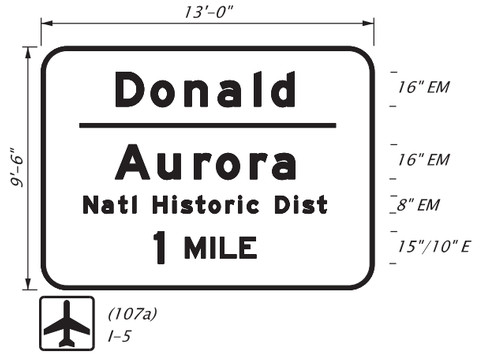
W14-2aL
Sign No. 103

W14-2aR
Sign No. 104

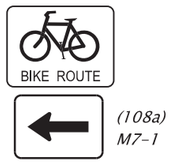
W14-2
Sign No. 105



OM4-2
Sign No. 106



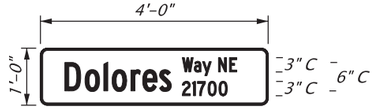
Sign No. 107



D11-1
Sign No. 108

R9-9 Mod.
Sign No. 109

R2-1
Sign No. 110
Speed Limit to be determined by investigation prior to installation



Sign No. 111

W4-4aLP
Sign No. 112

W4-4aRP
Sign No. 113

W4-4bP
Sign No. 114

HWY:
M.P.:

UNIT FILE CODE
21722

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:29:13-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

OREGON DEPARTMENT OF TRANSPORTATION

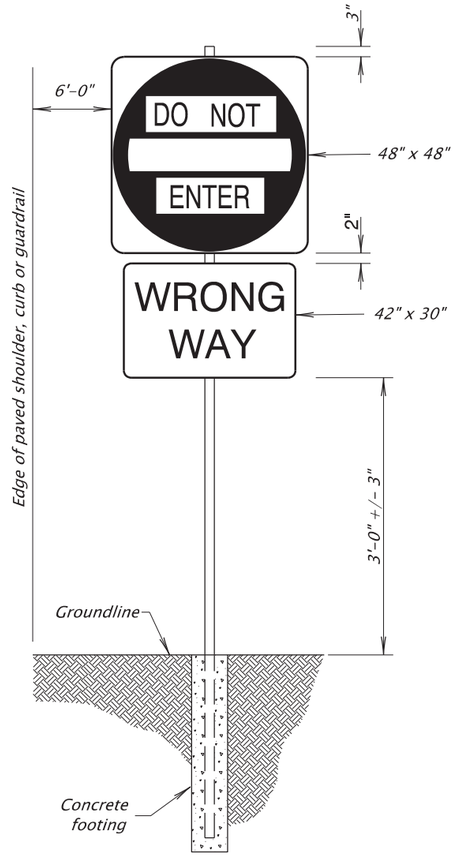
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

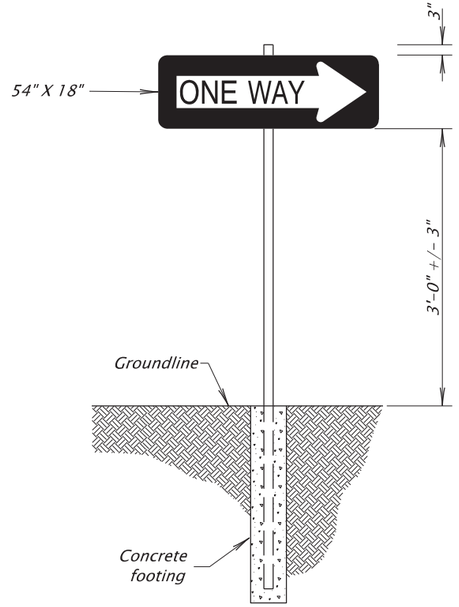
SIGN DETAILS

SHEET NO.
LB05

SIGNING DETAILS



LOW MOUNT "DO NOT ENTER" AND
"WRONG WAY" SIGN INSTALLATION



LOW MOUNT "ONE WAY" SIGN INSTALLATION

HWY: 001
M.P.: 279.14-277.71

UNIT FILE CODE
21723

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:29:47-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

OREGON DEPARTMENT OF TRANSPORTATION

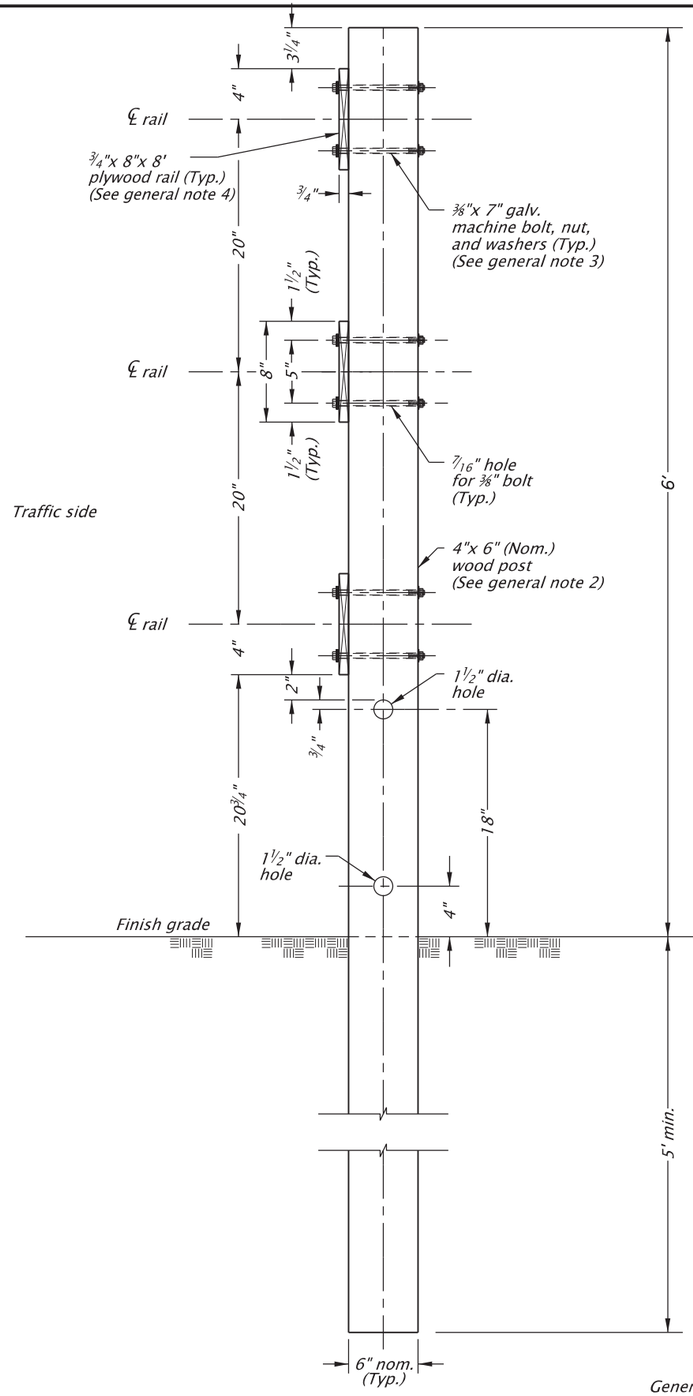
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGN DETAILS

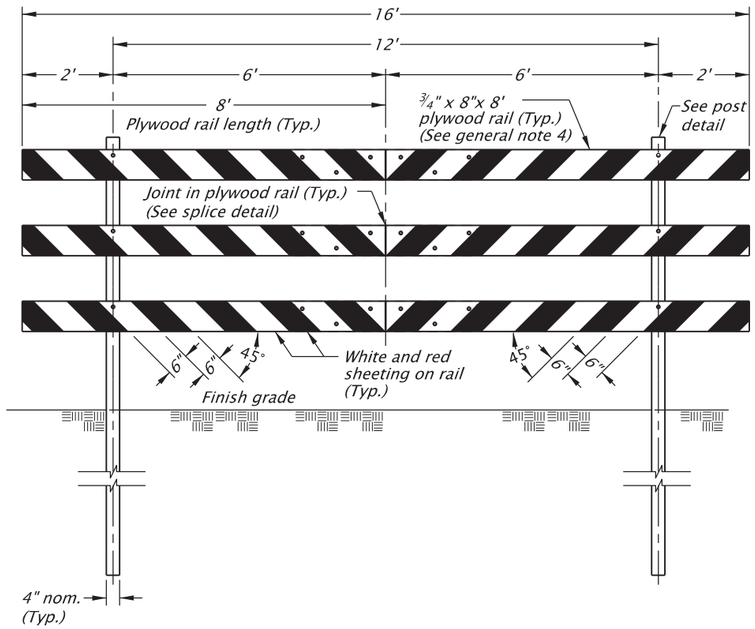
SHEET NO.
LB06

SIGNING DETAILS



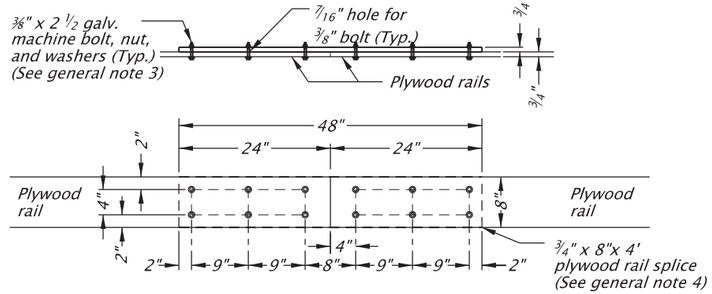
RIGHT SIDE VIEW

POST DETAIL



FRONT VIEW

SINGLE BARRICADE



SPLICE DETAIL

General Notes:

1. *Post spacing shall not be less than 7' center to center.*
2. *Wood posts shall comply with the requirements for wood post sign supports per drg. no. TM670.*
3. *Bolt, nuts, & washers shall comply with the requirements for sign attachments per drg. no. TM676.*
4. *Plywood rails & splices shall comply with the requirements for permanent signing plywood.*

HWY: 001
M.P.: 279.14-277.71
UNIT FILE CODE
21724
DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:30:18-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGN DETAILS

SHEET NO.
LB07

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS WIDTH	SIGN DIMENSIONS HEIGHT	SUBSTRATE PLYWOOD	SUBSTRATE SHEET ALUMINUM	SUBSTRATE EXTRUDED ALUM.	COLOR 1/ BACKGROUND ASTM TYPE III or TYPE IV	COLOR 1/ BACKGROUND ASTM TYPE IX OR TYPE XI	COLOR 1/ LEGEND ASTM TYPE III or TYPE IV	COLOR 1/ LEGEND ASTM TYPE IX OR TYPE XI	COLOR 1/ LEGEND NON-REFLECTIVE	LEGEND PERMANENT	LEGEND DEMOUNTABLE (TM230-TM233)	SIGN NO. 2/
1	"ER" 70+41 RT	36"	36"		✓		R		W			✓		1
	"EW" 71+78 RT	36"	36"		✓		R		W			✓		
	"EW" 72+73 RT	36"	36"		✓		R		W			✓		
	"EW" 76+46 RT	36"	36"		✓		R		W			✓		
	"EW" 78+03 LT	36"	36"		✓		R		W			✓		
	"EW" 77+68 RT	36"	36"		✓		R		W			✓		
	"DW" 10+89 RT	36"	36"		✓		R		W			✓		
	"DW" 1+45 LT	36"	36"		✓		R		W			✓		
2	"ER" 86+51 LT	36"	36"		✓		W		R			✓		2
	"ER" 87+16 LT	36"	36"		✓		W		R			✓		
	"ER" 89+58 RT	36"	36"		✓		W		R			✓		
	"ER" 90+11 RT	36"	36"		✓		W		R			✓		
5	"ER" 70+27 LT	24"	24"		✓		W		R		BK	✓		5
6	"ER" 70+41 RT	30"	36"		✓		W				BK	✓		6
7	"BR" 16+83 LT	30"	30"		✓		W				BK	✓		7
10	"C2" 798+76 RT	42"	36"		✓		W				BK	✓		10
12	"BR" 15+78 LT	48"	30"		✓		W				BK	✓		12
13	"BR" 11+45 RT	48"	30"		✓		W				BK	✓		13
14	"ER" 73+45 RT	48"	30"		✓		W				BK	✓		14
16	"ER" 82+28 LT	66"	30"		✓		W				BK	✓		16
17	"ER" 80+76 C	24"	30"		✓		W				BK	✓		17
	"ER" 84+85 C	24"	30"		✓		W				BK	✓		
	"ER" 91+34 C	24"	30"		✓		W				BK	✓		
	"ER" 95+78 C	24"	30"		✓		W				BK	✓		
18	"ER" 86+40 C	24"	30"		✓		W				BK	✓		18
	"ER" 89+93 C	24"	30"		✓		W				BK	✓		
19	"C2" 810+81 LT	48"	48"		✓		W			R		✓		19
	"C2" 810+81 RT	48"	48"		✓		W			R		✓		
	"B2" 813+49 LT	48"	48"		✓		W			R		✓		
	"B2" 813+54 RT	48"	48"		✓		W			R		✓		
	"ER" 84+50 RT	48"	48"		✓		W			R		✓		
	"ER" 85+24 RT	48"	48"		✓		W			R		✓		
	"ER" 85+96 RT	48"	48"		✓		W			R		✓		

SIGN NO.	SIGN LOCATION	WOOD POST (TM670-TM671,TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT	SECONDARY SIGN (TM676 & TM678) C 4X5.4	SECONDARY SIGN C 4X7.25	SECONDARY SIGN LENGTH	POST SIZE (BASED ON ESTIMATED LENGTH)	POST LENGTH (MUST BE FIELD VERIFIED)	FOOTING LOCATION 3/	FOOTING MIN. DEPTH 5/	REMARKS
1	"ER" 70+41 RT	✓																				4"x6"	16.0'	3.5'	5.0'	3/ EDGE OF PAVEMENT
	"EW" 71+78 RT	✓																				6"x6"	20.0'	3.5'	5.0'	3/ EDGE OF PAVEMENT
	"EW" 72+73 RT	✓																				4"x6"	18.0'	3.5'	5.0'	3/ EDGE OF PAVEMENT
	"EW" 76+46 RT	✓																				4"x6"	18.0'	3.5'	5.0'	3/ EDGE OF PAVEMENT
	"EW" 78+03 LT		✓																			2.5" – 12ga.	11'-6"	3.0'	2.8'	3/ BACK OF WALK
	"EW" 77+68 RT	✓																				4"x6"	16.0'	3.5'	5.0'	3/ FACE OF CURB
	"DW" 10+89 RT	✓																				4"x6"	18.0'	3.5'	5.0'	3/ EDGE OF PAVEMENT
	"DW" 1+45 LT	✓																				4"x6"	18.0'	7.5'	5.0'	3/ EDGE OF PAVEMENT
2	"ER" 86+51 LT		✓																			2" – 12ga.	11'-0"	3.5'	2.8'	3/ FACE OF CURB
	"ER" 87+16 LT		✓																			2" – 12ga.	11'-0"	3.5'	2.8'	3/ FACE OF CURB
	"ER" 89+58 RT		✓																			2" – 12ga.	11'-0"	3.5'	2.8'	3/ FACE OF CURB
	"ER" 90+11 RT		✓																			2" – 12ga.	11'-0"	3.5'	2.8'	3/ FACE OF CURB
5	"ER" 70+27 LT	✓																				4"x4"	16.0'	7.0'	4.0'	3/ EDGE OF PAVEMENT
6	"ER" 70+41 RT																									INSTALL BELOW SIGN 1
7	"BR" 16+83 LT	✓																				4"x4"	16.0'	7.3'	4.0'	3/ EDGE OF PAVEMENT
10	"C2" 798+76 RT		✓																			2.5" – 12ga.	13'-0"	7.8'	2.8'	3/ FACE OF GUARDRAIL
12	"BR" 15+78 LT	✓																				4"x6"	18.0'	8.0'	5.0'	3/ EDGE OF PAVEMENT
13	"BR" 11+45 RT	✓																				4"x6"	18.0'	8.0'	5.0'	3/ EDGE OF PAVEMENT
14	"ER" 73+45 RT	✓																				4"x6"	16.0'	8.0'	5.0'	3/ EDGE OF PAVEMENT
16	"ER" 82+28 LT		✓																			2.5" & 2.25" – 12ga.	11'-0"	8.8'	2.8'	3/ EDGE OF PAVEMENT
17	"ER" 80+76 C		✓																			2" – 12ga.	11'-0"	6.0'	2.8'	3/ FACE OF CURB
	"ER" 84+85 C		✓																			2" – 12ga.	11'-0"	6.0'	2.8'	3/ FACE OF CURB
	"ER" 91+34 C		✓																			2" – 12ga.	11'-0"	6.0'	2.8'	3/ FACE OF CURB
	"ER" 95+78 C		✓																			2" – 12ga.	11'-0"	6.0'	2.8'	3/ FACE OF CURB
18	"ER" 86+40 C		✓																			2" – 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB
	"ER" 89+93 C		✓																			2" – 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB
19	"C2" 810+81 LT																									INSTALL OPPOSITE SIGN 28
	"C2" 810+81 RT		✓																			2.5" & 2.25" – 12ga.	11'-0"	8.0'	2.8'	3/ FACE OF BARRIER
	"B2" 813+49 LT		✓																			2.5" & 2.25" – 12ga.	11'-0"	8.0'	2.8'	3/ FACE OF CURB
	"B2" 813+54 RT																									INSTALL OPPOSITE SIGN 28
	"ER" 84+50 RT		✓																			2.5" & 2.25" – 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB
	"ER" 85+24 RT		✓																							INSTALL OPPOSITE SIGN 39
	"ER" 85+96 RT		✓																			2.5" & 2.25" – 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.

L=LEFT POST
C=CENTER POST
R=RIGHT POST

3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601 AND TM602.

HWY: 001
M.P.: 279.14-277.71

UNIT FILE CODE
21725

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.12.19 14:34:41-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart | Reviewer: S. Boice
Drafter: K. Jackson | Checker: S. Boice

SIGN & POST DATA TABLE

SHEET NO.
LC01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/					LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																						POST		FOOTING		REMARKS
							BACKGROUND		LEGEND																										SECONDARY SIGN (TM676 & TM678)								
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM.	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	NON-REFLECTIVE	PERMANENT	DEMOUNTABLE (TM230-TM233)		WOOD POST (TM670-TM671,TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT	C 4X5.4	C 4X7.25	LENGTH	SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)	LOCATION 3/	MIN. DEPTH 5/	
19	"ER" 86+82 RT	48"	48"		✓		W			R		✓		19		✓																					2.5" & 2.25" - 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB
	"ER" 89+53 LT	48"	48"		✓		W			R		✓				✓																					2.5" & 2.25" - 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB
	"ER" 90+35 LT	48"	48"		✓		W			R		✓				✓																					2.5" & 2.25" - 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF CURB
20	"C2" 809+81 LT	42"	30"		✓		R			R		✓		20		✓																					2.5" & 2.25" - 12ga.	11'-0"	4.0'	2.8'	3/ EDGE OF PAVEMENT
	"C2" 809+81 RT	42"	30"		✓		R			R		✓				✓																					2.5" & 2.25" - 12ga.	11'-0"	4.0'	2.8'	3/ FACE OF BARRIER
21	"ER" 70+27 LT	36"	12"		✓		W				BK	✓		21																										INSTALL PERPENDICULAR TO SIGN 5
23	"EW" 82+78 RT	12"	18"		✓		W		R			✓		23	✓																						4"x6"	16.0'	2.0'	5.0'	3/ FACE OF CURB
24	"EW" 81+91 LT	12"	18"		✓		W		R			✓		24	✓																						4"x6"	16.0'	2.0'	5.0'	3/ FACE OF CURB
25	"ER" 77+62 LT	24"	12"		✓		BL		W			✓		25						✓																				
25a		24"	24"		✓		RB		W			✓		25a						✓																				
25b		21"	15"		✓		BL		W			✓		25b						✓																				
26	"ER" 105+39 LT	36"	36"		✓		Y				BK	✓		26	✓																						4"x6"	20.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
26a		36"	8"		✓		Y				BK	✓		26a																										
27	"DW" 8+31 RT	36"	36"		✓		Y				BK	✓		27	✓																						4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
	"DW" 3+94 LT	36"	36"		✓		Y				BK	✓			✓																						4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
28	"C2" 810+81 LT	36"	36"		✓		Y				BK	✓		28		✓																					2.5" & 2.25" - 12ga.	11'-0"	8.0'	2.8'	3/ FACE OF CURB
	"B2" 813+54 RT	36"	36"		✓		Y				BK	✓				✓																					2.5" & 2.25" - 12ga.	11'-0"	8.0'	2.8'	3/ FACE OF CURB
29	"C2" 808+26 RT	36"	36"		✓		Y				BK	✓		29		✓																					2.5" - 12ga.	12'-10"	8.2'	2.8'	3/ FACE OF BARRIER
	"B2" 816+45 LT	36"	36"		✓		Y				BK	✓				✓																					2.5" - 12ga.	12'-10"	8.2'	2.8'	3/ FACE OF CURB
	"ER" 71+12 RT	36"	36"		✓		Y				BK	✓					✓																					4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
	"BR" 18+77 LT	(36")	(36")													✓																					4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
	"ER" 94+73 LT	36"	36"		✓		Y				BK	✓				✓																					4"x6"	18.0'	7.7'	5.0'	3/ EDGE OF PAVEMENT
30	"ER" 76+12 LT	78"	21"		✓		G			W		✓		30								✓																		SEE SIGNAL PLANS
	"ER" 78+02 RT	78"	21"		✓		G			W		✓										✓																		SEE SIGNAL PLANS
31	"ER" 76+29 RT	78"	21"		✓		G			W		✓		31								✓																		SEE SIGNAL PLANS
	"ER" 77+62 LT	78"	21"		✓		G			W		✓										✓																		SEE SIGNAL PLANS
32	"RW" 799+81 LT	36"	36"		✓		Y				BK	✓		32		✓																					2.5" - 12ga.	12'-10"	10.2'	2.8'	3/ EDGE OF PAVEMENT
	"D2" 823+47 LT	36"	36"		✓		Y				BK	✓				✓																					2.5" - 12ga.	14'-2"	8.2'	2.8'	3/ EDGE OF PAVEMENT
33	"A2" 808+59 RT	36"	36"		✓		Y				BK	✓		33		✓																					2.5" - 12ga.	12'-10"	10.7'	2.8'	3/ FACE OF CURB
	"D2" 815+33 LT	36"	36"		✓		Y				BK	✓				✓																					2.5" - 12ga.	14'-2"	8.2'	2.8'	3/ EDGE OF PAVEMENT
	"ER" 91+88 RT	36"	36"		✓		Y				BK	✓				✓																					2.5" - 12ga.	14'-2"	8.2'	2.8'	3/ FACE OF CURB
34	"ER" 75+41 LT	36"	36"		✓		Y				BK	✓		34	✓																					4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L=LEFT POST
C=CENTER POST
R=RIGHT POST

3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601 AND TM602.

HWY: 001
M.P.: 279.14-277.71
UNIT FILE CODE 21726
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER 74,348
Digitally Signed 2023.12.18 10:41:57-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGN & POST DATA TABLE

SHEET NO. LC02

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/						LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																						POST		FOOTING		REMARKS
							BACKGROUND		LEGEND																												SECONDARY SIGN (TM676 & TM678)								
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM.	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	NON-REFLECTIVE	PERMANENT	DEMOUNTABLE (TM230-TM233)		WOOD POST (TM670-TM671,TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT	C 4X5.4	C 4X7.25	LENGTH	SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)	LOCATION 3/	MIN. DEPTH 5/	
35	"D2" 813+43 LT	36"	36"		✓		Y				BK	✓		35		✓																					2.5" - 12ga.	13'-0"	4.2'	2.8'	3/ FACE OF CURB
	"A2" 810+98 RT	36"	36"		✓		Y				BK	✓				✓																					2.5" - 12ga.	13'-0"	4.2'	2.8'	3/ FACE OF CURB
36	"EW" 62+56 RT	36"	36"		✓		Y				BK	✓		36	✓																					4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
37	"EW" 82+97 LT	12"	18"		✓		W		R			✓		37	✓																					4"x6"	16.0'	2.0'	5.0'	3/ FACE OF CURB
	"EW" 82+78 LT	12"	18"		✓		W		R			✓			✓																					4"x6"	16.0'	2.0'	5.0'	3/ FACE OF CURB
38	"EW" 78+16 LT	36"	36"		✓		Y				BK	✓		38	✓																					4"x6"	20.0'	4.2'	5.0'	3/ BACK OF WALK
38a		24"	12"		✓		Y				BK	✓		38a																										
38	"ER" 85+11 RT	36"	36"		✓		Y				BK	✓		38		✓																					2.5" - 10ga.	12'-7"	4.2'	2.8'	3/ EDGE OF PAVEMENT
38a		24"	12"		✓		Y				BK	✓		38a																										
38	"A2" 811+84 LT	36"	36"		✓		Y				BK	✓		38		✓																					2.5" & 2.25" - 12ga.	13'-1"	4.2'	2.8'	3/ EDGE OF PAVEMENT
38a		24"	12"		✓		Y				BK	✓		38a																										
39	"ER" 85+24 RT	36"	36"		✓		Y				BK	✓		39		✓																					2.5" & 2.25" - 12ga.	12'-7"	4.2'	2.8'	3/ BACK OF WALK
39a		24"	12"		✓		Y				BK	✓		39a																										
39	"A2" 811+88 RT	36"	36"		✓		Y				BK	✓		39		✓																					2.5" - 10ga.	12'-7"	4.2'	2.8'	3/ FACE OF CURB
39a		24"	12"		✓		Y				BK	✓		39a																										
40	"C2" 796+70 RT	36"	48"		✓		Y				BK	✓		40		✓																					2.5" - 10ga.	12'-10"	7.5'	2.8'	3/ FACE OF GUARDRAIL
41	"EW" 71+24 LT	36"	36"		✓		Y				BK	✓		41	✓																					4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
	"EW" 78+49 RT	36"	36"		✓		Y				BK	✓			✓																					4"x6"	18.0'	4.2'	5.0'	3/ EDGE OF PAVEMENT
	"D" 4+32 LT	36"	36"		✓		Y				BK	✓			✓																					4"x6"	18.0'	4.2'	5.0'	3/ BACK OF WALK
	"D" 2+36 LT	36"	36"		✓		Y				BK	✓			✓																					4"x6"	18.0'	4.2'	5.0'	3/ BACK OF WALK
42	"EW" 77+68 RT	(24")	(6")											42																										
43	"EW" 71+78 RT	24"	6"		✓		Y				BK	✓		43																										INSTALL ABOVE SIGN 1
	"EW" 77+68 RT	24"	6"		✓		Y				BK	✓																												
	"DW" 1+45 LT	24"	6"		✓		Y				BK	✓																												INSTALL ABOVE SIGN 1
44	SEE SHEET LA01	24"	12"		✓		BL		W			✓		44		✓																					2" - 12ga.	13'-6"	7.0'	2.8'	3/ EDGE OF PAVEMENT
44a		24"	24"		✓		RB		W			✓		44a																										
45	"ER" 68+97 RT	24"	12"		✓		BL		W			✓		45	✓																					4"x6"	18.0'	7.0'	5.0'	3/ EDGE OF PAVEMENT
45a		24"	24"		✓		RB		W			✓		45a																										
45b		21"	15"		✓		BL		W			✓		45b																										
45	"ER" 78+02 RT	24"	12"		✓		BL		W			✓		45					✓																					
45a		24"	24"		✓		RB		W			✓		45a					✓																					
45b		21"	15"		✓		BL		W			✓		45b					✓																					
46	"ER" 100+41 LT	24"	12"		✓		BL		W			✓		46	✓																					4"x6"	18.0'	3.0'	5.0'	3/ EDGE OF PAVEMENT
46a		24"	24"		✓		RB		W			✓		46a																										
46b		21"	15"		✓		BL		W			✓		46b																										

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L=LEFT POST
C=CENTER POST
R=RIGHT POST

3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601 AND TM602.

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:33:03-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HWY: 001
M.P.: 279.14-277.71
UNIT FILE CODE: 21727
DFI/TSSU NO.: N/A

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart | Reviewer: S. Boice
Drafter: K. Jackson | Checker: S. Boice

SIGN & POST DATA TABLE

SHEET NO. LC03

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/				LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																			POST		FOOTING		REMARKS
							BACKGROUND		LEGEND																		SECONDARY SIGN (TM676 & TM678)						SIZE	LENGTH	LOCATION 3/	MIN. DEPTH 5/	
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM.	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	NON-REFLECTIVE	PERMANENT	DEMOUNTABLE (TM230-TM233)		WOOD POST (TM670-TM671,TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT	C 4X5.4	C 4X7.25	LENGTH	(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)			
46	"ER" 76+29 RT	24"	12"		✓		BL		W			✓		46							✓														
46a		24"	24"		✓		RB		W			✓		46a							✓														
46b		21"	15"		✓		BL		W			✓		46b							✓														
47	"BR" 19+71 LT	24"	12"		✓		BL		W			✓		47	✓																		4"x6"	18.0'	7.0'	5.0'	3/ EDGE OF PAVEMENT
47a		24"	24"		✓		RB		W			✓		47a																					
47b		21"	15"		✓		BL		W			✓		47b																					
48	"EW" 76+58 LT	48"	12"		✓		G		W			✓		48																					
	"EW" 76+58 LT	48"	12"		✓		G		W			✓																							
	"EW" 77+68 RT	48"	12"		✓		G		W			✓																							
	"EW" 77+68 RT	48"	12"		✓		G		W			✓																							
50	"EW" 77+68 RT	(48")	(24")											50																					
51	"EW" 77+68 RT	(48")	(24")											51																					
52	"BR" 17+75 LT	(48")	(24")											52	✓																		4"x6"	16.0'	8.0'	5.0'	3/ EDGE OF PAVEMENT
53	"ER" 72+11 RT	(60")	(36")											53	✓																		6"x6"	18.0'	8.5'	5.0'	3/ EDGE OF PAVEMENT
54	"C2" 811+79 LT	78"	42"			✓	G		W				✓	54			✓																TS 3x3x3/16	10.1'	7.5'		3/ FACE OF CURB
55	"B2" 812+75 LT	78"	42"			✓	G		W				✓	55			✓																		7.5'		3/ FACE OF CURB
56	"ER" 86+38 RT	78"	42"			✓	G		W				✓	56			✓																		7.0'		3/ FACE OF CURB
57	"A2T" 811+30 LT	90"	42"			✓	G		W				✓	57			✓																TS 3.5x3.5x3/16	10.1'	5.8'		3/ FACE OF CURB
60	"C2" 807+02 LT	11'-6"	3'-6"			✓	BR		W				✓	60			✓																TS 5x5x3/16	9.1'	11.8'		3/ FACE OF CURB
61	"C2" 808+96 LT	11'-0"	7'-0"			✓	G/BR		W				✓	61			✓																TS 6x6x3/16	11.1'	11.5'		3/ FACE OF CURB
66	"ER" 96+06 LT	8'-6"	13'-0"			✓	G		W				✓	66L					✓														W6x15	22.0'	7.75'		3/ EDGE OF PAVEMENT
														66R					✓														W6x15	23.5'	12.85'		3/ EDGE OF PAVEMENT
67	"ER" 78+95 RT	8'-6"	13'-0"			✓	G		W				✓	67L					✓														W6x15	22.0'	7.75'		3/ EDGE OF PAVEMENT
														67R					✓														W6x15	23.5'	12.85'		3/ EDGE OF PAVEMENT
70	"C2" 794+61 RT	16'-6"	7'-6"			✓	G			W			✓	70										✓											SEE SHEET LD01 FOR MOUNTING DETAILS.
70a		10'-0"	2'-6"			✓	G			W			✓	70a																					
71	"ER" 87+79 LT	26'-6"	7'-6"			✓	G			W			✓	71									✓												MOUNT ON STRUCTURE NO. 24041

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L=LEFT POST
C=CENTER POST
R=RIGHT POST

3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601 AND TM602.

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:33:49-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
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OREGON DEPARTMENT OF TRANSPORTATION

HWY: 001
M.P.: 279.14-277.71
UNIT FILE CODE 21728
DFI/TSSU NO. N/A

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

SIGN & POST DATA TABLE
SHEET NO. LC04

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/					LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																						POST		FOOTING		REMARKS
							BACKGROUND		LEGEND																																
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM.	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	NON-REFLECTIVE	PERMANENT	DEMOUNTABLE (TM230-TM233)		WOOD POST (TM670-TM671,TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT	SECONDARY SIGN (TM676 & TM678) C 4X5.4	SECONDARY SIGN (TM676 & TM678) C 4X7.25	SECONDARY SIGN (TM676 & TM678) LENGTH	SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)	LOCATION 3/	MIN. DEPTH 5/	
72	"ER" 88+99 RT	26'-6"	7'-6"			✓	G			W			✓	72									✓																MOUNT ON STRUCTURE NO. 24041
73	"ER" 93+29 LT	11'-6"	6'-0"			✓	G			W			✓	73			✓																				TS 6x6x3/16	11.6'	11.8'		3/ EDGE OF PAVEMENT
74	"ER" 82+87 RT	11'-6"	6'-0"			✓	G			W			✓	74			✓																					11.8'		3/ EDGE OF PAVEMENT
75	"C2" 798+47 LT	96"	60"			✓	G		W				✓	75			✓																				TS 5x5x3/16	13.6'	8.0'		3/ FACE OF CURB
79	"ER" 75+41 LT	(48")	(84")											79	✓																						6"x8"	22.0'	8.0'	7.0'	3/ EDGE OF PAVEMENT
80	"ER" 67+38 LT	(48")	(42")											80	✓																						6"x6"	18.0'	8.0'	5.0'	3/ EDGE OF PAVEMENT
81	"RW" 793+29 LT	12"	48"		✓		G		W			✓		81															✓									6.5'		3/ EDGE OF PAVEMENT
	"RW" 793+29 RT	12"	48"		✓		G		W			✓																	✓									8.7'		3/ FACE OF GUARDRAIL
84	"C2" 803+00 LT	(60")	(76")											84			✓																				TS 3.5x3.5x3/16	11.6'	8.5'		3/ FACE OF CURB
85	"C2" 805+00 LT	(48")	(48")											85			✓																					8.5'		3/ FACE OF CURB
86	"RW" 786+78 RT	(84")	(90")											86			✓																				TS 6x6x3/16	15.8'	9.8'		3/ EDGE OF PAVEMENT
87	SEE SHEET LA01	(228")	(120")											87			✓																				TS 6x6x3/16	16.3'	10.0'		3/ EDGE OF PAVEMENT
88	SEE SHEET LA01	(102")	(108")											88			✓																				TS 8x8x3/16	18.1'	10.3'		3/ EDGE OF PAVEMENT
89	"BR" 10+56 LT	24"	18"		✓		W				BK	✓		89																		✓					1.0'		3/ FACE OF CURB
	"BR" 10+56 LT	24"	18"		✓		W				BK	✓																												INSTALL OPPOSITE SIGN 89
	"BR" 10+31 RT	24"	18"		✓		W				BK	✓																				✓					1.0'		3/ FACE OF CURB
	"BR" 10+31 RT	24"	18"		✓		W				BK	✓																												INSTALL OPPOSITE SIGN 89
91	"ER" 72+53 LT	(42")	(36")											91	✓																						4"x6"	18.0'	8.2'	5.0'	3/ EDGE OF PAVEMENT
93	"B2" 823+93 LT	42"	36"		✓		W				BK	✓		93																										
94	"ER" 83+94 LT	60"	36"		✓		G		W			✓		94		✓																						2.5" & 2.25" - 12ga.	11'-6"	8.5'	2.8'	3/ EDGE OF PAVEMENT
96	"C2" 812+50 LT	24"	30"		✓		W				BK	✓		96		✓																					2" - 12ga.	11'-0"	3.0'	2.8'	3/ FACE OF CURB
	"B2" 812+77 LT	24"	30"		✓		W				BK	✓				✓																					2" - 12ga.	11'-0"	3.0'	2.8'	3/ FACE OF CURB
	"ER" 90+35 LT	24"	30"		✓		W				BK	✓																												INSTALL OPPOSITE SIGN 19
	"ER" 86+38 RT	24"	30"		✓		W				BK	✓																												INSTALL BELOW SIGN 56
97	"C2" 812+50 RT	24"	30"		✓		W				BK	✓		97		✓																					2" - 12ga.	11'-0"	3.0'	2.8'	3/ FACE OF CURB
	"B2" 812+77 RT	24"	30"		✓		W				BK	✓				✓																					2" - 12ga.	11'-0"	3.0'	2.8'	3/ FACE OF CURB
	"ER" 86+82 RT	24"	30"		✓		W				BK	✓																												INSTALL OPPOSITE SIGN 19
	"ER" 89+68 LT	24"	30"		✓		W				BK	✓				✓																					2" - 12ga.	11'-0"	3.0'	2.8'	3/ FACE OF CURB

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
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RB=RED-BLUE
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2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L=LEFT POST
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3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

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REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.27 12:50:06-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

SIGN & POST DATA TABLE

SHEET NO. LC05

HWY: 001	
M.P.: 279.14-277.71	
UNIT FILE CODE	21729
DFI/TSSU NO.	N/A

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/						LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																						POST		FOOTING		REMARKS
							BACKGROUND		LEGEND																																	
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM.	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	ASTM TYPE III or TYPE IV	ASTM TYPE IX OR TYPE XI	NON-REFLECTIVE	PERMANENT	DEMOUNTABLE (TM230-TM233)		WOOD POST (TM670-TM671,TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT	SECONDARY SIGN (TM676 & TM678) C 4X5.4	SECONDARY SIGN (TM676 & TM678) C 4X7.25	SECONDARY SIGN (TM676 & TM678) LENGTH	SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)	LOCATION 3/	MIN. DEPTH 5/	
99	"ER" 102+63 RT	(36")	(60")												99	✓																						6"x6"	20.0'	7.5'	5.0'	3/ EDGE OF PAVEMENT
102	"DW" 1+61 LT	48"	8"		✓		G			W		✓			102																										INSTALL ABOVE SIGN 1
103	"DW" 10+89 RT	36"	8"		✓		Y				BK	✓			103																										INSTALL BELOW SIGN 102
104	"DW" 10+89 RT	36"	8"		✓		Y				BK	✓			104																										INSTALL BELOW SIGN 102
105	"DW" 10+48 LT	36"	36"		✓		Y				BK	✓			105	✓																						4"x6"	18.0'	4.2'	5.0'	3/ EDGE OF PAVEMENT
107	SEE SHEET LA01	13'-0"	9'-6"			✓	G		W				✓		107																										INSTALL ON EXISTING SIGN SUPPORT
107a		24"	24"		✓		G		W			✓			107a																										
108	"EW" 84+66 LT	12"	18"		✓		W				BK	✓			108		✓																						2" - 12ga.	1'-9"	11.6'	2.8'	3/ FACE OF CURB
108a		12"	9"		✓		W				BK				108a																										
108	"ER" 92+20 LT	12"	18"		✓		W				BK	✓			108		✓																						2" - 12ga.	1'-9"	7.5'	2.8'	3/ EDGE OF PAVEMENT
108a		12"	9"		✓		W				BK				108a																										
109	"ER" 85+96 RT	30"	18"		✓		W				BK	✓			109		✓																						2" - 12ga.	1'-0"	4.0'	2.8'	3/ FACE OF CURB
	"EW" 77+98 LT	30"	18"		✓		W				BK	✓					✓																						2" - 12ga.	1'-0"	5.0'	2.8'	3/ FACE OF PAVEMENT
	"ER" 94+74 RT	30"	18"		✓		W				BK	✓					✓																						2" - 12ga.	1'-0"	6.3'	2.8'	3/ EDGE OF PAVEMENT
110	"EW" 63+56 RT	30"	36"		✓		W				BK	✓			110	✓																						4"x6"	18.0'	7.25'	5.0'	3/ EDGE OF PAVEMENT
	"EW" 63+56 LT	30"	36"		✓		W				BK	✓				✓																						4"x6"	18.0'	7.25'	5.0'	3/ EDGE OF PAVEMENT
	"ER" 107+00 RT	30"	36"		✓		W				BK	✓				✓																						4"x6"	18.0'	7.25'	5.0'	3/ EDGE OF PAVEMENT
	"ER" 107+00 LT	30"	36"		✓		W				BK	✓				✓																						4"x6"	18.0'	7.25'	5.0'	3/ EDGE OF PAVEMENT
	"ER" 117+00 RT	30"	36"		✓		W				BK	✓				✓																						4"x6"	18.0'	7.25'	5.0'	3/ EDGE OF PAVEMENT
	"ER" 117+00 LT	30"	36"		✓		W				BK	✓				✓																						4"x6"	18.0'	7.25'	5.0'	3/ EDGE OF PAVEMENT
111	"DW" 10+89 RT	48"	12"		✓		G		W			✓			111																										INSTALL PERPENDICULAR TO SIGN 1
	"DW" 10+89 RT	48"	12"		✓		G		W			✓																													INSTALL PERPENDICULAR TO SIGN 1
112	"EW" 76+46 RT	24"	12"		✓		Y				BK	✓			112																										INSTALL BELOW SIGN 1
113	"EW" 78+03 LT	24"	12"		✓		Y				BK	✓			113																										INSTALL BELOW SIGN 1
114	"EW" 77+68 RT	24"	12"		✓		Y				BK	✓			114																										INSTALL BELOW SIGN 1

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L=LEFT POST
C=CENTER POST
R=RIGHT POST

3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE DRAWINGS TM601 AND TM602.

REGISTERED PROFESSIONAL ENGINEER
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JUNE 12, 2013
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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

HWY: 001	
M.P.: 279.14-277.71	
UNIT FILE CODE: 21730	
DFI/TSSU NO.: N/A	
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

SIGN & POST DATA TABLE

SHEET NO. LC06

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

LEGEND

- W — *Inst. 4" white line*
- W-2 — *Inst. 8" white line*
- Y — *Inst. 4" yellow line*
- ND — *Inst. narrow double no-pass*
- NDD — *Inst. narrow double dotted no-pass (two 4" dotted yellow lines)*
- CH — *Inst. white chevron bars*
- TM — *Inst. yellow transverse median bars at 20' spacing*
- WD — *Inst. 4" white dotted line*
- YD — *Inst. 4" yellow dotted line*
- WD-2 — *Inst. 8" white dotted line*
- DLL — *Inst. 4" white dotted lane line*
- DLL-2 — *Inst. 8" white dotted lane line*
- D — *Inst. double no-pass*
- YLD — *Inst. yield line (white)*
- SA — *Inst. straight arrow (white)*
- S — *Inst. 12" white stop bar*
- LA — *Inst. left turn arrow (white)*
- RA — *Inst. right turn arrow (white)*
- LSA — *Inst. left turn straight arrow (white)*
- RALA — *Inst. right turn left turn arrow (white)*
- RSLA — *Inst. right turn straight left turn arrow (white)*
- LRA-L — *Inst. lane reduction arrow – left lane ends (white)*
- LRA-R — *Inst. lane reduction arrow – right lane ends (white)*
- WB / R-40 — *Inst. 4" white broken line supplementation*
- W-2 / R-20L — *Inst. 8" white channelizing line positioning guide with reflectors*
- W-2 / R-20R — *Inst. 8" white channelizing line positioning guide with reflectors*
- W-2 / 2R-20L — *Inst. 8" white channelizing line positioning guide with reflectors*
- W-2 / 2R-20R — *Inst. 8" white channelizing line positioning guide with reflectors*
- CW — *Inst. standard crosswalk two 1' white bars*
- CW-SC — *Inst. staggered continental crosswalk*
- TS — *Inst. transverse shoulder bars 1' yellow bars at 20' spacing*
- ND / R-40 — *Inst. narrow double yellow positioning guide*
- ND / R-20 — *Inst. narrow double yellow positioning guide*
- D / R-40 — *Inst. double no-pass positioning guide*
- D / R-20 — *Inst. double no-pass positioning guide*
- Y / R-20 — *Inst. 4" yellow line positioning guide with reflectors*
- NPR / R-40 — *Inst. no-pass right positioning guide with reflectors*

STANDARD DRAWINGS

- ■ *TM500 Pavement Marking Standard Detail Blocks*
- ■ *TM501 Pavement Marking Standard Detail Blocks*
- ■ *TM502 Pavement Marking Standard Detail Blocks*
- ■ *TM503 Pavement Marking Standard Detail Blocks*
- ■ *TM504 Pavement Marking Standard Detail Blocks*
- □ *TM505 Rail Crossing Pavement Markings*
- ■ *TM515 Pavement Markers*
- □ *TM516 Raised Pavement Markers: Freeway Median Crossover*
- ■ *TM517 Recessed Pavement Markers*
- ■ *TM520 Durable Pavement Markings Method 'A' & Method 'D' Surface Installed Profiled*
- ■ *TM521 Durable & High Performance Pavement Markings Surface & Groove Installed Non-Profiled*
- ■ *TM530 Intersection Pavement Markings (Crosswalk, Stop Bar & Bike Lane Stencil)*
- ■ *TM531 Turn Arrow Marking Details*
- ■ *TM539 Median And Left Turn Channelization Details*
- ■ *TM547 Freeway Entrance Ramps Pavement Markings*
- ■ *TM551 Freeway Exit Ramp Pavement Markings*
- ■ *TM560 Alignment Layout: General*
- ■ *TM561 Alignment Layout: Left Turn Lane, Centerline & Medians*
- ■ *TM570 Traffic Delineators*
- ■ *TM571 Traffic Delineators Steel Post Details*
- ■ *TM575 Traffic Delineator Installation for Freeways*
- ■ *TM576 Traffic Delineator Installation for Non-Freeways*
- □ *TM577 Traffic Delineator Installation for Special Applications*

General Notes:

1. *Match points to existing pavement marking and station call-outs are approximate and shall be field verified. Exact locations are to be determined by the Engineer.*
2. *All longitudinal permanent pavement markings along I-5 shall be Method B: Thermoplastic, Wet Weather, Grooved, Non-Profiled except as noted. See Section 00865 in the Special Provisions. All longitudinal pavement markings along Ehlen Rd and Bents Rd shall be Method A: Thermoplastic, Extruded, Profiled except as noted. See Section 00865 of the Special Provisions.*
3. *All pavement bars shall be Type B-HS. See section 00867 in the Special Provisions.*
4. *All reflective pavement markers shall be Type 1. Reflective pavement markers along I-5 shall be recessed per Standard Drawing TM517.*
5. *Install Type 1 traffic delineators at entrance and exit ramp gores per Standard Drawings TM570, TM571, and TM575.*

REGISTERED PROFESSIONAL ENGINEER
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JUNE 12, 2013
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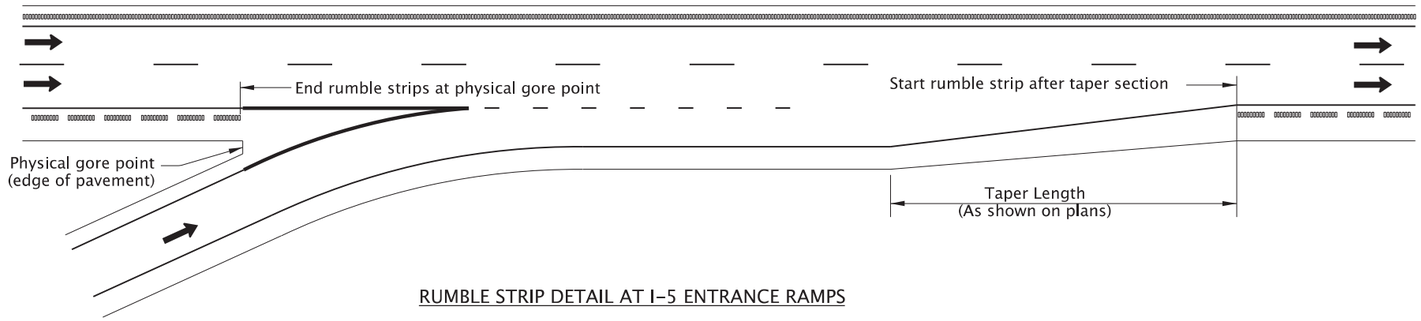
OREGON DEPARTMENT OF TRANSPORTATION

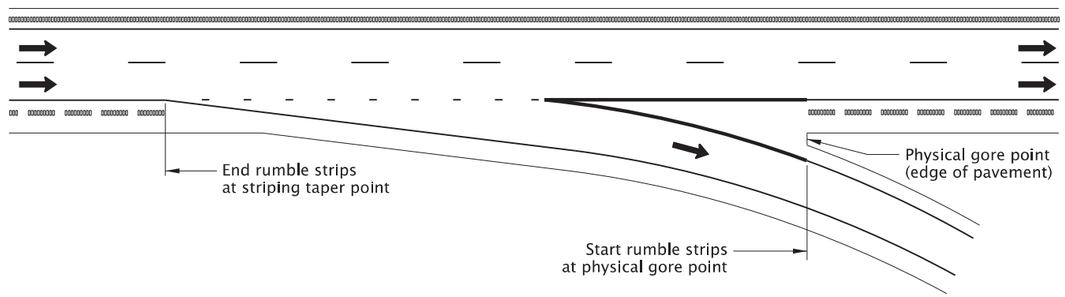
I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

HWY: 001	
M.P.: N/A	
UNIT FILE CODE: N/A	
DFI/TSSU NO.: N/A	
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice
LEGEND	SHEET NO.: QA01

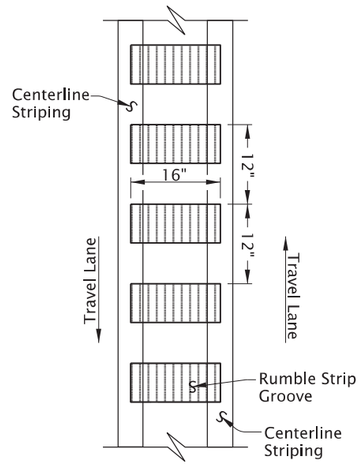
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



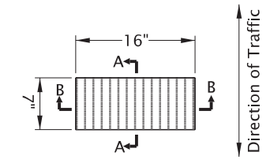
RUMBLE STRIP DETAIL AT I-5 ENTRANCE RAMPS



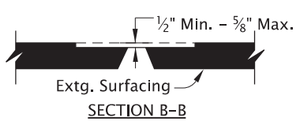
RUMBLE STRIP DETAIL AT I-5 EXIT RAMPS



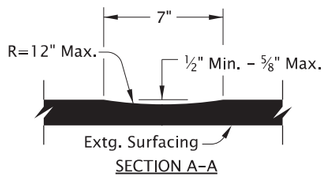
RUMBLE STRIP CONTINUOUS PATTERN
EHLEN RD CENTERLINE INSTALLATION



PLAN

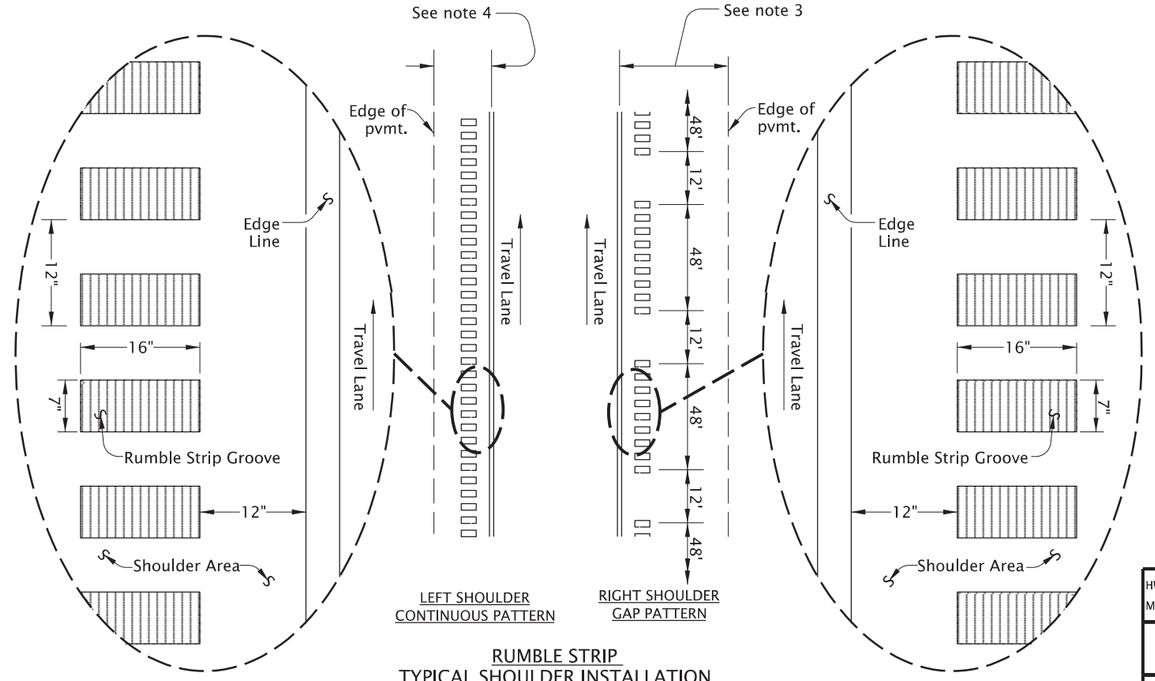


SECTION B-B



SECTION A-A

RUMBLE STRIP GROOVE



LEFT SHOULDER
CONTINUOUS PATTERN

RIGHT SHOULDER
GAP PATTERN

RUMBLE STRIP
TYPICAL SHOULDER INSTALLATION

GENERAL NOTES:

1. Install rumble strips on left and right shoulders as shown.

2. Omit rumble strips:
   - on bridge decks
   - on Portland cement concrete surfaces
   - at interchange ramps as shown
   - other locations as directed

3. Install rumble strips on right-side shoulders with a width of 6.5' or greater (7.5' or greater where adjacent to barrier or guardrail).

4. Install rumble strips on left-side shoulders with a width of 3.5' or greater (5.5' or greater where adjacent to guardrail or barrier).

5. Shoulder width is measured from the center of the edge line to the edge of pavement, or face of guardrail or barrier where present.

6. Drawing not to scale.

LEGEND
- Gap Pattern
- Continuous Pattern

HWY: 001
M.P.: 278.00-279.14

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
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JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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OREGON DEPARTMENT OF TRANSPORTATION

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

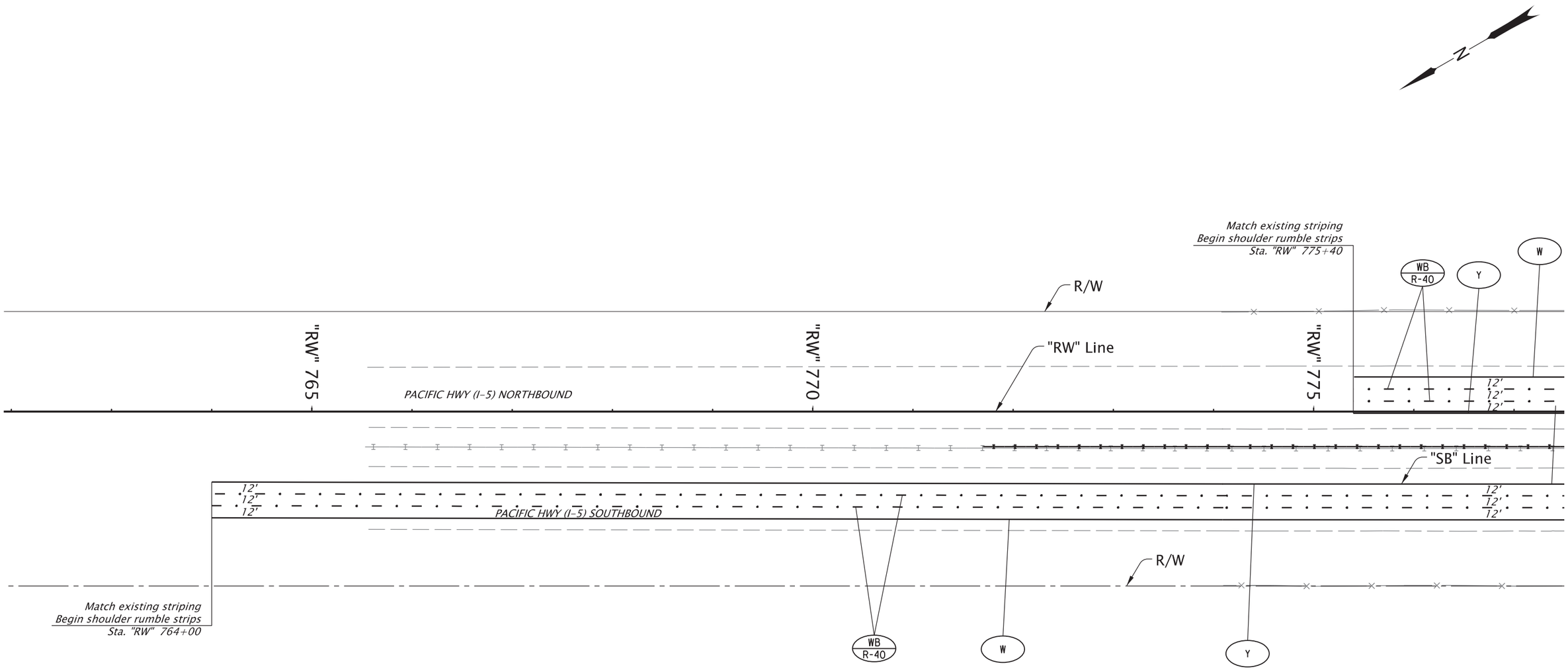
PAVEMENT MARKING DETAILS

SHEET NO.
QA02

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: N/A Scale: N.T.S.

57V-020



NOTE:
See Sheet No. QA01 for Legend

HWY: 001
M.P.: 279.14-278.85

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

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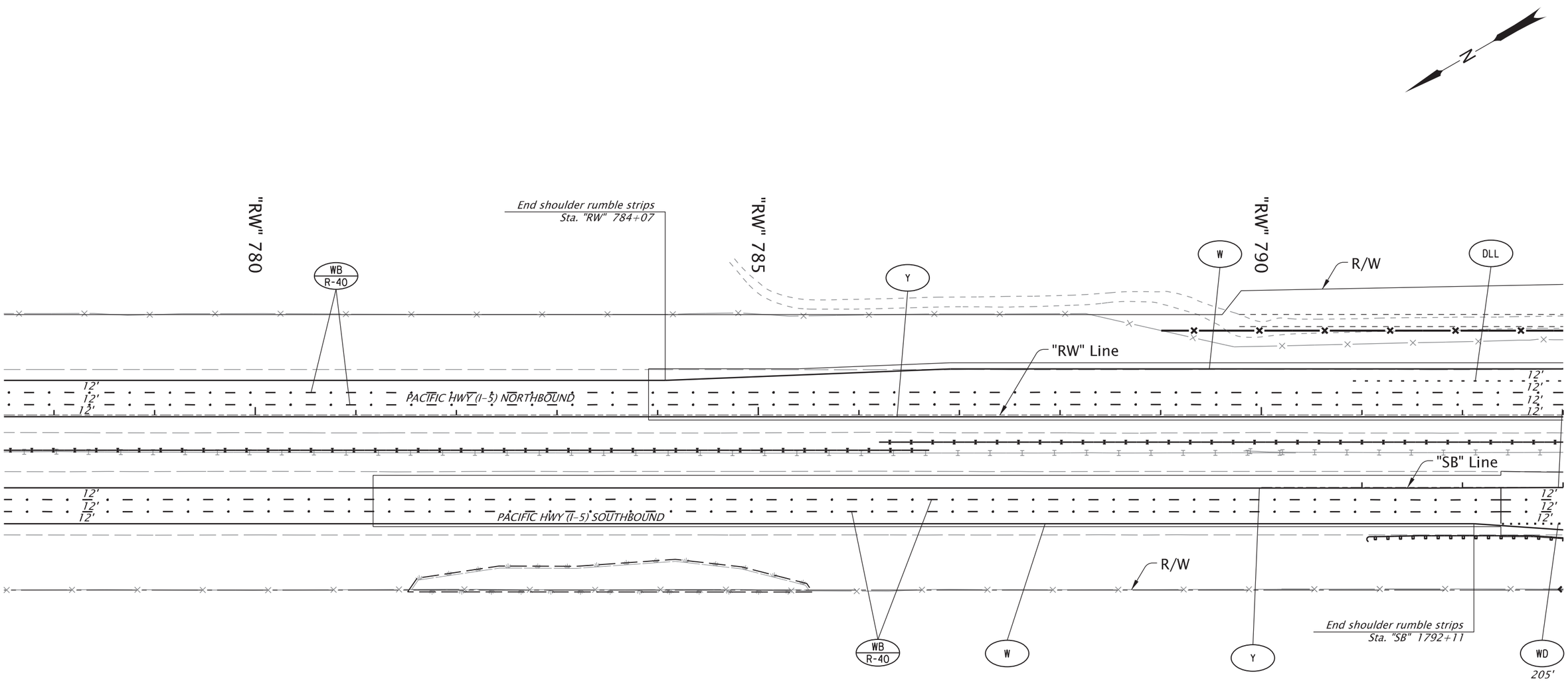
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO.
QB01



NOTE:
See Sheet No. QA01 for Legend

HWY: 001
M.P.: 279.14-278.85

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

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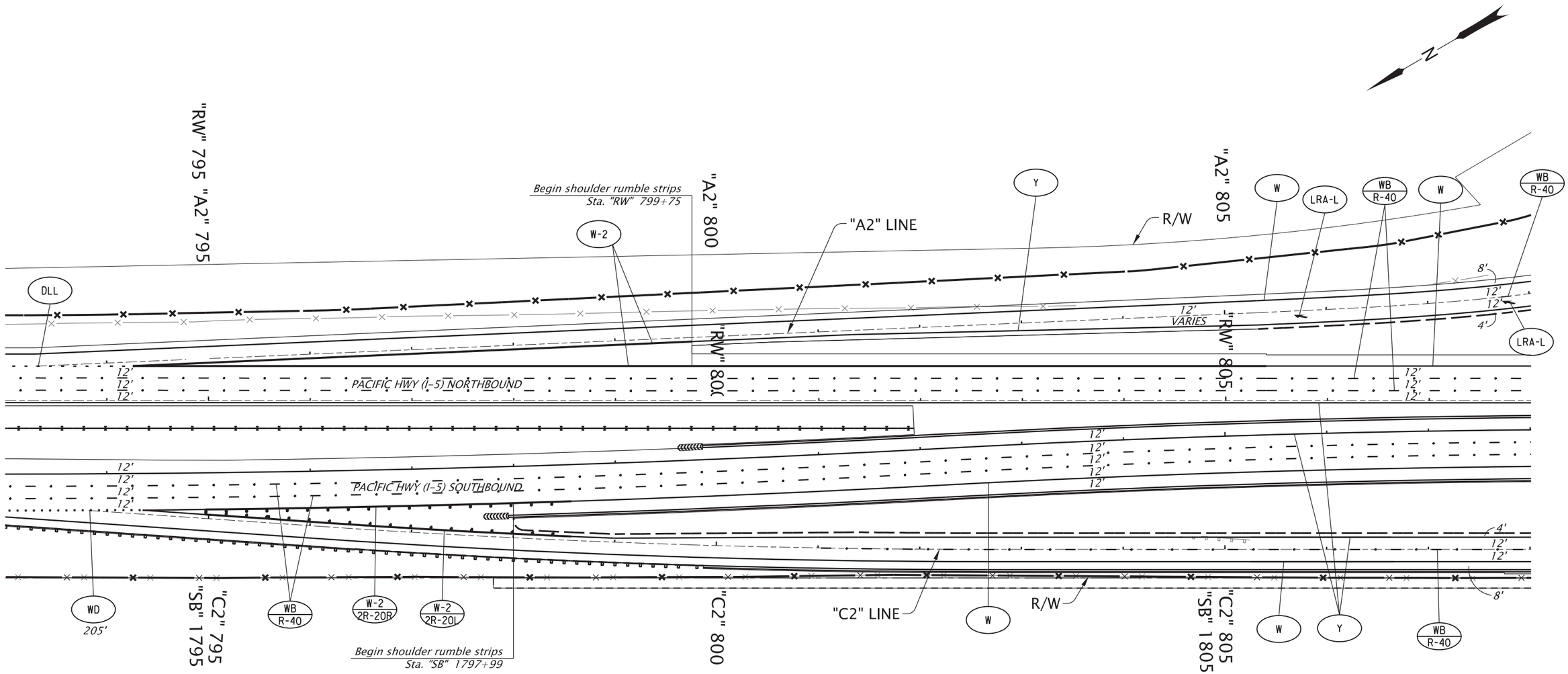
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO.
QB02



NOTE:
See Sheet No. QA01 for Legend

HWY: 001
M.P.: 278.85-278.56

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO.
QB03

(SEE SHT. QB09)
MATCH LINE A-A

"A2" 810
"ER" 90
"RW" 810
"B2" 815
"RW" 815
"B2" 820
"C2" 810
"D2" 815
"ER" 85
"SB" 1820 "D2" 820

Match existing striping
Sta. "B2" 813+40

Match existing striping
Sta. "B2" 813+63

"B2" line
"RW" Line
"SB" line
"C2" line
"D2" line

Maintain and protect existing striping

R/W

PACIFIC HWY (I-5) NORTHBOUND

PACIFIC HWY (I-5) SOUTHBOUND

MATCH LINE A-A
(SEE SHT. QB08)

Construction Notes:

1. *Install 3 Type 3 flexible plastic posts at 4' spacing, offset 1' from face of curb. See Oregon Standard Drawing TM570.*

NOTE:
See Sheet No. QA01 for Legend

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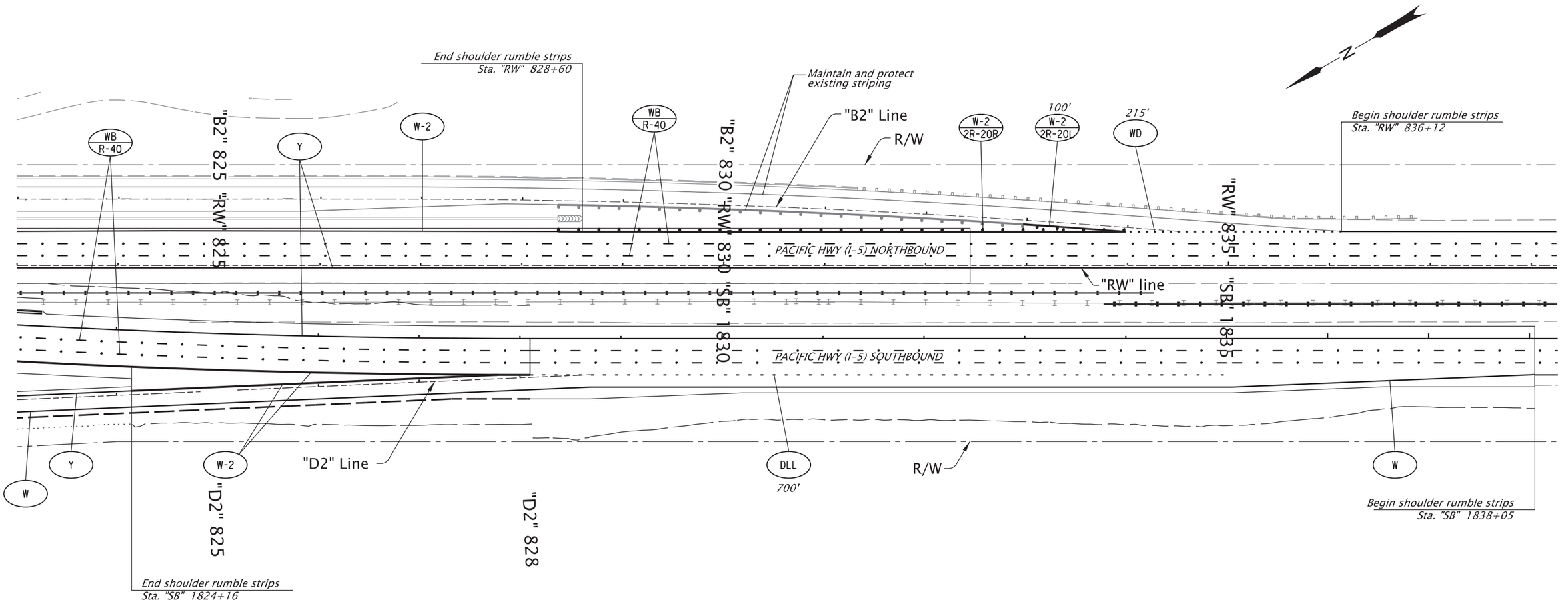
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

HWY: 001	
M.P.: 278.56-278.28	
UNIT FILE CODE: N/A	
DFI/TSSU NO.: N/A	
Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO. QB04



NOTE:
See Sheet No. QA01 for Legend

HWY: 001
M.P.: 278.28-278.00

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

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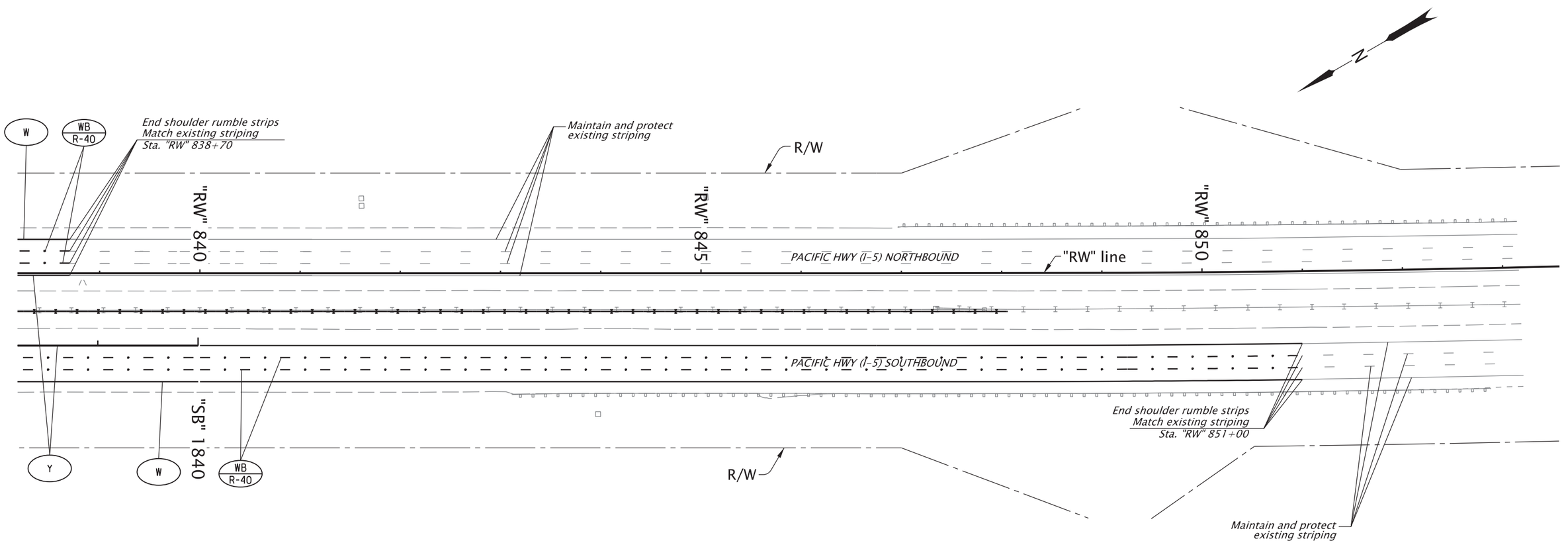
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO.
QB05



NOTE:
See Sheet No. QA01 for Legend

HWY: 001
M.P.: 278.00-277.72

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

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PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart
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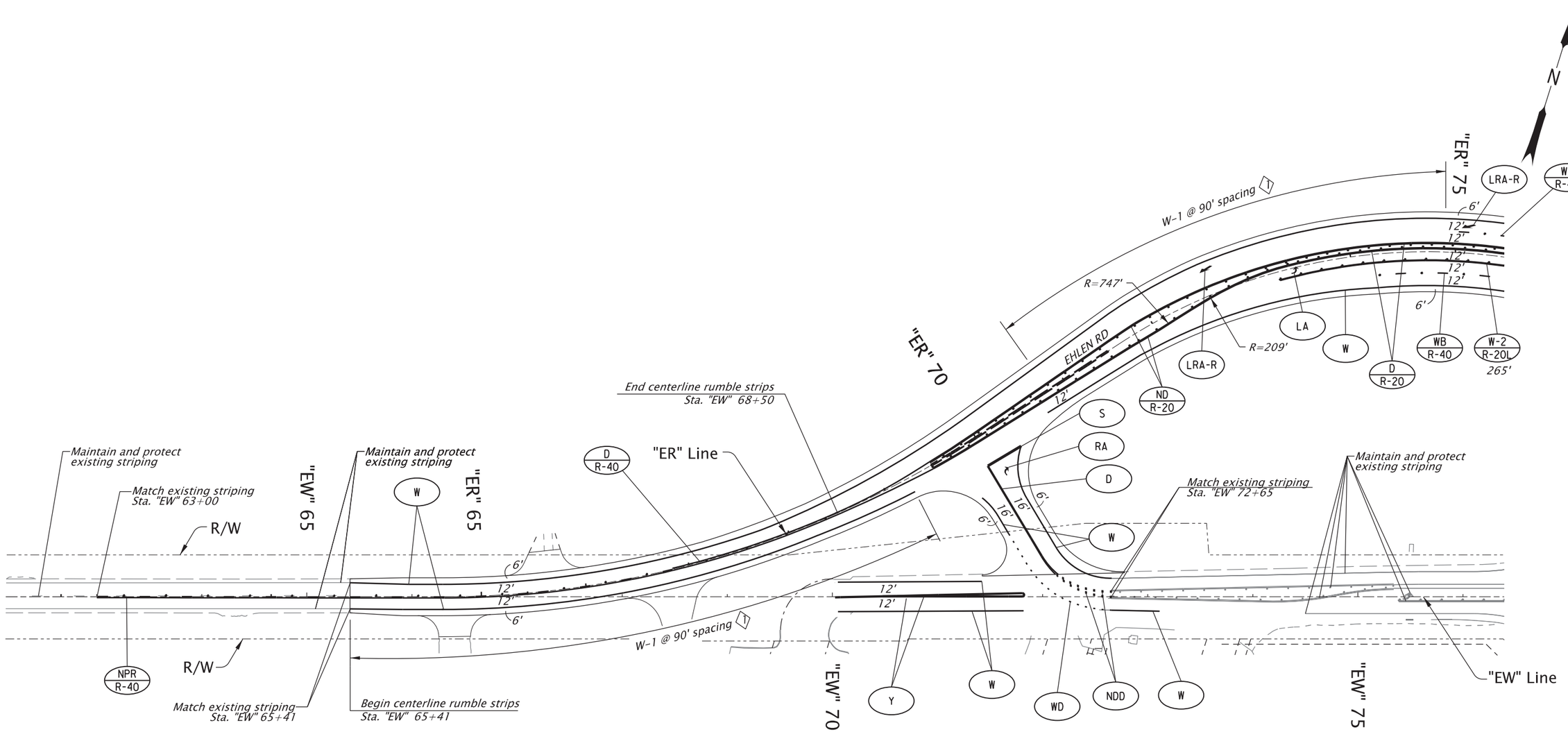
Reviewer: S. Boice
Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO.
QB06

57V-020



Construction Notes:

1. *Install delineators at specified spacing, offset 2' from edge of pavement. See Oregon Standard Drawing TM570.*

NOTE:
See Sheet No. QA01 for Legend

HWY: OFF SYSTEM	
M.P.: OFF SYSTEM	
UNIT FILE CODE	N/A
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
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OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

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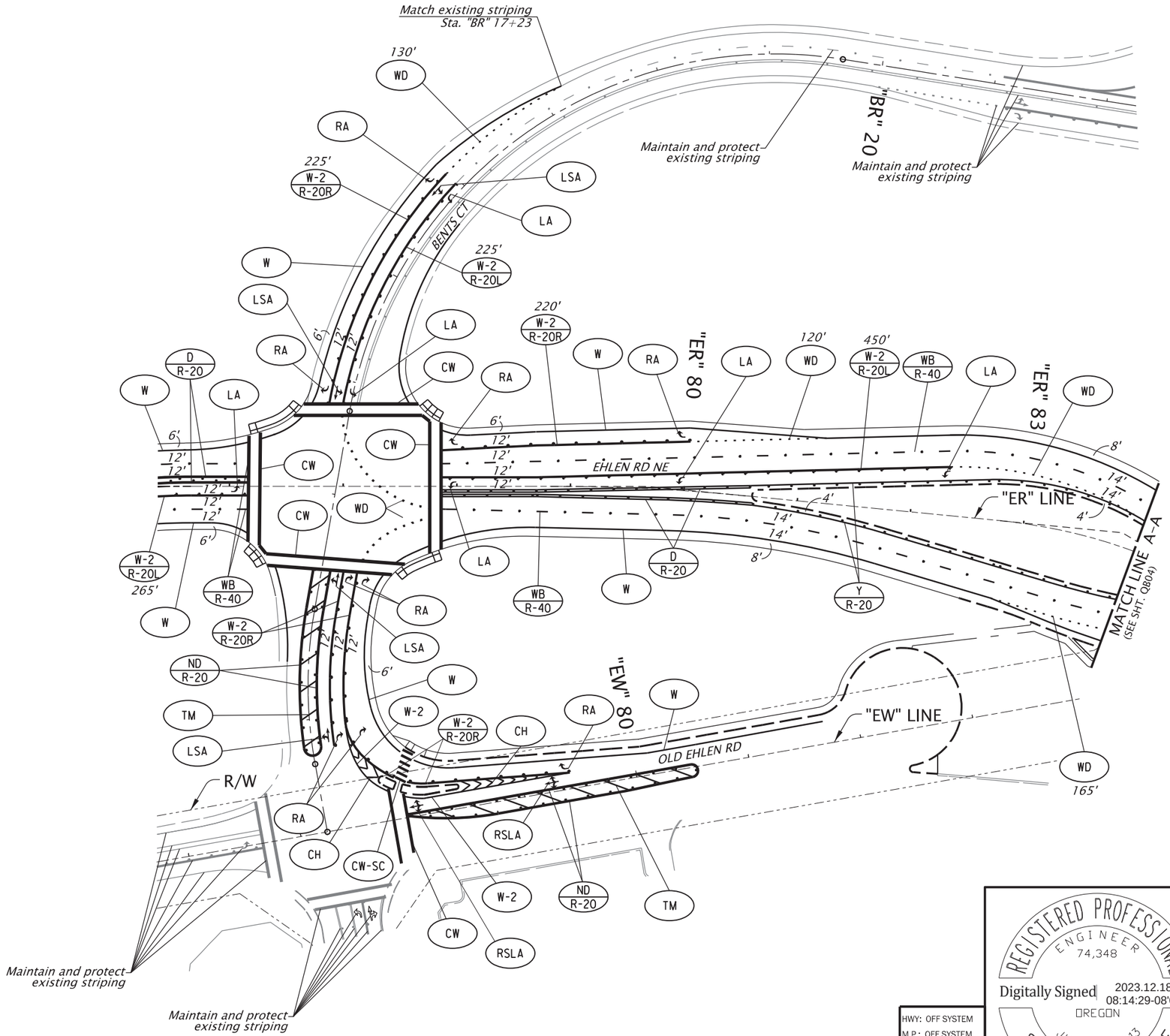
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

Designer: T. Hart	Reviewer: S. Boice
Drafter: K. Jackson	Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO. QB07



NOTE:
See Sheet No. QA01 for Legend

HWY: OFF SYSTEM	
M.P.: OFF SYSTEM	
UNIT FILE CODE	N/A
DFI/TSSU NO.	N/A

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MARION COUNTY

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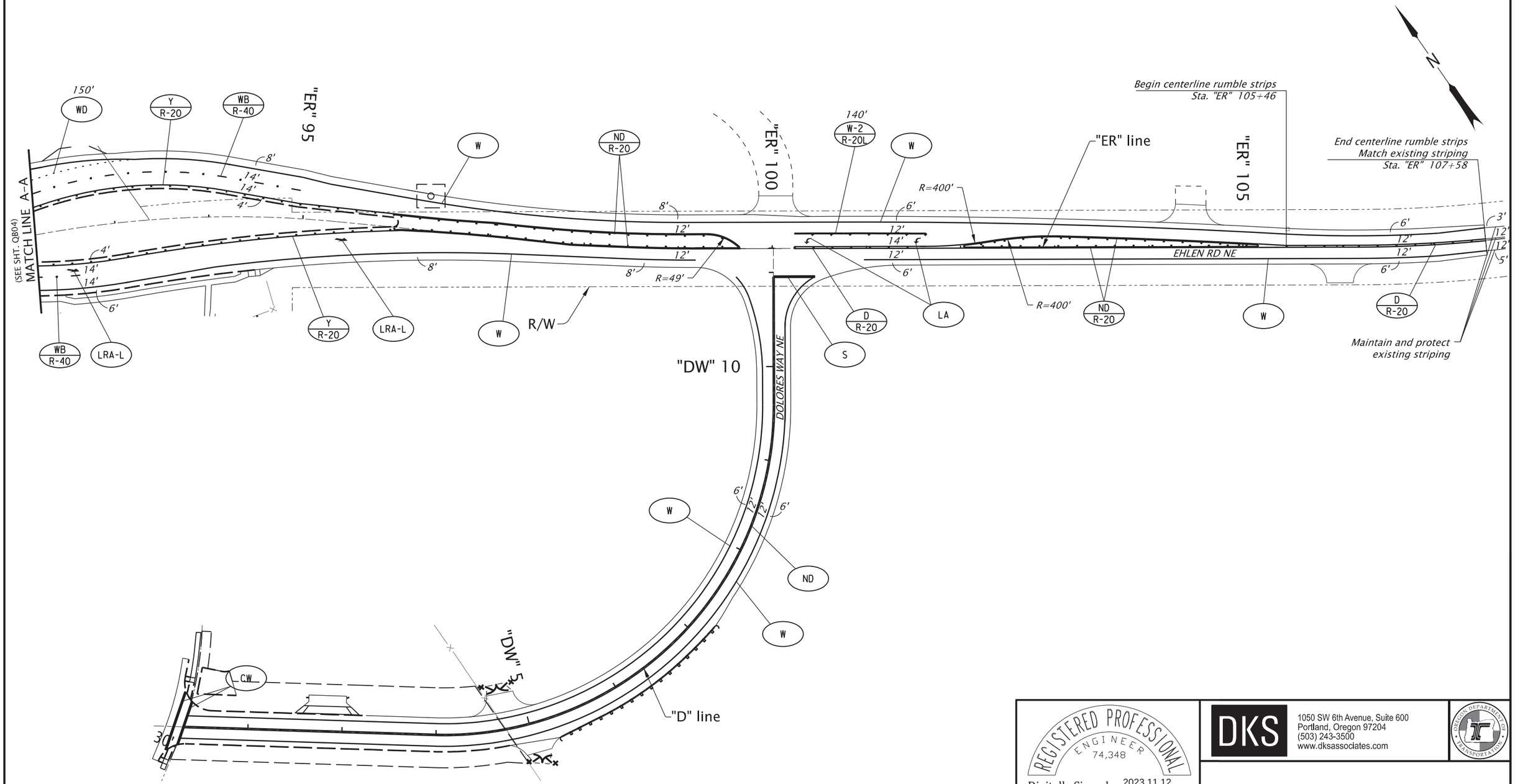
Checker: S. Boice

PAVEMENT MARKING PLAN

SHEET NO. QB08



NOTE:
See Sheet No. QA01 for Legend

HWY: OFF SYSTEM
M.P.: OFF SYSTEM

UNIT FILE CODE
N/A

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
74,348
Digitally Signed 2023.11.12 14:03:28-08'00'
OREGON
JUNE 12, 2013
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DKS
1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 243-3500
www.dksassociates.com

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

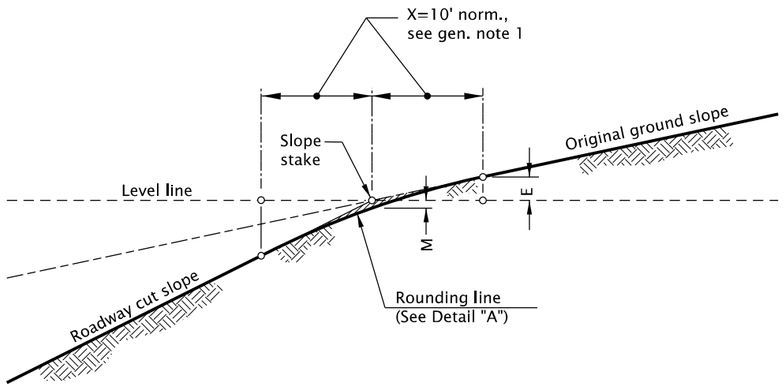
Designer: T. Hart
Drafter: K. Jackson
Reviewer: S. Boice
Checker: S. Boice

PAVEMENT MARKING PLAN

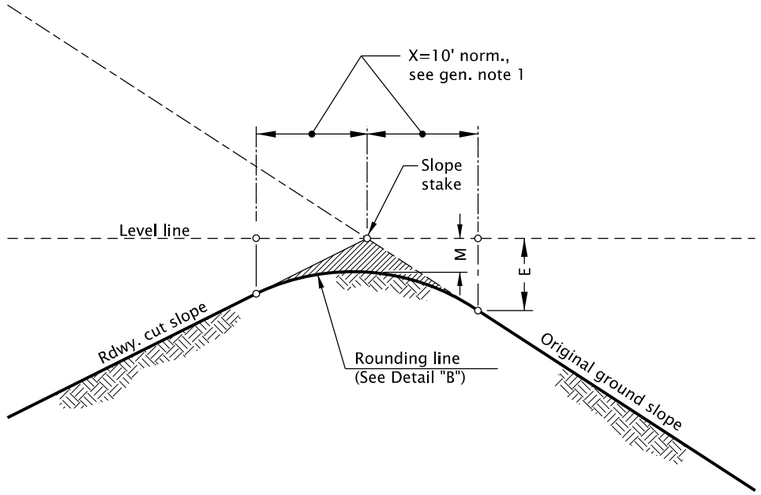
SHEET NO.
QB09

20-JUL-2020

RD150.dgn



ASCENDING SECTION

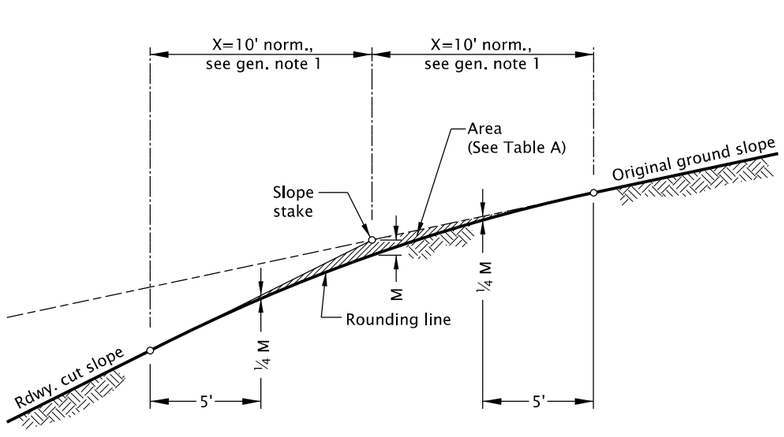


DESCENDING SECTION

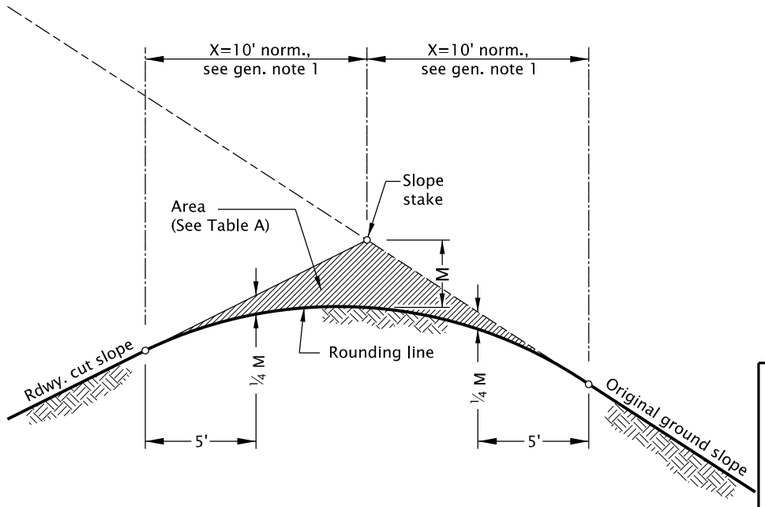
* See general note 2

TABLE A*

	E (ft)	CUT SLOPE									
		1 : 1		1 : 1.5		1 : 2		1 : 3		1 : 4	
		M (ft)	AREA (sq.ft)	M (ft)	AREA (sq.ft)	M (ft)	AREA (sq.ft)	M (ft)	AREA (sq.ft)	M (ft)	AREA (sq.ft)
ASCENDING GROUND	4	1.50	10	Rounding not required within these limits.							
	3	1.75	12								
	2	2.00	13								
	1	2.25	15	1.42	9						
LEVEL											
		2.50	17	1.67	11						
DESCENDING GROUND	1	2.75	18	1.92	13	1.50	10				
	2	3.00	20	2.17	14	1.75	12				
	3	3.25	22	2.42	16	2.00	13	1.58	11		
	4	3.50	23	2.67	18	2.25	15	1.83	12	1.63	11
	5	3.75	25	2.92	19	2.50	17	2.08	14	1.88	13
	6	4.00	27	3.17	21	2.75	18	2.33	16	2.13	14
	7	4.25	28	3.42	23	3.00	20	2.58	17	2.38	16
	8	4.50	30	3.67	24	3.25	22	2.83	19	2.63	18
	9	4.75	32	3.92	26	3.50	23	3.08	21	2.88	19
	10	5.00	33	4.17	28	3.75	25	3.33	22	3.13	21



DETAIL "A"



DETAIL "B"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Extend slope rounding 10' or to right of way line, whichever is less. Use the same X dimension on both sides of slope break point.
2. Table A values are only for slope rounding with an X dimension of 10'.
3. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SLOPE ROUNDING

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 25-JUL-2017 | **RD150**

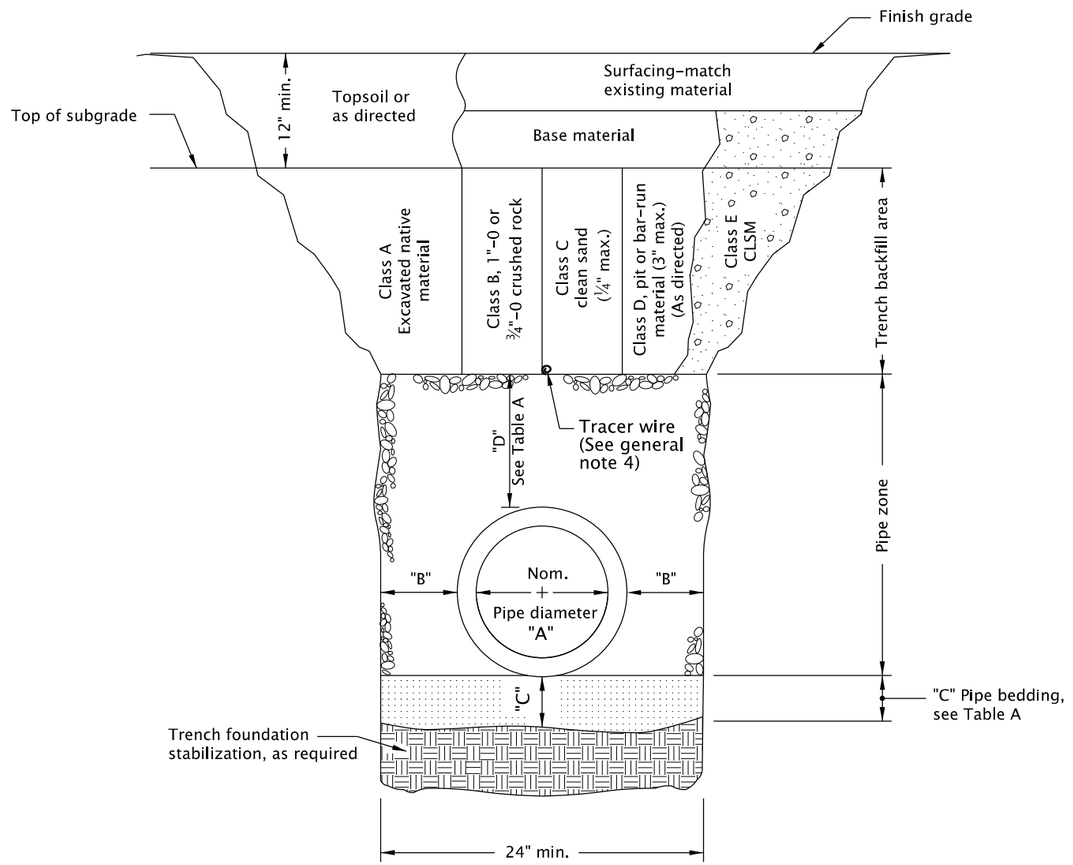
20-JUL-2020

RD300.dgn

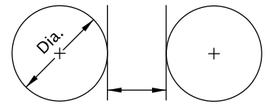
TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS



DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

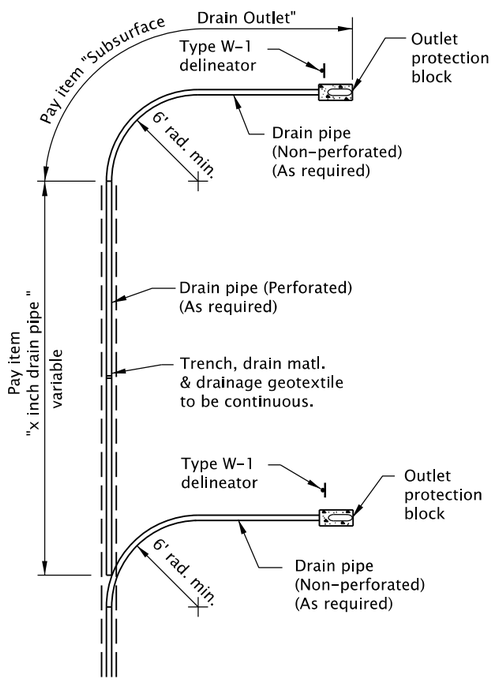
2024

DATE	REVISION DESCRIPTION

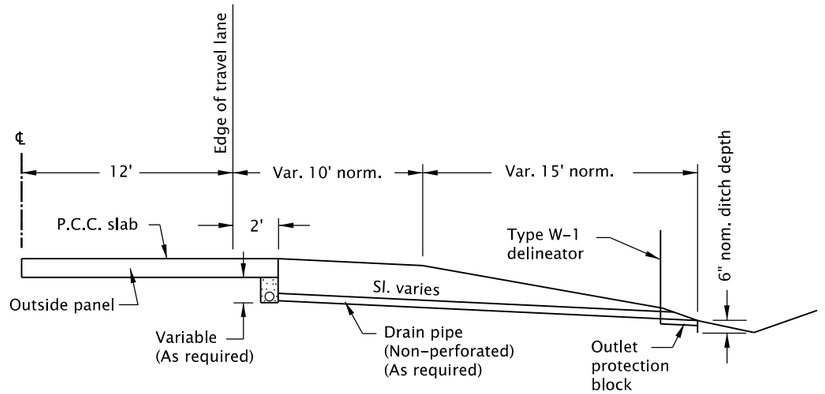
CALC. BOOK NO. N/A | SDR DATE 14-JUL-2014 | **RD300**

Effective Date: December 1, 2023 – May 31, 2024

20-JUL-2020
RD312.dgn

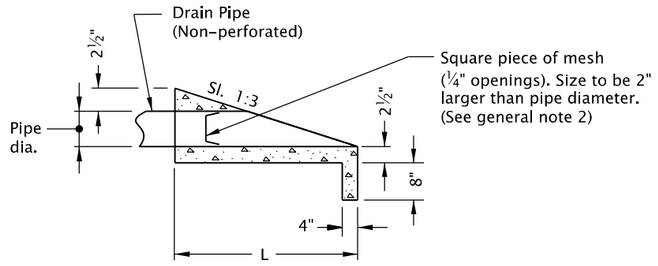


PLAN



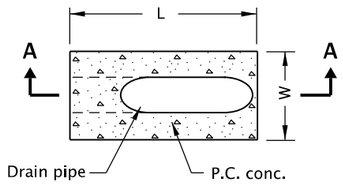
ELEVATION

SUBSURFACE DRAIN OUTLET



SECTION A-A

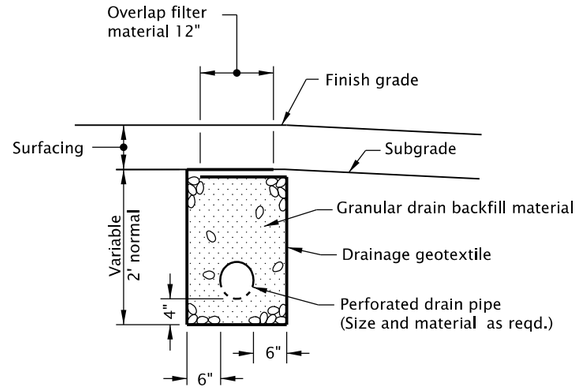
PIPE DIA. (in)	L NOM. (in)	W NOM. (in)
3	24	12
4	24	12
6	33	14
8	42	16



PLAN

OUTLET PROTECTION BLOCK

TYPE 1 SUBSURFACE DRAIN INSTALLATION



SECTION

SUBSURFACE DRAIN DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. In guard rail areas extend outlet protection block to back of guard rail post min.
2. Mesh for rodent control to be galvanized wire or approved equal.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SUBSURFACE DRAIN

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 21-JUL-2015 | **RD312**

20-JUL-2020

RD316.dgn

ARCH PIPE

CORRUGATED STRUCTURAL PLATE (Dimension in inches)

SIZE		X	B1			SIZE		X	B1		
*** SPAN	*** RISE		SLOPES			*** SPAN	*** RISE		SLOPES		
			1:1.5	1:2	1:3				1:1.5	1:2	1:3
73	55	28	45	60	89	139	89	32	88	118	174
76	57	25	51	67	101	142	91	30	94	126	189
81	59	29	48	64	95	148	93	34	91	121	181
84	61	28	54	72	107	150	95	32	97	130	195
87	63	25	60	79	119	152	97	30	103	138	206
92	65	28	57	77	115	154	100	28	110	148	220
95	67	26	63	85	126	161	101	31	108	144	215
98	69	24	70	94	139	167	103	35	104	139	209
103	71	28	67	90	134	169	105	34	110	148	221
106	73	26	73	97	145	171	107	31	117	156	234
112	75	29	70	95	143	178	109	35	114	151	227
114	77	28	77	102	152	184	111	38	111	149	223
117	79	26	83	109	165	186	113	36	118	156	234
123	81	29	80	108	161	188	115	34	124	165	246
128	83	33	78	103	152	190	118	32	131	174	258
131	85	31	84	112	167	197	119	36	127	169	256
137	87	33	82	109	162	199	121	34	133	178	268

X dimensions are to top edge of corner plates on structural plate pipe.

CORRUGATED (Dimension in inches)

EQUIVALENT ROUND SIZE	*** SPAN	*** RISE	X
15	17	13	5¼
18	21	15	6
21	24	18	7¼
24	28	20	8
30	35	24	9½
36	42	29	10½
42	49	33	11½
48	57	38	13½
54	64	43	15
60	71	47	16½
66	77	52	18
72	83	57	20

Slopes as directed.

*** See general note 8

CIRCULAR OR ELLIPTICAL PIPE

CORRUGATED (Dimension in inches)

SIZE	X	Y
12 to 36	4 *	0
42	8 *	8 *
48	8 *	8 *
54	8 *	8 *
60	8 *	8 *
66	12	12
72	12	12
78	12	12
84	16	16

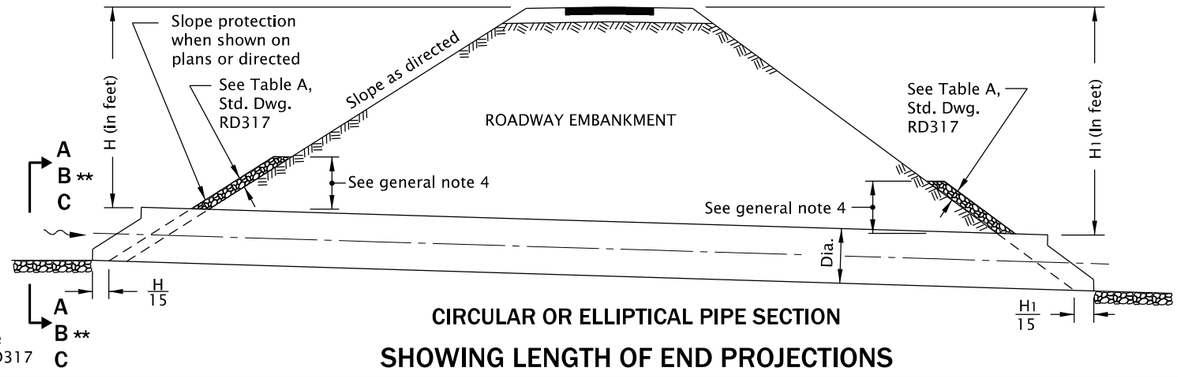
Slopes as directed.

* 0 when used with paved end slope.

CORRUGATED STRUCTURAL PLATE (Dimension in inches)

SIZE	B1			ALTERNATE – 1						ALTERNATE – 2		
				X			Y			X & Y		
	SLOPES			SLOPES			SLOPES			SLOPES		
	1:1.5	1:2	1:3	1:1.5	1:2	1:3	1:1.5	1:2	1:3	1:1.5	1:2	1:3
60	72	72	96	5	11	13	7	13	15	6	12	15
66	72	72	96	7	15	17	11	16	18	10	16	17
72	72	96	144	11	13	11	13	13	13	12	12	12
78	72	72	144	13	20	15	17	22	16	16	22	16
84	72	96	144	17	17	17	19	19	19	18	18	18
90	72	96	144	19	20	20	23	22	22	22	22	22
96	96	96	192	15	23	16	17	25	17	16	24	17
102	96	96	168	18	26	23	20	29	24	19	28	23
108	96	96	168	20	29	25	23	31	26	22	30	26
114	96	168	168	23	15	29	26	16	30	25	28	29
120	96	168	216	26	17	23	29	19	25	28	18	24
126	96	168	216	30	20	26	32	22	28	31	22	28
132	144	168	216	17	23	29	19	25	31	18	24	30
138	144	192	288	19	20	20	23	22	22	22	22	22
144	144	144	240	23	35	31	25	37	32	24	36	32
150	144	192	288	25	26	26	29	28	28	28	28	28
156	144	192	288	29	29	29	31	31	31	30	30	30
162	144	192	288	31	32	32	35	34	34	34	34	34
168	168	168	264	26	41	40	29	43	41	28	42	40
174	168	168	288	30	44	39	32	46	40	31	46	40
180	168	192	288	42	41	41	43	43	43	42	42	42

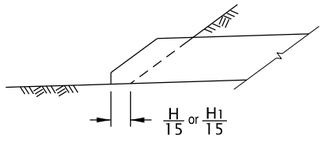
For elliptical pipe increase X and Y dimensions by percent of ellipse.



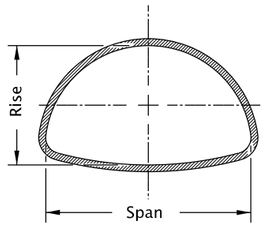
** Configuration varies, see sections on Std. Dwg. RD317

CIRCULAR OR ELLIPTICAL PIPE SECTION

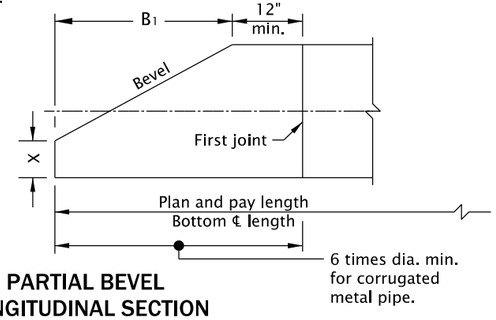
SHOWING LENGTH OF END PROJECTIONS



ARCH PIPE

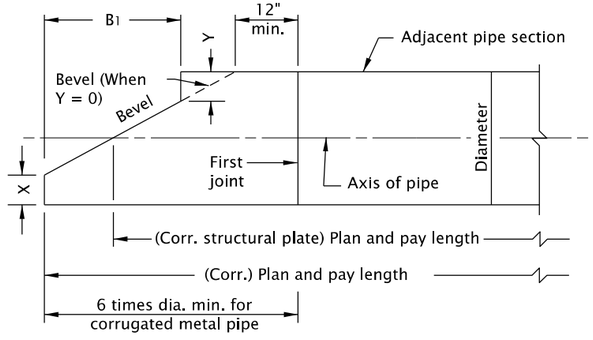


END VIEW



PARTIAL BEVEL LONGITUDINAL SECTION

ARCH PIPE



STEP BEVEL LONGITUDINAL SECTION

CIRCULAR OR ELLIPTICAL PIPE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All dimensions are subject to necessary tolerances to meet manufacturer's requirements for plate arrangements.
2. See Std. Dwgs. RD300 or RD304 for installation details.
3. All embankment slopes to be warped where required to provide end projections as shown.
4. Minimum elevation of top of riprap at inlet and outlet is one diameter (D) or one foot higher than design headwater or tailwater elevation respectively whichever is greater.
5. Slope protection required for hydraulic installations. See Table A on Std. Dwg. RD317.
6. $\frac{H}{15}$ and $\frac{H1}{15}$ only applicable for non-hydraulic applications.
7. Open ends of pipes normally require a site specific design, and may require special treament (Slope ends, culvert embankment protection, paved end slopes, safety end sections, or other measures). See special details or Standard Drawings as called for on plans.
8. Cross-sectional dimensions may vary with different materials.
9. Full bevel cuts are not recommended for multiple radius shaped pipes.
10. For pipes with skew no.'s 50, 70, 110 or 130, omit the top step (Y). (For skew diagram, see Std. Dwg. RD319).
11. See Std. Dwg. RD317 for culvert embankment protection and riprap pads (When reqd.).

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SLOPED ENDS FOR METAL PIPE

2024

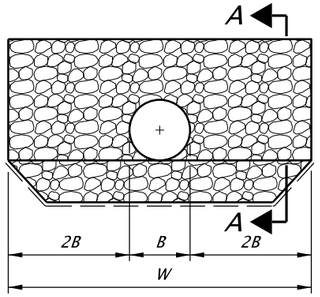
DATE	REVISION DESCRIPTION

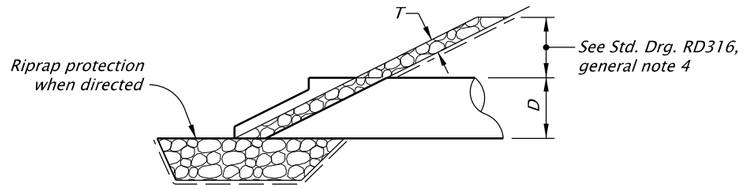
CALC. BOOK NO. N/A | SDR DATE 15-JAN-2016 | RD316

Effective Date: December 1, 2023 – May 31, 2024

30-JUN-2022

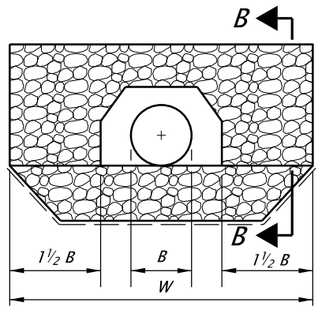
RD317.dgn

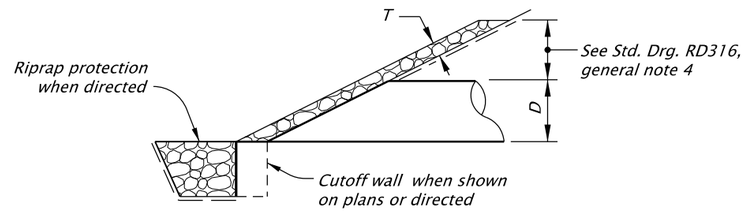




SECTION A-A

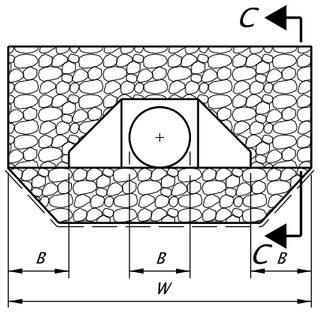
SLOPED OR PROJECTING END

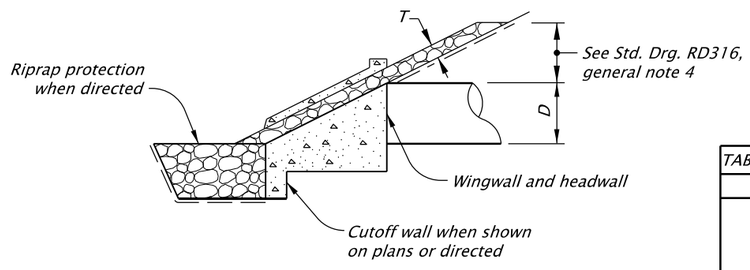




SECTION B-B

SLOPED END WITH SLOPE PAVING



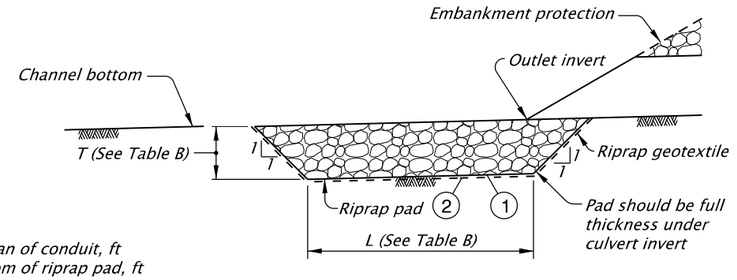


SECTION C-C

HEADWALL AND WINGWALLS

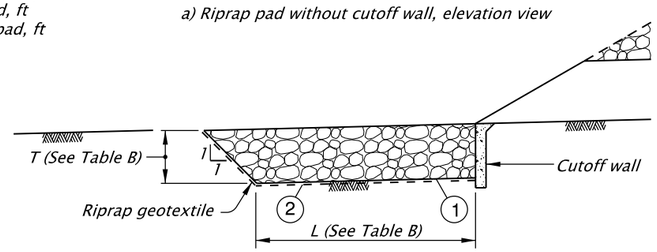
B = Diameter of circular barrel or span of arch pipe, box, or open-bottom arch.
D = Diameter of circular barrel or rise of arch pipe, box, or open-bottom arch.
T = Thickness of riprap blanket, see Table A.

EMBANKMENT PROTECTION



B = Diameter or span of conduit, ft
L = Length of bottom of riprap pad, ft
T = Thickness of riprap pad, ft
W= Width of top of riprap pad, ft

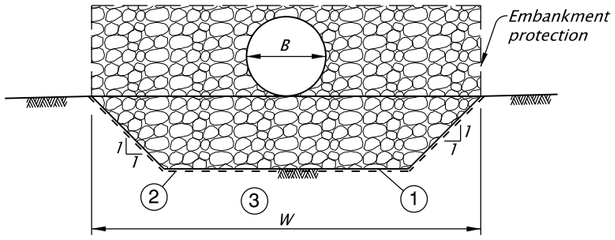
a) Riprap pad without cutoff wall, elevation view



b) Riprap pad with cutoff wall, elevation view

RIPRAP PAD NOTES:

1. *Do not excavate non-erodible rock in order to place riprap.*
2. *Use riprap geotextile under Class 200 and Class 700 loose riprap.*
3. *Top width (W) of the riprap pad is the larger of 5B or the width of the embankment slope protection.*



c) Riprap pad, end view

RIPRAP PADS

TABLE A - Embankment Slope Protection	
Riprap Class	T Distance
50	12 Inches
100	18 Inches
200	24 Inches *
700	36 Inches *

** Riprap geotextile required between riprap and embankment*

TABLE B - Riprap Pad Dimensions		
Riprap Class	L * (ft)	T (ft)
50	4B or 1.3	2.3
100	4B or 1.6	3.3
200	4B or 2.0	4.3
700	4B or 3.3	5.6

** L is the greater of 4B or the listed dimension.*

GENERAL NOTES FOR ALL DETAILS:

1. *See Std. Drg's. RD300 & RD304 for installation details.*
2. *Open ends of pipes normally require a site specific design, and may require special treatment (sloped ends, culvert embankment protection, paved end slopes, safety end sections, or other measures). See special details or Standard Drawings as called for on plans.*

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CULVERT EMBANKMENT PROTECTION AND RIPRAP PADS

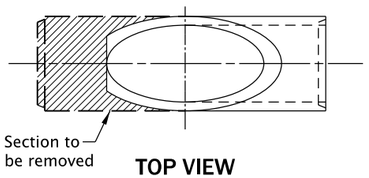
2024

DATE	REVISION DESCRIPTION

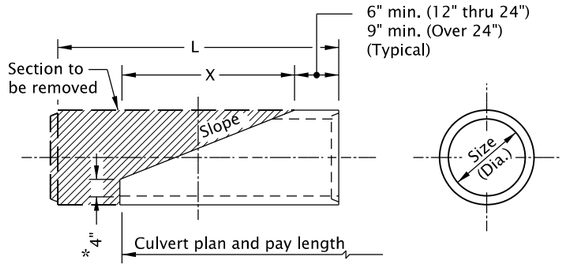
CALC. BOOK NO. N/A | SDR DATE 30-JUN-2022 | **RD317**

20-JUL-2020
RD318.dgn

CASE 1
SINGLE PIPE LENGTH



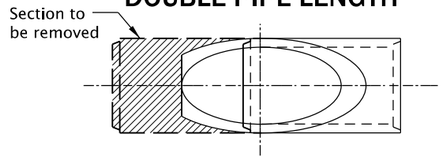
TOP VIEW



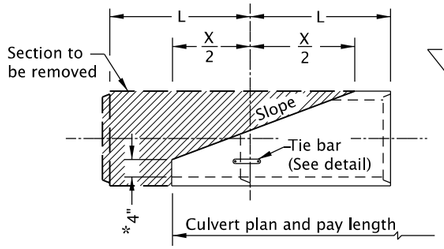
SIDE VIEW

END VIEW
(CASE 1)

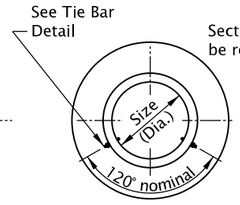
CASE 2
DOUBLE PIPE LENGTH



TOP VIEW

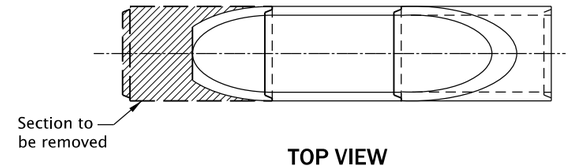


SIDE VIEW

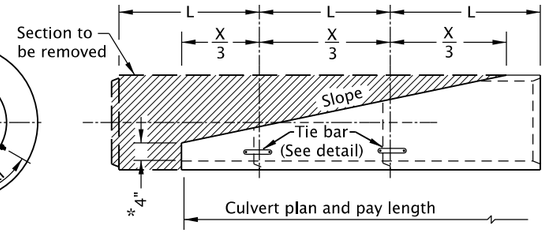


END VIEW
(CASE 2 & 3)

CASE 3
TRIPLE PIPE LENGTH



TOP VIEW



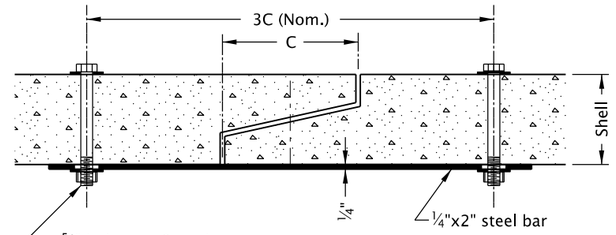
SIDE VIEW

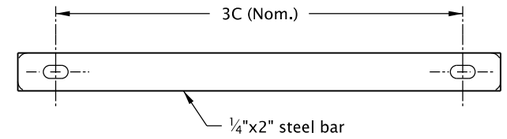
* 0 when used with paved end slope.

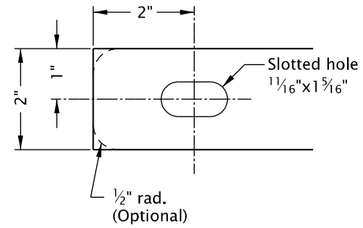
NOTE:
Sloped ends shall be made from minimum Class III concrete pipe.
"X" Values shown are for vertical dimension at bottom of sloped end = 0.

TABLE A

SIZE (Diameter)	SLOPE																				SIZE (Diameter)
	1:1.5			1:2			1:2.5			1:3			1:4				1:6				
	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	CASE 3 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	CASE 3 L (Min.)	
DIMENSION IN INCHES																					
12	18	36	36	24	36	36	30	48	36	36	72	36	48	72	36		72	90	48		12
15	22.5	36	36	30	48	36	37.5	72	36	45	72	36	60	72	36		90		72		15
18	27	48	36	36	48	36	45	72	36	54	72	36	72	90	48		108		72		18
21	31.5	48	36	42	72	36	52.5	72	36	63	90	48	84		72		126		90		21
24	36	48	36	48	72	36	60	90	48	72	90	48	96		72		144		90		24
27	40.5	72	36	54	72	36	67.5	90	48	81		72	108		72		162			72	27
30	45	72	36	60	90	48	75		48	90		72	120		90		180			72	30
33	49.5	72	36	66	90	48	82.5		72	99		72	132		90		198			90	33
36	54	72	36	72	90	48	90		72	108		72	144		90		216			90	36
42	63	90	48	84		72	105		72	126		90	168			72	252			90	42
48	72	90	48	96		72	120		90	144		90	192			90	288				48
54	81		72	108		72	135		90				216			90	324				54







NOTES:

1. All bolts, nuts and washers to be galvanized.
2. Tie bar to be galvanized after fabrication.
3. "C" is tongue length.
4. Install 2 tie bars at each joint (See end view, Case 2 & 3).

TIE BAR DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For dimensions indicated by letter, see Table A.
2. Open ends of pipes normally require a site specific design, and may require special treament (Slope ends, culvert embankment protection, paved end slopes, safety end sections, or other measures).
   See special details or Standard Drawings as called for on plans.
3. See Std. Dwg. RD317 for culvert embankment protection and riprap pads (When reqd.).

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SLOPED ENDS FOR CONCRETE PIPE

2024

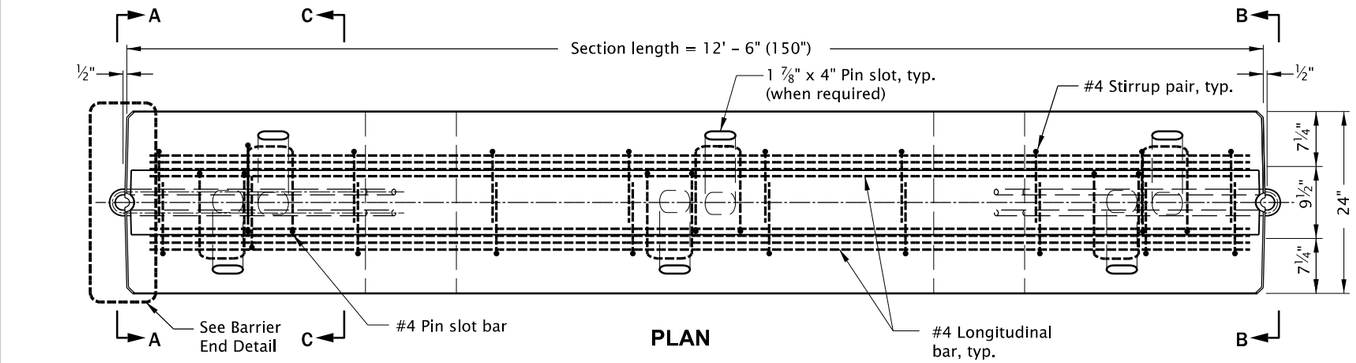
DATE	REVISION DESCRIPTION

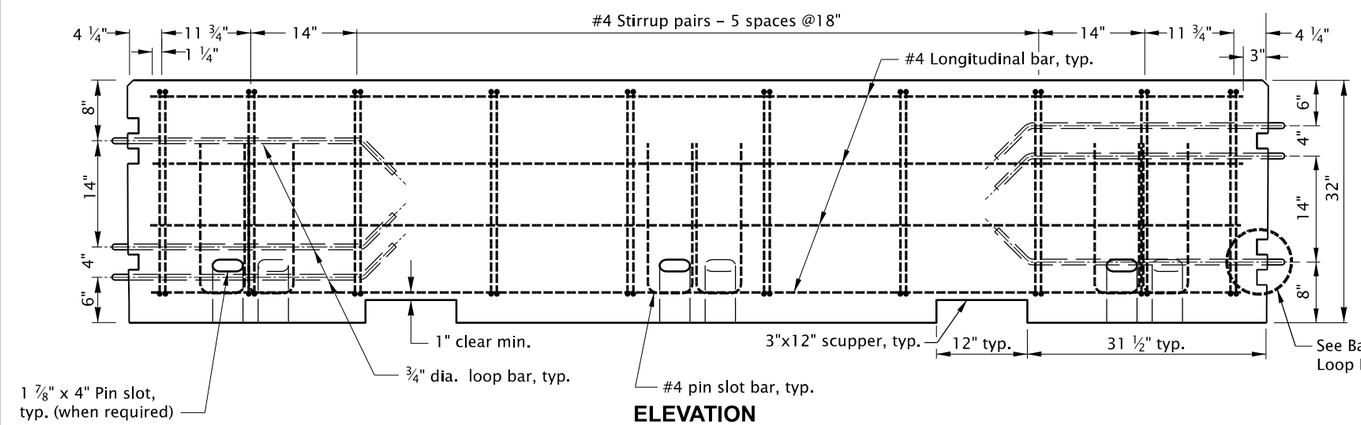
CALC. BOOK NO. N/A | SDR DATE 15-JAN-2016 | **RD318**

Effective Date: December 1, 2023 - May 31, 2024

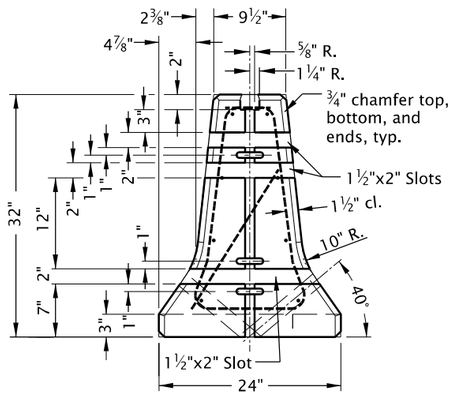
14-JUL-2023

RD500.dgn

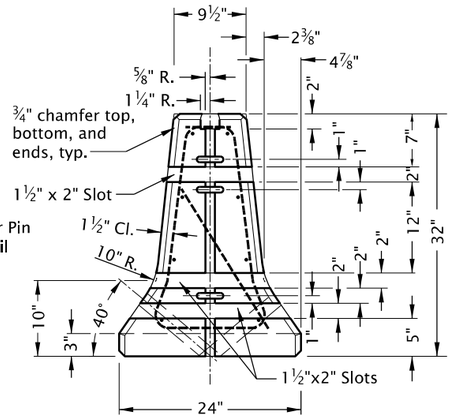




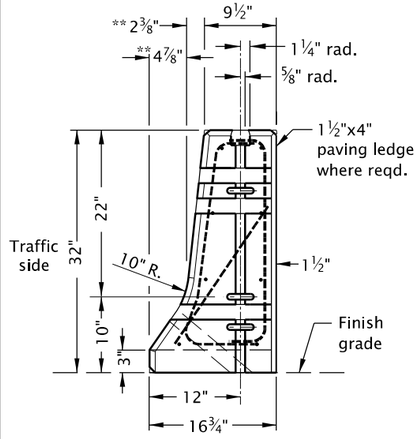
MEDIAN BARRIER



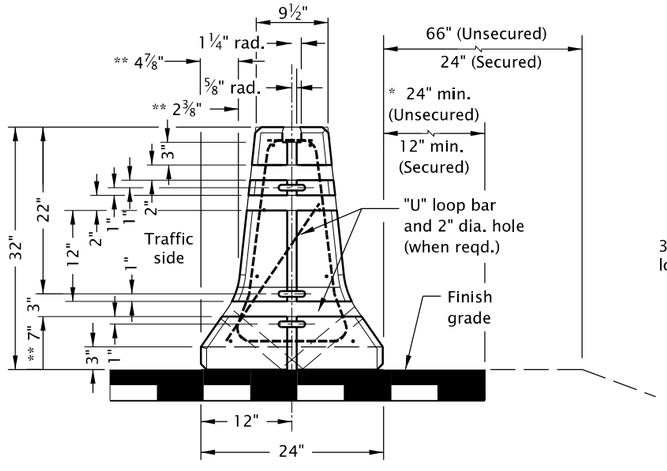
SECTION A-A



SECTION B-B



NARROW BASE
(No pin slots required)

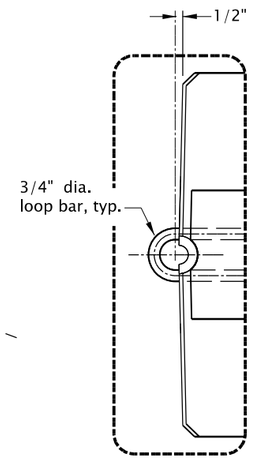


STANDARD

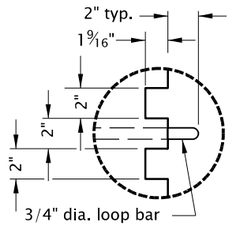
* Barrier used as shoulder barrier and placed in areas where these dimensions cannot be obtained shall be secured to roadway.

** Dimensions marked thus are to the intersection point of the barrier slopes. Construct the 10" radius to provide a smooth transition between the slopes.

SHOULDER BARRIER



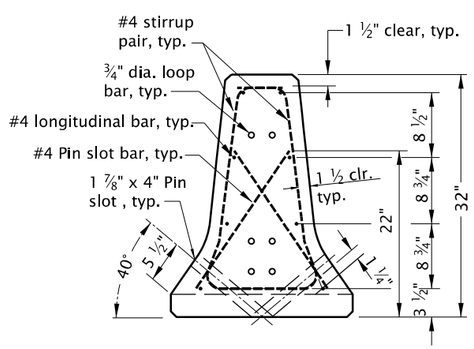
BARRIER END DETAIL



BARRIER PIN LOOP DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *See Std. Dwg. RD501 for details not shown. See Std. Dwg. RD502 for new permanent installations barrier anchoring details (when being anchored). See Std. Dwgs. Rd515 and RD516 for concrete barrier that is maintained for use in temporary installations.*
2. *Maximum chord length for curves with a 1425 foot radius or less shall be 12.5 feet. Maximum chord length for curves with radii exceeding 1425 feet shall be 25 feet.*
3. *Normal use of precast barrier units is restricted to curvatures with radii greater than 770 feet.*
4. *Narrow base shoulder barrier to be used only at locations with backfill behind barrier as shown on plans.*
5. *Temporary concrete barrier to be precast concrete median barrier with pin and loop assembly . See Std. Dwg. RD502.*
6. *Precast concrete barrier used in medians less than 8 feet in width shall be secured to roadway.*
7. *When scuppers are not required, plug them with a minimum 2 inches of grout, as directed.*
8. *All reinforcement shall be full length as shown and shall be 2 inches clear of nearest face of concrete, unless otherwise shown.*
9. *Concrete grout for grouting over pins, pinning holes or grouting of scuppers shall be portland cement grout, weak in strength and of thick consistency, as directed.*
10. *All pins, bolts, dowels, loop bars, and connectors shall be hot-dip galvanized after fabrication.*
11. *For temporary installations, provide a minimum of 18 inches of clear space behind the barrier if secured or 5.5 feet of clear space behind unsecured barrier. Place temporary barrier on smooth, solid surfacing. Maintain smooth, solid surfacing for the clear area behind temporary barrier.*



SECTION C-C

The selection and use of this Standard Drawing, while designed in accordance in generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

32" CONCRETE BARRIER TYPE "F" PRECAST

2024

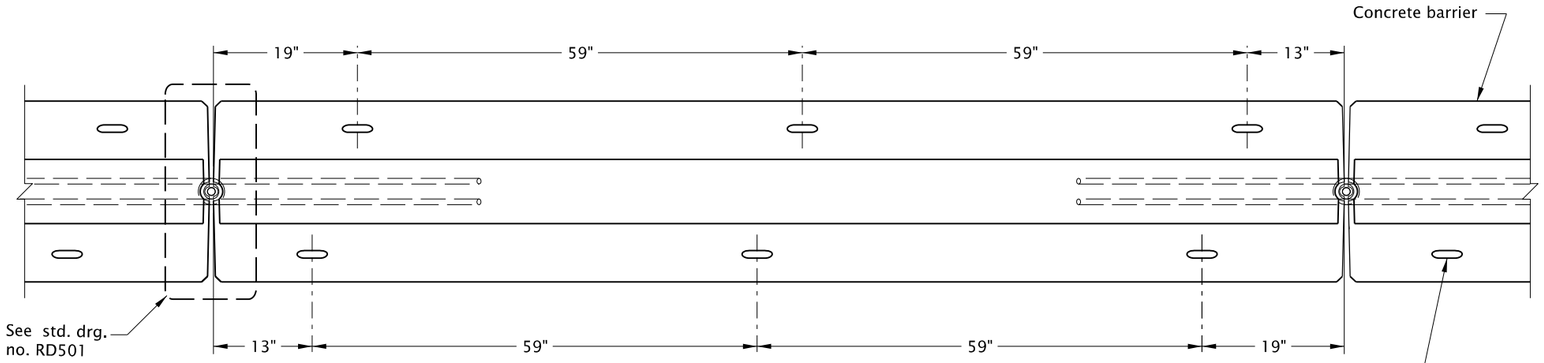
DATE	REVISION DESCRIPTION
01-2021	TITLE CHANGED, REVISED DETAILS AND NOTES
04-2021	REVISED DETAILS AND NOTES
12-2021	REVISED NOTES
06-2023	REVISED DETAILS AND NOTES

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **RD500**

Effective Date: December 1, 2023 - May 31, 2024

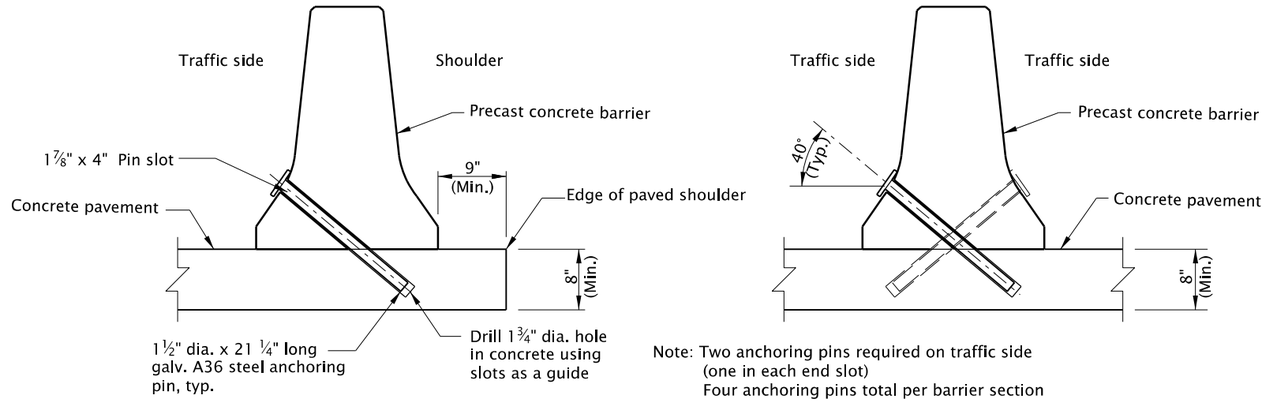
14-JUL-2023

RD502.dgn

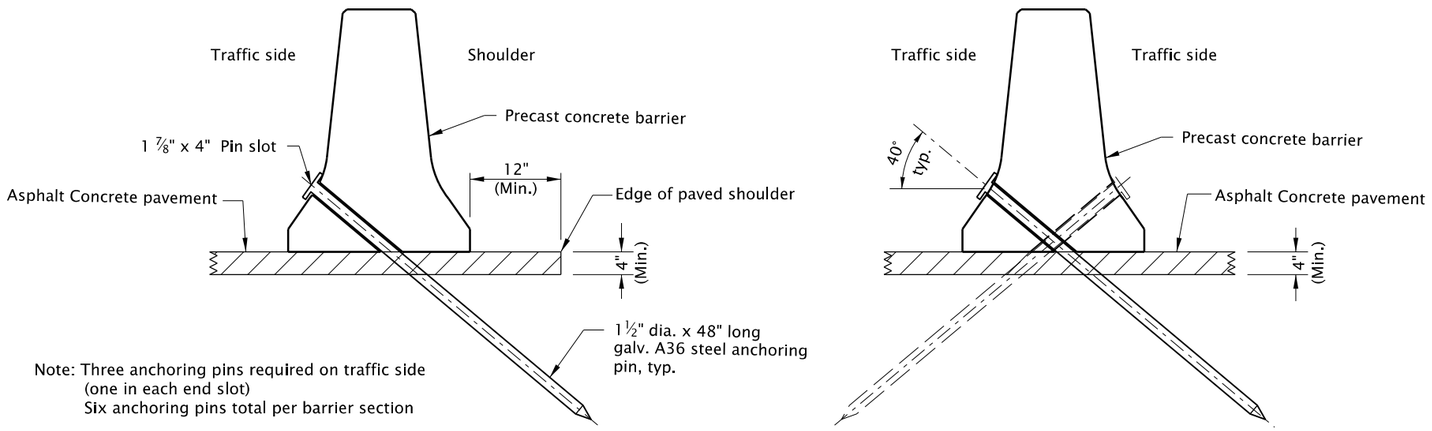


PLAN

CONCRETE BARRIER ANCHORING PIN LOCATIONS



CONCRETE ANCHORING PIN DETAILS

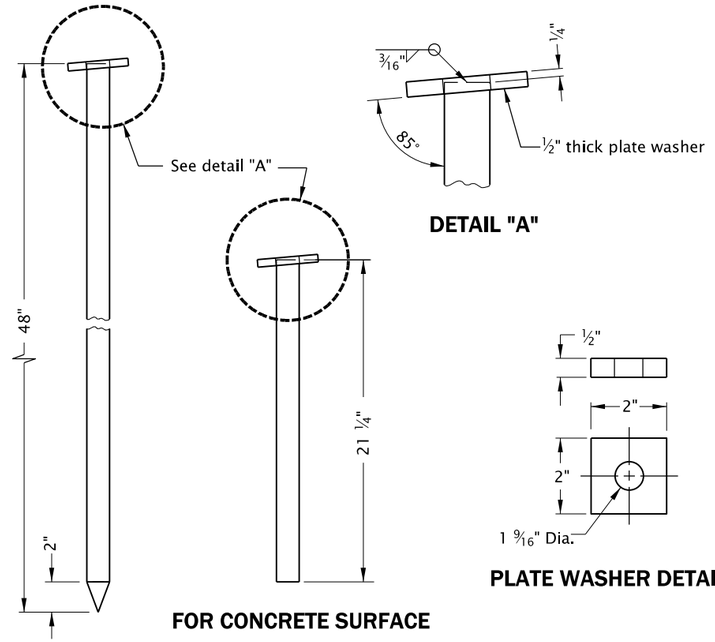


ASPHALT ANCHORING PIN DETAILS

METHODS OF SECURING CONCRETE BARRIER TO ROADWAY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *This drawing applies to new permanent installations of concrete barrier (when being anchored) to the roadway. See Std. Dwgs. RD515 and RD516 for concrete barrier that is maintained for use in temporary installations. See Std. Dwgs. RD500 and RD501 for details not shown.*
2. *Concrete grout for grouting over pins, pinning holes or grouting of scuppers shall be portland cement grout, weak in strength and of thick consistency, as directed.*
3. *All pins, bolts, dowels, loop bars, and connectors shall be hot-dip galvanized after fabrication.*



DETAIL "A"

PLATE WASHER DETAIL

FOR ASPHALT SURFACE

FOR CONCRETE SURFACE

ANCHORING PIN ASSEMBLY DETAIL

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SECURING 32" TYPE "F" AND TALL 42" PRECAST CONCRETE BARRIER TO THE ROADWAY

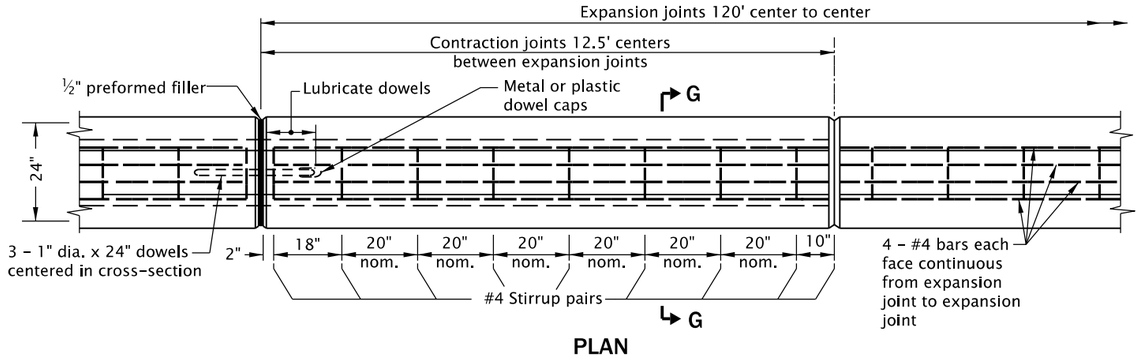
2024

DATE	REVISION DESCRIPTION
10-2020	NEW DRAWING CREATED
01-2022	REVISED NOTES
01-2023	TITLE CHANGE
06-2023	REVISED NOTES AND DETAILS

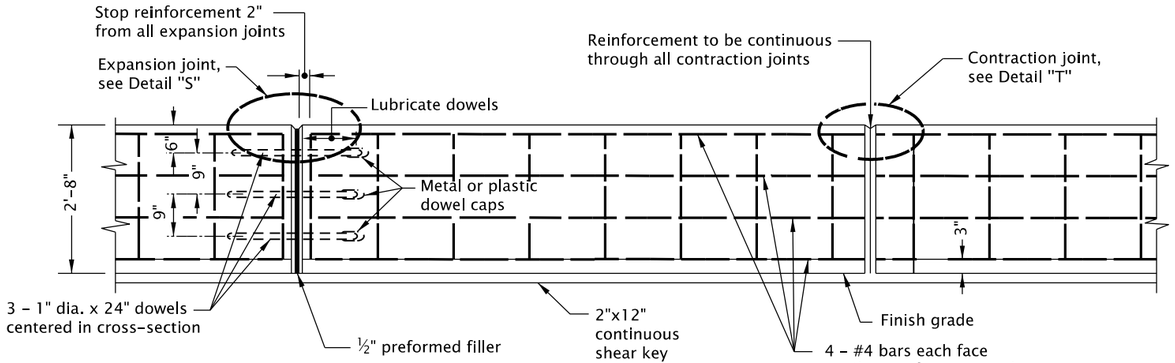
CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **RD502**

14-JUL-2023

RD505.dgn



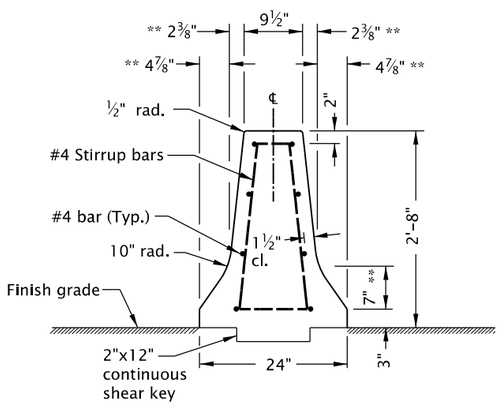
PLAN



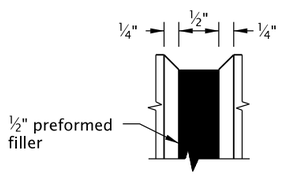
ELEVATION

MEDIAN BARRIER

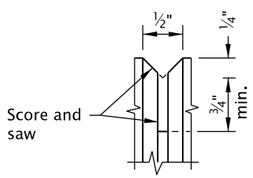
** Dimensions marked thus are to the intersection point of the barrier slopes. Const. the 10" radius to provide a smooth transition between the slopes.



SECTION G-G

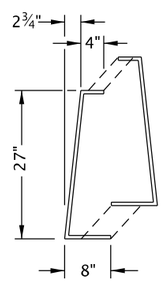


DETAIL "S"
(EXPANSION JOINT)



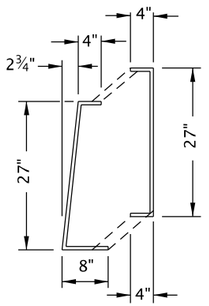
DETAIL "T"
(CONTRACTION JOINT)

NOTE:
Where shldr. barrier is backfilled, provide contraction joint on front face top and down 1' of back face.



STIRRUP "M"

MEDIAN BARRIER
#4 Rebar

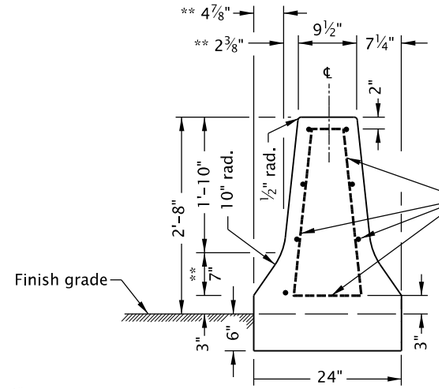


STIRRUP "S"

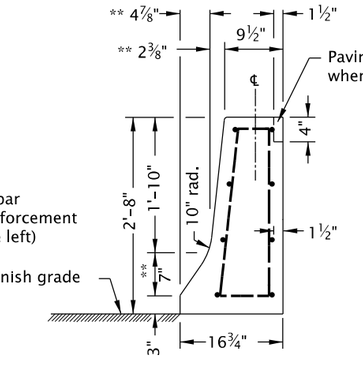
SHOULDER BARRIER
#4 Rebar

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *All reinforcement shall be 2 inches clear of nearest face of concrete unless otherwise shown.*
2. *Narrow base shoulder barrier to be used only at locations with backfill behind barrier as shown on plans.*
3. *Reinforcement shown is the minimum required for all barriers in final position.*
4. *See Std. Dwg. RD502 for new permenent installations barrier anchoring details (when being anchored). See Std. Dwgs. RD515 and RD516 for concrete barrier that is maintained for use in temporary installations.*
5. *All pins, bolts, dowels, loop bars, and connectors when present shall be hot-dip galvanized after fabrication.*



(STANDARD)



(NARROW BASE)

SHOULDER BARRIER

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONCRETE BARRIER CAST-IN-PLACE

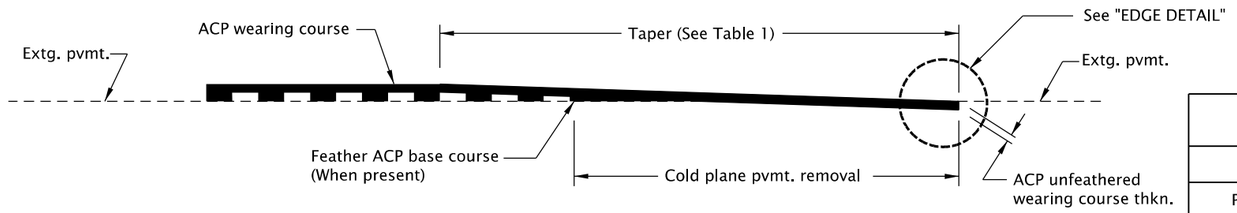
2024

DATE	REVISION DESCRIPTION
06-2023	REVISED NOTES AND DETAILS

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **RD505**

Effective Date: December 1, 2023 - May 31, 2024

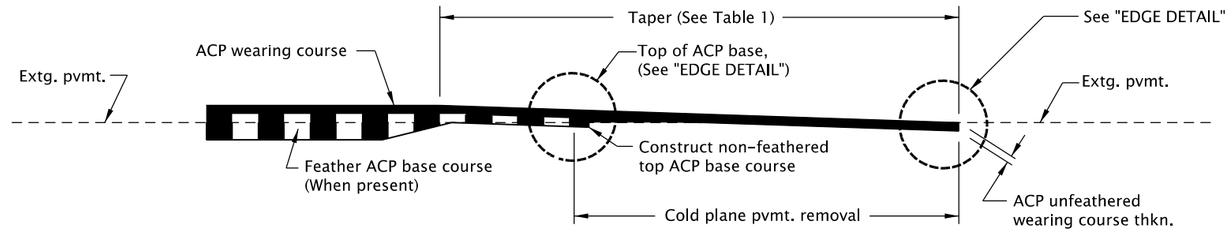
20-JUL-2020
RD610.dgn



METHOD A *

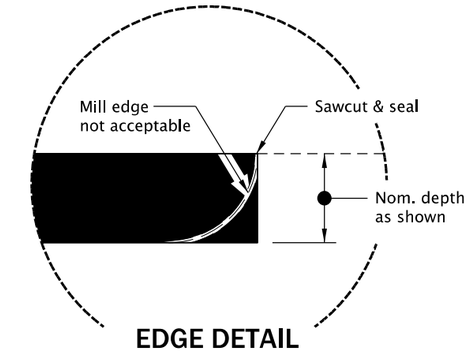
* See project plans for method.

TABLE 1	
TAPER LENGTHS	
Posted Speed	Taper Length
< 45 mph	1" per 50'
≥ 45 mph	1" per 100'

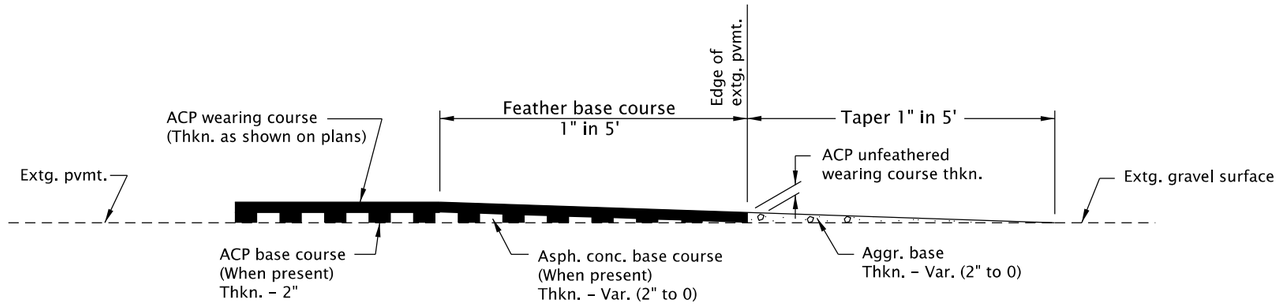


METHOD B *

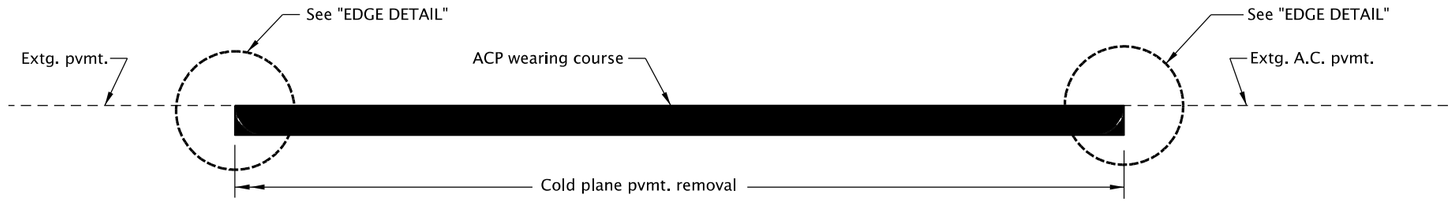
ACP PAVEMENT MATCH AT PROJECT ENDS OR BRIDGE ENDS WHEN NOT OVERLAYING THE BRIDGE



EDGE DETAIL



METHOD OF FEATHERING ACP PAVEMENT AT GRAVEL APPROACHES



METHOD OF MATCHING EXTG. ACP INLAY SURFACING

(Inlay to extg. asphalt conc. pvmt.)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

ASPHALT CONCRETE PAVEMENT (ACP) DETAILS

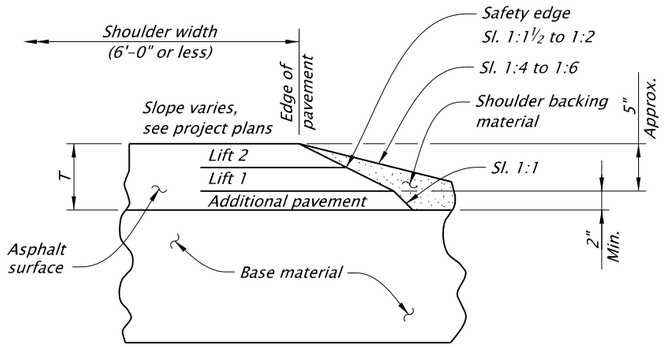
2024

DATE	REVISION DESCRIPTION

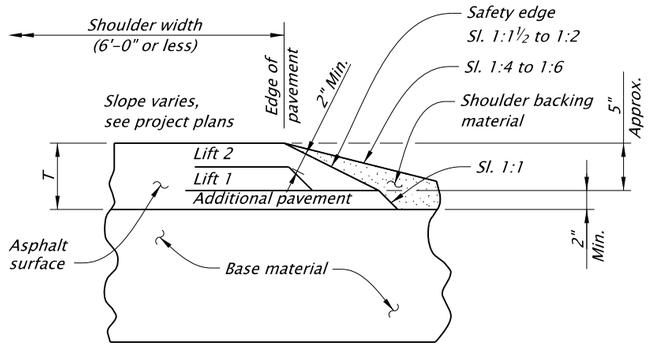
CALC. BOOK NO. N/A | SDR DATE 25-JUL-2017 | **RD610**

Effective Date: December 1, 2023 – May 31, 2024

19-JUL-2021
RD615.dgn

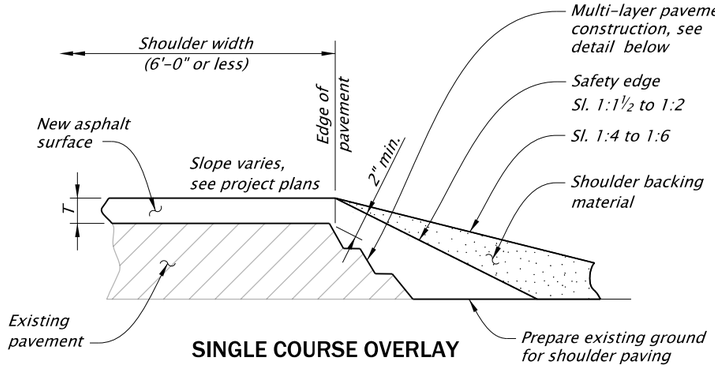


SAFETY EDGE PLACED WITH LIFTS

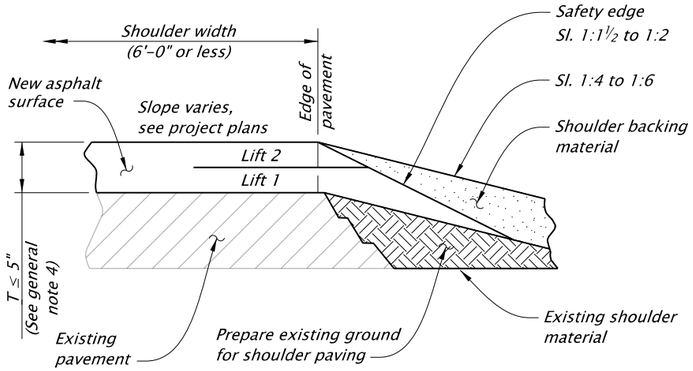


SAFETY EDGE PLACED ONLY WITH FINAL LIFT

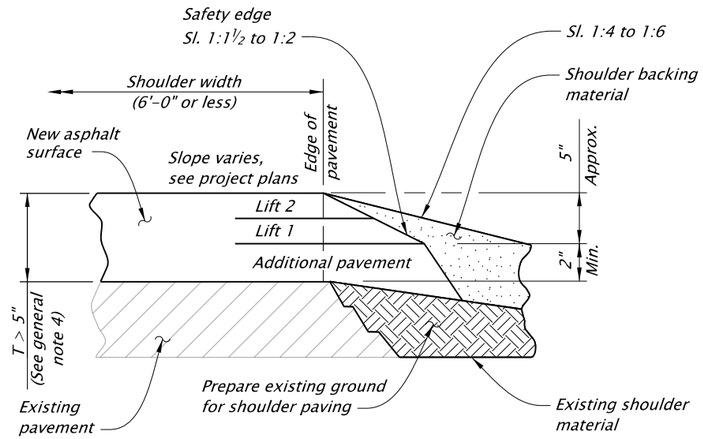
SAFETEY EDGE FOR ASPHALT CONCRETE (NEW CONSTRUCTION)



SINGLE COURSE OVERLAY

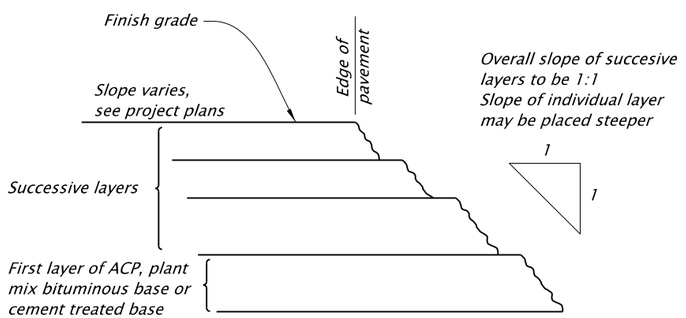


PAVEMENT THICKNESS (T) 5" OR LESS

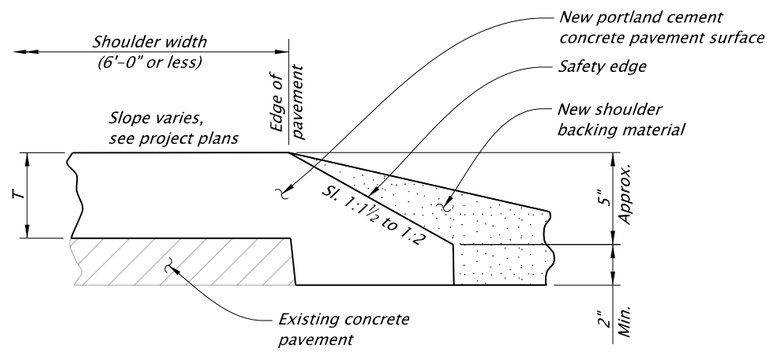


PAVEMENT THICKNESS (T) GREATER THAN 5"

SAFETY EDGE FOR ASPHALT CONCRETE RECONSTRUCTION (INCLUDING MILL, INLAY AND OVERLAY)



MULTI-LAYER PAVEMENT CONSTRUCTION



SAFETY EDGE FOR PORTLAND CEMENT CONCRETE PAVEMENT OVERLAY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Safety edges are required at the outside edges of the paved roadway (edge of travel lane or edge of paved shoulders), where the wearing surface thickness is 2" or greater, except where indicated in the plans.*
2. *Construct the safety edge at a slope of 1:1½ to 1:2 measured from the pavement surface.*
3. *Do not construct safety edge at intersections, paved drives, or other obstructions.*
4. *For total new asphalt depth of "T"≤5", construct the safety edge to the full thickness of the surface and intermediate courses. For total new asphalt depth of "T" > 5", construct the safety edge to a depth of 5" approximately with a 1:1 sloped face below the safety edge.*

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SURFACE EDGE DETAILS

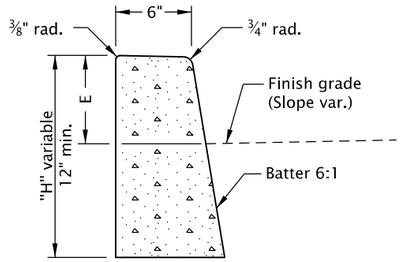
2024

DATE	REVISION DESCRIPTION
07-2021	TITLE CHANGED, REVISED DETAILS AND NOTES

CALC. BOOK NO. N/A | SDR DATE 19-JUL-2021 | **RD615**

Effective Date: December 1, 2023 - May 31, 2024

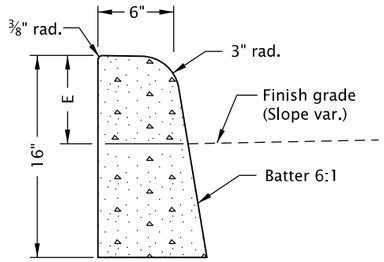
20-JUL-2020
RD700.dgn



O.D.O.T. & City of Portland Standard "H"=16"

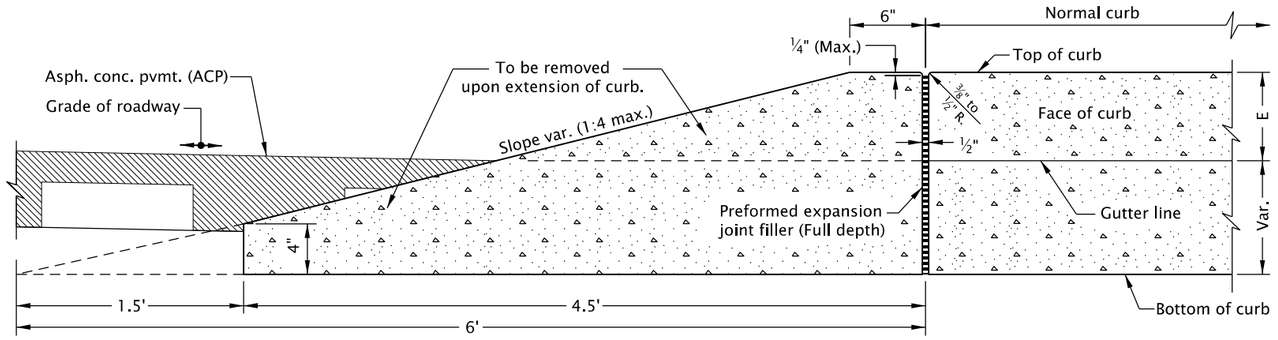
STANDARD CURB

(See general note 11)

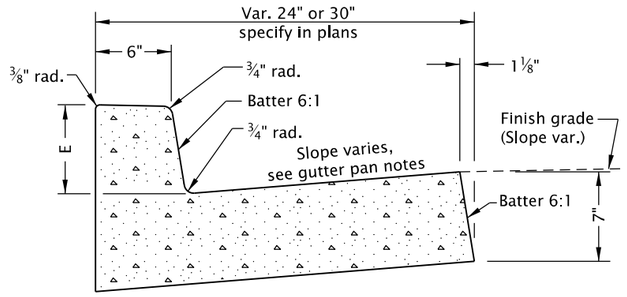


MOUNTABLE CURB

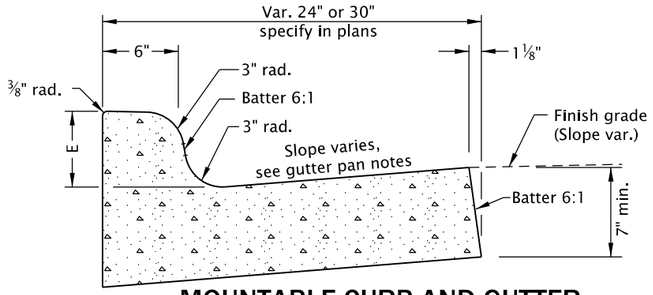
(See general note 11)



CURB ENDING DETAIL



CURB AND GUTTER



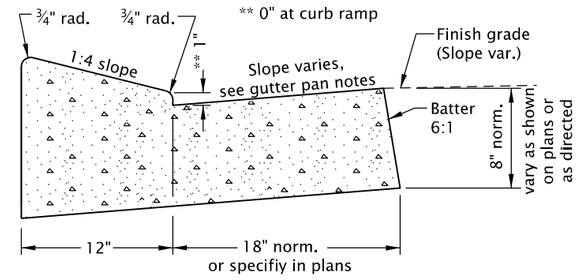
MOUNTABLE CURB AND GUTTER

GUTTER PAN NOTES:

Slope 5.0% normal.

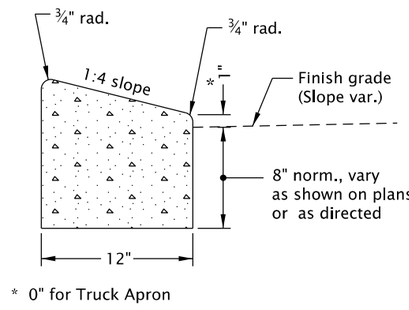
Slope 4.0% max. at curb ramps.

Vary slope as reqd. for drainage. Vary where shown on plans, and allowed by jurisdiction.



LOW PROFILE MOUNTABLE CURB AND GUTTER

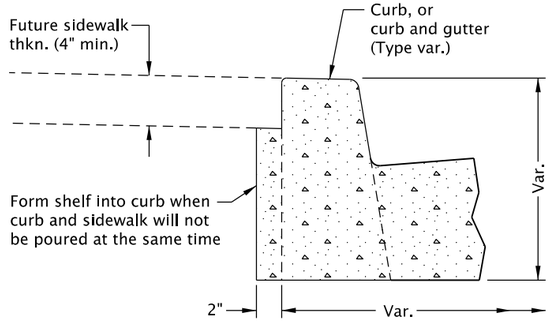
(Where shown on plans)



* 0" for Truck Apron

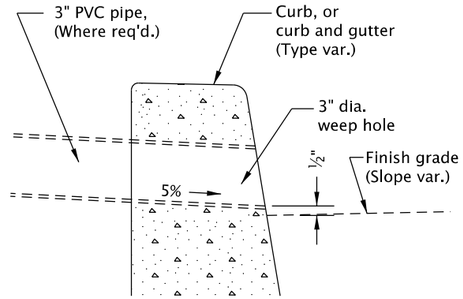
LOW PROFILE MOUNTABLE CURB

(See general note 11)



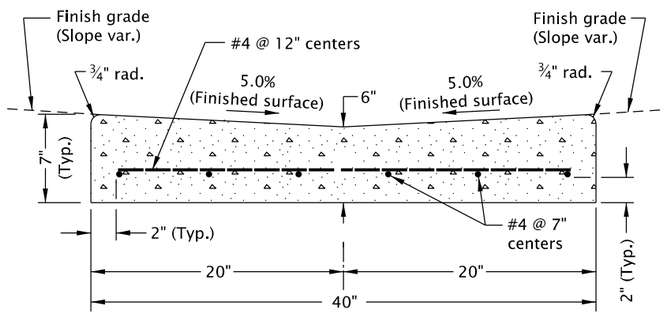
MODIFICATION FOR KEYWAY

(Where shown on plans)



WEEP HOLE DETAIL

(Where shown on plans, and allowed by jurisdiction)



VALLEY GUTTER

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 6" to 9", as measured vertically from flowline to highest point on curb. Vary as shown on plans or as directed. O.D.O.T standard "E"=7".
2. Const. curb expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. curb contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" Is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".
5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwgs. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwgs. RD900 series.
11. On or along state highways, curb and gutter is required at curb ramp.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CURBS

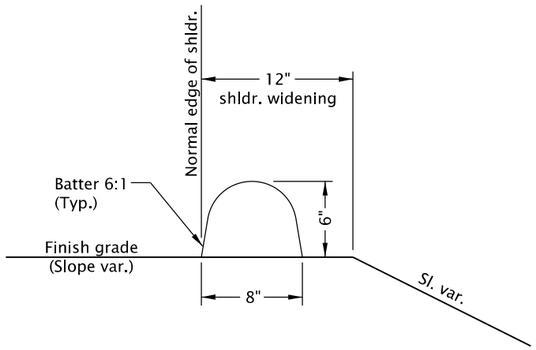
2024

DATE	REVISION DESCRIPTION

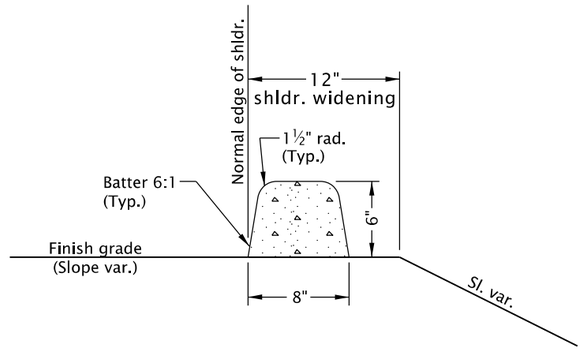
CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD700**

Effective Date: December 1, 2023 - May 31, 2024

20-JUL-2020
RD701.dgn



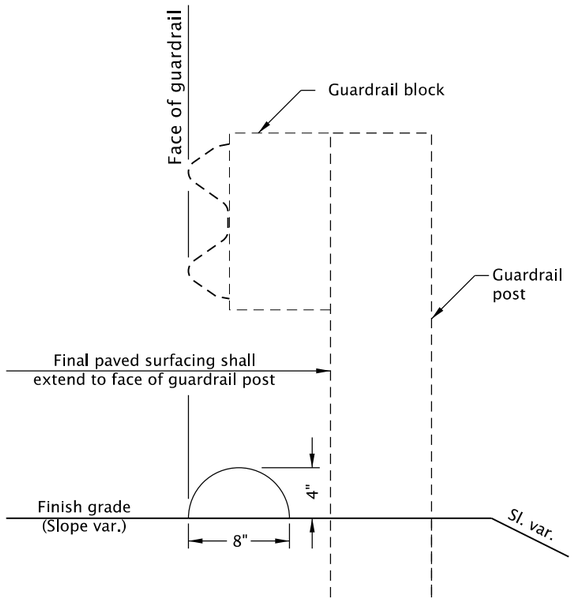
ASPHALT CONCRETE



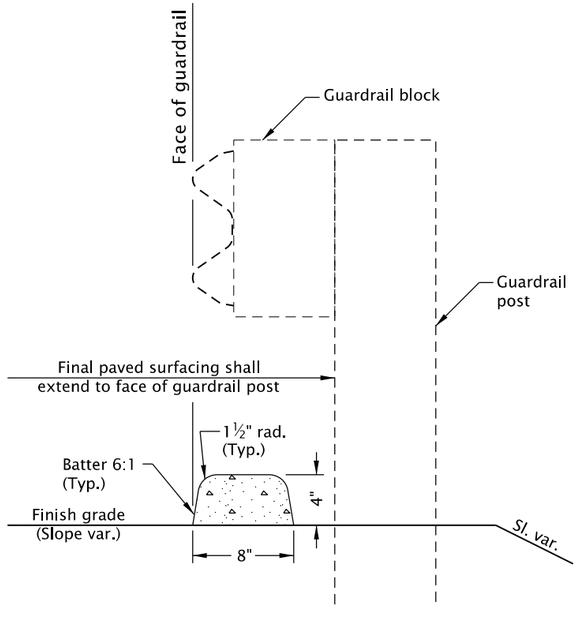
PORTLAND CEMENT CONCRETE

DRAINAGE CURBS

(See general note 4)



ASPHALT CONCRETE



PORTLAND CEMENT CONCRETE

DRAINAGE CURBS UNDER GUARDRAIL

(See general note 4)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For PCC drainage curbs, construct curb expansion joints at 200' maximum spacing, and at points of tangency.
2. For PCC drainage curbs, construct curb contraction joints at 15' maximum spacing.
3. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
4. When bonding to dense graded ACP, apply epoxy cement between surfaces.
5. When drainage curb is required, curb alignment shall be the same as face of guardrail, as shown above. When a run of drainage curb, or any part thereof, is placed under guardrail, curb height shall be 4".
6. For other curb types, see Std. Dwg. RD700.
7. For guardrail details not shown, see Std. Dwg. RD400.

All materials shall be in accordance with the current Oregon Standard Specifications.

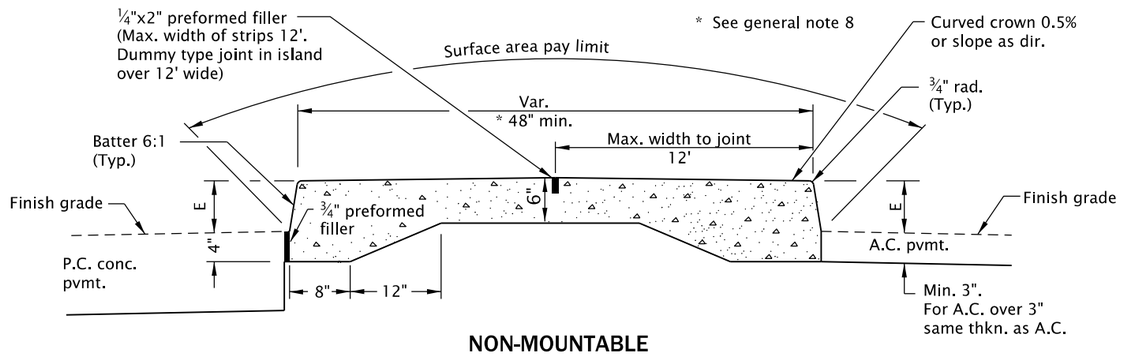
OREGON STANDARD DRAWINGS

DRAINAGE CURBS

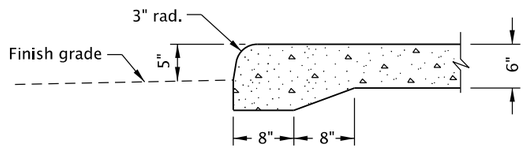
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD701**

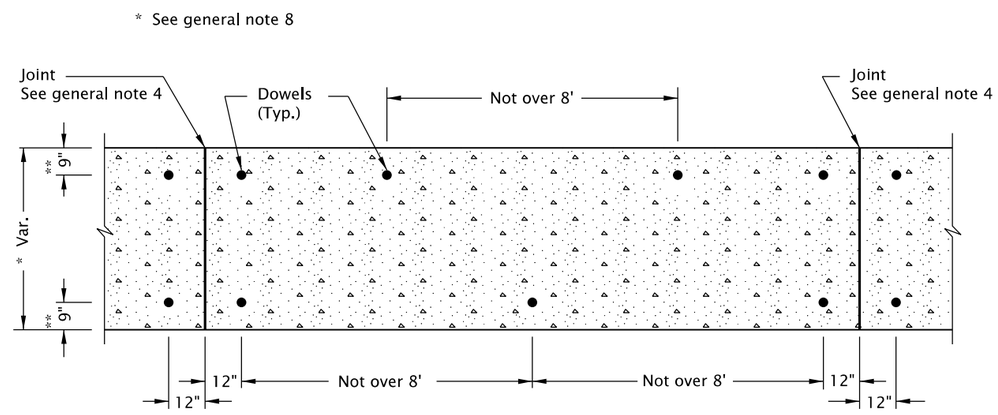


NON-MOUNTABLE



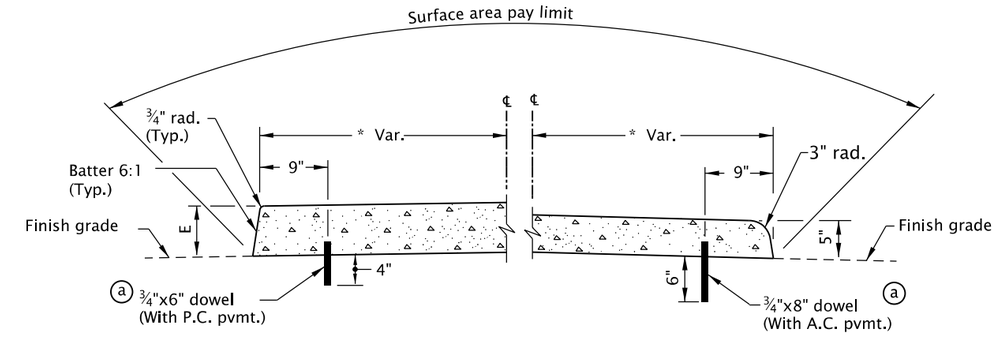
MOUNTABLE
(For surfacing details not shown, see above)

TYPE A



DOWEL PLAN
FOR TYPE C OR TYPE CA ISLANDS & TRANSITIONS
(ON SURFACE OF NEW OR EXISTING PAVEMENT)

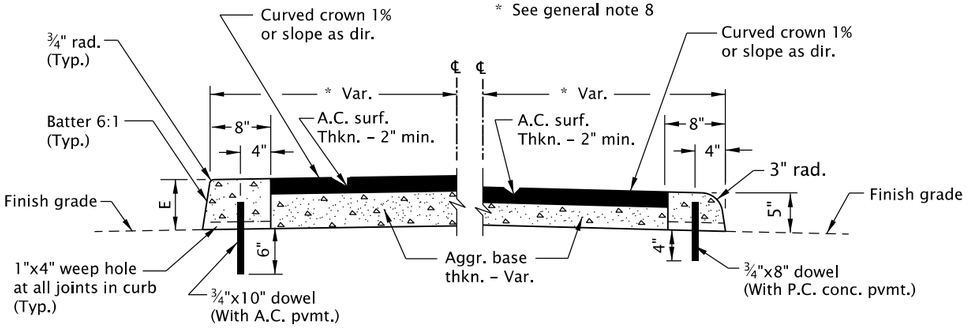
** Also see below for type CA island requirement.



NON-MOUNTABLE **MOUNTABLE**

ⓐ No dowels reqd. for Type C islands 5' wide or wider

TYPE C



NON-MOUNTABLE **MOUNTABLE**

TYPE CA

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 7" normal. Vary as shown on plans or as directed.
2. Standard batter is shown. Vary as shown on typical section or as directed.
3. Transverse joints in conc. islands to match joints in conc. pvmt. and to be of same type (Omit dowels in expansion joints).
4. Set joint spacing 200' max. for expansion and 15' max. for contraction.
5. Place preformed filler along one side of conc. islands in conc. pvmt. and around all curved ends.
6. Dowels shall be ¾" dia. with length as shown.
   In new conc. pvmt. set dowels before conc. hardens.
   In extg. conc. pvmt. drill holes 1½" dia. and grout dowels in.
   In A.C. pvmt. drive dowels.
7. For transitions to traffic separators, see Std. Dwg. RD706.
8. Minimum island width is 48". For accessible route islands, see Std. Dwg. RD710.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

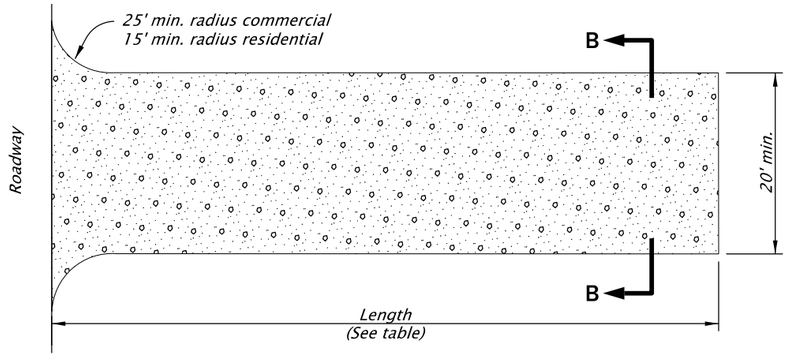
ISLANDS

2024

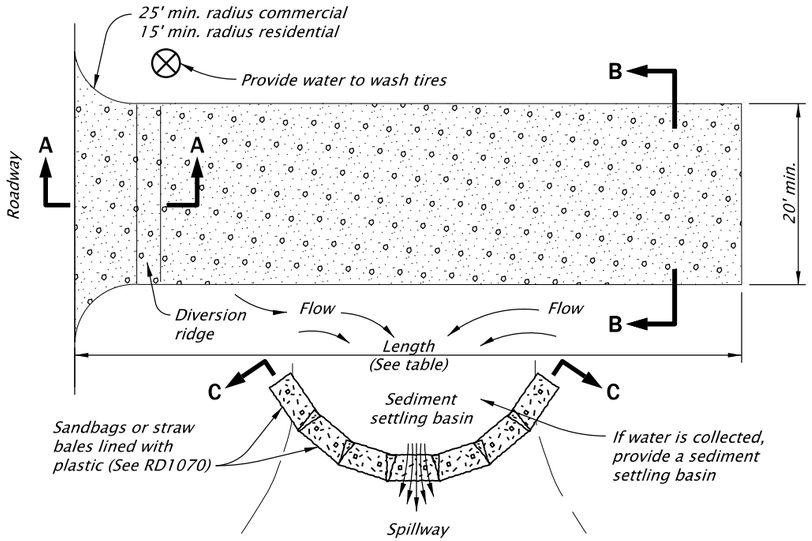
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 16-JUL-2018 | **RD705**

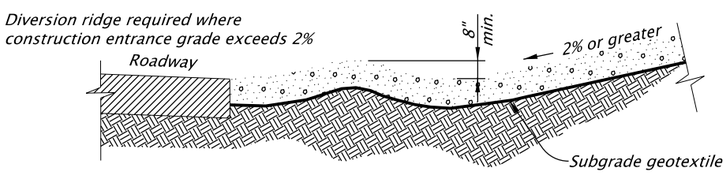
RD1000.dgn 20-JAN-2021



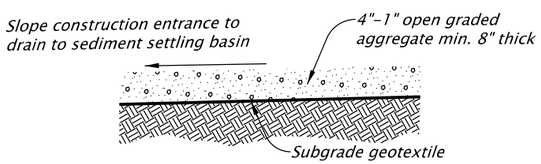
CONSTRUCTION ENTRANCE - TYPE 1
NOT TO SCALE



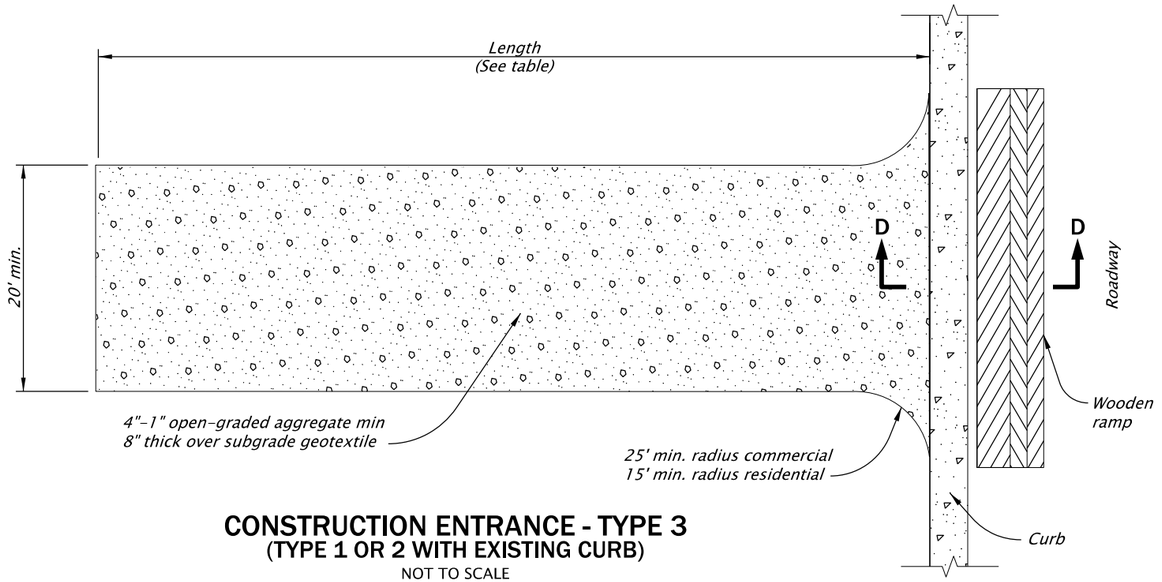
CONSTRUCTION ENTRANCE - TYPE 2
NOT TO SCALE



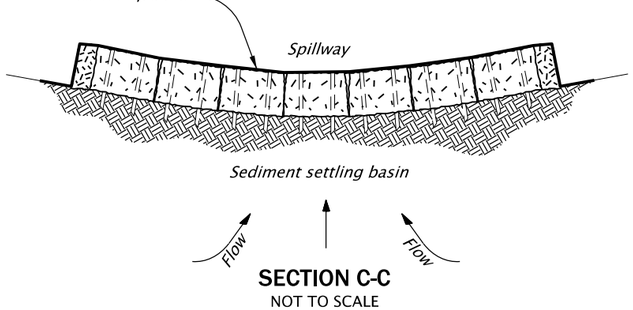
SECTION A-A
NOT TO SCALE



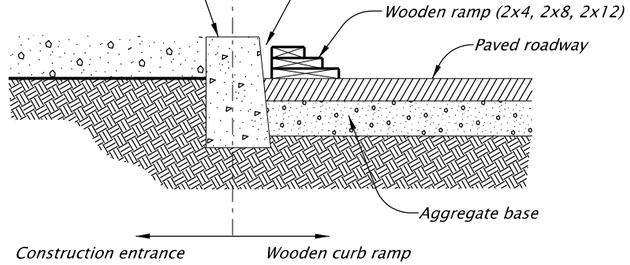
SECTION B-B
NOT TO SCALE



CONSTRUCTION ENTRANCE - TYPE 3
(TYPE 1 OR 2 WITH EXISTING CURB)
NOT TO SCALE



SECTION C-C
NOT TO SCALE



WOODEN CURB RAMP SECTION D-D
NOT TO SCALE

NOTES:
1. *The Type 1 entrance is a simple entrance without a diversion ridge or settling basin.*
2. *The wooden ramp may be used on either Type 1 or Type 2 entrances in situations where there is curb and the curb is not removed for the construction entrance.*

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	*Area Of Exposed Soil (Acre)*
20	*0.25*
50	*0.25 < A < 1.0*
100	*A > 1.0*

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

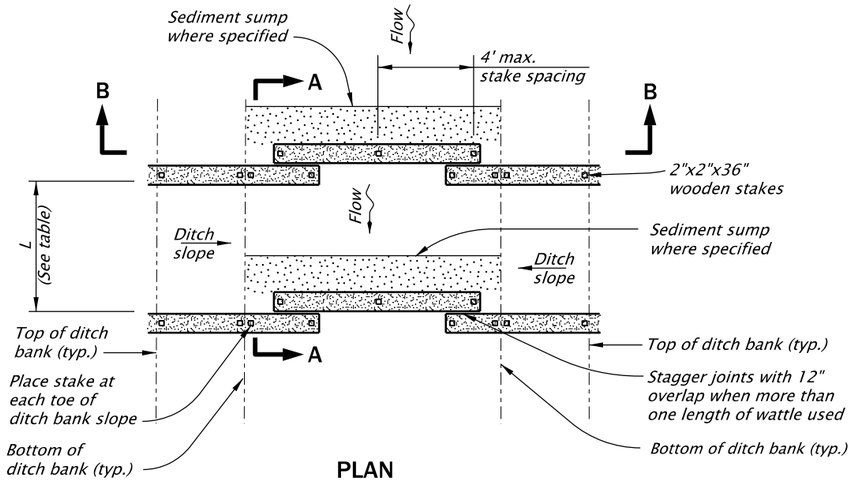
CONSTRUCTION ENTRANCES

2024

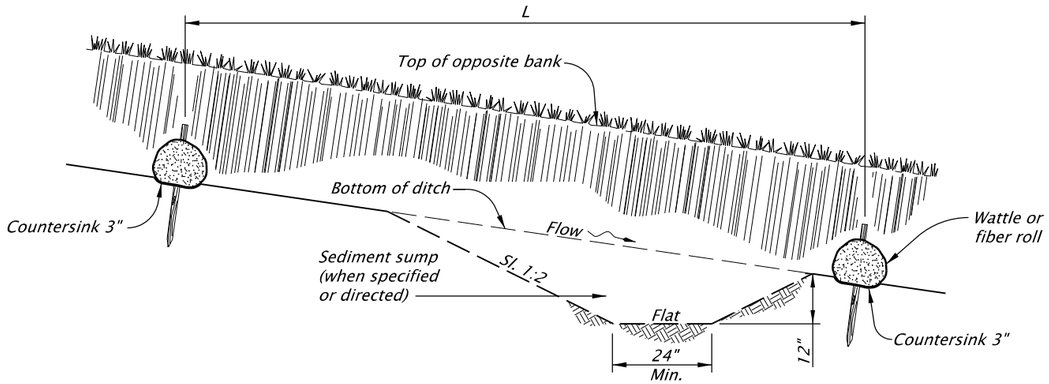
DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1000**

20-JAN-2021
RD1006.dgn



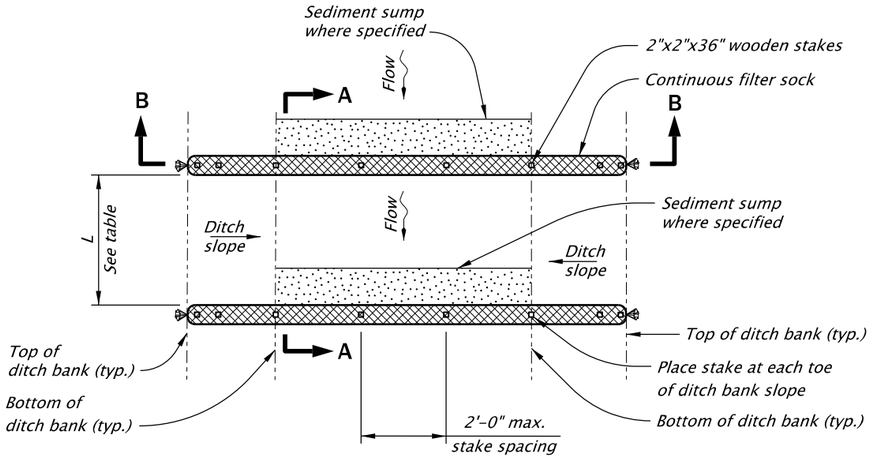
PLAN



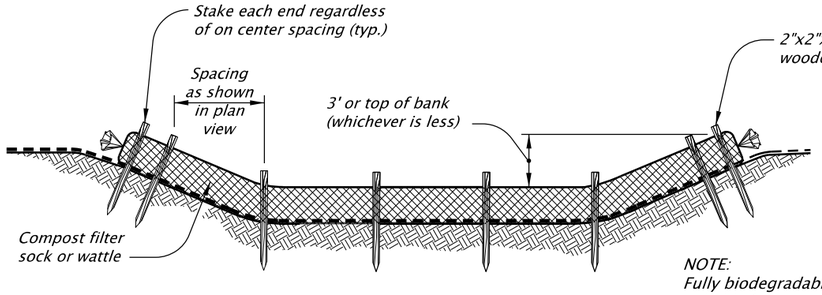
SECTION A-A

WATTLE / FIBER ROLL CHECK DAM - TYPE 2

NOT TO SCALE



PLAN

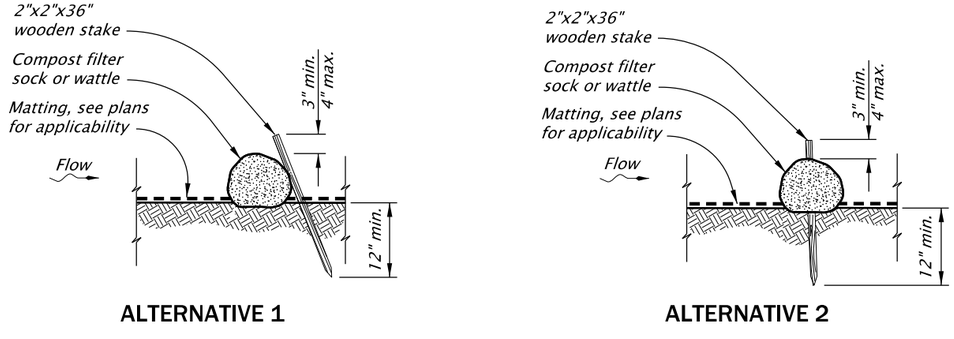


SECTION B-B

NOTE:
Fully biodegradable compost socks are suitable for permanent installation only. Product becomes too fragile to be moved or removed intact.

COMPOST FILTER SOCK CHECK DAM - TYPE 6

NOT TO SCALE



ALTERNATIVE 1

ALTERNATIVE 2

FIBER ROLL AND COMPOST SOCK STAKING ALTERNATIVES

NOT TO SCALE

MAXIMUM CHECK DAM SPACING "L"

Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	* *	* *	15'	20'
9%	* *	* *	16'	22'
8%	* *	* *	18'	25'
7%	* *	* *	21'	28'
6%	* *	16'	25'	33'
5%	* *	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

* * Not allowed H = Min. dam height

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

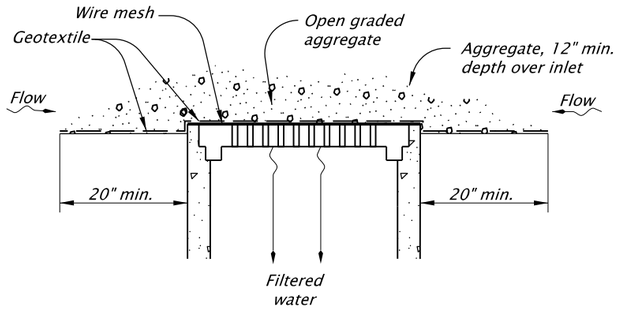
CHECK DAMS TYPE 2 AND 6

2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

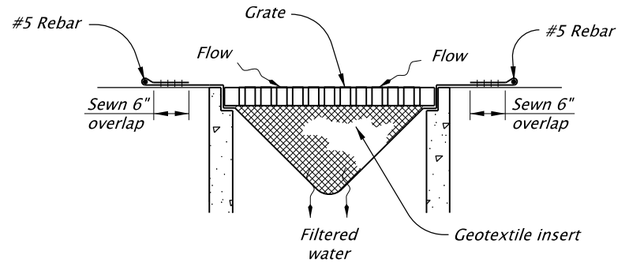
CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1006**

20-JAN-2021
RD1010.dgn



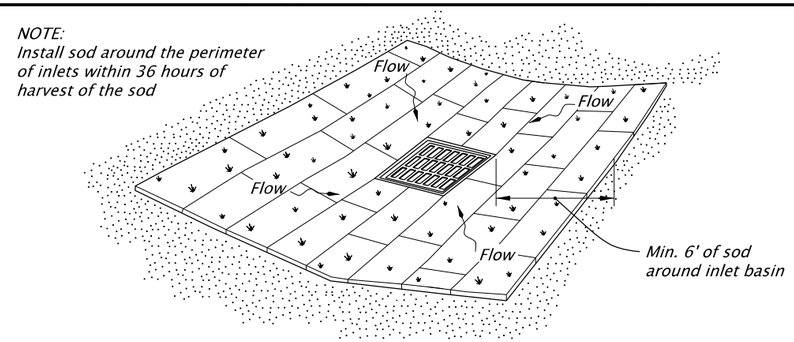
GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2

NOT TO SCALE



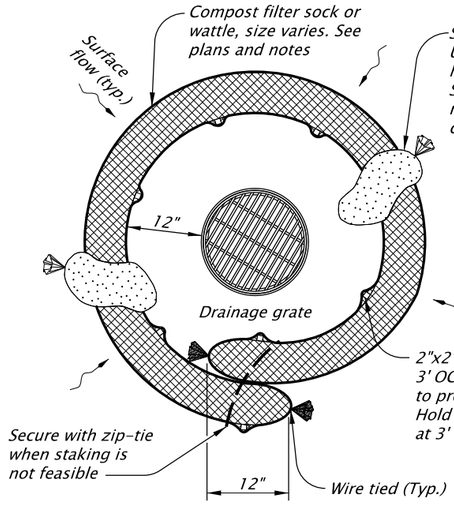
PREFABRICATED FILTER INSERT - TYPE 3

NOT TO SCALE

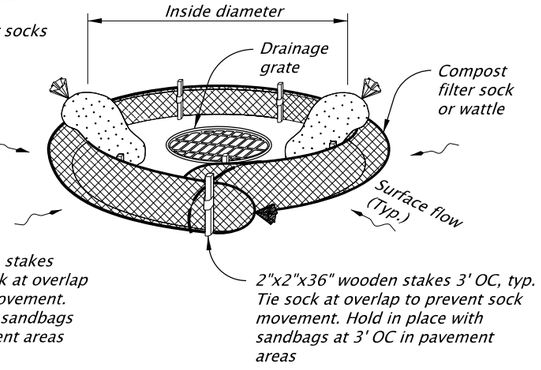


SOD PROTECTION - TYPE 6

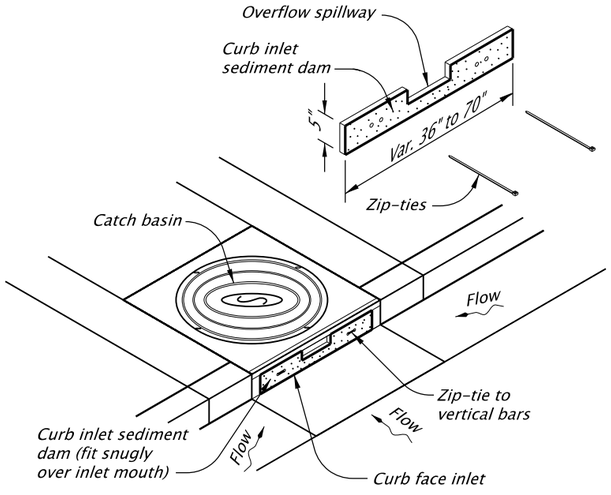
NOT TO SCALE



AREA DRAIN PLAN

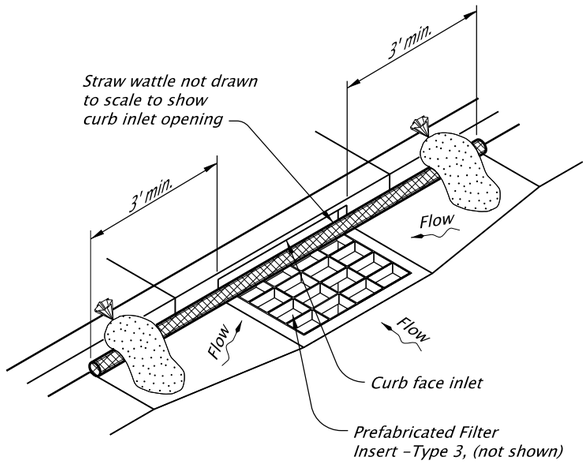


AREA DRAIN PERSPECTIVE VIEW



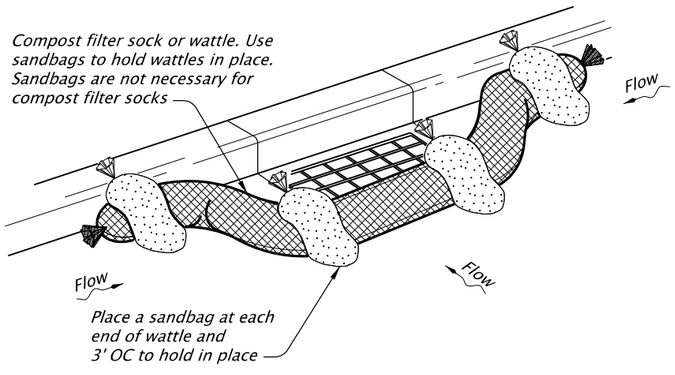
CURB INLET SEDIMENT DAM - TYPE 10

NOT TO SCALE



WATTLE BARRIER WITH FILTER INSERT - TYPE 11

NOT TO SCALE



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7

NOT TO SCALE

NOTES:
Type 2 - Geotextile/wire mesh/aggregate
Place the wire mesh over the grate.
Place sediment fence geotextile over the wire mesh and perimeter area around structure.
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts
Install prefabricated filter inserts according to the plans, special provisions, and manufacturer recommendations.
Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP's to prevent the potential of sediments entering project storm systems.
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock
Drive 2"x2" wood stakes a minimum of 6" into ground and flush with the top of the sock.
Overlap ends of sock per manufacturers recommendations (12"min., 36" max.).
Use 8" to 12" dia sock on curbside in traffic areas.

(Type 7 cont.)
Use 12" to 18" dia sock in non-traffic areas or areas where the larger socks can be used safely.
use synthetic mesh socks for temporary installations.

Type 10 - Curb inlet sediment dam
Fit curb inlet sediment dam snugly into inlet mouth. Curb inlet sediment dam is required for use with inlet filter insert where at-grade inlet grate and curb inlet are combined at a catch basin.

Type 11 - Wattle barrier with filter insert
Install prefabricated filter insert per Type 3 detail.
Install wattles over opening and 36" to each side of opening tight against curb. Adjust wattle to force storm water to flow through filter insert or wattle prior to leaving the site.
Adjust, replace or modify the inlet protection as needed to prevent sediment laden water from entering the catch basin.

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

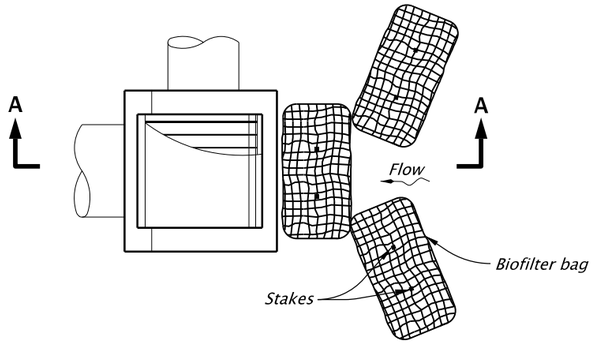
INLET PROTECTION TYPE 2, 3, 6, 7, 10 AND 11

2024

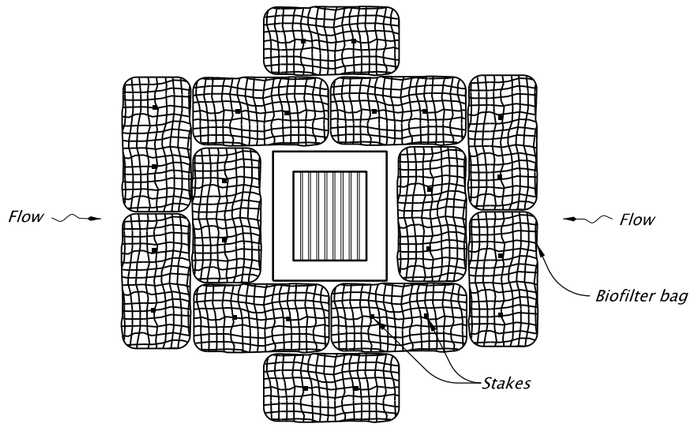
DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS
01-2021	MOVED NOTES UP FROM OVERLAPPING THE SHEET BORDER

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1010**

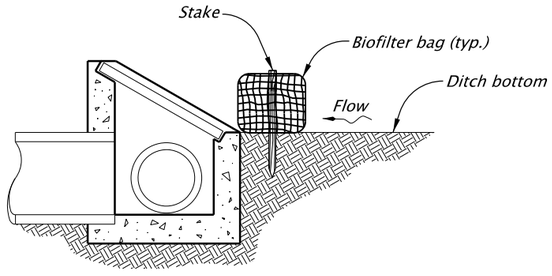
20-JAN-2021
RD1015.dgn



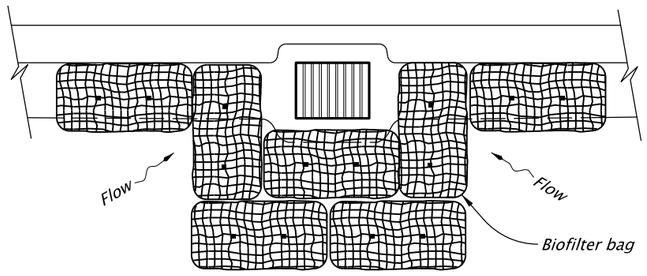
PLAN
DITCH INLET



PLAN
AREA DRAIN



SECTION A-A
DITCH INLET



PLAN
CATCH BASIN

BIOFILTER BAGS - TYPE 4

NOT TO SCALE

NOTES:

1. *Stake biofilter bags with 2"x2"x36" wood stakes, and use a minimum 2 stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags.*
2. *Omit stakes when bags are placed on pavement surface.*
3. *Overlap all bag joints 6".*
4. *Biofilter bags used on active roadways are easily displaced and made ineffective if struck by vehicles. If struck by a cyclist, falls with injury could result. On active roadways alternative inlet protection should be considered.*

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

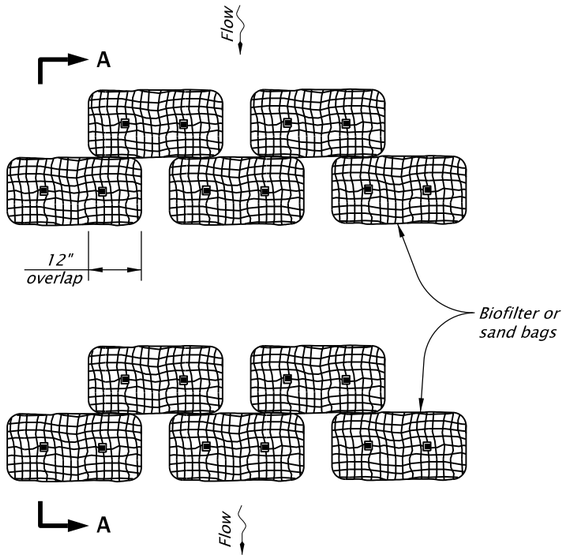
INLET PROTECTION TYPE 4

2024

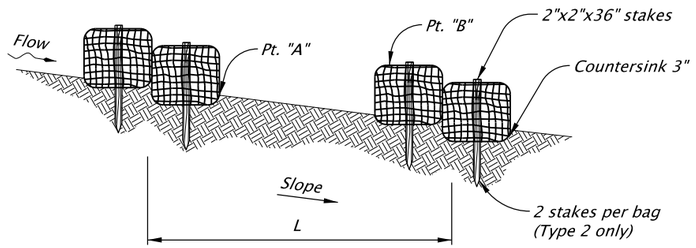
DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC BOOK NO. N/A | SDR DATE 20-JAN-2021 | RD1015

RD1030.dgn 20-JAN-2021



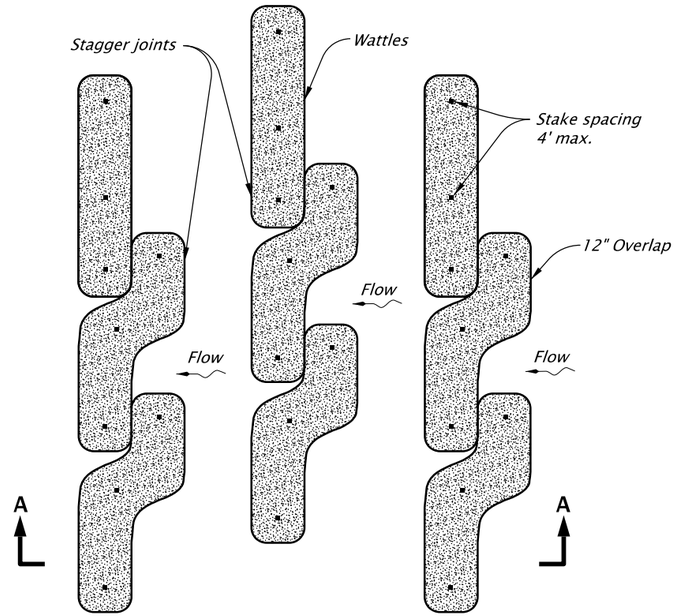
PLAN



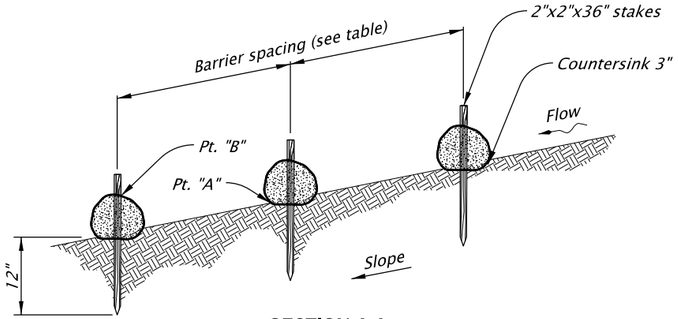
SECTION A-A

BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4

NOT TO SCALE



PLAN



SECTION A-A

FIBER ROLL BARRIER - TYPE 3

NOT TO SCALE

NOTES:

1. *For Type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12". Omit stakes if bags are placed on paved surface.*

2. *For Type 2 and Type 4 barriers, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".*

Type 2 – Biofilter bags
Type 3 – Wattles
Type 4 – Sand bags

BARRIER SPACING		
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	*% SLOPE*	*MAXIMUM SPACING ON SLOPE*
10% Flatter	*1:10 or Flatter*	*300'*
10 > % ≥ 15	*10 > X ≥ 7.5*	*150'*
15 > % ≥ 20	*7.5 > X ≥ 5*	*100'*
20 > % ≥ 30	*5 > X ≥ 3*	*50'*
Steeper than 30%	*Steeper than 1:3*	*25'*

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 2, 3 AND 4

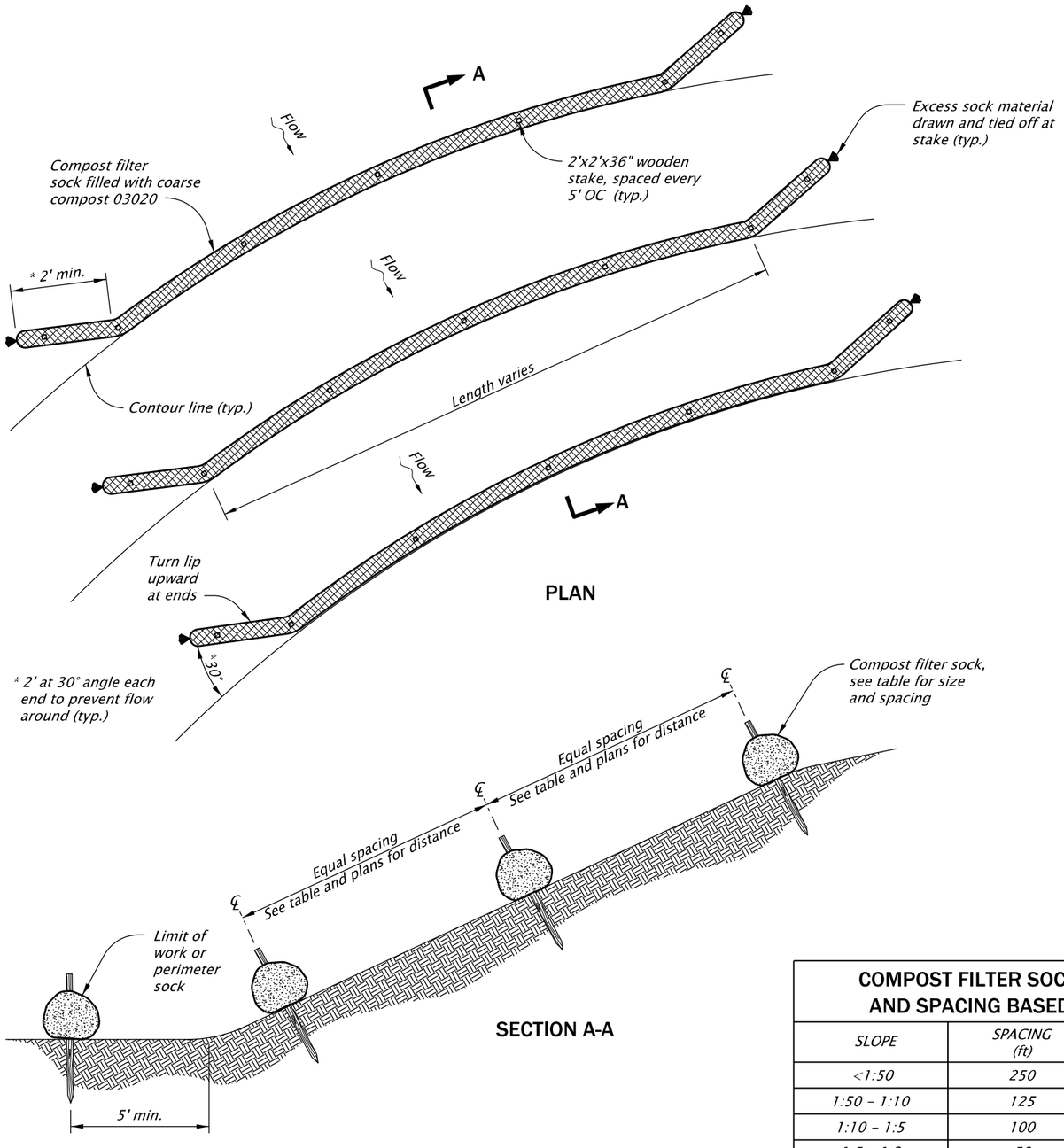
2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1030**

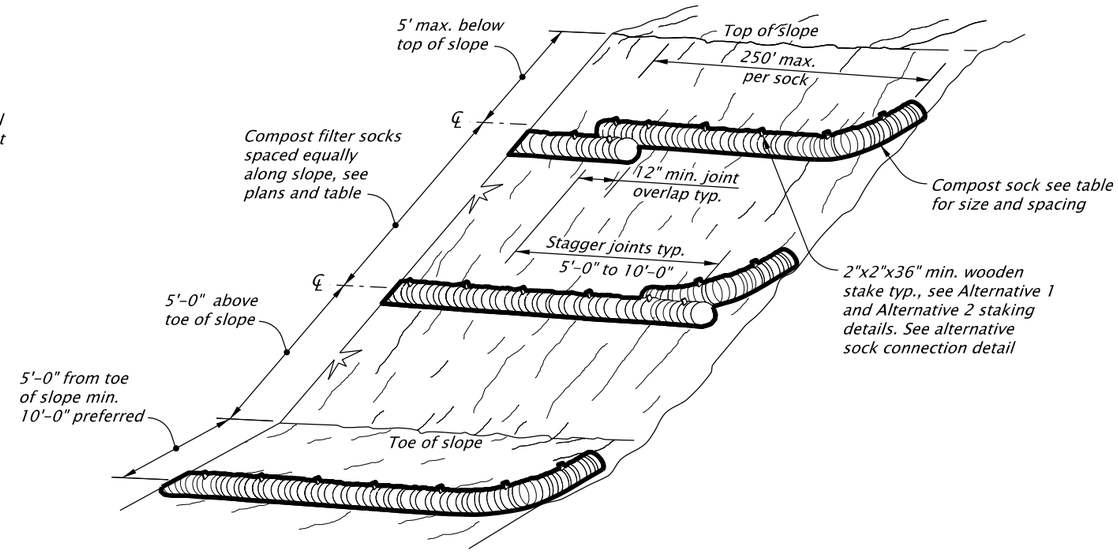
20-JAN-2021

RD1032.dgn

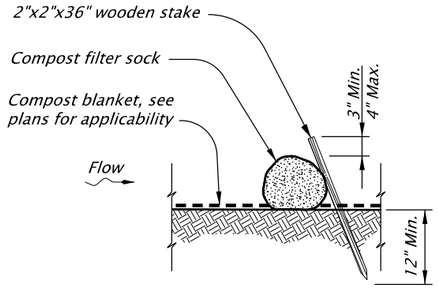


PLAN

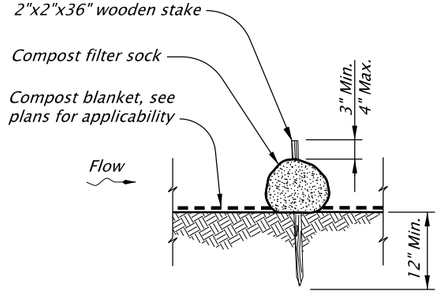
SECTION A-A



SLOPE APPLICATION - PERSPECTIVE VIEW



ALTERNATIVE 1 (Staking)



ALTERNATIVE 2 (Staking)

COMPOST FILTER SOCK DIAMETER AND SPACING BASED ON SLOPE		
SLOPE	*SPACING (ft)*	*DIAMETER (in)*
<1:50	*250*	*8*
1:50 - 1:10	*125*	*12*
1:10 - 1:5	*100*	*12*
1:5 - 1:2	*50*	*18*
>1:2	*25*	*18*

NOTE:
Fully biodegradable compost sock mesh is recommended for permanent installations. Where compost socks must be moved or removed, synthetic sock mesh should be used.

COMPOST FILTER SOCK

NOT TO SCALE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

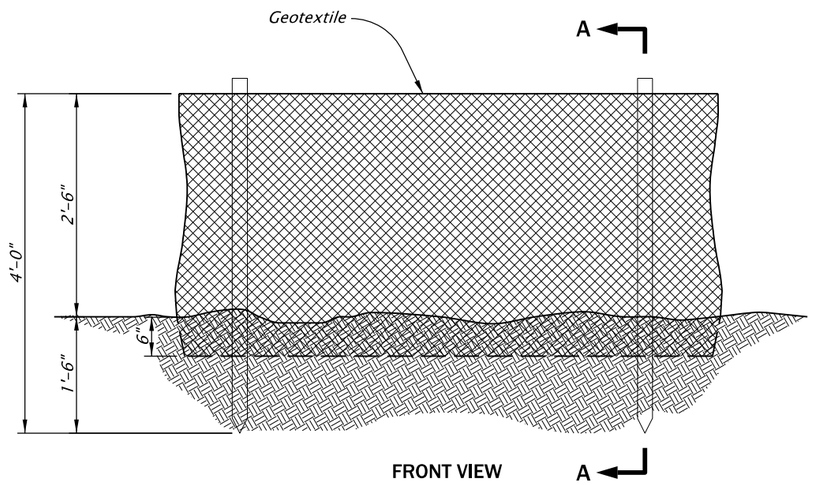
SEDIMENT BARRIER TYPE 8

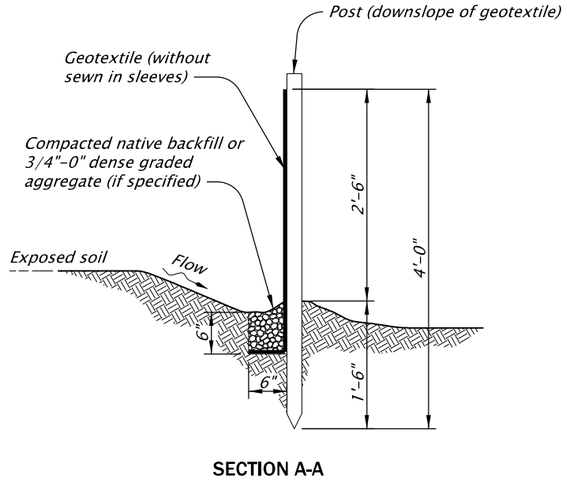
2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | RD1032

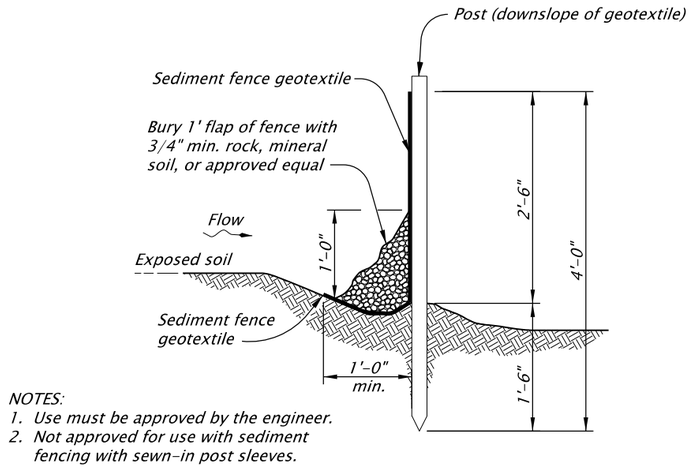
20-JAN-2021
RD1040.dgn





SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

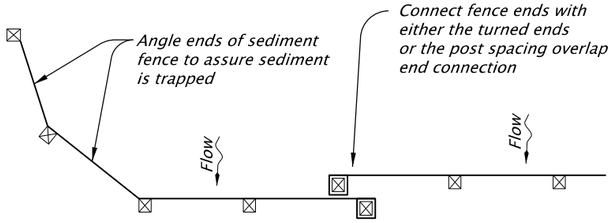
NOT TO SCALE



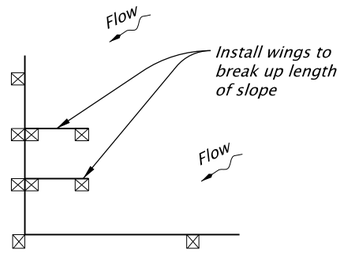
NOTES:
1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2

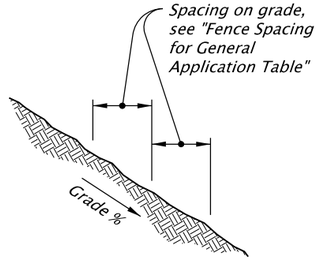
NOT TO SCALE



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE



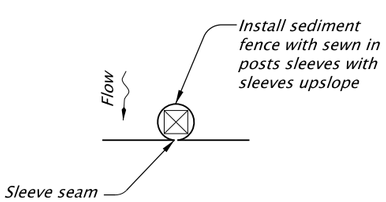
GENERAL NOTES:
1. Use 2"x2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with "Fence Spacing for General Application Table".

FENCE SPACING FOR GENERAL APPLICATION TABLE

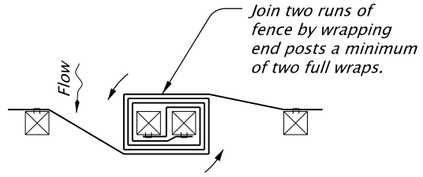
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

POST SPACING TABLE

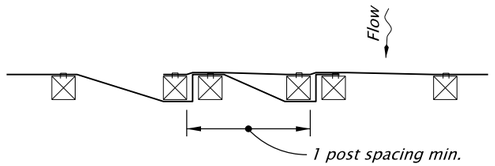
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

NOT TO SCALE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SEDIMENT FENCE

2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1040**

20-JAN-2021
RD1055.dgn

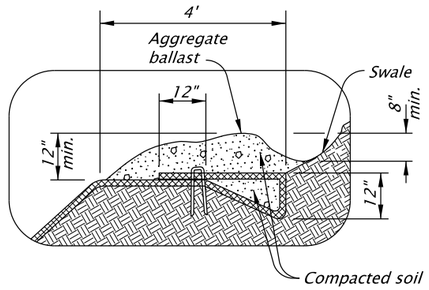


FIGURE A1:
TOP OF BANK ANCHOR TRENCH, H>3' AND TERMINAL SLOPE
NOT TO SCALE

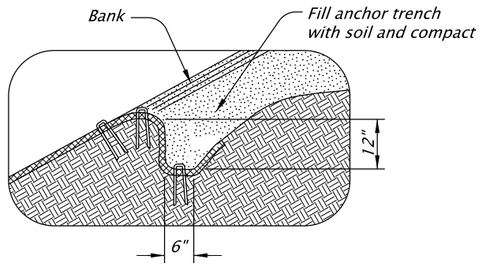


FIGURE A2:
TOP OF BANK ANCHOR TRENCH, H<3'
NOT TO SCALE

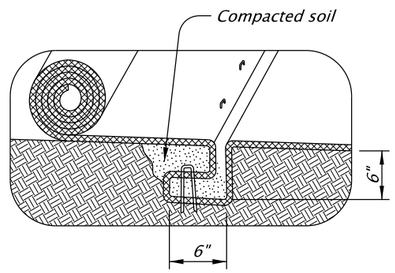


FIGURE A3:
CHANNEL CHECK SLOT
NOT TO SCALE

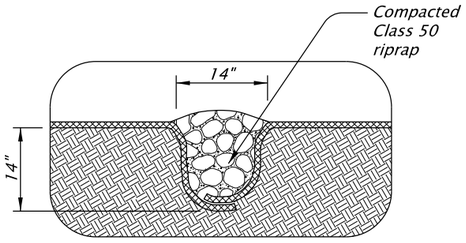


FIGURE A4:
CHANNEL CHECK SLOT WITH ROCK BACKFILL
NOT TO SCALE

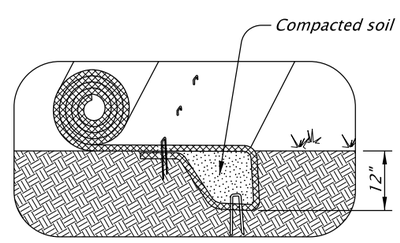
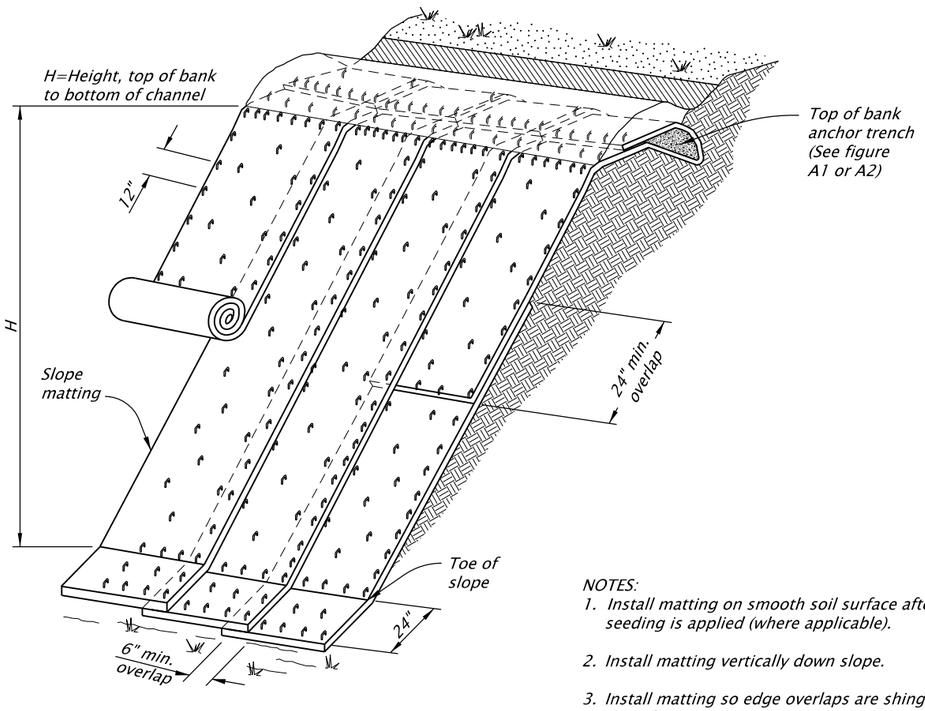
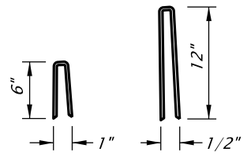


FIGURE A5:
INITIAL CHANNEL ANCHOR TRENCH
NOT TO SCALE

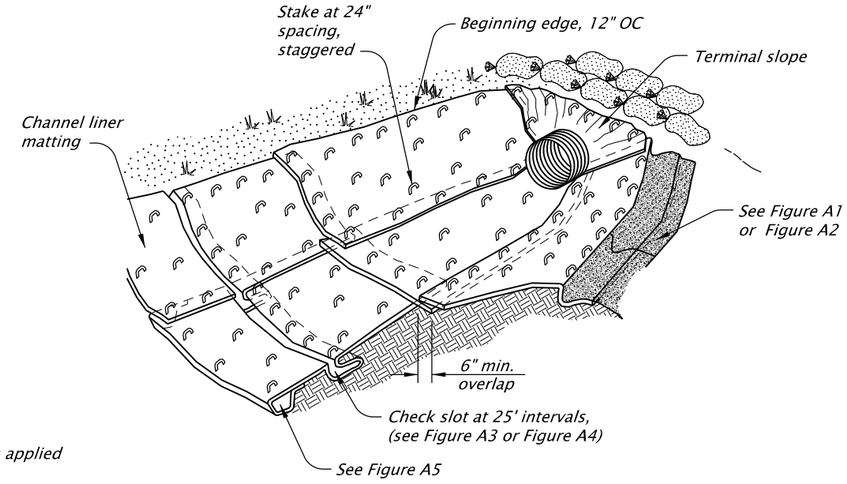


SLOPE MATTING ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. *Install matting on smooth soil surface after seeding is applied (where applicable).*
2. *Install matting vertically down slope.*
3. *Install matting so edge overlaps are shingled away from prevailing winds.*
4. *Place fastener at 12" OC on matting edges*
5. *Overlap upper mat over lower mat, and fasten.*
6. *Stagger alternate rows of fasteners placed at 24" OC*
7. *Extend mat 24" beyond toe of slope; fold mat back under 4" and fasten.*
8. *Matting Types A through E: Furnish fully biodegradable product. Matting with plastic or photodegradable components will not be accepted.*



STAPLES
NOT TO SCALE



CHANNEL MATTING ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. *Install matting on smooth soil surface after seeding is applied (where applicable).*
2. *Install channel liner matting, in the direction of water flow. Anchor upstream end of mat with check slot for culvert outfalls, place mat under pipe 12" minimum upstream from pipe outlet.*
3. *Construct check slots across channel bottom at 25' spacing and at the end of each mat (Fig. A3 or A4).*
4. *Overlap side channel liner matting edges 6" over the center channel liner matting and fasten edges 12" OC Continue overlap and stapling pattern for each additional side channel liner mat.*
5. *Lap upstream matting end 12" over beginning edge of downstream matting. Fasten 12" OC*
6. *Anchor top edge of side channel matting in trench and fasten 12" OC (Fig. A2).*
7. *Fasten matting interior at 24" OC with staggered spacing.*
8. *Construct initial anchor trench at downstream end of matting and terminal slope anchor at upstream end.*
9. *Matting Types A through E: Furnish fully biodegradable product. Matting with plastic or photodegradable components will not be accepted.*

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

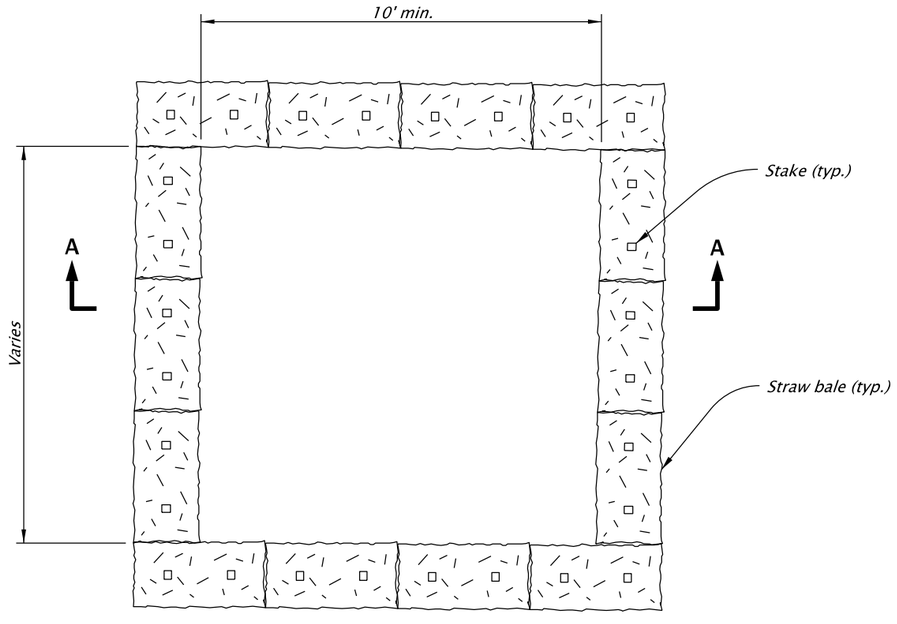
SLOPE AND CHANNEL MATTING

2024

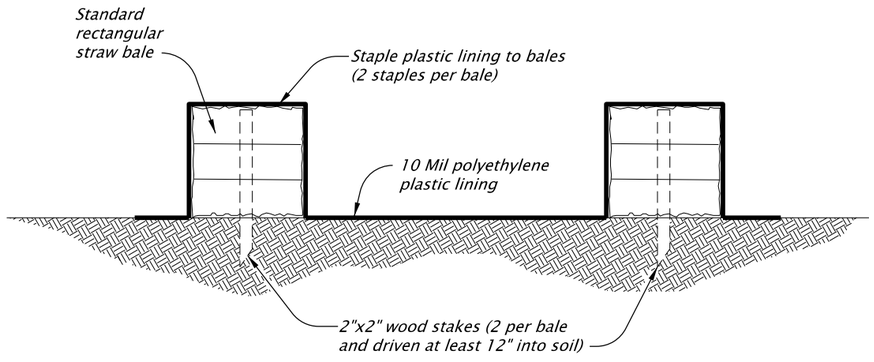
DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1055**

RD1070.dgn 20-JAN-2021



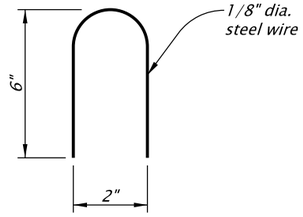
PLAN



SECTION A-A

CONCRETE TRUCK WASH OUT FACILITY

NOT TO SCALE



STAPLE DETAIL

NOT TO SCALE

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All materials shall be in accordance with the current Oregon Standard Specifications.

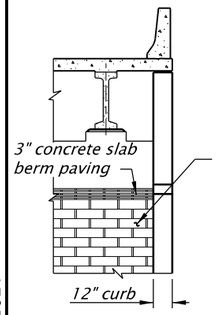
OREGON STANDARD DRAWINGS

CONCRETE TRUCK WASH OUT

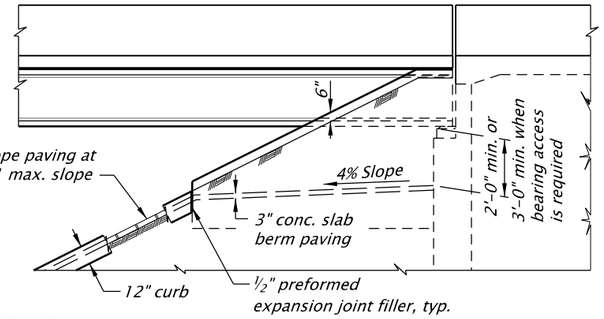
2024

DATE	REVISION DESCRIPTION

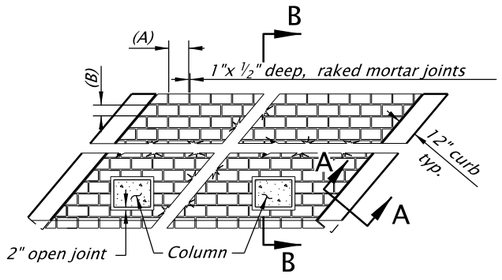
CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1070**



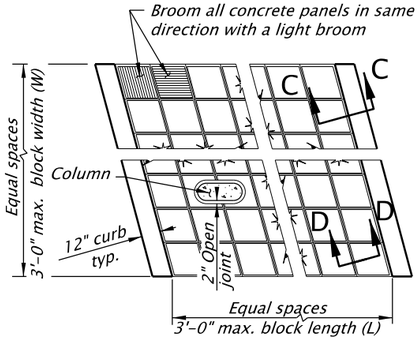
PARTIAL TRANSVERSE ELEVATION



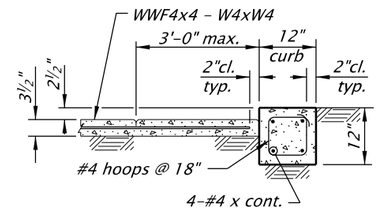
PARTIAL ELEVATION: CASE 1



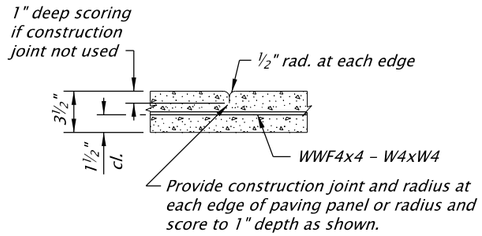
PRECAST BLOCK ALTERNATE PLAN



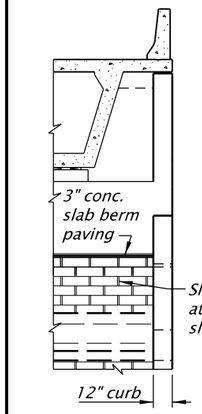
CAST-IN-PLACE ALTERNATE PLAN



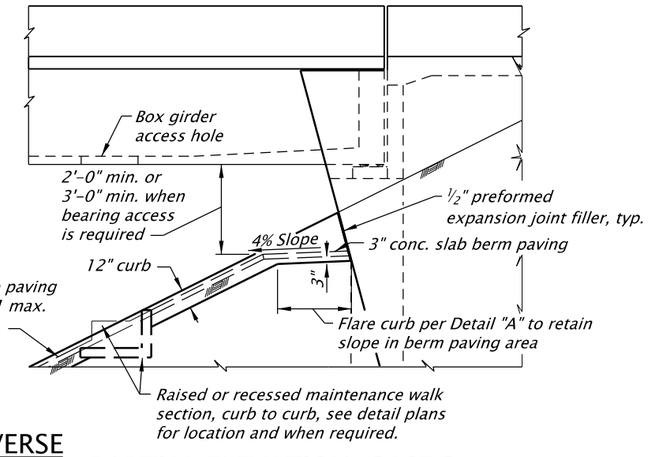
SECTION C-C



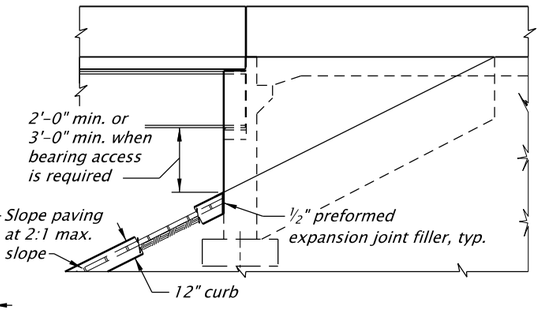
SECTION D-D



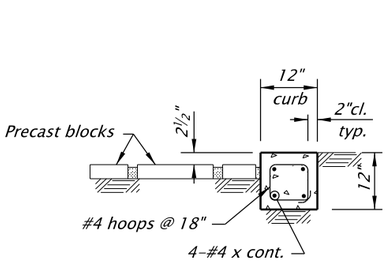
PARTIAL TRANSVERSE ELEVATION



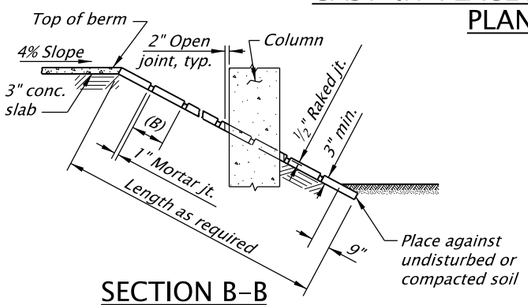
PARTIAL ELEVATION: CASE 3



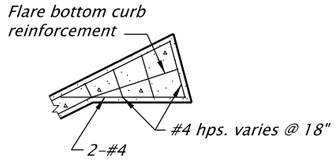
PARTIAL ELEVATION: CASE 2



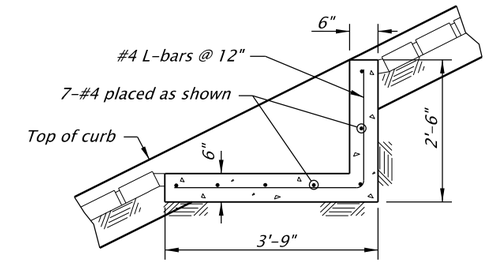
SECTION A-A



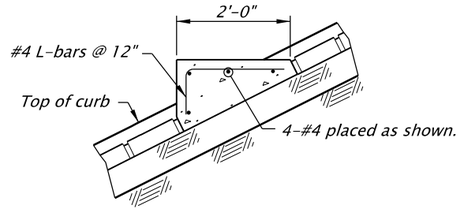
SECTION B-B



DETAIL "A"



RECESSED MAINTENANCE WALK SECTION



RAISED MAINTENANCE WALK SECTION

GENERAL NOTES

Provide all reinforcing steel according to ASTM Specification A706, or AASHTO M31 (ASTM A615), Grade 60. Use the following splice lengths unless shown otherwise:

Bar Size		#3	#4	#5
Splice Length	Uncoated	1'-0"	1'-4"	1'-8"
	Epoxy Coated	1'-5"	1'-10"	2'-4"

Provide all welded steel wire fabric according to AASHTO M55 (ASTM A185) or AASHTO M221 (ASTM A497). Place all fabric edge laps with no less than one mesh in width.
Place all bars and fabric as shown.
Construct all berm slabs with 3" deep cast-in-place unreinforced concrete.
Provide precast blocks or cast-in-place concrete panels for slope paving.
Use same size blocks at any bridge site.

PRECAST BLOCKS

Blocks may vary in size from 8" to 18" wide (B) by 16" to 36" long (A).
Provide the width to length ratio within the range of B/A = 0.33 to 0.50 with minimum thickness of 3".
Cast or cut odd blocks at job site.
Use hardrock or lightweight concrete. Minimum design strength in 28 days of 1500 psi.

CAST-IN-PLACE BLOCKS

Blocks may vary in size up to a maximum of 3'-0" in length (L) and width (W).
Provide the width to length ratio within the range of W/L = 0.5 to 1.0.
Blocks may be cast-in-place individually, in rows, or all simultaneously.
Each block shall have a full depth construction joint or 1" deep scored joint between each adjacent block or curb.

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

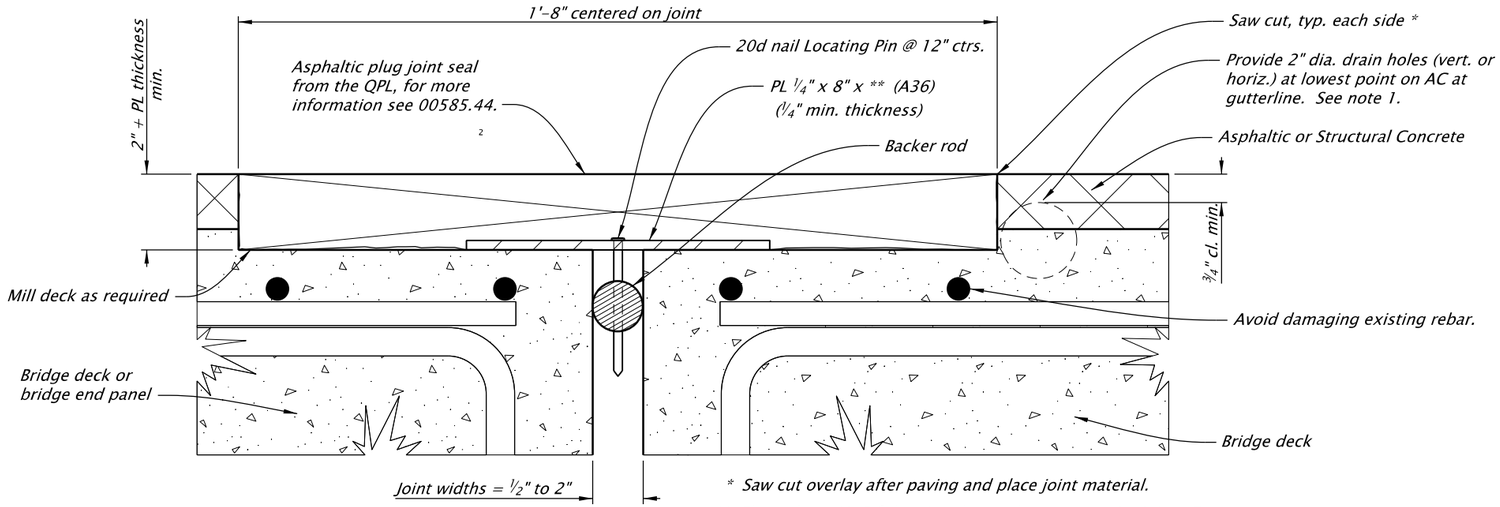
SLOPE PAVING

2024

DATE	REVISION DESCRIPTION
-	-

CALC. BOOK NO. N/A | SDR DATE 02-JUL-2020 | **BR115**

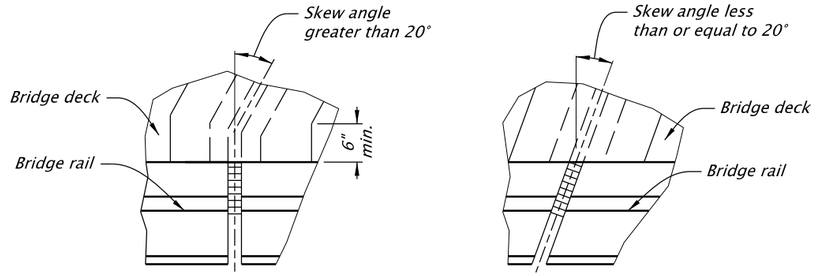
02-JAN-2019
BR157.dgn



* Saw cut overlay after paving and place joint material.

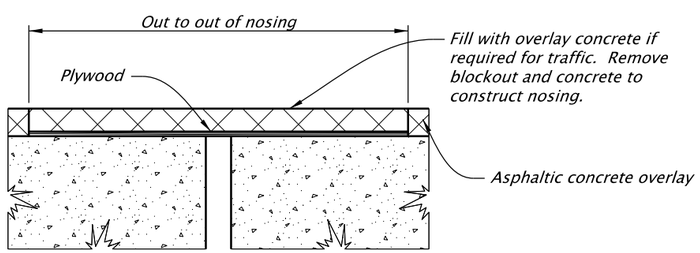
** Place plates (4-8 ft long) end to end to cover entire joint. Do not overlap. Secure plates with locating pins. Avoid placing plate ends under wheel rut area.

ASPHALTIC PLUG JOINT SEAL ~ DETAIL "A"

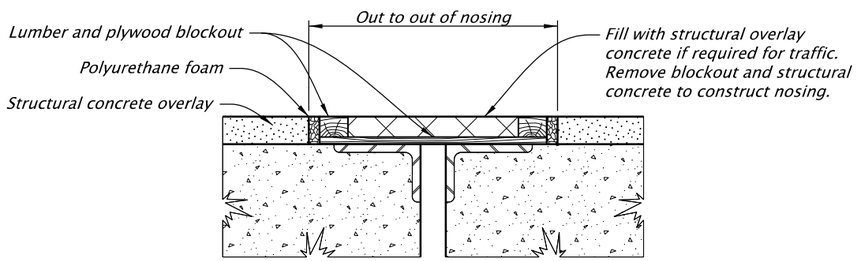


Note: For deck skew angle greater than 30°, see Joint Specialist.

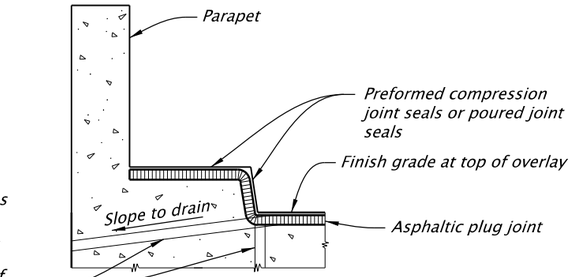
PLAN: EXPANSION JOINT



TEMP. OVERLAY AT JOINTS WITH ASPHALTIC CONCRETE OVERLAY

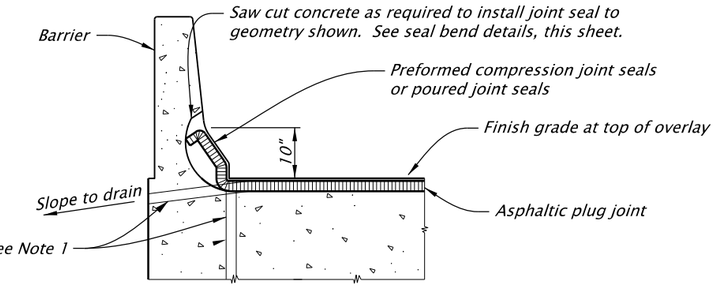


TEMP. OVERLAY AT JOINTS WITH STRUCTURAL CONCRETE OVERLAY

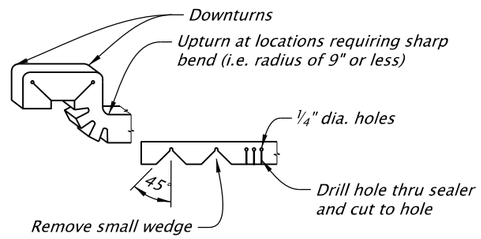


Note 1:
Provide 2" dia. drain holes (vert. or horiz.) at lowest point on AC at gutterline. Place drain on uphill side of joint. Show location of holes on project plans.

SEAL DETAIL AT PARAPET



SEAL DETAIL AT BARRIER



JOINT SEAL BEND JOINT

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OREGON STANDARD DRAWINGS

ASPHALTIC PLUG JOINT SEAL

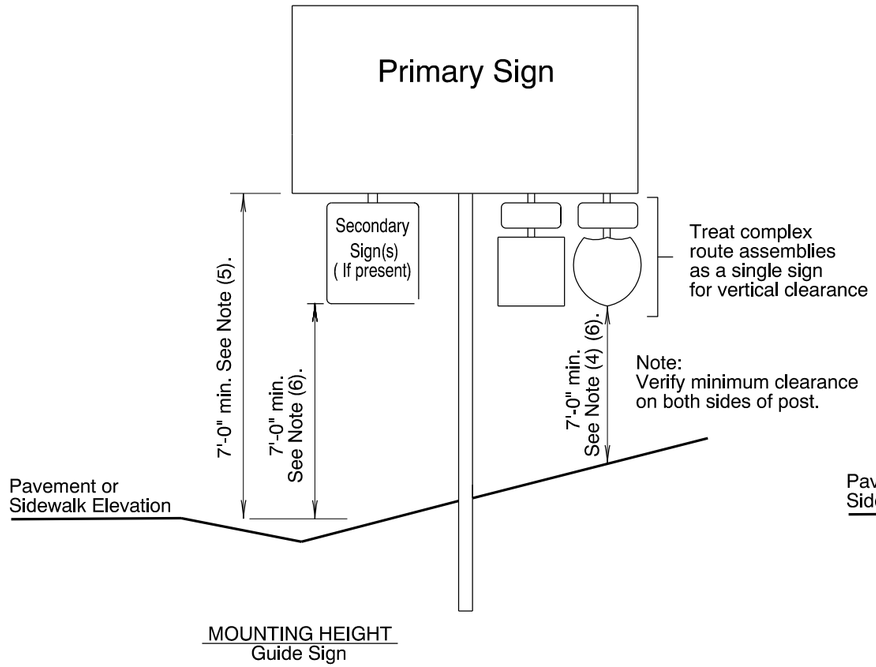
2024

DATE	REVISION DESCRIPTION
-	-

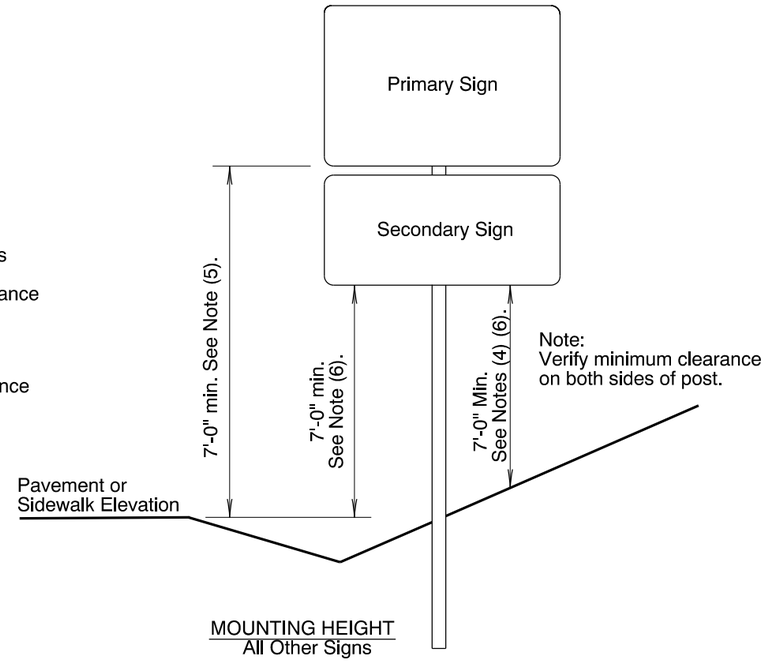
CALC. BOOK NO. N/A | SDR DATE 20-APR-2018 | **BR157**

Effective Date: December 1, 2023 - May 31, 2024

07-JAN-2022
TM200.dgn



MOUNTING HEIGHT
Guide Sign



MOUNTING HEIGHT
All Other Signs

General Installation Notes:

a. Signing details shown on this sheet are intended to convey "typical" conditions only. Individual locations may require installation different from those shown.
For guidance regarding unique installations or exceptions call the Project Sign Designer or Region Traffic Section.

b. Locate breakaway supports away from ditches to avoid problems with erosion, corrosion, debris, maintenance and breakaway performance. See Dwg. No. TM635 for more information.

c. For wood post support details see Dwg. No. TM670.

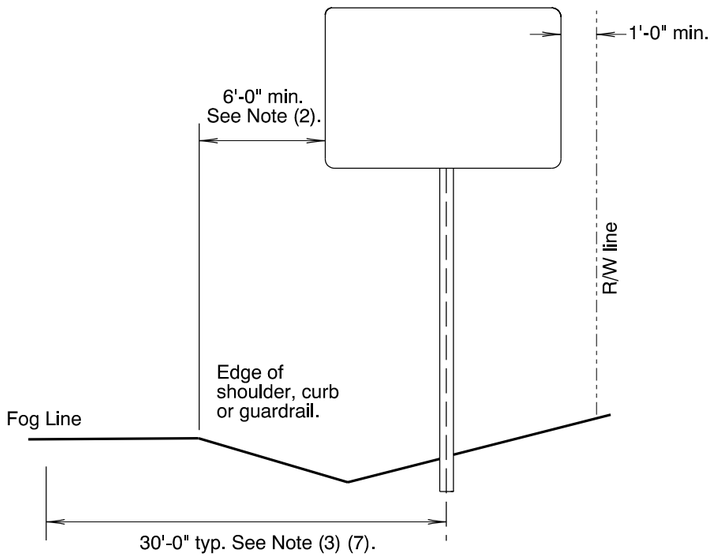
d. For perforated steelsquare tube support details see Dwg. No. TM681.

e. For triangular base breakaway support details see Dwg. No. TM602.

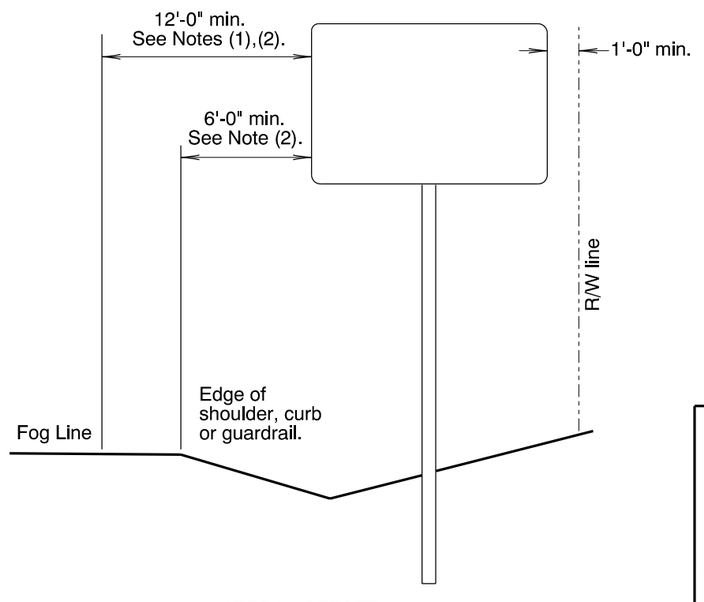
f. For multi-post breakaway support details see Dwg. No. TM600.

g. Mounting heights should not be more than 3 inches more than the minimum heights shown, where practical.

h. 2" vertical spacing between all signs.



LATERAL OFFSET
Guide Signs



LATERAL OFFSET
All Other Signs

Notes:

1). 6' minimum if behind barrier.

2). 2' minimum if restricted R/W.

3). 20' for ramp terminals.

4). 8' minimum if bicycle path underneath.

5). 8' minimum if secondary signs attached.

6). 5' minimum if outside clearzone, in rural areas and no pedestrians underneath.

7). For multi-post installations measure distance from post closest to roadway.

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SIGN INSTALLATION DETAILS

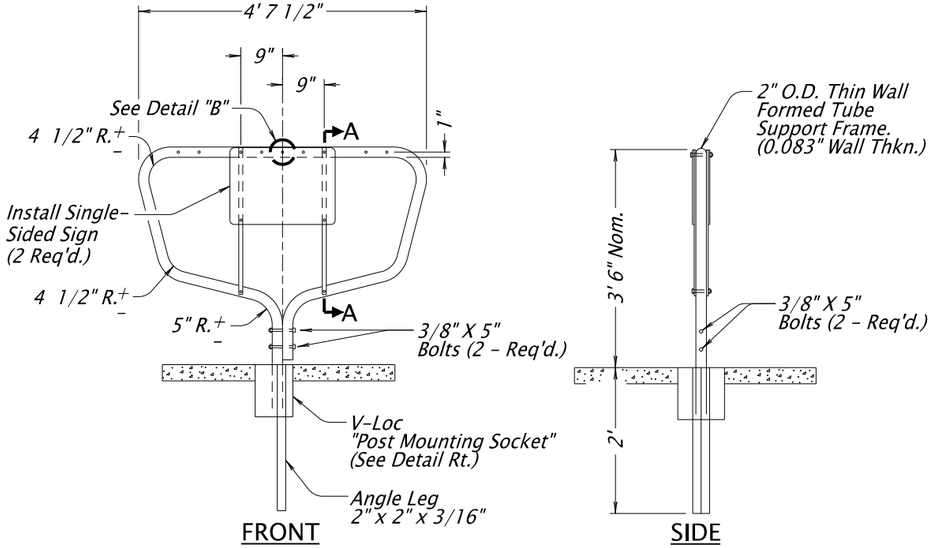
2024

DATE	REVISION DESCRIPTION
01/22	Edited elevation text in Mounting Height details

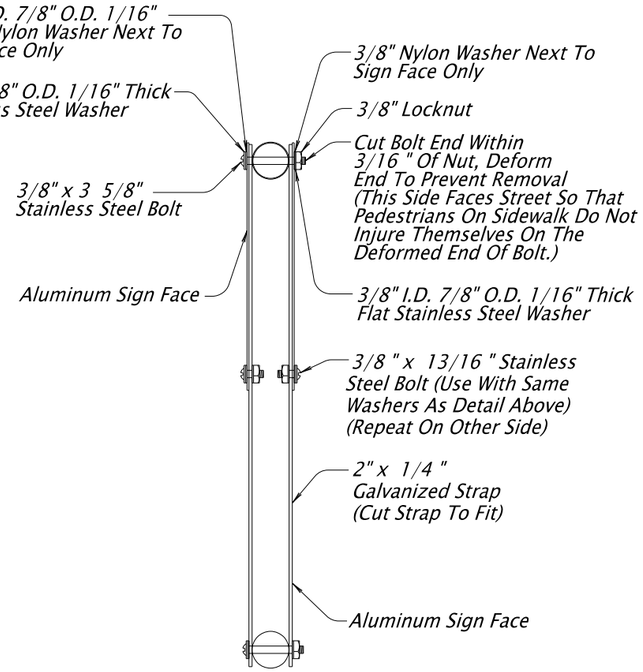
CALC. BOOK NO. N/A | SDR DATE 07 JAN 2022 | **TM200**

02-JUL-2018

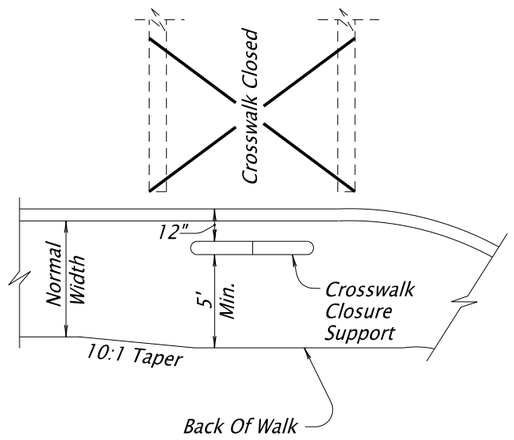
TM240.dgn



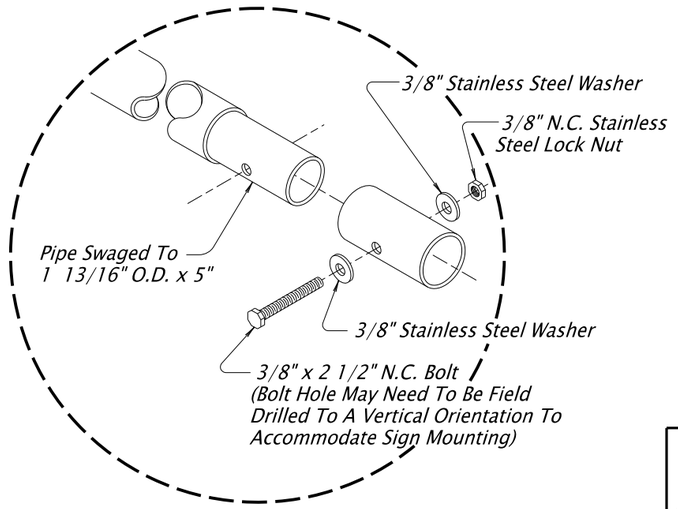
CROSSWALK CLOSURE SUPPORT DETAIL



SECTION A-A



PLAN VIEW



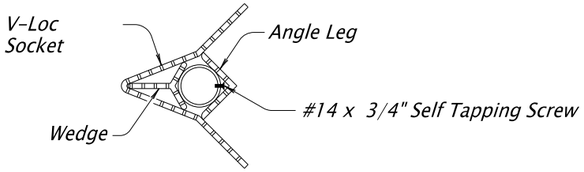
DETAIL "B"

GENERAL NOTES:

1. All Holes In The Tube Support Frame To Be Predrilled By The Manufacturer. (1/32" Larger Than Mounting Bolt)
2. Pipe Swaged By The Manufacturer.

SIGN DETAIL
OR22-7
24" x 18"

Drill 3/8" Dia. Bolt Hole At Each Corner Where Needed.



POST MOUNTING SOCKET

For Additional Details See Standard Drg. No. RD100

NOTE:

Care Shall Be Taken That No Concrete Is Placed Within Mounting Socket.

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CROSSWALK CLOSURE DETAIL

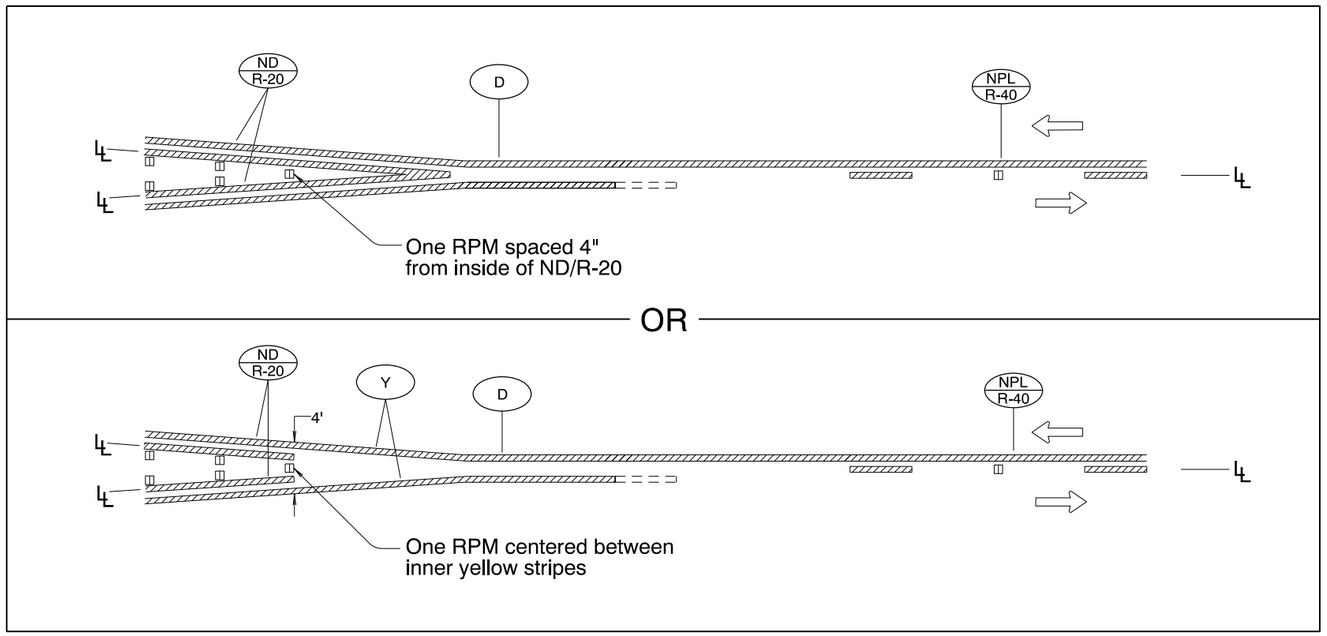
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 02-JUL-2018 | **TM240**

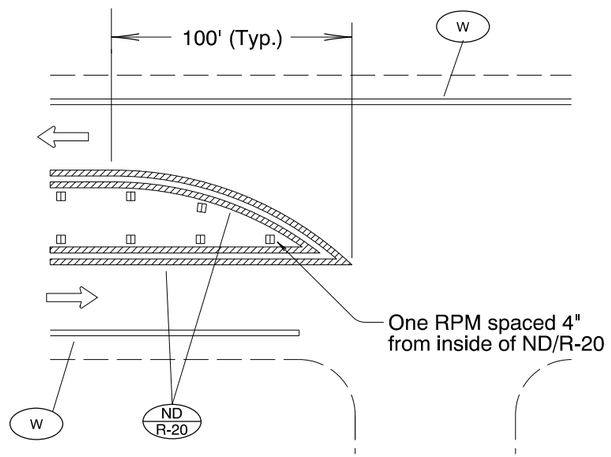
01-JUL-2015

TM515.dgn

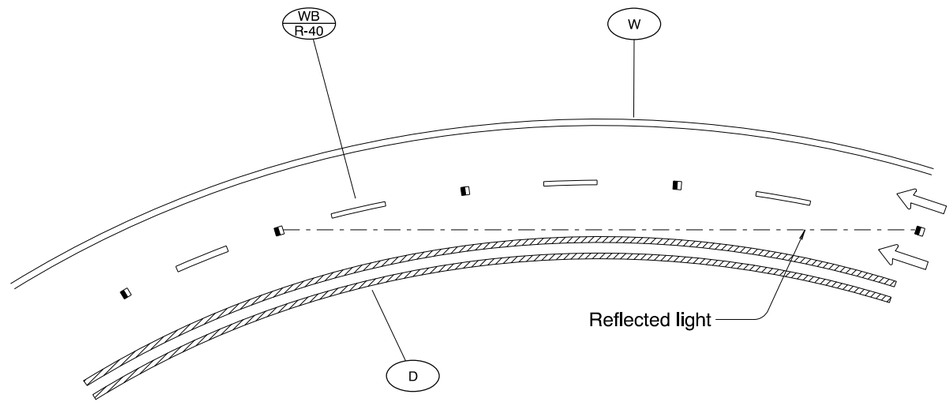


MEDIAN WIDTH TRANSITION

(TWO NARROW DOUBLE YELLOW LINES TO ONE-DIRECTION NO-PASSING LINE)
(Refer to TM539 for additional details)

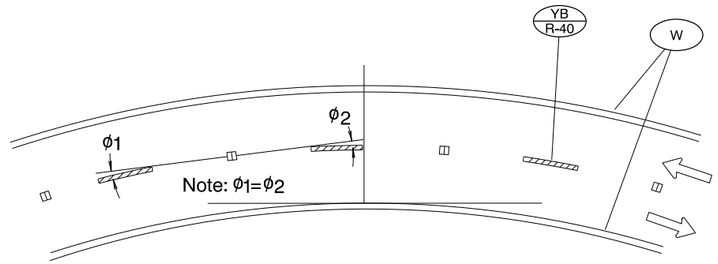


MEDIAN BULLNOSE DETAIL



NOTE:
On one way sections the marker shall be installed with the reflective surface aimed to direct the reflected light back three markers.

(a) PAVEMENT MARKER INSTALLATION FOR MONO-DIRECTIONAL RAISED PAVEMENT MARKERS



(b) PAVEMENT MARKER INSTALLATION FOR BI-DIRECTIONAL RAISED PAVEMENT MARKERS

PAVEMENT MARKER INSTALLATION ON HORIZONTAL CURVES

LEGEND

- Mono-Directional White (marker reflects white to left in this symbol)
- Bi-Directional Yellow (marker reflects yellow to both the left and right in this symbol)
- Increasing stationing from left to right
- Direction of Travel
- Lane line dimensions are shown on the striping plans.

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

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OREGON STANDARD DRAWINGS

PAVEMENT MARKERS

2024

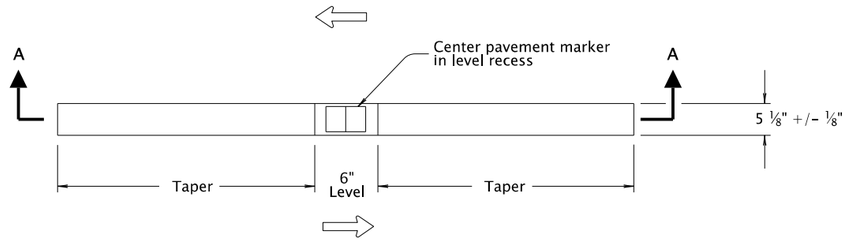
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2015 | **TM515**

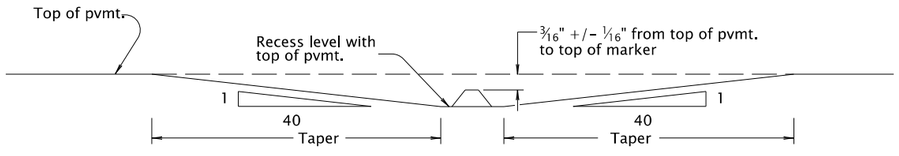
Effective Date: December 1, 2023 - May 31, 2024

07-06-2021

TM517.dgn

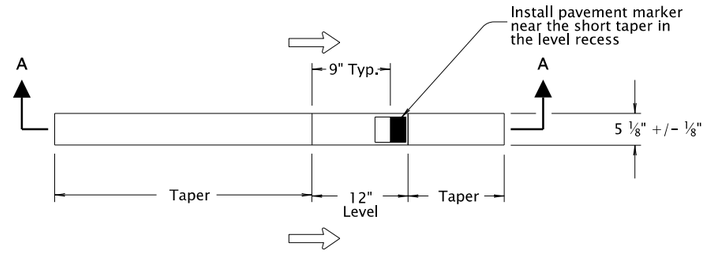


PLAN VIEW

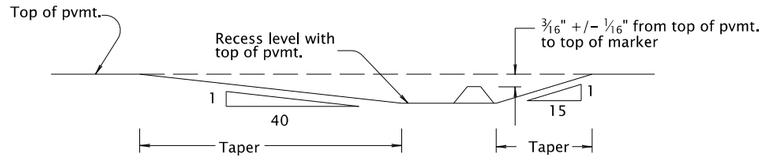


SECTION A – A

BI-DIRECTIONAL RECESSED PAVEMENT MARKER DETAIL



PLAN VIEW



SECTION A – A

MONO-DIRECTIONAL RECESSED PAVEMENT MARKER DETAIL

LEGEND

- Direction of Travel
- Bi-directional yellow marker reflects yellow both left and right in this symbol
- Mono-directional crystal white marker reflects white to the left in this symbol

To be accompanied by Standard Dwg. Nos. TM502 and TM515

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

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OREGON STANDARD DRAWINGS

RECESSED PAVEMENT MARKERS

2024

DATE	REVISION DESCRIPTION
07-2021	Updated to better fit ODOT drafting standards

CALC. BOOK NO. N/A

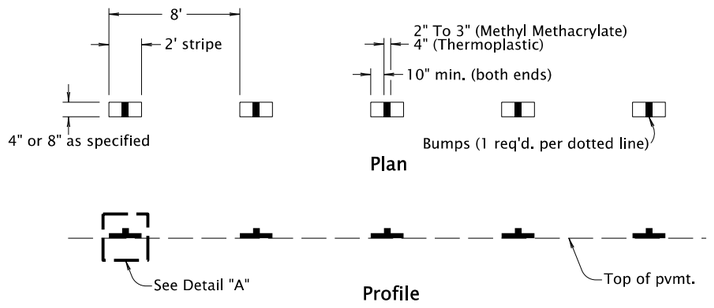
SDR DATE 07-06-2021

TM517

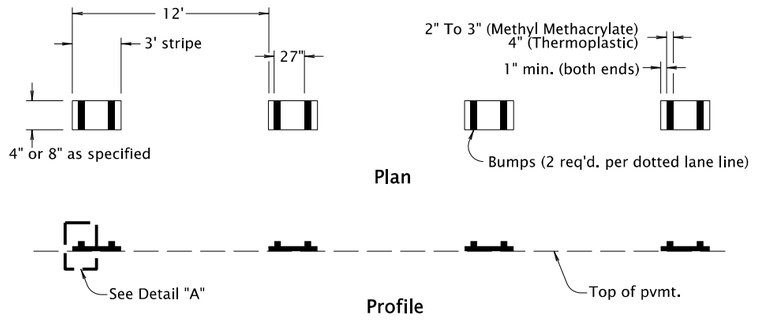
Effective Date: December 1, 2023 - May 31, 2024

07-05-2013

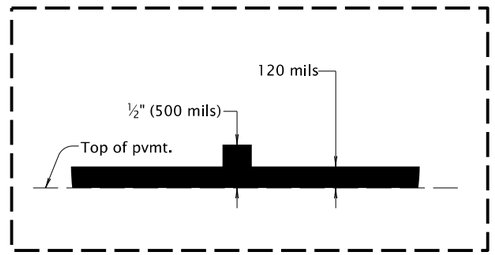
TM520.dgn



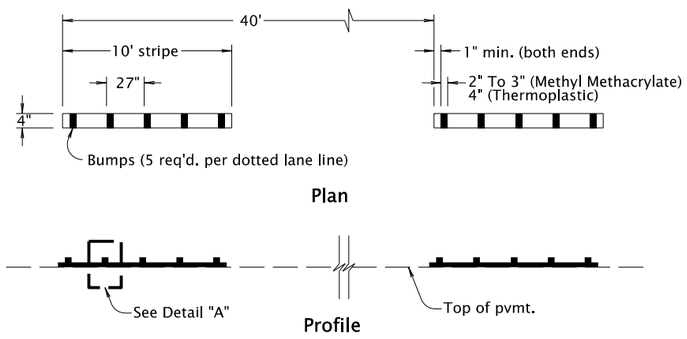
DOTTED LINE



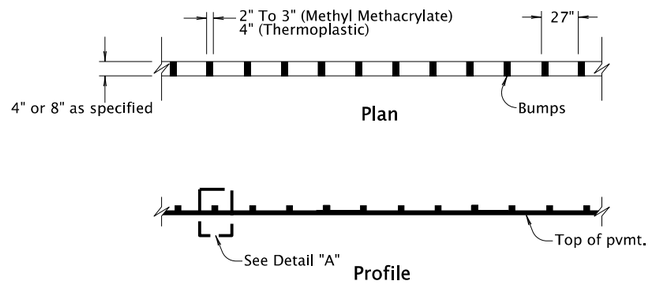
DOTTED LANE LINE



DETAIL "A"



BROKEN LINE



SOLID LINE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

DURABLE PAVEMENT MARKINGS METHOD 'A' & METHOD 'D' SURFACE INSTALLED PROFILED

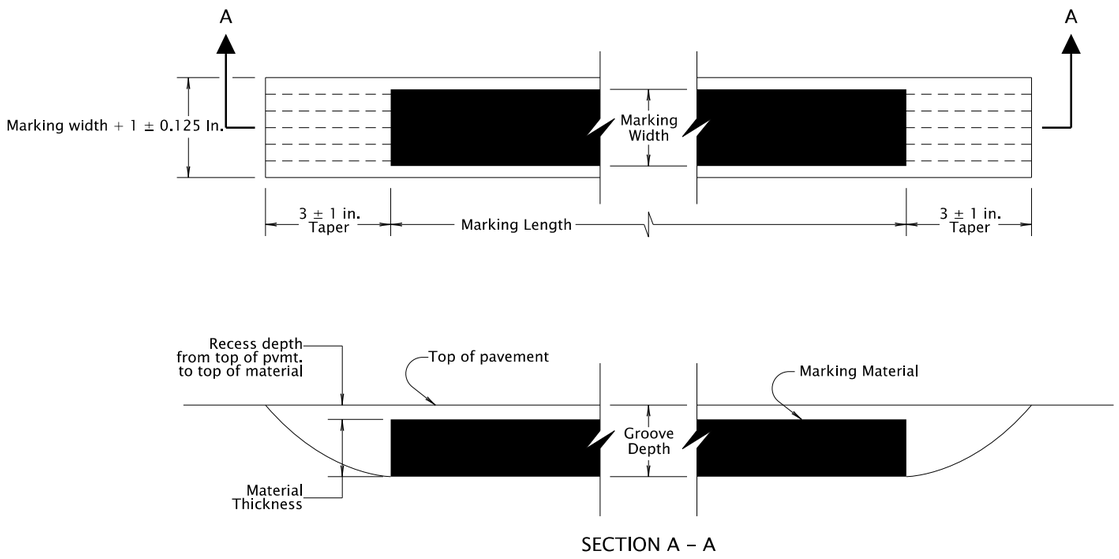
2024

DATE	REVISION DESCRIPTION
-	-

CALC. BOOK NO. N/A | SDR DATE 07-05-2013 | **TM520**

Effective Date: December 1, 2023 - May 31, 2024

20-JAN-2023
TM521.dgn

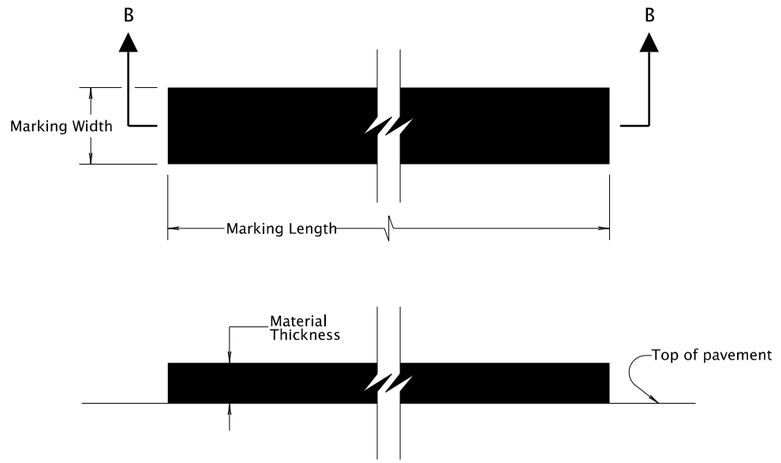


SECTION A – A

GROOVE INSTALLED GROOVE AND MATERIAL DIMENSIONS

Pavement Marking Material Type	Groove Depth	Recess Depth	Material Thickness
Durable Method 'A' & Method 'D'	220 ± 20 mils	45 ± 5 mils	Var.
High Performance	60 ± 10 mils	Var.	25 mils

GROOVE INSTALLED MARKINGS



SECTION B – B

SURFACE INSTALLED MATERIAL THICKNESS

Pavement Marking Material Type	Thickness
Durable Method 'A' & Method 'B' & Method 'D'	120 mils
High Performance	25 mils

SURFACE INSTALLED MARKINGS

General Notes:

1) See Standard Drawing TM500 and/or project plans for marking length and width dimensions.
2) See Standard Specification 00850.46 for marking installation tolerances.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

DURABLE & HIGH PERFORMANCE PAVEMENT MARKINGS SURFACE & GROOVE INSTALLED NON-PROFILED

2024

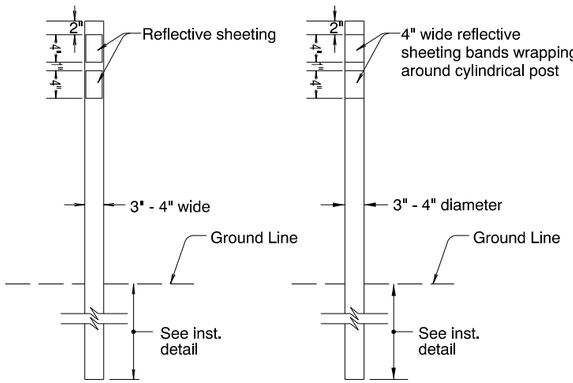
DATE	REVISION DESCRIPTION
07-2021	Changed groove width for 4 In. markings
01-2023	Changed groove width back to previous width for 4 in. markings

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2023 | **TM521**

Effective Date: December 1, 2023 – May 31, 2024

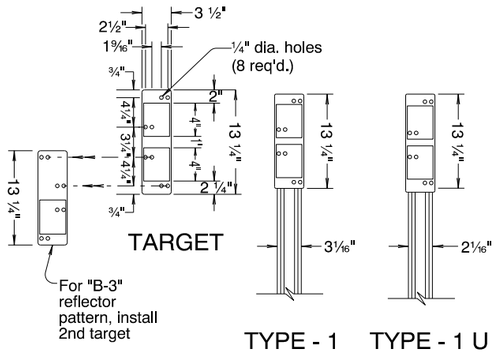
06-JAN-2012

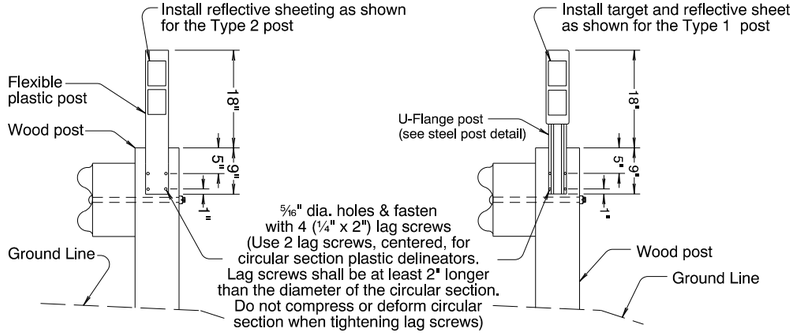
TM570.dgn



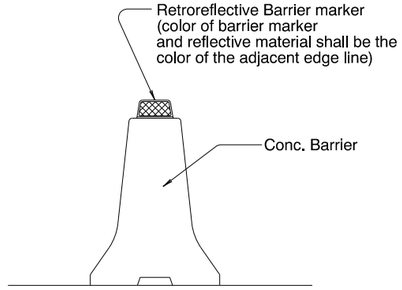
TYPE - 2 TYPE - 3

FLEXIBLE PLASTIC POSTS





TYPE - 4



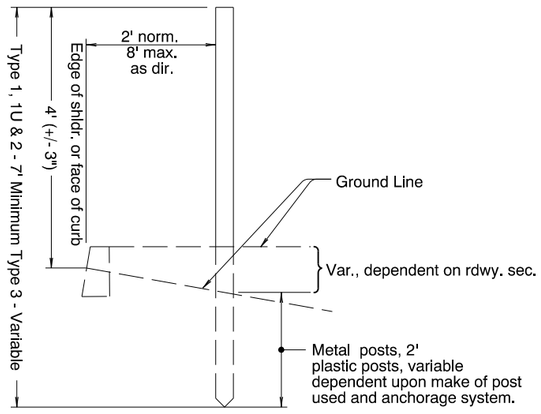
TYPE - 5

STEEL POSTS

GUARDRAIL AREAS (WITH WOOD POSTS)

CONCRETE BARRIER AREAS

(Install barrier markers at 50' spacing unless otherwise noted in plans)



INSTALLATION DETAIL

NOTES:

POST:
Galv. steel, nominal weight Type 1, 2 lb/ft, Type 1 U, 1.12 lb/ft.

See Standard Drawing TM571 for steel post dimensions and details.

TARGET:
Aluminum sheet, nominal thickness .050". Fasten to post with⅜" dia. aluminum blind rivets and washers.

For "B-3" reflector pattern, top target shall overlap bottom target.

REFLECTORS:
3" x 4" reflective sheeting unless otherwise shown.
(3½" x 4" reflective sheeting is an acceptable alternate unless otherwise shown.)
Acrylic prismatic reflectors acceptable on Type 1, 1 U, 2 and 4 posts and Type 5 barrier mounts.
Place required number in sequence from top of target.

GENERAL NOTES:

1. Spacing shall be measured along the shoulder.
2. On roads with less than 500 vehicle ADT, delineators are not to be used except where situations such as sharp horizontal curves, etc. exist.
3. To clear driveways, crossroads etc., or for required adjustments at ramps and at intersections, either:
   (a) vary placement of that post up to 25% of spacing shown, or;
   (b) eliminate said post if limit of variation must be exceeded.
4. Judgement should be exercised in the installation of delineators in cut section, particularly on roads constructed to older standards where ditches are narrow and where delineators tend to hamper maintenance operations.
5. On horizontal curves place delineators nearly opposite each other.
6. At guard rail locations the delineators are to be installed behind the rail and shall be located adjacent to guard rail posts as shown for Type 4 Delineators.
7. Install all delineators with reflectors facing adjacent oncoming traffic.
8. Offset delineators an additional 4' in areas of heavy snow removal operations.
9. Backside Delineators may be used in frequently snow plowed areas where use of snow poles is not justified. When Backside Delineators are specified, substitute "W-1" and "W-2" with "W-1B" and "W-2B" respectively, on Type 1 steel posts. Do not install Backside Delineators on one-way sections of roadway, freeways and ramps, or on radius sections.
10. Refer to TM 222 for bracket assembly details for Backside Reflector Pattern.

TANGENT	HORIZONTAL CURVES				
▲MAX. SPACING EACH SIDE OF ROADWAY IN FEET	▲ MAX. SPACING EACH SIDE OF ROADWAY IN FEET				
	DEGREE OF CURVE	ON CURVE	IN ADVANCE OF & BEYOND CURVE		
			FIRST SPACE	SECOND SPACE	THIRD SPACE
400	Lower Than 1	300	300	300	300
	1	230	300	300	300
	2	160	300	300	300
	3	130	260	300	300
	4	110	220	300	300
	5	100	200	300	300
	6	90	180	270	300
	7 - 8	80	160	240	300
	9 - 11	70	140	210	300
	12 - 16	60	120	180	300
	17 - 22	50	100	150	300
	23 - 34	40	80	120	240
	35 - 53	30	60	90	180
	54 & Higher	20	40	60	120

(Min. spacing 20 feet)

(▲Install "W-1" reflective pattern unless otherwise noted. See Standard Drawings TM575 thru TM577 for spacing, layout, and reflective pattern of delineators at interchange ramps, channelized intersections, lane reductions, emergency escape ramps and freeway crossovers.)

DELINEATOR SPACING TABLE FOR TYPES 1, 1U, 2, and 4

REFLECTOR PATTERN TABLE					
	Color Type	Color Of Reflector And Target Or Post	Number Of Reflectors	Color Of Reflector And Target Or Post On Backside	Number Of Reflectors On Backside
Standard Pattern	"W-1"	White	1	Not Applicable	Not Applicable
	"W-2"	White	2		
	"Y-1"	Yellow	1		
	"Y-2"	Yellow	2		
	"B-1"	Blue	1		
	"B-2"	Blue	2		
	"B-3"	Blue	3		
	"R-1"	Red	1		
Backside Pattern	"W-1B"	White	1	White	2
	"W-2B"	White	2	White	2

To be accompanied by Drg. No. TM571, TM575, TM576, and/or TM577 as specified.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TRAFFIC DELINEATORS

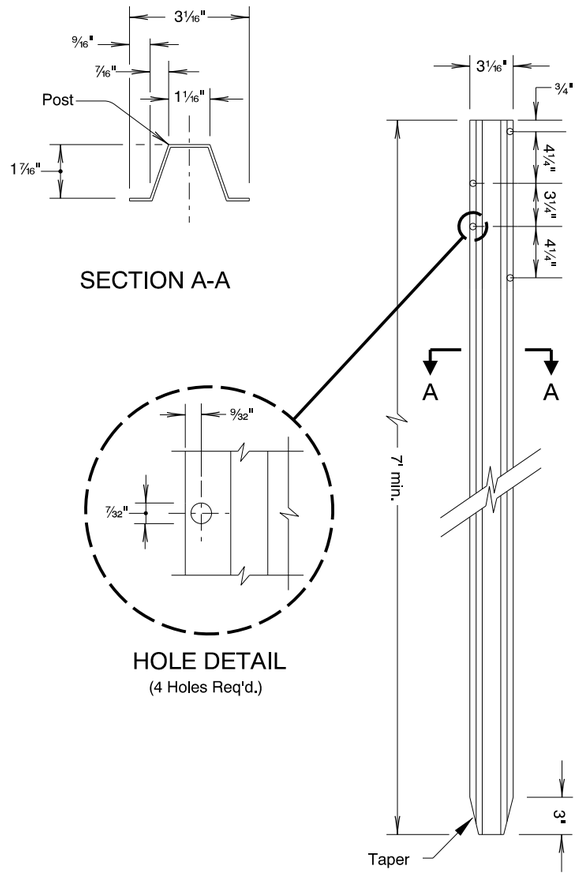
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 06-JAN-2012 | **TM570**

Effective Date: December 1, 2023 - May 31, 2024

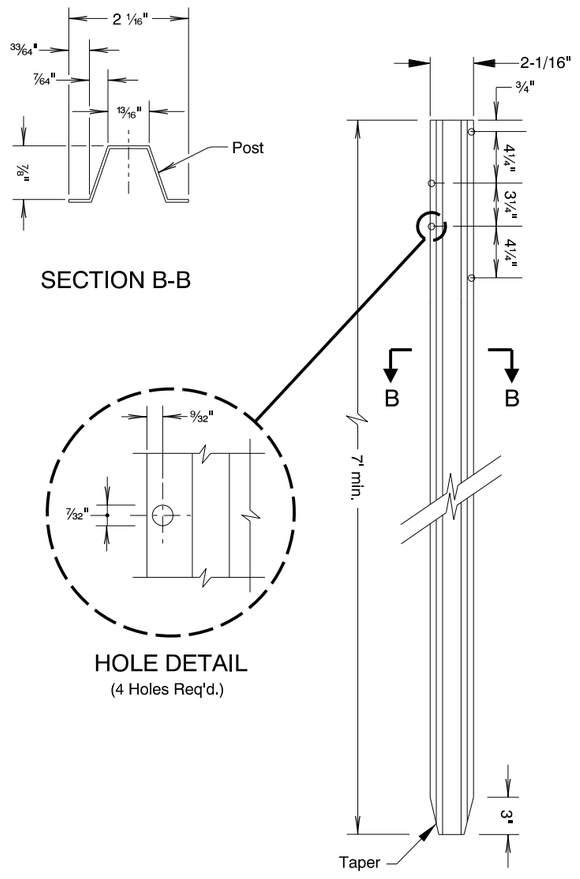
10-DEC-2009
TM571.dgn



Notes:

1. Galv. steel, nominal weight 2 lb. per ft.

TYPE - 1 STEEL POST DIMENSIONS



Notes:

1. Galv. steel, nominal weight 1.12 lb. per ft.

TYPE - 1 U STEEL POST DIMENSIONS

To be accompanied by Drg. No. TM570

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

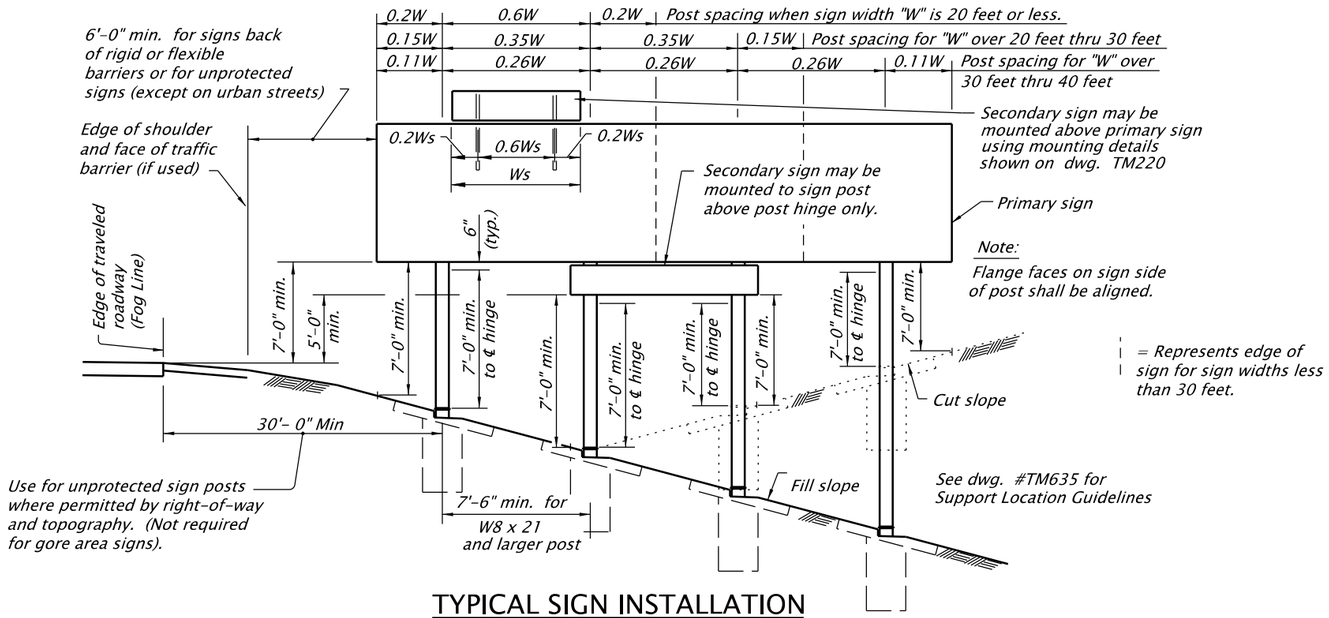
OREGON STANDARD DRAWINGS

TRAFFIC DELINEATORS STEEL POST DETAILS

2024

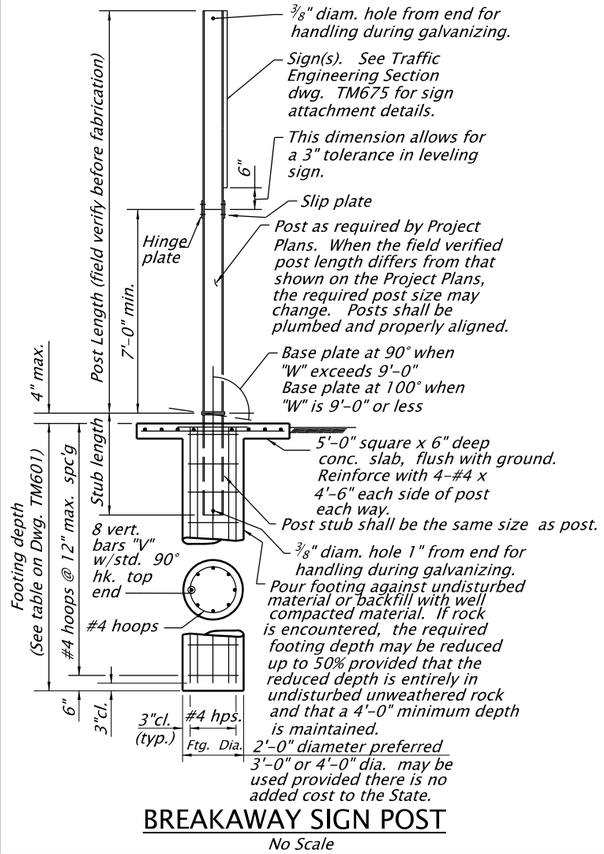
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 10-DEC-2009 | **TM571**



TYPICAL SIGN INSTALLATION

No Scale



BREAKAWAY SIGN POST

No Scale

GENERAL NOTES:

1. Sign supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1994. Use a wind velocity with a 25-year mean reccurrence interval.
2. All concrete shall be Commercial Grade Concrete (f'c = 3000 psi).
3. All reinforcing steel shall conform to AASHTO Specification M31 (ASTM A615), Grade 60 or A706.
4. The following splice lengths shall be used unless otherwise shown:

Bar Size		3	4	5	6	7	8	9	10	11
Splice Length	Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-8"	3'-6"	4'-4"	5'-7"	6'-9"

5. All structural steel shall conform to ASTM Specification A572, Grade 50 unless shown otherwise.
6. Shims shall be fabricated from brass shim stock conforming to ASTM B36.
7. All bolts shall be high strength bolts conforming to ASTM Specification A325 (AASHTO M164). Nuts for high strength bolts shall be well lubricated heavy hexagon nuts conforming to ASTM Specification A563, (AASHTO M291), Grade DH. Compressible direct tension indicator washers shall conform to ASTM Specification F959. Hardened steel washers shall conform to ASTM Specification F436 (AASHTO M293).
8. Steel sheet for keepers shall conform to ASTM Specification A653.
9. Hinge and base plate holes shall be sub-drilled and reamed to size. Hinge and base plate slots shall be saw cut or machine guided flame cut.
10. Direct tension indicator washers shall be mechanically galvanized to ASTM B695.
11. Keeper plate shall be galvanized in accordance with ASTM A653, Coating G165.
12. All other steel including fasteners shall be hot-dip galvanized after fabrication. Remove galvanizing runs and beads on all slip surfaces. Nuts for high strength bolts may be retapped after galvanizing.
13. The use of a post larger than required by design is not permitted.
14. Tightening of base plate bolts shall be done with a state inspector present.
15. See TM601 for additional details.

BASE PLATE BOLTING PROCEDURE:

1. Assemble post to stub as shown in Base Assembly Detail.
2. Shim as required to plumb post. ($\pm \frac{1}{16}$" / vert. 12") (2 shims maximum per bolt)
3. Tighten bolts in a systematic order to the "T1" torque prescribed in the Base Plate Data Table.
4. Loosen and retighten bolts to the "T2" torque prescribed in the Base Plate Data Table. Use the same order as the intitial tightening and DO NOT OVER TIGHTEN!
5. Burr threads at junction with nut using a center punch.

HINGE AND SLIP PLATE BOLTING PROCEDURE:

1. Shop assemble post sections as shown. (D.T.I. bumps toward bolt head)
2. Tighten each nut in a systematic order until the gap between the bolt head and direct tension indicator washer is in the 0.005" to 0.010" range.
3. Further tighten each nut in the same order until a nil gap between the bolt head and indicator washer is attained.

Accompanied by dwgs. TM220, TM601, TM635, TM675

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

MULTI-POST BREAKAWAY SIGN SUPPORTS NOTES

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. _ _ _ 1493 _ _ _ | SDR DATE 09-JAN-2015 | **TM600**

Post & Stub	Hinge Data							Base Plate Data									Footing Data		Min. Footing Depth			Max. Footing Slope	
Depth & Mass/ft	Hinge ℄t1	Slip ℄t2	A	B	C	Hinge Bolts		Base ℄t3	D	E	F	G	Bolt				Stub Length	V bars	2'-0" dia.	3'-0" dia.	4'-0" dia.	Rise per ft. "Y"	Grade
						Dia.	Length						dia.	"T1" Torque	"T2" Torque	Length							
W6 x 9	3/8"	3/8"	4"	7/8"	2 1/4"	3/4"	2"	1"	4 1/4"	3/4"	8 1/2"	10"	5/8"	150 ft.-lb.	50 ft.-lb.	4 1/4"	2'-0"	#4	4'-9"	—	—	12"	1V:1.00H
W6 x 12	3/8"	3/8"	4"	7/8"	2 1/4"	3/4"	2"	1"	4 1/2"	3/4"	8 1/2"	10"	5/8"	150 ft.-lb.	50 ft.-lb.	4 1/4"	2'-4"	#5	5'-6"	—	—	11 1/4"	1V:1.07H
W6 x 15	3/8"	1/2"	6"	1 1/4"	3 1/2"	7/8"	2 1/2"	1"	6 1/4"	7/8"	8 1/2"	10 1/4"	3/4"	280 ft.-lb.	70 ft.-lb.	4 1/2"	2'-8"	#6	6'-6"	—	—	7 1/4"	1V:1.66H
W8 x 18	1/2"	1/2"	5 1/4"	1 1/4"	2 3/4"	7/8"	2 1/2"	1 3/8"	5 1/2"	7/8"	11 3/4"	1'-1 1/2"	3/4"	280 ft.-lb.	70 ft.-lb.	5"	3'-0"	#7	8'-0"	6'-6"	—	8 1/2"	1V:1.41H
W8 x 21	1/2"	5/8"	5 1/4"	1 1/4"	2 3/4"	1"	2 3/4"	1 3/8"	6"	1"	11 3/4"	1'-1 3/4"	7/8"	450 ft.-lb.	80 ft.-lb.	5 1/4"	3'-4"	#8	8'-9"	7'-0"	—	7 1/2"	1V:1.60H
W10 x 22	1/2"	5/8"	5 3/4"	1 1/2"	2 3/4"	1"	2 3/4"	1 3/8"	6"	1"	1'-1 1/2"	1'-3 1/2"	7/8"	450 ft.-lb.	80 ft.-lb.	5 1/4"	3'-8"	#8	10'-3"	7'-9"	6'-6"	7 1/2"	1V:1.60H
W10 x 26	1/2"	5/8"	5 3/4"	1 1/2"	2 3/4"	1 1/8"	3"	1 3/8"	7"	1 1/8"	1'-1 1/2"	1'-3 3/4"	1"	680 ft.-lb.	90 ft.-lb.	5 1/2"	4'-0"	#9	11'-0"	8'-9"	7'-3"	6 3/8"	1V:1.88H
W12 x 26	1/2"	5/8"	6 1/2"	1 1/2"	3 1/2"	1 1/8"	3"	1 1/2"	7"	1 1/8"	1'-3 1/2"	1'-5 3/4"	1"	680 ft.-lb.	90 ft.-lb.	5 3/4"	4'-4"	#10	12'-3"	9'-6"	8'-0"	6 3/8"	1V:1.88H
W12 x 30	1/2"	5/8"	6 1/2"	1 1/2"	3 1/2"	1 1/4"	3"	1 1/2"	8"	1 1/4"	1'-3 1/2"	1'-6"	1 1/8"	840 ft.-lb.	100 ft.-lb.	5 3/4"	4'-8"	#11	13'-3"	10'-6"	8'-9"	5 3/8"	1V:2.23H
W14 x 30	1/2"	5/8"	6 3/4"	1 1/2"	3 3/4"	1 1/4"	3"	1 1/2"	8"	1 1/4"	1'-5 1/2"	1'-8"	1 1/8"	840 ft.-lb.	100 ft.-lb.	5 3/4"	5'-0"	#11	13'-9"	10'-9"	9'-0"	5 1/2"	1V:2.18H

Notes:
1. *See TM635 for placement of signs.*
2. *See TM600 for Additional details and bolting procedures.*

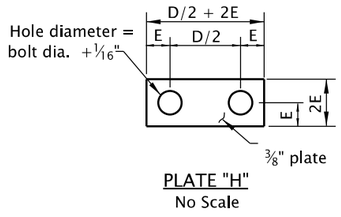
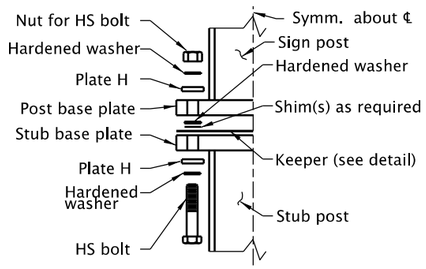
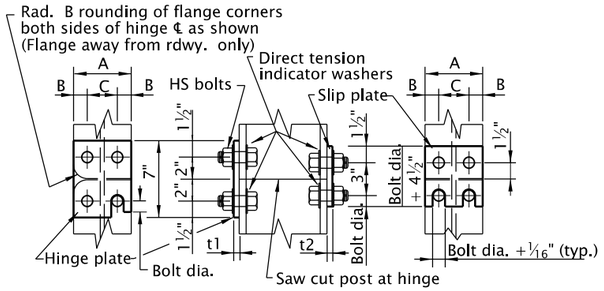


PLATE "H"
No Scale

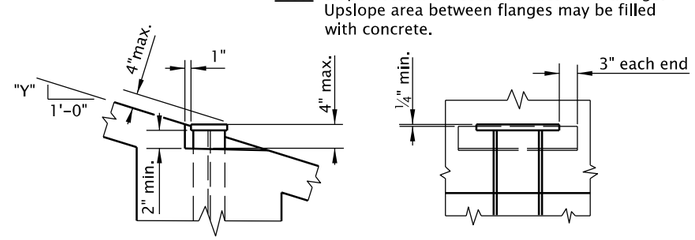


BASE ASSEMBLY DETAIL
No Scale

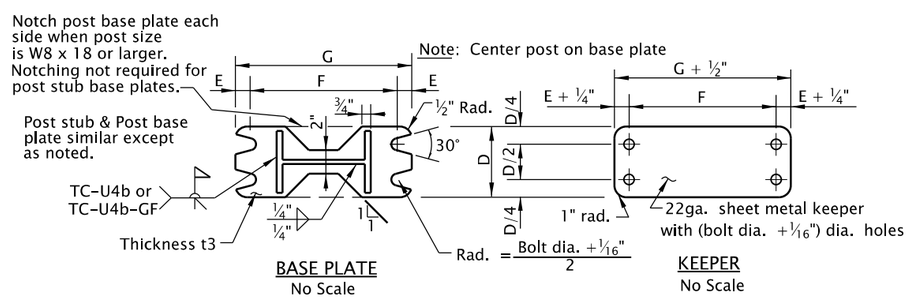


POST HINGE DETAILS
No Scale

Note: Slope bottom of recess cavities for drainage. Upslope area between flanges may be filled with concrete.

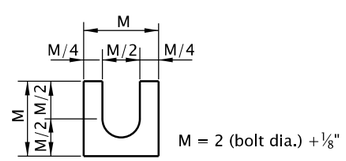


BASE PLATE RECESS FOR SIDE SLOPE INSTALLATIONS
No Scale



BASE PLATE
No Scale

KEEPER
No Scale



BRASS SHIM DETAIL
Provide 2 @ 0.012" thick and 2 @ 0.032" thick at each bolt.

Accompanied by dwgs. TM220, TM600, TM635, TM675

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

MULTI-POST BREAKAWAY SIGN SUPPORTS DETAILS

2024

DATE	REVISION DESCRIPTION

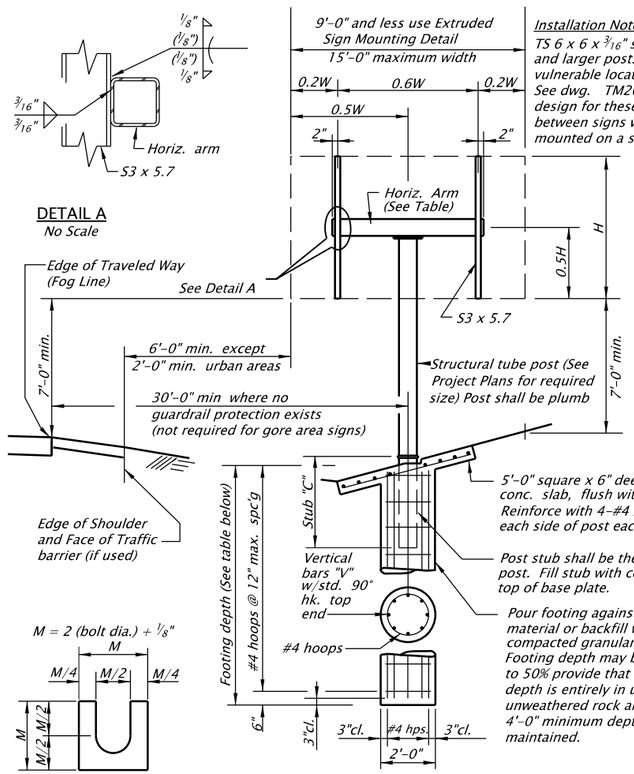
CALC. BOOK NO. 1493 | SDR DATE 06-JAN-2017 | **TM601**

10-JUL-2020

TM601.dgn

10-JUL-2020

TM602.dgn

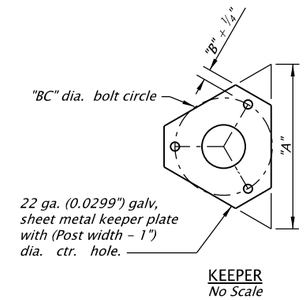


DETAIL A
No Scale

Installation Notes:
TS 6 x 6 x 3/16" structural tubing and larger posts are not recommended in vulnerable locations such as gore areas. See dwg. TM201 and TM635 for preferred design for these areas. Provide 2" space between signs when more than one sign is mounted on a single post.

BRASS SHIM DETAIL
Provide 2 @ 0.012" thick and 2 @ 0.032" thick at each bolt.

BREAKAWAY SIGN POST
No Scale



KEEPER
No Scale

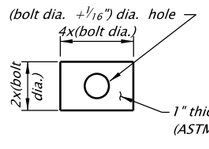
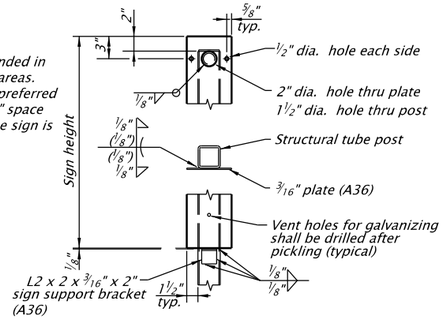
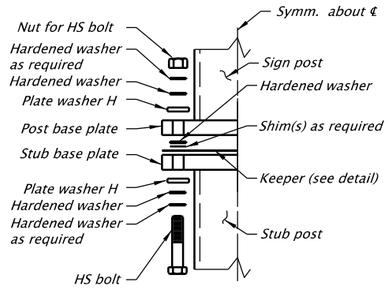


PLATE WASHER "H"
No Scale



EXTRUDED SIGN MOUNTING DETAILS
No Scale
For signs 9'-0" or less in width



BASE ASSEMBLY DETAIL
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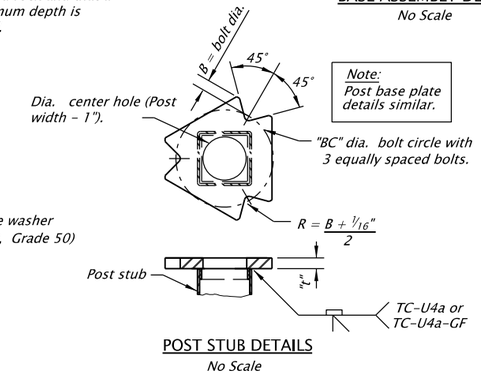
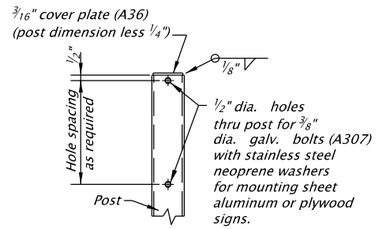
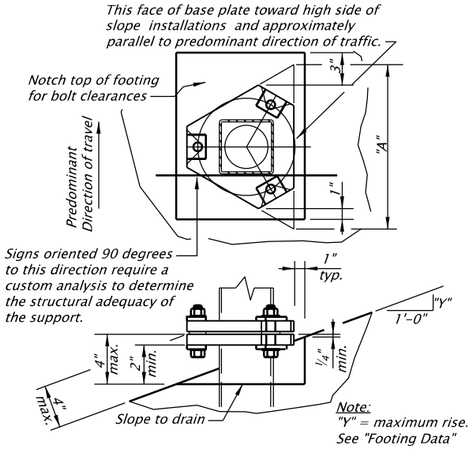


Note:
Post base plate details similar.

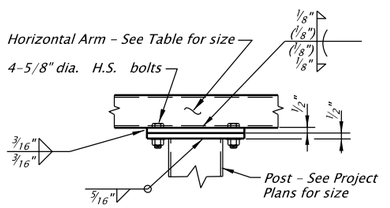
POST STUB DETAILS
No Scale



SIGN MOUNTING DETAILS
FOR PLYWOOD & SHEET ALUMINUM SIGNS
No Scale



BASE PLATE ORIENTATION
No Scale



HORIZONTAL ARM TO POST CONNECTION DETAIL
No Scale

GENERAL NOTES:

1. *Sign supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1994. Use a wind velocity with a 10-year mean reccurrence interval.*
2. *All concrete shall be Commercial Grade Concrete (f'c = 3000 psi)*
3. *All reinforcing steel shall conform to AASHTO Specification M31, Grade 60, or ASTM A706.*
4. *The following splice lengths shall be used unless otherwise shown:*

Bar Size	#4	#5
Splice Length (mm)	1'-1"	1'-5"

5. *Structural steel shall conform to AASHTO M223 (ASTM A572) Grade 50. unless shown otherwise.*
6. *Structural tubing shall conform to ASTM Specification A500,Grade B, or A501.*
7. *Shims shall be fabricated from brass shim stock conforming to ASTM B36.*
8. *All bolts shall be high strength bolts conforming to to ASTM Specification A325 (AASHTO M164). Nuts for high strength bolts shall be well lubricated heavy hexagon nuts conforming to ASTM Specification A563, (AASHTO M291), Grade DH. Hardened steel washers shall conform to ASTM Specification F436 (AASHTO M293).*
9. *Steel sheet for keepers shall conform to ASTM Specification A653.*
10. *Base plate holes shall be sub-drilled and reamed to size. Base plate slot shall be saw cut or machine guided flame cut.*
11. *Keeper sheet metal shall be galvanized in accordance with ASTM A653, Coating G165. All other steel including fasteners shall be hot-dip galvanized after fabrication. Remove galvanizing runs and beads on all slip surfaces. Nuts for high strength bolts may be retapped after galvanizing.*
12. *The use of post larger than required by design will not be permitted.*
13. *See Dwg. TM675 for sign and sign mounting details.*

BASE PLATE BOLTING PRODEDURE:

1. *Assemble post to stub as shown in Base Assembly Detail.*
2. *Shim as required to plumb post. (± 1/16"/vert. 12") (2 shims maximum per bolt)*
3. *Tighten bolts in a systematic order to the "T1" ft-lbs torque.*
4. *Loosen and retighten bolts to the "T2" ft-lbs torque. Use the same order as the intitial tightening and DO NOT OVER TIGHTEN!*
5. *Burr threads at junction with nut using a center punch.*

		Slip Base Data								Footing Data				
Structural Tubing Post and Post Stub Size	Structural Tubing Horiz. Arm (if req'd)	Base Plate		Bolt						Post Stub Length	Vert. Reinf. Bars "V"	Footing Depth		Max. Slope Rise per ft. "Y"
		"t"	"A"	Dia. "B"	Length	Circle "BC"	"T1" ft-lbs torque	"T2" ft-lbs torque	Num. of additional washers			2'-0" Dia.	4'-0" Dia.	
TS 3 x 3 x 3/16	TS 3 x 3 x 3/16	3/4"	10"	1/2"	5"	6"	50	30	2	1'-6"	8-#4	3'-0"	——	6.3"
TS 3 1/2x 3 1/2x 3/16	TS 3 x 3 x 3/16	3/4"	11 3/8"	5/8"	5"	6 3/4"	150	50	-	1'-9"	8-#4	3'-6"	——	5.5"
TS 4 x 4 x 3/16	TS 3 x 3 x 3/16	1"	1'-0 3/8"	5/8"	5 1/2"	7 1/2"	150	50	-	2'-0"	8-#4	4'-0"	——	5.2"
TS 5 x 5 x 3/16	TS 3 x 3 x 3/16	1"	1'-2 5/8"	3/4"	5 1/2"	9"	280	70	-	2'-3"	8-#4	4'-6"	4'-0"	4.4"
TS 6 x 6 x 3/16	TS 3 x 3 x 3/16	1 1/4"	1'-4 7/8"	7/8"	6 1/2"	10 1/2"	450	75	1	2'-6"	8-#5	5'-0"	4'-0"	3.8"
TS 7 x 7 x 3/16	TS 4 x 4 x 3/16	1 1/4"	1'-6 1/4"	7/8"	6 1/2"	12"	450	75	1	3'-0"	8-#5	6'-0"	4'-6"	3.5"
TS 8 x 8 x 3/16	TS 5 x 5 x 3/16	1 3/8"	1'-8 1/2"	1"	7"	1'-1 1/2"	680	75	1	3'-6"	12-#5	7'-0"	5'-0"	3.1"

Accompanied by dwgs. TM200, TM201, TM635, TM675

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

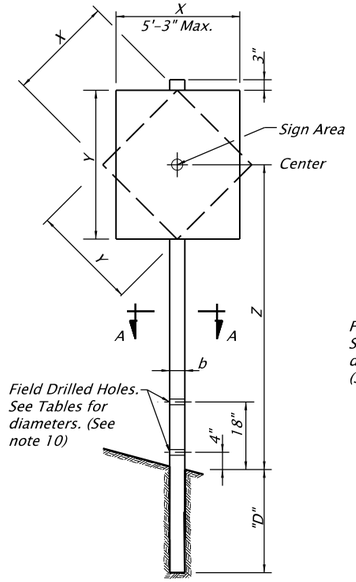
TRIANGULAR BASE BREAKAWAY MULTI-DIRECTIONAL SLIP BASE DESIGN

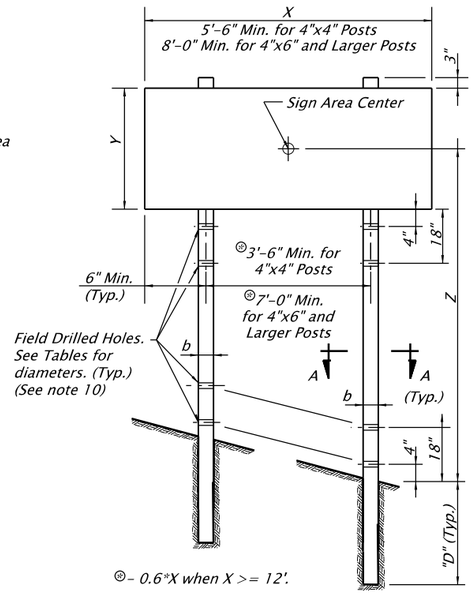
2024

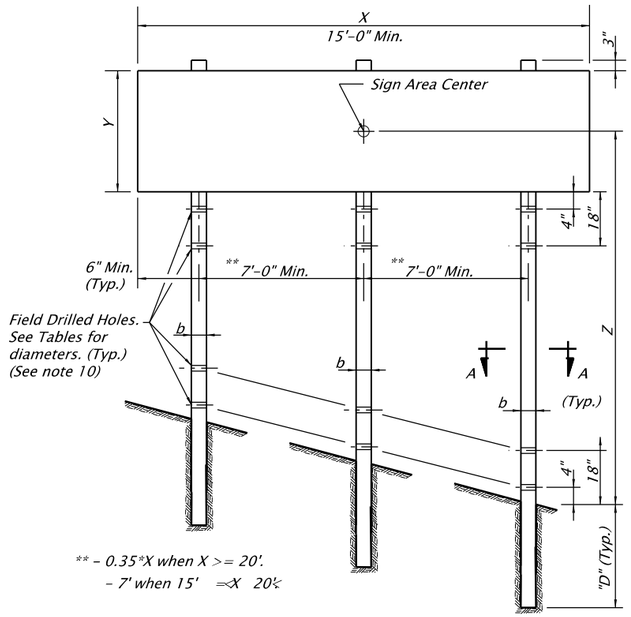
DATE	REVISION DESCRIPTION

CALC. BOOK NO. 1493 | SDR DATE 09-JAN-2015 | **TM602**

Effective Date: December 1, 2023 - May 31, 2024







ELEVATION

No scale

		(X * Y * Z) in ft³ - Maximum												Field Drilled Hole Diameters	Post Embedment Depth "D"
		3 Second Gust Wind Speed (TM671)													
		85 MPH				95 MPH				105 and 110 MPH					
		Number of Posts				Number of Posts				Number of Posts					
		1	2	3 * X=15'	3 * X ≥20'	1	2	3 * X=15'	3 * X ≥20'	1	2	3 * X=15'	3 * X ≥20'		
POST SIZE b x d	4" x 4"	77	154	165	231	62	124	132	186	56	112	120	168	Not Req'd	4' - 0"
	4" x 6"	162	324	347	486	130	260	278	390	117	234	250	351	1½"	5' - 0"
	6" x 6"	270	540	578	810	216	432	462	648	195	390	417	585	2"	5' - 0"
	6" x 8"	494	988	1058	1482	395	790	846	1185	356	712	762	1068	3"	7' - 0"

PERMANENT WOOD POST TABLE **

* - Linear Interpolate X*Y*Z 3 post values for signs greater than 15' and less than 20'.

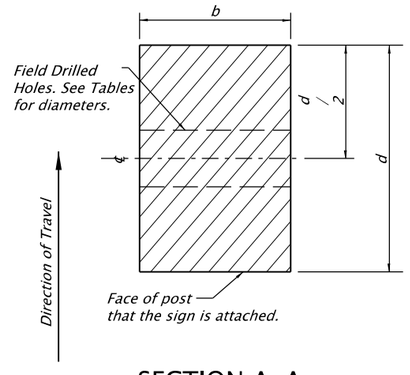
** - See note 8

		(X * Y * Z) in ft³ - Maximum												Field Drilled Hole Diameters	Post Embedment Depth "D"
		3 Second Gust Wind Speed (TM671)													
		85 MPH				95 MPH				105 and 110 MPH					
		Number of Posts				Number of Posts				Number of Posts					
		1	2	3 * X=15'	3 * X ≥20'	1	2	3 * X=15'	3 * X ≥20'	1	2	3 * X=15'	3 * X ≥20'		
POST SIZE b x d	4" x 4"	122	244	261	366	98	196	210	294	88	176	188	264	Not Req'd	4' - 0"
	4" x 6"	257	514	550	771	205	410	439	615	185	370	396	555	1½"	5' - 0"
	6" x 6"	426	852	912	1278	341	682	730	1023	308	616	660	924	2"	5' - 0"
	6" x 8"	779	1558	1669	2337	624	1248	1337	1872	563	1126	1206	1689	3"	7' - 0"

TEMPORARY WOOD POST TABLE **

* - Linear Interpolate X*Y*Z 3 post values for signs greater than 15' and less than 20'.

** - See note 9



SECTION A-A

No scale

General Notes:

1. Wood posts are available in the following commercial lengths: 12', 14', 16', 18', 20', 22', 24', 26'.
2. Material shall be Douglas Fir No. 1 and according to Section 02110.40.
3. For horizontal and vertical clearances of permanent signs refer to TM200 and of temporary signs refer to TM822.
4. Wood post design in accordance with the 5th Edition 2009 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.
5. Use the 3 second gust wind speeds shown on TM671 for the site specific sign location.
6. General design parameters are Kz = 0.87, SIF (duration factor) = 1.6, Cd (sign) = 1.20, and G = 1.14.
7. The sign width to sign height or sign height to sign width ratio shall not exceed 5.0.
8. Permanent signing uses an Ir = 0.71 for a recurrence interval of 10 years.
9. Temporary signing uses an Ir = 0.45 for a recurrence interval of 1.5 years.
10. Posts protected by barrier or guardrail do not require field drilled holes.
11. 4" x 4" posts should not be used in snow plow areas.

Post Embedment Installation:

1. Excavate the hole at least 12" larger in diameter than the diagonal dimension of the post. Maintain at least 6" of space around the edges of the post to accomodate compaction equipment.
2. Align the post in the hole to a vertical position.
3. The space around the wood post shall be backfilled to finished ground surface.
4. Backfill with selected general backfill meeting the requirements of 00330.13.
5. Place in layers not greater than 6 inches.
6. Solidly ram and tamp the layers into the excavation area around the post.
7. Dampen during placement if too dry to compact properly.
8. Replace and finish the surface around the post to match the surrounding surface.

Accompanied by dwgs. TM200, TM671, TM822

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

WOOD POST SIGN SUPPORTS

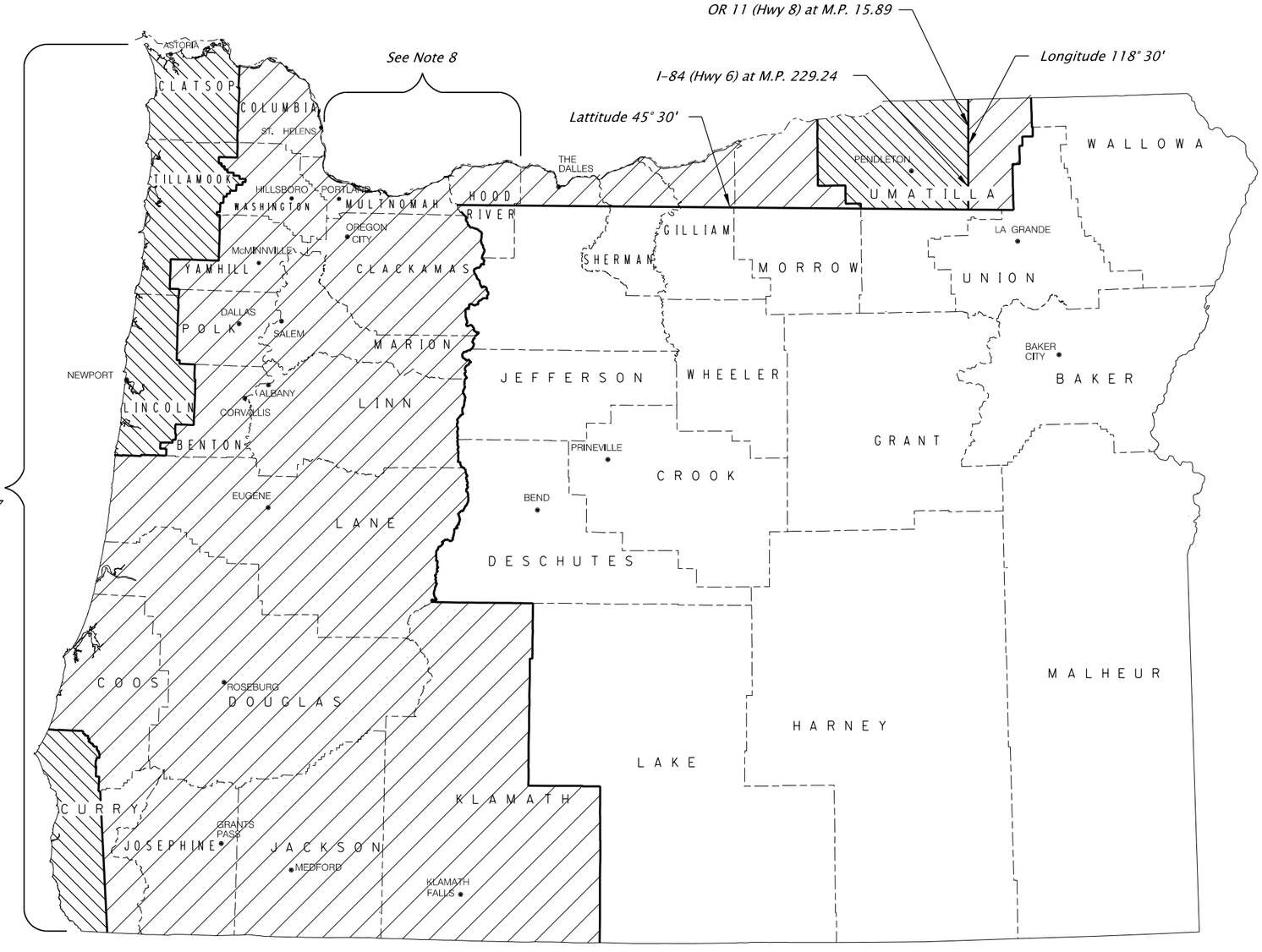
2024

DATE	REVISION DESCRIPTION
01-2022	ADDED 3'-6" MINIMUM SPACING FOR 4"x4" POSTS AND 8'-0" MINIMUM
	SIGN WIDTHS FOR 4"x6" AND LARGER POSTS

CALC. BOOK NO. 5850 | SDR DATE 07-JAN-2022 | **TM670**

10-JUL-2020

TM671.dgn



NOTES:

1. *The wind velocity map as shown is adapted from AASHTO 2001 4th Edition - "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", Appendix C, Figure C-3 and Section 3, Figure 3-2. It uses the wind speed map shown in Figure 1609 of the 2007 Oregon Structural Code to account for locations in the State with special wind regions.*
2. *The wind velocities shown above are 3-Second Gust wind velocities.*
3. *The Exposure Catagory is C.*
4. *The mean recurrence interval is 50-Years.*
5. *Mountanious terrain, gorges, and ocean promontories are classified as special wind regions and shall be examined for unusual wind conditions.*
6. *The Interval Height (Kz) is 30 ft.*
7. *All areas with full exposure to ocean winds shall be designated 110 mph areas.*
8. *Areas in Multnomah and Hood River counties with full exposure to Columbia River Gorge winds shall be designated 110 mph areas.*
9. *Localities may have adopted wind speed higher that shown on this map. Those higher wind speed shall be used.*

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

3 SECOND GUST WIND SPEED MAP

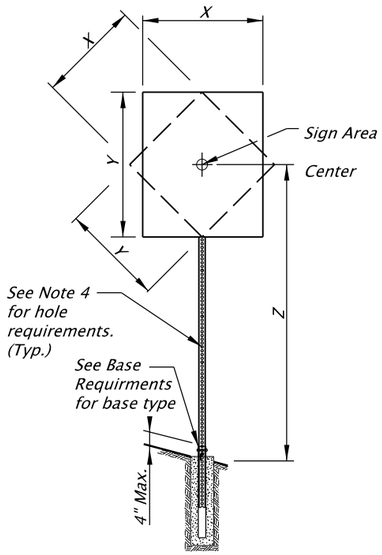
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 06-JAN-2012 | **TM671**

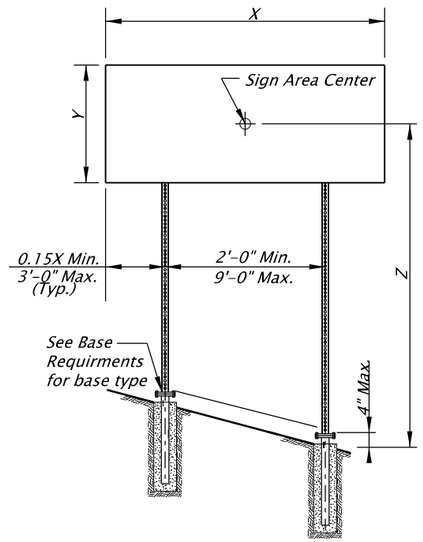
Effective Date: December 1, 2023 - May 31, 2024

10-JUL-2020
TM681.dgn



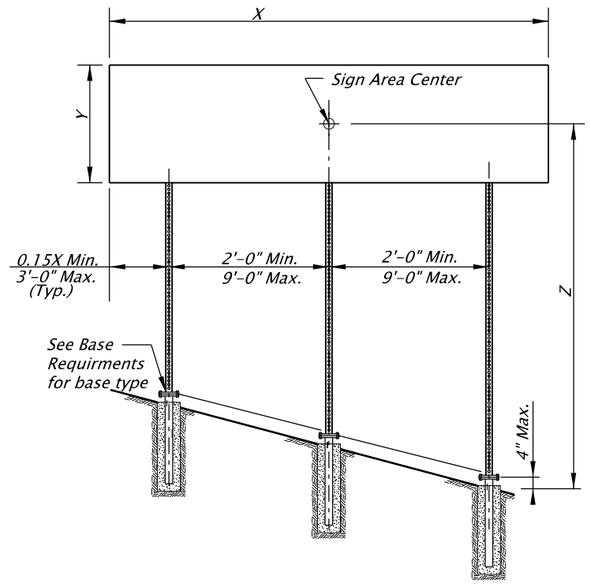
SINGLE POST ELEVATION

No scale



TWO POST ELEVATION

No scale



THREE POST ELEVATION

No scale

GENERAL NOTES:

1. Perforated Steel Square Supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th Edition, 2001, 2002, 2003, and 2006 interim revisions.
2. The design basic wind speed (3 second gust) shall be according to the wind map shown on TM671.
3. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
4. Use $^{7}/_{16}$" diameter holes at 1" spacing on each of the 4 sides.
5. Steel post shall have a minimum yield stress of 50 ksi.
6. Steel shall be galvanized according to ASTM A653 with coating designation G90.
7. General design parameters are Kz = 0.87, Cd (sign) = 1.20, and G = 1.14.
8. Permanent signing uses an Ir = 0.71 for a recurrence interval of 10 years.
9. Temporary signing uses an Ir = 0.45 for a recurrence interval of 1.5 years.
10. The sign width to sign height or sign height to sign width ratio shall not exceed 5.0.
11. For horizontal and vertical clearances of permanent signs refer to TM200 and of temporary signs refer to TM822.
12. Posts protected by barrier or guardrail do not require slip bases.

	(X * Y * Z) in ft³ - Maximum								
	3 Second Gust Wind Speed (TM671)								
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
Square Tube Size	1	2	3	1	2	3	1	2	3
2"-12 ga.	79	158	237	63	126	189	57	114	171
2½"-12 ga.	136	272	408	109	218	327	98	196	294
2½"-10 ga.	165	330	495	132	264	396	119	238	357
2¼" & 2½"-12 *ga.	231	462	693	185	370	555	167	334	501

PERMANENT PERFORATED STEEL SQUARE TUBE TABLE

	(X * Y * Z) in ft³ - Maximum								
	3 Second Gust Wind Speed (TM671)								
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
Square Tube Size	1	2	3	1	2	3	1	2	3
2"-12 ga.	125	250	375	100	200	300	90	180	270
2½"-12 ga.	215	430	645	172	344	516	155	310	465
2½"-10 ga.	261	522	783	209	418	627	189	378	567
2¼" & 2½"-12 *ga.	364	728	1092	292	584	876	263	526	789

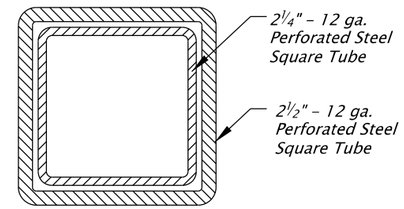
TEMPORARY PERFORATED STEEL SQUARE TUBE TABLE

* - See 2¼" & 2½" - 12 ga. detail.

	Number of Posts		
Square Tube Size	1	2	3
2"-12 ga.	Anchor	Anchor	N/A
2½"-12 ga.	Anchor	Slip	Slip
2½"-10 ga.	Slip	Slip	Slip
2¼" & 2½"-12 *ga.	Slip	Slip	Slip

1. Anchor - See Drawing TM687 for PSST anchor foundation details.
2. Slip - See Drawing TM688 for PSST slip base foundation details.
3. N/A - Do not use this option.

BASE REQUIREMENTS



2¼" - 12 ga. PSST to extend entire length inside of the 2½" - 12 ga. PSST.

2¼" & 2½" - 12 GA. DETAIL

No scale

Accompanied by dwgs. TM200, TM671, TM687, TM688, TM689, TM822

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PERFORATED STEEL SQUARE TUBE (PSST) SIGN SUPPORT INSTALLATION

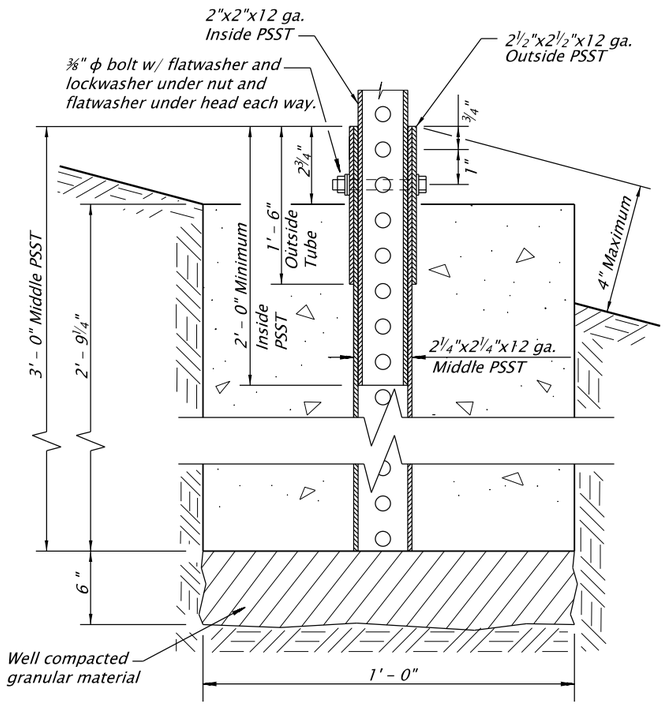
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. 5752 | SDR DATE 10-JUL-2017 | **TM681**

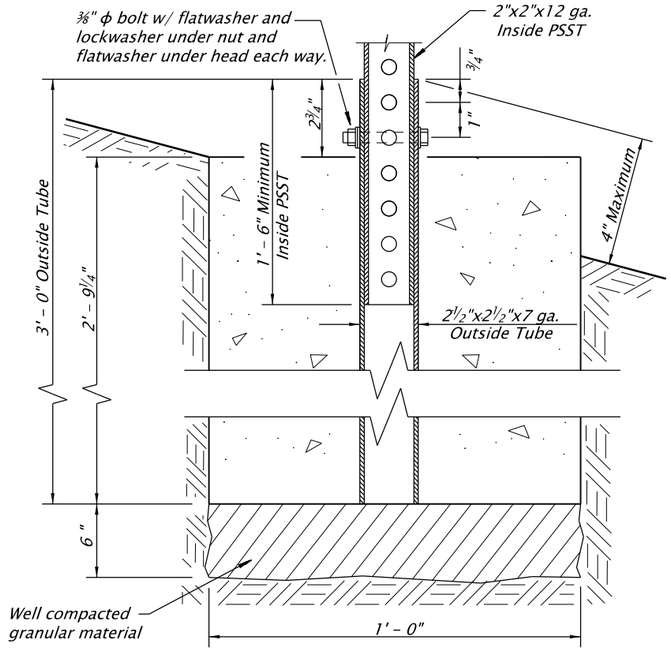
Effective Date: December 1, 2023 - May 31, 2024

10-JUL-2020
TM687.dgn



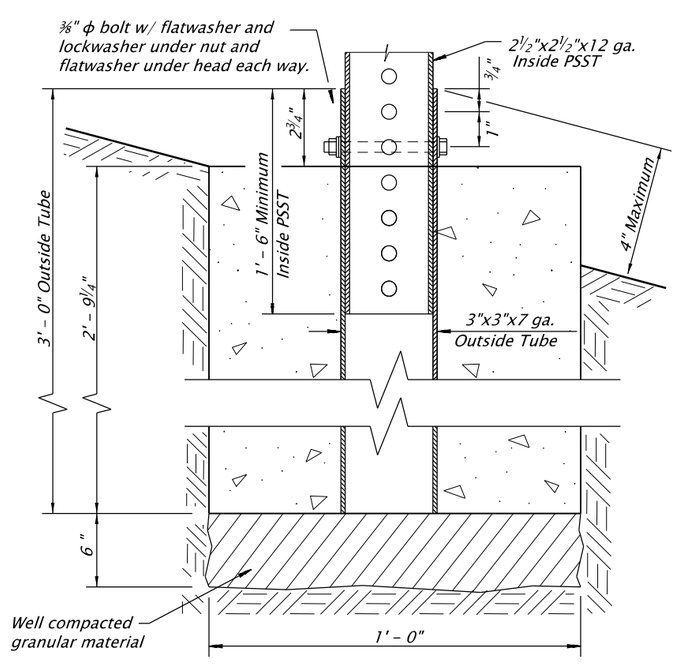
2" ANCHOR DETAIL

No scale



2" OPTIONAL ANCHOR DETAIL

No scale

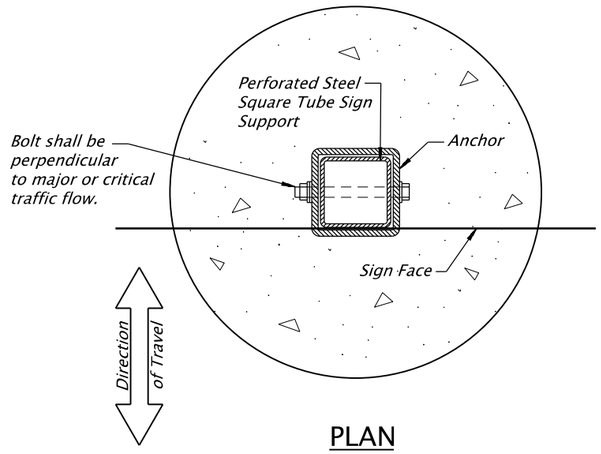


2½" ANCHOR DETAIL

No scale

General Notes:

1. *Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.*
2. *Anchor steel shall be hot dipped galvanized or approved equal.*
3. *Footing concrete shall be Commercial Grade Concrete (fc = 3000 psi) per Specification 00440. The CGC mixture may be accepted at the site of placement according to 00440.14.*
4. *The estimated concrete volume is .09 cubic yards.*



PLAN

No scale

Accompanied by dwgs. TM681, TM688

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

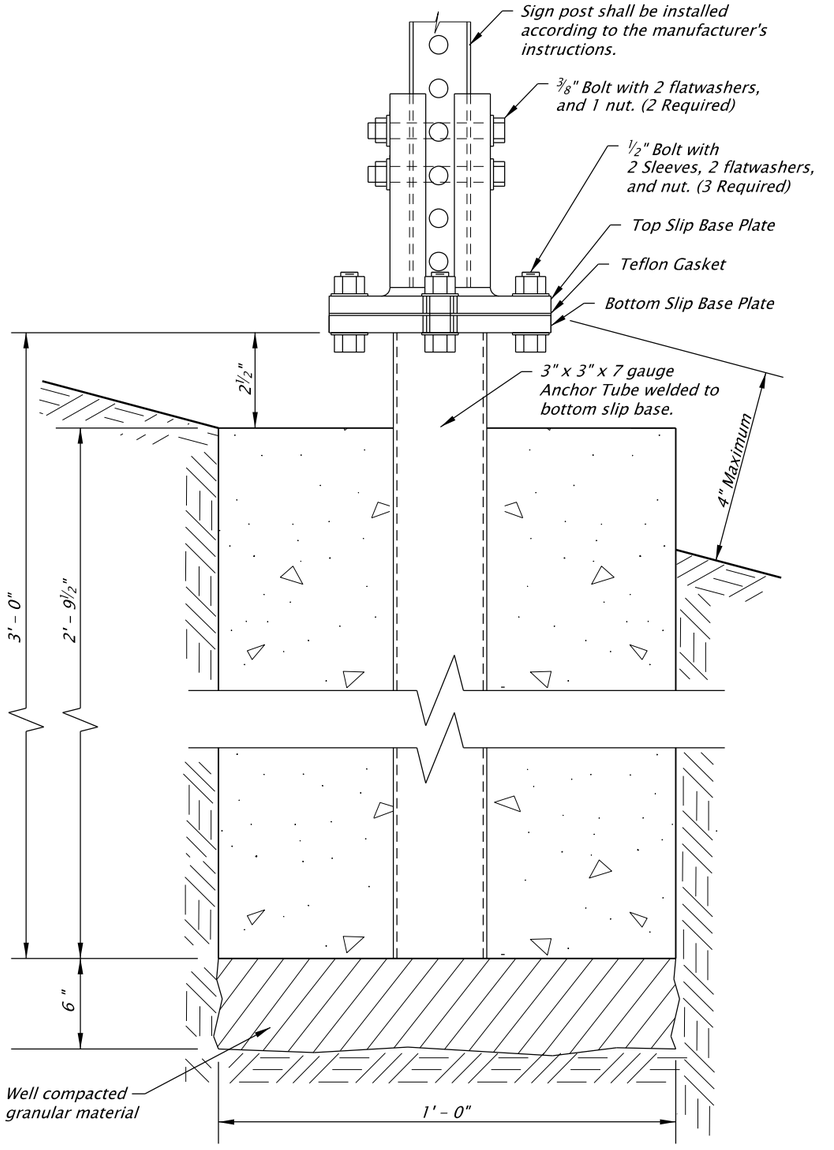
PERFORATED STEEL SQUARE TUBE (PSST) ANCHOR FOUNDATION

2024

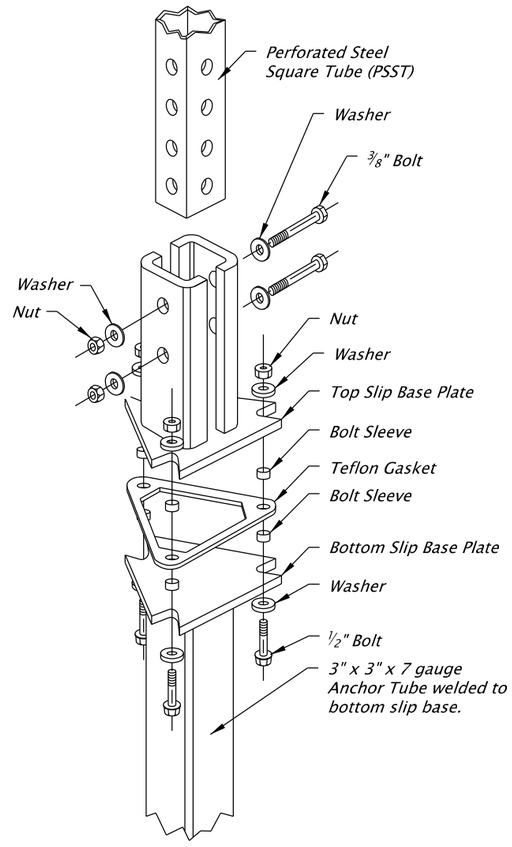
DATE	REVISION DESCRIPTION

CALC. BOOK NO. 5752 | SDR DATE 06-JAN-2012 | **TM687**

10-JUL-2020
TM688.dgn



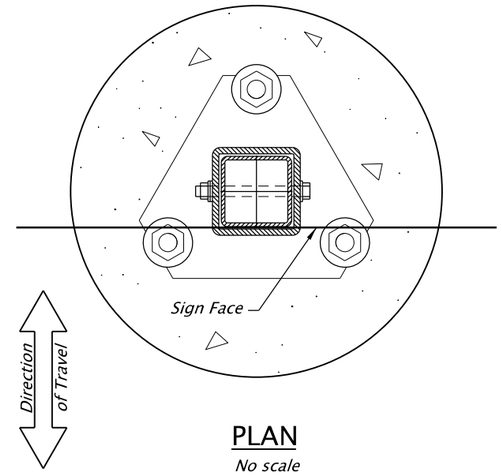
SLIP BASE ELEVATION
No scale



SLIP BASE EXPLODED VIEW
No scale

General Notes:

1. *Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.*
2. *Slip base steel shall be hot dipped galvanized or approved equal.*
3. *Footing concrete shall be Commercial Grade Concrete (fc = 3000 psi) per Specification 00440. The CGC mixture may be accepted at the site of placement according to 00440.14.*
4. *Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.*
5. *All slip bases shall be pre-assembled by the manufacturer and shall be installed according to the manufacturer's instructions.*
6. *Use slip bases listed on the ODOT Qualified products list or submit crash testing data, installation instructions, and unstamped working drawings according to 00150.35.*
7. *Slip base details shown are not for a specific manufacturer and are only shown to convey general pieces of a slip base system. Specific slip base material will be acccording to the manufacturer's documentation.*



PLAN
No scale

Accompanied by dwgs. TM681, TM687

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PERFORATED STEEL SQUARE TUBE (PSST) SLIP BASE FOUNDATION

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. 5752 | SDR DATE 06-JAN-2012 | **TM688**

Effective Date: December 1, 2023 - May 31, 2024

01-JUL-2022

TM800.dgn

TAPER TYPES & FORMULAS	
TAPER	FORMULA
Merging (Lane Closure)	"L"
Shifting	"L"/2 or ½"L"
Shoulder Closure	"L"/3 or ⅓"L"
Flagging (See Drg. TM850)	50' – 100'
Downstream (Termination)	Varies (See Drawings)

★ Use Pre-Construction Posted Speed to select the Speed from the Tables below:

TEMPORARY BARRIER FLARE RATE TABLE	
★SPEED (mph)	MINIMUM FLARE RATE
≤ 30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

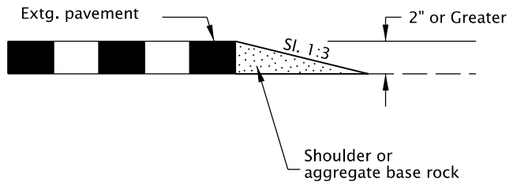
MINIMUM LENGTHS TABLE					
"L" VALUE FOR TAPERS (ft)					BUFFER "B" (ft)
★ SPEED (mph)	W = Lane or Shoulder Width being closed or shifted				
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	800	210
55	550	660	770	880	250
60	600	720	840	960	285
65	650	780	910	1000	325
70	700	840	980	1000	365
FREEWAYS					
55	1000	1000	1000	1000	250
60	1000	1000	1000	1000	285
65	1000	1000	1000	1000	325
70	1000	1000	1000	1000	365

NOTES:
- For Lane closures where W < 10', use "L" value for W = 10'.
- For Shoulder closures where W < 10', use "L" value for W = 10' or calculate "L" using formula, for Speeds ≥ 45: L = WS, Speeds < 45: L = $S^2W/60$, S = Speed, W=Width

TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE				
★ SPEED (mph)	Sign Spacing (ft)			Max. Channelizing Device Spacing (ft)
	A	B	C	
20 – 30	100	100	100	20
35 – 40	350	350	350	20
45 – 55	500	500	500	40
60 – 70	700	700	700	40
Freeway	1000	1500	2640	40

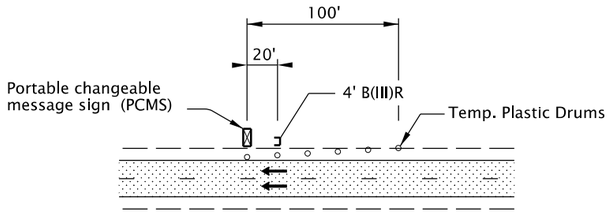
NOTES:
- Place traffic control devices on 10 ft. spacing for intersection and access radii.
- When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

NOTES:
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
- Use aggregate wedge when abrupt edge is 2 inches or greater.



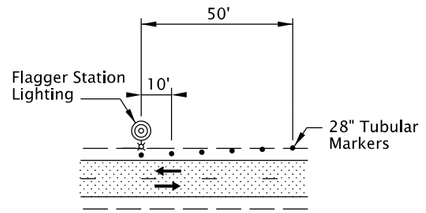
EXCAVATION ABRUPT EDGE

NOTES:
- Install PCMS beyond the outside shoulder, when possible.
- Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R Left shoulder, use Type B(III)L
- Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind a roadside barrier.
- Detail as shown is used for trailered and non-crashworthy components of:
  - Portable Traffic Signals
  - Smart Work Zone Systems



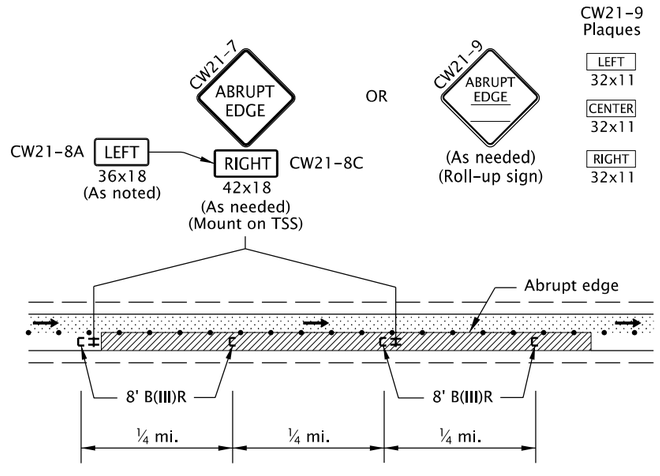
PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

NOTES:
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

NOTES:
- Abrupt edges may be created by paving, operations, excavations or other roadway work. Use abrupt edge signing for longitudinal abrupt edges of 1 inch or greater.
- If the excavation is located on left side of traffic, replace the 8' B(III)R barricades with 8' B(III)L barricades and replace the "RIGHT" (CW21-8C) riders with "LEFT" (CW21-8A) riders.
- Continue signing and other traffic control devices throughout excavation area at spacings shown.
- If roll-up signs are used, attach the correct (CW21-9) plaques to the sign face using hook and loop fasteners. Place roll-up signs in advance of barricades.



TYPICAL ABRUPT EDGE DELINEATION

GENERAL NOTES FOR ALL TCP DRAWINGS:
- Signs and other Traffic Control Devices (TCD) shown are the minimum required.
- Place a barricade approx. 20' ahead of all sequential arrow boards.
- Arrows shown in roadway are directional arrows to indicate traffic movements.
- All signs are 48" x 48" unless otherwise shown. Use fluorescent orange sheeting for the background of all temporary warning signs.
- All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36". All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
- Low speed highways have a pre-construction posted speed of 40 mph or less. High speed highways have a pre-construction posted speed of 45 mph or higher.
- Do not locate sign supports in locations designated for bicycle or pedestrian traffic.
- Combine drawing details to complete temporary traffic control for each work activity.
- Coordinate and control pedestrian movements through a Temporary Accessible Route using Flaggers, Traffic Control Measures, or as directed.
- To be accompanied by Dwg. Nos. TM820 & TM821.

○ ○ ○ Temp. Plastic Drums See TCD Spacing Table for max. spacing.

• • • 28" Tubular Markers See TCD Spacing Table for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TABLES, ABRUPT EDGE AND PCMS DETAILS

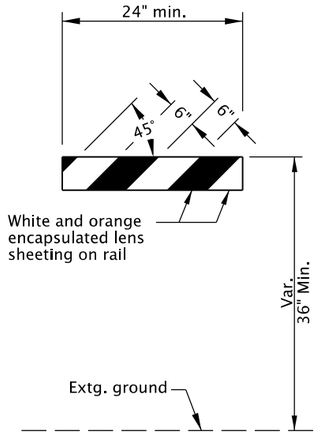
2024

DATE	REVISION DESCRIPTION
07-2022	Added a note for TPARs

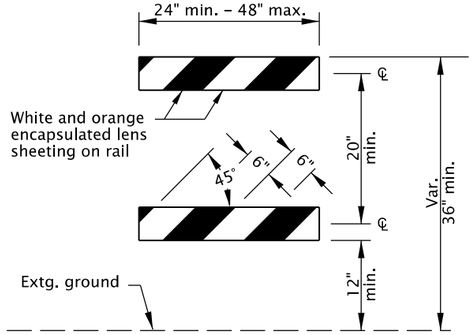
CALC. BOOK NO. N/A | SDR DATE 01-JUL-2022 | **TM800**

Effective Date: December 1, 2023 – May 31, 2024

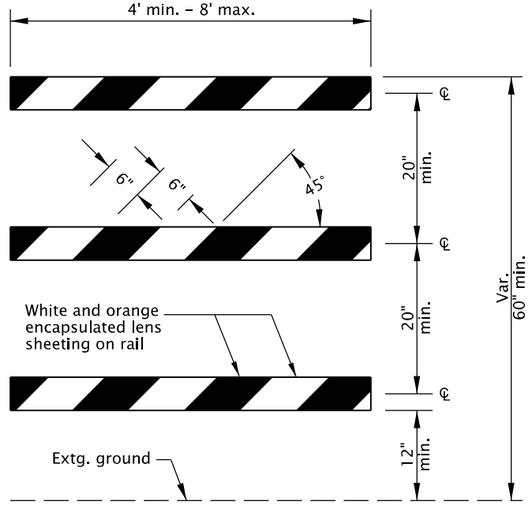
01-JUL-2020
TM820.dgn



TYPE I



TYPE II



TYPE III

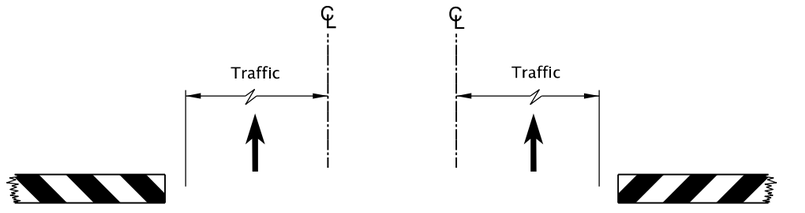
BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:

- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Dwg. No. TM844.

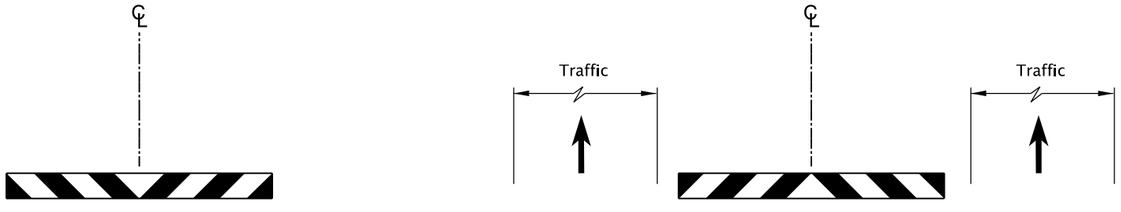
NOTES:

- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.



LT. SIDE - L
(For approaching traffic)

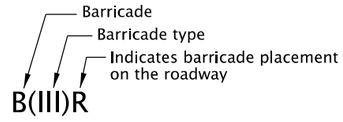
RT. SIDE - R
(For approaching traffic)



CLOSED - C
(For approaching traffic)

LT. / RT. - LR
(For approaching traffic)

DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING



BARRICADE NOTATION

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TEMPORARY BARRICADES

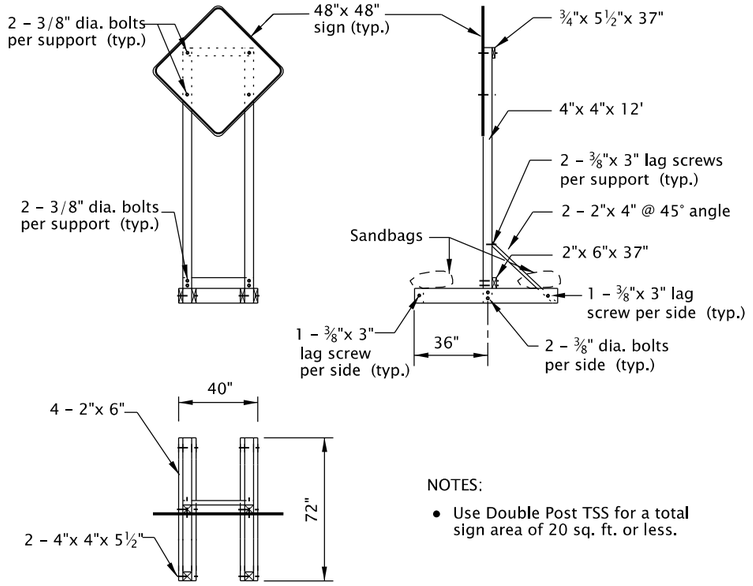
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM820**

Effective Date: December 1, 2023 – May 31, 2024

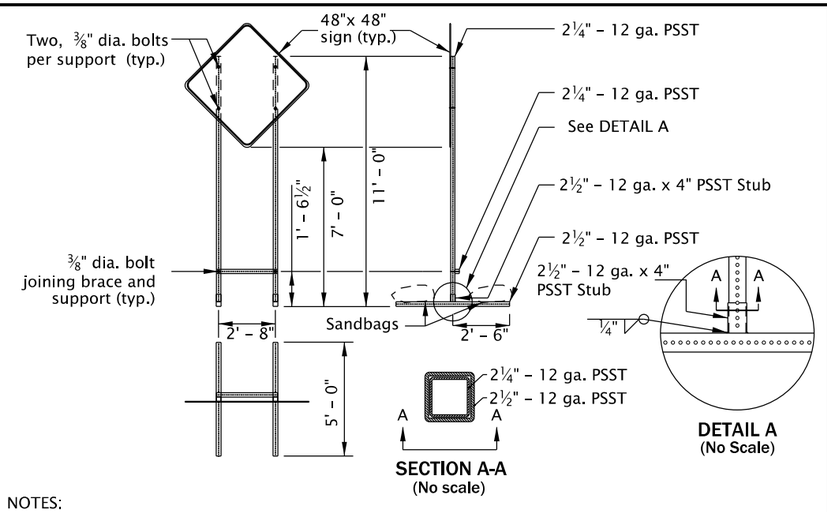
14-JUL-2023
TM821.dgn



NOTES:

- Use Double Post TSS for a total sign area of 20 sq. ft. or less.

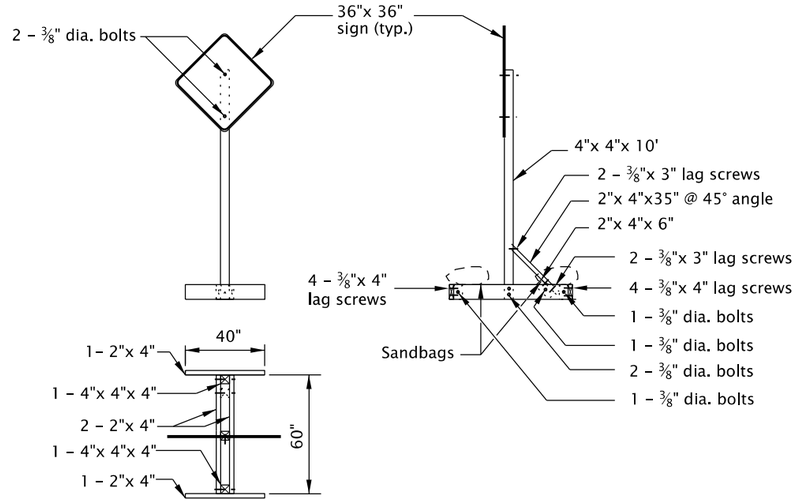
DOUBLE POST DETAIL



NOTES:

- Use PSST TSS's for a total sign area of 16 sq. ft. or less.
- All members shall have a minimum yield stress of 50 ksi.
- Galvanize steel according to ASTM A653 with coating designation G90. Remove Galvanizing from steel before welding. Repair Galvanizing according to ASTM A780.
- Use A325 Bolts or equivalent.
- 2¼" - 12 ga. PSST to extend entire length inside of the 2½" - 12 ga. x 4" PSST Stub.
- Do not use bolt to secure 2¼" PSST inside of the 2½" - 12 ga. x 4" PSST Stub.
- Weld steel according to American Welding Society (AWS) D.1.1.

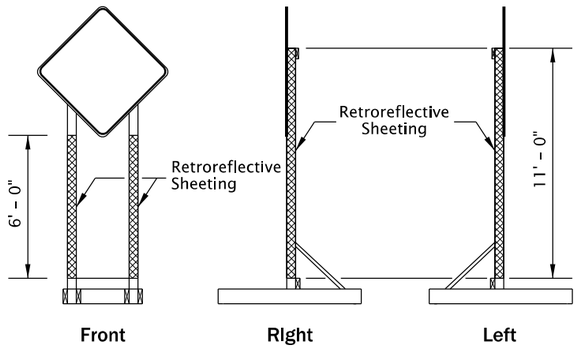
PERFORATED STEEL SQUARE TUBE (PSST) DETAIL



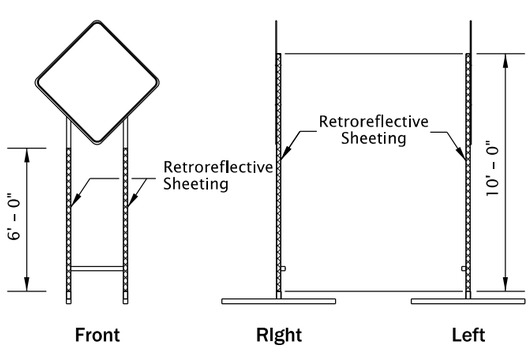
NOTES:

- Use Single Post TSS for a total sign area of 12 sq. ft. or less.
- Use Single Post TSS for mounting "Business Access" (CG20-11) signs. Do not mount signs on Type II or III Barricades.

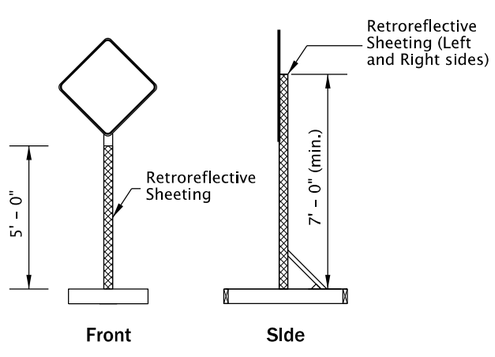
SINGLE POST DETAIL



Double Post



Perforated Steel Square Tube (PSST)



Single Post

TEMPORARY SIGN SUPPORT GENERAL NOTES:

- Do not tip over TSS at any time.
- Do not locate TSS's in locations that block pedestrian or bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When not in use, locate TSS as far from Public Traffic as practicable and turn away from traffic, or cover the sign. Do not cover reflective sheeting on the TSS posts.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).
- See Dwg. No. TM204 for flag board mounting detail.

NOTES:

- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
- Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
- Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

SIGN POST REFLECTIVE SHEETING PLACEMENT

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OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2024

DATE	REVISION DESCRIPTION

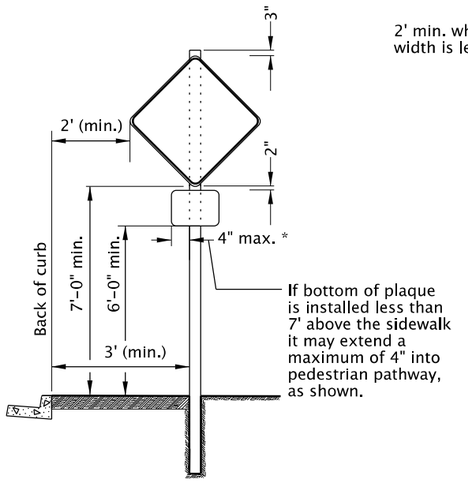
CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **TM821**

Effective Date: December 1, 2023 – May 31, 2024

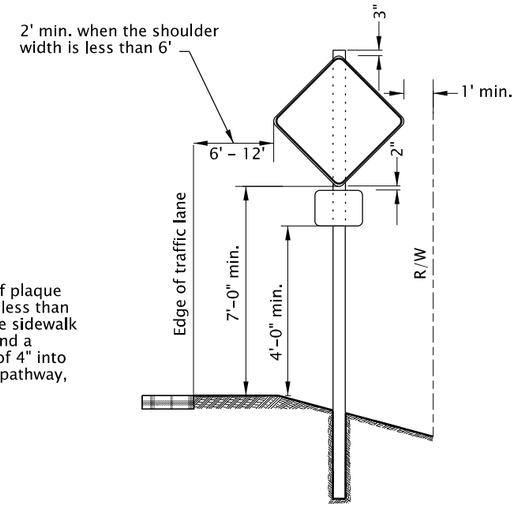
01-JUL-2020
TM822.dgn

NOTES:

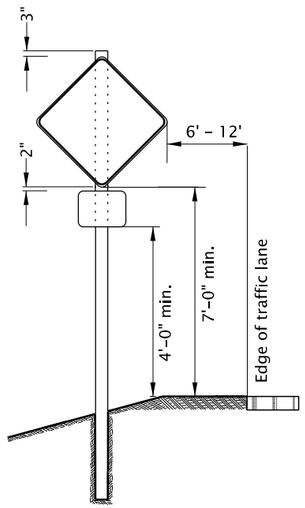
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Dwg. Nos. TM670, TM671, TM687, TM688 & TM689.



Urban Areas With Curb/Sidewalk

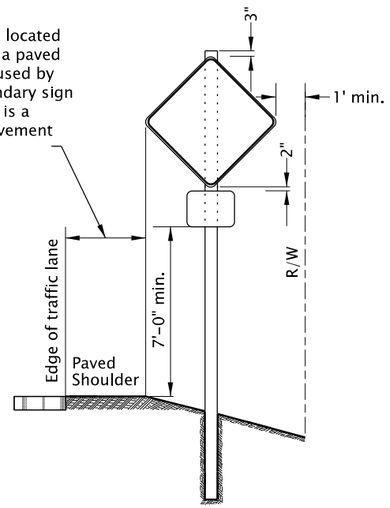


Rural Areas



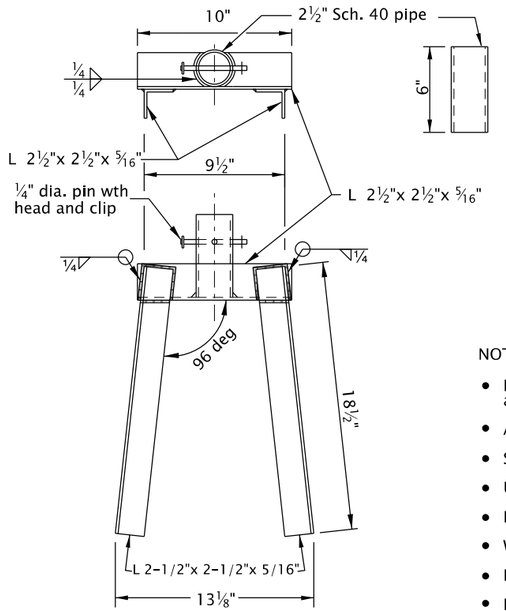
**Divided Highway/Freeway Medians
No Curb/Sidewalk**

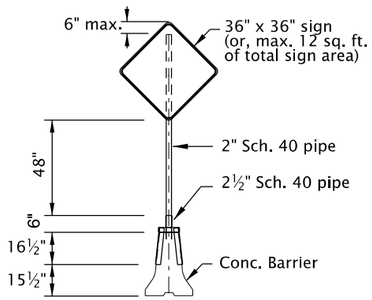
Where temporary signs are located adjacent to or intrude into a paved shoulder or other surface used by bicycle traffic, install secondary sign (plaque) so bottom of sign is a minimum of 7'0" above pavement surface, as shown.



**Rural or Urban Areas - Curb or No Curb
Bicycles On Shoulder**

TEMPORARY SIGN PLACEMENT





NOTES:

- Drill additional holes so sign can be rotated 90 degrees and pinned when not in use.
- All structural steel shall conform to ASTM A36.
- Support fits both 32" and 42" tall "F" barrier.
- Use for supporting a maximum 12 sq. ft. of total sign area.
- Place support at connection between two concrete barrier sections.
- Weld steel according to American Welding Society (AWS) D.1.1.
- Do not use clipped signs.
- Follow manufacturer recommendation when installing signs on barrier other than concrete.

CONCRETE BARRIER SIGN SUPPORT

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OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

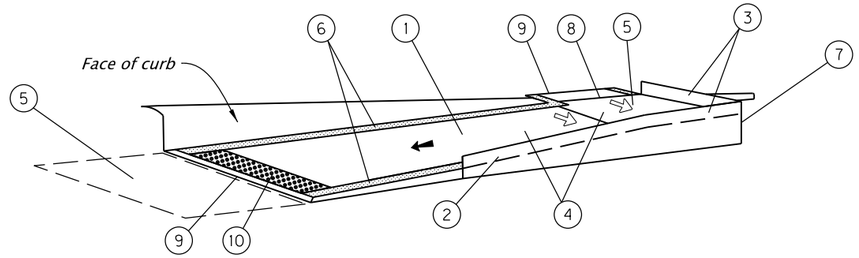
2024

DATE	REVISION DESCRIPTION

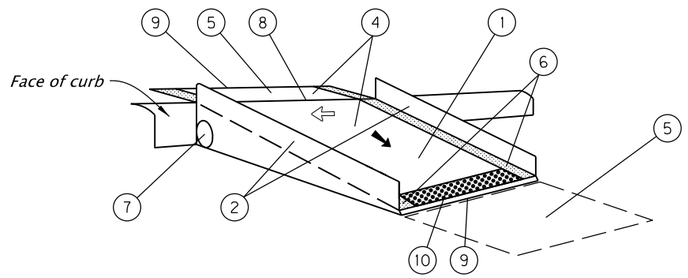
CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM822**

14-JUL-2023

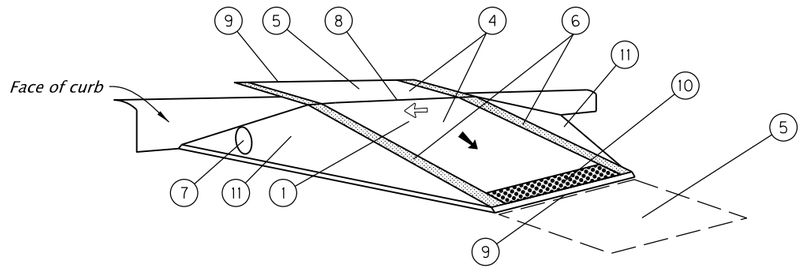
TM845.dgn



TEMPORARY CURB RAMP, PARALLEL TO CURB



WITH PROTECTIVE EDGE



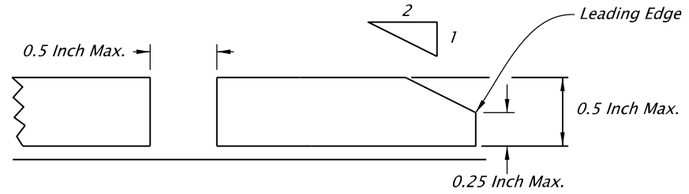
WITH SIDE FLARES

TEMPORARY CURB RAMP, PERPENDICULAR TO CURB

GENERAL CONSTRUCTION NOTES:

1. *Clear width shall be greater than or equal to 48 inches. The curb ramp surface shall be firm, stable and slip-resistant. The ramp surface shall have a 8.3% max. finished surface slope.*
2. *Detectable edging with a min. 6 inch height shall be placed along the ramp run when there is a vertical drop exceeding 6 inches or is adjacent to a slope exceeding 1:3 (v:h).*
3. *Detectable edging with 6 inch min. height and contrasting color shall be placed on all turning spaces where the walkway changes direction.*
4. *Curb ramps and turning spaces shall have a 2.0% max. finished cross slope.*
5. *Clear space of 48 inch x 48 inch or greater shall be provided above and below the curb ramp.*
6. *The curb ramp walkway edge shall be marked with a contrasting color, 4 inch wide stripe. The marking is optional where contrasting detectable edging is used.*
7. *Provide an approved means to prevent water from accumulating at the bottom of the ramp, or overflowing onto the ramp surface.*
8. *Lateral joints or gaps between surfaces shall be less than 0.5 inch wide. Surface slopes that meet at grade break shall be flush. See edge treatment detail.*
9. *Changes between surface heights shall not exceed 0.5 inch. Lateral edges should be vertical up to 0.25 inch high, and beveled at 1:2 (v:h) between 0.25 inch and 0.5 inch height. See edge treatment detail.*
10. *Install a min. 2 ft wide detectable warning surface at pedestrian street crossings. Omit detectable warning surfaces at end of sidewalk transitions that are not at a crosswalk.*
11. *Side flares where provided shall have 10% max. slope.*
12. *The curb ramp surface shall be capable of supporting a min. surface load of approximately 800 pounds.*
13. *The curb ramp shall be either self-balasting or include an anchoring system capable of keeping the platform stationary under pedestrians traffic including motorized wheelchairs.*
14. *The curb ramp platform shall be free of sharp or rough edges or abrasive elements that may harm pedestrians.*

Max. 8.3% surface slope | *Max. 2.0% surface slope* | *Detectable warning surface*



EDGE TREATMENT DETAIL

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OREGON STANDARD DRAWINGS

TEMPORARY SIDEWALK RAMPS

2024

DATE	REVISION DESCRIPTION
07-2023	NEW DRAWING CREATED

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **TM845**